Alarms Reference

ACUXX

ACUXX_009904 **Ch35,0099,Prop. Valve Test Set Poin->Suprv. Ch35,0099,Prop. Valve Test S**

Description:	MBD Special test purposes only
Cause:	MBD special test equipment not connected
Effect:	No effect on engine. Alarm is only active in MPC test mode
Sugg. Action:	No action required. The alarm will disappear when MPC is rebooted in normal mode.

ACUXX_010110 **ACU Commands->No Commands from ECU A**

Description:	No control values from ECU A received over the control network
Cause:	- ECU failure, or - Control network performance loss
Effect:	If “No commands received … ” from one ECU only: No effect. If “No commands received ...” from both ECUs: No HPS or blower control available on this ACU
Sugg. Action:	Check network status. If “No command received..” from both ECU’s: Manual start of startup pump and aux. blower is required from local control panel.

ACUXX_010111 **ACU Commands->No Commands from ECU B**

Description:	No control values from ECU B received over the control network
Cause:	- ECU failure, or - Control network performance loss
Effect:	If “No commands received … ” from one ECU only: No effect. If “No commands received ...” from both ECUs: No HPS or blower control available on this ACU
Sugg. Action:	Check network status. If “No command received..” from both ECU’s: Manual start of startup pump and aux. blower is required from local control panel.

ACUXX_0210 **Blower Ctrl. 1->Blower 1 Ctrl Failed**

Description:	Electric motor cannot be controlled by the engine control system
Cause:	- Electric motor switchboard is off or manually set to ‘Local’, or - Electric motor switch board failure, or - Switchboard feedback failure, or - Cabling failure
Effect:	If the failure is in the feedback part only: No effect. Else: No ECS control of electric motor
Sugg. Action:	1. Check that the operation control switch at the switchboard is set to ‘‘Remote' 2. Check switchboard, main breaker and overcurrent protection relay 3. Check cabling If conditions are OK but alarm is not removed: Stop/Start Electric motor on MOP to reset running failure.

ACUXX_0310 **Blower Ctrl. 2->Blower 2 Ctrl Failed**

Description:	Electric motor cannot be controlled by the engine control system
Cause:	- Electric motor switchboard is off or manually set to ‘Local’, or - Electric motor switch board failure, or - Switchboard feedback failure, or - Cabling failure
Effect:	If the failure is in the feedback part only: No effect. Else: No ECS control of electric motor
Sugg. Action:	1. Check that the operation control switch at the switchboard is set to ‘‘Remote' 2. Check switchboard, main breaker and overcurrent protection relay 3. Check cabling If conditions are OK but alarm is not removed: Stop/Start Electric motor on MOP to reset running failure.

ACUXX

ACUXX_0410 **Blower Ctrl. 3->Blower 3 Ctrl Failed**

Description:	Electric motor cannot be controlled by the engine control system
Cause:	- Electric motor switchboard is off or manually set to ‘Local’, or - Electric motor switch board failure, or - Switchboard feedback failure, or - Cabling failure
Effect:	If the failure is in the feedback part only: No effect. Else: No ECS control of electric motor
Sugg. Action:	1. Check that the operation control switch at the switchboard is set to ‘‘Remote' 2. Check switchboard, main breaker and overcurrent protection relay 3. Check cabling If conditions are OK but alarm is not removed: Stop/Start Electric motor on MOP to reset running failure.

ACUXX_0510 **Blower Ctrl. 4->Blower 4 Ctrl Failed**

Description:	Electric motor cannot be controlled by the engine control system
Cause:	- Electric motor switchboard is off or manually set to ‘Local’, or - Electric motor switch board failure, or - Switchboard feedback failure, or - Cabling failure
Effect:	If the failure is in the feedback part only: No effect. Else: No ECS control of electric motor
Sugg. Action:	1. Check that the operation control switch at the switchboard is set to ‘‘Remote' 2. Check switchboard, main breaker and overcurrent protection relay 3. Check cabling If conditions are OK but alarm is not removed: Stop/Start Electric motor on MOP to reset running failure.

ACUXX_0610 **Blower Ctrl. 5->Blower 5 Ctrl Failed**

Description:	Electric motor cannot be controlled by the engine control system
Cause:	- Electric motor switchboard is off or manually set to ‘Local’, or - Electric motor switch board failure, or - Switchboard feedback failure, or - Cabling failure
Effect:	If the failure is in the feedback part only: No effect. Else: No ECS control of electric motor
Sugg. Action:	1. Check that the operation control switch at the switchboard is set to ‘‘Remote' 2. Check switchboard, main breaker and overcurrent protection relay 3. Check cabling If conditions are OK but alarm is not removed: Stop/Start Electric motor on MOP to reset running failure.

ACUXX

ACUXX_070119 Swashplate pump ctrl->Pump ctrl failure

Description:	The MPC cannot control swash plate pump for HPS
Cause:	- No position feedback signal from proportional valve, or - No swash plate position feedback signal, or - Proportional valve amplifier failure, or - Mechanical pump failure
Effect:	ECS will attempt to deliver full flow: - Full flow ahead, if engine runs ahead - Full flow astern, if engine runs astern If two or more pumps fail: Engine may not be able to run astern. In case of mechanical pump failure: ECS may deliver low or no flow to the HPS.
Sugg. Action:	Check cabling to and from: - Proportional valve - Proportional valve amplifier - LVDT amplifier - MPC Check pump and proportional valve Go to 'Auxiliaries' -> 'Hydraulic System' -> 'Failed pump' to reset failure state. Further troubleshooting: 1. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HPS' 2. Test failing pump swashplate operation. 3. Compare signals from failing pump to signals from a well functioning pump.

ACUXX_070136 Amplifier->PV_AMP Amp. Current Supervision

Description:	This alarm is not in use
Cause:	This alarm is not in use
Effect:	This alarm is not in use
Sugg. Action:	If you see this, please contact MAN Diesel & Turbo

ACUXX_070136 Amplifier->PV_AMP Amp. thermal protect. act.

Description:	Actuator failure Power consumption too high Amplifier has shut down
Cause:	- Cable failure, or - Actuator friction too high, or - MPC input failure, or - Amplifier failure, or - Amplifier power supply failure
Effect:	No swash plate control. Swash plate switches to fail-safe mode position: Full flow ahead If two or more pumps fail: Engine may not be able to run astern.
Sugg. Action:	Run HPS function test Check: - Cabling to and from amplifier, ACU and proportional valve - MPC - Amplifier

ACUXX

ACUXX_070139 **El motor->Pump motor ctrl failed**

Description:	Electric motor cannot be controlled by the engine control system
Cause:	- Electric motor switchboard is off or manually set to ‘Local’, or - Electric motor switch board failure, or - Switchboard feedback failure, or - Cabling failure
Effect:	If the failure is in the feedback part only: No effect. Else: No ECS control of electric motor
Sugg. Action:	1. Check that the operation control switch at the switchboard is set to ‘‘Remote' 2. Check switchboard, main breaker and overcurrent protection relay 3. Check cabling If conditions are OK but alarm is not removed: Stop/Start Electric motor on MOP to reset running failure.

ACUXX_070210 **Startup pump->Startup Pump Ctrl Failed**

Description:	Electric motor cannot be controlled by the engine control system
Cause:	- Electric motor switchboard is off or manually set to ‘Local’, or - Electric motor switch board failure, or - Switchboard feedback failure, or - Cabling failure
Effect:	If the failure is in the feedback part only: No effect. Else: No ECS control of electric motor
Sugg. Action:	1. Check that the operation control switch at the switchboard is set to ‘‘Remote' 2. Check switchboard, main breaker and overcurrent protection relay 3. Check cabling If conditions are OK but alarm is not removed: Stop/Start Electric motor on MOP to reset running failure.

ACUXX_0706 **Hydraulic Power Supply->Hydraulic leakage**

Description:	Minor leakage from the drip pan below the HPS
Cause:	Hydraulic leakage from one or more engine driven swash plate pumps and/or the start-up pump sets.
Effect:	Continuous operation may result in larger leakage.
Sugg. Action:	Find and repair hydraulic leak

ACUXX_0708 **Hydraulic Power Supply->Hydraulic leakage (shutdown level)**

Description:	Major leakage from the drip pan below the HPS
Cause:	Hydraulic leakage from one or more engine driven swash plate pumps and/or the start-up pump sets.
Effect:	ECS will request a cancellable engine shutdown.
Sugg. Action:	Find and repair hydraulic leak

ACUXX_0711 **Hydraulic Power Supply->Inlet pump 4 pressure deviation**

Description:	Hydraulic inlet oil inlet pressure sensor values differ from the values on the other pumps
Cause:	- Inlet valve is closed, or - Sensor failure
Effect:	Engine control system will use the other sensors to evaluate the hydraulic inlet pressure. NOTE If the pump inlet valve is closed, engine start will cause pump cavitation
Sugg. Action:	Check: - Pump inlet valve - Pump inlet pressure sensor

ACUXX

ACUXX_0712 **Hydraulic Power Supply->Inlet pump 5 pressure deviation**

Description:	Hydraulic inlet oil inlet pressure sensor values differ from the values on the other pumps
Cause:	- Inlet valve is closed, or - Sensor failure
Effect:	Engine control system will use the other sensors to evaluate the hydraulic inlet pressure. NOTE If the pump inlet valve is closed, engine start will cause pump cavitation
Sugg. Action:	Check: - Pump inlet valve - Pump inlet pressure sensor

ACUXX_0719 **Hydraulic Power Supply->Double pipe leak alarm**

Description:	Hydraulic oil leaks oil from inner to outer pipe
Cause:	Oil detected in outer pipe, i.e. the inner pipe leaks.
Effect:	Oil leak may affect the hydraulic pressure
Sugg. Action:	- Detect leaking seals by isolating each double pipe section one by one - Check line break valves

ACUXX_0722 **Hydraulic Power Supply->Hyd. leak. timed shutdown**

Description:	Oil detected in the drain box
Cause:	Minor hydraulic leakage from HPS pumps
Effect:	Continuous operation may increase leakage. Major leakage may cause shutdown.
Sugg. Action:	Find and repair hydraulic leak

ACUXX_0724 **Hydraulic Power Supply->Double pipe press. high**

Description:	Hydraulic pressure in double pipe is above the limit
Cause:	Pressure has been detected in the outer pipe of the double pipe. On systems with pressurerised outer pipe this could be caused by a blocked line brake valve.
Effect:	Hydraulic oil leaks from inner to outer pipe.
Sugg. Action:	- Detect leaking seals by isolating each double pipe section one by one - Check line break valves

ACUXX_0725 **Hydraulic Power Supply->Double pipe press. low**

Description:	This alarm is not in use
Cause:	This alarm is not in use
Effect:	This alarm is not in use
Sugg. Action:	If you see this, please contact MAN Diesel & Turbo

ACUXX_1106 **TC Cut Out supervision->No valid TC Cut Out Selection**

Description:	The TC Cut Out valves on the compressor and turbine are not locked in either fully open or closed position.
Cause:	- A turbo charger is in the process of being cut out or cut back in. Signal or cabling failure on the valve locked-switches of the compressor valve or turbine valve.
Effect:	The engine running mode is forced to TC Cut Out Mode. TC Cut Out mode limits for engine speed and index are active.
Sugg. Action:	If a turbo charger is in the process of being cut out or back in: Await end of operation. else check the signals from the TC cut out valve switches on ACU3, channel 27, 35, 36 and 37.

ACUXX

ACUXX_1109-30 Ch23,1109-3,Turning gear disengaged->Suprv. Ch23,1109-3,Turning gear dis

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1109-A Ch23,1109-A,Turning gear disengaged->Suprv. Ch23,1109-A,Turning gear dis

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1109-B Ch23,1109-B,Turning gear disengaged->Suprv. Ch23,1109-B,Turning gear dis

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX

ACUXX_1110-30 Ch22,1110-3,Turning gear engaged->Suprv. Ch22,1110-3,Turning gear eng

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1110-A Ch22,1110-A,Turning gear engaged->Suprv. Ch22,1110-A,Turning gear eng

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1110-B Ch22,1110-B,Turning gear engaged->Suprv. Ch22,1110-B,Turning gear eng

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX

ACUXX_1111-30 **Ch21,1111-3,Main start valve blocke->Suprv. Ch21,1111-3,Main start valve**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1111-A **Ch21,1111-A,Main start valve blocke->Suprv. Ch21,1111-A,Main start valve**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1111-B **Ch21,1111-B,Main start valve blocke->Suprv. Ch21,1111-B,Main start valve**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX

ACUXX_1112-30 **Ch24,1112-3,Main start valve in ser->Suprv. Ch24,1112-3,Main start valve**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1112-A **Ch24,1112-A,Main start valve in ser->Suprv. Ch24,1112-A,Main start valve**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1112-B **Ch24,1112-B,Main start valve in ser->Suprv. Ch24,1112-B,Main start valve**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX

ACUXX_1116-30 **Ch25,1116-3,Start air dist In Servi->Suprv. Ch25,1116-3,Start air dist I**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1116-A **Ch25,1116-A,Start air dist In Servi->Suprv. Ch25,1116-A,Start air dist I**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1116-B **Ch25,1116-B,Start air dist In Servi->Suprv. Ch25,1116-B,Start air dist I**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX

ACUXX_1201-10 Ch31,1201-1,Hydraulic Pressure (bar->Suprv. Ch31,1201-1,Hydraulic Pressu

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1201-20 Ch31,1201-2,Hydraulic Pressure (bar->Suprv. Ch31,1201-2,Hydraulic Pressu

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1201-30 Ch31,1201-3,Hydraulic Pressure (bar->Suprv. Ch31,1201-3,Hydraulic Pressu

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check the cabling to the sensor, according to the installation drawings. Check that the sensor has sufficient power supply (if it is a 2-wire sensor, the supply is integrated in the signal). Check the current into terminal "C" of the channel. It must be within 4 mA and 20 mA. If the current is above or below the range, the current out of the sensor must be checked. If the current into the MPC is within the range, while the alarm is present, the MPC may be damaged and must be replaced.

ACUXX

ACUXX_1202-A **Ch80,1202-A,System bypass open/clos->Suprv. Ch80,1202-A,System bypass op**

Description:	Cable failure or missing power to actuator.
Cause:	- Cabling failure, or - Actuator power supply failure (blown fuse) - MPC output relay failure, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	- Check cabling to component - Check that voltage to component is 24V - Check that power connector voltage is 24V. If not: Check /replace fuse - Check current in cable to the coil - Test (or check?) relay If all is OK: Replace MPC

ACUXX_1202-B **Ch80,1202-B,System bypass open/clos->Suprv. Ch80,1202-B,System bypass op**

Description:	Cable failure or missing power to actuator.
Cause:	- Cabling failure, or - Actuator power supply failure (blown fuse) - MPC output relay failure, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	- Check cabling to component - Check that voltage to component is 24V - Check that power connector voltage is 24V. If not: Check /replace fuse - Check current in cable to the coil - Test (or check?) relay If all is OK: Replace MPC

ACUXX_1204-10 **Ch32,1204-1,Lube oil pressure (bar)->Suprv. Ch32,1204-1,Lube oil pressur**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX

ACUXX_1204-20 Ch32,1204-2,Lube oil pressure (bar)->Suprv. Ch32,1204-2,Lube oil pressur

Description:	The alarm indicates that the signal from the sensor connected to the specified channel is outside the legal range. The sensor should give a signal between 4 mA to 20 mA.
Cause:	Most probably a failure in the cabling to the sensor, or failure of the sensor, or missing sensor power supply, or failure of the input of the MPC.
Effect:	Reduced supervision quality, 1 sensor out of 3 is unavailable.
Sugg. Action:	Check the cabling to the sensor, according to the installation drawings. Check that the sensor has sufficient power supply (if it is a 2-wire sensor, the supply is integrated in the signal). Check the current into terminal "C" of the channel. It must be within 4 mA and 20 mA. If the current is above or below the range, the current out of the sensor must be checked. If the current into the MPC is within the range, while the alarm is present, the MPC may be damaged and must be replaced.

ACUXX_1204-30 Ch32,1204-3,Lube oil pressure (bar)->Suprv. Ch32,1204-3,Lube oil pressur

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1204-40 Ch33,1204-4,Lube oil pressure (bar)->Suprv. Ch33,1204-4,Lube oil pressur

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX

ACUXX_1204-50 **Ch33,1204-5,Lube oil pressure (bar)->Suprv. Ch33,1204-5,Lube oil pressur**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1209-A **Ch80,1209-A,System bypass open/clos->Suprv. Ch80,1209-A,System bypass op**

Description:	The current measured through the relay output is out of legal range. The relay channel is supervised by an analogue input channel, which measures the current through the relay to the actuator.
Cause:	- Cabling failure, or - Actuator power supply failure (blown fuse) - MPC output Relay failure, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Actuator Power supply - Relay channel operation - Input channel (used for supervision)

ACUXX_1209-B **Ch85,1209-B,System bypass open/clos->Suprv. Ch85,1209-B,System bypass op**

Description:	The current measured through the relay output is out of legal range. The relay channel is supervised by an analogue input channel, which measures the current through the relay to the actuator.
Cause:	- Cabling failure, or - Actuator power supply failure (blown fuse) - MPC output Relay failure, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Actuator Power supply - Relay channel operation - Input channel (used for supervision)

ACUXX

ACUXX_1222-10 Ch34,1222-1,Swash-Plate Position->Suprv. Ch34,1222-1,Swash-Plate Posi

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1222-20 Ch34,1222-2,Swash-Plate Position->Suprv. Ch34,1222-2,Swash-Plate Posi

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1222-30 Ch34,1222-3,Swash-Plate Position->Suprv. Ch34,1222-3,Swash-Plate Posi

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX

ACUXX_123304 Ch22,1233,Double pipe press. (bar)->Suprv. Ch22,1233,Double pipe press.

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_123404 Ch21,1234,Double pipe leak->Suprv. Ch21,1234,Double pipe leak

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_123504 Ch27,1235,Hyd. leak alarm level->Suprv. Ch27,1235,Hyd. leak alarm le

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX

ACUXX_123604 Ch27,1236,Hyd. leak shutdown level->Suprv. Ch27,1236,Hyd. leak shutdown

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_1238-10 Ch30,1238-1,Prop. Valve Feedback->Suprv. Ch30,1238-1,Prop. Valve Feed

Description:	The alarm indicates that the signal from the sensor connected to the specified channel is outside the legal range. The sensor should give a signal between 4 mA to 20 mA.
Cause:	Most probably a failure in the cabling to the sensor, or failure of the sensor, or missing sensor power supply, or failure of the input of the MPC.
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check the cabling to the sensor, according to the installation drawings. Check that the sensor has sufficient power supply (if it is a 2-wire sensor, the supply is integrated in the signal). Check the current into terminal "C" of the channel. It must be within 4 mA and 20 mA. If the current is above or below the range, the current out of the sensor must be checked. If the current into the MPC is within the range, while the alarm is present, the MPC may be damaged and must be replaced.

ACUXX_1238-20 Ch30,1238-2,Prop. Valve Feedback->Suprv. Ch30,1238-2,Prop. Valve Feed

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX

ACUXX_1238-30 **Ch30,1238-3,Prop. Valve Feedback->Suprv. Ch30,1238-3,Prop. Valve Feed**

Description:	The alarm indicates that the signal from the sensor connected to the specified channel is outside the legal range. The sensor should give a signal between 4 mA to 20 mA.
Cause:	Most probably a failure in the cabling to the sensor, or failure of the sensor, or missing sensor power supply, or failure of the input of the MPC.
Effect:	This will lead to pump ctrl. fault. If the pump only suffers from electrical faults, then the pump will deliver full flow in the engine rotation direction.
Sugg. Action:	Check the cabling to the sensor, according to the installation drawings. Check that the sensor has sufficient power supply (if it is a 2-wire sensor, the supply is integrated in the signal). Check the current into terminal "C" of the channel. It must be within 4 mA and 20 mA. If the current is above or below the range, the current out of the sensor must be checked. If the current into the MPC is within the range, while the alarm is present, the MPC may be damaged and must be replaced.

ACUXX_8501-30 **Ch37,8501-3,Starting air pressure (->Suprv. Ch37,8501-3,Starting air pre**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_8501-A **Ch37,8501-A,Starting air pressure (->Suprv. Ch37,8501-A,Starting air pre**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX

ACUXX_8501-B **Ch37,8501-B,Starting air pressure (->Suprv. Ch37,8501-B,Starting air pre**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_8503-30 **Ch36,8503-3,Control air pressure (b->Suprv. Ch36,8503-3,Control air pres**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_8503-A **Ch36,8503-A,Control air pressure (b->Suprv. Ch36,8503-A,Control air pres**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX

ACUXX_8503-B **Ch36,8503-B,Control air pressure (b->Suprv. Ch36,8503-B,Control air pres**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_8505-10 **Ch35,8505-1,Air spring supply press->Suprv. Ch35,8505-1,Air spring suppl**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_8505-20 **Ch35,8505-2,Air spring supply press->Suprv. Ch35,8505-2,Air spring suppl**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX

ACUXX_8505-30 **Ch35,8505-3,Air spring supply press->Suprv. Ch35,8505-3,Air spring suppl**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ACUXX_badBau **System->Non standard baud rate**

Description:	Service terminal baud rate is not 9600 Bd
Cause:	Non-standard Baud rate selected.
Effect:	No, or unreadable output to Service Terminal.
Sugg. Action:	When convenient: Reset Blue DIP switch and reboot MPC

ACUXX_IDKEY **System->ID Key corrupt**

Description:	The MPC cannot read ID-key data
Cause:	- ID-key is not plugged in, or - ID-key data is corrupted, or - ID-key hardware failure, or - MPC failure
Effect:	No immediate effect on engine performance. The MPC may not function correctly after a restart.
Sugg. Action:	If this alarm is active for more than 5 minutes, check that the ID-key is plugged in correctly. If the problem persists replace, one at a time: - ID-key (see instruction manual for configuration instructions) - MPC

ACUXX_SBAT **System->Battery Level Low**

Description:	MPC battery is low
Cause:	Battery worn out
Effect:	If MPC remains switched on: No effect If MPC is switched off or power is lost: MPC will loose its time settings
Sugg. Action:	Replace battery when convenient

ACUXX_SFuseF **24V power supervision->Fuse F12 failure**

Description:	Fuse 12 is blown. Fuse 12 protects MPC power supply, connectors J20 - J37
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channel J20 - J37 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to connectors J20 - J37. Replace fuse.

ACUXX

ACUXX_SFuseF **24V power supervision->Fuse F13 failure**

Description:	Fuse 13 is blown. Fuse 13 protects MPC power supply, connectors J40 - J61
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channels J40 - J61 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to connectors J70 and J71. Replace fuse.

ACUXX_SFuseF **24V power supervision->Fuse F14 failure**

Description:	Fuse 14 is blown. Fuse 14 protects MPC power supply, connectors J70 and J71.
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channel J70 and J71 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to channel J70 and J71. Replace fuse.

ACUXX_SFuseF **24V power supervision->Fuse F9 failure**

Description:	Fuse 9 is blown. Fuse 9 protects MPC power supply, connector J9.
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channel J9 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to connector 9. Replace fuse.

ACUXX_SInvPar **System->Invalid parameters**

Description:	The MPC holds invalid parameters. The MPC cannot start its application without the correct parameters.
Cause:	The alarm is caused from the MPC automatically loads the wrong parameter set after a replacement of the MPC.
Effect:	The behaviour of the application in the MPC is not correct. The precise effect of this situation is unknown and care should be taken.
Sugg. Action:	If the involved MPC just have been repalced, wait for the automatic preparation to complete. If this takes more than 10 minutes, the LED colour signalling for fault indication should be inspected. If this proves unhelpful, reset the MPC unit. If it still does not help, contact MAN B&W Diesel.

ACUXX_SInvSw **System->Invalid software**

Description:	MPC is running an incorrect application
Cause:	MOP A and B not available during MPC power up
Effect:	Reduced system performance NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Switch off MPC immediately. When MOP A or MOP B are available: Restart MPC

ACUXX_SIPF **System->Invalid Parameter Flash**

Description:	Parameter flash failure
Cause:	The CRC check when reading the parameters from Flash failed
Effect:	Parameters from flash cannot be used.
Sugg. Action:	Write a new parameter set to flash. I the problem persists, the unit may be defective

ACUXX

ACUXX_SPow2 **24V power supervision->24V power A failure, connector 1B**

Description:	No power supply to connector J1, terminal B
Cause:	- Power supply A is turned off, or - Cabling failure
Effect:	No effect on engine performance (MPC is powered from power supply B) No power supply redundancy
Sugg. Action:	Check: - Power supply A - Cabling

ACUXX_SPow2 **24V power supervision->24V power B failure, connector 1C**

Description:	No power supply to connector J1, terminal C
Cause:	- Power supply B is turned off, or - Cabling failure
Effect:	No effect on engine performance (MPC is powered from power supply A) No power supply redundancy
Sugg. Action:	Check: - Power supply B - Cabling

ACUXX_SWDog **System->Watchdogs deactivated**

Description:	MPC watchdog disabled
Cause:	Green DIP-switch is set to ‘Off’
Effect:	No effect on engine performance. The MPC may respond incorrectly to any software and hardware failures.
Sugg. Action:	Set green DIP-switch to 'On'

CCUXX

CCUXX_010103 Tacho set A->Tacho set A failure

Description:	Abnormal tacho set A signals
Cause:	- Cabling failure (loose connection etc.), or - Flywheel marker sensor failure, or - Encoder failure, or - Tacho amplifier A failure, or - Sensor support console failure, or - Power failure (ECUA powers tacho set A) If trigger ring is fitted, this alarm may be caused by: - Trigger/marker ring is damaged, or - Trigger/marker sensor failure
Effect:	The CCU has switched to tacho set B. Redundancy reduced. If both tacho sensor set A and B fail on the same CCU: - No fuel injection (on affected unit) - No cylinder lubrication (on affected unit)
Sugg. Action:	NOTE Backup lubrication cables MUST be fitted if both tacho set A and B report failure AND continued operation is needed for more than 30 minutes. Connect affected cylinder lubricator to ECU A or B, plug J52. If only one CCU reports failure, check plug J40-J43 on failing CCU If OK: Replace CCU If all CCUs and ECUs report tacho failure, check tacho signals on maintenance screen: 1. Turn the engine minimum one revolution (by turning gear) 2. On failing CCU maintenance screen: Check that channel 40-43 toggle correctly between true and false Channel 40 + 41: twice per revolution Channel 42 + 43: multiple times per revolution (360) Perform tacho test on MOP, go to 'Maintenance' -> 'Function Test' -> 'Tacho' Follow tacho test instructions Trace the error by following the signal from : Encoder and/or flywheel marker sensor ->Amplifier (TSA-A) ->ECU A If trigger ring is fitted, check also: a. Trigger/marker ring b. Trigger/marker sensor

CCUXX

CCUXX_010104 Tacho set B->Tacho set B failure

Description:	Abnormal tacho set B signals
Cause:	- Cabling failure (loose connection etc.), or - Encoder failure, or - Tacho amplifier B failure, or - Sensor support console failure, or - Power failure (ECUB powers tacho set B) If trigger ring is fitted: - Trigger/marker ring is damaged, or - Trigger/marker sensor failure
Effect:	The CCU has switched to tacho set A. Redundancy reduced. If both tacho sensor set A and B fail on the same CCU: - No fuel injection (on affected unit) - No cylinder lubrication (on affected unit)
Sugg. Action:	NOTE Backup lubrication cables MUST be fitted if both tacho set A and B report failure AND continued operation is needed for more than 30 minutes. Connect affected cylinder lubricator to ECU A or B, plug J52. If only one CCU reports failure, check plug J44-J47 on failing CCU If OK: Replace CCU If all CCUs and ECUs report tacho failure, check tacho signals on maintenance screen: 1. Turn the engine minimum one revolution (by turning gear) 2. On failing CCU maintenance screen: Check that channel 44-47 toggle correctly between true and false Channel 44 + 45: twice per revolution Channel 46 + 47: multiple times per revolution (360) Perform tacho test on MOP, go to 'Maintenance' -> 'Function Test' -> 'Tacho' Follow tacho test instructions Trace the error by following the signal from : Encoder ->Amplifier (TSA-B) ->ECU B If trigger ring is fitted, check: a. Trigger/marker ring b. Trigger/marker sensor

CCUXX_010119 Tacho->Delta Tacho B too big

Description:	The angle difference between tacho system A and B is too big
Cause:	The angle between tacho set A and B marker signal exceeds the limit.
Effect:	If the system switches from tacho set A to B, maximum pressure deviation may occur.
Sugg. Action:	If the alarm 'Tacho set A failure' or 'Tacho set B failure' is active: Ignore this alarm. If this alarm is the only tacho alarm: - Check and adjust Pmax. - At first opportunity: 1. Inspect the mechanical condition of the encoders. 2. Readjust the encoders 3. Perform tacho test on MOP: Go to 'Maintenance ' -> 'Function Test' -> 'Tacho' Follow tacho test instructions NOTE If encoder A is readjusted or replaced: Perform PMI measurement, and restore tacho offset settings according to 0-diagram

CCUXX

CCUXX_010122 Tacho->Tacho Alignment Err

Description:	One or both encoders are misaligned
Cause:	Tacho set A signals and/or tacho set B signals differ from the flywheel sensor signal.
Effect:	Engine performance may be affected
Sugg. Action:	If the alarm 'Tacho set A failure' or 'Tacho set B failure' is active: Ignore this alarm. If this alarm is the only tacho alarm: - Check and adjust Pmax. - At first opportunity: 1. Inspect the mechanical condition of the encoders. 2. Readjust the encoders 3. Perform tacho test on MOP: Go to 'Maintenance ' -> 'Function Test' -> 'Tacho' Follow tacho test instructions NOTE If encoder A is readjusted or replaced: Perform PMI measurement, and restore tacho offset settings according to 0-diagram

CCUXX_010127 Tacho->Tacho Input A slip

Description:	Tacho set A is out of adjustment
Cause:	Tacho position signal A does not match the position signals from tacho set B and the turning wheel sensor.
Effect:	The MPC has switched to tacho set B. Redundancy reduced.
Sugg. Action:	If the alarm 'Tacho set A failure' or 'Tacho set B failure' is active: Ignore this alarm. If this alarm is the only tacho alarm, at first opportunity: 1. Inspect the mechanical condition of the encoders. 2. Readjust encoder A 3. Perform tacho test on MOP: Go to 'Maintenance' -> 'Function Test' -> 'Tacho' Follow tacho test instructions NOTE If encoder A is readjusted or replaced: Perform PMI measurement, and restore tacho offset settings according to 0-diagram.

CCUXX_010128 Tacho->Tacho Input B slip

Description:	Tacho set B is out of adjustment
Cause:	Tacho position signal B does not match the position signals from tacho A and the turning wheel sensor.
Effect:	The MPC has switched to tacho set A. Redundancy reduced.
Sugg. Action:	If the alarm 'Tacho set A failure' or 'Tacho set B failure' is active: Ignore this alarm. If this alarm is the only tacho alarm, at first opportunity: 1. Inspect the mechanical condition of the encoders. 2. Readjust encoder B 3. Perform tacho test on MOP: Go to 'Maintenance' -> 'Function Test' -> 'Tacho' Follow tacho test instructions

CCUXX

CCUXX_010129 Tacho->Marker A Input slip

Description:	Misalignment between flywheel sensor and encoders
Cause:	a. Flywheel tacho sensor is damaged or out of adjustment b. Both encoders are misaligned compared to flywheel sensor
Effect:	If a: The MPC has switched to tacho set B If b: Engine performance will be seriously affected. NEVER ignore this alarm!
Sugg. Action:	If the alarm 'Tacho set A failure' or 'Tacho set B failure' is active: Ignore this alarm. If this alarm is the only tacho alarm, at first opportunity: 1. Inspect flywheel sensor and mounting bracket 2. Check distance between sensor and flywheel 3. Inspect the mechanical condition of the encoders. 4. Perform tacho test on MOP: Go to 'Maintenance' -> 'Function Test' -> 'Tacho' Follow tacho test instructions NOTE If encoder A is readjusted or replaced: Perform PMI measurement, and restore tacho offset settings according to 0-diagram.

CCUXX_010135 Tacho set C->Tacho set C failure

Description:	This alarm is not in use
Cause:	This alarm is not in use
Effect:	This alarm is not in use
Sugg. Action:	If you see this, please contact MAN Diesel & Turbo

CCUXX_010136 Tacho set D->Tacho set D failure

Description:	This alarm is not in use
Cause:	This alarm is not in use
Effect:	This alarm is not in use
Sugg. Action:	If you see this, please contact MAN Diesel & Turbo

CCUXX_010414 Fuel Telegram Handler->No Telegram Received from ECU A

Description:	CCU did not receive a fuel telegram network message from the ECU. Fuel telegrams are sent once per revolution. Fuel telegrams contain injection and exhaust valve operation commands.
Cause:	If all CCUs report this failure: - ECU failure. If different CCUs randomly report this failure: - Network failure
Effect:	If telegrams are missing from one ECU: - Redundancy reduced. - The CCU will continue normal operation, based on telegrams from redundant ECU. If telegrams are missing from both ECUs: - No fuel injection. - Exhaust valve operation continues.
Sugg. Action:	If different CCUs randomly report this failure, check: - Network status on MOP maintenance screen. - Network cabling, include terminating resistors. - For ground failure. If all CCUs permanently report this failure, check: - ECU - Network cabling

CCUXX

CCUXX_010415 Fuel Telegram Handler->No Telegram Received from ECU B

Description:	CCU did not receive a fuel telegram network message from the ECU. Fuel telegrams are sent once per revolution. Fuel telegrams contain injection and exhaust valve operation commands.
Cause:	If all CCUs report this failure: - ECU failure. If different CCUs randomly report this failure: - Network failure
Effect:	If telegrams are missing from one ECU: - Redundancy reduced. - The CCU will continue normal operation, based on telegrams from redundant ECU. If telegrams are missing from both ECUs: - No fuel injection. - Exhaust valve operation continues.
Sugg. Action:	If different CCUs randomly report this failure, check: - Network status on MOP maintenance screen. - Network cabling, include terminating resistors. - For ground failure. If all CCUs permanently report this failure, check: - ECU - Network cabling

CCUXX_0109A IO Configuration->Shut Down

Description:	Shutdown has been ordered
Cause:	1. Requested by engine control system due to: - Hydraulic leakages from HPS, or - System oil inlet pressure too low, or - Hydraulic high pressure too low 2. Ordered by safety system
Effect:	The engine stops. Fuel injection stops immediately.
Sugg. Action:	If the shutdown was requested by the engine control system, check: - Hydraulic leakages from HPS - System oil inlet pressure - Hydraulic high pressure

CCUXX_0109B IO Configuration->Suprv. Ch32,2002,Shut Down

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check cabling If all CCUs report failure: Check safety system

CCUXX

CCUXX_013220 Noise Detector->Electrical noise detected

Description:	Electrical noise has been detected in the ECS system
Cause:	- One or more ECS components has intermittent and/or oscillating electric leakage to ship's ground, or - ECS system has been subjected to electrical noise from an external source NOTE: The location of a ECS component causing the alarm is NOT limited to the MPC on which the alarm has appeared.
Effect:	No immediate effect The fault can generate other consequential alarms in the ECS system, e.g. - Exh. Valve Closed Position Changed - Exh. Valve closing/opening too fast/slow (4 alarms) - Illegal ELFI/FIVA Position - ELFI/FIVA Feedback Signal Failure NOTE: Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Total noise pulse counter by observing MPC output channel: Maintenance -> System view I/O test -> CCU Ch 71 - Cabling, sensors, actuators, MPCs for loose connections or intermittent and/or oscillating electric leakages/short circuits to ground. To locate an intermittent and/or oscillating electric leakage to ship's ground: 1. Stop engine or reduce rpm to slow down level 2. On one MPC: Disconnect power supply plug J1 3. Observe if increase in total noise pulse counter has stopped 4. If the increase has stopped, the MPC with intermittent and/or oscillating electric leakage to ship's ground has been found – skip step 5 and continue to step 6 5. Reconnect the power supply plug J1 in order for the MPC to resume normal function and go back to step 2, choosing the next MPC 6. Reconnect the power supply plug J1 – the MPC will resume normal function. 7. Set the MPC in TEST MODE by pressing MPC mode button on MOP Maintenance -> System view I/O. This will stop the MPC's normal function. 8. Disconnect connections (J2 to J85, - NOT J1) one at a time, and after each disconnection observe if increase in total noise pulse counter has stopped 9. If increase has stopped, the cable, sensor or actuator with loose connections or intermittent and/or oscillating electric leakages/short circuits to ground, has been located 10.Revert to basic electrical trouble shooting to repair. 11.Set the MPC in NORNAL MODE by pressing MPC mode button on MOP Maintenance -> System view I/O NOTE: If a CCU is disconnected or stopped for more than 20 minutes, establishing of emergency lubrication to the affected cylinder is recommended, by fitting of backup lubrication cables from ECU.

CCUXX_0227 Command Handler->HCU Oil Leakage

Description:	Leakage has been detected at the specified HCU
Cause:	A leakage is detected in the high pressure fuel pipe.
Effect:	High pressure fuel is in the outer pipe. A leakage in the outer pipe will result in fuel spray onto engine components and maybe even on personnel. The control system provides an option (set by MAN B&W) for stopping fuel injections on the specific cylinder during this situation.
Sugg. Action:	If automatic fuel cut out is not performed by ECS, manually cut of fuel to that specific cylinder via the chief limiter on MOP. Reduce engine load to ecceptable level with 1 cylinder cut out. Stop engine when possible and repair high pressure pipe.

CCUXX

CCUXX_030116 Fuel Injection->Fuel Plunger Not Returned

Description:	Fuel plunger did not return to expected position before next injection.
Cause:	- Fuel oil inlet pressure low, or - Fuel pump suction valve failure, or - FIVA valve spool stuck, or - Fuel plunger stuck
Effect:	Injected fuel amount reduced. Exhaust gas temperature decreased. Reduced cylinder performance.
Sugg. Action:	Check: - Fuel supply pressure - Fuel oil suction valve Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate 'Fuel Plunger' and 'Exhaust Valve' to test failing unit If FIVA movements and exhaust valve are OK: Perform one manual fuel injection attempt. If manual attempt does not provide any fuel injection: Replace FIVA valve.

CCUXX_030117 Fuel Injection->Fuel Plunger Stroke Too High

Description:	Fuel plunger strokes are longer than ordered by the engine control system.
Cause:	- Fuel pump suction valve failure, or - Injection valve failure, or - Fuel supply pressure too low, or - FIVA valve failure, or - CCU failure
Effect:	Injected fuel amount incorrect. Exhaust gas temperature deviation. Reduced cylinder performance.
Sugg. Action:	Check: - Fuel supply pressure - Fuel oil suction valve - Fuel injector valves Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate 'Fuel Plunger' and 'Exhaust Valve' to test failing unit If FIVA movements and exhaust valve are OK: Perform one manual fuel injection attempt. If manual attempt does not provide any fuel injection: Replace FIVA valve

CCUXX

CCUXX_030118 Fuel Injection->Fuel Plunger Stroke Too Low

Description:	Fuel plunger strokes are shorter than ordered by the engine control system.
Cause:	- Injection valve failure, or - Fuel oil viscosity too high, or - Hydraulic oil pressure too low, or - FIVA valve failure, or - Fuel plunger stuck
Effect:	Injected fuel amount incorrect. Exhaust gas temperature deviation. Reduced cylinder performance.
Sugg. Action:	Check: - Fuel injection valves - Fuel viscosity - Hydraulic oil pressure Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate Fuel Plunger and Exhaust Valve to test failing unit If FIVA movements and exhaust valve are OK: Perform one manual fuel injection attempt. If manual attempt does not provide any fuel injection: Replace FIVA valve If the problem persists: Replace fuel pump plunger and barrel

CCUXX_030119 Fuel Injection->Illegal Fuel Plng. Movement(Slw.Dw)

Description:	The fuel plunger has made an illegal movement. Risk of untimed fuel injection.
Cause:	- Plunger position sensor or cable failure, or - ELFI / FIVA valve failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	Check: - Fuel plunger position sensor status (Channel 31) - Fuel plunger position sensor and cabling. If the sensor is replaced, go to: 'Maintenance' -> 'Function Test' to recalibrate the sensor. Reactivate fuel injection. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit’s fuel plunger operation If the problem persists, replace or exchange, one part at a time: - Fuel plunger position sensor - Fuel plunger sensor cabling - ELFI / FIVA valve - CCU NOTE Alarm can be overridden by invalidating channel 31 on affected CCU and reactivating fuel injection on 'Maintenance' -> 'System View I/O Test'

CCUXX_030127 Fuel Injection->Burst and Prep sync missed

Description:	Misfirering coursed by to early Injection Request
Cause:	Overload of the CPU, or to early injection request. This could be coursed by wrong parameter setting.
Effect:	One fuel injection was missing.
Sugg. Action:	Check if the parameters has been changed recently.

