



No.: 18 TS-2Rev
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TO: Dealers Only

FROM: Service Systems Development

SUBJECT: **Detroit™ DT12™ Split Rod Bushing Repair**

Note: This document supersedes Technical Service Letters 16 TS-22 and 17 TS-10.

ISSUE

Detroit™ DT12™ automated manual transmissions may experience difficulty going into gear, especially when the transmission is not at operating temperature.

CAUSE

The steel split rod wears on the aluminum transmission housing, causing the split rod to stick. The Shift Controller cannot read the correct position of the split rod and will not shift into gear. To correct this, a hardened steel bushing and new design split rod with three flattened sides were implemented with transmissions built in August, 2016. For Detroit-built transmissions (transmission serial number beginning with 716), the change took place on August 9, 2016, with approximate transmission serial number 716310E0008107. For German-built transmissions (transmission serial number beginning with 715), the change took place on August 29, 2016, with approximate transmission serial number (last seven digits) 1806530. See Figure 1 for the new bushing and split rod.



Figure 1 – New Steel Bushing and Split Rod

REQUIRED ACTION

Refer to symptom-based diagnostics for a complaint of "Will Not Go Into Gear after Cold Soak" found in the *Detroit Transmissions Manual* (DDC-SVC-MAN-0140). The troubleshooting will indicate whether or not a split rod bushing repair is necessary.

REQUIRED MATERIAL

The necessary parts to install the new bushing and split rod are contained in service kit P/N: A 960 268 23 74. The new kit is also shown in PartsPro in design group 342.

REPAIR PROCEDURE

In the *Detroit Transmissions Manual* (DDC-SVC-MAN-0140), reference the chapter titled "Internal Component Repair" and section "Split Rod Bushing Repair". A supplemental video can be found on DTNAConnect. Under the DTNAConnect Resources menu, expand "Detroit Service Information" and select "Multimedia". Scroll down the page to the DT12 Transmission videos and watch the New Split Pin Bushing Repair video.

See Figure 2 below for two different steel bushing designs that were implemented in production of new transmissions. Both styles below are new designs and do not need to be replaced in service.



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Figure 2 – New Steel Bushing Installed

A properly diagnosed split rod bushing concern cannot cause progressive damage to the clutch. No clutch inspection is needed.

If you have the ream and bushing update, either of the new style steel bushings can be installed into the reamed bushing.



Figure 3 – Old Style ream and bushing

CLAIM PROCESS

If a mechanical failure of the original split rod is found in warranty, file the claim as follows.

- Claim type: Warranty or Extended Coverage
- Primary Failed Part: A 960 268 23 74
- Cause: 11 – Binds, Sticks
- Parts return: Scrap

Troubleshooting may include the following labor operations:

- Labor Operation 342-6030Q, Cascadia chassis, BUSHING, SPLIT PIN, DT12, R/R
- Labor Operation 342-6030Q, Western Star 5700XE chassis, BUSHING, SPLIT PIN, DT12, R/R
- Admin Labor Operation 939-6010A

Proactive installations (non-failed) of the split rod and bushing are allowed under warranty only if the transmission is under warranty and is being removed for other reasons. Examples would be other (non-split rod) DT12 related repairs such as shift controller, clutch, flywheel, etc., or engine related repairs where the engine is removed from the chassis. If there are no other reasons to remove the transmission, do **NOT** specifically remove the transmission to proactively install the updated split rod and bushing. File the split rod and bushing installation on the same claim as the reason why the transmission has been removed. Use one of the following labor operations.

- Labor Operation 342-6030R, BUSHING, SPLIT PIN, DT12, TRANS RMV'D, R/R
- Labor Operation 342-6030S, BUSHING, SPLIT PIN, DT12, SHIFT CNTRLR RMV'D, R/R

CONTACT INFORMATION

Please contact the Detroit™ Customer Support Center at 800-445-1980 or email csc@daimler.com if you have any questions.