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**GROUP:** Transmission

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**THIS BULLETIN SUPERSEDES TECHNICAL SERVICE BULLETIN 21-008-06, DATED April 8, 2006, WHICH SHOULD BE REMOVED FROM YOUR FILES. ALL REVISIONS ARE HIGHLIGHTED WITH **\*\*ASTERISKS\*\*** AND INCLUDE AN ADDITIONAL VEHICLES, TRANSMISSIONS AND CAUTION STATEMENT.**

***SUBJECT:***

Automatic Transmission Diagnostic Tear Down Procedure

***OVERVIEW:***

This bulletin provides a procedure to determine repair versus replacement of an automatic transmission assembly. Follow the proper repair procedure based on the transmission type. This procedure is to be used after the transmission has been removed from the vehicle.

**Every replaced transmission assembly returned to DaimlerChrysler must include a properly completed Diagnostic Checksheet.** This sheet must be attached to the transmission bellhousing. Refer to Warranty Bulletin D-06-08 for additional information.

***MODELS:***

1995	(AA)	Spirit/Acclaim/LeBaron Sedan
1995 - 2003	(AB)	Ram Van/Wagon
1995	(AJ)	LeBaron Coupe/LeBaron Convertible
1997 - 2004	(AN)	Dakota
1995 - 2002	(BR/BE)	Ram Truck
2004 - <b>**2007**</b>	(CS)	Pacifica
1998 - 2003	(DN)	Durango
<b>**2007</b>	(D1/DC)	Ram Truck <b>**</b>
2002 - <b>**2007**</b>	(DR/DH)	Ram Truck
1995 - 2000	(FJ)	Sebring/Avenger/Talon
1996 - 2000	(GS)	Chrysler Voyager (International Markets)
2004 - <b>**2007**</b>	(HB)	Durango
<b>**2007</b>	(HG)	Aspen <b>**</b>
1995 - 2000	(JA)	Cirrus/Stratus/Breeze
<b>**2007</b>	(JK)	Wrangler <b>**</b>



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2001- 2006	(JR)	Sebring Sedan & Convertible/Stratus Sedan
**2007	(JS)	Sebring**
1996 - 2000	(JX)	Sebring Convertible
**2007	(KA)	Nitro**
2002 - **2007**	(KJ)	Liberty
2002 - 2005	(KJ)	Cherokee (International Markets)
1995 - 2004	(LH)	Concorde/Intrepid/Vision/LHS/New Yorker /300M
2005 - **2007**	(LX)	300/Magnum/Charger
2005 - **2007**	(LE)	300C/300C (International Markets)
2005 - **2007**	(ND)	Dakota
1996 - 2000	(NS)	Town & Country/Caravan/Voyager
2002	(PG)	Chrysler PT Cruiser (International Markets)
1995 - 2005	(PL)	Neon
2001 - **2007**	(PT)	Chrysler PT Cruiser
1997 - 2002	(PR)	Prowler
2001 - **2007**	(RS)	Town & Country/Caravan/Voyager
2001 - **2007**	(RG)	Chrysler Voyager (International Markets)
1997 - 2006	(TJ)	Wrangler
2002 - 2006	(VA)	Sprinter
**2007	(VB)	Sprinter**
1999 - 2004	(WG)	Grand Cherokee (International Markets)
2005 - **2007**	(WH)	Grand Cherokee (International Markets)
1999 - 2004	(WJ)	Grand Cherokee
2005 - **2007**	(WK)	Grand Cherokee
2006 - **2007**	(XH)	Commander (International Markets)
2006 - **2007**	(XK)	Commander
1995	(YJ)	Wrangler
1996 - 1998	(ZG)	Grand Cherokee (International Markets)
**2004 - 2007	(ZH)	Crossfire**
1996 - 1998	(ZJ)	Grand Cherokee/Grand Wagoneer

**SPECIAL TOOLS/EQUIPMENT REQUIRED:**

C-3339A	Set, Dial Indicator
C-3752-A	Puller Set
6227	Spring Compressor/Alignment
8257	Support Stand

