

STAR Case

Case Number: S1521000002

Release Date: 03/11/2016

Symptom/Vehicle Issue: 4x4 Operates Intermittently, Transfer Case Lamps Flash While Driving, 4wd Lamp On

Discussion: Wrong 4x4 position displayed, operates intermittently. Inspect the 34 way i230 Black connector Fig 1, 2 T310 circuit Fig 3. Review for spread, corroded or TPO (terminal push outs). Trace all other involved encoder circuits 0 – 4 at DTCM (drive train control module), inline connector, or transfer case as needed.

Note: Active encoder switch position chart test Fig 4.

i230 - D2 Example – search wiring by vin for defined location

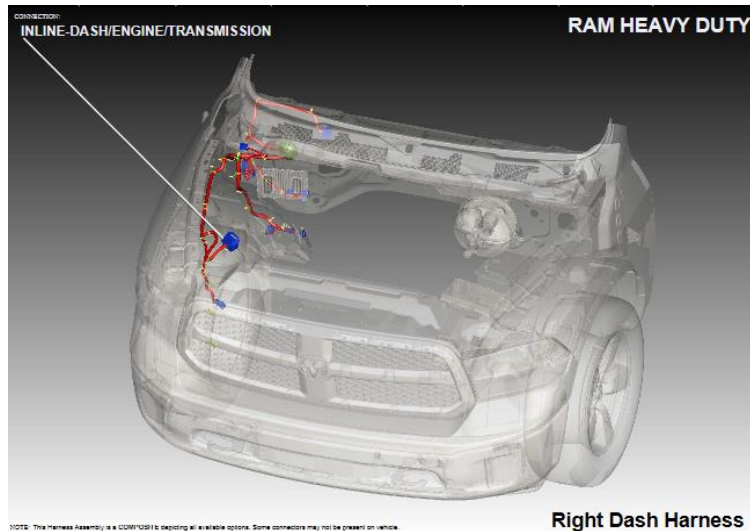


Fig 1

This document does not authorize warranty repairs. This communication documents a record of past experiences. STAR Center Online does not provide any conclusions about what is wrong with the vehicle. Rather, it captures all previous cases known that appear to be similar or related to the vehicle symptom / condition. You are the expert, and you are responsible for deciding on the appropriate course of action.

Contact STAR Center, or your Technical Assistance Center Via ECCI or eCONTACT ticket if no solution is found

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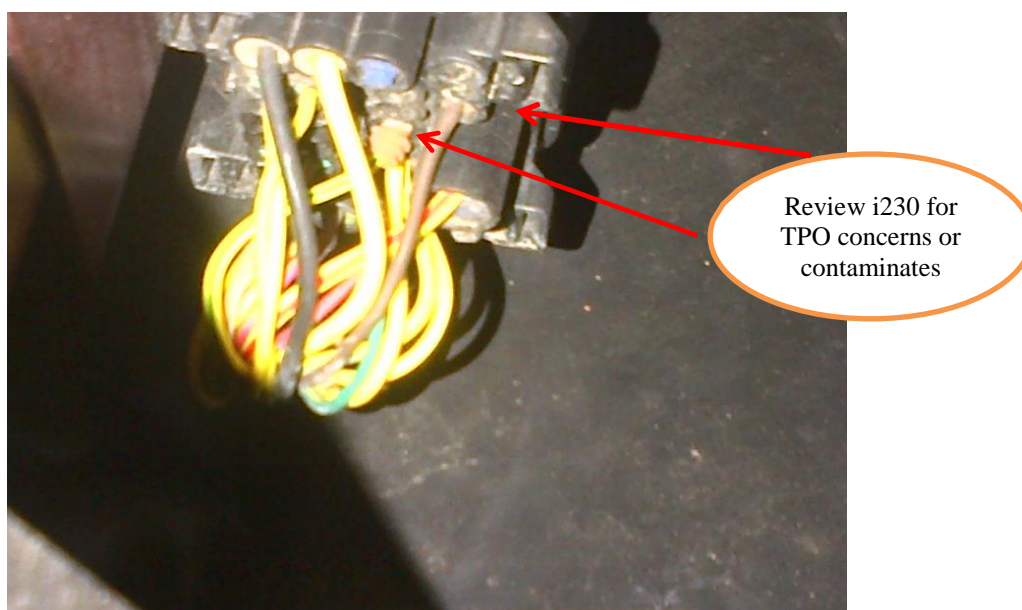


