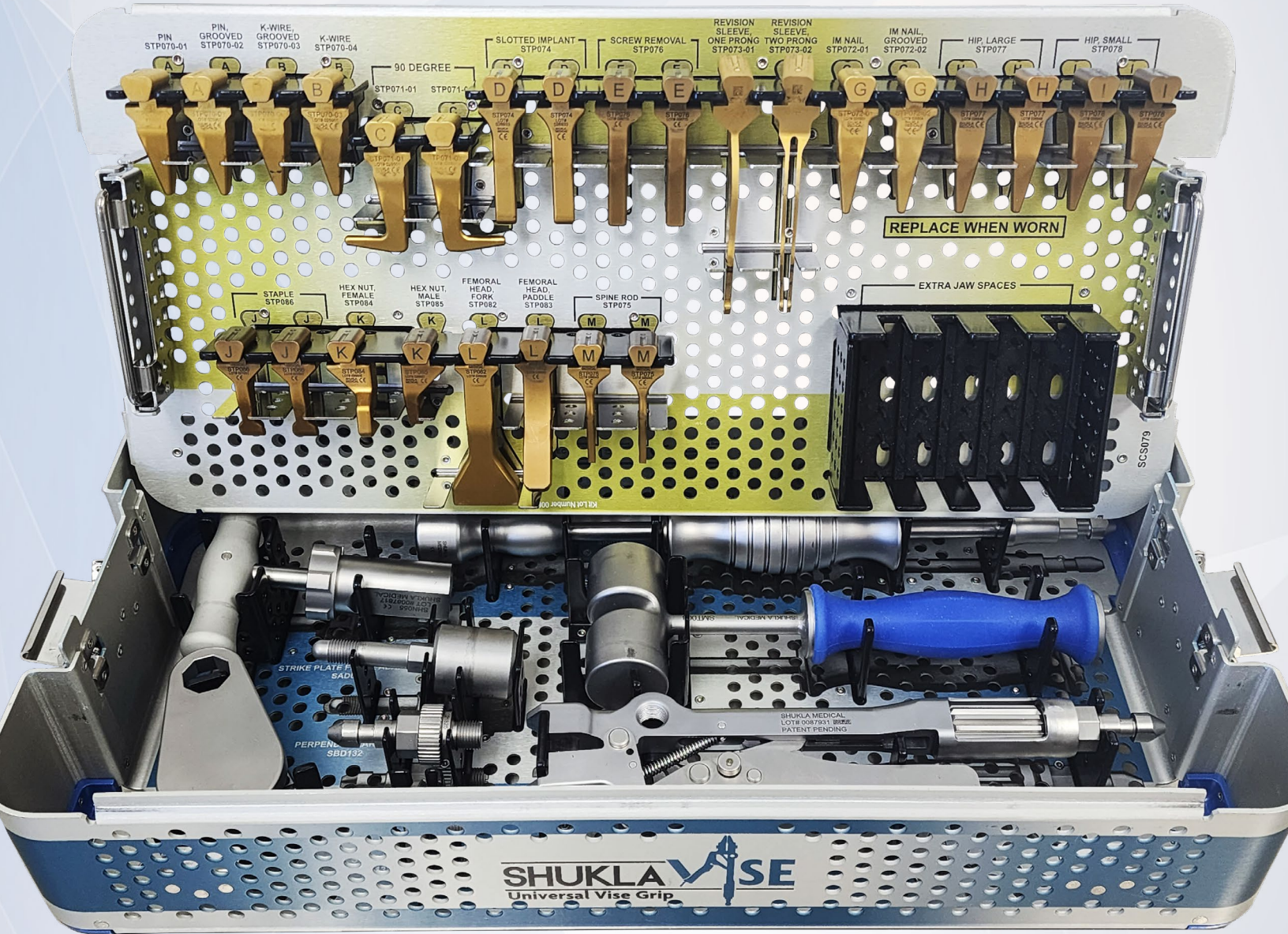


SHUKLA VISE

Universal Vise Grip System



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SHUKLA VISE

Universal Vice Grip System

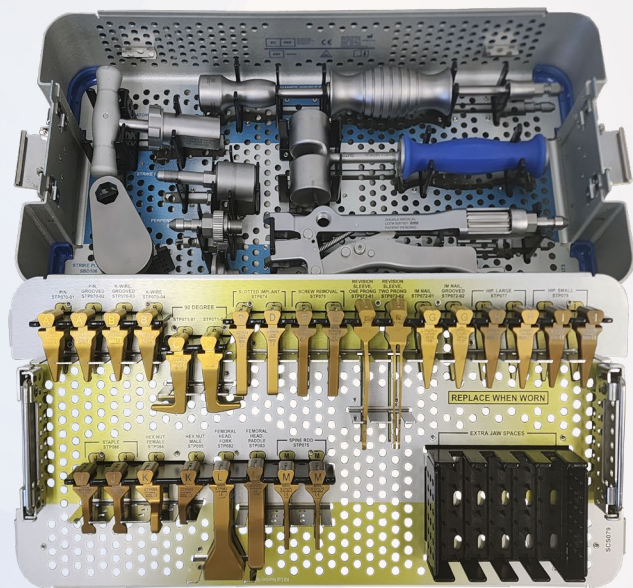
1.1 System Name: SHUKLA Vise

Part Number: S9VISE

Version: 1

1.2 Primary Use

The SHUKLA Universal Vice Grip is designed for use during revision procedures to remove IM nail implants, knee implants, hip implants, pins, k-wires, nuts, spine rods, staples, and screws. It is designed to be used in multiple types of revision surgeries, instead of a single type as is the case with most other SHUKLA Medical products.



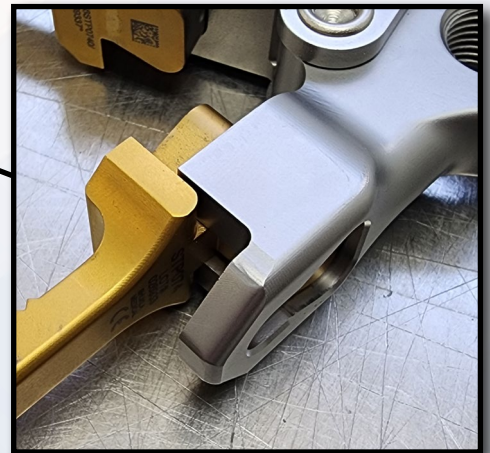
1.3 System History

The SHUKLA Vise Universal Vice Grip started its life during the development of the SHUKLA Shoulder system. It graduated from concept to active design status in 2021, when the engineering team settled upon the idea of repurposing the Shoulder system's Glensphere Extractor. The modular nature of the extractor immediately lent itself to other applications, and within a short time frame a long list of potential modular jaws had been prototyped. The SHUKLA Vise is the latest Shukla Medical system engineered from the ground up to be utilized in any type of orthopedic revision surgery as opposed to being procedurally dependent and launched in July of 2023.

