May 2014

Dealer Service Instructions for:

Safety Recall P13 / NHTSA 14V-161
Transmission Case

Models

2014 (DS) RAM Truck (1500 series)

*NOTE: This recall applies only to the above vehicles equipped with a 5.7L Hemi engine (**sales code EZH**), 8 speed automatic transmission (**sales code DFD**) and four wheel drive (**sales code 5I4**) built from January 24, 2014 through February 05, 2014 **(MDH 012408 through 020510)**.*

IMPORTANT: Many of the vehicles within the above build period have already been inspected or repaired and, therefore, have been excluded from this recall.

IMPORTANT: Some of the involved vehicles may be in dealer new vehicle inventory. Federal law requires you to complete this recall service on these vehicles before retail delivery. Dealers should also consider this requirement to apply to used vehicle inventory and should perform this recall on vehicles in for service. Involved vehicles can be determined by using the VIP inquiry process.

Subject

The transmission case on about 125 of the above vehicles may have improperly machined park rod guide plate mounting surfaces. This could cause a loss of park rod guide plate fastener clamp load and eventually the park rod guide plate fasteners may loosen. A loose guide plate and fasteners may not allow the park pawl to fully engage. This condition could cause unintended vehicle movement and cause a crash without warning.

Repair

The transmission case must be inspected. Transmissions found with improperly machined park rod guide plate mounting surfaces must be replaced.

Alternate Transportation

Dealers should attempt to minimize customer inconvenience by placing the owner in a loaner vehicle if inspection determines that transmission replacement is required and the vehicle must be held overnight.

Parts Information

Part Number	Description
RL245679AG	**Transmission Package**

Each package contains the following components:

Quantity	Description
1	Transmission Assembly
1	Converter, Torque

Due to the small number of involved vehicles expected to require transmission replacement, no parts will be distributed initially. **Transmission packages should be ordered only after inspection determines that replacement is required.** ***Very few vehicles are expected to require transmission replacement.***

Part Number	Description
68172556AA	**Gasket, Oil Pan**
68218925AA	**Fluid, Transmission (ZF 8 & 9 Speed ATF)**
68089195AA	**Fluid, Transfer Case**

Special Tools

The following special tools are required to perform this repair:

- NPN wiTECH VCI Pod Kit
- NPN Laptop Computer
- NPN wiTECH Software

Service Procedure

A. Inspect Transmission Case

1. Raise the vehicle on an appropriate hoist.

2. Disconnect the exhaust "Y" pipe at the engine exhaust manifolds and lower the exhaust "Y" pipe slightly to gain access to the transmission oil pan drain plug (Figure 1).

3. Remove and save the transmission oil pan drain plug and allow the transmission oil to drain.

4. Remove and save the 13 transmission oil pan retaining bolts.

5. Carefully remove and save the transmission oil pan and gasket.

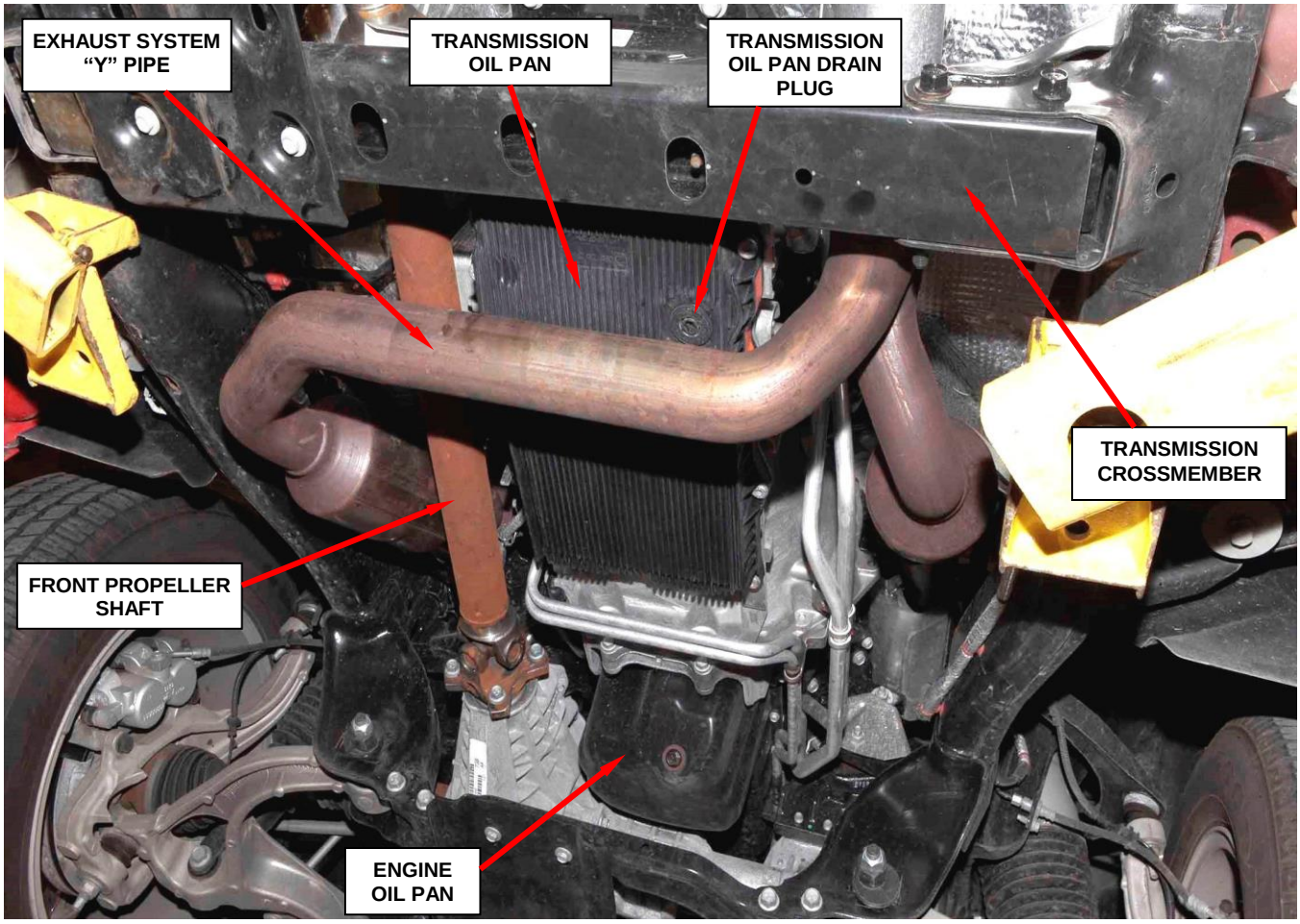

Figure 1 – Disconnect Exhaust "Y" Pipe

Service Procedure (Continued)

6. Inspect the left rear section of the transmission case for proper machining marks:

   - If there are **machine marks** in the transmission case in the area shown in Figure 2, continue with **Step 7 of this procedure**.

