



Technical Service Bulletin

RMI-TSB-002-20121113

Distribute to:

- Parts Dept.
- Service Dept.
- Sales Dept.

Speed Sensor Upgrade Kit for ALL RIGMASTER APU's

The electro-mechanical speed sensor (RP7-103) has been discontinued and is being upgraded to a digital version at our manufacturing facilities for ALL RigMaster APU's. The new digital speed sensor will be packaged as a kit and can replace the older version speed sensor (RP7-103) if the sensor is to fail.

The kit will include the following items LG200 units – LG7-104, T4-6, V10, 14-6 units – RP7-107K,

Special Note

Models T4-6 and V10 APU's will not require the use of Part B (Alternator to Battery wire)

Location	Quantity	Part #	Colour	RigMaster Model usage	Description
A	1	RP7-317	Red/Orange Stripe	LG200, T4-6, V10, 14-6	Alternator wire to harness
B	1	RP7-316	Red	LG200	Alternator wire to battery (For 170 amp models only)
C	1	RP7-107	Black	T4-6, V10, 14-6	Digital Speed Sensor
C1	1	LG7-103	Black	LG200	Digital Speed Sensor
D	3	LG7-018	Yellow	LG200, T4-6, V10, 14-6	10 Gauge wire connectors
E	1	LG7-017	Blue	LG200, T4-6, V10, 14-6	16 Gauge wire connectors
F	1	LG12-029	Black	LG200, T4-6, V10, 14-6	Alternator Wire Loom (not shown), 20"- ¼ " LOOM, for use on RP7-317

Note

This is sold as a Kit if replacing old speed sensor, Kit part numbers as follows

LG200 units – LG7-104

T4-6, V10, 14-6 units – RP7-107K

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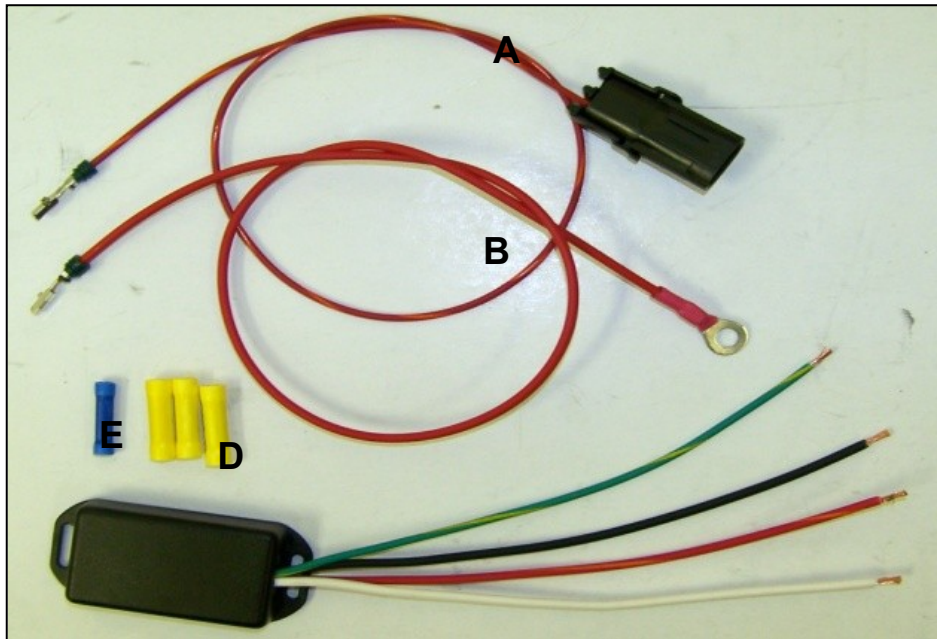


Figure 1

Installation Procedure

Engine Compartment

- 1- Disconnect the J1 harness from power module to avoid a power surge when reconnecting the battery.
- 2- Disconnect the positive RigMaster APU battery cable from the trucks battery bank.
- 3- Loosen battery cable on the starter to allow for working space.
- 4- Remove alternator connector from alternator. (Figure 3)
- 5- Remove 2 small black plugs in alternator connector. (Figure 2)

