CRAMARO®
TARPAULIN SYSTEMS

POWER COVER™

INSTALLATION, MAINTENANCE,

& SAFETY INSTRUCTIONS

TARP WORKS®

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Plants In: Delaware, Florida, Massachusetts, Nevada, Ohio, and Canada

Cramaro Power Cover Installation Instructions

When installing the Cramaro Power Cover unit there is a couple different factors to visually look at before starting the installation process. The first is visually overlook the truck and make sure there is at very least 12" of exposed frame rail both on the driver and passenger side behind the cab where at the same points you can make an area for the gantry to be located being aware of such obstructions such as the trucks exhaust system, battery boxes etc. Also look at the area where the fenders are located on the truck, observing the overall outside width, factory gussets, tubing used for building the fenders, and so on. The reason for looking at all this is somewhere in this general area (normally between the first drive axle and pusher axle if equipped) is where supports are going to have to be fabricated to hold the bracket, piston, lower arm assembly. Keep in mind when installing or fabricating any kind of brackets, gussets, and frame plates that you cannot weld to any part of the frame nor drill holes in the flanges or the web.

Note: Container should be on truck for following directions listed.

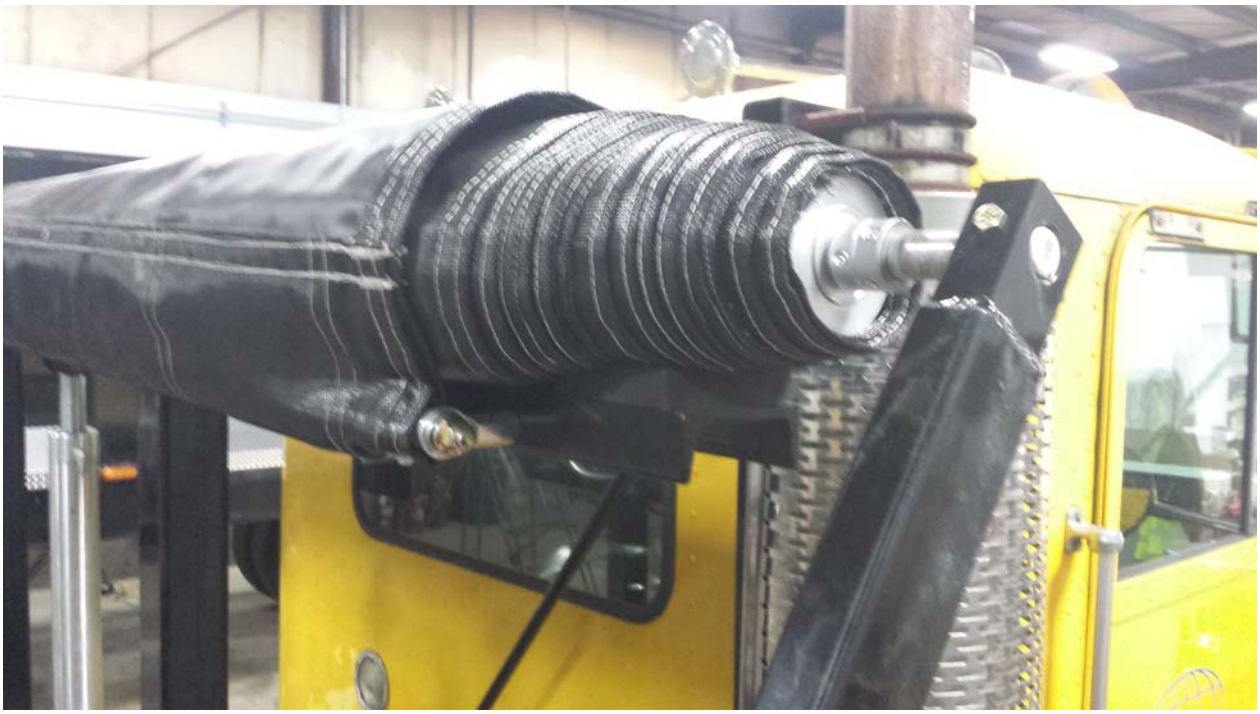
Mounting the Gantry Unit

With the 2 supplied pieces of 7"x 4"x 3/8" angle iron figure out the necessary holes, notches, etc. you will have to make to secure the angle iron to the sides of the frame, making sure they are at the same place on both the passenger and driver side. Grade 8 hardware must be used to secure plates to frame. Recommended size is 5/8" x 11" and at least 4 bolts per plate if possible. Hardware not included.

With the plates secured to the frame, take the complete gantry assembly with windscreen attached and using either an overhead crane, forklift etc. place the gantry on top of the plates making sure the windscreen is facing the backside of the cab. Using another person or two find the best area on the plate, need it be towards the rear or the front, to weld the base of the gantry to the top of your installed plates. A few things to keep in mind while choosing a position on the top of the plate is to make sure to leave enough room if the truck has an air ride cab or if the exhaust is offset where it might be a later issue when the gantry is extended. Also make sure that the gantry is out of the way of the hoist being raised and lowered and there's an adequate amount of room between the can and the top of the gantry.

