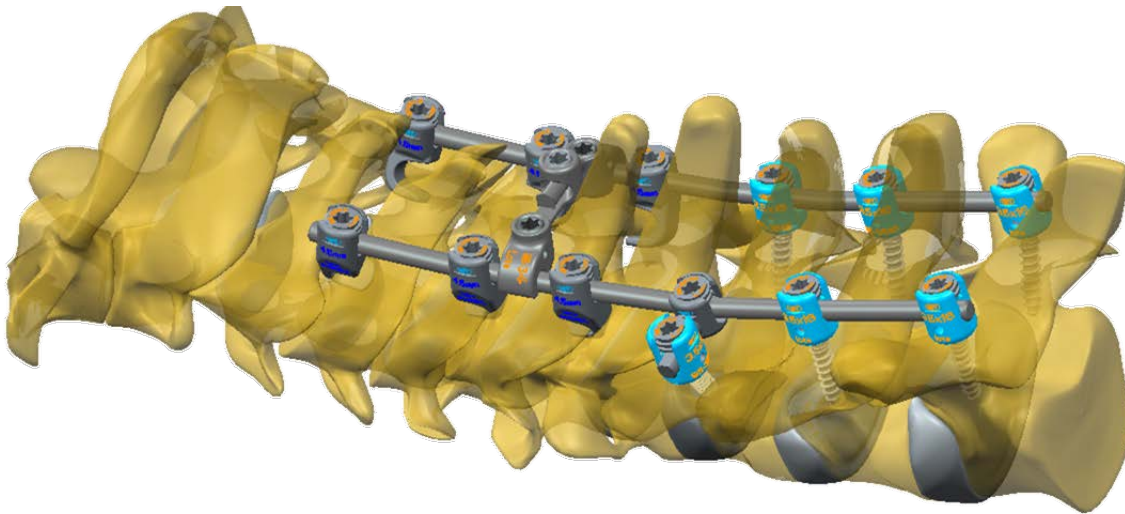


Z-LINK_{PC} System

Surgical Technique Guide





Z-LINK_{PC} System

Device Description: The Z-LINK_{PC} System is a temporary, titanium alloy (Ti-6AL-4V ELI per ASTM F136), multiple component system comprised of a variety of non-sterile, single use implantable components. The system consist of polyaxial screws, hooks, rods, cross-connectors, rod connectors, offsets and cap screws. The components are available in a variety of lengths and sizes in order to accommodate patient anatomy.

Intended Use: The Z-LINK_{PC} System implants are intended to provide immobilization and stabilization of spinal segments as an adjunct to fusion for the following acute and chronic instabilities of the cervical spine (C1-C7) and the thoracic spine (T1-T3): traumatic spinal fractures and/or traumatic dislocations; instability or deformity; failed previous fusions (e.g. pseudoarthrosis); tumors involving the cervical/thoracic spine; and degenerative disease, including intractable radiculopathy and/or myelopathy, neck and/or arm pain of discogenic origin as confirmed by radiographic studies, and degenerative disease of the facets with instability. These implants are also intended to restore the integrity of the spinal column even in the absence of fusion for a limited time period in patients with advanced stage tumors involving the cervical spine in whom life expectancy is of insufficient duration to permit achievement of fusion.

In order to achieve additional levels of fixation, the Z-LINK_{PC} System may be connected to the Zavation Spinal System using rod connectors and tapered rods.

Materials: The Z-LINK_{PC} System components are manufactured from titanium alloy (Ti-6Al-4V ELI) as described by ASTM F136.

Contraindications: Contraindications include, but not limited to: The Z-LINK_{PC} System is contraindicated in patients with a systemic infection, with a local inflammation at the bone site, or with rapidly progressive joint disease or bone absorption syndromes such as Paget's disease, osteopenia, osteoporosis, or osteomyelitis. Do not use this system in patients with known or suspected metal allergies. Use of the system is also contraindicated in patients with any other medical, surgical or psychological condition that would preclude potential benefits of internal fixation surgery such as the presence of tumors, congenital abnormalities, elevation of sedimentation rate unexplained by other disease, elevation of white blood cells or a marked shift in white blood cell differential count.

