

Date Created: 21/06/2021**Product:** Force**Title:** Rotor Bearing Removal and Replacement

SAFETY! Before attempting to make any adjustments or carry out maintenance on the mower, review the hazard identification table (section 3a of your Operator Manual) and take all necessary precautions.

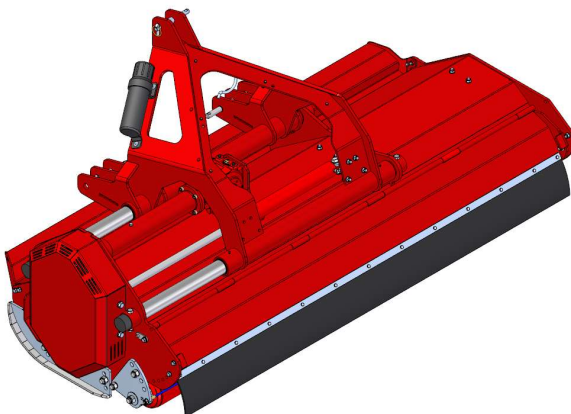


Due to the specialized nature of Rotor removal and replacement, it is recommended that this procedure is only attempted at a fully equipped General Engineering Workshop.

Read through this entire process prior to starting. Take note of where parts are removed from!

Ensure all appropriate protective equipment is used.

Heavy Lifting Equipment is required for this process, ensure all Lifting Equipment is suitably rated!

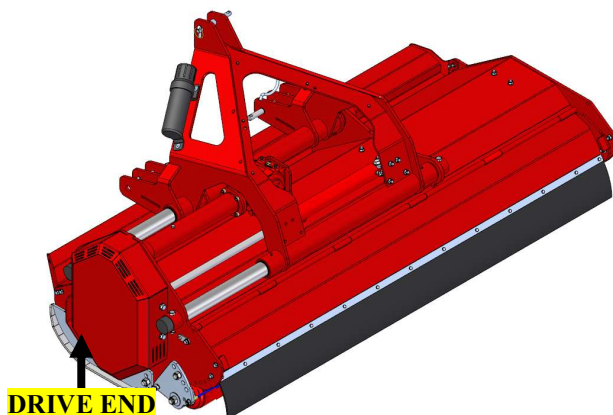


Use the Tractor hydraulics to position the Headstock **CENTRALLY** in relation to the Mower.

Ensure the P.T.O is in neutral!

Position the Force over level ground and lower to the floor.

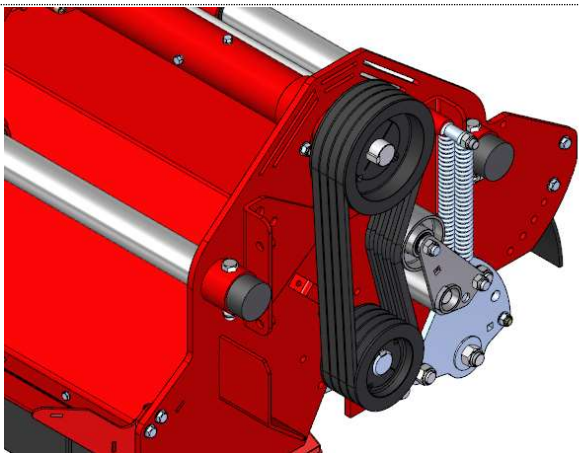
Mark a straight line on the rear wheels of the tractor and the floor. This will be used later to help realign the mower and rotor.



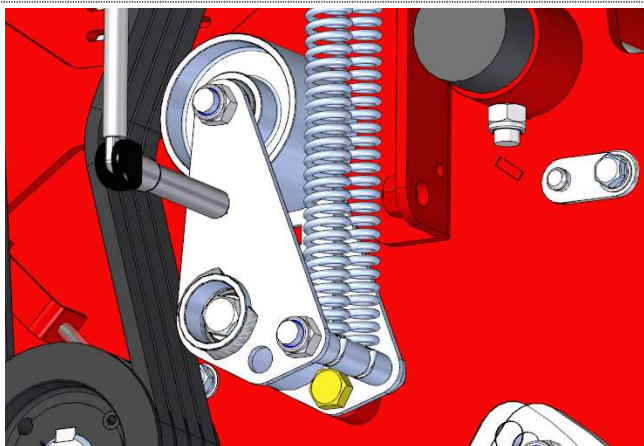
IMPORTANT:

A Force 175 Right-Hand Offset is shown opposite, however this process applies for **ALL** models and sizes.

The end with the Pulleys is **ALWAYS** referred to as the **DRIVE END**. If your Force is a Left-Hand offset, the drive end will be **OPPOSITE** to what is shown. However, the process is **IDENTICAL**!



Remove the Belt Guard from the Drive-end of the Mower as detailed in the Operators Manual.

