

Power Hopper Topper 100 bu Kit for JD S680/690, S780/790

****Note: Please read updates on last page before installing****

Installation Instructions

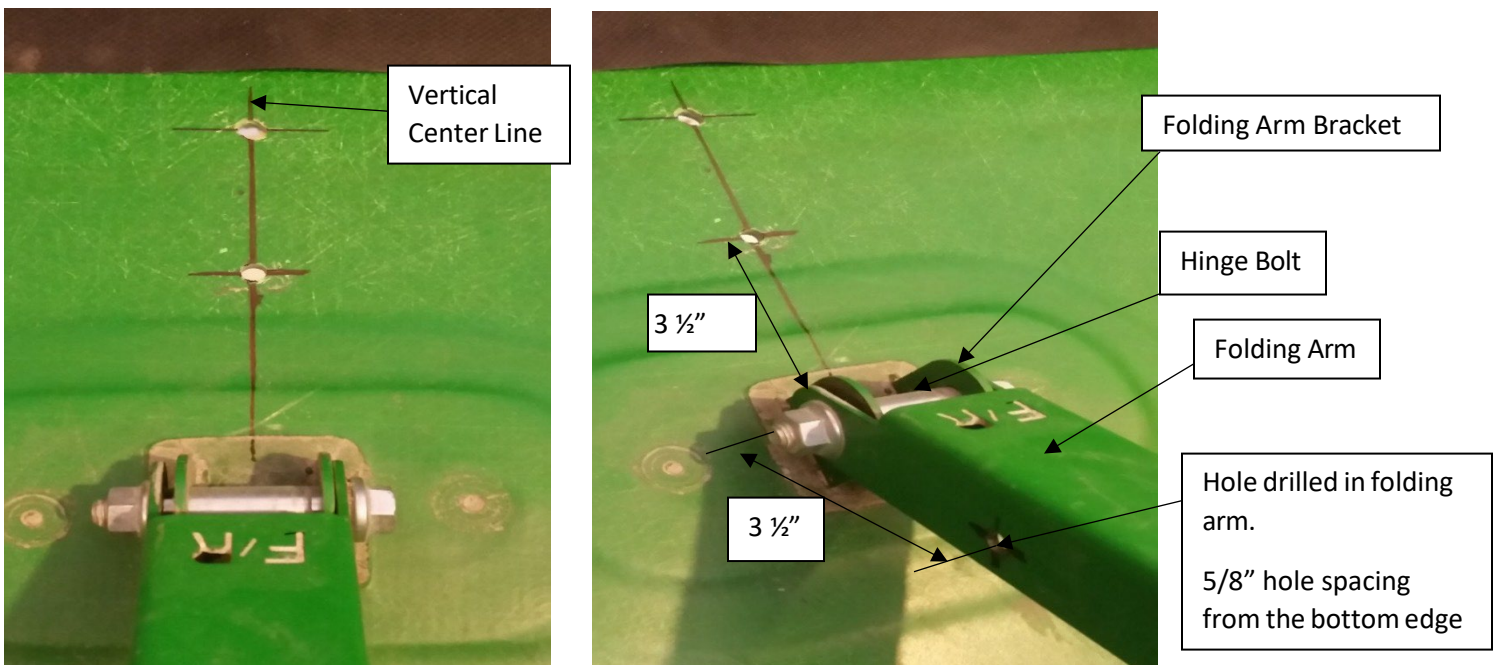
Tools Needed: Ratchet, 13 mm socket, 13mm wrench, Drill (cordless preferably) 11/32, 7/32, 1/8 drill bits, sharpie marker, center punch, hammer.

Also helpful (Magnetic tray to hold hardware, light duty cordless impact wrench, flashlight, extendable magnet to fish dropped hardware from auger trough)

1. Open combine hopper cover and access hopper from the engine compartment. Front and rear extensions are identical using the same hardware and installation process.

2. Mark a vertical line up the middle of the front and rear fiberglass panels starting at the folding arm bracket. Measure up from top edge of folding arm bracket $3\frac{1}{2}$ " (89mm) and mark bottom hole location. Then using the Hinge weldment as template with one hole on bottom hole, mark top hole location.