8261	Plate, Alignment
8266A	Fixtures, End Play
8266-12	Adapter, Geartrain End Play
9082	Remover, Bearing

### **REPAIR PROCEDURE:**

**NOTE: \*\*For detailed information, Refer to TechCONNECT 21 - TRANSMISSION AND TRANSFER CASE or the appropriate service manual in Section 21 for specific information regarding disassembly and repair procedures\*\*.**

#### **40TE, 41TE/AE, 42LE/RLE and \*\*62TE\*\* Transmissions**

1. Remove fluid using approved Team PSE Automatic Transmission Fluid X-changer or equivalent.
2. Remove torque converter (keep with unit).
3. Measure input shaft end play.
4. Remove input speed sensor.
5. Remove pump assembly.
6. Remove input clutch assembly.
7. Remove front sun gear assembly.
8. Remove front carrier/rear annulus assembly.
9. If transmission is determined to be greater than 70% failed follow steps 10 through 13. If transmission is determined to be less than 70% failed, refer to the service information available in TechCONNECT or the appropriate service manual in Section 21 for detailed repair instructions.
10. Drop #2 thrust bearing into transmission pan.
11. Reassemble transmission by reversing steps 4 through 8.
12. Return the old torque converter using the same method used to ship to dealer. If the service unit was received with the converter in a separate box within the transmission package, return the failed unit in this manner. Otherwise, place converter into trans and install shipping strap and bolts.
13. Return any loose items by attaching to bellhousing in plastic bag.

**NOTE: All parts must be returned with transmission.**

**NOTE: \*\*For detailed information, Refer to TechCONNECT 21 - TRANSMISSION AND TRANSFER CASE or the appropriate service manual in Section 21 for specific information regarding disassembly and repair procedures\*\*.**

#### **30RH, 30TH, 31TH, 32RH, 36RH, 42RE/RH, 44RE/RH, 46RE/RH, 47RE and 48RE Transmissions**

1. Remove fluid using approved Team PSE Automatic Transmission Fluid X-changer or equivalent.
2. Remove torque converter (keep with unit).
3. Measure input shaft end play.
4. Remove pump assembly.
5. Loosen front band adjustment screw until link can be removed (keep link with unit).
6. Rotate front band and remove (keep with unit).
7. Remove front clutch retainer and rear clutch retainer assembly.

8. Remove intermediate shaft snap ring (keep with unit).
9. Remove front and rear planetary assemblies and drive shell (keep with unit).
10. Remove low/reverse drum snap rings.
11. Remove low/reverse drum.
12. Remove overdrive unit.
13. Remove overdrive clutch snap ring.
14. Remove overdrive clutch disc and plates.
15. Remove overdrive wave spring.
16. Remove overdrive snap ring.
17. Remove access cover and gasket.
18. Expand output shaft bearing snap-ring with expanding type snap ring pliers. Then push output shaft forward to release shaft bearing from locating ring.
19. Remove geartrain assembly.
20. If transmission is determined to be greater than 70% failed follow steps 21 through 24. If transmission is determined to be less than 70% failed, refer to the service information available in TechCONNECT or the appropriate service manual in Section 21 for detailed repair instructions.
21. Drop band adjustment link in pan.
22. Reassemble transmission by reversing steps 4 through 19.
23. Return the old torque converter using the same method used to ship to dealer. If the service unit was received with the converter in a separate box within the transmission package, return the failed unit in this manner. Otherwise, place converter into trans and install shipping strap and bolts.
24. Return any loose items by attaching to bellhousing in plastic bag.

**NOTE: All parts must be returned with transmission.**

**NOTE: \*\*For detailed information, Refer to TechCONNECT 21 - TRANSMISSION AND TRANSFER CASE or the appropriate service manual in Section 21 for specific information regarding disassembly and repair procedures\*\*.**

