

# Rupprigger - INSTALLATION Standard Base

**Before you install your Ruppriggers there are three things that should be thoroughly analyzed**

**1- Ease of OPERATION**

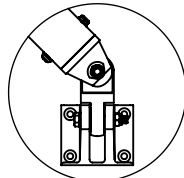
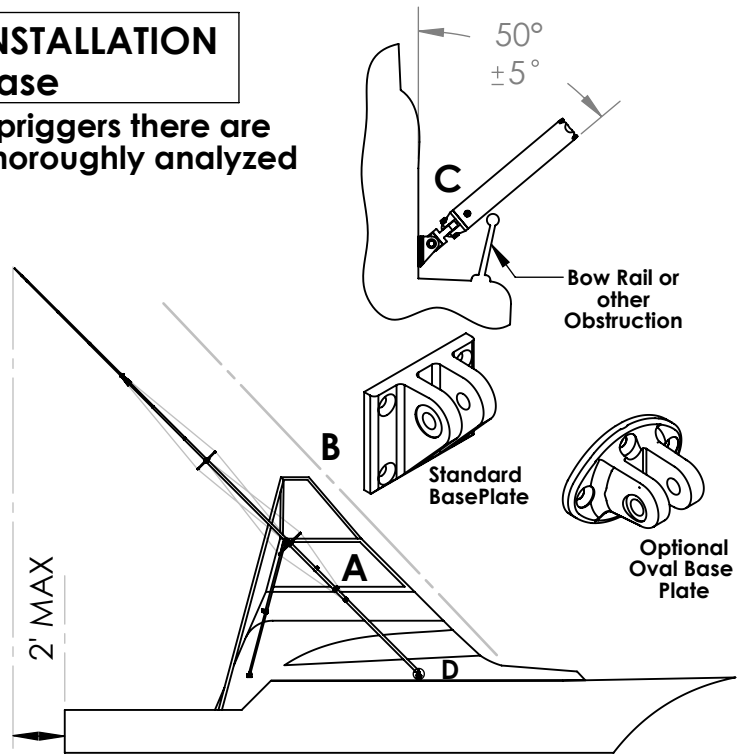
Ruppriggers are designed to be operated by one man from the bridge. The ease of operation depends upon how accessible they are to the skipper on the bridge. See Fig. 1 at A

**2- APPEARANCE**

Ideally, the angle of the Ruppriggers in the up position should visually parallel the lines of your boat i.e. the front angle of the house, or the tower struts. See Fig. 1 at B. The tips should extend beyond the transom by one or two feet if possible.

**3 - CLEARANCES**

When installed, Ruppriggers should not interfere with the normal operation of your boat nor should boat features interfere with the Riggers i.e. Bow Rails, Cleats, Tower Struts, ETC. The riggers will lower approximately 45° - 55° and must clear all obstacles. See Fig 1 at C. Be sure of clearances before the first hole is drilled.



**Fig. 1**

## INSTALLATION INSTRUCTIONS

Read these instructions thoroughly before proceeding. Keep in mind the three objectives outlined above. A special tool 7/8-14 machine thread tap will be required to fit and install support arms

**NOTE:** When Installing the Base Plate, Hold-in Arm Toggle Plate and the Knuckle Arm TogglePlate it is recommended to use a reinforcement plate where accessible. See FIG 8 Cross Section View.

**Step 1 INSTALL BASE PLATE**

(A) Stand a distance away viewing your boat from the side, while an assistant holds the Rupprigger in position.

(B) When you are satisfied with the accessibility at the bridge angle, tips overhanging the transom and no obstructions, install base plate.

(C) Install base plate on side of boat house (ears up) or gunnel (ears out). See Fig 1 at D. In some cases it might be necessary to use a spacer block to clear obstructions when Rupprigger is in the up position. See Fig 2 at B.

