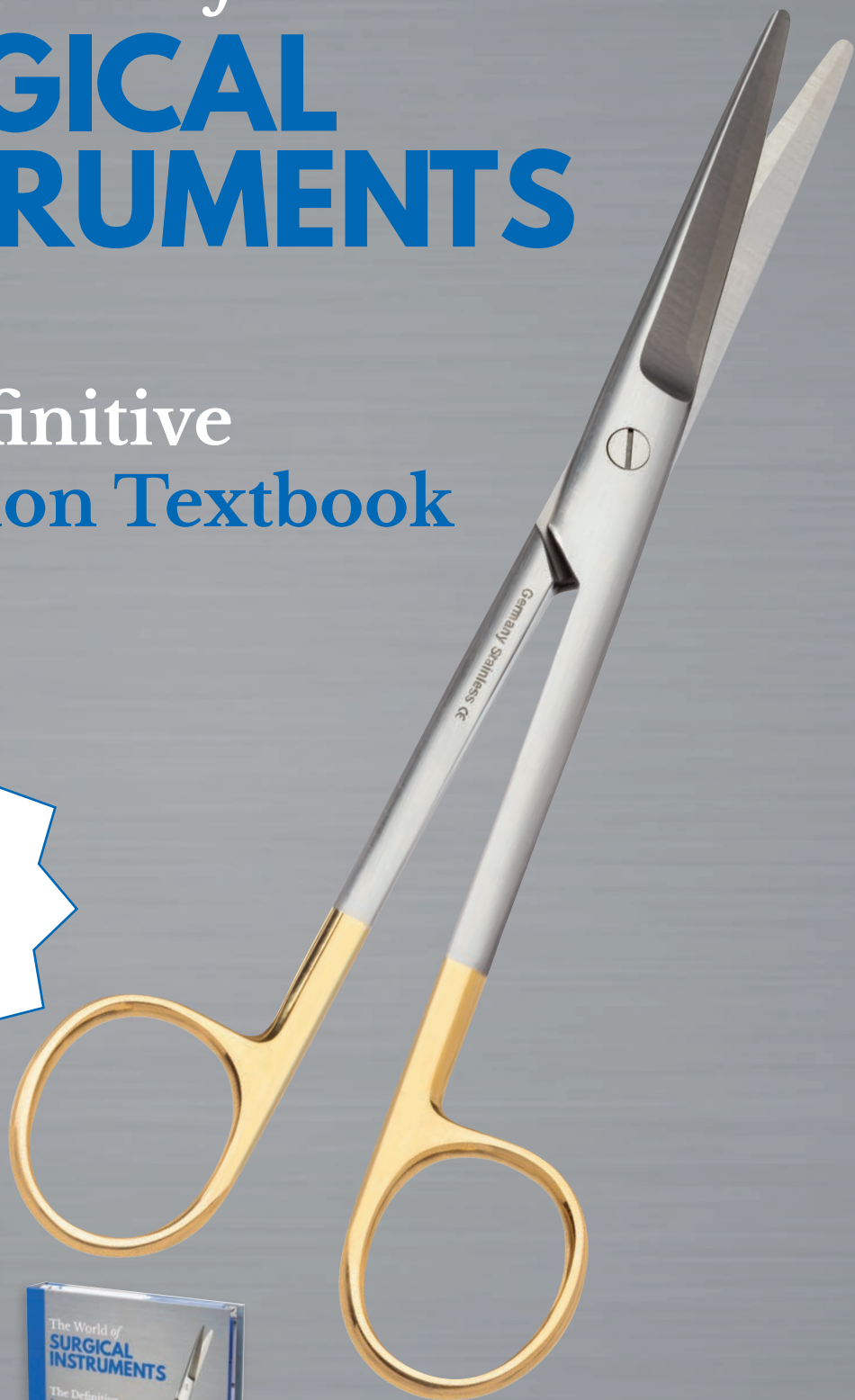


Textbook Preview

# The World of **SURGICAL INSTRUMENTS**

## The Definitive Inspection Textbook

**501**  
full color pages  
**1,198** high  
resolution photos  
Glossy, hard cover  
Lay flat design



*by* **RICK SCHULTZ**

## Frequently Asked Questions

**Q: Do all scissors go dull?**

A: Yes. Every scissor goes dull no matter what size, specialty, manufacturer, or design.

