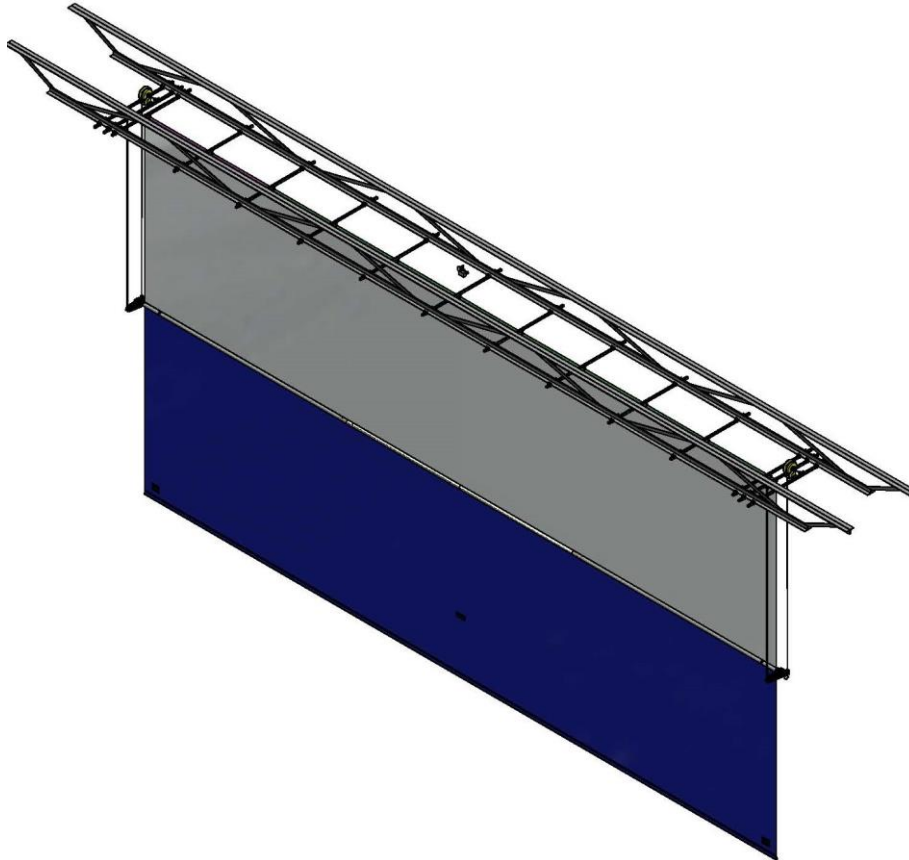




Center Drive Divider Curtain

Models: 4050 (Single Motor) and 4050 (Dual Motor)



Installation, Operation and Maintenance Instructions

.....
Please read all instructions before attempting installation or operation of these units
.....

SAVE THESE INSTRUCTIONS FOR FUTURE USE

Table of Contents

<u>Section</u>	<u>Page No.</u>
Introduction	2
Parts Illustrations	3
Parts Checklist	4
Tools Required	5
Installation Instructions	6
Attaching Curtain Vinyl	7
Installing the top and bottom Batten	8
Raising Curtain to Overhead	10
Installing the Anti-Torque Arm(s)	11
Installing the Drive Motor(s)	14
Securing the Anti-Torque Arm(s)	16
Installing the Cord Reel(s)	16
Connecting the wiring	18
Temporary Wiring	18
Setting Motor Limits	19
Permanent Wiring	22
Wiring Diagram	23
Operation Guidelines	25
Maintenance	27
Product Registration Form	28

Introduction

Thank you for your purchase of a Model 4050 Center Drive Divider Curtain. To ensure that our equipment will provide years of use to you, we are including this installation, operation, and maintenance guide. This guide will provide information on the proper assembly and installation methods, operating procedures, and preventative maintenance of your gymnasium divider curtain.

Please note that a Bill of Materials is being included with this guide. Please check that all of the parts called out on the Bill of Materials are present prior to beginning assembly and setup. Please do not substitute for factory parts. Please contact the customer service department and allow them to determine if substitute parts are acceptable.

It is recommended that an individual who has been properly trained perform assembly and set up of the divider curtain. No one under the age of 18 should attempt assembly or set up of the unit, unless properly supervised.

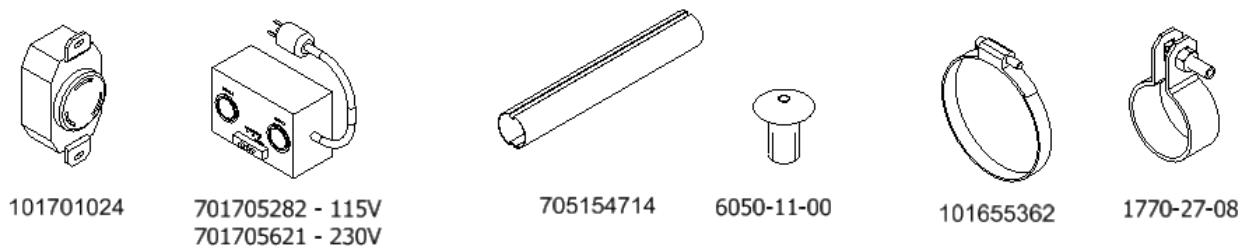
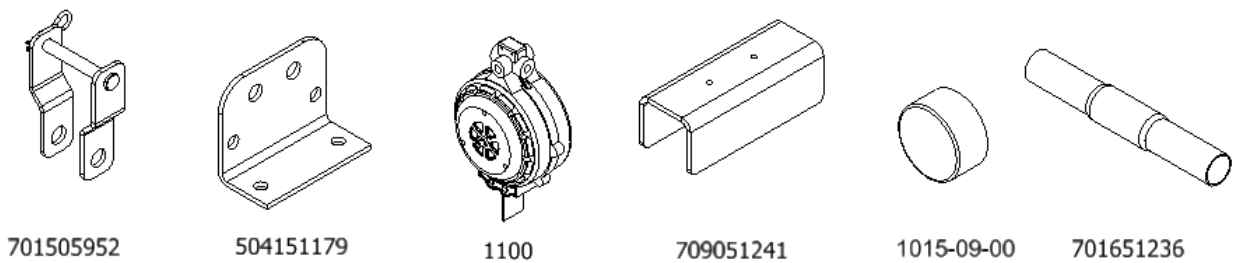
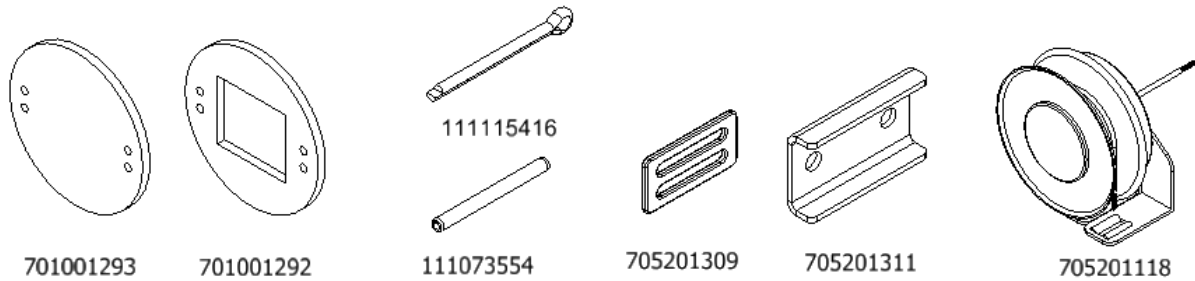
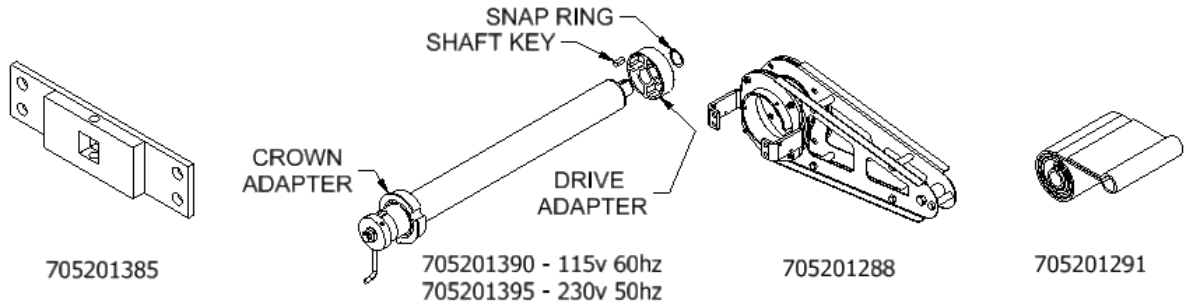
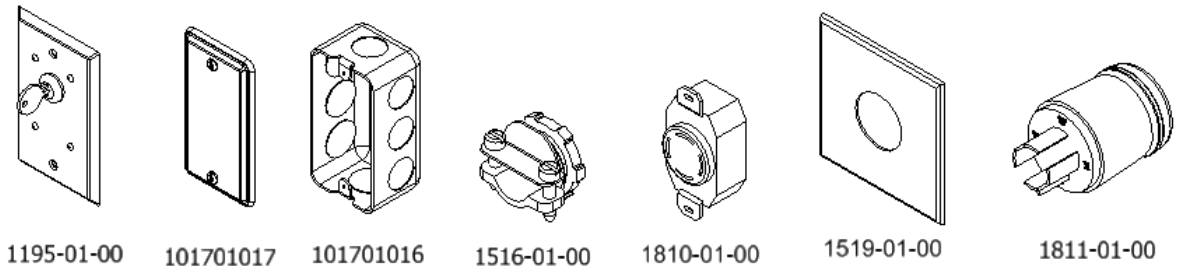
To prevent normal wear and tear from shortening the life of the unit, preventative maintenance inspections and repairs should be performed at least once per year. If the units are subject to high or unusual usage, inspections should be scheduled to occur more frequently. If items are found to be nonconforming, replacements can be ordered from the manufacturer or one of our authorized dealers. When contacting customer service, please have information regarding the dealer/installer who sold the unit, the name of the project, and any applicable warranty information.

Please note that the manufacturer assumes no responsibility for the building structure to support our products. We believe it is the responsibility of the building designers to determine the correct structure to support our products. We will provide the project structural engineer with all the required weight and loading information for the specific project in order for them to calculate the appropriate structure.

Before proceeding with assembly, read all instructions and assembly procedures. Make sure all parts have been received and are not damaged. Verify all parts listed on packing list are present prior to installation. Contact the customer service department for assistance with replacement of any parts missing or damaged.

Read and understand the following warnings to prevent possible personal injury and potential damage to the equipment during assembly, setup, and operation.

