



STAR Case

Case Number: S1121000017

Release Date: 11/8/2011

Symptom/Vehicle Issue:

High Pitch Whine Coming from Transmission While in Sixth Gear

Diagnosis:

1. Drive the vehicle in sixth gear at an engine RPM of around 975 RPM (+/- 50 RPM).
2. Push the shift lever to the right towards the passenger seat.
3. Did the whine go away?
 - a. YES>>>Proceed to the next step
 - b. NO>>>Further diagnosis is required. This STAR Case does not address this concern.
4. Pull the shift lever towards the driver.
5. Did the whine increase?
 - a. YES>>>Proceed to the following Repair Procedure
 - b. NO>>> Further diagnosis is required. This STAR Case does not address this concern.

Parts Required:

6 05013457AA Fluid, MOPAR® ATF+4 Automatic Transmission
AR (1)04318083 Mopar Gasket Maker

Repair Procedure:

1. Shift the transmission into sixth gear.
2. Remove shift boot bezel and slide boot upward on shift lever extension (Figure 1).

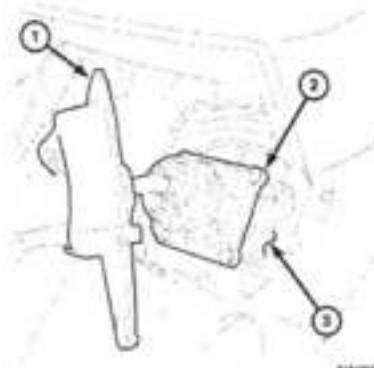


Figure 1

1	Shift Boot
2	Shift Tower
3	Transmission

Contact the STAR Center for assistance if no solution is found

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3. Remove inner boot from floor pan and remove shift tower from transmission (Figure 1).
4. The high pitched whine is caused by the 3-4 synchronizer sleeve and the 3-4 shift rail. When the shifter end contacts the 3-4 shift rail in sixth gear, the shifter acts like a tuning fork causing the whine to be heard. To resolve the concern, a small amount of material needs to be removed from the 3-4 shift rail to alleviate the shifter contact to the shift rail in sixth gear.
5. Stuff a shop towel around the shift rails leaving the 3-4 shift rail exposed. This is to catch as many of the metal filings as possible.
6. Grind and file a 5° taper on the front left edge of the 3-4 shift rail (Figure 2). The 3-4 shift rail is heat treated. Use a burr to break through the heat treatment and then finish using a file. Enough material is removed when approximately 20% of the material is removed at the top of the shift rail as seen in Figure 2.



3-4 Shift Rail Removed to Show Proper Rework

Figure 2

1	5-6 Shift Rail
2	3-4 Shift Rail
3	Tapered Rework of the 3-4 Shift Rail

7. Carefully, remove the shop towel trying to make sure that none of the filings drop into the transmission.
8. Rinse the shift rails with one quart of MOPAR® ATF+4 Automatic Transmission Fluid (p/n 05013457AA).
9. Apply Mopar™ Gasket Maker to the shift tower opening.
10. Install the shift tower onto the transmission. Tighten the bolts to 23 N·m (17 ft. lbs.).
11. Install the inner shift boot and the shift boot bezel.
12. Raise the vehicle on a lift.
13. Remove transmission drain plug and drain the fluid.

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14. Install the drain plug and tighten to 57 N·m (42 ft. lbs.).
15. Remove the transmission fill plug located on right side of the transmission.
16. Fill transmission to approximately 16 mm (0.625 inch) from the bottom of the fill hole (approximately 5 quarts of MOPAR® ATF+4 Automatic Transmission Fluid - p/n 05013457AA).
17. Install fill plug and tighten to 57 N·m (42 ft. lbs.).

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