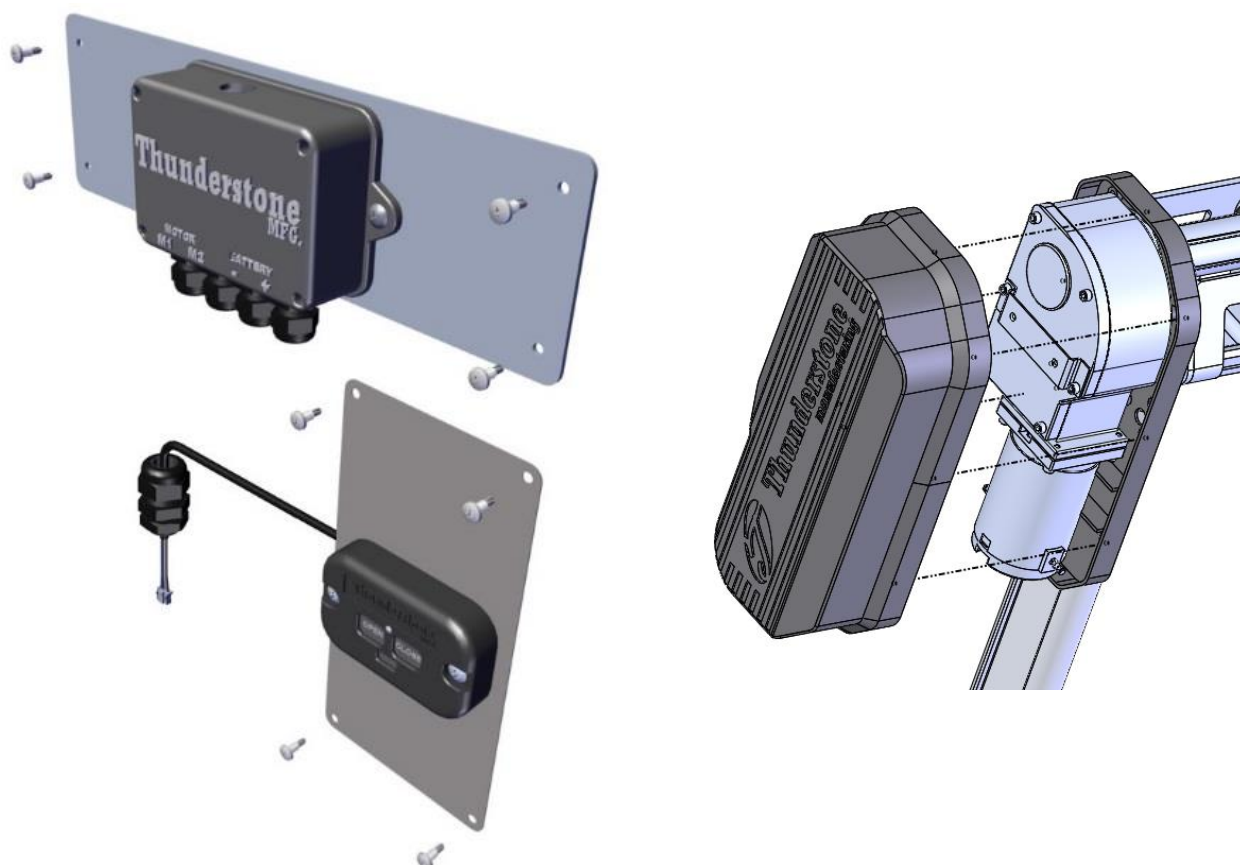




THUNDER 7000

POWER TARP SYSTEM



5000 TO 7000 SERIES SYSTEM CONVERSION

**Part # 103977
INSTALLATION**



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PURPOSE:

This kit is used to replace a failed Thunder 5000 Series control box. This system will replace the old-style control box with an external keypad and control box mounted in the nose of the trailer with 7000 controls and tarp motor.

