

**\*\* SOLUTION \*\***

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| Title | AMT-F With Crawler Gears - <b>During Gearbox Removal From The AMT:</b> Input Shaft Slips Out Of The Gearbox Or Becomes Loose In The Gearbox |
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**Mack Models**

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| <b>Mack Model</b> | MRU - TerraPro , TE - TerraPro , AN - Anthem , CHU - Pinnacle, Axle back , CXU - Pinnacle, Axle front , GR - Granite , GU - Granite , PI - Pinnacle |
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**Volvo Models**

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| <b>Volvo Model</b> | VN , VNL , VNR , VNX , VAH , VHD |
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**Transmission**

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|--------------|-----------------------------------------------------|
| Transmission | AMT-F With Crawler Gears , AMT-F With Crawler Gears |
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**\*\* SOLUTION \*\***

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| Cause | During removal of an AMT gearbox equipped with Crawler gears, the input shaft may slip out of the gearbox or become loose in the gearbox. |
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Due to design, the front input shaft is **removable in this gearbox without disassembling the gearbox**. The shaft is held in with a slip ring on the end of the internal splines. This ring mates to a groove in the rear input shaft to retain the front shaft. If the input shaft binds in the clutch during removal or the gearbox is removed at an angle the shaft may slip out of the gearbox or become loose in the gearbox.

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| Solution |
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**\*\*ATTENTION\*\***

**If the shaft has slipped out of the gearbox or has become loose in the gearbox DO NOT replace the gearbox.**

**Inspection**

Always check the shaft after removing the gearbox.

- Shaft protrusion from the front of the Clutch Control Actuator (CCA) on ALL gearboxes is approximately **3 5/8" (92 mm)** as shown below:



## Repair

If the input shaft comes loose from the gearbox:

1. **Clean and inspect the input shaft, clip and splines.**
2. **Reinstall the clip.**

**NOTE:** The clip fits loosely.

The ring fits in the small groove on the rear end of the shaft as shown below:



**3. Apply oil to the shaft and splines in the rear input shaft as needed and reinstall the front input shaft into the rear input shaft.**

A rubberfaced deadblow hammer may be used to get the shaft started, as it can be difficult for

the ring to start into the gears.



4. Replace the front input shaft seal.

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| Internal comments (BO)            | The early crawler inputshaft is easier to reinstall than the current production shafts and the assembly line drives them in with a deadblow hammer. Engineering in GOT is working on this to make it easier to install. That may make it easier to remove also. Not sure where that will go but this is not an indication of something thats wrong the shaft, by design is meant to come out and is replaceable without gearbox disassembly. Reuse the retaining rings unless it is badly damaged or worn. The snap ring is currently not available in PDC but should be shortly. The current retaining ring makes the shaft much harder to remove and also very hard to install the shaft. If a new snap ring is used and the customer reports that the shaft will not go in it is likely because the ends of the ring are interfering with each other when compressed. Have the dealer grind ~2mm off one of the ends and that will make it easier to install. |
| Solution visibility               | Dealer distribution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Support Area                      | Americas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Function(s)/component(s) affected |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|                                    |                  |
|------------------------------------|------------------|
| Function affected                  | Input Shaft      |
| <b>Function Group</b>              |                  |
| Function Group                     | 43 gearbox       |
| <b>Conditions</b>                  |                  |
| Frequency of occurrence of problem | random           |
| <b>Administration</b>              |                  |
| Author                             | UT9268H          |
| Dealer ID                          | UT9268H          |
| Last modified by                   | A241298          |
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| NA_Reviewer                        | ut9268h          |
| NA_Author_Group                    | GTT              |
| <b>Variantes Kola</b>              |                  |
| RTX - AUTOMATIC<br>GEARBOX         | TRA-AMT          |

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