



Powering Business Worldwide

Service Manual

Eaton Transmissions

Removal and installation of Retarder Assembly

July 2010

FSBO 9406

Table of Contents

Introduction

Purpose and Scope of Manual	1
How to use this Manual	1
Disassemble Precautions	1
Inspection Precautions	1
Assembly Precautions	1

Lubrication Information

Lubrication	2
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Tool Information

Recommended Tools	3
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Retarder Assembly

Exploded View	4
How to remove Retarder Assembly	5
How to install Retarder Assembly.....	8

Purpose and Scope of Manual

This manual is designed to provide detailed information necessary to service and repair the Retarder mounted on Eaton® transmissions listed on front page.

How to use this Manual

The procedure sections are laid out with a general heading at the top outside edge of each page followed by more specific headings and the procedures. To find the information you need in these sections, first go to the section that contains the procedure you need. Then look at the heading at the top and outside edge of each page until you find the one that contains the procedure you need.

Note: In some instances the transmission appearance may be different from the illustrations, but the procedure is the same.

Disassembly Precautions

It is assumed in the detailed disassembly instructions that the lubricant has been drained and the necessary linkage and air lines (if fitted) have been removed from the chassis. In addition, it is also assumed that the transmission has been removed from the vehicle.

Inspection Precautions

Before reassembling the transmission or retarder, the individual parts should be carefully checked to eliminate those damaged. They should be renewed. This inspection procedure should be carefully followed to ensure the maximum wear life from the rebuilt unit.

The cost of a new part is generally a small fraction of the total cost of downtime and labour, should the use of a questionable part make additional repairs necessary before the next regularly scheduled overhaul.

Assembly Precautions

Make sure that interiors of all housings are clean. It is important that dirt be kept out of transmission and retarder during reassembly. Dirt is abrasive and can damage polished surfaces of bearings and washers.

Lubrication

Proper Oil Level

Proper lubrication procedure is the key to good and complete maintenance program. If the oil is not doing its job, or if the oil level is ignored, all the other possible maintenance procedures will not be enough to keep the transmission and the retarder running or to assure long transmission and retarder life.

All parts are correctly lubricated if these procedures are closely followed:

1. Maintain proper oil level, inspecting it regularly.
2. Change oil regularly following maintenance interval chart.
3. use the recommended grade and type of oil.
4. Buy oil from reputable dealer.

Recommended Lubricants		
Unit	Viscosity Grade (SAE)	Quantity
Transmission	SAE 50 SAE 40	9.0 - 9.2 L
Retarder	SAE 15W40	6 L

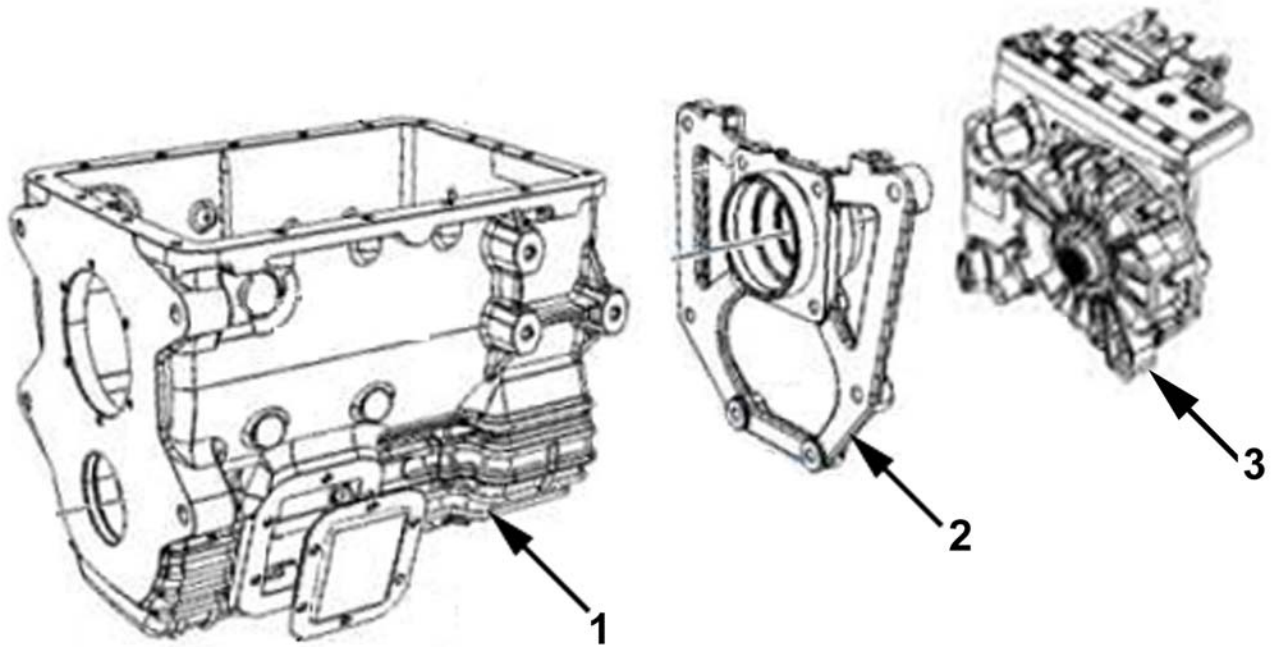
Recommended Tools

Some repair procedures pictured in this manual show the use of specialized tools. Their actual use is recommended as they make transmission and retarder repair easier, faster, and prevent costly damage to critical parts.

