

T210 Electric Semi Conversion Instructions

The electric motor and the bracket will always be mounted on the front of all trailers. If the conversion is being done on a Super-B, then the spline needs to be cut out of the roll tube on the rear trailer. It will then need to be welded onto the rear of the roll tube. If it is a tarp replacement the roll tube can be reversed instead of cutting the spline out. Note: An extension will be required in order to use the manual crank in the event that the electric motor fails.

Note: Apply the supplied Dielectric Lubricant to all wire connections when each wire is hooked up. The Dielectric Lubricant will help to prevent corrosion.

DO NOT OPERATE TARP WHILE MOVING, ALWAYS DISCONNECT POWER TO TRAILER WHEN DRIVING IF WIRELESS SYSTEM IS BEING USED

ALWAYS OPEN THE TARP INTO THE WIND AND CLOSE IT WITH THE WIND TO PREVENT DAMAGE

Motor Installation

1. With the tarp all the way open, make a note of the number of wraps of the tension cable on the front pulley and measure the distance from the pulley to the tarp.
2. Loosen the setscrews and slide the front pulley (O) back on the rolltube.
3. Weld the supplied rolltube extension into the front of the roll tube so that it sticks out at least 5" past the front of the trailer and no more than 2-1/2" less than the front of the catwalk. The minimum length of the extension piece can be 5-1/2" to the weld. The rolltube may have to be cut shorter in order to accomplish the minimum length of the extension piece.
4. CAUTION: THE FOLLOWING MEASUREMENT IS **NOT** HOW MUCH YOU CUT OFF OF THE ROLLTUBE, IT IS THE DISTANCE FROM THE MOUNTING POINT! Cut the roll tube back so it is 4-1/8" from the mounting point of the motor arm. The mounting point is typically on the catwalk.

SPECIAL NOTES FOR DEOPKER LEGACY TRAILERS

- Doepker 45' Legacy only cut back 1" instead of 4-1/8"
- Rear Trailer of a Doepker Legacy Super B you can mount the catwalk bracket on to the rear of the catwalk to bring the motor assembly closer to the trailer to give additional clearance for your motor between the trailers. Measure the 4-1/8" off the front of that bracket instead of the catwalk itself.

See figure 2

5. Cut the pattern out of the last page and tape it to the end of the rolltube. The end of the pattern needs to start and finish at the seam in the rolltube. Center punch the 3 hole centers for the attaching bolts. Remove the paper pattern and use a 3/8" drill bit to drill the holes. Bolt together using 5/16"x1/2" bolts, 1/4" washers and 5/16" lock washers.
6. Install the Motor Drive onto the motor shaft and insert the 5/16"x1-3/8" **HEAVY DUTY** roll pin to secure them together. See Figure 3. The roll pin must be installed so it does not protrude from the Motor Drive.