   - If there are **no machine marks** in the transmission case in the area shown in Figure 2, install the original transmission oil pan and continue with **Section B: Replace Transmission Assembly**.

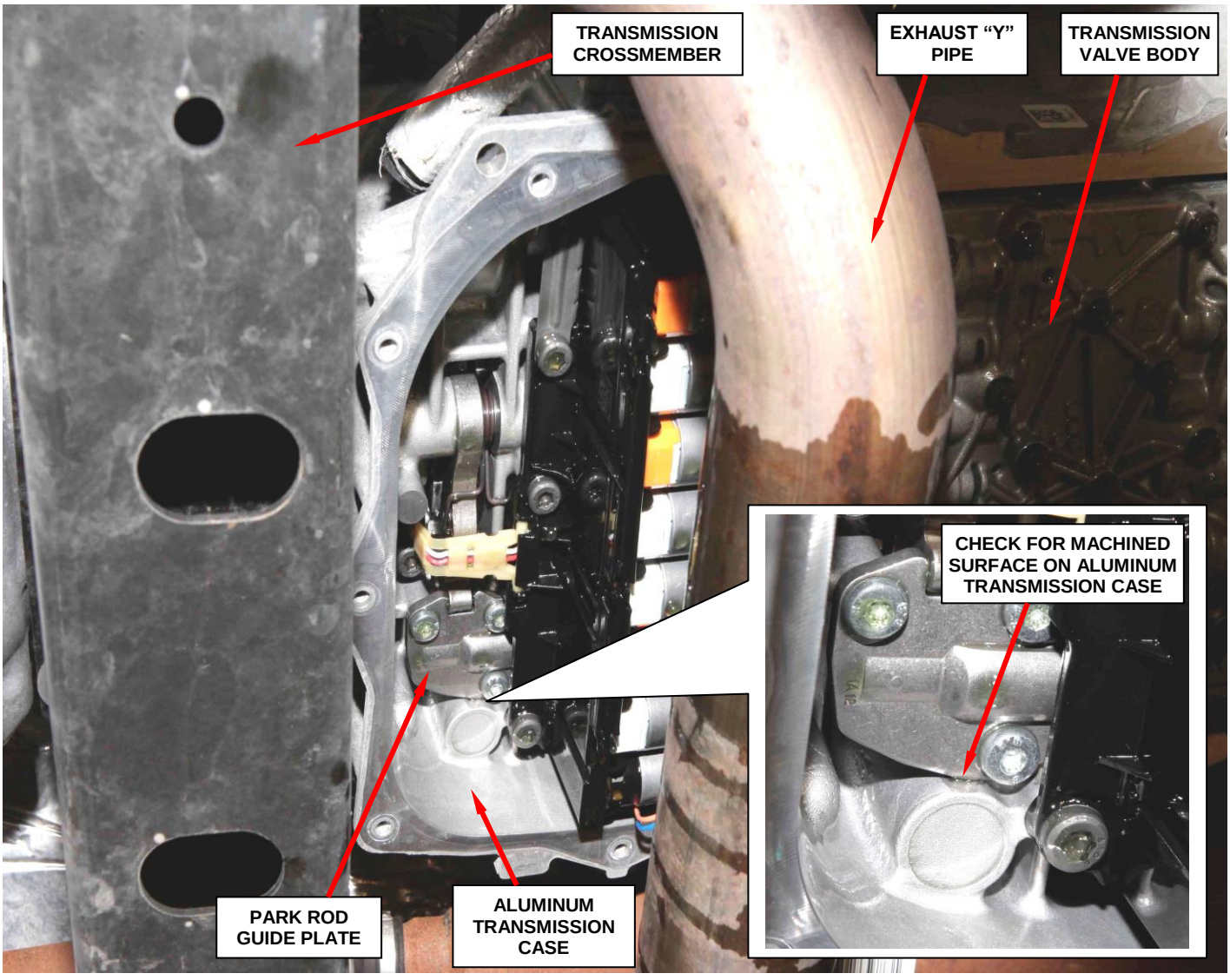

Figure 2 – Inspect Aluminum Transmission Case

Service Procedure (Continued)

7. Install the drain plug into the transmission oil pan. Tighten the drain plug to 70 in. lbs. (8 N·m).

8. Remove and discard the original transmission oil pan gasket.

9. Install a new transmission oil pan gasket onto the transmission oil pan.

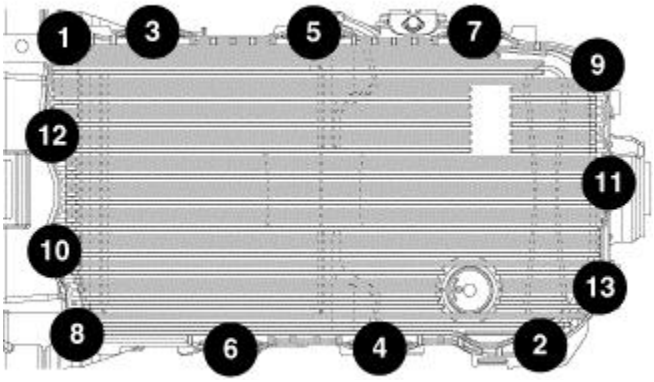

Figure 3 – Transmission Oil Pan Bolt Tightening Sequence

10. Install the transmission oil pan and tighten the transmission oil pan retaining bolts in the sequence shown in Figure 3 to 89 in. lbs. (10 N·m).

11. Place the exhaust "Y" pipe into position on the engine exhaust manifolds. Tighten the retaining bolts to 23 ft. lbs. (31 N·m).