Potential Adverse Events: All of the possible adverse events associated with spinal fusion surgery without instrumentation are possible. With instrumentation, a listing of possible adverse events includes, but is not limited to:

- Early or late loosening of any or all of the components
- Disassembly, bending, and/or breakage of any or all of the components
- Foreign body (allergic) reaction to implants, debris, corrosion products, graft material, including metallosis, straining, tumor formation, and/or auto-immune disease
- Pressure on the skin from component parts in patients with inadequate tissue coverage over the implant possibly causing skin penetration, irritation, and/or pain
- Post-operative change in spinal curvature, loss of correction, height, and/or reduction
- Infection
- Vertebral body fracture at, above, or below the level of surgery
- Loss of neurological function, including paralysis (complete or incomplete)
- Non-union, delayed union
- Pain, discomfort, or abnormal sensations due to the presence of the device
- Hemorrhage
- Cessation of any potential growth of the operated portion of the spine
- Death

Note: Additional surgery may be necessary to correct some of these anticipated adverse events

Warnings and Precautions:

- Single use only
- Non-sterile, the rods, polyaxial screws, hooks, locking screws, transverse bars and instruments are sold non-sterile, and therefore, must be sterilized before each use
- The polyaxial screws is not intended for attachment or fixation to the thoracic (T4-T12) or lumbar spine.
- Excessive torque applied to the screws when installing the screws may strip the threads in the bone
- Failure to achieve arthrodesis will result in eventual loosening and failure of the device construct
- Do not reuse implants; discard used, damaged, or otherwise suspect implants
- The Z-LINK_{PC} System components should not be used with dissimilar metals.
- The Z-LINK_{PC} System has not been evaluated for safety and compatibility in the MR environment.
- The Z-LINK_{PC} System has not been tested for heating or migration in the MR environment.
- Pre-operative planning prior to implantation of posterior cervical lateral mass and pedicle screw spinal systems should include review of cross-sectional imaging studies (e.g., CT and/or MRI imaging) to evaluate the patient's cervical anatomy including the transverse foramen and the course of the vertebral arteries. If any findings would compromise the placement of lateral mass of pedicle screws, other surgical methods should be considered. In addition, use of intraoperative imaging should be considered to guide and/or verify device placement, as necessary.
- Use of posterior cervical pedicle screw fixation at the C3 through C6 spinal levels requires careful consideration and planning beyond that required for lateral mass screws placed at these spinal levels, given the proximity of the vertebral arteries and neurologic structures in relation to the cervical pedicles at these levels.



Implant Selection:

The selection of the implant for each patient is crucial to the success of the procedure. Metallic surgical implants are subject to repeated stresses in use, and their strength is limited by the need to adapt the design to the size and shape of human bones. Unless great care is taken in patient selection, proper placement of the implant, and postoperative management to minimize stresses on the implant, such stresses may cause metal fatigue and consequent breakage, bending or loosening of the device before the healing process is complete, which may result in further injury or the need to remove the device prematurely.

Preoperative:

- Carefully screen the patient, choosing only those that fit the indications described above
- Care should be exercised in the handling and storage of the implant components. The implants should not be scratched or otherwise damaged. Store away from corrosive environments
- An adequate inventory should be available at surgery than those expected to be used
- All components and instruments should be cleaned and sterilized prior to each use. Additional sterile components should be available in case of an unexpected need

Intraoperative:

- Instructions should be carefully followed
- Extreme caution should be used around the spinal cord and nerve roots
- The implant surface should not be scratched or notched since such actions may reduce the functional strength of the construct
- Bone grafts must be placed in the area to be fused such that the grafts fits snugly against the upper and lower vertebral bodies
- Before closing soft tissue, check each screw to make sure that none have loosened

Postoperative:

- Detailed instructions should be given to the patient regarding care and limitations, if any
- To achieve maximum results, the patient should not be exposed to excessive mechanical vibrations. The patient should not smoke or consume alcohol during the healing process
- The patient should be advised of their limitations and taught to compensate for this permanent physical restriction in body motion
- If a non-union develops, or if the components loosen, the devices should be revised or removed before serious injury occurs. Failure to immobilize the non-union, or a delay in such, will result in excessive and repeated stresses on the implant. It is important that immobilization of the spinal segment be maintained until fusion has occurred
- The implants are temporary internal fixation devices. Internal fixation devices are designed to stabilize the spine during the normal healing process. After the spine is fused, the devices serve no functional purpose and should be removed

Pre-Cleaning/Cleaning and Sterilization Procedure Recommended for Reusable Instruments (and Trays):

For safety reasons, reusable instruments must be pre-cleaned, cleaned and sterilized before use. Moreover, for good maintenance, reusable instruments must be pre-cleaned, cleaned and sterilized immediately after surgery following the sequence of steps described in the following table.