Tools Needed:	
• 17/64" Drill Bit	• Wire Strippers
• 11/32" Drill Bit	• 3/8" Torx Driver
• Drill	• 5/32" Hex Wrench
• Phillips Screwdriver	• ¼" Wrench
• Heavy Gauge Wire Cutters	• 1" Wrench

REMOVE THE EXISTING CONTROL BOX

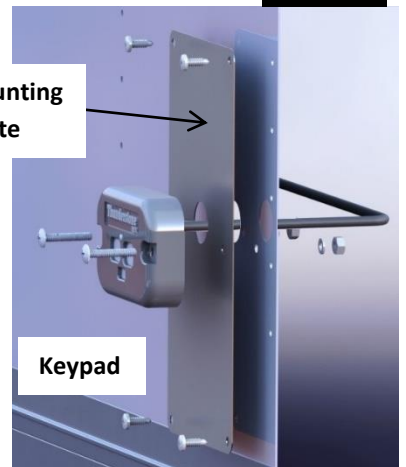
1. **Disconnect the power cord from the 2-pole trailer connector.**
2. Remove the three fasteners holding the old control box to the nose of the trailer.
3. Cut the 4 wires coming out of the bottom of the control box with heavy gauge wire cutters.
4. Pull the 4 wires back into the nose of the trailer for wiring the new control box.
5. Remove the old rubber grommet.
6. Discard the old control box.

MOUNTING THE RF KEYPAD AND SPLASH GUARD

1. Place the stainless-steel mounting plate on the nose of the trailer matching the old 1-¼" wire hole with the hole in the mounting plate.
2. Use four #10 x ¾" self-drilling screws to attach the plate to the nose of the trailer. (See figure 2.2)
3. Drill two 17/64" holes into the nose of the trailer for the keypad using the predrilled mounting plate as a template.
4. Insert the keypad communications cable and plug through the hole of the new splash guard enclosure and back through the hole on the trailer.
5. Insert the two Phillips screws through the keypad and splash guard's mounting holes into the trailer and tighten the fastening nuts from the inside.
6. Carefully push the communications cable plug back through the strain relief nut and reinstall into the inner control box in reverse order as stated above.
7. Make sure that all fasteners are tight.

