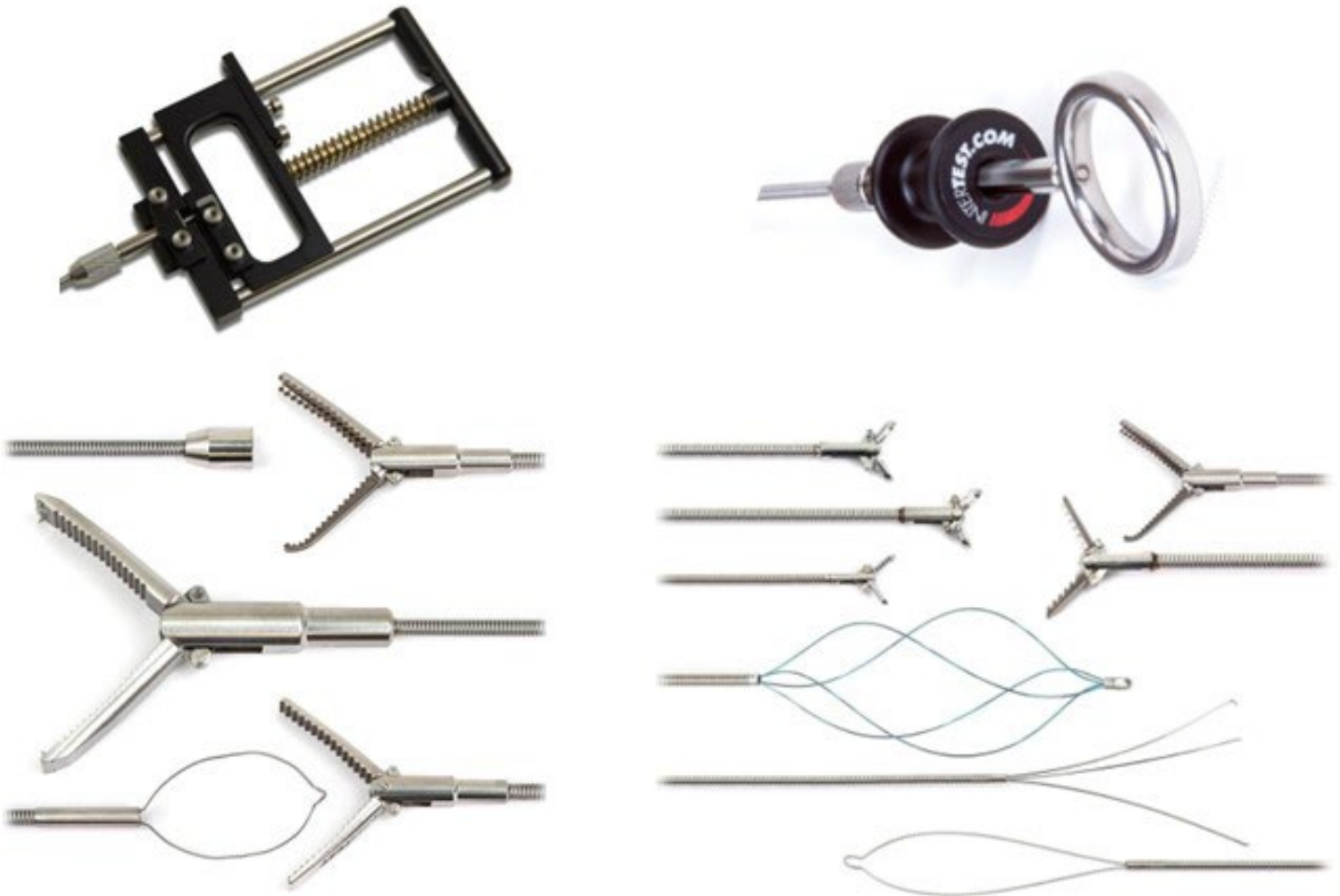




iGrab™ Manual Retrieval Tools



InterTest, Inc. • 303 Route 94 • Columbia, NJ 07832
Released January 2022



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Contact Information

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Introduction:

The iGrab™ Manual Retrieval Tools are critical in Foreign Object Search and Retrieval (FOSAR), Foreign Materials Exclusion (FME), and Foreign Object Debris (FOD) removal operations in power generation service and manufacturing industries. InterTest, Inc.'s retrieval tool brand iGrab™ has tools as small as 1.4 mm diameter to as large as 10mm

The micro tools, less than 4 mm in diameter, are meant to be used in a Working Channel of a Video Probe / Articulating Guide Tube. Larger diameter tools, greater than or equal to 4 mm, are meant to be used either by themselves or when mounted externally to a Video Probe / Articulating Guide Tube using a “Working Tool Holder”

Working Channel Micro Retrieval Tools (< 4 mm)