Parts Illustrations



Parts Checklist

Item	Part number	Description	Qty	
			Single Motor	Dual Motor
1	1195-01-00	KEYSWITCH ON COVER FOR 1194	1	1
2	1519-01-00	4" SQR COVER F/RECPT 1-19/32" DIA.	1	1
3	1811-01-00	LOCKING PLUG (MALE) - 4 BLADE	1	2
4	701705282	MOTOR SYNCHRONIZER, 115V	N/R	1
	701705621	MOTOR SYNCHRONIZER, 230V		
5	701001292	WEIGHT PLATE, CD TORQUE ARM INNER	2	-
6	701001293	WEIGHT PLATE, CD TORQUE ARM OUTER	3	-
7	705201390	TUBULAR MOTOR - 120V 60HZ	1	2
	705201395	TUBULAR MOTOR - 230V 50 HZ		
8	705201291	BELT, TORQUE ARM	1	2
9	705201385	MOTOR RETAINER PLATE	1	2
10	705201288	ANTI-TORQUE ARM ASSEMBLY	1	2
11	705201118	CABLE REEL – CENTER DRIVE CURTAIN	1	2
12	705201119	PLATE, CABLE REEL MOUNT	1	2
13	111073554	SPRING PIN, 1/4 X 2-3/4	1	2
14	502-5-18-44	HEX BOLT, 5/16-18 UNC X 2.75	4	-
15	544-5-18	HEX JAM NUT, NYLON LOCK 5/16-18	4	-
16	101655362	HOSE CLAMP 3" TO 5" DIA.	2	2
17	101701016	JUNCTION BOX 2" X 4" X 1.75"	1	2
18	101701017	JUNCTION BOX COVER 2" X 4"	1	2
19	1516-01-00	ROMEX CONNECTOR, 3/8"	2	4
20	234-10-24-8Z	SCREW, MACH PAN HEAD PHILLIPS 10-24 X 1/2"	2	4
21	255-10-24	#10-24 HEX NYLON LOCK NUT	2	4
22	1015-09-00	PLASTIC CAP FOR 1.9" DIA. PIPE	4	4
23	286-14-12	SCREW, TAP,PAN HD PH,1/4-14 X 0.75	6	12
24	705201309	BELT SLIDE ADJUSTER	1	2
25	705201311	PLATE, BELT CLAMP	2	4
26	502-6-16-12Z	HEX BOLT, 3/8-16 UNC X 0.75	2	4
27	6050-11-00	3/16" X 3/16" DRIVE RIVET	See Packing List	
28	705154626	4" ROLLER TUBE FOR CENTER DRIVE CURTAINS	See Packing List	
29	705154714	SPLICE TUBE FOR TOP-ROLL CURTAIN	See Packing List	
30	1900-04-00	TUBE, RND,1.9 OD X 0.083WALL HREW KK	See Packing List	
31	701651236	SLEEVE, DBL CRIMPED 4" LG (1.9 TUBE)	See Packing List	
32	709051241	CHANNEL, BATTEN DRILL TOOL	1	
33	502-5-18-12Z	BOLT, HEX HEAD 5/16"-18 X 3/4"	See Packing List	
34	502-6-16-16	BOLT, HEX HEAD 3/8"-16 X 1"	See Packing List	
35	502-6-16-20	BOLT, HEX HEAD 3/8" X 1-1/4"	See Packing List	
36	541-6-16	NUT, HEX 3/8" FULL FINISH	See Packing List	
37	548-5-18Z	NUT, WHIZLOCK 5/16"	See Packing List	
38	548-6-16	NUT, WHIZLOCK 3/8"	See Packing List	
39	504151179	BRACKET, SAFSTOP WALL MOUNT	2	4
40	1100	SAFESTOP SAFETY LOCKING STRAP	1	2
41	502-6-16-24	HEX BOLT, 3/8-16 UNC X 1.5	4	8
42	562-6	SPLIT LOCK WASHER 3/8	8	16
43	701505952	SAFE STRAP BRACKET ASSEMBLY - 4050TA	1	2
44	111115416	COTTER PIN, 5/32" X 3"	1	2
100	701751310	INSTRUCTIONS, 4050 TA CENTER DRIVE	1	1

IMPORTANT: Check packing list supplied with the product. Some parts required to attach the curtain to the overhead structure may not be listed in the above table because the connections are job dependent and only listed on the packing list for the job.

INSTALLATION

Tools Required:

- Hammer
- 3/8" Hand Drill
- Drill Bits – 3/16" and 1/2" with 3/8" Shank
- 3/8" Ratchet Wrench with 1/2" and 9/16" Sockets
- 1/2" Ratchet Wrench with 9/16", 5/8", 11/16" and 3/4" Sockets
- Wrenches – 3/8", 1/2", 9/16", 5/8", 11/16" and 3/4"
- 3/16" Allen Wrench
- Snap ring pliers
- Test Pendant for Electric Hoist (Gared / PSS part # 859052392)
- 4" C-Clamps (2)
- 4' Level
- File (half round)
- 25' Tape Measure
- Cable Cutters
- Utility Knives
- Wire Stripper
- Small Screwdriver
- Ratcheting Pulleys (3-5 depending on length of curtain)
- 75' Ropes (3-5 depending on length of curtain)
- 100' 14-4 Wire (depending on length of curtain)
- Wire Nuts
- Duct Tape
- Block of Wood (for tapping)
- Broom
- Shop Vac
- Protective Covering for Floor

IMPORTANT: A minimum of three people (more, depending on size of curtain) is recommended to be available to assist with the installation.

RECOMMENDED BOLT TORQUE				
Bolt Size	Wrench Size	In-Lbs	Ft-Lbs	Nm
1/4"	7/16"	66 to 90	5.5 to 7.5	8 to 10
5/16"	1/2"	132 to 180	11 to 15	15 to 20
3/8"	9/16"	234 to 318	19.5 to 26.5	27 to 36
7/16"	11/16"		31 to 42.5	43 to 58
1/2"	3/4"		47 to 65	64 to 88
9/16"	7/8"		68 to 90	93 to 122
5/8"	15/16"		94 to 130	128 to 176
3/4"	1-1/8"		166 to 230	226 to 312
7/8"	1-5/16"		269 to 372	365 to 504
1"	1-1/2"		402 to 566	546 to 767

IMPORTANT: Locate, identify and count all parts before starting the installation to ensure that all are correct and correspond to the packing list/production drawings. Also review production drawings to ensure that building conditions have not changed since the initial field check. Verify overall height and width noted on drawings.

INSTALLATION INSTRUCTIONS

Installation Steps:

1. Site preparation
2. Install overhead support hangers
3. Assemble aluminum drive tube
4. Install curtain fabric onto aluminum drive tube
5. Install top and bottom batten pipes in curtain fabric
6. Raise assembled curtain to overhead and connect to support hangers
7. Allow curtain to hang fully extended and adjust height off finished floor
8. Install the anti-torque arm(s)
9. Connect anti-torque arm belt
10. Install motors
11. Secure anti-torque arm bearings to aluminum drive tube
12. Install cord reel(s) to overhead structure
13. Install the SafStop(s) safety straps
14. Connect wiring.
15. Set motor limit switches
16. Checking the limit positions
17. Adjust arm belting-making sure belt is plumb and centered in the Torque Arm assembly.
18. Clean worksite

Step 1 – Site Preparation:

Finished floor and curtain are easily damaged; therefore care should be taken to protect both. Make sure area is clean and free of debris. Sweep floor before laying protective covering. Protective covering should be at minimum the length and width of curtain. Have shop vacuum handy to sweep up any debris or metal shavings during installation.

Step 2 – Installing Overhead Support Hangers

Because the overhead structure will vary per project, the installation configuration, dimensions, and details are reflected in the production drawing package shipped with the product. Refer to the production drawings for specifics on your particular installation.

It is important to remember that the divider curtain will not roll correctly if the overhead connections are not installed level and in line. Make sure to follow the directions in the production drawing package for installing these connections to provide a level and aligned attachment for the curtain fabric.

Step 3 – Assemble Aluminum Drive Tube

Make sure floor area is clean and free of debris. Sweep if necessary, and lay protective covering before unfolding curtain vinyl.

1. Lay drive tube on the floor aligned with the overhead structure if possible.. Locate the lengths of drive tube according to the installation print provided with the shipment. (Depending on the overhead structure, drive tube may be longer on one or both ends, and center splice may not fall at center of curtain.)
2. Install the splices (item 29) at each joint of the drive tube. See figure 1.

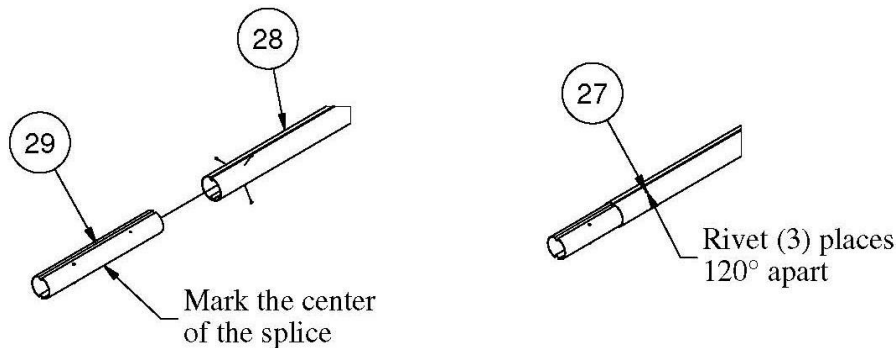


Figure 1

Refer to Figure 1 for the following step

3. Mark center of splice and insert into drive tube. Using a 3/16" drill bit, drill three equally spaced holes through drive tube and splice. Insert rivets (item 27) and tap into place. To avoid damage to vinyl or mesh, be sure to sweep up all metal shavings left from drilling.
4. Continue process until drive tube has been completely assembled.

Step 4 – Install Curtain Fabric onto Aluminum Drive Tube

1. Lay out the vinyl and mesh panels.
2. The curtain vinyl and mesh panels have been manufactured to include a nylon cord sewn into the upper pocket. This nylon cord is used secure the panels to the aluminum drive tube.
3. Slide the vinyl panel onto one end of the assembled drive tube. A pull loop has been provided on one end of the vinyl to allow for easier insertion into the drive tube. Align the vinyl cord and sewn top pocket into one groove of the drive tube and pull the vinyl along the length of the drive tube. Continue to pull the vinyl until the vinyl panel is centered on the length of the drive tube.
4. Repeat this process with the mesh panel in the opposite groove on the aluminum drive tube.
5. Once the curtain vinyl and mesh panels are installed onto the full length of the drive tube and centered on the drive tube, attach a band clamp to the tail of the vinyl strips on the opposite end from the pull loops. Securely tighten this clamp to hold the vinyl and mesh in position on the tube.

Important: Before tightening the band clamp (item 16), make sure the edge of the vinyl panel is in line with the edge of the mesh panel. Make sure the vinyl strips of the mesh panel and the vinyl panel are folded onto the drive tube in the opposite direction of rotation before tightening the clamp. See Figure 2 (Next page). The curtain will not roll correctly if these strips are not folded in line with the rotation of the curtain.

