



INSTALLATION AND OPERATION MANUAL



Wilson AG Trailer with 27" x 31" Hopper Doors
KIT #100627

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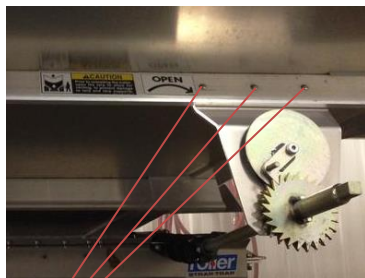
Recommended hydraulic oil (*not included*):
Hydrex Extreme – P/N 038-55087 – Approximately 1-1/2 gallons required

1. This kit you purchased either converts a Wilson AG style trailer with a 27" x 31" door from existing manual crank hopper doors to Easy Flow hydraulic doors.
2. It is recommended to use Hydrex Extreme which is a biodegradable, all season soy based hydraulic fluid rated to be fluid down to -65°F.

INSTALLATION INSTRUCTIONS

1. REMOVE EXISTING MANUAL DOOR OPENERS.

- Remove the three fasteners that hold the manual crank shaft to the knock rail of the trailer.
- Remove the cross shaft by removing the two side brackets from door rails. There are two bolts per side of door. Repeat for both doors.
- Remove the two front strap brackets from the front lip of the door. There are two bolts per side of door. Repeat for both doors.
- Remove the rear strap bracket from the rear of the door. There are four fasteners per bracket holding it to the bottom of the door.



Three fasteners per door opener to be removed



Four bolts per door opener shaft (two per side) to be removed.



Two bolts per front strap bracket to be removed.



Four fasteners per rear strap bracket (two per side) to be removed.

2. VERIFY THAT THE DOORS ROLL SMOOTHLY.

- Pull the doors open and closed a few times and determine if they are operating smoothly.
- If there is binding on the doors, determine why they are not operating smoothly and adjust the doors if necessary.

3. REMOVE THE DOOR ROLLERS.

- Remove three rollers per door rail. Save the roller for reinstalling with the hydraulic cylinders.



Remove these door rollers and fasteners, three per side rail.

Cut plate flush with the side rail.

For older trailers with this piece of angle, remove the angle from the door and proceed to step 4. For trailers not equipped with this piece, proceed directly to step 4.

4. INSTALL DOOR BRACKET ASSEMBLY.

- a. With the doors completely closed, install the door brackets to the hydraulic cylinders with the 5/8"-11 Jam nuts.
- b. Screw one Jam nut onto the cylinder rod, then place the door bracket onto the cylinder rod and screw a second jam nut onto the cylinder rod to capture the door bracket.
- c. Screw the inner jam nut down until the angle aluminum is against the door.
- d. Position and clamp the aluminum to the door flange so that the top is flush with the door.
- e. Mark the four holes to be drilled in the doors using the hole locations from the bracket.
- f. Drill four 9/16" holes in the door at the marked locations.
- g. Install the four 1/2" X 1-1/2" bolts and flanged locking nuts. If Huck bolts are available, they can be used instead of the standard bolts. Huck bolts are not included in this kit. Use Timpte part numbers 032-46652 – Huckbolt 1/2 uncapped #8, and 032-22786 – Collar Huck 1/2".
- h. After the brackets are attached to the doors, tighten the jam nuts on the door brackets and tighten the bolts attaching the cylinders to the door frame.



Drill 9/16" holes in the location of the bolts highlighted. Attach door bracket assembly to door with bolts or huckbolts. (Huckbolts are not included.)

Door Bracket.

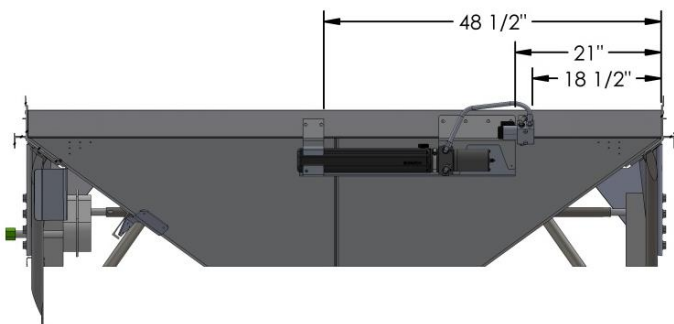
Install door bracket with two 5/8" jam nuts.

Jam Nut.

