



Galfre 165 Disc Mowers Assembly Instructions

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Galfre 165 Disc Mower Assembly Guide

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Section 1 Mower Assembly

Scope and Purpose

This guide is limited to the Galfre model 165 disc mowers sold by Tractor Tools Direct. The guide covers models manufactured in 2014 and forward.

This manual is a guide to aid in the assembly of the disc mower models listed above. Consult the operations manual for instructions on usage and safety.

Uncrating

Your crate will look like this when you receive it.



Figure 1 Crate for Galfre 165 disc mower

It will weigh about 790 pounds in the crate, so you will need a forklift, front loader with forks or a delivery truck with a lift gate to unload it at your location.

You can assemble the unit outside, but on a smooth floor indoors is easier. If outside, putting down a tarp makes finding dropped hardware easier.

If you have a forklift or a loader that you can lift the heavier assemblies out, then use that with a lift strap.



Figure 2 Lifting the disc assembly

If no lift is available, then the crate will need to be cut open removing one long side. You will take out the smaller parts first, then when only the unit with the 4 discs remains, slide the assembly out of the crate onto the

ground or floor. It will not hurt anything to drag it across the floor. The disc mower skid plates drag across the ground anyway.

Layout and sort parts

Layout the parts so you can see everything in one place. Shown is the manual winch model. If you have the hydraulic lift model, the telescoping rod to the front would be the hydraulic cylinder and there would be no winch.



Figure 3 Parts ready to assemble.

Take the bag of parts and sort them out in like groupings. It makes finding the hardware easier.



Figure 4 Bag of hardware.



These parts are for the hydraulic lift model, you will not need them for the manual winch model.

Figure 5 Hardware sorted out.

PTO Driveline

Grease the PTO driveline universal joints before assembly. Also grease the plastic fittings on the free rotating plastic guards. It's much easier to do before assembly.

The driveline ships with an owner's manual that covers all aspects of maintenance, lubrication and inspection of the unit. Refer to the manual that ships with the driveline for any information for driveline specific information.



Figure 6 Grease points on PTO shaft.

Three Point Hitch

The pins that attach to your tractors draw arms will need to be inserted into the 3 point frame and secured with pins.

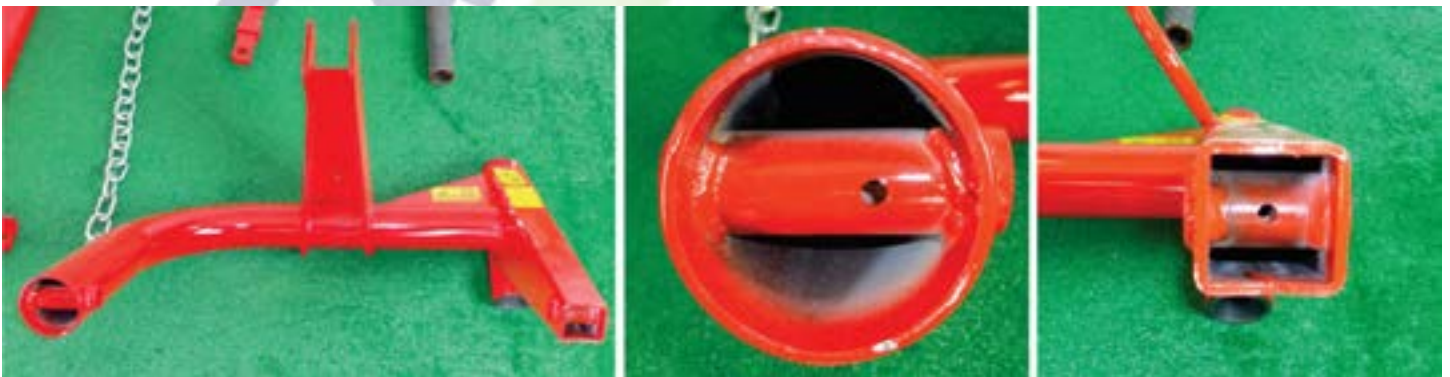


Figure 7 Three point hitch bottom view where pins are secured

Locate the pins and the roll pins that secure them. Get out the oil can, oiling the pins and the hole will make driving them in easier. Note that the pins are the 2 smaller of the 3.



Figure 8 Hitch pins and roll pins.

The longer pin goes through the round frame member with the larger category 2 pin facing out. The shorter pin goes through the square frame leg. Be sure the smaller category 1 pin diameters are facing in. Put some motor oil on the roll pin and through the hole to make driving the pin through easier.