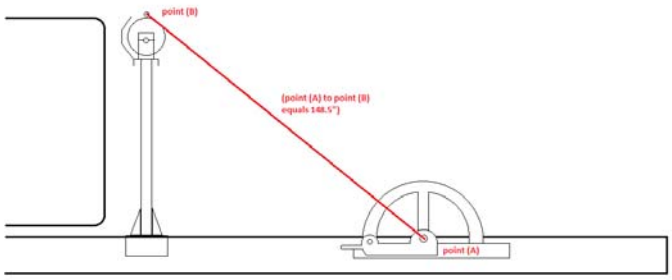
Once you have looked over all the variables set up to tack weld the gantry in place. Make sure the base of the gantry is measured side to side, front to back, and square up and down. The best way to do this is to use a framing square from the mounting plate to the base on the gantry. You may also use a level as long as the frame rails themselves are true. Once tacked in place remove the powder coating about 12" up on the base of the gantry where you must fabricate gussets to support the weight of the gantry in its fully extended position. When this has been completed and welded solid, touch up all bare steel to prevent surface rust from forming.

Now with the gantry secured and welded to the truck, using the supplied 5/16 self tapping bolts, install the 4”x 4” landing pads on the top of the gantry where the holes have already been drilled. (In some cases, depending on the manufacturers time allotted, they might be already installed). Using an overhead crane or fork lift hoist the complete roll assembly on to the top of the gantry ,making sure the nut on the 1” shaft is on the driver’s side. Center the complete roll assembly, both driver and passenger side, over the 4”x 4” landing pads. Remove the 1/2”-20 x 3/4” bolts from the hyme bar and position the bar so that both joints can be secured to the two 1/2” holes in the gantry to hold the hyme bar assembly in place it is necessary to use two 3/4” wrenches when tightening joints to insure that they are straight up and down, allowing the hyme bar to swivel freely back and forth.



Locating the Cramaro Power Cover Bracket Position

With one person on a ladder on the driver's side of the truck, have the person position the 0" end of the tape measure in the center of the nut on the roll assembly. With the tape measure in your hand measure out 148 1/2", and while doing so, visually look at the area it lands on and where the existing fender is located on the truck to get a general idea of the pivot point of the arm keeping it in line with the existing fender that is there. Note: Take note of container overhang in relation to the existing fenders on the truck. According to CT state law your overall width should not exceed 108". With that in mind allow yourself room on both sides for the container to pass by the system when the container is being loaded and unloaded. Now going back to the pivot point of 148 1/2", keep in mind this is the pivot point of the arm and not where the bracket would be mounted. From that pivot point you would go back 2 1/2' and then from that mark 17' forward. This is the general room you will need to mount the bracket and arch to the side of the truck.