<p>CAUTION</p> <p>Make sure the vinyl strips of the mesh panel and the vinyl panel are folded onto the drive tube in the opposite direction of rotation before tightening the clamp.</p> <p>The curtain will not roll correctly if these strips are not folded in line with the rotation of the curtain.</p>

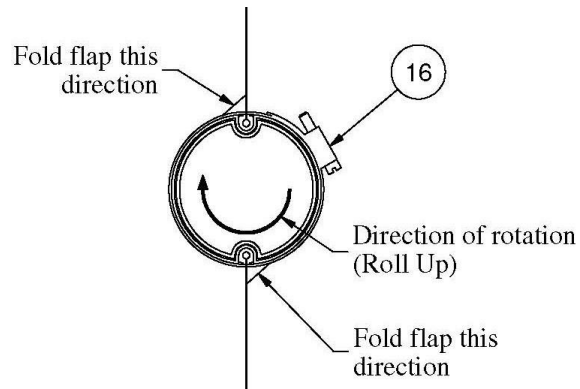


Figure 2

6. Pull the pull loops as tight as possible to stretch the vinyl along the drive tube and attach a second band clamp to the tail of the vinyl strips at the pull loop end. Tighten the band clamp securely. The curtain vinyl is now securely attached to the drive tube to prevent movement of the vinyl during operation.
7. The pull loop can now be cut off.

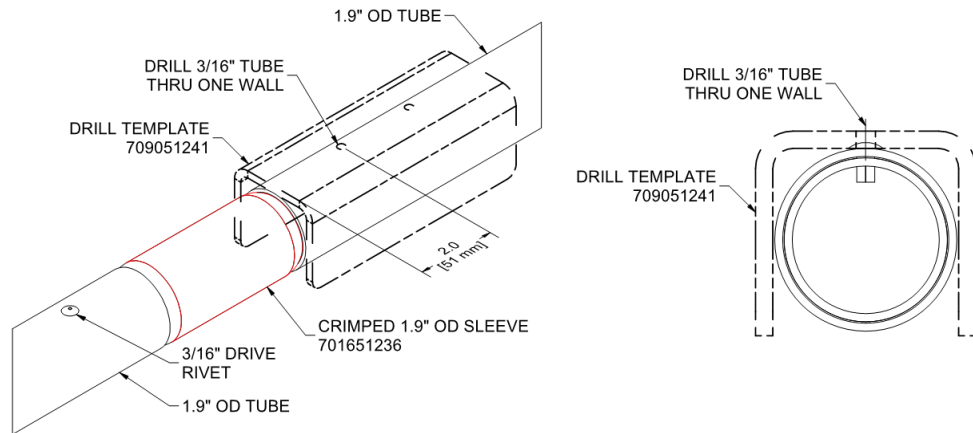
Step 5 – Install Top and Bottom Batten Pipes into Curtain Fabric

Installing Bottom Batten

Bottom Batten consists of three or more pieces (depending on size of curtain) of 1.9” O.D. tube.

1. Remove acorn nut and bolt from one end of bottom vinyl pocket.

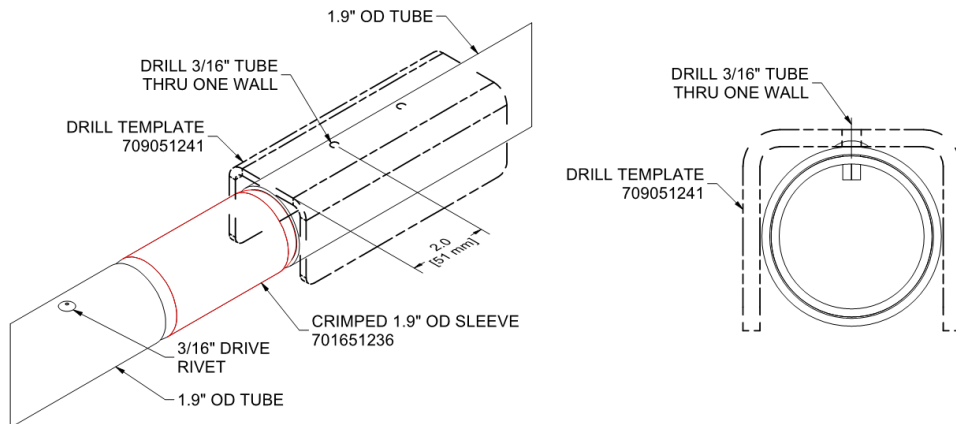
2. Install End Cap (item 17) onto end section of bottom batten tube.
3. Slide capped end into curtain pocket, leaving about 12" of tube exposed. Slide crimped splice (item 31) into tube end. Position supplied drill template, 709051241, flush with end of tube. Using a 3/16" drill bit, drill through one wall of the tube and splice as shown. Secure with a 3/16" Drive Rivet (item 27).
4. Slide next piece of 1.9" OD tube onto splice, and repeat drilling and riveting process in step 1. Slide tube into pocket leaving about 12" exposed. Continue process and until complete. Cap end (item 17) of last tube.
5. Batten assembly should be about 6" shorter than curtain when completed. Replace acorn nut and bolt, and tighten securely.



Installing Top Batten

Top Batten typically consists of three or more pieces (depending on size of curtain) of 1.9" O.D. tube.

1. Install a plastic cap (item 17) on one end and slide capped end into curtain pocket, leaving about 12" of tube exposed. Slide crimped splice into tube end. Position supplied drill template, 709051241, flush with end of tube. Using a 3/16" drill bit, drill through one wall of the tube and splice as shown. Secure with a 3/16" Drive Rivet (item 27).
2. Slide next piece of 1.9" OD tube onto splice (item 29) and repeat drilling and riveting process in step 1. Slide tube into pocket leaving about 12" exposed. Continue process and until complete. Cap end of last tube.
3. Note the top batten is longer than the mesh width, so about 3" to 6" of pipe will extend from the mesh panel on both ends.



Curtain is now ready to be raised to the overhead.

▲WARNING

DO NOT install the motors or anti-torque arms onto the curtain assembly before attaching the curtain to the overhead connections. Motors and anti-torque arms can only be installed after the curtain has been connected to the overhead structure and is hanging in the full down position.

Failure to follow the procedure could result in damage to the motors, drive tube, or serious injury to personnel.

Step 6 – Raise Assembled Curtain to Overhead and Connect To Support Hangers

The following methods of raising the curtain are merely suggestions, as each installation will vary depending on curtain size and facility. Additional equipment needed to raise curtain is not supplied, and is listed under “optional” on the Tool List. We recommend three or more people be available to assist in raising the curtain. If your installation is particularly difficult due to facility conditions, please contact Performance Sports for additional information.

Method #1 -

Make sure curtain is aligned with overhead drops and evenly spaced between end brackets. For convenience, steps 1 and 2 can be done while installing curtain overhead.

1. Evenly space and securely attach standard or ratchet pulleys above overhead using chain or rope.
2. Thread rope through pulleys allowing enough length for rope to dangle on floor.
3. On top batten of the curtain, make a small hole (3/8” or 1/2” depending on rope size) in the mesh loop to allow the rope to connect to the batten pipe, spacing each hole to match pulleys attached to overhead. Make sure the holes are as small as possible so as not to be noticeable once the curtain is raised.
4. Insert ends of ropes through holes in the mesh and tie securely around the top batten.
5. Leaving curtain unrolled, slowly and evenly begin to raise curtain.
6. Once curtain has reached overhead assemblies, make sure ratchet pulleys are secure, or if using standard pulleys, rope is securely tied.

Method #2

1. Using small, 500 lb. capacity electric hoists, secure to hoists above overhead.
2. Attach pulleys using rope or chain, and thread rope through, allowing rope to dangle to ground.
3. Follow steps in Method #1, beginning with step #3.

Method #3

1. If two or more lifts are available, position the lifts parallel to the overhead structure and bring the top batten of the curtain onto the lifts making sure to distribute weight evenly. Secure top batten and slowly raise lifts in an even fashion allowing the curtain to unfold and drape to the floor until desired height is achieved.

2. Attach top batten to the overhead structure with connections as shown in the assembly drawings shipped with the product.

Step 7 – Allow Curtain to Hang Fully Extended and Adjust Height off Finished Floor

With the curtain hanging fully extended, measure the distance from the finished floor to the bottom of the bottom batten. The dimension should be between 1.5” and 2” above the finished floor. It may be necessary to adjust the hangers at the overhead structure to achieve the desired dimension.

Check the level of the aluminum drive tube and adjust the hangers at the overhead as required to make sure the aluminum drive tube is level.

Step 8 – Install the Anti-Torque Arm(s)

1. Pre-assemble the anti-torque arm on the floor before installing on the aluminum drive tube. Refer to Figure 3.

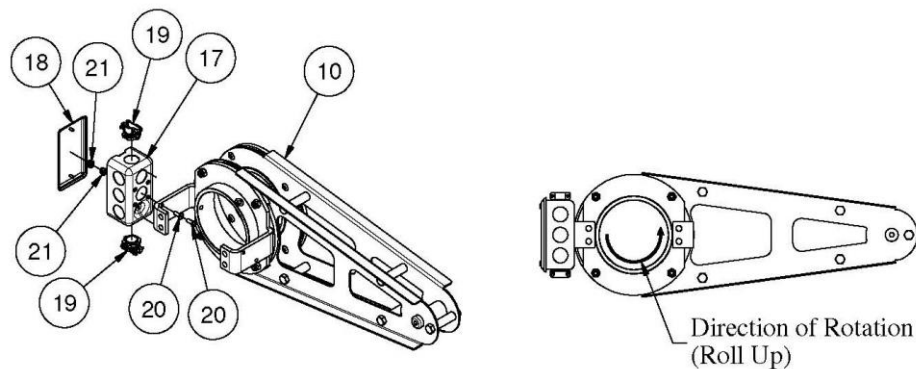


Figure 3

2. Determine the direction of rotation by looking at the end of the aluminum drive tube and the direction of the vinyl strip that were clamped in Step 4. Install the junction box (item 17) onto the side of the anti-torque arm (item 10) as shown in figure 3. Secure the junction box to the torque arm using two #10 x 1/2” screws and #10 nylon lock nuts.
3. Install a Romex connector (item 19) on the top and bottom openings of the junction box.
4. Install the junction box cover plate (item 18).
5. Install SafeStop connection bracket (item 43) on top of arm in location shown in figure 3A.