**Q: Does sterilization dull a scissor?**

A: Generally, no. However, when old autoclaves produce dirty steam, the scissor blade edges can become stained, which can cause the scissor not to cut.

**Q: Can all scissors be sharpened?**

A: Yes. Every scissor can be sharpened. Make sure the repair vendor is properly trained, especially on SuperCut scissors (black-handled).

**Q: How often should scissors be tested?**

A: Scissors should be tested 1 to 2 times per week. The proactive approach is picking 2 days per week as scissor testing days. Using an instrument tracking system will allow the facility to track sharpening frequency. Eventually, a large percentage of scissors will be sharp.

**Q: Is the scissor testing standard red and yellow scissor test material?**

A: Yes. The industry standard is to use red scissor test material for scissors longer than 4½" in overall length and yellow scissor test material for scissors that measure 4½" and shorter. Yellow scissor test material is used on 4½" scissors.

**Q: Do all repair technicians know how to sharpen scissors?**

A: No. Experience and proper training is key, and many times repair technicians are learning on your expensive instrument inventory. The hospital should verify how many months of training/employment the repair technician has. On average, a repair technician needs 9 to 12 months of training. This training should not be performed on the facility's inventory of instruments. You cannot teach experience.

**Q: Is it true that certain scissors need to be sharpened more often?**

A: Yes. The black-handled SuperCut scissor needs to be sharpened the most (quarterly) because it has a knife edge.

**Q: Can scissors be over-sharpened?**

A: Yes. Scissors can be over-sharpened by inexperienced repair technicians. Only send out dull scissors for sharpening. Not all scissors in a set need to be sharpened.

**Q: Can serrated scissors be sharpened?**

A: Yes. The repair technician should know how to sharpen a serrated scissor. But remember, experience cannot be taught. An inexperienced repair technician may not know the correct method.

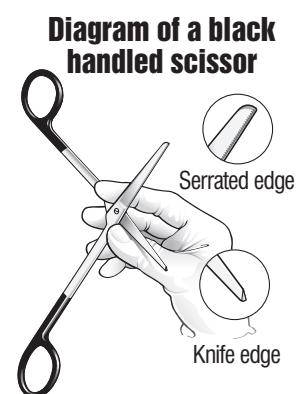
**Q: Do all black-handled scissors have a serrated edge?**

A: No. Black-handled SuperCut scissors have the option of serrated edges or not. One serrated blade and one knife blade is the most popular configuration.

**Q: Should gold-handled scissors be sharpened more often?**

A: No. Gold-handled scissors stay sharper longer. They should first be tested before sending them out for sharpening.