#### **45RFE/545RFE and \*\*68RFE\*\* Transmissions**

1. Remove fluid using approved Team PSE Automatic Transmission Fluid X-changer or equivalent.
2. Remove torque converter (keep with unit).
3. Remove the transmission oil pan from the transmission case.
4. Remove the primary oil filter and the oil cooler return filter.
5. Remove the cooler return filter bypass valve.
6. Remove the valve body from the transmission case.
7. Install Support Stand 8257 onto the transmission case.
8. Measure input shaft end play.
9. Remove input speed sensor.
10. Remove extension/adaptor housing from the transmission case.
11. Remove front pump cover.
12. Remove front pump assembly. Hold the input shaft during pump removal to prevent the input clutch thrust bearings from falling out of position.
13. Remove input clutch assembly.
14. Remove the 4C clutch retainer/bulkhead tapered snap-ring from the transmission case.
15. Remove the 4C clutch retainer/bulkhead from the transmission case.
16. Remove the front 2C clutch pack snap-ring from the transmission case.
17. Remove the 2C clutch pack from the transmission case.

18. Remove the reaction annulus from the reaction planetary carrier.
19. Remove the snap-ring holding the park sprag gear onto the output shaft.
20. Remove the input/reverse planetary assembly.
21. Remove the snap-ring holding the low/reverse clutch retainer into the transmission case.
22. Remove the low/reverse clutch retainer from the transmission case.
23. If transmission is determined to be greater than 70% failed follow steps 24 through 26. If transmission is determined to be less than 70% failed, refer to the service information available in TechCONNECT or the appropriate service manual in Section 21 for detailed repair instructions. Be sure to check input shaft end play during reassembly and (if low) disassemble the input clutch assembly to check for thrust bearings which may have fallen out of position.
24. Reassemble transmission by reversing steps 3 through 22.
25. Return the old torque converter using the same method used to ship to dealer. If the service unit was received with the converter in a separate box within the transmission package, return the failed unit in this manner. Otherwise, place converter into trans and install shipping strap and bolts.
26. Return any loose items by attaching to bellhousing in plastic bag.

**NOTE: All parts must be returned with transmission.**

**NOTE: \*\*For detailed information, Refer to TechCONNECT 21 - TRANSMISSION AND TRANSFER CASE or the appropriate service manual in Section 21 for specific information regarding disassembly and repair procedures\*\*.**

### **NAG1 Transmissions**

**NOTE: Be aware of Sprinter NAG1 characteristics:**

- **Automatic Transmission Fluid (ATF) requires replacement at every second maintenance interval 96,000 km (60,000 mi).**
- **Special ATF available from Mopar, p/n 05127382AB.**
- **Drain plugs in the oil pan as well as in the torque converter.**
- **Dipstick, only use special tool 8863B to determine the fluid level.**
- **The bell housing has a special geometry fitting OM612 and OM647 engines.**
- **Several clutch discs are unique for Sprinter.**
- **The Transmission Control Module is fine tuned for the use of the special ATF based on a commercial vehicle duty cycle.**
- **Identification label on the side of the housing has a different placement and format.**

**CAUTION: Using a non-approved ATF may result in shifting concerns and clutch discs may suffer from premature wear resulting in a non-warrantable failure of the transmission.**

1. Remove fluid using approved Team PSE Automatic Transmission Fluid X-changer or equivalent.
2. Remove torque converter (keep with unit).
3. Measure input shaft end play.
4. Stand the transmission upright on the converter housing. Be sure to use suitable spacers between the bench surface and the converter housing since the input shaft may protrude past the front surface of the housing.