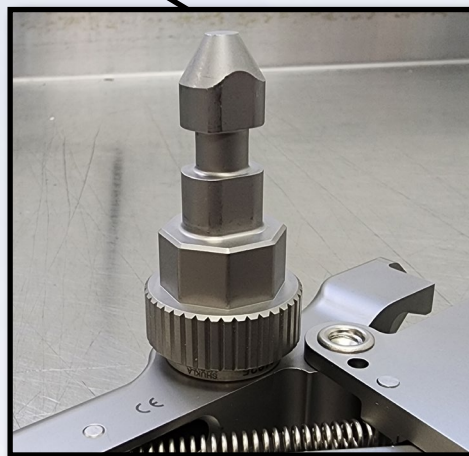
2.1

UNIVERSAL VISE GRIP

Our universal vise grip extractor includes two push-to-connect slots for modular jaws as well as a quick-connect end for instrumentation and a side slot for perpendicular instrumentation.



Each modular jaw connects to the Vise Extractor via a dovetail connection.



The Perpendicular Hub allows for the use of our instrumentation such as the T-Handle or the Slide Hammer. Our Side Strike Plate can also be threaded into the same area.



The hub end connection allows for our instrumentation to be quickly and readily attached.

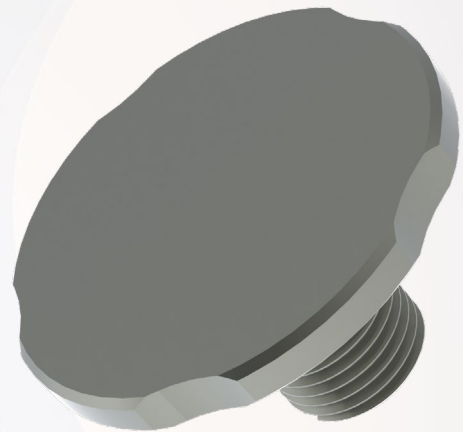


2.2 PERPENDICULAR HUB

The Perpendicular Hub allows for the use of our extraction instrumentation options while gripping perpendicular to the implant or hardware.

2.3 SIDE STRIKE PLATE

A strike plate surface for when the extractor needs to be used perpendicular to the implant or hardware.



2.3 RATCHETING T-HANDLE

The quick-connect capability allows for rapid insertion of the extractor. The symmetric T-shape allows for solid and stable grip while extracting implants using a strike plate or slide hammer. It is also used for the ratcheting out of screws when using the Screw Jaws.

3.1 Preoperative

- Appropriate x-rays and surgical notes may be used to identify manufacturer, brand, location, & condition of implanted hardware.
- The surgeon should be familiar with the general principles of revision surgery and techniques for the removal of implants.
- The instrumentation should be inspected for visible wear prior to use (see Reusable Instrument Inspection Manual, FCD-17089). Do not use the product if damage is suspected.
- Only recommended cleaning and sterilization guidelines should be used.

3.2 Operative

- Proper handling and storage of the instrumentation is mandatory. Damage to the instrumentation may produce stresses and cause defects, which could become a focal point for failure.
- The surgeon should be cautious with limb position change and/or excessive torque or twisting while using the instrumentation provided in the tray.

3.3 Storage

- It is recommended to store all Shukla Medical instrumentation in a clean, dry environment. Under 50% relative humidity; $\leq 75^{\circ}\text{F}/24^{\circ}\text{C}$.
- Proper handling and storage of the instrumentation is mandatory. Long-term use of this system may produce stresses and cause weakness, which could become a focal point for failure.

3.4 Intended Use

The SHUKLA Universal Vise Grip (S9VISE) is intended for use during revision procedures to remove IM nail implants, knee implants, hip implants, elbow implants, pins, k-wires, nuts, spine rods, and screws.

Instrumentation from Shukla Medical is recommended for use only within the intended design, and only by licensed healthcare professionals. Any uses other than those indicated may cause adverse results to the instrumentation or to the patient.

3.5 Indications for Use

The SHUKLA Universal Vise Grip (S9VISE) is indicated for use during revision procedures to remove IM nail implants, knee implants, hip implants, elbow implants, pins, k-wires, nuts, spine rods, and screws.

3.6 Additional Recommendations

During IM nail revision procedures, the SHUKLA Vise Grip system is recommended to be used in conjunction with the SHUKLA Nail (S9NAIL) system.

During hip revision procedures, the SHUKLA Vise Grip system is recommended to be used in conjunction with the SHUKLA Hip (S9HIP), SHUKLA Anterior Hip (S9HIP-ANT), and SHUKLA Blade (S9BLADE) systems.

During spine revision procedures, the SHUKLA Vise Grip system is recommended to be used in conjunction with the SHUKLA Spine (S9SPINE) system.

During revision procedures, the SHUKLA Vise Grip system is recommended to be used in conjunction with the SHUKLA Maxi (S9MAXI), SHUKLA Mini (S9MINI), and SHUKLA Screw (S9SCREW) systems.

STEP 1

Determine which type of jaws are needed for your situation (See bottom of page). Once the jaws have been selected, attach the jaws to the dovetail connection (Image 1) on the Vise Grip Extractor (SXT095-02).

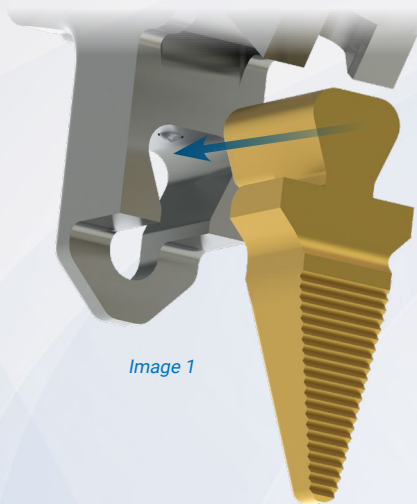


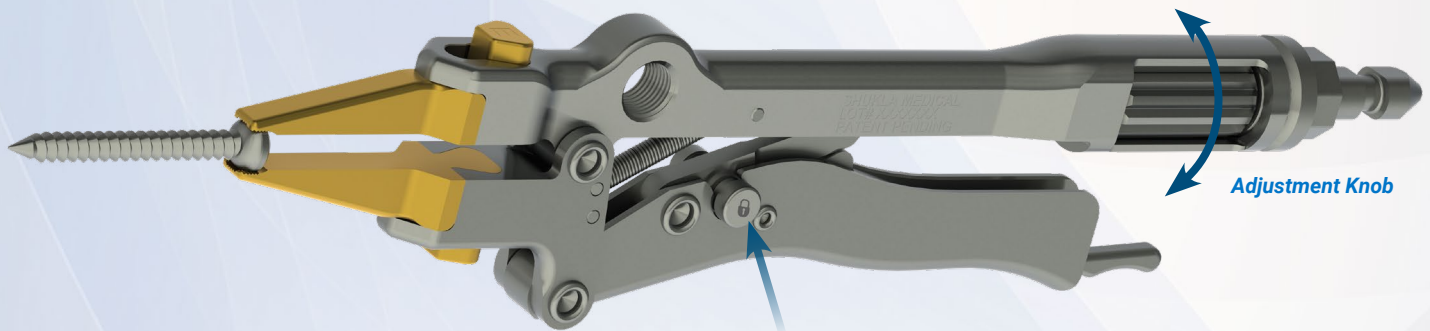
Image 1

Tip: There will be a slight click indicating that the jaws have been fully inserted.