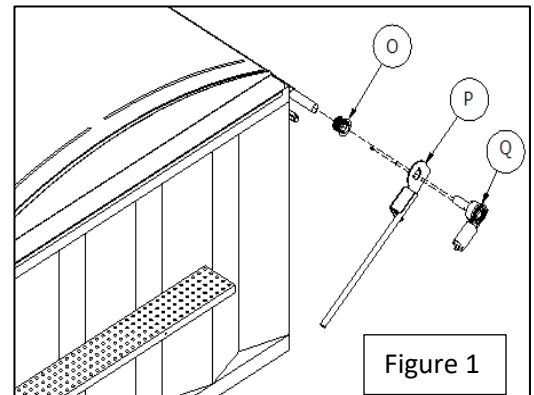


Figure 1

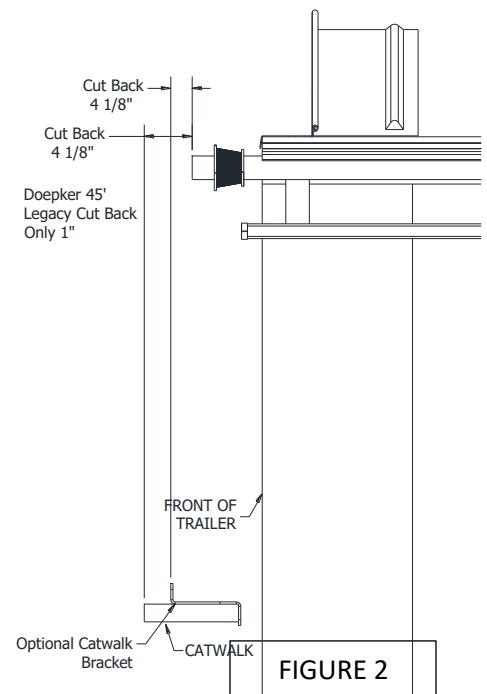
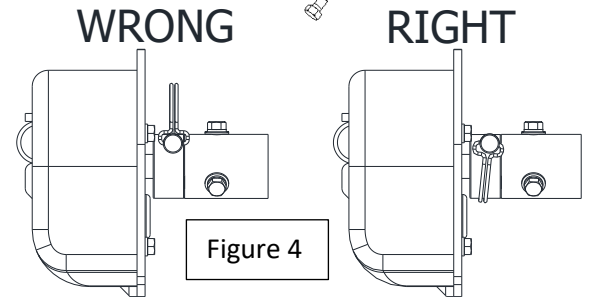
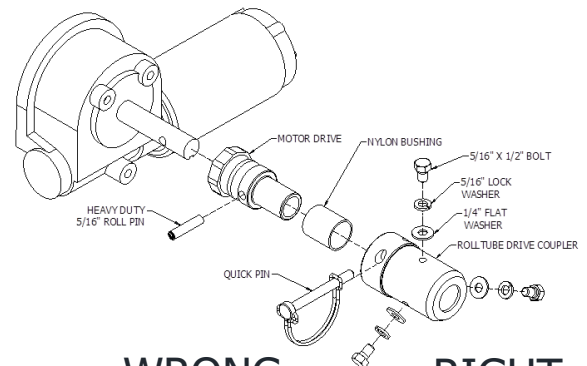


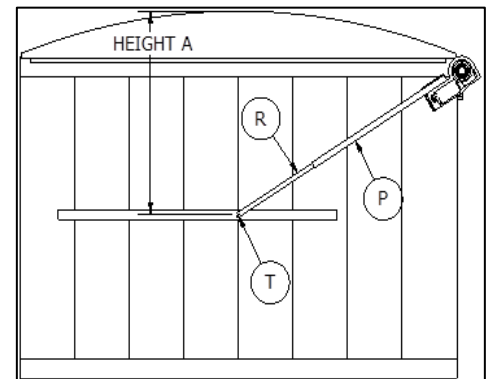
FIGURE 2

FIGURE 3

7. Reinstall the front bevel pulley in the same location and wraps as were noted previously in Step 1.
8. Mount the motor (Q) to the motor bracket (P) with three 5/16" x 3/4" hex bolts and lock washers. See Figure 1.
9. Install the motor (Q) into the end of the roll tube. Slide the Motor Drive into the Rolltube Drive Coupler so the two are engaged. Secure together with the supplied quick pin. **THE LOCKING WIRE FOR THE QUICK PIN HAS TO GO AROUND THE COUPLER AS SHOWN HERE SO IT WILL NOT CATCH ON ANYTHING CAUSING IT TO COME APART.**



10. Locate the pivot point (T) on the front center of the trailer in an area free of obstructions which will be typically on the catwalk. The greater the distance to the pivot point from the roll tube the better it will work. The length of the bottom pivot arm should be no more than Height A – 6". See Figure 4. Height A is from the pivot point (T) to the top of the hood.
11. Drill a 3/8" hole at the pivot point (T) and slide the bottom round pivot arm (R) into the tubing on the motor bracket (P). Bolt the bottom pivot arm to the trailer with a 3/8"x2" hex bolt, washers and nylon lock nut. If the bottom pivot arm is too long the motor and rolltube will be lifted off the hood. If this happens the bottom arm will have to be shortened.

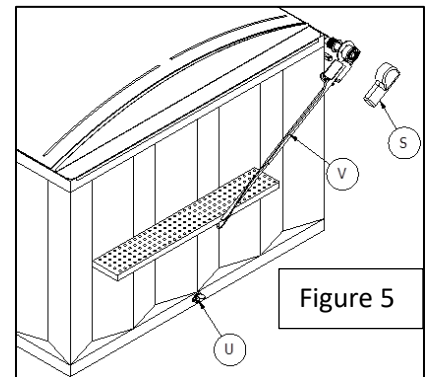


Note: Care must be taken when turning sharp as the electric motor may contact either the front Super-B trailer and/or the truck.

