SERVICE BULLETIN

NUMBER: 21-011-05 REV. A

GROUP: Transmission

DATE: July 14, 2005

THIS BULLETIN SUPERSEDES SERVICE BULLETIN 21-011-05, DATED APRIL 23, 2005, WHICH SHOULD BE REMOVED FROM YOUR FILES. ALL REVISIONS ARE HIGHLIGHTED WITH **ASTERISKS AND INCLUDE AN UPDATED VEHICLE BUILD DATE AND MODEL YEAR.**

SUBJECT:
NAG1 (W5A580) Transmission - Shudder When Torque Converter Clutch Engages

OVERVIEW:
This bulletin involves thoroughly flushing the NAG1 (W5A580) transmission of any water contamination, replacing the transmission filter, and applying RTV sealant around the base of the transmission fill tube to prevent water intrusion past the fill tube seal.

MODELS:

2005 - **2006**	(LX)	300/Magnum/Charger
2005	(WK)	Grand Cherokee

NOTE: This bulletin applies to vehicles (WK w/3.7L, LX w/ 5.7L, or LX AWD w/3.5L) equipped with a NAG1 transmission (sales code DGJ). For LX vehicles, this bulletin applies to 2005 and 2006 vehicles built prior to May 13, 2005 (MDH 0513XX). **For WK vehicles, this bulletin applies to vehicles built prior to June 03, 2005 (MDH 0603XX).**

SYMPTOM/CONDITION:
The customer may experience a transmission shudder when shifts occur. The shudder is most noticeable with partial application of the torque converter clutch in 3rd and 4th gear.

DIAGNOSIS:
If the customer experiences the condition perform the Repair Procedure.

NOTE: This condition may occur when only a small 0.5% concentration of water is present in the automatic transmission fluid. It will be very important to ensure that the transmission and torque converter is thoroughly flushed of any water and other possible contaminants.

PARTS REQUIRED:

Qty.	Part No.	Description
13	05013457AA	Fluid, Automatic Transmission, MS-9602 ATF+4, Qt.
1	05010884AA	ATF - RTV
1	52108325AA	Filter, Transmission Oil

SPECIAL TOOLS / EQUIPMENT:

9336	Special Tool - Transmission Oil Dipstick - Used for LX
CH9401	StarSCAN™ Tool
CH9404	StarSCAN™ Vehicle Cable

REPAIR PROCEDURE:

This repair procedure involves a triple flush of the transmission. Follow the Repair Procedure carefully to ensure that all residual contaminated fluid has been removed from the transmission, especially the torque converter.

1. Raise the vehicle on an appropriate hoist.

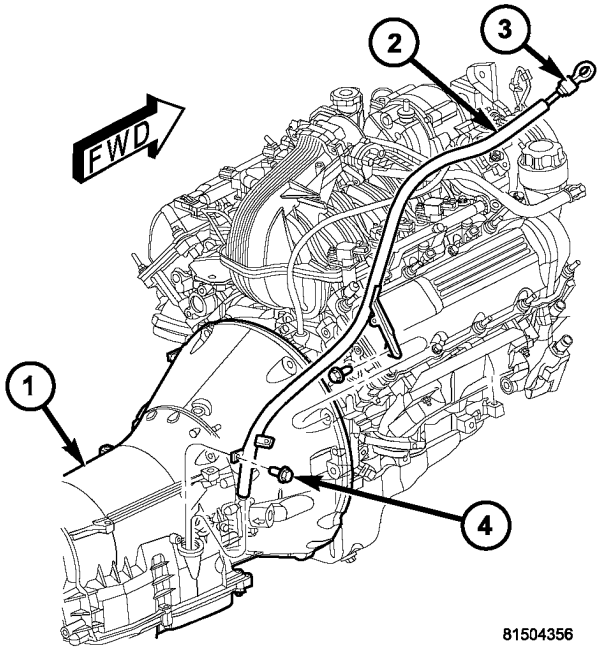

Fig. 1 TRANSMISSION FILL TUBE - TYPICAL

1 - NAG1 TRANSMISSION

2 - TRANSMISSION FILL TUBE - TYPICAL

3 - DIPSTICK - WK or SPECIAL TOOL 9336 - OIL DIPSTICK - LX

4 - UPPER AND LOWER ATTACHING BOLTS

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2. Inspect that the fill tube seal is properly installed to the transmission housing.

NOTE: The seal between the fill tube and transmission housing is correctly installed when the top surface of the seal is flush with the outer surface of the transmission housing. If the seal is not correctly installed (extends up above the transmission housing surface) then its position must be corrected prior to proceeding further.

3. Loosen (but do not remove) the lower fill tube attaching bolt located at the base of the fill tube (Fig. 1).
4. Loosen the upper fill tube attaching bolt.
5. Verify that the transmission fill tube is centered (no side loading) in the transmission housing opening and seal.
6. Tighten the upper attaching bolt to 40.7 Nm (30 ft. lbs.). The upper bolt MUST be tighten before the lower bolt is tightened.
7. Tighten the lower fill tube attaching bolt to 11.9 Nm (105 in. lbs.).
8. Thoroughly clean the base of the fill tube and the area of the transmission where the fill tube mates to the transmission housing.
9. Apply ATF-RTV sealer, p/n 05010884AA, to the area where the fill tube mates to the transmission housing.

