

RULTRACT® RETRACTOR CABLE REPLACEMENT INSTRUCTIONS

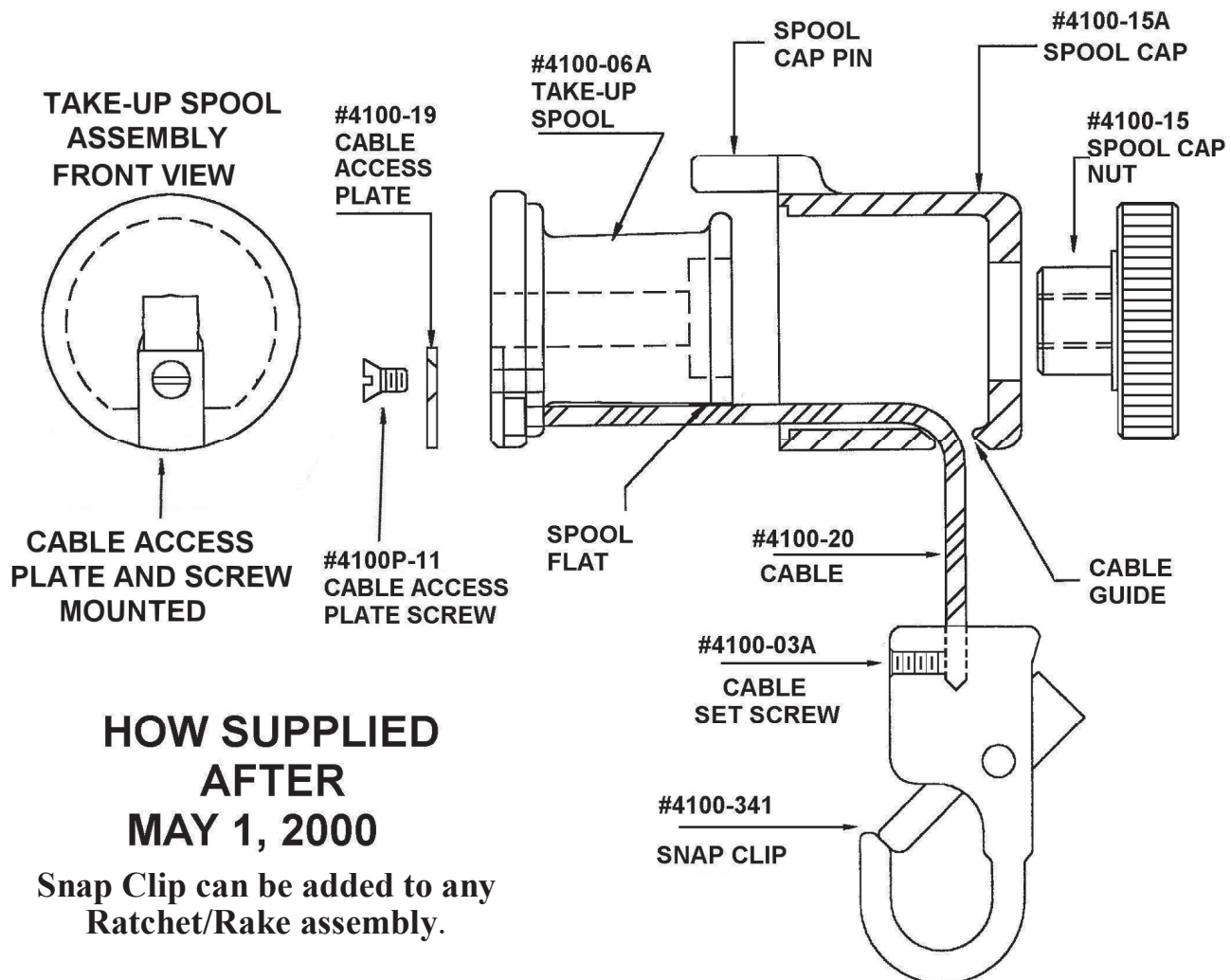
Rultract, Inc. is the ONLY authorized service center in the U.S.A.

When your Rultract® instrument needs repair or service, contact Rultract Inc. All instruments must be decontaminated before being returned for service. Repair charges will apply to instruments repaired outside the warranty. **Any modification or alteration by user or unauthorized service vendor will void all warranties and release Rultract® from any liability.**
Recommended Factory Service Every 12-18 Months.

