3500 DC standby 6 monthly inspection

PM

Inspection Number	Customer No
Serial Number	Customer Name
Make	Completed On
Model	Inspector
Equipment Family	PDF Generated On
Asset ID	SMU
Location	
Technician	

General Info & Comments

- **General info/Comments**

Prerequisite

- **1.1 To be completed in conjunction with load testing**

Cooling System

- **2.1 Visually inspect cooling system for leaks, damage, and obstruction.**
- **2.2 Visually inspect water pump and cooling system gasket for leaks.**
- **2.3 Inspect flexible water connections for cracking, leaks, and pliability.**

- 2.4 Inspect and tighten cooling system hose clamps and mounting brackets.
- 2.5 Record coolant temperature from the HMI.
- 2.6 Check jacket water heater for proper operation and adjust thermostat setting as needed.
- 2.7 Check coolant level in sight glass is between 1/3 and 2/3 up the site glass.
- 2.8 Check operation of jacket water heater system and check all system connections
- 2.9 Inspect radiator and cooling matrix for damage and blockage
- 2.10 Sample cooling system and send for laboratory analysis

Oil System

- 3.1 Visually inspect front and rear crankshaft seals and lubrication system gasket for leaks.
- 3.2 Inspect and tighten oil hose and connections for cracking, leaks, and pliability.
- 3.3 Check oil level using dipstick
- 3.4 Sample oil system and send for laboratory analysis

Fuel System

- 4.1 Drain water from water separator(s) as needed
- 4.2 Check fuel system for leaks (pumps, coolers, fuel tanks)
- 4.3 Inspect flexible fuel lines for cracking, leaks, and pliability
- 4.4 Inspect steel fuel lines for cracks, leaks, and proper line support

- 4.5 Inspect all fuel system hose clamps and mounting brackets
- 4.6 Verify match marks line up on wire mesh filters
- 4.7 Operate fuel priming pump (if able) and check for proper operation and leaks
- 4.8 Generator fuel tank level taken
  - 4.8.1 Generator fuel tank level
- 4.9 Fuel level reading taken
  - 4.9.1 Fuel level reading
- 4.10 Water Seperator drain valve lock wire and seal check and or replaced
- 4.11 Dip level reading taken
  - 4.11.1 Dip level reading
- 4.12 Calibrated fuel reading taken
  - 4.12.1 Calibrated fuel reading
- 4.13 Additional comments / works
- 4.14 Sample fuel system and send for laboratory analysis
- 4.15 If hinges are not maintenance free hinges, apply grease to the grease nipple

Battery

- 5.1 Record battery charger voltage and current

  Record battery charger voltage and current :
- 5.2 Record battery float voltage from the HMI

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- 5.3 Clean and apply corrosion inhibitor to terminals as needed
- 5.4 Tighten battery terminals on both ends as needed
- 5.5 Perform resistive battery test using digital battery tester and note pass or fail on each individual battery.
- 5.6 If batteries are not maintenance free, check water level in each cell and top off with distilled water if needed
- 5.7 Confirm battery isolation key switch is in the correct position and in no loose connection with all the cabling for the generator battery system

Exhaust System

- 6.1 Inspect flexible exhaust coupling for cracks, excessive leakage, broken/loose bolts, cracked welds, or missing hardware
- 6.2 Inspect exterior of exhaust manifolds for signs of wet stacking. If signs of excessive wet stacking are noticed clean from engine, escalate or detail in PM report

Air Systems

- 7.1 Check all air intake piping and hardlines for damage or loose connections
- 7.2 Verify air filter indicators are clear or green. If not reset indicator and clean/inspect filters. Check history of generator and replace if 3 or more years from previous filter change or indicator has activated and been reset during previous service
- 7.3 Inspect air filters for plugging and deterioration and clean if required
- 7.4 Visually inspect air cleaner seal and clean as needed

Electrical

- 8.1 Press the lamp test button and check for illumination of panel lights and local annunciator alarm lamps on generator control panel.
- 8.2 Inspect harnesses and looms for correct routing and connection

- 8.3 Visually inspect alternator connections, windings and rotating diodes
- 8.4 Check alternator space heaters are operational
- 8.5 Visually inspect starter motor harnesses and hardware

Software

- 9.1 Check for currently installed ECM & EMCP software version and note the most recent version. DO NOT UPDATE WITHOUT PRIOR APPROVAL.
- 9.2 PSR downloaded and comparison completed

Setpoints

- 10.1 Connect to generator control panel with equipment software and verify that the most recent approved software versions are installed. If an update is required, inform the on-site team and note it in the test report. Software updates require approval from FLL and will be implemented during agreed maintenance visit.
- 10.2 Ensure the Service Maintenance Interval has been set to 500 hours/365 days/0-security and reset and verify Idle Cylinder Cut Off is ON
- 10.3 Verify/correct ECM date/time
- 10.4 Verify all faults and events that can be cleared are cleared
- 10.5 Take a product download using CAT ET (for CAT generators).

Test Run

- 11.1 Perform a load bank test or unloaded run of the generator and verify generator comes up to rated speed and voltage and inspect for abnormal noise and vibration
- 11.2 Visually inspect proper operation of remote fan motors, engine thermostat, cooling fans, and water circulating pumps

- **11.3 Check proper operation of engine meters (engine speed, oil pressure, coolant temperature and DC voltage/amperage)**

- **11.4 Verify proper frequency (60Hz or 50Hz)**

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- **11.5 Verify proper AC voltage for the system and ensure it matches metering at utility switchboard**

- **11.6 Check inlet and discharge louvers to ensure that they have opened properly to allow for proper cooling of the unit while running**

- **11.7 Verify louvers close fully and seal properly. Adjust if necessary by loosening motor clamp, rotating shaft, and tightening**

- **11.8 Verify louver thermostat is set to appropriate temperature after run if needed**

Post Test Run Checks

- **12.1 Check that fuel valves are in their normal operating position.**

- **12.2 Check battery charger is operating properly**

- **12.3 Check that damper controls are on**

- **12.4 Check that jacket water heater circuit is energized**

- **12.5 Verify generator main output circuit breaker is in the closed position**

- **12.6 Verify generator is in AUTO and free of alarms**

- **12.7 Verify customer BMS is alarm free for generator**

- **12.8 Record engine run hours**

  - **12.8.1 Record engine run hours**

- **12.9 Inspect generator and enclosure interior for excessive dirt and debris and clean as needed**

- 12.10 Verify enclosure lights are working
- 12.11 Verify DC distribution switches are in the UP/ON position
- 12.12 Confirm battery isolation key switch is in the correct position and in no loose connection with the all the cabling for the generator battery system

Follow up action items

- 13.1 Detail any critical failures that need immediate remediation where the generator should not run prior to remediation. (Incident severity P3H or higher)
- 13.2 Detail any failures that need remediation as soon as operationally possible including operational impact of failure (Incident priority P3M or lower)
- 13.3 Detail any advisory failures that should be repaired during next maintenance visit including operational impact of failure (Problem P5 or service visit alignment)
- 13.4 Detail any recommendations to be considered for future works for example efficiency upgrades, software upgrades and obsolescence management upgrades (Life cycle planning)