INSTALLATION INSTRUCTIONS

TORSION SPRING POWER UNIT

Amarr GARAGE DOORS
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DANGER

High Spring Tension can cause severe injury or death. **Do not** attempt to remove, repair or adjust torsion or extension spring assemblies, red-coated fasteners, or the hardware to which the red-coated fasteners are attached. Removal, adjustment or repair must be made by a professional door repair person.

WARNING

Failure to comply with these instructions invalidates the warranty.

These instructions are a supplement to Amarr's door installation instructions. Complete door installation should conform to both instructions.

Check headroom required on door installation instructions Table 1.

STEP 1: Assemble all parts to torsion spring shaft as shown in (Fig. 1 & 3).

NOTE: Some doors may be supplied with only 1 torsion spring. While these illustrations will show two springs - one spring installation is the same.

All black painted spring winding cones and drums must be on the right side and all red painted spring winding cones and drums must be on the left side, from the inside of the garage looking out.

STEP 2: **Lock door down securely with vise grips in track. This must be done to prevent door from opening prematurely which can cause an injury.**

STEP 3: Raise spring assembly over horizontal track and carefully support temporarily with a rope (Fig 3).

Bolt the two end bearing plates to horizontal angle with 2 (3/8" x 16 x 3/4") carriage bolts and nuts (Fig. 2 & 3). Install 1 5/8" lag bolt into upper flange of bearing plate & into jamb.

STEP 4: Level shaft and position center bearing plate and fasten 2 x 6 center pad with 2 (5/16" x 1-5/8") (Red) lag bolts making sure cutoff corner on bearing plate is at bottom to clear door (Fig. 3). Pre-drill 3/16" holes to prevent splitting. **CAUTION:** THE SPRING ANCHOR BRACKET MUST BE SECURELY FASTENED. TREMENDOUS TORQUE WILL BE EXERTED ON THIS BRACKET. **Check for a spring warning tag on center bearing plate.**

STEP 5: Bring cable up between wall and rollers and over the top of drum and insert cable end into drum slot (Fig. 1).

Slide drum against end bearing plate and make sure the slot is facing installer. Draw cables tight and tighten set screws on drum to lock into shaft. Recommended torque on set screws is 200 in-lbs. (16.7 ft-lbs.) to 240 in-lbs. (20 ft-lbs.). Be careful not to overtighten screws & puncture the tubing (Figs. 1, 2 & 3). After contact with the tubular shaft, turn screw an additional 1/2 to 1 full turn (approx. 18 ft-lbs.).

NOTE: At 2 full turns, a set screw will begin threading itself within the tubular shaft and can cause the strength of the tube to be reduced.

STEP 6: Repeat Step 5 to other side and draw a straight chalk line across each spring(s) (Fig. 1).

STEP 7: When spring assembly, cable and drums have been set in place, fasten vise grip to shaft and reset handle against wall to hold assembly in place and to maintain cable tension until winding is complete (Fig. 1).

CONTINUED ON REVERSE.

DO NOT ATTACH CENTER BEARING PLATE DIRECTLY TO SHEETROCK. ALWAYS USE A 2X6 CENTER PAD.