To remove the jaws, press down on the protruding portion of the jaw above the vise grip.

STEP 2

Once the jaws are attached to the Vise Grip Extractor, turn the Vise Grip Extractor's adjustment knob counterclockwise to open the jaws up enough to go over the implant. Then turn the adjustment knob clockwise while squeezing the vise grip handle together to close the jaws. Once the jaws are tight over the implant, continue tightening the knob until you can no longer squeeze the handles together. At that point, loosen the knob slightly and clamp back down.



Adjustment Knob

Note: Lock the handle in place by depressing the **Lock Button** to the other side.

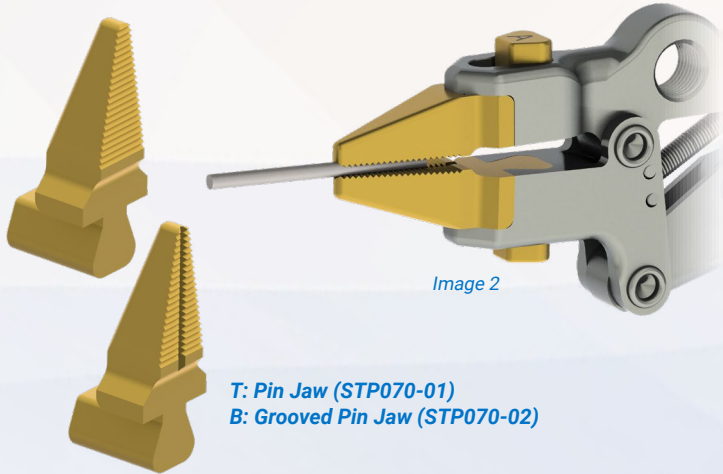
JAW SELECTION

- If removing **Pins**, proceed to **Step 3**.
- If removing **K-Wires**, proceed to **Step 4**.
- If removing **Objects Not Directly Inline** with the Vise Grip Extractor, proceed to **Step 5**.
- If removing **Slotted Implants**, proceed to **Step 6**.
- If removing **Screws**, proceed to **Step 7**.
- If removing a **Revision Sleeve**, proceed to **Step 8**.
- If removing an **IM Nail**, proceed to **Step 9**.
- If removing a **Large Hip Stem**, proceed to **Step 10**.
- If removing a **Small Hip Stem**, proceed to **Step 11**.
- If removing **Staples**, proceed to **Step 12**.
- If removing **Hex Nuts**, proceed to **Step 13**.
- If removing a **Femoral Head**, proceed to **Step 14**.
- If removing a **Spine Rod**, proceed to **Step 15**.

STEP 3

Pin Jaws (A)

The Pin Jaws (STP070-01 & STP070-02) can grab pins ranging in size from 1.5mm to 6.4mm in diameter. Position the jaws so that the pin fits between the groove of the jaw, and then clamp down on the extractor (Image 2). Once successfully secured to the pin, skip to **Step 16**.

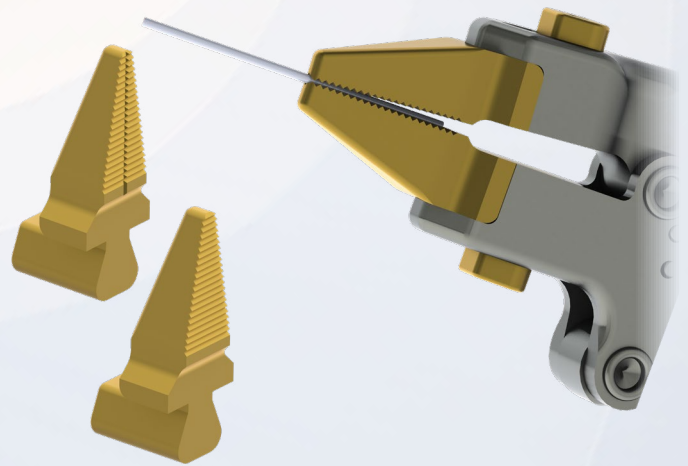


T: Pin Jaw (STP070-01)
B: Grooved Pin Jaw (STP070-02)

STEP 4

K-Wire Jaws (B)

The K-Wire Jaws (STP070-03 & STP070-04) can grab onto K-Wires ranging in size from .90mm to 1.5mm in diameter. Position the jaws so that the k-wire fits between the groove of the jaw, and then clamp down on the extractor (Image 3). Once successfully secured to the pin, skip to **Step 16**.

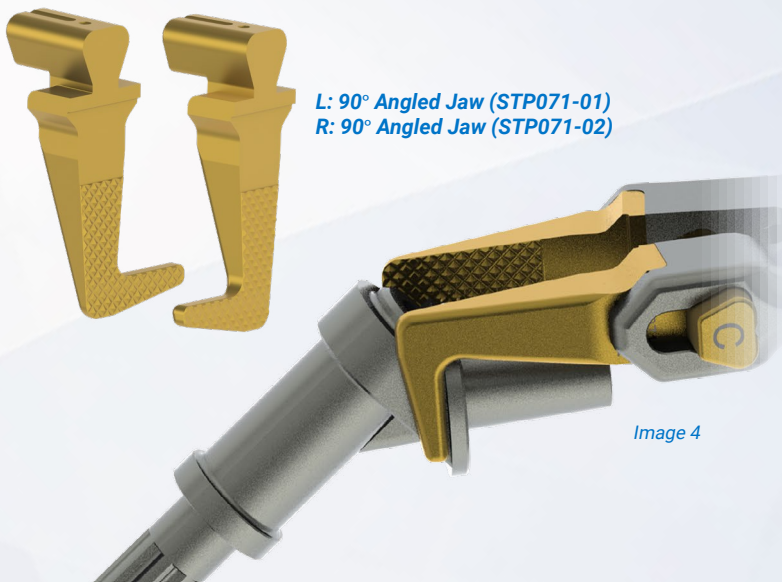


T: Grooved K-Wire Jaw (STP070-03)
B: K-Wire Jaw (STP070-04)

STEP 5

90° Angled Jaws (C)

The 90° Angled Jaws (STP071-01 & STP071-02) can be used on a variety of objects in need of extraction or removal such as a collared hip stem (Image 4) or hard to reach areas. If the object is not able to be secured via a straight inline approach, these jaws can be utilized to grasp onto them. Position the jaws over the desired object, and then clamp down on the extractor. Once successfully secured to the implant stem, skip to **Step 16**.

