

Installation Instructions

TML Power Take-off

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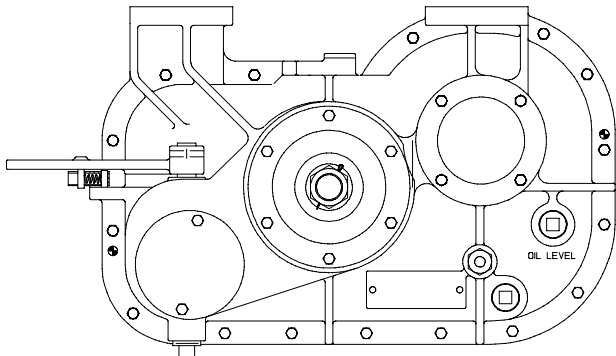


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Read through the safety information and operating instructions carefully before using your Waterous power take-off.

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Introduction

This instruction gives the basic steps required to mount a Model TML power take-off (PTO). Because of the wide variety of chassis arrangements available, these instructions are general in nature. The use of the 8 x 2 inch channel is suggested only as one means of supporting

the PTO. If another mounting arrangement is used, make sure it provides the same type of support as the one suggested here. Refer to the attached dimensional drawings for PTO mounting dimensions.

Installation Instructions

Important Notice: Engine Speed Control Interlock System

For installations of Waterous Power Take-offs in apparatus with electronically controlled engines and automatic chassis engines, an interlock system must be provided to prevent advancement of the engine speed at the PTO operator's panel or by an automatic engine speed control system unless the following conditions are satisfied.

- The parking brake is engaged,
- The PTO is engaged, and
- The chassis transmission is in PTO gear.

In addition, loss of power to the Engine Speed Control Interlock System (ESCIS) must return the engine to idle.

1. Check the PTO selected to make sure it has the correct ratio, rotation, and PTO shaft arrangement to drive the accessory equipment. (PTO shaft on Model TML rotates in a counter-enginewise direction only.)
2. Select a mounting location which makes the PTO and its accessories readily accessible for maintenance, and makes the PTO drive shaft parallel in all planes with transmission output shaft and rear axle pinion shaft. Also, select a location so that when truck is loaded, universal joints on propeller shafts will have proper true working angles. (Propeller shaft manufacturers recommend a working angle of 3 degrees or less.) Be sure to keep at least a small working angle. For more information on driveshaft installation techniques, see Spicer [®] *Driveshaft Installation Techniques*, Form No. J3311-DSD or a similar manufacturer's installation guidelines.
3. Attach the PTO to the steel channel support at the rear with 3/4 in. bolts as shown in Figure 1. Make a plate for the front from stock about 5/16 in. thick, and drill a 1 in. hole in it for a suspension pin.

Weld or bolt angle bracket to each end of the channel. After the PTO is adjusted to provide a correct shaft angle, bolt brackets to the frame side rails.

