



TECHNICAL BULLETIN

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MODEL YEAR: 1989 AND AFTER
TRANSMISSION: MLS61 (A) & (B)
BULLETIN #: TR - 05

FILE IN TRANSMISSION SECTION OF TECHNICAL BULLETIN BINDER

MLS61A AND MLS61B TRANSMISSION REPAIR PROCEDURES

PURPOSE:

To notify the UD Truck Technician of the proper reassembly procedures for the MLS61A and MLS61B transmissions.

The MLS61A transmission was introduced in 1989 in the UD2300, UD2600, and UD2800. The MLS61B version became the standard transmission model in the UD1800, UD2000, UD2300, UD2600, UD2800, and the UD3000SD beginning with the 1992 Model Year.

SERVICE NOTICE:

I. RETAINING RINGS

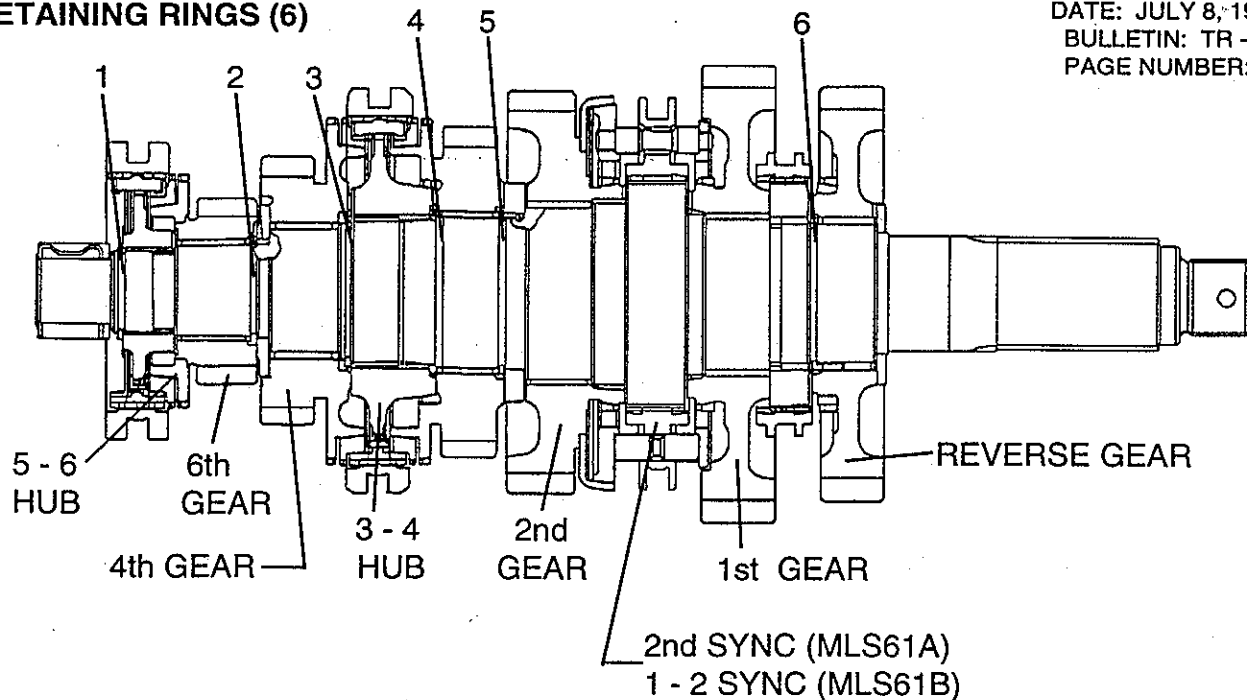
The MLS61A and MLS61B transmissions are designed with selective retaining rings in the mainshaft which are available in three thicknesses. The purpose for different thicknesses is to re-establish proper clearance in the mainshaft gears with the use of a thicker retaining ring and therefore reduce the cost of the repair. Only retaining ring #4, shown in Figure 1, is not available in three different thicknesses.