12. Remove and save the transmission fill plug (Figure 4).

13. Pour 3.1 quarts (3 liters) of transmission fluid into the transmission through the transmission fill plug hole on the transmission case.

14. Install the transmission fill plug finger tight (Figure 4).

15. Continue with **Section C. Check Transmission Fluid Level**.

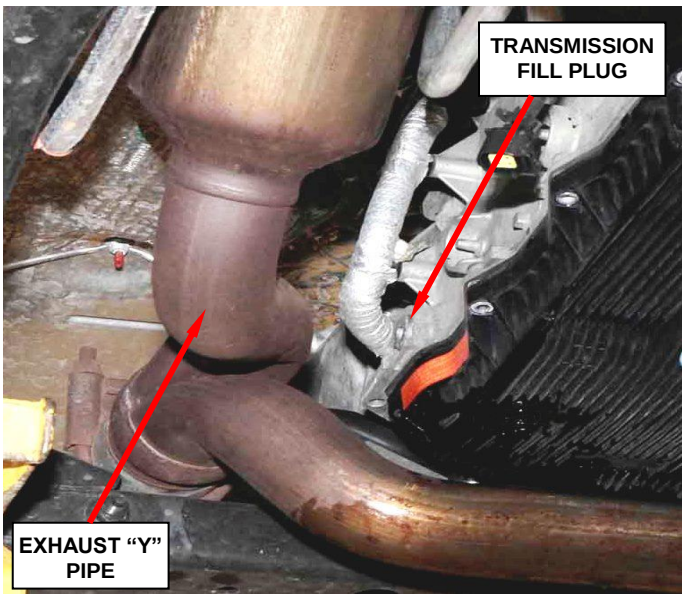

Figure 4 – Transmission Fill Plug

Service Procedure (Continued)

B. Replace Transmission Assembly

NOTE: The following procedure is required if the transmission case fails per the inspection performed in Section A.

1. Disconnect the negative battery cable.

2. Raise the vehicle on a hoist.

3. Remove and save the exhaust system "Y" pipe (Figure 5).

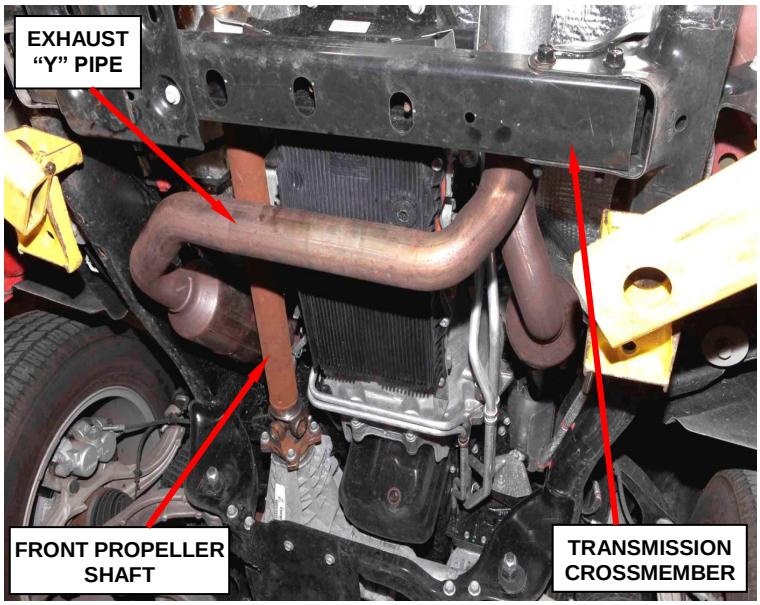

Figure 5 – Exhaust "Y" Pipe

4. Place alignment marks on the rear propeller shaft flange and axle flange (Figure 6). Then remove and save the rear propeller shaft.

5. Place alignment marks on the front propeller shaft flange and axle flange. Then remove and save the front propeller shaft (Figure 6).

6. Support the transmission with a transmission jack.

7. Remove and save the transmission crossmember (Figure 5).

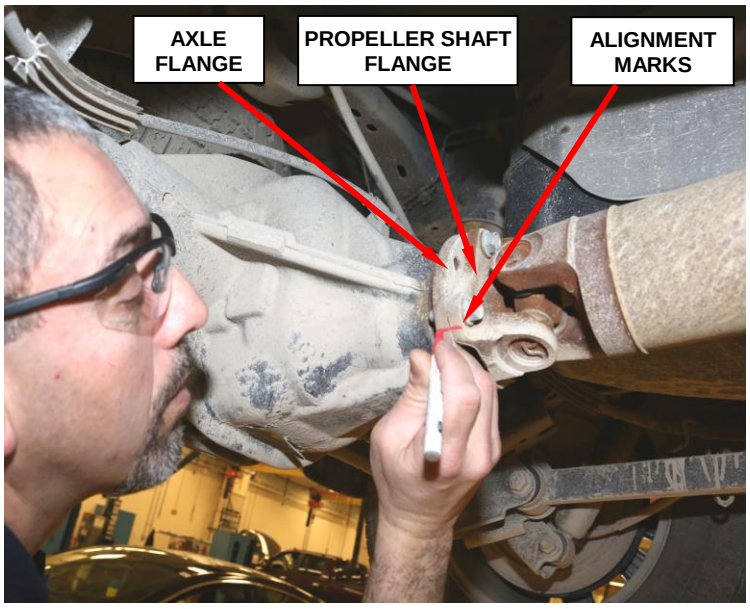

Figure 6 – Alignment Marks

Service Procedure (Continued)