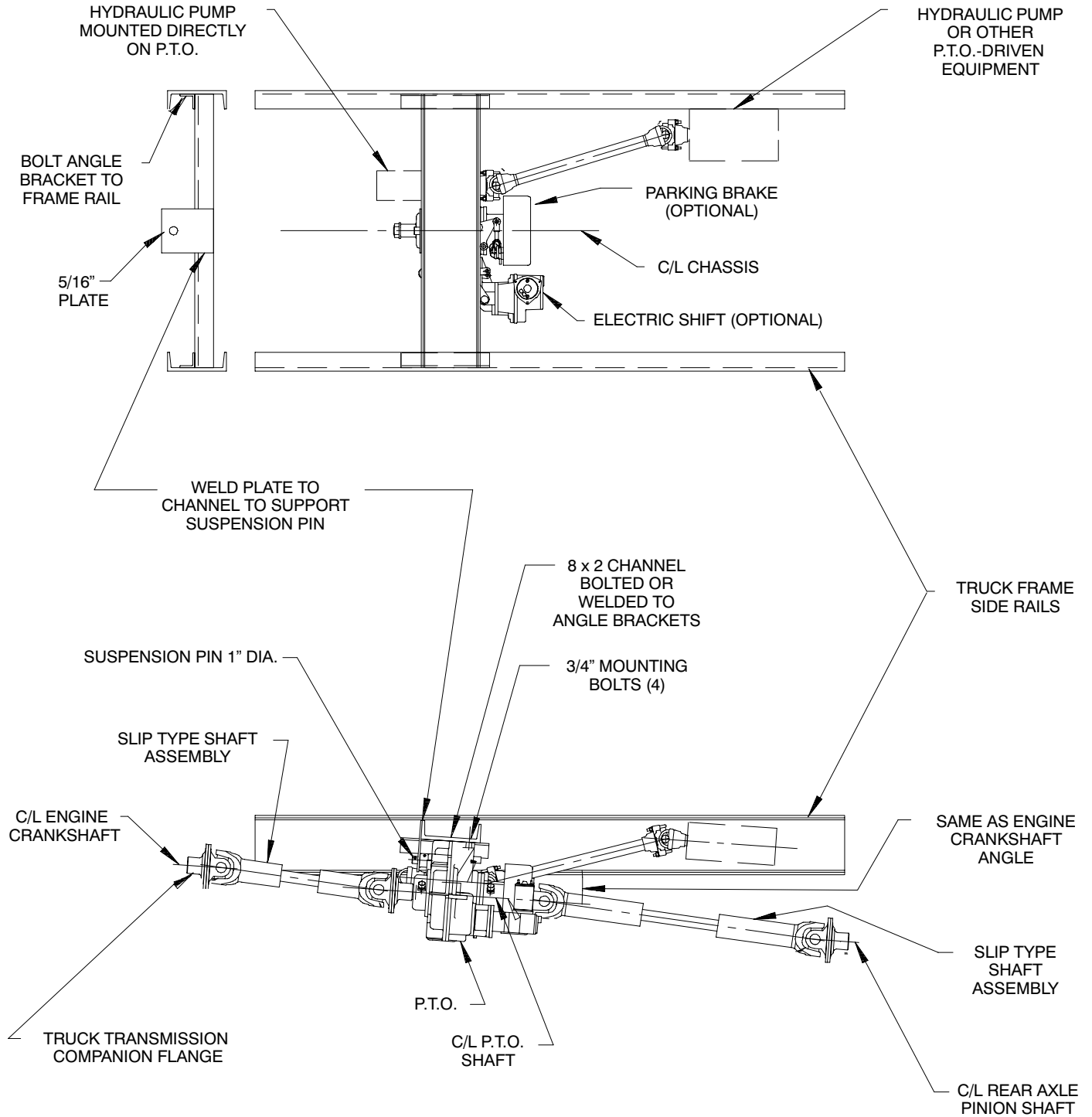
4. Install propeller shafts. Make sure propeller shaft yokes are aligned. This is the preferred method of propeller shaft installation.

CAUTION

Be sure the propeller shafts used are of slip-joint design. Frame deflection, temperature changes, and similar factors may cause a propeller shaft without a slip joint to produce severe axial loads on bearings, and damage PTO.

5. If manual shift is used, install the PTO shift linkage between shift arm and control panel or cab.

Figure 1. TML Mounting



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Accessory Installation Instructions

Parking Brake

If the PTO has a parking brake, install linkage designed to exert the force of 900 lb. specified in the dimensional drawing. Try to install the linkage so it leads straight forward instead of crossing over the truck centerline.

Tachometer

If the PTO has a tachometer drive provision, install a standard automotive tachometer, calibrated at twice the input speed, and a suitable cable. The tachometer drive rotates in a clockwise direction, viewed facing the connection.

Speedometer Drive

If the PTO has a speedometer drive, install a suitable speedometer cable. If a change from the one-half coupling shaft drive speed ratio is needed, install a Stewart Warner drive joint, which will provide correct ratio.

Electric Shift

See Shift Unit Installation Instructions, F-1031, Section 3030.

WARNING

Unexpected Truck Movement. May Result in serious personal injury or death.

Failure to properly install the PTO shift control and PTO shift indicator system in the apparatus or failure to incorporate in the PTO Operator's Panel Speed Control or Automatic Engine Speed Control System may result in unexpected truck movement which may result in serious personal injury or death.

Lubrication

Gear Case

Fill gear case to hole marked OIL LEVEL. DO NOT OVER FILL. Use SAE 80W-90 gear oil.

NOTE: Oil capacity for a Model TML is about 4 quarts.