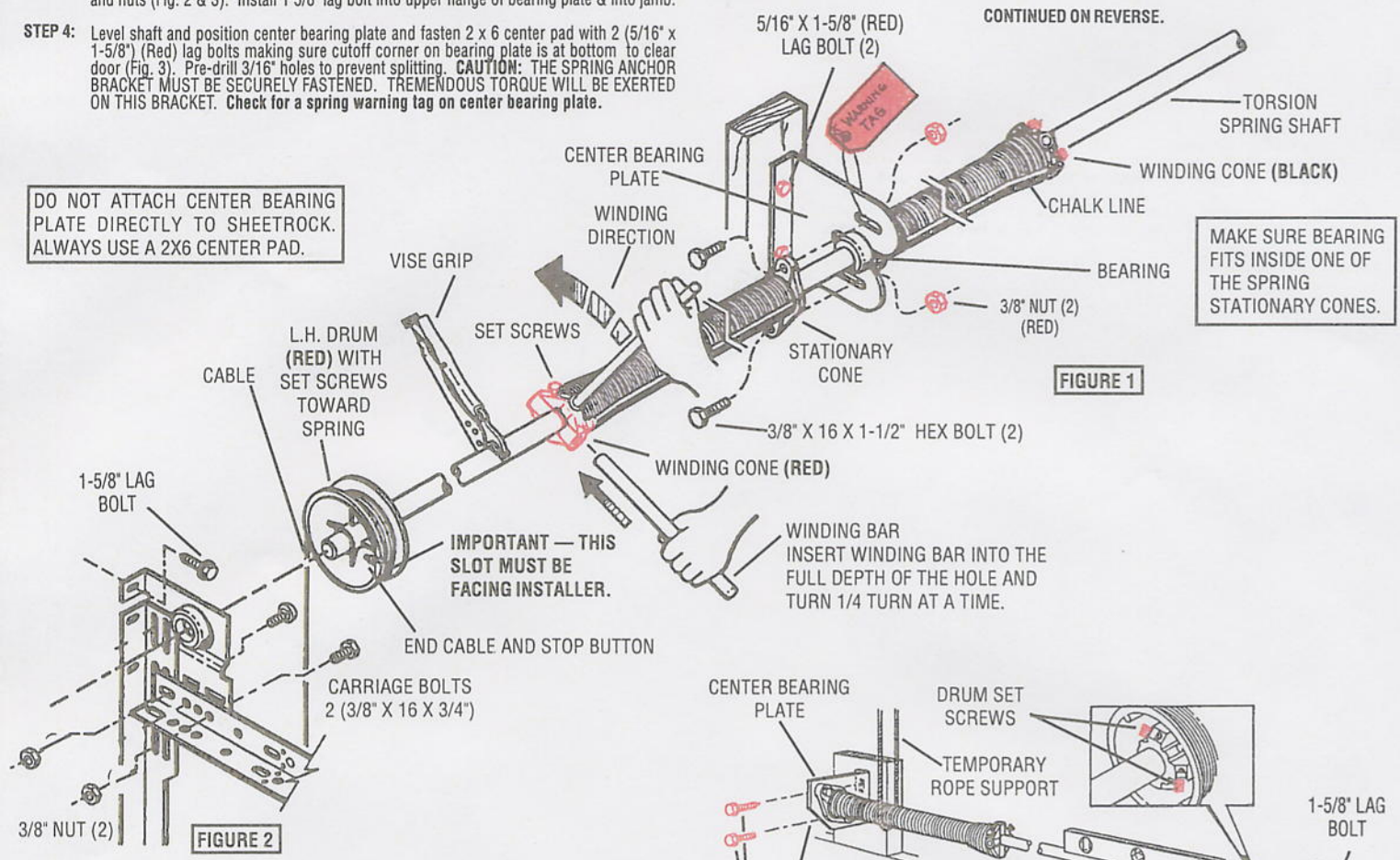

FIGURE 1

MAKE SURE BEARING FITS INSIDE ONE OF THE SPRING STATIONARY CONES.

FIGURE 2

TABLE 2

DOOR HEIGHT	DRUM	APPROXIMATE # OF TURNS ± 1/2 TURN
6'6"	400-8	7
7'	400-8	7-3/4
8'	400-8	8-3/4
9'	400-12	9-3/4
10'	400-12	10-3/4
12'	400-12	13
14'	5250-18	11
16'	5250-18	12-1/2

Each complete turn will show one spiral in the chalk line.
By counting the spirals the number of turns can be measured.

Tighten spring set screws

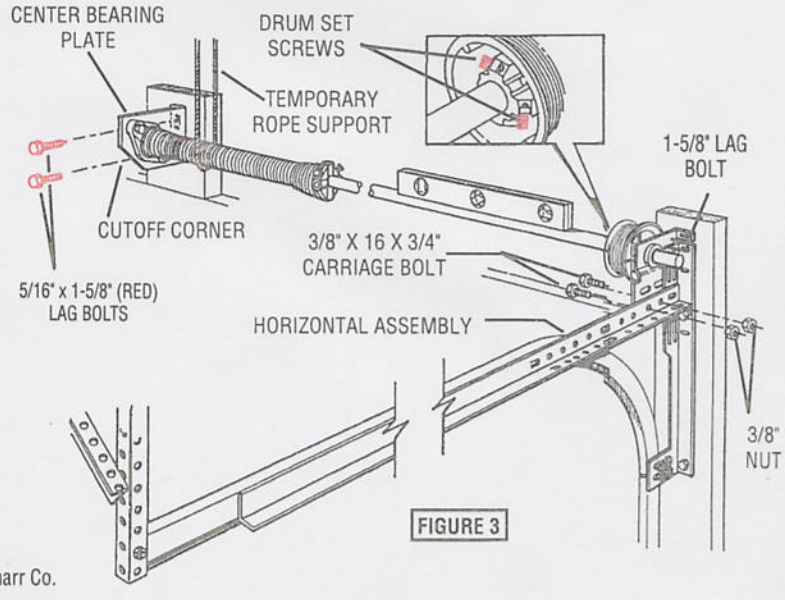

FIGURE 3

STEP 8: **WINDING SPRINGS IS THE MOST DANGEROUS PART OF THE DOOR INSTALLATION.**

Use two 1/2" diameter cold rolled steel spring winding bars 16" to 24" long for winding springs. Do not use screwdriver or any other object to wind springs - this can result in severe injury.