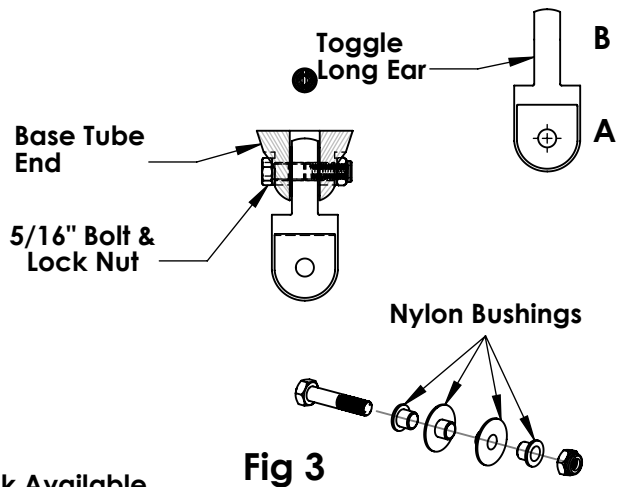
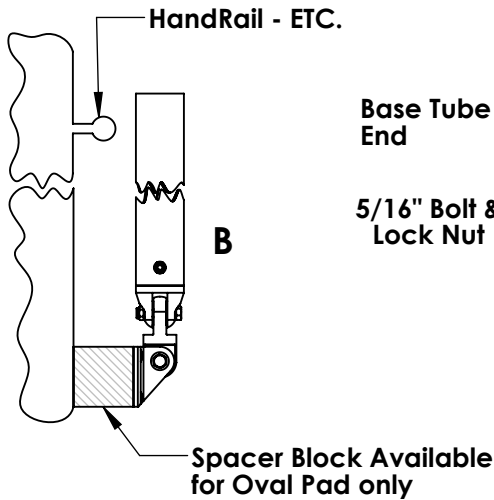
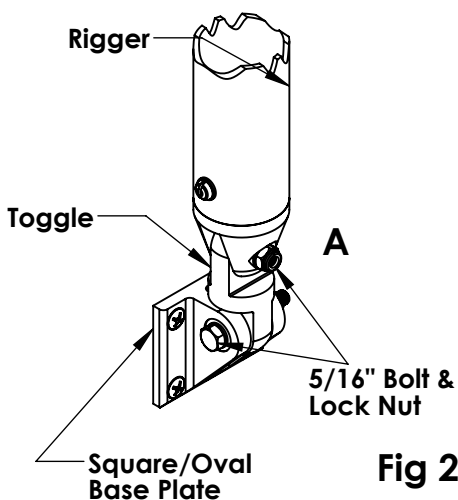
(D) Drill four 13/64" holes and secure base plate by one of three methods:

- 1- 1/4"x20 machine screws (drilled holes must be threaded with 1/4-20 Tap)
- 2- #14 sheet metal screws
- 3- 1/4 bolts thru wall with washers and nuts inside. use bedding compound between all plates and boat.(Eg. 3M® 5200 Marine Adhesive)

(E) Bolt Rupprigger to base plate through base toggle Fig 2 at A. Make sure number plate is facing forward and all nylon bushings are in place. Bushings prevent electrolysis of dissimilar metals to prevent corrosion of parts. See Fig 3

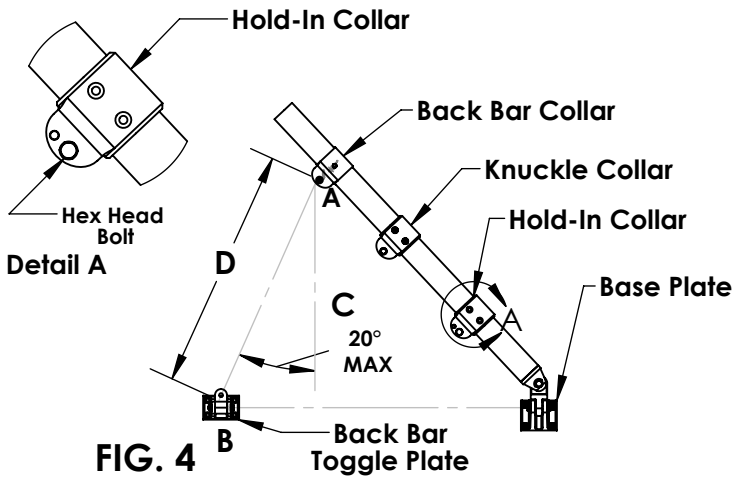
(F) Attach length of rope to rigger tube. Set rigger at proper angle and tie securely to bridge.