Part Number	Description	Diameter	Length
EM90110	Micro Alligator FOD Retrieval Tool	1.4 mm (0.05")	10 ft (3.05m)
EM90272	Micro Alligator FOD Retrieval Tool	1.4 mm (0.05")	20 ft (6.10m)
EM17719	Micro Alligator FOD Retrieval Tool	2.3 mm (0.09")	7.5 ft (2.3m)
EM17619	Micro Alligator FOD Retrieval Tool	3 mm (0.12")	4.92 ft (1.5m)
EM90136	Micro Alligator FOD Retrieval Tool	3 mm (0.12")	10 ft (3.05m)
EM16674	Micro Alligator FOD Retrieval Tool	3 mm (0.12")	20 ft (6.10m)
EM17720	Micro Cup Forceps FOD Retrieval Tool	1.8 mm (0.07")	3.28 ft (1m)
EM41264	Micro Cup Forceps FOD Retrieval Tool	2.4 mm (0.094")	10 ft (3.05m)
EM17639	Micro Cup Forceps FOD Retrieval Tool	2.4 mm (0.094")	6.56 ft (2 m)
EM10660	Micro Cup Forceps FOD Retrieval Tool	2.4 mm (0.094")	20 ft (6.10m)
EM17632	Micro Fork & Tine FOD Retrieval Tool	2.8 mm (0.11")	10 ft (3.05m)
EM17633	Micro Fork & Tine FOD Retrieval Tool	2.8 mm (0.11")	20 ft (6.10m)
EM17717	Micro Long Tooth FOD Retrieval Tool	1.8 mm (0.07")	3.94 ft (1.2m)
EM17718	Micro Long Tooth FOD Retrieval Tool	2.4mm (0.094")	7.5 ft (2.3m)
EM16675	Micro Long Tooth FOD Retrieval Tool	3 mm (0.12")	10 ft (3.05m)
EM16676	Micro Long Tooth FOD Retrieval Tool	3 mm (0.12")	20 ft (6.10m)
EM17618	Micro Long Tooth FOD Retrieval Tool	3 mm (0.12")	4.92 ft (1.5m)
EM17400	Micro Manual FOD Retrieval Tool Kits - 8 Piece Sets	Various	10 ft (3.05m)
EM17401	Micro Manual FOD Retrieval Tool Kits - 8 Piece Sets	Various	20 ft (6.10m)
EM16679	Micro Rat Tooth FOD Retrieval Tool	2.4mm (0.094")	10 ft (3.05m)
EM16680	Micro Rat Tooth FOD Retrieval Tool	2.4mm (0.094")	20 ft (6.10m)
EM90107	Micro Snare FOD Retrieval Tool	1.4 mm (0.05")	10 ft (3.05m)
EM90271	Micro Snare FOD Retrieval Tool	1.4 mm (0.05")	10 ft (3.05m)
EM17638	Micro Snare FOD Retrieval Tool	1.4 mm (0.05")	6.56 ft (2.0m)
EM90271	Micro Snare FOD Retrieval Tool	1.4 mm (0.05")	20 ft (6.10m)
EM17641	Micro Three Prong Gripper FOD Retrieval Tool	1.4 mm (0.05")	6.56 ft (2 m)
EM19459	Micro Three Prong Gripper FOD Retrieval Tool	1.4mm (0.05")	10 ft (3.05m)
EM16851	Micro Three Prong Gripper FOD Retrieval Tool	1.4mm (0.05")	20 ft (6.10m)
EM14710	Micro Three Prong Gripper FOD Retrieval Tool	2.4 mm (0.094")	10 ft (3.05m)
EM17640	Micro Toothed Clam FOD Retrieval Tool	2.4 mm (0.094")	6.56 ft (2 m)
EM16677	Micro Toothed Clam FOD Retrieval Tool	2.4mm (0.094")	10 ft (3.05m)
EM16678	Micro Toothed Clam FOD Retrieval Tool	2.4mm (0.094")	20 ft (6.10m)

Figure 1 Micro Tool Part Numbers

Note:

Micro Retrieval Tools uses a smaller plunger



Figure 2 Micro Tool Plunger



Manual Retrieval Tools (≥ 4mm)