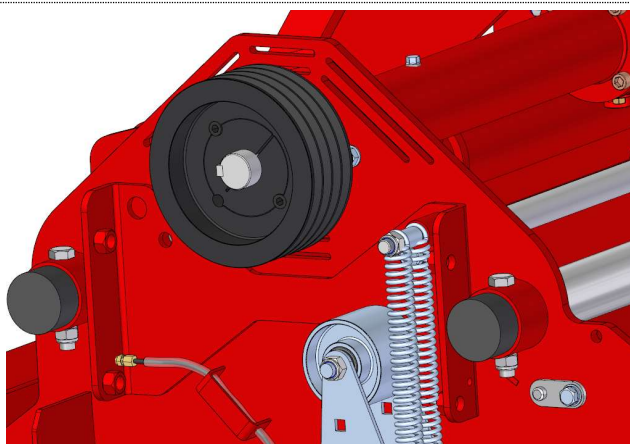


Use a 1/2" power bar to swing the Idler Arm away from the belts. Use one of the Belt Guard Bolts (shown in YELLOW) to secure the Idler Arm out of the way.

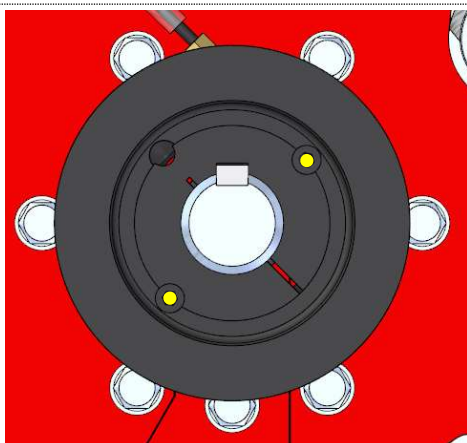


Note:

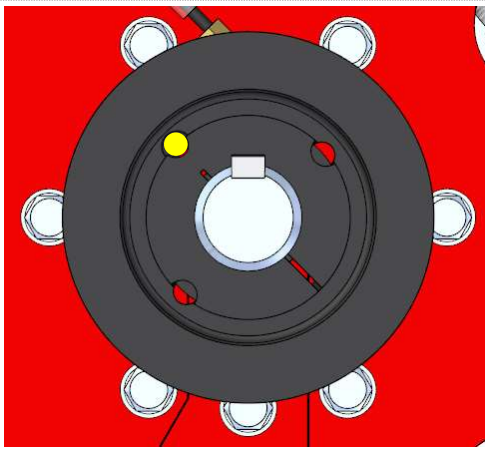
Use caution as the idler arm and belts create a severe pinch hazard under the tension of the springs.



Remove the Belts as detailed in the Operators Manual.



At the Rotor Pulley, remove the two Grub Screws shown.

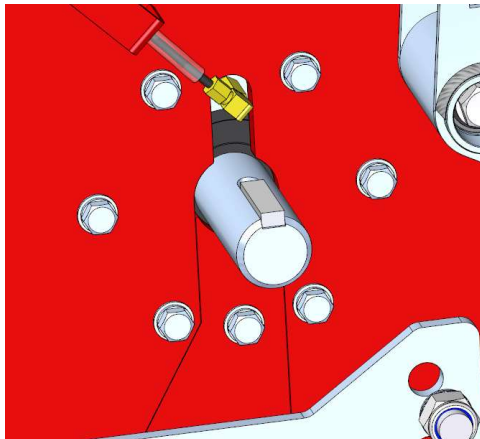


Reinsert one Grub Screw into the unused hole in the Pulley.

Gradually tighten this Grub Screw.

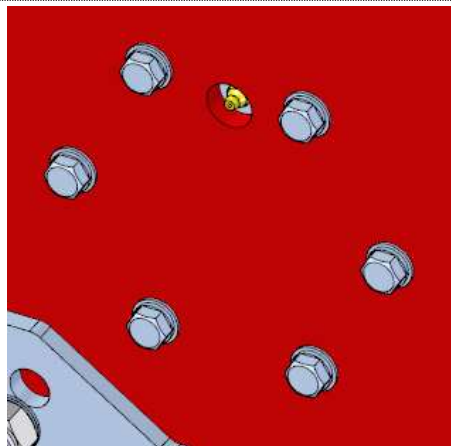
Remove the Rotor Pulley from the Rotor Stub.

Place the Rotor Pulley Components to one side.



