

# SERVICE BULLETIN

DATE: April 13, 1994

BULLETIN # 213

MODEL: UNIVERSAL PROPULSION

SUBJECT: NO STARTER MOTOR ACTIVATION

Reports have been received from the field from Universal propulsion engine owners concerning the starter motor on their Universal engine not activating when the start button in the instrument panel is depressed. A clicking noise only is produced by the solenoid on the starter.

Investigation has found that this is the result of a voltage loss at the "S" terminal on the starter solenoid. Voltage is supplied to the starter solenoid when the starter button in the instrument panel is depressed.

The following are causes for this voltage loss:

1. Panel and/or engine harness molded plug connector is loose or the connector pins are corroded.
2. Corrosion or loose connection in the 10 amp buss fuse holder installed in the yellow and red stripped wire in the engine harness going to the starter solenoid "S" terminal.
3. Wire size in start circuit too small to carry amperage to energize starter solenoid. #10 AWG multi strand wire should be used between the key switch and the glow plug push button, between the glow plug push button and the start button and from the start push button to the "S" terminal on the starter solenoid.

Any one or combination of the three causes will have the potential to produce a voltage loss at the "S" terminal on the starter solenoid.

This voltage loss can be intermittent on a cold engine starting attempt or a hot engine starting attempt depending on the state of charge that the cranking battery has at that time.