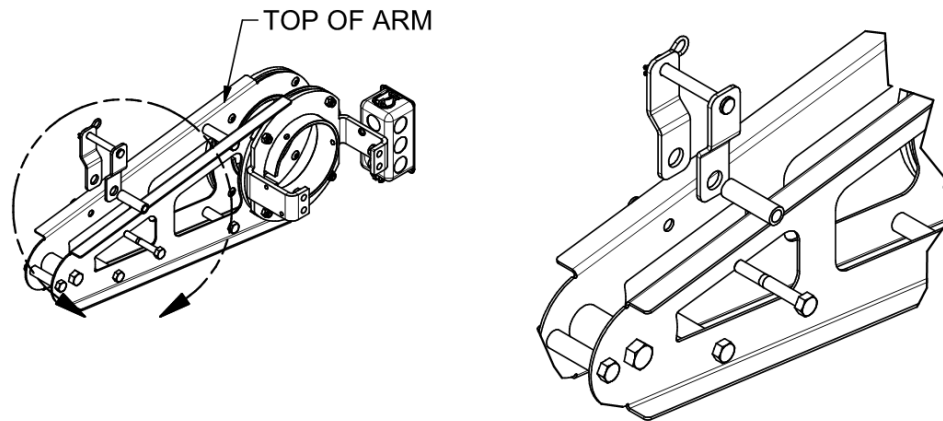
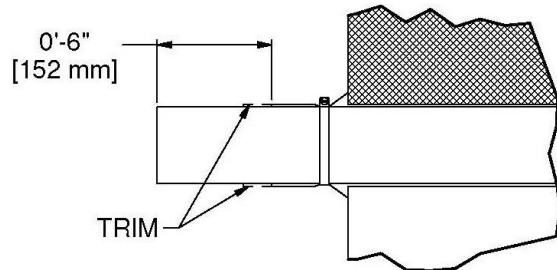


Figure 3A

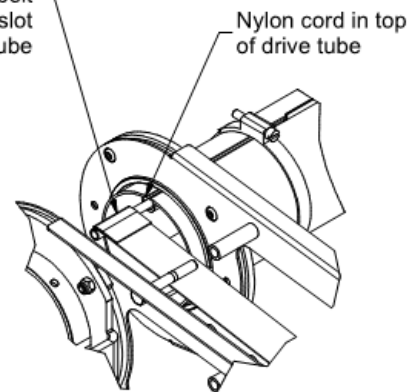
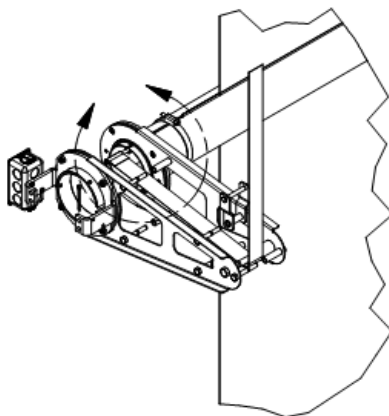
- Using a sharp utility knife, trim the remaining vinyl strips at the end of the aluminum drive tube flush with the tube to 6" from the end of the tube. Make sure the surface is clean and free of any vinyl for the first 6" to allow the nylon bearings to fit properly.



- Slide the pre-assembled anti-torque arm onto the drive tube until the inside of the first Nylatron bearing is flush with the end of the drive tube. Refer to Figure 4 (next page)
- Position the sewn loop end of the belt (item 8) between the anti-torque arm frames. As the arm is slid onto drive pipe slide loop onto nylon cord in the drive tube slot nearest top of tube. If no nylon cord is available to be used, utilize enclosed spring pin (item 13) to capture belt in slot. Maintain center between torque arm frame sides. See Figure 4.

Option 1: Slide belt into slot over cord as unit is slid onto drive tube.

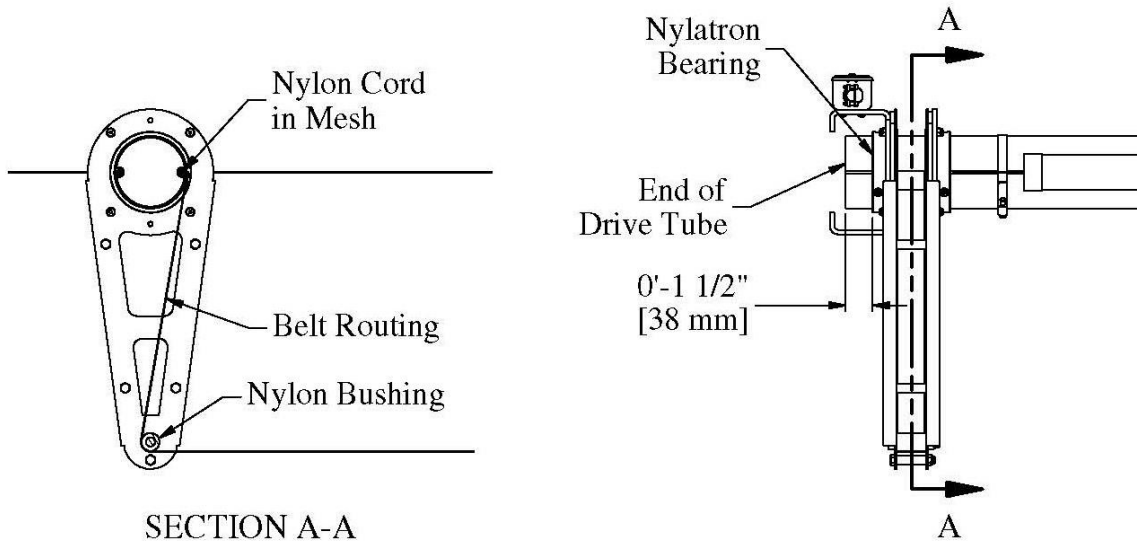
Option 2: Slide spring pin in belt loop, then slide loop into slot as unit is slid onto drive tube



Arm shown exploded for clarity of belt position.
Do not disassemble unit to install

Figure 4

- Continue to slide anti-torque arm assembly onto the end of the aluminum drive tube until the second Nylatron bearing is fully on the tube and about 1 1/2" past the end of the tube. Pull slight tension on the belt to make sure it is seated in the drive tube slot and fastened to the nylon cord.



- Do not install the retaining screws for the bearings at this time. These screws must remain out to provide clearance for the motor to be installed. Once the motors are installed and adjusted, the retaining screws for the bearings can be installed.

Step 8.5 – Double Wrapping Anti-Torque Belt around Drive Tube (if needed)

NOTE: It may be necessary to double wrap (or dead wrap) the Anti-Torque belt if the Torque Arm will not stay in a semi level plane during Up and Down operation.

- The Anti-Torque Belt will need to be double wrapped around the drive tube before routing the belt through the Torque Arm Assemblies. See Figure 5

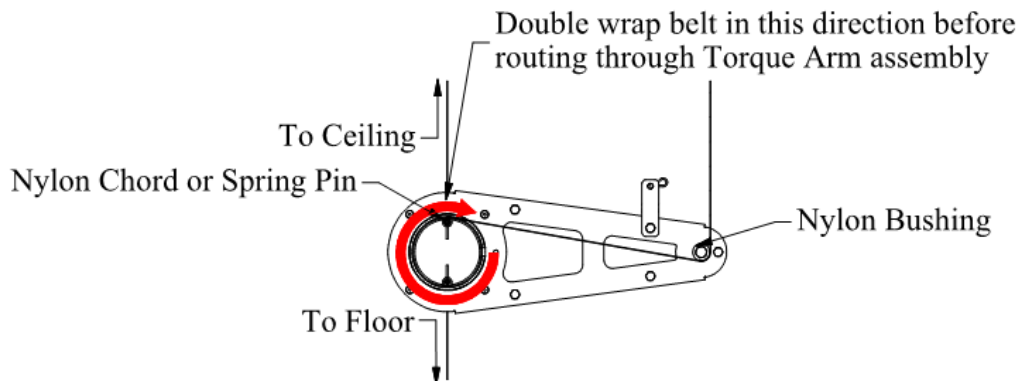


Figure 5

- Once the Anti-Torque Arm Belt has been double wrapped around the drive tube. Route the belt through the Torque Arm assembly. See Figure 6.

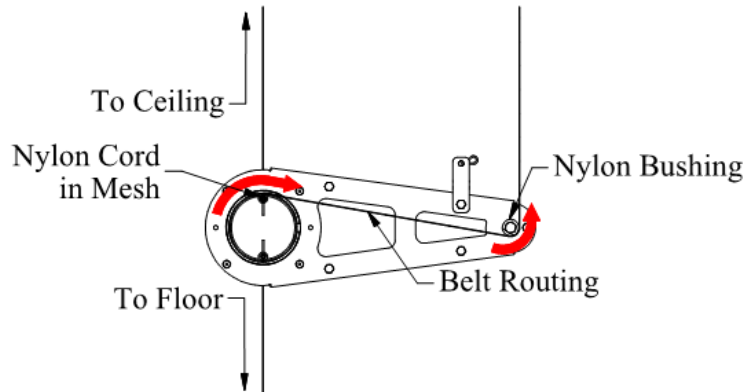
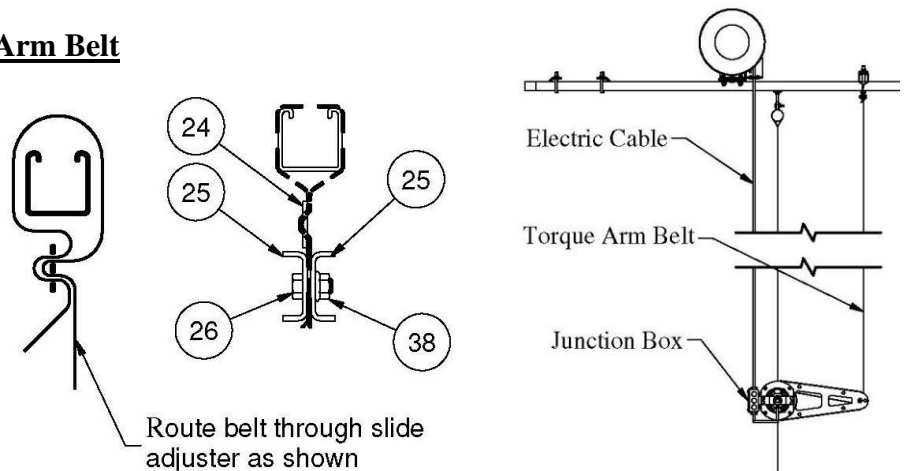


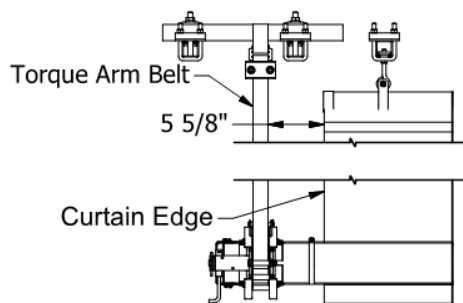
Figure 6

Step 9 – Connect Anti-Torque Arm Belt

- The overhead connection of the belt may vary with different installations. Refer to the drawing package supplied with the equipment to determine the exact configuration. Illustration shown can be used for Uni-Strut or Tubing.



- Route the belt through the slide adjuster (item 24), over the uni-strut or tube, etc. and back through the slide adjuster. Place level on top edge of anti-torque arm. Tighten belt such that the top of the anti-torque arm is level.
- The Torque Arm belt MUST be perfectly plumb and in line with the anti-torque arm to prevent the belt from folding over itself and causing premature wear on the belt and potentially altering the alignment of the Torque Arm. Assure that the Torque Arm Belt edge is 5-5/8" from the curtain edge when viewed from the front (see image below). Once adjusted, add the belt clamps to prevent the belt from slipping.



