

Power Take-Off Maintenance

Due to the normal and sometime severe torsional vibrations that PTOs experience, operators should follow a set maintenance schedule for inspections. Failure to service loose bolts or PTO leaks could result in potential auxiliary Power Take-Off or transmission damage.

Periodic PTO maintenance is required by the owner/operator to ensure proper, safe, and trouble-free operation.

Daily: Check all air, hydraulic, and working mechanisms before operating PTO and perform maintenance as required.

Monthly: Inspect for possible leaks and tighten all air, hydraulic, and mounting hardware if necessary. Torque all bolts, nuts, etc., to Chelsea's specifications. If applicable, ensure that splines are properly lubricated. Perform maintenance as required.

With regards to the direct mounted pump splines, the PTO requires the application of a specially formulated anti-fretting grease. This grease must be specified for both high pressure and high temperature applications. The addition of the grease has been proven to reduce the effects of torsional vibrations, which result in fretting corrosion on the PTO's internal splines as well as the pump's external splines. Fretting corrosion appears as a rusting and wearing of the pump shaft splines. Severe duty applications, which require long PTO running times and high torque, may require more frequent regreasing. Continuous duty applications with light loads require frequent regreasing due to the higher number of running hours, an example of this is utility trucks. It is important to note that service intervals will vary for every application and they are the responsibility of the end user of the product. Chelsea also recommends that you consult your pump's owner's manual and technical services for their maintenance guidelines. Fretting corrosion is caused by many factors and without proper maintenance; the anti-fretting grease can only reduce its effects on components.

Chelsea offers anti-fretting grease to our customers in two package sizes:

- 5/8 fluid ounce tube (PN 379688) - Provided with PTO where applicable
- 14-ounce grease cartridge (PN 379831)

Warranty: Failure to comply entirely with the provisions set forth in the appropriate owner's manual will result in voiding of warranty consideration.

PTO Maintenance Guide: Keep your Vehicle Running Smoothly

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Proper maintenance of your Power Takeoff (PTO) is crucial to ensure the longevity and optimal performance of your vehicle. Follow these tips to maintain your PTO:

Safety First: Do not go under or near PTO when the engine is running. Shut off the engine and disconnect batteries on electric motor-driven PTOs (i.e., hybrid vehicles) before checking or servicing.

Service Intervals: The PTO, being an integral part of the transmission, should be serviced at the same intervals as the transmission. Transmission fluid changes should follow the interval recommended by the vehicle manufacturer for severe service.

Check for Leaks: Checking for PTO leaks and checking the transmission oil level should be done regularly. Loss of oil can significantly affect or damage the transmission. Check for leaks upon delivery of the vehicle and after initial operation of equipment.

Maintenance Checks: The PTO requires periodic checks. Typically, the interval for maintenance checks of the PTO depends on the application of the vehicle. Every time the chassis is lubricated or a mechanic is under the vehicle the PTO should be checked. For severe-duty PTO applications, it is recommended that the PTO be checked for service every 100 hours of use (this guideline can be adjusted based on past service history once you have it established). Service should include checking and lubricating direct-mount pump shaft connections on a regular basis.

Recheck the Installation: Within the first week of use, recheck the installation of the PTO. Check for leaks in air lines or hydraulic connections with air shift or hot shift PTO's and loose mounting hardware (studs, cap screws, nuts). Recheck the cables or lever connections for proper adjustments and lubricate moving parts, tighten and repair ALL connections, hoses, mounting hardware, cable, and lever connections.

Visual Inspection: It is recommended that the operator/owner do a visual inspection for leaks under and around the vehicle and equipment before entering or starting the equipment on at least a weekly basis. Any leaks should be corrected immediately.