Option A – Rocker Switch Installation for Inside Truck (proceed to Option B for wireless)

Electrical - Trailer Installation

1. Drill a 2" hole through the front of the trailer for the female 2-pole connector (U).
2. Run a double strand wire from the female 2 pole connector to the motor. Depending if the trailer has an open or closed end the wire may need to be run inside of the wall and then drill a hole through the front wall to allow the wire to be ran to the motor.
3. Leave a little slack at the pivot point (T) and then secure the wire to the top tubing on the electric bracket with the supplied plastic ties. Insert the wire through the grommet on the motor plate.
4. After the wiring is connected secure the cover plate to the motor with the provided screws.



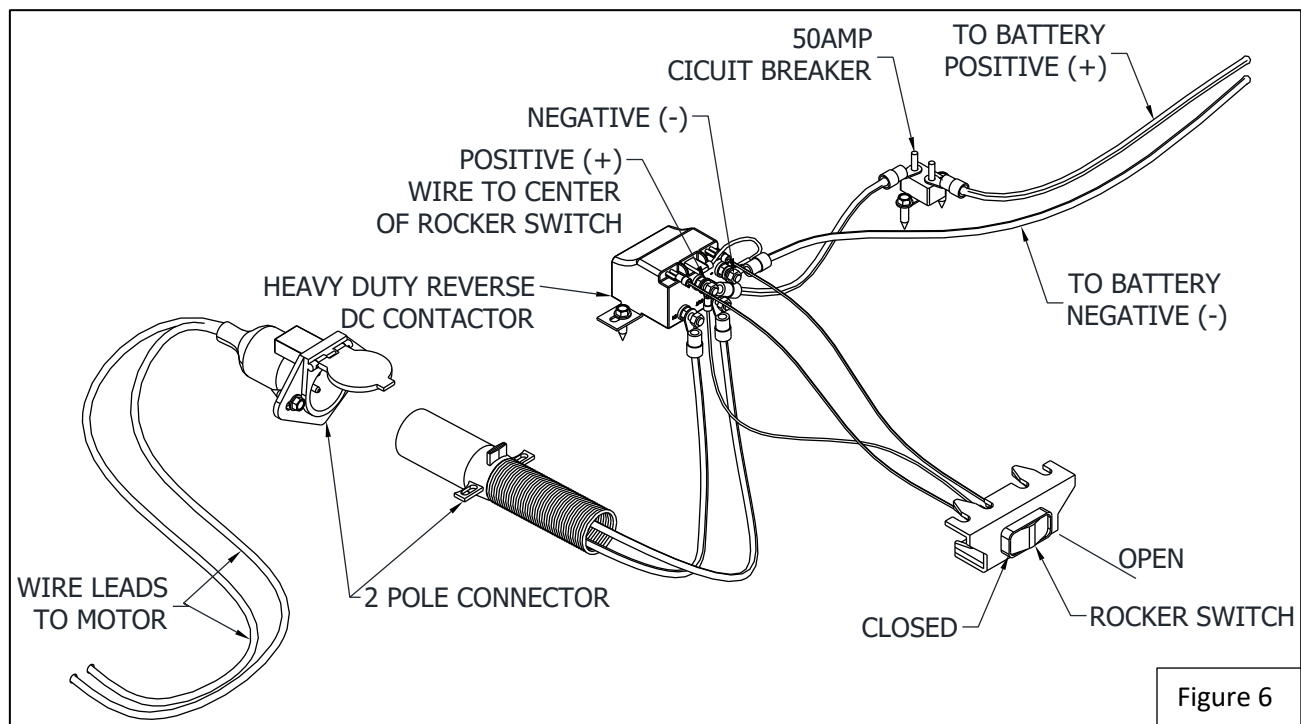
Rocker Switch Electrical Instructions (See figure 6 on page 3)

1. Mount the reverse DC contactor in the battery box or on the frame near the cab and battery.
2. Mount the 50amp circuit breaker near the DC contactor.
3. Connect the double strand wire from the battery to the contactor, connecting the circuit breaker into the positive wire between the contactor and the battery.
4. At the DC contactor, Slide a red rubber boot onto the positive wire and a black rubber boot onto the negative wire. Then crimp two blue #6-1/4" ring terminal to the ends. The wire with the red stripe will be the positive wire and will get bolted on the positive post marked (+) along with the black 14Ga wire

that will be running from the switch. The black negative wire will be bolted onto the bottom negative post (-).

