

TMR Reversing Transmission Operation & Maintenance Instructions

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**Read through the operation
and maintenance instructions
carefully before using your
Waterous TMR Reversing
Transmission**

NOTE: Instructions subject to change without notice

Safety Information



Read through the safety information and operating instructions before using your Waterous Reversing Transmission.

WARNING

Death or serious personal injury might occur if proper operating procedures are not followed. The operator, as well as other individuals using the apparatus must be familiar with these operating instructions as well as other operating instructions and manuals for the apparatus, water hydraulics and component limitation.

WARNING

Unexpected Truck Movement May result in serious personal injury or death

Failure to properly shift transmission in accordance to the transmission operating instructions may result in unexpected truck movement which may result in serious personal injury or death.

WARNING

If the truck attempts to move, reduce engine speed to idle. Put truck transmission in NEUTRAL and repeat shifting instructions.

NOTICE:

When towing, disconnect the drive shaft that connects the pump transmission's rear output (coupling) shaft to the vehicles differential. Failure to do so may result in damage from lack of lubrication.

Introduction

This publication contains operation and maintenance instructions for the Waterous Model TMR Reversing Transmission. Refer to Service Parts List SPL81121 for reference numbers when ordering repair parts. Also provide the serial number of the TMR when placing inquiries or orders.

General Description

The TMR Reversing Transmission is designed for installation in a vehicle between the main transmission and rear axle to provide reverse vehicle motion with the main transmission in forward gears. In forward, power is transmitted directly through the TMR transmission to the rear axle input and output shafts rotating in the same direction. When in reverse, power is transmitted through a chain drive to a countershaft and then through gearing to the output shaft. The output shaft rotates opposite the input. When the TMR transmission is operated in either mode, it allows the vehicle's main transmission to be operated in any desired gear.

The chain drive is a Morse Hy-Vo[®] and the gears helical type. Ball bearings are used throughout. The input and output shaft are available with either 1-3/4-10 SAE spline or 2-10 SAE spline.

Shifting from forward to reverse mode is through an external lever. The design of the internal shift mechanisms is self-locking after the shift has been completed.