NOTE: Verify that the RTV sealer is installed completely around the base of the fill tube and completely seals off the transmission housing fill tube seal from possible water intrusion past the seal.

10. Remove the transmission oil pan. Drain the transmission fluid.
11. Thoroughly clean the transmission oil pan.
12. Install the transmission oil pan. The pan gasket is reusable.
13. Lower the vehicle **leaving the rear wheels off the ground**.
14. Fill the transmission with four (4) quarts of ATF+4 transmission oil.
15. Apply the service brake and start the vehicle engine.
16. Shift the transmission into drive, release the service brake, and lightly accelerate the engine speed to allow the transmission to upshift through all forward gears.
17. Apply the service brake and stop the wheels from turning.
18. Shift the transmission into reverse and release the service brake. Let the wheels turn for approximately 5 seconds.
19. Apply the service brake and stop the wheels from turning.
20. Repeat steps 16 - 19 two more times.

NOTE: At times, the transmission may go into “limp-in” mode due a to transmission generated DTC. The DTC must be erased/cleared before proceeding further. The transmission fluid may not be properly circulated in the transmission if the transmission remains in “limp-in” mode.

21. Stop the engine and place the transmission in the PARK “P” position.
22. Raise the vehicle.
23. Remove the transmission oil pan. Drain the transmission fluid.
24. Thoroughly clean the transmission oil pan.
25. Install the transmission oil pan. The pan gasket is reusable.
26. Lower the vehicle **leaving the rear wheels off the ground**.
27. Fill the transmission with four (4) quarts of ATF+4 transmission oil.
28. Apply the service brake and start the vehicle engine.
29. Shift the transmission into drive, release the service brake, and lightly accelerate the engine speed to allow the transmission to upshift through all forward gears.

30. Apply the service brake and stop the wheels from turning.
31. Shift the transmission into reverse and release the service brake. Let the wheels turn for approximately 5 seconds.
32. Apply the service brake and stop the wheels from turning.
33. Repeat steps 29 - 32 two more times.

NOTE: At times, the transmission may go into "limp-in" mode due a to transmission generated DTC. The DTC must be erased/cleared before proceeding further. The transmission fluid may not be properly circulated in the transmission if the transmission remains in "limp-in" mode.

34. Stop the engine and place the transmission in the PARK "P" position.
35. Raise the vehicle.
36. Remove the transmission oil pan and filter. Drain the transmission fluid.
37. Thoroughly clean the transmission oil pan and pan mating surfaces.
38. Install a new transmission oil filter, p/n 52108325AA.
39. Install the transmission oil pan (gasket is reusable). Torque the pan fasteners to 8 Nm (71 in. lbs.).

WARNING: Risk of accident from vehicle starting off by itself when engine running. Risk of injury from contusions and burns if you insert your hands into the engine when it is started or when it is running. Secure vehicle to prevent it from moving off by itself. Wear properly fastened and close-fitting work clothes. Do not touch hot or rotating parts.

CAUTION: Transmission oil temperature readings are taken using the StarSCAN™ tool. The transmission oil temperature can be read ONLY when the gear selector and transmission are in either the Reverse "R" or in one of the Drive "D" / forward gear positions. Always set the vehicle park brake AND apply the vehicle service brake when taking transmission oil temperature readings. Take a transmission oil temperature reading and return the transmission to the Park "P" position. When the vehicle is in either Park "P" or Neutral "N" the StarSCAN™ displays the ENGINE coolant temperature (not the transmission oil temperature).

NOTE: The WK is equipped with its own dipstick. Read the oil level on the transmission dipstick when the transmission oil temperature is either 70° F (21° C) or 180° F (82° C).

40. Monitor the transmission oil temperature:
    a. Set the vehicle parking brake.
    b. Connect the StarSCAN™ to the vehicle diagnostic link connector.
    c. Apply the vehicle service brake. Start the engine and let it run at idle speed with the transmission selector in the Park "P" position.
    d. With the service brake applied, shift through the transmission modes several times with the vehicle stationary and the engine idling.
    e. Return the transmission selector to the Park "P" position.
    f. With the engine running, allow the transmission to warm up.
    g. Apply the vehicle service brake, shift the transmission into Reverse "R" or Drive "D" position, and monitor the transmission oil temperature using the StarSCAN™. Shift the transmission back into the Park "P" position.

h. Continue to monitor the transmission oil temperature until the transmission oil temperature is within the temperature range of the Transmission Fluid Graph (Fig. 2). Place the transmission selector in the Park “P” position.