Sterilization trays should be thoroughly cleaned using either the Automated or Manual procedure that is detailed below for instruments. It is acceptable to skip the ultrasonic cleaner step for the sterilization trays as long as the inspection criteria provide below are acceptable for the tray.

Cautions: Long, narrow cannulations and blind holes require particular attention during cleaning.	
Limitations on reprocessing: Repeated processing has minimal effect on these instruments. End of life is determined by wear and damage due to use.	
1-Point of use: Remove all visual soil with disposable cloth/paper wipe. Soiled instruments must be kept moist to prevent soil from drying. If the instruments cannot be soaked immediately place a moist towel around them until they can be cleaned.	
2-Containment and transportation: Avoid damage and minimize time before cleaning	
3-Preparation for cleaning: None of the instrument require disassembly prior to cleaning other than disassemble removable handles that are left attached to the drill, tap and screw drivers and remove drills, taps and awl that are left in the drill guides. (note that these items are normally stored in their dedicated tray already disassembled).	
4 Thoroughly clean instruments per one of the following (Manual or Automated)	
Manual	Automated
4.1 Pre-Cleaning-Manual:	4.1 Pre-Cleaning-Automated: <ul style="list-style-type: none"> • Soak in ultrasonic bath • 15 minutes • Use nonmetallic brush • Rinse thoroughly with cold (>40°C) running tap water, 2 minutes



<ul style="list-style-type: none"> Alcohol wipe Prepare a pH neutral, enzymatic detergent soak with warm water (approximately 35- 40°C) per the instructions of the enzymatic solution manufacturer. Soak the instrument for a minimum of 15 minutes. Actuate any mechanisms and slide moving parts to the extreme positions to ensure the cleaning solution contacts all the surfaces. Change the soak solution if the solution becomes visibly soiled. While still in the soak solution, use a soft brush the remove all exterior soil. Thoroughly scrub any grooves, slots, threads, teeth, ratchets, or hinges. Use an appropriate size cleaning brush to thoroughly brush the entire length of any internal lumens a minimum of five times per lumen Rinse instruments thoroughly with clean warm (35-40°C) deionized water, taking care to flush all lumens or crevices, for at least one minute, until water runs clear. Use a tubing attachment to the water outlet in order to direct the rinse flow into any lumens, crevices, grooves, or slots and flush them completely until water runs clear 	
<p>4.2 Cleaning-Manual:</p> <ul style="list-style-type: none"> Prepare a fresh pH neutral enzymatic cleaning solution and sonicate the instruments and subassemblies for a minimum of 15 minutes in an ultrasonic bath. After sonication, rinse instruments again under clean warm (35-40°C) running deionized water for a least one minute until water runs clear. Use a tubing attachment to the water outlet in order to direct the rinse flow into any lumens, crevices, grooves, or slots and flush them completely until the water runs clear. Dry the exterior of the instruments with a clean soft cloth. Use clean compressed air or 70% isopropyl to dry any lumens or crevices where water may become trapped. 	<p>4.2 Washer Disinfectors:</p> <ul style="list-style-type: none"> Wash, 45°C, 4 minutes Wash, 60°C, 3 minutes Rinse, >40°C tap water, 1 minute Rinse, 60°C tap water, 1 minute Thermal rinse, ≥93°C tap water, A₀3000 Rinse, 35-40°C deionized water, 1 minute When unloading check cannulations, holes, etc. for complete removal of visible soil. If necessary, repeat cycle or use manual cleaning. Dry, 123°C, air, 14 minutes
<p>Inspection:</p> <ul style="list-style-type: none"> Visually inspect each device to ensure all visible blood and soil has been removed. If not visually clean repeat step 4 above until clean or appropriately dispose of device if unable to get visually clean. Check instruments with long slender features for distortion Inspect the devices for any cracking, pitting, or other signs of deterioration 	
<p>Packaging: Instruments are loaded into dedicated instrument trays. Wrap the trays using appropriate FDA cleared wrap.</p>	
<p>Sterilization: See sterilization procedure</p>	
<p>Storage: Control environment</p>	
<p>Additional information: When sterilizing multiple instruments/trays in one autoclave cycle, ensure that the sterilizer's maximum load is not exceeded.</p>	
<p>Manufacturer contact: Contact local representative or call customer service at 601-919-1119</p>	