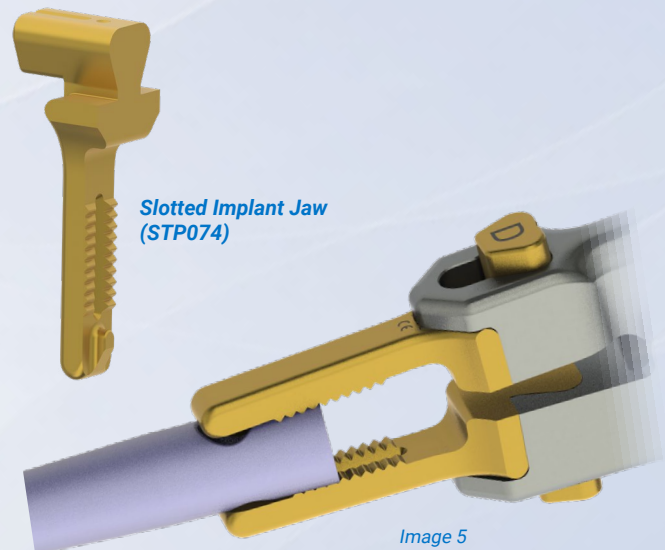


L: 90° Angled Jaw (STP071-01)
R: 90° Angled Jaw (STP071-02)

STEP 6

Slotted Implant Jaws (D)

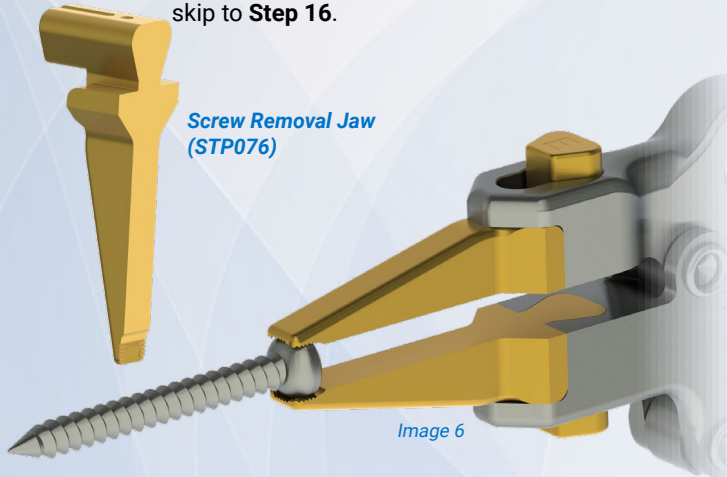
The Slotted Implant Jaws (STP074) are designed for implants with accessible slots or holes such as IM Nails or Hip Stems. Position the jaws over the desired implant (Image 5), and then clamp down on the extractor. Once successfully secured to the implant stem, skip to **Step 16**.



Slotted Implant Jaw (STP074)

STEP 7 Screw Jaws (E)

The Screw Removal Jaws (STP076) can grab onto intact and stripped screws ranging in size from 2mm to 8mm in diameter. Position the jaws so that the screw head fits between the jaws, and then clamp down on the extractor (Image 6). If the screw is broken, the jaws will still work as long as there is some part of the screw to grab onto. The jaws work on screws that are straight on or perpendicular to the extractor. Once successfully secured to the screw, skip to **Step 16**.



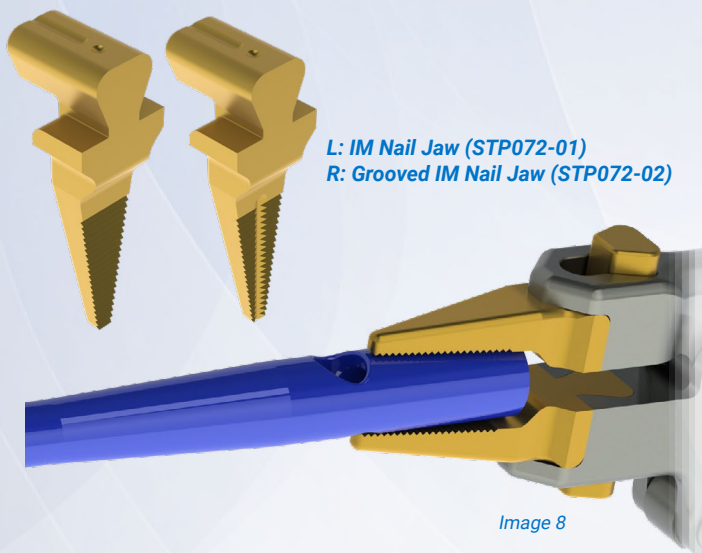
STEP 8 Revision Sleeve Jaws (F)

The Revision Sleeve Jaws (STP073-01 & STP073-02) can remove both knee and hip revision sleeves. Begin with the extractor in the open position to have the two jaws close together. Slide the jaws into the revision sleeve until the tips of the jaws are just past the distal end of the revision sleeve. Once in position, clamp down on the extractor to have the jaws lock themselves into place onto the revision sleeve (Image 7). Once successfully secured to the sleeve, skip to **Step 16**.



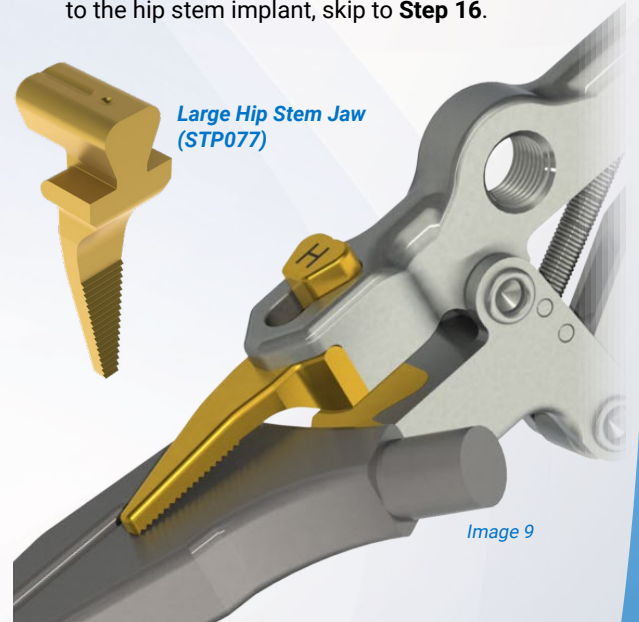
STEP 9 IM Nail Jaws (G)

The IM Nail Jaws (STP072-01 & STP072-02) are used for removing IM nail implants. They also work well in conjunction with our SHUKLA Nail (S9NAIL) system. Position the jaws so that the IM nail fits between the groove of the jaw, and then clamp down on the extractor (Image 8). Once successfully secured to the IM nail implant, skip to **Step 16**.



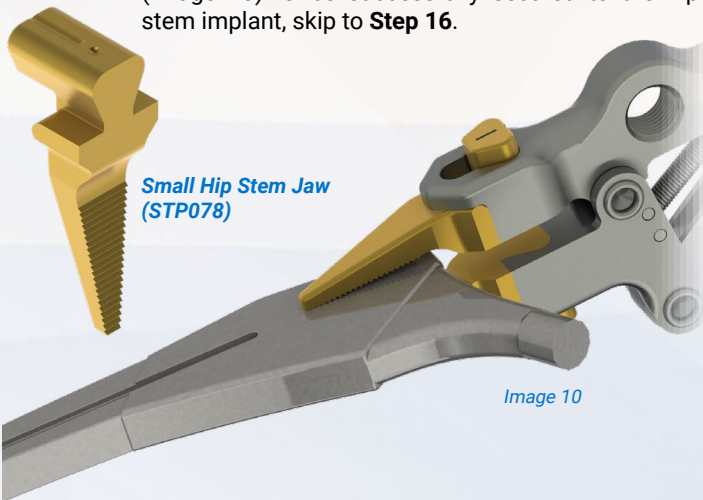
STEP 10 Large Hip Stem Jaws (H)

The Large Hip Stem Jaws (STP077) are used for hip stems with broken trunnions that cannot be removed using the SHUKLA Hip (S9HIP) or SHUKLA Anterior Hip (S9HIP-ANT) systems. The jaws can engage with hip stems between 19mm and 28mm in width anterior to posterior. Position the jaws so that the hip stem fits between the jaws, and then clamp down on the extractor (Image 9). Once successfully secured to the hip stem implant, skip to **Step 16**.



