

Fixed Standby Diesel Generators

Associated control panel exam in NR/FP C020.

1 'C' Examination

1.1 General

- a) Check log book for recorded defects.
- b) Check fuel, coolant and oil and record levels. Fill/top-up tank.
- c) Check fuel level in all storage tanks (75% min).
- d) Check air ventilation louvres are secure and free from any obstruction.
- e) Confirm condition of drive belts is satisfactory.
- f) Visually check condition of generator skid.
- g) Examine attached components for damage and security.
- h) Check for fuel, oil and coolant leaks.
- i) Check radiator for condition and security.
- j) Examine hoses for condition and check that clips are secure.
- k) Where applicable, check that the inlet to the cooling air duct is free from obstruction.
- l) Check engine heating systems operate correctly.
- m) Examine throttle and control linkages for security, condition, and excessive movement. If necessary, adjust and lightly lubricate.
- n) Examine turbo-charger suction and pressure pipes and hoses for condition and security.
- o) Confirm that turbo-charger oil heater is working correctly.

1.2 Batteries

- a) Check electrolyte level and record specific gravity and total voltage readings.
- b) Clear all vent caps and breather pipes of any obstruction.
- c) Check that all cells are clean and dry.
- d) Inspect battery terminals for condition and security.

1.3 Battery charger(s)

- a) Record charge current and voltage.
- b) Examine condition and check for correct operation.

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- c) Where dual chargers are installed for the same battery, check correct operation of both and that their outputs are comparable.
- d) Where boost charge is available, check it for correct operation.

1.4 Secondary-start system

- a) Check system for security and leaks.
- b) Check that operating instructions are clearly displayed.
- c) Check that any hydraulic start systems are at the correct pressure.

1.5 Alternator

- a) Check security and condition of guards, mountings, castings and cable entries.

1.6 Control cubicle(s)

- a) Check all indicator lights, push buttons and switches for condition, security and correct operation.
- b) Fire shut-down - Check wire condition, security and freedom of movement.
- c) Check fusible links for condition and security.

Functional Tests (C Exam)

1.7 Pre-test check

- a) Test indicator lamps via use of lamp test push button. Review log book for faults. Check control system for alarms/condition indicators and record faults.

1.8 Operational test

- a) This test shall not interrupt signalling or critical operational supplies.
- b) Operate the engine.
- c) Engine shall be operated for a minimum of 30 minutes.
- d) During engine run look/check for:
 - excessive noise and/or vibration;
 - temperature of coolant;
 - temperature and pressure of lubricating oil;
 - fuel leaks;
 - coolant leaks;
 - oil leaks;

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- exhaust leaks;
 - excessive smoke from engine;
 - colour of exhaust smoke;
 - alternator output;
 - alternator charging battery;
 - and loose components.
- e) All readings shall be recorded into the log book (including “engine hours run”) after first 5 minutes and again 10 minutes before shutdown.
- f) Check that all meters are operating correctly – voltmeter reads nominal voltage.
- g) Check that any automatic louvres open correctly.
- h) Check with the signaller that all signals and panel box indicators are working correctly.

1.9 Completion of testing

- a) Fill service fuel tank.
- b) Clean engine and empty drip trays, spill tanks and breather discharge tanks.
- c) Reset mains, mobile and control cubicle maintenance switches to normal.
- d) Check that the installation is prepared for “automatic” working.
- e) Record work carried out and any defects into log book and on WAIFs.

2 ‘D’ Examination

2.1 General

As for ‘C’ Examination except the off load test

2.2 Fuel system

- a) Drain off any water or sediment from drain plug of secondary fuel filter

2.3 Fuel injection pump and governor

- a) Check the oil level and, if necessary, top it up.
- b) Check the control rods and linkage for operation and security - lubricate joints and cables.

2.4 Fuel storage tanks

- a) Fuel transfer pump - check for correct operation and leaks.

2.5 Engine and alternator mountings