5. Mount the rocker switch in an obstruction free area inside of the truck cab. Route the 14-3 wire from the rocker switch to the solenoid. At the switch end crimp the supplies 14ga female ends onto the wires. The center wire on the switch will be the (+) positive post. The outside wires are the open and closed control wires. At the contactor end use two more 14ga female spade ends and one 14ga-1/4" ring terminal. Connect the ring terminal to the positive (+) post on the contactor and the other two wires to the male spade terminals. If the tarp system runs backwards reverse the two outside wires on the switch.
6. Run a #6 wire from the contactor to the male 2 pole connector at the front of the trailer. The ends at the solenoid both get a black rubber boot and a #6-1/4" stud crimped on. Connect the wires to the bottom posts on the solenoid.

Note: Repeat this installation with another reverse DC contactor and rocker switch if connecting a rear Super-B trailer. A second 2 pole connector and wire must be installed and run along the frame of the lead trailer for the rear trailer. The installation on the rear trailer is then the same as the lead.



Option B: Wireless Remote Electrical Instructions

If the electric tarp is being installed with Chute Openers, you will share the same 2 Pole Connector and only run #6 wire to the wireless tarp box.

Truck Mounting Electrical Wireless Remote Trailer Installation (see figure 7 on page 5)

1. Run the #6 double strand wire from the battery to the circuit breaker to the battery disconnect to the trailer.
2. Cut the positive wire 6" back from the battery end and crimp a #6 x #10 ring terminal on each end and bolt circuit breaker inline. Mount the 50amp circuit breaker in the battery box near the battery.
3. Find a mounting spot for the power disconnect in either the bunk storage compartment or in the cab of the truck that is easily accessible and will be in a locked area to prevent tampering with. To install the wires to the switch, it cannot be secured yet.

4. Run a strand of wire from the circuit breaker to the power disconnect switch. There is (2) smaller grommets that can be used to seal the wire off when going into the cab. You will have to split the double strand wire to fit through it. To use the grommets you will need to drill a 11/16" hole.
5. At the switch solder (2) 3/8" solder lugs to the wire and apply the supplied heat shrink over the soldered connections.
6. Secure the wires to the switch and secure the switch to the truck with the (4) #8 x 1-1/2" sheet metal screws. Ensure you are not drilling into any electrical or to an outside wall since the screws will stick through.
7. At the trailer solder and heat shrink the wires into the male 2 pole connector. Make sure the red wire is connected to the positive side of the 2 pole connector.

Lead B-Train /Single Trailer Wireless Remote Trailer Installation

1. Mounting the wireless T210 plastic remote box on the front of the trailer.
 - a. Open End Trailer – Use the Remote Box Mount to secure the Remote Box to the trailer. Screw the flange to the tubing on the front of the trailer using the 3/8" self-tapping screws.
 - b. Closed End Trailer – Use the Remote Box Mount to trace the hole pattern including the two large 1-1/16" holes in the middle of the mount onto the trailer where the T210 remote box will be mounted. Drill out each hole on the trailer. Install the supplied grommets to protect the wires
2. Drill a 2" hole through the front of the trailer for the female 2-pole connector.
3. Run a #6 double strand wire from the female 2 pole connector to the T210 Remote Box.
4. At the female 2 pole connector, solder and heat shrink the wires. Make sure the red wire is connected to the positive side of the 2 pole connector.
5. Insert the rubber grommets to the holes in the trailer or the mounting bracket (whichever applies).
6. String the wires through the rubber gasket and the bottom hole drilled in the trailer or through the bottom hole in the mounting bracket (whichever applies). Then solder a #6-1/4" ring terminal to the ends then use heat shrink to insulate the ends. The red wire will be the positive wire and will get bolted on the positive post marked (+) and the black wire to the (-) negative post. Run the wires along the wall of the inner plastic bracket of the T210 Remote Box. See Diagram.
7. Run #6 wire from the remote box to the motor. On a Closed End Trailer another hole will be drilled near the pivot point. Make sure to use another grommet in the hole. Leave a little slack at the pivot point and then secure the wire to the top tubing on the electric bracket with the supplied plastic ties. Insert the wire through the grommet on the motor plate. Solder #6 – 1/4" ends to the wire, then insulate with heat shrink and connect to the motor. After the wiring is connected, secure the cover plate to the motor with the provided screws.
8. String the wire through the rubber gasket, and then top hole drilled in the trailer or the top hole of the mounting bracket (whichever applies). Solder #6-1/4" ring terminals on both ends of the wire, then insulate with heat shrink. Attach them to the solenoid according to the diagram. Keep these wires together and to the middle of the inner plastic bracket of the T210 Remote Box. See diagram. ***NOTE: The top hole is for the motor wire and the bottom hole is for the battery wire.***
9. Place the plastic T210 Remote Box tight against the mounting plate or the trailer and remove any slack wire between them.
10. Apply power and use the open and close buttons to move the motor. If the motor is turning the wrong way there is a way to correct the direction with the remote. See section 4.2.2 of the R200 remote manual.
11. If the motor moves in both directions, attach the T210 box to bracket with the bottom two bolts only for now. Remove wire slack and silicone the wire into the grommets
12. Bolt the plastic T210 Remote Box and the supplied rubber gasket to the mounting bracket or directly to the trailer (whichever applies) using the Robertson button head bolts and the 1/4" nylon jam nuts. If you are using the mounting plate, secure the back cover along with the plastic T210 box to aluminum plate. The cover will protect the back of the wiring coming out of the mounting plate.