Part Number	Description	Diameter	Length
EM18002	Magnet Manual FOD Retrieval Tool	4 mm (0.157")	11.5 ft (3.5m)
EM19538	Magnet Manual FOD Retrieval Tool	4 mm (0.157")	15 ft (4.57m)
EM16847	Magnet Manual FOD Retrieval Tool	4 mm (0.157")	25 ft (7.62m)
EM19539	Magnet Manual FOD Retrieval Tool	4 mm (0.157")	33 ft (10m)
EM19540	Magnet Manual FOD Retrieval Tool	4 mm (0.157")	40 ft (12m)
EM19541	Magnet Manual FOD Retrieval Tool	4 mm (0.157")	50 ft (15m)
EM16672	Snare Manual FOD Retrieval Tool	4 mm (0.157")	11.5 feet (3.5m)
EM90273	Snare Manual FOD Retrieval Tool	4 mm (0.157")	15 ft (4.57m)
EM16673	Snare Manual FOD Retrieval Tool	4 mm (0.157")	25 ft (7.62m)
EM19427	Snare Manual FOD Retrieval Tool	4 mm (0.157")	33 ft (10m)
EM19428	Snare Manual FOD Retrieval Tool	4 mm (0.157")	40 ft (12m)
EM17694	Snare Manual FOD Retrieval Tool	4 mm (0.157")	50 ft (15m)
EM19386	Three Prong Gripper Manual FOD Retrieval Tools	4 mm (0.157")	11.5 ft (3.5m)
EM19387	Three Prong Gripper Manual FOD Retrieval Tools	4 mm (0.157")	15 ft (4.57m)
EM19388	Three Prong Gripper Manual FOD Retrieval Tools	4 mm (0.157")	25 ft (7.62m)
EM19389	Three Prong Gripper Manual FOD Retrieval Tools	4 mm (0.157")	33 ft (10m)
EM19390	Three Prong Gripper Manual FOD Retrieval Tools	4 mm (0.157")	40 ft (12m)
EM19391	Three Prong Gripper Manual FOD Retrieval Tools	4 mm (0.157")	50 ft (15m)
EM13894	Fork & Tine Manual FOD Retrieval Tool	6 mm (0.236")	11.5 ft (3.5m)
EM10630	Fork & Tine Manual FOD Retrieval Tool	6 mm (0.236")	15 ft (4.57m)
EM90140	Fork & Tine Manual FOD Retrieval Tool	6 mm (0.236")	25 ft (7.62m)
EM19417	Fork & Tine Manual FOD Retrieval Tool	6 mm (0.236")	33 ft (10m)
EM19418	Fork & Tine Manual FOD Retrieval Tool	6 mm (0.236")	40 ft (12m)
EM19211	Fork & Tine Manual FOD Retrieval Tool	6 mm (0.236")	50 ft (15m)
EM41266	Gripping Plier Manual FOD Retrieval Tool	6 mm (0.236")	11.5 ft (3.5m)
EM10635	Gripping Plier Manual FOD Retrieval Tool	6 mm (0.236")	15 ft (4.57m)
EM16122	Gripping Plier Manual FOD Retrieval Tool	6 mm (0.236")	25 ft (7.62m)
EM19442	Gripping Plier Manual FOD Retrieval Tool	6 mm (0.236")	33 ft (10m)
EM19443	Gripping Plier Manual FOD Retrieval Tool	6 mm (0.236")	40 ft (12m)
EM19212	Gripping Plier Manual FOD Retrieval Tool	6 mm (0.236")	50 ft (15m)
EM41265	Sampling Cup Forceps Manual FOD Retrieval Tool	6 mm (0.236")	11.5 ft (3.5m)
EM10637	Sampling Cup Forceps Manual FOD Retrieval Tool	6 mm (0.236")	15 ft (4.57m)
EM10638	Sampling Cup Forceps Manual FOD Retrieval Tool	6 mm (0.236")	25 ft (7.62m)
EM19412	Sampling Cup Forceps Manual FOD Retrieval Tool	6 mm (0.236")	33 ft (10m)
EM19413	Sampling Cup Forceps Manual FOD Retrieval Tool	6 mm (0.236")	40 ft (12m)
EM19213	Sampling Cup Forceps Manual FOD Retrieval Tool	6 mm (0.236")	50 ft (15m)
EM41263	Magnet Manual FOD Retrieval Tool	8 mm (0.315")	11.5 ft (3.5m)
EM10642	Magnet Manual FOD Retrieval Tool	8 mm (0.315")	15 ft (4.57m)
EM90137	Magnet Manual FOD Retrieval Tool	8 mm (0.315")	25 ft (7.62m)
EM19422	Magnet Manual FOD Retrieval Tool	8 mm (0.315")	33 ft (10m)
EM19423	Magnet Manual FOD Retrieval Tool	8 mm (0.315")	40 ft (12m)
EM19214	Magnet Manual FOD Retrieval Tool	8 mm (0.315")	50 ft (15m)
EM12630	Viper Manual FOD Retrieval Tool	8 mm (0.315")	11.5 ft (3.5m)
EM90274	Viper Manual FOD Retrieval Tool	8 mm (0.315")	15 ft (4.57m)
EM12634	Viper Manual FOD Retrieval Tool	8 mm (0.315")	25 ft (7.62m)
EM19432	Viper Manual FOD Retrieval Tool	8 mm (0.315")	33 ft (10m)
EM19433	Viper Manual FOD Retrieval Tool	8 mm (0.315")	40 ft (12m)
EM16316	Viper Manual FOD Retrieval Tool	8 mm (0.315")	50 ft (15m)
EM13895	Viper Manual FOD Retrieval Tool	10 mm (0.4")	11.5 ft (3.5m)
EM10650	Viper Manual FOD Retrieval Tool	10 mm (0.4")	15 ft (4.57m)
EM10651	Viper Manual FOD Retrieval Tool	10 mm (0.4")	25 ft (7.62m)
EM19437	Viper Manual FOD Retrieval Tool	10 mm (0.4")	33 ft (10m)
EM19438	Viper Manual FOD Retrieval Tool	10 mm (0.4")	40 ft (12m)
EM17693	Viper Manual FOD Retrieval Tool	10 mm (0.4")	50 ft (15m)
EM41286	iGrab Manual FOD Retrieval Tool Kits - 5 Piece Sets	Various	11.5 feet (3.5m)
EM41287	iGrab Manual FOD Retrieval Tool Kits - 5 Piece Sets	Various	15 ft (4.57m)
EM41288	iGrab Manual FOD Retrieval Tool Kits - 5 Piece Sets	Various	25 ft (7.62m)
EM19447	iGrab Manual FOD Retrieval Tool Kits - 5 Piece Sets	Various	33 ft (10m)
EM19448	iGrab Manual FOD Retrieval Tool Kits - 5 Piece Sets	Various	40 ft (12m)
EM19409	iGrab Manual FOD Retrieval Tool Kits - 5 Piece Sets	Various	50 ft (15m)
EM68993	iGrab Manual Retrieval Tool Canvas Case	NA	NA
EM43127	Locking Manual Retrieval Tool Handle	NA	NA