WARNING: Cables worn or damaged through mishandling must be replaced with a **new Rultract® cable**. Do not attempt to repair, cut, alter or modify the cable in any way. **Cutting and reattaching the cable will cause it to weaken and fray. This will result in failure during use.**

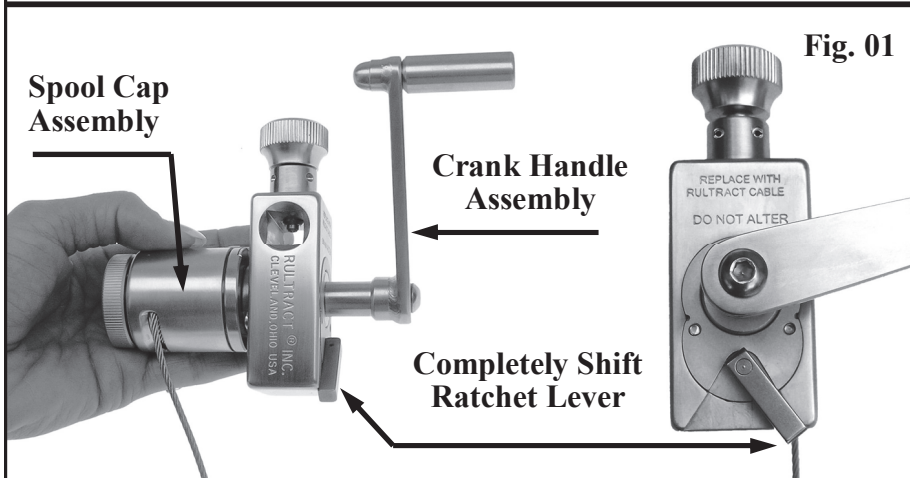
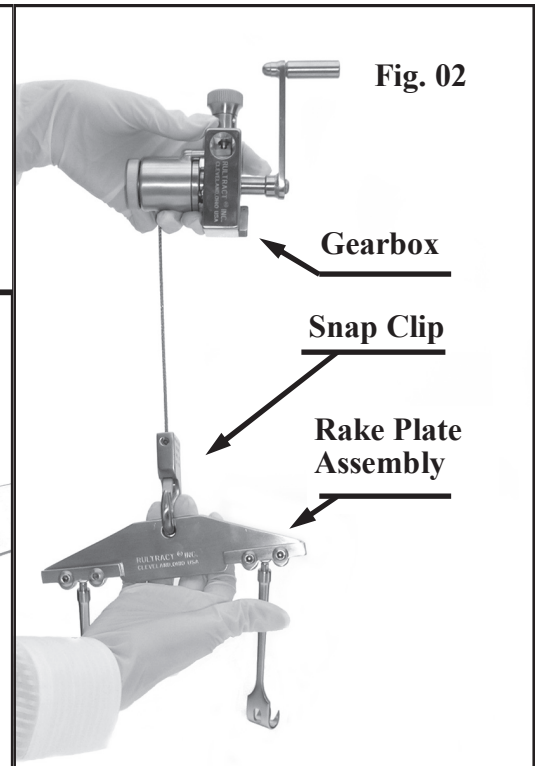
#4100-51