8. Remove and save the transmission mount and adapter bracket (Figure 7).

9. Disconnect the transfer case electrical wiring.

10. Disconnect the transfer case vent hose at the transfer case housing.

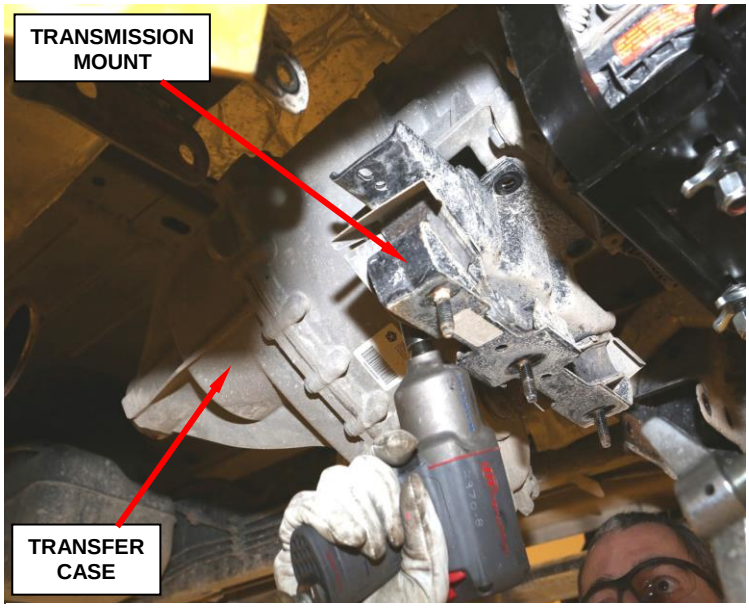

Figure 7 – Transmission Mount

11. Support the transfer case with a transmission jack.

12. Remove and save the transfer case-to-transmission extension housing nuts (Figure 8).

13. Remove and save the transfer case assembly.

14. Disconnect the manual "Park" release cable.

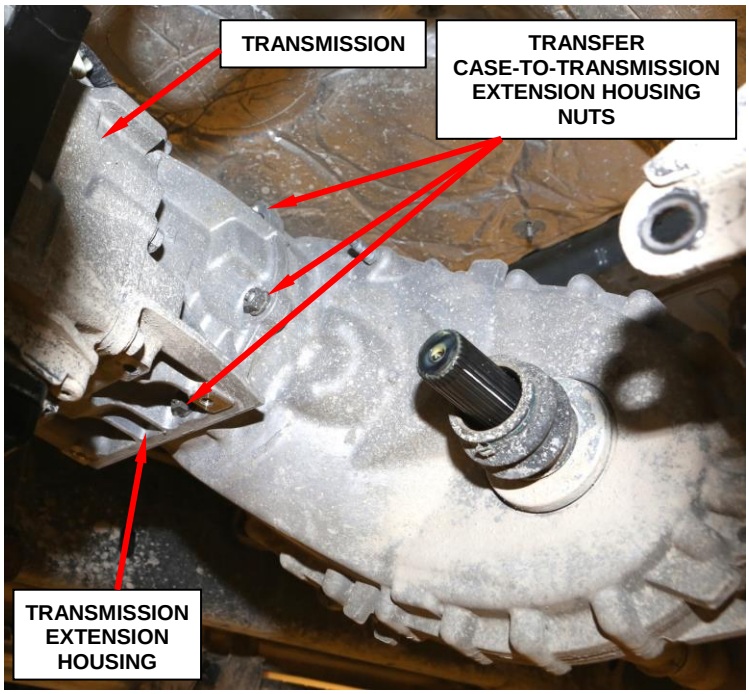

Figure 8 – Transfer Case-to-Transmission Extension Housing Nuts

Service Procedure (Continued)

15. Remove and save the front axle-to-engine bracket (Figure 9).

16. Remove and save the starter motor.

17. Remove and save the six torque converter-to-drive plate bolts.

18. Disconnect all electrical connectors from the transmission.

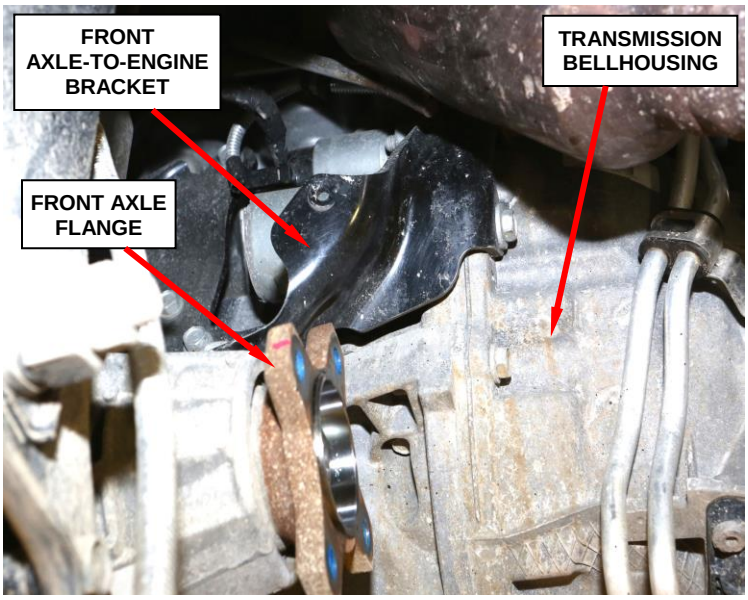

Figure 9 – Front Axle-to-Engine Bracket

19. Lower the transmission slightly and remove and save the coolant tube bracket bolts at the top of the bellhousing.

20. Remove and save the transmission oil cooler tube bracket on the right side of the bellhousing (Figure 10).

21. Remove and save the right side bellhousing dust shield.

22. Disconnect the transmission vent hose.

23. Remove and save the remaining bellhousing bolts.

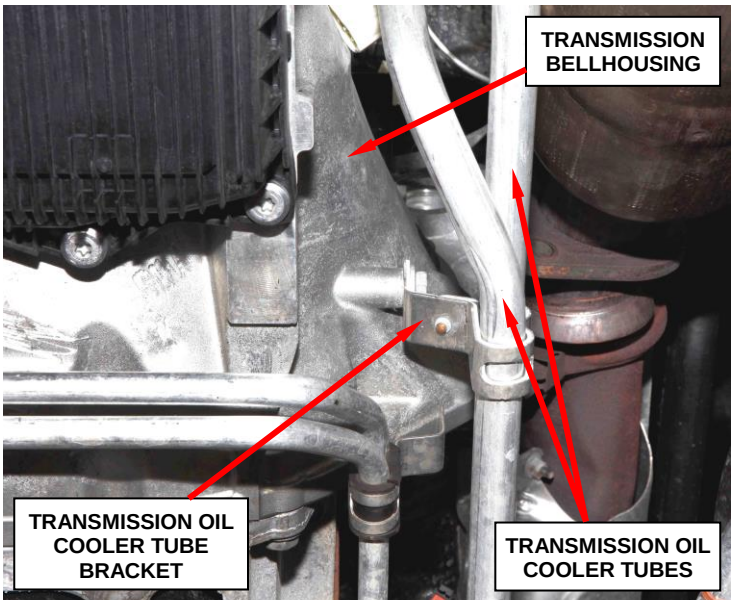

Figure 10 – Oil Cooler Tube Bracket

Service Procedure (Continued)