Fabricating Fenders for the Cramaro Power Cover Bracket Position

Once again, keep in mind you cannot weld to any part of the main frame, but you may weld to the saddle area of the roll off hoist. Now that you have determined a general idea of where the Cramaro Power Cover bracket is going to be located, with the supplied 2"x 3"x 3/16" tubing fabricate a mounting location as described in the previous section. Make sure even if you are building off the existing fenders, that they are load bearing. They each need to withstand a bouncing weight of approximately 500 pounds more when the arms are extended. That being said, strength is everything. Always use gussets when possible. You, as the fabricator/welder, need to use your best judgment that what you fabricate to secure the unit to is going to be trouble free and take the abuse of everyday operation.

Note: the container should be taken off the truck at this point.

Mounting Cramaro Power Cover Brackets and Arch Assembly

Now that you are finished fabricating and welding of your mounting location, repeat the steps in the "Locating Cramaro Power Cover Bracket Position" Section, but this time use one other person and have them take the bracket without the arch and have them place it on the mounting location sliding it so the 148"1/2 is in the center of the bearing of the rear hump on the bracket. Working with the person holding the bracket, clamp the bracket in place. Repeat this process for the passenger side of the truck making sure it is done in the same fashion. Using a 1/2" center punch while the bracket is still clamped, punch the three holes on each bracket making sure the bracket does not move. Remove the clamps and drill the center punched marks up to a 1/2" hole for each. A pilot bit might be helpful. Once both sides are drilled, you may either paint both your mounting locations or wait and paint when the unit is fully assembled. We recommend painting it now.

Next take the supplied 1/2”-13 x 4” bolts and with the arch on something like a milk crate place the three bolts through the bracket then through the arch making sure the stop and the bulkheads on the arch are facing the rear of the truck. With another person pickup the whole unit and place bolts through the holes on the mounting location and tighten down. Repeat process for passenger side.

Running Hydraulic Lines to the Cramaro Power Cover Brackets and Arches

With the supplied T plate and with the hoist in the raised position and blocked for safety, locate an area in the center of the frame rails where the T plate and flow restrictor can be mounted. The idea is to have both the T plate and flow restrictor somewhat in line with the brackets that you mounted on the truck so that it is a straight shot from the bracket to the T plate as well as for the flow restrictor. Once you have chosen a spot for both the T plate and the flow restrictor, secure them by either welding or bolting (depending on the application) the T-plate and flow restrictor. At this point you will want to locate the 4 lines in the Cramaro Power Cover kit that will run from the front of the brackets, that control the pivot of the arm, to be run to the T fitting in the center of the truck. One helpful tip is use different color markers or different color electrical tape to mark each of the 4 lines using one color for one line. It is very important that the lines do not get crossed. Doing so will cause severe damage to the Cramaro Power Cover system. The easiest way to explain the route of all the hydraulic lines is to refer to the diagram at the end of this manual.

We supply Stuaff brand clamps with all of our kits so the lines are properly secured running from the outside of the brackets and arch to the inside of the frame. Always be aware of moving parts, driveshaft, airbags, etc. so not to snag any lines or cause chafing when finding the best route to the T plate. Note: The only lines that go to the flow restrictor are the first bulkhead on the bracket on both sides. This ensures when the unit is being uncovered during normal operation that both pivot cylinders have equal amount of pressure, which keeps the arms at the same speed when traveling in towards the gantry.

After the four lines have been installed from the brackets to the flow restrictor and T plate, it is time to run the four lines that will run from the bulkheads on the arch to the two open T fittings on the T plate. Once again, it is a good idea to color code these lines using your markers or electrical tape so they do not get crossed. The best way to route the lines is to take the same path as the bracket lines, with the exception of the lines running behind the arch, then connecting to the rear at the bulkhead location. Tighten all eight lines on the brackets and arches and at the T plate and flow restrictor.