CCUXX

CCUXX_030232 Exhaust Valve Supervision->Exhaust Valve Stroke Low (SlowDown)

Description:	The exhaust valve opening or closing stroke is too short
Cause:	- Accumulator pressure too low, or - De-aerating orifice in exhaust valve top blocked, or - Non-return valves for exhaust valve actuator oil inlet damaged, or - No air supply or leaking exhaust valve air spring, or - Exhaust valve position sensor failure, or - ELVA/FIVA valve failure Note: This alarm also occurs as a consequence of these alarms: - Illegal Fuel Plunger Movement - Illegal ELFI/FIVA Position - ELFI/FIVA Feedback Signal Failure - Frozen IO Detected
Effect:	Fuel injection stopped on affected cylinder Slow-down is requested.
Sugg. Action:	Check: - Exhaust valve position sensor - Accumulator pressure - De-aerating orifice in exhaust valve top - Non-return valves for exhaust valve actuator oil inlet - Air spring supply pressure and perform drop-down test of exhaust valve spindle. - ELFI / FIVA valve

CCUXX_030232 Exhaust Valve Supervision->Exh. Valve Closed Position Changed

Description:	Exhaust valve did not close completely
Cause:	- Air spring failure, or - Exhaust valve actuator and/or damper failure, or - ELFI / FIVA valve failure NOTE This alarm also occurs as a consequence of these alarms: - Illegal Fuel Plunger Movement - Illegal ELFI/FIVA Position - ELFI/FIVA Feedback Signal Failure - Frozen IO Detected
Effect:	Reduced compression pressure. Increased exhaust gas and valve temperature.
Sugg. Action:	Check: - Air spring - Exhaust valve actuator - Exhaust valve oil cylinder - ELFI / FIVA valve

CCUXX_030232 Exhaust Valve Supervision->Exh. Valve Air Spring Pressure Low

Description:	Exhaust valve air spring pressure too low
Cause:	- Air spring leakage - Air spring supply blocked or shut off - Faulty pressure sensor
Effect:	Activating the exhaust valve with too low air spring pressure vill damage the exhaust valve.
Sugg. Action:	Stop Exhaust valve operation immediately on MOP, 'Engine'->'Chief Limiters' -> 'Exhaust Valve Operation' (or power off CCU) Check: - Low force Reduction Station spring Air - Air spring - Pressure sensor

CCUXX

CCUXX_030233 Exhaust Valve Timing Controller->Exhaust Valve Opening Too Slow

Description:	Exhaust valve opens too slow
Cause:	- Exhaust valve position sensor failure, or - De-aerating orifice in exhaust valve top blocked, or - Accumulator pressure too low, or - Hydraulic pressure too low, or - Hydraulic leakage, or - Air spring safety valve failure
Effect:	Increased blow back.
Sugg. Action:	Check: - Exhaust valve position sensor - De-aerating orifice in exhaust valve top - Accumulator pressure - Non-return valves for exhaust actuator - Hydraulic supply pressure - Air spring safety valve

CCUXX_030233 Exhaust Valve Timing Controller->Exhaust Valve Opening Too Fast

Description:	Exhaust valve opens too fast
Cause:	- Air spring pressure too low, or - Exhaust valve position sensor failure
Effect:	Increased exhaust temperature.
Sugg. Action:	Check: - Exhaust valve position sensor - Air spring safety valve - Hydraulic supply pressure

CCUXX_030233 Exhaust Valve Timing Controller->Exhaust Valve Closing Too Slow

Description:	Exhaust valve closes too slow
Cause:	- Exhaust valve position sensor failure, or - Air spring pressure too low, or - Exhaust valve failure
Effect:	Reduced compression pressure.
Sugg. Action:	Check: - Exhaust valve position sensor - Air spring safety valve - Exhaust valve

CCUXX_030233 Exhaust Valve Timing Controller->Exhaust Valve Closing Too Fast

Description:	Exhaust valve closes too fast
Cause:	- Exhaust valve position sensor failure, or - De-aerating orifice in exhaust valve top blocked, or - Hydraulic leakage, or - Air spring safety valve failure
Effect:	Increased compression pressure.
Sugg. Action:	Check: - Exhaust valve position sensor - De-aerating orifice in exhaust valve top - Exhaust actuator and oil cylinder - Air spring safety valve

CCUXX

CCUXX_030306 ElFi Valve->ELFI/FIVA Fdbck Sign. Fail.(Slw.Dw)

Description:	Abnormal position feedback from ELFI valve
Cause:	- Loose connection - Internal ELFI feedback failure This alarm also occurs as a consequence of these alarms: - Illegal ELFI/FIVA Position - Frozen IO Detected
Effect:	No fuel injection
Sugg. Action:	Check ELFI feedback cabling. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit Further troubleshooting: 1. Stop the engine at first opportunity 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit’s injection and exhaust valve operation. 4. Compare signals from failing unit to signals from a well functioning unit. If the problem persists replace or exchange, one part at a time: - ELFI valve - ELFI cabling - CCU

CCUXX_030311 Amplifier->ELFI Amp. Current Supervision

Description:	Amplifier current deviates from the current ordered by the CCU
Cause:	- Cabling failure, or - Amplifier failure, or - CCU failure
Effect:	No effect on engine performance
Sugg. Action:	Check: - Cabling - Amplifier - CCU To run amplifier function test : 1. Stop the engine at first opportunity 2. Go to 'Maintenance' -> 'Function test' -> 'HCU' 3. Perform amplifier test Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate 'Fuel Plunger' and 'Exhaust Valve' to test failing unit

CCUXX_030311 Amplifier->ELFI Amp. thermal protect. act.

Description:	Amplifier has shut down due to too high ELFI current consumption
Cause:	- Cabling failure, or - ELFI failure, or - Amplifier failure, or - CCU fuse (F9) for amplifier is blown
Effect:	No fuel injection.
Sugg. Action:	1. Check ELFI cabling 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Reset ELFI position feedback, ch30 If the problem persists replace or exchange, one part at a time: - ELFI valve - ELFI cabling - CCU

CCUXX

CCUXX_030331 ElFi Valve->Illegal ELFI/FIVA Position (Slw.Dw)

Description:	The ELFI spool has been in an illegal position. Risk of untimed fuel injection.
Cause:	- ELFI position sensor signal failure, or - ELFI failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection.
Sugg. Action:	Check cabling Reactivate fuel injection, go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. If the problem persists, replace or exchange, one part at a time: - ELFI valve - CCU

CCUXX_030332 ElFi Valve->Illegal ELFI/FIVA Setpoint (Slw.Dw)

Description:	Illegal internal ELFI set point. Risk of untimed fuel injection.
Cause:	Internal CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection.
Sugg. Action:	If the alarm is activated during normal engine operation: Replace CCU

CCUXX_030406 FIVA Valve->ELFI/FIVA Fdbck Sign. Fail.(Slw.Dw)

Description:	Abnormal position feedback from FIVA valve
Cause:	- Loose connection. - Internal FIVA feedback failure. This alarm also occurs as a consequence of these alarms: - Illegal ELFI/FIVA Position - Frozen IO Detected
Effect:	No fuel injection. No exhaust valve operation. Slowdown is requested.
Sugg. Action:	Check FIVA feedback cabling Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit Further troubleshooting: 1. Stop the engine at first opportunity 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit’s injection and exhaust valve operation 4. Compare signals from failing unit to signals from a well functioning unit. If the problem persists replace or exchange, one part at a time: - FIVA valve - FIVA cabling - CCU

CCUXX

CCUXX_030411 Amplifier->FIVA Amp. Current Supervision

Description:	Amplifier current deviates from the current ordered by the CCU
Cause:	- Cabling failure, or - Amplifier failure, or - CCU failure
Effect:	No effect on engine performance
Sugg. Action:	Check: - Cabling - Amplifier - CCU To run amplifier function test : 1. Stop the engine at first opportunity 2. Go to 'Maintenance' -> 'Function test' -> 'HCU' 3. Perform amplifier test Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate 'Fuel Plunger' and 'Exhaust Valve' to test failing unit

CCUXX_030411 Amplifier->FIVA Amp. thermal protect. act.

Description:	Amplifier has shut down due to too high FIVA current consumption
Cause:	- FIVA failure, or - Cabling failure, or - Amplifier failure, or - CCU fuse (F9) for amplifier is blown
Effect:	No fuel injection. No exhaust valve operation. Slowdown is requested
Sugg. Action:	1. Check FIVA cabling 2. Stop the engine at first opportunity 3. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 4. Test failing unit’s injection and exhaust valve operation 5. Compare signals from failing unit to signals from a well functioning unit If the problem persists replace or exchange, one part at a time: - FIVA valve - FIVA amplifier - FIVA cabling - CCU

CCUXX_030431 FIVA Valve->Illegal ELFI/FIVA Position (Slw.Dw)

Description:	The FIVA spool has been in an illegal position. Risk of untimed fuel injection.
Cause:	- FIVA position sensor signal failure, or - FIVA failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. No exhaust valve operation. Slowdown is requested.
Sugg. Action:	Check cabling Reactivate fuel injection, go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. If the problem persists replace or exchange, one part at a time: - FIVA valve - CCU

CCUXX_030432 FIVA Valve->Illegal ELFI/FIVA Setpoint (Slw.Dw)

Description:	Illegal internal FIVA set point. Risk of untimed fuel injection.
Cause:	Internal CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. No exhaust valve operation. Slowdown is requested.
Sugg. Action:	If the alarm is activated during normal engine operation: Replace CCU

CCUXX

CCUXX_030502 ElVa Valve->Too Late PSP Setup

Description:	Internal ECS failure. An internal calculation was completed too late.
Cause:	A partly failing network may cause significantly increased cpu load on the MPCs, causing calculation delays.
Effect:	Often no effect. In other situations unstable fuel injection and lubrication of one or more cylinders.
Sugg. Action:	Parameter adjustment may be required. Until parameter adjustment is carried out, monitor exhaust gas temperature carefully: - If temperature is OK: Continuous running is OK. - If temperature NOT OK: Shut off affected cylinder. Reduce load and speed.

CCUXX_030511 ElVa Valve->ELVA Valve Status

Description:	ELVA valve failure
Cause:	- Internal ELVA valve failure, or - Power failure
Effect:	- No exhaust valve operation. - No fuel injection.
Sugg. Action:	Check cabling and power If cabling OK: Replace ELVA valve

CCUXX_031220 Cylinder Lubrication->Failing Lubr. FeedBack (Slowdown)

Description:	Incorrect feedback from the actuator piston
Cause:	Insufficient or no lubricator stroke
Effect:	- Insufficient or no cylinder lubrication - ECS will continue to activate the lubricator - Slowdown is requested
Sugg. Action:	Check the indicator LED on the lubricator If LED is flashing: Check feedback cabling. If cabling OK: Replace lubricator If LED is not flashing: Check cabling. If cabling OK: Replace CCU

CCUXX_031221 Cylinder Lubrication->No Cyl. Lube Oil Supply (Slowdown)

Description:	No cylinder lubrication oil supply
Cause:	- Cylinder lubricator oil supply valve is shut off, or - Cylinder lubricator oil supply system is blocked, or - Air in the cylinder lubricator, or - Flow sensor failure
Effect:	- No cylinder lubrication - Slowdown is requested
Sugg. Action:	Check: - That the cylinder lubricator oil supply valve is open - Cylinder lubricator oil supply system - Deaerate the cylinder lubricator - Flow sensor and cabling

CCUXX_0312B Cylinder Lubrication->Cylinder Lube Flow Sensor fault

Description:	Cylinder lubrication flow signal failure
Cause:	- Cable failure, or - Sensor failure, or - CCU input failure
Effect:	Cylinder lubrication supply is not monitored NOTE In case of lubrication failure, ECS will not request slowdown
Sugg. Action:	Check: - Cabling - Sensor If the problem persists replace, one at a time: - Sensor - CCU

CCUXX

CCUXX_0312C **Cylinder Lubrication->No Cyl. lubrication (Tacho fault)**

Description:	Failure on Tacho A and Tacho B. It is no longer possible for the CCU to perform cylinder lubrication.
Cause:	Failure on both Tacho sets.
Effect:	Cylinder lubrication is no longer possible.
Sugg. Action:	Check tachosignal cabling to the affected CCU

CCUXX_1002 **Burst IO Handler->Too Late PSP Setup**

Description:	Internal ECS failure. An internal calculation was completed too late.
Cause:	A partly failing network may cause significantly increased cpu load on the MPCs, causing calculation delays.
Effect:	Often no effect. In other situations unstable fuel injection and lubrication of one or more cylinders.
Sugg. Action:	Parameter adjustment may be required. Until parameter adjustment is carried out, monitor exhaust gas temperature carefully: - If temperature is OK: Continuous running is OK. - If temperature NOT OK: Shut off affected cylinder. Reduce load and speed.

CCUXX_200204 **Ch32,2002,Shut Down Safety System->Suprv. Ch32,2002,Shut Down Safety S**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Latest valid signal value is used. CCU will shut down when required as long as ECU receives correct shut down signal from safety system. It will however not stop an already initiated injection if shut down occurs.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

CCUXX_2002-04 **Ch32,2002-,Shut Down Safety System->Suprv. Ch32,2002-,Shut Down Safety**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Latest valid signal value is used. CCU will shut down when required as long as ECU receives correct shut down signal from safety system. It will however not stop an already initiated injection if shut down occurs.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

CCUXX_303004 **Ch35,3030,Noise detection->Suprv. Ch35,3030,Noise detection**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	No Electrical Noise Detection available.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

CCUXX

CCUXX_410204 Ch30,4102,ElFi/FiVa Position Feedba->Suprv. Ch30,4102,ElFi/FiVa Position

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	No valve control available. No cylinder injection for the affected cylinder.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

CCUXX_410604 Ch33,4106,ElFi/FiVa Amp. Actual Cur->Suprv. Ch33,4106,ElFi/FiVa Amp. Act

Description:	Amplifier current deviates from the current ordered by the CCU
Cause:	- Cabling failure - Amplifier failure - CCU failure - ELFI/FIVA failure
Effect:	No supervision of cabling to ELFI spool
Sugg. Action:	Check ELFI feedback cabling. Go to 'Engine' -> 'Chief Limiters' -> ‘HCU Status and Reset’ to reset failing unit Further troubleshooting: 1. Stop the engine at first opportunity 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit’s injection and exhaust valve operation. 4. Compare signals from failing unit to signals from a well functioning unit. If the problem persists replace or exchange, one part at a time: - ELFI valve - ELFI cabling - CCU

CCUXX_411104 Ch34,4111,Exhaust Valve Position->Suprv. Ch34,4111,Exhaust Valve Posi

Description:	Exhaust valve position signal failure
Cause:	- Cabling failure (junction box), or - Sensor failure, or - CCU input channel failure
Effect:	- Exhaust valve position signal not available - Engine performance may be affected NOTE In case of ‘Exhaust Valve Open Stroke Low’ alarm, ECS will not request slowdown
Sugg. Action:	Check: - Cabling (junction box) - Sensor - CCU input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists replace, one at a time: - Sensor - CCU

CCUXX

CCUXX_411204 Ch27,4112,Fuel Pipe Leakage->Suprv. Ch27,4112,Fuel Pipe Leakage

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

CCUXX_411404 Ch31,4114,Fuel Pump Plunger Positio->Suprv. Ch31,4114,Fuel Pump Plunger

Description:	Fuel plunger position signal failure
Cause:	- Cabling failure (junction box), or - Sensor failure, or - CCU input channel failure
Effect:	Fuel plunger position signal not available
Sugg. Action:	Check: - Cabling (junction box) - Sensor - CCU input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists replace, one at a time: - Sensor - CCU

CCUXX_828404 Ch21,8284,Lubricator Flow->Suprv. Ch21,8284,Lubricator Flow

Description:	Cylinder lubrication oil flow signal failure
Cause:	- Cabling failure (junction box), or - Sensor failure, or - CCU input channel failure
Effect:	Cylinder lubrication supply is not monitored NOTE In case of lubrication failure, ECS will not request slowdown
Sugg. Action:	Check: - Cabling - Sensor If the problem persists replace, one at a time: - Sensor - CCU

CCUXX_828504 Ch21,8285,Cylinder Lube Oil Level->Suprv. Ch21,8285,Cylinder Lube Oil

Description:	Cylinder lubrication oil supply signal failure
Cause:	- Cabling failure (junction box), or - Sensor failure, or - CCU input channel failure
Effect:	Cylinder lubrication supply is not monitored NOTE In case of lubrication failure, ECS will not request slowdown
Sugg. Action:	Check: - Cabling - Sensor If the problem persists replace, one at a time: - Sensor - CCU

CCUXX

CCUXX_998004 **Ch21,9980,Lube Oil Flow Missing->Suprv. Ch21,9980,Lube Oil Flow Miss**

Description:	Cylinder lubrication oil flow signal failure
Cause:	- Cabling failure (junction box), or - Sensor failure, or - CCU input channel failure
Effect:	Cylinder lubrication supply is not monitored NOTE In case of lubrication failure, ECS will not request slowdown
Sugg. Action:	Check: - Cabling - Sensor If the problem persists replace, one at a time: - Sensor - CCU

CCUXX_999004 **Ch21,9990,Lube Oil Supply Fail->Suprv. Ch21,9990,Lube Oil Supply Fa**

Description:	Cylinder lubrication oil supply signal failure
Cause:	- Cabling failure (junction box), or - Sensor failure, or - CCU input channel failure
Effect:	Cylinder lubrication supply is not monitored NOTE In case of lubrication failure, ECS will not request slowdown
Sugg. Action:	Check: - Cabling - Sensor If the problem persists replace, one at a time: - Sensor - CCU

CCUXX_999904 **Ch37,9999,Not Used->Suprv. Ch37,9999,Not Used**

Description:	For test / commissioning purposes only
Cause:	CCU in test mode
Effect:	No effect
Sugg. Action:	No action

CCUXX_badBau **System->Non standard baud rate**

Description:	Service terminal baud rate is not 9600 Bd
Cause:	Non-standard Baud rate selected.
Effect:	No, or unreadable output to Service Terminal.
Sugg. Action:	When convenient: Reset Blue DIP switch and reboot MPC

CCUXX_IDKEY **System->ID Key corrupt**

Description:	The MPC cannot read ID-key data
Cause:	- ID-key is not plugged in, or - ID-key data is corrupted, or - ID-key hardware failure, or - MPC failure
Effect:	No immediate effect on engine performance. The MPC may not function correctly after a restart.
Sugg. Action:	If this alarm is active for more than 5 minutes, check that the ID-key is plugged in correctly. If the problem persists replace, one at a time: - ID-key (see instruction manual for configuration instructions) - MPC

CCUXX

CCUXX_SBAT **System->Battery Level Low**

Description:	MPC battery is low
Cause:	Battery worn out
Effect:	If MPC remains switched on: No effect If MPC is switched off or power is lost: MPC will loose its time settings
Sugg. Action:	Replace battery when convenient

CCUXX_SFuseF **24V power supervision->Fuse F12 failure**

Description:	Fuse 12 is blown. Fuse 12 protects MPC power supply, connectors J20 - J37
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channel J20 - J37 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to connectors J20 - J37. Replace fuse.

CCUXX_SFuseF **24V power supervision->Fuse F13 failure**

Description:	Fuse 13 is blown. Fuse 13 protects MPC power supply, connectors J40 - J61
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channels J40 - J61 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to connectors J70 and J71. Replace fuse.

CCUXX_SFuseF **24V power supervision->Fuse F14 failure**

Description:	Fuse 14 is blown. Fuse 14 protects MPC power supply, connectors J70 and J71.
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channel J70 and J71 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to channel J70 and J71. Replace fuse.

CCUXX_SFuseF **24V power supervision->Fuse F9 failure**

Description:	Fuse 9 is blown. Fuse 9 protects MPC power supply, connector J9.
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channel J9 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to connector 9. Replace fuse.

CCUXX_SInvPar **System->Invalid parameters**

Description:	The MPC holds invalid parameters. The MPC cannot start its application without the correct parameters.
Cause:	The alarm is caused from the MPC automatically loads the wrong parameter set after a replacement of the MPC.
Effect:	The behaviour of the application in the MPC is not correct. The precise effect of this situation is unknown and care should be taken.
Sugg. Action:	If the involved MPC just have been repalced, wait for the automatic preparation to complete. If this takes more than 10 minutes, the LED colour signalling for fault indication should be inspected. If this proves unhelpful, reset the MPC unit. If it still does not help, contact MAN B&W Diesel.

CCUXX

CCUXX_SInvSw **System->Invalid software**

Description:	MPC is running an incorrect application
Cause:	MOP A and B not available during MPC power up
Effect:	Reduced system performance NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Switch off MPC immediately. When MOP A or MOP B are available: Restart MPC

CCUXX_SIPF **System->Invalid Parameter Flash**

Description:	Parameter flash failure
Cause:	The CRC check when reading the parameters from Flash failed
Effect:	Parameters from flash cannot be used.
Sugg. Action:	Write a new parameter set to flash. I the problem persists, the unit may be defective

CCUXX_SPow2 **24V power supervision->24V power A failure, connector 1B**

Description:	No power supply to connector J1, terminal B
Cause:	- Power supply A is turned off, or - Cabling failure
Effect:	No effect on engine performance (MPC is powered from power supply B) No power supply redundancy
Sugg. Action:	Check: - Power supply A - Cabling

CCUXX_SPow2 **24V power supervision->24V power B failure, connector 1C**

Description:	No power supply to connector J1, terminal C
Cause:	- Power supply B is turned off, or - Cabling failure
Effect:	No effect on engine performance (MPC is powered from power supply A) No power supply redundancy
Sugg. Action:	Check: - Power supply B - Cabling

CCUXX_SWDog **System->Watchdogs deactivated**

Description:	MPC watchdog disabled
Cause:	Green DIP-switch is set to ‘Off’
Effect:	No effect on engine performance. The MPC may respond incorrectly to any software and hardware failures.
Sugg. Action:	Set green DIP-switch to 'On'

ECUXX

ECUXX_010060 IO->Ch26,1006, Deviation Supervision (

Description:	ECU A and ECU B are receiving differing input values
Cause:	Deviation between redundant input signals to ECU A and ECU B.
Effect:	Redundancy reduced
Sugg. Action:	Check ECU A and ECU B readings on the MOP Maintenance screen to identify the failing input signal. Disconnect the failing input source or invalidate the input channel. Repair or replace the failing source at first opportunity.

ECUXX_010103 EICU Commands->Speed Setpoint (Deviation)

Description:	ECU A and ECU B are generating differing output values
Cause:	Deviation between redundant input signals: - to ECU A and ECU B OR - to ACU 1, 2 and 3 OR - from RCS
Effect:	Redundancy reduced
Sugg. Action:	Restart the engine to reset the alarm If the problem persists, check: - ECU cabling - ACU cabling - RCS signals

ECUXX_010105 EICU Commands->Engine Mode User Req. (Deviation)

Description:	ECU A and ECU B are generating differing output values
Cause:	Deviation between redundant input signals: - to ECU A and ECU B OR - to ACU 1, 2 and 3 OR - from RCS
Effect:	Redundancy reduced
Sugg. Action:	Restart the engine to reset the alarm If the problem persists, check: - ECU cabling - ACU cabling - RCS signals

ECUXX_010112 EICU Commands->No Commands Received from EICU A

Description:	No commands received over the network
Cause:	- MPC is off or failing, or - Network failure
Effect:	Redundancy reduced
Sugg. Action:	Check network status

ECUXX_010113 EICU Commands->No Commands Received from EICU B

Description:	No commands received over the network
Cause:	- MPC is off or failing, or - Network failure
Effect:	Redundancy reduced
Sugg. Action:	Check network status

ECUXX_010114 EICU Commands->Local Control Take Command Active

Description:	'Forced take control' activated at LOP
Cause:	‘Forced take control’ button has been pressed on LOP
Effect:	The other control stations cannot take over engine control
Sugg. Action:	To release engine control from LOP, deactivate 'Forced take control' button on LOP

ECUXX

ECUXX_010115 EICU Commands->Speed Set Locked

Description:	Invalid speed set signals from the active control station to both EICU A and B
Cause:	- Control station failure (LOP, Bridge or ECR), or - Cabling failure, or - Serial interface (if fitted) to BMS system is failing
Effect:	Last valid speed set point is used. NOTE Speed set point cannot be changed from the active control station!
Sugg. Action:	To regain speed set control: Switch control station immediately Use other alarms to locate the root cause.

ECUXX_010203 Tacho set A->Tacho set A failure

Description:	Abnormal tacho set A signals
Cause:	- Cabling failure (loose connection etc.), or - Flywheel marker sensor failure, or - Encoder failure, or - Tacho amplifier A failure, or - Sensor support console failure, or - Power failure (ECUA powers tacho set A) If trigger ring is fitted, this alarm may be caused by: - Trigger/marker ring is damaged, or - Trigger/marker sensor failure
Effect:	The ECU has switched to tacho set B. Redundancy reduced.
Sugg. Action:	If only one ECU reports failure: Check plug J40-J43 on failing ECU If OK: Replace ECU If all CCUs and ECUs report tacho failure, check tacho signals on maintenance screen: 1. Turn the engine minimum one revolution (by turning gear) 2. On failing CCU maintenance screen: Check that channel 40-43 toggle correctly between true and false Channel 40 + 41: twice per revolution Channel 42 + 43: multiple times per revolution (360) Perform tacho test on MOP: Go to Maintenance -> Function Test -> Tacho Follow tacho test instructions Trace the error by following the signal from : Encoder and/or flywheel marker sensor ->Amplifier (TSA-A) ->ECU A If trigger ring is fitted, check: a. Trigger/marker ring b. Trigger/marker sensor

ECUXX

ECUXX_010204 Tacho set B->Tacho set B failure

Description:	Abnormal tacho set B signals
Cause:	- Cabling failure (loose connection etc.), or - Encoder failure, or - Tacho amplifier B failure, or - Sensor support console failure, or - Power failure (ECUB powers tacho set B) If trigger ring is fitted: - Trigger/marker ring is damaged, or - Trigger/marker sensor failure
Effect:	The ECU has switched to tacho set A. Redundancy reduced.
Sugg. Action:	If only one ECU reports failure: Check plug J44-J47 on failing ECU If OK: Replace ECU If all CCUs and ECUs report tacho failure, check tacho signals on maintenance screen: 1. Turn the engine minimum one revolution (by turning gear) 2. On failing CCU maintenance screen: Check that channel 40-43 toggle correctly between true and false Channel 44 + 45: twice per revolution Channel 46 + 47: multiple times per revolution (360) Perform tacho test on MOP, go to 'Maintenance' -> 'Function Test' -> 'Tacho' Follow tacho test instructions Trace the error by following the signal from : Encoder and/or flywheel marker sensor ->Amplifier (TSA-B) ->ECU B If trigger ring is fitted, check: a. Trigger/marker ring b. Trigger/marker sensor

ECUXX_010219 Tacho->Delta Tacho B too big

Description:	The angle difference between tacho system A and B is too big
Cause:	The angle between tacho set A and B marker signal exceeds the limit.
Effect:	If the system switches from tacho set A to B, maximum pressure deviation may occur.
Sugg. Action:	If the alarm 'Tacho set A failure' or 'Tacho set B failure' is active: Ignore this alarm. If this alarm is the only tacho alarm: - Check and adjust Pmax. - At first opportunity: 1. Inspect the mechanical condition of the encoders. 2. Readjust the encoders 3. Perform tacho test on MOP: Go to 'Maintenance ' -> 'Function Test' -> 'Tacho' Follow tacho test instructions NOTE If encoder A is readjusted or replaced: Perform PMI measurement, and restore tacho offset settings according to 0-diagram

ECUXX

ECUXX_010222 Tacho->Tacho Alignment Err

Description:	One or both encoders are misaligned
Cause:	Tacho set A signals and/or tacho set B signals differ from the flywheel sensor signal.
Effect:	Engine performance may be affected
Sugg. Action:	If the alarm 'Tacho set A failure' or 'Tacho set B failure' is active: Ignore this alarm. If this alarm is the only tacho alarm: - Check and adjust Pmax. - At first opportunity: 1. Inspect the mechanical condition of the encoders. 2. Readjust the encoders 3. Perform tacho test on MOP: Go to 'Maintenance ' -> 'Function Test' -> 'Tacho' Follow tacho test instructions NOTE If encoder A is readjusted or replaced: Perform PMI measurement, and restore tacho offset settings according to 0-diagram

ECUXX_010227 Tacho->Tacho Input A slip

Description:	Tacho set A is out of adjustment
Cause:	Tacho position signal A does not match the position signals from tacho set B and the turning wheel sensor.
Effect:	The MPC has switched to tacho set B. Redundancy reduced.
Sugg. Action:	If the alarm 'Tacho set A failure' or 'Tacho set B failure' is active: Ignore this alarm. If this alarm is the only tacho alarm, at first opportunity: 1. Inspect the mechanical condition of the encoders. 2. Readjust encoder A 3. Perform tacho test on MOP: Go to 'Maintenance' -> 'Function Test' -> 'Tacho' Follow tacho test instructions NOTE If encoder A is readjusted or replaced: Perform PMI measurement, and restore tacho offset settings according to 0-diagram.

ECUXX_010228 Tacho->Tacho Input B slip

Description:	Tacho set B is out of adjustment
Cause:	Tacho position signal B does not match the position signals from tacho A and the turning wheel sensor.
Effect:	The MPC has switched to tacho set A. Redundancy reduced.
Sugg. Action:	If the alarm 'Tacho set A failure' or 'Tacho set B failure' is active: Ignore this alarm. If this alarm is the only tacho alarm, at first opportunity: 1. Inspect the mechanical condition of the encoders. 2. Readjust encoder B 3. Perform tacho test on MOP: Go to 'Maintenance' -> 'Function Test' -> 'Tacho' Follow tacho test instructions

ECUXX

ECUXX_010229 Tacho->Marker A Input slip

Description:	Misalignment between flywheel sensor and encoders
Cause:	a. Flywheel tacho sensor is damaged or out of adjustment b. Both encoders are misaligned compared to flywheel sensor
Effect:	If a: The MPC has switched to tacho set B If b: Engine performance will be seriously affected. NEVER ignore this alarm!
Sugg. Action:	If the alarm 'Tacho set A failure' or 'Tacho set B failure' is active: Ignore this alarm. If this alarm is the only tacho alarm, at first opportunity: 1. Inspect flywheel sensor and mounting bracket 2. Check distance between sensor and flywheel 3. Inspect the mechanical condition of the encoders. 4. Perform tacho test on MOP: Go to 'Maintenance' -> 'Function Test' -> 'Tacho' Follow tacho test instructions NOTE If encoder A is readjusted or replaced: Perform PMI measurement, and restore tacho offset settings according to 0-diagram.

ECUXX_010235 Tacho set C->Tacho set C failure

Description:	This alarm is not in use
Cause:	This alarm is not in use
Effect:	This alarm is not in use
Sugg. Action:	If you see this, please contact MAN Diesel & Turbo

ECUXX_010236 Tacho set D->Tacho set D failure

Description:	This alarm is not in use
Cause:	This alarm is not in use
Effect:	This alarm is not in use
Sugg. Action:	If you see this, please contact MAN Diesel & Turbo

ECUXX_011422 ACUs Feedback->No HPS & blower feedback from ACU1

Description:	No feedback from ACU received over the control network.
Cause:	- ACU failure, or - Control network failur
Effect:	The ECU can not receive feedback control values from the ACU. Possible loss of HPS and blower control.
Sugg. Action:	Check network status. Check other alarms to diagnose the problem.

ECUXX_011423 ACUs Feedback->No HPS & blower feedback from ACU2

Description:	No feedback from ACU received over the control network.
Cause:	- ACU failure, or - Control network failur
Effect:	The ECU can not receive feedback control values from the ACU. Possible loss of HPS and blower control.
Sugg. Action:	Check network status. Check other alarms to diagnose the problem.

ECUXX_011424 ACUs Feedback->No HPS & blower feedback from ACU3

Description:	No feedback from ACU received over the control network.
Cause:	- ACU failure, or - Control network failur
Effect:	The ECU can not receive feedback control values from the ACU. Possible loss of HPS and blower control.
Sugg. Action:	Check network status. Check other alarms to diagnose the problem.

ECUXX

ECUXX_011425 ACUs Feedback->No AuxReady feedback from ACU 1

Description:	No feedback from ACU received over the control network.
Cause:	- ACU failure, or - Control network failur
Effect:	The ECU can not receive feedback control values from the ACU. Possible loss of HPS and blower control.
Sugg. Action:	Check network status. Check other alarms to diagnose the problem.

ECUXX_011426 ACUs Feedback->No AuxReady feedback from ACU 2

Description:	No feedback from ACU received over the control network.
Cause:	- ACU failure, or - Control network failur
Effect:	The ECU can not receive feedback control values from the ACU. Possible loss of HPS and blower control.
Sugg. Action:	Check network status. Check other alarms to diagnose the problem.

ECUXX_011441 ACUs Feedback->Turngear eng. disagree ACU 1/2

Description:	Turning gear engaged signal to ACU1 differs from the signal to ACU2.
Cause:	Turning gear engaged signal is ‘On’ at one ACU and ‘Off’ at the other.
Effect:	Turning gear position cannot be determined. The engine can not be started.
Sugg. Action:	Check: - Turning gear engaged switches - Cabling

ECUXX_011442 ACUs Feedback->Turngear diseng. disagree ACU 1/2

Description:	Turning gear disengaged signal to ACU1 differs from the signal to ACU2.
Cause:	Turning gear disengaged signal is ‘On’ at one ACU and ‘Off’ at the other.
Effect:	Turning gear position cannot be determined. The engine may not be able to start.
Sugg. Action:	Check: - Turning gear position - Turning gear disengaged switches - Cabling

ECUXX_011443 ACUs Feedback->Start vlv. blk. disagree ACU 1/2

Description:	Main start valve blocked signal to ACU1 differs from the signal to ACU2
Cause:	Main start valve blocked signal is ‘On’ at one ACU and ‘Off’ at the other
Effect:	Main start valve position cannot be determined. The engine may not be able to start.
Sugg. Action:	Check: - Main start valve position - Main start valve blocked switches - Cabling

ECUXX_011444 ACUs Feedback->Start vlv. serv. disagree ACU 1/2

Description:	Main start valve in service signal to ACU1 differs from the signal to ACU2
Cause:	Main start valve in service signal is ‘On’ at one ACU and ‘Off’ at the other
Effect:	Main start valve position can not be determined. False indication of 'Engine not ready' may appear.
Sugg. Action:	Check: - Main start valve position - Main start valve in service switches - Cabling

ECUXX

ECUXX_011445 ACUs Feedback->Start air serv. disagree ACU 1/2

Description:	Start air distribution 'In service' signal to ACU1 differs from the signal to ACU2
Cause:	Start air distribution 'In service' signal is 'On' at one ACU and 'Off' at the other
Effect:	Main start valve position can not be determined. False indication of 'Engine not ready' may appear.
Sugg. Action:	Check: - Start air distribution 'In service' switches - Cabling

ECUXX_011448 ACUs Feedback->Start air blk. disagree ECU A/B

Description:	Start air distribution 'Blocked' signal to ACU1 differs from the signal to ACU2
Cause:	Start air distribution 'Blocked signal is 'On' at one ACU and 'Off' at the other
Effect:	No effect on engine performance. False indication of 'Engine not ready' may appear. Engine may not be able to start.
Sugg. Action:	Check: - Start air distribution 'Blocked' switches - Cabling

ECUXX_020010 IO->Ch34,2001, Deviation Supervision (

Description:	ECU A and ECU B are receiving differing input values
Cause:	Deviation between redundant input signals to ECU A and ECU B.
Effect:	Redundancy reduced
Sugg. Action:	Check ECU A and ECU B readings on the MOP Maintenance screen to identify the failing input signal. Disconnect the failing input source or invalidate the input channel. Repair or replace the failing source at first opportunity.

ECUXX_020101 Crankshaft->Speed (Filtered) (Deviation)

Description:	ECU A and ECU B are generating differing output values
Cause:	Deviation between redundant input signals: - to ECU A and ECU B OR - to ACU 1, 2 and 3 OR - from RCS
Effect:	Redundancy reduced
Sugg. Action:	Restart the engine to reset the alarm If the problem persists, check: - ECU cabling - ACU cabling - RCS signals

ECUXX_020102 Start/Stop Logic->Start/Stop Logic State (Deviation)

Description:	ECU A and ECU B are generating differing output values
Cause:	Deviation between redundant input signals: - to ECU A and ECU B OR - to ACU 1, 2 and 3 OR - from RCS
Effect:	Redundancy reduced
Sugg. Action:	Restart the engine to reset the alarm If the problem persists, check: - ECU cabling - ACU cabling - RCS signals

ECUXX

ECUXX_020102 Start/Stop Logic->Running Failed

Description:	The engine has stopped
Cause:	- Sudden torque increase at low engine speed, or - Fuel starvation, or - Engine speed too low
Effect:	Engine does not run.
Sugg. Action:	Check: - Fuel oil supply system - Fuel related alarms, if any If all OK: Restart the engine

ECUXX_020102 Start/Stop Logic->Starting Failed

Description:	3 repeated starting attempts failed
Cause:	- Starting air system failure, or - Torque too high, or - No fuel injection
Effect:	Engine did not start. Automatic starting sequence has finished. Manual restart is required.
Sugg. Action:	Check: - Starting air system - Fuel oil supply system Restart the engine

ECUXX_020102 Start/Stop Logic->Turning Failed

Description:	Engine slow turning attempt failed Engine was not turned sufficiently
Cause:	Starting air system failure.
Effect:	Engine may not be able to start.
Sugg. Action:	1. Check slow turning valve 2. Turn engine by turning gear to a different position 3. Retry manual slow turn before new engine start If the problem persists, check: - Start air pressure - Starting air pilot valves - Starting valves

ECUXX_020102 Start/Stop Logic->Shut Down

Description:	Shutdown has been ordered
Cause:	1. Requested by engine control system due to: - Hydraulic leakages from HPS, or - System oil inlet pressure too low, or - Hydraulic high pressure too low 2. Ordered by safety system
Effect:	The engine stops. Fuel injection stops immediately.
Sugg. Action:	If the shutdown was requested by the engine control system, check: - Hydraulic leakages from HPS - System oil inlet pressure - Hydraulic high pressure

ECUXX_020122 Engine Running Modes->Engine Running Mode Calculation

Description:	Internal calculation failure
Cause:	Unknown
Effect:	Redundancy reduced
Sugg. Action:	Reset ECU If the problem persists: Replace ECU

ECUXX

ECUXX_020122 Engine Running Modes->No Valid Pscav Sensor Available

Description:	Both scavenge air pressure measurements are invalid
Cause:	Both scavenge air pressure sensors have failed.
Effect:	Engine operation will continue based on an estimated scavenge air pressure.
Sugg. Action:	Check sensors and cabling Until failure is located and restored: Monitor engine performance carefully.

ECUXX_020122 Engine Running Modes->Pcomp Handling disabled

Description:	Compression pressure handling disabled
Cause:	The Parameter "Pcomp Handling Enabled" is set to "false" during shoptest, this must be set to "true" when engine is running in service.
Effect:	Handling of Compression pressure dependent of Scavenge Air model curve is disabled, this could lead to either higher or lower compression pressure than normally.
Sugg. Action:	Set the parameter "Pcomp Handling Enabled" to true.