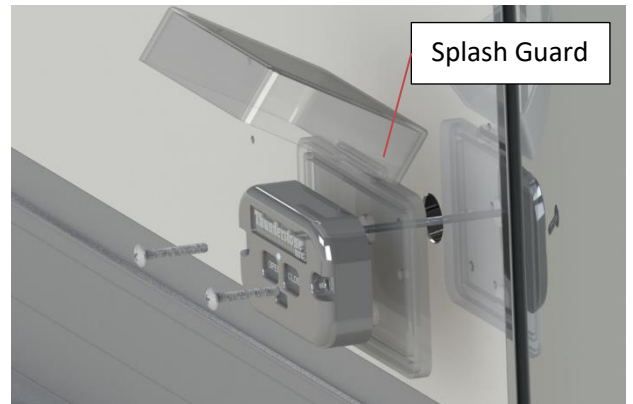
Fig. 2.2

SS Mounting
Plate



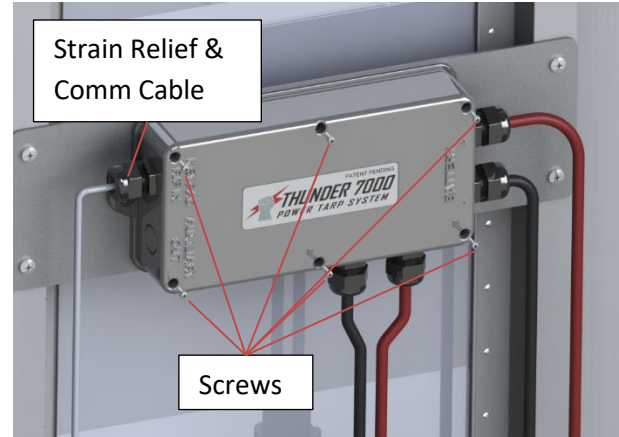
Keypad

Splash Guard



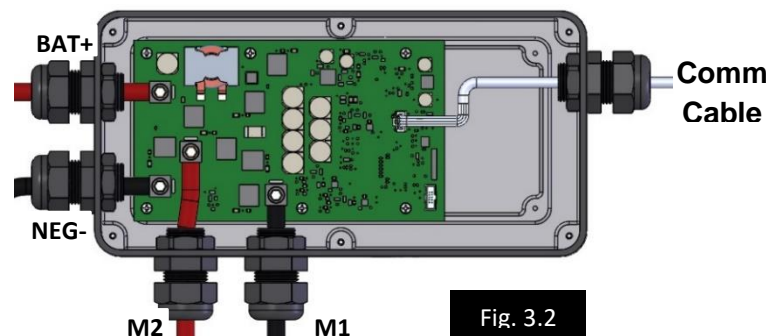
MOUNTING THE CONTROL BOX

1. Chose a location inside the nose of the trailer between two Z-posts above the power receptacle so that all wires can reach the junction box. (See figure 3.1)
2. If not already, attach the control box lid to the mounting plate using two ¼"-20 x 1 ½" Phillips pan head screws, the ¼" lock washers, and ¼"-20 nuts.
3. Clamp the mounting plate to the Z-posts using vice grip pliers or C-clamps to hold in place.
4. Use four #10 x ¾" self-tapping screws to attach the mounting plate to the Z-posts using the predrilled hole in the plate as a guide.
5. Make sure that all fasteners are tightened.



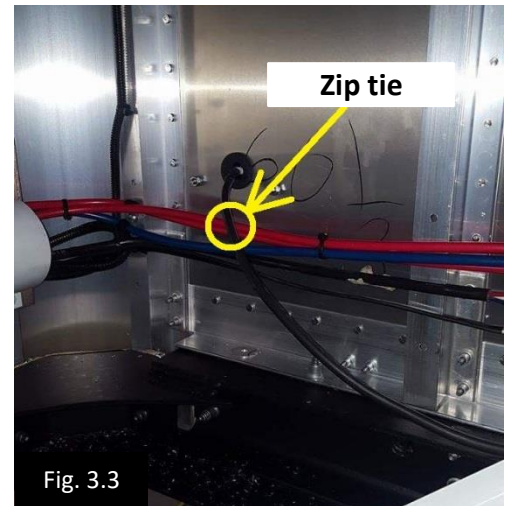
WIRING THE CONTROL BOX

1. Cut off the proper length of motor & power wires to be used with the new control box location.
2. Strip back ½" of insulation off the motor & power wires.



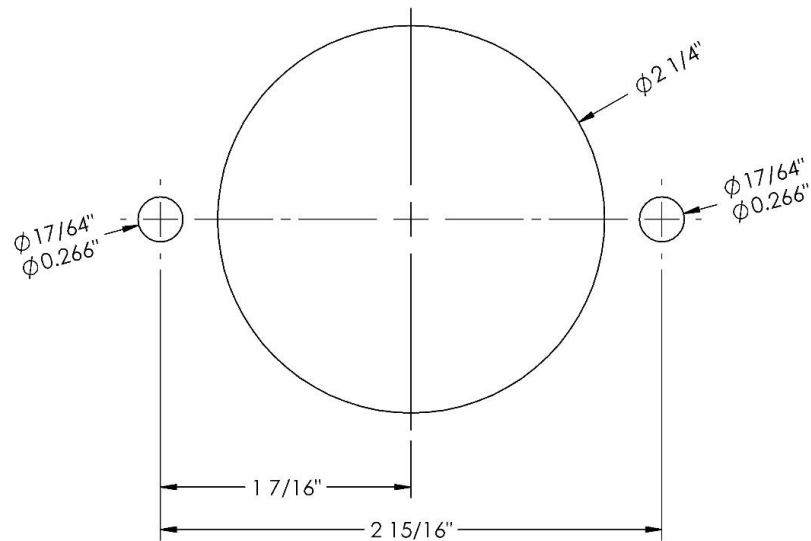
3. Insert the power and motor wires through the appropriate compression fittings on the bottom and side of the control box. (See figure 3.2)
4. Push the stripped wires into the appropriate wire lugs and secure them with a 5/32" hex wrench.
5. Tighten each compression fitting with a 1" end wrench to hold the wires in place and to keep out dirt and moisture.
6. Plug the communications cable from keypad into the control board connector.
7. Tighten the compression fitting nut into the control box with a 1" end wrench to keep out dirt and moisture.