Installation of 3 Spool Valve and 75/25 Diverter

The next step is to locate a spot to mount the 3 spool valve that controls the gantry extending and retracting, the arms covering and uncovering, and also the upper part of the arm extending and retracting. The most desirable spot for the 3 spool valve is normally in the area where the valve bank is located for the up and down, winch in/winch out for the hoist. In certain applications it might be possible to weld a pedestal off of the gantry base to hold the 3 spool valve if there is no room near the valve bank for the hoist. Once you have located in area for the valve to be mounted secure it and install the three provided handles. Next locate the pressure side coming off of the trucks PTO. Follow that hydraulic line where it will eventually connect to the valve for the hoist.

Somewhere between the PTO and the hoist valve body the 75/25 diverter needs to be installed. The diverter well be used to send 25% of the PTO's output pressure to run the Cramaro Power Cover unit and the remaining 75% continues to the hoist valve body. Note: Since there are many different sizes of hydraulic lines used on PTO's and roll off valve banks, Cramaro Power Cover does not supply hydraulic lines or fittings for either the 75/25 diverter or the JIC 6 pressure and return lines for the 3 spool valve. There are a couple different ways to install the diverter. You could either install it to the backside of the PTO or in some cases run it in line off of the hoist valve body. You can also mount it on the frame, but you will need to have two new hydraulic lines made which, in turn, might be more profit loss.

Once you have your location for the diverter, the side of the diverter with the single port is PTO pressure in and on the opposite side the port stamped P is for the 3 spool valve for the Cramaro Power Cover. The remaining port is for the valve bank hoist. Once connected you now have your port for the 3 spool valve and the final step is tapping into the return line on the truck to complete this section of the installation. Note: There are different ways to tap in to the return line but the quickest way is to remove one of the pipe elbows before the filter for the hydraulic tank and drill a desired hole size that I can then weld a JIC 6 male fitting into making sure it will not leak. Keep in mind this is just the return there for pressure is very minimal.

Installing Hydraulic Lines from T Plate to 3 Spool Valve

With the hoist still raised and blocked for safety, choose the four 15' main lines supplied in the kit and once again using colored electrical tape or markers color code the four lines. These lines will travel from the flow restrictor/T plate down one side of the frame rails and connect to the second and third port (from left to right) on the 3 spool valve. The Cramaro Power Cover 15' main lines are made so that the long 90% fitting goes on the port closest to the handle and the short 90% fitting towards the rear. Note: The Short 90% needs to be threaded first. The second port in the 3 spool valve is for the pivot in the Cramaro Power Cover arms ,and the third is for the extended/retract for the top of the arm. This leaves the first port for the raise and lower of the gantry.

Go back to the second port, which is the pivot for the arm. The two main lines that run down the side of the frame; one of these lines is going to the flow restrictor and the other to the first T fitting of the three. This is the valve for the pivot we want the restrictor to give equal pressure to each cylinder when the arm is returning to the front of the truck. With the other two 15' main lines remaining, connect these to the last two T fittings. Once complete, tighten all fittings. Next choose the gantry lines supplied with the kit. Return to the front of the truck and the longer of the two lines will be for the top fitting and the shorter for the bottom. These lines will run on the front side of the gantry and connect to the first port on the 3 spool valve. Once completed tighten all of the fittings you have installed.