SPOOL CAP ASSEMBLY



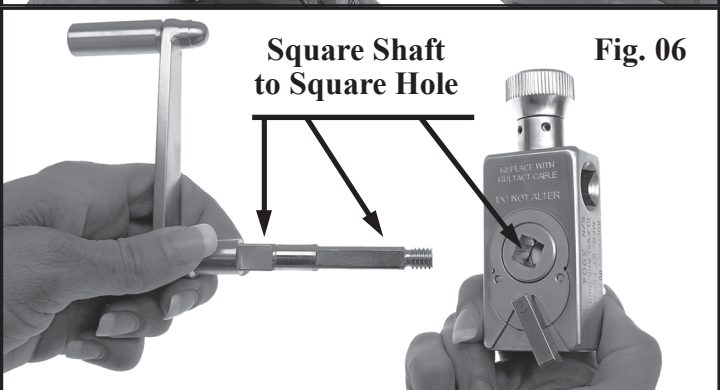
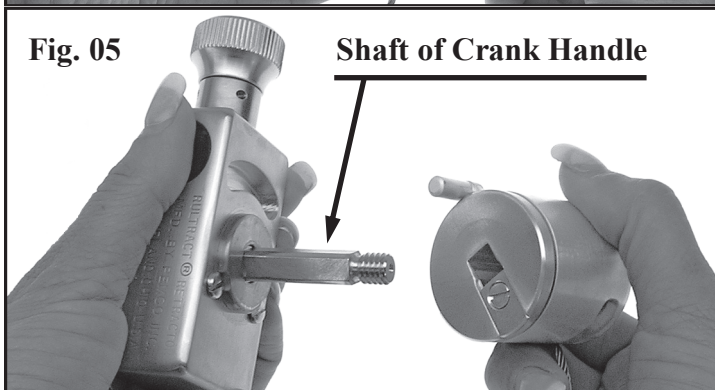
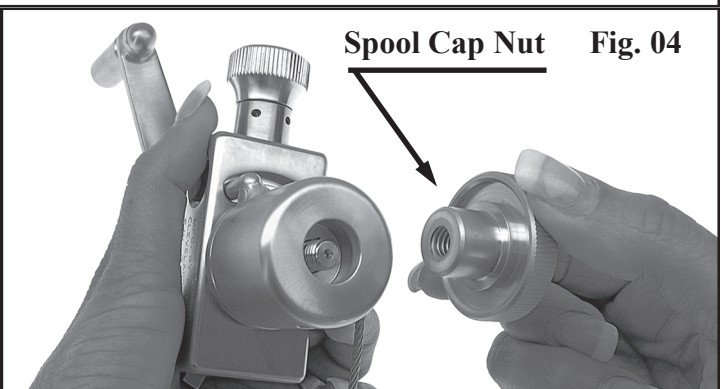
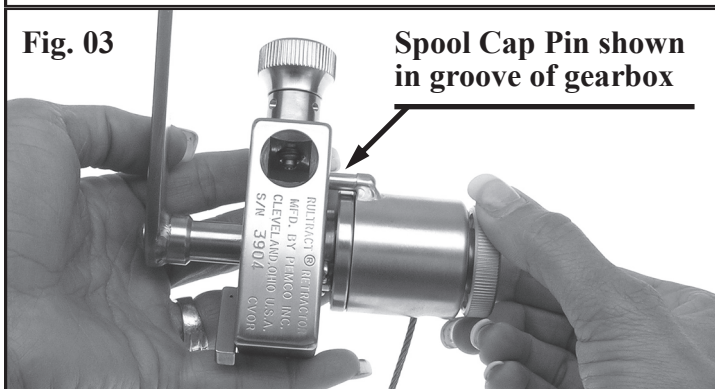
Rultract Inc. 5663 Brecksville Rd. Cleveland, Ohio 44131 U.S.A.
Email: rultract@rultract.com Website: www.rultract.com

STEP 1 PULL CABLE FROM SPOOL : While holding the Ratchet by the Spool Cap Assembly, shift Ratchet Lever to reverse direction (Fig. 01). Pull down on Snap Clip or Rake Plate Assembly to **completely unwind the cable, approximately 16" (Fig. 02)**. If cable is jammed or will not unwind freely, proceed to the next step and remove the Spool Cap Assembly. **Note: Worn or Damaged cable must be replaced at this time with a new Rultract® Cable.**



STEP 2 REMOVE SPOOL CAP AND CRANK HANDLE ASSEMBLY:

Holding the Crank Handle Assembly as shown, unscrew and remove the Spool Cap Nut using a counter clockwise rotation (Fig. 03 & 04). Slide Spool Cap Assembly from shaft of Crank Handle Assembly (Fig. 05). Slide Crank Handle Assembly out of Gearbox. At this time, note square of shaft and square hole in Gearbox (Fig. 06).



CAUTION: Always insert spool cap pin into the groove of the gearbox. Failure to do so may result in disassembly or damage to the unit.

STEP 3 REMOVE CABLE FROM PIVOT HUB OR SNAP CLIP:

With Cable completely unwound, hold Pivot Hub or Snap Clip in one hand. Insert 1/8" allen wrench (supplied with cable replacement pack) into Cable Set Screw (Fig. 07 or 08). Loosen a minimum of two full turns. It is not necessary to completely remove set screw. To remove Cable, hold the Spool Cap Assembly in one hand and pull on hub (Fig. 09). **Note:** Set Screw has created an upset in the existing cable (Fig. 10).

WARNING: Always wear eye protection when removing cable.