Cylinder Rod (behind bracket)

5. Install the pump and double blocking valve brackets.

- a. Clamp the pump mount bracket (041-51260) to the cross c-channel that is even with the bottom rail of the trailer. Position it at the start of the radius of the bend and the edge 21" from the curb side rail.
- b. Drill four 9/32" holes in the cross c-channel. Install the bracket with 1/4" X 1-1/2" bolts and 1/4" nylock nuts.
- c. Position the hydraulic blocking valve bracket (041-51262) 18-1/2" from the curb side rail. Position the top edge of the bracket even with the top of the pump mount bracket.
- d. Drill two 9/32" holes in the cross c-channel. Install the bracket with 1/4" x 1-1/2" bolts and 1/4" nylock nuts.
- e. Position the reservoir bracket (041-51261) 48-1/2" from the curb side rail, and the start of the radius at the edge of the cross c-channel.
- f. Drill two 9/32" holes in the cross c-channel. Install the bracket with 1/4" x 1-1/2' bolts and 1/4" nylock nuts.



6. Install the pump and hydraulic blocking valve.

- Install the reservoir bracket top strap (041-49999) with $\frac{1}{4}$ " x 1-1/2" bolts and $\frac{1}{4}$ " nylock nuts. Verify that the bracket has foam tape installed to protect the hydraulic reservoir is protected from rubbing.
- Fill the hydraulic reservoir with hydraulic oil. Soy fluid (038-49664) is recommended.
- Install the hydraulic pump with two $\frac{5}{16}$ " x $\frac{3}{4}$ " bolts and washers.
- Install the hydraulic blocking valve with $\frac{1}{4}$ " x 2" bolts and $\frac{1}{4}$ " nylock nuts.
- Install the pump cover panel (041-51259) with #8 self-drilling screws.

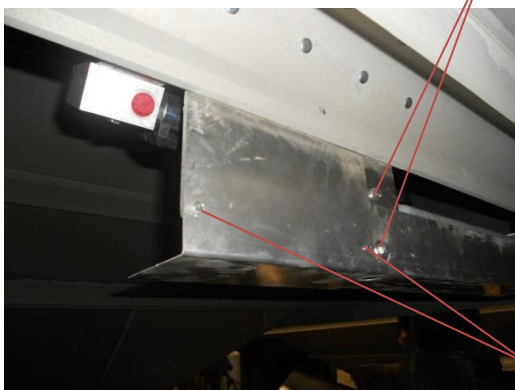


$\frac{1}{4}$ " x 1-1/2" & $\frac{1}{4}$ " nylock nuts



Foam tape

$\frac{5}{16}$ " x $\frac{3}{4}$ " bolts & washers

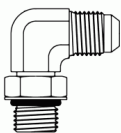
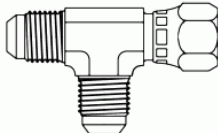
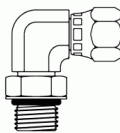
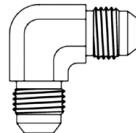
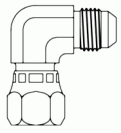
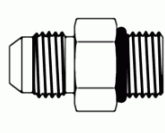
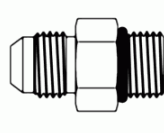
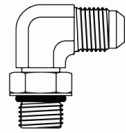


#8 self-drilling screws

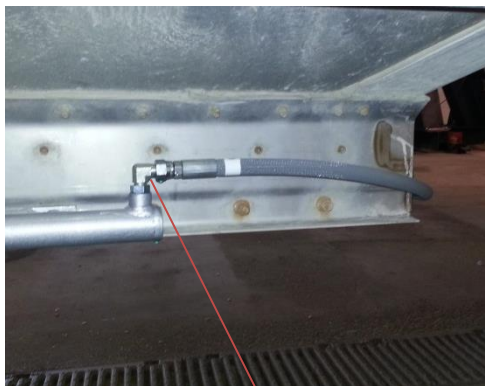
7. INSTALL HYDRAULIC FITTINGS.

- When installing hydraulic fittings, hand tighten all fittings until all of the fittings and hoses are installed. When all connections are made, then go back and tighten all the fittings.
- Proper way to install hydraulic fittings and hoses.
 - 37 Degree JIC Fitting Assembly Instructions
 - Lubricate threads and the entire surface of the cone with hydraulic/system fluid.
 - Align mating components for hand connection and turn flare nut until sealing surface makes full contact.

3. Torque flare nut to the 18-20 foot/lbs. for (-6) fittings. All torques are wet torques. Do not tighten dry.
 4. Alternative to torque method in Step 3 is to tighten nut until firm resistance is felt. Turn Flare nut clockwise at least 30 degrees and no more than 90 degrees. Again, lubrication of fitting is required before tightening.
- ii. SAE O-Ring Adapter Assembly Instructions
1. Lubricate o-ring and treads of fitting with hydraulic/system fluid.
 2. Looking at fitting from end with nut/washer/o-ring assembly, back off lock nut far as possible by turning nut clockwise as far as possible on fitting.
 3. Turn fitting into port until the washer touches the highest spot on the fitting and sudden resistance is felt.
 4. Back off fitting counterclockwise for proper alignment but do not exceeding one revolution.
 5. Tighten lock nut to 8-10 ft/lbs for (-4) and 12-16 ft/lbs for (-6). All torques are wet torques. Do not tighten dry.
 6. Alternative to torque method in Step 5 is to tighten nut until firm sudden resistance is felt while holding fitting in place. Turn lock nut clockwise an additional 1 to 1-1/4 revolution. Again lubrication of fitting is required before tightening.