Sterilization: The Z-LINK_{PC} System should be sterilized by the hospital using the recommended cycle:

Do not stack trays in the chamber.

Method	Cycle	Temperature	Minimum Exposure Time	Drying Times
Steam	Gravity	270°F (132°C)	15 Minutes	15 Minutes
Steam	Pre-Vacuum	270°F (132°C)	4 Minutes	30 Minutes

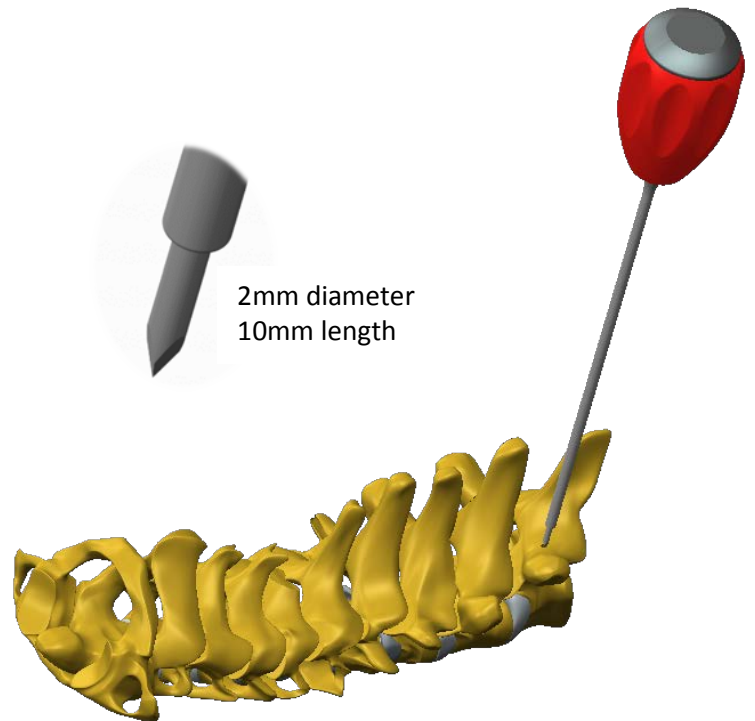
Product Complaints: Any Healthcare Professional (e.g., customer or user of this system of products), who has any complaints or who has experienced any dissatisfaction in the product quality, identity, durability, reliability, safety, effectiveness and/or performance, should notify Zavation LLC, 220 Lakeland Parkwa., Flowood, MS 39232, USA, Telephone: 601-919-1119

Further Information: A recommended surgical technique for the use of this system is available upon request from Zavation LLC, 220 Lakeland Parkway, Flowood, MS 39232, USA, Telephone: 601-919-1119.

Caution: Federal law (USA) restricts these devices to sale by or on the order of a physician.