But for the most part, ordinary mechanic's tools such as socket wrenches, screwdrivers, etc., and other standard shop items such as a press, mauls and soft bars are all that is needed to successfully disassemble and reassemble any Eaton Transmission.

1. Torque Wrench 7 - 20 Nm
2. Torque Wrench 260 Nm
3. Torque Wrench 81 - 94 Nm
4. Rubber Hammer

Exploded View



- 1 - Case**
- 2 - Rear Cover Retainer**
- 3 - Retarder Assembly**

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How to remove Retarder Assembly

Special Instructions



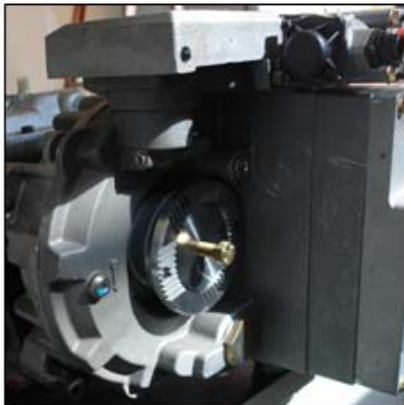
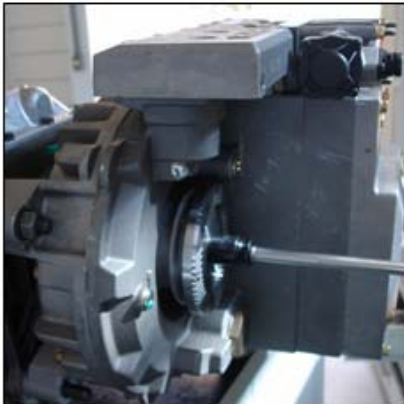
WARNING: Wear safety glasses and hand gloves.

Special Tools

See section 'Tools Information'.

Procedure -

1. Remove the screw holding the output flange.



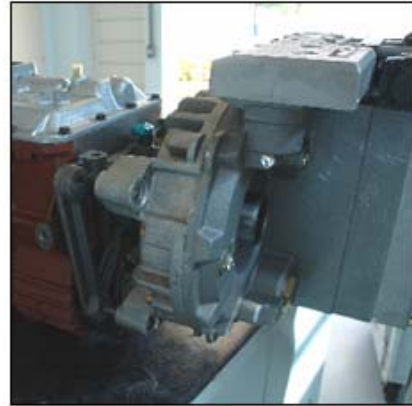
2. Remove the output flange and dust shield.



3. Remove the retarder screws.



4. Remove the retarder unit from the transmission.



5. Remove the speedo sensor holding screw and remove the speedo sensor.



6. Remove the screws and the rear cover retainer.



How to install Retarder Assembly

Special Instructions



WARNING: Wear safety glasses and hand gloves.

Special Tools

See section 'Tools Information'.

Procedure -

1. Place the required shims to adjust the specified end play.



2. Install the rear cover retainer.

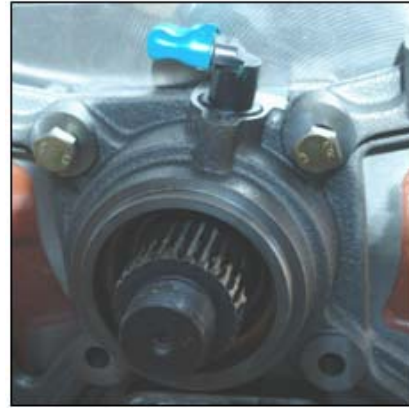


IMPORTANT: See service manual for 'Setting Mainshaft End Play Procedure'.

3. Install the speedo sensor and tighten the screw to 7 - 20 Nm.



4. Install the rear cover reatiner holding screws. Apply Eaton E677 on the prisnor and install it. Tighten screws to 81 - 94 Nm and the prisnor to 260 Nm.



5. Install the retarder unit on the transmission.



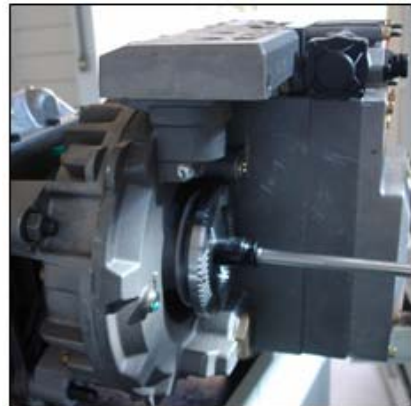
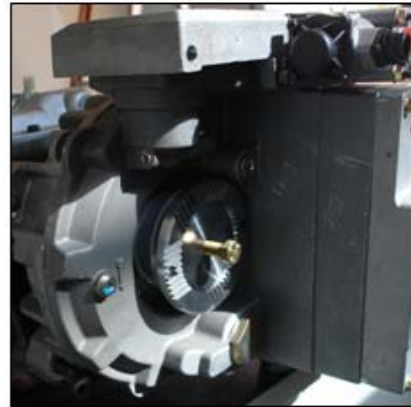
6. Install the nuts on the prisnors. Tighten the nuts to 260 Nm.



7. Install the dust shield and the output flange.



8. Install the output flange screw and tighten to 260 Nm.



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