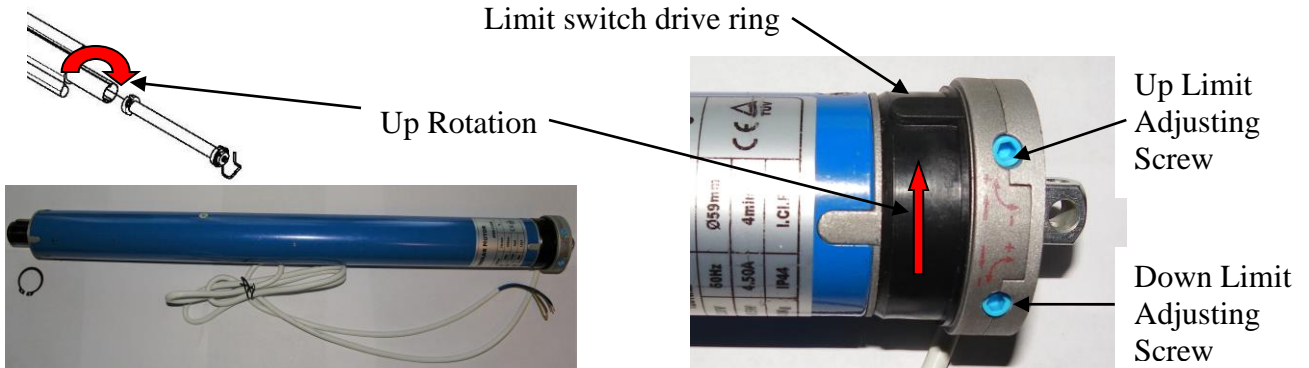
- Place a clamp plate (item 25) on each side of the belt and install the 5/16" x 1" bolts and 5/16" whizlock nuts. Torque these bolts to the proper torque as shown in the bolt torque guide.

Step 10 – Install the Motor(s)

When the application requires the Dual Motor drive arrangement (refer to your drawings included with the shipment) two motor(s) will be installed. When the application requires a Single Motor, only one motor will be installed.

Single Motor Drive

1. Remove motor from box and position it next to the drive tube as it will be installed. Refer to the Motor Illustration for the next steps.



Motor Illustration

2. Determine the direction of rotation for the curtain (refer to Step 4 of these instructions) and mark the rotation on the top of the motor with a felt pen. The up limit switch is always on the arrow side of the mark while the down limit switch is always at the tail of the mark.
3. The motor is now ready to be installed in the drive tube.

Dual Motor Drive

1. Remove motors from boxes and position them next to the drive tube as they will be installed. Mark one motor as #1 and the other as #2. Motor #1 will be set as master control of the limits. Determine the direction of rotation for the curtain (refer to Step 4 of these instructions) and mark the rotation on the top of the motor with a felt pen. The up limit switch is always on the arrow side of the mark while the down limit switch is always at the tail of the mark. Refer to the Motor Illustration for the next steps.
2. The motors are now ready to be installed in the drive tube.

Refer to Figure 7 for the following

1. Motor should be factory assemble.
2. Crown (Item 7a) and Drive (Item 7b) are already installed on motor(s).

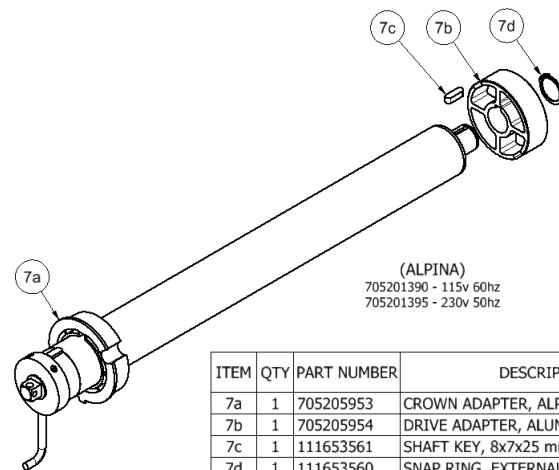


Figure 7

ITEM	QTY	PART NUMBER	DESCRIPTION
7a	1	705205953	CROWN ADAPTER, ALPINA MOTOR
7b	1	705205954	DRIVE ADAPTER, ALUM - ALPINA MOTOR
7c	1	111653561	SHAFT KEY, 8x7x25 mm
7d	1	111653560	SNAP RING, EXTERNAL 27 MM x 1.3

Refer to Figure 8 for the following steps

1. Install the drive plate (Item 9) over the square stub shaft and secure with the cotter pin (Item 44).
2. The motor sub-assembly is now ready to install in the aluminum drive tube.
3. Insert a motor into the end of drive tube by aligning grooves on drive adapter with channels in drive tube. **Make sure the motor is completely inserted with the crown of the motor fully seated and flush with the end of the drive tube.** It may be necessary to tap the counterweight bearing further onto the drive tube to allow the motor drive plate to seat with the counterweight.

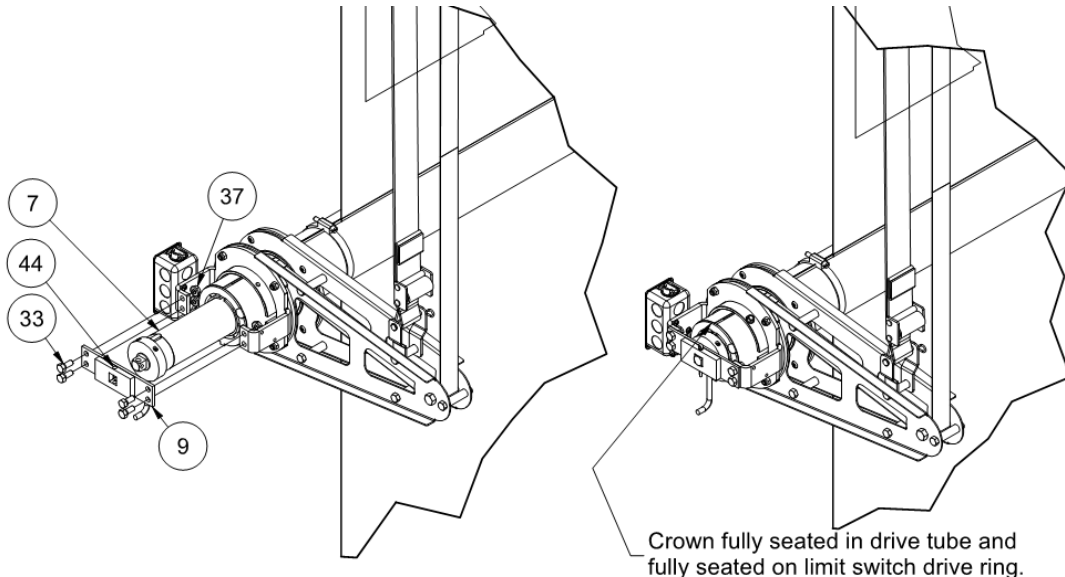


Figure 8

4. Connect motor to four blade plug (item 3) and then to test pendant (not provided with unit, Gared / PSS part # 859052392)
5. It may be necessary to rotate the anti-torque arm (item 9) to align the holes. Jog motor's rotation until the connection plate holes line up with torque arm bolt holes.
3. **Single Motor Curtains (fig 8a):** Stack the weight plates (item 5 inner and 6 outer) as shown and connect to the motor drive plate (item 9) and to the anti-torque arm (item 10) using the four 5/16 x 2 3/4" bolts (Item 14) and 5/16" Lock Nuts (Item 15).

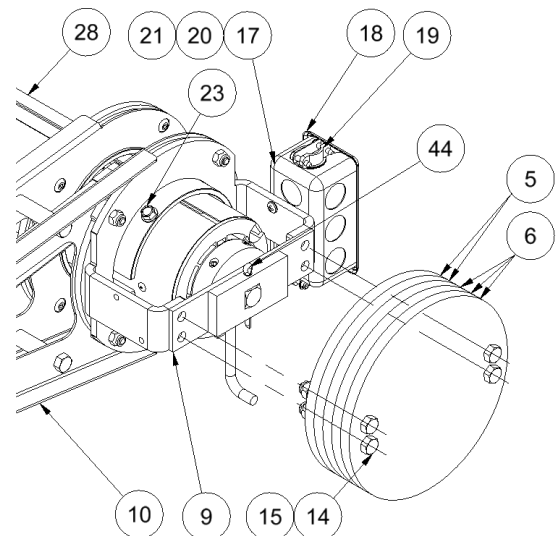


Figure 8a

4. **Double Motor Curtains (fig 8):** Connect the motor drive plate (item 9) to the anti-torque arm using the four 5/16 x 3/4" bolts (Item 33) and 5/16" Wiz LockNuts (Item 37). NOTE:: Weight plates may need to be added to aid in the proper alignment of the Torque Arm during operation.
5. Make sure the motor is fully seated into the drive tube and the Nylatron anti-torque arm bearing flange is seated against the anti-torque arm.
6. When the curtain requires two motors, repeat this procedure on the opposite end of the drive tube.

Step 11 – Secure Anti-Torque Arm Bearing(s) to Aluminum Drive Tube

1. Rotate the bearing to make sure all three pre-drilled holes are aligned on the outer diameter of the drive tube and not on the groove.
2. Drill a 3/16” pilot hole through the aluminum drive tube at each of the four holes in the bearing. Make sure not to drill into the motor once the bit has gone through the drive tube.
3. Install three 1/4” self-tapping flange head bolts (item 23) in each bearing to secure the bearings to the drive tube.

<p>⚠ WARNING</p>
<p>All six self tapping screws MUST be installed to secure the Nylatron bearings to the drive tube.</p> <p>Failure to secure the bearings to the drive tube could result in severe damage to the motor and drive components and/or serious injury or death to personnel.</p>

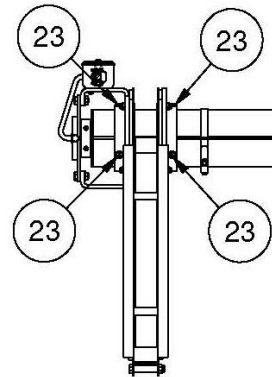


Figure 9

Step 12 – Install Cord Reel to Overhead

1. Refer to details in the drawing provided with the product for location and structure to mount the cord reel.
2. Remove bolts securing the guide arm and rotate to position shown in Figure 10. Re install the guide arm bolts.
3. Install the mounting plate to the cable reel using three 3/8x1” hex bolts and 3/8” whizlock nuts.