Connector Plugs

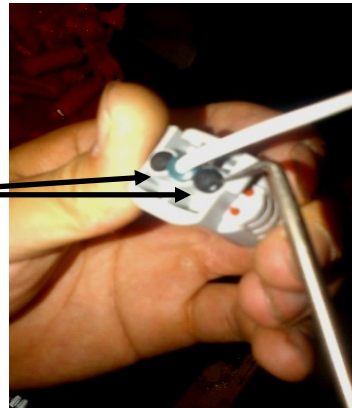


Figure 2

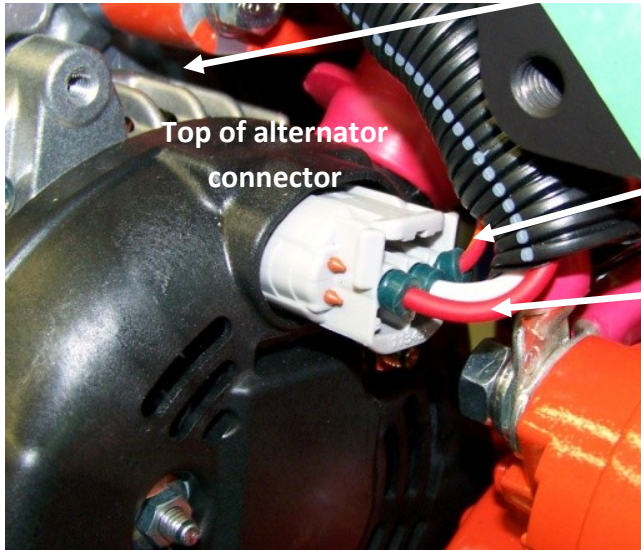
- 6- Install speed sensor (red with orange striped) wire on right side of alternator connector and battery (red) wire on left side of the connector. (Figure 4)

Note

Alternator terminal pins can only be installed one way, with the flat part of the terminal pin on the top side of the connector.

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Speed sensor wire (red/orange stripe) Right side

Battery wire (red) Left side
 This terminal is not needed for T4-6 and V10 models

Figure 3

- 7- Reinstall connector to alternator
- 8- Tighten starter nut, being careful not to over tighten as the starter stud is copper.
- 9- Route red battery wire in loom with starter cable to positive battery post on the back plate and secure on the positive battery post.
- 10- Route speed sensor wire (red with orange stripe) in supplied loom around engine to where the original speed sensor was connector and connect to harness. (Figure 4)

Loom routed from Alternator

New connector from Alternator

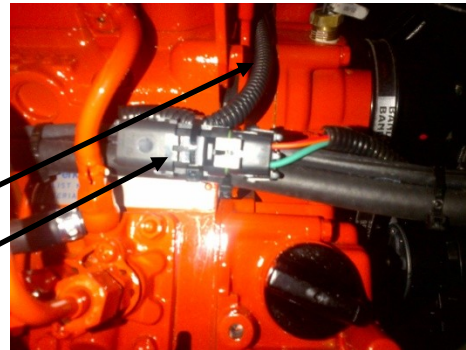


Figure 4

Caution

Ensure all wires are routed away from manifold exhaust and tie wraps are used to secure the loom.

At this point all wiring in the engine cabinet is complete.

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Installing the Digital Speed Sensor

- 1 Take the speed sensor and butt connectors to the HVAC location in the bunk.
- 2 The power module J1 connector should already be disconnected from a previous step.
- 3 Locate the white wire on J1 connector Pin # 1 (engine run solenoid). Cut white wire about 6" down from the connector and connect white wire from digital speed sensor box to white wire going to the APU main unit with butt connection. (2 white wires connected together on one end). Connect the other end to the single white wire going to the power module J1 connector. (Figure 5)
- 4 Locate the black wire on J1 connector pin # 4 (ground). Cut the black wire about 6" down from the connector and connect black wire from digital speed sensor box to black wire going to the J1 connector. (2 black wires connected together on one end). Connect the other end to the single black wire going to the APU main unit. (Figure 5)

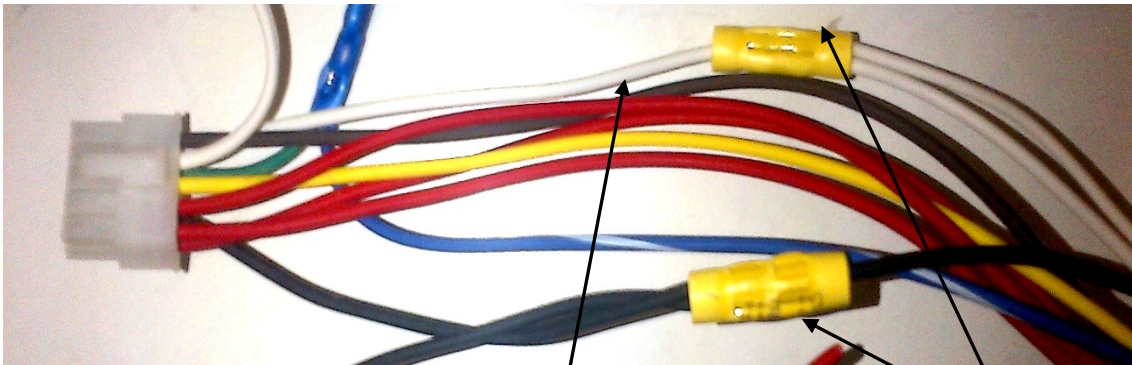


Figure 5

Black (ground) wire
going to Power Module

White (run solenoid) wire
going to Power Module

10 Gauge Butt connectors

Note

Notice the 2 wire connection on the butt connector is reversed on the black wire. This will allow the direction of the ground wire to point towards the power module ground location.