Rear B-Train Wireless Remote instructions

1. The female two pole connector on the lead trailer is shared by the lead and rear trailer.
2. In Step #4 above solder two #6 wires into each connector at the two pole connector. Run one #6 wire from the two pole plug on the lead trailer to the rear trailer two pole connector and another #6 wire to the lead remote box.
3. Wire the rear trailer the same as the above instructions for a single trailer.

3 Ton Truck Wireless Remote instructions

1. The instructions for a 3 Ton Truck are similar to the instruction for a single trailer Wireless Remote, with one exception.
 - a. Exclude the two pole connector. Run the power wires direct from the battery, circuit breaker and battery disconnect to the wireless remote box. The wires will run down the frame of the truck to the pivot point and then back up the frame of the box, to the wireless remote box.

Trailer Mounted Wireless Remote Diagram

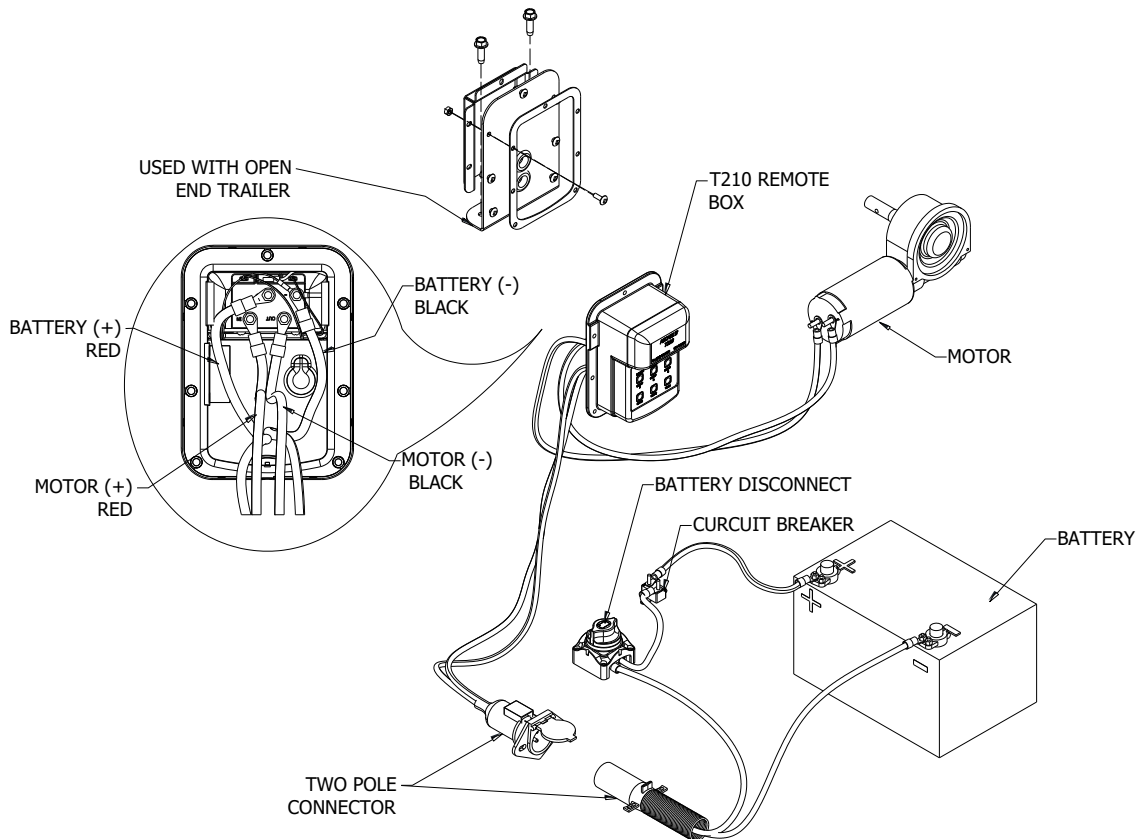


Figure 7

Note: If wiring is hooked up incorrectly it will void your warranty.

****** DO NOT OPERATE WHILE MOVING AND ALWAYS DISCONNECT POWER TO BOXES WHEN DRIVING ******

*****For Remote Operation and Programming functions refer to the Remote Instruction Manual*****

***** If the electric tarp is being installed with Chute Openers, you will share the same 2 Pole Connector and only run #6 wire to the wireless tarp box *******

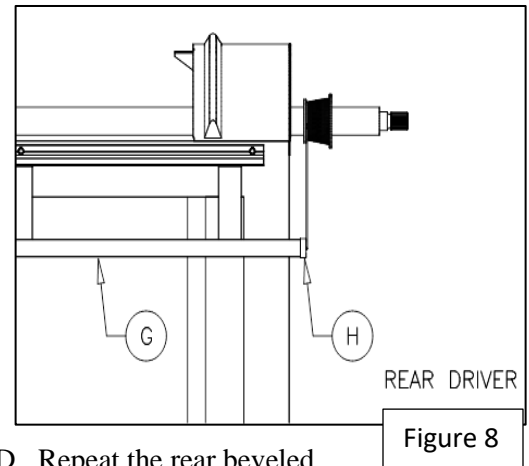
Beveled Cable Pulley Tension Control Adjustment:

Note: To keep the tarp system rolling evenly it is necessary to use the beveled cable pulleys to keep tension on opposite end of the roll tube as the motor.