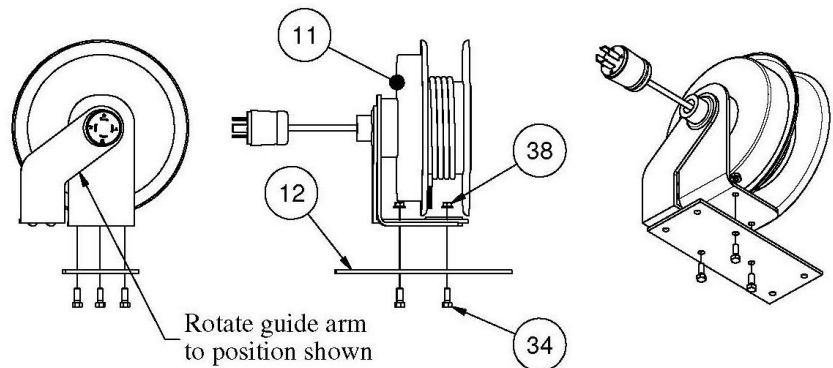


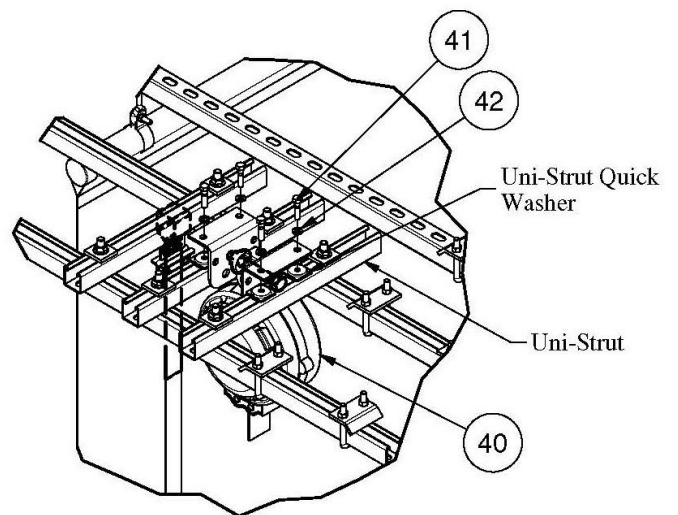
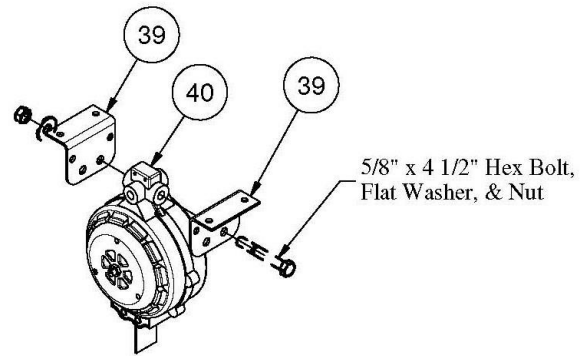
Figure 10

NOTE: The mounting plate may be different in some installations. Refer to the drawing package supplied with the equipment to determine the exact configuration of the plate.

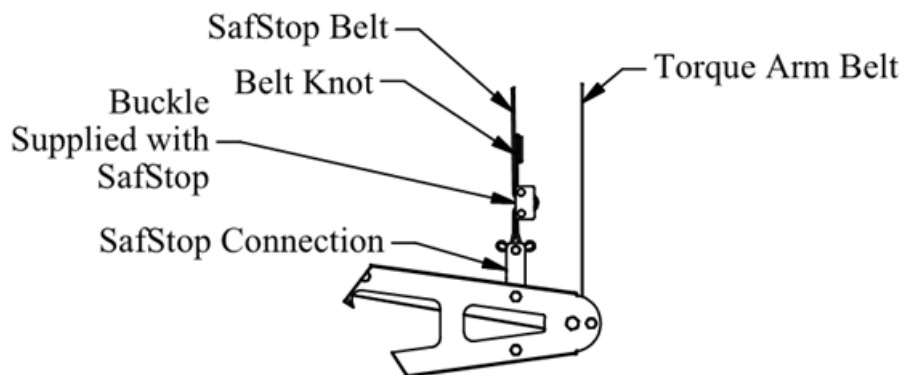
4. Follow the instructions in the drawings supplied with the equipment and attach the cable reel assembly to the overhead structure. Make sure the extended cable is directly in line with the junction box on the counterweight assembly to insure smooth operation of the cable during operation.
5. When the curtain installation requires 2 motors, repeat the process for the second cable reel.

Step 13 – Install SafStop safety strap(s)

1. Refer to details in the drawing provided with the product for location and structure to mount the SafStop (item 40). The following illustration represents the most common attachment of the SafStop to the overhead structure.
2. Install the brackets (item 39) onto the SafStop using a 5/8" x 4 1/2" bolt, 5/8" washer, and 5/8" nut supplied with the SafStop.
3. The following illustration show the SafStop connected to the overhead structure utilizing Uni-Strut. However, overhead connections are job specific and may vary significantly from this illustration. Always follow the instructions included with the product shipment for the correct mounting of the SafeStop(s).



4. Once the SafeStop is connected to the overhead, pull the strap down to the torque arm. Wrap the strap around the outermost arm spacer and fasten the strap with the strap attachment bracket supplied with the SafStop as shown on the right.



Step 14 – Connect Wiring

1. Most installations will require temporary wiring to be connected for power to set the motor limits and test the curtain. Permanent wiring will be installed later by the electrical contractor.
2. For dual motor installations, whenever possible and code allows, the motor synchronizer should be installed on the overhead structure near the master motor (motor #1). The synchronizer is required to operate a curtain with two motors. Attempting to operate the curtain without the synchronizer could result in damage to the motors.
3. For single motor installations, no synchronizer is required and the motor can be operated with a test cord similar to any backstop installation.
4. Before proceeding with the temporary wiring instructions, open the junction box on the anti-torque arm and make the connections of the motor to the cable reel.
5. Route the motor wire around the junction box and insert into the bottom Romex connector. Pull the wire through and cut off any excess wire leaving about 6” of wire inside the box.
6. Route the cable reel wire through the top Romex connector on the junction box and leave about 6” of wire in the box. Tighten both Romex connectors securely on the motor and cable reel wires.
7. Strip the wires of the motor and cable reel wires and connect each wire matching the colors between the two connections (white to blue, black to black, red to brown, and green to green).

Temporary Wiring Motors for the Dual Motor Installation

Refer to wiring diagram (Page 20) for hardwire or temporary wiring instructions of the Dual Motor Drive.

1. For temporary wiring, using 14.4 wire (not provided).
2. Wire cable reel power wires and 14.4 wire together (green to green, red to red, etc.) and hold with wire nuts. Drape 14.4 wire to floor or to synchronizer location and attach the 4 prong locking plug (item 3) to the 14.4 wires and plug into Synchronizer Unit according to wiring diagram.
3. Wire key switch to terminal block on Synchronizer Unit with 4’ – 5’ of temporary wire.
4. Plug the synchronizer into appropriate 120v or 230v power source.

⚠ WARNING

Synchronizer box is now HOT.

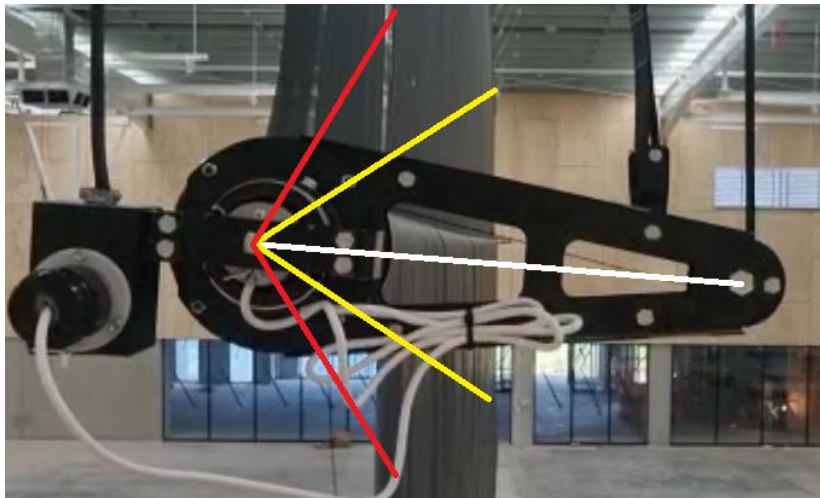
As a safety precaution to avoid risk of electrical shock, leave Synchronizer Unit on floor or in position and handle only key switch when operating curtain.

Temporary Wiring Motor for the Single Motor Installation

Refer to wiring diagram (Page 25) for hardwire or temporary wiring instructions of the Single Motor Drive.

1. Attach the 4 prong locking plug (item 3) to the cable reel power cable.
2. Connect the test cord (not supplied) to the cable reel power plug. The test cord is normally used to set the limit switches on all backstop hoists.
3. Plug the test cord into appropriate 120v or 230v power outlet.

Before Any Operation of Unit, Be Aware of the Following:



When installing the torque arm, aim to position the arm (indicated by a white line) as close to horizontal as possible. During operation, pay attention to how the arm tilts up or down and make sure it does not move into the caution or warning zones described below.

The yellow lines located at the 2:00 and 4:00 o'clock ($\pm 30^\circ$ from horizontal) positions represent the caution zones where there is a possibility of the Torque Arm flipping over. If the arm tilts past the 2:00 or 4:00 o'clock positions, adjustments are recommended to return the arm to horizontal.

The red arrows located at the 1:00 and 5:00 o'clock ($\pm 60^\circ$ from horizontal) positions represent the warning zone where the Torque Arm is at a high risk of flipping over. If the arm tilts past the 1:00 or 5:00 o'clock positions, immediate adjustments are required to avoid causing the arm to flip over.

Example



In the image on the left, the arm angle (as indicated with a white line) is within the safe zone (less than $\pm 30^\circ$ from horizontal). No adjustment is required for safe operation.

In the image on the right, the arm angle (as indicated by a white line) is in the caution zone (more than 30° but less than 60° from horizontal as indicated by the yellow and red lines). Adjustment is highly recommended in order to assure safe operation.

Step 15 - Setting Motor Limits

NOTICE

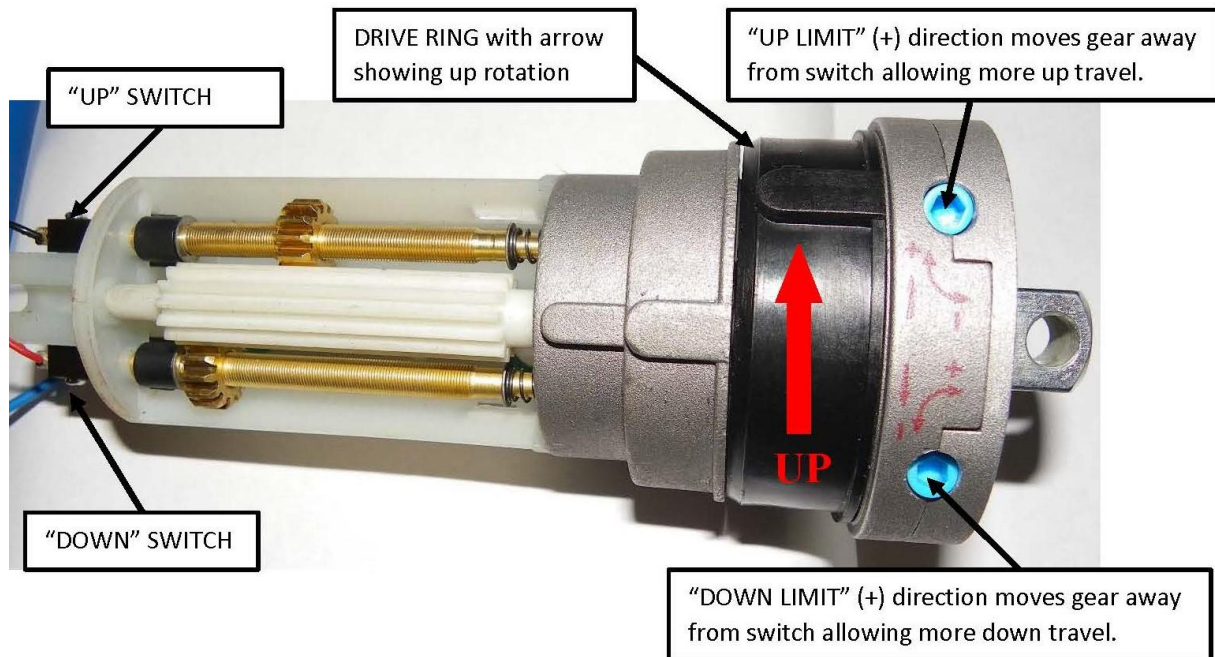
The motor(s) operating the curtain have an automatic thermal shut off function after 6 minutes of continuous running to prevent overheating and damaging of fabric. Cool down takes 15-20 minutes depending on fabric wrap and ambient temperature. The motor(s) will not run during this time and will automatically reset themselves.