Step 1 - Awl

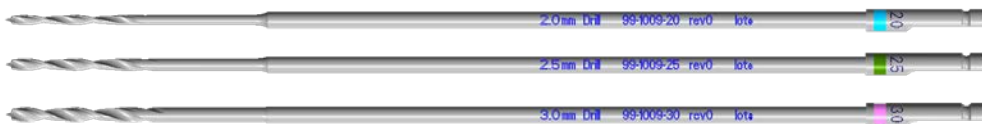
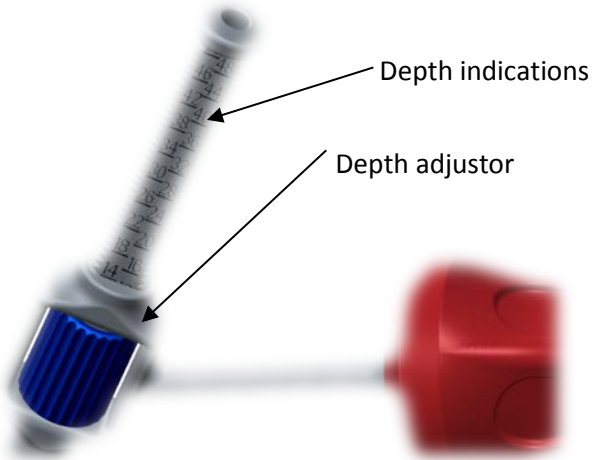
Using the limited depth Awl, penetrate the cortical bone at the location of the screw entry point. The Awl depth is limited to 10mm.



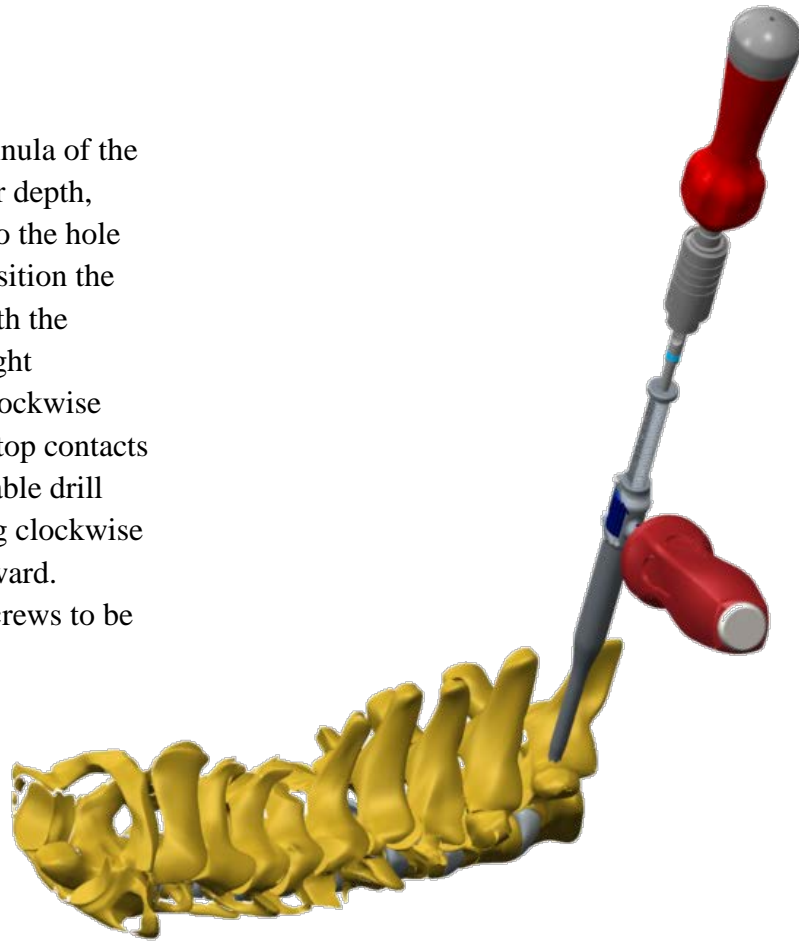
Step 2 – Drill

Rotate the depth adjusting sleeve of the adjustable drill guide to set the appropriate depth.

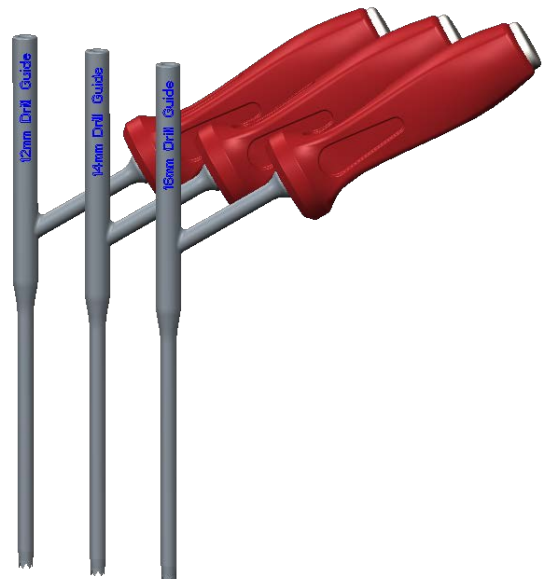
Attach the universal handle to the appropriate diameter drill. Drills are color coded to match the color of the polyaxial screw diameters.