Installing Cramaro Power Cover Arms

Where the pivot bracket is located, flip the piston forward on both sides so they are facing the back of the cab. Take the two lower arms and sit them on the side of the truck with the drill holes in the tubing facing up. Secure the two supplied arm guides and 3/8" spiral hardware using an 9/16" socket and an impact gun to the backside of the arm. This is the piece of plastic that will ride on the arch to steady the arm from left to right. Once completed, and with another person, take the lower arm with the supplied hardware and with the Stuaff clamp clips facing upward, place the arm onto the bracket with the cleat sliding over the bearing in the bracket. Repeat process for the other side. Take the upper arms and with the piston tabs facing up slide them into the lower arm. When completed DO NOT Tighten the 1 1/8" bolt holding the lower arm to the bracket. With another person and two adequate ladders to stand on, place them on either side of the gantry to easily access the ends of the roll assembly. Place the 1" hole at the end of the arm over the 1" shaft of the roll assembly. Repeat the process for the opposite side. With the two supplied 5/16" grade 8 bolts, and with another person, hand them one of the bolts and you take the other. With a ½ breaker bar and 5/8 socket instruct the other person to access the roll assembly from the passenger side of the truck .With you on the driver side place the 5/8 socket attached to the breaker bar and wind the shaft counter clockwise 7 times while making sure the arms do not slide off. On the seventh turn communicate with the person on the passenger side to take his 5/16 bolt and line the bolt hole in the arm up with the hole in the shaft, inserting the bolt which will lock in the spring tension. When they have inserted their bolt through both the arm and shaft, align your side and do the same. Tighten both with a 1/2"wrench and socket.

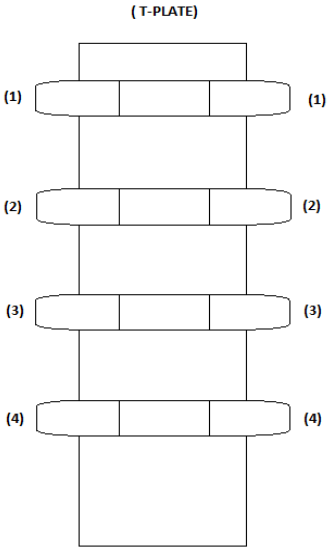
CAUTION: There will be extreme tension on the roll assembly when winding. U nder no circumstances let go of the breaker bar. It will spin and may cause bodily harm. In the case of an emergency with a firm grip, wiggle socket and breaker bar back forth sliding the socket off the roll assembly nut. When winding, upper arms may have pressure outwards from the guides touching the arches. Always use caution! If it seems like it's going to be too hard to wind the roll and make sure the arm doesn't slide off, get two more people to hold the lower part of the arms.

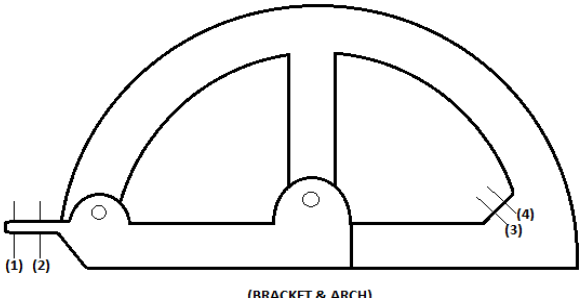
Installing Upper Arm Pistons and Hydraulic Lines

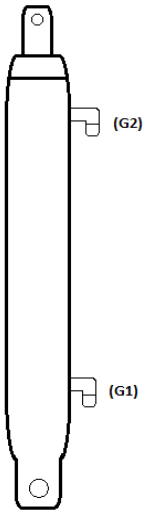
With the arms fastened to the roll assembly, take the two upper arm cylinders with the hardware supplied in the kit and bolt the bottom of the piston to the lower arm which has a tab with a ¾ hole in it. Do this to the opposite side as well. With both pistons in place on the lower arms, grab the upper and lower extend hydraulic lines from the kit. For both the long and short lines the side with the strait fittings will be connecting to the piston. The longer lines will be for the top fitting on the piston and the short for the bottom. Run both lines down the lower arm and through the 10" piece of tubing welded to the top of the arm. Once at the bottom connect both lines to bulkheads in arches making sure they form a loop allowing them not to get damaged when the arm pivots to the rear. Duplicate process for other side and secure to arm using provided Stuaff clamps. Make sure every line that was installed is now tight on the truck.

