Countries:	AUSTRALIA, BRAZIL, CANADA, UNITED STATES, MEXICO, SOUTH AFRICA	**Document ID**:	IK0800047
Availability:	ISIS, FleetISIS	**Revision**:	9
Major System:	ELECTRICAL SYSTEM	**Created**:	8/3/2007
Current Language:	English	**Last Modified**:	10/2/2013
Other Languages:	Français, Español,	**Author**:	Rob Marvel
Viewed:	7593		

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Title: Remote Power Module (RPM) Troubleshooting on 2007 Medium Duty and ProStar

Applies To: 2007 and later HPV and ProStar

DESCRIPTION

The Remote Power Modules (RPM) communicate on the Private Bodybuilder 1939 datalink. The Remote Engine Speed Control Module (RESCM) communicates the same way. You can use the same datalink troubleshooting for all modules on the Bodybuilder Datalink. There are basically 3 reasons that you will get not communicating codes for these modules:

1. There's a problem in the Bodybuilder datalink
2. The module isn't powered up
3. The address jumper is in the wrong place or missing. Follow the procedure below for diagnostics

POSSIBLE DIAGNOSTIC TROUBLE CODES

SPN	FMI	DESCRIPTION	CAUSE
2225	9	RPM 1 Data Link Communication Failure	Abnormal Update Rate
2225	14	RPM 1 has an Address Problem	Drivetrain J1939 Data Link, Improperly Addressed RPM Module, or a Missing RPM that the BC is expecting
2226	9	RPM 2 Data Link Communication Failure	Abnormal Update Rate
2226	14	RPM 2 has an Address Problem	Drivetrain J1939 Data Link, Improperly Addressed RPM Module, or a Missing RPM that the BC is expecting

2227	9	RPM 3 Data Link Communication Failure	Abnormal Update Rate
2227	14	RPM 3 has an Address Problem	Drivetrain J1939 Data Link, Improperly Addressed RPM Module, or a Missing RPM that the BC is expecting
2228	9	RPM 4 Data Link Communication Failure	Abnormal Update Rate
2228	14	RPM 4 has an Address Problem	Drivetrain J1939 Data Link, Improperly Addressed RPM Module, or a Missing RPM that the BC is expecting
2229	9	RPM 5 Data Link Communication Failure	Abnormal Update Rate
2229	14	RPM 5 has an Address Problem	Drivetrain J1939 Data Link, Improperly Addressed RPM Module, or a Missing RPM that the BC is expecting
2230	9	RPM 6 Data Link Communication Failure	Abnormal Update Rate
2230	14	RPM 6 has an Address Problem	Drivetrain J1939 Data Link, Improperly Addressed RPM Module, or a Missing RPM that the BC is expecting
2231	9	RPM 7 Data Link Communication Failure	Abnormal Update Rate
2231	14	RPM 7 has an Address Problem	Drivetrain J1939 Data Link, Improperly Addressed RPM Module, or a Missing RPM that the BC is expecting

PARTS INFORMATION

Click here for the Bodybuilders Quick Reference

INSTALLATION INFO

Remote Power Module Installation Guide

TROUBLESHOOTING

1. You should have battery voltage on pin 6 at the RPM **(Load test this wire with a headlamp)**
2. You should have a good ground on pin 2 **(Load test this wire with a headlamp)**
3. You should have battery voltage on the big red power wire that runs to the RPM **(Load test this wire with a headlamp)**
    - If you don't have good power on this wire, you can get RPM overcurrent codes for all RPM outputs
    - **Also make sure that this power cable is run directly to the battery, not the starter stud.**
4. Make sure that the address jumper wire is in the right place. For example, the address jumper for RPM1 should be between pins 1 and 2 of the J3 (input) connector of the RPM. You can see where the jumper should be by looking at the J3 connector in DLB
5. Check voltage from pin F6 to ground and from pin F5 to ground at the 1602 connector of the ESC while the connector is disconnected from the ESC, we're measuring the voltage coming from the RPM, with the key on
    - You should have approximately 5v total when you add the voltages from each wire together. ie. 2.7v on one and 2.3v on the other
    - If you get 0v or close to it on either wire, you probably have a short to ground on that wire

6. Check resistance between pins F5 and F6 of the 1602 connector at the ESC with the key off
    - You should have approximately 60 ohms
    - There are two 120 ohm resistors in the datalink
    - If you get 0 ohms, then you have a short between the 2 wires
    - If you get 120 ohms, you have an open somewhere in the datalink or you're missing one of the resistors
7. Check the resistance from pin F5 to ground and from pin F6 to ground at the 1602 connector of the ESC connector with the key off
    - Resistance should be greater than 1,000 ohms
    - If resistance is less than a 1,000 ohms, then you have a short to ground
8. Measure resistance between pin F5 at the 1602 connector and pin 4 at the RPM and between pin F6 at the 1602 and pin 3 at the RPM
    - You should have less than 1 ohm resistance. If you have more than that, you either have a bad connection somewhere or you have an open in that wire
9. If you still can't find the problem, open an iKNow case file and enter your codes and measurements from the steps above into the case file.