Figure 3 Manual Retrieval Tool(s) Part Numbers

Retrieval Tool Types

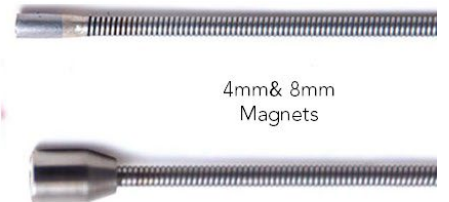


Figure 4 Manual Retrieval Tool Images



EM43127
Locking Handle



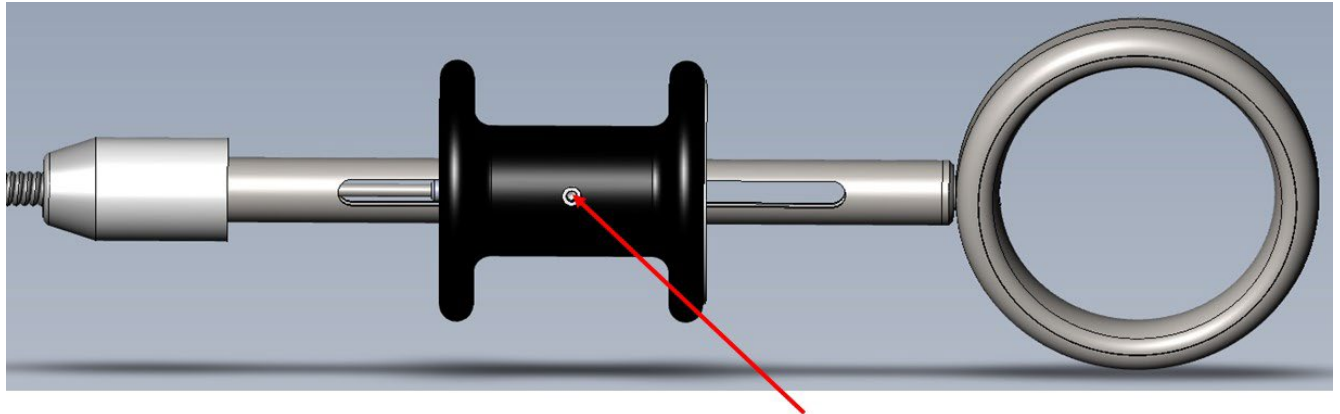
EM10685
Plunger

Figure 5 Tool Handles

Tool Handle Instructions

Plunger Tool Handles

- a. Tension must be relieved from the cables prior to coiling / storage
 - b. Tooling cables should be laid out straight & tension adjusted prior to use.
- 1) Remove Screw, Item # 2, from Plunger Handle See Figure 6 & Figure 7
 - 2) Loosen tension adjuster, Item # 5 Figure 7