With drill inserted through the cannula of the adjustable drill guide, set to proper depth, insert the distal end of the drill into the hole created by the awl instrument. Position the angle of the drill guide to align with the desired screw trajectory. With slight downward force, rotate the drill clockwise advancing the drill until the drill stop contacts the proximal surface of the adjustable drill guide. Remove drill by continuing clockwise rotation while pulling the drill upward. Repeat this for the remainder of screws to be implanted.



The system also contains three fixed depth drill guides; 12, 14, and 16mm depths. The fixed drill guide can be used as an option to the adjustable drill guide if desired.

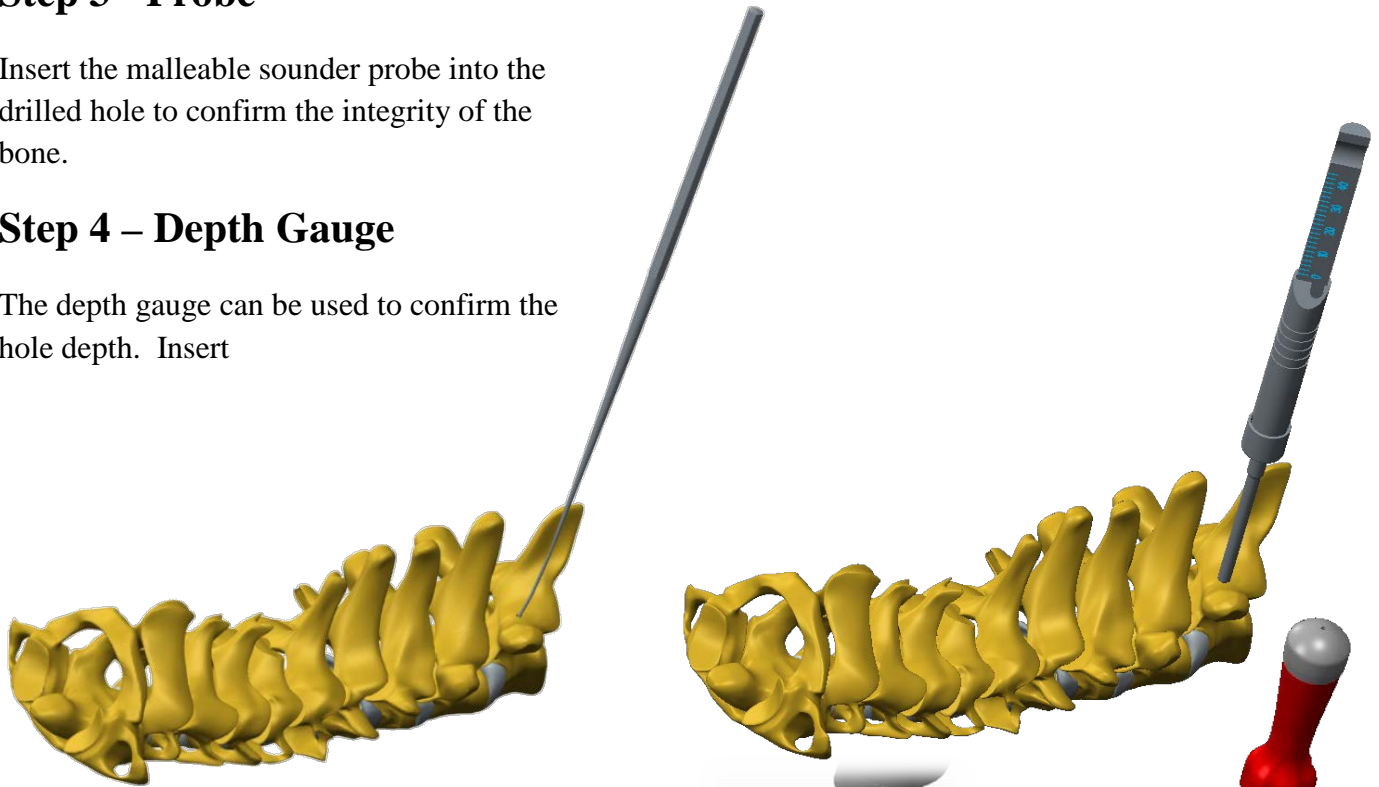


Step 3 - Probe

Insert the malleable sounder probe into the drilled hole to confirm the integrity of the bone.