- 5 Locate the green and yellow striped wire on the J4 connector pin # 3 (speed signal). Cut the green and yellow striped wire about 6" down from the connector and connect green and yellow striped wire from digital speed sensor box to green and yellow striped wire going to the APU main unit with butt connector. (2 green and yellow striped wires connected together on one end). Connect the other end to the single green and yellow striped wire going to the power module J4 connector pin # 3 (speed signal). (Figure 6)

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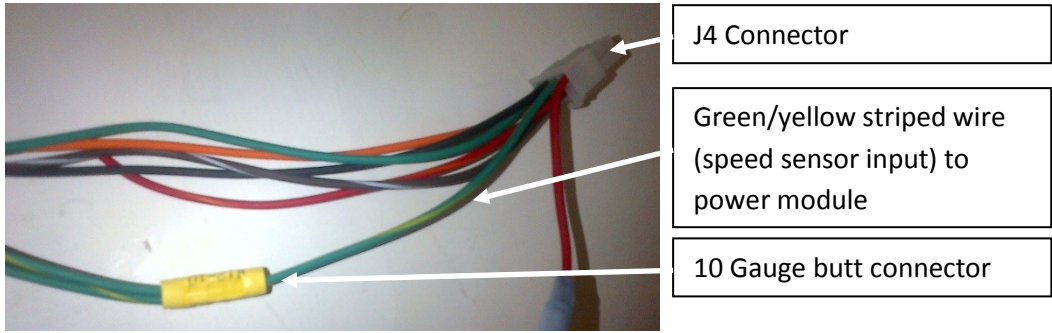


Figure 6

Note

Be careful as there is also a solid green wire on the J4 connector

- 1- Locate red and orange striped wire on the J4 connector pin # 7 (speed signal ground). Cut the red and orange striped wire about 6" down from the connector and connect red and orange striped wire from digital speed sensor box to red and orange striped wire going to the APU main unit with butt connector (Figure 7)

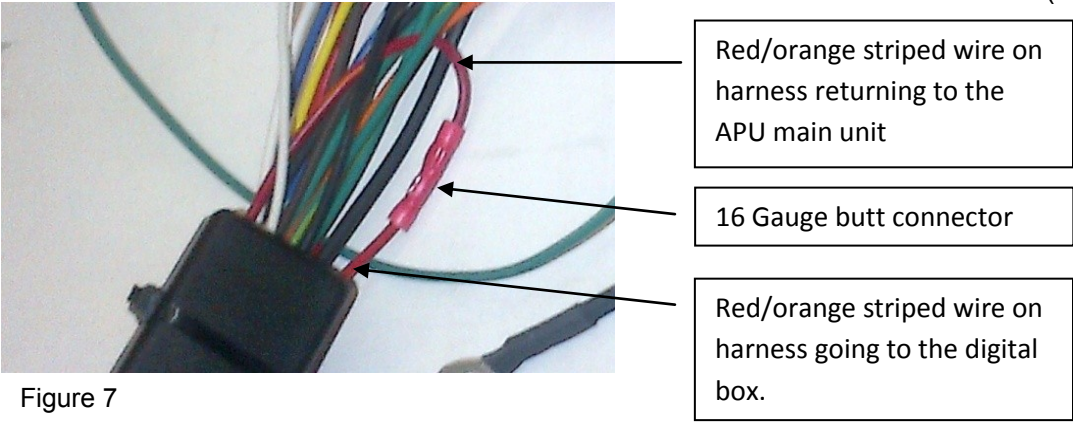


Figure 7

Note

The red/orange striped wire going to the power module is now not being used and should be covered with electrical tape and tied to the harness.

- 2- Neatly tie wrap the digital sensor module to the harness. (Figure 7)



Figure 8

- 3- Before reconnecting the power module cables, reconnect the battery cable to the APU main unit.
- 4- Reconnect the power module cables J1 and J4 and ensure that the ground from the speed sensor is connected at the power module ground location.
- 5- Start RigMaster unit to test.

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