.035" Allen Key Note: Older tools use a slotted screw

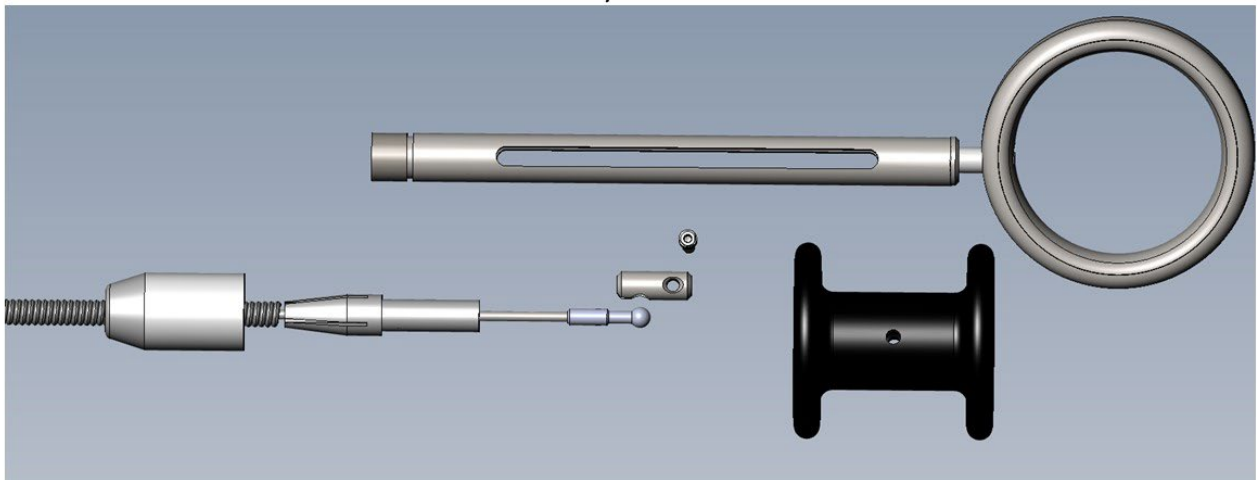


Figure 6 Plunger Handle

- 3) Reassemble the plunger with the tool laid out straight
- 4) Adjust Tension, Item 5. As needed. See Figure 7

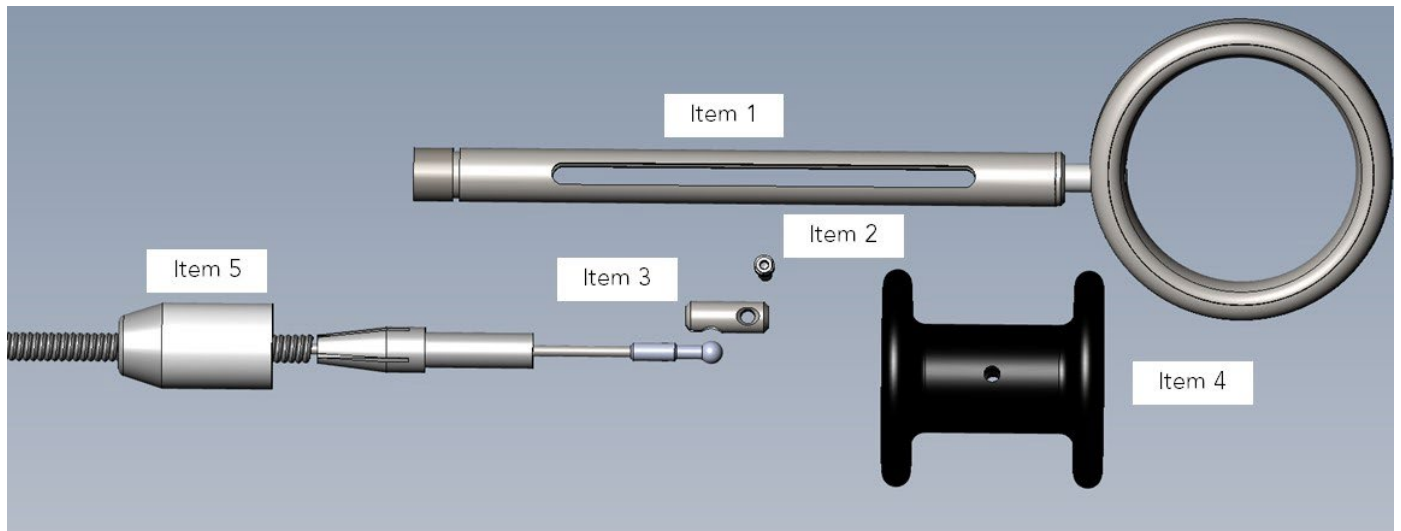


Figure 7 Labeled Plunger Item Numbers

Locking Tool Handle

- a. Tension must be relieved from the cables prior to coiling / storage
 - b. Tooling cables should be laid out straight & tension adjusted prior to use.
- 1) Rotate Locking Bar, & push Slide Lock up Handle See Figure 8
 - 2) Remove Cable Anchor from Cable Ball End See Figure 9
 - 3) Reassemble the Locking Handle with the tool laid out straight
 - 4) Adjust Tension as needed See Figure 10
 - 5) Squeeze handle & lift up on locking bar to hold tool in place See Figure 11