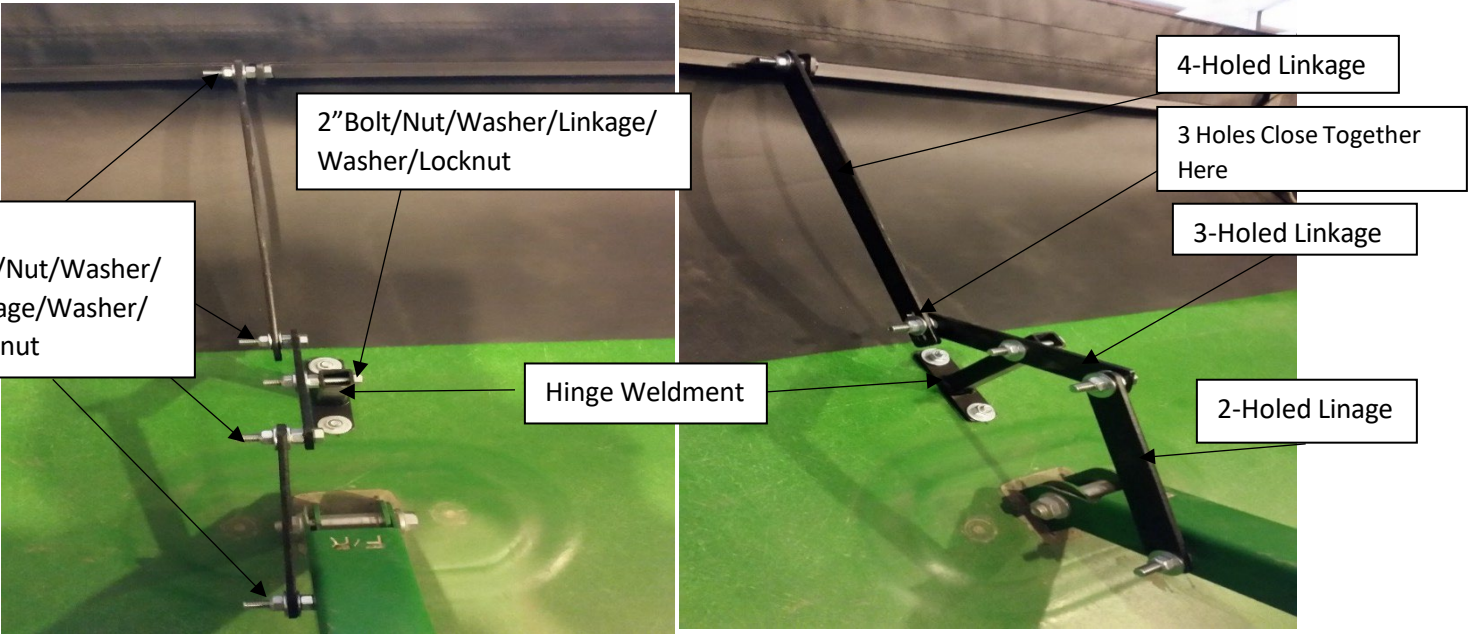
Measure along folding arm from center of the hinge bolt $3\frac{1}{2}$ " (89mm) and mark a vertical line, then measure up from bottom edge of the folding arm $\frac{5}{8}$ " (16mm) and mark. At this location use center punch and drill pilot hole with $\frac{1}{8}$ " drill, follow up by drilling $\frac{11}{32}$ " hole also drill holes marked on the fiberglass panel. See pictures below for details on step 2.



3. Assemble extension-folding mechanism. The pictures on the next page show details of the following Instructions. Start with the hinge weldment that mounts to the holes drilled in the fiberglass using 2) $1"$ x $\frac{5}{16}$ bolts with washers on the outside and inside then tighten. Use 1) $2"$ x $\frac{5}{16}$ " bolt through the top of weldment square tubing using a nut to secure it to the tubing, then add washer, add flat steel linkage with 3 holes using center hole, then another washer and lock nut, tighten lock nut till all looseness is removed but flat steel is still free to turn.

To one end of the 3-holed linkage add a 1 1/2"x 5/16" bolt then a nut, tighten nut. Then add washer, one end of the 2 holed flat steel linkage another washer then a lock nut. The other end of the 2 holed linkage will be attach to the hole drilled in the factory extension folding arm using a 1 1/2" x 5/16" bolt through the factory folding arm then a nut which is tightened, a washer follows then the other end of the 2 holed flat steel linkage, another washer and lock nut. Tighten both lock nuts on the 2 holed linkage by tightening all the way and backing them off about 1/8 turn.