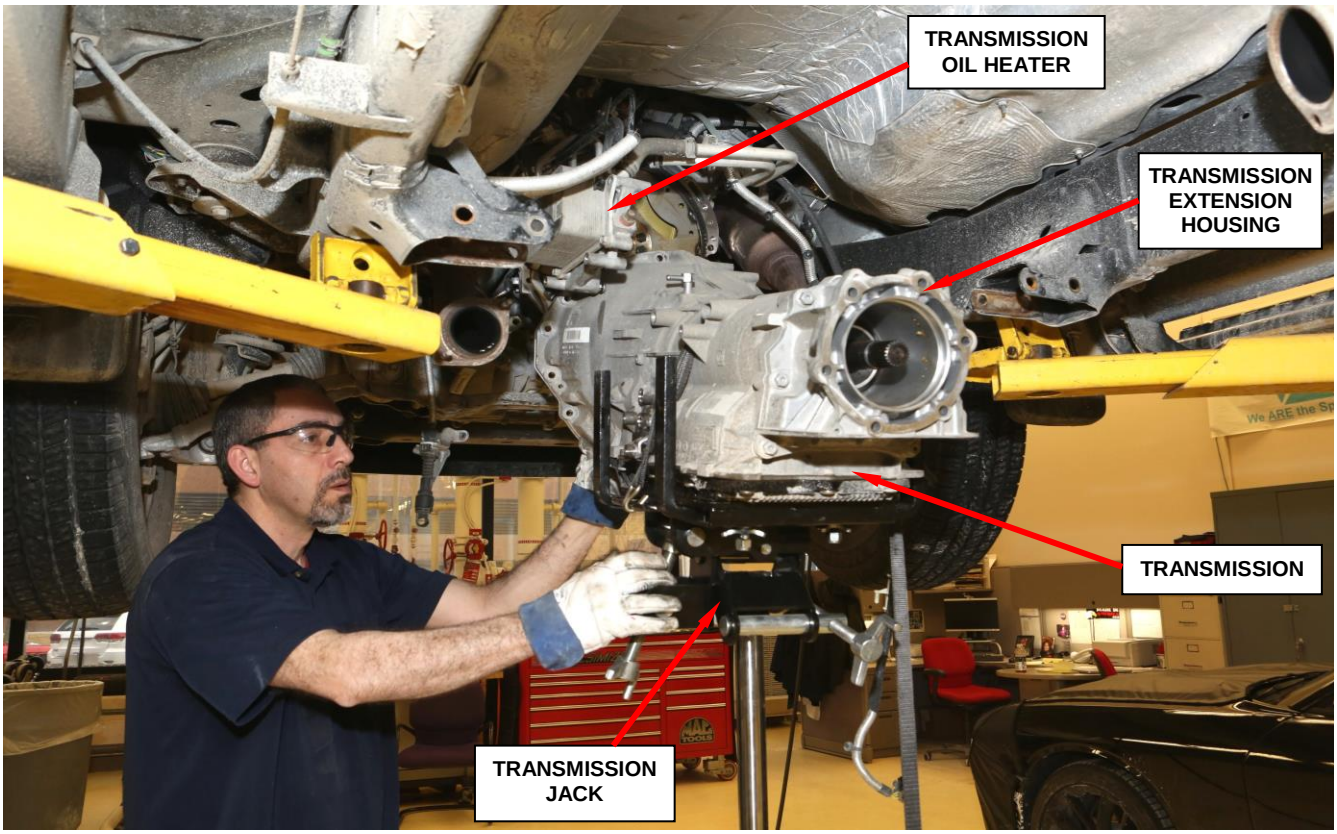

Figure 11 – Lower/Raise Transmission

24. Carefully lower the transmission assembly from the vehicle (Figure 11).

25. Replace any broken electrical wire harness clips.

26. Replace the transmission oil heater O-rings (Figure 12).

    NOTE: Each aluminum fitting has two O-rings. Pull the aluminum fittings out of the oil heater body to replace the second O-ring.

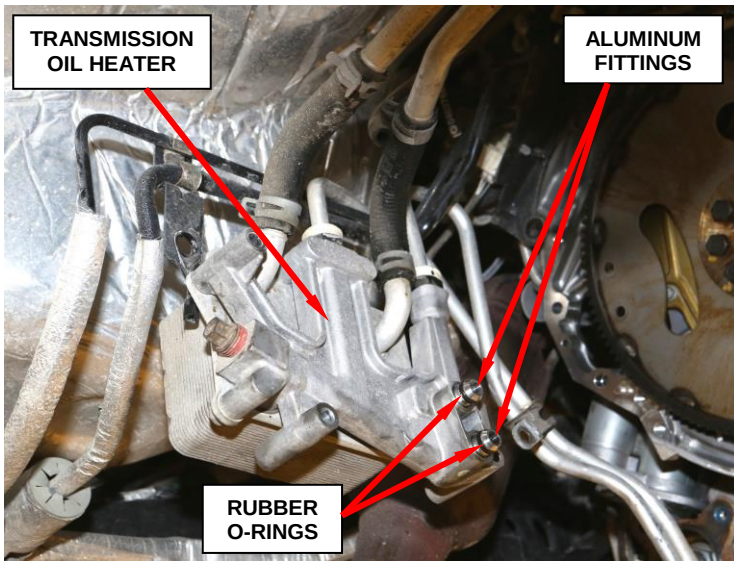

Figure 12 – Transmission Oil Heater O-Rings

Service Procedure (Continued)

27. With the help of a lifting device, remove and discard the original transmission from the transmission jack.

28. With the help of a lifting device, place the new transmission onto the transmission jack.

29. Raise the transmission into position (Figure 11).

30. Install the bellhousing bolts. Tighten the bolts to 41 ft. lbs. (55 N·m).

31. Connect and route the transmission electrical wiring.

32. Install the transmission oil heater. Tighten the bolts to 18 ft. lbs. (25 N·m).

33. Install the six torque converter-to-drive plate bolts. Tighten the bolts to 31 ft. lbs. (42 N·m).

34. Install the starter motor. Tighten the starter motor bolts to 40 ft. lbs. (54 N·m).

35. Install the front axle-to-engine bracket (Figure 9). Tighten the bolts to 48 ft. lbs. (65 N·m).

36. Install the manual "Park" release cable.

37. Install the right side bellhousing dust shield.

38. Install the transmission oil cooler tube on the right side of the bellhousing (Figure 10).

39. Install the coolant tube bracket bolts at the top of the bellhousing.

40. Connect the transmission vent hose.

41. Using a transmission jack, install the transfer case assembly to the back of the transmission.

Service Procedure (Continued)

42. Install the transfer case-to-transmission extension housing nuts (Figure 8). Tighten the nuts to 25 ft. lbs. (34 N·m).