8. Remove any existing wire guarding and use zip ties to fasten the communications cable to the airline (or equivalent) below the keypad in the nose of the trailer. (See figure 3.3)
9. Re-install the wire guarding with the communications cable routed behind for protection.
10. Reconnect the power cord to the 2-pole trailer connector.
11. Power up and operate the system in both directions to make sure that the motor wires are connected correctly.
12. If the system runs backwards, disconnect the power cord from the 2-pole trailer connector, switch the M1 and M2 wires and try operating again.
13. When everything is operating correctly, attach the control box lid to the base using the supplied #4 x 3/8" Torx head screws.

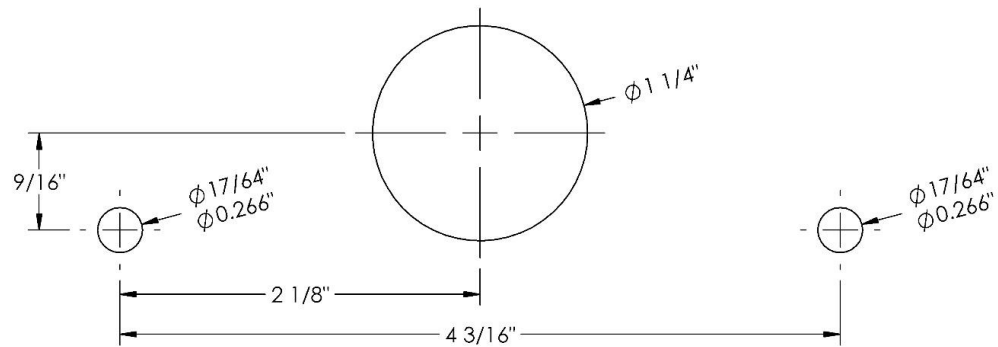


HOLE PATTERNS

ELECTRICAL PLUG



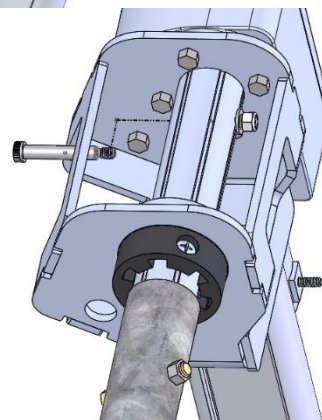
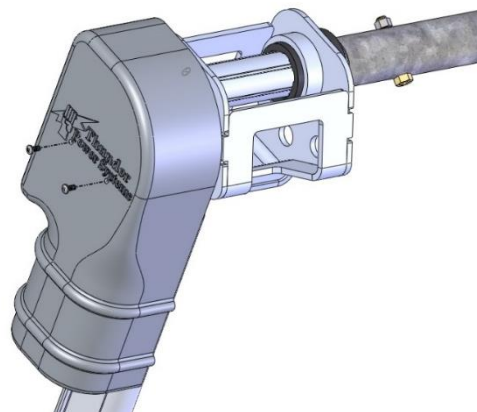
CONTROL BOX