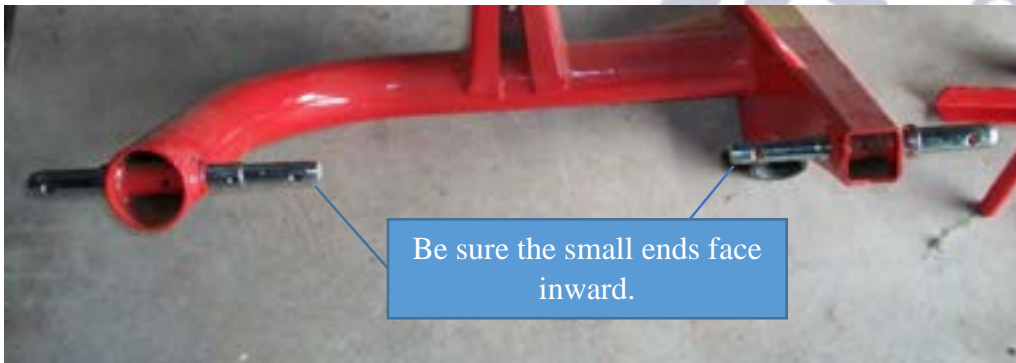


Figure 9 Orient pins as shown in the three point hitch

Use locking pliers to hold the pin while driving it through. To keep the pin from shifting out of alignment, use masking tape to attach it to the frame. Repeat to secure both pins.



Figure 10 Drive the pin through



Figure 11 Attach the 3 point frame to your tractor

Swing the 3 point frame up, attach the top link and adjust the top link length and the draw arms so that the hole with the bushings is nearly vertical.



Figure 12 Secure 3 point with top link and level

Joining the frame to the 3 point hitch

Insert the swivel pin so that it is oriented as shown. Look ahead to figure 16 to check that the pin is inserted facing the correct way before driving the pin through the collar. Notice the relationship to the PTO spline facing forward. The frame is folded over the cutter bar in these pictures (fig. 13 through 15) so you are seeing the bottom of the frame here as it is shipped in the crate.



Figure 13 Swivel pin orientation

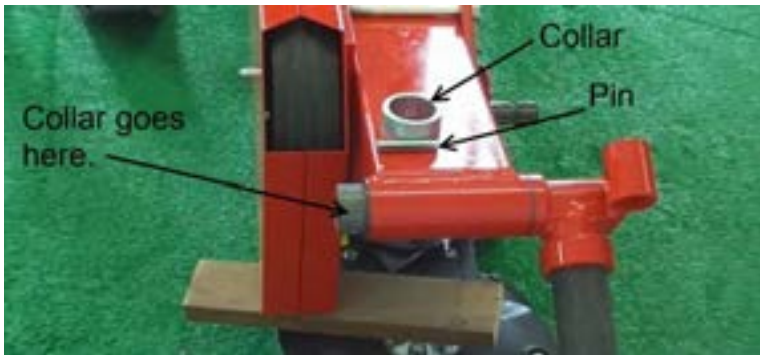


Figure 14 Collar ring and roll pin to secure the swivel pin

Get the collar ring and the roll pin shown in figure 14. Fit the collar over the end of the shaft of the swivel pin and align the holes. Put a few drops of motor oil into the hole and on the end of the drive pin to make driving it in easier. Using locking pliers to hold the roll pin, drive the roll pin through the collar to secure the assembly as shown in figure 15.



Figure 15 Collar ring secured to swivel pin with roll pin

Now that the swivel pin is secured to the mower, swing over the frame with the drive belts. Insert the jack through the hole as shown but do not insert the pin yet as the unit needs to be below the hole in the three point hitch as shown in figure 16.



Figure 16 Line up the pin to the hole on the 3 point hitch

Now that the swivel pin and the hole on the three point hitch are aligned, raise the frame and lower the three point hitch on the tractor until the assembly looks like figure 17. Put the retaining pin into the jack stand so the frame will stand up on its own.



Figure 17 Swivel pin is through the 3 point hitch



Figure 18 Secure the top cap with pin shown

Put the threaded pin through the top cap with the threaded end facing forward to the tractor and tighten the nut.

Spring arm and transport lock



Figure 19 Attaching spring holder arm

Put the spring holder arm over the 2 pins shown as in figure 19. Orient as shown.



Figure 20 Secure the transport lock

At the other end of the spring arm install the transport lock with a washer and cotter pin as shown.

PTO driveline guard mounting



Figure 21 Install plastic PTO driveline shield

Install the driveline shield as shown in figure 21.