43. Connect the transfer case vent hose at the transfer case housing.

44. Connect the transfer case electrical wiring.

45. Install the transmission mount and adapter bracket (Figure 7).

46. Install the transmission crossmember. Tighten the bolts to 48 ft. lbs. (65 N·m).

47. Using new bolts, align the alignment marks and install the front propeller shaft. Tighten the bolts to 85 ft. lbs. (115 N·m).

48. Using new bolts, align the alignment marks and install the rear propeller shaft (Figure 6). Tighten the bolts to 85 ft. lbs. (115 N·m).

49. Install the exhaust system "Y" pipe (Figure 5). Tighten the exhaust manifold bolts to 23 ft. lbs. (31 N·m).

50. Lower the vehicle from the hoist.

51. Connect the negative battery cable.

52. Continue with **Section C. Check Transmission Fluid Level**.

Service Procedure (Continued)

C. Check Transmission Fluid Level

WARNING: THERE IS A RISK OF ACCIDENT FROM VEHICLE MOVING WHEN THE ENGINE IS RUNNING. SECURE VEHICLE TO PREVENT IT FROM MOVING. THERE IS A RISK OF INJURY FROM CONTUSIONS AND BURNS IF YOU INSERT YOUR HANDS INTO THE ENGINE WHEN IT IS RUNNING. DO NOT TOUCH HOT OR ROTATING PARTS. WEAR PROPERLY FITTED WORK CLOTHES.

CAUTION: A unique transmission fluid has been developed for this transmission. This unique transmission fluid is NOT compatible with ATF+4 or any other current Chrysler transmission fluid.

1. Place the vehicle **on a level hoist.**

2. Using a scan tool or the vehicle information center, verify that the transmission fluid temperature is below 86°F (30°C).

   NOTE: The transmission fluid will reach 86°F (30°C) in about 3 minutes from room temperature.

3. Start the engine.

   CAUTION: The engine must continue to run through Step 17 of this procedure.

4. Disable traction control (ESC).

5. With the engine running, raise the vehicle on the hoist.

6. Remove the fill plug from the right rear of the transmission case (Figure 13).

7. Add transmission fluid until it trickles from the transmission fill plug opening.

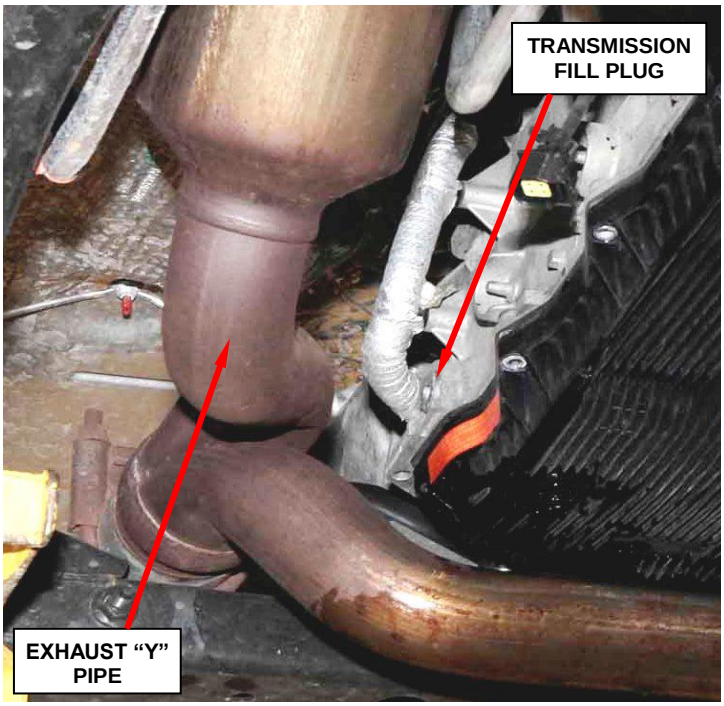

Figure 13 – Transmission Fill Plug

Service Procedure (Continued)

8. Install the transmission fill plug (Figure 13).

9. Lower the vehicle for access to inside of the vehicle, leaving the tires at least 8 inches off the ground.

10. With the brakes applied, place the transmission in Reverse and hold for 5 seconds.

11. Place the transmission in Drive and hold for 5 seconds.

12. Release the brakes, slowly accelerate to 2nd gear and hold for 5 seconds.

13. Apply the brakes and place the transmission in Neutral.

14. Raise the engine speed to 2000 RPM for 5 seconds.

15. Return the engine to idle and place the transmission in "Park."

    NOTE: A full transmission will have fluid at the fill hole with the transmission between 30°C (86°F) and 50°C (122°F). Do not over fill.

16. Remove the fill plug and allow excess transmission fluid to drain from fill hole or add transmission fluid as necessary.

17. Install the transmission fill plug.

18. Using a wiTECH scan tool, clear any Diagnostic Trouble Codes (DTC's).

19. Turn engine off.

20. Remove the wiTECH scan tool from the vehicle.

21. **For vehicles that did not have the transmission replaced**: return the vehicle to the customer.

    For vehicles that had the transmission replaced: Continue with **Section D. Perform Transmission TCM Adaptation Procedure**.

Service Procedure (Continued)

D. Perform Transmission TCM Adaptation Procedure

NOTE: This procedure is intended only for vehicles that had the transmission assembly replaced.

The initial clutch filling pressure and fill times are set at the factory. When a transmission assembly is replaced, the adaptation values must be relearned.