HYDRAULIC FITTING CHART			
			
TIMPTE - 029-49657 FITTING #6801-6-6	TIMPTE - 029-50223 FITTING #6602-6-6	TIMPTE - 029-50220 FITTING #6809-6-6	TIMPTE - 029-50224 FITTING #2500-6-6
			
TIMPTE - 029-50435 FITTING #6500-6-6	TIMPTE - 029-49648 FITTING #6400-6-4	TIMPTE - 029-50225 FITTING #6400-6-6	TIMPTE - 029-51138 FITTING #6801-6-4

- c. Hydraulic cylinder fittings.
- i. Install part number 029-49657 - adapter 6801-6-6, 90 degree JIC to O-RING into each of the four curbside cylinder ports and the two roadside cylinder tube end ports.
 - ii. Install part number 029-50225 – adapter 6400-6-6 straight JIC to O-RING into the two remaining ports.
 - iii. On the curb side of the trailer, install part number 029-50223 – adapter 6602-6-6-6, Tee, JIC female swivel to JIC onto each of the 90 degree adapters.



029-50223 (6602-6-6)

029-49657 (6801-6-6)

029-50225 (6400-6-6)

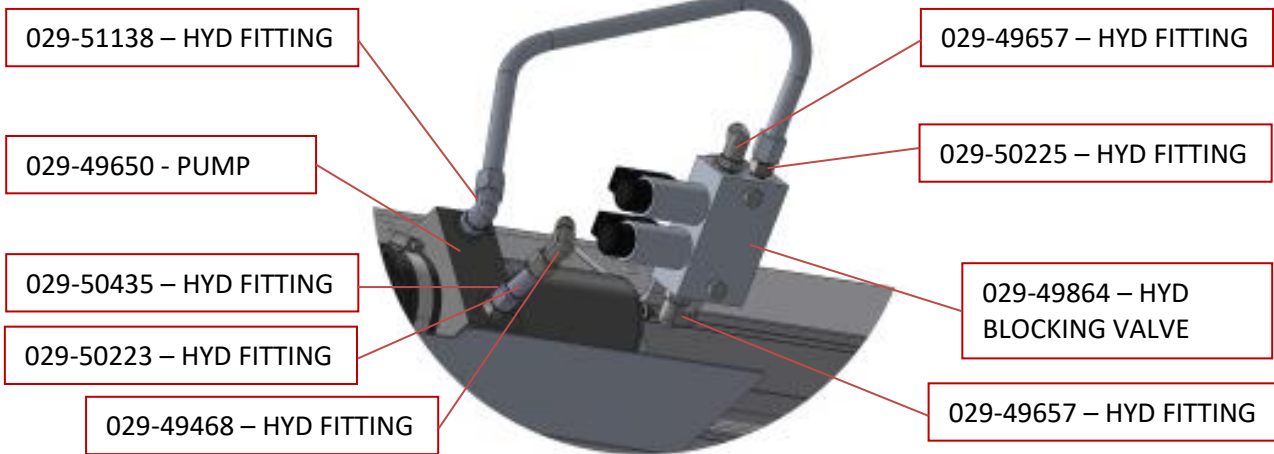
Cylinder Tube End

Cylinder Rod End



d. Hydraulic pump and blocking valve fittings.

- i. Install 90° O-Ring to MJIC fitting, part #029-51138 into the port "C1" on the pump.
- ii. Install O-Ring to MJIC fitting, part #029-49468 into the port "C2" on the pump.
- iii. Install Tee MJIC-MJIC-FJIC fitting, part #029-50223 onto part number 029-49468.
- iv. Install 90° FJIC-MJIC fitting, part #029-50435 onto part number 029-50223.
- v. Install 90° O-Ring to MJIC fitting, part #029-49657 into the port "3" blocking valve.
- vi. Install O-Ring to MJIC fitting, part #029-50225 into the port "4" blocking valve.
- vii. Install 90° O-Ring to MJIC fitting, part #029-49657 into the port "2" blocking valve. The blocking valve might need to be removed to install this fitting.
- viii. Install part number 029-49648, 3/8" diameter x 18-1/2" long hose from part number 029-51138 to 029-50225.



8. INSTALL HOSE BRACKETS.

- a. All hose brackets are to be installed on the curb side of the trailer.
- b. Brackets are to be installed with the included 1/4" x 1-1/2" bolts and 1/4" nylock nuts. If installer has access to Huck

guns and bolts, optional use of 032-02087 – HUCKBOLT ¼ #10 UNCAPPED and 032-02000 – COLLAR HUCK ¼” STD FLANGE is approved.