Upper frame attachment

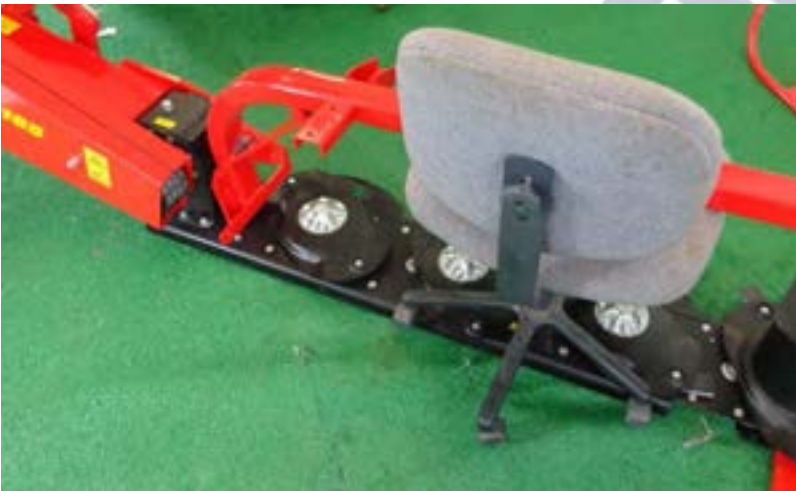


Figure 22 Orient the upper frame to the gearbox

Put the upper frame on a chair as shown or have someone hold unit to make assembly easier.



Figure 23 Attach the upper frame to the gearbox

Use the socket head cap screws and washers shown to attach the upper frame to the gearbox. Install the tooth washers between the wavy washers and the head of the cap screw.



Figure 24 Install pin for telescoping arm through hole as shown

Winch assembly

If you have ordered the mower with the hydraulic lift option, those instructions follow the manual winch installation.

The threaded end of the pin faces to the rear of the mower. Insert a pin into the hole to tighten the nut.



Figure 25 Attach the hand winch to the base and install on pin at top cap as shown

Put the winch onto the mounting plate as shown and install onto the pin on the top cap.

Counterbalance spring



Figure 26 Lower 3 point hitch and attach the spring

Release the transport lock and remove the pin from the jack stand to let down the mower. The mower must be down to start the 2 nuts onto the threaded rod. Install the spring as shown and set the tension to half way. Lock the nuts by tightening them against one another. Tighten the inner nut against the holder so that the threaded rod with the 3 nuts does not loosen out of the eye nut.

Telescoping arm



Figure 27 Telescoping arm installs with large diameter tube at winch

Install the telescoping rod so that the end with the larger outer tube is attached to the winch mount plate. This rod is used to lock the mower into the vertical position for transport or service.



Figure 28 Winch cable attachment point

Secure the lift cable hook of the pin with a washer and a spring clip.

Hydraulic lift option

If you have the hydraulic lift option, follow the instructions below. The telescoping, locking tube that is present in the manual winch option is not used on the hydraulic lift version of the mower.

The cylinder is located as shown below. Note that the cylinder is installed with the fitting for the hose facing up.



Figure 29 Hydraulic lift cylinder shown installed



Figure 30 Hydraulic cylinder shown attached to upper pin

The long bar with the spring is installed the same way as the mechanical lift version.

Safety lock



Figure 31 Threaded rod to limit travel and to lock mower up

The threaded rod with the hole in the middle serves two functions. The hole is to place a spring pin through when lifted to lock the mower in the raised position for safety. The rod will also limit the extension of the

cylinder rod to keep the ram inside the cylinder from hitting the mechanical limit when the mower is lowered. Adjust the position of the two nuts at the end of the rod to stop the cylinder travel just before it fully extends.

Inner skid plate installation



Figure 32 Raise cutter bar and lock into transport position



Figure 33 Place a safety stand under the gearbox and lower the jack stand

The following operation could be dangerous if the mower is not secured so that it cannot fall. Use a safety stand and the jack stand to keep the mower from falling.



Figure 34 Get the skid plate and the hardware shown and bolt the plate on

The photo shows 4 nuts, only 2 are needed.



Figure 35 Attaching the skid plate continued

Insert the screw so the threaded end faces out, there is no room for a wrench inside. Use the hex driver to keep the screw from turning while tightening the nut.

Inner swath plate



Figure 36 Inner swath plate is attached with 4 cap screws shown

Notice that 2 of the screws are a bit longer as they go through the two inner holes where the backing bar rests on another bar.



Figure 37 Securing the inner swath plate



Figure 38 Completed inner swath plate assembly, shown with cutter bar raised

Curtain guard mounting



Figure 39 Front and back curtain guards

The front curtain guard hinges up and the back is stationary. There are 2 bolts each for the front and rear guards.



Figure 40 Guards installed

The curtain attaches to this frame with straps and nylon ties.

Outer swath plate



Figure 41 Steps to assemble the outer swath plate

Above in figure 38 are 9 snapshots from the video of assembling the outer swath plate onto the mower. Be sure the swath plate is able to move up and down freely. Adjust the spring tension to allow the swath plate to return down when lifted and released.