Before attempting to set the limits, it is important to understand how the limits function within the motor. The following paragraph and illustration show how the limits are positioned within the motor and how each limit is operated and adjusted. It is important to understand the rotation of the motor and how this is related to the arrows and markings on the limit switch adjustment screws.

Operate the adjusting screw according to the direction of travel arrows.

Turn the limit switch adjusting screws as follows:

- **Minus (-)** = shorter travel (less up travel on the UP limit, less down travel on the DOWN limit)
- **Plus (+)** = longer travel (more up travel on the UP limit, more down travel on the DOWN limit)



Cutaway view showing micro switches.

(Motor shown may differ from your motor, but the limits work as shown on all motor configurations)

Example shows drive ring marked for clockwise, “UP” rotation. Switches will be reversed for counter clockwise, “UP” rotation.

Each revolution of the motor raises or lowers the curtain approximately 2 feet 6”. 10 turns of the limit adjusting screw is equal to 1 motor revolution. While adjusting the limits, use the following chart as a guide for the number of turns on the limit screw that will be required.

Curtain Travel (Ft)	1	2	3	4	5	10	15	20	25	30	35	40
Motor Turns Required	0.4	0.8	1.2	1.6	2.0	4.0	6.0	8.0	10.0	12.0	14	16
Limit Screw Turns	4	8	12	16	20	40	60	80	100	120	140	160

Always begin the limit switch adjustments by setting the down limit switch first. Adjusting the down limit first guarantees there will be enough travel in the up position for all curtain heights.

(For Single Motor Installation)**Note: Use the temporary wiring for Single Motor Installation****Adjustment of the “Down” direction**

1. Raise the vinyl about 12” before proceeding.
2. Allow the motor to run in the “down” direction.
 - a. If the motor stops before reaching the desired down position, go to step #3.
 - b. If the motor does not stop before reaching the full lowered position, stop motor travel manually and raise the curtain to a position about 12” above desired height. Turn the “down” adjusting screw in the “-” (minus) direction 10 turns and repeat step 2.
3. Hold the “down” button on the test cable on. At the same time, turn the “down” adjusting screw in the “+” (plus) direction until the desired end position is reached. Each turn of the adjusting screw will move the bottom edge of the curtain approximately 3” or (10) turns of the adjusting screw equals (1) motor revolution).

⚠ CAUTION

Do not allow motor to run below the full down position. If motor continues to run, Vinyl will wrap backwards and torque arm will flip over damaging the belt, the vinyl, and mesh.

Adjustment of the “Up” direction

1. Allow the motor to run in the “up” direction.
 - a. If the motor stops before reaching the desired top position by more than 1’, go to step #2, otherwise go to step 3.
 - b. If the motor does not stop before reaching the fully raised position, stop motor travel and lower curtain to a position about 12” below desired height. Turn the “up” adjusting screw in the “-” (minus) direction 10 turns and repeat step 1.
2. Measure the distance of remaining travel required to reach the full up position. Refer to the curtain travel chart and to find the number of limit screw turns required. Turn the “up” limit screw in the “+” (plus) direction the number of turns indicated by the chart and repeat step 1.
3. Hold the “up” button on the test cable on. At the same time, turn the “up” adjusting screw in the “+” (plus) direction until the desired end position is reached. Each turn of the adjusting screw will move the bottom edge of the curtain approximately 3” or (10) turns of the adjusting screw equals (1) motor revolution).

(For Dual Motor Installation ONLY)**Note: Use the temporary wiring for Dual Motor Installation****Set the limits on Motor #2 (non-controlling motor) first.**

1. Follow the procedure for a Single Motor drive with one exception. The motor must be reversed a few inches each time the limit has been reached to reset the synchronizer control. Each turn of the adjusting screw will move the bottom edge of the curtain approximately 3”.
NOTE: If you make an adjustment to the limit switch and the curtain still does not move, the limit switch of the opposite motor (motor 1) are preventing the curtain from moving. You will need to turn the limit switch of motor #1 in the “+” direction to allow motor #2 to operate. Refer to the curtain travel chart to determine the number of limit switch turns required.
2. Once the down and up limits have been set, turn each limit screw in the “+” (plus) direction 1/2 turn.
3. Motor #2 is now set and will act as a backup to motor #1.

Setting the limits of Motor #1

1. Follow the procedure for a Single Motor Drive to properly set the limits of motor #1
2. It will be necessary to first turn the limit switches of the motor in the “-” (minus) direction before starting the procedure. 10 turns on each screw in the “-” direction should provide a good starting point.

Step 16 - Checking the limit positions

1. Deploy and retract the curtain 1 or 2 more times to ensure that the limits are set correctly and that the motor(s) are wired correctly.

Keep in mind that for every second of run time on the motor(s) they should have a second of rest after reaching the set limit. (Example: If it takes 3 minutes to deploy the divider the motor should be at rest for 3 minutes)

2. Determine whether to leave curtain in up or down position. (Leaving curtain in down position will help remove wrinkles from vinyl.)
3. Disconnect temporary wiring and leave synchronizer unit and key switch with Electrician or General Contractor. Make sure Facility Electrician or Facility Manager has a copy of the wiring schematic that was furnished with the installation manual.

Step 17 – Adjust Arm Belting

1. In the process of operating the newly installed unit it is normal for the belting to stretch slightly. Observe the anti-torque arm in the curtain down position. The top of the arm should be level. If this has shifted in the setup / stretch process it will need to be tightened.
2. Loosen the clamps used to lock the belting in place.
3. Tighten belt to level the top of the arm.
4. Re-install the belting clamps.

Step 18 – Clean Work Site

Sweep and remove all debris generated in the installation process. It is normal to generate steel or aluminum shavings in this process which can damage wood gym floors.

Permanent Wiring Motor(s) for Installation

A qualified electrician should complete all permanent wiring.

The permanent wiring should be installed in accordance with the electrical schematic furnished with the installation manual at time of delivery of the product.

On dual motor installations, the key switch is powered by 5vdc from the synchronizer control. Use a shielded wire and do not run with or near other AC power wires, lights, or HVAC devices. Shielded cable should be grounded to earth only on the switch box end.

Notes to Electrician

Make sure the wiring from the synchronizer box to each motor is connected as shown on the wiring diagram. Dual motor curtains must run in opposite directions to function properly. The motor rotation has been reversed inside the synchronizer control. DO NOT REVERSE AT THE MOTOR. The limit switches should already be set by the installer, but if not refer to the “Setting Motor Limits” section.

Electrical Requirements

115V ELECTRICAL SPECIFICATIONS:

- DEDICATED 15A CIRCUIT BREAKER (by others)
- MOTOR: 115VAC +/- 10%, 1 PH, 60 HZ, 4.3A (8.6A dual motor)

SYNCHRONIZER BOX:

7 1/2" L x 4" W x 3" DEEP

MINIMUM KEY SWITCH BOX SIZE:

3" TALL x 2 1/4" W x 2 1/2" DEEP

Copper wire, 3% voltage drop

4.31 amps, 115 volt, 1 phase, 60 hz

Maximum Wire Length (ft)	Wire Size AWG
132	14
209	12
332	10
529	8
840	6

Copper wire, 3% voltage drop

8.62 amps, 115 volt, 1 phase, 60 hz

Maximum Wire Length (ft)	Wire Size AWG
66	14
105	12
166	10
264	8
420	6
668	4

230V ELECTRICAL SPECIFICATIONS:

- DEDICATED 10A CIRCUIT BREAKER (by others)
- MOTOR: 230VAC +/- 10%, 1 PH, 50 HZ, 2.0 A (4.0 A dual motor)

SYNCHRONIZER BOX:

7 1/2" L x 4" W x 3" DEEP

MINIMUM KEY SWITCH BOX SIZE:

3" TALL x 2 1/4" W x 2 1/2" DEEP

Copper wire, 3% voltage drop

2 amps, 230 volt, 1 phase, 50 hz

Maximum Wire Length ft [m]	Wire Size AWG	Wire Size mm2
356 [109 m]	16	1.3
567 [173 m]	14	2.1
901 [275 m]	12	3.3

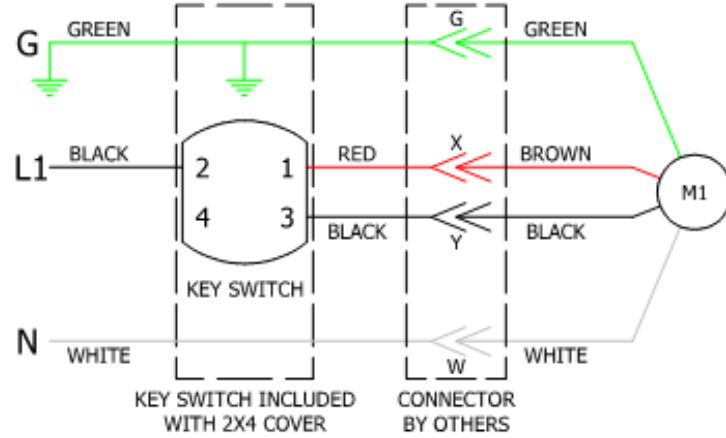
Copper wire, 3% voltage drop

4 amps, 230 volt, 1 phase, 50 hz

Maximum Wire Length ft [m]	Wire Size AWG	Wire Size mm2
178 [54 m]	16	1.3
284 [86 m]	14	2.1
451 [137 m]	12	3.3
716 [218 m]	10	5.3

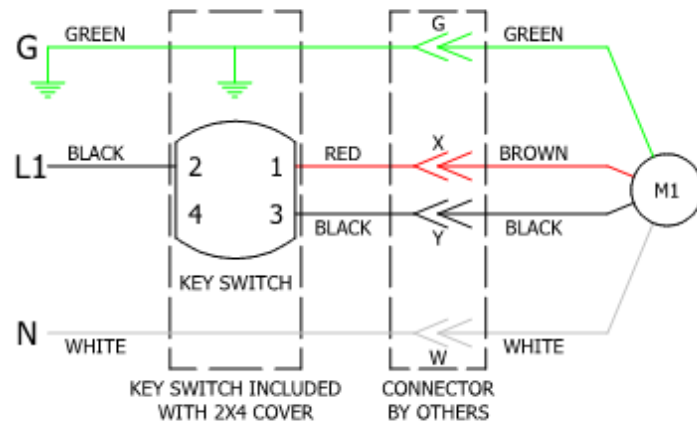
115 V 60 HZ Wiring Diagram
(Single Motor Installation ONLY)