STEP 11 Small Hip Stem Jaws (I)

The Small Hip Stem Jaws (STP078) are used for hip stems with broken trunnions that cannot be removed using the SHUKLA Hip (S9HIP) or SHUKLA Anterior Hip (S9HIP-ANT) systems. The jaws can engage with hip stems up to 19mm in width anterior to posterior. Position the jaws so that the hip stem fits between the jaws, and then clamp down on the extractor (Image 10). Once successfully secured to the hip stem implant, skip to **Step 16**.

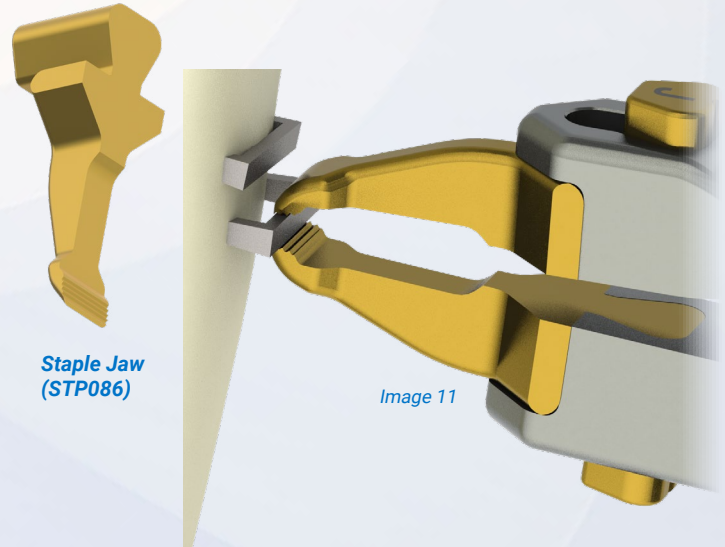


Small Hip Stem Jaw (STP078)

Image 10

STEP 12 Staple Jaws (J)

The Staple Jaws (STP086) are used to remove orthopedic staples sized 6.3mm and up in width. Position the jaws so that the staple fits between the jaws, and then clamp down on the extractor (Image 11). Once successfully secured to the staple, skip to **Step 16**.

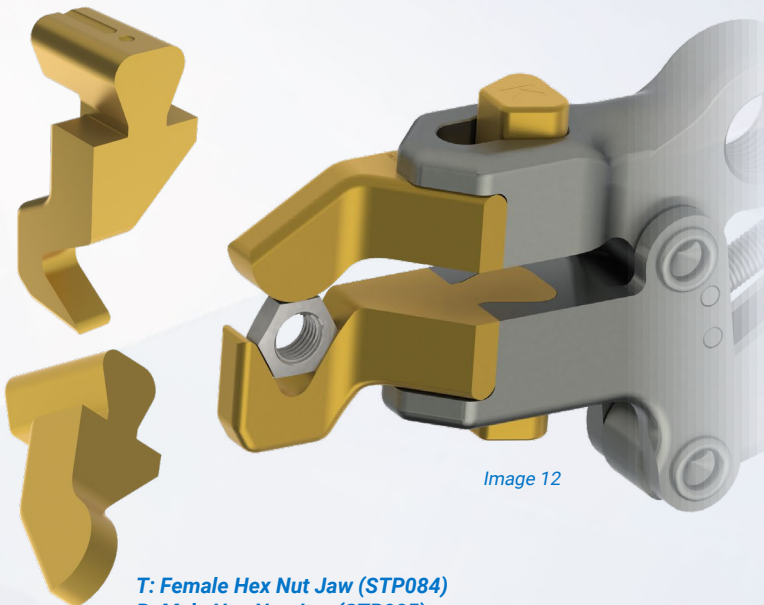


Staple Jaw (STP086)

Image 11

STEP 13 Hex Nut Jaws (K)

The Hex Nut Jaws (STP084 & STP085) are used to remove hex nuts ranging in size from 3.5mm to 14mm in width. Position the jaws so that the hex nut fits between the jaws, and then clamp down on the extractor (Image 12). The jaws are offset to one side to make getting flat to the surface easier. Once successfully secured to the hex nut, skip to **Step 16**.

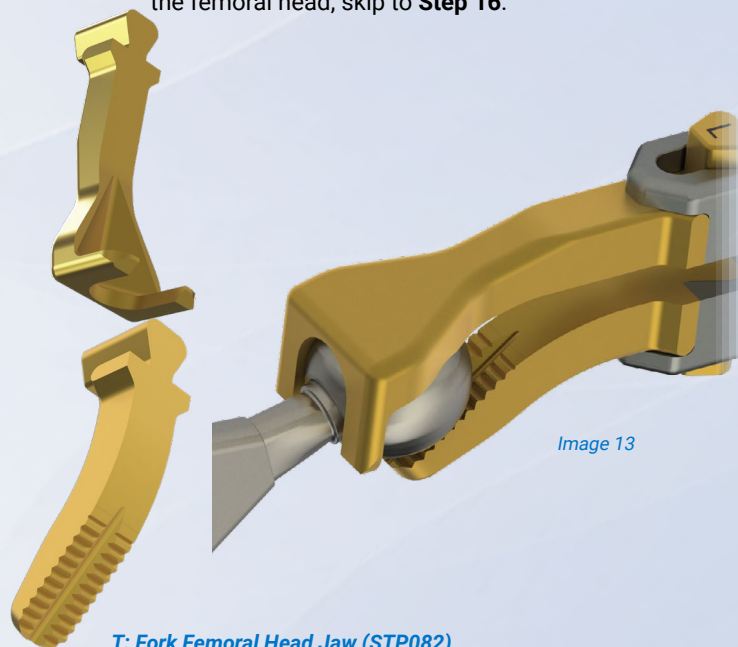


T: Female Hex Nut Jaw (STP084)
B: Male Hex Nut Jaw (STP085)

Image 12

STEP 14 Femoral Head Jaws (L)

The Femoral Head Jaws (STP082 & STP083) are used to remove femoral heads from hip stems ranging in size from 22mm to 36mm. Position the fork and paddle jaws over the femoral head so it fits between the jaws, and then clamp down on the extractor (Image 13). Once successfully secured to the femoral head, skip to **Step 16**.



T: Fork Femoral Head Jaw (STP082)
B: Paddle Femoral Head Jaw (STP083)

Image 13

STEP 15 Spine Rod Jaws (M)

The Spine Rod Jaws (STP075) are used to remove spine rods ranging in size from 4mm to 6mm in diameter. Position the jaws over the spine rod so it fits between the jaws, and then clamp down on the extractor (Image 14). Once successfully secured to the spine rod, proceed to **Step 16**.

