

CAN/CSA-C282-05

Annual inspection, test, and maintenance requirements

(See Clauses 11.1.2, 11.3, 11.5.1, 11.5.2, 11.5.5.1, and B.20.)

Item No.	Component	Date:	Date:	Date:	Date:
1	All items specified in Tables 2 to 4.				
2	<p>Control panel:</p> <p>(a) Open all inspection covers and inspect all electrical connections.</p> <p>(b) Test breakers for proper operation.</p> <p>(c) Clean insulators and bushings.</p> <p>(d) Test voltage regulator for proper operation.</p> <p>(e) Operate all moving parts to ensure that they move freely.</p> <p>(f) Clean and dress contacts as necessary.</p> <p>(g) Remove all dust.</p> <p>(h) Check gauge calibration.</p> <p>(i) With the generator set operating at full load (see Clause 11.3), conduct an infrared survey of all electrical connections to identify any high-resistance connections.</p>				
3	<p>Engine:</p> <p>(a) Change engine lubrication oil and filters.</p> <p>(b) Test strength of coolant and chemical protection level of coolant inhibitors.</p> <p>(c) Change fuel filters, clean strainer(s), and verify that the fuel supply is open.</p> <p>(d) Inspect the exhaust system. Check and record the back pressure of the exhaust system to ensure that it complies with the engine manufacturer's requirements, and compare with previous readings.</p> <p>(e) Clean and lubricate linkages.</p> <p>(f) Inspect air filters.</p> <p>(g) Inspect all mechanical connections.</p> <p>(h) Inspect all electrical connections.</p> <p>(i) For spark ignition engines, inspect all components of ignition system(s) and service or replace as appropriate.</p> <p>(j) Inspect all external surfaces of heat exchanger(s) and clean as necessary.</p> <p>(k) Inspect all belts and hoses and replace if necessary.</p> <p>(l) Test and inspect ignition system(s). Replace any defective components.</p> <p>(m) Inspect coolant pump(s) for leaks and external wear (if belt driven, remove the belt(s) first).</p>				
4	<p>Diesel fuel storage tank(s):</p> <p>The fuel oil in any storage tank (and day tank, if used) shall be tested in accordance with Clause 11.5.5, and if the fuel oil fails the test, it shall be</p> <p>(a) drained and refilled with fresh fuel in accordance with Article 6.7.1.5 of the <i>National Fire Code of Canada</i>; or</p> <p>(b) full filtered to remove water, scale, bacteria, and oxidized gums/resins in order to minimize filter clogging and ensure diesel start-up (see Clause B.20 for commentary).</p> <p>When the fuel is filtered, it shall be treated with suitable conditioner and stabilizer to minimize degradation while in storage.</p> <p>Note: <i>The bottom(s) of the tank(s) shall be also tested chemically for water.</i></p>				
5	<p>Generator:</p> <p>(a) Test surge suppressor and rotating rectifier on brushless machines.</p> <p>(b) Grease bearings (replace old grease with new) (if applicable).</p> <p>(c) Clean commutator and slip rings (if applicable).</p> <p>(d) Clean rotor and stator windings using clean compressed air.</p> <p>(e) Inspect coupling bolts and alignment.</p> <p>(f) Inspect conduits for tightness.</p> <p>(g) Inspect windings at rotor and stator slots.</p> <p>(h) Inspect all electrical connections.</p> <p>(i) With the generator set operating at full load (see Clause 11.3), conduct an infrared survey of all electrical connections to identify and high-resistance connections.</p>				

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6	Transfer switches:				
	(a) Isolate transfer switch, open all inspection covers, and inspect all electrical connections.				
	(b) Operate all moving parts to ensure that they move freely.				
	(c) Clean and dress contacts as required.				
	(d) Remove all dust.				
	(e) Clean and lubricate linkages.				
	(f) Conduct an infrared survey of all electrical connections, contacts, and energized components while under load on both the normal and the emergency side.				
7	Lubricate door locks and hinges (if necessary), especially those of outdoor enclosures.				
8	Conduct a 2 h full-load test (see Clause 11.3).				
9	As needed, review and provide instruction on the technical requirements specified in Tables 2 to 4 with the person(s) responsible for carrying out the work.				
10	Correct all the defects found during inspections and tests.				
11	Record all inspections, tests, and corrective actions in the log (see Clause 11.5.3).				

Signature of Person Performing Checks	x	x	x	x
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1. Fill in the date at the top of the column for the day that the checks are being conducted.
2. Check off the boxes underneath the date when the checks are being conducted.
3. The person performing the checks must sign their signature at the bottom of the check sheet underneath the date when the checks are being conducted.
4. The Fire Code requires that records be retained for a minimum of two (2) years.
5. In addition to sentence 4, a permanent log of the maintenance work (including inspections and tests) shall be maintained in accordance with the manual of operating and maintenance instructions, and shall include at least the 5 criteria as set out in "11.5.3 Records" of CAN/CSA-C282-05.

Note: Items 2 to 11 require special skill and shall be carried out by a qualified contractor, the system manufacturer, or individuals trained and certified by the system manufacturer.