CIRCUIT DIAGRAMS

NOTE:

Always refer to the proper wiring schematic book for the most accurate wiring information for the model and year vehicle you are working on.

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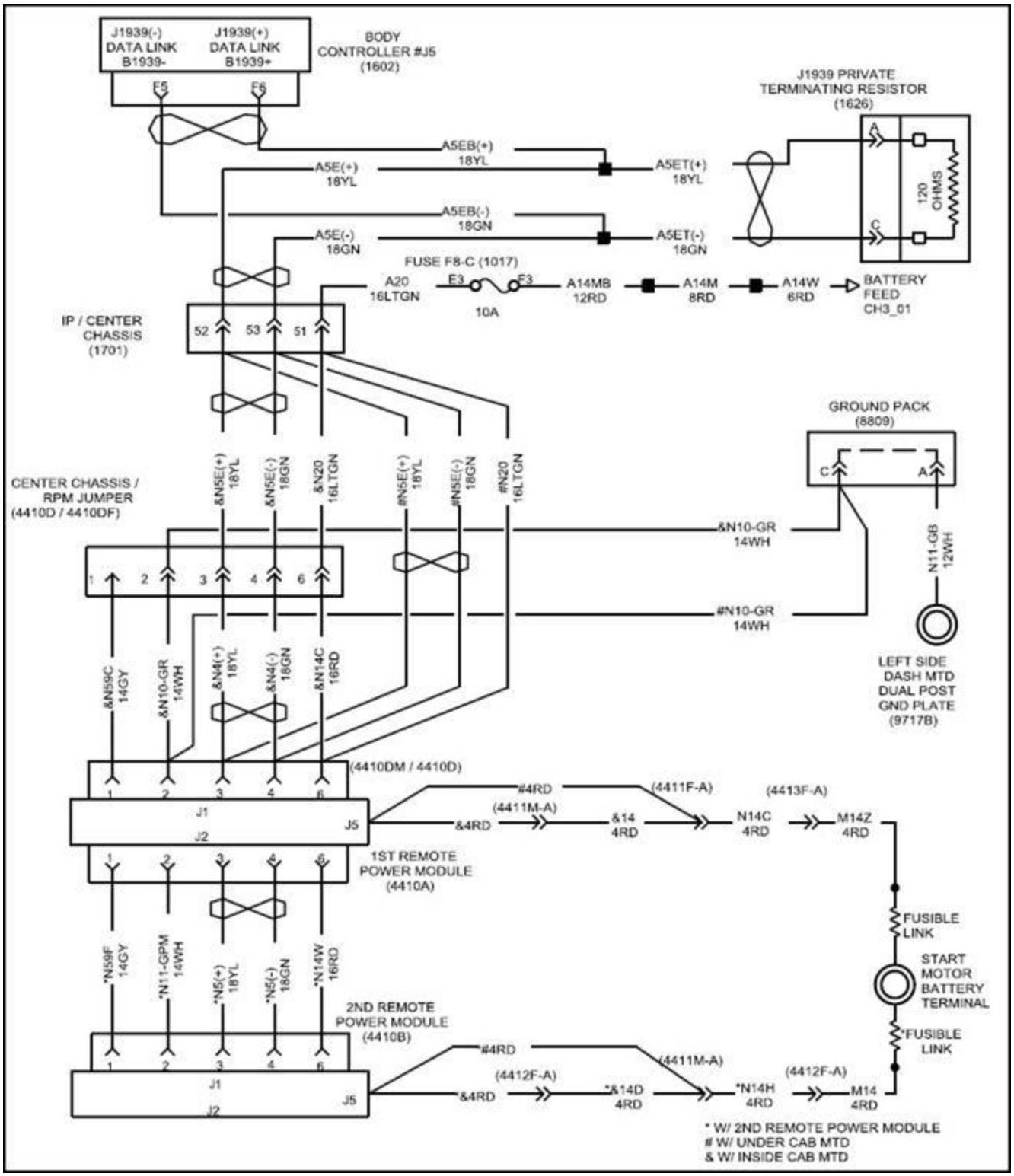

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