ECUXX_020125 Cylinder Lubrication->Nominel Parameterset not Valid

Description:	The ordered Cylinder Lubrication oil amount at MCR can not be supplied. The current parameter set will cause ECS to demand activation more than one time per revolution, which is not possible.
Cause:	The combination of S%, FeedRateFactor and Adjust factor is too high, or the lubricator(s) are too small for the engine.
Effect:	The cylinder lubricator will be activated with the highest frequency possible, which is one time per revolution.
Sugg. Action:	Check if the parameter set (S%, FeedRateFactor and Adjustfactor) are according to MBD specification. Check that lubricator size is according to specification and that the parameter "Mass/Injection per Cylinder" is correct.

ECUXX_020125 Cylinder Lubrication->Max Limiter Parameterset not Valid

Description:	The ordered Cylinder Lubrication oil amount at MCR can not be supplied. The current parameter set will cause ECS to demand activation more than one time per revolution, which is not possible.
Cause:	The parameter for normal max level is to high or the lubricators are to small for the engine.
Effect:	The cylinder lubricator will be activated with the highest frequency possible, which is one time per revolution.
Sugg. Action:	Check if the parameter for run in max is according to MBD specification. Check that lubricator size is according to specification and that the parameter "Mass/Injection per Cylinder" is correct.

ECUXX_020125 Cylinder Lubrication->Run In Parameterset not Valid

Description:	The ordered Cylinder Lubrication oil amount at MCR can not be supplied. The current parameter set will cause ECS to demand activation more than one time per revolution, which is not possible.
Cause:	The parameter for run in max level is too high or the lubricators are too small for the engine.
Effect:	The cylinder lubricator will be activated with the highest frequency possible, which is one time per revolution.
Sugg. Action:	Check if the parameter for run in max is according to MBD specification. Check that lubricator size is according to specification and that the parameter "Mass/Injection per Cylinder" is correct.

ECUXX_020201 Speed Controller->Fuel Index Integrator (Deviation)

Description:	ECU A and ECU B are generating differing output values
Cause:	Deviation between redundant input signals: - to ECU A and ECU B OR - to ACU 1, 2 and 3 OR - from RCS
Effect:	Redundancy reduced
Sugg. Action:	Restart the engine to reset the alarm If the problem persists, check: - ECU cabling - ACU cabling - RCS signals

ECUXX

ECUXX_020201 Speed Controller->'Lock In Last' Fuel Index

Description:	Internal calculation failure
Cause:	Unknown
Effect:	Redundancy reduced
Sugg. Action:	Reset ECU If the problem persists: Replace ECU

ECUXX_020202 Hydraulic Supply Pressure Limiter->Low Hydraulic Pressure

Description:	Maximum allowed fuel index is reduced due to insufficient hydraulic pressure
Cause:	- Pump failure, or - Hydraulic leakage, or - Bypass valve failure
Effect:	- Engine load may be reduced. - Unstable speed and fuel index. - Too low pressure will cause shutdown.
Sugg. Action:	To avoid unstable engine performance: Reduce engine load Check for: - Hydraulic pump related alarms - Hydraulic leakages - Failing bypass valves

ECUXX_020203 Governor Mode Selector->ECS Speed Mode Command

Description:	Engine control system has overruled the manually selected governor mode on the MOP
Cause:	Engine speed variations are larger than allowed.
Effect:	The engine governor mode has changed to speed control.
Sugg. Action:	Switch back to preferred governor mode when external conditions (weather etc.) allow.

ECUXX_020211 Governor->Fuel Index Setpoint (Deviation)

Description:	ECU A and ECU B are generating differing output values
Cause:	Deviation between redundant input signals: - to ECU A and ECU B OR - to ACU 1, 2 and 3 OR - from RCS
Effect:	Redundancy reduced
Sugg. Action:	Restart the engine to reset the alarm If the problem persists, check: - ECU cabling - ACU cabling - RCS signals

ECUXX_021030 IO->Ch31,2103, Deviation Supervision (

Description:	ECU A and ECU B are receiving differing input values
Cause:	Deviation between redundant input signals to ECU A and ECU B.
Effect:	Redundancy reduced
Sugg. Action:	Check ECU A and ECU B readings on the MOP Maintenance screen to identify the failing input signal. Disconnect the failing input source or invalidate the input channel. Repair or replace the failing source at first opportunity.

ECUXX_086010 IO->Ch35,8601, Deviation Supervision (

Description:	ECU A and ECU B are receiving differing input values
Cause:	Deviation between redundant input signals to ECU A and ECU B.
Effect:	Redundancy reduced
Sugg. Action:	Check ECU A and ECU B readings on the MOP Maintenance screen to identify the failing input signal. Disconnect the failing input source or invalidate the input channel. Repair or replace the failing source at first opportunity.

ECUXX

ECUXX_100604 Ch26,1006,Local: Speed Set->Suprv. Ch26,1006,Local: Speed Set

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Signal failure, or - MPC input channel failure
Effect:	Redundancy reduced. Engine speed may not be controlled from LOP.
Sugg. Action:	Check: - Cabling, including internal LOP connections - LOP speed set handle - MPC input channel / channel loop current If the problem persists: Replace MPC

ECUXX_100904 Ch33,1009,Local: BackUp Reversing->Suprv. Ch33,1009,Local: BackUp Reve

Description:	Channel input is out of range
Cause:	The input on this input channel exceeds allowable limits
Effect:	Backup reversing can no longer be ordered from LOP via this ECU.
Sugg. Action:	Check: - Cabling, including internal LOP connections - LOP speed set handle - MPC input channel / channel loop current If the problem persists: Replace MPC

ECUXX_1117-A0 Ch32,1117-A,Blocked Start Air Distr->Suprv. Ch32,1117-A,Blocked Start Ai

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Signal failure, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Start air distributor position switch - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX_1117-B0 Ch32,1117-B,Blocked Start Air Distr->Suprv. Ch32,1117-B,Blocked Start Ai

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Signal failure, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Start air distributor position switch - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX

ECUXX_2001-A0 Ch34,2001-A,Shut Down->Suprv. Ch34,2001-A,Shut Down

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Supervision resistor failure, or - Signal failure, or - MPC input channel failure
Effect:	ECU will not respond to shutdown signals from the safety system
Sugg. Action:	Check: - Safety system signal on channel 34 - Cable supervision resistor on safety system relay output If OK: Replace MPC

ECUXX_2001-B0 Ch34,2001-B,Shut Down->Suprv. Ch34,2001-B,Shut Down

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Supervision resistor failure, or - Signal failure, or - MPC input channel failure
Effect:	ECU will not respond to shutdown signals from the safety system
Sugg. Action:	Check: - Safety system signal on channel 34 - Cable supervision resistor on safety system relay output If OK: Replace MPC

ECUXX_2103-A0 Ch31,2103-A,Prop. Pitch->Suprv. Ch31,2103-A,Prop. Pitch

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Signal failure, or - MPC input channel failure
Effect:	Pitch signal unavailable. Governor performance may be reduced if pitch position is changed.
Sugg. Action:	Check: - Cabling - MPC input channel / channel loop current If the problem persists: Replace MPC

ECUXX_2103-B0 Ch31,2103-B,Prop. Pitch->Suprv. Ch31,2103-B,Prop. Pitch

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Signal failure, or - MPC input channel failure
Effect:	Pitch signal unavailable. Governor performance may be reduced if pitch position is changed.
Sugg. Action:	Check: - Cabling - MPC input channel / channel loop current If the problem persists: Replace MPC

ECUXX

ECUXX_2114-A0 **Ch23,2114-A,Local: Air Run->Suprv. Ch23,2114-A,Local: Air Run**

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Supervision resistor failure, or - Signal failure, or - MPC input channel failure
Effect:	Redundancy reduced
Sugg. Action:	Check: - Cabling - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX_2114-B0 **Ch23,2114-B,Local: Air Run->Suprv. Ch23,2114-B,Local: Air Run**

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Supervision resistor failure, or - Signal failure, or - MPC input channel failure
Effect:	Redundancy reduced
Sugg. Action:	Check: - Cabling - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX_2115-A0 **Ch24,2115-A,Local: Slow Turn->Suprv. Ch24,2115-A,Local: Slow Turn**

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Supervision resistor failure, or - Signal failure, or - MPC input channel failure
Effect:	Redundancy reduced
Sugg. Action:	Check: - Cabling - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX_2115-B0 **Ch24,2115-B,Local: Slow Turn->Suprv. Ch24,2115-B,Local: Slow Turn**

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Supervision resistor failure, or - Signal failure, or - MPC input channel failure
Effect:	Redundancy reduced
Sugg. Action:	Check: - Cabling - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX

ECUXX_2151-A0 **Ch22,2151-A,Local: Stop->Suprv. Ch22,2151-A,Local: Stop**

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Supervision resistor failure, or - Signal failure, or - MPC input channel failure
Effect:	Redundancy reduced
Sugg. Action:	Check: - Cabling - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX_2151-B0 **Ch22,2151-B,Local: Stop->Suprv. Ch22,2151-B,Local: Stop**

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Supervision resistor failure, or - Signal failure, or - MPC input channel failure
Effect:	Redundancy reduced
Sugg. Action:	Check: - Cabling - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX_2152-A0 **Ch21,2152-A,Local: Increace Limiter->Suprv. Ch21,2152-A,Local: Increace**

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Supervision resistor failure, or - Signal failure, or - MPC input channel failure
Effect:	Redundancy reduced
Sugg. Action:	Check: - Cabling - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX_2152-B0 **Ch21,2152-B,Local: Increace Limiter->Suprv. Ch21,2152-B,Local: Increace**

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Supervision resistor failure, or - Signal failure, or - MPC input channel failure
Effect:	Redundancy reduced
Sugg. Action:	Check: - Cabling - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX

ECUXX_2153-A0 **Ch25,2153-A,Local: Take CMD->Suprv. Ch25,2153-A,Local: Take CMD**

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Supervision resistor failure, or - Signal failure, or - MPC input channel failure
Effect:	Redundancy reduced
Sugg. Action:	Check: - Cabling - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX_2153-B0 **Ch25,2153-B,Local: Take CMD->Suprv. Ch25,2153-B,Local: Take CMD**

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Supervision resistor failure, or - Signal failure, or - MPC input channel failure
Effect:	Redundancy reduced
Sugg. Action:	Check: - Cabling - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX_2155-A0 **Ch30,2155-A,Local: Start->Suprv. Ch30,2155-A,Local: Start**

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Supervision resistor failure, or - Signal failure, or - MPC input channel failure
Effect:	Redundancy reduced
Sugg. Action:	Check: - Cabling - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX_2155-B0 **Ch30,2155-B,Local: Start->Suprv. Ch30,2155-B,Local: Start**

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Supervision resistor failure, or - Signal failure, or - MPC input channel failure
Effect:	Redundancy reduced
Sugg. Action:	Check: - Cabling - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX

ECUXX_2156-A0 **Ch26,2156-A,Local: SpeedSet Up Butt->Suprv. Ch26,2156-A,Local: SpeedSet**

Description:	Channel input is out of range
Cause:	The input on this input channel exceeds allowable limits
Effect:	Engine speed set can no longer be increased from LOP via this ECU.
Sugg. Action:	Check: - Cabling - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX_2156-B0 **Ch26,2156-B,Local: SpeedSet Up Butt->Suprv. Ch26,2156-B,Local: SpeedSet**

Description:	Channel input is out of range
Cause:	The input on this input channel exceeds allowable limits
Effect:	Engine speed set can no longer be increased from LOP via this ECU.
Sugg. Action:	Check: - Cabling - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX_2157-A0 **Ch27,2157-A,Local: SpeedSet Down Bu->Suprv. Ch27,2157-A,Local: SpeedSet**

Description:	Channel input is out of range
Cause:	The input on this input channel exceeds allowable limits
Effect:	Engine speed set can no longer be decreased from LOP via this ECU.
Sugg. Action:	Check: - Cabling - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX_2157-B0 **Ch27,2157-B,Local: SpeedSet Down Bu->Suprv. Ch27,2157-B,Local: SpeedSet**

Description:	Channel input is out of range
Cause:	The input on this input channel exceeds allowable limits
Effect:	Engine speed set can no longer be decreased from LOP via this ECU.
Sugg. Action:	Check: - Cabling - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

ECUXX_502090 **Aux. Blower Command->Blower cmd state no. (Deviation)**

Description:	ECU A and ECU B are generating differing output values
Cause:	Deviation between redundant input signals: - to ECU A and ECU B OR - to ACU 1, 2 and 3 OR - from RCS
Effect:	Redundancy reduced
Sugg. Action:	Restart the engine to reset the alarm If the problem persists, check: - ECU cabling - ACU cabling - RCS signals

ECUXX

ECUXX_50215 **Aux. Blower Command->Manual blower operation demanded**

Description:	Operation set to 'Manual' on MOP
Cause:	Operator has commanded manual blower operation.
Effect:	Engine cannot be started from bridge control station. Blowers switch to manual operation. All blowers are operated manually from MOP.
Sugg. Action:	Switch back to automatic operation after finishing manual operation

ECUXX_50216 **Aux. Blower Command->Insufficient blowers**

Description:	Insufficient auxiliary blower capacity
Cause:	Less than half of the installed blowers are running.
Effect:	Engine cannot be started from bridge control station. NOTE If 'Start' is initiated from ECR or LOP, engine will attempt to start even if no blowers are running.
Sugg. Action:	1. Check that the operation control switch at the switchboard is set to 'Remote' 2. Check switchboard, main breaker and overcurrent protection relay 3. Check cabling

ECUXX_50321 **Auxiliary Ready/Not Ready->Start air press. sensor deviation**

Description:	Pressure sensors measure different values
Cause:	One or both sensors fail.
Effect:	The engine control system uses the lowest measured pressure.
Sugg. Action:	Replace failing sensor

ECUXX_50322 **Auxiliary Ready/Not Ready->Ctrl. air press. sensor deviation**

Description:	Pressure sensors measure different values
Cause:	One or both sensors fail.
Effect:	The engine control system uses the lowest measured pressure.
Sugg. Action:	Replace failing sensor

ECUXX_50323 **Auxiliary Ready/Not Ready->Start air press low**

Description:	Start air pressure is too low
Cause:	- Air pressure in starting air tank is too low, or - Starting air supply valve is closed, or - Major starting air leakage
Effect:	Engine cannot be started from bridge.
Sugg. Action:	Check: - Starting air system - Starting air supply valve Engine start can be executed from ECR or LOP.

ECUXX_50324 **Auxiliary Ready/Not Ready->Ctrl air press low**

Description:	Control air pressure is too low
Cause:	- Air pressure is too low, or - Control air supply valve is closed, or - Major control air leakage
Effect:	Engine is not ready. Engine may start, but performance will be severely affected.
Sugg. Action:	Check the control air system

ECUXX_50325 **Auxiliary Ready/Not Ready->Start valve pos inconsistency**

Description:	Main start valve position inconsistence
Cause:	Switches indicating "Blocked" and "In-Service" are both ON or OFF at the same time.
Effect:	"Engine Blocked", "Engine Not Ready", and "Start Blocked" indications may be based on faulty information, and cannot be trusted before the inconsistence have been fixed.
Sugg. Action:	Inspect the switches indicating 'Blocked' and 'In-Service' and correct the fault.

ECUXX

ECUXX_50326 Auxiliary Ready/Not Ready->Start air dist pos inconsistency

Description:	Start air distribution system position inconsistence
Cause:	Switches indicating "Blocked" and "In-Service" are both ON or OFF at the same time.
Effect:	"Engine Blocked", "Engine Not Ready", and "Start Blocked" indications may be based on faulty information, and cannot be trusted before the inconsistence have been fixed.
Sugg. Action:	Inspect the switches indicating 'Blocked' and 'In-Service' and correct the fault.

ECUXX_50327 Auxiliary Ready/Not Ready->Turning gear pos inconsistency

Description:	Turning gear position inconsistency
Cause:	Switches indicating "Engaged" and "Disengaged" are both ON or OFF at the same time.
Effect:	"Engine Not Ready", and "Start Blocked" indications may be based on faulty information, and cannot be trusted before the inconsistence have been fixed.
Sugg. Action:	Check: - Turning gear position - Turning gear disengaged switches - Cabling

ECUXX_50336 Auxiliary Ready/Not Ready->Air spring supply press. sensor dev

Description:	Pressure sensors measure different values
Cause:	One or both sensors fail.
Effect:	The engine control system uses the lowest measured pressure.
Sugg. Action:	Replace failing sensor

ECUXX_50338 Auxiliary Ready/Not Ready->Air spring supply press low

Description:	Air spring supply press low
Cause:	- Air pressure is too low, or - Air spring supply valve is closed, or - Major air spring supply leakage
Effect:	- Exhaust valve closing too slow - Exhaust valve lift too high with risk of mechanical failure
Sugg. Action:	Check the air spring supply system

ECUXX_510101 Pump Model Curve->Large dev. from model curve

Description:	Swash plate follow pump set points deviate too much from the model curve
Cause:	- Hydraulic leak, or - Swash plate pump failure (hydraulic failure, broken pump shaft etc.), or - Proportional valve failure, or - MPC failure, or - Proportional valve amplifier failure (if fitted) NOTE This alarm may occur during wind milling. In this case, this alarm can be ignored.
Effect:	Engine performance and HPS pressure may be reduced. Engine will shut down, if the HPS pressure drops below shutdown level.
Sugg. Action:	Check: - Hydraulic system for leaks - Swash plate pumps for mechanical failures - Proportional valves Perform HPS function test on MOP: 'Maintenance' -> 'Function Test'

ECUXX_510101 Pump Model Curve->Model curve integrator (Deviation)

Description:	ECU A and ECU B are generating differing output values
Cause:	Deviation between redundant input signals to ECU A and ECU B.
Effect:	Redundancy reduced
Sugg. Action:	Combined with other active alarms this should be used for diagnostics purpose, and thereby as a guide for finding the actual cause of the problem.

ECUXX

ECUXX_510101 Pump Model Curve->Pump Torque Limiter Reached

Description:	HPS pump torque is too high
Cause:	- Hydraulic leak, or - Swash plate pump failure (hydraulic failure, broken pump shaft etc.), or - Proportional valve failure - MPC failure, or - Proportional valve amplifier failure (if fitted) NOTE This alarm can occur during wind milling. In this case, this alarm can be ignored.
Effect:	Engine performance and HPS pressure may be reduced. Engine will shut down, if the HPS pressure drops below shutdown level.
Sugg. Action:	Check: - Hydraulic system for leaks - Swash plate pumps for mechanical failures - Proportional valves Perform HPS function test on MOP: 'Maintenance' -> 'Function Test'

ECUXX_510105 Driven Pumps Command->Driven pump cmd state (Deviation)

Description:	ECU A and ECU B are generating differing output values
Cause:	Deviation between redundant input signals: - to ECU A and ECU B OR - to ACU 1, 2 and 3 OR - from RCS
Effect:	Redundancy reduced
Sugg. Action:	Restart the engine to reset the alarm If the problem persists, check: - ECU cabling - ACU cabling - RCS signals

ECUXX_510116 Driven Pumps Command->Manual HPS operation demanded

Description:	Manual HPS operation has been enabled
Cause:	Operation is set to ‘Manual’ on MOP
Effect:	Manual pressure control is active. Engine cannot be started from bridge. Manual set point will be overruled, when HPS returns to automatic operation.
Sugg. Action:	Switch back to automatic operation after finishing manual operation

ECUXX

ECUXX_510118 Driven Pumps Command->Changing press. ctrl. pump

Description:	Pressure controlling pump automatically switched
Cause:	- No position feedback signal from proportional valve, or - No swash plate position feedback signal, or - Proportional valve amplifier failure, or - Mechanical pump failure
Effect:	ECS will attempt to deliver full flow: - Full flow ahead, if engine runs ahead - Full flow astern, if engine runs astern If two or more pumps fail: Engine may not be able to run astern. In case of mechanical pump failure: ECS may deliver low or no flow to the HPS.
Sugg. Action:	Check cabling to and from: - Proportional valve - Proportional valve amplifier - LVDT amplifier - MPC Check pump and proportional valve Go to 'Auxiliaries' -> 'Hydraulic System' -> 'Failed pump' to reset failure state. Further troubleshooting: 1. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HPS' 2. Test failing pump swashplate operation. 3. Compare signals from failing pump to signals from a well functioning pump.

ECUXX_510122 Driven Pumps Command->Press ctrl pump cmd (Deviation)

Description:	ECU A and ECU B are generating differing output values
Cause:	Network transmission failure. MOP failure
Effect:	Redundancy reduced. No effect on engine performance.
Sugg. Action:	Change pressure controling pump to reset the alarm. If the problem persists, check: - MOP/ECU Network cabling - Restart MOP

ECUXX_510131 TorqueRestriction->Torque limiter cancelled

Description:	Swash plate pump torque limit is cancelled. NOTE NEVER cancel pump torque limiter, unless one or more swash plate pumps do not deliver sufficient flow.
Cause:	Pump torque restriction has been cancelled manually (Chief-level access required).
Effect:	No pump torque restrictions
Sugg. Action:	Enable the torque limiter as soon as the problem is solved.

ECUXX_510131 TorqueRestriction->Torque restriction state no. (Devi

Description:	ECU A and ECU B are generating differing output values
Cause:	Deviation between redundant input signals: - to ECU A and ECU B OR - to ACU 1, 2 and 3 OR - from RCS
Effect:	Redundancy reduced
Sugg. Action:	Check: - ECU cabling - ACU cabling - RCS signals Restart the engine to reset the alarm. If the problem persists: - Reset ECU

ECUXX

ECUXX_510208 Startup Pumps Command->Startup pump cmd state (Deviation)

Description:	ECU A and ECU B are generating differing output values
Cause:	Deviation between redundant input signals: - to ECU A and ECU B OR - to ACU 1, 2 and 3 OR - from RCS
Effect:	Redundancy reduced
Sugg. Action:	Restart the engine to reset the alarm If the problem persists, check: - ECU cabling - ACU cabling - RCS signals

ECUXX_510212 Startup Pumps Command->Standby pump started

Description:	The Standby startup pump has been started
Cause:	Master start-up cannot build hydraulic pressure within time limits or cannot maintain hydraulic pressure, because of: - HPS electric driven start-up pump failure, or - Hydraulic leakage
Effect:	Engine may be unable to start due to low hydraulic pressure
Sugg. Action:	Check: - If both start-up pumps are running - Local pressure gauge on start-up pumps - For hydraulic leakages If hydraulic pressure can be maintained when both pumps are running, switch master pump: 'Auxiliaries' -> 'Hydraulic System'

ECUXX_5113 HPS Command->Pump inlet press. sensor ACU1 dev

Description:	Hydraulic inlet oil inlet pressure sensor values differ from the values on the other pumps
Cause:	- Inlet valve is closed, or - Sensor failure
Effect:	Engine control system will use the other sensors to evaluate the hydraulic inlet pressure. NOTE If the pump inlet valve is closed, engine start will cause pump cavitation
Sugg. Action:	Check: - Pump inlet valve - Pump inlet pressure sensor

ECUXX_5114 HPS Command->Pump inlet press. sensor ACU2 dev

Description:	Hydraulic inlet oil inlet pressure sensor values differ from the values on the other pumps
Cause:	- Inlet valve is closed, or - Sensor failure
Effect:	Engine control system will use the other sensors to evaluate the hydraulic inlet pressure. NOTE If the pump inlet valve is closed, engine start will cause pump cavitation
Sugg. Action:	Check: - Pump inlet valve - Pump inlet pressure sensor

ECUXX

ECUXX_5115 **HPS Command->Pump inlet press. sensor ACU3 dev**

Description:	Hydraulic inlet oil inlet pressure sensor values differ from the values on the other pumps
Cause:	- Inlet valve is closed, or - Sensor failure
Effect:	Engine control system will use the other sensors to evaluate the hydraulic inlet pressure. NOTE If the pump inlet valve is closed, engine start will cause pump cavitation
Sugg. Action:	Check: - Pump inlet valve - Pump inlet pressure sensor

ECUXX_5116 **HPS Command->Hyd. press. sensor ACU 1 deviates**

Description:	Hydraulic oil pressure sensor (1201-x) on this ACU deviates from the hydraulic oil pressure sensors on the two other ACUs.
Cause:	a. Hydraulic pump failure, or b. Sensor failure, or c. MPC failure, or d. Cable failure
Effect:	If a: Engine performance may be reduced due to reduced hydraulic capacity. If b, c, and d: No effect on engine performance.
Sugg. Action:	Check: a. Hydraulic pump b. Cabling c. MPC d. Sensor If a, hydraulic pump failure: 1. Reduce engine load until stable engine performance is achieved 2. Check other alarms 3. Check pump and pump drive shaft If b, c, or d: Repair or replace failing part

ECUXX_5117 **HPS Command->Hyd. press. sensor ACU 2 deviates**

Description:	Hydraulic oil pressure sensor (1201-x) on this ACU deviates from the hydraulic oil pressure sensors on the two other ACUs.
Cause:	a. Hydraulic pump failure, or b. Sensor failure, or c. MPC failure, or d. Cable failure
Effect:	If a: Engine performance may be reduced due to reduced hydraulic capacity. If b, c, and d: No effect on engine performance.
Sugg. Action:	Check: a. Hydraulic pump b. Cabling c. MPC d. Sensor If a, hydraulic pump failure: 1. Reduce engine load until stable engine performance is achieved 2. Check other alarms 3. Check pump and pump drive shaft If b, c, or d: Repair or replace failing part

ECUXX

ECUXX_5118 **HPS Command->Hyd. press. sensor ACU 3 deviates**

Description:	Hydraulic oil pressure sensor (1201-x) on this ACU deviates from the hydraulic oil pressure sensors on the two other ACUs.
Cause:	a. Hydraulic pump failure, or b. Sensor failure, or c. MPC failure, or d. Cable failure
Effect:	If a: Engine performance may be reduced due to reduced hydraulic capacity. If b, c, and d: No effect on engine performance.
Sugg. Action:	Check: a. Hydraulic pump b. Cabling c. MPC d. Sensor If a, hydraulic pump failure: 1. Reduce engine load until stable engine performance is achieved 2. Check other alarms 3. Check pump and pump drive shaft If b, c, or d: Repair or replace failing part

ECUXX_5121 **HPS Command->Pump inlet press. low**

Description:	Lubrication oil inlet pressure is low.
Cause:	- Sensor failure, or - Lubrication oil supply pump(s) not running, or - Inlet valve closed
Effect:	No effect. NOTE If system oil pressure drops below shutdown level: Engine control system will request shutdown.
Sugg. Action:	Check: - Inlet pressure sensors - Lubrication oil supply system(pumps, valves, etc)

ECUXX_5131 **HPS Command->Hyd. press. deviates from setpoint**

Description:	The hydraulic pressure deviates from the hydraulic pressure set point calculated by the engine control system
Cause:	- Hydraulic system leakage, or - Engine driven pump failure, or - Engine driven pump calibration failure
Effect:	If the hydraulic pressure is lower than the ECS computed setpoint and it continues to decrease, the hydraulic pumps cannot deliver enough oil to maintain the pressure. If the pressure drops below 145 - 150 bar, the ECS is likely to carry out a shutdown. If the pressure is too high, it could lead to increased injection pressure.
Sugg. Action:	Reduce engine load until stable engine performance is achieved. Check: - Hydraulic system for leaks - Engine driven pump If the problem persists: Recalibrate engine driven pump on MOP

ECUXX

ECUXX_513301 Pump Model Curve->Large dev. from model curve

Description:	Swash plate set point deviates from the model curve
Cause:	- Hydraulic leak, or - Swash plate position feedback sensor calibrated incorrectly, or - Mechanical pump failure (broken shaft etc.)
Effect:	No effect on engine performance at present load. Engine load increase may not be possible.
Sugg. Action:	Check: - Hydraulic system for leaks - Swash plate position feedback sensor calibration - Engine driven pump

ECUXX_513301 Pump Model Curve->Pump Torque Limiter Reached

Description:	Maximum swash plate position is reached
Cause:	- Hydraulic leak, or - No or reduced hydraulic delivery from swash plate pumps, or - High pressure sensor failure
Effect:	Engine performance may be affected
Sugg. Action:	Check: - Hydraulic system for leaks - Swash plate pumps for mechanical failure - High pressure sensors If increased swash plate position is required: Cancel torque limitation, 'Auxiliaries' -> 'Hydraulic System'

ECUXX_513305 El HPS Pump Command->El HPS pump cmd state (Deviation)

Description:	ECU A and ECU B are generating differing output values
Cause:	Deviation between redundant input signals: - to ECU A and ECU B OR - to ACU 1, 2 and 3 OR - from RCS
Effect:	Redundancy reduced
Sugg. Action:	Restart the engine to reset the alarm If the problem persists, check: - ECU cabling - ACU cabling - RCS signals

ECUXX_513316 El HPS Pump Command->Manual HPS operation demanded

Description:	Manual HPS operation has been enabled
Cause:	Operation is set to ‘Manual’ on MOP
Effect:	Manual pressure control is active. Engine cannot be started from bridge. Manual set point will be overruled, when HPS returns to automatic operation.
Sugg. Action:	Switch back to automatic operation after finishing manual operation

ECUXX

ECUXX_513318 El HPS Pump Command->Changing press. ctrl. pump

Description:	Pressure controlling pump automatically switched
Cause:	- No position feedback signal from proportional valve, or - No swash plate position feedback signal, or - Proportional valve amplifier failure, or - Mechanical pump failure
Effect:	ECS will attempt to deliver full flow: - Full flow ahead, if engine runs ahead - Full flow astern, if engine runs astern If two or more pumps fail: Engine may not be able to run astern. In case of mechanical pump failure: ECS may deliver low or no flow to the HPS.
Sugg. Action:	Check cabling to and from: - Proportional valve - Proportional valve amplifier - LVDT amplifier - MPC Check pump and proportional valve Go to 'Auxiliaries' -> 'Hydraulic System' -> 'Failed pump' to reset failure state. Further troubleshooting: 1. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HPS' 2. Test failing pump swashplate operation. 3. Compare signals from failing pump to signals from a well functioning pump.

ECUXX_513322 El HPS Pump Command->Press ctrl pump cmd (Deviation)

Description:	ECU A and ECU B are generating differing output values
Cause:	Network transmission failure. MOP failure
Effect:	Redundancy reduced. No effect on engine performance.
Sugg. Action:	Change pressure controling pump to reset the alarm. If the problem persists, check: - MOP/ECU Network cabling - Restart MOP

ECUXX_513336 El. motor, pump 4->Pump 4 Ctrl Failed

Description:	Electric motor cannot be controlled by the engine control system
Cause:	- Electric motor switchboard is off or manually set to ‘Local’, or - Electric motor switch board failure, or - Switchboard feedback failure, or - Cabling failure
Effect:	If the failure is in the feedback part only: No effect. Else: No ECS control of electric motor
Sugg. Action:	Check the startup pump operation control switch at the startup pump switchboard. The ECS expect the switch to be in the "Remote" control position. Check the cabling of the signal ID's 1217-x, 1218-x, and 1219-x between the MPC and the startup pump switchboard. Check the relays inside the startup pump switchboard. If conditions are OK but alarm is not removed: Stop/Start Electric motor on MOP to reset running failure.

ECUXX

ECUXX_513337 El. motor, pump 5->Pump 5 Ctrl Failed

Description:	Electric motor cannot be controlled by the engine control system
Cause:	- Electric motor switchboard is off or manually set to ‘Local’, or - Electric motor switch board failure, or - Switchboard feedback failure, or - Cabling failure
Effect:	If the failure is in the feedback part only: No effect. Else: No ECS control of electric motor
Sugg. Action:	Check the startup pump operation control switch at the startup pump switchboard. The ECS expect the switch to be in the "Remote" control position. Check the cabling of the signal ID's 1217-x, 1218-x, and 1219-x between the MPC and the startup pump switchboard. Check the relays inside the startup pump switchboard. If conditions are OK but alarm is not removed: Stop/Start Electric motor on MOP to reset running failure.

ECUXX_5136 HPS Command->Pump inlet press. shutdown level

Description:	Lubrication oil inlet pressure is below shutdown level.
Cause:	- Failing pressure sensors, or - Lubrication oil supply pump(s) not running, or - Inlet valve closed
Effect:	Engine control system has requested a non-cancellable shutdown to protect the HPS pumps.
Sugg. Action:	Check: - Inlet pressure sensors - Lubrication oil supply system(pumps, valves, etc)

ECUXX_5138 HPS Command->No pump inlet sensors

Description:	No pump inlet sensors available
Cause:	Sensors out of signal range or cabling is malfunctioning
Effect:	Engine will shut down
Sugg. Action:	Inspect sensors and their cabling according to electrical wiring diagram

ECUXX_514308 Combined HPS Cmd->Combined HPS cmd state (Deviation)

Description:	ECU A and ECU B are generating differing output values
Cause:	Deviation between redundant input signals: - to ECU A and ECU B OR - to ACU 1, 2 and 3 OR - from RCS
Effect:	Redundancy reduced
Sugg. Action:	Restart the engine to reset the alarm If the problem persists, check: - ECU cabling - ACU cabling - RCS signals

ECUXX_514312 Combined HPS Cmd->Standby pump started

Description:	The Standby startup pump has been started
Cause:	Master start-up cannot build hydraulic pressure within time limits or cannot maintain hydraulic pressure, because of: - HPS electric driven start-up pump failure, or - Hydraulic leakage
Effect:	Engine may be unable to start due to low hydraulic pressure
Sugg. Action:	Check: - If both start-up pumps are running - Local pressure gauge on start-up pumps - For hydraulic leakages If hydraulic pressure can be maintained when both pumps are running, switch master pump: 'Auxiliaries' -> 'Hydraulic System'

ECUXX

ECUXX_5149 **HPS Command->Hydraulic press. shutdown level**

Description:	Hydraulic oil pressure below shutdown level
Cause:	- Failing hydraulic oil supply, or - Leakage in hydraulic oil distribution system, or - Failing hydraulic oil pressure sensors
Effect:	Engine will shut down. It will not be possible to start engine with too low hydraulic oil supply pressure.
Sugg. Action:	Check: - Hydraulic oil supply system. - Hydraulic oil pressure sensors.

ECUXX_600104 **Ch36,6001,Dual Fuel Limit->Suprv. Ch36,6001,Dual Fuel Limit**

Description:	Channel input is out of range
Cause:	The input on this input channel exceeds allowable limits
Effect:	Dual fuel running can no longer be used via this ECU.
Sugg. Action:	If problem continues, replace MPC

ECUXX_600204 **Ch37,6002,Prop. Clutch->Suprv. Ch37,6002,Prop. Clutch**

Description:	Channel input is out of range
Cause:	The input on this input channel exceeds allowable limits
Effect:	Clutch status is no longer available. Can cause reduced governor performance on this ECU.
Sugg. Action:	If problem continues, replace MPC

ECUXX_8601-A0 **Ch35,8601-A,Scavenge Air Pressure (->Suprv. Ch35,8601-A,Scavenge Air Pre**

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Signal failure, or - MPC input channel failure
Effect:	Redundancy reduced
Sugg. Action:	Check: - Cabling - MPC input channel / channel loop current If the problem persists: Replace MPC

ECUXX_8601-B0 **Ch35,8601-B,Scavenge Air Pressure (->Suprv. Ch35,8601-B,Scavenge Air Pre**

Description:	Channel input is out of range
Cause:	- Cabling failure, or - Short circuit, or - Signal failure, or - MPC input channel failure
Effect:	Redundancy reduced
Sugg. Action:	Check: - Cabling - MPC input channel / channel loop current If the problem persists: Replace MPC

ECUXX_badBau **System->Non standard baud rate**

Description:	Service terminal baud rate is not 9600 Bd
Cause:	Non-standard Baud rate selected.
Effect:	No, or unreadable output to Service Terminal.
Sugg. Action:	When convenient: Reset Blue DIP switch and reboot MPC

ECUXX

ECUXX_IDKEY **System->ID Key corrupt**

Description:	The MPC cannot read ID-key data
Cause:	- ID-key is not plugged in, or - ID-key data is corrupted, or - ID-key hardware failure, or - MPC failure
Effect:	No immediate effect on engine performance. The MPC may not function correctly after a restart.
Sugg. Action:	If this alarm is active for more than 5 minutes, check that the ID-key is plugged in correctly. If the problem persists replace, one at a time: - ID-key (see instruction manual for configuration instructions) - MPC

ECUXX_SBAT **System->Battery Level Low**

Description:	MPC battery is low
Cause:	Battery worn out
Effect:	If MPC remains switched on: No effect If MPC is switched off or power is lost: MPC will loose its time settings
Sugg. Action:	Replace battery when convenient

ECUXX_SFuseF **24V power supervision->Fuse F12 failure**

Description:	Fuse 12 is blown. Fuse 12 protects MPC power supply, connectors J20 - J37
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channel J20 - J37 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to connectors J20 - J37. Replace fuse.

ECUXX_SFuseF **24V power supervision->Fuse F13 failure**

Description:	Fuse 13 is blown. Fuse 13 protects MPC power supply, connectors J40 - J61
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channels J40 - J61 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to connectors J70 and J71. Replace fuse.

ECUXX_SFuseF **24V power supervision->Fuse F14 failure**

Description:	Fuse 14 is blown. Fuse 14 protects MPC power supply, connectors J70 and J71.
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channel J70 and J71 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to channel J70 and J71. Replace fuse.

ECUXX_SFuseF **24V power supervision->Fuse F9 failure**

Description:	Fuse 9 is blown. Fuse 9 protects MPC power supply, connector J9.
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channel J9 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to connector 9. Replace fuse.

ECUXX

ECUXX_SInvPar **System->Invalid parameters**

Description:	The MPC holds invalid parameters. The MPC cannot start its application without the correct parameters.
Cause:	The alarm is caused from the MPC automatically loads the wrong parameter set after a replacement of the MPC.
Effect:	The behaviour of the application in the MPC is not correct. The precise effect of this situation is unknown and care should be taken.
Sugg. Action:	If the involved MPC just have been repalced, wait for the automatic preparation to complete. If this takes more than 10 minutes, the LED colour signalling for fault indication should be inspected. If this proves unhelpful, reset the MPC unit. If it still does not help, contact MAN B&W Diesel.

ECUXX_SInvSw **System->Invalid software**

Description:	MPC is running an incorrect application
Cause:	MOP A and B not available during MPC power up
Effect:	Reduced system performance NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Switch off MPC immediately. When MOP A or MOP B are available: Restart MPC

ECUXX_SIPF **System->Invalid Parameter Flash**

Description:	Parameter flash failure
Cause:	The CRC check when reading the parameters from Flash failed
Effect:	Parameters from flash cannot be used.
Sugg. Action:	Write a new parameter set to flash. I the problem persists, the unit may be defective

ECUXX_SPow24 **24V power supervision->24V power A failure, connector 1B**

Description:	No power supply to connector J1, terminal B
Cause:	- Power supply A is turned off, or - Cabling failure
Effect:	No effect on engine performance (MPC is powered from power supply B) No power supply redundancy
Sugg. Action:	Check: - Power supply A - Cabling

ECUXX_SPow24 **24V power supervision->24V power B failure, connector 1C**

Description:	No power supply to connector J1, terminal C
Cause:	- Power supply B is turned off, or - Cabling failure
Effect:	No effect on engine performance (MPC is powered from power supply A) No power supply redundancy
Sugg. Action:	Check: - Power supply B - Cabling

ECUXX_SWDog **System->Watchdogs deactivated**

Description:	MPC watchdog disabled
Cause:	Green DIP-switch is set to ‘Off’
Effect:	No effect on engine performance. The MPC may respond incorrectly to any software and hardware failures.
Sugg. Action:	Set green DIP-switch to 'On'

EICUXX

EICUXX_010280 ECU Data->No Commands Received from ECU A

Description:	No commands received over the network
Cause:	- MPC is off or failing, or - Network failure
Effect:	Redundancy reduced
Sugg. Action:	Check network status

EICUXX_010281 ECU Data->No Commands Received from ECU B

Description:	No commands received over the network
Cause:	- MPC is off or failing, or - Network failure
Effect:	Redundancy reduced
Sugg. Action:	Check network status

EICUXX_0150 I/O Configuration->Sensor Fail 'Take Cmd Bridge'

Description:	'Take bridge' command from both EICU A and EICU B failed
Cause:	- Cable failure, or - Switch failure, or - EICU failure
Effect:	'Take Bridge' command cannot be acknowledged
Sugg. Action:	Check: - Cabling - That the EICU is in 'Normal' mode

EICUXX_0151 I/O Configuration->Lock in Last 'Restart Bridge'

Description:	The EICU has received an invalid input signal. The EICU uses the last valid input value.
Cause:	Input signal is out of range or missing
Effect:	Redundancy reduced. NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Check: - Input channel - Cabling and connectors If multiple 'Lock in last' alarms are raised: Check for loose connections in the serial connection between ECS and AMS.