- c. On the curbside of the upper and lower knock rail, install one 041-51077 bracket per rail.
- d. Total of 4 brackets to be installed.
- e. Install bracket with longer leg against the rail. They will need to be bent slightly to align the hoses.



9. INSTALL HYDRAULIC HOSES AG TUBS.

- a. Attach hydraulic hoses to the cylinders as shown below.
 - i. 029-51239 – 104” hydraulic hose. Front hopper – cylinder rod end.
 - ii. 029-51087 – 132” hydraulic hose. Front hopper – cylinder tube end.
 - 1. Attach hose to brackets as shown.
 - a. ¼” bolts, nylock nuts, and 5/8” Jiffy clips.
 - iii. 029-51459 – 197” hydraulic hose. Rear hopper – cylinder rod end.
 - iv. 029-51242 – 176” hydraulic hose. Rear hopper – cylinder tube end.
 - 1. Attach hose to brackets as shown.
 - a. ¼” bolts, nylock nuts, and 5/8” Jiffy clips.
 - v. 029-56771 – 62-1/2” hydraulic hose. Cross rear of hopper – cylinder tube end.
 - 1. One hose for each hopper. Two total hoses.
 - 2. Attach hose to hopper as shown.
 - a. ¼” bolts, nylock nuts, and 5/8” Jiffy clips.
 - vi. 029-53989 – 46-1/2” hydraulic hose. Cross front of hopper – cylinder rod end.
 - 1. One hose for each hopper. Two total hoses.
 - 2. Attach hose to hopper as shown.
 - a. ¼” bolts, nylock nuts, and 5/8” Jiffy clips.



Front hopper

029-51239 – 104" hydraulic hose 40'/42' trailer. End with 45 degree fitting attaches to cylinder rod end.



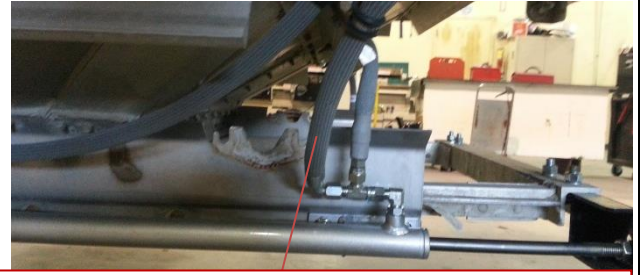
Front hopper

029-51087 – 132" hydraulic hose 40'/42' trailer. End with 90 degree fitting attaches to cylinder tube end.



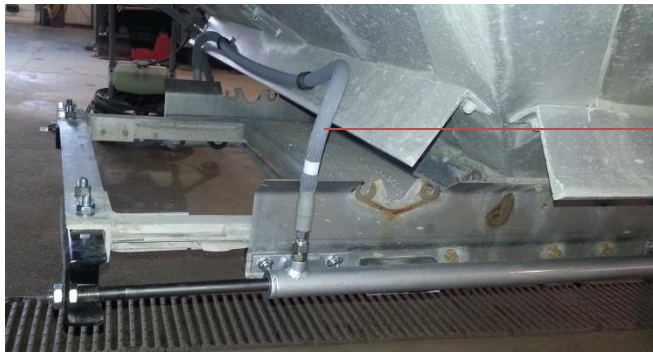
Rear hopper

029-51242 – 176" hydraulic hose 40'/42' trailer. End with 90 degree fitting attaches to cylinder rod end.

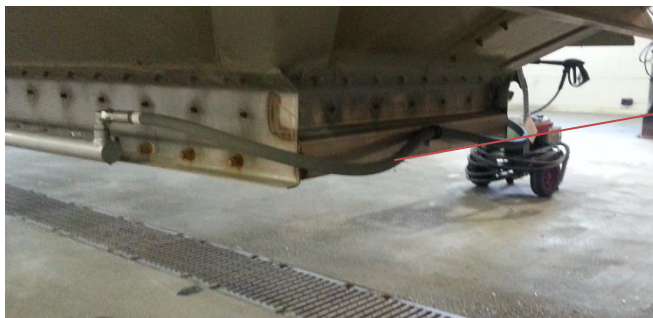


Rear hopper

029-51459 – 197" hydraulic hose 40'/42' trailer. End with 90 degree fitting attaches to cylinder tube end.