Outer swath rod



Figure 42 Swath plate rod installed

Use the last 2 short button head cap screws to install this rod onto the swath plate.

Lubrication

The long life of your equipment depends on good lubrication. Please follow the manufactures guidelines for oil change intervals and type.

The disc mower is equipped with two separate gearboxes. While the gearboxes appear to be connected, they are in fact two isolated units.

Top 90° Gearbox

Please note that this gear case is physically separate from the cutter bar gear case. The oil in this gear case is not common to the oil in the cutter bar gear case.

The job of this gearbox it to make the 90° translation of rotation into the lower cutter bar gear case. There is a dipstick on top that acts as a vent also. The top hole is used to both fill drain and the case. Check that the level of the oil is between the lines. If the machine has been running, there will be foam in the oil and the machine should be left to sit overnight to check the oil. Foamy oil will give a higher false level reading. Too little oil or too much oil will cause the gearbox to overheat.



Figure 43 90° gear box

Cutter bar gear case

Please note that the oil in the cutter bar gear case is different from the oil in the 90° gear box shown above in figure 43. There are seals between them, they are checked, filled and drained separately.

To check the level of the oil in the cutter gear case, lift up the cutter bar to vertical and lock the safety so it won't fall down. Remove the fill plug shown in figure 44. The level should be just to the bottom of the hole. If it is not up to the hole, add oil.

Do not overfill the case. To do so would dramatically increase the friction and overheat the unit. The drain plug is on the bottom of the unit in the center of the inner skid plate. A 4 disc mower takes 3.4 liters of oil according to the owner's manual.

If the machine has been running, there will be foam in the oil and the machine should be left to sit overnight to check the oil. Foamy oil will give a higher, false level reading.



Figure 44 Oil level and fill hole for cutter bar

Cutter bar vent

As the oil heats up the gearbox the gas inside expands and needs to vent. Oils also give off volatile compounds when heated, it's called outgassing. The vent allows the pressure buildup to escape. In figure 42 the cutter bar vent plug is shown. This is not the drain hole for the 90° gearbox on top.

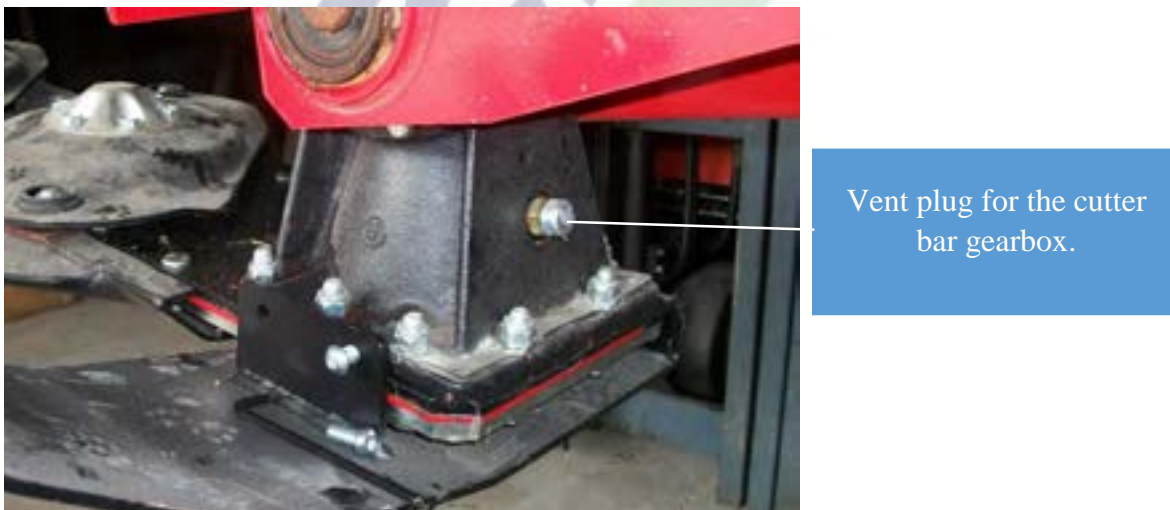


Figure 45 Cutter bar vent plug

Do not store the mower in the cutter raised position. To leave the cutter bar raised can cause the oil to leak out of the vent plug shown in figure 45 above. The mower was not designed to be stored in the raised position, if done so it could tip over. Store in the cutter down position.

[Cutting the driveline to fit your tractor](#)

We have a separate publication that gives instructions on how to cut the driveline should it be too long for your tractor. It's on our website at www.tractortoolsdirect.com. The driveline supplied with your implement also has an owner's manual that has instructions detailing this procedure.

[Read the owner's manual](#)

This guide only covers assembly of the mower. Safety and operation is covered in the owner's manual.