EICUXX_0152 I/O Configuration->Sensor Fail 'Increase Lim Bridge'

Description:	'Increase Limiter' command from bridge failed on both EICU A and EICU B
Cause:	- Cable failure, or - Switch failure, or - EICU failure
Effect:	'Increase Limiter' command from bridge is unavailable
Sugg. Action:	Check: - Cabling - That the EICU is in 'Normal' mode

EICUXX_0153 I/O Configuration->Sensor Fail 'Increase Lim ECR'

Description:	'Increase Limiter' command from engine control room (ECR) failed on both EICU A and EICU B
Cause:	- Cable failure, or - Switch failure, or - EICU failure
Effect:	'Increase Limiter' command from engine control room is unavailable
Sugg. Action:	Check: - Cabling - That the EICU is in 'Normal' mode

EICUXX

EICUXX_0154 **I/O Configuration->Lock in Last 'Slow Down PreWarn'**

Description:	The EICU has received an invalid input signal. The EICU uses the last valid input value.
Cause:	Input signal is out of range or missing
Effect:	Redundancy reduced. NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Check: - Input channel - Cabling and connectors If multiple 'Lock in last' alarms are raised: Check for loose connections in the serial connection between ECS and AMS.

EICUXX_0155 **I/O Configuration->Lock in Last 'Slow Down Cmd'**

Description:	The EICU has received an invalid input signal. The EICU uses the last valid input value.
Cause:	Input signal is out of range or missing
Effect:	Redundancy reduced. NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Check: - Input channel - Cabling and connectors If multiple 'Lock in last' alarms are raised: Check for loose connections in the serial connection between ECS and AMS.

EICUXX_0156 **I/O Configuration->Lock in Last 'Speed Set Bridge'**

Description:	The EICU has received an invalid input signal. The EICU uses the last valid input value.
Cause:	Input signal is out of range or missing
Effect:	Redundancy reduced. NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Check: - Input channel - Cabling and connectors If multiple 'Lock in last' alarms are raised: Check for loose connections in the serial connection between ECS and AMS.

EICUXX_0157 **I/O Configuration->Lock in Last 'Speed Set ECR'**

Description:	The EICU has received an invalid input signal. The EICU uses the last valid input value.
Cause:	Input signal is out of range or missing
Effect:	Redundancy reduced. NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Check: - Input channel - Cabling and connectors If multiple 'Lock in last' alarms are raised: Check for loose connections in the serial connection between ECS and AMS.

EICUXX

EICUXX_0158 **I/O Configuration->Lock in Last 'Stop Cmd Bridge'**

Description:	The EICU has received an invalid input signal. The EICU uses the last valid input value.
Cause:	Input signal is out of range or missing
Effect:	Redundancy reduced. NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Check: - Input channel - Cabling and connectors If multiple 'Lock in last' alarms are raised: Check for loose connections in the serial connection between ECS and AMS.

EICUXX_0159 **I/O Configuration->Lock in Last 'Start Cmd Bridge'**

Description:	The EICU has received an invalid input signal. The EICU uses the last valid input value.
Cause:	Input signal is out of range or missing
Effect:	Redundancy reduced. NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Check: - Input channel - Cabling and connectors If multiple 'Lock in last' alarms are raised: Check for loose connections in the serial connection between ECS and AMS.

EICUXX_0160 **I/O Configuration->Lock in Last 'Stop Cmd ECR'**

Description:	The EICU has received an invalid input signal. The EICU uses the last valid input value.
Cause:	Input signal is out of range or missing
Effect:	Redundancy reduced. NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Check: - Input channel - Cabling and connectors If multiple 'Lock in last' alarms are raised: Check for loose connections in the serial connection between ECS and AMS.

EICUXX_0161 **I/O Configuration->Lock in Last 'Start Cmd ECR'**

Description:	The EICU has received an invalid input signal. The EICU uses the last valid input value.
Cause:	Input signal is out of range or missing
Effect:	Redundancy reduced. NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Check: - Input channel - Cabling and connectors If multiple 'Lock in last' alarms are raised: Check for loose connections in the serial connection between ECS and AMS.

EICUXX

EICUXX_0162 **I/O Configuration->Sensor Fail 'Take Cmd ECR'**

Description:	'Take ECR' command from both EICU A and EICU B failed
Cause:	- Cable failure, or - Switch failure, or - EICU failure
Effect:	'Take ECR' command cannot be acknowledged
Sugg. Action:	Check: - Cabling - That the EICU is in 'Normal' mode

EICUXX_0163 **I/O Configuration->Lock in Last 'Astern ECR'**

Description:	The EICU has received an invalid input signal. The EICU uses the last valid input value.
Cause:	Input signal is out of range or missing
Effect:	Redundancy reduced. NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Check: - Input channel - Cabling and connectors If multiple 'Lock in last' alarms are raised: Check for loose connections in the serial connection between ECS and AMS.

EICUXX_0164 **I/O Configuration->Lock in Last 'Pitch Set'**

Description:	The EICU has received an invalid input signal. The EICU uses the last valid input value.
Cause:	Input signal is out of range or missing
Effect:	Redundancy reduced. NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Check: - Input channel - Cabling and connectors If multiple 'Lock in last' alarms are raised: Check for loose connections in the serial connection between ECS and AMS.

EICUXX_0165 **I/O Configuration->Lock in Last 'Aux Sys Ready'**

Description:	The EICU has received an invalid input signal. The EICU uses the last valid input value.
Cause:	Input signal is out of range or missing
Effect:	Redundancy reduced. NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Check: - Input channel - Cabling and connectors If multiple 'Lock in last' alarms are raised: Check for loose connections in the serial connection between ECS and AMS.

EICUXX_0166 **I/O Configuration->Sensor Fail 'Increase Lim BrBack'**

Description:	Increase Limit Bridge Backup command from bridge failed on both EICU A and EICU B
Cause:	- Cable failure, or - Switch failure, or - EICU failure
Effect:	Increase Limit Bridge Backup command from bridge is unavailable
Sugg. Action:	Check: - Cabling - That the EICU is in 'Normal' mode

EICUXX

EICUXX_0167 **I/O Configuration->Lock in Last 'Speed Set BrBack'**

Description:	The EICU has received an invalid input signal. The EICU uses the last valid input value.
Cause:	Input signal is out of range or missing
Effect:	Redundancy reduced. NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Check: - Input channel - Cabling and connectors If multiple 'Lock in last' alarms are raised: Check for loose connections in the serial connection between ECS and AMS.

EICUXX_0168 **I/O Configuration->Lock in Last 'Stop Cmd Br Back'**

Description:	The EICU has received an invalid input signal. The EICU uses the last valid input value.
Cause:	Input signal is out of range or missing
Effect:	Redundancy reduced. NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Check: - Input channel - Cabling and connectors If multiple 'Lock in last' alarms are raised: Check for loose connections in the serial connection between ECS and AMS.

EICUXX_018401 **I/O Configuration->Engine Mode Request (Deviation)**

Description:	EICU A and EICU B are generating differing output values
Cause:	Deviation between redundant input signals to EICU A and EICU B Deviation between: - redundant input signals to EICU A and EICU B, or - redundant input signals from RCS
Effect:	Redundancy reduced
Sugg. Action:	Check: - EICU cabling - RCS signals If the problem persists: - Troubleshoot RCS - Restart the engine when convenient

EICUXX_020124 **Bridge Control Station->Bridge Station State (Deviation)**

Description:	EICU A and EICU B are generating differing output values
Cause:	Deviation between redundant input signals to EICU A and EICU B Deviation between: - redundant input signals to EICU A and EICU B, or - redundant input signals from RCS
Effect:	Redundancy reduced
Sugg. Action:	Check: - EICU cabling - RCS signals If the problem persists: - Troubleshoot RCS - Restart the engine when convenient

EICUXX

EICUXX_030124 ECR - Combinator Control Station->ECR - Combinator Station State (De

Description:	EICU A and EICU B are generating differing output values
Cause:	Deviation between redundant input signals to EICU A and EICU B Deviation between: - redundant input signals to EICU A and EICU B, or - redundant input signals from RCS
Effect:	Redundancy reduced
Sugg. Action:	Check: - EICU cabling - RCS signals If the problem persists: - Troubleshoot RCS - Restart the engine when convenient

EICUXX_040124 ECR Control Station->ECR Station State (Deviation)

Description:	EICU A and EICU B are generating differing output values
Cause:	Deviation between redundant input signals to EICU A and EICU B Deviation between: - redundant input signals to EICU A and EICU B, or - redundant input signals from RCS
Effect:	Redundancy reduced
Sugg. Action:	Check: - EICU cabling - RCS signals If the problem persists: - Troubleshoot RCS - Restart the engine when convenient

EICUXX_050124 LOP Control Station->LOP Station State (Deviation)

Description:	EICU A and EICU B are generating differing output values
Cause:	Deviation between redundant input signals to EICU A and EICU B Deviation between: - redundant input signals to EICU A and EICU B, or - redundant input signals from RCS
Effect:	Redundancy reduced
Sugg. Action:	Check: - EICU cabling - RCS signals If the problem persists: - Troubleshoot RCS - Restart the engine when convenient

EICUXX_065801 Ctrl Station Selection->Control station selection (Deviati

Description:	EICU A and EICU B are generating differing output values
Cause:	Deviation between redundant input signals to EICU A and EICU B Deviation between: - redundant input signals to EICU A and EICU B, or - redundant input signals from RCS
Effect:	Redundancy reduced
Sugg. Action:	Check: - EICU cabling - RCS signals If the problem persists: - Troubleshoot RCS - Restart the engine when convenient

EICUXX

EICUXX_0660 **Ctrl Station Selection->No Ctrl Station Selected**

Description:	Inconsistent control station selection. None or multiple control stations requested.
Cause:	- RCS and/or RCS connection failure, or - Cabling failure
Effect:	- Engine control station is retained at current location. - Change of control station is only possible with “forced take”.
Sugg. Action:	Check: - RCS and connection to ECS - Cabling If problem persists: - Restart EICU

EICUXX_0661 **Ctrl Station Selection->ECR-Combinator Ctrl. Station Forced**

Description:	Engine control forced to ECR-Combinator control station.
Cause:	ECR-Combinator ‘forced take’ is activated.
Effect:	Engine manouve place is switched to ECR-Combinator control station. Only ECR and LOP ‘forced take’ can override this command.
Sugg. Action:	De-Activate ‘forced take’ at ECR-Combinator control station. Select desired controlstation

EICUXX_0662 **Ctrl Station Selection->ECR Control Station Forced**

Description:	Engine control forced to ECR control station.
Cause:	ECR ‘forced take’ activated.
Effect:	Engine manouve place is switched to ECR control station. Only LOP ‘forced take’ can override this command.
Sugg. Action:	De-Activate ‘forced take’ at ECR control station. Select desired controlstation

EICUXX_0663 **Ctrl Station Selection->Bridge Control Station Forced**

Description:	Engine control forced to Bridge control station.
Cause:	Bridge ‘forced take’ activated.
Effect:	Engine manouve place is switched to Bridge control station.
Sugg. Action:	De-Activate ‘forced take’ at Bridge control station. Select desired controlstation

EICUXX_0669 **Ctrl Station Selection->Start Order Timer Out**

Description:	Start attempt timed out. Engine start duration was too long due too missing blowers running signals.
Cause:	- Blower start timed out (start of blowers too slow), or - Automatic start of blowers failed, or - Blowers running signals failure
Effect:	Engine will not start. A new start attempt has to be made.
Sugg. Action:	Check: - For alarms related to the blower control. - Blowers operation mode (Local / Remote) - Blower control mode on MOP (Automatic / Manual) To start Engine: Make new start attempt. Try activating “Prepare start” on MOP before start.

EICUXX

EICUXX_0670 Ctrl Station Selection->Handle Stop & Stop Switch Deviation

Description:	Analog handle stop signal and handle stop switch signals deviate at current control station.
Cause:	- Stop switch or signal failure, or - Analog handle or signal failure, or - Analog handle stop is ON and Stop Switch is OFF, or - Analog handle stop is OFF and Stop Switch is ON Note: Analog handle Stop is ON when handle speed set is zero RPM!
Effect:	Engine start can not be performed from current control station.
Sugg. Action:	Check: - Analog handle signal and stop switch signal at current control station - Stop switch - Analog handle signal and calibration To start engine: Change control station and activate engine start.

EICUXX_073501 Shaft Generator Interface->State (Deviation)

Description:	EICU A and EICU B are generating differing output values
Cause:	Deviation between redundant input signals to EICU A and EICU B Deviation between: - redundant input signals to EICU A and EICU B, or - redundant input signals from RCS
Effect:	Redundancy reduced
Sugg. Action:	Check: - EICU cabling - RCS signals If the problem persists: - Troubleshoot RCS - Restart the engine when convenient

EICUXX_0750 Shaft Generator Interface->PMS (SG): Wait for Conditions

Description:	Time out while waiting for shaft generator engaging.
Cause:	The engine speedset is outside allowable range for Shaft Generator (SG) engaging, or cable/signal failure between ECS and PMS (Power Management System)
Effect:	Engagement of Shaft Gennerator (SG) is not permitted
Sugg. Action:	Check: - Adjust speedset within SG (Shaft Generator) speed range - Connection to PMS (Power Management System) If the problem persists: Cancel SG (Shaft Generator) engage request

EICUXX_0751 Shaft Generator Interface->PMS (SG): Disconnection Fail

Description:	Time out while waiting for Shaft Generator (SG) disengaging.
Cause:	- SG (Shaft Generator) disengageing failure, or - Disengageing duration too long, or - Cable/signal failure between ECS and PMS (Power Management System)
Effect:	Speedset remains limited in SG speed range until Shaft Generator (SG) is disengaged or speedset handle is put in Stop position. If Slow Down Request, Engine Control System will issue a Cancellable Shutdown request after a time delay.
Sugg. Action:	Check: - Cabling to Power Management System (PMS)

EICUXX_0752 Shaft Generator Interface->PMS (SG): Speed Outside Range

Description:	Actual speed outside Shaft Generator (SG) speed range.
Cause:	Check: - Active index limiters, or - Wrong governor mode selected
Effect:	Shaft Generator (SG) is requested to disengage.
Sugg. Action:	Check: - governor mode is set to rpm control, or - index limiters

EICUXX

EICUXX_080231 Speed Ramp Filter->Speed Ramp SpeedSet (Deviation)

Description:	EICU A and EICU B are generating differing output values
Cause:	Deviation between redundant input signals to EICU A and EICU B Deviation between: - redundant input signals to EICU A and EICU B, or - redundant input signals from RCS
Effect:	Redundancy reduced
Sugg. Action:	Check: - EICU cabling - RCS signals If the problem persists: - Troubleshoot RCS - Restart the engine when convenient

EICUXX_080440 Barred Speed Range No.1->In Barred Range Alarm

Description:	The actual speed has been in the barred speed range for too long.
Cause:	Actual engine speed deviate from speed set.
Effect:	No immediate effect. Note: Running in barred range may damage the engine.
Sugg. Action:	Adjust speed set to move actual engine speed outside barred range.

EICUXX_080530 Load Program->Load Limit Integrator (Deviation)

Description:	EICU A and EICU B are generating differing output values
Cause:	Deviation between redundant input signals to EICU A and EICU B Deviation between: - redundant input signals to EICU A and EICU B, or - redundant input signals from RCS
Effect:	Redundancy reduced
Sugg. Action:	Check: - EICU cabling - RCS signals If the problem persists: - Troubleshoot RCS - Restart the engine when convenient

EICUXX_080640 Barred Speed Range No.2->In Barred Range Alarm

Description:	The actual speed has been in the barred speed range for too long.
Cause:	Actual engine speed deviate from speed set.
Effect:	No immediate effect. Note: Running in barred range may damage the engine.
Sugg. Action:	Adjust speed set to move actual engine speed outside barred range.

EICUXX_080742 Run up/down Program->Load Limit Value (Deviation)

Description:	EICU A and EICU B are generating differing output values
Cause:	Deviation between redundant input signals to EICU A and EICU B Deviation between: - redundant input signals to EICU A and EICU B, or - redundant input signals from RCS
Effect:	Redundancy reduced
Sugg. Action:	Check: - EICU cabling - RCS signals If the problem persists: - Troubleshoot RCS - Restart the engine when convenient

EICUXX

EICUXX_0931 **FWE - Ready->FWE-STANDBY-AT_SEA Inconsistency**

Description:	FWE, standby or At Sea signal from the RCS are inconsistent.
Cause:	- RCS Failure, or - RCS Serial connection Failure (may be hardwired), or - Cabling failure
Effect:	Last valid FWE, Standby, At Sea state is kept as current state.
Sugg. Action:	Try to change FWE, Standby and At Sea state Check: - RCS signals - Cabling Note: Signals can be either hardwired or by serial connection to EICU A and B. Standby state can be activated by use of “Forced Take”.

EICUXX_111101 **MOP command interface->MOP Engine Mode Cmd (Deviation)**

Description:	EICU A and EICU B are generating differing output values
Cause:	Deviation between redundant input signals to EICU A and EICU B Deviation between: - redundant input signals to EICU A and EICU B, or - redundant input signals from RCS
Effect:	Redundancy reduced
Sugg. Action:	Check: - EICU cabling - RCS signals If the problem persists: - Troubleshoot RCS - Restart the engine when convenient

EICUXX_111201 **MOP command interface->Slow Turn / Air Run Cmd (Deviation**

Description:	EICU A and EICU B are generating differing output values
Cause:	Deviation between redundant input signals to EICU A and EICU B Deviation between: - redundant input signals to EICU A and EICU B, or - redundant input signals from RCS
Effect:	Redundancy reduced
Sugg. Action:	Check: - EICU cabling - RCS signals If the problem persists: - Troubleshoot RCS - Restart the engine when convenient

EICUXX_112101 **MOP command interface->Pitch Start Block Cancel Cmd (Devi**

Description:	EICU A and EICU B are generating differing output values
Cause:	Deviation between redundant input signals to EICU A and EICU B Deviation between: - redundant input signals to EICU A and EICU B, or - redundant input signals from RCS
Effect:	Redundancy reduced
Sugg. Action:	Check: - EICU cabling - RCS signals If the problem persists: - Troubleshoot RCS - Restart the engine when convenient

EICUXX

EICUXX_1124 MOP command interface->Pitch Start Block Cancel Cmd Alarm

Description:	Start blocking due to non-zero pitch has been cancelled.
Cause:	Cancellation of non-zero pitch start blocking activated.
Effect:	Non zero pitch start blocking diasabled.
Sugg. Action:	De-active non zero pitch cancellation. Check CPP control system.

EICUXX_130140 Slow Down Supervision->Cyl 1. No Cylinder lubrication

Description:	No cylinder lubrication
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

EICUXX_130141 Slow Down Supervision->Cyl 2. No Cylinder lubrication

Description:	No cylinder lubrication
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

EICUXX_130142 Slow Down Supervision->Cyl 3. No Cylinder lubrication

Description:	No cylinder lubrication
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

EICUXX

EICUXX_130143 Slow Down Supervision->Cyl 4. No Cylinder lubrication

Description:	No cylinder lubrication
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

EICUXX_130144 Slow Down Supervision->Cyl 5. No Cylinder lubrication

Description:	No cylinder lubrication
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

EICUXX_130145 Slow Down Supervision->Cyl 6. No Cylinder lubrication

Description:	No cylinder lubrication
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

EICUXX

EICUXX_130146 Slow Down Supervision->Cyl 7. No Cylinder lubrication

Description:	No cylinder lubrication
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

EICUXX_130147 Slow Down Supervision->Cyl 8. No Cylinder lubrication

Description:	No cylinder lubrication
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

EICUXX_130148 Slow Down Supervision->Cyl 9. No Cylinder lubrication

Description:	No cylinder lubrication
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

EICUXX

EICUXX_130149 Slow Down Supervision->Cyl 10. No Cylinder lubrication

Description:	No cylinder lubrication
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

EICUXX_130150 Slow Down Supervision->Cyl 11. No Cylinder lubrication

Description:	No cylinder lubrication
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

EICUXX_130151 Slow Down Supervision->Cyl 12. No Cylinder lubrication

Description:	No cylinder lubrication
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

EICUXX

EICUXX_130152 Slow Down Supervision->Cyl 13. No Cylinder lubrication

Description:	No cylinder lubrication
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

EICUXX_130153 Slow Down Supervision->Cyl 14. No Cylinder lubrication

Description:	No cylinder lubrication
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

EICUXX_130154 Slow Down Supervision->Cyl 15. No Cylinder lubrication

Description:	No cylinder lubrication
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

EICUXX

EICUXX_130155 Slow Down Supervision->Cyl 16. No Cylinder lubrication

Description:	No cylinder lubrication
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

EICUXX_130160 Slow Down Supervision->Slow Down Request due to Misfire

Description:	Misfire on one or more cylinders due to absence of fuel injection
Cause:	One or more CCU's are missing on the network or not in normal running mode.
Effect:	ME-ECS send a slow down request to the safety system. A Slow Down will subsequently be performed.
Sugg. Action:	1) Check on MOP screen: 'Maintenance' -> 'System View' which CCU's are missing or not operating in normal mode. 2) Check for problems with the network on MOP: Maintenance -> Network Status 3) It can also be seen from the alarm list which CCU's cause the alarm.

EICUXX_130210 Pump Control Supervision->Hydraulic HP Pump Failed on ACU1

Description:	Hydraulic high pressure pump does not work correctly
Cause:	- Hydraulic pump failure, or - MPC not running in normal mode, or - Network failure
Effect:	Swash plate moves to fail safe position (maximum flow in ahead direction) Running ahead: No effect on engine performance. Hydraulic pressure may increase. Running astern: Reversing the engine may not be possible due to insufficient hydraulic pressure.
Sugg. Action:	Check: - Other alarms to locate the root cause for the pump alarms - That the MPC is in normal running mode

EICUXX_130211 Pump Control Supervision->Hydraulic HP Pump Failed on ACU2

Description:	Hydraulic high pressure pump does not work correctly
Cause:	- Hydraulic pump failure, or - MPC not running in normal mode, or - Network failure
Effect:	Swash plate moves to fail safe position (maximum flow in ahead direction) Running ahead: No effect on engine performance. Hydraulic pressure may increase. Running astern: Reversing the engine may not be possible due to insufficient hydraulic pressure.
Sugg. Action:	Check: - Other alarms to locate the root cause for the pump alarms - That the MPC is in normal running mode

EICUXX

EICUXX_130212 Pump Control Supervision->Hydraulic HP Pump Failed on ACU3

Description:	Hydraulic high pressure pump does not work correctly
Cause:	- Hydraulic pump failure, or - MPC not running in normal mode, or - Network failure
Effect:	Swash plate moves to fail safe position (maximum flow in ahead direction) Running ahead: No effect on engine performance. Hydraulic pressure may increase. Running astern: Reversing the engine may not be possible due to insufficient hydraulic pressure.
Sugg. Action:	Check: - Other alarms to locate the root cause for the pump alarms - That the MPC is in normal running mode

EICUXX_130213 Pump Control Supervision->Hydraulic HP Pump Failed on ECUA

Description:	Hydraulic high pressure pump does not work correctly
Cause:	- Hydraulic pump failure, or - MPC not running in normal mode, or - Network failure
Effect:	Swash plate moves to fail safe position (maximum flow in ahead direction) Running ahead: No effect on engine performance. Hydraulic pressure may increase. Running astern: Reversing the engine may not be possible due to insufficient hydraulic pressure.
Sugg. Action:	Check: - Other alarms to locate the root cause for the pump alarms - That the MPC is in normal running mode

EICUXX_130214 Pump Control Supervision->Hydraulic HP Pump Failed on ECUB

Description:	Hydraulic high pressure pump does not work correctly
Cause:	- Hydraulic pump failure, or - MPC not running in normal mode, or - Network failure
Effect:	Swash plate moves to fail safe position (maximum flow in ahead direction) Running ahead: No effect on engine performance. Hydraulic pressure may increase. Running astern: Reversing the engine may not be possible due to insufficient hydraulic pressure.
Sugg. Action:	Check: - Other alarms to locate the root cause for the pump alarms - That the MPC is in normal running mode

EICUXX_130219 Pump Control Supervision->Too many HP Pump Failures

Description:	Two or more high pressure pumps are failing
Cause:	More than one high pressure pump cannot be controlled. NOTE If more than 3 pumps are installed, pump 4 and 5 are controlled by the ECUs
Effect:	- High pressure pumps move to fail safe position (maximum flow in ahead direction) - Reversing the engine may not be possible due to insufficient hydraulic pressure
Sugg. Action:	Check other alarms to locate the root cause for the pump alarms NOTE NEVER ignore this alarm. Safe critical issues may arise!

EICUXX

EICUXX_141001 ECT Command interface->Commission Mode Req Active (Deviat

Description:	Deviation between the internal states of EICU A and EICU B regarding whether or not Shop Test Mode should be active.
Cause:	Deviation between the MOP commands received by EICU A and EICU B. Maybe due to one of the EICU's being offline when Shop Test Mode was enabled/disabled on the ECT screen.
Effect:	Redundancy reduced. In case of one of the EICU's going offline the ECS might make an abrupt change between Shop Test Mode / Not Shop Test Mode.
Sugg. Action:	Check: - EICU cabling Reselect Shop Test Mode or Not Shop Test Mode on the ECT screen If the problem persists: - Restart either EICU A or EICU B when convenient

EICUXX_1411 ECT Command interface->ECT Mode Act.(Limiters Increased)

Description:	Shop Test Mode is active
Cause:	Shop Test Mode is activated from Engine Commissioning Tool (ECT)
Effect:	The following settings are temporarily changed in order to carry out shop test: 1: Max Engine Speed increased to 110% MCR 2: Overspeed protection limits increased to 110% MCR 3: Scavenge Air Pressure Limiter increased with parameter ECT: Cancel Limit Increase Offset 4: Torque Limiter increased with parameter ECT: Cancel Limit Increase Offset 5: Chief index limiter (All) increased to 120% 6: Chief index limiter on unlimited cylinders increased to 120% 7: Load program disabled 8: Chief Max Speed parameter disabled 9: Automatic cut out of Global Params. Inconsist alarm 1, 7 and 8 are only in effect when ECR control is selected.
Sugg. Action:	Alarm condition is normal during shop test. No action to be taken. After shop test, the shop test mode must be disabled from engine commissioning tool (ECT). If alarm appears under other circumstances, shop test mode must be disabled from engine commissioning tool (ECT).

EICUXX_153501 WHR Interface->State (Deviation)

Description:	EICU A and EICU B are generating differing output values
Cause:	Deviation between redundant input signals to EICU A and EICU B Deviation between: - redundant input signals to EICU A and EICU B, or - redundant input signals from RCS
Effect:	Redundancy reduced
Sugg. Action:	Check: - EICU cabling - RCS signals If the problem persists: - Troubleshoot RCS - Restart the engine when convenient

EICUXX_1550 WHR Interface->PMS (WHR): Wait for Conditions

Description:	Time out while waiting for Waste Heat Recovery (WHR) engagement.
Cause:	The engine speedset is outside allowable range for Waste Heat Recovery system (WHR) engaging, or - Increase limitation is active, or - Cable/signal failure between ECS and PMS (Power Management System)
Effect:	Engagement of Waste Heat Recovery system (WHR) is not permitted
Sugg. Action:	Engagement of Waste Heat Recovery system (WHR) is not permitted. Check: - Adjust speed set within WHR speed range, or - Cancel increase limitation, or - Check connection to PMS, or - Cancel Heat Recovery system (WHR) engage request.

EICUXX

EICUXX_1551 **WHR Interface->PMS (WHR): Disconnection Fail**

Description:	Time out while waiting for Waste Heat Recovery (WHR) disengaging.
Cause:	- Waste Heat Recovery (WHR) disengageing failure, or - Disengageing duration too long, or - Cable/signal failure between ECS and PMS (Power Management System)
Effect:	Speedset remains limited in WHR speed range until Waste Heat Recovery (WHR) is disengaged or speedset handle is put in Stop position. If Slow Down Request, Engine Control System will issue a Cancellable Shutdown request after a time delay.
Sugg. Action:	Check: - Cabling to Power Management System (PMS)

EICUXX_1552 **WHR Interface->PMS (WHR): Speed Outside Range**

Description:	Actual speed outside Waste Heat Recovery (WHR) speed range.
Cause:	Check: - Active index limiters, or - Wrong governor mode selected
Effect:	Waste Heat Recovery (WHR) is requested to disengage.
Sugg. Action:	Check: - governor mode is set to rpm control, or - index limiters

EICUXX_1680 **ECS Isolation Level Supervision->ECS isolation level below normal**

Description:	The ECS electric isolation level is below normal service value
Cause:	One or more ECS components has increased electric leakage to ship’s ground.
Effect:	No immediate effect. The alarm can be an indication of beginning deterioration of system components.
Sugg. Action:	Check: - Isolation level by observing the display on the isolation monitor, or - Isolation level by observing MPC input channel: Maintenance -> System view I/O test -> EICUB Ch 37 - Isolation level trend in CoCoS-EDS if applicable - Individual isolation of ECS components (sensors, controllers, actuators, cabling) to determine the cause of leakage - Refer to ECS trouble shooting guide “test for earth failure in ECS system” for further trouble shooting advise

EICUXX_1681 **ECS Isolation Level Supervision->Too low ECS isolation level**

Description:	The ECS electric isolation level is too low.
Cause:	One or more ECS components has too high electric leakage to ship’s ground.
Effect:	- The system redundancy is reduced - The system’s resistance against electrical noise is reduced - Additional isolation faults on opposite polarity can cause blown fuses or short circuits NOTE: Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Isolation level by observing the display on the isolation monitor, or - Isolation level by observing MPC input channel: Maintenance -> System view I/O test -> EICUB Ch 37 - Isolation level trend in CoCoS-EDS if applicable - Individual isolation of ECS components (sensors, controllers, actuators, cabling) to determine the cause of leakage - Refer to ECS trouble shooting guide “test for earth failure in ECS system” for further trouble shooting advise

EICUXX

EICUXX_2010-A Ch25,2010-A,Slow Down->Suprv. Ch25,2010-A,Slow Down

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2010-B Ch25,2010-B,Slow Down->Suprv. Ch25,2010-B,Slow Down

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_214001 I/O Configuration->Ch27,2140, Deviation Supervision (

Description:	EICU A and EICU B are receiving differing input values
Cause:	Deviation between redundant input signals to EICU A and EICU B.
Effect:	Redundancy reduced
Sugg. Action:	Check EICU A and EICU B readings on MOP -> 'Maintenance' to identify the failing input signal. Disconnect the failing input source or invalidate the input channel. At first opportunity: Repair or replace the failing source.

EICUXX_2140-A Ch27,2140-A,Speed Set ECR->Suprv. Ch27,2140-A,Speed Set ECR

Description:	Speed set signal from ECR is out of range
Cause:	- Cabling failure, or - Short circuit, or - Signal failure, or - MPC input channel failure
Effect:	If this is the only speed set alarm: No effect on engine performance If this alarm is raised from both EICUA and B: - Engine speed cannot be adjusted from ECR - EICU uses last valid input value
Sugg. Action:	Check: - Cabling - ECR speed handle - MPC input channel / channel loop current If the problem persists: Replace MPC

EICUXX

EICUXX_2140-B **Ch27,2140-B,Speed Set ECR->Suprv. Ch27,2140-B,Speed Set ECR**

Description:	Speed set signal from ECR is out of range
Cause:	- Cabling failure, or - Short circuit, or - Signal failure, or - MPC input channel failure
Effect:	If this is the only speed set alarm: No effect on engine performance If this alarm is raised from both EICUA and B: - Engine speed cannot be adjusted from ECR - EICU uses last valid input value
Sugg. Action:	Check: - Cabling - ECR speed handle - MPC input channel / channel loop current If the problem persists: Replace MPC

EICUXX_2141-A **Ch32,2141-A,Stop Cmd ECR->Suprv. Ch32,2141-A,Stop Cmd ECR**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2141-B **Ch32,2141-B,Stop Cmd ECR->Suprv. Ch32,2141-B,Stop Cmd ECR**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX

EICUXX_2142-A **Ch23,2142-A,Increase Limit from ECR->Suprv. Ch23,2142-A,Increase Limit f**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2142-B **Ch23,2142-B,Increase Limit from ECR->Suprv. Ch23,2142-B,Increase Limit f**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2143-A **Ch34,2143-A,Take command ECR->Suprv. Ch34,2143-A,Take command ECR**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX

EICUXX_2143-B **Ch34,2143-B,Take command ECR->Suprv. Ch34,2143-B,Take command ECR**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2144-A **Ch35,2144-A,Astern ECR->Suprv. Ch35,2144-A,Astern ECR**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2144-B **Ch35,2144-B,Astern ECR->Suprv. Ch35,2144-B,Astern ECR**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX

EICUXX_2145-A **Ch33,2145-A,Start Cmd ECR->Suprv. Ch33,2145-A,Start Cmd ECR**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2145-B **Ch33,2145-B,Start Cmd ECR->Suprv. Ch33,2145-B,Start Cmd ECR**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2148-A **Ch36,2148-A,PitchSet for Lubricator->Suprv. Ch36,2148-A,PitchSet for Lub**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX

EICUXX_2148-B **Ch36,2148-B,PitchSet for Lubricator->Suprv. Ch36,2148-B,PitchSet for Lub**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2149-A **Ch37,2149-A,Aux. System Ready->Suprv. Ch37,2149-A,Aux. System Read**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2149-B **Ch37,2149-B,Aux. System Ready->Suprv. Ch37,2149-B,Aux. System Read**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	Reduced system performance. Reduced supervision. NOTE Never ignore this alarm. Safety critical issues may arise.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX

EICUXX_214P-A **Ch27,214P-A,Potentiometer Speed Set->Suprv. Ch27,214P-A,Potentiometer Sp**

Description:	Sensor signal is out of range
Cause:	- Cable failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to redundant EICU is installed: No effect on engine performance. If no redundant cabling is installed: - EICU uses the last valid setting - Engine speed cannot be adjusted
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_214P-B **Ch27,214P-B,Potentiometer Speed Set->Suprv. Ch27,214P-B,Potentiometer Sp**

Description:	Sensor signal is out of range
Cause:	- Cable failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to redundant EICU is installed: No effect on engine performance. If no redundant cabling is installed: - EICU uses the last valid setting - Engine speed cannot be adjusted
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_216001 **I/O Configuration->Ch26,2160, Deviation Supervision (**

Description:	EICU A and EICU B are receiving differing input values
Cause:	Deviation between redundant input signals to EICU A and EICU B.
Effect:	Redundancy reduced
Sugg. Action:	Check EICU A and EICU B readings on MOP -> 'Maintenance' to identify the failing input signal. Disconnect the failing input source or invalidate the input channel. At first opportunity: Repair or replace the failing source.

EICUXX_2160-A **Ch26,2160-A,Speed Set Bridge->Suprv. Ch26,2160-A,Speed Set Bridge**

Description:	Speed set signal from Bridge is out of range
Cause:	- Cabling failure, or - Short circuit, or - Signal failure, or - MPC input channel failure
Effect:	If this is the only speed set alarm: No effect on engine performance If this alarm is raised from both EICUA and B: - Engine speed cannot be adjusted from Bridge - EICU uses last valid input value
Sugg. Action:	Check: - Cabling - ECR speed handle - MPC input channel / channel loop current If the problem persists: Replace MPC

EICUXX

EICUXX_2160-B **Ch26,2160-B,Speed Set Bridge->Suprv. Ch26,2160-B,Speed Set Bridge**

Description:	Speed set signal from Bridge is out of range
Cause:	- Cabling failure, or - Short circuit, or - Signal failure, or - MPC input channel failure
Effect:	If this is the only speed set alarm: No effect on engine performance If this alarm is raised from both EICUA and B: - Engine speed cannot be adjusted from Bridge - EICU uses last valid input value
Sugg. Action:	Check: - Cabling - ECR speed handle - MPC input channel / channel loop current If the problem persists: Replace MPC

EICUXX_2161-A **Ch30,2161-A,Stop Cmd Bridge->Suprv. Ch30,2161-A,Stop Cmd Bridge**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2161-B **Ch30,2161-B,Stop Cmd Bridge->Suprv. Ch30,2161-B,Stop Cmd Bridge**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX

EICUXX_2162-A **Ch22,2162-A,Increase Limiter from B->Suprv. Ch22,2162-A,Increase Limiter**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2162-B **Ch22,2162-B,Increase Limiter from B->Suprv. Ch22,2162-B,Increase Limiter**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2163-A **Ch20,2163-A,Take Command Bridge->Suprv. Ch20,2163-A,Take Command Bri**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX

EICUXX_2163-B **Ch20,2163-B,Take Command Bridge->Suprv. Ch20,2163-B,Take Command Bri**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2164-A **Ch21,2164-A,Restart switch->Suprv. Ch21,2164-A,Restart switch**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2164-B **Ch21,2164-B,Restart switch->Suprv. Ch21,2164-B,Restart switch**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX

EICUXX_2165-A **Ch31,2165-A,Start Cmd Bridge->Suprv. Ch31,2165-A,Start Cmd Bridge**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2165-B **Ch31,2165-B,Start Cmd Bridge->Suprv. Ch31,2165-B,Start Cmd Bridge**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_216P-A **Ch26,216P-A,Potentiometer Speed Set->Suprv. Ch26,216P-A,Potentiometer Sp**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to redundant EICU is installed: No effect on engine performance. If no redundant cabling is installed: - EICU uses the last valid setting - Engine speed cannot be adjusted
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX

EICUXX_216P-B **Ch26,216P-B,Potentiometer Speed Set->Suprv. Ch26,216P-B,Potentiometer Sp**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to redundant EICU is installed: No effect on engine performance. If no redundant cabling is installed: - EICU uses the last valid setting - Engine speed cannot be adjusted
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2205-A **Ch24,2205-A,Slow Down Pre-warning->Suprv. Ch24,2205-A,Slow Down Pre-wa**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2205-B **Ch24,2205-B,Slow Down Pre-warning->Suprv. Ch24,2205-B,Slow Down Pre-wa**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX

EICUXX_2300-A **Ch22,2300-A,Inc Lim from Bridge Bac->Suprv. Ch22,2300-A,Inc Lim from Bri**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2300-B **Ch22,2300-B,Inc Lim from Bridge Bac->Suprv. Ch22,2300-B,Inc Lim from Bri**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_230101 **I/O Configuration->Ch26,2301, Deviation Supervision (**

Description:	EICU A and EICU B are receiving differing input values
Cause:	Deviation between redundant input signals to EICU A and EICU B.
Effect:	Redundancy reduced
Sugg. Action:	Check EICU A and EICU B readings on MOP -> 'Maintenance' to identify the failing input signal. Disconnect the failing input source or invalidate the input channel. At first opportunity: Repair or replace the failing source.