Use 029-53989 – 46-1/2" hydraulic hose. Hose goes across hopper to other cylinder. Use clips to mount as shown. Front of hopper, cylinder rod end



Use 029-56771 – 62-1/2" hydraulic hose. Hose goes across hopper to other cylinder. Use clips to mount as shown. Rear of hopper, cylinder tube end

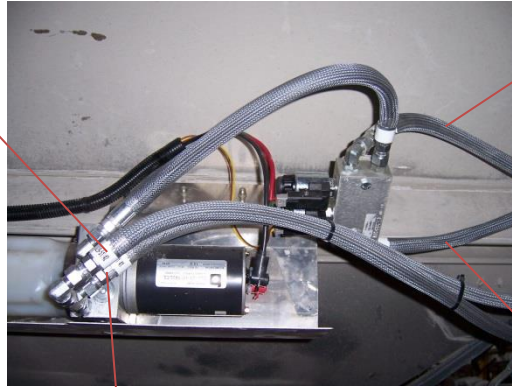
- a. Attach hoses to hydraulic pump and blocking valve.
- i. Attach hose 029-51242 – 176” hose to pump port “C2”.
 - ii. Attach hose 029-51087 – 132” hose to pump port “C2”.
 - iii. Attach hose 029-51459 – 197” hose to blocking valve port “3”.
 - iv. Attach hose 029-51239 – 104” hose to blocking valve port “2”.

Front hopper

029-51087 – 132” hydraulic hose opposite end from the 90 degree fitting that attaches to the cylinder tube end.

Rear hopper

029-51240 – 152” hydraulic hose opposite end from the 45 degree fitting that attaches to the cylinder rod end.



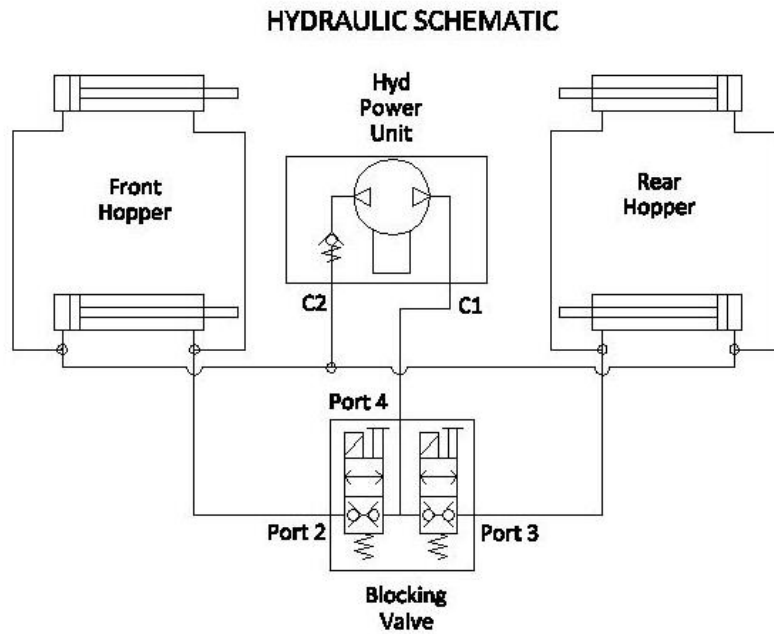
Rear hopper

029-51242 – 176” hydraulic hose opposite end from the 90 degree fitting that attaches to the cylinder tube end.

Front hopper

029-51239 – 104” hydraulic hose opposite end from the 45 degree fitting that attaches to the cylinder rod end.

- v. Verify all hose hydraulic hose connections with the following schematic.

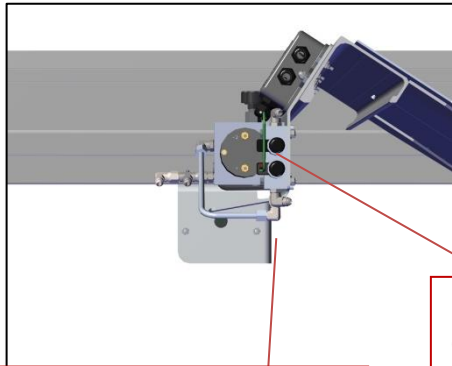


- vi. After all hoses are mounted and secured, tighten all fittings.

10. INSTALL KEYPAD CONTROLLER AND WIRING.

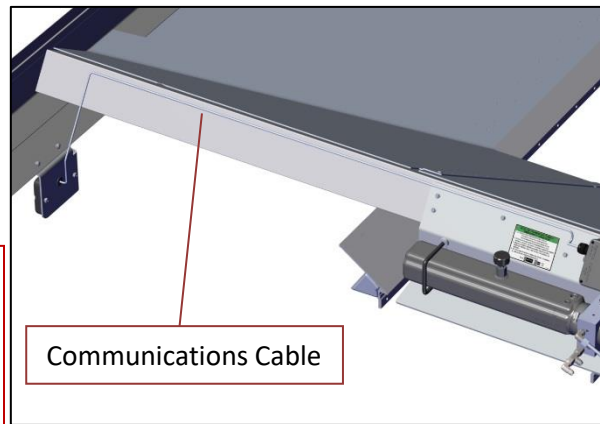
a. Mount keypad bracket part number 103884.