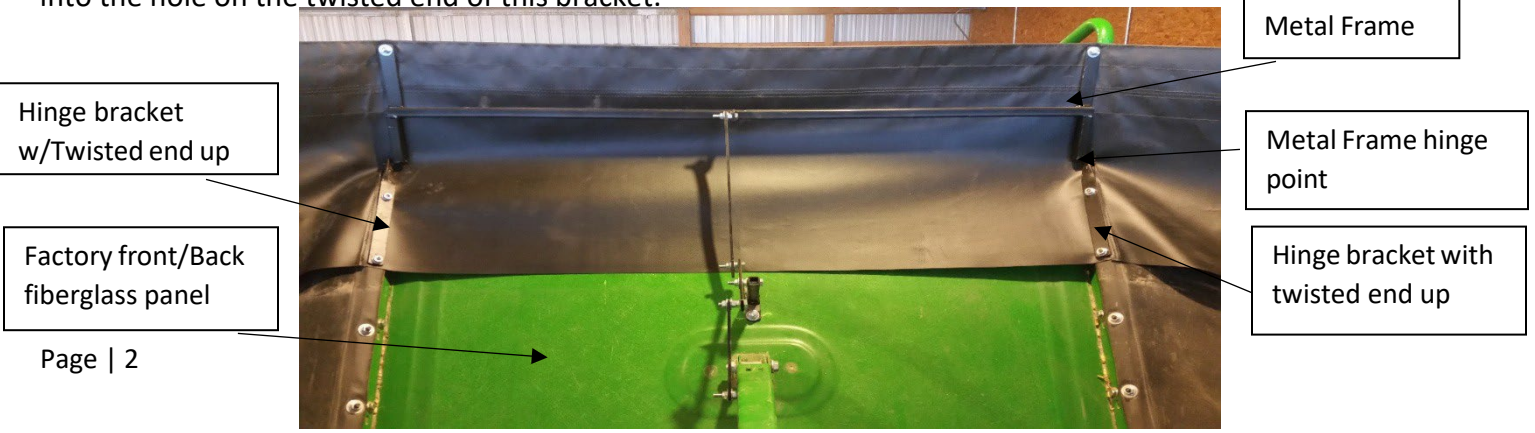
On the other end of the 3-holed linkage add a 1 1/2 x 5/16 bolt, then a nut, tighten nut, and then a washer. Next attach the 4 holed linkage using the **Middle** of the 3 holes drilled close together, then add a washer and lock nut, tighten lock nut by tightening all the way and backing it off about 1/8 turn, fold the long flat steel linkage towards the inside of the grain tank to allow PHT vinyl installation. **It is important that the folding mechanism is positioned as seen in the pictures below before operating!!!!**



4. Prepare to install the PHT vinyl panels by removing top 2 nuts and washers where the factory black vinyl corners are bolted to the factory fiberglass brackets (8 nuts and washers front and back)

Install PHT vinyl by matching lower holes in PHT vinyl to factory bolts where nuts and washers were removed, starting at one of the factory side panel, when holes are matched, reinstall washers and nuts. Then match holes in PHT vinyl (without metal grommets) to bolts on one side of Factory Back/front fiberglass panel, Hinge bracket with the twisted end are mounted over the bolts and vinyl, nuts are reinstalled on bolts. Washers are not needed on hinge brackets.

Twisted end of this bracket is on top and vertical. The hinge point of the PHT extension metal frame slides into the hole on the twisted end of this bracket.



On the other side of factory Back/ front fiberglass panel, match PHT vinyl holes to factory bolt. Then prepare to add the other hinge bracket with a twist over PHT vinyl, but before installing this bracket on the factory bolts, engage the other hinge point of metal frame with hole in the twisted end of hinge bracket, then install hinge bracket over factory bolts, reinstall factory nuts and tighten.

Install 1" x 5/16" bolts with washers through PHT vinyl where the grommets match top 2 holes in the PHT metal frame, install nuts and tighten. Attach the folding mechanism linkage to extension metal frame using 1 1/2" x 5/16" bolt, nut, 2 washers and locknut.

