

§ 7.104

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§ 7.103(a)(7). If a wet exhaust conditioner is used, it must be filled to the high or normal operating water level during this test.

(9) The starting mechanism shall be tested to ensure that engagement is not possible while the engine is running. Operate the engine and attempt to engage the starting mechanism.

(10) Where the lack of engine oil pressure must be overridden in order to start the engine, test the override to ensure that it does not override any of the safety shutdown sensors specified in § 7.98(i). After each safety shutdown sensor test specified in paragraphs (a)(2) through (a)(5) of this section, immediately override the engine oil pressure and attempt to restart the engine.

(b) *Acceptable performance.* Tests of the safety system controls shall result in the following:

(1) The coolant system temperature shutdown sensor shall automatically activate the safety shutdown system and stop the engine before the water temperature in the cooling jackets exceeds manufacturer's specifications or 212 °F (100 °C), whichever is lower.

(2) The temperature sensor in the exhaust gas stream of a system using a dry exhaust conditioner shall automatically activate the safety shutdown system and stop the engine before the cooled exhaust gas exceeds 302 °F (150 °C).

(3) The temperature sensor in the exhaust gas stream of a system using a wet exhaust conditioner shall automatically activate the safety shutdown system and stop the engine before the cooled exhaust gas exceeds 185 °F (85 °C).

(4) The low water sensor for systems using a wet exhaust conditioner shall automatically activate the safety shutdown system and stop the engine at or above the minimum allowable low water level and prevent restarting of the engine.

(5) The emergency intake air shutoff device shall operate immediately when activated and stop the engine within 15 seconds.

(6) The total intake air inlet restriction and the total exhaust backpressure shall not exceed the engine manufacturer's specifications.

(7) It shall not be possible to engage the starting mechanism while the engine is running, unless the starting mechanism is constructed of non-sparking material.

(8) The engine oil pressure override shall not override any of the shutdown sensors.

§ 7.104 Internal static pressure test.

(a) *Test procedures.* (1) Isolate and seal each segment of the intake system or exhaust system to allow pressurization.

(2) Internally pressurize each segment of the intake system or exhaust system to four times the maximum pressure observed in each segment during the tests of § 7.100, or 150 psig ±5 psig, whichever is less. Maintain the pressure for a minimum of 10 seconds.

(3) Following the pressure hold, the pressure shall be removed and the pressurizing agent removed from the intake system or exhaust system.

(b) *Acceptable performance.* (1) The intake system or exhaust system, during pressurization, shall not exhibit—

(i) Leakage through welds and gasketed joints; or

(ii) Leakage other than along joints meeting the explosion-proof requirements of § 7.98(q).

(2) Following removal of the pressurizing agent, the intake system or exhaust system shall not exhibit any—

(i) Changes in fastening torque;

(ii) Visible cracks in welds;

(iii) Permanent deformation affecting the length or gap of any flame-arresting paths;

(iv) Stretched or bent fastenings;

(v) Damaged threads of parts affecting the explosion-proof integrity of the intake system or exhaust system; or

(vi) Permanent distortion of any planar surface of the diesel power package exceeding 0.04-inches/linear foot.

§ 7.105 Approval marking.

Each approved diesel power package shall be identified by a legible and permanent approval plate inscribed with the assigned MSHA approval number and securely attached to the diesel power package in a manner that does not impair any explosion-proof characteristics. The grade limitation of a wet