

Engine Controller Alarm Verification Procedure



Enriching Lives

Before starting the Engine ...

1. Connect Both Wiring Harness (Panel to Engine & Panel to Panel as per KOEL part nos.).
2. Connect Panel to panel harness Open end terminals Fire–Pump Controller panel.
3. Connect Both Battery (1) & (2) (Both Battery should be fully charged Sp. Gr.1250-1300) If system is 12V (4R, 4RTA, 6RTA) (2 nos. 12V in Parallel). If System Is 24V (SL90) (4Nos of 12V. In this 2in Series each & then both the banks in Parallel).
4. Battery capacity For 4R & 4RTA (12V/150Ah)&6R,SL90(12V/180Ah)
5. Connect Battery(1)+VE To Starter Contactor(1) Sw. terminal (A)
6. Connect Battery(2)+VE To Starter Contactor(2) Sw. terminal (C)
7. Connect Both Battery–VE at One point at engine Fly Wheel Housing. OR Engine Body.
8. Confirm the all connection tightened properly to avoid loose connection.
9. Check Battery (1) & (2) Voltmeter showing the correct reading.
10. Confirm the Magnetic pick-up installation properly to maintain the Gap Between Pick-up & Ring gear should be 0.5-0.75mm. Check this by Filler Gauge before cranking the engine to avoid damage.

To start the engine from engine panel (In Manual Mode)...

1. Ensure mode selector switch on engine panel in Manual mode.
2. Start the engine through engine panel by crank 1 Switch. Ensure the engine starts smoothly.
3. Set the digital RPM/HR meter as per required rated RPM(Follow setting procedure)
4. Check The Battery (1&2) Voltmeter Showing More Voltage than battery voltage (14.5Vmax.) to confirm charging alternator functioning.
5. Check the RPM showing correct as per rated RPM.Stop the engine by stop switch manually.
6. Start the engine through engine panel by crank 2 Switch. Ensure the engine starts smoothly.
7. Check the RPM showing correct as per rated RPM. Stop the engine by stop switch manually.
8. Check Lube. Oil Pressure Gauge functioning (Shows 4-6bar).
9. Check The Water temperature gauge functioning after Engine running(15-30min.)
10. Over-speed tests through engine panel.
Start the engine through engine panel ensure engine running at rated speed.
 - Press & hold the “OS” test button on Engine panel.
 - Engine will stop automatically and reduced speed reading will be displayed on rpm meter.
 - Over speed indication is “ON”

Release the OS test button and press the Reset button on engine panel to confirm OS reset over speed indication is “OFF”.

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Operating the Engine (AUTO MODE):--

11. Now keep the engine panel mode selector switch in auto mode.
12. Auto Indication will be "ON".
13. In this Mode Manual Mode will be By-passed.
14. Short terminal "9 & 6" On Fire-pump Controller Panel
Ensure the engine starts smoothly.
15. Short terminal "10 & 8" On Fire-pump Controller Panel
Ensure the engine starts smoothly.

Engine Control Alarm Functional Tests Verification Procedure while Engine is running...

- A. Conduct the **LOW OIL PRESSURE** test as below.
 - Short the terminal "4 and 11" while engine is running.
 - **Check ENGINE LOW OIL PRESSURE** signal at Terminal "4" in Fire Pump Controller panel
- B. Conduct the **HIGH WATER TEMPERATURE** test as below
 - Short the terminal "5 and 11" while engine is running In Control Panel.
 - Check **ENGINE HIGH WATER TEMPERATURE** signal at terminal "5" in Fire Pump Controller Panel..
- C. Conduct the **OVERSPEED** test as below.
 - Ensure the engine is running.
 - Press & hold the OS test button on Engine panel.
 - Engine will stop automatically and reduced speed reading will be displayed on rpm meter.
 - Over speed indication is "ON"
 - Check **ENGINE OVER SPEED** signal at terminal "3" in Fire Pump Controller Panel.

Release the OS test button and press the Reset button on engine panel to confirm OS reset, over speed indication is "OFF".

D. Conduct the **ENGINE RUNNING Signal Test.**

Start the Engine Check the Voltage at Terminal "2" with Ref. to -VE Going to Fire pump controller panel This will show 12V OR 24V as per Battery supply system.
Check **Engine Running Lamp is "ON"**.

E. Conduct **Engine stopping** From Fire-pump Controller Panel:-

- Ensure the engine is running.
- Short terminal "6&12" Check Engine stopping
- Short terminal "8&12" Check Engine stopping

F. Conduct "**Raw Water Temperature**" Switch simulation Test.

- Short the terminal 310 & 11 on Temperature Switch.
- Check the Signal at Terminal 310 on Fire-pump controller panel.

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G. Conduct “Raw Water Flow” Switch simulation Test.

- Short the terminal 311 & 11 on Cooling Line flow switch.
- Check the signal at terminal 311 on Fire-pump controller panel.

H. Conduct “Engine Coolant Heater Temperature” Switch simulation test

- Short the terminal 312 & 11 at Engine coolant heater Line Switch.
- Check the signal at terminal 312 on Fire-pump controller panel.

REFERENCE CONTROL PANEL DOOR LAY OUT FOR GUIDEDANCE