(G) Make sure toggle short ear is mounted into base plate. See Fig 2 at A. The long ear of toggle is attached to the base tube end. See Fig 2 at B



**Fig 3**

**Step 2 Install Back Bar**



**FIG. 4**

A- Over the open end of base tube slide on the collars in the order shown above, Hold-in Collar, Knuckle Collar and Back Bar Collar.

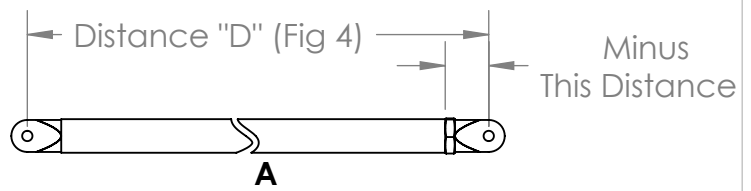
Note: for Orientation of Hold-In Collar refer to Detail A of FIG 4.

B- Attach Back Bar to the Back Bar Collar. (Do not tighten lock nut.) Fig. 4 at A. Secure Back Bar Collar to Rigger Tube.

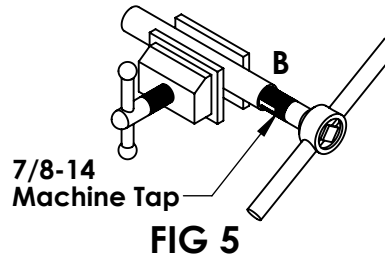
C- Locate Back Bar Toggle plate in line with Base Plate. See FIG 4 at B. The angle of the Back Bar should not exceed 20° forward of vertical. See FIG. 4 at C. Failure to comply may restrict the rigger lay-down angle.

D- Secure back bar toggle plate per one of the three methods described in D of Step 1.

E- Remove back bar from back bar collar and measure distance from hole centers of collar and toggle. See Fig 4 at D. Cut back bar to size, distance D minus the length of Clevis and jam nut. See Fig 5 at A.

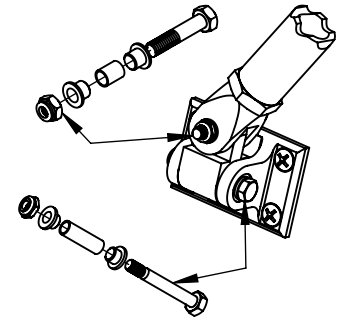


**A**



7/8-14  
Machine Tap

**FIG 5**



**FIG 6**

F- Thread cut end of back bar with 7/8"-14 machine thread tap. See FIG 5 at B. Screw in clevis with jam nut. See FIG. 5 at A. Do not tighten jam nut.

G- Bolt top of back bar to collar.

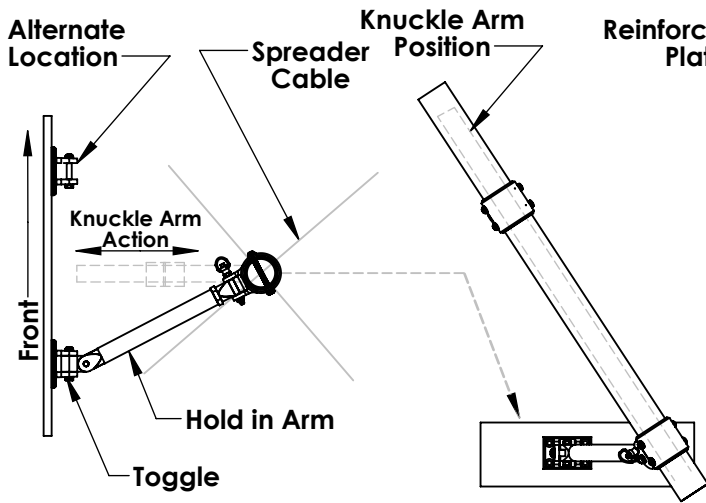
H- Bolt back bar to toggle (make sure nylon bushings are in place) and tighten jam nut. See FIG 6.

