Generator Load Test Check List

Customer _____ Date: 1-19-18
Technicians _____ Test Location _____
Equipment ID _____ Field Location _____
Governor Mfg. Woodward Regulator Mfg. McPherson
Governor Serial No. 1706852 Regulator Serial No. 04157184155
Project Name 400kW Load Test

✓ 1) Hold Safety Meeting
✓ 2) Mechanical representative must verify all alignments, web deflection if applicable and connections prior to cranking unit.
✓ 3) Verify that all ball valves are in the closed position before pressuring up air or fuel systems.
✓ 4) If coolant mixture is being used fill unit with water and correct all leaks if any prior to filling unit with coolant.
✓ 5) Verify all fluid levels for engine, starter lubricator if applicable, and lube pump lubricator if applicable, etc.
✓ 6) Check that all rotating equipment guards are in place and secured.
✓ 7) Check that all heat blankets and/or stand offs are in place for personnel protection. If these items are not in place notify all personnel of dangers and assure that no one goes near these once unit is in operation.
✓ 8) Verify that all bearing assemblies have been greased.
✓ 9) Verify that belts if applicable are checked for tightness and that adjustment points are secured. (Note: Power Bands should not be over tightened as this will cause bearing failure, crank side loading, etc.)
✓ 10) Verify that all generator power connections, controls etc. are roped off with Caution Tape for personnel protection.
✓ 11) On initial crank, run lube pumps if applicable for 5-10 minutes while bleeding off air on any filter canisters etc. Verify that lube pressure comes up on monitoring gauge. Verify there are no leaks prior to starting engine.
✓ 12) All tests as a minimum must be made with Oil Pressure Gauge, Main and/or Auxiliary Coolant Temperature Gauge(s), and Tachometer.
✓ 13) Tie unit into switchgear or control panel, check point to point on all wiring to verify that all connections are correct.
✓ 14) Test all shut downs, and verify all safety and control functions. Record all shutdown operations
✓ 15) Verify that Fuel Line and Starter Line have manual lock out ball valves. If equipped with electric starters verify that battery cable(s) can be removed if necessary for lock out.
✓ 16) Turn engine over and verify initial timing.
✓ 17) If unit is Natural Gas fired open fuel line to unit supply and verify that there are no leaks with a hand held Combustible Gas Meter. Set pressure regulators to engine manufacturer recommended points.
✓ 18) Disconnect all control points, sensing points, star if grounded and meg exciter field, main fields, and applicable checks
✓ 19) Governor:
   a) Electronic governor: Place all settings in the initial preset conditions with remote speed potentiometer in the mid position
   b) Hydro mechanical: Loosen spring or set point adjustment as to slow unit down.

✓ 20) Disconnect governor actuator and manually hold linkage unless unit is equipped with a manual throttle body.
✓ 21) With voltage regulator switch in the off position or power fuses pulled start unit.

✓ 22) Start engine with mechanical representative holding throttle body.
✓ 23) Verify that oil pressure comes up and that there are no leaks.
✓ 24) Increase engine speed and verify that governor actuator reduces fuel at or below running RPM of engine, i.e. 1200 RPM, 1800 RPM.
✓ 25) Verify that voltage regulator sensing points have balanced residual voltage input.
✓ 26) Verify voltage regulator input power is available.
✓ 27) Shut unit down and reconnect governor actuator and voltage regulator power.
✓ 28) Start unit at idle and bring to rated with Mechanical representative near throttle body.
✓ 29) Set ramp time, rated speed, governor response, idle, etc.
✓ 30) Check ignition system firing or injectors on engine.
✓ 31) Load test unit as per the following load steps:

- With engine running turn voltage regulator on and verify correct voltage.
- ✓ Apply 25% load for 30 minutes
- ✓ Verify engine readings prior to stepping load.
- ✓ Apply 50% load for 30 minutes
- ✓ Verify engine readings prior to stepping load.
- ✓ Apply 75% load for 30 minutes
- Verify engine readings and adjust air fuel mixture to acquire maximum horsepower prior to stepping load. (To be verified in field)
- ✓ Apply 100% Load for 2 hours to help seat piston rings, valves etc.
- Verify engine readings and adjust air fuel mixture to acquire maximum horsepower prior to stepping load. (To be verified in field)
- Apply 110% Load for 10 minutes.
- Verify that unit will accept a 50% Block Load
- Reduce Load in 10 minute intervals until back at 25% then shut down.

✓ 32) While under load, check exhaust temperatures on cylinders.
✓ 33) After testing take a running oil sample.
Oil samples will be sent off for testing with a base sample from clean oil. Samples must be sent in with Customer, Location, Engine Model, Engine Serial#.

N/A 34) Change oil filters and fill unit with fresh oil. Fresh oil prior to Load Test
____ 35) Prep unit for shipping by plugging all open holes, flanges etc.