

SERIES 925 (A1 & A2) INSTALLATION & SERVICE BULLETIN

The instructions that follow are intended for use with the 925 A1 and 925 A2 models. They also are to be used for all outputs whether Patriot Sensors & Controls resolver, potentiometers, encoders, or customer resolvers. The latter will also have additional installation instructions.

INSTALLATION:

The 925 may be mounted in any position, except for the two shown in **Fig. 1** (Please note the qualifier for the two positions.) 5/16" dia. bolts are the preferred choice for securing the unit to the base to which it is mounted.

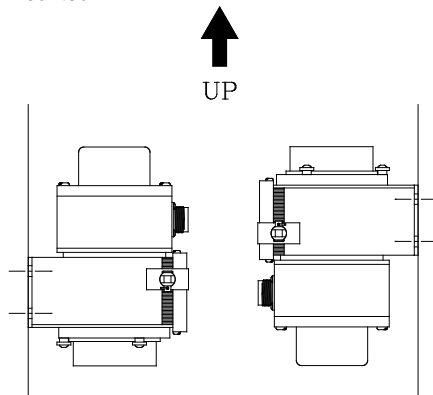


Fig. 1 Positions not recommended without external cable support.

Cable attachment is with the .19" dia. pin provided on the cable end assembly. The rubber bumper on the cable serves as a stop for initial cable tension. The 925 unit is shipped with the correct spring tension applied (see **Important Note** under **SPRING TENSION ADJUSTMENT** section for information regarding spring tension). If spring adjustment is absolutely necessary, please see **SPRING TENSION ADJUSTMENT** for proper tension adjusting instructions.

If the 925 was ordered with initial cable lead, the length will be marked with a steel clip. **Do not** remove the top cover during installation.

If the unit has a standard Patriot Sensors & Controls resolver installed, an input connector plug (see drawing #SD0296000) is included along with a wiring diagram (see drawing #SD0308900) for the multiconductor cable.

CABLE REPLACEMENT:

TOOLS REQUIRED:

5/64" ALLEN WRENCH

FLAT BLADE SCREWDRIVER

1) Remove the top cover and release spring tension, if any (see **SPRING TENSION ADJUSTMENT** section). Between the top cover and the spring housing there is an access hole (see **Fig. 2**).

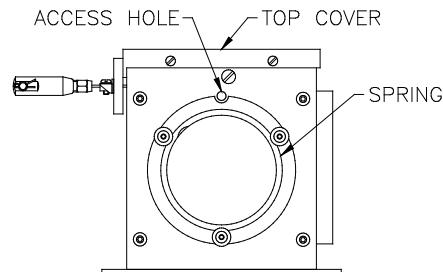


Fig. 2 Location of screw access hole.

Rotate the drum until the end of a button head socket screw appears (by looking through the access hole). Remove this screw with the Allen wrench (**NOTE:** Care must be taken when removing the screw so as to prevent the screw from falling off inside the enclosure). Pull all remaining cable free from the drum.

2) The new cable end should lay in the machined pocket on the drum (see **Fig. 3**). Re-insert screw through cable end eye and into threaded hole on drum with Allen wrench and tighten.

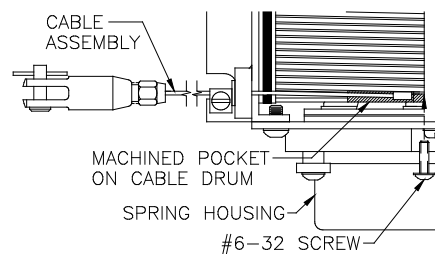


Fig. 3 Location of pocket on cable drum.

Test the integrity of the cable anchor by tugging on the cable once or twice.

3) To wind the new cable on the drum easily, the recoil springs(s) should be disconnected from the drum shaft. See **SPRING TENSION ADJUSTMENT** section for instructions on how to disconnect the spring(s).

4) After the spring(s) have been disconnected, rotate the drum until all the cable has been stored. Make sure that the cable is fed into the first drum groove correctly. If not, the cable will interfere with the cable guide (gray steel bar across drum) and affect the operation of the unit.