There are a total of six (6) retaining rings in the mainshaft of both the MLS61A and the MLS61B transmissions, but only five (5) grooves for the retaining rings. See Figure 1 for the location of the six (6) retaining rings.

Retaining ring #4, for which there is no groove in the mainshaft, is located between 3rd gear and 3 - 4 synchronizer hub. The purpose of retaining ring #4 is to maintain the 3rd gear needle bearing in position and prevent the bearing from "riding up" or travelling on the mainshaft beneath 3rd gear. When properly installed, retaining ring #4 acts as a spacer between 3rd gear and the 3 - 4 synchronizer hub.

The only available thickness for retaining ring #4 is 2.80mm (0.1102"). No other thickness should be installed in place of the correct retaining ring.

Failure to install retaining ring #4 will lead to 3rd gear bearing failure.

**FIGURE 1**

Also refer to Parts Bulletin UD93 - 018 dated March 29, 1993 for additional information on locating retaining ring #4 in the Parts Catalog.

II. 1st & 2nd GEAR SYNCHRONIZER, AND REVERSE GEAR

The inertia lock pin type synchronizer found between 1st and 2nd gear in both transmission models vary in their function depending on the transmission model. See FIGURE 1 for the location of the pin type synchronizer.

In the MLS61A transmission, found in the 1989 - 1991 UD2300, UD2600, and UD2800, the pin type synchronizer engages 1st and 2nd gear, but synchronizes 2nd gear only. In the MLS61A transmission, 1st and reverse gears are not synchronized.

In the MLS61B transmission, found in the 1992 and after UD1800 through UD3000SD, the pin type synchronizer engages AND synchronizes 1st and 2nd gear. In the MLS61B transmission, only the reverse gear is not synchronized.

In both models, the pin type synchronizer engages 1st and 2nd gears. The reverse sleeve found between 1st and reverse gear in both models engages reverse gear only and has no involvement on 1st gear engagement. See FIGURE 2.

When reassembling either the MLS61A or MLS61B, pay particular attention to the orientation or direction of the components. A simple recommendation for the technician who is not familiar with these, or any other UD Truck transmission, is to mark the components on one side during removal to assure correct reinstallation on the mainshaft.