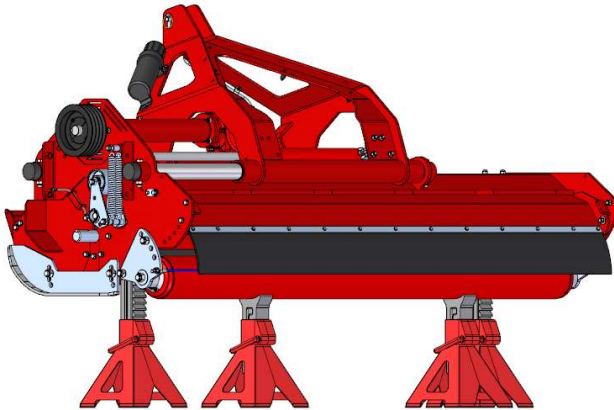
Remove the Key from the Rotor Stub.

Detach the grease line fittings (shown in YELLOW) from the bearing housing.



Remove the grease nipple from the non-drive end (shown in YELLOW).

Raise the mower on the Three Point Linkage.

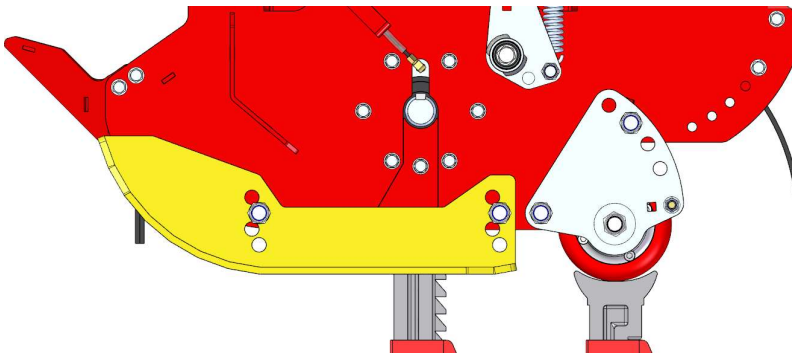


Carefully lower the mower so that the rotor rests on axle stands. The rear roller should also be supported to prevent the mower falling if the hydraulics fail.

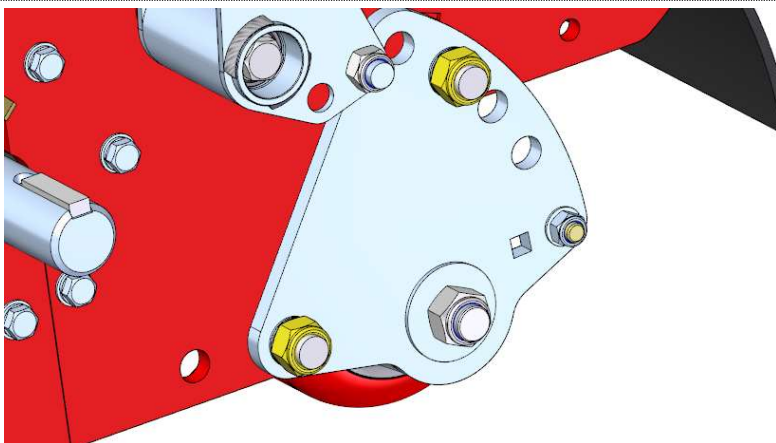


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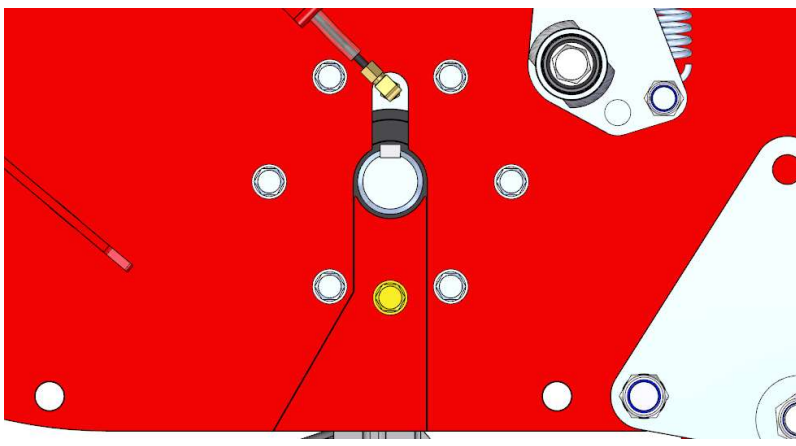
The stands should be set as low as possible to provide better stability while working on the rotor in the following steps.



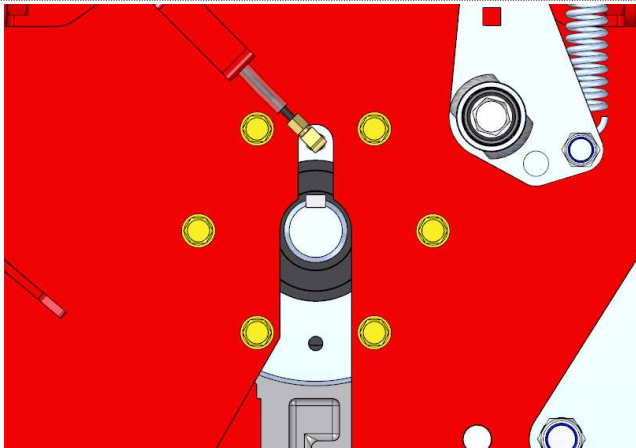
Remove the skids from both sides of the mower.



