



SCOPE OF WORK

START-UP Service

The service to be performed during a START-UP is as follows.

1.0 PRE-START GENERAL INSPECTION

- 1.1 Inspect for any freight damage (components straight, straight, etc.)
- 1.2 Verify manuals present
- 1.3 Check that generator is secured to pad and hold down bolts are tightened
- 1.4 Inspect all belts for ensure proper alignment and tensions
- 1.5 Check governor rod movement and clearance.
- 1.6 Verify fluid levels (oil, coolant, battery, governor, etc)
- 1.7 Visually inspect the vibration damper
- 1.8 Check that Rain Cap is in place and functional
- 1.9 Verify correct AC and DC wire sizes and connections
- 1.11 Verify proper sized battery(ies) in place Connect battery cables
- 1.13 Check fuel and exhaust plumbing
- 1.14 Verify adequate air flow and ventilation
- 1.17 Check block heater, battery charger, etc. properly matched with utility voltage
- 1.18 Verify electrical connections made at battery charger, block heater, etc.
- 1.19 Verify remote start wires are pulled and connected to generator and transfer switch
- 1.20 Verify communications wires are pulled and properly terminated correctly inside control panel, remote annunciator,, and transfer switch
- 1.21 Remove fuse from Generator Control Panel, connect starter battery, and re-insert fuse
- 1.22 Verify grounding rod installed
- 1.23 Close AC circuit breaker to block heater and battery charger
- 1.24 Verify block heater is operational - Feel heater hose for heat and listen for activity
- 1.25 Verify battery charger is operations and record DC voltage and DC amperage
- 1.26 Verify all AC electrical connections are tight at circuit breaker and transfer switch
- 1.27 Inspect louvers and mechanical linkages. Ensure properly wired to engine run relay to ensure power is applied when unit starts
- 1.28 Check all hoses, clamps, and fittings for leaks or damages
- 1.29 Check all electrical connections on the generator, wiring, wire ties, clamps, and terminal ends



- 1.30 Check all electrical plugs ensuring each plug is seated correctly
- 1.31 Verify the AUTO/OFF/MANUAL switch is in "OFF" position



2.0 PREPARATION FOR GENERATOR START

- 2.1 Disable transfer switch to prohibit transfer.
- 2.2 Bleed fuel system of air (diesel)
- 2.3 Open generator main line circuit breaker

3.0 RUNNING CHECKS

- 3.1 If gaseous unit: Unplug B+ at the gas solenoid valve. Momentarily apply battery voltage to the solenoid and record the inlet static gas pressure at the secondary regulator with manometer. Reconnect wire at gas solenoid valve.
- 3.2 Test overcrank circuit. Cause unit to complete full crank/rest cycle and latch out on an "OVER-CRANK" condition. Record number of crank cycles completed
- 3.3 While manually holding governor linkage, start engine, bring up to speed slowly and record:
 - 3.3.1 Fuel pressure (inches W.C./PSI) WITHOUT load pressure
 - 3.3.2 DC alternator output volts and amps
 - 3.3.3 AC output frequency (HZ) to correct no-load setting
 - 3.3.4 AC output voltages
 - 3.3.5 Test ALL automatic shutdowns – low oil pressure, low coolant level, high coolant temperature, and overspeed
 - 3.3.6 Overspeed set-point
 - 3.3.7 Engine coolant temperature (hot running)
 - 3.3.8 Engine oil pressure (hot running)
 - 3.3.9 Check for coolant, fuel, oil, and exhaust leaks and open louvers
- 3.4 Check for proper voltage and phase rotation at transfer switch
- 3.5 Transfer customer load to generator
 - 3.5.1 Record full load voltages
 - 3.5.2 Record full load amperage
 - 3.5.3 Record full load frequency
 - 3.5.4 If gaseous unit: Record fuel pressure (Inches W.C./PSI)
- 4.0 Brief and train customer on safe operation of generator and factory recommended maintenance procedures