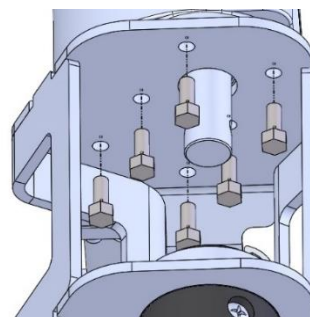
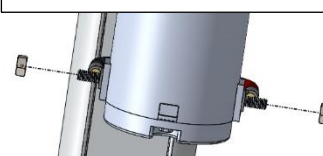
MOTOR REPLACEMENT STEPS

REMOVAL:

- Remove the existing motor cover by unscrewing the 2 Phillips screws holding it to the motor and discard.
- Remove and retain the bolt holding the motor to the roll tube adaptor.
- Disconnect both electrical connections from the motor. Remove the terminal nuts.
- Remove and retain the 6 bolts holding the motor to the head assembly and remove the motor from the assembly.

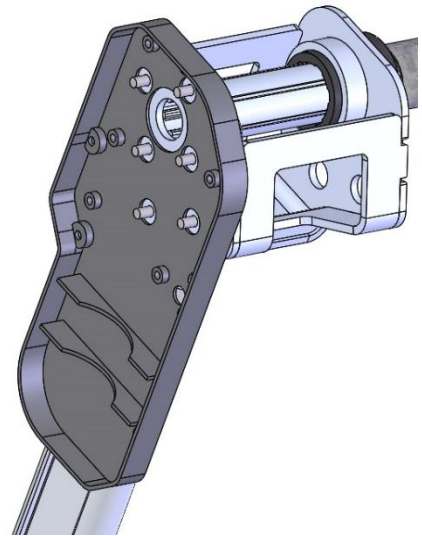


Terminal Studs with Nuts

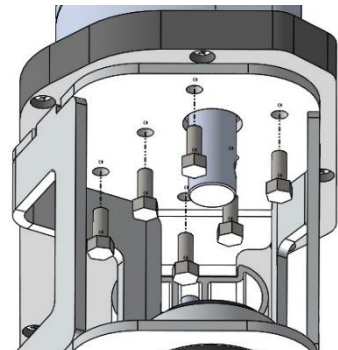


INSTALLATION:

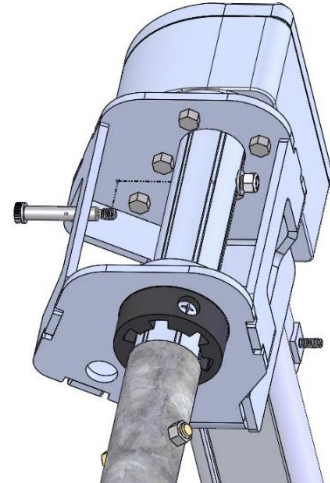
- Align the new bottom piece of the 2-piece motor cover against the motor head assembly matching the motor bolt hole locations. Use template below if replacing old style motor,



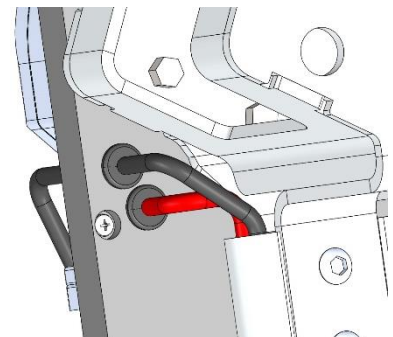
- Re-install the motor with the 6 motor bolts that comes with the motor, using Locktite. Make sure the motor bolts are all tight prior to installation of the roll-tube adaptor.