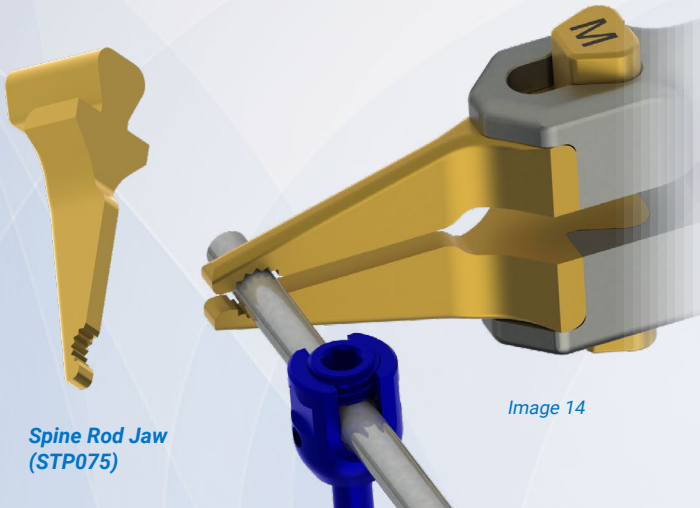


Image 14

Spine Rod Jaw (STP075)

STEP 16

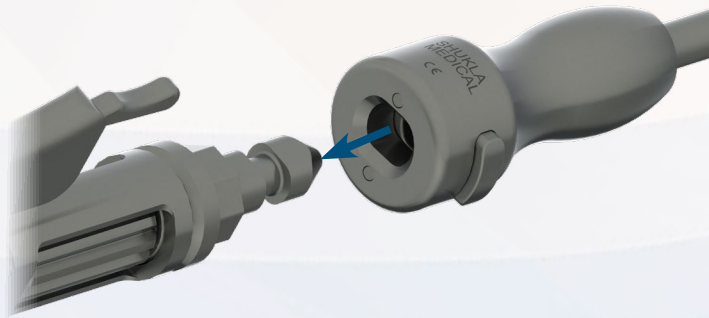
	Pins	K-Wires	90 DegreeAngled	Slotted Implants	Screws	Revision Sleeves	IM Nails	Hip Stems, Large	Hip Stems, Small	Staples	Hex Nuts	Femoral Head	Spine Rods
INSTRUMENTATION	A	B	C	D	E	F	G	H	I	J	K	L	M
Slide Hammer	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓	
Strike Plate/ Mallet	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓	
T-Handle	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	
Strike Plate Frame Attachment				✓			✓	✓	✓				
Side Attachment			✓										

The instrumentation used in the removal or extraction of your object depends on the jaws chosen. Use the above chart to find out which instrumentation should be attached to the extractor, and proceed to the following steps:

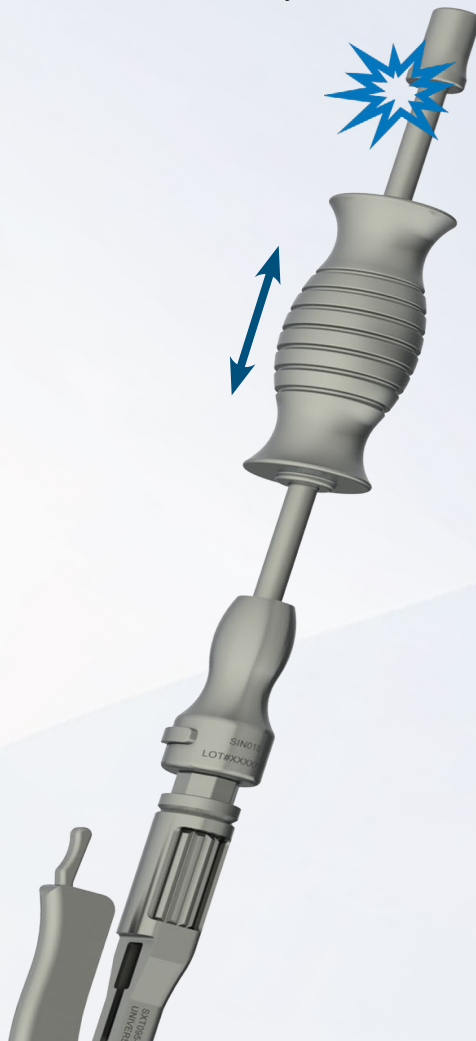
- If the **Slide Hammer** is to be used, proceed to **Step 17**.
- If the **Strike Plate and Mallet** are to be used, skip to **Step 18**.
- If the **T-Handle** is to be used, skip to **Step 19**.
- If the **Strike Plate Frame Adapter and Mallet** are to be used, skip to **Step 20**.
- If a **Side Attachment** is to be used for perpendicular removal, skip to **Step 21**.

STEP 17 Slide Hammer

To use the Slide Hammer (SIN010), press the female chuck on the end of the slide hammer onto the hub connection on the end of the vise grip until the button clicks.

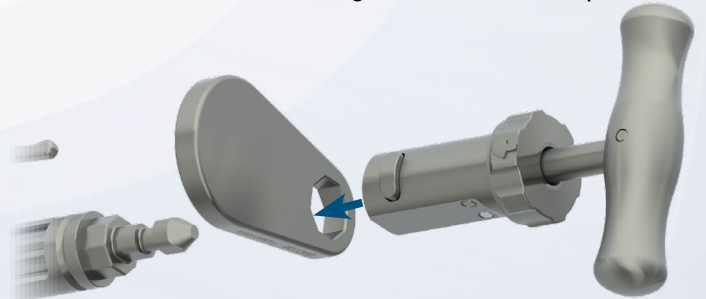


Slide the center mass back towards the end of the slide to impact the end. Continue sliding back and forth until the object is removed.



STEP 18 Strike Plate & Mallet

The Strike Plate (SBD106) and Slotted Mallet (SMT003) combo offers a large impact force at 8 different locations depending on surgeon preference. To use the Strike Plate, slide it over the hexagon shaped portion of the hub connection. Turn the Strike Plate to one of the 8 angles on the hub to an angle that is most preferential. Then slide the T-Handle (SHN055) on top of the hub until the button clicks, indicating that it is locked in place.



Impact the Strike Plate with the Mallet. Continue until the implant is removed.

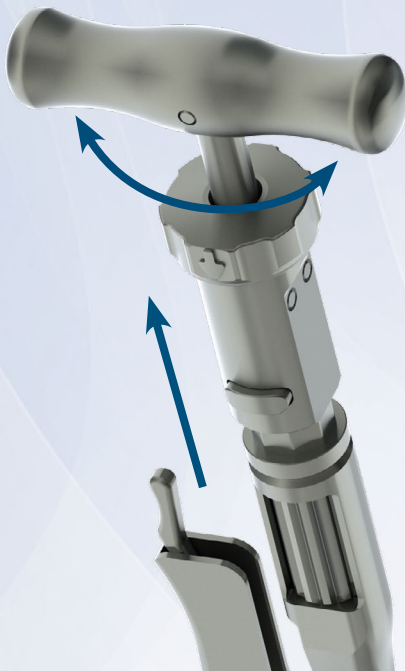
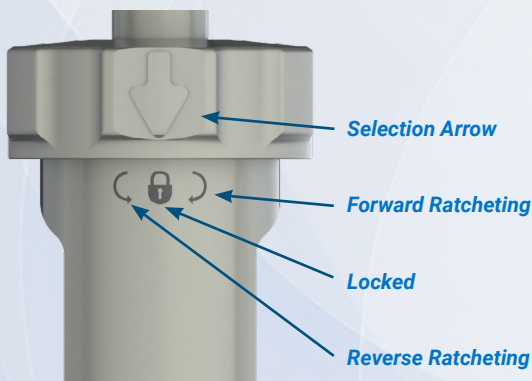


STEP 19 T-Handle

To use the T-Handle (SHN055), push the chuck end of the T-Handle onto the hub connection on the end of the vise grip until the button clicks.