Fig 2

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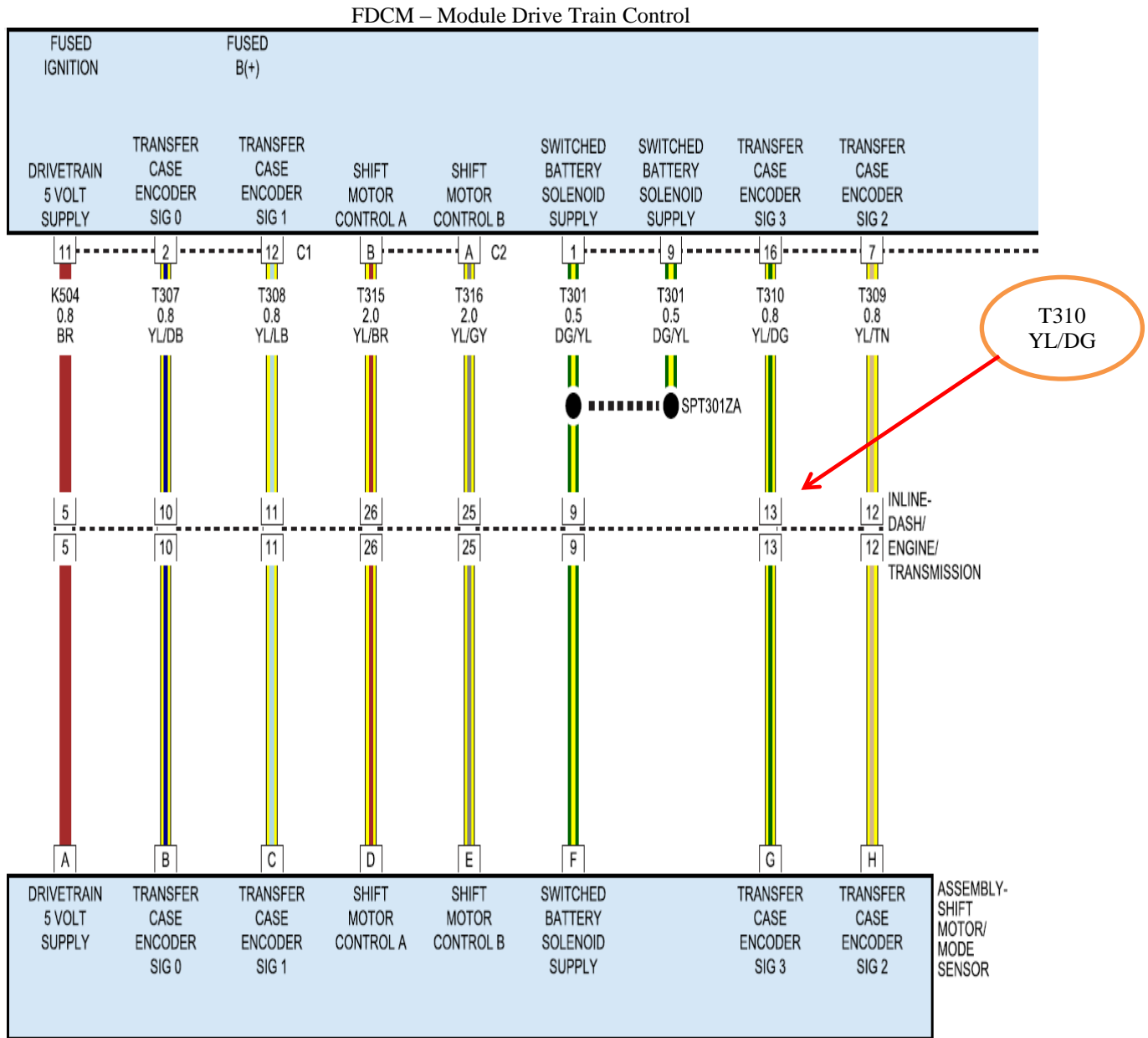


Fig 3

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Determining Transfer Case Positions Based on Multi-Meter Readings

| BW44-44 (Active) | BW44-45 BW44-46 (Part Time) | T-Case Pin G DTCM Pin A16 Encoder Channel 3 | T-Case Pin H DTCM Pin A7 Encoder Channel 2 | T-Case Pin C DTCM Pin A12 Encoder Channel 1 | T-Case Pin B DTCM Pin A2 Encoder Channel 0 |
|-------------------------|-----------------------------------|---|--|---|--|
| | | 1 | 0 | 0 | 0 |
| | | 1 | 0 | 1 | 0 |
| | 2WD | 1 | 0 | 1 | 1 |
| | | 1 | 1 | 1 | 1 |
| | | 1 | 1 | 1 | 0 |
| 2WD, 4WD AUTO, 4WD LOCK | 4WD LOCK | 0 | 1 | 1 | 0 |
| | | 0 | 1 | 1 | 1 |
| Neutral | Neutral | 0 | 0 | 1 | 1 |
| | | 0 | 0 | 0 | 1 |
| 4WD LOW | 4WD LOW | 0 | 1 | 0 | 1 |
| | | 1 | 1 | 0 | 1 |

Direct Reading at T-Case:

Use a multi-meter to measure resistance between encoder common (Pin A) and T-Case Pins shown in table headings (at the T-Case pigtail)

1 = Continuity (short)

0 = Open circuit

Direct Reading at DTCM:

Disconnect wiring harness at DTCM

Use a multi-meter to measure resistance between encoder common (DTCM Harness Connector Pin A11) and DTCM Pins listed in table headings (at DTCM harness connector)

1 = Continuity

0 = Open Circuit

Monitor Via CDA (Technical Advisor)/ Diagnostic Tool:

Enable the encoder power supply via I/O control

Monitor voltages in Read/Write Data Tab and compare to Encoder Channels shown in table headings

1 = Voltage equal to 0.XXX volts

0 = Voltage equal to zero

Fig 4

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