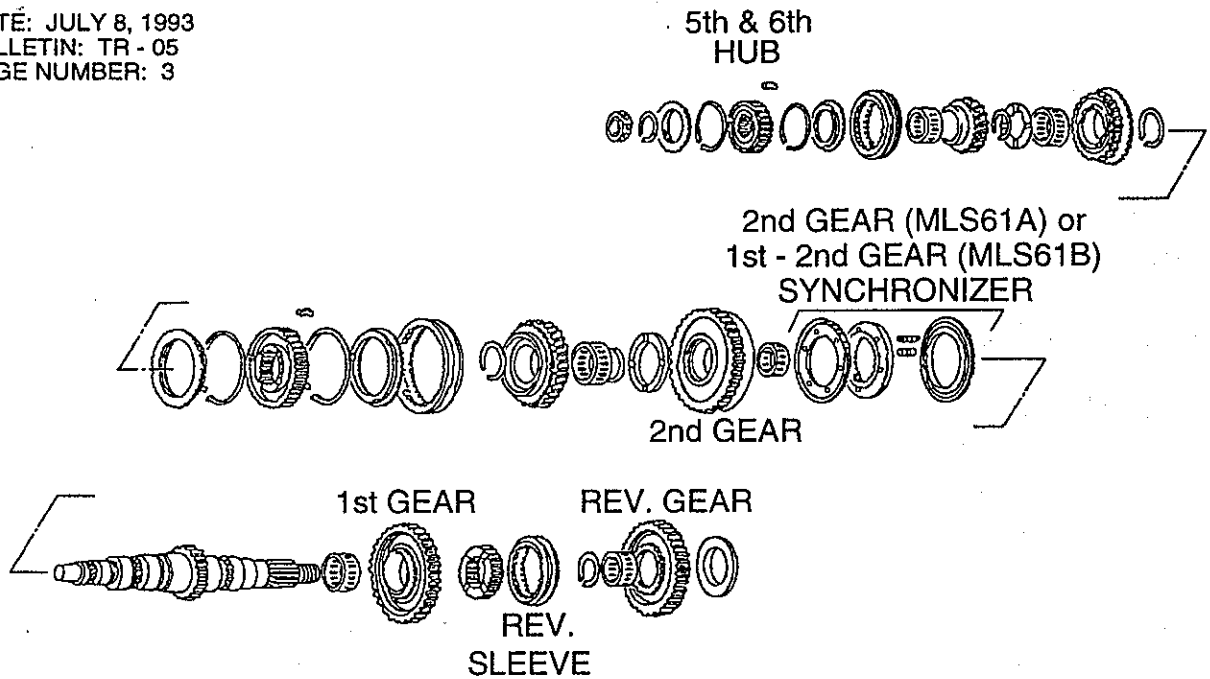


FIGURE 2

III. 5th - 6th HUB

The hub of the inertia lock key type synchronizer for the 5th and 6th gear is fitted tightly to the mainshaft splines. Key type synchronizers consist of a hub, sleeve, struts, and synchronizer springs as shown in FIGURE 3.

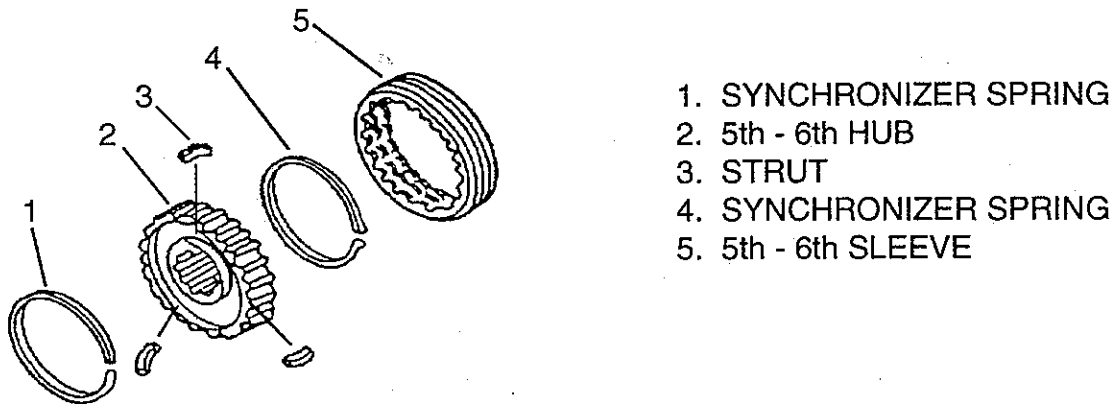


FIGURE 3

The synchronizer assembly can be pressed on the mainshaft splines as an assembled unit.

Another method of installation is to drive the synchronizer components onto the mainshaft splines using a suitable driver. When utilizing this method, it is recommended that the synchronizer not be driven onto the mainshaft as an assembled unit because the struts and springs of the synchronizer may fall out during the driving operation and be overlooked when mainshaft reassembly is completed.

Install the bottom synchronizer spring (item #4) on the hub (item #2), drive the hub onto the mainshaft ensuring that the bottom spring is secure, and then assemble the synchronizer assembly after seating the hub on the mainshaft splines.

IV. GENERAL

Refer to the UD1800 through UD3000SD Service Manual for additional information on the disassembly, inspection of components, and reassembly of the MLS61 model transmission.

THE INFORMATION IN THIS BULLETIN SHOULD NOT BE INTERPRETED AS THE BASIS FOR CLAIMS UNLESS SO DESIGNATED.