Fig. 07

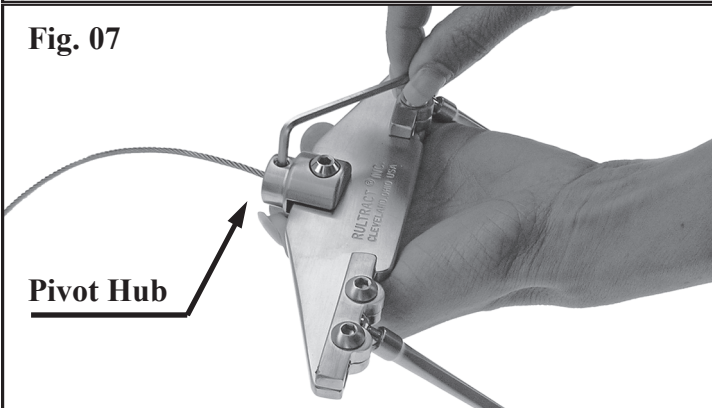


Fig. 08

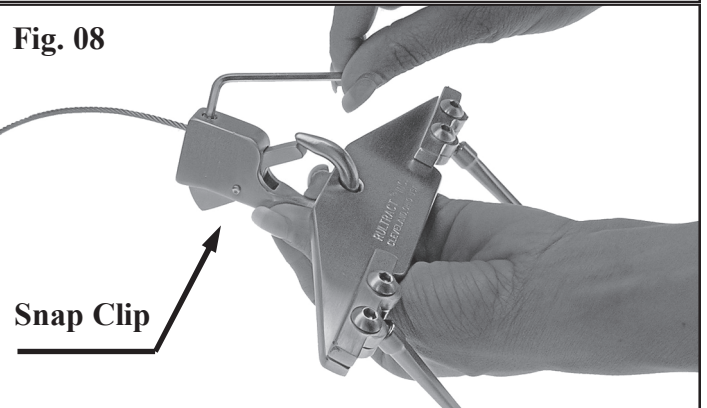


Fig. 09

PULL TO REMOVE

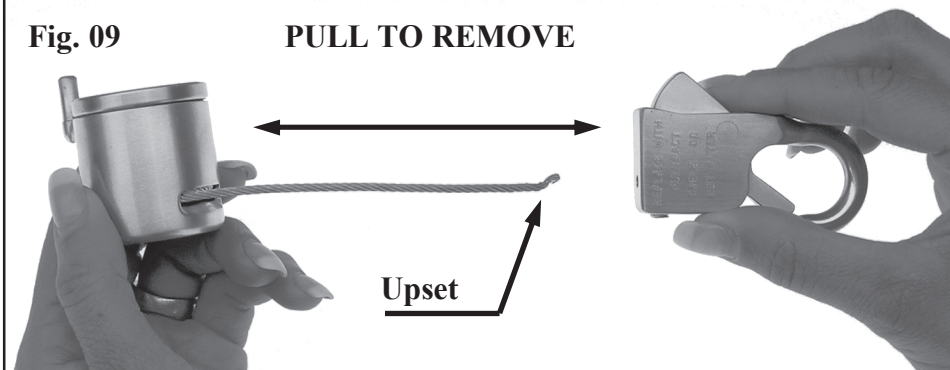
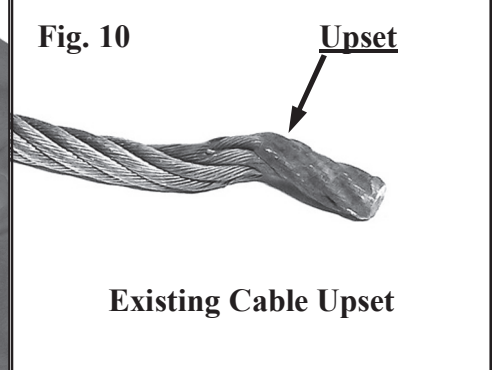


Fig. 10

Upset



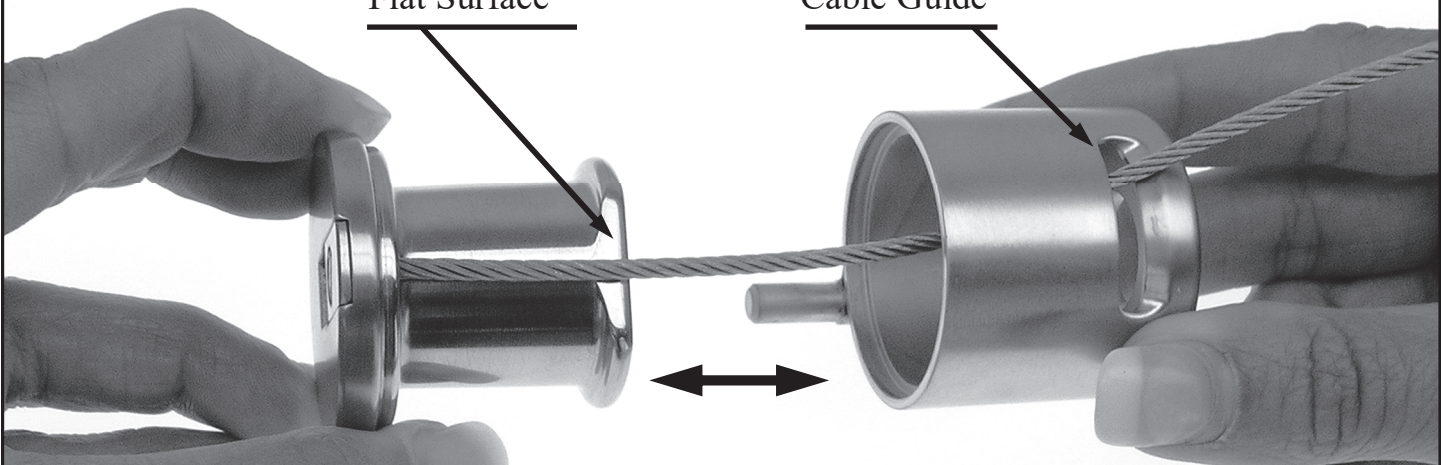
STEP 4 SEPARATE SPOOL CAP AND TAKE UP SPOOL:

Pull Cable completely through the Spool Cap cable guide (Fig. 11). At this time note the flat surface of the Spool.