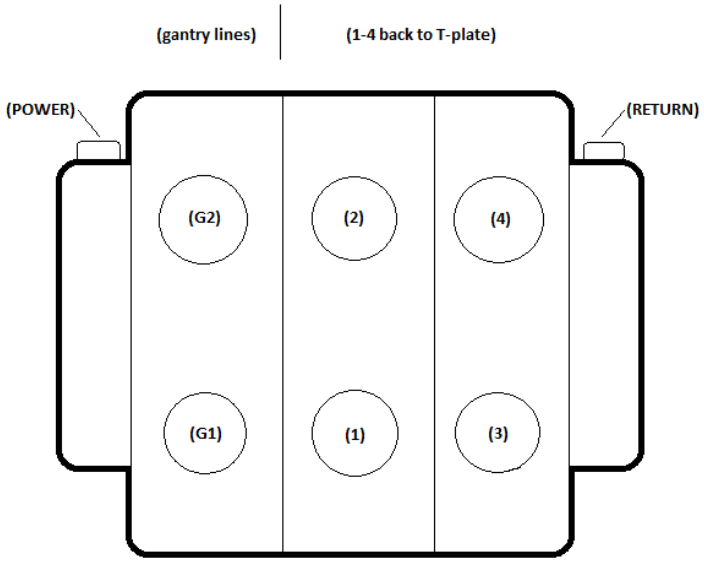
Start the truck and engage the PTO. First run the valve bank for the hoist to make sure it is completely operational. Next activate only the second lever in the 3 spool valve watching for the pivot pistons to extend or retract. If you hear the engine bog down then the piston is retracted. With another person run the pivot pistons back out to meet the clip on the lower arm which they will be connected to. Repeat for opposite side. Take the supplied 3/4" hardware and torque the lock nut so the bolt is not loose but will spin freely allowing the rod end to move while traveling from front to back. Move the third lever on the 3 spool valve. The top pistons you will not be able to completely extend, so repeat the same process as the pivot piston using another person to line up the hole in the rod end with the clip on the upper arm. Activate the second lever and run the system to the back. Now you can run the gantry up and down and extend the arms in and out.

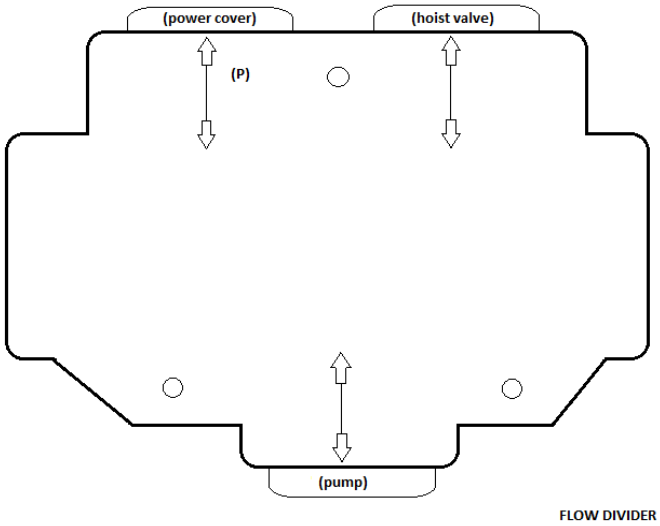
You have completed the installation of the Cramaro Power Cover system. If you find that the cover might be tracking to one side when returning to the gantry and you're not happy with the appearance of the tarp rolled up you might have to add 3/8" flat washers to the backside of the plastic guides that ride along the arch. You will be able to check to see if this is necessary if one of the arms is closer to one side of the gantry then the other. If this is the case simply take an air ratchet with a 9/16" socket pivot the arm exactly half way out and remove and reinstall the guide to the back of the arm using the washers to make the guide thicker.