Slacken the bolts securing the rear roller mounts to the body. Do not remove these bolts, this step is to ensure the end plates do not hold the rotor in the body.



Remove the fill panel on the drive end of the rotor.

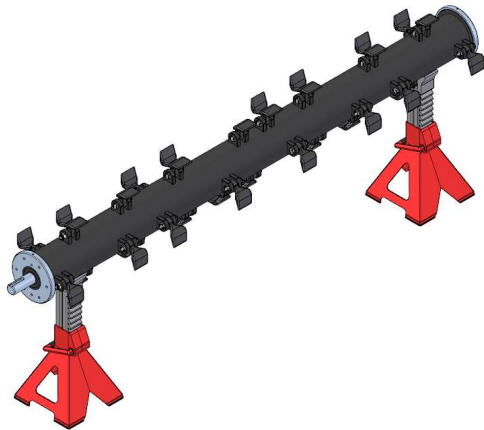


Remove the six bolts securing the rotor housing to the body at both ends of the body.



Note:

The weight of the mower may shift as the rotor and body separate.



Slowly raise the mower on the three-point linkage of the tractor, leaving the rotor resting on the axle stands.



Note:

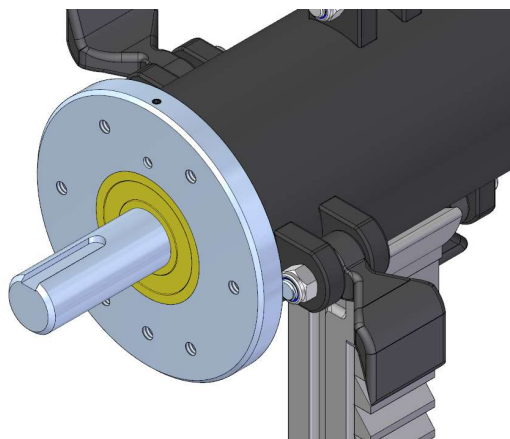
USE CAUTION! Make sure the area is clear before lifting the mower clear of the rotor!

Ensure the tractor wheels are straight, drive forward enough for there to be a clear working area around the rotor.

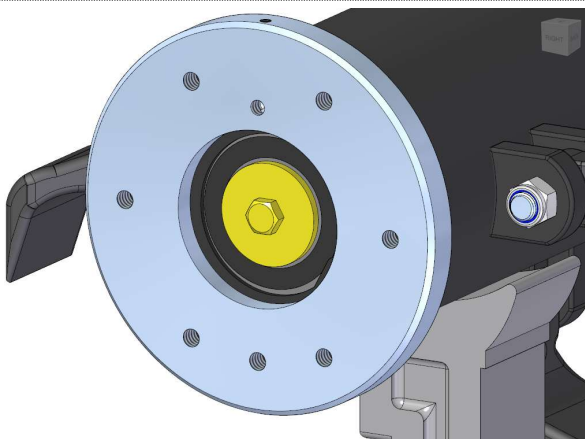


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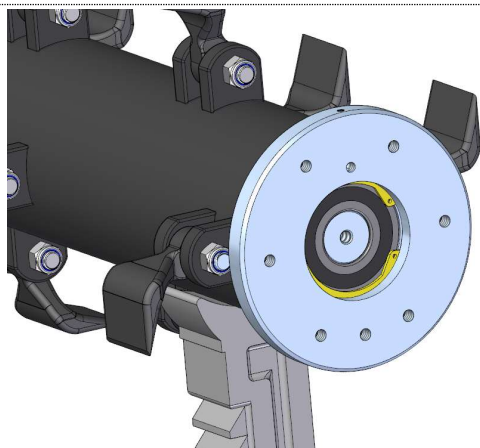
Ensure the mower is clear of the stands before driving the tractor clear of the rotor!



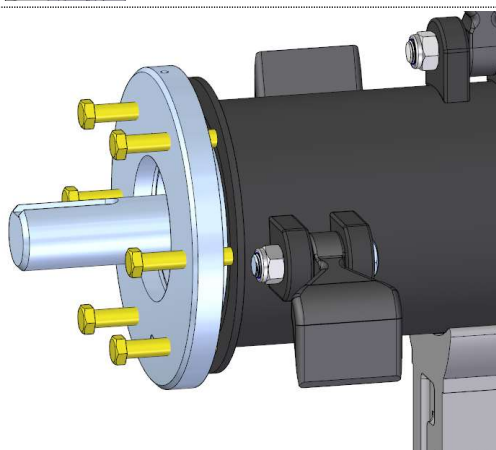
Remove the bearing seal on the drive end of the rotor with a screwdriver.