**Q: What is the reason tungsten carbide is used in scissors?**



# Mayo Scissor, Tungsten Carbide

**Instrument Name:** Mayo Scissor, Tungsten Carbide

**Also Known As:** Gold Mayo

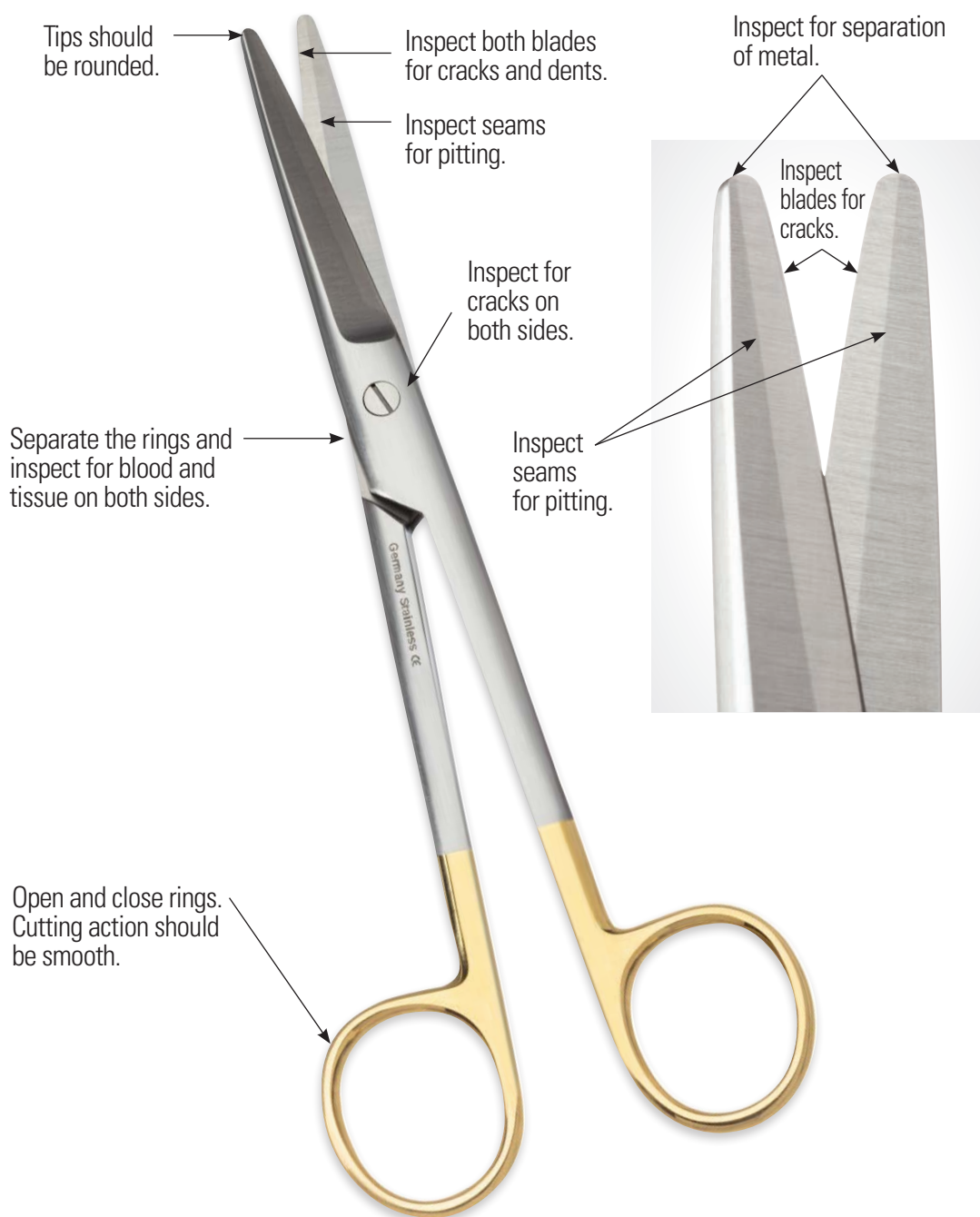
**Similar Instruments with Same Inspection:** All scissors