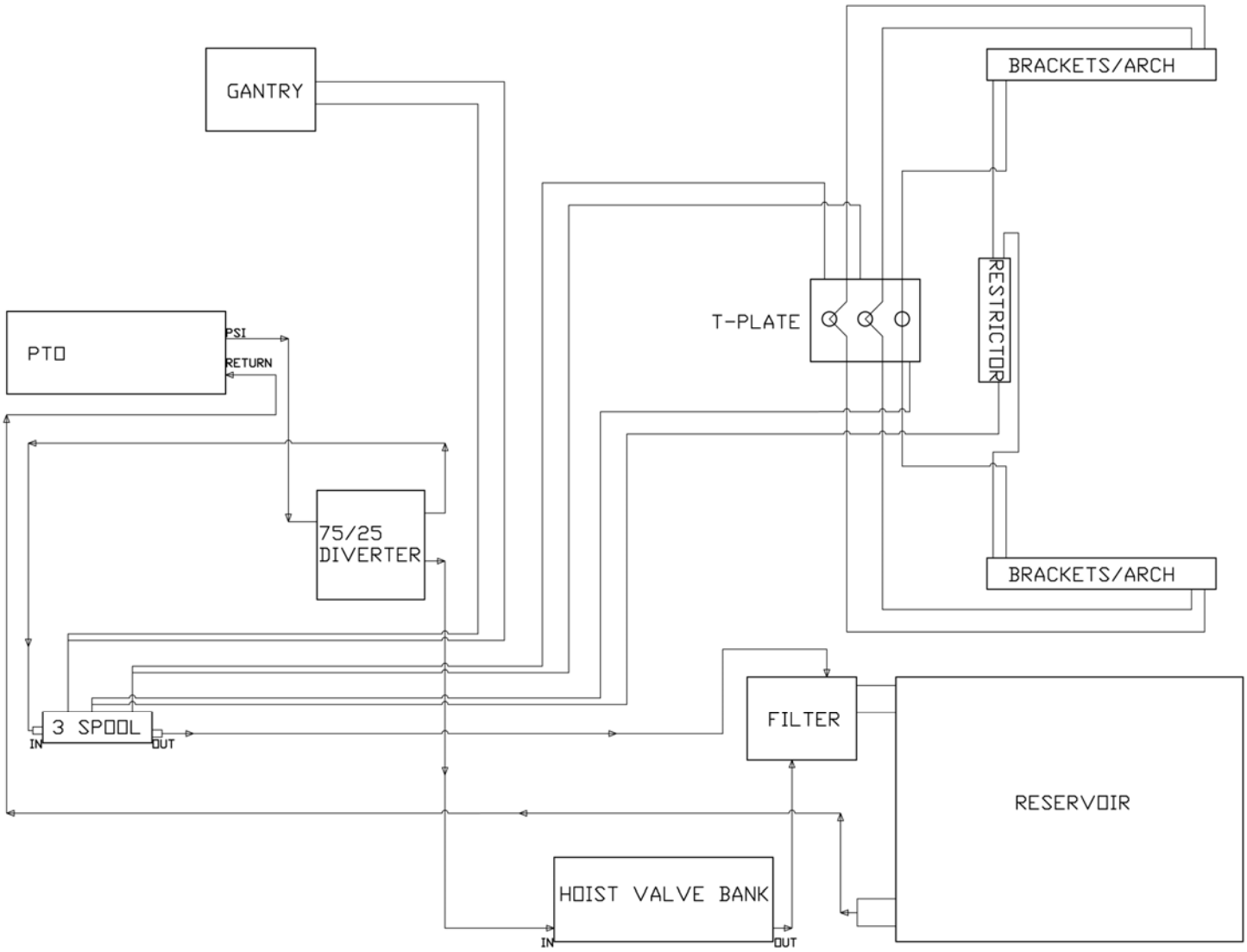








FLOW DIVIDER



If anytime during the installation of this product you have any questions or concerns feel free to call us at

1800-272-6276