I- Untie Rupprieger from bridge and with rope lower and raise rigger to check for free movement. Retie with the Rupprieger locked in up position.

"With the Rupprieger locked in the up position."

J- Un-tape the back bar collar and drill (2) 1/4 holes thru the rigger tube (holes are pre-drilled in collar). See FIG 18 at A. Bolt collar in place.

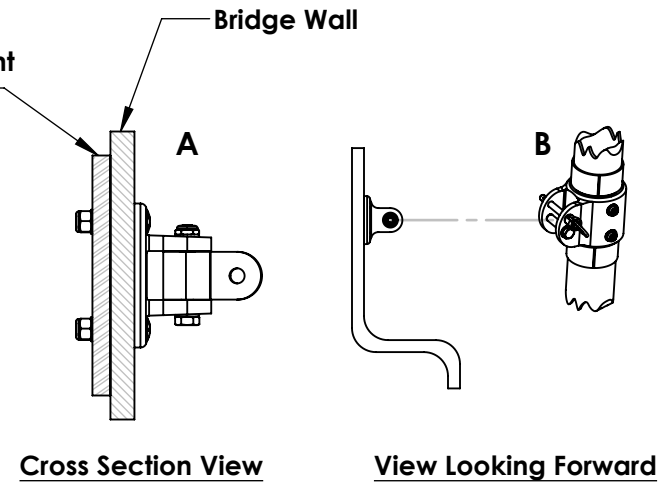
**Step 3 Install Hold-In Arm on Bridge**



View Looking Down

**FIG.7**

Side View of Rigger in up Position



Cross Section View

View Looking Forward

**FIG. 8**

A- Figure 7 shows the relationship of the knuckle arm (to be installed in Step 4) and the proposed location of the hold in arm toggle plate. This plate must be either forward or to the rear of the center line of the rigger tube to prevent interference with the knuckle arm action. Determine the location most accessible to the skipper on the bridge. (Caution: Hold in arm must be inside the spreader cables.)

B- Secure toggle plate to bridge with four 1/4" bolts. For best results use a backing plate behind bridge wall for reinforcement. See Fig 8 at A

C- Position hold-in arm collar (lower one, on rigger tube with thru bolt) Opposite toggle plate on bridge. See Fig 8 at B. Apply two or three wraps of tape on the rigger tube above and below the collar.

D- Position rigger slightly inboard of vertical. This not only takes the weight off of the bridge, but the over-all appearance is enhanced with the rigger tips toed-in slightly. This is not always possible on boats with wide bridges, hard tops, etc.

## RUPP MARINE

Port Salerno, Fl.

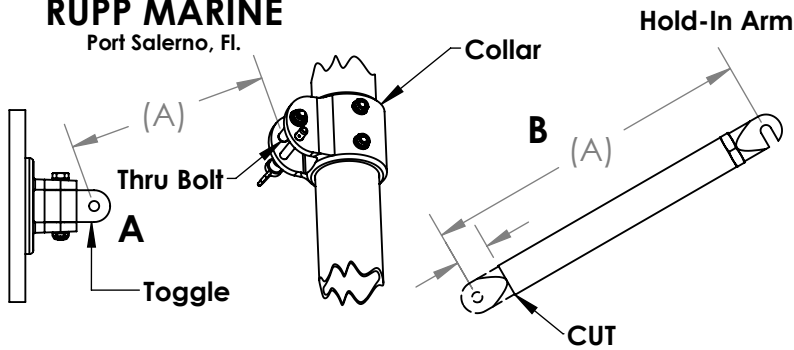


FIG. 9

E- Turn ears of collar directly at toggle plate and measure distance from center line to thru bolt on collar to hole in toggle. See FIG 9 at A. Cut hold-in arm to size, distance (A) minus clevis. See FIG 9 at B