Installing cable onto rear beveled pulley: Pull the cable from the rear holdback system (G) (see Figure 8) towards the rear beveled pulley stamped FRONT REVERSE. Insert cable end into the pulley slot and rotate the beveled pulley 1-3/4 turns for a 8-1/2ft trailer or 2-1/4 turns a 8ft trailer. Rotate the pulley from the underside of it on the large diameter. Properly position the beveled pulley on the roll tube so that the nylon cable insert (H) on the holdback lines up with the small diameter on the pulley (see Figure 8). Tighten the 1/4"x3/8" set screws to hold the pulley in place.

Installing cable onto front beveled pulley: Pull the cable from the front holdback system towards the front beveled pulley stamped FRONT STANDARD. Repeat the rear beveled pulley procedure. Roll the tarp open and closed several times checking each time to make sure that the cable follows in the pulley grooves and the tarp rolls evenly. If the cable does not follow in the grooves, move the beveled pulley in or out until the correct position is achieved. If the tarp does not roll evenly, roll the tarp to the open position; loosen the 1/4"x3/8" set screws in the front and rear pulleys and increase the wrap. This will increase the tension. Do not allow the pulley to have less than one complete wrap of cable when the tarp is in the open position.

Note: The front beveled pulley (O) must never ride on the front hood.

**Optional Manual Override**

Step 1: Remove the motor cover and disconnect the motor from the power supply.

Step 2: Remove the plastic cap covering the manual input shaft. **Do not use the manual override when the motor is running or the motor is connected to the power supply.**

Step 3: Using a 1/2in socket and a speed ratchet or impact driver, simply slide onto the manual input shaft and drive the gearbox as needed. Keep in mind that 90 revolutions of input will result in one revolution of output.

Step 4: Remove the driver and re-install the plastic cap.