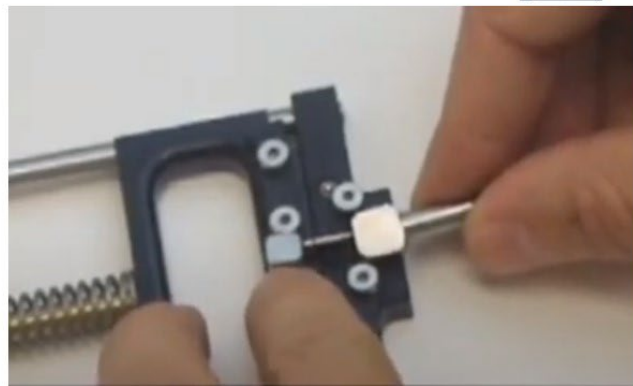
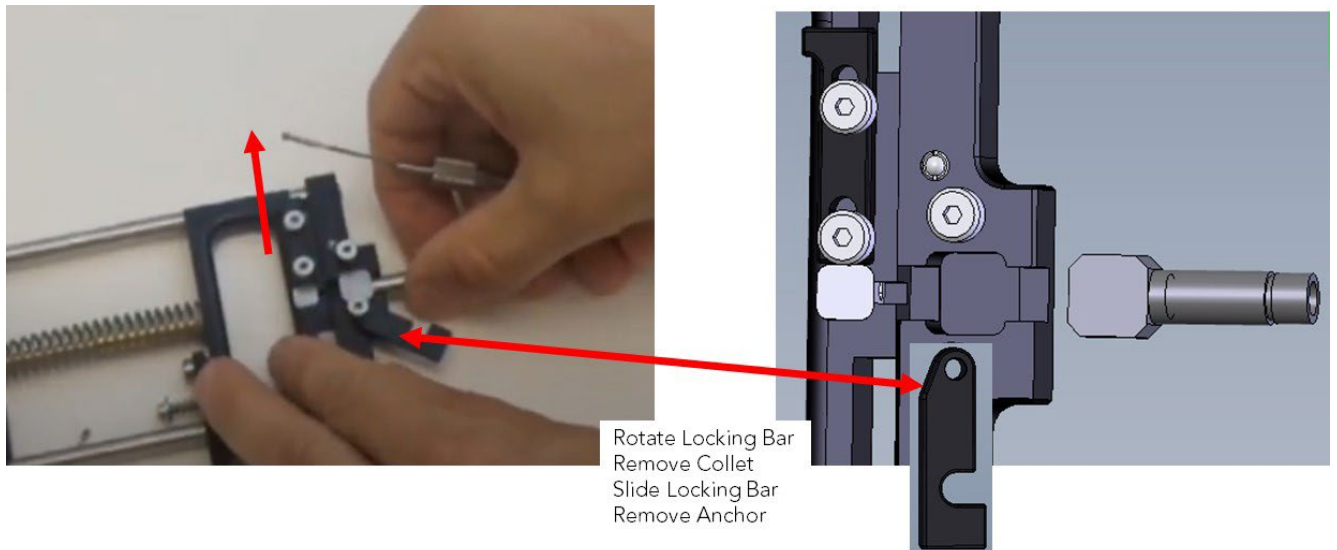