**Overall Length:** 5½" (14 cm), 6¾" (17.1 cm), 9" (22.9 cm), straight or curved

**Instrument Use:** Cutting non-delicate tissue/tougher tissue (cartilage/tendons)

**Tray Assembly Tip:** Sterilize with rings slightly open

**Sharpness Test Standard:** Red scissor test material



# Mayo-Hegar Needle Holder, Tungsten Carbide Jaws and Standard Jaws

**Instrument Name:** Mayo-Hegar Needle Holder, Tungsten Carbide Jaws and Standard Jaws

**Also Known As:** Needle driver

**Similar Instruments with Same Inspection:** All other needle holders

**Overall Length:** 7" (17.8 cm)

**Instrument Use:** Driving suture needles in the suturing process

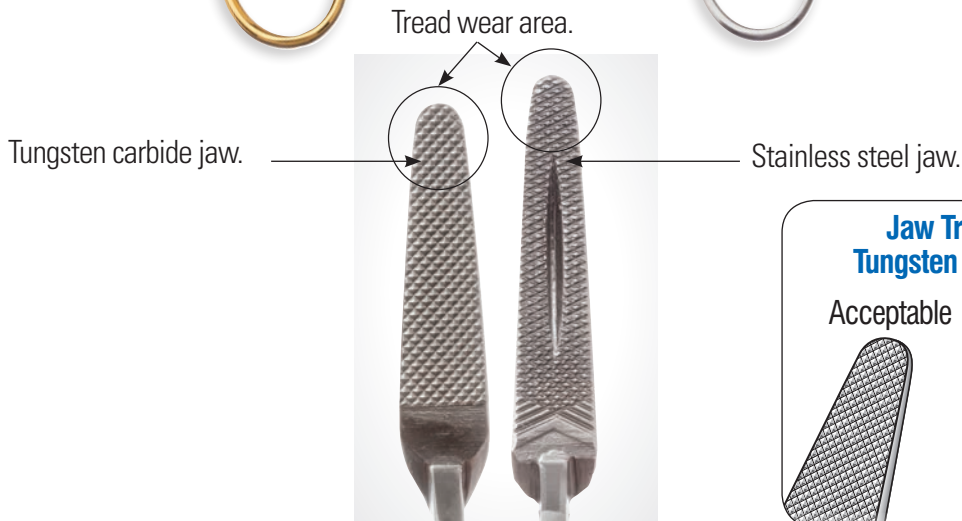
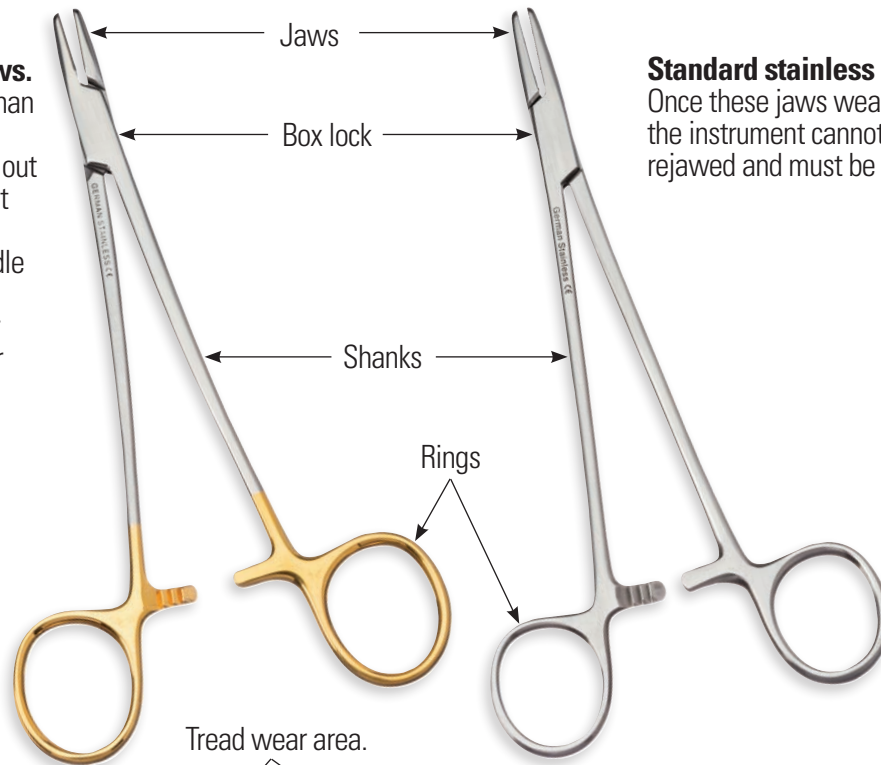
**Tray Assembly Tip:** Sterilize with ratchets in the open position

**Tungsten carbide jaws.**

- Much harder metal than stainless steel.
- The jaw tread wears out very slowly. Jaws last longer.
- Grips the suture needle better.
- When the jaws wear out, the repair vendor can simply replace.
- Tungsten carbide is indicated by 24-karat gold rings.

**Standard stainless jaws.**

Once these jaws wear out, the instrument cannot be re-jawed and must be replaced.



# Types of Needle Holders

## Closed position



Olsen-Hegar



Heaney



Crile-Wood



Ryder



Mayo-Hegar,  
Tungsten  
Carbide



Mayo-Hegar  
Standard,  
non-carbide

## Open position



Olsen-Hegar



Heaney



Crile-Wood



Ryder



Mayo-Hegar,  
Tungsten  
Carbide



Mayo-Hegar  
Standard,  
non-carbide

## Frequently Asked Questions

Insulation  
"pull test"



**Q: There is a space between the insulation and the tip of the instrument. Is this okay?**

A: No. The instrument must be immediately removed from service and sent out for repair. A gap can allow blood and fluids to enter under the insulation. If the abdomen is insufflated, it will cause the blood to be forced under the insulation.