When using the T-Handle to twist an implant or pull on it, make sure the cap is set in the center locked position.

When using the ratcheting feature to remove a screw, turn the cap to the counterclockwise arrow. If forward motion is required, move the cap to the clockwise arrow.

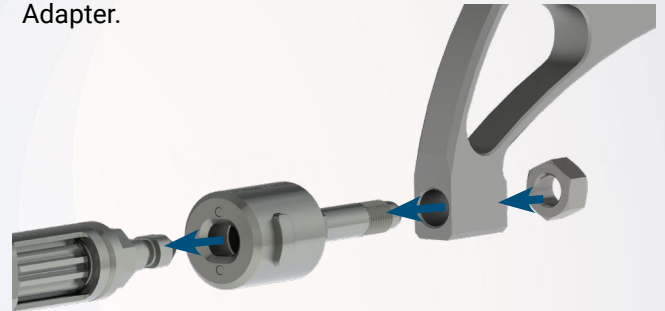


Tip: For all hardware besides screws: twist and pull the Vise Grip until the implant is removed. Once loosened, you may have to swap and finish with another instrument.

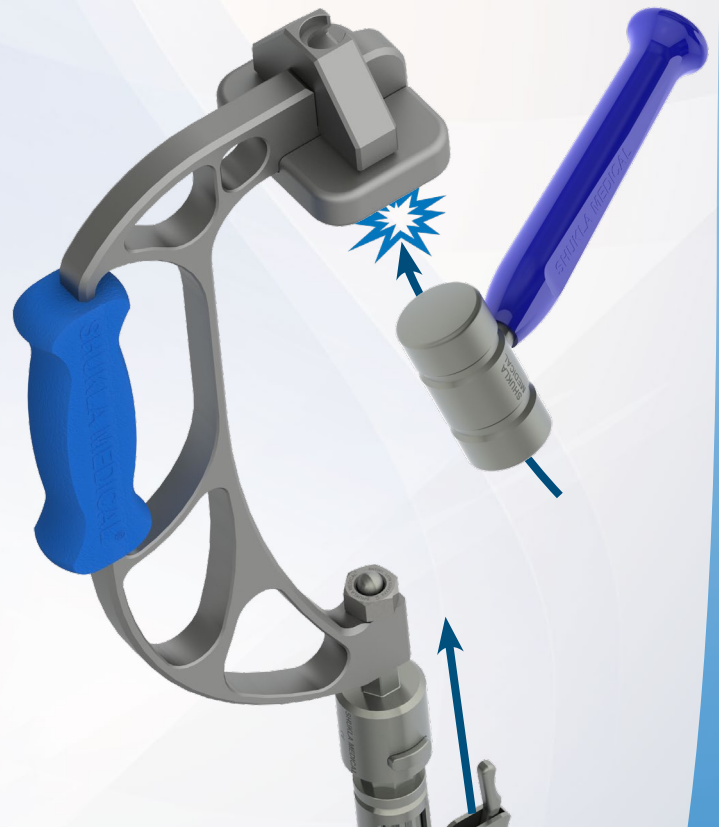
STEP 20 Strike Plate Frame Adapter

The Strike Plate Frame Adapter (SAD017) is used to attach the Strike Plate Frame (SBD008) (not included in S9VISE) to the Vise Grip Extractor. This is useful for well fixed implants such as hip stems or IM nails that require more force to remove.

To use the adapter, press the chuck end of the adapter onto the hub connection on the end of the vise grip until the button clicks. Then, slide the end of the Strike Plate Frame over the connecting rod end of the Adapter and use the nut and the wrenches provided in the accompanying system to tighten down the Strike Plate Frame onto the Adapter.



Impact the strike plate with the mallet. Continue until the implant is removed.

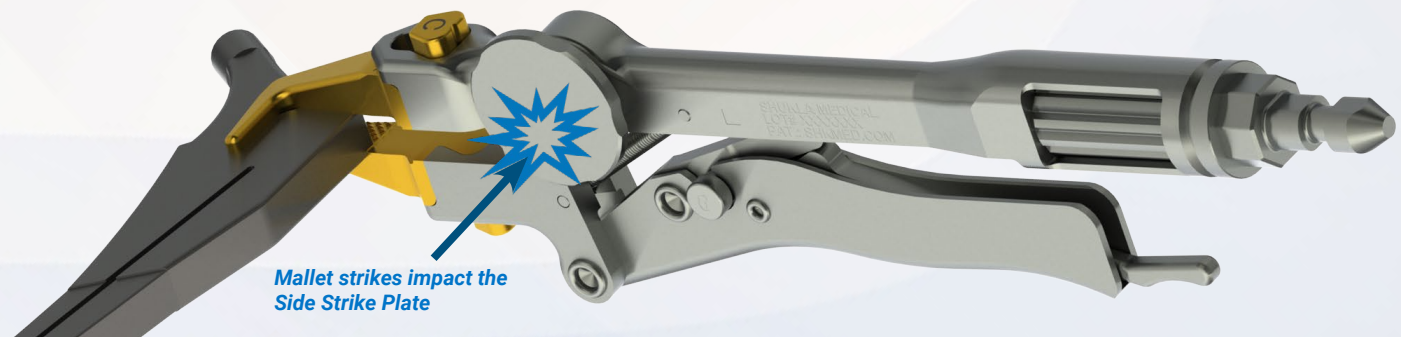


STEP 19 Side Strike Plate & Perpendicular Hub

The side attachments Side Strike Plate (SBD133) and Perpendicular Hub (SBD132) can be used with the 90° Angled Jaws to apply perpendicular impact force to the Vice Grip Extractor.