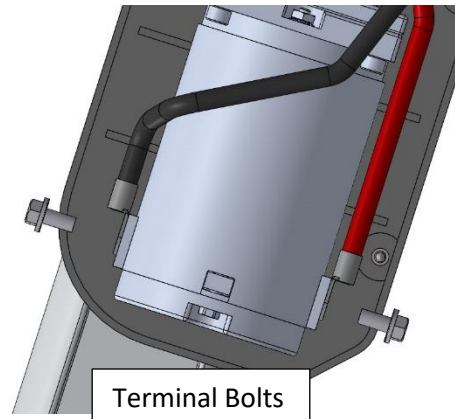
- Re-install the bolt connecting the motor to the roll-tube adaptor. Be sure it is fully tightened prior to running the motor after the motor cover installation.



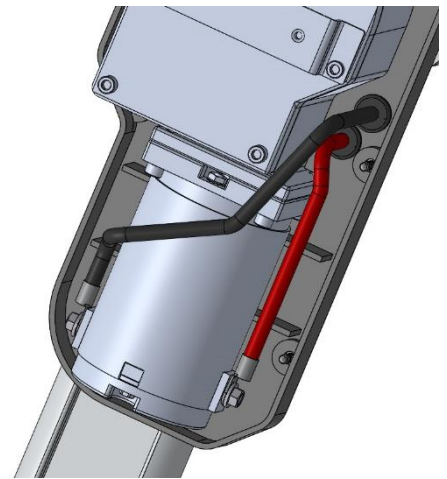
- Pull the motor wires through the rubber grommets on the bottom half of the new motor cover. Black through the top hole and red through the bottom hole. Slack may need to be adjusted throughout the arm assembly to reach the motor terminals.



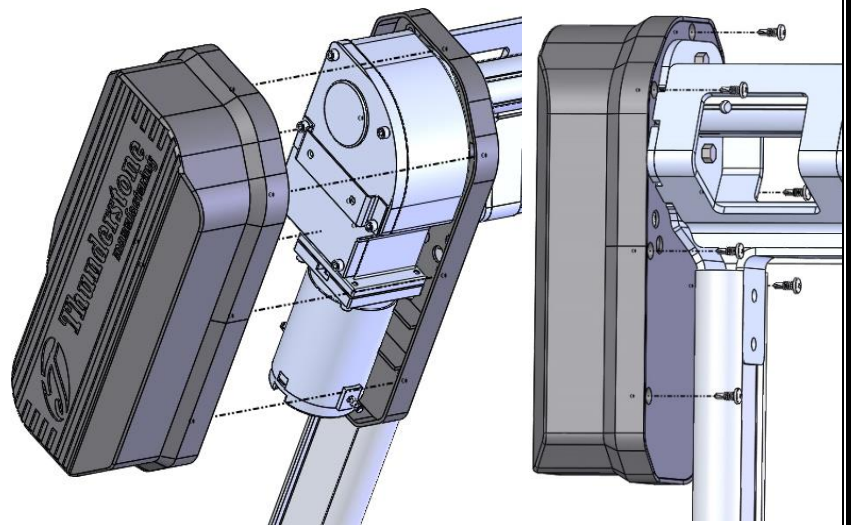
- Re-connect the electrical connections to the motor. Red + positive wire to the M2 motor terminal and Black – Negative wire to the M1 motor terminal. Apply di-electric grease to the terminal studs or terminal bolts depending on the style of motor. Apply di-electric grease to the terminal covers if applicable. Torque terminal bolts to 7-9 lb-ft.



- Make sure to install wires perpendicular to the motor terminals so the wires do not interfere with the installation of the new motor cover.