Position yourself on a sturdy ladder and keep slightly to the side of winding bars. NEVER WIND SPRINGS DIRECTLY IN FRONT OF YOU - THIS CAN RESULT IN INJURY. Keep a firm grip on the winding bars.

Insert winding bar into the full depth of the hole and be sure as you wind that bottom bar is securely in place before removing upper bar.

STEP 9: Wind each spring(s) in an upward direction 1/4 turn at time (Fig. 1) to the approximate number of turns according to Table 2.

Tighten the spring set screws. Be careful not to overtighten screws and puncture the tubing. Maintain equal turns on both springs.

ALWAYS TIGHTEN SET SCREWS IN WINDING CONES SECURELY TO SHAFT BEFORE REMOVING WINDING BARS.

STEP 10: Remove nails holding door and carefully remove vise grips on door and shaft and raise the door halfway to check spacing of door and horizontal track. Use vise grips to secure door in halfway up position. Make sure there is 3/8" clearance between door and track. **Permanently fasten rear track hangers and final tighten all bolts.**

Remove vise grips and raise the full height of door. **Be careful - door could still be extremely heavy to open or open very quickly!** A properly counterbalanced door should be able to be raised 3' - 4' off the floor and not move.

Open and close door several times to test operation of door. Readjust spring(s) as necessary according to steps 2, 7, 8, 9, & 10.

DOOR SHOULD OPERATE SMOOTHLY - CHECK OVER THE ENTIRE INSTALLATION. MAKE SURE CABLE DOES NOT BIND.

STEP 11: To complete installation, return to door installation instructions. Leave these instructions by the door for future reference.

DANGER

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INSTALLATION INSTRUCTIONS

EXTENSION SPRING POWER UNIT

WARNING

Failure to comply with these instructions invalidates the warranty.

These instructions are a supplement to Amarr's door installation instructions. Complete door installation should conform to both instructions.

Check headroom required on door installation instructions Table 1.

STEP 1: Install stationary sheave to horizontal track angle about 4" from the jamb using 1 (3/8" x 1-1/2") machine bolt and 3/8" (Red) nut (Fig. E).

STEP 2: Assemble sheave and spring strap to one end of spring as shown in Fig. A using 1 (3/8" x 1-1/2") machine bolt and 3/8" (Red) nut. Fasten eye bolt to track hangers with 5/16" (Red) nuts on both sides of the hanger (Fig. B).

STEP 3: Hook the other end of the spring over the eye bolt and crimp eye bolt closed. Repeat steps 1 & 2 for the other side of door.

STEP 4: Remove nails holding door and raise the door half way **(Be careful - door can weigh from 120 to 400 pounds)** to check spacing of doors and horizontal track. Use vise grips to secure door in halfway up position. Make sure there is 3/8" clearance between door and track. **Permanently fasten rear track hangers.**

Remove vise grips and raise the full height of the door so that the bottom of door is level with header. **(Be careful - door can weigh from 120 to 400 pounds.)**

When door is fully open, place "C" clamps or vise grips in the track below the door to keep it from closing.

STEP 5: There are 2 pairs of cables with extension spring doors. The lifting cable is longer than the spring retention cable. The looped end of the lift cable should be attached to the bottom bracket of the door. Thread the other end of the lifting cable over the stationary sheave and then through the spring sheave (Fig 1 & A). Then tie the cable to the cable adjustment clip, then attach this clip to the horizontal angle with a S-hook exactly as shown in (Fig. C). The cable should be taut and spring slightly stretched to hold the door in the open position. Repeat STEP 5 for the other side. **Maintain equal tension on both springs.** Check for a spring warning tag on each spring.

STEP 6: With door in the open position, install the spring retention cable.

Thread the looped end of the cable through the track hangers just above the eyebolt and then thread the plain end of the cable through the loop drawing the cable tightly around the hanger (Fig. B). Thread the plain end through the spring from back to front. Tie the safety cable securely to the horizontal angle in the two side-by-side holes exactly as shown in (Fig. D) leaving the cable slightly relaxed. Repeat STEP 6 for other side.