Anti-Seize or High-Temperature Grease: Pumps that are directly mounted to the PTO output require the application of anti-seize or a high-temperature, high-pressure grease (unless the PTO is a wet spline option). The purpose of this grease is to help make the PTO easier to service and to reduce the effects of fretting corrosion on the mating PTO and pump shafts. PTO's under severe duty cycles and/or high torque requirements may require servicing of this pump shaft connection by periodically regreasing the shafts. Vehicles with low-speed engines are also considered severe duty applications due to the inherent vibrations of the vehicles. Fretting corrosion cannot be stopped by greasing the shafts; it is only a deterrent. Wet spline PTO's do not require servicing this connection. PTO gears can be checked for wear by removing the inspection or shifter cover/ If pitting, galling, cracking, or deformation of the gears or splines has occurred, then the PTO needs to be rebuilt or replaced.

Remember, failure to comply entirely with the provisions set forth in the appropriate Owner's Manual will result in voiding of ALL Warranty consideration.

For any queries, contact your equipment installer.

Mounting P.T.O. To Transmission

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Check the appropriate backlash.
It should be between 0.006" and 0.012"



Tighten the remaining bolts at 44 - 50 lb.ft (60-68Nm)

Note: Place a small amount of Loctite Blue (243) on the aluminium nut that secures the coil. Do not overtighten or the threads on the nut will strip out.

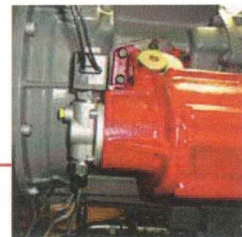


Install the cartridge and tighten to 25 - 30 Lb.ft (35 - 40 Nm).
Alternatively, for easy installation, it can be installed on the pto before it's being placed on the transmission



Place the coil. Ensure the O-ring is in place to avoid water leaks inside the coil. Whenever it is used a metallic coil, o-rings from the cartridge are no longer needed.

Install the pressure switch.
Alternatively, for easy installation, it can be installed on the pto before it being placed on the transmission



Install the fitting to transmission according to the suitable port specified in page 12, tight to 8 - 10 Lb. Ft. (11 - 14 Nm)



Install the other end of the the pressure line in the pto.
Tight to 12 - 14 Lb. Ft. (18 - 20 Nm)



PTO MAINTENANCE WARNING

PERIODIC PTO MAINTENANCE IS REQUIRED BY THE OWNER/OPERATOR TO ENSURE PROPER, SAFE, AND TROUBLE FREE OPERATION!

DAILY: CHECK ALL AIR, HYDRAULIC, AND WORKING MECHANISMS FOR LEAKS OR DAMAGE AND PERFORM MAINTENANCE AS REQUIRED BEFORE OPERATING PTO.

MONTHLY: INSPECT AND TIGHTEN ALL AIR, HYDRAULIC, AND MOUNTING HARDWARE IF NECESSARY. TORQUE ALL BOLTS, NUTS, ETC. TO CHELSEA SPECIFICATIONS. ENSURE THAT SPLINES ARE PROPERLY LUBRICATED IF APPLICABLE. PERFORM MAINTENANCE AS REQUIRED.

PARKER'S CHELSEA PRODUCTS DIVISION WILL NOT BE RESPONSIBLE FOR ANY DAMAGE DUE TO THE OVERLOADING OF THIS AUXILIARY POWER PRODUCT; FAILURE TO PERFORM PREVENTATIVE MAINTENANCE; DAMAGE DUE TO ABUSE, MISAPPLICATION, OR MISUSE; OR IMPROPER OPERATION OF THIS POWER TAKE-OFF AND ANCILLARY EQUIPMENT.

FAILURE TO COMPLY ENTIRELY WITH THE PROVISIONS SET FORTH IN THE PROVIDED OWNER'S MANUAL WILL RESULT IN VOIDING ALL WARRANTY CONSIDERATION.

NOTICE!

DUE TO THE NORMAL AND SOMETIMES SEVERE TORSIONAL VIBRATIONS THAT POWER TAKE-OFF (PTO) UNITS EXPERIENCE, OPERATORS SHOULD FOLLOW THIS SET MAINTENANCE SCHEDULE FOR INSPECTIONS.

FAILURE TO SERVICE LOOSE BOLTS OR PTO LEAKS COULD RESULT IN POTENTIAL AUXILIARY COMPONENT OR TRANSMISSION DAMAGE!

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