5. Loosen electrical connector guide bushing and remove from transmission housing.
6. Remove transmission oil pan.
7. Remove oil filter.
8. Unscrew Torx socket bolts and remove electrohydraulic unit.
9. Place the transmission in PARK to prepare for the removal of the output shaft nut.
10. Remove the nut holding the propeller shaft flange to the output shaft and remove the flange.
11. Remove the transmission rear oil seal with a suitable slide hammer and screw.
12. Remove the transmission output shaft washer. Be sure to tag the washer since it is very similar to the geartrain end-play shim and they must not be interchanged.
13. Remove the transmission rear output shaft bearing retaining ring.
14. Position Bearing Remover tool 9082 over the inner race of the output shaft bearing.
15. Slide the collar on Bearing Remover tool 9082 downward over the fingers of the tool and remove the output shaft bearing.
16. Remove the geartrain end-play shim from the output shaft. Be sure to tag the shim since it is very similar to the output shaft washer and they must not be interchanged.
17. Remove the bolts holding the transmission housing to the converter housing from inside the converter housing.
18. Stand the transmission upright on the converter housing. Be sure to use suitable spacers between the bench surface and the converter housing since the input shaft may protrude past the front surface of the housing.
19. Remove the remaining bolts holding the transmission housing to the converter housing.
20. Remove the transmission housing from the converter housing.
21. Remove output shaft with center and rear gear set and clutch K3.
22. Remove thrust needle bearing and thrust washer.
23. Remove input shaft with clutch K2 and front gear set.
24. Remove clutch K1.
25. Unscrew Torx socket bolts and remove oil pump. Screw two opposed bolts into the oil pump housing and press the oil pump out of the converter housing by applying light blows with a plastic hammer.
26. If transmission is determined to be greater than 70% failed follow steps 27 through 30. If transmission is determined to be less than 70% failed, refer to the service information available in TechCONNECT or the appropriate service manual in Section 21 for detailed repair instructions.
27. Place rear seal and thrust washer in transmission pan.
28. Reassemble transmission by reversing steps 3 through 25.
29. Install torque converter and hold in place with torque converter retaining bracket from replacement transmission.
30. Return any loose items by attaching to bellhousing in plastic bag.

**NOTE: All parts must be returned with transmission.**

***POLICY:***

Reimbursable within the provisions of the warranty.

**NOTE: These labor operation numbers are only to be used when repair exceeds 70% of the cost of transmission assembly replacement.**

**NOTE:** Returned transmissions received missing components are subject to warranty part return chargebacks. See Warranty Administration Manual, Parts Section, Warranty Parts Return pages P1 through P14 for details.

**NOTE:** Warranty repairs claiming one of the following Labor Operation Numbers must include a completed diagnostic sheet. Refer to Warranty Bulletin D-06-08, available in TechCONNECT under: efiles>Service>Warranty>CDJ Bulletins, for additional information. If the diagnostic sheet is not returned with the transmission assembly, the diagnostic tear down time allowance will be charged back.

**NOTE:** The use of a Diagnostic time allowance and/or "00" time in place of one of the below Labor Operation Numbers does not eliminate the requirement to return a properly completed Diagnostic Sheet. See Warranty Bulletin D-06-08 for additional information.

**CAUTION:** **\*\*The diagnostic sheet is to assist DaimlerChrysler engineering in the analysis of returned units for root cause and corrective actions. Your diagnosis and findings are important and can assist in this analysis. Failure to return a properly completed sheet may result in a chargeback of \$75.00. The chargeback for a transmission replaced that should have been repaired can result in complete chargeback of all parts markup and even complete claim chargeback.\*\***

**TIME ALLOWANCE:**

Labor Operation No:	Description	Models	Amount
21-00-21-94	40TE Transaxle 41TE/AE Transaxle <b>**62TE Transaxle**</b>	AA AJ CS FJ JA JX JR <b>** JS**</b> NS GS PL PG PT RS RG	0.8 Hrs.
21-00-21-95	42LE Transmission	LH	0.8 Hrs
21-00-21-96	30TH Transmission 31TH Transmission	AA AJ NS	0.8 Hrs

		GS RS RG PL PT	
21-00-27-91	30RH Transmission 32RH Transmission 36RH Transmission 42LE/RLE Transmission	AB HB **JK** **KA** KJ LX/LE ND PR TJ YJ	0.8 Hrs
21-00-27-92	42RE/RH Transmission 44RE/RH Transmission 46RE/RH Transmission 47RE Transmission 48RE Transmission	AB AN BE BR DN DR WG WJ ZG ZJ	1.1 Hrs.
21-00-27-93	45RFE Transmission 545RFE Transmission **68RFE Transmission**	AN DN DR/DH **D1/DC** **HB/HG** **JK** KJ ND WG WJ WH WK	1.2 Hrs.
21-00-27-94	NAG 1 Transmission	LX/LE **KA** VA **VB** WG WK/WH XK/XH ZH	1.2 Hrs.