- i. Place leading edge of the bracket to frame rail in line with the pump mount bracket as shown.
- ii. Drill mounting holes and use (2) $\frac{1}{4}$ " x 1-1/2" stainless steel bolts and $\frac{1}{4}$ " stainless steel nylock nuts to secure bracket to the lower frame rail.



Line up leading edge of bracket with the hydraulic pump mount bracket.

Mount control box with $\frac{1}{4}$ " bolts and $\frac{1}{4}$ " nylock nuts.



Communications Cable

- iii. Secure communications cable with zip ties along the top of the c-channel.
- iv. Using a fish tape, pull 031-50504– Red 4AWG x 28 feet long power wire through passenger side rail and through the hole by the control box.

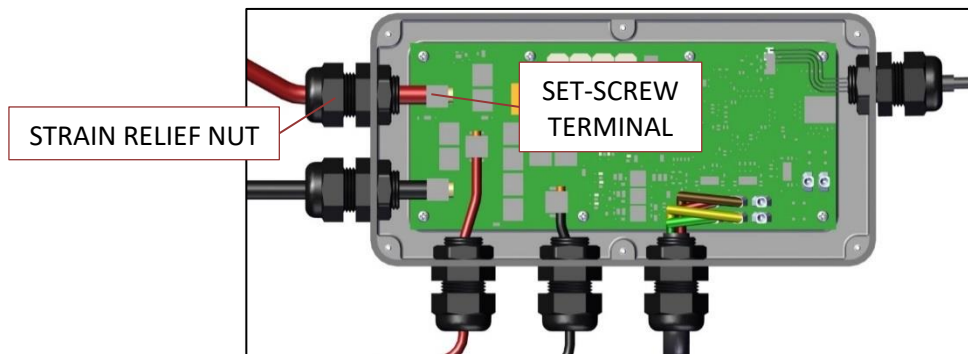


031-50504 – red 4-gauge x 28 foot power wire in side rail.

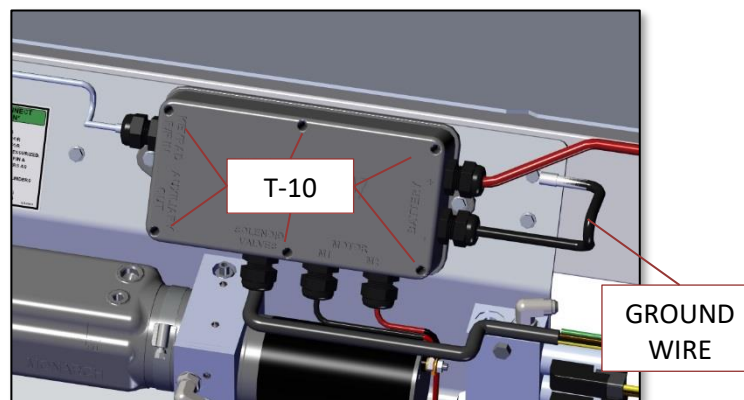


031-50504 – red 4-gauge x 28 foot power wire in nose of trailer under plastic wire raceway.

- b. Install Power Wire into EZ Flow Control Box.
 - i. Pull enough wire (approximately 16") thru the hole so that it reaches the EZ Flow control box.
 - ii. Install 031-19057 – ½" Black convoluted wire loom on the wire so that the loom goes through the hole in the side rail to protect the wire.
 - iii. Separate the control box lid from the base.
 - iv. Pull the 4AWG red wire through the strain relief as shown.
 - v. Insert the 4AWG red wire into the set screw terminal and tighten with a hex key wrench. (Make sure exposed wires are not touching any other electrical components on circuit board.)
 - vi. Tighten the strain relief nut with a 1" end wrench.



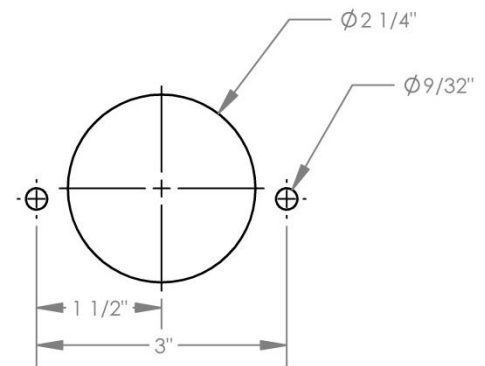
- c. Install ground wire to bracket as shown using the supplied fasteners.
- d. Install control box to lid base with provided (6) six T-10 Torx screws. Make sure rubber gasket is in place.