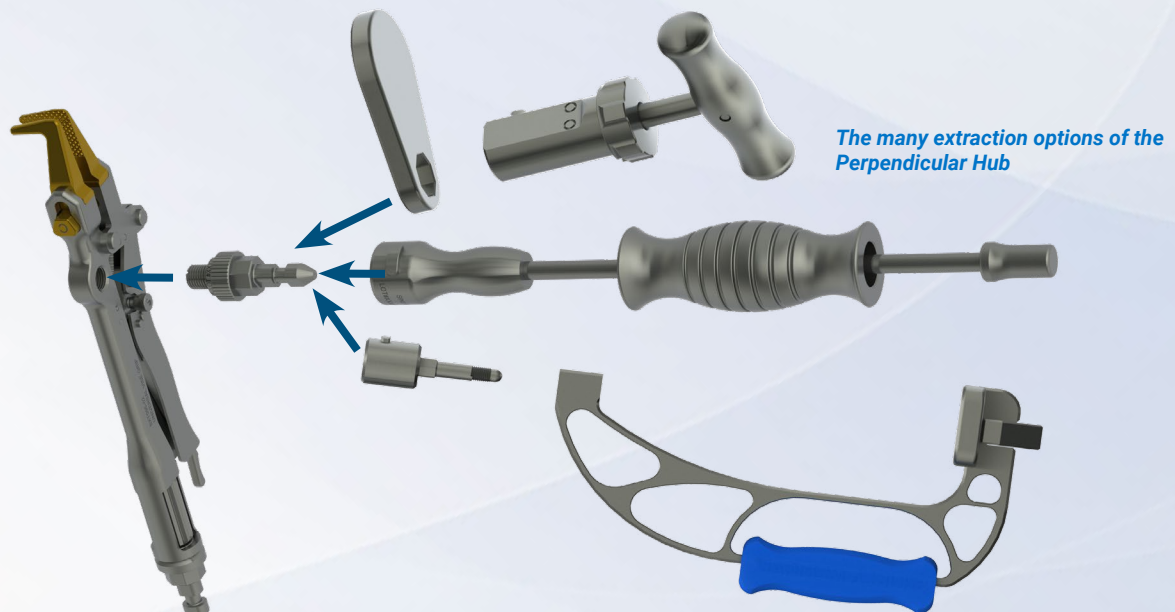
Side Strike Plate

This attachment adds a flat strike surface to the side of the Vice Grip Extractor. To attach it to the Vice Grip, thread it into the threaded hole near the front of the Vice Grip on the side you want to put your extraction component. Proceed to impact the Side Strike Plate with a mallet until extraction is complete.



Perpendicular Hub

This attachment adds a hub end to the side of the Vice Grip Extractor perpendicular to it. This functions the same way as the hub on the end of the Vice Grip Extractor and can attach to the same instrumentation. To attach it to the Vice Grip, thread it into the threaded hole near the front of the Vice Grip on the side you want to put your extraction component.



5 TIPS & TRICKS

SHUKLA Nail

- Angled Jaws can be used on a variety of objects such as Collared Hip Stems, Pins, Plates, and Radial Heads to name a few.
- If you want to tighten the Perpendicular Hub down further, use the T-Handle to connect to the chuck of the hub and turn it while the T-Handle is in the Locked position.
- The edges of the Side Strike Plate are grooved to make it easy to tighten by hand.
- Spine Rod Jaws do not require the use of instrumentation, as extra impaction force would likely be detrimental.

6 CLEANING & STERILIZATION

SHUKLA Vise

NOTE: All Shukla Medical surgical instruments require manual cleaning with a neutral pH cleanser. Open and disassemble all instruments, making sure to remove all contamination during cleaning. Instruments must be reassembled prior to sterilization. Machine washing is not recommended. Maintenance and care using an autoclaveable lubricant on movable parts is required to preserve the life of the instrument. For more cleaning, inspection, maintenance, and care tips, contact Shukla Medical directly.

For detailed cleaning and sterilization instructions, please visit www.ShuklaMedical.com/Sterilization

EC REP
 Emergo Europe
 Prinsessegracht 20
 2514 AP The Hague
 The Netherlands

REF S9VISE

SHUKLA Medical
 8300 Sheen Drive
 St. Petersburg, FL 33709
 USA

i CONSULT
 INSTRUCTIONS
 FOR USE

CE
 NON-STERILE
 PRODUCT

7 COMPONENTS LIST

Component List			
Std Qty	Part Number	Description	Jaw Letter
1	SCS073	Case, Universal Vise Grip	
1	SCS074	Lid, Universal Vise Grip	
1	SCS079	Tray, Universal Vise Grip	
1	SXT095-02	Universal Vise Grip	
1	SAD017	Adaptor, Strike Plate Frame	
1	SIN010	Slide Hammer, Female Chuck	
1	SMT003	Mallet, Slotted	
1	SBD106	Strike Plate	
1	SHN055	T-Handle, Ratcheting	
1	SBD132	Perpendicular Hub	
1	SBD133	Strike Plate, Side	
1	STP070-01	Jaw, Pin	A
1	STP070-02	Jaw, Pin, Grooved	A
1	STP070-03	Jaw, K-Wire, Grooved	B
1	STP070-04	Jaw, K-Wire	B
1	STP071-01	Jaw, 90 Degree A	C
1	STP071-02	Jaw, 90 Degree B	C
1	STP072-01	Jaw, IM Nail	G
1	STP072-02	Jaw, IM Nail, Grooved	G
1	STP073-01	Jaw, Revision Sleeve, One-Prong	F
1	STP073-02	Jaw, Revision Sleeve, Two-Prong	F
2	STP074	Jaw, Slotted Implant	D
2	STP075	Jaw, Spine Rod	M
2	STP076	Jaw, Screw Removal	E
2	STP077	Jaw, Hip, Large	H
2	STP078	Jaw, Hip, Small	I
1	STP082	Jaw, Femoral Head, Fork	L
1	STP083	Jaw, Femoral Head, Paddle	L
1	STP084	Jaw, Hex Nut, Female	K
1	STP085	Jaw, Hex Nut, Male	K
2	STP086	Jaw, Staples	J



THE EXTRACTION EXPERTS

Shukla Medical designs and manufactures instrumentation for orthopedic implant extraction at our headquarters in St. Petersburg, Florida, USA. We are proud to be an ISO 13485:2016 Certified company.

In 1998, aerospace component manufacturer S.S. White Technologies, Inc. acquired the Medical Products Division of Snap-On. S.S. White rebranded the medical division in 2007 to create Shukla Medical.

Today, Shukla Medical is the industry leader in orthopedic implant extraction tools. We are the only company to offer a comprehensive, truly universal orthopedic revision line for removing IM nails, hip and knee implants, spine hardware, and broken or stripped screws. Surgeons and industry leaders know: **If Shukla can't get it out, no one can.**

Contact us to learn more

Shukla Medical
8300 Sheen Drive
St. Petersburg, FL 33709
www.ShuklaMedical.com

T: 888-4-SHUKLA
T: 888-474-8552
F: 727-626-2770

CS@ShuklaMedical.com



Emergo Europe
Prinsessegracht 20
2514 AP The Hague
The Netherlands



SHUKLA Medical
8300 Sheen Drive
St. Petersburg, FL 33709
USA



CONSULT
INSTRUCTIONS
FOR USE



NON-STERILE
PRODUCT

For the most up-to-date version of this literature, please refer to our website at <https://shuklamedical.com/Products>



SHUKLA Surgical Tech Support
24 hours a day, 7 days a week
727-626-2771

When you have tried all known techniques to extract an implant or remove a screw but determine you need suggestions for alternate techniques, help is only a phone call away. We will quickly put you in touch with our Technical Experts who will suggest other solutions to use our tools.



SHUKLA Medical offers the best warranty in the industry. Every component in a SHUKLA extraction system is designed and manufactured by us. Every component in our extraction systems that is not a single-use* or a wear* component is warranted against manufacturing defects for the life* of the system. All other parts are covered for as long as the purchased version of the system is actively marketed by SHUKLA Medical.

*Please see our website for the complete explanation of these terms and full details on our warranty.