Shifting Instructions

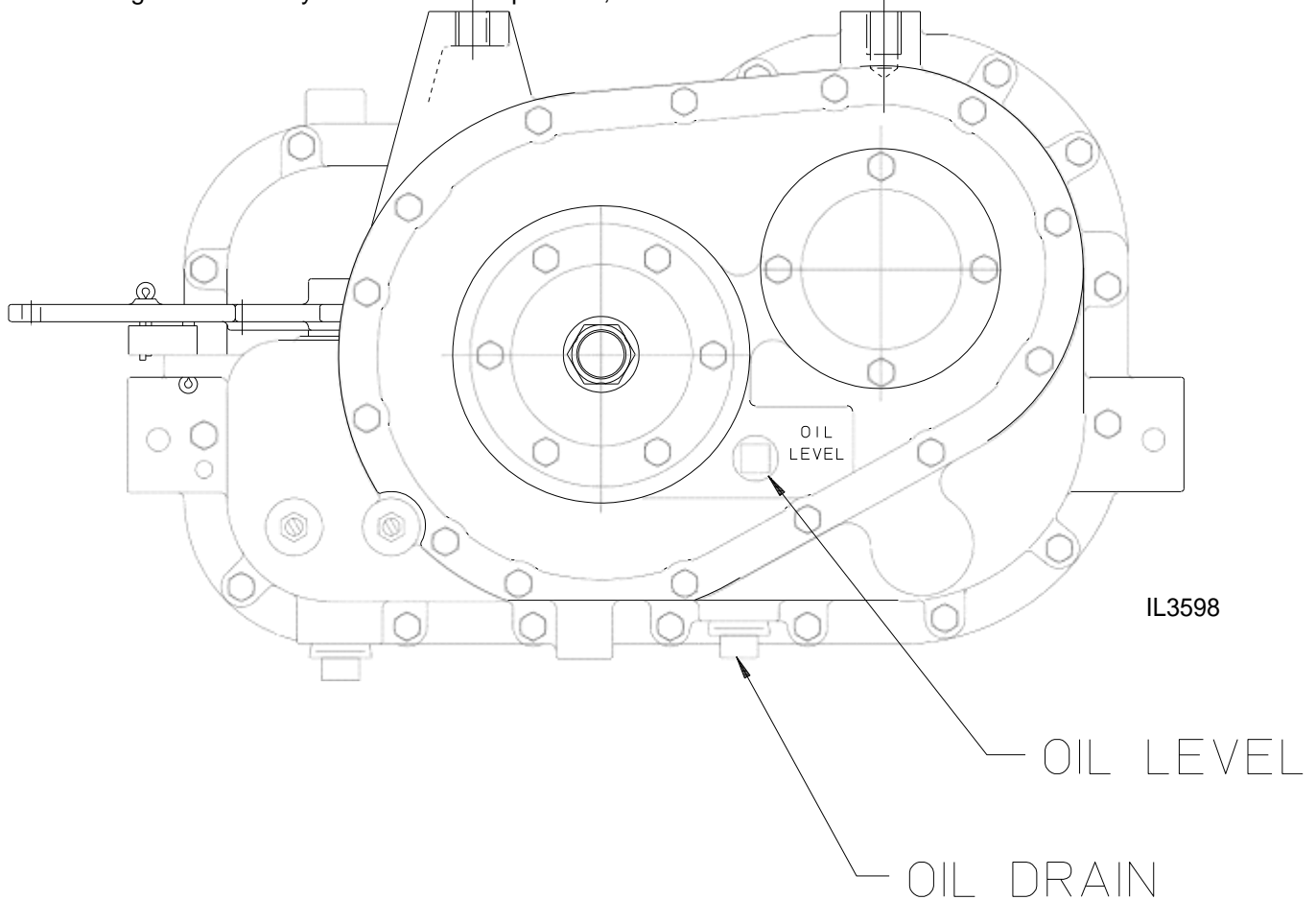
Vehicles with Manual Transmissions	Vehicles With Automatic Transmissions
<p>The following procedure is used for shifting the TMR Transmission into forward or reverse.</p> <ol style="list-style-type: none">1. Bring vehicle to a complete stop.2. Shift main vehicle transmission into neutral. <p>If the shift cannot be completed due to a butt tooth condition of the shift collar inside the TMR Transmission, do not force the shift but proceed as follows:</p> <ol style="list-style-type: none">a. With engine at low or idle speed, depress clutch and shift vehicle main transmission into forward gear, slowly let out the clutch to rotate propeller shaft. This rotation will reposition the shift collar for movement into either forward or reverse mode.b. After shift has been completed, depress clutch and operate vehicle in usual manner.	<ol style="list-style-type: none">1. With engine at idle speed, place automatic transmission in NEUTRAL.2. Shift TMR Transmission to desired mode.3. If the shift cannot be completed due to a butt tooth condition, shift automatic transmission momentarily to REVERSE while keeping pressure on the TMR shift lever to complete the shift.4. Shift automatic transmission to desired gear or drive range.

Lubrication

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1. Fill transmission to bottom of oil plug with automatic transmission fluid. For ambient temperatures over 90 °F, SAE 20 oil 300 SSU @ 100 °F with service classification SA, SB or SC should be used. Transmission holds approximately 5 quarts.
2. Change fluid annually or 100 hours of operation, whichever comes first.



Oil Level and Drain Located on Output Shaft Side of Case.

Shift Linkage

Periodically check all shift linkage for freedom of movement and clean as necessary.

Towing

When towing, disconnect the drive shaft that connects the pump transmission's rear output (coupling) shaft to the vehicle's differential. Failure to do so may result in damage from lack of lubrication.