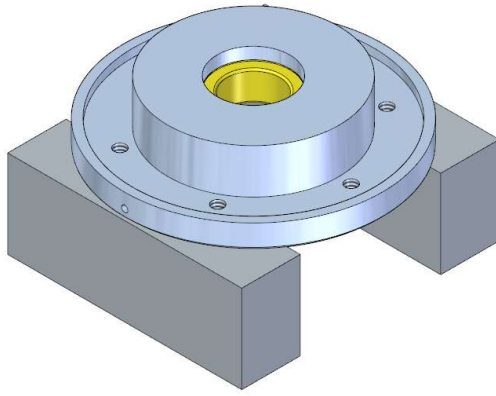
Remove the bearing retaining washer from the non-drive end of the rotor.



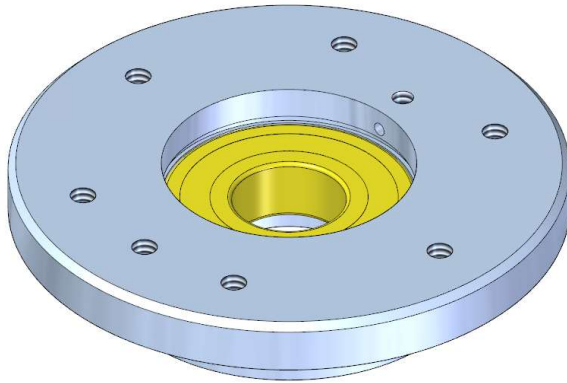
Use appropriately sized internal circlip pliers to remove the circlip from both ends of the rotor.



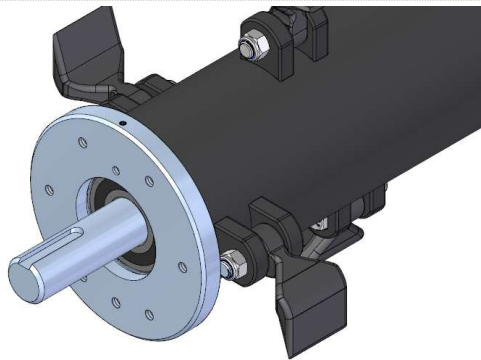
Use six long M12 bolts to walk the bearing housings off the rotor stubs.



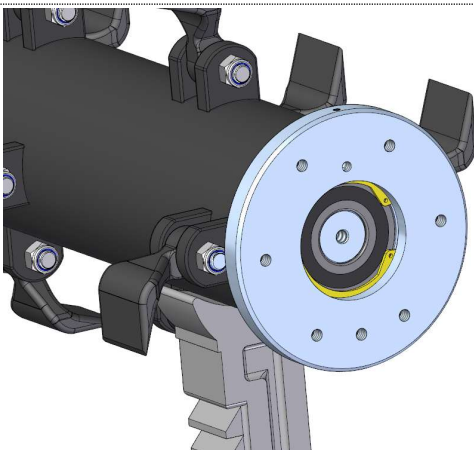
Support the bearing housing so the bearing has a clear path out of the housing. Drift the bearing out of the housing. Repeat for the other housing.



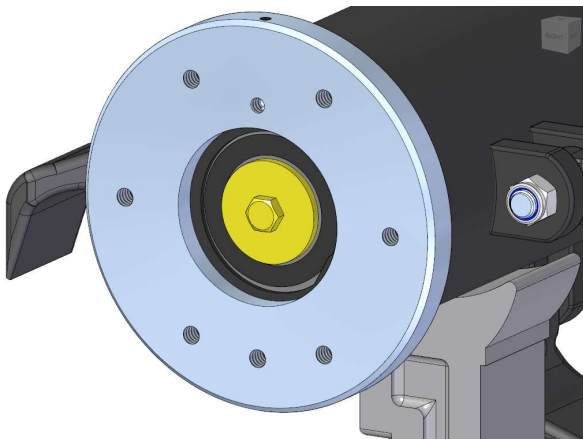
Drift the new bearings into the housings.



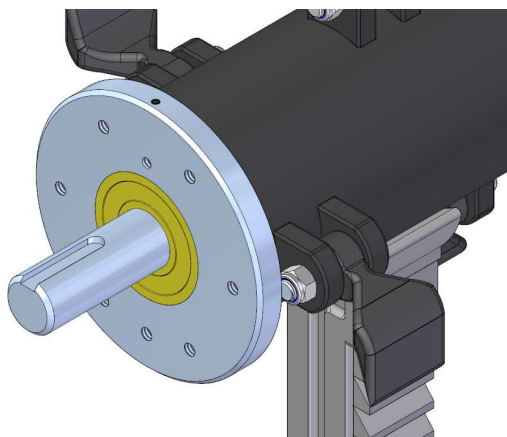
Drift the bearings back onto the rotor stubs.