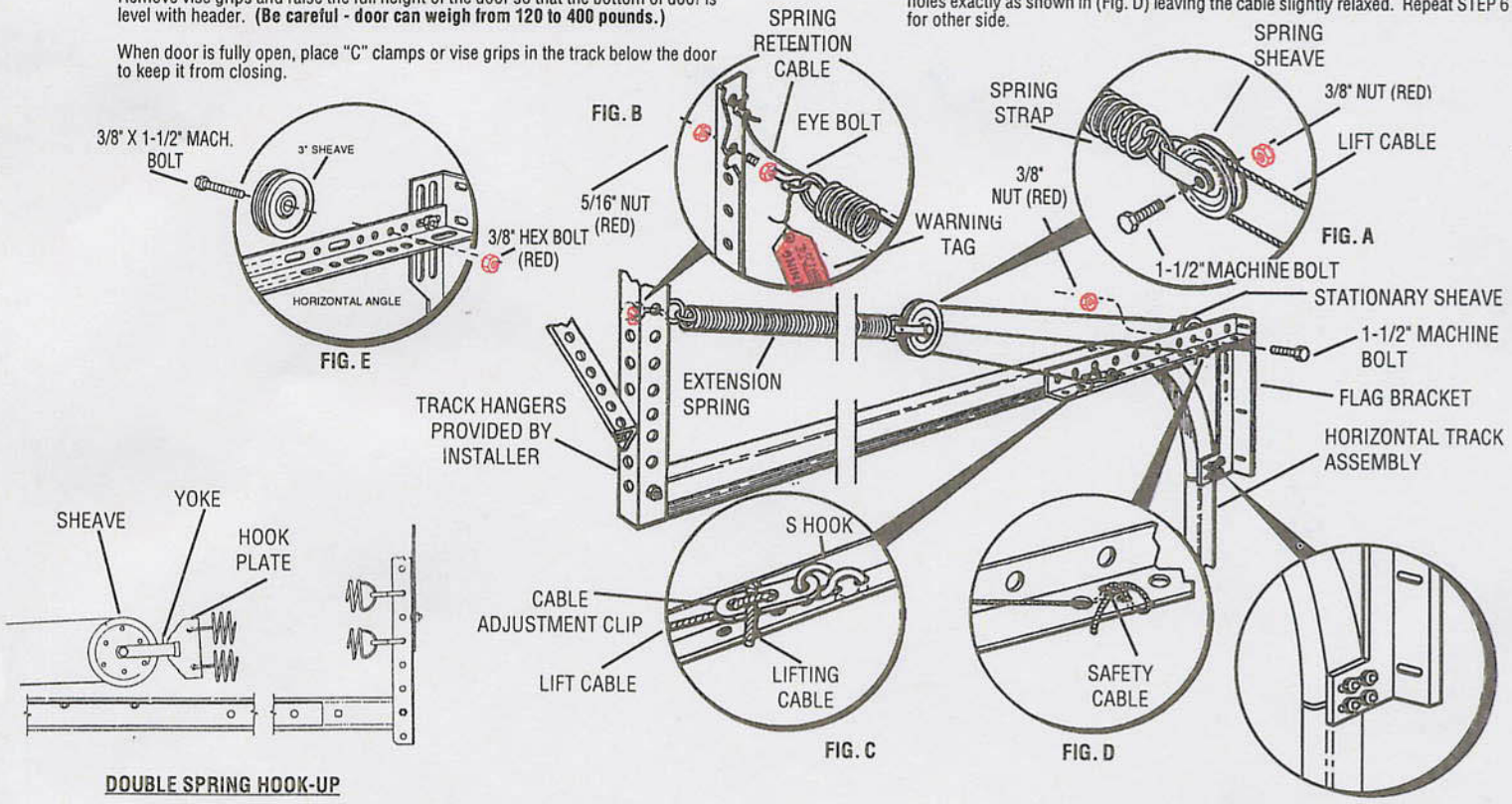

FIGURE 1

STEP 7: Carefully remove vise grips. Door should remain in the open position. Slowly close and open door several times to test operation of door.

STEP 8: Readjust springs as necessary by moving the S-hook and cable adjustment clip along the horizontal angle. Be sure to maintain equal tension on both springs. Crimp eye bolt and S-hook. **DO NOT ATTEMPT TO INSTALL OR ADJUST SPRINGS WITH DOOR IN THE DOWN (CLOSED) POSITION.**

Check spacing of door and track - make sure there is 3/8" clearance and adjust if necessary.

DOOR MUST OPERATE SMOOTHLY - CHECK OVER ENTIRE INSTALLATION - MAKE SURE CABLE DOES NOT BIND. FINAL TIGHTEN ALL BOLTS.

STEP 9: To complete door installation, return to door installation instructions. Leave these instructions by the door for future reference.

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