Gap in insulation

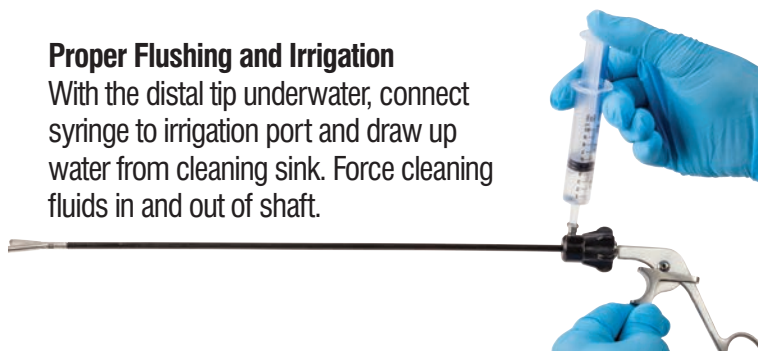
**Q: How is loose laparoscopic insulation visually tested?**

A: To test the insulation visually, inspect the entire shaft for any nicks or cuts. Next, lightly pull back on the insulation. If the insulation slides back, the instrument is in need of re-insulation.

**Q: What is the port near the handle used for?**

**Proper Flushing and Irrigation**

With the distal tip underwater, connect syringe to irrigation port and draw up water from cleaning sink. Force cleaning fluids in and out of shaft.



A: This port is used to flush the instrument during the cleaning process.

**Q: Where are the most difficult areas to clean on a laparoscopic instrument?**

A: The most challenging areas to clean are the jaws and distal working portion (linkage). This is where blood and fluids can hide. Manual cleaning and the use of an ultrasonic irrigator will assist in cleaning these areas.