- e. Install plug receptacle in nose of trailer.
 - i. Determine best location for plug receptacle in relation to the other attachments that are on the nose plate.
 - ii. Drill a 2-1/4" hole in the nose plate where there is access to it. Exact location to be determined as "best fit".
 - iii. Insert receptacle into hole and drill bolt holes.
 - iv. Attach receptacle to trailer with:
 - a. 032-43152 – ¼" stainless steel screws.
 - b. 032-44653 – ¼" stainless steel nylock nuts.



031-51223 – 2 pole vertical receptacle placement

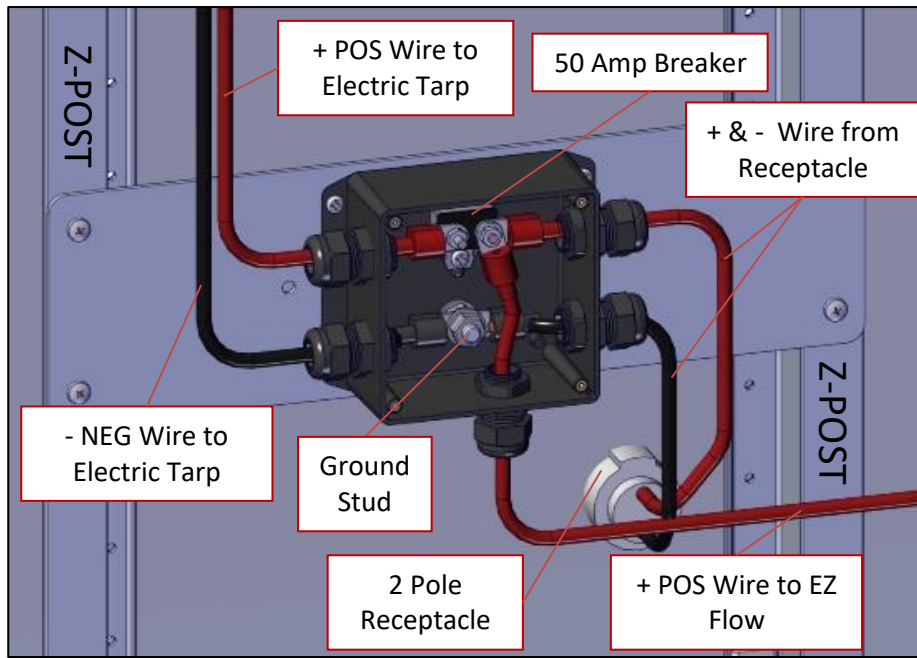


Hole pattern for 031-51223 – 2 pole, vertical, receptacle placement.

11. JUNCTION BOX INSTALLATION (IF EQUIPPED WITH ELECTRIC TARP OPTION)

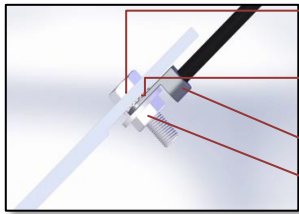
- a. Install EZ Flow power wire into junction box. Part # 101738.
 - i. Choose a mounting location close to the power receptacle.
 - ii. Clean Z-posts with a wire brush where mounting plate will be installed. (Surface must be clean to make good contact for the ground.)
 - iii. Use the four #4-24 X $\frac{3}{4}''$ screws to attach the mounting plate to the Z-posts.
 - iv. If tarp system present or being installed, insert +POS and – NEG power wires through the strain reliefs on left side of junction box as shown.
 - v. Install and crimp supplied $\frac{3}{8}$ lug eyelets onto tarp system power wires. Use 1" of $\frac{1}{2}''$ heat shrink over base of connectors to protect from accidental contact and shorting.
 - vi. Connect + POS wire from tarp system to the left side of the 50 amp breaker and the - NEG wire to the ground stud.
 - vii. Insert the 4AWG power wire from the EZ Flow system through the bottom strain relief into the junction box.
 - viii. Install and crimp supplied $\frac{1}{4}''$ lug eyelet to the 4AWG power wire. Use 1" of $\frac{1}{2}''$ heat shrink over base of connector to protect from accidental contact and shorting.
 - ix. Connect the 4AWG power wire to the right side of the 50 amp breaker.
 - x. Double check all connections to make sure everything is tight.
 - xi. Tighten strain relief nuts with 1" end wrench. This prevents water intrusion from around the wires.

xii. Close the junction box with the supplied screws.



b. If not using separate junction box for tarp option.