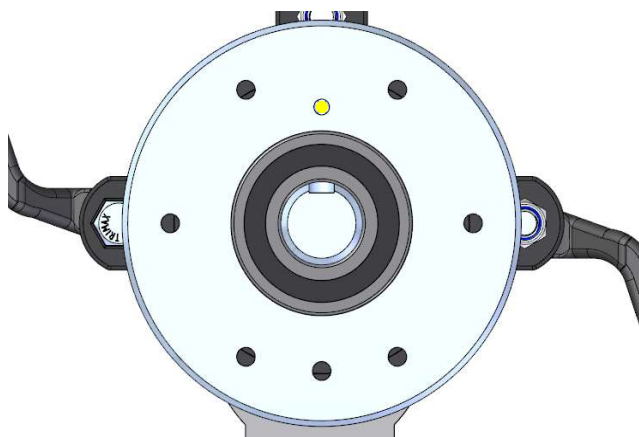
Replace the circlips.



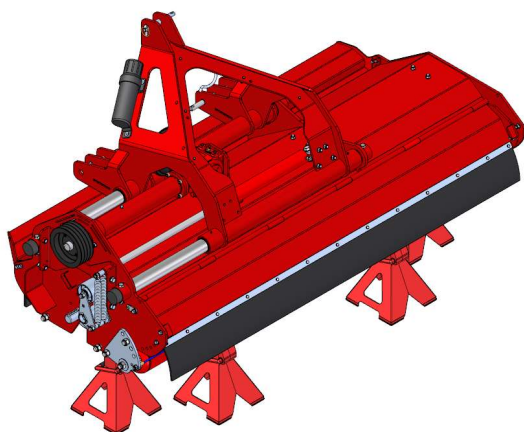
Refit the bearing retaining washer at the non-drive end of the rotor.



Fit the new bearing shaft seal at the drive end.

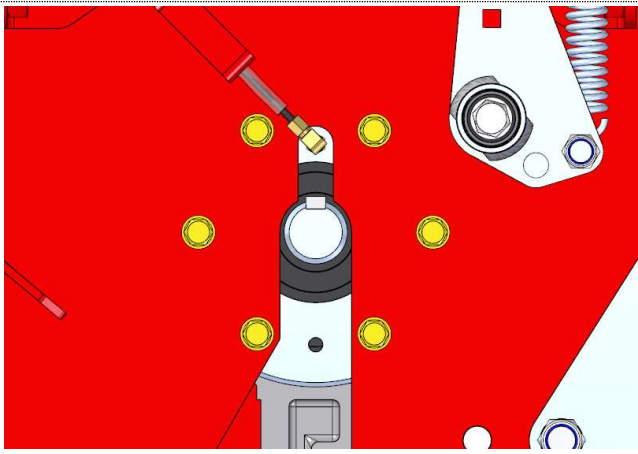


Spin both bearing housings so the grease nipple holes are at the top of housing. This will help alignment with the body in the next steps.

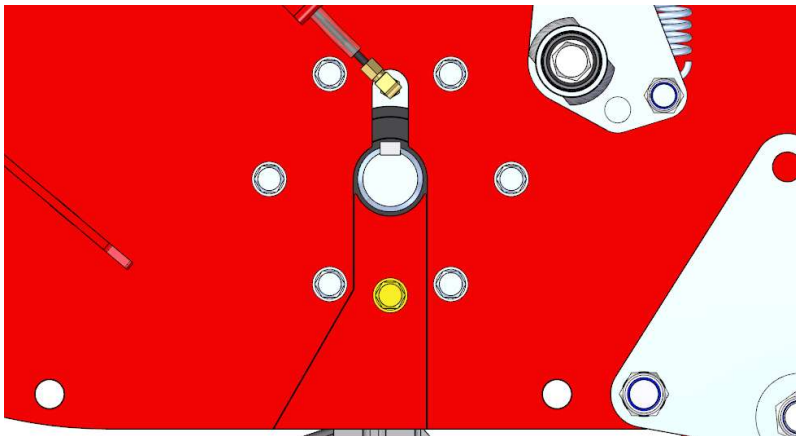


Keeping the wheels straight, reverse the tractor until the body of the Force is back over the rotor. Check the marks on the tyres against the marks on the floor. Once aligned correctly slowly lower the body over the rotor.