EICUXX_2301-A **Ch26,2301-A,Speed Set Bridge Backup->Suprv. Ch26,2301-A,Speed Set Bridge**

Description:	Speed set signal from Bridge Backup is out of range
Cause:	- Cabling failure, or - Short circuit, or - Signal failure, or - MPC input channel failure
Effect:	If this is the only speed set alarm: No effect on engine performance If this alarm is raised from both EICUA and B: - Engine speed cannot be adjusted from Bridge backup - EICU uses last valid input value
Sugg. Action:	Check: - Cabling - Bridge backup speed handle - MPC input channel / channel loop current If the problem persists: Replace MPC

EICUXX

EICUXX_2301-B **Ch26,2301-B,Speed Set Bridge Backup->Suprv. Ch26,2301-B,Speed Set Bridge**

Description:	Speed set signal from Bridge Backup is out of range
Cause:	- Cabling failure, or - Short circuit, or - Signal failure, or - MPC input channel failure
Effect:	If this is the only speed set alarm: No effect on engine performance If this alarm is raised from both EICUA and B: - Engine speed cannot be adjusted from Bridge backup - EICU uses last valid input value
Sugg. Action:	Check: - Cabling - Bridge backup speed handle - MPC input channel / channel loop current If the problem persists: Replace MPC

EICUXX_2302-A **Ch30,2302-A,Stop Cmd Bridge Backup->Suprv. Ch30,2302-A,Stop Cmd Bridge**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2302-B **Ch30,2302-B,Stop Cmd Bridge Backup->Suprv. Ch30,2302-B,Stop Cmd Bridge**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	If redundant cabling to EICUA and EICUB is fitted: No effect on engine performance. If no redundant cabling is fitted: EICU uses the last valid input value
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX

EICUXX_2904-A **Ch37,2904-A,ECS Isolation (kOhm)->Suprv. Ch37,2904-A,ECS Isolation (k**

Description:	Sensor signal is out of range
Cause:	- Cabling failure, or - Sensor failure, or - Supervision resistor across the switch is missing, or - MPC input channel failure
Effect:	No ECS Isolation Level Supervision available.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_2904-B **Ch37,2904-B,ECS Isolation (kOhm)->Suprv. Ch37,2904-B,ECS Isolation (k**

Description:	Sensor signal is out of range
Cause:	One or more ECS components has too high electric leakage to ship's ground.
Effect:	No ECS Isolation Level Supervision available.
Sugg. Action:	Check: - Cabling - Sensor - Supervision resistor - MPC input channel: 'Maintenance' -> 'System View I/O Test' If the problem persists: Replace MPC

EICUXX_300124 **Bridge Backup Control Station->Bridge Backup Station State (Devia**

Description:	EICU A and EICU B are generating differing output values
Cause:	Deviation between redundant input signals to EICU A and EICU B Deviation between: - redundant input signals to EICU A and EICU B, or - redundant input signals from RCS
Effect:	Redundancy reduced
Sugg. Action:	Check: - EICU cabling - RCS signals If the problem persists: - Troubleshoot RCS - Restart the engine when convenient

EICUXX_40 **EICU->Modbus-RCS Connection Test Active**

Description:	Serial connection test is active
Cause:	Modbus-RCS Connection test has been activated at EICU
Effect:	Normal operation not possible
Sugg. Action:	After test is completed: Switch back to normal mode, 'I/O Configuration' -> 'Configuration Options' -> 'Non or Old Application Options' -> 'Modbus-RCS Connection Test' -> 'No'

EICUXX_badBa **System->Non standard baud rate**

Description:	Service terminal baud rate is not 9600 Bd
Cause:	Non-standard Baud rate selected.
Effect:	No, or unreadable output to Service Terminal.
Sugg. Action:	When convenient: Reset Blue DIP switch and reboot MPC

EICUXX

EICUXX_IDKEY **System->ID Key corrupt**

Description:	The MPC cannot read ID-key data
Cause:	- ID-key is not plugged in, or - ID-key data is corrupted, or - ID-key hardware failure, or - MPC failure
Effect:	No immediate effect on engine performance. The MPC may not function correctly after a restart.
Sugg. Action:	If this alarm is active for more than 5 minutes, check that the ID-key is plugged in correctly. If the problem persists replace, one at a time: - ID-key (see instruction manual for configuration instructions) - MPC

EICUXX_Modbu **Modbus-RCS->RCS communication failure**

Description:	EICU - RCS communication failure
Cause:	- Cable failure, or - RCS failure, or - EICU Modbus failure or - Commissioning error
Effect:	If both EICUs report this alarm: RCS-ECS communication is lost. Only hardwired control and monitoring is available (ECR/LOP)
Sugg. Action:	Check: - Cabling - RCS If RCS and cabling is OK: Replace EICU If both EICUs report this alarm: Restart RCS

EICUXX_RCSVa **IO Variant A->RCS communication failure**

Description:	EICU - RCS communication failure
Cause:	- Cable failure, or - RCS failure, or - EICU Modbus failure or - Commissioning error
Effect:	If both EICUs report this alarm: RCS-ECS communication is lost. Only hardwired control and monitoring is available (ECR/LOP)
Sugg. Action:	Check: - Cabling - RCS If RCS and cabling is OK: Replace EICU If both EICUs report this alarm: Restart RCS

EICUXX_SAR-A **System Status->App. not running on ACU1**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX

EICUXX_SAR-A **System Status->App. not running on ACU2**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-A **System Status->App. not running on ACU3**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-A **System Status->App. not running on AXU1**

Description:	For internal use only. MPC is not in normal operating mode.
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-C **System Status->App. not running on CCU1**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX

EICUXX_SAR-C **System Status->App. not running on CCU10**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-C **System Status->App. not running on CCU11**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-C **System Status->App. not running on CCU12**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-C **System Status->App. not running on CCU13**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX

EICUXX_SAR-C **System Status->App. not running on CCU14**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-C **System Status->App. not running on CCU15**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-C **System Status->App. not running on CCU16**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-C **System Status->App. not running on CCU2**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX

EICUXX_SAR-C **System Status->App. not running on CCU3**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-C **System Status->App. not running on CCU4**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-C **System Status->App. not running on CCU5**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-C **System Status->App. not running on CCU6**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX

EICUXX_SAR-C **System Status->App. not running on CCU7**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-C **System Status->App. not running on CCU8**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-C **System Status->App. not running on CCU9**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-E **System Status->App. not running on ECUA**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX

EICUXX_SAR-E **System Status->App. not running on ECUB**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-EI **System Status->App. not running on EICUA**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-EI **System Status->App. not running on EICUB**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SAR-E **System Status->App. not running on ESU**

Description:	For internal use only. MPC is not in normal operating mode.
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX

EICUXX_SAR-S **System Status->App. not running on SCU1**

Description:	MPC is not in normal operating mode
Cause:	- MPC is restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

EICUXX_SBAT **System->Battery Level Low**

Description:	MPC battery is low
Cause:	Battery worn out
Effect:	If MPC remains switched on: No effect If MPC is switched off or power is lost: MPC will loose its time settings
Sugg. Action:	Replace battery when convenient

EICUXX_SEICU **System->Global Params. inconsist**

Description:	MPC parameter deviation. One or more parameters, the system expects to have the same value, differ.
Cause:	- If a user has adjusted a parameter at the MOP, one or more units have not received or accepted the change - ECS configuration error
Effect:	- Engine performance may be affected - Redundancy may be reduced
Sugg. Action:	Check that all MPCs are in normal running mode If any parameter has been adjusted recently, repeat the adjustment

EICUXX_SFuse **24V power supervision->Fuse F12 failure**

Description:	Fuse 12 is blown. Fuse 12 protects MPC power supply, connectors J20 - J37
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channel J20 - J37 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to connectors J20 - J37. Replace fuse.

EICUXX_SFuse **24V power supervision->Fuse F13 failure**

Description:	Fuse 13 is blown. Fuse 13 protects MPC power supply, connectors J40 - J61
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channels J40 - J61 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to connectors J70 and J71. Replace fuse.

EICUXX_SFuse **24V power supervision->Fuse F14 failure**

Description:	Fuse 14 is blown. Fuse 14 protects MPC power supply, connectors J70 and J71.
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channel J70 and J71 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to channel J70 and J71. Replace fuse.

EICUXX

EICUXX_SFuse **24V power supervision->Fuse F9 failure**

Description:	Fuse 9 is blown. Fuse 9 protects MPC power supply, connector J9.
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channel J9 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to connector 9. Replace fuse.

EICUXX_SInvPa **System->Invalid parameters**

Description:	The MPC holds invalid parameters. The MPC cannot start its application without the correct parameters.
Cause:	The alarm is caused from the MPC automatically loads the wrong parameter set after a replacement of the MPC.
Effect:	The behaviour of the application in the MPC is not correct. The precise effect of this situation is unknown and care should be taken.
Sugg. Action:	If the involved MPC just have been repalced, wait for the automatic preparation to complete. If this takes more than 10 minutes, the LED colour signalling for fault indication should be inspected. If this proves unhelpful, reset the MPC unit. If it still does not help, contact MAN B&W Diesel.

EICUXX_SInvS **System->Invalid software**

Description:	MPC is running an incorrect application
Cause:	MOP A and B not available during MPC power up
Effect:	Reduced system performance NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Switch off MPC immediately. When MOP A or MOP B are available: Restart MPC

EICUXX_SIPF **System->Invalid Parameter Flash**

Description:	Parameter flash failure
Cause:	The CRC check when reading the parameters from Flash failed
Effect:	Parameters from flash cannot be used.
Sugg. Action:	Write a new parameter set to flash. I the problem persists, the unit may be defective

EICUXX_SMBsT **RCS Interface->RCS serial communication fail**

Description:	EICU - RCS communication failure
Cause:	- Cable failure, or - RCS failure, or - EICU Modbus failure or - Commissioning error
Effect:	If both EICUs report this alarm: RCS-ECS communication is lost. Only hardwired control and monitoring is available (ECR/LOP)
Sugg. Action:	Check: - Cabling - RCS If RCS and cabling is OK: Replace EICU If both EICUs report this alarm: Restart RCS

EICUXX_SN0-A **System Status->Net A not connected to ACU1**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX

EICUXX_SN0-A **System Status->Net A not connected to ACU2**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-A **System Status->Net A not connected to ACU3**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-A **System Status->Net A not connected to AXU1**

Description:	For internal use only. MPC is not connected to network A.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-C **System Status->Net A not connected to CCU1**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-C **System Status->Net A not connected to CCU10**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX

EICUXX_SN0-C **System Status->Net A not connected to CCU11**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-C **System Status->Net A not connected to CCU12**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-C **System Status->Net A not connected to CCU13**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-C **System Status->Net A not connected to CCU14**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-C **System Status->Net A not connected to CCU15**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX

EICUXX_SN0-C **System Status->Net A not connected to CCU16**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-C **System Status->Net A not connected to CCU2**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-C **System Status->Net A not connected to CCU3**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-C **System Status->Net A not connected to CCU4**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-C **System Status->Net A not connected to CCU5**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX

EICUXX_SN0-C **System Status->Net A not connected to CCU6**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-C **System Status->Net A not connected to CCU7**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-C **System Status->Net A not connected to CCU8**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-C **System Status->Net A not connected to CCU9**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-E **System Status->Net A not connected to ECUA**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX

EICUXX_SN0-E **System Status->Net A not connected to ECUB**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-EI **System Status->Net A not connected to EICUA**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-EI **System Status->Net A not connected to EICUB**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-E **System Status->Net A not connected to ESU**

Description:	For internal use only. MPC is not connected to network A.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN0-M **System Status->Net A not connected to MOPA**

Description:	MOP not connected to network A
Cause:	- Cable failure, or - Network failure, or - MOP failure
Effect:	No effect on engine performance. No MOP redundancy.
Sugg. Action:	If network A is the only failing network, check: - Cabling - MOP network connector - MOP network card

EICUXX

EICUXX_SN0-M **System Status->Net A not connected to MOPB**

Description:	MOP not connected to network A
Cause:	- Cable failure, or - Network failure, or - MOP failure
Effect:	No effect on engine performance. No MOP redundancy.
Sugg. Action:	If network A is the only failing network, check: - Cabling - MOP network connector - MOP network card

EICUXX_SN0-S **System Status->Net A not connected to SCU1**

Description:	MPC not connected to network A
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-A **System Status->Net B not connected to ACU1**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-A **System Status->Net B not connected to ACU2**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-A **System Status->Net B not connected to ACU3**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX

EICUXX_SN1-A **System Status->Net B not connected to AXU1**

Description:	For internal use only. MPC not connected to network B.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-C **System Status->Net B not connected to CCU1**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-C **System Status->Net B not connected to CCU10**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-C **System Status->Net B not connected to CCU11**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-C **System Status->Net B not connected to CCU12**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX

EICUXX_SN1-C **System Status->Net B not connected to CCU13**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-C **System Status->Net B not connected to CCU14**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-C **System Status->Net B not connected to CCU15**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-C **System Status->Net B not connected to CCU16**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-C **System Status->Net B not connected to CCU2**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX

EICUXX_SN1-C **System Status->Net B not connected to CCU3**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-C **System Status->Net B not connected to CCU4**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-C **System Status->Net B not connected to CCU5**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-C **System Status->Net B not connected to CCU6**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-C **System Status->Net B not connected to CCU7**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX

EICUXX_SN1-C **System Status->Net B not connected to CCU8**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-C **System Status->Net B not connected to CCU9**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-E **System Status->Net B not connected to ECUA**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-E **System Status->Net B not connected to ECUB**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-EI **System Status->Net B not connected to EICUA**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX

EICUXX_SN1-EI **System Status->Net B not connected to EICUB**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-E **System Status->Net B not connected to ESU**

Description:	For internal use only. MPC not connected to network B.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX_SN1-M **System Status->Net B not connected to MOPA**

Description:	MOP not connected to network B
Cause:	- Cable failure, or - Network failure, or - MOP failure
Effect:	No effect on engine performance. No MOP redundancy.
Sugg. Action:	If network B is the only failing network, check: - Cabling - MOP network connector - MOP network card

EICUXX_SN1-M **System Status->Net B not connected to MOPB**

Description:	MOP not connected to network B
Cause:	- Cable failure, or - Network failure, or - MOP failure
Effect:	No effect on engine performance. No MOP redundancy.
Sugg. Action:	If network B is the only failing network, check: - Cabling - MOP network connector - MOP network card

EICUXX_SN1-S **System Status->Net B not connected to SCU1**

Description:	MPC not connected to network B
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

EICUXX

EICUXX_SNA-A **System Status->MPC ACU1 unavailable**

Description:	ACU not available on any network
Cause:	- ACU restarting after power off/on, or - ACU power is off, or - ACU failure, or - Both networks are disconnected or failing
Effect:	No ECU redundancy. Engine driven pump 4 (if fitted) is locked in ‘ahead’. If running astern: No hydraulic oil from pump 4.
Sugg. Action:	Check: - ACU power - ACU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-A **System Status->MPC ACU2 unavailable**

Description:	ACU not available on any network
Cause:	- ACU restarting after power off/on, or - ACU power is off, or - ACU failure, or - Both networks are disconnected or failing
Effect:	No ECU redundancy. Engine driven pump 4 (if fitted) is locked in ‘ahead’. If running astern: No hydraulic oil from pump 4.
Sugg. Action:	Check: - ACU power - ACU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-A **System Status->MPC ACU3 unavailable**

Description:	ACU not available on any network
Cause:	- ACU restarting after power off/on, or - ACU power is off, or - ACU failure, or - Both networks are disconnected or failing
Effect:	No ECU redundancy. Engine driven pump 4 (if fitted) is locked in ‘ahead’. If running astern: No hydraulic oil from pump 4.
Sugg. Action:	Check: - ACU power - ACU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-A **System Status->MPC AXU1 unavailable**

Description:	For intenal use only. MPC not available on any network.
Cause:	- MPC is restarting after power off/on, or - MPC power is off, or - MPC failure, or - Both networks are disconnected or failing
Effect:	MPC not available
Sugg. Action:	Check: - MPC power - MPC mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX

EICUXX_SNA-C **System Status->MPC CCU1 unavailable**

Description:	CCU not available on any network
Cause:	- CCU restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-C **System Status->MPC CCU10 unavailable**

Description:	CCU not available on any network
Cause:	- CCU restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-C **System Status->MPC CCU11 unavailable**

Description:	CCU not available on any network
Cause:	- CCU restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-C **System Status->MPC CCU12 unavailable**

Description:	CCU not available on any network
Cause:	- CCU restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX

EICUXX_SNA-C **System Status->MPC CCU13 unavailable**

Description:	CCU not available on any network
Cause:	- CCU restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-C **System Status->MPC CCU14 unavailable**

Description:	CCU not available on any network
Cause:	- CCU restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-C **System Status->MPC CCU15 unavailable**

Description:	CCU not available on any network
Cause:	- CCU restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-C **System Status->MPC CCU16 unavailable**

Description:	CCU not available on any network
Cause:	- CCU restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX

EICUXX_SNA-C **System Status->MPC CCU2 unavailable**

Description:	CCU not available on any network
Cause:	- CCU restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-C **System Status->MPC CCU3 unavailable**

Description:	CCU not available on any network
Cause:	- CCU restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-C **System Status->MPC CCU4 unavailable**

Description:	CCU not available on any network
Cause:	- CCU restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-C **System Status->MPC CCU5 unavailable**

Description:	CCU not available on any network
Cause:	- CCU restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX

EICUXX_SNA-C **System Status->MPC CCU6 unavailable**

Description:	CCU not available on any network
Cause:	- CCU restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-C **System Status->MPC CCU7 unavailable**

Description:	CCU not available on any network
Cause:	- CCU restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-C **System Status->MPC CCU8 unavailable**

Description:	CCU not available on any network
Cause:	- CCU restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-C **System Status->MPC CCU9 unavailable**

Description:	CCU not available on any network
Cause:	- CCU restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX

EICUXX_SNA-E **System Status->MPC ECUA unavailable**

Description:	ECU not available on any network
Cause:	- ECU is restarting after power off/on, or - ECU power is off, or - ECU failure, or - Both networks are disconnected or failing
Effect:	No ECU redundancy. Engine driven pump 4 (if fitted) is locked in 'Ahead'. If running astern: No hydraulic oil from pump 4.
Sugg. Action:	Check: - ECU power - ECU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-E **System Status->MPC ECUB unavailable**

Description:	ECU not available on any network
Cause:	- ECU is restarting after power off/on, or - ECU power is off, or - ECU failure, or - Both networks are disconnected or failing
Effect:	No ECU redundancy. Engine driven pump 5 (if fitted) is locked in 'Ahead'. If running astern: No hydraulic oil from pump 5.
Sugg. Action:	Check: - ECU power - ECU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-EI **System Status->MPC EICUA unavailable**

Description:	EICU is not available on any network
Cause:	- EICU restarting after power off/on, or - EICUpower is off, or - EICU failure, or - Both networks are disconnected or failing
Effect:	No EICU redundancy
Sugg. Action:	Check: - EICU power - EICU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-EI **System Status->MPC EICUB unavailable**

Description:	EICU is not available on any network
Cause:	- EICU restarting after power off/on, or - EICUpower is off, or - EICU failure, or - Both networks are disconnected or failing
Effect:	No EICU redundancy
Sugg. Action:	Check: - EICU power - EICU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX

EICUXX_SNA-E **System Status->MPC ESU unavailable**

Description:	For intenal use only. MPC not available on any network.
Cause:	- MPC is restarting after power off/on, or - MPC power is off, or - MPC failure, or - Both networks are disconnected or failing
Effect:	MPC not available
Sugg. Action:	Check: - MPC power - MPC mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX_SNA-M **System Status->MPC MOPA unavailable**

Description:	MOP not available on any network
Cause:	- MOP is restarting after power off/on, or - MOP power is off, or - MOP failure, or - Both networks are disconnected or failing, or - MOP network card failure
Effect:	No effect on engine. No MOP redundancy.
Sugg. Action:	Check: - MOP power - Network cabling If the problem persists: Replace MOP

EICUXX_SNA-M **System Status->MPC MOPB unavailable**

Description:	MOP not available on any network
Cause:	- MOP is restarting after power off/on, or - MOP power is off, or - MOP failure, or - Both networks are disconnected or failing, or - MOP network card failure
Effect:	No effect on engine. No MOP redundancy.
Sugg. Action:	Check: - MOP power - Network cabling If the problem persists: Replace MOP

EICUXX_SNA-S **System Status->MPC SCU1 unavailable**

Description:	SCU is not available on any network
Cause:	- SCU restarting after power off/on, or - SCU power is off, or - SCU failure, or - Both networks are disconnected or failing
Effect:	Variable turbocharger/bypass valve moves to fully open position
Sugg. Action:	Check: - SCU power - SCU mode (LED is green) - Network cabling If the problem persists: Replace failing unit

EICUXX

EICUXX_SNETX **System Status->Controlnetwork is crossconnected**

Description:	The ECS control network is cross connected on one or more MPCs
Cause:	On one or more MPCs: - Network cable A is connected to network input channel B, and/or - Network cable B is connected to network input channel A
Effect:	Redundancy reduced. No effect on engine performance.
Sugg. Action:	Check network status screen on MOP to locate the cross connected MPCs, 'Maintenance' -> 'Network status'

EICUXX_SPow2 **24V power supervision->24V power A failure, connector 1B**

Description:	No power supply to connector J1, terminal B
Cause:	- Power supply A is turned off, or - Cabling failure
Effect:	No effect on engine performance (MPC is powered from power supply B) No power supply redundancy
Sugg. Action:	Check: - Power supply A - Cabling

EICUXX_SPow2 **24V power supervision->24V power B failure, connector 1C**

Description:	No power supply to connector J1, terminal C
Cause:	- Power supply B is turned off, or - Cabling failure
Effect:	No effect on engine performance (MPC is powered from power supply A) No power supply redundancy
Sugg. Action:	Check: - Power supply B - Cabling

EICUXX_SWDo **System->Watchdogs deactivated**

Description:	MPC watchdog disabled
Cause:	Green DIP-switch is set to ‘Off’
Effect:	No effect on engine performance. The MPC may respond incorrectly to any software and hardware failures.
Sugg. Action:	Set green DIP-switch to 'On'

GROXX

GROXX_AR-AC **GROUP: ACU1 not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX_AR-AC **GROUP: ACU2 not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX_AR-AC **GROUP: ACU3 not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX

GROXX_AR-CC **GROUP: CCU1 not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX_AR-CC **GROUP: CCU10 not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX_AR-CC **GROUP: CCU11 not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX

GROXX_AR-CC **GROUP: CCU12 not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX_AR-CC **GROUP: CCU2 not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX_AR-CC **GROUP: CCU3 not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX

GROXX_AR-CC **GROUP: CCU4 not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX_AR-CC **GROUP: CCU5 not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX_AR-CC **GROUP: CCU6 not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX

GROXX_AR-CC **GROUP: CCU7 not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX_AR-CC **GROUP: CCU8 not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX_AR-CC **GROUP: CCU9 not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX

GROXX_AR-EC **GROUP: ECUA not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX_AR-EC **GROUP: ECUB not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX_AR-EIC **GROUP: EICUA not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because one of the EICU's report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX

GROXX_AR-EIC **GROUP: EICUB not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because one of the EICU's report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX_AR-SC **GROUP: SCU1 not in Normal mode**

Description:	MPC is not in normal operating mode This group alarm is raised because both EICU A and EICU B report, that the MPC is not running in normal mode (App. not running on ..). Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MPC restarting after power off/on, or - MPC in test or configuration mode, or - MPC failure
Effect:	MPC not ready. Redundancy reduced.
Sugg. Action:	Check MPC mode status If in test or configuration mode: Restart in normal mode If no mode is visible: Wait for MPC to finish restart If the problem persists: Replace MPC

GROXX_ASSPL **GROUP: Air spring supply press low**

Description:	Air spring supply press low
Cause:	- Air pressure is too low, or - Air spring supply valve is closed, or - Major air spring supply leakage
Effect:	- Exhaust valve closing too slow - Exhaust valve lift too high with risk of mechanical failure
Sugg. Action:	Check the air spring supply system

GROXX

GROXX_ATP-C **GROUP: FIVA Amplifier Thermal Protection Active (CCU1)**

Description:	Amplifier has shut down due to too high FIVA current consumption This group alarm is raised because Amplifier has reached the current limmit. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- FIVA failure, or - Cabling failure, or - Amplifier failure, or - CCU fuse (F9) for amplifier is blown
Effect:	No fuel injection. No exhaust valve operation. Slowdown is requested
Sugg. Action:	1. Check FIVA cabling 2. Stop the engine at first opportunity 3. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 4. Test failing unit’s injection and exhaust valve operation 5. Compare signals from failing unit to signals from a well functioning unit 6. Reduce 'Chief Index limit [%]' first and then Re-enable HCU: 'Chief Limiters' -> 'Chief Index limit [%]' below 40 %. 'Chief Limiters' -> 'HCU Status and reset' Reset 'Fault' button. Set again 'Chief Index limit [%]' to the same value as before. If the problem persists replace or exchange, one part at a time: - FIVA valve - FIVA amplifier - FIVA cabling - CCU

GROXX_ATP-C **GROUP: FIVA Amplifier Thermal Protection Active (CCU10)**

Description:	Amplifier has shut down due to too high FIVA current consumption This group alarm is raised because Amplifier has reached the current limmit. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- FIVA failure, or - Cabling failure, or - Amplifier failure, or - CCU fuse (F9) for amplifier is blown
Effect:	No fuel injection. No exhaust valve operation. Slowdown is requested
Sugg. Action:	1. Check FIVA cabling 2. Stop the engine at first opportunity 3. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 4. Test failing unit’s injection and exhaust valve operation 5. Compare signals from failing unit to signals from a well functioning unit 6. Reduce 'Chief Index limit [%]' first and then Re-enable HCU: 'Chief Limiters' -> 'Chief Index limit [%]' below 40 %. 'Chief Limiters' -> 'HCU Status and reset' Reset 'Fault' button. Set again 'Chief Index limit [%]' to the same value as before. If the problem persists replace or exchange, one part at a time: - FIVA valve - FIVA amplifier - FIVA cabling - CCU

GROXX

GROXX_ATP-C **GROUP: FIVA Amplifier Thermal Protection Active (CCU11)**

Description:	Amplifier has shut down due to too high FIVA current consumption This group alarm is raised because Amplifier has reached the current limmit. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- FIVA failure, or - Cabling failure, or - Amplifier failure, or - CCU fuse (F9) for amplifier is blown
Effect:	No fuel injection. No exhaust valve operation. Slowdown is requested
Sugg. Action:	1. Check FIVA cabling 2. Stop the engine at first opportunity 3. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 4. Test failing unit’s injection and exhaust valve operation 5. Compare signals from failing unit to signals from a well functioning unit 6. Reduce 'Chief Index limit [%]' first and then Re-enable HCU: 'Chief Limiters' -> 'Chief Index limit [%]' below 40 %. 'Chief Limiters' -> 'HCU Status and reset' Reset 'Fault' button. Set again 'Chief Index limit [%]' to the same value as before. If the problem persists replace or exchange, one part at a time: - FIVA valve - FIVA amplifier - FIVA cabling - CCU

GROXX_ATP-C **GROUP: FIVA Amplifier Thermal Protection Active (CCU12)**

Description:	Amplifier has shut down due to too high FIVA current consumption This group alarm is raised because Amplifier has reached the current limmit. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- FIVA failure, or - Cabling failure, or - Amplifier failure, or - CCU fuse (F9) for amplifier is blown
Effect:	No fuel injection. No exhaust valve operation. Slowdown is requested
Sugg. Action:	1. Check FIVA cabling 2. Stop the engine at first opportunity 3. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 4. Test failing unit’s injection and exhaust valve operation 5. Compare signals from failing unit to signals from a well functioning unit 6. Reduce 'Chief Index limit [%]' first and then Re-enable HCU: 'Chief Limiters' -> 'Chief Index limit [%]' below 40 %. 'Chief Limiters' -> 'HCU Status and reset' Reset 'Fault' button. Set again 'Chief Index limit [%]' to the same value as before. If the problem persists replace or exchange, one part at a time: - FIVA valve - FIVA amplifier - FIVA cabling - CCU

GROXX

GROXX_ATP-C **GROUP: FIVA Amplifier Thermal Protection Active (CCU2)**

Description:	Amplifier has shut down due to too high FIVA current consumption This group alarm is raised because Amplifier has reached the current limmit. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- FIVA failure, or - Cabling failure, or - Amplifier failure, or - CCU fuse (F9) for amplifier is blown
Effect:	No fuel injection. No exhaust valve operation. Slowdown is requested
Sugg. Action:	1. Check FIVA cabling 2. Stop the engine at first opportunity 3. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 4. Test failing unit’s injection and exhaust valve operation 5. Compare signals from failing unit to signals from a well functioning unit 6. Reduce 'Chief Index limit [%]' first and then Re-enable HCU: 'Chief Limiters' -> 'Chief Index limit [%]' below 40 %. 'Chief Limiters' -> 'HCU Status and reset' Reset 'Fault' button. Set again 'Chief Index limit [%]' to the same value as before. If the problem persists replace or exchange, one part at a time: - FIVA valve - FIVA amplifier - FIVA cabling - CCU

GROXX_ATP-C **GROUP: FIVA Amplifier Thermal Protection Active (CCU3)**

Description:	Amplifier has shut down due to too high FIVA current consumption This group alarm is raised because Amplifier has reached the current limmit. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- FIVA failure, or - Cabling failure, or - Amplifier failure, or - CCU fuse (F9) for amplifier is blown
Effect:	No fuel injection. No exhaust valve operation. Slowdown is requested
Sugg. Action:	1. Check FIVA cabling 2. Stop the engine at first opportunity 3. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 4. Test failing unit’s injection and exhaust valve operation 5. Compare signals from failing unit to signals from a well functioning unit 6. Reduce 'Chief Index limit [%]' first and then Re-enable HCU: 'Chief Limiters' -> 'Chief Index limit [%]' below 40 %. 'Chief Limiters' -> 'HCU Status and reset' Reset 'Fault' button. Set again 'Chief Index limit [%]' to the same value as before. If the problem persists replace or exchange, one part at a time: - FIVA valve - FIVA amplifier - FIVA cabling - CCU

GROXX

GROXX_ATP-C **GROUP: FIVA Amplifier Thermal Protection Active (CCU4)**

Description:	Amplifier has shut down due to too high FIVA current consumption This group alarm is raised because Amplifier has reached the current limmit. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- FIVA failure, or - Cabling failure, or - Amplifier failure, or - CCU fuse (F9) for amplifier is blown
Effect:	No fuel injection. No exhaust valve operation. Slowdown is requested
Sugg. Action:	1. Check FIVA cabling 2. Stop the engine at first opportunity 3. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 4. Test failing unit’s injection and exhaust valve operation 5. Compare signals from failing unit to signals from a well functioning unit 6. Reduce 'Chief Index limit [%]' first and then Re-enable HCU: 'Chief Limiters' -> 'Chief Index limit [%]' below 40 %. 'Chief Limiters' -> 'HCU Status and reset' Reset 'Fault' button. Set again 'Chief Index limit [%]' to the same value as before. If the problem persists replace or exchange, one part at a time: - FIVA valve - FIVA amplifier - FIVA cabling - CCU

GROXX_ATP-C **GROUP: FIVA Amplifier Thermal Protection Active (CCU5)**

Description:	Amplifier has shut down due to too high FIVA current consumption This group alarm is raised because Amplifier has reached the current limmit. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- FIVA failure, or - Cabling failure, or - Amplifier failure, or - CCU fuse (F9) for amplifier is blown
Effect:	No fuel injection. No exhaust valve operation. Slowdown is requested
Sugg. Action:	1. Check FIVA cabling 2. Stop the engine at first opportunity 3. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 4. Test failing unit’s injection and exhaust valve operation 5. Compare signals from failing unit to signals from a well functioning unit 6. Reduce 'Chief Index limit [%]' first and then Re-enable HCU: 'Chief Limiters' -> 'Chief Index limit [%]' below 40 %. 'Chief Limiters' -> 'HCU Status and reset' Reset 'Fault' button. Set again 'Chief Index limit [%]' to the same value as before. If the problem persists replace or exchange, one part at a time: - FIVA valve - FIVA amplifier - FIVA cabling - CCU

GROXX

GROXX_ATP-C **GROUP: FIVA Amplifier Thermal Protection Active (CCU6)**

Description:	Amplifier has shut down due to too high FIVA current consumption This group alarm is raised because Amplifier has reached the current limmit. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- FIVA failure, or - Cabling failure, or - Amplifier failure, or - CCU fuse (F9) for amplifier is blown
Effect:	No fuel injection. No exhaust valve operation. Slowdown is requested
Sugg. Action:	1. Check FIVA cabling 2. Stop the engine at first opportunity 3. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 4. Test failing unit’s injection and exhaust valve operation 5. Compare signals from failing unit to signals from a well functioning unit 6. Reduce 'Chief Index limit [%]' first and then Re-enable HCU: 'Chief Limiters' -> 'Chief Index limit [%]' below 40 %. 'Chief Limiters' -> 'HCU Status and reset' Reset 'Fault' button. Set again 'Chief Index limit [%]' to the same value as before. If the problem persists replace or exchange, one part at a time: - FIVA valve - FIVA amplifier - FIVA cabling - CCU

GROXX_ATP-C **GROUP: FIVA Amplifier Thermal Protection Active (CCU7)**

Description:	Amplifier has shut down due to too high FIVA current consumption This group alarm is raised because Amplifier has reached the current limmit. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- FIVA failure, or - Cabling failure, or - Amplifier failure, or - CCU fuse (F9) for amplifier is blown
Effect:	No fuel injection. No exhaust valve operation. Slowdown is requested
Sugg. Action:	1. Check FIVA cabling 2. Stop the engine at first opportunity 3. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 4. Test failing unit’s injection and exhaust valve operation 5. Compare signals from failing unit to signals from a well functioning unit 6. Reduce 'Chief Index limit [%]' first and then Re-enable HCU: 'Chief Limiters' -> 'Chief Index limit [%]' below 40 %. 'Chief Limiters' -> 'HCU Status and reset' Reset 'Fault' button. Set again 'Chief Index limit [%]' to the same value as before. If the problem persists replace or exchange, one part at a time: - FIVA valve - FIVA amplifier - FIVA cabling - CCU

GROXX

GROXX_ATP-C **GROUP: FIVA Amplifier Thermal Protection Active (CCU8)**

Description:	Amplifier has shut down due to too high FIVA current consumption This group alarm is raised because Amplifier has reached the current limmit. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- FIVA failure, or - Cabling failure, or - Amplifier failure, or - CCU fuse (F9) for amplifier is blown
Effect:	No fuel injection. No exhaust valve operation. Slowdown is requested
Sugg. Action:	1. Check FIVA cabling 2. Stop the engine at first opportunity 3. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 4. Test failing unit's injection and exhaust valve operation 5. Compare signals from failing unit to signals from a well functioning unit 6. Reduce 'Chief Index limit [%]' first and then Re-enable HCU: 'Chief Limiters' -> 'Chief Index limit [%]' below 40 %. 'Chief Limiters' -> 'HCU Status and reset' Reset 'Fault' button. Set again 'Chief Index limit [%]' to the same value as before. If the problem persists replace or exchange, one part at a time: - FIVA valve - FIVA amplifier - FIVA cabling - CCU

GROXX_ATP-C **GROUP: FIVA Amplifier Thermal Protection Active (CCU9)**

Description:	Amplifier has shut down due to too high FIVA current consumption This group alarm is raised because Amplifier has reached the current limmit. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- FIVA failure, or - Cabling failure, or - Amplifier failure, or - CCU fuse (F9) for amplifier is blown
Effect:	No fuel injection. No exhaust valve operation. Slowdown is requested
Sugg. Action:	1. Check FIVA cabling 2. Stop the engine at first opportunity 3. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 4. Test failing unit's injection and exhaust valve operation 5. Compare signals from failing unit to signals from a well functioning unit 6. Reduce 'Chief Index limit [%]' first and then Re-enable HCU: 'Chief Limiters' -> 'Chief Index limit [%]' below 40 %. 'Chief Limiters' -> 'HCU Status and reset' Reset 'Fault' button. Set again 'Chief Index limit [%]' to the same value as before. If the problem persists replace or exchange, one part at a time: - FIVA valve - FIVA amplifier - FIVA cabling - CCU

GROXX_BCSF- **GROUP: Bridge Control Station Forced**

Description:	Engine control forced to Bridge control station.
Cause:	Bridge 'forced take' activated.
Effect:	Engine manouve place is switched to Bridge control station.
Sugg. Action:	No action

GROXX

GROXX_BR1A- **GROUP: In Barred Range Alarm**

Description:	The actual speed has been in the barred speed range for too long.
Cause:	Actual engine speed deviate from speed set.
Effect:	No effect
Sugg. Action:	Adjust speed set to move actual engine speed outside barred range.

GROXX_BR2A- **GROUP: In Barred Range Alarm**

Description:	The actual speed has been in the barred speed range for too long.
Cause:	Actual engine speed deviate from speed set.
Effect:	No effect
Sugg. Action:	Adjust speed set to move actual engine speed outside barred range.

GROXX_CAPL- **GROUP: Control air pressure low**

Description:	Control air pressure is too low
Cause:	- Air pressure is too low, or - Control air supply valve is closed, or - Major control air leakage
Effect:	Engine is not ready. Engine may start, but performance will be severely affected.
Sugg. Action:	Check the control air system

GROXX_CPCPD **GROUP: Changing pressure controling pump**

Description:	Pressure controlling pump automatically switched
Cause:	- No position feedback signal from proportional valve, or - No swash plate position feedback signal, or - Proportional valve amplifier failure, or - Mechanical pump failure
Effect:	ECS will attempt to deliver full flow: - Full flow ahead, if engine runs ahead - Full flow astern, if engine runs astern If two or more pumps fail: Engine may not be able to run astern. In case of mechanical pump failure: ECS may deliver low or no flow to the HPS.
Sugg. Action:	Check cabling to and from: - Proportional valve - Proportional valve amplifier - LVDT amplifier - MPC Check pump and proportional valve Go to 'Auxiliaries' -> 'Hydraulic System' -> 'Failed pump' to reset failure state. Further troubleshooting: 1. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HPS' 2. Test failing pump swashplate operation. 3. Compare signals from failing pump to signals from a well functioning pump.

GROXX

GROXX_CPCPE **GROUP: Changing pressure controling pump**

Description:	Pressure controlling pump automatically switched
Cause:	- No position feedback signal from proportional valve, or - No swash plate position feedback signal, or - Proportional valve amplifier failure, or - Mechanical pump failure
Effect:	ECS will attempt to deliver full flow: - Full flow ahead, if engine runs ahead - Full flow astern, if engine runs astern If two or more pumps fail: Engine may not be able to run astern. In case of mechanical pump failure: ECS may deliver low or no flow to the HPS.
Sugg. Action:	Check cabling to and from: - Proportional valve - Proportional valve amplifier - LVDT amplifier - MPC Check pump and proportional valve Go to 'Auxiliaries' -> 'Hydraulic System' -> 'Failed pump' to reset failure state. Further troubleshooting: 1. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HPS' 2. Test failing pump swashplate operation. 3. Compare signals from failing pump to signals from a well functioning pump.