Fig. 11

**Take Up Spool:
Flat Surface**

**Spool Cap:
Cable Guide**



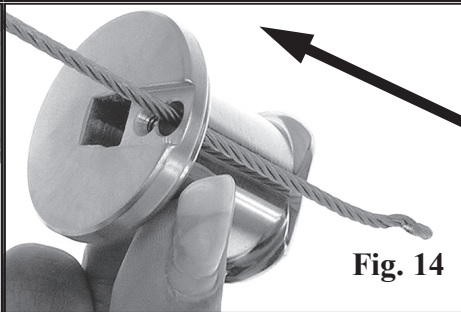
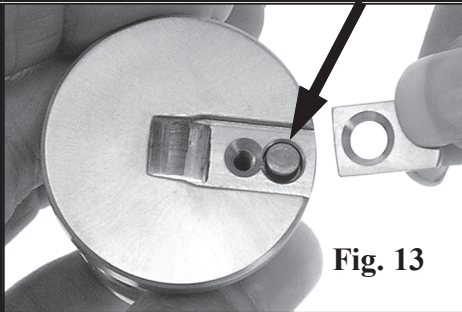
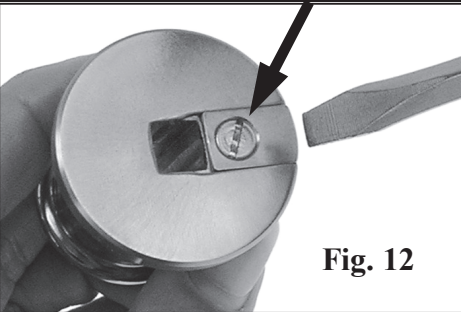
STEP 5 REMOVE CABLE FROM SPOOL:

While holding the Spool, remove the Cable Access Plate Screw and Cable Access Plate (Fig. 12). Note: Orientation of Cable Access Plate and screw, flush with all surfaces. Cable Bushing is seated in Spool (Fig. 13). Pull Cable through the hole (Fig. 14).

Cable Access Screw and Plate

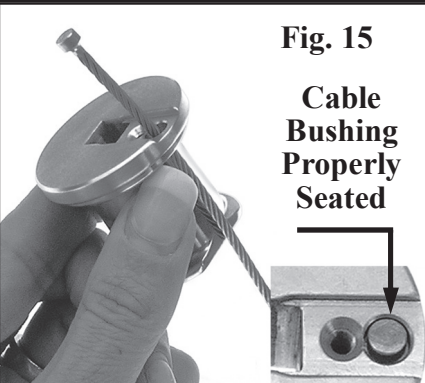
Cable bushing seated in Spool

Direction of pull



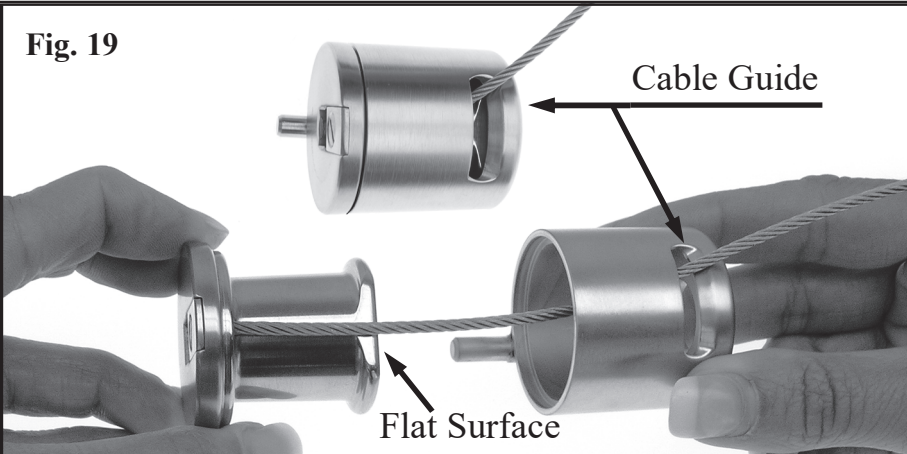
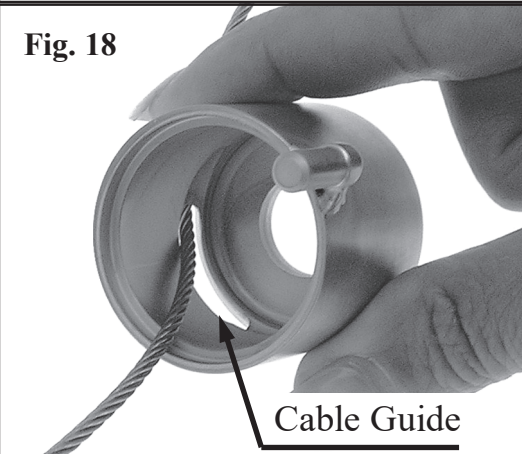
STEP 6 INSTALL CABLE:

Insert tip of a **new Rultract® cable** through the same hole (Fig. 15). Assure the Cable Bushing is properly seated. Replace the Cable Access Plate (**recess side up**) and loosely insert Cable Access Plate Screw. Push outer edge of Cable Access Plate inward when tightening screw (Fig. 16). This will assure the edge of the Cable Access Plate is flush with the edge of the Spool. Note: After Cable Access Plate is tightened, cable must spin freely (Fig. 17).



STEP 7 REASSEMBLE SPOOL CAP AND SPOOL:

Insert **new Rultract® Cable** into largest opening of Spool Cap and through the Cable Guide (Fig. 18). Align the Cable Guide with the flat surface of the Spool and slide the two pieces together (Fig. 19).



STEP 8 INSTALL CRANK HANDLE ASSEMBLY, SPOOL CAP AND SPOOL CAP NUT:

Slide the shaft of the Crank Handle Assembly into Gearbox by inserting the squared end into the square hole located above the Ratchet Lever (Fig. 20). **Note:** Both squared sections of the shaft must be completely inserted and **flush**. While holding the Gearbox and Crank Handle together, line up Spool Cap Pin with the groove in the Gearbox. Slide the Spool Cap Assembly onto the shaft (Fig. 21). Spool Cap Pin must be inserted into groove of Gearbox. While holding Crank Handle Assembly and Gearbox firmly, screw the Spool Cap Nut onto the shaft by turning clockwise. **Hand tighten securely (Fig. 22).**

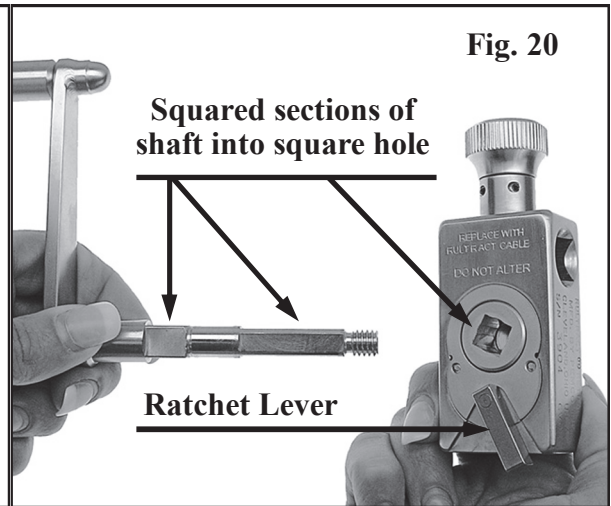


Fig. 20

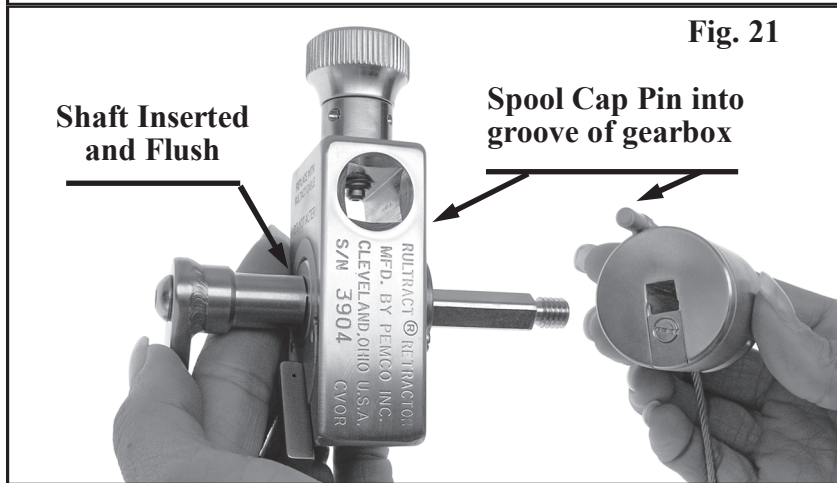


Fig. 21

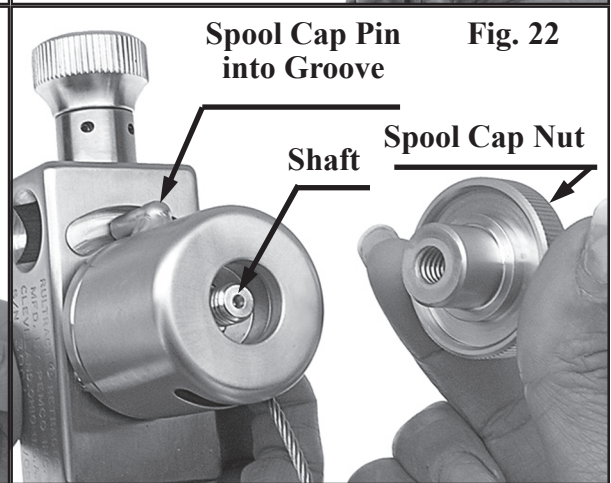


Fig. 22

STEP 9 CABLE INSERTION INTO SNAP CLIP OR PIVOT HUB:

Insert the **new Rultract® cable** completely into the hole until it stops, approximately 1/2" deep. **Make sure set screw is not blocking cable (Fig 23).** Proper tightening of the cable will require some force to compress the cable. Holding the rake plate securely will give the correct amount of leverage. Turn set screw until it makes contact with the cable. **Note** position of allen wrench and tighten set screw 1 to 1 1/2 turns (Fig. 24). Proper tightening of the set screw creates an **upset**, which properly retains the cable. Once the set screw has been tightened do not reposition cable.

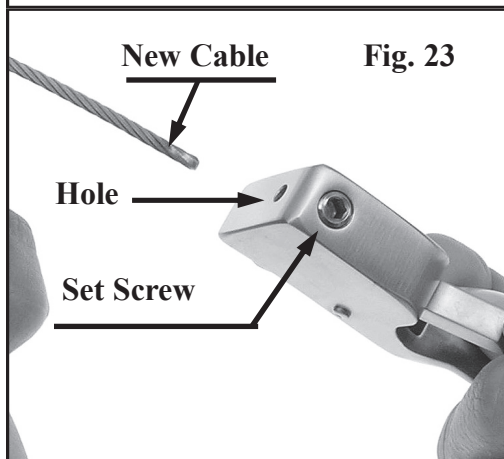


Fig. 23

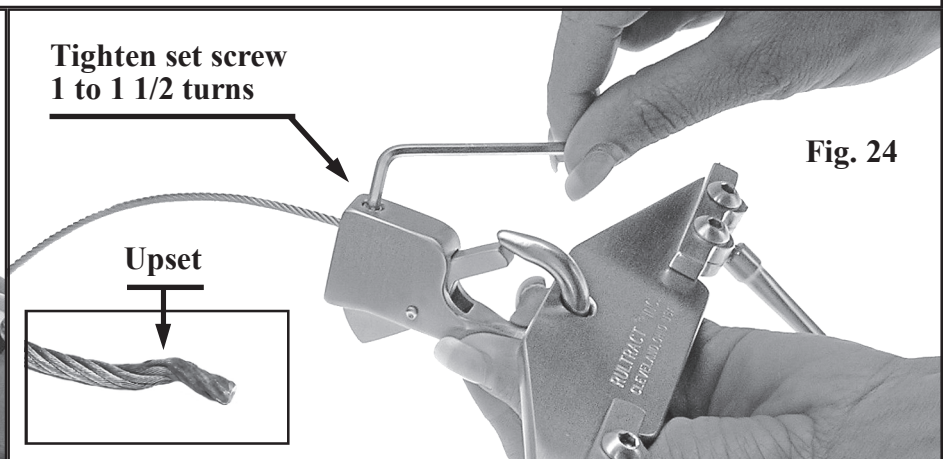


Fig. 24

STEP 10 TEST WINDING FUNCTION:

Allow rake plate to hang freely.** Weight of Rake Plate allows for proper alignment of Cable on Spool. Total length of exposed cable is approximately 16 inches (Fig. 25). Note: Leave one to two inches of Cable exposed to prevent flexing of Cable on Cable Guide at insertion site (Fig. 26). This position protects the Cable from kinking and allows gas or steam to penetrate during sterilization.

DEMONSTRATION

PROPER ALIGNMENT OF CABLE ON SPOOL WHEN WOUND CORRECTLY. Shown without Spool Cap

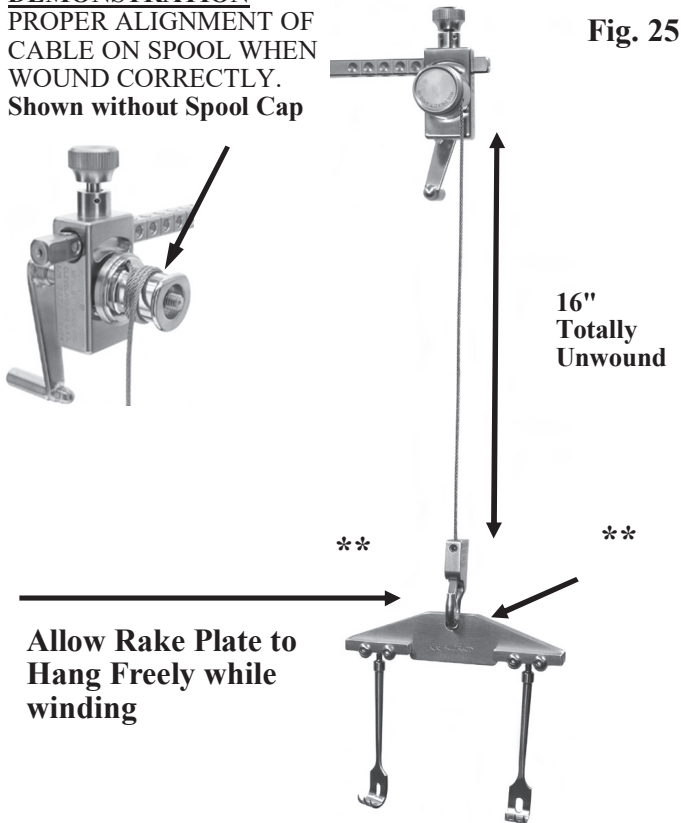
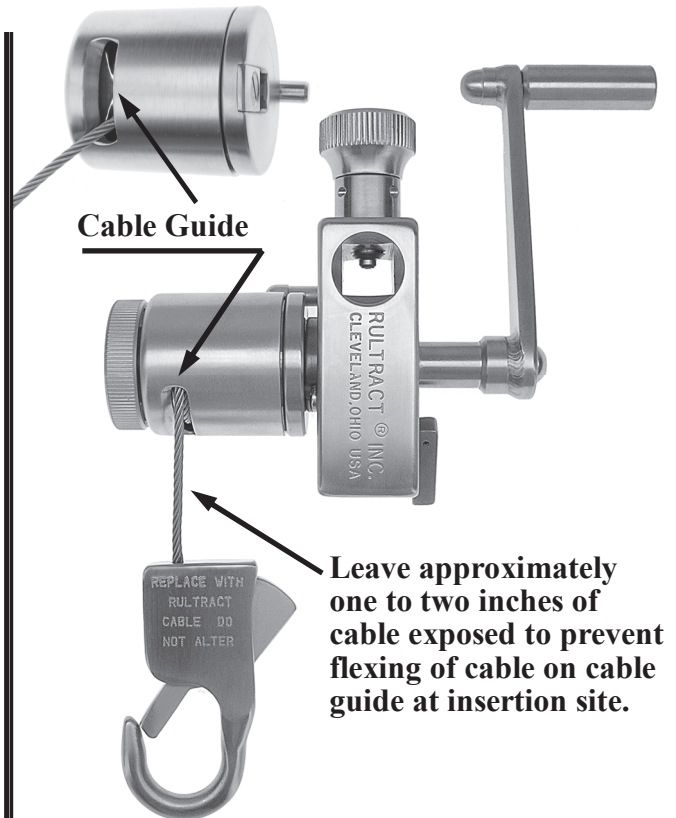


Fig. 26



HANDLING OF RULTRACT® RETRACTOR CABLE

WARNING:

Cables worn or damaged through mishandling must be replaced with a **new Rultract® Cable**. Do not attempt to repair, cut, alter or modify the Cable in any way. **Cutting and reattaching the Cable will cause it to weaken and fray. This will result in failure during use.**

CAUTION:

****Always allow rake plate to hang freely when winding Cable.** The weight of Rake Plate allows for proper alignment of Cable on Spool. Failure to allow the Rake Plate to hang freely may cause the Cable to kink during winding. Leave approximately one to two inches of Cable exposed to prevent flexing of Cable on Cable Guide at insertion site.

CAUTION:

Always insert spool cap pin into the groove of the gearbox. Failure to do so may result in disassembly or damage to the unit.

Rultract Inc. 5663 Brecksville Rd. Cleveland, Ohio 44131 U.S.A.

Email: rultract@rultract.com Website: www.rultract.com