The two procedures to relearn these values are called Fast Filling Adaptation and Standard Clutch Filling Adaptation. Failure to perform these procedures could cause shift quality issues.

WARNING: An assistant will be required to drive the vehicle while the technician monitors the wiTECH screen. DO NOT drive the vehicle and attempt to watch the wiTECH screen at the same time. Doing so creates an unsafe driving situation.

Fast Filling Adaptation Procedure

CAUTION: Perform this procedure on a smooth road surface. The TCM or TCMA will abort the adaptation process if it senses rough road conditions. The road should be clear of traffic due to the start, stop, and slow vehicle speeds required during this procedure.

1. With the Scan Tool, erase DTCs.

2. Setup the scan tool to display the Transmission Oil Temperature, Torque, Turbine (Input) Speed Sensor rpm, and Clutch ‘X’ - Filling Counter for each clutch.

3. Drive the vehicle until the Transmission Oil Temperature is above 86° F (30° C).

4. Stop the vehicle.

Service Procedure (Continued)

5. Drive the vehicle to perform upshifts for all gears under the following conditions:
   - Light to medium throttle position
   - Turbine (Input) Speed between 1,250 - 2,000 rpm
   - Torque between 74 ft. lbs. and 111 ft. lbs. (100 N·m and 150 N·m).
6. Release the throttle (0% position) to coast and allow a 6-5 down-shift.
7. Repeat Steps 4 - 6 until the Filling Counters for each clutch displays 10 counts.

   NOTE: The tables below may be used as an alternate reference for the optimal conditions required to learn the Fast Filling Adaptations.

Fast Filling Adaptation Conditions Table

Conditions Where Fast Filling Adaptations Occur			
Condition	**Transmission Temperature Range**	**Torque N·m (ft. lbs.) Range**	**Input Speed (rpm) Range**
Upshifts	Between 86°F and 212°F (30°C and 100°C)	Between 74 ft. lbs. and 111 ft. lbs. (100 N·m and 150 N·m)	Between 1250 and 2000 rpm
6-5 Downshifts for B Clutch	Between 86°F and 212°F (30°C and 100°C)	Between negative (-) 44 ft. lbs. and negative (-) 30 ft. lbs. (negative (-) 60 N·m and negative (-) 40 N·m)	Between 750 and 1100 rpm

Clutch vs Shift Table

Shifts Where Each Clutch Will Fast Adapt					
	A Clutch	**B Clutch**	**C Clutch**	**D Clutch**	**E Clutch**
Shift	6 - 7	6 - 5	2 - 3 and 4 - 5	3 - 4	1 - 2 and 5 - 6
Optimal conditions under which adaptation learning occurs.	Best performed at highway speeds in excess of 50 mph (80 kph).	Coasting with throttle at 0% position.	Best performed at light to medium-throttle - normal vehicle launch.	Best performed at light to medium-throttle - normal vehicle launch.	Best performed at light to medium-throttle - normal vehicle launch.

8. Continue with the **Standard Clutch Filling Adaptation Procedure**.

Service Procedure (Continued)

Standard Clutch Filling Adaptation Procedure

NOTE: Perform this procedure on a smooth road surface. The TCM or TCMA will abort the adaptation process if it senses rough road conditions. The road should be clear of traffic due to the start, stop, and slow vehicle speeds required during the procedure.

NOTE: The TCM learns the Standard Clutch Filling Adaptation values when the applicable clutch is not applied.

WARNING: An assistant will be required to drive the vehicle while the technician watch the wiTECH screen. DO NOT drive the vehicle and attempt to watch the wiTECH screen at the same time. Doing so creates an unsafe driving situation.

1. With the Scan Tool, erase DTCs.

2. Setup the scan tool to display the Transmission Oil Temperature, Torque, Turbine (Input) Speed Sensor rpm, and Clutch 'X' - Fast Filling Counter for each clutch.

3. Drive the vehicle until the Transmission Oil Temperature is above 122° F (50° C).

   NOTE: Adaptation learning will be aborted if the Transmission Oil Temperature is above 212° F (100° C).

4. Stop the vehicle.

5. Drive the vehicle using the paddle shifters or Gear +/- buttons on the steering wheel in order to hold the transmission in the desired gear.

   NOTE: First and second gears do not require a Standard Clutch Filling Adaptation procedure

Service Procedure (Continued)

6. In 3rd gear, drive the vehicle within the following conditions until the Clutch D - Fast Filling Counter increments by one count:
   - Vehicle speed between 20 - 35 mph (32 - 56 kph).
   - Turbine (Input) speed between 950 - 1750 rpm
   - Torque between 18 ft. lbs. - 133 ft. lbs. (25 N·m - 180 N·m).

7. In fourth gear, drive the vehicle within the following conditions until the Clutch C - Fast Filling Counter increments by one count:
   - Vehicle speed between 20 - 35 mph (32 - 56 kph).
   - Turbine (Input) speed between 950 - 1750 rpm
   - Torque between 18 ft. lbs. – 89 ft. lbs. (25 N·m - 120 N·m).

   NOTE: Fifth gear does not require a Standard Clutch Filling Adaptation procedure.

8. In sixth gear, drive the vehicle within the following conditions until the Clutch A - Fast Filling Counter increments by one count:
   - Vehicle speed between 45 - 50 mph (73 - 81 kph).
   - Turbine (Input) speed between 950 - 1750 rpm
   - Torque between 37 ft. lbs. – 89 ft. lbs. (50 N·m - 120 N·m).

9. In seventh gear, drive the vehicle within the following conditions until the Clutch B- Filling Counter and Clutch E Fast Filling Counter each increment by one count:
   - Vehicle speed between 45 - 50 mph (73 - 81 kph).
   - Turbine (Input) speed between 950 - 1750 rpm
   - Torque between 37 ft. lbs. – 89 ft. lbs. (50 N·m - 120 N·m).

Service Procedure (Continued)

NOTE: The Standard Clutch Filling Adaptation Conditions Table below may be used as an alternate reference for the optimal conditions required to learn the Standard Clutch Filling Adaptations.