Figure 8 Locking Handle

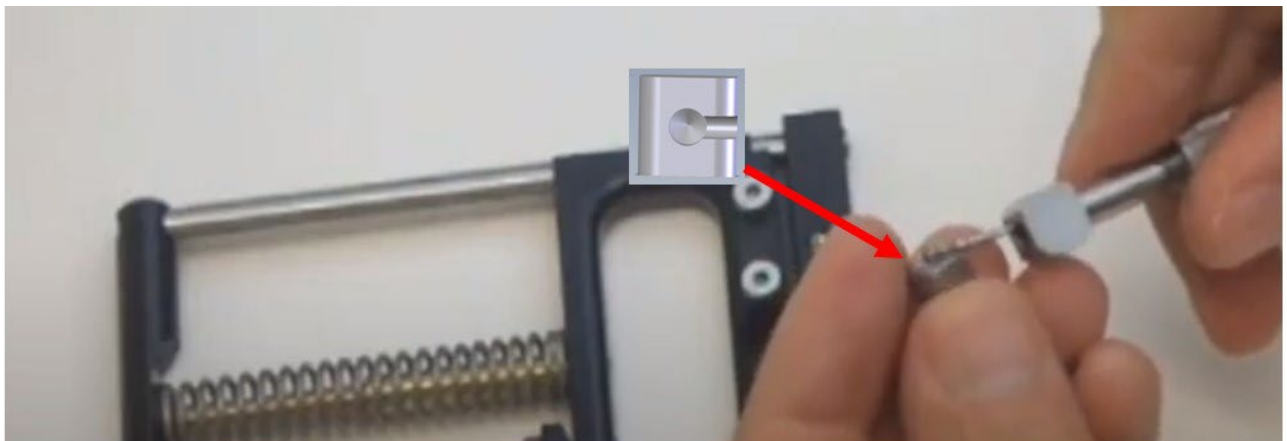


Figure 9 Locking Handle Cable Anchor

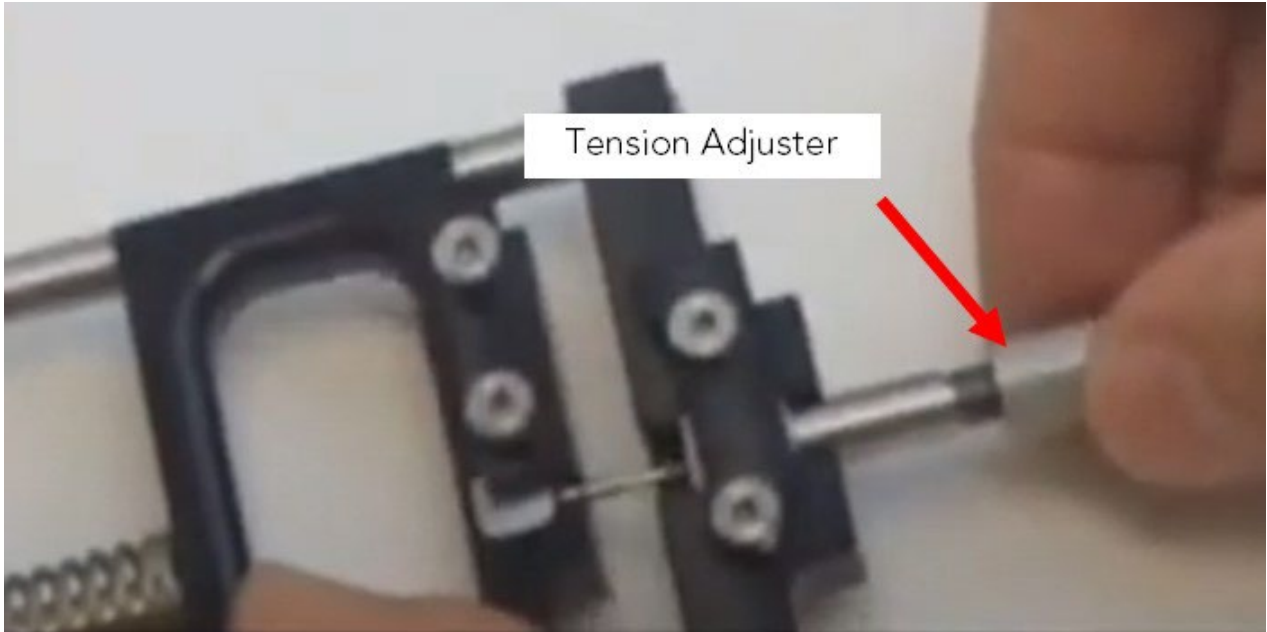


Figure 10 Tension Adjustment

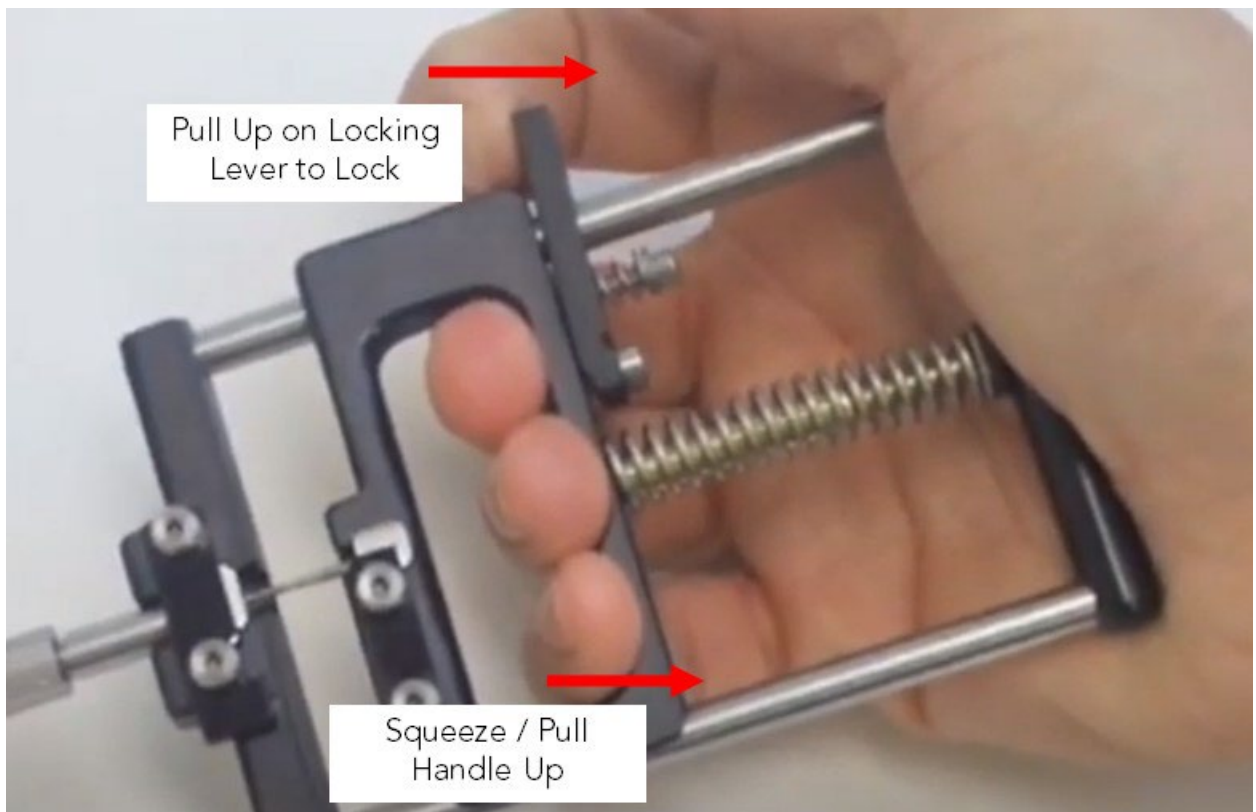


Figure 11 Locking Handle Use

Cautions and Warnings.