**Q: How are laparoscopic scissors tested for sharpness?**

A: Unless stated differently in the Instructions For Use (IFU), laparoscopic scissors are tested on one thickness of gift wrap tissue paper or yellow scissor test material.

**Q: How is the jaw tension tested on laparoscopic graspers?**

A: Gently clamp a lint-free towel with the laparoscopic grasper and pull back. The grasper should not slip from the towel.

**Q: What methods can be used to prevent damage to the tips of laparoscopic instruments?**

A: Using a tip protector will help protect sharp tips and delicate instruments from damage or place instruments in a secure instrument rack and tray.

# Laparoscopic Claw Forcep, 10 mm

**Instrument Name:** Laparoscopic Claw Forcep, 10 mm

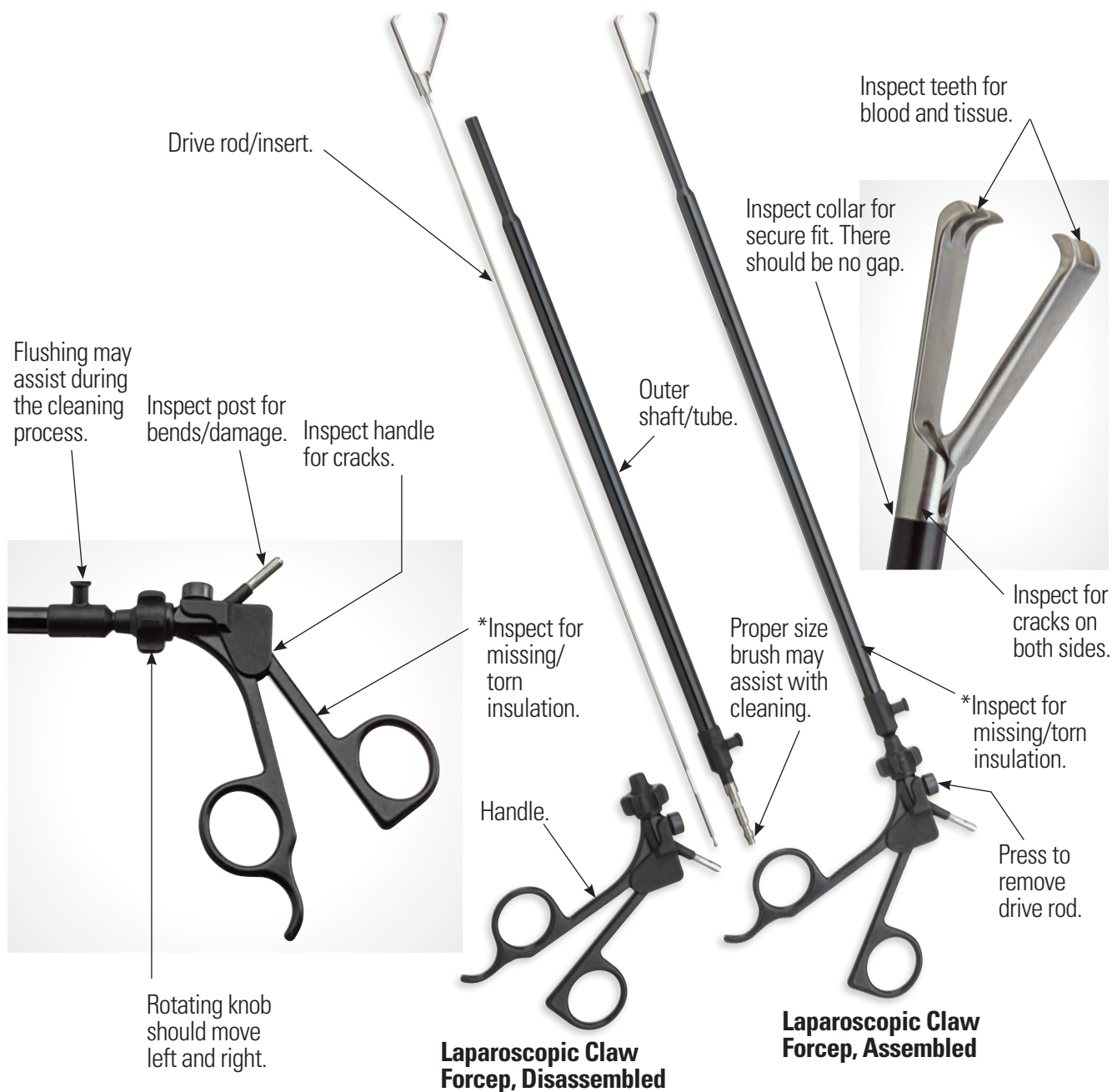
**Also Known As:** Claw grasper, Clickline®