115V 60HZ



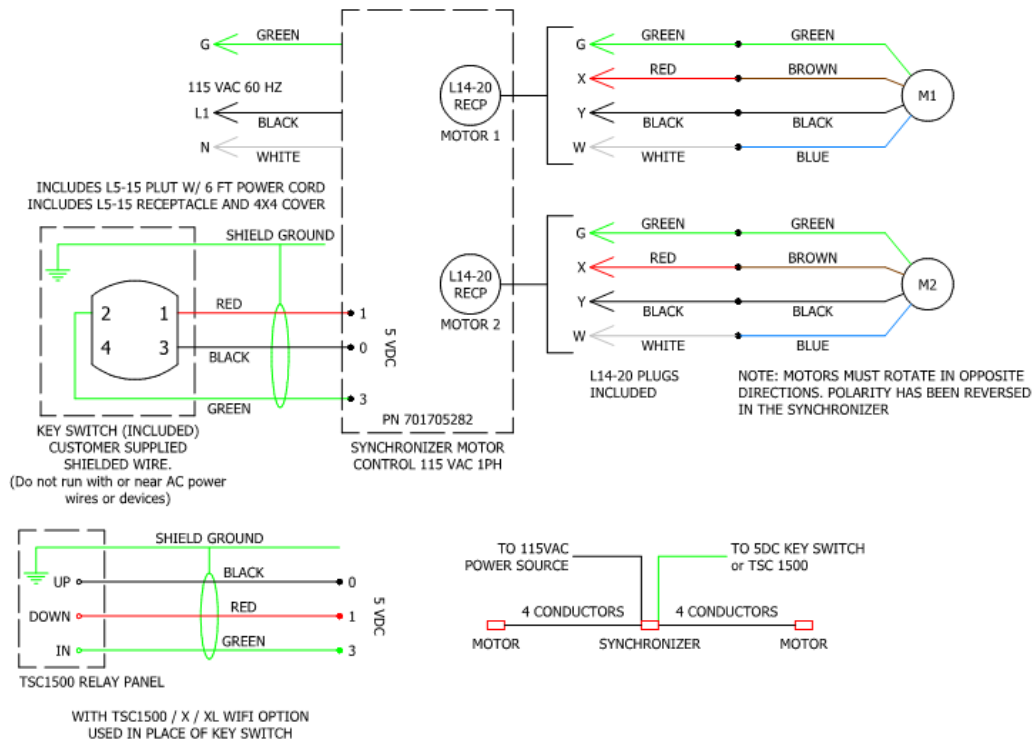
230 V 50 HZ Wiring Diagram
(Single Motor Installation ONLY)

230 VAC 50 HZ

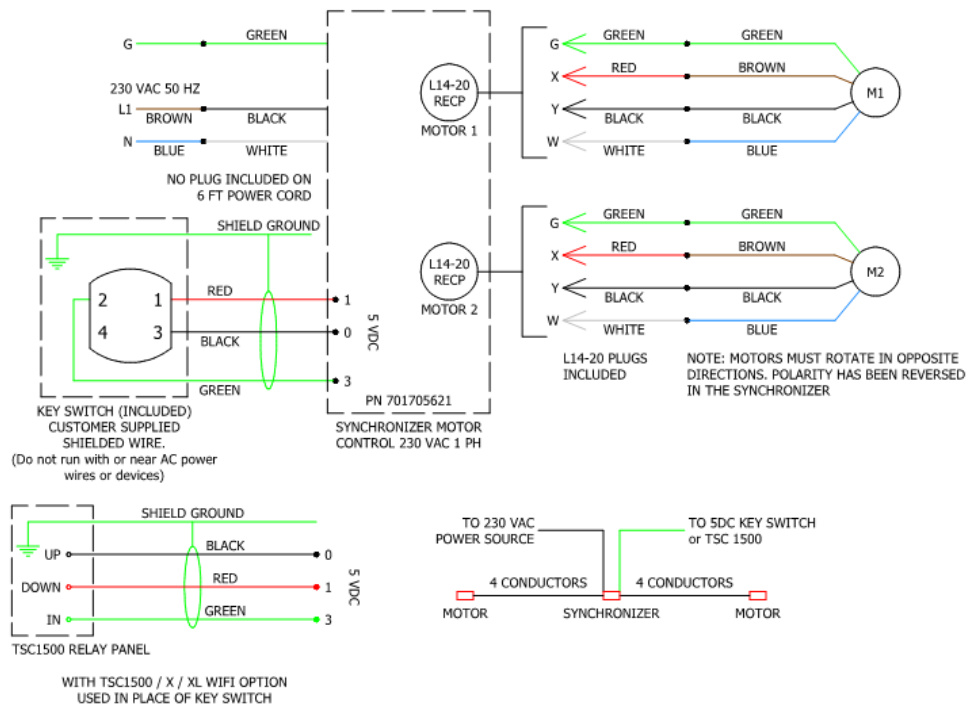


115 V Wiring Diagram w/ 701705282 Controller

(Dual Motor Installation ONLY)



230 V Wiring Diagram w/ 701705621 Controller (Dual Motor Installation ONLY)



PLEASE DO NOT ATTEMPT TO OPERATE THIS EQUIPMENT BEFORE READING THE FOLLOWING INFORMATION!!!

MODEL #4050 CENTER DRIVE DIVIDER CURTAIN

PRODUCT OVERVIEW

The following information is designed to assist you with the operation and maintenance of your Model #4050 Center Drive Divider Curtain. We recommend that you carefully read this literature to become familiar with your new divider curtain, then develop an operation and maintenance program for the designated operator of the curtain.

⚠ CAUTION

Only trained and authorized personnel should operate this equipment.

Operation by untrained or unauthorized personnel may result in damage to the curtain structure and/or injury to anyone near the curtain.

This curtain has been manufactured with safety in mind, but even the safest equipment can be damaged or cause damage to a person or persons when operated by unauthorized or untrained users.

⚠ WARNING

BEFORE OPERATING DIVIDER CURTAIN MAKE SURE THE AREA AROUND AND UNDER THE CURTAIN IS CLEAR OF OBSTRUCTIONS, EQUIPMENT, AND PEOPLE. MAKE CERTAIN NO PERSONS ARE NEAR THE CURTAIN DURING OPERATION. FAILURE TO FOLLOW THIS PROCEDURE COULD RESULT IN EQUIPMENT DAMAGE AND/OR SERIOUS PERSONAL INJURY

701955081

- Tremendous force is created when this curtain is in motion.
- Only authorized personnel may operate curtain.
- Care must be taken to make sure the curtain and areas above and below the curtain are free and clear of any obstructions.
- Do not stand directly below the curtain when raising or lowering.
- Never swing or sway curtain.
- Structure and motor units were designed to lift the weight of the curtain only.
- Never hang from sides or bottom of curtain during operation or when curtain is in the lowered position.
- Never attach or place foreign objects on the curtain.

OPERATION OF THE MODEL #4050 CENTER DRIVE DIVIDER CURTAIN:

1. The key switch used to control the up/down motion of this curtain must be flush mounted on a wall that gives the operator a clear and full view of the curtain. Never operate the curtain if conditions do not allow for a clear and full view of the curtain.

⚠ CAUTION

Operator must keep the curtain in view at all times during operation.

Failure to watch the curtain in motion may result in damage to the curtain structure and/or injury to anyone near the curtain.

2. The curtain may be raised or lowered by turning the key to the appropriate “Up” or “Down” position, as indicated on the switch cover plate.
3. The key that operates the curtain must remain in the possession of the authorized operator.

NEVER LEAVE THE KEY UNATTENDED IN THE KEY SWITCH

4. The motor(s) that control the movement of the curtain have been programmed to stop the curtain at a predetermined “up” and “down” position. Should the curtain stop before it reaches these predetermined positions the motor(s) may have over heated and need to cool off. Allow the divider to rest for approximately 20 minutes and try to run again. If the divider still does not run contact your dealer or installation company immediately.

This divider curtain should be lowered to its full down position periodically to allow the vinyl to naturally stretch and remove any minor wrinkles caused from normal operation. It is recommended that the divider curtain be extended to the full down position and left in the down position for a period of 24 to 48 hours at least twice monthly.

This divider curtain has been custom manufactured according to the Owner’s/Architect’s specifications. When operated and maintained with proper care, this curtain should provide years of safe, trouble-free service.

MAINTENANCE INFORMATION – PLEASE RETAIN FOR FUTURE REFERENCE!!!

MODEL #4050 CENTER DRIVE DIVIDER CURTAIN

MAINTENANCE OVERVIEW

!!!ALWAYS DISCONNECT POWER SOURCE BEFORE PERFORMING ANY MAINTENANCE CHECK OR OPERATION ON THIS EQUIPMENT!!!

STRUCTURE:

We recommend a yearly inspection (or more frequently depending on usage) of the nuts and bolts, checking for tightness.

MOTOR(S):

The tubular motor(s) that operate your divider curtain do not require any maintenance. We do recommend however, that the limit switches be checked on a regular basis to ensure the settings are accurate.

⚠ WARNING
When removing the motor(s), first lower the curtain to the full down position. If the curtain cannot be lowered to the full down position, tie the rolled curtain to the top structure in several places to prevent the curtain from moving.
Failure to lower the curtain or secure the rolled curtain to the top structure could result in the curtain unrolling uncontrollably when the motor(s) are removed resulting in damage to the curtain and/or serious injury to anyone near or under the curtain.

CURTAIN VINYL:

The curtain vinyl should be checked on a regular basis for rips or tears. Should the vinyl become ripped or torn, it must be repaired or replaced. Contact your dealer or installation company for information on repair or replacement of the vinyl.

DO NOT operate the curtain if the vinyl is ripped or torn, as it could snag on the carrier assemblies.

The vinyl should be cleaned with a damp cloth. A cloth dampened with water will be adequate for most conditions, however, for heavier dirt or spots, a specific vinyl cleaner can be used.

This Model #4050 Center Drive Divider Curtain has been custom manufactured according to the Owner's/Architect's specifications. When operated and maintained with proper care, this curtain should provide years of safe, trouble-free service.



Center Drive Divider Curtain

ATTENTION: MAINTENANCE DEPARTMENT

To confirm that you have received maintenance and warranty information, and to better serve you if you contact us, please fill out the following information and fax or mail to the address below.

Please refer to the facility name and/or the installation company below when you contact Performance Sports Systems, and include it on any correspondence.

I have received the maintenance and warranty information provided by Performance Sports Systems on the Center Drive Curtain.

Facility/School Name: _____

Installation Date: _____ Installed by: _____

Maintenance Dept. Contact: _____

Signature: _____ Date: _____

Fax to: 1-317-774-9841

Attn: Customer Service

Or

Mail to:

Customer Service

9200 E. 146th St., Ste. A

Noblesville, IN 46060

800-848-8034



Gared Performance Sports Systems
9200 E. 146th Street
Noblesville, IN 46060

800-848-8034
www.garedperfsports.com