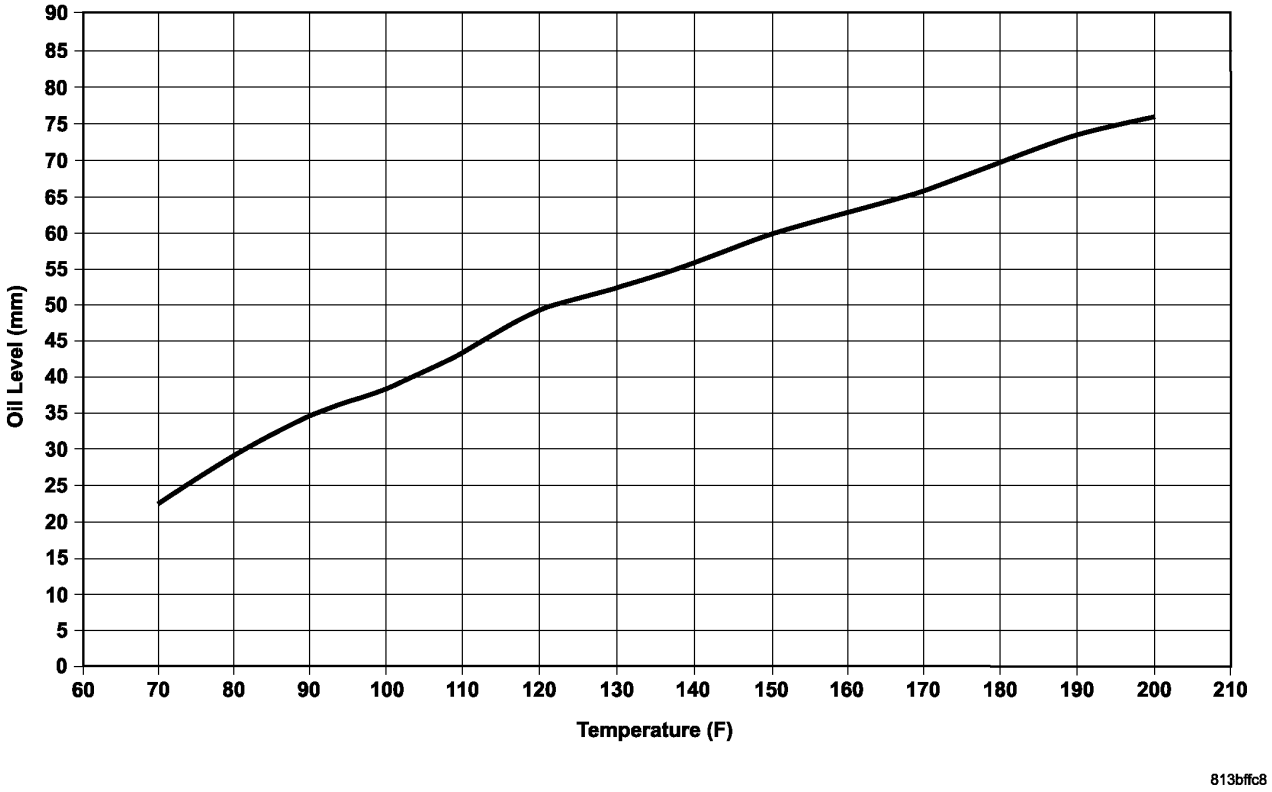

Fig. 2 NAG1 Transmission Fill Graph

NOTE: Always check the oil level while the engine is running and the transmission selector is in the Park “P” position.

NOTE: For the LX (300/Magnum/Charger), the handle end of special tool 9336 transmission oil dipstick may protrude from the fill tube when installed.

41. If vehicle is an LX, remove the dipstick tube cap. Push the transmission oil dipstick (Special Tool 9336) into the transmission fill tube until the dipstick tip contacts the oil pan. Pull out the dipstick and read the transmission oil level. Repeat if necessary.
    a. Check transmission oil temperature using the StarSCAN™.
    b. The transmission Oil Dipstick 9336 has indicator marks every 10 mm. Determine the height of the oil level on the dipstick. Using the height, the transmission temperature, and the Transmission Fluid Graph (Fig. 2), determine if the transmission oil level is correct.
    c. Add or remove oil as necessary and recheck the oil level.
    d. Once the oil level is correct, install the dipstick tube cap.
42. If the vehicle is a WK (Grand Cherokee), pull out the dipstick and read the transmission oil level.

a. Check transmission oil temperature using the StarSCAN™. The WK dipstick is calibrated to have the transmission oil level read when the oil temperature is either at 70° F (21° C) or 180° F (82° C).
b. Add or remove oil as necessary and recheck the oil level.
c. Once the oil level is correct, install the dipstick.

43. Drive the vehicle until the transmission fluid is at normal operating temperature to confirm that the shift shudder has been eliminated.
44. With the vehicle on a level surface, the parking brake applied, the engine running at curb idle speed, and the gear selector in the PARK “P” position, check the transmission fluid level.

POLICY:

Reimbursable within the provisions of the warranty.

TIME ALLOWANCE:

Labor Operation No:	Description	Amount
21-10-16-90	Seal, Transmission Oil Fill Tube - Reseal Tube and Flush Transmission - WK & LX	1.4 Hrs.
21-10-16-91	Seal, Transmission Oil Fill Tube - Reseal Tube and Flush Transmission - LX AWD	1.7 Hrs.

FAILURE CODE:

AM	Authorized Modification