

**POWER PRODUCT DEALERS
 ALL YAMAHA INVERTER GENERATORS
 PREVENTING POOR IDLE/POOR RUNNING CONDITIONS and
 TROUBLESHOOTING
 APRIL 2009**



PP09-004

INTRODUCTION

If you experience a poor idle/poor running condition on a Yamaha Inverter, please inspect the following items before contacting DSSG:

Throttle Motor: All Yamaha Inverters utilize an electronic throttle motor to control engine RPM. When an inverter shuts off, the throttle motor/valve is automatically placed in the fully open position to prepare itself for the next starting sequence. If a carburetor or throttle motor has been recently serviced, the throttle valve and motor must be placed in the fully open position prior to starting the engine. During the starting procedure, the control unit assumes that the throttle motor/valve is in the fully open position. If the throttle motor/valve is actually partially closed, then the control unit assumes this position to be fully open – causing the unit to run poorly.

If a carburetor has been serviced or removed recently and the unit exhibits an unusual idle after this service, it may be necessary to reset the throttle position as follows: When the generator is off, move the throttle plate to the fully open position. Also, check that the throttle control wire is making positive engagement with all of the pins on the throttle motor, and that there aren't any bent pins or loose wires.

Condition of Fuel: Many generators are used seasonally, and are not correctly prepped for extended storage periods (1 month or longer). This may lead to increased presence of water in the fuel (from condensation forming in the fuel tank from hot/cold extremes or by ethanol content in fuel, and ethanol's hygroscopic nature) and the loss of light ends in the gasoline. Removing and replacing bad gasoline is a customer pay procedure and not covered by warranty.

Carburetor Cleaning: Stale/varnished/ bad gasoline is a very frequent occurrence if improper storage takes place. If you suspect stale fuel, please check the pilot jet and fuel passages for blockages/debris. Carburetor cleanings are not necessitated by a manufacturer's defect, therefore this is a customer-pay procedure.

Jetting: If your customer's primary use is above sea level, then the unit may benefit from a smaller main jet. At higher elevations, the air is less dense, therefore, less fuel is needed. By adjusting the amount of fuel that is mixed with air, we can assure the unit runs correctly. (NOTE: Temperature, Altitude and other atmospheric conditions affect jetting.) Re-jetting is a customer pay procedure and not covered by warranty.

Valve Adjustment: Check the valve lash (if applicable). Verify the adjusting screw tappet and locking nut are correctly tightened against each other (opposite directions).



Route to:	Service	Parts
	Warranty	Sales



Air Filter: Check for a dirty/clogged or damaged air filter element. An air filter that does not allow proper airflow rates can hinder the performance of the engine, causing the engine to run poorly.

Oil Level: Low oil level may cause a misfire symptom. Yamaha generators do not use an oil pump. Instead, they use an oil splash rod that is attached to the connecting rod. An oil level switch has a float mounted inside that floats on the engine oil and interrupts the ignition signal if the oil level is too low. This float will rise and fall as the oil splash rod disturbs the oil level. In the event the unit is at its threshold of low oil, the oil level switch will intermittently ground the ignition – causing a misfire.

Is the Problem Mechanical or Electrical?: *Troubleshooting Tip*

With the generator running and no load applied, disconnect the 5-pin throttle control wire from the control unit. Apply the throttle plate manually and listen for any hesitation or misfire, across the RPM band. If a hesitation is present, this could indicate one of the mechanical issues above. If the engine runs smoothly, then it is probable that the unit is mechanically sound. See the Service Manual for the correct economy idle on and off RPM settings and operate between these ranges (do not over rev the engine – Rev limiter = Too high).

Tips to Improve/Prevent CSI Issues: Advice every dealer should disclose to a new customer at time of sale.

It is highly recommended to install an hour meter (part number ENG-METER-4C-02) on units without a factory hour meter. By doing so, a customer has an exact method to determine proper service intervals rather than a “guesstimate.”

After each use, it is a best practice to turn off the fuel knob, then drain the carburetor float bowl. This will prevent most carburetor issues. In addition, the fuel in the tank should be filled to the 7/8 full level (to allow for expansion and contraction), and the proper amount of Yamaha Fuel Stabilizer & Conditioner (P/N: ACC-11000-80-00) should be added.

Units sold with on-board batteries will benefit from using an intelligent battery charger (e.g., the Optimate III+, part number ACC-OPTMA-TE-3P). This charger is fully automatic without any buttons to press and will not harm the battery if left attached for extended periods of time.

This bulletin is issued for information purposes only.