Match the other lower end holes of PHT vinyl to factory side panel bolts, reinstall washers and nuts.

5. Prepare to attach the ends of the PHT vinyl to the Factory side panels starting with the top end hole, using 1 1/2" x 5/16" bolt with large fender washer on the outside and regular washer on the inside and Nut.

Mark a horizontal line, 3 1/2" (89mm) down from top edge of right side (clean grain elevator) factory Panel at the approximate location of the top end bolt. **This bolt location must be at least 3 1/4" from the top edge or it will conflict with left side panel when closed.**

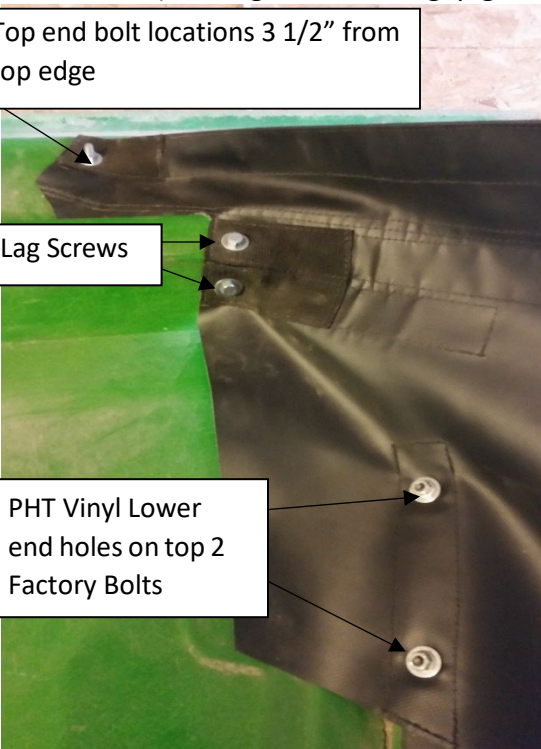
Mark a horizontal line 3 1/2" (89mm) down from the top edge of the left side (unloading auger) factory panel at the approximate location of the top end bolt.

Hold the top end Grommet between index finger and thumb, stretch out all the slack in the top edge of vinyl and hold it up against the factory side panel with finger between the grommet and factory side panel, then pull backwards if installing front vinyl (forwards if rear vinyl) until there is a finger thickness gap between grommet and side. (the finger thickness gap gives a little more tension on the PHT vinyl when the bolt is tightened)

Top end bolt locations 3 1/2" from top edge

Lag Screws

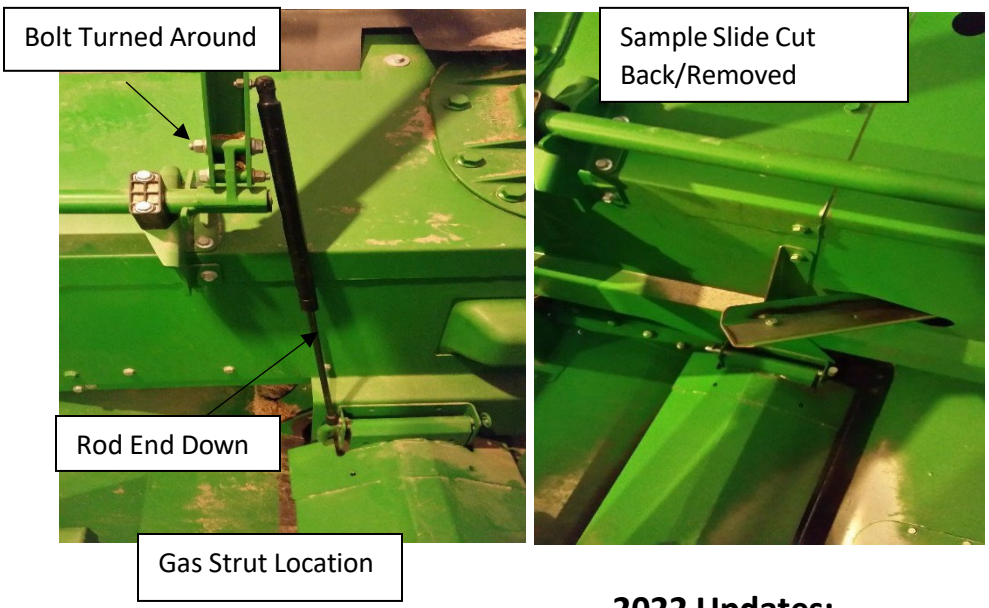
PHT Vinyl Lower end holes on top 2 Factory Bolts



While holding this location, slide finger and thumb off the grommet hole, and mark this location through grommet hole. Make sure that your location is on the horizontal line previously marked, then drill with 11/32" drill bit and install 1 1/2" x 5/16 bolt, washers and nut.