5) Adjust spring tension (see item 3 under **SPRING TENSION ADJUSTMENT**) and then reassemble the rest of the 925 unit.

SPRING TENSION ADJUSTMENT and REPLACEMENT:

TOOLS REQUIRED:

3/32" ALLEN WRENCH

SMALL FLAT BLADE SCREWDRIVER

Important Note:

The following instructions should be used only after repair or other remedial attention has been given to the 925. Tension adjusting is **not** necessary at the time of initial installation since the proper tension has been set before shipment. Increasing spring tension is not the answer to erratic recoil action since it only serves to mask the real problem. Increasing spring tension decreases cycle life. Carried to the extreme, it will pull the cable out of the cable anchor, break the spring through overload, or some similar failure. **These types of failures are not covered by the warranty.**

1) For safety reasons, all spring tension adjustments should be conducted with the cable retracted on the drum. At this time the stored energy is at a minimum.

2) Loosen two of the three servo clamp screws with the Allen wrench (see **Fig. 4**). Grasp the spring housing firmly while loosening the third screw. Relax any residual tension. If spring removal and installation is not required, refer to item 3 of this section for remaining tension adjustment instruction.

3) With the three servo clamp screws installed, but not tightened, the cast aluminum spring housing for the A1 model and the plastic housing of the A2 should be grasped firmly and rotated **clockwise**. The rotation is 10 turns for the A1 and 15 turns for the A2 model. Secure the three servo clamp screws.

SPRING REMOVAL: A1

The spring housing assembly may be freed by removing all three servo clamp screws. Grasp spring cover, which is an aluminum casting, and pull cover and spring free from drum shaft roll pin (see **Fig. 4**). (**CAUTION:** Cover and spring must be removed together as **one** unit.) Spring may now be removed for inspection or replacement by disconnecting spring tang from the cover.

CAUTION: On reassembly, make sure hook tang faces the same direction that it did at disassembly.

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SPRING REMOVAL: A2

The input from the drum shaft to the spring package is similar to the A1 model, but everything else is unique. Both spring tangs are connected to the spring transfer assembly (see Fig. 5).

1) Inspect the spring housing to see if a clear plastic spacer is inside. If not, place it in now before installing the spring.

2) Slide the "C" clamp (around the O.D. of the spring) close to one edge of the spring. Drop spring into the spring housing, ensuring that

housing slot. Grasp the spring by the "C" clamp and push it into the housing with your thumbs, removing the "C" clamp at the same time. (**CAUTION:** The "C" clamp must **not** be removed before placing the spring in housing. The spring will unwind, causing bodily harm and rendering the spring useless).

4) Seat the spring tang in the housing slot securely, while removing the screwdriver.

5) Place the remaining plastic spacer over the spring. While holding the spacer in the housing, mount spring assembly to the 925 unit by sliding inner spring tang into slot on 5/16" rollpin. Hold the spring assembly in place while re-attaching servo clamps. Do **not** tighten clamps at this time.

6) Refer to step 3 under **SPRING TENSION ADJUSTMENT** for adjusting spring tension.