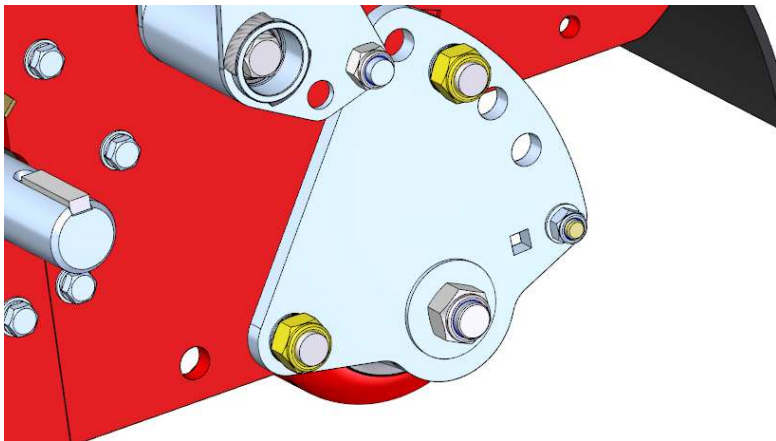
NOTE:
This step is best performed with a second person outside the tractor offering instructions.



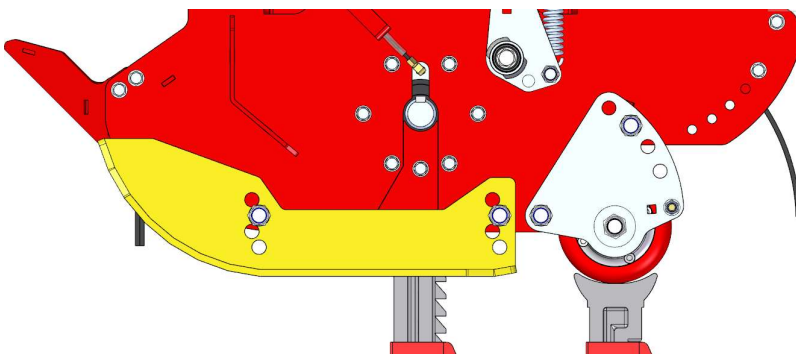
Realign the bearing housings with the body and refit the bolts at both ends.



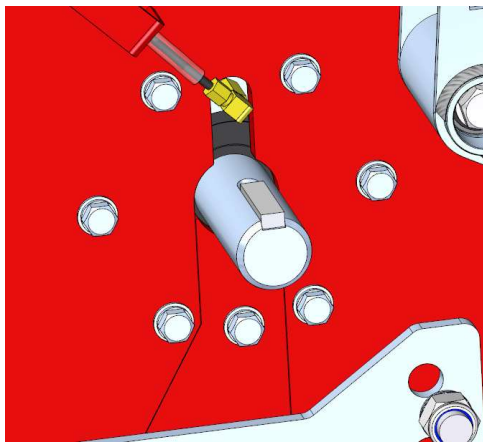
Refit the fill panel.



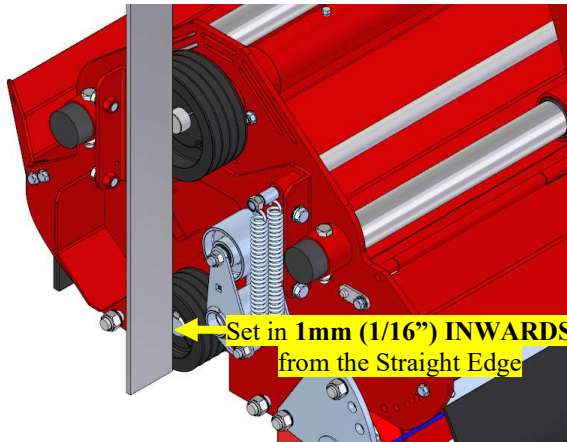
Tighten the nuts to resecure the rear roller mount in place.



Refit the skids.



Refit the grease line at the drive end and the grease nipple at the non-drive end.

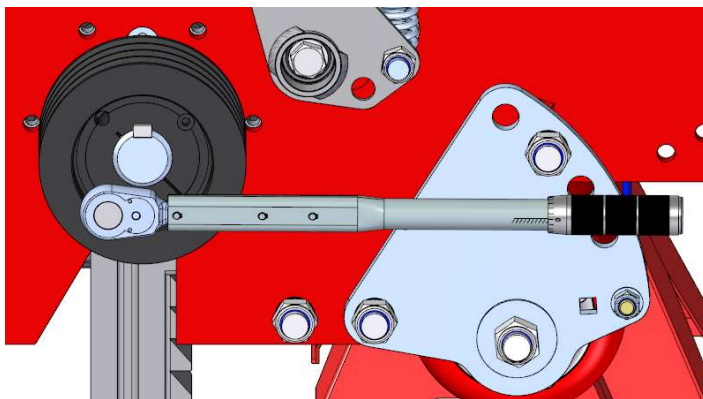


Check the Pulley alignment using a Long Straight Edge from the Extension Shaft Pulley. Ensure that the Straight Edge is positioned as shown opposite.