Safety Precautions

This manual covers the iGrab™ Manual Retrieval Tools, its functions, and use. It also covers precautions to be taken to ensure safe operation. Please read this manual thoroughly before operating the equipment. By doing so, you will become familiar with the equipment's capabilities and better understand its functions. Save manual for future reference.

Follow all warnings and instructions in the manual and marked on the equipment.

Operational, General Safety Considerations and Precautions

Always observe the guidelines and precautions that follow.

There are no user-serviceable parts inside the motorized retrieval tool. Refer all service to the InterTest Customer Service and Support Group.



IMPORTANT: To ensure operator safety, read and understand this manual before using the system.

To avoid injury, read and understand the associated documentation of support components prior to operation. Direct any questions about equipment operation to InterTest Customer Service and Support Group at 908-496-8008 or via email to service@intertest.com.

Cautionary Symbols and Symbol Terminology

Table A describes the various symbols that may be included in this manual and mounted on the equipment. The severity level of a potential hazard varies. Refer to for hazard level descriptions.

Table A — Manual and Equipment Safety Symbols

Symbols	Definitions
	WARNING/CAUTION: Risk of electric shock.
	WARNING/CAUTION: Refer to instruction manual.
	WARNING/CAUTION: Avoid exposure to water and liquids.
	WARNING/CAUTION: Avoid eye and skin exposure to UVA Light.

Warnings

Stop operation immediately when any abnormality or defect occurs. Use during an abnormal condition, such as emitting smoke, burning odors, after damage from dropping, invasion of foreign objects, et contact InterTest Inc.



Do NOT use in proximity to running electrical equipment

Disclaimers

InterTest Inc. disclaims any responsibility and shall be held harmless for any damages or losses incurred by the user with the use of this product. Including the following:

1. Fire, earthquake or any other Act of God. Acts by third parties; misuse by the user, whether intentional or accidental; use under conditions outside of noted operating range.
2. Malfunction or non-function resulting in indirect, additional or consequential damage including but not limited to loss of expected income and suspension of business activities.
3. Use not in compliance with this manual's instructions.
4. Malfunctions resulting from misconnection.
5. Unauthorized repairs or modifications.
6. Notwithstanding the foregoing, InterTest's liabilities shall not exceed the purchase price of the product.

Warranty

InterTest, Inc. guarantees products manufactured by InterTest, Inc. to be free from defects in materials and workmanship for a period of one (1) year, from the date of original purchase. All other products not manufactured by InterTest, Inc. will carry the OEM's limited warranty, which will be passed to the purchaser through and supported by InterTest, Inc. InterTest, Inc.'s obligation under this limited warranty shall be confined to the repair or exchange of any part, or parts thereof, that prove defective under normal use and service for which the product was intended or designed.

This limited warranty covers products that upon our examination are deemed to be defective. This limited warranty is in lieu of all other warranties, express or implied, including the warranties of merchantability and fitness for use. We neither assume, nor authorize any other person to assume for us, any other liabilities in connection with the sale of InterTest, Inc. equipment. This warranty does not apply to any equipment that has been subject to accident, negligence, alteration, abuse, unauthorized repair, improper storage, or other misuse. This limited warranty applies only to the original purchaser and cannot be assigned or transferred to any third party without express written consent from InterTest, Inc. This limited warranty does not apply to consumable items, expendable items or normal wear and tear, nor does it apply to failure due to radiation, overheating and / or below freezing temperatures.

InterTest, Inc. assumes no responsibility, either expressed or implied, regarding the improper usage of this equipment or interpretation of test data derived from the use of this equipment. InterTest, Inc.'s responsibility and obligations, in all cases, are limited strictly to the repair and/or replacement costs outlined above.

The laws of the State of New Jersey shall govern this warranty.

Note: In the event the equipment cannot be returned to InterTest, Inc. The customer agrees to pay all travel and living expenses incurred to have an InterTest, Inc. representative evaluate, assess, or affect a warranty repair in the field.

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Care & Maintenance

Returns for Repair or Service

In the event the product needs repair, send it to the Service Department at the main office in Columbia, NJ. An RMA (Return Material Authorization Number) must be issued prior to the unit being returned. **Call InterTest, Inc. at (908) 294-8008 to obtain an RMA Number** from customer service. Shipments returned without an RMA will have an administrative fee applied to the transaction.

Provide the product number, serial number and a brief description of the problem or damage when obtaining an RMA number

Return Evaluation Procedure

Once a return is received by InterTest, Inc. it will be evaluated. The fee for any repair evaluation not sent in under warranty is \$55 (USD credited against cost of repair). This cost is in addition to any other charges required. Prior to any repairs being completed, a repair evaluation will be issued, and payment arranged. Payment via credit card is preferred and will expedite the repair process.

Once payment is arranged, the authorization to repair the product is given. Completed repairs will ship back to the customer using the pre-arranged shipping methods.

For Customer Service:

Contact Us

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NOTES:
