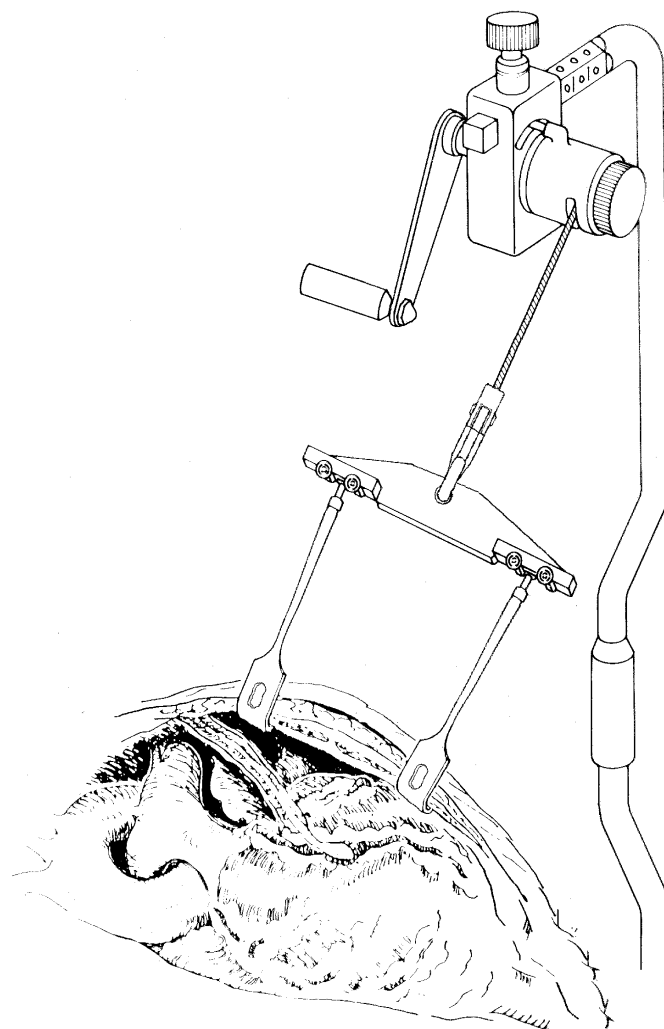




**STERILE PROCEEESING
CLEANING AND STERILIZATION
INSTRUCTIONS
RULTRACT RETRACTOR SYSTEM**



***Rultract** has established a medical industry standard for surgical retraction. The systems provide gentle, uniform lift with maximum exposure. For further information contact Rultract® directly at rultract@rultract.com or visit our website, www.rultract.com. Toll Free 888 550 5695*

STERILE PROCESSING CLEANING AND STERILIZATION INSTRUCTIONS RULTRACT RETRACTOR SYSTEM

Please identify your system components and follow appropriate instructions

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PROPER SERVICING AND REPAIR OF YOUR RULTRACT RETRACTOR SYSTEM

WARNING

USING OUTSIDE SERVICE VENDORS TO SERVICE/REPAIR YOUR RULTRACT RETRACTOR SYSTEM:

USING OUTSIDE SERVICE VENDORS TO SERVICE OR REPAIR YOUR RULTRACT RETRACTOR SYSTEM WILL VOID ALL WARRANTIES, WAIVE ALL RULTRACT LIABILITY ASSOCIATED WITH THE USE OF THE SYSTEM AND COULD POTENTIALLY PUT THE HOSPITAL OPERATING ROOM STAFF AND PATIENT AT RISK.

Use only Rultract OEM parts and service as provided at the factory authorized Rultract service center. Failure to do so can put the patient, hospital and OR staff at risk.

Rultract is the only authorized service center for the Rultract Retractor system. Outside service vendors are not authorized to service or repair the Rultract Retractor System and do not have access to all Rultract OEM replacement parts.

HANDLING OF RULTRACT® RETRACTOR CABLE

The Rultract Retractor System uses a specific cable which holds the Snap Clip and Rake Plate. If the proper OEM pieces are not used and the pieces are not serviced in regular intervals by a factory trained technician, they could separate during surgery possibly causing serious injury.

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.

Contact Rultract at service@rultract.com to schedule service/repair or with question concerning routine maintenance and service.

Rultract® recommends factory service of your Skyhook Retractor System every 12-18 months.

Rultract® recommends that the cable be changes every 12-18 months depending on frequency of use. months.

CLEANING

RULTRACT® CLEANING INSTRUCTIONS

Cleaning: Rultract® System

Repeated processing has minimal effect on this instrument. End of life is normally determined by wear and damage due to use.

1. Remove excess soil on instrument as soon as is reasonably practical following use.
2. Disassemble Ratchet/Rake per instructions. No disassembly of other products is required for cleaning.
3. It is expected that commercially available products for the use of cleaning are used.
4. **If using an automated cleaning system (such as a sonicator) use a commercially available detergent approved for automatic use that is ph-neutral or alkaline. Set appropriate wash and rinse cycles according to the manufacturer of the automatic cleaning system's instructions.**
5. If cleaning manually, thoroughly clean surface contamination. Soak in a neutral or alkaline pH disinfecting solution or enzymatic cleaner. Do not soak for longer than what is recommended by solution manufacturer.
6. Instrument should be thoroughly rinsed with distilled water after cleaning to remove any residual debris or cleaning agent.
7. Instruments may be lubricated using a small amount of surgical grade lubrication. Let instrument drip dry a few moments before wrapping for sterilization.
8. Visually inspect instrument for any damage prior to use.

Biocompatibility of Rultract's Medical Devices

Rultract uses 420 and 304 Stainless Steel in its medical products that would contact the patient directly

**IN PREPARATION FOR THE CLEANING CYCLE, YOU MUST
DISASSEMBLE RATCHET/RAKE ASSEMBLY, 4100-IMR-6, Fig. 01 AS SHOWN IN Fig. 02,
NO FURTHER DISASSEMBLY REQUIRED
Proceed to pages 6-9 for disassembly instructions**

Fig. 01

4100-IMR-6

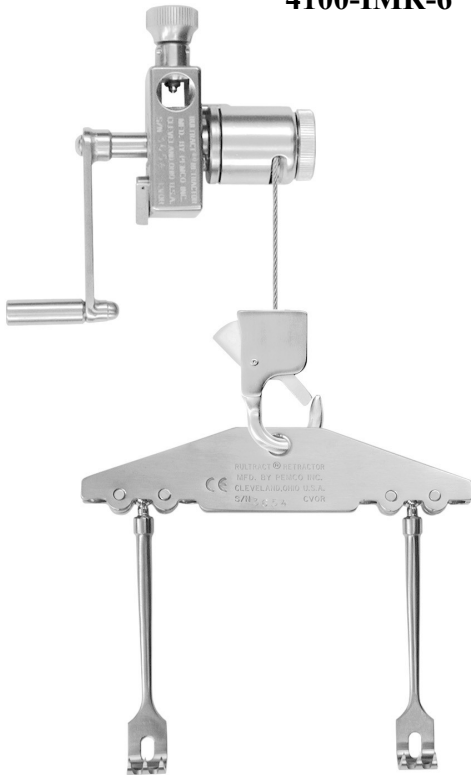
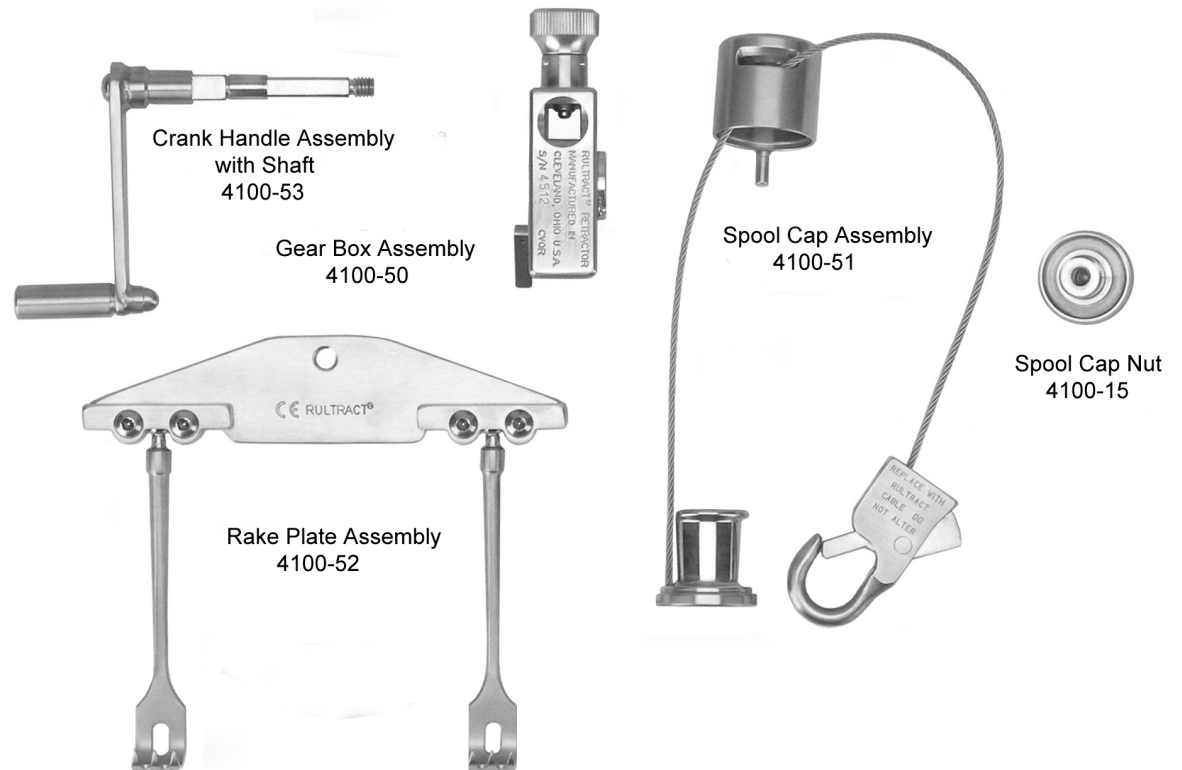


Fig. 02



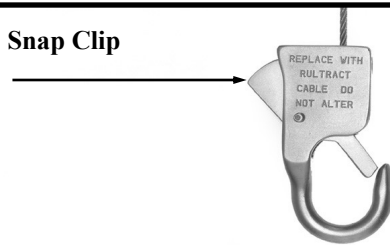
Determine Your Rake Plate System Configuration

STEP 1 RAKE PLATE:

If your system has a Snap Clip and a Rake Plate

Disconnect Rake Plate from Snap Clip

Snap Clip



Rake Plate

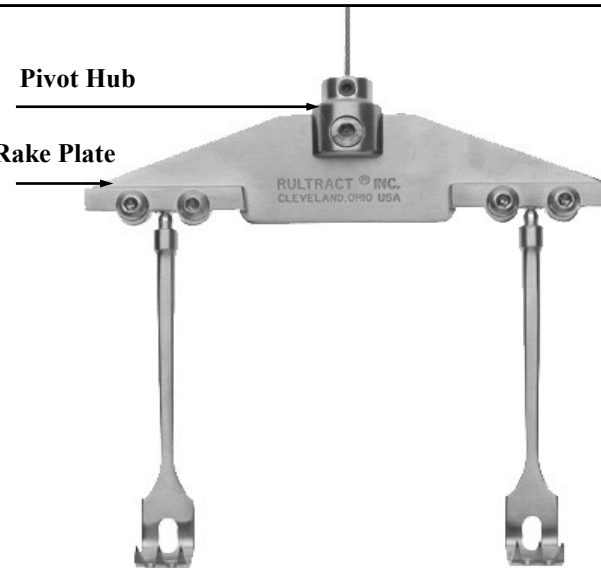


If your system has a Pivot Hub Attached to the Cable and Rake Plate

Do not disassemble Rake Plate from Pivot Hub—Proceed to Step 2

Pivot Hub

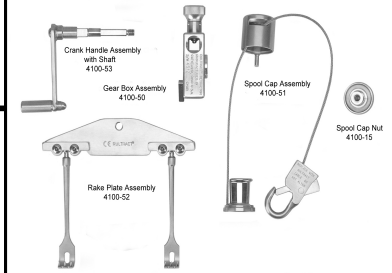
Rake Plate



If your system has a Snap Clip Only

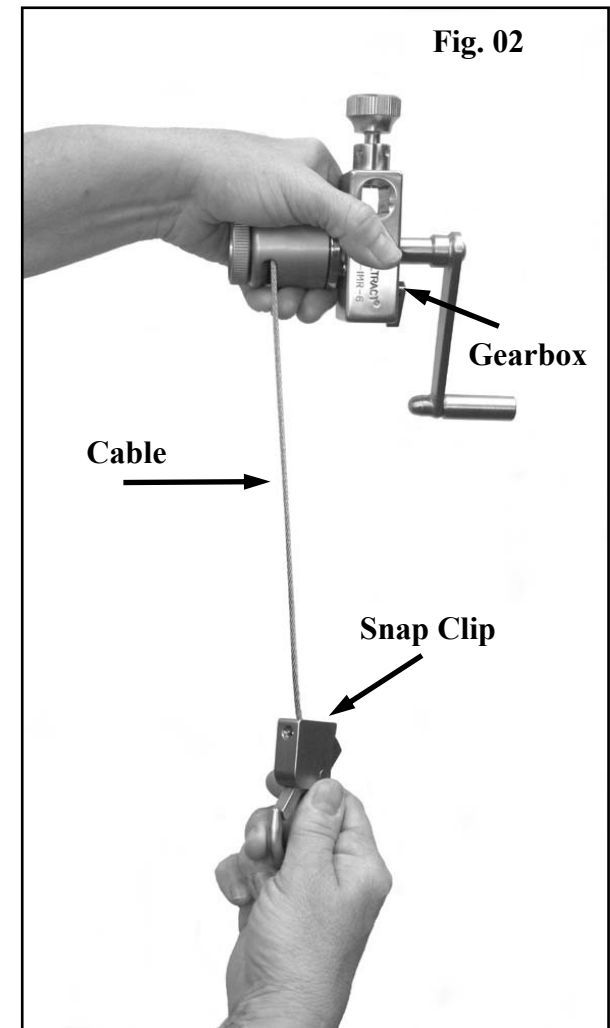
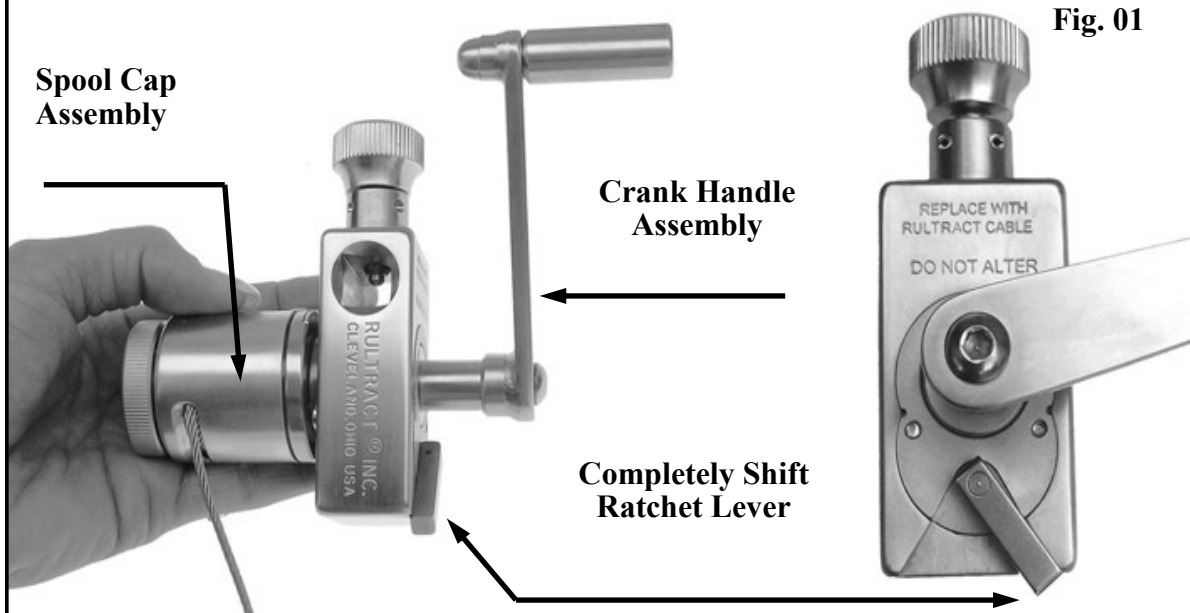
Proceed to Step 2



DISASSEMBLE RATCHET ASSEMBLY FOR CLEANING →

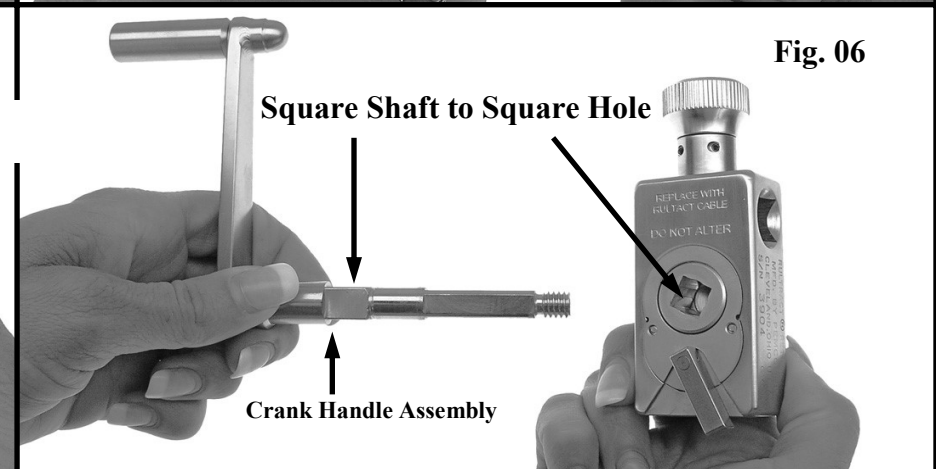
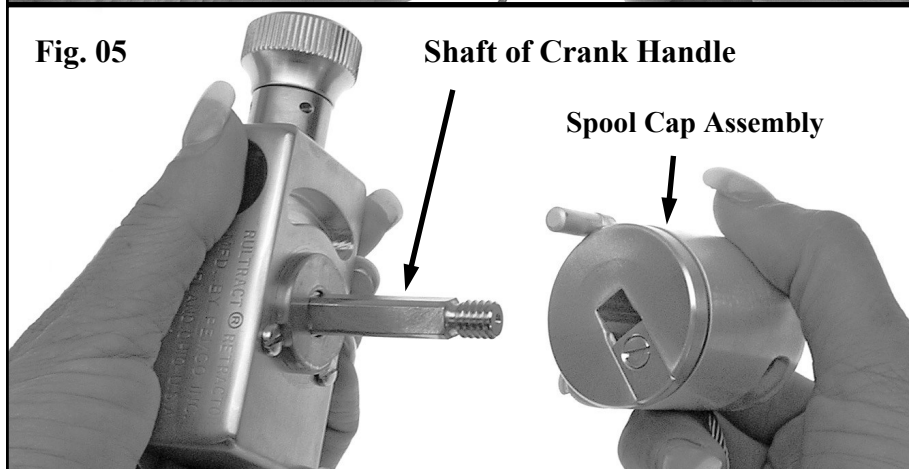
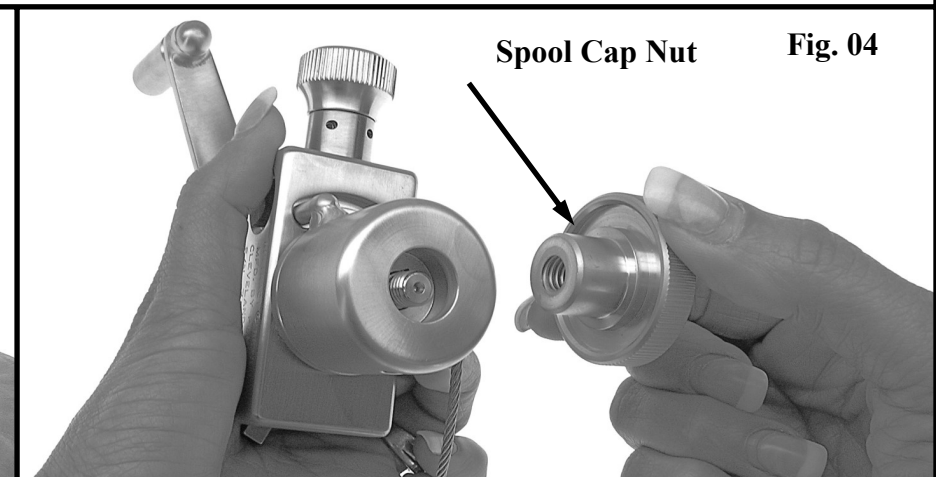
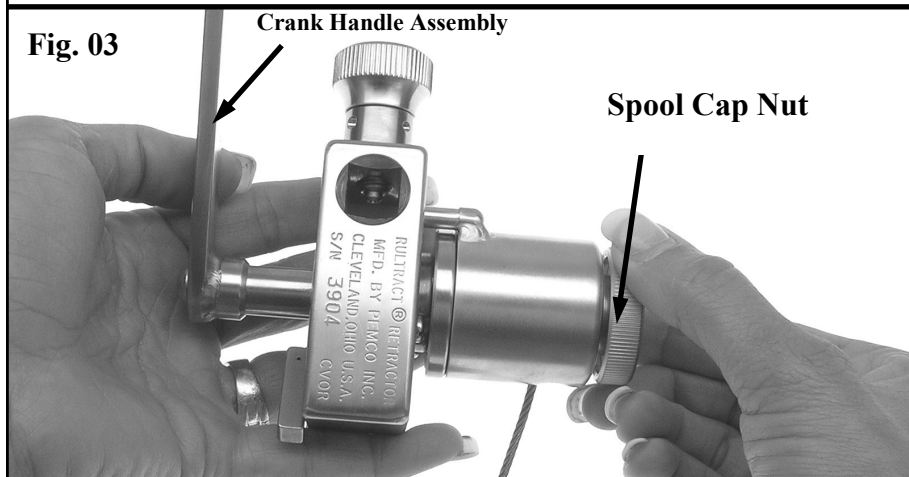
STEP 2 PULL CABLE FROM SPOOL: While holding the Ratchet by the Spool Cap Assembly, shift Ratchet Lever to reverse direction (Fig. 01). Pull down on Snap Clip or Rake Plate Assembly **to completely unwind the cable, approximately 16" (Fig. 02)**. If cable is jammed or will not unwind freely, proceed to 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.



DISASSEMBLE RATCHET ASSEMBLY FOR CLEANING (continued)**STEP 3 REMOVE SPOOL CAP ASSEMBLY 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).



DISASSEMBLE RATCHET ASSEMBLY FOR CLEANING (continued)**STEP 4 SEPARATE SPOOL CAP FROM SPOOL:**

To separate Spool Cap from Spool, line up Cable Guide and Pin and Cable Access Plate of Spool (Fig. 07). This will align flat on Spool with Cable Guide and allow the two pieces to separate (Fig. 08).

Slide Spool Cap along cable as shown in (Fig. 09).

Do not disassemble any further than Fig. 11

Fig. 07

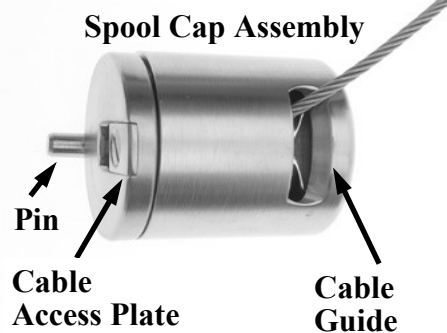


Fig. 08

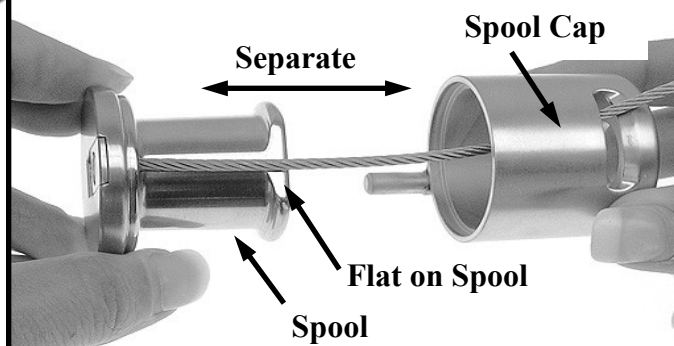


Fig. 09

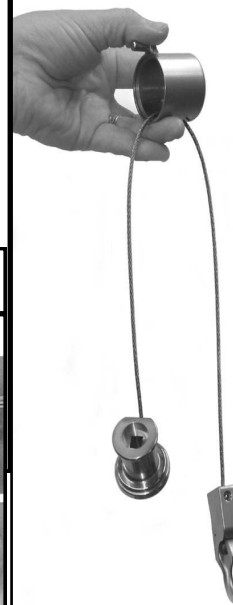


Fig. 10

STEP 5 BACK OUT (OPEN) THE NON-REMOVABLE LOCK KNOB:

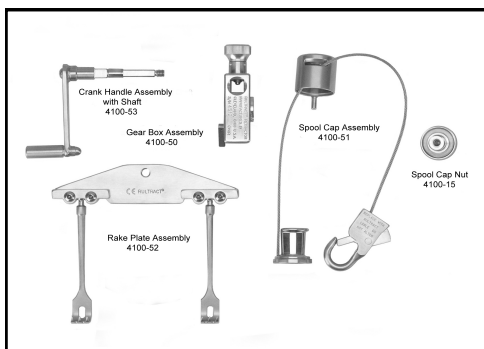
The knob should not be open or closed all the way. It should be somewhere in the middle and have some “play” in it. (Fig. 10).

****DO NOT REMOVE THE LOCK KNOB**



The Rultract Ratchet Assembly is now completely disassembled and ready to begin the cleaning cycle

Fig. 11

**CAUTION:**

Check and tighten all fasteners as indicated on pages 18-21 after the cleaning cycle and prior to sterilization.

Failure to do so may cause components to loosen or disassemble during use

CLEANING: Resternotomy Rake Plates

- **No disassembly required**

Resternotomy Rake Plates:

4100-52RDL	Resternotomy Assist, Large	18mm Rakes
4100-52RDM	Resternotomy Assist, Medium	12mm Rakes
4100-52RDS	Resternotomy Assist, Small	8mm Rakes
4100-52RDH	Resternotomy Assist, Hooks	

CAUTION:**As Indicated on Page 10****CHECK AND TIGHTEN ALL FASTENERS ON THE RAKE PLATE ASSEMBLY**

4100-52RDL



4100-52RDM



4100-52RDS



4100-52RDH



SYSTEM COMPONENTS - TOP POSTS

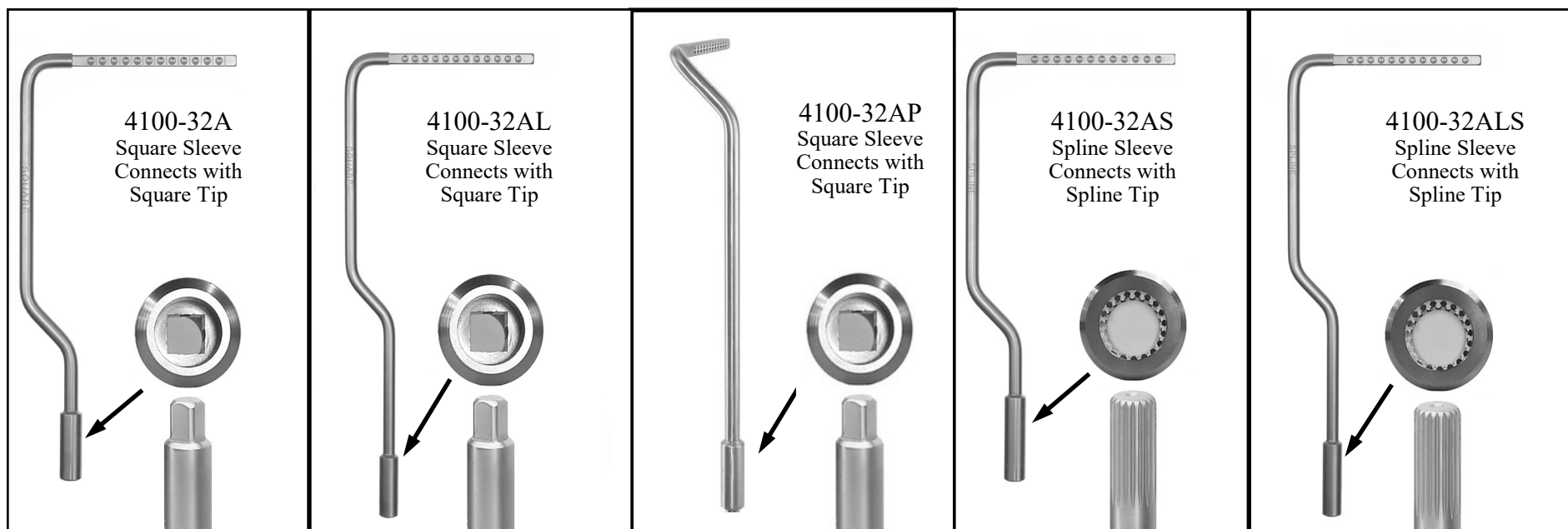
PREPARATION FOR CLEANING CYCLE

CLEANING: Top Posts

- **No disassembly required**

TOP POSTS: Square and Spline inserts

4100-32A	Square Top Post - standard length -	9 ½" x 18" long (square insert)
4100-32AL	Square Top Post - extended length -	9 ½" x 22" long (square insert)
4100-32AP	Offset Square Top Post -	9 ½" x 20" long (square insert)
4100-32AS	Spline Top Post - standard length -	9 ½" x 19" long (spline insert)
4100-32ALS	Spline Top Post - extended length -	9 ½" x 23" long (spline insert)



ONE PIECE POST: *Round Base*
 4100-08 One piece post - 9 ½" x 30" long

CLEANING One Piece Post
 • **No disassembly required**

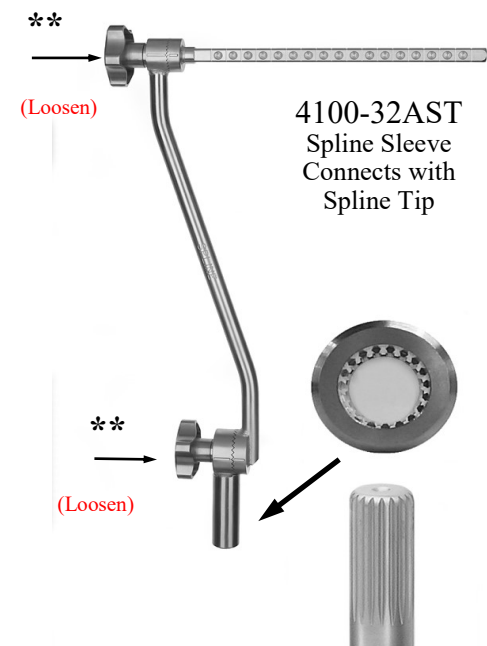
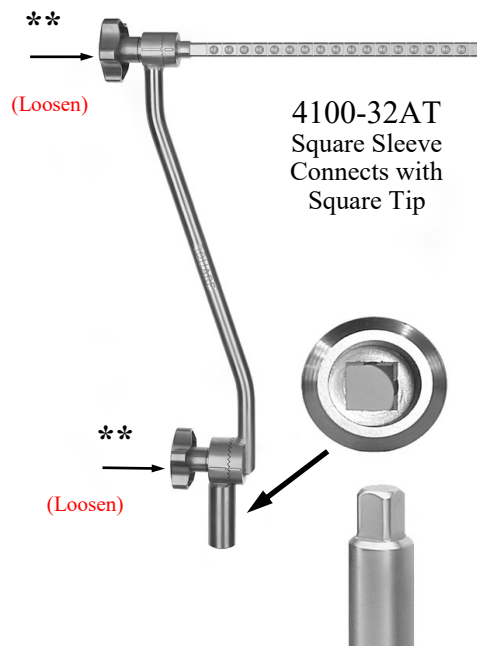
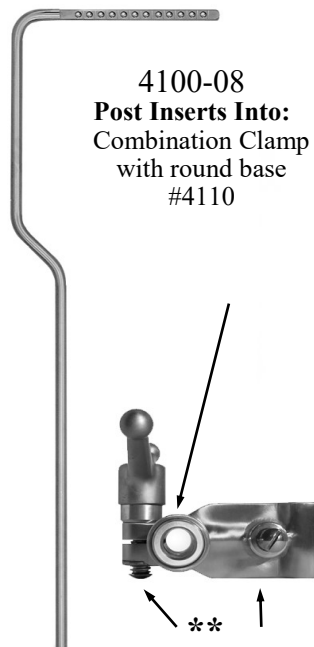
TILTING TOP POSTS: *Square and Spline inserts*

4100-32AT Square Tilting Top Post - 12 ½" x 20" long



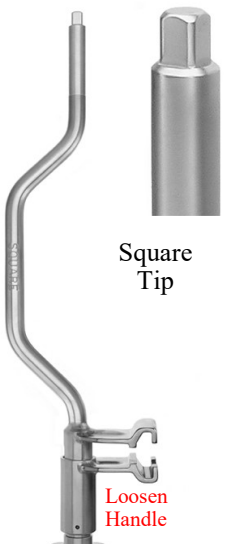



4100-32AST Spline Tilting Top Post - 12 ½" x 21" long

CLEANING Tilting Top Posts

- **No disassembly required.**
- **Do not remove retaining screws.****
- Do not open or close handles completely.
- Loosen knobs for partial separation.
- Sections and knobs should have free movement (rotate freely)



WARNING: Removal of retaining screw(s) (4110P-12) will cause device to come apart. This will result in failure during use.**

SYSTEM COMPONENTS - DOUBLE BEND POST CLAMPS				PREPARATION FOR CLEANING CYCLE	
<u>CLAMPS:</u> Square and Spline Tip 4150 Square Tip, Double Bend Post/Clamp, Scrub Applied - 19" long 4150S Spline Tip, Double Bend Post/Clamp Scrub Applied - 19" long 4160 Square Tip, Double Bend Post/Clamp, Circulator Applied - 20" long 4160S Spline Tip, Double Bend Post/Clamp, Circulator Applied - 20" long				CLEANING: Clamp <ul style="list-style-type: none"> • <u>No disassembly required.</u> • <u>Do not remove retaining screw.**</u> • Do not open or close handles completely. • Jaws should be partially opened. • Jaws and handles should have free movement. (open and close & rotate freely) 	
				SQUARE TIP 90° Angle	SPLINE TIP 18° Increments
		4150 Scrub Applied	4150S Scrub Applied	4160 Circulator Applied	4160S Circulator Applied
WARNING: Removal of <u>retaining screw(s)**</u> (4110P-12) will cause device to come apart. This will result in failure during use.					

BOTTOM POSTS: Square and Spline Tip

4100-32C	Square Tip Bottom Post w/ collar, 5/8" Dia. x 20" long
4100-32CS	Spline Tip Bottom Post w/ collar, 5/8" Dia. x 20" long
4100-28C	Square Tip Double Bend Bottom Post - 5/8" Dia. x 18" long
4100-28CP	Offset Square Tip Bottom Post - 5/8" Dia. x 20" long
4100-28CS	Spline Tip Double Bend Bottom Post - 5/8" Dia. x 18" long

CLEANING Bottom Posts

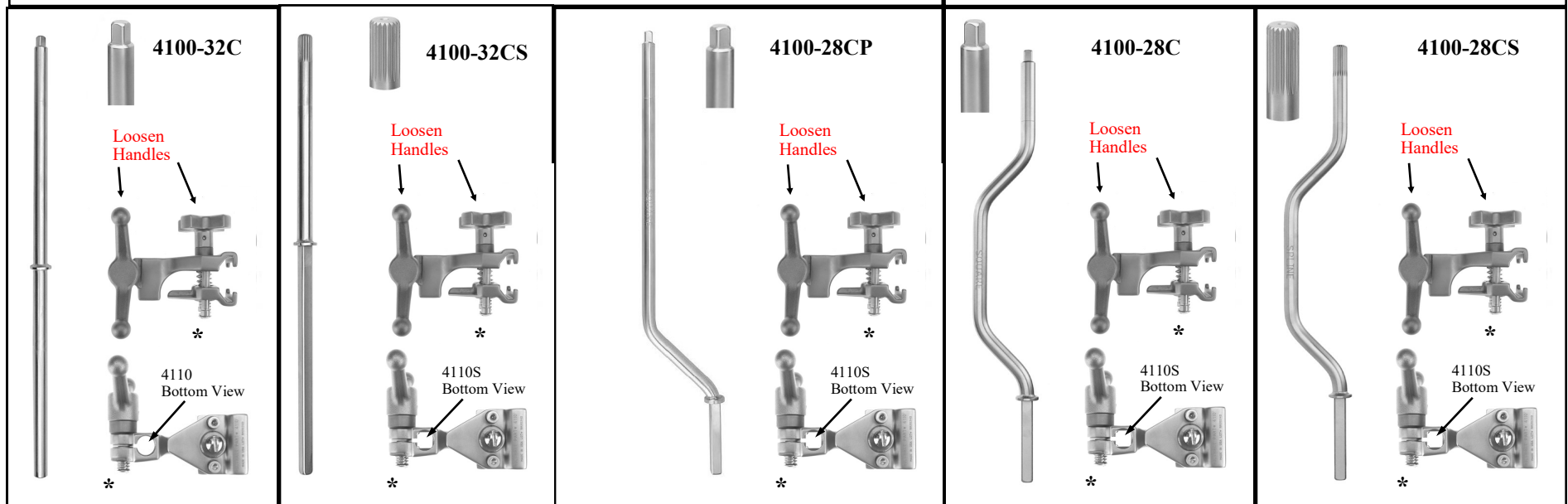
- **No disassembly required.**

COMBINATION CLAMPS:

4110	Round Base Combination Clamp
4110S	Square Base Combination Clamp

CLEANING Combination Clamps

- **No disassembly required.**
- **Do not remove retaining screw.****
- Do not open or close handles completely.
- Jaws should be partially opened.
- Jaws and handles should have free movement (open and close & rotate freely)

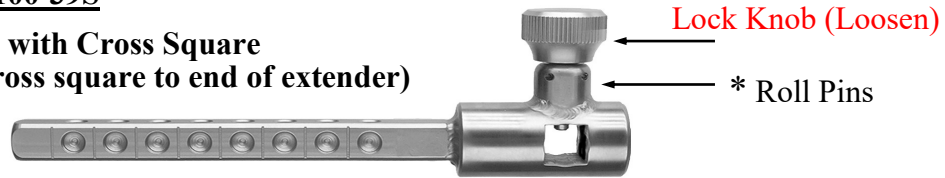


WARNING: Removal of retaining screw(s) (4110P-12) will cause device to come apart. This will result in failure during use.**

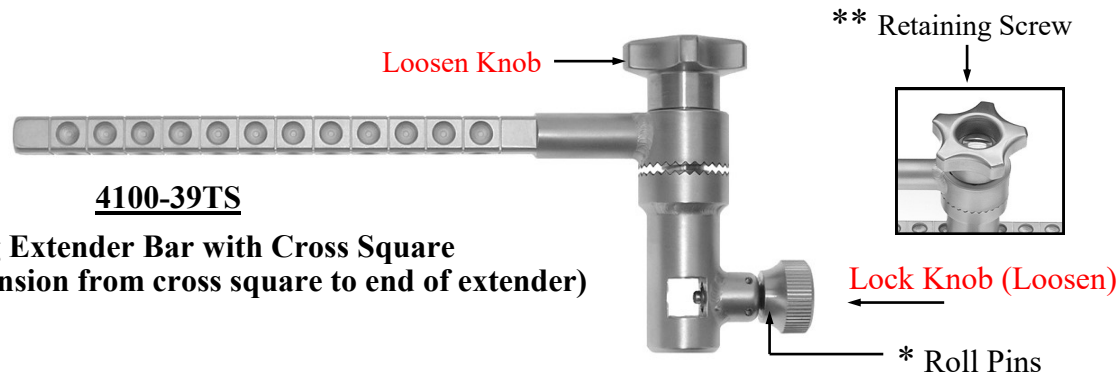
- **No disassembly required.**
- **Do not remove retaining roll pins* or**
- **Back out (open) the non-removable Lock Knob.**
- **Loosen knob for partial separation. (not opened OR closed all the way)**

4100-39S

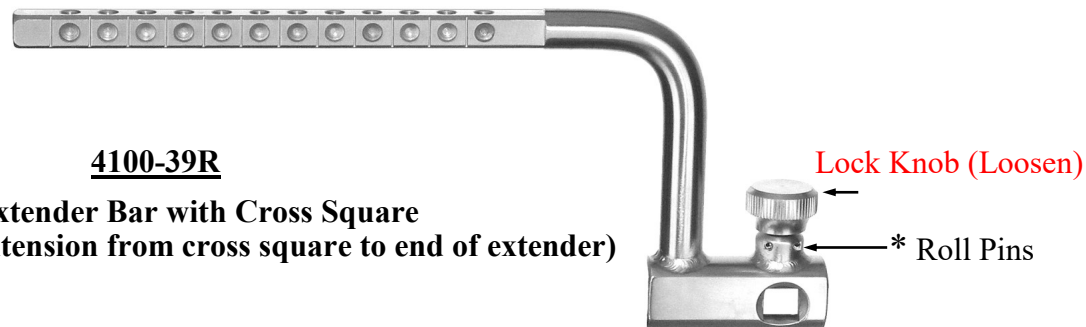
Extender Bar with Cross Square
(6 1/2" extension from cross square to end of extender)

**4100-39TS**

Rotating Extender Bar with Cross Square
(2" rise w/ 9" extension from cross square to end of extender)

**4100-39R**

Riser Extender Bar with Cross Square
(4" rise and 10 1/2" extension from cross square to end of extender)



STERILIZATION

RULTRACT[®] INSTRUCTIONS

STERILIZATION

STERILIZATION

The following are GUIDELINES for product sterilization.

The Rultract[®] retractor assembly is a reusable instrument. It is supplied non-sterile and must be cleaned and sterilized prior to initial use and all subsequent use.

This validated process should be considered as a guideline only.

***** Time, temperature and other conditions required for sterilization may vary according to type of sterilizer, cycle design, wrapping material, and/or other hospital practices.**

Sterilization containers must be validated by their manufacturer for use in sterilization process. Validated cycles should be indicated in the container's Instructions for Use.

You must validate your own sterilization practice when it differs from the Instructions for Use provided by the device, container or sterilizer manufacturer.

Recommendations for sterilization may be obtained from AAMI (Association for Advancement of Medical Instrumentation) at <http://www.aami.org/>

Rultract's Sterilization guidelines were validated by Biotest Laboratories Inc. of Minneapolis, Minnesota. The guidelines are as follows:

Guidelines for Sterilization : Cable should be wound on spool prior to sterilization leaving approximately 1 1/2 to 2 inches exposed. The instruments may be sterilized by the following steam sterilization methods: prevacuum, flash, and steam (gravity) wrapped. The following cycles were verified utilizing a combination of metal instruments and/or metal instruments in a common sterilization tray with a mass up to 40 pounds (18 kg). The wrapped instruments were wrapped with non-woven single use Steriwrap. (manufactured by Proper).

<u>Option 1: Wrapped instruments</u>	Pre-vacuum Sterilization Parameters (Minimum time and temperature): Temperature 132°C (270°F) Exposure Time 4 minutes
--------------------------------------	---

<u>Option 2: Wrapped instruments</u>	Steam (Gravity) Sterilization Parameters (Minimum time and temperature): Temperature 121° C (250°F) Exposure Time 30 minutes
--------------------------------------	--

<u>Option 3: Unwrapped instruments</u>	"Flash" Sterilization Parameters (Minimum time and temperature): Temperature 132° C (270°F) Exposure Time 3 minutes
--	---

CAUTION: Disassemble unit prior to cleaning. The spool cap nut must be unscrewed to separate the spool, spool cap, crank handle assembly and gearbox assembly.

Further disassembly is not necessary and may void guarantee.

DO NOT remove fasteners or roll pins for cleaning and sterilization.

RULTRACT® INSTRUCTIONS: AFTER CLEANING CYCLE - PREPARE FOR STERILIZATION

CAUTION:

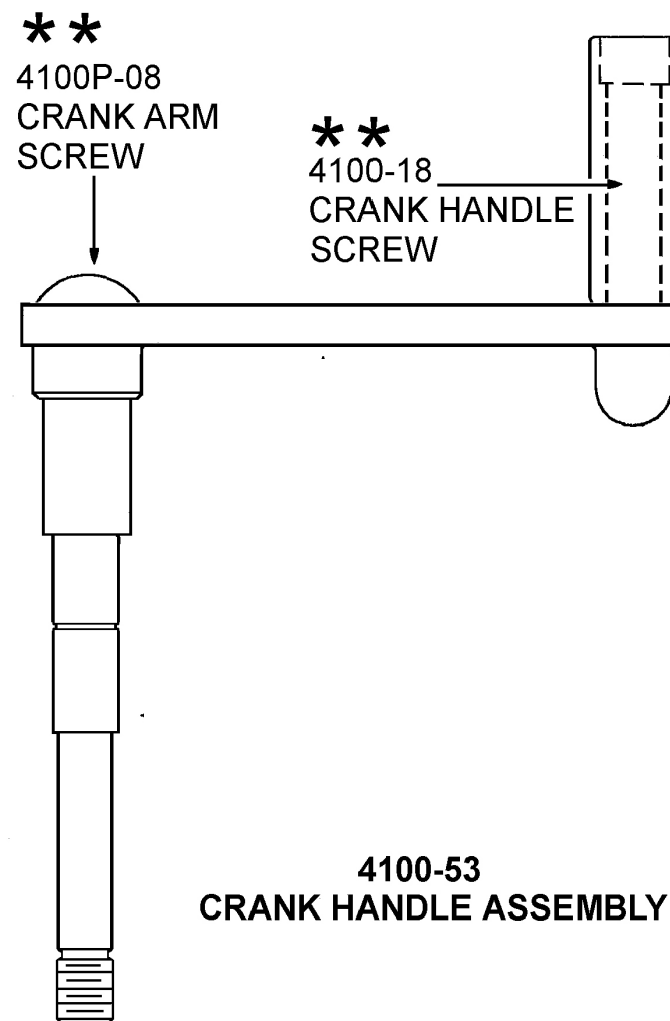
Check and tighten all fasteners on the Ratchet/Rake Assembly.

Failure to do so may cause components to loosen or disassemble during use.

*The following two items should not be removed.
If these fasteners are removed a bolt retaining compound must be reapplied.*

****** 1 pc 4100P-08 Crank Arm Screw to mount
Crank Arm to Ratchet Shaft.

****** 1 pc 4100-18 Crank Handle Screw to mount Crank
Handle to Crank Arm.



RULTRACT® INSTRUCTIONS: AFTER CLEANING CYCLE - PREPARE FOR STERILIZATION

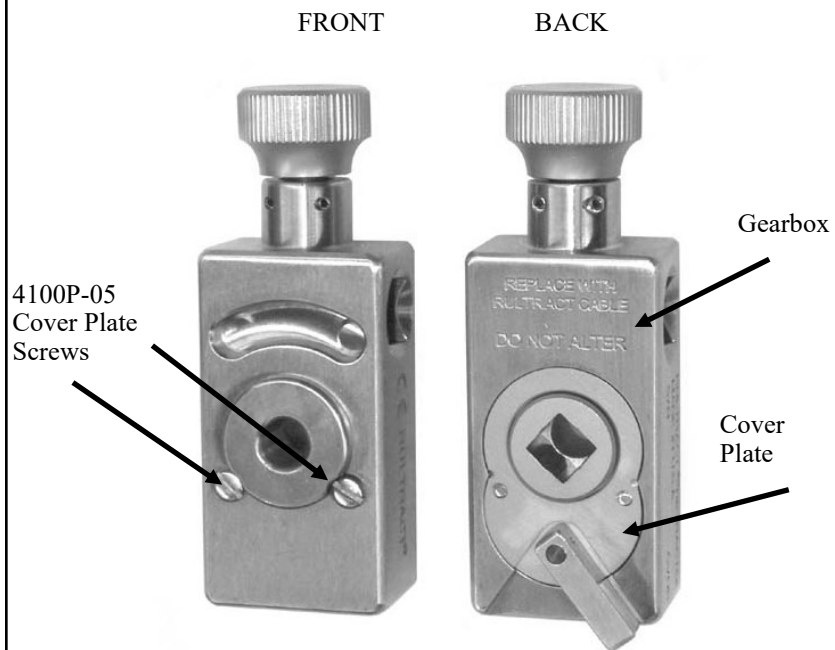
RATCHET/RAKE FASTENERS:

CAUTION:

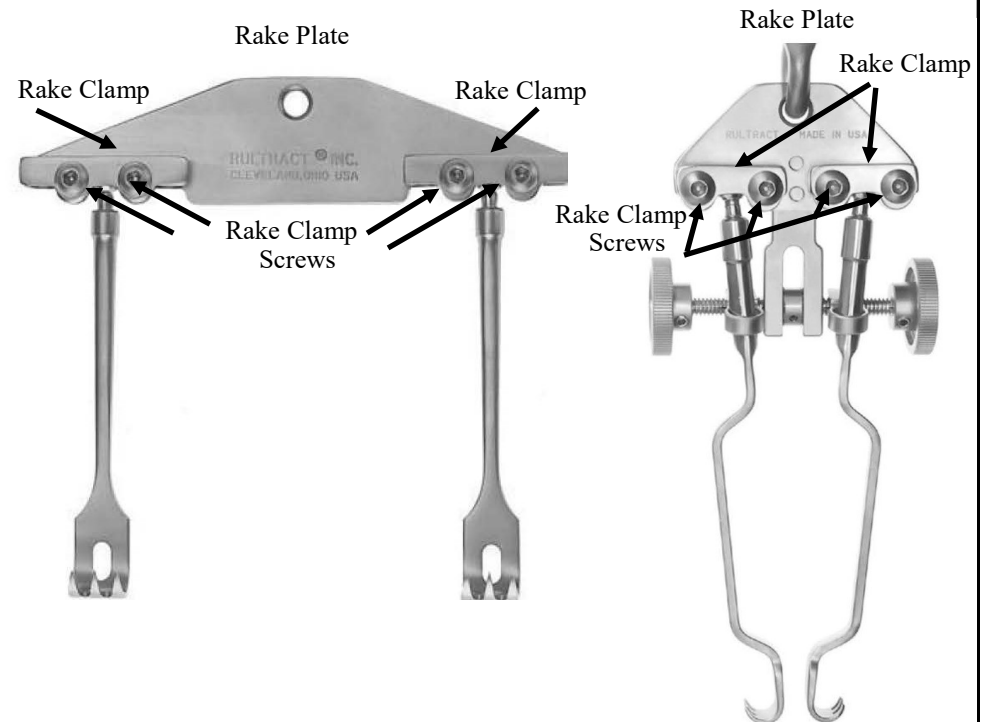
**CHECK AND TIGHTEN ALL FASTENERS ON THE RATCHET RAKE ASSEMBLY
AFTER THE CLEANING CYCLE AND PRIOR TO STERILIZATION**

**FAILURE TO DO SO MAY CAUSE COMPONENTS TO LOOSEN OR DISASSEMBLE DURING
USE**

2 pcs 4100P-05 Cover Plate Screw to retain the Cover Plate on the Gearbox.



4 pcs 4100-33 Rake Clamp Screws to mount Rake Clamps to Rake Plate



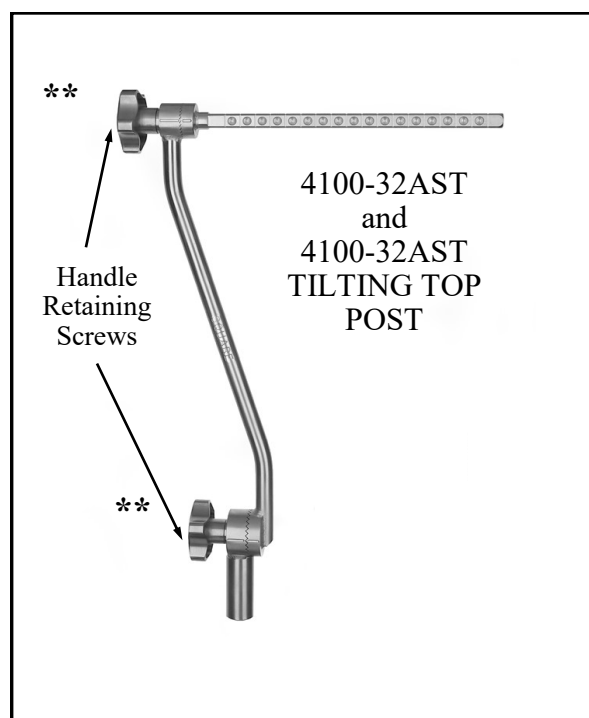
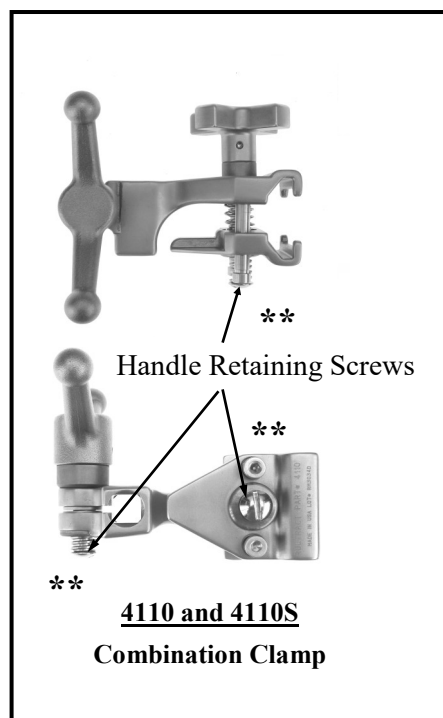
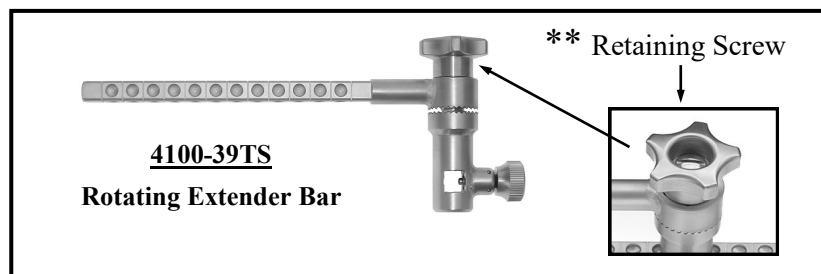
RULTRACT® INSTRUCTIONS: AFTER CLEANING CYCLE - PREPARE FOR STERILIZATION

FASTENERS:

CAUTION:

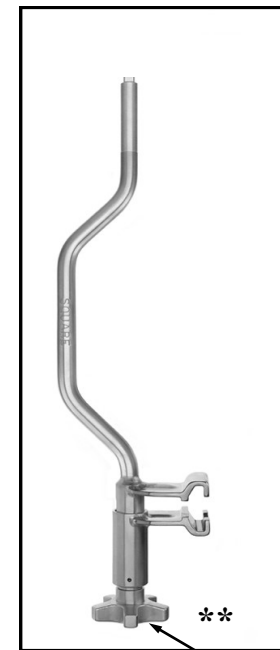
**CHECK AND TIGHTEN ALL FASTENERS ON THE FOLLOWING COMPONENTS
AFTER THE CLEANING CYCLE AND PRIOR TO STERILIZATION**

FAILURE TO DO SO MAY CAUSE COMPONENTS TO LOOSEN OR DISASSEMBLE DURING USE



Handle Retaining Screw

4150 and 4150S
Scrub
Applied Clamp



Handle Retaining Screw

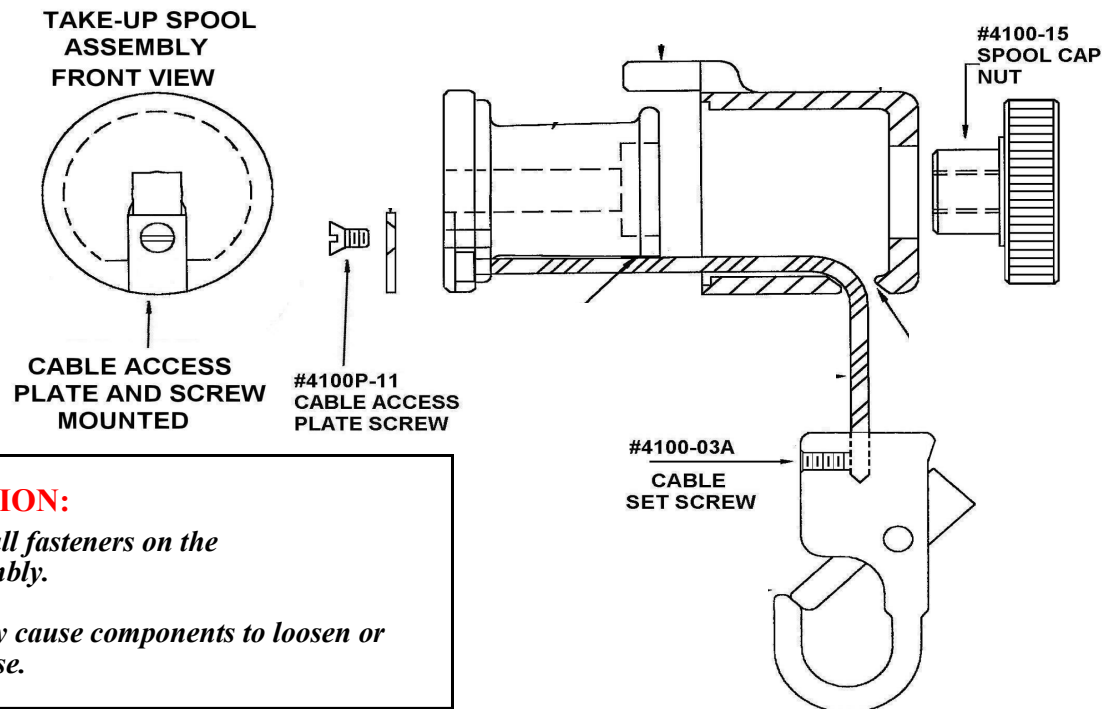
4160 and 4160S
Circulator
Applied Clamp

RULTRACT® INSTRUCTIONS: AFTER CLEANING CYCLE - PREPARE FOR STERILIZATION

SPOOL CAP ASSEMBLY FASTENERS: **CHECK FOR TIGHTNESS AFTER THE CLEANING CYCLE AND PRIOR TO STERILIZATION**

- ** 1 pc 4100-15 Spool Cap Nut to retain Spool Cap Assembly.
- ** 1 pc 4100P-11 Cable Access Plate Screw to retain Cable Access Plate.
- ** 1 pc 4100-03A Cable Set Screw to retain Cable in Snap Clip or Hub.

SPOOL CAP ASSEMBLY



CAUTION:

Check and tighten all fasteners on the Ratchet/Rake Assembly.

Failure to do so may cause components to loosen or disassemble during use.

Once the Ratchet Assembly has been disassembled and all of the components have completed the cleaning cycle, Rultract recommends that the Ratchet assembly be reassembled prior to sterilization.

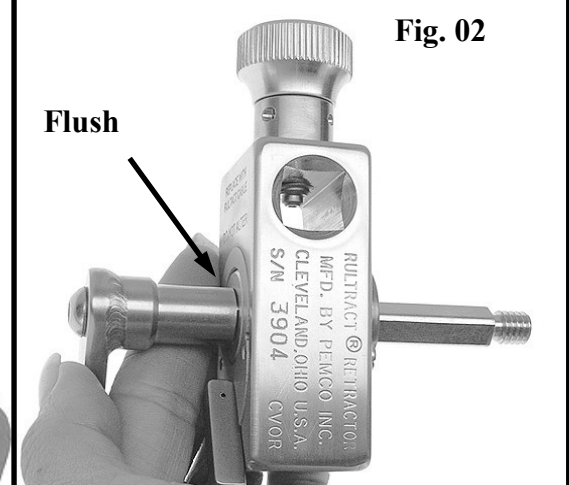
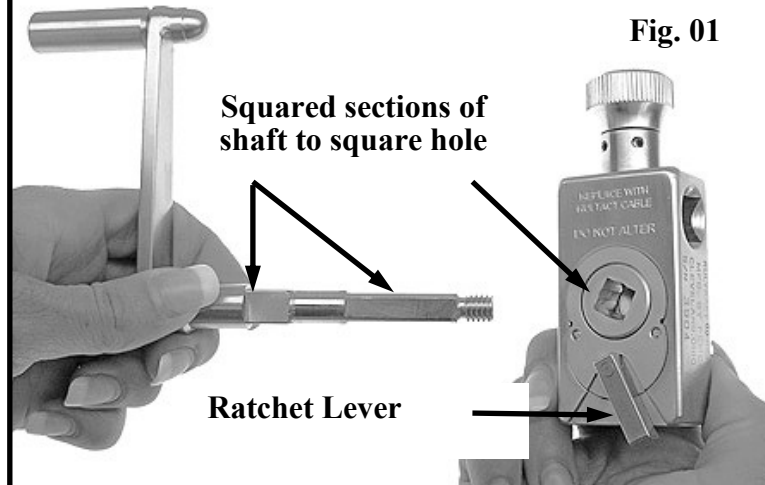
Please refer to pages 23-25 for reassembly instructions.

RULTRACT® INSTRUCTIONS: AFTER CLEANING CYCLE - REASSEMBLE FOR STERILIZATION

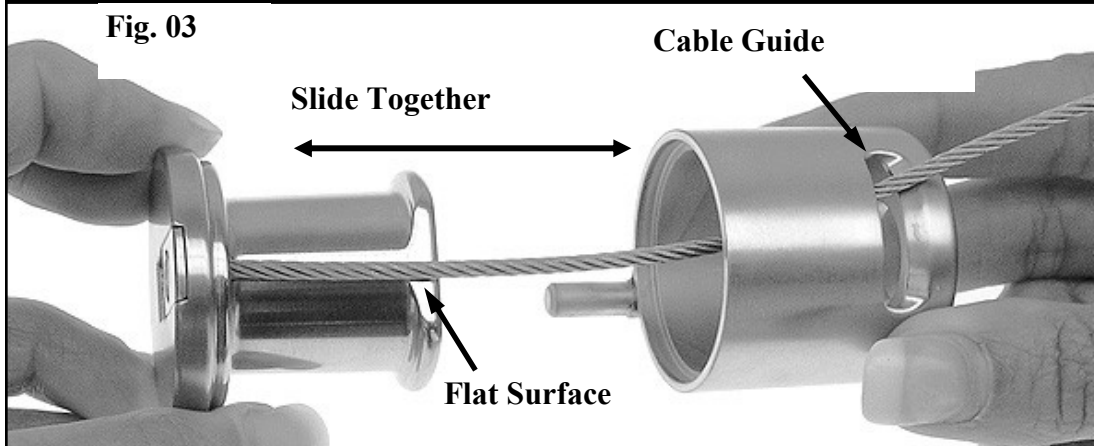
REASSEMBLE RATCHET ASSEMBLY FOR STERILIZATION AND USE (STEPS 1 AND 2)

STEP 1 INSTALL CRANK HANDLE:

Slide the shaft of Crank Handle into square hole of Gearbox located above the Ratchet Lever (Fig. 01). Note: Both squared sections of the shaft must be completely inserted and flush in gearbox (Fig. 02).



STEP 2 REASSEMBLE SPOOL AND SPOOL CAP: Align the Cable Guide with the flat surface of the Spool (Fig. 03). Slide Spool and Spool Cap together (Fig. 04).

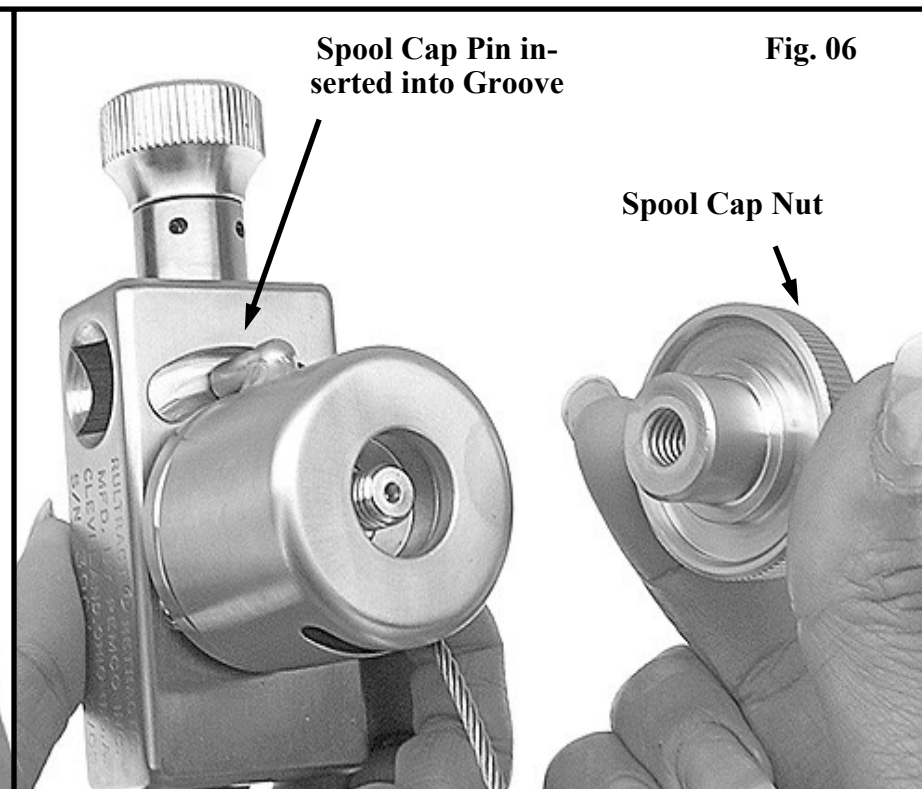
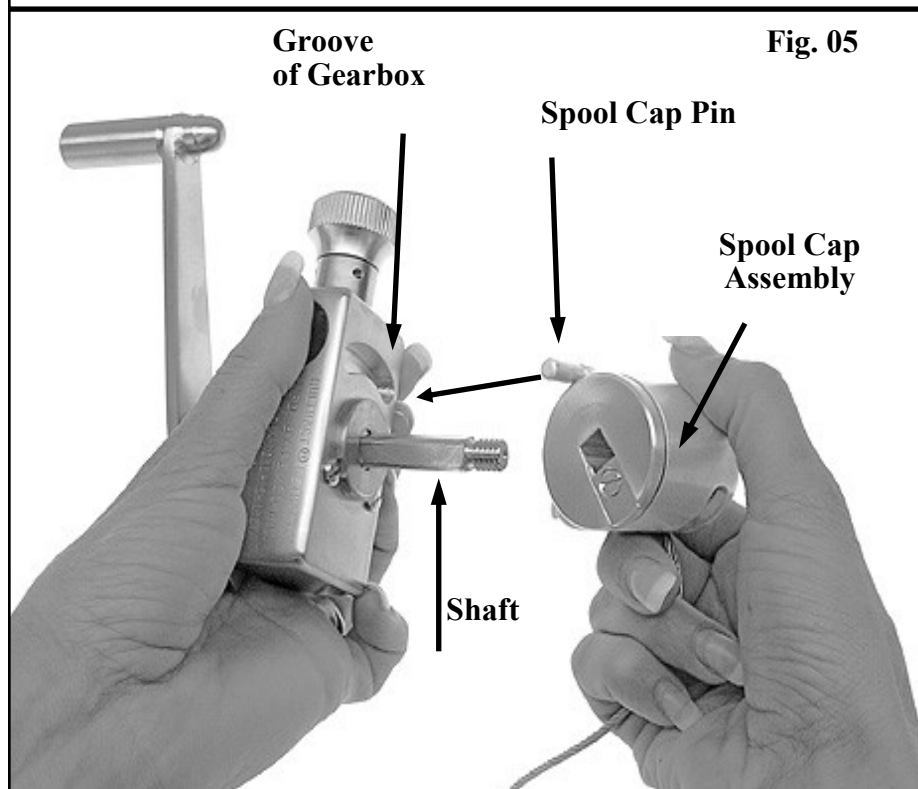


RULTRACT® INSTRUCTIONS: AFTER CLEANING CYCLE - REASSEMBLE FOR STERILIZATION

REASSEMBLE RATCHET ASSEMBLY FOR STERILIZATION AND USE (STEP 3)

STEP 3 SPOOL CAP ASSEMBLY: While holding the Gearbox and Crank Handle as shown, line up Spool Cap Pin with the groove in the Gearbox. Slide the Spool Cap Assembly onto the shaft (Fig. 05).

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. 06).**



RULTRACT® INSTRUCTIONS: AFTER CLEANING CYCLE - REASSEMBLE FOR STERILIZATION

REASSEMBLE RATCHET ASSEMBLY FOR STERILIZATION AND USE (STEPS 4 AND 5)

STEP 04 TEST WINDING FUNCTION:

Allow rake plate or snap clip to hang freely.** Weight of Rake Plate or Snap Clip 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.

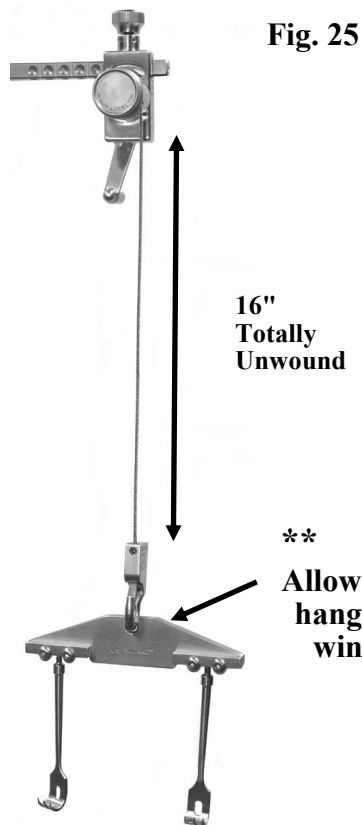


Fig. 25

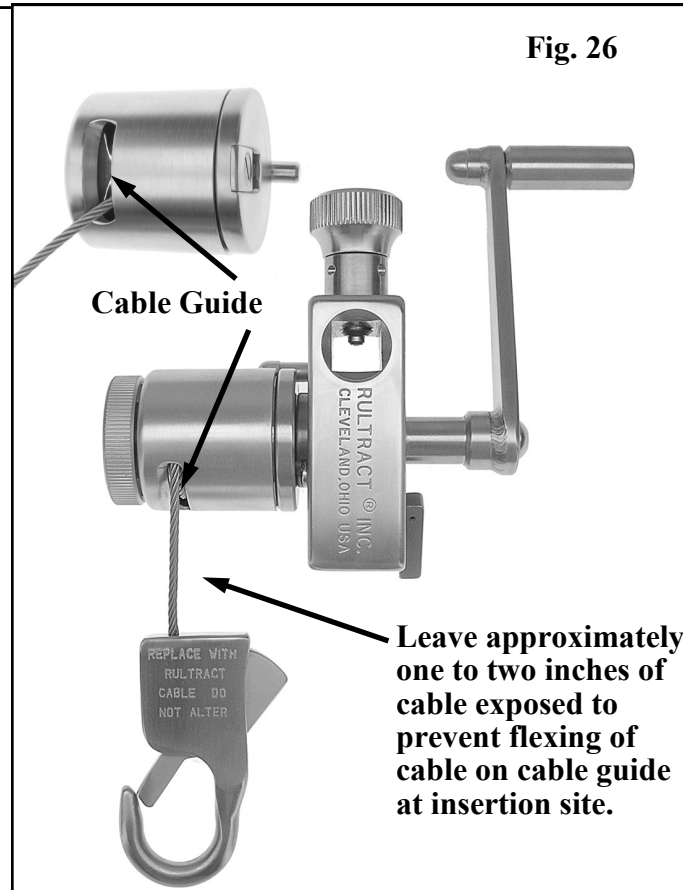


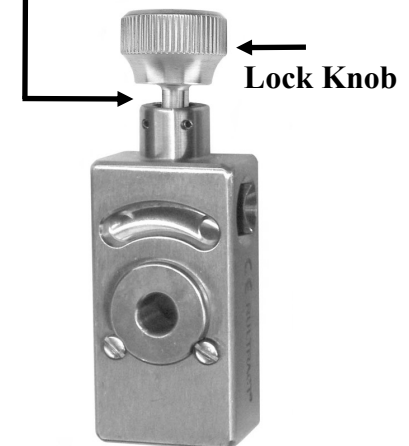
Fig. 26

Fig. 27

STEP 5 BACK OUT (OPEN) THE NON-REMOVABLE LOCK KNOB:

The knob should not be open or closed all the way. It should be somewhere in the middle and have some “play” in it. (Fig. 27).

****DO NOT REMOVE THE LOCK KNOB**

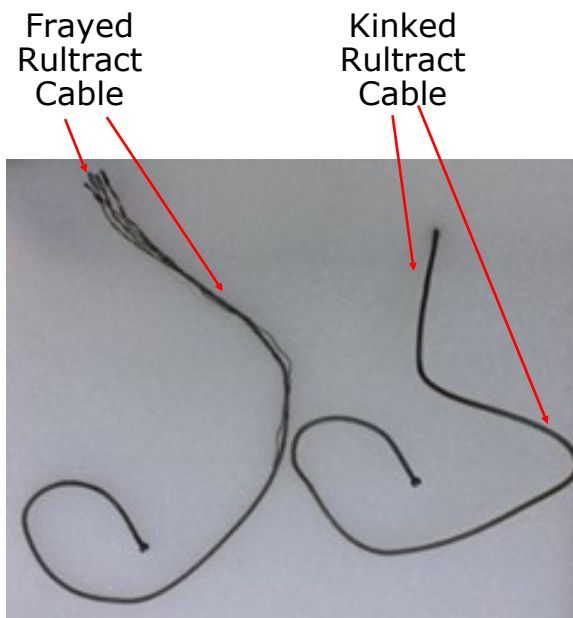


The Rultract Ratchet Assembly is now completely reassembled and ready for sterilization and use

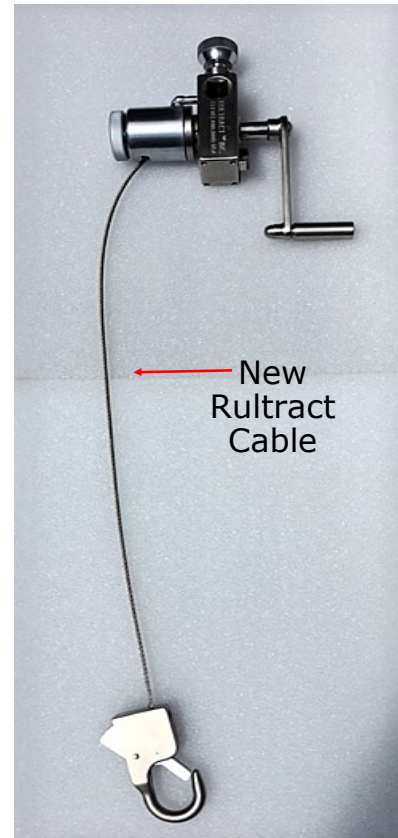
WARNING:

- ** 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.**

Note: Worn or Damaged cable must be replaced with a new Rultract[®] Cable.



Frayed and Kinked cables
will cause the Rultract to
bind up and not wind/
unwind properly



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

When your Rultract® instrument needs repair or service, contact Rultract Inc. or Rultract® distributor for the location of an authorized service center. 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 will void all warranties and release Rultract® from any liability.**

Recommended Factory Service Every 12-18 Months.

LOANER EQUIPMENT AVAILABLE: CONTACT RULTRACT® FOR DETAILS

HANDLING OF RULTRACT 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 or Snap Clip allows for proper alignment of Cable on Spool. Failure to allow the Rake Plate or Snap Clip 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:

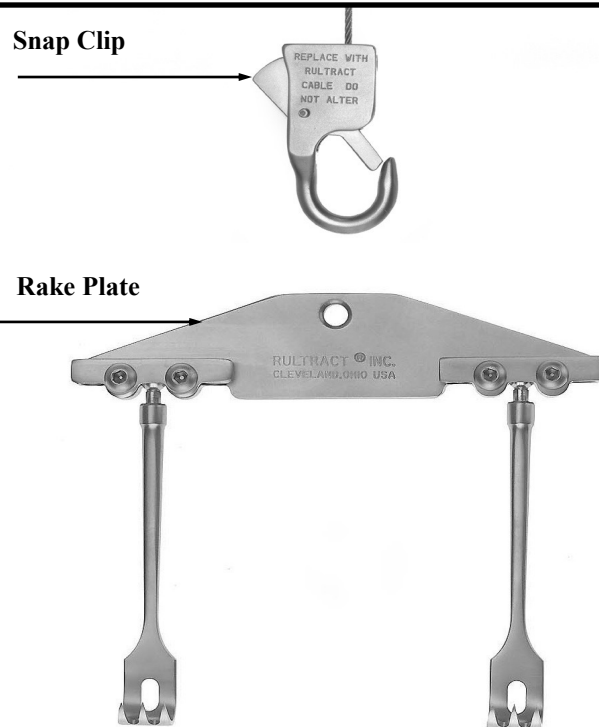
Always insert spool cap pin into the groove of the gearbox. Failure to do so may result in disassembly or damage to the unit.

Determine Your Rake Plate System Configuration

STEP 1 RAKE PLATE:

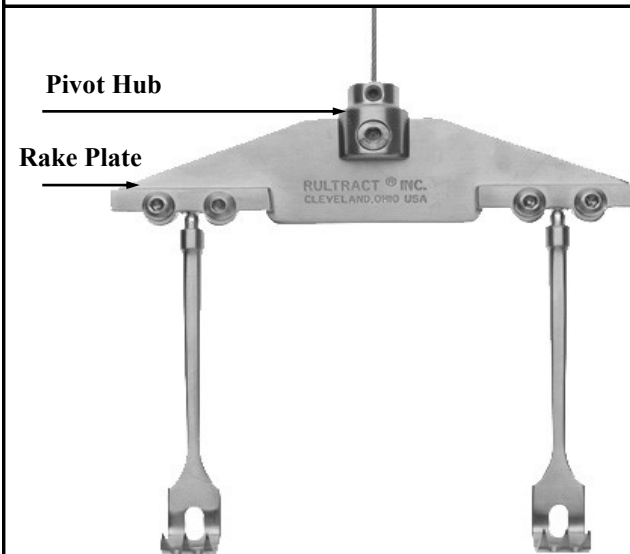
If your system has a Snap Clip and a Rake Plate

Disconnect Rake Plate from Snap Clip



If your system has a Pivot Hub Attached to the Cable and Rake Plate

Do not disassemble Rake Plate from Pivot Hub—Proceed to Step 2



If your system has a Snap Clip Only

Proceed to Step 2

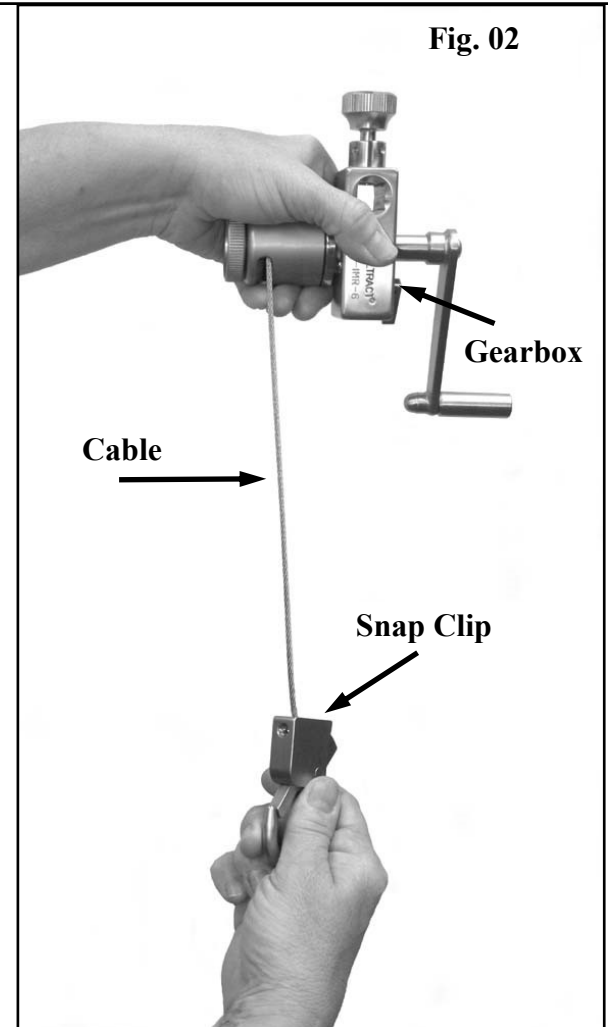
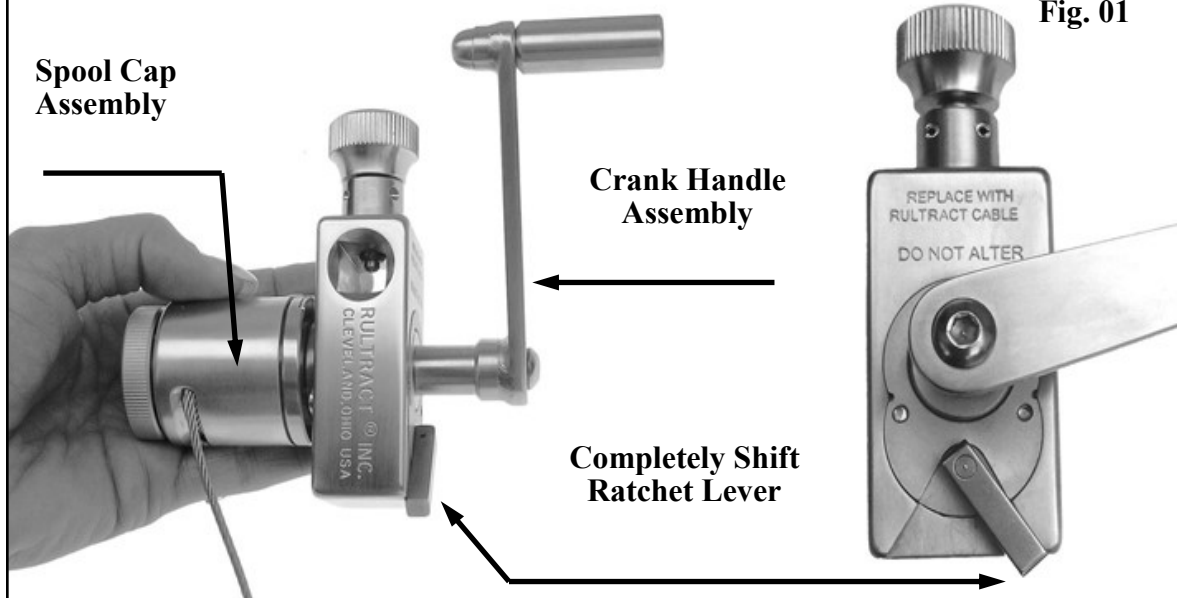


RULTRACT® INSTRUCTIONS

CABLE REPLACEMENT

STEP 2 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.

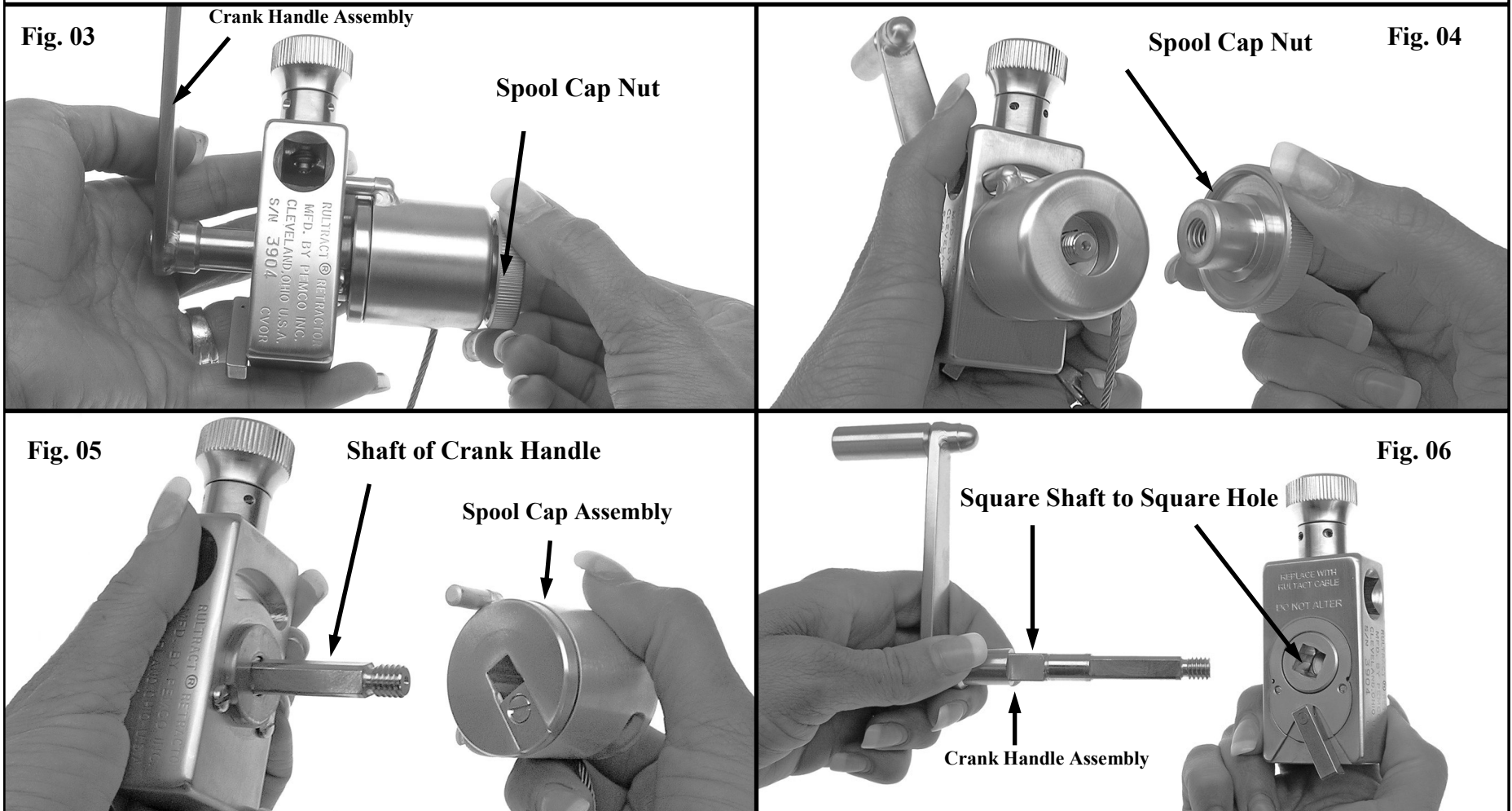


RULTRACT® INSTRUCTIONS

CABLE REPLACEMENT

STEP 3 REMOVE SPOOL CAP ASSEMBLY 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).



RULTRACT[®] INSTRUCTIONS

CABLE REPLACEMENT

STEP 4 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 or Snap Clip (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

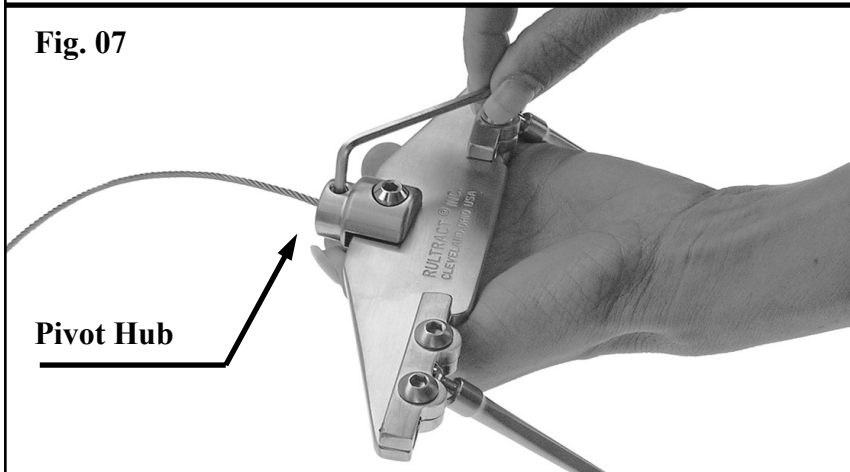
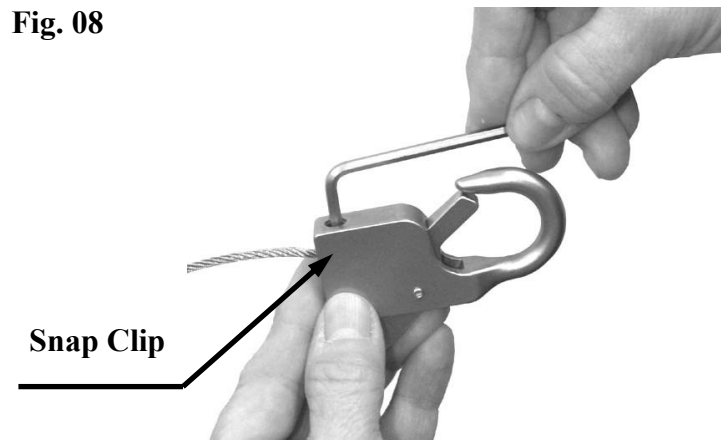


Fig. 08



Spool Cap Assembly

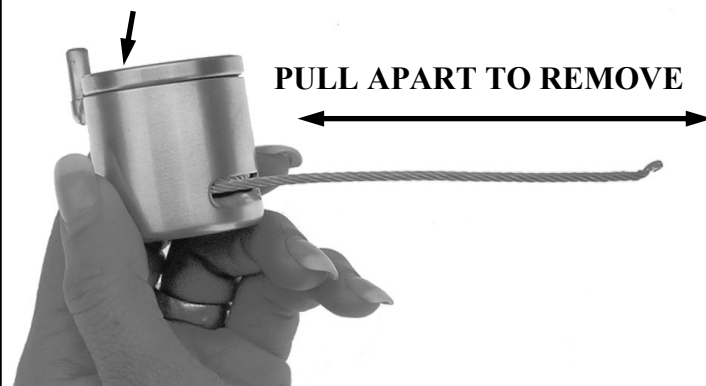
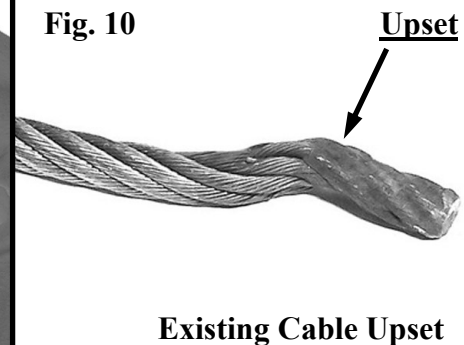


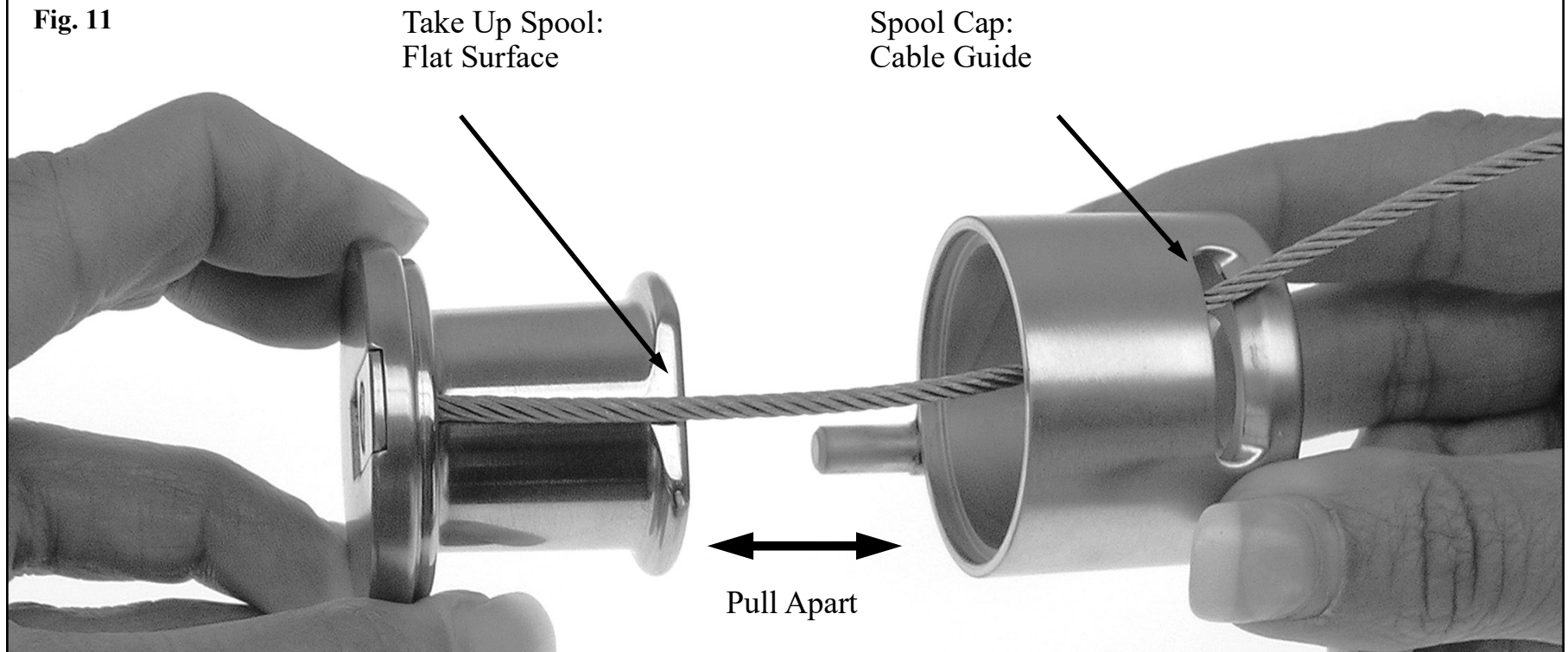
Fig. 09

Fig. 10



STEP 5 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.



RULTRACT® INSTRUCTIONS

CABLE REPLACEMENT

STEP 6 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

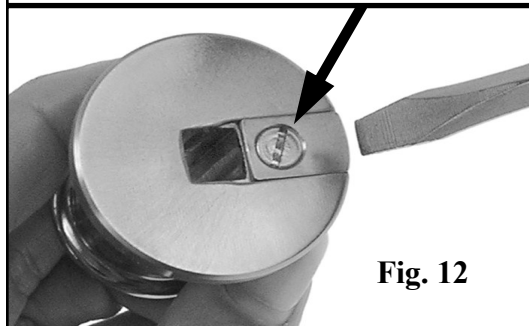


Fig. 12

Cable bushing seated in Spool

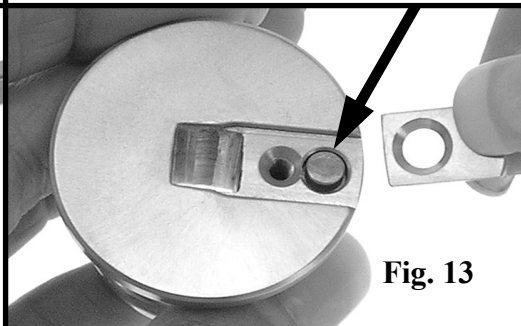


Fig. 13

Direction of pull

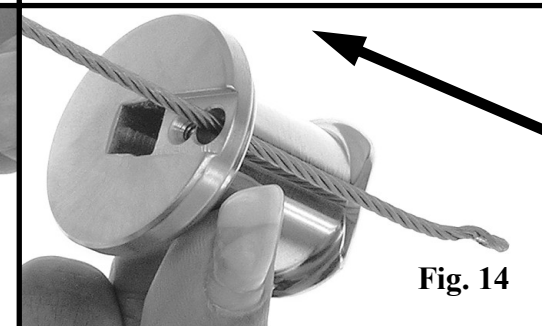


Fig. 14

STEP 7 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).

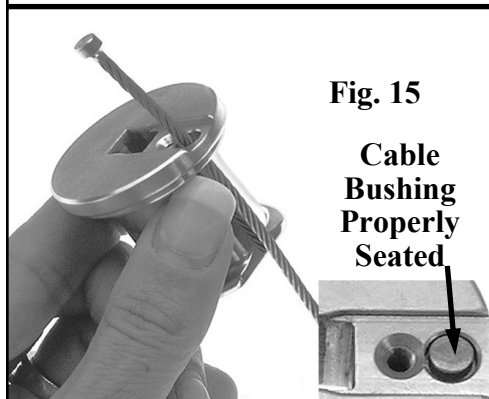


Fig. 15

Cable
Bushing
Properly
Seated

Fig. 16



Cable must spin freely

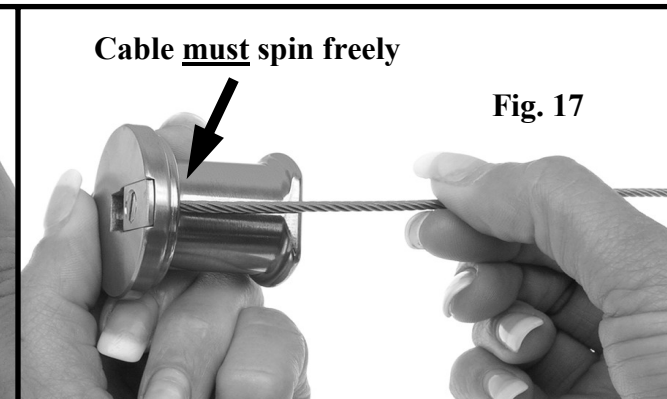


Fig. 17

RULTRACT® INSTRUCTIONS

CABLE REPLACEMENT

STEP 8 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).

Fig. 18

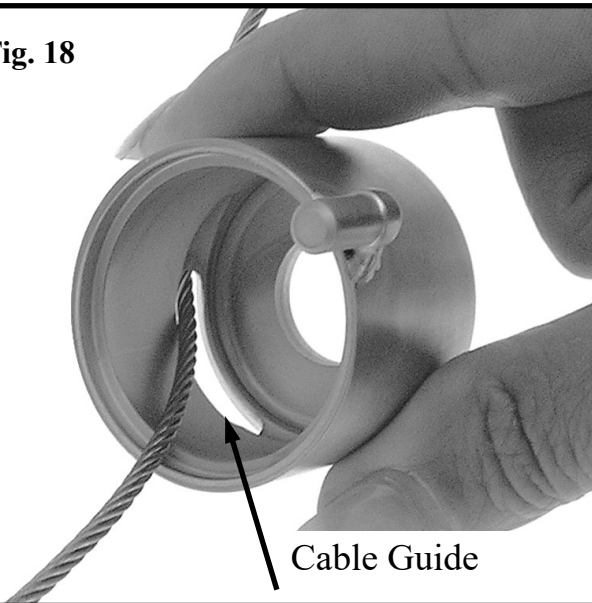
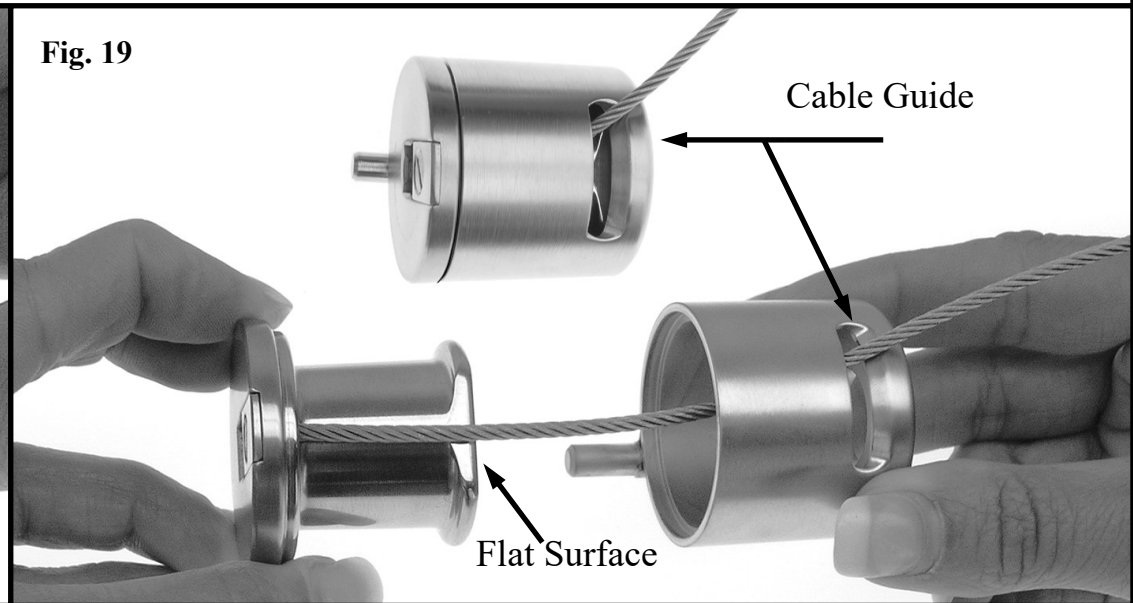


Fig. 19



RULTRACT® INSTRUCTIONS

CABLE REPLACEMENT

STEP 9 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

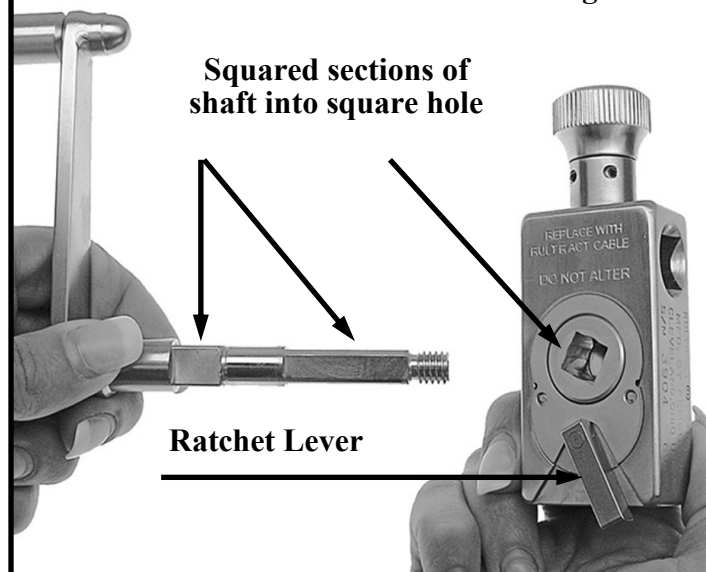


Fig. 21

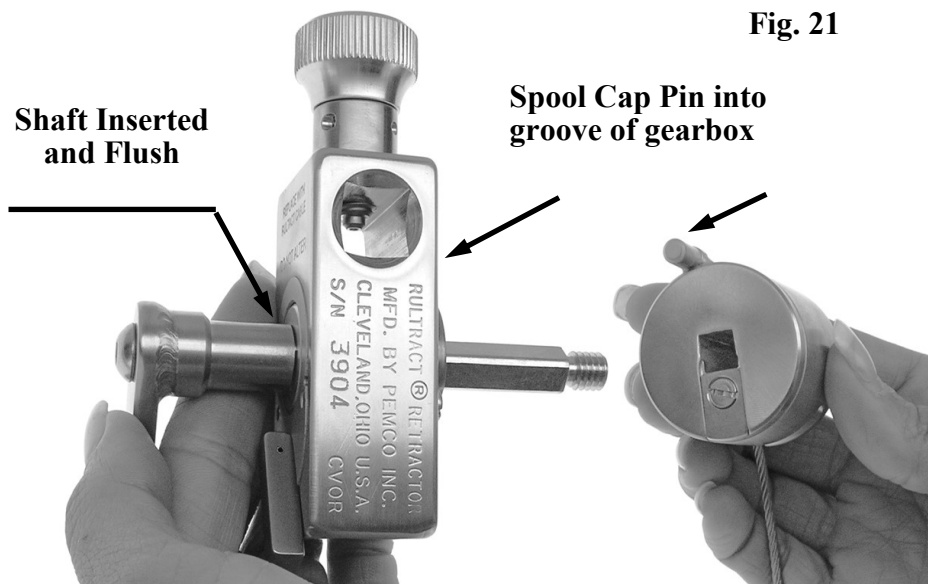
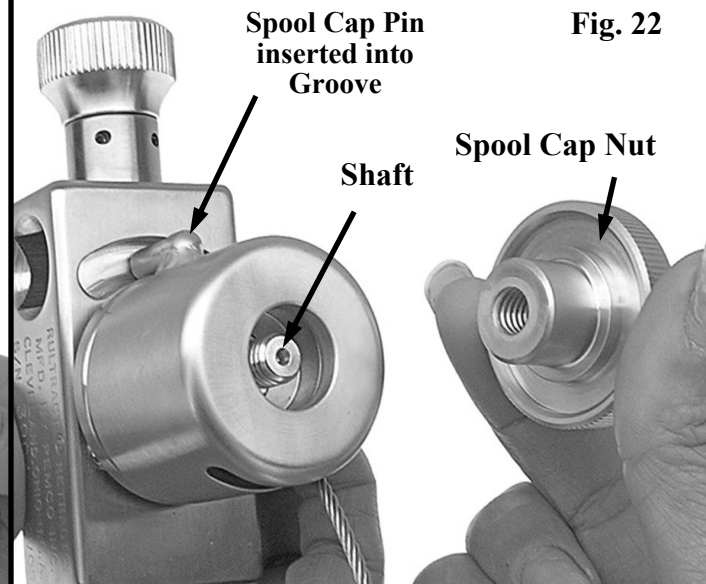
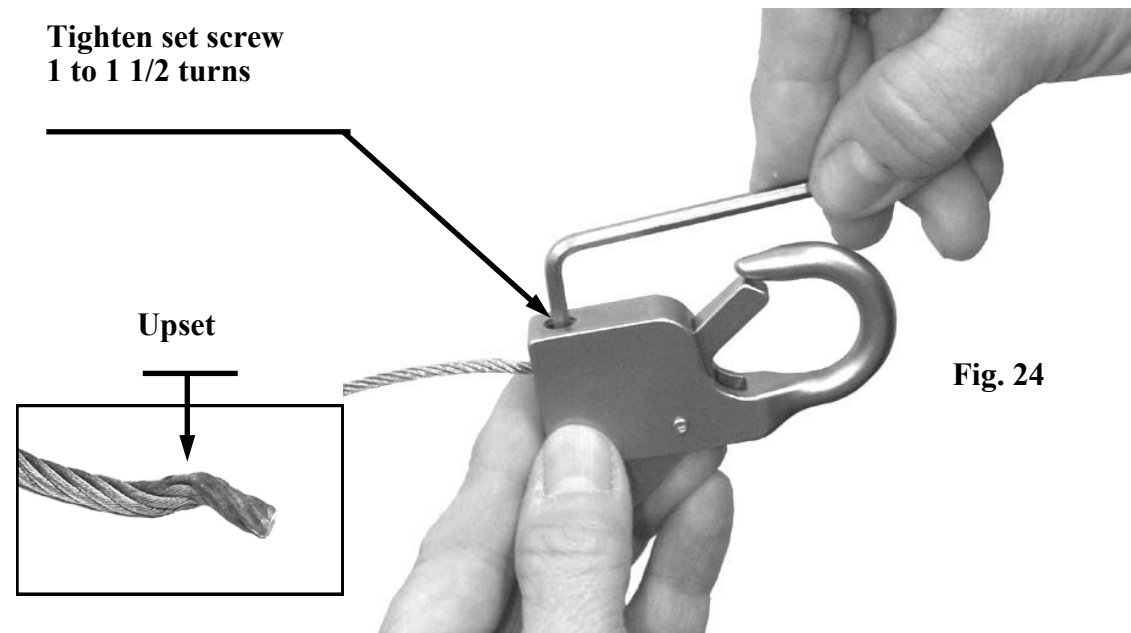
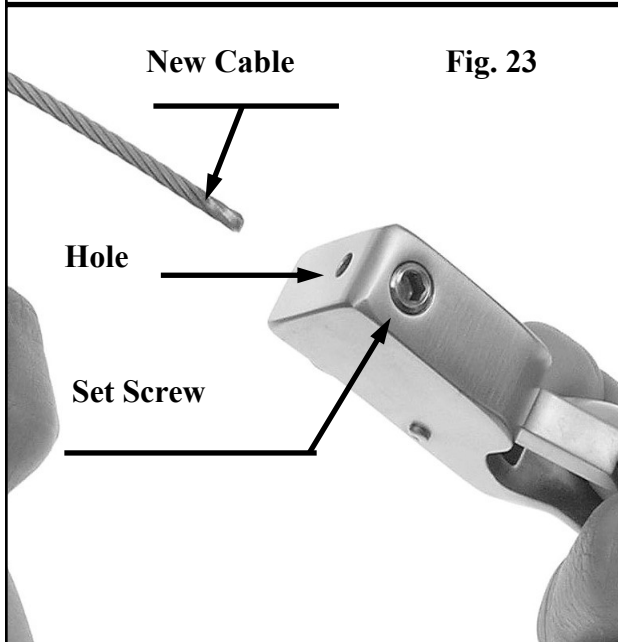


Fig. 22



STEP 10 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** (see insert picture below), which properly retains the cable. Once the set screw has been tightened do not reposition cable.

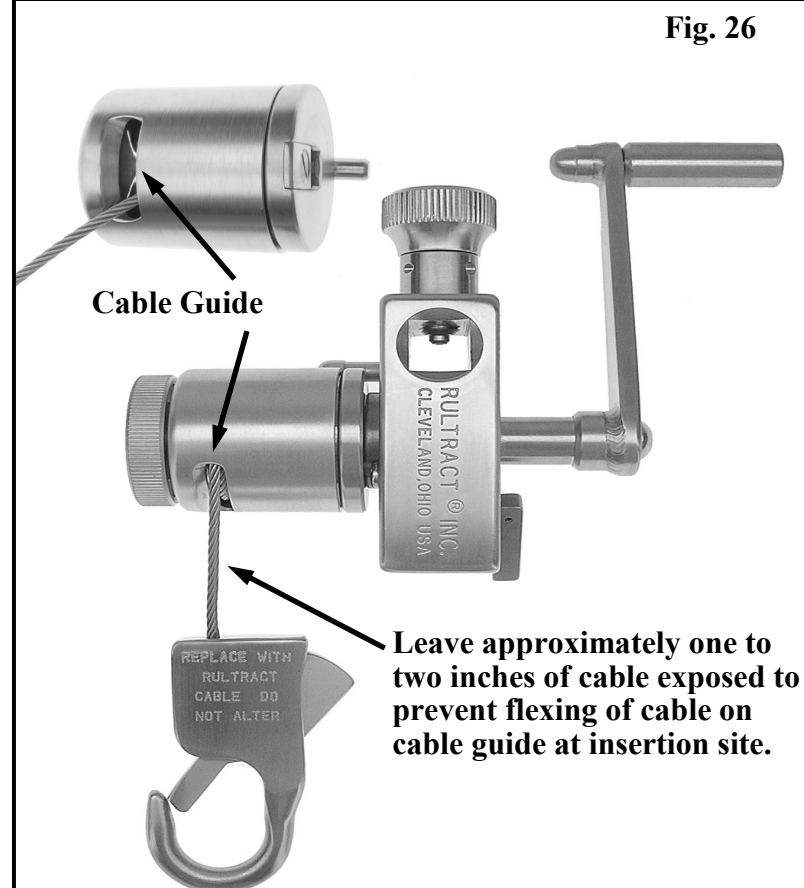
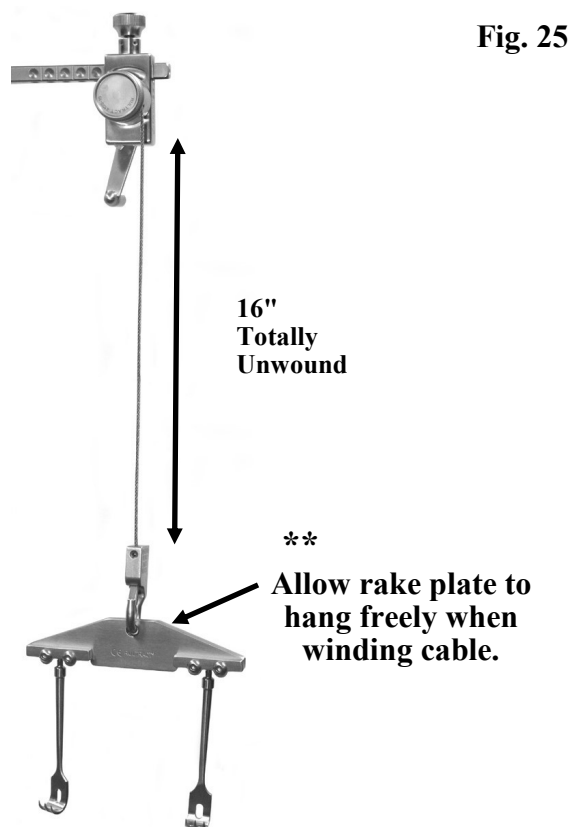


RULTRACT® INSTRUCTIONS:

CABLE REPLACEMENT

STEP 11 TEST WINDING FUNCTION:

Allow rake plate or snap clip to hang freely.** Weight of Rake Plate or Snap Clip 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.



The Rultract Cable Replacement is now complete

REPLACEMENT PARTS

- 4100P-12 Large Allen Wrench - 5/32"
 4100P-13 Small Allen Wrench - 1/8"
 4100-20P Cable Replacement Pack, 3 each (allen wrench included)

NOTE:
 ALL REPLACEMENT CABLES ARE 18" LONG.
 INSTALLED AND UNWOUND CABLE EXPOSED 16" LONG.

4100P-12 Large Allen Wrench One per pack



4100P-13 Small Allen Wrench One per pack



4100-20P Cable Replacement Pack



REPLACEMENT PARTS

4100-341 Snap Clip

- Includes: (1) Snap Clip
 (1) Rultract Cable
 (1) Large Allen Wrench - 5/32"
 (1) Small Allen Wrench - 1/8"

NOTE:
ALL REPLACEMENT CABLES ARE 18" LONG.
INSTALLED AND UNWOUND
CABLE EXPOSED 16" LONG.



CONTACT INFORMATION

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

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

Phone: 888-550-5695 / 440-376-2077 / 330-856-9808

Fax: 949-725-9751 / 330-856-9868

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

When your Rultract® instrument needs repair or service, contact Rultract Inc. or Rultract® distributor for the location of an authorized service center. All instruments must be decontaminated before being returned for service. **Proof of decontamination must be included with device being returned for service. See the website for the Rultract Service Request Form.** Repair charges will apply to instruments repaired outside the warranty. **Any modification or alteration by user will void all warranties and release Rultract® from any liability.**

Recommended Factory Service Every 12-18 Months.

LOANER EQUIPMENT AVAILABLE: CONTACT RULTRACT® FOR DETAILS

REPLACEMENT

Rultract recommends replacement of your Rultract Retractor after seven years, depending on usage, when properly maintained.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



SERVICE REQUEST FORM

Please complete this form and send with items for service/repair to
5663 Brecksville Road, Cleveland, OH 44131

**Items sent for repair will NOT be serviced without documentation of proper decontamination and cleaning.
Complete the verification of decontamination section below to ensure service begins.**

- Upon receipt and inspection, a service representative will contact you with a quote
- Please check here if you would like RUSH service and expedited shipping ☐ \$75.00

Item(s) Description	Quantity
_____	_____
_____	_____
_____	_____

Description of Service Requested

Sterilization Status: (Must be verified for service/repair to be completed)

- ☐ The enclosed medical device(s) have been thoroughly cleaned/brushed and decontaminated in autoclave equipment according to the manufacturer's instructions.
- ☐ **RETURNED / UNUSED EQUIPMENT ONLY:** The enclosed medical device(s) have **NEVER** been in contact with blood, tissue, body substances or other body fluids and thus is hygienically safe.

Customer/Company Name and Billing Address

Shipping Address (if different)

Signature

Date

Phone

(_____ Mobile OR _____ FAX)

Print Name

Title

Email

PURCHASE ORDER # (if applicable): _____

Rultract Service Questions? Call 888-550-5695

Form 6.4.2.2 Rev. C