F- Thread cut end of hold-in arm with 7/8" -14 machine tap. See FIG 5 at B. Then screw in clevis

### Step 4 Install Knuckle Arm

A- With Rupprigger in up position locate knuckle arm toggle plate on bridge directly opposite centerline of rigger. See Fig 11. (Make sure nothing interferes with action of knuckle arm).

B- Secure knuckle arm toggle plate to the bridge with four 1/4" bolts. See Step 3B.

C- Position the knuckle arm collar(center collar on the rigger tube) approx. 18" down from the spreader. See FIG 12 at A. Tape collar to tube, see Step 3C. Attach toggle to collar with bolt. Do not tighten lock nut.

D- Tie one end of a length of string securely to the toggle on the collar. This string will determine the length of the knuckle arm.

E- Disconnect the hold-in arm from the rigger. With rope, lower the Rupprigger to the desired down position 45° to 55° from vertical and tie the rigger off at the bridge. See FIG. 13 at A.

F- For appearance sake the knuckle arm collar should be horizontal to, or slightly below the toggle plate mounted on the bridge. If not determine where it should be relocated. See FIG13 at B. Raise and re-tape collar to rigger tube in desired position.

G- Lower rigger again and tie the string taut from the collar toggle. See FIG. 12 at A to the toggle on the bridge. See FIG. 12 at B.

H- Raise Rupprigger to the up position and lock it in place with hold-in arm. See FIG 14 at A.

I- From the bridge, draw the string up to a peak and mark the apex with a piece of tape. See FIG 14 at B. This apex should be below the spreader if possible. If it is too high, lower the collar and repeat steps C,F,G,H and check again.

J- Detach toggles from the knuckle arm collar and toggle plate. Stretch out string alongside the knuckle arm. See FIG 15. Line up the marked apex of the string with the knuckle joint.

K- Using center lines of holes in the toggles on either end of the string, mark the knuckle arm at each end. See FIG 15. Continued Next Page.

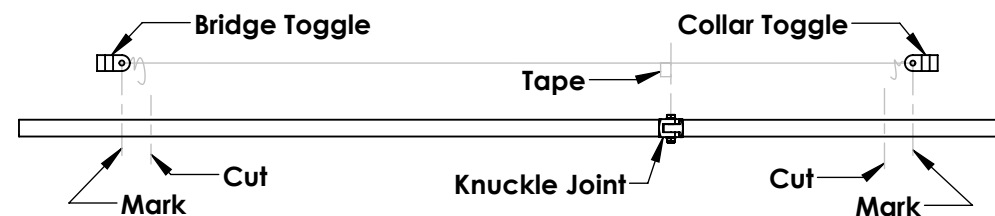


Fig. 15

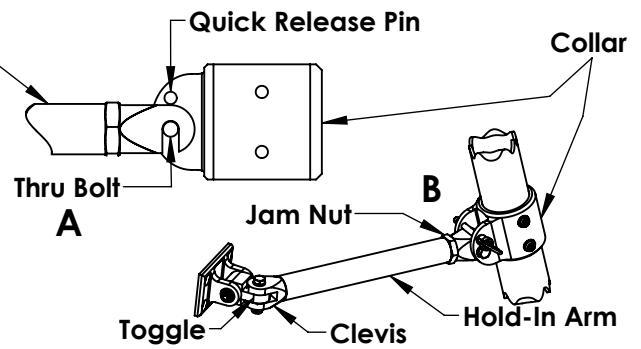


FIG. 10

G- Insert hook of hold-in arm over the thru bolt of collar. See Fig 10 at A. Then lock in place with quick release pin. Bolt clevis to toggle as in previous steps (nylon bushings in place) and tighten jam nut. See FIG 10 at B. The Rupprigger is permanently secured to bridge.