Warranty: Michel's Industries LTD. offers a one year warranty from the date of purchase. Any parts returned to Michel's Industries LTD. will be shipped prepaid and will be returned F.O.B. St.Gregor, Sk. Canada. Michel's Industries LTD. will not assume responsibility for shipping, labor or travel expenses.

Please Note: We reserve the right to make improvements; therefore specifications are subject to change without notice.

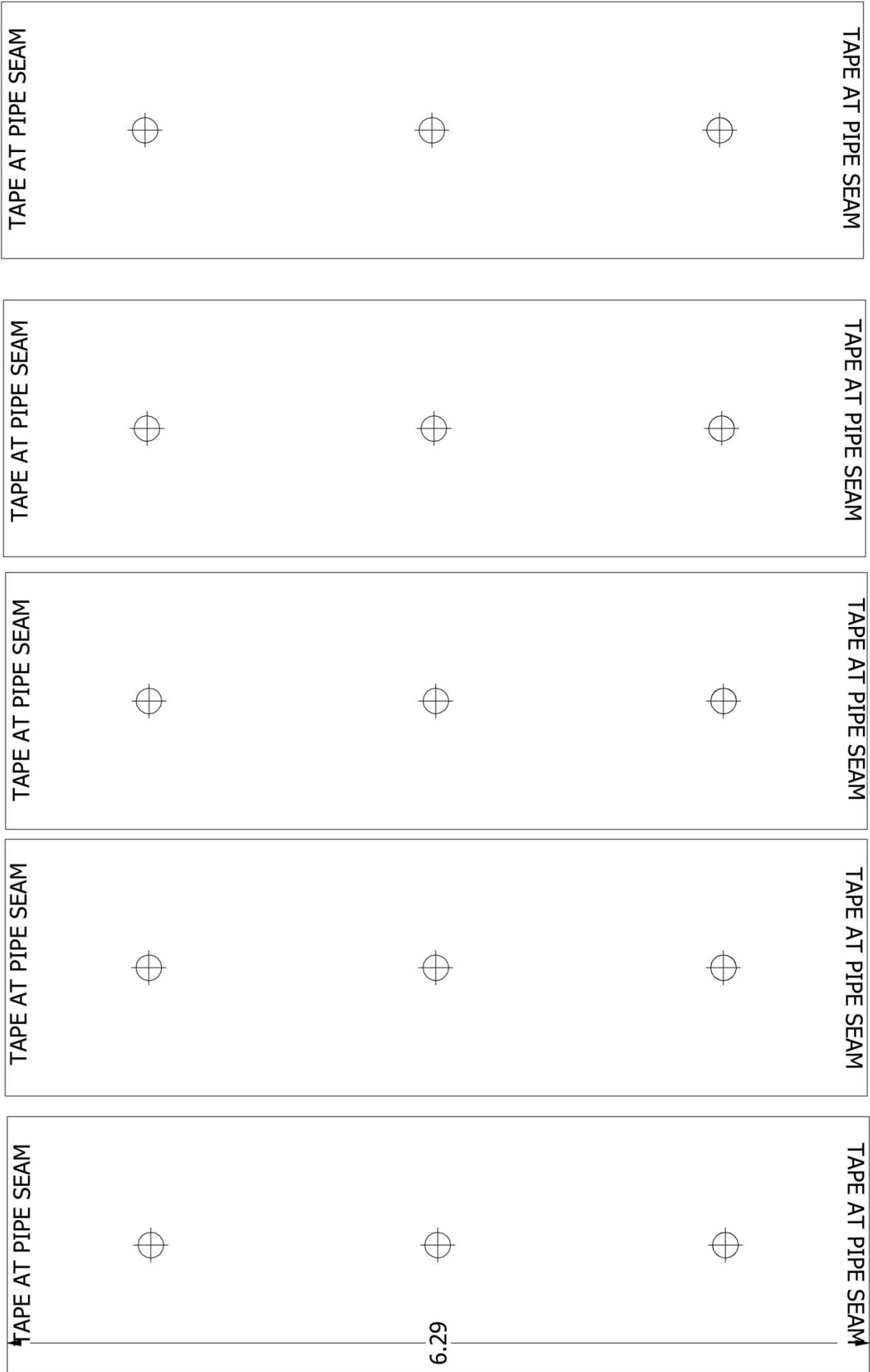
FOR INSTALLATION ASSISTANCE PLEASE CALL (306) 366-2184

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