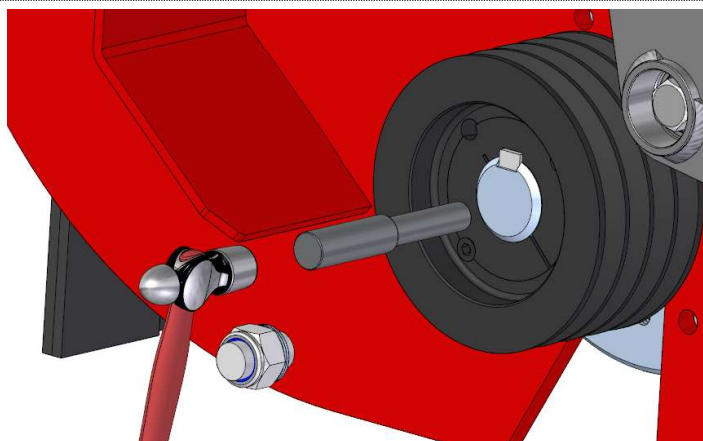
Adjust the position of the Rotor Pulley so it is approximately **1mm (1/16") INWARDS** from the Straight Edge.

Very lightly nip up the Grub Screws.

Torque the Grub Screws to **50Nm (39ft/lbs)**.



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Using a Hammer and a suitable Drift, tap around the Taper Lock Bush.

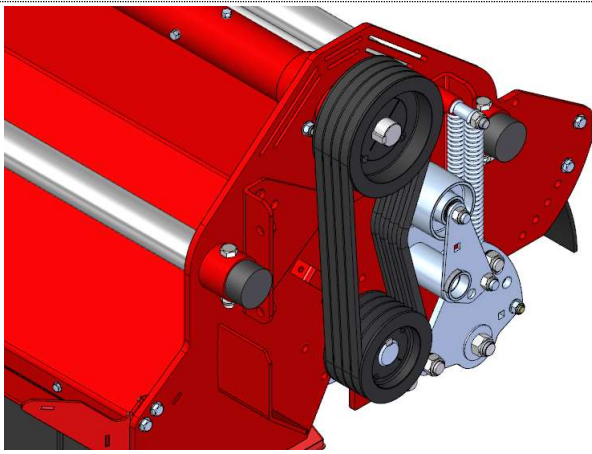
Re-torque the Grub Screws to **50Nm (39ft/lbs)**

REPEAT THIS STEP THREE TIMES.

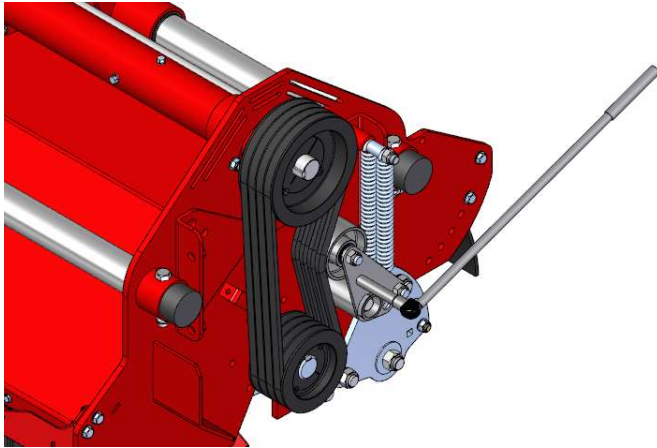


Note:

This will ensure that the Taper Lock Bush is seated square in the taper bore of the Rotor Pulley and is secured correctly!



Refit the belts.

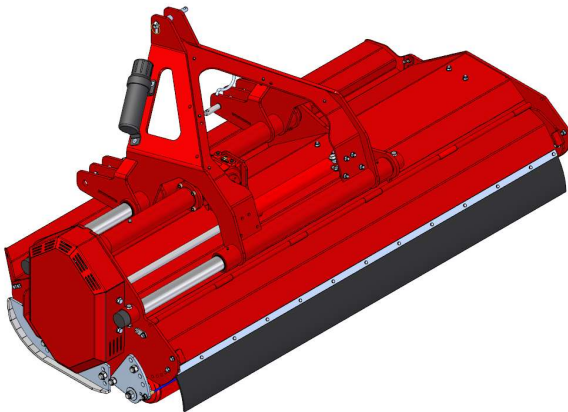


Use a ½" power bar to take the slack out of the idler arm assembly. Remove the bolt securing it in place and slowly return the idler puller to the belts.



Note:

Use caution as the idler arm and belts create a severe pinch hazard under the tension of the springs.



Refit the belt guard.

Grease the Rotor Bearings as detailed in your Operator Manual.



This Fitment process is now complete.