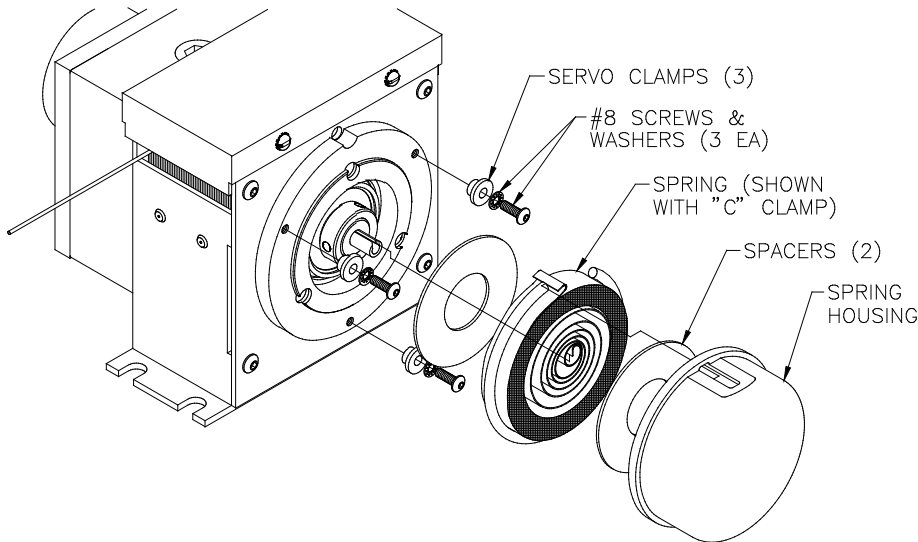


Fig. 4 Spring assembly parts - 925 A1

CAUTION: The two spring tangs are reverse-mounted to each other. It is important that the direction of engagement on the steel lug is noted when the springs are removed and duplicated when reinstalled.

SPRING INSTALLATION: A1

the outer spring tang is aligned with the slot on the housing, and the "C" clamp is facing out.

3) Slip the blade of a small screwdriver under the spring tang and guide the tang into the

SPRING INSTALLATION: A2

1) Refer to steps 1 and 2 of **SPRING INSTALLATION: A1**, except when placing the first spring into the spring housing, ensure that the inner spring tang slides into the rollpin mounted inside the spring housing.

2) Place spring transfer assembly over first spring, seating the outer spring tang over the horizontal steel bar on the transfer assembly. Place another plastic spacer over the spring transfer assembly.

3) Refer to step 2 of **SPRING INSTALLATION: A1** when installing the second spring. When placing the spring into the housing, ensure that the outer spring tang is seated on the **opposite** side of the transfer assembly bar as that of the first spring.

4) To complete spring installation, refer to step 5 of **SPRING INSTALLATION : A1**.

5) Refer to step 3 under **SPRING TENSION ADJUSTMENT** for adjusting spring tension.

For ordering information of replacement parts for the 925 A1 or A2 unit, please refer to the **OPTIONAL SPARE PARTS** segment of **SECTION 925** in the **Gemco** catalog.

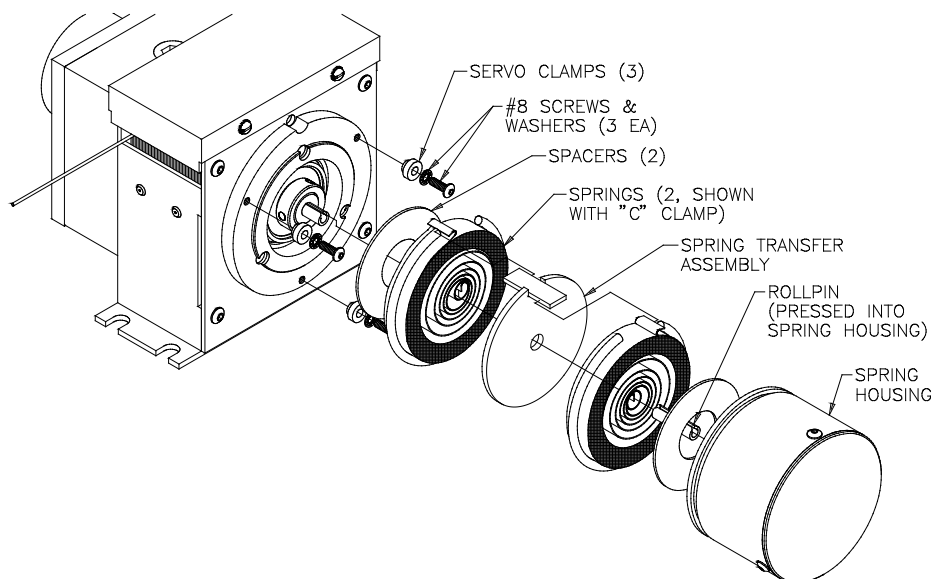


Fig. 5 Spring assembly parts - 925 A2