H- Untie the rope from the bridge but leave it tied to the rigger.

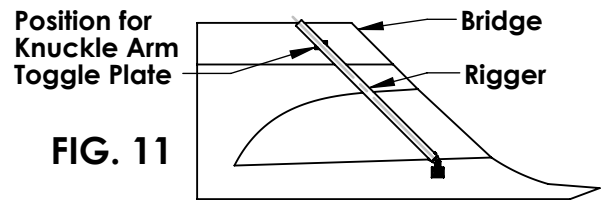


FIG. 11

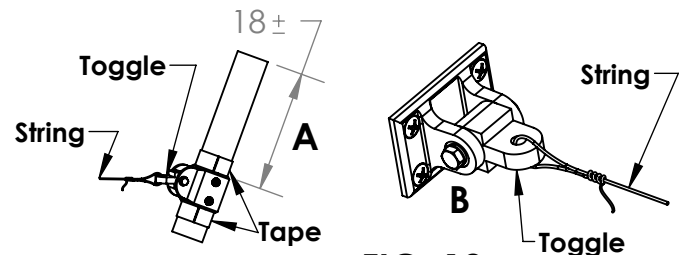


FIG. 12

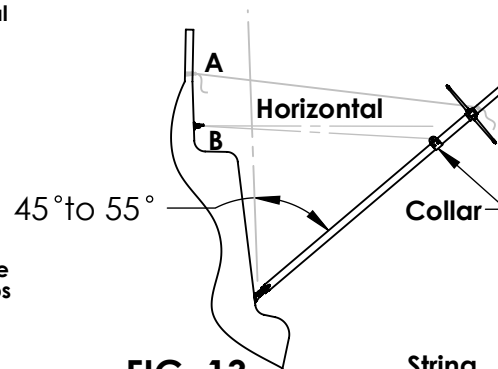


FIG. 13

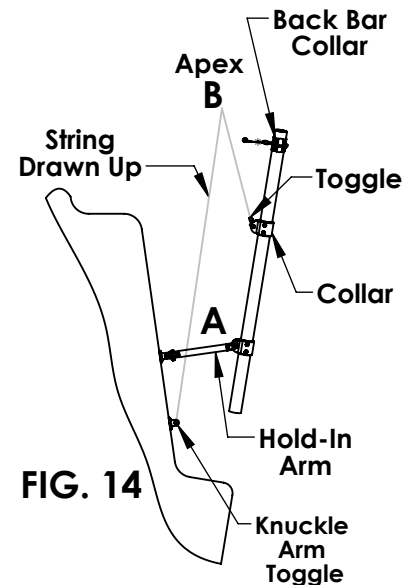


FIG. 14

**Step 4 Install Knuckle Arm - Continued**

L- Shorten the marks by the length of clevises plus jam nuts. Cut both ends.

M- Thread ends of knuckle arm with 7/8-14 tap. See FIG 5 at B. Install clevises with jam nuts. See FIG. 16.

N- Remove string from toggles and reinstall to the knuckle arm collar and toggle plate. Bolt the clevises of the knuckle arm to the toggles. See FIG. 17. Be sure all nylon bushings are in place.

O- With the knuckle arm in position directly between the rigger and the bridge, tighten the jam nuts on both ends.

P- Disconnect the hold-in arm and lower the Rupprigger to the out position. Check to make sure the knuckle arm locks by jerking sharply on the rope. Rigger should not raise until the knuckle joint is raised. If the rigger does not lock in place raise and check alignments and any binding of joints. (Loosen and retighten jam nuts).