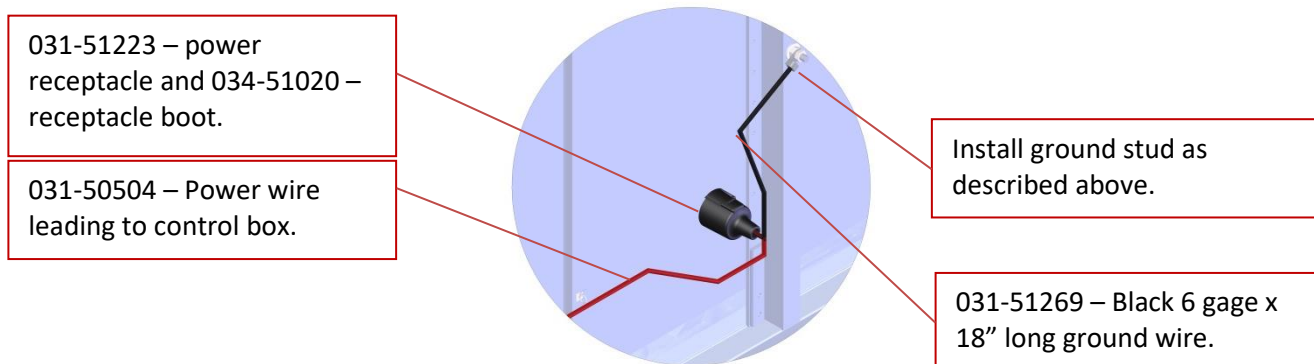
- i. Drill a 7/16" hole in the z-post as shown approximately 8" above the receptacle hole.
- ii. Mount ground stud and wire to z-post.



- iii. 032-44809 – 3/8" stainless steel bolt.
- iv. Z-post.
- v. 032-58829 – 3/8" washer external tooth star washer.
- vi. 031-51477 – Black battery boot installed on wire.
- vii. 031-51269 – Black 6 gage x 18" long ground wire.
- viii. 032-03471 – 3/8" serrated flange nut.
- ix. 035-52548 – Corrosion Protection Grease.

c. Wire 2- pole receptacle with power wire and ground wire.

- i. Push both + POS & - NEG wires thru 034-51020 – 2 pole receptacle rubber boot.
- ii. Place dielectric grease onto exposed wire ends of the + POS & - NEG.
- iii. Insert + POS end into top terminal and tighten set-screw.
- iv. Insert – NEG end into bottom terminal and tighten set-screw.
- v. Slide protective rubber boot onto the 2-pole receptacle as shown below.



12. FINISH INSTALL

- a. Apply power to the unit by plugging into a 12 volt power supply.
- b. Program the remote to the control box per included instructions.
- c. Bleed all hydraulic lines.
 - i. Slightly loosen hydraulic fittings at the cylinders one at a time.
 - ii. Run pump until oil is seen at the fittings.
 - iii. Re-tighten the fitting.
 - iv. Repeat for all fittings at all the cylinders.
- d. Run doors open and closed a few times to make sure all air is out of lines.
- e. Refill the hydraulic reservoir to the full line.

OPERATION INSTRUCTIONS

EZ Flow Trap System - Remote Programming

1. Ensure the keypad is powered on. If it is not, power it on by holding the **"FRONT OPEN"** and **"FRONT CLOSE"** buttons for 5 seconds or until the keypad illuminates, indicating the system is active.
2. Open the lid on all remotes to be programmed to the keypad. Up to 4 can be programmed to a single keypad and all must be programmed during the same programming session.
3. On the keypad, press and hold both **"AUX"** buttons until the status light turns green then release the buttons and the status light will flash yellow/orange.
4. On the remote, press and hold the **"FRONT OPEN"** button until the keypad's yellow/orange flashing light changes to green, then release. Repeat for each additional remote.
5. After all desired remotes have been programmed press any button on the keypad and it will exit pairing mode indicated by blinking red twice, or after 10 seconds the keypad will exit automatically. If you programmed the max number of remotes the keypad will exit immediately.

EZ Flow Trap System - Remote Operation

Remotely powering the EZ Flow system

1. Press and hold the remote's **"FRONT OPEN"** and **"FRONT CLOSE"** buttons for 5 seconds or until the keypad status light is illuminated.
2. To turn off, repeat step 1.

To use the front hopper doors

- Press and hold the **"FRONT OPEN"** or **"FRONT CLOSE"** directional button to open or close the front doors. The hopper door will travel in that direction until the button is released.

To use the rear hopper doors

- Press and hold the **"REAR OPEN"** and **"REAR CLOSE"** desired directional button to open or close the rear doors. The hopper door will travel in that direction until the button is released.

To control work light option (automatically configured, no programming necessary)

- On the trailer keypad press and release the top **"AUX"** button to turn on or off the worklights.
 - On the remote press the **"WORKLIGHT ON/OFF"** button to turn on or off the worklights.
 - If worklight & AUX buttons are reversed, unplug worklight from dual plug harness and plug into secondary plug.
- When any button on the remote is pressed, the status light will flash rapidly indicating it is transmitting a signal.
 - The status light on the remote will flash continuously when the remote batteries have 25% charge left.
 - Always close the remote lid when not in use to prevent accidental button presses that can cause unwanted operation of the tarp or trap systems. When the flip lid is in the closed position the remote is deactivated.