GROXX_DTB **GROUP: Delta Tacho B too big**

Description:	Abnormal angle difference between tacho system A and B This group alarm is caused by 'Delta Tacho B too big'. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	The angle between tacho set A and B marker signal exceeds the limit.
Effect:	If the system switches from tacho set A to B, maximum pressure deviation may occur.
Sugg. Action:	If the alarm 'Tacho set A failure' or 'Tacho set B failure' is active: Ignore this alarm. If this alarm is the only tacho alarm: - Check and adjust Pmax. - At first opportunity: 1. Inspect the mechanical condition of the encoders. 2. Readjust the encoders 3. Perform tacho test on MOP: Go to 'Maintenance ' -> 'Function Test' -> 'Tacho' Follow tacho test instructions NOTE If encoder A is readjusted or replaced: Perform PMI measurement, and restore tacho offset settings according to 0-diagram

GROXX_ECSF- **GROUP: ECR Control Station Forced**

Description:	Engine control forced to ECR control station.
Cause:	ECR ‘forced take’ activated.
Effect:	Engine manouve place is switched to ECR control station. Only LOP ‘forced take’ can override this command.
Sugg. Action:	No action

GROXX

GROXX_FAC-C **GROUP: FIVA Amplifier Current Supervision (CCU1)**

Description:	Amplifier current deviates from the current ordered by the CCU
Cause:	- Accumulator pressure too low, or - De-aerating orifice in exhaust valve top blocked, or - Non-return valves for exhaust valve actuator oil inlet damaged, or - No air supply or leaking exhaust valve air spring, or - Exhaust valve position sensor failure, or - ELVA/FIVA valve failure - Amplifier failure, or - CCU failure
Effect:	Fuel injection stopped on affected cylinder Slow-down is requested.
Sugg. Action:	Check: - Exhaust valve position sensor - Accumulator pressure - De-aerating orifice in exhaust valve top - Non-return valves for exhaust valve actuator oil inlet - Air spring supply pressure and perform drop-down test of exhaust valve spindle. - ELFI / FIVA valve - Amplifier - CCU To run amplifier function test : 1. Stop the engine at first opportunity 2. Go to 'Maintenance' -> 'Function test' -> 'HCU' 3. Perform amplifier test Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate 'Fuel Plunger' and 'Exhaust Valve' to test failing unit

GROXX_FAC-C **GROUP: FIVA Amplifier Current Supervision (CCU10)**

Description:	Amplifier current deviates from the current ordered by the CCU
Cause:	- Accumulator pressure too low, or - De-aerating orifice in exhaust valve top blocked, or - Non-return valves for exhaust valve actuator oil inlet damaged, or - No air supply or leaking exhaust valve air spring, or - Exhaust valve position sensor failure, or - ELVA/FIVA valve failure - Amplifier failure, or - CCU failure
Effect:	Fuel injection stopped on affected cylinder Slow-down is requested.
Sugg. Action:	Check: - Exhaust valve position sensor - Accumulator pressure - De-aerating orifice in exhaust valve top - Non-return valves for exhaust valve actuator oil inlet - Air spring supply pressure and perform drop-down test of exhaust valve spindle. - ELFI / FIVA valve - Amplifier - CCU To run amplifier function test : 1. Stop the engine at first opportunity 2. Go to 'Maintenance' -> 'Function test' -> 'HCU' 3. Perform amplifier test Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate 'Fuel Plunger' and 'Exhaust Valve' to test failing unit

GROXX

GROXX_FAC-C **GROUP: FIVA Amplifier Current Supervision (CCU11)**

Description:	Amplifier current deviates from the current ordered by the CCU
Cause:	- Accumulator pressure too low, or - De-aerating orifice in exhaust valve top blocked, or - Non-return valves for exhaust valve actuator oil inlet damaged, or - No air supply or leaking exhaust valve air spring, or - Exhaust valve position sensor failure, or - ELVA/FIVA valve failure - Amplifier failure, or - CCU failure
Effect:	Fuel injection stopped on affected cylinder Slow-down is requested.
Sugg. Action:	Check: - Exhaust valve position sensor - Accumulator pressure - De-aerating orifice in exhaust valve top - Non-return valves for exhaust valve actuator oil inlet - Air spring supply pressure and perform drop-down test of exhaust valve spindle. - ELFI / FIVA valve - Amplifier - CCU To run amplifier function test : 1. Stop the engine at first opportunity 2. Go to 'Maintenance' -> 'Function test' -> 'HCU' 3. Perform amplifier test Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate 'Fuel Plunger' and 'Exhaust Valve' to test failing unit

GROXX_FAC-C **GROUP: FIVA Amplifier Current Supervision (CCU12)**

Description:	Amplifier current deviates from the current ordered by the CCU
Cause:	- Accumulator pressure too low, or - De-aerating orifice in exhaust valve top blocked, or - Non-return valves for exhaust valve actuator oil inlet damaged, or - No air supply or leaking exhaust valve air spring, or - Exhaust valve position sensor failure, or - ELVA/FIVA valve failure - Amplifier failure, or - CCU failure
Effect:	Fuel injection stopped on affected cylinder Slow-down is requested.
Sugg. Action:	Check: - Exhaust valve position sensor - Accumulator pressure - De-aerating orifice in exhaust valve top - Non-return valves for exhaust valve actuator oil inlet - Air spring supply pressure and perform drop-down test of exhaust valve spindle. - ELFI / FIVA valve - Amplifier - CCU To run amplifier function test : 1. Stop the engine at first opportunity 2. Go to 'Maintenance' -> 'Function test' -> 'HCU' 3. Perform amplifier test Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate 'Fuel Plunger' and 'Exhaust Valve' to test failing unit

GROXX

GROXX_FAC-C **GROUP: FIVA Amplifier Current Supervision (CCU2)**

Description:	Amplifier current deviates from the current ordered by the CCU
Cause:	- Accumulator pressure too low, or - De-aerating orifice in exhaust valve top blocked, or - Non-return valves for exhaust valve actuator oil inlet damaged, or - No air supply or leaking exhaust valve air spring, or - Exhaust valve position sensor failure, or - ELVA/FIVA valve failure - Amplifier failure, or - CCU failure
Effect:	Fuel injection stopped on affected cylinder Slow-down is requested.
Sugg. Action:	Check: - Exhaust valve position sensor - Accumulator pressure - De-aerating orifice in exhaust valve top - Non-return valves for exhaust valve actuator oil inlet - Air spring supply pressure and perform drop-down test of exhaust valve spindle. - ELFI / FIVA valve - Amplifier - CCU To run amplifier function test : 1. Stop the engine at first opportunity 2. Go to 'Maintenance' -> 'Function test' -> 'HCU' 3. Perform amplifier test Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate 'Fuel Plunger' and 'Exhaust Valve' to test failing unit

GROXX_FAC-C **GROUP: FIVA Amplifier Current Supervision (CCU3)**

Description:	Amplifier current deviates from the current ordered by the CCU
Cause:	- Accumulator pressure too low, or - De-aerating orifice in exhaust valve top blocked, or - Non-return valves for exhaust valve actuator oil inlet damaged, or - No air supply or leaking exhaust valve air spring, or - Exhaust valve position sensor failure, or - ELVA/FIVA valve failure - Amplifier failure, or - CCU failure
Effect:	Fuel injection stopped on affected cylinder Slow-down is requested.
Sugg. Action:	Check: - Exhaust valve position sensor - Accumulator pressure - De-aerating orifice in exhaust valve top - Non-return valves for exhaust valve actuator oil inlet - Air spring supply pressure and perform drop-down test of exhaust valve spindle. - ELFI / FIVA valve - Amplifier - CCU To run amplifier function test : 1. Stop the engine at first opportunity 2. Go to 'Maintenance' -> 'Function test' -> 'HCU' 3. Perform amplifier test Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate 'Fuel Plunger' and 'Exhaust Valve' to test failing unit

GROXX

GROXX_FAC-C **GROUP: FIVA Amplifier Current Supervision (CCU4)**

Description:	Amplifier current deviates from the current ordered by the CCU
Cause:	- Accumulator pressure too low, or - De-aerating orifice in exhaust valve top blocked, or - Non-return valves for exhaust valve actuator oil inlet damaged, or - No air supply or leaking exhaust valve air spring, or - Exhaust valve position sensor failure, or - ELVA/FIVA valve failure - Amplifier failure, or - CCU failure
Effect:	Fuel injection stopped on affected cylinder Slow-down is requested.
Sugg. Action:	Check: - Exhaust valve position sensor - Accumulator pressure - De-aerating orifice in exhaust valve top - Non-return valves for exhaust valve actuator oil inlet - Air spring supply pressure and perform drop-down test of exhaust valve spindle. - ELFI / FIVA valve - Amplifier - CCU To run amplifier function test : 1. Stop the engine at first opportunity 2. Go to 'Maintenance' -> 'Function test' -> 'HCU' 3. Perform amplifier test Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate 'Fuel Plunger' and 'Exhaust Valve' to test failing unit

GROXX_FAC-C **GROUP: FIVA Amplifier Current Supervision (CCU5)**

Description:	Amplifier current deviates from the current ordered by the CCU
Cause:	- Accumulator pressure too low, or - De-aerating orifice in exhaust valve top blocked, or - Non-return valves for exhaust valve actuator oil inlet damaged, or - No air supply or leaking exhaust valve air spring, or - Exhaust valve position sensor failure, or - ELVA/FIVA valve failure - Amplifier failure, or - CCU failure
Effect:	Fuel injection stopped on affected cylinder Slow-down is requested.
Sugg. Action:	Check: - Exhaust valve position sensor - Accumulator pressure - De-aerating orifice in exhaust valve top - Non-return valves for exhaust valve actuator oil inlet - Air spring supply pressure and perform drop-down test of exhaust valve spindle. - ELFI / FIVA valve - Amplifier - CCU To run amplifier function test : 1. Stop the engine at first opportunity 2. Go to 'Maintenance' -> 'Function test' -> 'HCU' 3. Perform amplifier test Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate 'Fuel Plunger' and 'Exhaust Valve' to test failing unit

GROXX

GROXX_FAC-C **GROUP: FIVA Amplifier Current Supervision (CCU6)**

Description:	Amplifier current deviates from the current ordered by the CCU
Cause:	- Accumulator pressure too low, or - De-aerating orifice in exhaust valve top blocked, or - Non-return valves for exhaust valve actuator oil inlet damaged, or - No air supply or leaking exhaust valve air spring, or - Exhaust valve position sensor failure, or - ELVA/FIVA valve failure - Amplifier failure, or - CCU failure
Effect:	Fuel injection stopped on affected cylinder Slow-down is requested.
Sugg. Action:	Check: - Exhaust valve position sensor - Accumulator pressure - De-aerating orifice in exhaust valve top - Non-return valves for exhaust valve actuator oil inlet - Air spring supply pressure and perform drop-down test of exhaust valve spindle. - ELFI / FIVA valve - Amplifier - CCU To run amplifier function test : 1. Stop the engine at first opportunity 2. Go to 'Maintenance' -> 'Function test' -> 'HCU' 3. Perform amplifier test Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate 'Fuel Plunger' and 'Exhaust Valve' to test failing unit

GROXX_FAC-C **GROUP: FIVA Amplifier Current Supervision (CCU7)**

Description:	Amplifier current deviates from the current ordered by the CCU
Cause:	- Accumulator pressure too low, or - De-aerating orifice in exhaust valve top blocked, or - Non-return valves for exhaust valve actuator oil inlet damaged, or - No air supply or leaking exhaust valve air spring, or - Exhaust valve position sensor failure, or - ELVA/FIVA valve failure - Amplifier failure, or - CCU failure
Effect:	Fuel injection stopped on affected cylinder Slow-down is requested.
Sugg. Action:	Check: - Exhaust valve position sensor - Accumulator pressure - De-aerating orifice in exhaust valve top - Non-return valves for exhaust valve actuator oil inlet - Air spring supply pressure and perform drop-down test of exhaust valve spindle. - ELFI / FIVA valve - Amplifier - CCU To run amplifier function test : 1. Stop the engine at first opportunity 2. Go to 'Maintenance' -> 'Function test' -> 'HCU' 3. Perform amplifier test Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate 'Fuel Plunger' and 'Exhaust Valve' to test failing unit

GROXX

GROXX_FAC-C **GROUP: FIVA Amplifier Current Supervision (CCU8)**

Description:	Amplifier current deviates from the current ordered by the CCU
Cause:	- Accumulator pressure too low, or - De-aerating orifice in exhaust valve top blocked, or - Non-return valves for exhaust valve actuator oil inlet damaged, or - No air supply or leaking exhaust valve air spring, or - Exhaust valve position sensor failure, or - ELVA/FIVA valve failure - Amplifier failure, or - CCU failure
Effect:	Fuel injection stopped on affected cylinder Slow-down is requested.
Sugg. Action:	Check: - Exhaust valve position sensor - Accumulator pressure - De-aerating orifice in exhaust valve top - Non-return valves for exhaust valve actuator oil inlet - Air spring supply pressure and perform drop-down test of exhaust valve spindle. - ELFI / FIVA valve - Amplifier - CCU To run amplifier function test : 1. Stop the engine at first opportunity 2. Go to 'Maintenance' -> 'Function test' -> 'HCU' 3. Perform amplifier test Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate 'Fuel Plunger' and 'Exhaust Valve' to test failing unit

GROXX_FAC-C **GROUP: FIVA Amplifier Current Supervision (CCU9)**

Description:	Amplifier current deviates from the current ordered by the CCU
Cause:	- Accumulator pressure too low, or - De-aerating orifice in exhaust valve top blocked, or - Non-return valves for exhaust valve actuator oil inlet damaged, or - No air supply or leaking exhaust valve air spring, or - Exhaust valve position sensor failure, or - ELVA/FIVA valve failure - Amplifier failure, or - CCU failure
Effect:	Fuel injection stopped on affected cylinder Slow-down is requested.
Sugg. Action:	Check: - Exhaust valve position sensor - Accumulator pressure - De-aerating orifice in exhaust valve top - Non-return valves for exhaust valve actuator oil inlet - Air spring supply pressure and perform drop-down test of exhaust valve spindle. - ELFI / FIVA valve - Amplifier - CCU To run amplifier function test : 1. Stop the engine at first opportunity 2. Go to 'Maintenance' -> 'Function test' -> 'HCU' 3. Perform amplifier test Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Activate 'Fuel Plunger' and 'Exhaust Valve' to test failing unit

GROXX

GROXX_FB-CC **GROUP: ELFI/FIVA feedback failure (CCU1) (Slowdown)**

Description:	Abnormal position feedback from ELFI/FIVA valve This group alarm is caused by 'ELFI/FIVA feedback signal failure'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Loose connection. - Internal ELFI/FIVA-feedback failure. This alarm also occurs as a consequence of these alarms: - Illegal ELFI/FIVA Position - Frozen IO Detected
Effect:	No fuel injection For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check ELFI/FIVA feedback cabling. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit Further troubleshooting: 1. Stop the engine at first opportunity 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit’s injection and exhaust valve operation. 4. Compare signals from failing unit to signals from a well functioning unit. If the problem persists replace or exchange, one part at a time: - ELFI/FIVA valve - ELFI/FIVA cabling - CCU

GROXX_FB-CC **GROUP: ELFI/FIVA feedback failure (CCU10) (Slowdown)**

Description:	Abnormal position feedback from ELFI/FIVA valve This group alarm is caused by 'ELFI/FIVA feedback signal failure'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Loose connection. - Internal ELFI/FIVA-feedback failure. This alarm also occurs as a consequence of these alarms: - Illegal ELFI/FIVA Position - Frozen IO Detected
Effect:	No fuel injection For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check ELFI/FIVA feedback cabling. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit Further troubleshooting: 1. Stop the engine at first opportunity 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit’s injection and exhaust valve operation. 4. Compare signals from failing unit to signals from a well functioning unit. If the problem persists replace or exchange, one part at a time: - ELFI/FIVA valve - ELFI/FIVA cabling - CCU

GROXX

GROXX_FB-CC **GROUP: ELFI/FIVA feedback failure (CCU11) (Slowdown)**

Description:	Abnormal position feedback from ELFI/FIVA valve This group alarm is caused by 'ELFI/FIVA feedback signal failure'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Loose connection. - Internal ELFI/FIVA-feedback failure. This alarm also occurs as a consequence of these alarms: - Illegal ELFI/FIVA Position - Frozen IO Detected
Effect:	No fuel injection For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check ELFI/FIVA feedback cabling. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit Further troubleshooting: 1. Stop the engine at first opportunity 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit’s injection and exhaust valve operation. 4. Compare signals from failing unit to signals from a well functioning unit. If the problem persists replace or exchange, one part at a time: - ELFI/FIVA valve - ELFI/FIVA cabling - CCU

GROXX_FB-CC **GROUP: ELFI/FIVA feedback failure (CCU12) (Slowdown)**

Description:	Abnormal position feedback from ELFI/FIVA valve This group alarm is caused by 'ELFI/FIVA feedback signal failure'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Loose connection. - Internal ELFI/FIVA-feedback failure. This alarm also occurs as a consequence of these alarms: - Illegal ELFI/FIVA Position - Frozen IO Detected
Effect:	No fuel injection For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check ELFI/FIVA feedback cabling. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit Further troubleshooting: 1. Stop the engine at first opportunity 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit’s injection and exhaust valve operation. 4. Compare signals from failing unit to signals from a well functioning unit. If the problem persists replace or exchange, one part at a time: - ELFI/FIVA valve - ELFI/FIVA cabling - CCU

GROXX

GROXX_FB-CC **GROUP: ELFI/FIVA feedback failure (CCU2) (Slowdown)**

Description:	Abnormal position feedback from ELFI/FIVA valve This group alarm is caused by 'ELFI/FIVA feedback signal failure'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Loose connection. - Internal ELFI/FIVA-feedback failure. This alarm also occurs as a consequence of these alarms: - Illegal ELFI/FIVA Position - Frozen IO Detected
Effect:	No fuel injection For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check ELFI/FIVA feedback cabling. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit Further troubleshooting: 1. Stop the engine at first opportunity 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit’s injection and exhaust valve operation. 4. Compare signals from failing unit to signals from a well functioning unit. If the problem persists replace or exchange, one part at a time: - ELFI/FIVA valve - ELFI/FIVA cabling - CCU

GROXX_FB-CC **GROUP: ELFI/FIVA feedback failure (CCU3) (Slowdown)**

Description:	Abnormal position feedback from ELFI/FIVA valve This group alarm is caused by 'ELFI/FIVA feedback signal failure'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Loose connection. - Internal ELFI/FIVA-feedback failure. This alarm also occurs as a consequence of these alarms: - Illegal ELFI/FIVA Position - Frozen IO Detected
Effect:	No fuel injection For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check ELFI/FIVA feedback cabling. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit Further troubleshooting: 1. Stop the engine at first opportunity 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit’s injection and exhaust valve operation. 4. Compare signals from failing unit to signals from a well functioning unit. If the problem persists replace or exchange, one part at a time: - ELFI/FIVA valve - ELFI/FIVA cabling - CCU

GROXX

GROXX_FB-CC **GROUP: ELFI/FIVA feedback failure (CCU4) (Slowdown)**

Description:	Abnormal position feedback from ELFI/FIVA valve This group alarm is caused by 'ELFI/FIVA feedback signal failure'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Loose connection. - Internal ELFI/FIVA-feedback failure. This alarm also occurs as a consequence of these alarms: - Illegal ELFI/FIVA Position - Frozen IO Detected
Effect:	No fuel injection For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check ELFI/FIVA feedback cabling. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit Further troubleshooting: 1. Stop the engine at first opportunity 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit’s injection and exhaust valve operation. 4. Compare signals from failing unit to signals from a well functioning unit. If the problem persists replace or exchange, one part at a time: - ELFI/FIVA valve - ELFI/FIVA cabling - CCU

GROXX_FB-CC **GROUP: ELFI/FIVA feedback failure (CCU5) (Slowdown)**

Description:	Abnormal position feedback from ELFI/FIVA valve This group alarm is caused by 'ELFI/FIVA feedback signal failure'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Loose connection. - Internal ELFI/FIVA-feedback failure. This alarm also occurs as a consequence of these alarms: - Illegal ELFI/FIVA Position - Frozen IO Detected
Effect:	No fuel injection For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check ELFI/FIVA feedback cabling. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit Further troubleshooting: 1. Stop the engine at first opportunity 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit’s injection and exhaust valve operation. 4. Compare signals from failing unit to signals from a well functioning unit. If the problem persists replace or exchange, one part at a time: - ELFI/FIVA valve - ELFI/FIVA cabling - CCU

GROXX

GROXX_FB-CC **GROUP: ELFI/FIVA feedback failure (CCU6) (Slowdown)**

Description:	Abnormal position feedback from ELFI/FIVA valve This group alarm is caused by 'ELFI/FIVA feedback signal failure'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Loose connection. - Internal ELFI/FIVA-feedback failure. This alarm also occurs as a consequence of these alarms: - Illegal ELFI/FIVA Position - Frozen IO Detected
Effect:	No fuel injection For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check ELFI/FIVA feedback cabling. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit Further troubleshooting: 1. Stop the engine at first opportunity 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit’s injection and exhaust valve operation. 4. Compare signals from failing unit to signals from a well functioning unit. If the problem persists replace or exchange, one part at a time: - ELFI/FIVA valve - ELFI/FIVA cabling - CCU

GROXX_FB-CC **GROUP: ELFI/FIVA feedback failure (CCU7) (Slowdown)**

Description:	Abnormal position feedback from ELFI/FIVA valve This group alarm is caused by 'ELFI/FIVA feedback signal failure'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Loose connection. - Internal ELFI/FIVA-feedback failure. This alarm also occurs as a consequence of these alarms: - Illegal ELFI/FIVA Position - Frozen IO Detected
Effect:	No fuel injection For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check ELFI/FIVA feedback cabling. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit Further troubleshooting: 1. Stop the engine at first opportunity 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit’s injection and exhaust valve operation. 4. Compare signals from failing unit to signals from a well functioning unit. If the problem persists replace or exchange, one part at a time: - ELFI/FIVA valve - ELFI/FIVA cabling - CCU

GROXX

GROXX_FB-CC **GROUP: ELFI/FIVA feedback failure (CCU8) (Slowdown)**

Description:	Abnormal position feedback from ELFI/FIVA valve This group alarm is caused by 'ELFI/FIVA feedback signal failure'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Loose connection. - Internal ELFI/FIVA-feedback failure. This alarm also occurs as a consequence of these alarms: - Illegal ELFI/FIVA Position - Frozen IO Detected
Effect:	No fuel injection For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check ELFI/FIVA feedback cabling. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit Further troubleshooting: 1. Stop the engine at first opportunity 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit’s injection and exhaust valve operation. 4. Compare signals from failing unit to signals from a well functioning unit. If the problem persists replace or exchange, one part at a time: - ELFI/FIVA valve - ELFI/FIVA cabling - CCU

GROXX_FB-CC **GROUP: ELFI/FIVA feedback failure (CCU9) (Slowdown)**

Description:	Abnormal position feedback from ELFI/FIVA valve This group alarm is caused by 'ELFI/FIVA feedback signal failure'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Loose connection. - Internal ELFI/FIVA-feedback failure. This alarm also occurs as a consequence of these alarms: - Illegal ELFI/FIVA Position - Frozen IO Detected
Effect:	No fuel injection For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check ELFI/FIVA feedback cabling. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit Further troubleshooting: 1. Stop the engine at first opportunity 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit’s injection and exhaust valve operation. 4. Compare signals from failing unit to signals from a well functioning unit. If the problem persists replace or exchange, one part at a time: - ELFI/FIVA valve - ELFI/FIVA cabling - CCU

GROXX

GROXX_GPI-EI **GROUP: Global parameter inconsistency**

Description:	MPC parameter deviation. One or more parameters, the system expects to have the same value, differ.
Cause:	- If a user has adjusted a parameter at the MOP, one or more units have not received or accepted the change - ECS configuration error
Effect:	- Engine performance may be affected - Redundancy may be reduced
Sugg. Action:	Check that all MPCs are in normal running mode If any parameter has been adjusted recently, repeat the adjustment

GROXX_HHP1-E **GROUP: Hydraulic HP Pump Failed on ACU1**

Description:	Hydraulic high pressure pump does not work correctly
Cause:	- Hydraulic pump failure, or - MPC not running in normal mode, or - Network failure
Effect:	Swash plate moves to fail safe position (maximum flow in ahead direction) Running ahead: No effect on engine performance. Hydraulic pressure may increase. Running astern: Reversing the engine may not be possible due to insufficient hydraulic pressure.
Sugg. Action:	Check: - Other alarms to locate the root cause for the pump alarms - That the MPC is in normal running mode

GROXX_HHP2-E **GROUP: Hydraulic HP Pump Failed on ACU2**

Description:	Hydraulic high pressure pump does not work correctly
Cause:	- Hydraulic pump failure, or - MPC not running in normal mode, or - Network failure
Effect:	Swash plate moves to fail safe position (maximum flow in ahead direction) Running ahead: No effect on engine performance. Hydraulic pressure may increase. Running astern: Reversing the engine may not be possible due to insufficient hydraulic pressure.
Sugg. Action:	Check: - Other alarms to locate the root cause for the pump alarms - That the MPC is in normal running mode

GROXX_HHP3-E **GROUP: Hydraulic HP Pump Failed on ACU3**

Description:	Hydraulic high pressure pump does not work correctly
Cause:	- Hydraulic pump failure, or - MPC not running in normal mode, or - Network failure
Effect:	Swash plate moves to fail safe position (maximum flow in ahead direction) Running ahead: No effect on engine performance. Hydraulic pressure may increase. Running astern: Reversing the engine may not be possible due to insufficient hydraulic pressure.
Sugg. Action:	Check: - Other alarms to locate the root cause for the pump alarms - That the MPC is in normal running mode

GROXX

GROXX_HHP4-E **GROUP: Hydraulic HP Pump Failed on ECUA**

Description:	Hydraulic high pressure pump does not work correctly
Cause:	- Hydraulic pump failure, or - MPC not running in normal mode, or - Network failure
Effect:	Swash plate moves to fail safe position (maximum flow in ahead direction) Running ahead: No effect on engine performance. Hydraulic pressure may increase. Running astern: Reversing the engine may not be possible due to insufficient hydraulic pressure.
Sugg. Action:	Check: - Other alarms to locate the root cause for the pump alarms - That the MPC is in normal running mode

GROXX_HHP5-E **GROUP: Hydraulic HP Pump Failed on ECUB**

Description:	Hydraulic high pressure pump does not work correctly
Cause:	- Hydraulic pump failure, or - MPC not running in normal mode, or - Network failure
Effect:	Swash plate moves to fail safe position (maximum flow in ahead direction) Running ahead: No effect on engine performance. Hydraulic pressure may increase. Running astern: Reversing the engine may not be possible due to insufficient hydraulic pressure.
Sugg. Action:	Check: - Other alarms to locate the root cause for the pump alarms - That the MPC is in normal running mode

GROXX_HPDFS **GROUP: Hydraulic pressure deviates from setpoint**

Description:	The hydraulic pressure deviates from the hydraulic pressure set point calculated by the engine control system
Cause:	- Hydraulic system leakage, or - Engine driven pump failure, or - Engine driven pump calibration failure
Effect:	If the hydraulic pressure is lower than the ECS computed setpoint and it continues to decrease, the hydraulic pumps cannot deliver enough oil to maintain the pressure. If the pressure drops below 145 - 150 bar, the ECS is likely to carry out a shutdown. If the pressure is too high, it could lead to increased injection pressure.
Sugg. Action:	Reduce engine load until stable engine performance is achieved. Check: - Hydraulic system for leaks - Engine driven pump If the problem persists: Recalibrate engine driven pump on MOP

GROXX_HPS1D- **GROUP: Hydraulic pressure sensor ACU1 deviates**

Description:	Hydraulic oil pressure sensor (1201-x) on this ACU deviates from the hydraulic oil pressure sensors on the two other ACUs.
Cause:	a. Hydraulic pump failure, or b. Sensor failure, or c. MPC failure, or d. Cable failure
Effect:	If a: Engine performance may be reduced due to reduced hydraulic capacity. If b, c, and d: No effect on engine performance.
Sugg. Action:	Check: a. Hydraulic pump b. Cabling c. MPC d. Sensor If a, hydraulic pump failure: 1. Reduce engine load until stable engine performance is achieved 2. Check other alarms 3. Check pump and pump drive shaft If b, c, or d: Repair or replace failing part

GROXX_HPS2D- **GROUP: Hydraulic pressure sensor ACU2 deviates**

Description:	Hydraulic oil pressure sensor (1201-x) on this ACU deviates from the hydraulic oil pressure sensors on the two other ACUs.
Cause:	a. Hydraulic pump failure, or b. Sensor failure, or c. MPC failure, or d. Cable failure
Effect:	If a: Engine performance may be reduced due to reduced hydraulic capacity. If b, c, and d: No effect on engine performance.
Sugg. Action:	Check: a. Hydraulic pump b. Cabling c. MPC d. Sensor If a, hydraulic pump failure: 1. Reduce engine load until stable engine performance is achieved 2. Check other alarms 3. Check pump and pump drive shaft If b, c, or d: Repair or replace failing part

GROXX

GROXX_HPS3D- **GROUP: Hydraulic pressure sensor ACU3 deviates**

Description:	Hydraulic oil pressure sensor (1201-x) on this ACU deviates from the hydraulic oil pressure sensors on the two other ACUs.
Cause:	a. Hydraulic pump failure, or b. Sensor failure, or c. MPC failure, or d. Cable failure
Effect:	If a: Engine performance may be reduced due to reduced hydraulic capacity. If b, c, and d: No effect on engine performance.
Sugg. Action:	Check: a. Hydraulic pump b. Cabling c. MPC d. Sensor If a, hydraulic pump failure: 1. Reduce engine load until stable engine performance is achieved 2. Check other alarms 3. Check pump and pump drive shaft If b, c, or d: Repair or replace failing part

GROXX_HPSL- **GROUP: Hydraulic pressure shutdown level**

Description:	Hydraulic oil pressure below shutdown level
Cause:	- Failing hydraulic oil supply, or - Leakage in hydraulic oil distribution system, or - Failing hydraulic oil pressure sensors
Effect:	Engine will shut down. It will not be possible to start engine with too low hydraulic oil supply pressure.
Sugg. Action:	Check: - Hydraulic oil supply system. - Hydraulic oil pressure sensors.

GROXX_HSSD- **GROUP: Handle Stop and Stop Switch Deviation**

Description:	The ECS (Engine Control System) has detected that the Handle Stop position and Stop Switch Position does not match the expected at the current selected control station. This group alarm is raised because both EICU A and EICU B report, that the "Handle Stop position and Stop Switch Position" does not match. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Stop switch or signal failure, or - Analog handle or signal failure, or - Analog handle stop is ON and Stop Switch is OFF, or - Analog handle stop is OFF and Stop Switch is ON Note: Analog handle Stop is ON when handle speed set is zero RPM!
Effect:	Engine start can not be performed from current control station.
Sugg. Action:	Check: - Analog handle signal and stop switch signal at current control station - Stop switch - Analog handle signal and calibration To start engine: Change control station and activate engine start.

GROXX

GROXX_INSBL- **GROUP: Insufficient blowers**

Description:	Insufficient auxiliary blower capacity This group alarm is raised because both ECU A and ECU B report, that 'Insufficient blowers capacity' has occurred. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	Less than half of the installed blowers are running.
Effect:	Engine cannot be started from bridge control station. NOTE If 'Start' is initiated from ECR or LOP, engine will attempt to start even if no blowers are running.
Sugg. Action:	1. Check that the operation control switch at the switchboard is set to 'Remote' 2. Check switchboard, main breaker and overcurrent protection relay 3. Check cabling

GROXX_IP-CCU **GROUP: Illegal fuel plunger movement (CCU1) (Slowdown)**

Description:	The fuel plunger has made an illegal movement. Risk of untimed fuel injection. This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Plunger position sensor or cable failure, or - ELFI / FIVA valve failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	Check: - Fuel plunger position sensor status (Channel 31) - Fuel plunger position sensor and cabling. If the sensor is replaced, go to: 'Maintenance' -> 'Function Test' to recalibrate the sensor. Reactivate fuel injection. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit's fuel plunger operation If the problem persists, replace or exchange, one part at a time: - Fuel plunger position sensor - Fuel plunger sensor cabling - ELFI / FIVA valve - CCU NOTE Alarm can be overridden by invalidating channel 31 on affected CCU and reactivating fuel injection on 'Maintenance' -> 'System View I/O Test'

GROXX

GROXX_IP-CCU	GROUP: Illegal fuel plunger movement (CCU10) (Slowdown)
Description:	The fuel plunger has made an illegal movement. Risk of untimed fuel injection. This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Plunger position sensor or cable failure, or - ELFI / FIVA valve failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	Check: - Fuel plunger position sensor status (Channel 31) - Fuel plunger position sensor and cabling. If the sensor is replaced, go to: 'Maintenance' -> 'Function Test' to recalibrate the sensor. Reactivate fuel injection. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit's fuel plunger operation If the problem persists, replace or exchange, one part at a time: - Fuel plunger position sensor - Fuel plunger sensor cabling - ELFI / FIVA valve - CCU NOTE Alarm can be overridden by invalidating channel 31 on affected CCU and reactivating fuel injection on 'Maintenance' -> 'System View I/O Test'

GROXX

GROXX_IP-CCU	GROUP: Illegal fuel plunger movement (CCU11) (Slowdown)
Description:	The fuel plunger has made an illegal movement. Risk of untimed fuel injection. This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Plunger position sensor or cable failure, or - ELFI / FIVA valve failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	Check: - Fuel plunger position sensor status (Channel 31) - Fuel plunger position sensor and cabling. If the sensor is replaced, go to: 'Maintenance' -> 'Function Test' to recalibrate the sensor. Reactivate fuel injection. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit's fuel plunger operation If the problem persists, replace or exchange, one part at a time: - Fuel plunger position sensor - Fuel plunger sensor cabling - ELFI / FIVA valve - CCU NOTE Alarm can be overridden by invalidating channel 31 on affected CCU and reactivating fuel injection on 'Maintenance' -> 'System View I/O Test'

GROXX

GROXX_IP-CCU	GROUP: Illegal fuel plunger movement (CCU12) (Slowdown)
Description:	The fuel plunger has made an illegal movement. Risk of untimed fuel injection. This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Plunger position sensor or cable failure, or - ELFI / FIVA valve failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	Check: - Fuel plunger position sensor status (Channel 31) - Fuel plunger position sensor and cabling. If the sensor is replaced, go to: 'Maintenance' -> 'Function Test' to recalibrate the sensor. Reactivate fuel injection. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit's fuel plunger operation If the problem persists, replace or exchange, one part at a time: - Fuel plunger position sensor - Fuel plunger sensor cabling - ELFI / FIVA valve - CCU NOTE Alarm can be overridden by invalidating channel 31 on affected CCU and reactivating fuel injection on 'Maintenance' -> 'System View I/O Test'

GROXX

GROXX_IP-CCU	GROUP: Illegal fuel plunger movement (CCU2) (Slowdown)
Description:	The fuel plunger has made an illegal movement. Risk of untimed fuel injection. This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Plunger position sensor or cable failure, or - ELFI / FIVA valve failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	Check: - Fuel plunger position sensor status (Channel 31) - Fuel plunger position sensor and cabling. If the sensor is replaced, go to: 'Maintenance' -> 'Function Test' to recalibrate the sensor. Reactivate fuel injection. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit's fuel plunger operation If the problem persists, replace or exchange, one part at a time: - Fuel plunger position sensor - Fuel plunger sensor cabling - ELFI / FIVA valve - CCU NOTE Alarm can be overridden by invalidating channel 31 on affected CCU and reactivating fuel injection on 'Maintenance' -> 'System View I/O Test'

GROXX

GROXX_IP-CCU	GROUP: Illegal fuel plunger movement (CCU3) (Slowdown)
Description:	The fuel plunger has made an illegal movement. Risk of untimed fuel injection. This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Plunger position sensor or cable failure, or - ELFI / FIVA valve failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	Check: - Fuel plunger position sensor status (Channel 31) - Fuel plunger position sensor and cabling. If the sensor is replaced, go to: 'Maintenance' -> 'Function Test' to recalibrate the sensor. Reactivate fuel injection. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit's fuel plunger operation If the problem persists, replace or exchange, one part at a time: - Fuel plunger position sensor - Fuel plunger sensor cabling - ELFI / FIVA valve - CCU NOTE Alarm can be overridden by invalidating channel 31 on affected CCU and reactivating fuel injection on 'Maintenance' -> 'System View I/O Test'

GROXX

GROXX_IP-CCU	GROUP: Illegal fuel plunger movement (CCU4) (Slowdown)
Description:	The fuel plunger has made an illegal movement. Risk of untimed fuel injection. This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Plunger position sensor or cable failure, or - ELFI / FIVA valve failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	Check: - Fuel plunger position sensor status (Channel 31) - Fuel plunger position sensor and cabling. If the sensor is replaced, go to: 'Maintenance' -> 'Function Test' to recalibrate the sensor. Reactivate fuel injection. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit's fuel plunger operation If the problem persists, replace or exchange, one part at a time: - Fuel plunger position sensor - Fuel plunger sensor cabling - ELFI / FIVA valve - CCU NOTE Alarm can be overridden by invalidating channel 31 on affected CCU and reactivating fuel injection on 'Maintenance' -> 'System View I/O Test'

GROXX

GROXX_IP-CCU	GROUP: Illegal fuel plunger movement (CCU5) (Slowdown)
Description:	The fuel plunger has made an illegal movement. Risk of untimed fuel injection. This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Plunger position sensor or cable failure, or - ELFI / FIVA valve failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	Check: - Fuel plunger position sensor status (Channel 31) - Fuel plunger position sensor and cabling. If the sensor is replaced, go to: 'Maintenance' -> 'Function Test' to recalibrate the sensor. Reactivate fuel injection. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit's fuel plunger operation If the problem persists, replace or exchange, one part at a time: - Fuel plunger position sensor - Fuel plunger sensor cabling - ELFI / FIVA valve - CCU NOTE Alarm can be overridden by invalidating channel 31 on affected CCU and reactivating fuel injection on 'Maintenance' -> 'System View I/O Test'

GROXX

GROXX_IP-CCU	GROUP: Illegal fuel plunger movement (CCU6) (Slowdown)
Description:	The fuel plunger has made an illegal movement. Risk of untimed fuel injection. This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Plunger position sensor or cable failure, or - ELFI / FIVA valve failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	Check: - Fuel plunger position sensor status (Channel 31) - Fuel plunger position sensor and cabling. If the sensor is replaced, go to: 'Maintenance' -> 'Function Test' to recalibrate the sensor. Reactivate fuel injection. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit's fuel plunger operation If the problem persists, replace or exchange, one part at a time: - Fuel plunger position sensor - Fuel plunger sensor cabling - ELFI / FIVA valve - CCU NOTE Alarm can be overridden by invalidating channel 31 on affected CCU and reactivating fuel injection on 'Maintenance' -> 'System View I/O Test'

GROXX

GROXX_IP-CCU **GROUP: Illegal fuel plunger movement (CCU7) (Slowdown)**

Description:	The fuel plunger has made an illegal movement. Risk of untimed fuel injection. This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Plunger position sensor or cable failure, or - ELFI / FIVA valve failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	Check: - Fuel plunger position sensor status (Channel 31) - Fuel plunger position sensor and cabling. If the sensor is replaced, go to: 'Maintenance' -> 'Function Test' to recalibrate the sensor. Reactivate fuel injection. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit's fuel plunger operation If the problem persists, replace or exchange, one part at a time: - Fuel plunger position sensor - Fuel plunger sensor cabling - ELFI / FIVA valve - CCU NOTE Alarm can be overridden by invalidating channel 31 on affected CCU and reactivating fuel injection on 'Maintenance' -> 'System View I/O Test'

GROXX

GROXX_IP-CCU	GROUP: Illegal fuel plunger movement (CCU8) (Slowdown)
Description:	The fuel plunger has made an illegal movement. Risk of untimed fuel injection. This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Plunger position sensor or cable failure, or - ELFI / FIVA valve failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	Check: - Fuel plunger position sensor status (Channel 31) - Fuel plunger position sensor and cabling. If the sensor is replaced, go to: 'Maintenance' -> 'Function Test' to recalibrate the sensor. Reactivate fuel injection. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit's fuel plunger operation If the problem persists, replace or exchange, one part at a time: - Fuel plunger position sensor - Fuel plunger sensor cabling - ELFI / FIVA valve - CCU NOTE Alarm can be overridden by invalidating channel 31 on affected CCU and reactivating fuel injection on 'Maintenance' -> 'System View I/O Test'

GROXX

GROXX_IP-CCU **GROUP: Illegal fuel plunger movement (CCU9) (Slowdown)**

Description:	The fuel plunger has made an illegal movement. Risk of untimed fuel injection. This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Plunger position sensor or cable failure, or - ELFI / FIVA valve failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	Check: - Fuel plunger position sensor status (Channel 31) - Fuel plunger position sensor and cabling. If the sensor is replaced, go to: 'Maintenance' -> 'Function Test' to recalibrate the sensor. Reactivate fuel injection. Go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. Further troubleshooting: 1. Stop the engine at first opportunity. 2. Go to: 'Maintenance' -> 'Troubleshooting' -> 'HCU' 3. Test failing unit's fuel plunger operation If the problem persists, replace or exchange, one part at a time: - Fuel plunger position sensor - Fuel plunger sensor cabling - ELFI / FIVA valve - CCU NOTE Alarm can be overridden by invalidating channel 31 on affected CCU and reactivating fuel injection on 'Maintenance' -> 'System View I/O Test'

GROXX_LCTC- **GROUP: Local Control Take Command Active**

Description:	'Forced take control' activated at LOP
Cause:	'Forced take control' button has been pressed on LOP
Effect:	The other control stations cannot take over engine control
Sugg. Action:	To release engine control from LOP, deactivate 'Forced take control' button on LOP

GROXX_LDD-E **GROUP: Large deviation from model curve**

Description:	Swash plate follow pump set points deviate too much from the model curve
Cause:	- Hydraulic leak, or - Swash plate pump failure (hydraulic failure, broken pump shaft etc.), or - Proportional valve failure, or - MPC failure, or - Proportional valve amplifier failure (if fitted) NOTE This alarm may occur during wind milling. In this case, this alarm can be ignored.
Effect:	Engine performance and HPS pressure may be reduced. Engine will shut down, if the HPS pressure drops below shutdown level.
Sugg. Action:	Check: - Hydraulic system for leaks - Swash plate pumps for mechanical failures - Proportional valves Perform HPS function test on MOP: 'Maintenance' -> 'Function Test'

GROXX

GROXX_LDE-E **GROUP: Large deviation from model curve**

Description:	Swash plate set point deviates from the model curve
Cause:	- Hydraulic leak, or - Swash plate position feedback sensor calibrated incorrectly, or - Mechanical pump failure (broken shaft etc.)
Effect:	No effect on engine performance at present load. Engine load increase may not be possible.
Sugg. Action:	Check: - Hydraulic system for leaks - Swash plate position feedback sensor calibration - Engine driven pump

GROXX_LHP-E **GROUP: Low Hydraulic Pressure**

Description:	Maximum allowed fuel index is reduced due to insufficient hydraulic pressure
Cause:	- Pump failure, or - Hydraulic leakage, or - Bypass valve failure
Effect:	- Engine load may be reduced. - Unstable speed and fuel index. - Too low pressure will cause shutdown.
Sugg. Action:	To avoid unstable engine performance: Reduce engine load Check for: - Hydraulic pump related alarms - Hydraulic leakages - Failing bypass valves

GROXX_MAIS **GROUP: Marker A input slip**

Description:	Misalignment between flywheel sensor and encoders
Cause:	a. Flywheel tacho sensor is damaged or out of adjustment b. Both encoders are misaligned compared to flywheel sensor
Effect:	If a: The MPC has switched to tacho set B If b: Engine performance will be seriously affected. NEVER ignore this alarm!
Sugg. Action:	If the alarm 'Tacho set A failure' or 'Tacho set B failure' is active: Ignore this alarm. If this alarm is the only tacho alarm, at first opportunity: 1. Inspect flywheel sensor and mounting bracket 2. Check distance between sensor and flywheel 3. Inspect the mechanical condition of the encoders. 4. Perform tacho test on MOP: Go to 'Maintenance' -> 'Function Test' -> 'Tacho' Follow tacho test instructions NOTE If encoder A is readjusted or replaced: Perform PMI measurement, and restore tacho offset settings according to 0-diagram.