**Similar Instruments with Same Inspection:** All three-piece laparoscopic grasping forceps

**Overall Length:** Shaft: 36 cm, 43 cm

**Width:** Diameter: 5 mm, 10 mm

**Instrument Use:** Grasping tissue during minimally invasive procedures



# Kelly Forcep

**Instrument Name:** Kelly Forcep

**Also Known As:** Snaps (often confused with Rochester Pean)

**Similar Instruments with Same Inspection:** All hemostats

**Overall Length:** 5½" (14 cm), half serrated jaws

**Instrument Use:** Clamping off vessels

**Tray Assembly Tip:** Sterilize with ratchets in the open position

Inspect both jaws for dents.  
Inspect serrations for blood  
and tissue.

Tips should meet  
evenly with no overlap.

Separate the rings and inspect for  
blood and tissue on both sides.

Inspect  
both jaws  
for blood  
and tissue.

Inspect for cracks on  
both sides.

Crile forcep  
has fully  
serrated  
jaws.

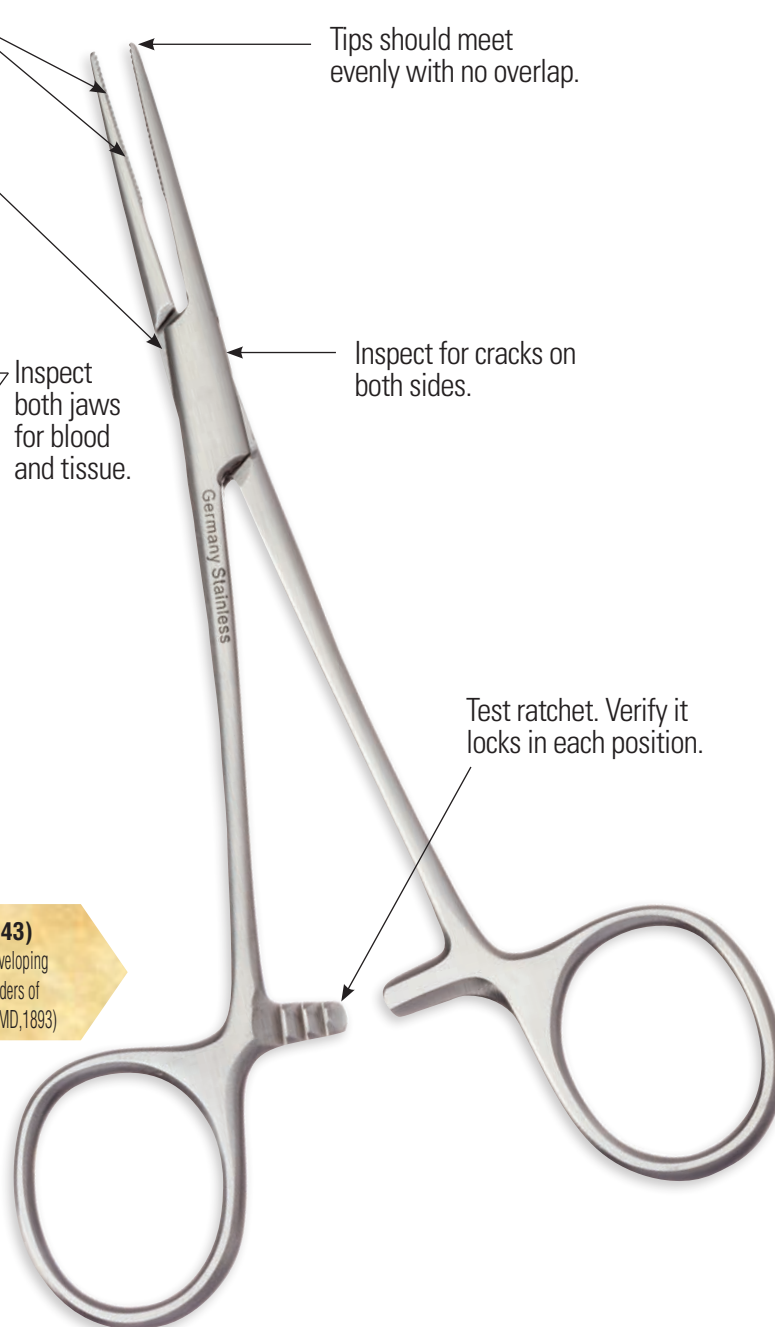
Kelly forcep  
has half  
serrated  
jaws.

Test ratchet. Verify it  
locks in each position.



**Dr. Howard Atwood Kelly (1858-1943)**

Credited with establishing gynecology as a specialty by developing new surgical approaches to GYN diseases. One of the founders of Johns Hopkins University School of Medicine (Baltimore, MD, 1893)