**Step 5 THE FINISHING TOUCHES**  
**With the Rupprigger locked in up position.**

A- Un-tape the hold-in collar and drill two 1/4 holes through the rigger tube (holes are predrilled in collar). See FIG 18 at A. Bolt collar in place. Secure quick release pin with the loop of cable under one bolt head. See FIG 18 at B.

B- Un-tape the knuckle arm collar and move it slightly up and down to relax the knuckle joint and adjust it squarely between the rigger and the bridge. See FIG 19 at A. Drill and bolt the collar to the tube using one 1/4" eye bolt and one 1/4" standard bolt. (If collar lies forward when rigger is out install eye of bolt forward. If it lies to rear (install to rear). See FIG 19 at B.

C- Attach spring clip with two screws below the hold-in toggle plate on the bridge to secure the hold-in arm while rigger is out. See FIG 18 at C.

D- Attach a lanyard with snap to the Knuckle arm collar eye bolt. Run the rope under the knuckle to bridge. See FIG 19 at C. Tie off at bridge with enough slack to allow freedom of movement. By running lanyard under the knuckle, the first motion of pulling up will unlock the knuckle so the rigger can be pulled up and secured by the hold-in arm in the up position.

E- Make sure all jam nuts are firmly tightened.

F- The first RUPPRIGGER is installed. Repeat these instructions for the other side. If your boat has the exact configuration on both sides, all bars involved can be cut to same lengths as first side with the possible exception of the hold-in arm. The bridge on some boats vary slightly from side to side, so the length of the hold-in arm may vary accordingly.

G- Check with poles in bases while mounting to insure both units are installed symmetrically.

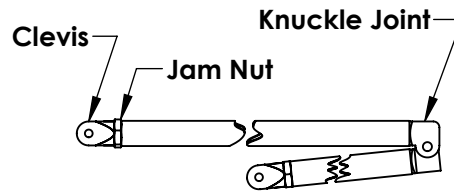


FIG. 16

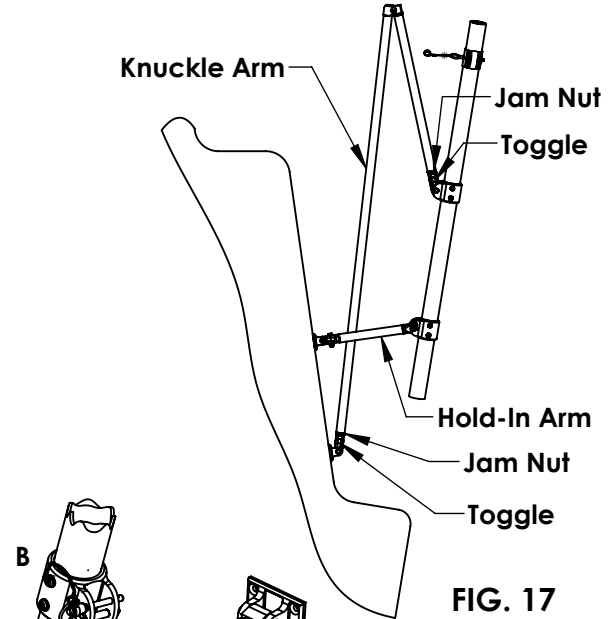


FIG. 17

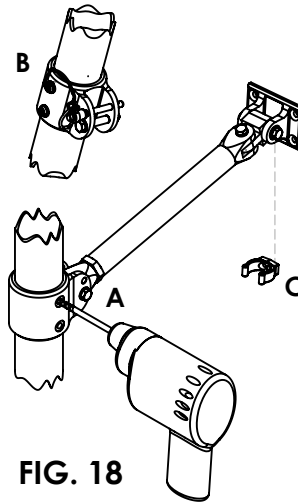


FIG. 18

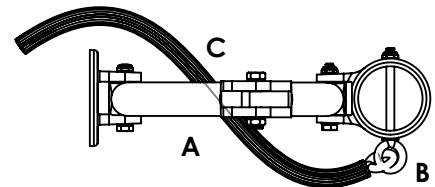


FIG. 19