GROXX_MBOD- **GROUP: Manual blower operation demanded**

Description:	Operation set to 'Manual' on MOP
Cause:	Operator has commanded manual blower operation.
Effect:	Engine cannot be started from bridge control station. Blowers switch to manual operation. All blowers are operated manually from MOP.
Sugg. Action:	Switch back to automatic operation after finishing manual operation

GROXX_MHPSD **GROUP: Manual HPS operation demanded**

Description:	Manual HPS operation has been enabled
Cause:	Operation is set to ‘Manual’ on MOP
Effect:	Manual pressure control is active. Engine cannot be started from bridge. Manual set point will be overruled, when HPS returns to automatic operation.
Sugg. Action:	Switch back to automatic operation after finishing manual operation

GROXX

GROXX_MHPSE **GROUP: Manual HPS operation demanded**

Description:	Manual HPS operation has been enabled
Cause:	Operation is set to ‘Manual’ on MOP
Effect:	Manual pressure control is active. Engine cannot be started from bridge. Manual set point will be overruled, when HPS returns to automatic operation.
Sugg. Action:	Switch back to automatic operation after finishing manual operation

GROXX_N0-AC **GROUP: Net A not connected to ACU1**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX_N0-AC **GROUP: Net A not connected to ACU2**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX_N0-AC **GROUP: Net A not connected to ACU3**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX

GROXX_N0-CC **GROUP: Net A not connected to CCU1**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX_N0-CC **GROUP: Net A not connected to CCU10**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX_N0-CC **GROUP: Net A not connected to CCU11**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX_N0-CC **GROUP: Net A not connected to CCU12**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX

GROXX_N0-CC **GROUP: Net A not connected to CCU2**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX_N0-CC **GROUP: Net A not connected to CCU3**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX_N0-CC **GROUP: Net A not connected to CCU4**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX_N0-CC **GROUP: Net A not connected to CCU5**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX

GROXX_N0-CC **GROUP: Net A not connected to CCU6**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX_N0-CC **GROUP: Net A not connected to CCU7**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX_N0-CC **GROUP: Net A not connected to CCU8**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX_N0-CC **GROUP: Net A not connected to CCU9**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX

GROXX_N0-EC **GROUP: Net A not connected to ECUA**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX_N0-EC **GROUP: Net A not connected to ECUB**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX_N0-MO **GROUP: Net A not connected to MOPA**

Description:	MOP not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MOP is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen
Cause:	- Cable failure, or - Network failure, or - MOP failure
Effect:	No effect on engine performance. No MOP redundancy.
Sugg. Action:	If network A is the only failing network, check: - Cabling - MOP network connector - MOP network card

GROXX_N0-MO **GROUP: Net A not connected to MOPB**

Description:	MOP not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MOP is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen
Cause:	- Cable failure, or - Network failure, or - MOP failure
Effect:	No effect on engine performance. No MOP redundancy.
Sugg. Action:	If network A is the only failing network, check: - Cabling - MOP network connector - MOP network card

GROXX

GROXX_N0-SC **GROUP: Net A not connected to SCU1**

Description:	MPC not connected to network A This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network A. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network A is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network A is the only failing network, check: - MPC - Cabling and connectors

GROXX_N1-AC **GROUP: Net B not connected to ACU1**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX_N1-AC **GROUP: Net B not connected to ACU2**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX_N1-AC **GROUP: Net B not connected to ACU3**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX

GROXX_N1-CC **GROUP: Net B not connected to CCU1**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX_N1-CC **GROUP: Net B not connected to CCU10**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX_N1-CC **GROUP: Net B not connected to CCU11**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX_N1-CC **GROUP: Net B not connected to CCU12**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX

GROXX_N1-CC **GROUP: Net B not connected to CCU2**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX_N1-CC **GROUP: Net B not connected to CCU3**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX_N1-CC **GROUP: Net B not connected to CCU4**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX_N1-CC **GROUP: Net B not connected to CCU5**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX

GROXX_N1-CC **GROUP: Net B not connected to CCU6**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX_N1-CC **GROUP: Net B not connected to CCU7**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX_N1-CC **GROUP: Net B not connected to CCU8**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX_N1-CC **GROUP: Net B not connected to CCU9**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX

GROXX_N1-EC **GROUP: Net B not connected to ECUA**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX_N1-EC **GROUP: Net B not connected to ECUB**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX_N1-MO **GROUP: Net B not connected to MOPA**

Description:	MOP not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MOP is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - Network failure, or - MOP failure
Effect:	No effect on engine. No MOP redundancy.
Sugg. Action:	If network B is the only failing network, check: - Cabling - MOP network connector - MOP network card

GROXX_N1-MO **GROUP: Net B not connected to MOPB**

Description:	MOP not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MOP is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - Network failure, or - MOP failure
Effect:	No effect on engine. No MOP redundancy.
Sugg. Action:	If network B is the only failing network, check: - Cabling - MOP network connector - MOP network card

GROXX

GROXX_N1-SC **GROUP: Net B not connected to SCU1**

Description:	MPC not connected to network B This group alarm is raised because both EICU A and EICU B report, that the MPC is disconnected from network B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- Cable failure, or - MPC failure, or - Network failure
Effect:	If network B is the only failing network: No effect on engine. Redundancy reduced.
Sugg. Action:	If network B is the only failing network, check: - MPC - Cabling and connectors

GROXX_NA-AC **GROUP: ACU1 not available**

Description:	ACU not available on any network This group alarm is raised because both EICU A and EICU B report, that the ACU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- ACU is restarting after power off/on, or - ACU power is off, or - ACU failure, or - Both networks are disconnected or failing
Effect:	HPS performance affected. Control of main hydraulic pump and start-up pump is lost.
Sugg. Action:	Check: - ACU power - ACU mode (LED is green) - Network cabling If the problem persists: Replace failing ACU

GROXX_NA-AC **GROUP: ACU2 not available**

Description:	ACU not available on any network This group alarm is raised because both EICU A and EICU B report, that the ACU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- ACU is restarting after power off/on, or - ACU power is off, or - ACU failure, or - Both networks are disconnected or failing
Effect:	HPS performance affected. Control of main hydraulic pump and start-up pump is lost.
Sugg. Action:	Check: - ACU power - ACU mode (LED is green) - Network cabling If the problem persists: Replace failing ACU

GROXX

GROXX_NA-AC **GROUP: ACU3 not available**

Description:	ACU not available on any network This group alarm is raised because both EICU A and EICU B report, that the ACU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- ACU is restarting after power off/on, or - ACU power is off, or - ACU failure, or - Both networks are disconnected or failing
Effect:	HPS performance affected. Control of main hydraulic pump and start-up pump is lost.
Sugg. Action:	Check: - ACU power - ACU mode (LED is green) - Network cabling If the problem persists: Replace failing ACU

GROXX_NA-CC **GROUP: CCU1 not available**

Description:	CCU not available on any network. This group alarm is raised because both EICU A and EICU B report, that the CCU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- CCU is restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing CCU

GROXX_NA-CC **GROUP: CCU10 not available**

Description:	CCU not available on any network. This group alarm is raised because both EICU A and EICU B report, that the CCU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- CCU is restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing CCU

GROXX

GROXX_NA-CC **GROUP: CCU11 not available**

Description:	CCU not available on any network. This group alarm is raised because both EICU A and EICU B report, that the CCU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- CCU is restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing CCU

GROXX_NA-CC **GROUP: CCU12 not available**

Description:	CCU not available on any network. This group alarm is raised because both EICU A and EICU B report, that the CCU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- CCU is restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing CCU

GROXX_NA-CC **GROUP: CCU2 not available**

Description:	CCU not available on any network. This group alarm is raised because both EICU A and EICU B report, that the CCU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- CCU is restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing CCU

GROXX

GROXX_NA-CC **GROUP: CCU3 not available**

Description:	CCU not available on any network. This group alarm is raised because both EICU A and EICU B report, that the CCU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- CCU is restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing CCU

GROXX_NA-CC **GROUP: CCU4 not available**

Description:	CCU not available on any network. This group alarm is raised because both EICU A and EICU B report, that the CCU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- CCU is restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing CCU

GROXX_NA-CC **GROUP: CCU5 not available**

Description:	CCU not available on any network. This group alarm is raised because both EICU A and EICU B report, that the CCU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- CCU is restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing CCU

GROXX

GROXX_NA-CC **GROUP: CCU6 not available**

Description:	CCU not available on any network. This group alarm is raised because both EICU A and EICU B report, that the CCU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- CCU is restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing CCU

GROXX_NA-CC **GROUP: CCU7 not available**

Description:	CCU not available on any network. This group alarm is raised because both EICU A and EICU B report, that the CCU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- CCU is restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing CCU

GROXX_NA-CC **GROUP: CCU8 not available**

Description:	CCU not available on any network. This group alarm is raised because both EICU A and EICU B report, that the CCU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- CCU is restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing CCU

GROXX

GROXX_NA-CC **GROUP: CCU9 not available**

Description:	CCU not available on any network. This group alarm is raised because both EICU A and EICU B report, that the CCU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- CCU is restarting after power off/on, or - CCU power is off, or - CCU failure, or - Both networks are disconnected or failing
Effect:	No fuel injection. Exhaust valve operation may stop. Cylinder lubrication may stop. Slowdown is requested.
Sugg. Action:	Check: - CCU power - CCU mode (LED is green) - Network cabling If the problem persists: Replace failing CCU

GROXX_NA-EC **GROUP: ECUA not available**

Description:	ECU not available on any network
Cause:	- ECU is restarting after power off/on, or - ECU power is off, or - ECU failure, or - Both networks are disconnected or failing
Effect:	No ECU redundancy. Engine driven pump 4 (if fitted) is locked in ‘ahead’. If running astern: No hydraulic oil from pump 4.
Sugg. Action:	Check: - ECU power - ECU mode (LED is green) - Network cabling If the problem persists: Replace ECU

GROXX_NA-EC **GROUP: ECUB not available**

Description:	ECU not available on any network
Cause:	- ECU is restarting after power off/on, or - ECU power is off, or - ECU failure, or - Both networks are disconnected or failing
Effect:	No ECU redundancy. Engine driven pump 5 (if fitted) is locked in ‘ahead’. If running astern: No hydraulic oil from pump 5.
Sugg. Action:	Check: - ECU power - ECU mode (LED is green) - Network cabling If the problem persists: Replace ECU

GROXX

GROXX_NA-EIC **GROUP: EICUA not available**

Description:	EICU not available on any network This group alarm is raised because the EICU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- EICU is restarting after power off/on, or - EICU power is off, or - EICU failure, or - Both networks are disconnected or failing
Effect:	No EICU redundancy
Sugg. Action:	Check: - EICU power - EICU mode (LED is green) - Network cabling If the problem persists: Replace failing EICU

GROXX_NA-EIC **GROUP: EICUB not available**

Description:	EICU not available on any network This group alarm is raised because the EICU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- EICU is restarting after power off/on, or - EICU power is off, or - EICU failure, or - Both networks are disconnected or failing
Effect:	No EICU redundancy
Sugg. Action:	Check: - EICU power - EICU mode (LED is green) - Network cabling If the problem persists: Replace failing EICU

GROXX_NA-MO **GROUP: MOPA not available**

Description:	MOP not available on any network This group alarm is raised because both EICU A and EICU B report, that the MOP is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MOP is restarting after power off/on, or - MOP power is off, or - MOP failure, or - Both networks are disconnected or failing, or - MOP network card failure
Effect:	No effect on engine. No MOP redundancy.
Sugg. Action:	Check: - MOP power - Network cabling If the problem persists: Replace MOP

GROXX

GROXX_NA-MO **GROUP: MOPB not available**

Description:	MOP not available on any network This group alarm is raised because both EICU A and EICU B report, that the MOP is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- MOP is restarting after power off/on, or - MOP power is off, or - MOP failure, or - Both networks are disconnected or failing, or - MOP network card failure
Effect:	No effect on engine. No MOP redundancy.
Sugg. Action:	Check: - MOP power - Network cabling If the problem persists: Replace MOP

GROXX_NA-SC **GROUP: SCU1 not available**

Description:	SCU not available on any network This group alarm is raised because both EICU A and EICU B report, that the SCU is disconnected from both network A and B. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	- SCU is restarting after power off/on, or - SCU power is off, or - SCU failure, or - Both networks are disconnected or failing
Effect:	Variable turbocharger/bypass valve moves to fully open position
Sugg. Action:	Check: - SCU power - SCU mode (LED is green) - Network cabling If the problem persists: Replace SCU

GROXX_NCL-C **GROUP: Cyl 1. No Cylinder lubrication**

Description:	No cylinder lubrication This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

GROXX

GROXX_NCL-C **GROUP: Cyl 10. No Cylinder lubrication**

Description:	No cylinder lubrication This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

GROXX_NCL-C **GROUP: Cyl 11. No Cylinder lubrication**

Description:	No cylinder lubrication This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

GROXX_NCL-C **GROUP: Cyl 12. No Cylinder lubrication**

Description:	No cylinder lubrication This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

GROXX

GROXX_NCL-C **GROUP: Cyl 2. No Cylinder lubrication**

Description:	No cylinder lubrication This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

GROXX_NCL-C **GROUP: Cyl 3. No Cylinder lubrication**

Description:	No cylinder lubrication This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

GROXX_NCL-C **GROUP: Cyl 4. No Cylinder lubrication**

Description:	No cylinder lubrication This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

GROXX

GROXX_NCL-C **GROUP: Cyl 5. No Cylinder lubrication**

Description:	No cylinder lubrication This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

GROXX_NCL-C **GROUP: Cyl 6. No Cylinder lubrication**

Description:	No cylinder lubrication This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

GROXX_NCL-C **GROUP: Cyl 7. No Cylinder lubrication**

Description:	No cylinder lubrication This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

GROXX

GROXX_NCL-C **GROUP: Cyl 8. No Cylinder lubrication**

Description:	No cylinder lubrication This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

GROXX_NCL-C **GROUP: Cyl 9. No Cylinder lubrication**

Description:	No cylinder lubrication This group alarm is caused by 'No cylinder lubrication', reported by both EICU A and EICU B. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Lubricator failure, or - Cable failure (loose connection)
Effect:	- No lubrication oil is injected - Slowdown is requested
Sugg. Action:	Check that lubricator solenoid LED is flashing If LED flashes correctly, check: - Solenoid valve - Feedback signal, MOP-> Maintenance -> I/O If the problem persists: Replace lubricator If LED does not flash, check: - CCU output signal - Cabling to lubricator □ If the problem persists: Replace CCU

GROXX_NCSS- **GROUP: No Ctrl Station Selected**

Description:	Inconsistent control station selection. None or multiple control stations requested.
Cause:	- RCS and/or RCS connection failure, or - Cabling failure
Effect:	- Engine control station is retained at current location. - Change of control station is only possible with “forced take”.
Sugg. Action:	Check: - RCS and connection to ECS - Cabling If problem persists: - Restart EICU

GROXX_NPIS-E **GROUP: No pump inlet sensors**

Description:	No pump inlet sensors available
Cause:	Sensors out of signal range or cabling is malfunctioning
Effect:	Engine will shut down
Sugg. Action:	Inspect sensors and their cabling according to electrical wiring diagram

GROXX

GROXX_PIPL-E **GROUP: Pump inlet pressure low**

Description:	Lubrication oil inlet pressure is low.
Cause:	- Sensor failure, or - Lubrication oil supply pump(s) not running, or - Inlet valve closed
Effect:	No effect. NOTE If system oil pressure drops below shutdown level: Engine control system will request shutdown.
Sugg. Action:	Check: - Inlet pressure sensors - Lubrication oil supply system(pumps, valves, etc)

GROXX_PIPS1- **GROUP: Pump inlet pressure sensor ACU1 deviates**

Description:	Hydraulic inlet oil inlet pressure sensor values differ from the values on the other pumps
Cause:	- Inlet valve is closed, or - Sensor failure
Effect:	Engine control system will use the other sensors to evaluate the hydraulic inlet pressure. NOTE If the pump inlet valve is closed, engine start will cause pump cavitation
Sugg. Action:	Check: - Pump inlet valve - Pump inlet pressure sensor

GROXX_PIPS2- **GROUP: Pump inlet pressure sensor ACU2 deviates**

Description:	Hydraulic inlet oil inlet pressure sensor values differ from the values on the other pumps
Cause:	- Inlet valve is closed, or - Sensor failure
Effect:	Engine control system will use the other sensors to evaluate the hydraulic inlet pressure. NOTE If the pump inlet valve is closed, engine start will cause pump cavitation
Sugg. Action:	Check: - Pump inlet valve - Pump inlet pressure sensor

GROXX_PIPS3- **GROUP: Pump inlet pressure sensor ACU3 deviates**

Description:	Hydraulic inlet oil inlet pressure sensor values differ from the values on the other pumps
Cause:	- Inlet valve is closed, or - Sensor failure
Effect:	Engine control system will use the other sensors to evaluate the hydraulic inlet pressure. NOTE If the pump inlet valve is closed, engine start will cause pump cavitation
Sugg. Action:	Check: - Pump inlet valve - Pump inlet pressure sensor

GROXX_PIPSL- **GROUP: Pump inlet pressure shutdown level**

Description:	Lubrication oil inlet pressure is below shutdown level.
Cause:	- Failing pressure sensors, or - Lubrication oil supply pump(s) not running, or - Inlet valve closed
Effect:	Engine control system has requested a non-cancellable shutdown to protect the HPS pumps.
Sugg. Action:	Check: - Inlet pressure sensors - Lubrication oil supply system(pumps, valves, etc)

GROXX

GROXX_PO-CC **GROUP: Illegal ELFI/FIVA position (CCU1) (Slowdown)**

Description:	The ELFI/FIVA spool has been in an illegal position. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA position'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- ELFI / FIVA position sensor signal failure, or - ELFI / FIVA failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check cabling Reactivate fuel injection, go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. If the problem persists replace or exchange, one part at a time: - ELFI / FIVA valve - CCU

GROXX_PO-CC **GROUP: Illegal ELFI/FIVA position (CCU10) (Slowdown)**

Description:	The ELFI/FIVA spool has been in an illegal position. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA position'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- ELFI / FIVA position sensor signal failure, or - ELFI / FIVA failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check cabling Reactivate fuel injection, go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. If the problem persists replace or exchange, one part at a time: - ELFI / FIVA valve - CCU

GROXX_PO-CC **GROUP: Illegal ELFI/FIVA position (CCU11) (Slowdown)**

Description:	The ELFI/FIVA spool has been in an illegal position. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA position'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- ELFI / FIVA position sensor signal failure, or - ELFI / FIVA failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check cabling Reactivate fuel injection, go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. If the problem persists replace or exchange, one part at a time: - ELFI / FIVA valve - CCU

GROXX

GROXX_PO-CC **GROUP: Illegal ELFI/FIVA position (CCU12) (Slowdown)**

Description:	The ELFI/FIVA spool has been in an illegal position. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA position'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- ELFI / FIVA position sensor signal failure, or - ELFI / FIVA failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check cabling Reactivate fuel injection, go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. If the problem persists replace or exchange, one part at a time: - ELFI / FIVA valve - CCU

GROXX_PO-CC **GROUP: Illegal ELFI/FIVA position (CCU2) (Slowdown)**

Description:	The ELFI/FIVA spool has been in an illegal position. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA position'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- ELFI / FIVA position sensor signal failure, or - ELFI / FIVA failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check cabling Reactivate fuel injection, go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. If the problem persists replace or exchange, one part at a time: - ELFI / FIVA valve - CCU

GROXX_PO-CC **GROUP: Illegal ELFI/FIVA position (CCU3) (Slowdown)**

Description:	The ELFI/FIVA spool has been in an illegal position. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA position'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- ELFI / FIVA position sensor signal failure, or - ELFI / FIVA failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check cabling Reactivate fuel injection, go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. If the problem persists replace or exchange, one part at a time: - ELFI / FIVA valve - CCU

GROXX

GROXX_PO-CC **GROUP: Illegal ELFI/FIVA position (CCU4) (Slowdown)**

Description:	The ELFI/FIVA spool has been in an illegal position. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA position'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- ELFI / FIVA position sensor signal failure, or - ELFI / FIVA failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check cabling Reactivate fuel injection, go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. If the problem persists replace or exchange, one part at a time: - ELFI / FIVA valve - CCU

GROXX_PO-CC **GROUP: Illegal ELFI/FIVA position (CCU5) (Slowdown)**

Description:	The ELFI/FIVA spool has been in an illegal position. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA position'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- ELFI / FIVA position sensor signal failure, or - ELFI / FIVA failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check cabling Reactivate fuel injection, go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. If the problem persists replace or exchange, one part at a time: - ELFI / FIVA valve - CCU

GROXX_PO-CC **GROUP: Illegal ELFI/FIVA position (CCU6) (Slowdown)**

Description:	The ELFI/FIVA spool has been in an illegal position. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA position'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- ELFI / FIVA position sensor signal failure, or - ELFI / FIVA failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check cabling Reactivate fuel injection, go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. If the problem persists replace or exchange, one part at a time: - ELFI / FIVA valve - CCU

GROXX

GROXX_PO-CC **GROUP: Illegal ELFI/FIVA position (CCU7) (Slowdown)**

Description:	The ELFI/FIVA spool has been in an illegal position. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA position'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- ELFI / FIVA position sensor signal failure, or - ELFI / FIVA failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check cabling Reactivate fuel injection, go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. If the problem persists replace or exchange, one part at a time: - ELFI / FIVA valve - CCU

GROXX_PO-CC **GROUP: Illegal ELFI/FIVA position (CCU8) (Slowdown)**

Description:	The ELFI/FIVA spool has been in an illegal position. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA position'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- ELFI / FIVA position sensor signal failure, or - ELFI / FIVA failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check cabling Reactivate fuel injection, go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. If the problem persists replace or exchange, one part at a time: - ELFI / FIVA valve - CCU

GROXX_PO-CC **GROUP: Illegal ELFI/FIVA position (CCU9) (Slowdown)**

Description:	The ELFI/FIVA spool has been in an illegal position. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA position'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- ELFI / FIVA position sensor signal failure, or - ELFI / FIVA failure, or - CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: - No exhaust valve operation - Slowdown is requested
Sugg. Action:	Check cabling Reactivate fuel injection, go to 'Engine' -> 'Chief Limiters' -> 'HCU Status and Reset' to reset failing unit. Do not reactivate fuel injection until the cylinder unit is considered to be OK. If the problem persists replace or exchange, one part at a time: - ELFI / FIVA valve - CCU

GROXX

GROXX_PTLD- **GROUP: Pump Torque Limiter Reached**

Description:	HPS pump torque is too high
Cause:	- Hydraulic leak, or - Swash plate pump failure (hydraulic failure, broken pump shaft etc.), or - Proportional valve failure - MPC failure, or - Proportional valve amplifier failure (if fitted) NOTE This alarm can occur during wind milling. In this case, this alarm can be ignored.
Effect:	Engine performance and HPS pressure may be reduced. Engine will shut down, if the HPS pressure drops below shutdown level.
Sugg. Action:	Check: - Hydraulic system for leaks - Swash plate pumps for mechanical failures - Proportional valves Perform HPS function test on MOP: 'Maintenance' -> 'Function Test'

GROXX_PTLE-E **GROUP: Pump Torque Limiter Reached**

Description:	Maximum swash plate position is reached
Cause:	- Hydraulic leak, or - No or reduced hydraulic delivery from swash plate pumps, or - High pressure sensor failure
Effect:	Engine performance may be affected
Sugg. Action:	Check: - Hydraulic system for leaks - Swash plate pumps for mechanical failure - High pressure sensors If increased swash plate position is required: Cancel torque limitation, 'Auxiliaries' -> 'Hydraulic System'

GROXX_RUNF- **GROUP: Running Failed**

Description:	The engine has stopped
Cause:	- Sudden torque increase at low engine speed, or - Fuel starvation, or - Engine speed too low
Effect:	Engine does not run.
Sugg. Action:	Check: - Fuel oil supply system - Fuel related alarms, if any If all OK: Restart the engine

GROXX_SD **GROUP: Shutdown**

Description:	Shutdown has been ordered. This is a group alarm caused by a shutdown order from the safety system. Other alarms in the group are raised as a consequence of this condition. To view all alarms in this group: Press +/- at the bottom of the MOP screen.
Cause:	1. Requested by engine control system due to: - Hydraulic leakages from HPS, or - System oil inlet pressure too low, or - Hydraulic high pressure too low 2. Ordered by safety system
Effect:	The engine stops. Fuel injection stops immediately.
Sugg. Action:	If the shutdown was requested by the engine control system, check: - Hydraulic leakages from HPS - System oil inlet pressure - Hydraulic high pressure

GROXX

GROXX_SGDF- **GROUP: PMS (SG): Disconnection Fail**

Description:	Time out while waiting for Shaft Generator (SG) disengaging.
Cause:	- SG (Shaft Generator) disengageing failure, or - Disengageing duration too long, or - Cable/signal failure between ECS and PMS (Power Management System)
Effect:	Speedset remains limited in SG speed range until Shaft Generator (SG) is disengaged or speedset handle is put in Stop position. If Slow Down Request, Engine Control System will issue a Cancellable Shutdown request after a time delay.
Sugg. Action:	Check: - Cabling to Power Management System (PMS)

GROXX_SGOR- **GROUP: PMS (SG): Speed Outside Range**

Description:	Actual speed outside Shaft Generator (SG) speed range.
Cause:	Check: - Active index limiters, or - Wrong governor mode selected
Effect:	Shaft Generator (SG) is requested to disengage.
Sugg. Action:	Check: - governor mode is set to rpm control, or - index limiters

GROXX_SGWC- **GROUP: PMS (SG): Wait for Conditions**

Description:	Time out while waiting for shaft generator engaging.
Cause:	The engine speedset is outside allowable range for Shaft Generator (SG) engaging, or cable/signal failure between ECS and PMS (Power Management System)
Effect:	Engagement of Shaft Gennerator (SG) is not permitted
Sugg. Action:	Check: - Adjust speedset within SG (Shaft Generator) speed range - Connection to PMS (Power Management System) If the problem persists: Cancel SG (Shaft Generator) engage request

GROXX_SP-CC **GROUP: Illegal ELFI/FIVA set point (CCU1) (Slowdown)**

Description:	Illegal internal ELFI/FIVA set point. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA set point'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	Internal CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	If the alarm is activated during normal engine operation: Replace CCU

GROXX_SP-CC **GROUP: Illegal ELFI/FIVA set point (CCU10) (Slowdown)**

Description:	Illegal internal ELFI/FIVA set point. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA set point'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	Internal CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	If the alarm is activated during normal engine operation: Replace CCU

GROXX

GROXX_SP-CC **GROUP: Illegal ELFI/FIVA set point (CCU11) (Slowdown)**

Description:	Illegal internal ELFI/FIVA set point. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA set point'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	Internal CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	If the alarm is activated during normal engine operation: Replace CCU

GROXX_SP-CC **GROUP: Illegal ELFI/FIVA set point (CCU12) (Slowdown)**

Description:	Illegal internal ELFI/FIVA set point. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA set point'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	Internal CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	If the alarm is activated during normal engine operation: Replace CCU

GROXX_SP-CC **GROUP: Illegal ELFI/FIVA set point (CCU2) (Slowdown)**

Description:	Illegal internal ELFI/FIVA set point. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA set point'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	Internal CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	If the alarm is activated during normal engine operation: Replace CCU

GROXX_SP-CC **GROUP: Illegal ELFI/FIVA set point (CCU3) (Slowdown)**

Description:	Illegal internal ELFI/FIVA set point. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA set point'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	Internal CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	If the alarm is activated during normal engine operation: Replace CCU

GROXX

GROXX_SP-CC **GROUP: Illegal ELFI/FIVA set point (CCU4) (Slowdown)**

Description:	Illegal internal ELFI/FIVA set point. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA set point'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	Internal CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	If the alarm is activated during normal engine operation: Replace CCU

GROXX_SP-CC **GROUP: Illegal ELFI/FIVA set point (CCU5) (Slowdown)**

Description:	Illegal internal ELFI/FIVA set point. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA set point'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	Internal CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	If the alarm is activated during normal engine operation: Replace CCU

GROXX_SP-CC **GROUP: Illegal ELFI/FIVA set point (CCU6) (Slowdown)**

Description:	Illegal internal ELFI/FIVA set point. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA set point'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	Internal CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	If the alarm is activated during normal engine operation: Replace CCU

GROXX_SP-CC **GROUP: Illegal ELFI/FIVA set point (CCU7) (Slowdown)**

Description:	Illegal internal ELFI/FIVA set point. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA set point'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	Internal CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	If the alarm is activated during normal engine operation: Replace CCU

GROXX

GROXX_SP-CC **GROUP: Illegal ELFI/FIVA set point (CCU8) (Slowdown)**

Description:	Illegal internal ELFI/FIVA set point. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA set point'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	Internal CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	If the alarm is activated during normal engine operation: Replace CCU

GROXX_SP-CC **GROUP: Illegal ELFI/FIVA set point (CCU9) (Slowdown)**

Description:	Illegal internal ELFI/FIVA set point. Risk of untimed fuel injection. This group alarm is caused by 'Illegal ELFI/FIVA set point'. Other alarms in the group are raised as a consequence of this condition. To view all alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	Internal CCU failure
Effect:	No fuel injection due to risk of untimed fuel injection. For FIVA installations: No exhaust valve operation. Slowdown is requested.
Sugg. Action:	If the alarm is activated during normal engine operation: Replace CCU

GROXX_SPCSD **GROUP: StartUP pump cmd state deviation**

Description:	ECU A and ECU B are generating differing output values
Cause:	Deviation between redundant input signals: - to ECU A and ECU B OR - to ACU 1, 2 and 3 OR - from RCS
Effect:	Redundancy reduced
Sugg. Action:	Restart the engine to reset the alarm If the problem persists, check: - ECU cabling - ACU cabling - RCS signals

GROXX_SPSC- **GROUP: Standby pump started**

Description:	The Standby startup pump has been started
Cause:	Master start-up cannot build hydraulic pressure within time limits or cannot maintain hydraulic pressure, because of: - HPS electric driven start-up pump failure, or - Hydraulic leakage
Effect:	Engine may be unable to start due to low hydraulic pressure
Sugg. Action:	Check: - If both start-up pumps are running - Local pressure gauge on start-up pumps - For hydraulic leakages If hydraulic pressure can be maintained when both pumps are running, switch master pump: 'Auxiliaries' -> 'Hydraulic System'

GROXX

GROXX_SPS-E **GROUP: Standby pump started**

Description:	The Standby startup pump has been started
Cause:	Master start-up cannot build hydraulic pressure within time limits or cannot maintain hydraulic pressure, because of: - HPS electric driven start-up pump failure, or - Hydraulic leakage
Effect:	Engine may be unable to start due to low hydraulic pressure
Sugg. Action:	Check: - If both start-up pumps are running - Local pressure gauge on start-up pumps - For hydraulic leakages If hydraulic pressure can be maintained when both pumps are running, switch master pump: 'Auxiliaries' -> 'Hydraulic System'

GROXX_STMA- **GROUP: Shop Test Mode Active**

Description:	Shop Test Mode is active
Cause:	Shop Test Mode is activated from Engine Commissioning Tool (ECT)
Effect:	The following settings are temporarily changed in order to carry out shop test: 1: Max Engine Speed increased to 110% MCR 2: Overspeed protection limits increased to 110% MCR 3: Scavenge Air Pressure Limiter increased with parameter ECT: Cancel Limit Increase Offset 4: Torque Limiter increased with parameter ECT: Cancel Limit Increase Offset 5: Chief index limiter (All) increased to 120% 6: Chief index limiter on unlimited cylinders increased to 120% 7: Load program disabled 8: Chief Max Speed parameter disabled 9: Automatic cut out of Global Params. Inconsist alarm 1, 7 and 8 are only in effect when ECR control is selected.
Sugg. Action:	Alarm condition is normal during shop test. No action to be taken. After shop test, the shop test mode must be disabled from engine commissioning tool (ECT). If alarm appears under other circumstances, shop test mode must be disabled from engine commissioning tool (ECT).

GROXX_STPL-E **GROUP: Start air pressure low**

Description:	Start air pressure is too low
Cause:	- Air pressure in starting air tank is too low, or - Starting air supply valve is closed, or - Major starting air leakage
Effect:	Engine cannot be started from bridge.
Sugg. Action:	Check: - Starting air system - Starting air supply valve Engine start can be executed from ECR or LOP.

GROXX_STRTF **GROUP: Starting Failed**

Description:	3 repeated starting attempts failed
Cause:	- Starting air system failure, or - Torque too high, or - No fuel injection
Effect:	Engine did not start. Automatic starting sequence has finished. Manual restart is required.
Sugg. Action:	Check: - Starting air system - Fuel oil supply system Restart the engine

GROXX

GROXX_TAE **GROUP: Tacho Allignment Error**

Description:	One or both encoders are misaligned
Cause:	Tacho set A signals and/or tacho set B signals differ from the flywheel sensor signal.
Effect:	Engine performance may be affected
Sugg. Action:	If the alarm 'Tacho set A failure' or 'Tacho set B failure' is active: Ignore this alarm. If this alarm is the only tacho alarm: - Check and adjust Pmax. - At first opportunity: 1. Inspect the mechanical condition of the encoders. 2. Readjust the encoders 3. Perform tacho test on MOP: Go to 'Maintenance ' -> 'Function Test' -> 'Tacho' Follow tacho test instructions NOTE If encoder A is readjusted or replaced: Perform PMI measurement, and restore tacho offset settings according to 0-diagram

GROXX_TAF **GROUP: Tacho set A failure**

Description:	Abnormal tacho set A signals on multiple CCUs/ECUs . This group alarm is caused by multiple 'Tacho set A failure' alarms. Other alarms in the group are raised as a consequence of this condition. To view the alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Cabling failure (loose connection etc.), or - Flywheel marker sensor failure, or - Encoder failure, or - Tacho amplifier A failure, or - Sensor support console failure, or - Power failure (ECUA powers tacho set A) If trigger ring is fitted, this alarm may be caused by: - Trigger/marker ring is damaged, or - Trigger/marker sensor failure
Effect:	The CCUs/ECUs has switched to tacho set B. Redundancy reduced.
Sugg. Action:	If only one ECU or CCU reports failure: Check plug J40-J43 on failing unit. If OK: Replace ECU or CCU If all CCUs and ECUs report tacho A failure, check tacho signals on maintenance screen and power to tacho amplifier TCA-A: 1. Check power on the tacho amplifier TSA-A connector J5 pin (J,A) J=24V A=0V. 2. Turn the engine minimum one revolution (by turning gear) 3. On failing ECU or CCU maintenance screen: Check that channel 40-43 toggle correctly between true and false Channel 40 + 41: twice per revolution Channel 42 + 43: multiple times per revolution (360) Perform tacho test on MOP: Go to Maintenance -> Function Test -> Tacho Follow tacho test instructions Trace the error by following the signal from : Encoder and/or flywheel marker sensor ->Amplifier (TSA-A) ->ECU A (supplying power to TSA-A from connector J40 pin (D,A) D=24V A=0V) If trigger ring is fitted, check: a. Trigger/marker ring b. Trigger/marker sensor

GROXX

GROXX_TAIS **GROUP: Tacho A input slip**

Description:	Tacho set A is out of adjustment
Cause:	Tacho position signal A does not match the position signals from tacho set B and the turning wheel sensor.
Effect:	The MPC has switched to tacho set B. Redundancy reduced.
Sugg. Action:	If the alarm 'Tacho set A failure' or 'Tacho set B failure' is active: Ignore this alarm. If this alarm is the only tacho alarm, at first opportunity: 1. Inspect the mechanical condition of the encoders. 2. Readjust encoder A 3. Perform tacho test on MOP: Go to 'Maintenance' -> 'Function Test' -> 'Tacho' Follow tacho test instructions NOTE If encoder A is readjusted or replaced: Perform PMI measurement, and restore tacho offset settings according to 0-diagram.