## Most Common Hemostats



**Hartman**

**Halsted**

**Kelly**

**Crile**

**Rochester-  
Pean**

**Ochsner  
(Kocher)**



**Hartman**

**Halsted**

**Kelly**

**Crile**

**Rochester-  
Pean**

**Ochsner  
(Kocher)**

# Resectoscope

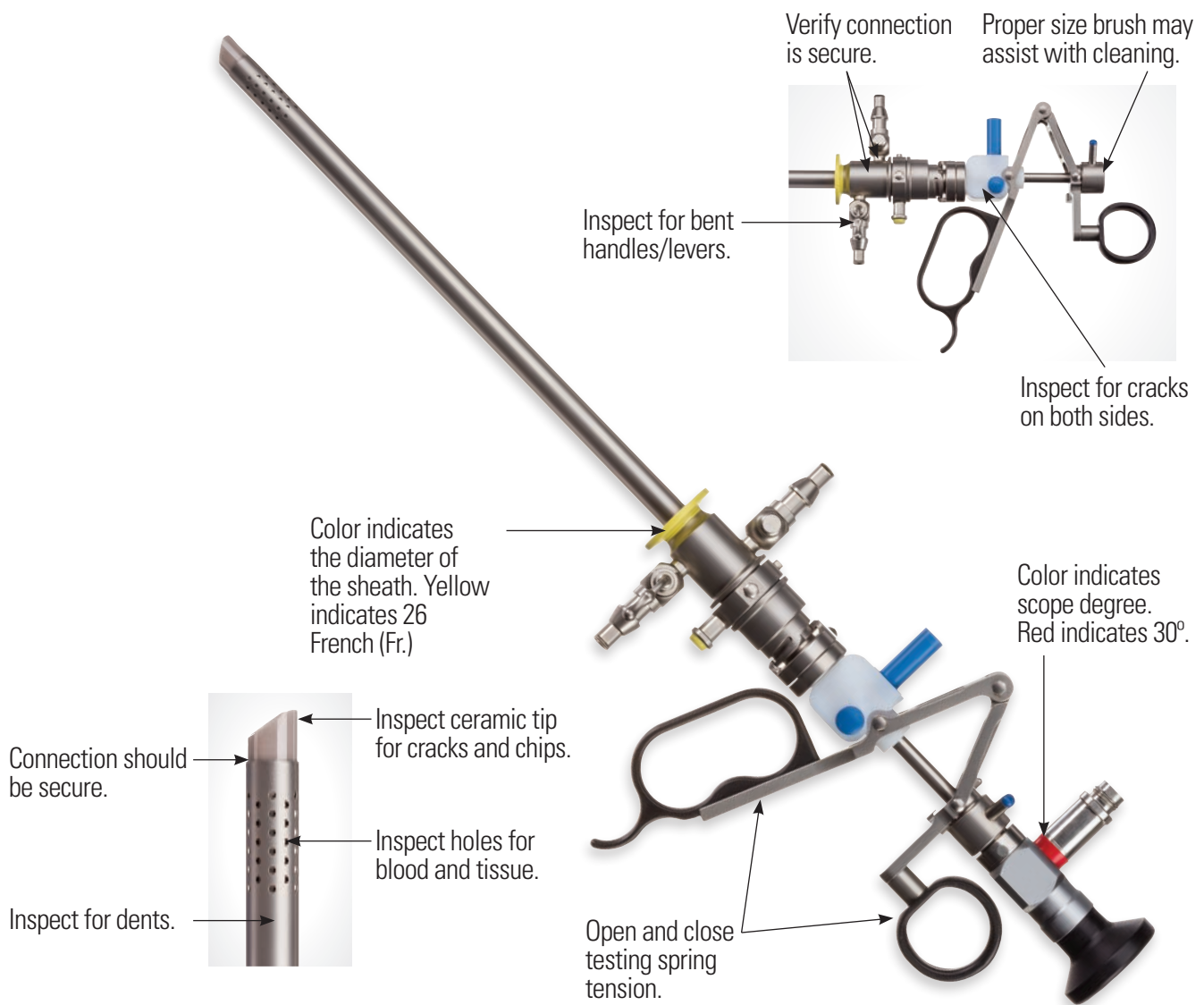
**Instrument Name:** Resectoscope

**Also Known As:** Bipolar resectoscope, Urology resectoscope

**Instrument Use:** Removal or biopsy of lesions of the bladder, prostate, or urethra

**Tray Assembly Tip:** Very delicate instrument. A protection case may reduce damage.

## Resectoscope, assembled



# Damaged Laparoscopic Spatula

**Cause:** The insulation may have been damaged during use. Over time, the insulation may become brittle and chip off.

**Effect:** The insulation is torn/missing. The instrument should be removed from service immediately and sent for repair. Continued use may result in the insulation dropping into the surgical site and cause a significant patient risk.

**Prevention:** This instrument requires visual inspection and insulation testing after every use.

Torn insulation. **REMOVE  
FROM SERVICE  
IMMEDIATELY AND SEND  
OUT FOR REPAIR.**



# The World *of* **SURGICAL INSTRUMENTS**

The Definitive Inspection Textbook

## Testimonials

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“It is the Encyclopedia Britannica® for surgical instruments. The picture-in-picture detail is awesome to show proper inspection points.” - B.C.R., North Carolina

“Nothing short of being the go-to resource for instrument knowledge and care and handling for the novice and expert.” - R.W.S., MBA, CRCST, CIS, CHL, Ohio

“The textbook even provides an unprecedented, behind the scenes look into instrument repair and maintenance. Rick’s new book is a home run and a must read for Sterile Processing professionals.” - J.P., BSN, RN, CCSVP, CMRP, Pennsylvania

“An outstanding instructional guide. I would have loved to have such a work when I started 37 years ago!” – J.M.E, PhD, Ohio

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## About The Book

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- » 501 pages with 1,198 high resolution photos
- » Hardcover “lay flat” hidden spiral binding
- » 70 lb super white paper with 20 section tabs
- » FAQ’s for each section
- » Includes Surgical Instrument Repair and How to Measure sections
- » Authored by multiple award-winning surgical instrument expert, Rick Schultz

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