6. Attach the next two end grommet locations on the side panel stiffener beam using 2) 1 1/2" x 5/16 lag screws, **for S680/690s only**. The upper of the two holes will be mounted on the mid slope of the stiffener beam and lower hole will be on the lower slope. As seen in the picture the 2 grommets need to be snug around the stiffener beam and mark their location. **For S680/690s only**, drill pilot holes at both location using a 7/32 drill bit then install lag screws and washers and tighten until snug **but don't over tighten or they may strip out**.

For S780/790s, at the mid slope stiffener beam location, drill 11/32 hole all the way through to the outside panel and install a 4" x 5/16" bolt from the outside with washer, washer and nut on the inside of this location, instead of the lag screw. **Don't over tighten because stiffener beam fiberglass is thin**. At the lower slope stiffener beam location, drill a 1/8" pilot hole, then install 5/16 x 1 1/2" lag screw. Just snug the lag screw to the side and stop tightening because stiffener beam fiberglass is thin.



7. Install gas strut with **rod end down** mounted to the auger cover bracket between the top edge and the first slotted hole and the top is mounted to left rear folding arm. It may be necessary to turn around the top bolt at the base of the folding arm for clearance to strut.

8. The Sample slide will either have to be removed or cut back to about 3" from the mounting bolt to allow clearance for the front folding extension.

2022 Updates:

Please read this update before starting installation!

1. It has come to my attention that on some 2020 and newer combines, on the inside of the front or rear fiberglass panels, cracking has shown up around the bottom hinge mounting bolts. It's been found that the hinge stops are resting very hard (left picture



below) on the grain tank frame, placing extra stress on the fiberglass panels, when on previous years combines there would be a small gap between stops and frame. A possible solution is to remove hinge bolt (picture on the right side) drill hinge holes with a larger drill bit, so the hinge has more room to rotate before resting hard on the hinge stop.



2. Before the first time closing the grain tank after Kit installation, double check that the folding linkages, bolts and washers are installed as shown in pictures on page 2. Most installation issues are resolved by correct installation of folding linkages and hardware.

3. Regarding step #7 for both 600 and 700 S series Combines: I have been asked why the need for the Gas Strut. The Gas Strut is added to assist with the opening of the grain tank covers, particularly in colder conditions and particularly on 600 series combine. The rod end of the gas strut is attached to the grain tank auger cover bracket between the top of the bracket and the first slotted, a 5/16" or slightly bigger hole will need to be drilled. In addition, a hole will need to be drilled where the upper end of the gas strut are mounted to the grain tank cover folding arm. On S780/790s there have been occasions where the grain tank covers will not close all the way after extension kit with strut is installed. It has been found that removing the gas strut has resolved this issue most of the time. 700s will open ok without strut.

4. On both 600 and 700 S series Combines, It has been found that the factory often over tightens the control rod that connects the right front folding arm to the grain tank fountain auger lift mechanism, as a result there is often excessive slack in the right front corner of the extension. This is resolved by loosening the control rod-adjusting bolt so that there is no tension on the rod when open. Partially close grain tank covers, then reopen to ensure hydraulic cylinder is fully retracted when grain tank is open. Recheck control rod adjustment, making sure fountain auger is fully raised and control rod jam nut is tight.

5. There has been the odd occasion in windy conditions, harvesting very dry grain/corn, that grain can spill between the extension vinyl and the factory vinyl corner, usually from one of the front corners. This can be resolved by drilling a small hole (1/4") through both the extension vinyl and midway in the factory vinyl corner just above the clear plastic window. Use a 1/4" bolt, washer and nut to hold the two layers of vinyl together. A zip tie and two small holes can also be used to hold the two layers of vinyl together.

For Installation help call (Gilles) 765 348-9201