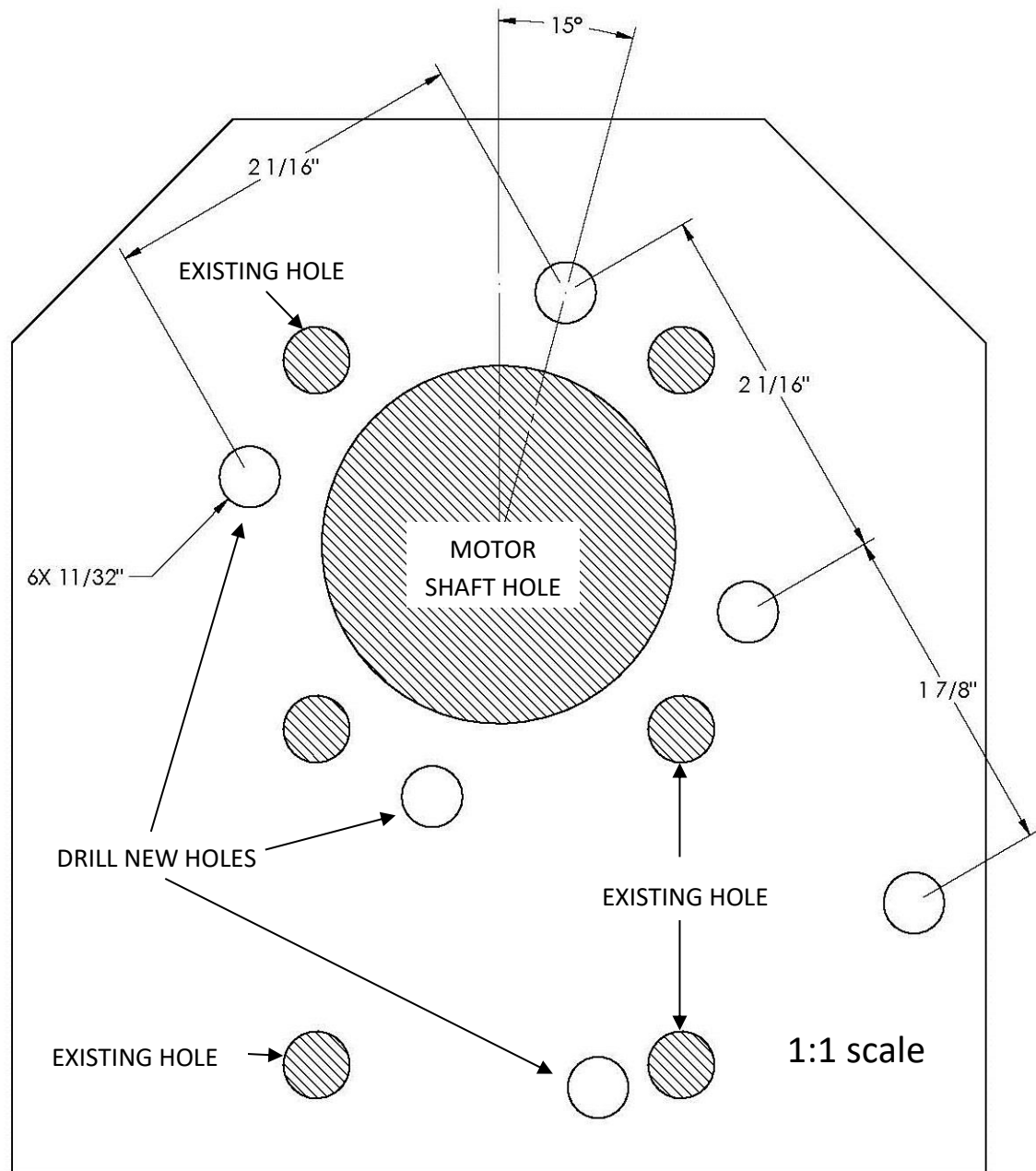
- Install the top half of the motor cover onto the bottom half and fasten with the 6 supplied screws. Do not overtighten.



XR MOTOR INSTALLATION INSTRUCTIONS AND TEMPLATE

1. Use Loctite Med Strength 243 or equivalent on fasteners.
2. Torque the 5/16-18 x $\frac{3}{4}$ " bolts to 13 ft-lbs.

Use the below template to mount the 6000XR motor to an existing 5000 arm



Align the above template on the existing 5000 series arm and drill (6) 11/32" holes for XR motor placement.
This ensures proper alignment of the motor on the arm.