Standard Clutch Filling Adaptation Conditions Table

Steady State Gears And Conditions Where Each Clutch Will Adapt					
Clutch	**Gear**	**Optimal Vehicle Speed Range**	**Input Speed (rpm) Range**	**Torque Ft. Lbs. (N.m) Range**	**Transmission Temperature Range**
A Clutch	6th	45-50 mph (73-81 kph)	Between 950 and 1750 rpm	Between 37 ft. lbs. and 89 ft. lbs. (50 N·m and 120 N·m)	Between 122°F and 212°F (50°C and 100°C)
B Clutch	7th	45-50 mph (73-81 kph)	Between 950 and 1750 rpm	Between 37 ft. lbs. and 89 ft. lbs. (50 N·m and 120 N·m)	Between 122°F and 212°F (50°C and 100°C)
C Clutch	4th	20-35 mph (32-56 kph)	Between 950 and 1750 rpm	Between 18 ft. lbs. and 89 ft. lbs. (25 N·m and 120 N·m)	Between 122°F and 212°F (50°C and 100°C)
D Clutch	3rd	20-35 mph (32-56 kph)	Between 950 and 1750 rpm	Between 18 ft. lbs. and 89 ft. lbs. (25 N·m and 120 N·m)	Between 122°F and 212°F (50°C and 100°C)
E Clutch	7th	45-50 mph (73-81 kph)	Between 950 and 1750 rpm	Between 37 ft. lbs. and 89 ft. lbs. (50 N·m and 120 N·m)	Between 122°F and 212°F (50°C and 100°C)

10. Perform steps 4-9 until the Fast Filling Counters for each clutch has incriminated by at least five counts.

11. Evaluate shift performance for all gears. If the shift quality for any gear is insufficient, execute the appropriate driving conditions until shift quality improves. Incrementing the Fast Filling Counters by 12 counts for each clutch may be necessary to properly learn the adaptation values.

Service Procedure (Continued)

NOTE: The following table can be used to determine which clutches are involved in a specific up-shift or down-shift quality issue. "X" indicates when a clutch is applied. The Standard Clutch Filling Adaptation learning occurs when the applicable clutch is not applied and the transmission is in a steady state (not shifting).

Gear vs Clutch Table

Gear	Clutch A	Clutch B	Clutch C	Clutch D	Clutch E
1st	X	X	X		
2nd	X	X			X
3rd		X	X		X
4th		X		X	X
5th		X	X	X	
6th			X	X	X
7th	X		X	X	
8th	X			X	X
Reverse	X	X		X	

NOTE: Read the information below for details regarding this procedure.

Reading Clutch Adaptation Data
The Clutch Packs will each have 4 scan tool data labels to observe under the TCM section. Using Clutch A as an example, the data labels are:

Clutch A- Fast Filling Counter: This data label displays the number of Clutch Filling Pressure adaptations that have been performed. These adaptations are the first learned values on a new transmission or after clutch adaptation values are reset. You will need to allow 5 to 12 fast filling counts per clutch to properly learn the clutch adaptations. If the shift quality is sufficient after 5 counts, no further adaptation learns for that clutch are necessary.

Clutch A- Filling Counter: This data label displays the number of Clutch Filling Time adaptations that have been performed. You will need to allow 5 to 12 filling counts per clutch to properly learn the clutch adaptations. If the shift quality is sufficient after 5 counts, no further adaptation learns for that clutch are necessary.

Service Procedure (Continued)

Clutch A- Filling Pressure: This data label displays the clutch filling pressure value that is learned during the TCM Adaptation procedure. The TCM adaptation software will increase or decrease the clutch fluid filling pressure to improve shift performance. The clutch Filling Pressure value will change over the life of the transmission based first on initial transmission build variation and then due to normal clutch wear.

Clutch A- Filling Time: This data label displays the clutch filling time value that is learned during the TCM Adaptation procedure. The TCM adaptation software will increase or decrease the Clutch Filling Time to improve shift performance. The clutch Filling Time value will change over the life of the transmission based first on initial transmission build variation and then due to normal clutch wear.

Completion Reporting and Reimbursement

Claims for vehicles that have been serviced must be submitted on the DealerCONNECT Claim Entry Screen located on the Service tab. Claims submitted will be used by Chrysler to record recall service completions and provide dealer payments.

Use one of the following labor operation numbers and time allowances:

	Labor Operation Number	Time Allowance
Inspect transmission case (includes fluid level check)	21-P1-31-81	1.2 hours
Inspect transmission case and replace transmission assembly (includes fluid level check and Clutch Filling Adaptation Procedure)	21-P1-31-82	6.0 hours

Add the cost of the recall parts package plus applicable dealer allowance to your claim.

NOTE: See the Warranty Administration Manual, Recall Claim Processing Section, for complete recall claim processing instructions.

Optional Equipment

Skid Plate	21-P1-31-60	0.4 hours

Special Service Operation

Fuel Allowance	95-14-01-04	$32.00
Road Test Assistant	95-09-45-05	$25.00

Dealer Notification

To view this notification on DealerCONNECT, select "Global Recall System" on the Service tab, then click on the description of this notification.

Owner Notification and Service Scheduling

All involved vehicle owners known to Chrysler are being notified of the service requirement by first class mail. They are requested to schedule appointments for this service with their dealers. A generic copy of the owner letter is attached.

Enclosed with each owner letter is an Owner Notification postcard to allow owners to update our records if applicable.

Vehicle Lists, Global Recall System, VIP and Dealer Follow Up

All involved vehicles have been entered into the DealerCONNECT Global Recall System (GRS) and Vehicle Information Plus (VIP) for dealer inquiry as needed.

GRS provides involved dealers with an updated VIN list of their incomplete vehicles. The owner's name, address and phone number are listed if known. Completed vehicles are removed from GRS within several days of repair claim submission.

To use this system, click on the **"Service"** tab and then click on **"Global Recall System."** Your dealer's VIN list for each recall displayed can be sorted by: those vehicles that were unsold at recall launch, those with a phone number, city, zip code, or VIN sequence.

Dealers must perform this repair on all unsold vehicles *before* retail delivery. Dealers should also use the VIN list to follow up with all owners to schedule appointments for this repair.

Recall VIN lists may contain confidential, restricted owner name and address information that was obtained from the Department of Motor Vehicles of various states. Use of this information is permitted for this recall only and is strictly prohibited from all other use.

Additional Information

If you have any questions or need assistance in completing this action, please contact your Service and Parts District Manager.

Customer Services / Field Operations
Chrysler Group LLC