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Service Information Bulletin

SUBJECT	DATE
Symptom Diagnostics - Range Up or Down Shift Issue	April 2018

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0140	DT12	Range Up or Down Shift Issue	Updated diagnostics.



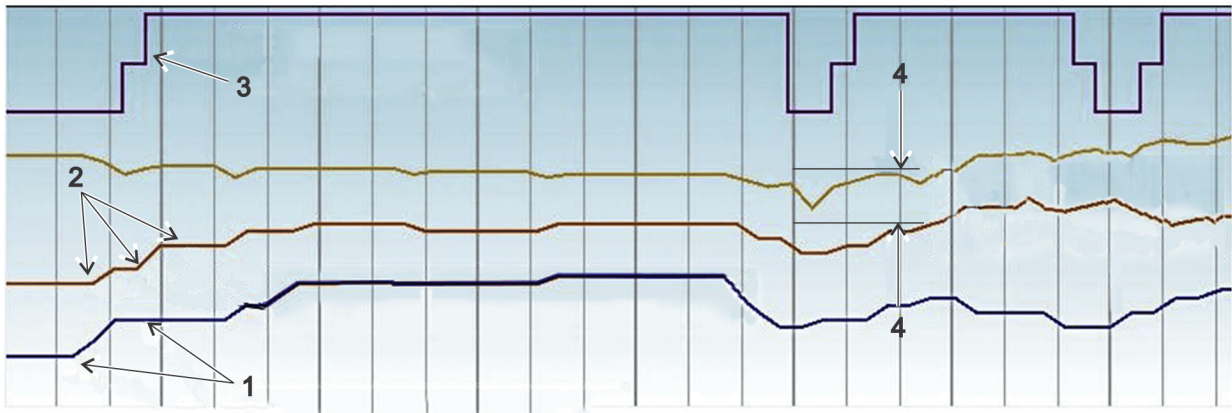
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2 Range Up or Down Shift Issue

NOTE: Due to skip-shifting, complaint may be 5-7 shift, 6-8 shift or any other shift combination where low-to-high range is required.

Check as follows:

1. Shut off the engine, apply the parking brake, chock the wheels, and perform any other applicable safety steps.
2. Is the TCM software level NAMT130600 and the transmission is stuck in Low Range (gears 1-6)?
 - a. Yes; program TCM to software level NAMT130800 (or higher).
 - a. No; Go to step 3.
3. Inspect the air lines / fittings from the shift controller to the range cylinder housing. Was a leak found?
 - a. Yes; repair air leaks and retest.
 - b. No; Go to step 4.
4. Connect with Diagnostic Link[®] 8.07 SP2 or higher.
5. Attempt to duplicate the shifting issue during road test (loaded trailer preferred).
6. Review road test log file.
7. Chart the following instruments:
 - 2309 range group actuator position: range group actuator position
 - 2311 air supply pressure: air supply pressure
 - msd08 actual gear: gear engaged
 - msd07 desired gear: desired gear



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| 1. Desired 5 th to 7 th Shift | 3. Range Hesitation |
| 2. Actual Gear 5 th , 6 th , 7 th Shift | 4. Drastic Drop in Air Pressure |

Figure 1. Range Shift Example

8. Look for hesitations, incomplete range shifts, or drop in air pressure (See Figure 1). Were any issues observed?
 - a. Yes; reseal the range cylinder O-rings. Refer to section "Installation of the Range Cylinder". Save and reset abort counters; verify repair.

- b. No; Go to step 9.
9. View the transmissions shift abort counters in DiagnosticLink service routine. Are low or high range aborts present (Figure 2)?
- a. Yes; reseal the range cylinder O-rings. Refer to section "Installation of the Range Cylinder".
- b. No; save and reset abort counters. Release unit.

Abort counter range, position range HIGH	4
Abort counter range, position range LOW	15

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Figure 2. Abort Counter Range