GROXX_TBF **GROUP: Tacho set B failure**

Description:	Abnormal tacho set B signals on multiple CCUs/ECUs This group alarm is caused by multiple 'Tacho set B failure' alarms. Other alarms in the group are raised as a consequence of this condition. To view the alarms in the group: Press +/- at the bottom of the MOP screen.
Cause:	- Cabling failure (loose connection etc.), or - Encoder failure, or - Tacho amplifier B failure, or - Sensor support console failure, or - Power failure (ECUB powers tacho set B) If trigger ring is fitted: - Trigger/marker ring is damaged, or - Trigger/marker sensor failure
Effect:	The CCUs/ECUs has switched to tacho set A. Redundancy reduced.
Sugg. Action:	If only one ECU or CCU reports failure: Check plug J44-J47 on failing unit. If OK: Replace ECU or CCU If all CCUs and ECUs report tacho B failure, check tacho signals on maintenance screen and power to tacho amplifier TCA-B: 1. Check power on the tacho amplifier TSA-B connector J5 pin (J,A) J=24V A=0V. 2. Turn the engine minimum one revolution (by turning gear) 3. On failing ECU or CCU maintenance screen: Check that channel 44-47 toggle correctly between true and false Channel 44 + 45: twice per revolution Channel 46 + 47: multiple times per revolution (360) Perform tacho test on MOP: Go to Maintenance -> Function Test -> Tacho Follow tacho test instructions Trace the error by following the signal from : Encoder and/or flywheel marker sensor ->Amplifier (TSA-B) ->ECU B (supplying power to TSA-B from connector J40 pin (D,A) D=24V A=0V) If trigger ring is fitted, check: a. Trigger/marker ring b. Trigger/marker sensor

GROXX

GROXX_TBIS **GROUP: Tacho B input slip**

Description:	Tacho set B is out of adjustment
Cause:	Tacho position signal B does not match the position signals from tacho A and the turning wheel sensor.
Effect:	The MPC has switched to tacho set A. Redundancy reduced.
Sugg. Action:	If the alarm 'Tacho set A failure' or 'Tacho set B failure' is active: Ignore this alarm. If this alarm is the only tacho alarm, at first opportunity: 1. Inspect the mechanical condition of the encoders. 2. Readjust encoder B 3. Perform tacho test on MOP: Go to 'Maintenance' -> 'Function Test' -> 'Tacho' Follow tacho test instructions

GROXX_TLCD- **GROUP: Torque limiter cancelled**

Description:	Swash plate pump torque limit is cancelled. NOTE NEVER cancel pump torque limiter, unless one or more swash plate pumps do not deliver sufficient flow.
Cause:	Pump torque restriction has been cancelled manually (Chief-level access required).
Effect:	No pump torque restrictions
Sugg. Action:	Enable the torque limiter as soon as the problem is solved.

GROXX_TMPF- **GROUP: Too many HP Pump Failures**

Description:	Two or more high pressure pumps are failing
Cause:	More than one high pressure pump cannot be controlled. NOTE If more than 3 pumps are installed, pump 4 and 5 are controlled by the ECUs
Effect:	- High pressure pumps move to fail safe position (maximum flow in ahead direction) - Reversing the engine may not be possible due to insufficient hydraulic pressure
Sugg. Action:	Check other alarms to locate the root cause for the pump alarms NOTE NEVER ignore this alarm. Safe critical issues may arise!

GROXX_TURNF **GROUP: Turning Failed**

Description:	Engine slow turning attempt failed Engine was not turned sufficiently
Cause:	- Starting air system failure, or - ECUB is the controlling MPC
Effect:	Engine may not be able to start. Slow-turning valve is not wired to ECUB and Engine start that require slow-turning will fail.
Sugg. Action:	1. Check ECUA is controlling MPC 2. Check slow turning valve 3. Turn engine by turning gear to a different position 4. Retry manual slow turn before new engine start If the problem persists, check: - Start air pressure - Starting air pilot valves - Starting valves

GROXX_WHDF- **GROUP: PMS (WHR): Disconnection Fail**

Description:	Time out while waiting for Waste Heat Recovery (WHR) disengaging.
Cause:	- Waste Heat Recovery (WHR) disengageing failure, or - Disengageing duration too long, or - Cable/signal failure between ECS and PMS (Power Management System)
Effect:	Speedset remains limited in WHR speed range until Waste Heat Recovery (WHR) is disengaged or speedset handle is put in Stop position. If Slow Down Request, Engine Control System will issue a Cancellable Shutdown request after a time delay.
Sugg. Action:	Check: - Cabling to Power Management System (PMS)

GROXX

GROXX_WHOR- GROUP: PMS (WHR): Speed Outside Range

Description:	Actual speed outside Waste Heat Recovery (WHR) speed range.
Cause:	Check: - Active index limiters, or - Wrong governor mode selected
Effect:	Waste Heat Recovery (WHR) is requested to disengage.
Sugg. Action:	Check: - governor mode is set to rpm control, or - index limiters

GROXX_WHWC GROUP: PMS (WHR): Wait for Conditions

Description:	Time out while waiting for Waste Heat Recovery (WHR) engagement.
Cause:	The engine speedset is outside allowable range for Waste Heat Recovery system (WHR) engaging, or - Increase limitation is active, or - Cable/signal failure between ECS and PMS (Power Management System)
Effect:	Engagement of Waste Heat Recovery system (WHR) is not permitted
Sugg. Action:	Engagement of Waste Heat Recovery system (WHR) is not permitted. Check: - Adjust speed set within WHR speed range, or - Cancel increase limitation, or - Check connection to PMS, or - Cancel Heat Recovery system (WHR) engage request.

MPCXX

MPCXX_SD-MA **Shutdown alarm missing**

Description:	Shutdown has been ordered. One or more units have not yet confirmed shutdown. This is an alarm caused by a shutdown order from the safety system and one or more MPC's does not report shutdown.
Cause:	- Shutdown feedback signal from affected MPC delayed or missing, or - No shutdown signal from safety system
Effect:	One or more MPC may try to keep engine running because it may not have received the shut down signal from the safety system.
Sugg. Action:	Check: - MPCs, that have not confirmed the shutdown. Power off, if necessary. - Cabling and signal from safety system to J32 for CCUs and J34 for ECUs.

SCUXX

SCUXX_110120 ECS Commands->No Commands Received from ECU A

Description:	No control values from ECU A received over the control network
Cause:	- ECU A failure, or - Control network performance loss
Effect:	If 'No commands received .. ' from both ECUA and ECUB: The SCU uses the last valid setpoint.
Sugg. Action:	If both ECU A and ACU B fail: Switch to manual scavenging air pressure control (set the scavenging air pressure control to 'Manual')

SCUXX_110121 ECS Commands->No Commands Received from ECU B

Description:	No control values from ECU B received over the control network
Cause:	- ECU B failure, or - Control network performance loss
Effect:	If 'No commands received .. ' from both ECUA and ECUB: The SCU uses the last valid setpoint.
Sugg. Action:	If both ECU A and ACU B fail: Switch to manual scavenging air pressure control (set the scavenging air pressure control to 'Manual')

SCUXX_1180 IO Terminals->Slow Down Request (TC Overspeed)

Description:	Turbocharger speed is too high
Cause:	- Variable turbocharger is too open for the current engine load, or - Measurement equipment failure, or - Turbocharger failure
Effect:	Slowdown request is issued to the safety system.
Sugg. Action:	1. Keep engine load below 75% 2. Reset slowdown 3. Set the variable turbocharger/bypass valve to fully open (via MOP -> 'Auxiliaries' -> 'Scavenge Air'' -> 'Bypass Mode' - 'Manual' - requires Chief level access) 4. Resume normal engine operation If the problem persists, check actual variable turbocharger position/bypass valve position. If necessary, open variable turbocharger/ bypass valve by local control or mechanically (refer to actuator manual).

SCUXX_1181 IO Terminals->Slow Down Request (high Pscav)

Description:	Scavenging air pressure (Pscav) is too high
Cause:	- Variable turbocharger is too open for the current engine load, or - Measurement equipment failure, or - Turbocharger failure
Effect:	Slowdown request is issued to the safety system.
Sugg. Action:	1. Keep engine load below 75% 2. Reset slowdown 3. Set the variable turbocharger/bypass valve to fully open (MOP -> 'Auxiliaries' -> 'Scavenge Air'' -> 'Bypass Mode' - 'Manual' - requires Chief level access) 4. Resume normal engine operation. If the problem persists, check: - Pscav measurement equipment. Compare to other Pscav measurements. - Mechanical position of variable turbocharger/bypass valve If the problem persists: Open variable turbocharger/bypass valve by local control or mechanically (refer to actuator manual).

SCUXX

SCUXX_120201 Amplifier->Bypass Amp. Current Supervision

Description:	Amplifier current deviates from set point
Cause:	- Bypass valve failure, or - Amplifier failure, or - MPC failure, or - Cable failure
Effect:	Exhaust bypass valve cannot be controlled by engine control system. Engine performance may be affected.
Sugg. Action:	Check: - Bypass valve - Amplifier - MPC, including MPC fuse for amplifier Reset amplifier (switch MPC power off and on) If the problem persists replace, one unit at a time : - Amplifier - MPC

SCUXX_120201 Amplifier->Bypass Amp. thermal protect. act.

Description:	Actuator failure Amplifier has shut down
Cause:	- Sensor cable failure, or - Sensor failure, or - No power supply to sensor, or - MPC input failure, or - Amplifier failure, or - Amplifier power supply failure
Effect:	The amplifier automatically resets. Bypass control is disabled for 5 seconds.
Sugg. Action:	Check: - Cabling - Amplifier fuse If fuse is OK: Replace amplifier

SCUXX_120281 Controllable Variable Bypass->Var. Byp. Position ctrl. fail

Description:	No or insufficient bypass valve movement
Cause:	- Bypass valve is stuck, or - Valve position feedback signal failure
Effect:	Bypass will move to failsafe position (open (most likely), closed or last valid position).
Sugg. Action:	Check: - Cabling - Position feedback signal - Bypass valve movement If valve movement is ok: 1. Switch to manual bypass valve control to reset the alarm ('MOP' -> 'Scavenge Air'. Chief mode required) 2. Switch back to automatic control

SCUXX_120282 Controllable Variable Bypass->Var. Byp. Pot. signal failed

Description:	Actuator position feedback failure
Cause:	- Cable failure, or - Potentiometer failure
Effect:	Bypass valve moves to failsafe position
Sugg. Action:	Check: - Cabling - Potentiometer. MPC must receive 4-20mA signal from potentiometer - Bypass valve movement If valve movement is ok: 1. Switch to manual bypass valve control to reset the alarm, MOP -> 'Scavenge Air'. Chief mode required) 2. Switch back to automatic control

SCUXX

SCUXX_120283 Controllable Variable Bypass->Var. Byp. Open switch failed

Description:	Bypass valve open switch signal and valve position feedback signal do not match
Cause:	- Cabling failure, or - Switch failure, or - Switches and/or potentiometer are misaligned, or - Potentiometer failure
Effect:	Position feedback signal control has switched to failsafe mode.
Sugg. Action:	Check: - Cabling - Switch - Potentiometer If all is ok: 1. Switch to manual mode to reset alarm 2. Switch back to automatic control

SCUXX_120284 Controllable Variable Bypass->Var. Byp. Closed switch failed

Description:	Bypass close switch signal and valve position feedback signal do not match
Cause:	- Cabling failure, or - Switch failure, or - Switches and/or potentiometer are misaligned, or - Potentiometer failure
Effect:	Position feedback signal control has switched to failsafe mode.
Sugg. Action:	Check: - Cabling - Switch - Potentiometer If all is ok: 1. Switch to manual mode to reset alarm 2. Switch back to automatic control

SCUXX_120380 On/Off Bypass->On/Off Bypass Control Failure

Description:	On/off bypass valve position control failure
Cause:	- On/off bypass valve is stuck, or - End stop switch failure
Effect:	If only feedback is damaged, the valve will continue to function. Else the valve will have no or limited movement, and be in an undefined position.
Sugg. Action:	If on/off bypass valve is stuck: Keep engine load below 75% until the problem is solved or it is verified that the valve is in the correct position. Check: - Actuator cabling - If bypass valve can move - Actuator end stop switches

SCUXX_120381 On/Off Bypass->No Air for On/Off Bypass Actuator

Description:	Insufficient control air pressure to actuate on/off exhaust gas bypass.
Cause:	- Control air pressure is being vented, or - Air control system failure
Effect:	On/off bypass valve is forced open
Sugg. Action:	Check: - Air pressure sensors - Control air system

SCUXX_120680 Selfcontr. Manual Control->Local Control (service term.)

Description:	MPC Service Terminal controls bypass valve (local control)
Cause:	User has enabled service terminal control
Effect:	No effect on engine performance
Sugg. Action:	Disable service terminal control as soon as service terminal operation is completed.

SCUXX

SCUXX_120681 Selfcontr. Manual Control->Manual Control (MOP)

Description:	Main operating panel (MOP) controls bypass valve
Cause:	Manual control has been activated on MOP -> Auxiliaries -> Scavenging Air
Effect:	No automatic scavenging air pressure control
Sugg. Action:	Switch back to automatic mode when manual operation is completed, 'Auxiliaries' -> 'Scavenge Air' (Chief level access required)

SCUXX_120780 Selfcontr. Setpoint Deviation->Position deviates from Setp.

Description:	Bypass valve position deviates from the set point
Cause:	- Bypass valve stiction, or - Bypass actuator failure, or - Cable failure, or - MPC failure
Effect:	No bypass valve control. Last valid bypass valve position set point is used. NOTE If bypass valve is stuck in closed or partly closed position, keep the engine load below 75%
Sugg. Action:	1. Reset bypass valve control on MOP. 'Auxiliaries' -> 'Scavenge Air' -> 'Variable Bypass' (requires Chief level access and manual control) 2. Reset actuator on MOP 3. Power bypass valve off and on If the problem persists: - Check cabling and mechanics - Recalibrate bypass valve

SCUXX_120880 Var. Valve Overspeed Handling->TC Overspeed

Description:	Turbocharger speed is too high
Cause:	- Bypass valve is too open for the current engine load, or - Measurement equipment failure, or - Mechanical turbocharger failure
Effect:	Bypass valve automatically attempts to open fully to reduce the turbocharger speed. If this attempt reduces the speed sufficiently, the alarm is cancelled, bypass valve control will switch back to normal control.
Sugg. Action:	Reduce engine load to below 75% If engine load above 75% is required, open bypass valve mechanically or via MOP.

SCUXX_120980 Selfcontr. Actuator Fail. Handl.->Actuator Reports Fault

Description:	Bypass valve actuator is not ready
Cause:	- Actuator power failure, or - Cabling failure (ch 21), or - Control air failure, or - Actuator control failure, or - Bypass valve stiction
Effect:	Bypass valve does not move. If the valve is closed or partially closed, keep engine load below 75%.
Sugg. Action:	Reset the bypass valve control on MOP, 'Auxiliaries' -> 'Scavenge Air' -> 'Variable Bypass' (requires Chief level access and manual control) If the problem persists, check: - Control air pressure - Actuator power - Cabling - If bypass valve is stuck If engine load above 75% is required, move bypass valve to fully open position.

SCUXX

SCUXX_1280 **Exhaustgas Bypass->Variable Bypass Command Failed**

Description:	No valid bypass valve set point
Cause:	- No connection to engine control system (ECS), or - Scavenging air pressure measurement failure, or - Load estimation failure
Effect:	No automatic scavenging air control.
Sugg. Action:	Switch to manual scavenging air control on MOP, 'Auxiliaries' -> 'Scavenge Air' Check: - Network connection to SCU on MOP, Maintenance -> Network - Scavenging air pressure cabling, signal must be within range (4-20mA)

SCUXX_1281 **Exhaustgas Bypass->On/Off Bypass Command Failed**

Description:	No valid on/off bypass input
Cause:	- No connection to engine control system (ECS), or - Scavenging air pressure measurement failure, or - Load estimation failure
Effect:	No automatic scavenging air control.
Sugg. Action:	Switch to manual scavenging air control on MOP, 'Auxiliaries' -> 'Scavenge Air' Check: - Network connection to SCU on MOP, Maintenance -> Network - Scavenging air pressure cabling, signal must be within range (4-20mA)

SCUXX_1283 **Exhaustgas Bypass->Bypass Manual**

Description:	Bypass valve control has switched to manual
Cause:	User has switched to manual control on MOP
Effect:	No automatic bypass valve position control
Sugg. Action:	Switch back to automatic control as soon as manual operation is completed

SCUXX_1450 **Load Estimation->Torque/Index meas. Deviates**

Description:	Measured Torque (from torquemeter or PMI system) and Measured Fuel Index deviates more than allowed.
Cause:	Torque Measurement or fuel index measurement are faullty
Effect:	Deviation is limited to a parametervalue and this alarm is raised after a defined time period.
Sugg. Action:	Check Fuel Index and Torque values on MOP screen: Engine->Process Information->Load Estimation. Check them against an external reference source. Re-calibrate the source that is found faulty.

SCUXX_1452 **Load Estimation->PMI Torque Signal Failure**

Description:	PMI Torque signal is not available or Torque signal is faulty.
Cause:	PMI system is not sending values, or… One of the cylinder measurements are faulty, meaning that there is a sensor error, or that the PI measurement deviates too much.
Effect:	The PMI system is not used as torque source to adjust the fuel index signal.
Sugg. Action:	Check PMI system Fix failing sensors, if any.

SCUXX_1690 **Scavenge Air Controller->Too High Pscav**

Description:	Scavenging air pressure (Pscav) is too high
Cause:	- Variable turbocharger/ bypass valve is closed AND current engine load is high, or - Pscav measurement failure
Effect:	Variable turbocharger / bypass valve automatically moves to open position until pressure is reduced.
Sugg. Action:	Switch to manual control NOTE If engine load above 75% is required, open variable turbocharger/bypass valve mechanically or via MOP

SCUXX

SCUXX_1691 **Scavenge Air Controller->Automatic control not possible**

Description:	No automatic scavenging air control
Cause:	- No connection to engine control system (ECS), or - Scavenging air pressure measurement failure, or - Load estimation failure
Effect:	No automatic scavenging air control.
Sugg. Action:	Switch to manual scavenging air control on MOP, 'Auxiliaries' -> 'Scavenge Air' Check: - Network connection to SCU on MOP, Maintenance -> Network - Scavenging air pressure cabling, signal must be within range (4-20mA)

SCUXX_1692 **Scavenge Air Controller->Power Turbine Trip Alarm**

Description:	WHR power turbine trip signal has been activated
Cause:	Internal trip in Power turbine or generator og cable failure.
Effect:	Exhaust bypass (or VT) is opened instantaneously, to avoid high T/C speed. Normal control after 5- 30 seconds.
Sugg. Action:	Check: - WHR/PMS system. If alarm continues with no indication on PMS/WHR system: - Check Cabling.

SCUXX_170104 **Manual Control->Local Control (service term.)**

Description:	MPC Service Terminal controls variable turbocharger (Local control)
Cause:	User has enabled service terminal control
Effect:	No automatic variable turbocharger control. No MOP control.
Sugg. Action:	Disable service terminal control as soon as service terminal operation is completed.

SCUXX_170104 **Manual Control->Manual Control (MOP)**

Description:	Main operating panel (MOP) controls the variable turbocharger
Cause:	Manual control has been activated on MOP -> Auxiliaries -> Scavenging Air
Effect:	No automatic scavenging air pressure control
Sugg. Action:	Switch back to automatic control when manual operation is complete, 'Auxiliaries' -> 'Scavenge Air' (Chief level access required)

SCUXX_170201 **Setpoint Deviation->Position deviates from Setp.**

Description:	Variable turbocharger position deviates from the set point
Cause:	- Mechanical failure, or - Actuator calibration failure, or - Electrical failure, or - Actuator failure, or - Cable failure
Effect:	No variable turbocharger control. Last valid variable turbocharger set point is used. NOTE If variable turbocharger is stuck in closed or partly closed position, keep the engine load below 75%
Sugg. Action:	1. Reset variable turbocharger control on MOP, 'Auxiliaries' -> 'Scavenge Air' -> 'Main' (requires chief level and manual control) 2. Reset actuator on MOP 3. Power variable turbocharger cabinet off and on If the problem persists: - Check cabling and mechanics

SCUXX

SCUXX_170202 Overspeed Handling->TC Overspeed

Description:	Turbocharger speed is too high
Cause:	- Variable turbocharger is too open for the current engine load, or - Measurement equipment failure, or - Turbocharger failure
Effect:	Variable turbocharger automatically attempts to open fully to reduce the turbocharger speed. If this reduces the speed sufficiently, the alarm is cancelled, and variable turbocharger control will switch back to normal control.
Sugg. Action:	Reduce engine load to below 75% NOTE If engine load above 75% is required, move variable turbocharger to fully open position

SCUXX_170203 Torque Limits->VT actuator torque high

Description:	Actuator torque is too high
Cause:	- Mechanical failure, or - Actuator failure, or - Insufficient variable turbocharger actuator scaling
Effect:	SCU attempts full variable turbocharger opening (failsafe position).
Sugg. Action:	- Reset unit - Check variable turbocharger

SCUXX_170203 Torque Limits->VT actuator torque high high

Description:	Actuator torque is too high
Cause:	- Mechanical failure, or - Actuator failure, or - Insufficient variable turbocharger actuator scaling
Effect:	SCU attempts full variable turbocharger opening (failsafe position).
Sugg. Action:	Check: - Variable turbocharger - Actuator temperature If the problem persist and continued operation is necessary: Reset actuator on MOP or power off/on variable turbocharger.

SCUXX_170204 Actuator Failure Handling->Actuator Reports Fault

Description:	Variable turbocharger is not ready
Cause:	- No power on actuator/control cabinet, or - Control cabinet fuse is blown, or - Cable failure (MPC ch. 40), or - Actuator failure, or - Torque too high
Effect:	No variable turbocharger control. Last valid variable turbocharger set point is used. NOTE If variable turbocharger is stuck in closed or partly closed position, keep the engine load below 75%
Sugg. Action:	If the variable turbocharger is closed or partially closed, keep engine load below 75%. If engine load above 75% is required, move variable turbocharger to fully open position. Reset actuator (on MOP or power variable turbocharger off and on). If the problem persists, check: - Cabling - Actuator power - Variable turbocharger

SCUXX

SCUXX_170301 Setpoint Deviation->Position deviates from Setp.

Description:	Variable turbocharger position deviates from the set point
Cause:	- Mechanical failure, or - Actuator calibration failure, or - Electrical failure, or - Actuator failure, or - Cable failure
Effect:	No variable turbocharger control. Last valid variable turbocharger set point is used. NOTE If variable turbocharger is stuck in closed or partly closed position, keep the engine load below 75%
Sugg. Action:	1. Reset variable turbocharger control on MOP, 'Auxiliaries' -> 'Scavenge Air' -> 'Main' (requires chief level and manual control) 2. Reset actuator on MOP 3. Power variable turbocharger cabinet off and on If the problem persists: - Check cabling and mechanics

SCUXX_170302 Overspeed Handling->TC Overspeed

Description:	Turbocharger speed is too high
Cause:	- Variable turbocharger is too open for the current engine load, or - Measurement equipment failure, or - Turbocharger failure
Effect:	Variable turbocharger automatically attempts to open fully to reduce the turbocharger speed. If this reduces the speed sufficiently, the alarm is cancelled, and variable turbocharger control will switch back to normal control.
Sugg. Action:	Reduce engine load to below 75% NOTE If engine load above 75% is required, move variable turbocharger to fully open position

SCUXX_170303 Torque Limits->VT actuator torque high

Description:	Actuator torque is too high
Cause:	- Mechanical failure, or - Actuator failure, or - Insufficient variable turbocharger actuator scaling
Effect:	SCU attempts full variable turbocharger opening (failsafe position).
Sugg. Action:	- Reset unit - Check variable turbocharger

SCUXX_170303 Torque Limits->VT actuator torque high high

Description:	Actuator torque is too high
Cause:	- Mechanical failure, or - Actuator failure, or - Insufficient variable turbocharger actuator scaling
Effect:	SCU attempts full variable turbocharger opening (failsafe position).
Sugg. Action:	Check: - Variable turbocharger - Actuator temperature If the problem persist and continued operation is necessary: Reset actuator on MOP or power off/on variable turbocharger.

SCUXX

SCUXX_170304 Actuator Failure Handling->Actuator Reports Fault

Description:	Variable turbocharger is not ready
Cause:	- No power on actuator/control cabinet, or - Control cabinet fuse is blown, or - Cable failure (MPC ch. 40), or - Actuator failure, or - Torque too high
Effect:	No variable turbocharger control. Last valid variable turbocharger set point is used. NOTE If variable turbocharger is stuck in closed or partly closed position, keep the engine load below 75%
Sugg. Action:	If the variable turbocharger is closed or partially closed, keep engine load below 75%. If engine load above 75% is required, move variable turbocharger to fully open position. Reset actuator (on MOP or power variable turbocharger off and on). If the problem persists, check: - Cabling - Actuator power - Variable turbocharger

SCUXX_170401 Setpoint Deviation->Position deviates from Setp.

Description:	Variable turbocharger position deviates from the set point
Cause:	- Mechanical failure, or - Actuator calibration failure, or - Electrical failure, or - Actuator failure, or - Cable failure
Effect:	No variable turbocharger control. Last valid variable turbocharger set point is used. NOTE If variable turbocharger is stuck in closed or partly closed position, keep the engine load below 75%
Sugg. Action:	1. Reset variable turbocharger control on MOP, 'Auxiliaries' -> 'Scavenge Air' -> 'Main' (requires chief level and manual control) 2. Reset actuator on MOP 3. Power variable turbocharger cabinet off and on If the problem persists: - Check cabling and mechanics

SCUXX_170402 Overspeed Handling->TC Overspeed

Description:	Turbocharger speed is too high
Cause:	- Variable turbocharger is too open for the current engine load, or - Measurement equipment failure, or - Turbocharger failure
Effect:	Variable turbocharger automatically attempts to open fully to reduce the turbocharger speed. If this reduces the speed sufficiently, the alarm is cancelled, and variable turbocharger control will switch back to normal control.
Sugg. Action:	Reduce engine load to below 75% NOTE If engine load above 75% is required, move variable turbocharger to fully open position

SCUXX_170403 Torque Limits->VT actuator torque high

Description:	Actuator torque is too high
Cause:	- Mechanical failure, or - Actuator failure, or - Insufficient variable turbocharger actuator scaling
Effect:	SCU attempts full variable turbocharger opening (failsafe position).
Sugg. Action:	- Reset unit - Check variable turbocharger

SCUXX

SCUXX_170403 Torque Limits->VT actuator torque high high

Description:	Actuator torque is too high
Cause:	- Mechanical failure, or - Actuator failure, or - Insufficient variable turbocharger actuator scaling
Effect:	SCU attempts full variable turbocharger opening (failsafe position).
Sugg. Action:	Check: - Variable turbocharger - Actuator temperature If the problem persist and continued operation is necessary: Reset actuator on MOP or power off/on variable turbocharger.

SCUXX_170404 Actuator Failure Handling->Actuator Reports Fault

Description:	Variable turbocharger is not ready
Cause:	- No power on actuator/control cabinet, or - Control cabinet fuse is blown, or - Cable failure (MPC ch. 40), or - Actuator failure, or - Torque too high
Effect:	No variable turbocharger control. Last valid variable turbocharger set point is used. NOTE If variable turbocharger is stuck in closed or partly closed position, keep the engine load below 75%
Sugg. Action:	If the variable turbocharger is closed or partially closed, keep engine load below 75%. If engine load above 75% is required, move variable turbocharger to fully open position. Reset actuator (on MOP or power variable turbocharger off and on). If the problem persists, check: - Cabling - Actuator power - Variable turbocharger

SCUXX_170501 Setpoint Deviation->Position deviates from Setp.

Description:	Variable turbocharger position deviates from the set point
Cause:	- Mechanical failure, or - Actuator calibration failure, or - Electrical failure, or - Actuator failure, or - Cable failure
Effect:	No variable turbocharger control. Last valid variable turbocharger set point is used. NOTE If variable turbocharger is stuck in closed or partly closed position, keep the engine load below 75%
Sugg. Action:	1. Reset variable turbocharger control on MOP, 'Auxiliaries' -> 'Scavenge Air' -> 'Main' (requires chief level and manual control) 2. Reset actuator on MOP 3. Power variable turbocharger cabinet off and on If the problem persists: - Check cabling and mechanics

SCUXX_170502 Overspeed Handling->TC Overspeed

Description:	Turbocharger speed is too high
Cause:	- Variable turbocharger is too open for the current engine load, or - Measurement equipment failure, or - Turbocharger failure
Effect:	Variable turbocharger automatically attempts to open fully to reduce the turbocharger speed. If this reduces the speed sufficiently, the alarm is cancelled, and variable turbocharger control will switch back to normal control.
Sugg. Action:	Reduce engine load to below 75% NOTE If engine load above 75% is required, move variable turbocharger to fully open position

SCUXX

SCUXX_170503 Torque Limits->VT actuator torque high

Description:	Actuator torque is too high
Cause:	- Mechanical failure, or - Actuator failure, or - Insufficient variable turbocharger actuator scaling
Effect:	SCU attempts full variable turbocharger opening (failsafe position).
Sugg. Action:	- Reset unit - Check variable turbocharger

SCUXX_170503 Torque Limits->VT actuator torque high high

Description:	Actuator torque is too high
Cause:	- Mechanical failure, or - Actuator failure, or - Insufficient variable turbocharger actuator scaling
Effect:	SCU attempts full variable turbocharger opening (failsafe position).
Sugg. Action:	Check: - Variable turbocharger - Actuator temperature If the problem persist and continued operation is necessary: Reset actuator on MOP or power off/on variable turbocharger.

SCUXX_170504 Actuator Failure Handling->Actuator Reports Fault

Description:	Variable turbocharger is not ready
Cause:	- No power on actuator/control cabinet, or - Control cabinet fuse is blown, or - Cable failure (MPC ch. 40), or - Actuator failure, or - Torque too high
Effect:	No variable turbocharger control. Last valid variable turbocharger set point is used. NOTE If variable turbocharger is stuck in closed or partly closed position, keep the engine load below 75%
Sugg. Action:	If the variable turbocharger is closed or partially closed, keep engine load below 75%. If engine load above 75% is required, move variable turbocharger to fully open position. Reset actuator (on MOP or power variable turbocharger off and on). If the problem persists, check: - Cabling - Actuator power - Variable turbocharger

SCUXX_170604 TC speed balance supervision->TC Speed Deviation

Description:	Turbochargers are running at different speeds
Cause:	- T/C Nozzle Position Offset adjustment not ok, or - Turbocharger wear - Position control failure, or - Turbocharger speed sensor failure
Effect:	Risk of T/C surging/stalling or T/C overspeed if the T/C speed deviation becomes too large.
Sugg. Action:	-Adjust the T/C Nozzle Position Offset on MOP, 'Auxiliaries' -> 'Scavenge Air' -> 'TC Speed Balancing' If the problem persists, check: - Sensors - Mechanics If the problem persists and T/C is surging/overspeeding: - Adjust all T/C's mechanically to same position (may require engine stop). See T/C instructions for details.

SCUXX

SCUXX_800004 Ch30,8000,Engine Speed->Suprv. Ch30,8000,Engine Speed

Description:	Engine speed input signal is out of range (4-20mA)
Cause:	- Cable failure, or - Sensor failure
Effect:	Alarm: 'Automatic control not possible' SCU will order actuator to lock in last position
Sugg. Action:	Switch to manual variable turbocharger/bypass valve position control until the problem is solved. Check: - Cabling - Sensor NOTE If engine load above 75% is required, move variable turbocharger/bypass valve to fully open position.

SCUXX_800104 Ch31,8001,Fuel Index->Suprv. Ch31,8001,Fuel Index

Description:	Fuel index input signal is out of range (4-20mA)
Cause:	- Cable failure, or - Sensor failure
Effect:	If no torquemeter is applied, the variable turbocharger/bypass valve will stay in last valid position. Alarm: 'Automatic control not possible'
Sugg. Action:	Switch to manual variable turbocharger/bypass valve position control until the problem is solved. Check: - Cabling - Sensor NOTE If engine load above 75% is required, move variable turbocharger/bypass valve to fully open position.

SCUXX_800304 Ch32,8003,PscavSensor #1 (bar)->Suprv. Ch32,8003,PscavSensor #1 (ba

Description:	Pscav input signal is out of range (4-20mA)
Cause:	- Cable failure, or - Sensor failure
Effect:	Alarm: 'Automatic control not possible' If only one Pscav sensor is used, or if both Pscav sensors are failing, variable turbocharger will use last valid control value. Otherwise: Redundancy reduced
Sugg. Action:	Switch to manual variable turbocharger/bypass valve position control until the problem is solved. Check: - Cabling - Sensor NOTE If engine load above 75% is required, move variable turbocharger/bypass valve to fully open position.

SCUXX_800404 Ch33,8004,PscavSensor #2 (bar)->Suprv. Ch33,8004,PscavSensor #2 (ba

Description:	Pscav sensor is out of range (4-20mA)
Cause:	- Cable failure, or - Sensor failure
Effect:	If only one Pscav sensor is used, or if both Pscav sensors are failing, variable turbocharger will use last valid control value. Otherwise: Redundancy reduced
Sugg. Action:	Switch to manual variable turbocharger/bypass valve position control until the problem is solved. Check: - Cabling - Sensor NOTE If engine load above 75% is required, move variable turbocharger/bypass valve to fully open position.

SCUXX

SCUXX_872104 Ch21,8721,Var. Bypass Position->Suprv. Ch21,8721,Var. Bypass Positi

Description:	Pscav sensor is out of range (4-20mA)
Cause:	- Cabling failure - Sensor/actuator failure
Effect:	Bypass valve moves to failsafe position
Sugg. Action:	Switch to manual bypass valve position control until the problem is solved. Check: - Cabling - Position measurement. NOTE If engine load above 75% is required, move bypass valve to fully open position

SCUXX_875104 Ch21,8751,Var. Bypass Position->Suprv. Ch21,8751,Var. Bypass Positi

Description:	Bypass valve position signal is out of range (4-20mA)
Cause:	- Cable failure, or - Sensor failure
Effect:	Bypass valve will use last valid value
Sugg. Action:	Switch to manual bypass valve position control until the problem is solved. Check: - Cabling - Sensor NOTE If engine load above 75% is required, move bypass valve to fully open position

SCUXX_877204 Ch26,8772,Incr. Exh. Energy (WHR)->Suprv. Ch26,8772,Incr. Exh. Energy

Description:	Increase Exhaust energy signal is out of range (4-20mA)
Cause:	- Cable failure, or - Sensor failure
Effect:	Increase Exhaust energy function will not work -> reference Pscav curve will be used (max Pscav)
Sugg. Action:	Check: - WHR System Condition and output channel. - Cabling

SCUXX_8784-10 Ch34,8784-1,VT1 Pos. (Ext. Format)->Suprv. Ch34,8784-1,VT1 Pos. (Ext. F

Description:	Variable turbocharger position signal is out of range (4-20mA)
Cause:	- Cable failure, or - Sensor failure
Effect:	Variable turbocharger will use last valid value
Sugg. Action:	Switch to manual variable turbocharger position control until the problem is solved. Check: - Cabling - Sensor NOTE If engine load above 75% is required, move variable turbocharger to fully open position

SCUXX_8784-20 Ch22,8784-2,VT2 Pos. (Ext. Format)->Suprv. Ch22,8784-2,VT2 Pos. (Ext. F

Description:	Variable turbocharger position signal is out of range (4-20mA)
Cause:	- Cable failure, or - Sensor failure
Effect:	Variable turbocharger will use last valid value
Sugg. Action:	Switch to manual variable turbocharger position control until the problem is solved. Check: - Cabling - Sensor NOTE If engine load above 75% is required, move variable turbocharger to fully open position

SCUXX

SCUXX_8801-10 **Ch35,8801-1,TC Speed #1->Suprv. Ch35,8801-1,TC Speed #1**

Description:	Turbocharger speed signal is out of range (4-20mA)
Cause:	- Cable failure, or - Sensor failure
Effect:	No turbocharger speed supervision
Sugg. Action:	Check: - Cabling - Sensor Redundancy reduced

SCUXX_8801-20 **Ch23,8801-2,TC Speed #2->Suprv. Ch23,8801-2,TC Speed #2**

Description:	Turbocharger speed signal is out of range (4-20mA)
Cause:	- Cable failure, or - Sensor failure
Effect:	No turbocharger speed supervision
Sugg. Action:	Check: - Cabling - Sensor Redundancy reduced

SCUXX_882504 **Ch37,8825,Measured Torque (mA)->Suprv. Ch37,8825,Measured Torque (m**

Description:	Measured torque signal is out of range (4-20mA)
Cause:	- Cable failure, or - Sensor failure
Effect:	Engine torque estimate will be based on fuel index only
Sugg. Action:	Check: - Cabling - Sensor

SCUXX_badBau **System->Non standard baud rate**

Description:	Service terminal baud rate is not 9600 Bd
Cause:	Non-standard Baud rate selected.
Effect:	No, or unreadable output to Service Terminal.
Sugg. Action:	When convenient: Reset Blue DIP switch and reboot MPC

SCUXX_IDKEY **System->ID Key corrupt**

Description:	The MPC cannot read ID-key data
Cause:	- ID-key is not plugged in, or - ID-key data is corrupted, or - ID-key hardware failure, or - MPC failure
Effect:	No immediate effect on engine performance. The MPC may not function correctly after a restart.
Sugg. Action:	If this alarm is active for more than 5 minutes, check that the ID-key is plugged in correctly. If the problem persists replace, one at a time: - ID-key (see instruction manual for configuration instructions) - MPC

SCUXX_SBAT **System->Battery Level Low**

Description:	MPC battery is low
Cause:	Battery worn out
Effect:	If MPC remains switched on: No effect If MPC is switched off or power is lost: MPC will loose its time settings
Sugg. Action:	Replace battery when convenient

SCUXX

SCUXX_SFuseF **24V power supervision->Fuse F12 failure**

Description:	Fuse 12 is blown. Fuse 12 protects MPC power supply, connectors J20 - J37
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channel J20 - J37 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to connectors J20 - J37. Replace fuse.

SCUXX_SFuseF **24V power supervision->Fuse F13 failure**

Description:	Fuse 13 is blown. Fuse 13 protects MPC power supply, connectors J40 - J61
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channels J40 - J61 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to connectors J70 and J71. Replace fuse.

SCUXX_SFuseF **24V power supervision->Fuse F14 failure**

Description:	Fuse 14 is blown. Fuse 14 protects MPC power supply, connectors J70 and J71.
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channel J70 and J71 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to channel J70 and J71. Replace fuse.

SCUXX_SFuseF **24V power supervision->Fuse F9 failure**

Description:	Fuse 9 is blown. Fuse 9 protects MPC power supply, connector J9.
Cause:	- Electrical overload, or - Short circuit
Effect:	Signals received on channel J9 may be faulty. Multiple supervision alarms are raised as a consequence of this condition.
Sugg. Action:	Check for short circuits in the external cabling to connector 9. Replace fuse.

SCUXX_SInvPar **System->Invalid parameters**

Description:	The MPC holds invalid parameters. The MPC cannot start its application without the correct parameters.
Cause:	The alarm is caused from the MPC automatically loads the wrong parameter set after a replacement of the MPC.
Effect:	The behaviour of the application in the MPC is not correct. The precise effect of this situation is unknown and care should be taken.
Sugg. Action:	If the involved MPC just have been repalced, wait for the automatic preparation to complete. If this takes more than 10 minutes, the LED colour signalling for fault indication should be inspected. If this proves unhelpful, reset the MPC unit. If it still does not help, contact MAN B&W Diesel.

SCUXX_SInvSw **System->Invalid software**

Description:	MPC is running an incorrect application
Cause:	MOP A and B not available during MPC power up
Effect:	Reduced system performance NOTE Never ignore this alarm. Safety critical issues may arise!
Sugg. Action:	Switch off MPC immediately. When MOP A or MOP B are available: Restart MPC

SCUXX

SCUXX_SIPF **System->Invalid Parameter Flash**

Description:	Parameter flash failure
Cause:	The CRC check when reading the parameters from Flash failed
Effect:	Parameters from flash cannot be used.
Sugg. Action:	Write a new parameter set to flash. I the problem persists, the unit may be defective

SCUXX_SPow24 **24V power supervision->24V power A failure, connector 1B**

Description:	No power supply to connector J1, terminal B
Cause:	- Power supply A is turned off, or - Cabling failure
Effect:	No effect on engine performance (MPC is powered from power supply B) No power supply redundancy
Sugg. Action:	Check: - Power supply A - Cabling

SCUXX_SPow24 **24V power supervision->24V power B failure, connector 1C**

Description:	No power supply to connector J1, terminal C
Cause:	- Power supply B is turned off, or - Cabling failure
Effect:	No effect on engine performance (MPC is powered from power supply A) No power supply redundancy
Sugg. Action:	Check: - Power supply B - Cabling

SCUXX_SWDog **System->Watchdogs deactivated**

Description:	MPC watchdog disabled
Cause:	Green DIP-switch is set to ‘Off’
Effect:	No effect on engine performance. The MPC may respond incorrectly to any software and hardware failures.
Sugg. Action:	Set green DIP-switch to 'On'