Thunder Electric Tarp System - Remote Programming

1. Ensure the keypad is powered on. The Thunder 7000 keypad will power on by default, but if the keypad is not powered on, press and hold the **"OPEN"** and **"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 the small **Program** & **"OPEN"** buttons until the status light turns green then release the buttons and the status light will flash orange.
4. On the remote, press and hold the **"TARP OPEN"** button until the keypad's 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.

Thunder Electric Tarp System - Remote Operation

Remotely powering the electric tarp system

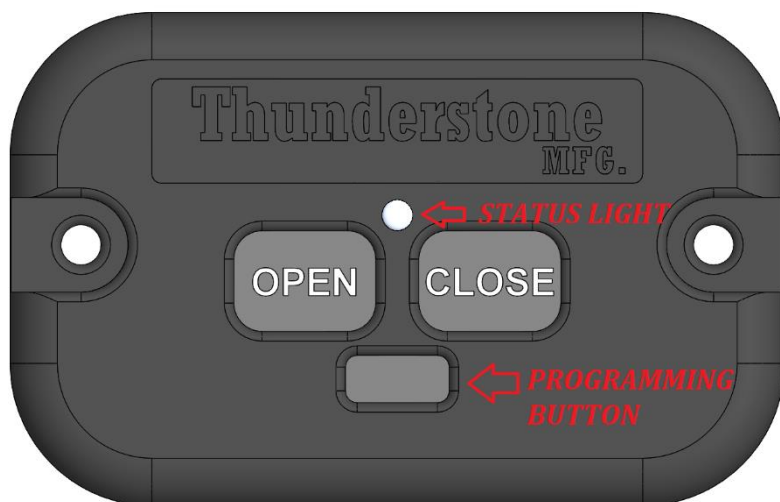
1. Press and hold the remote's **"TARP OPEN"** and **"TARP CLOSE"** buttons for 5 seconds or until the keypad status light is illuminated.
2. To turn off, repeat step 1.

One Touch Operation

The one touch function is fully automated. The system will stop when fully opened or closed.

1. Press the desired directional button on the remote. The keypad status light will start flashing green indicating one touch operation. The tarp will travel in that direction automatically and stop when it is fully open or closed.
2. To stop an ongoing operation press **"TARP OPEN"** or **"TARP CLOSE"** to cancel.

- 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.
- Never travel with the tarp in a partially covered position. The trailer should always be covered when traveling.
- 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.



CONTROL SYSTEM CONVERSION KIT - PART 103977

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
032-44905	WASHER 3/8" FLAT SS	2
032-47918	NUT 1/4"-20 HEX UNC	4
032-48961	SCREW 1/4-20 X 1 1/2" SS	2
032-51281	WASHER 1/4" SPLIT LOCK	4
032-52186	SCREW #12-14 X 3/4" PAN HEAD	6
032-53715	SCREW 1/4-20 X 3/4" SS	2
032-53729	NUT 5/16-18 NYLOCK TOP-LOCK	1
085-58360	PLATE APPEARANCE KEYPAD	1
101007	SCREW #14 X 3/4" PHILLIPS	8
101279	BOLT 14-20 X 1/2" HEX SERRATED	2
101280-03	COVER MOTOR OUTER BLACK	1
101281-03	COVER MOTOR INNER BLACK	1
101816	BOLT 3/8" X 2" SHOULDER	1
102076	BOLT 5/16-18 X 3/4" LOCK	6
102121	KEYPAD INSTALL AFTERMARKET	1
102779	CONTROL BOX W/O MOTOR & POWER WIRES	1
102810	REMOTE TRANSMITTER - STANDARD	1
103009	MOTOR ELECTRIC TARP 2-PIECE	1