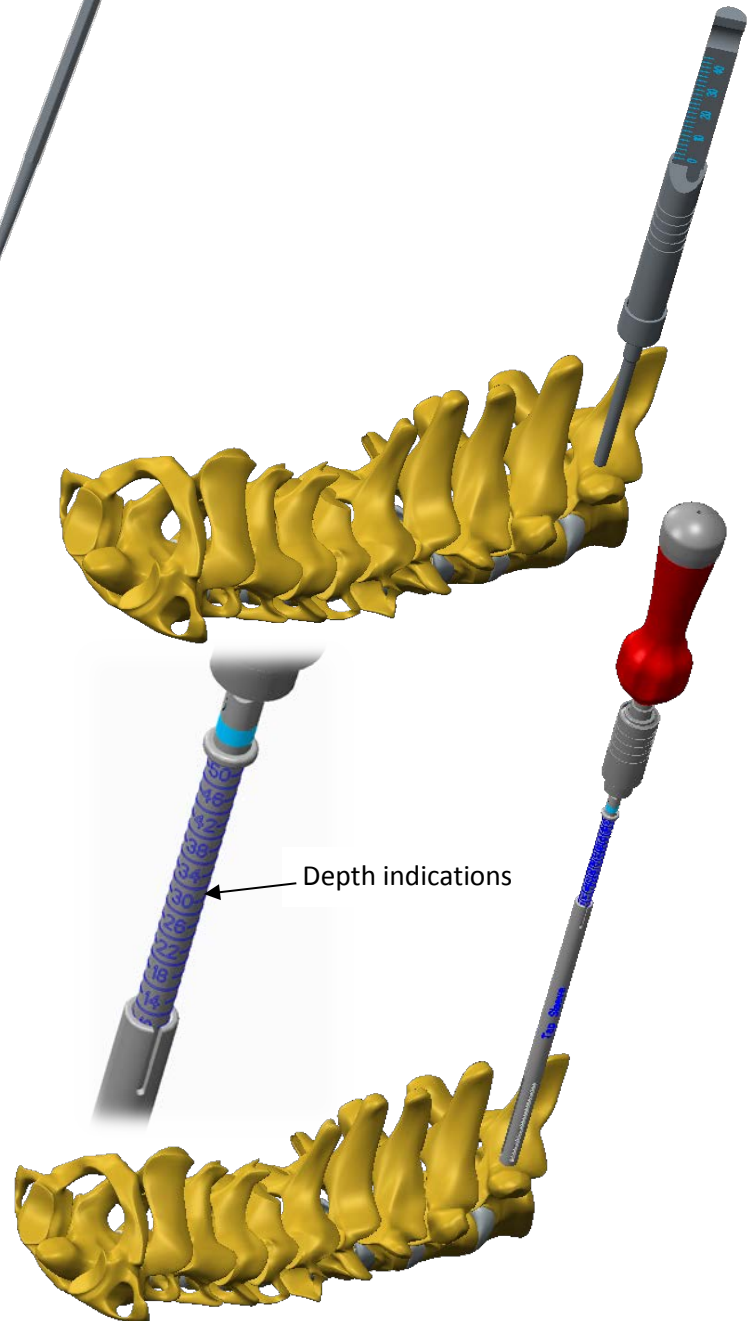
Step 4 – Depth Gauge

The depth gauge can be used to confirm the hole depth. Insert



Step 5 - Tap

The polyaxial screws are self-tapping. If pre-tapping is desired connect the appropriate diameter tap to the universal handle. Slide the tap sleeve onto the distal end of the tap. The tap sleeve is self-retaining and is used to indicate the depth of the tap into bone. While applying slight downward force rotate the tap clockwise until the appropriate tapped depth is achieved.



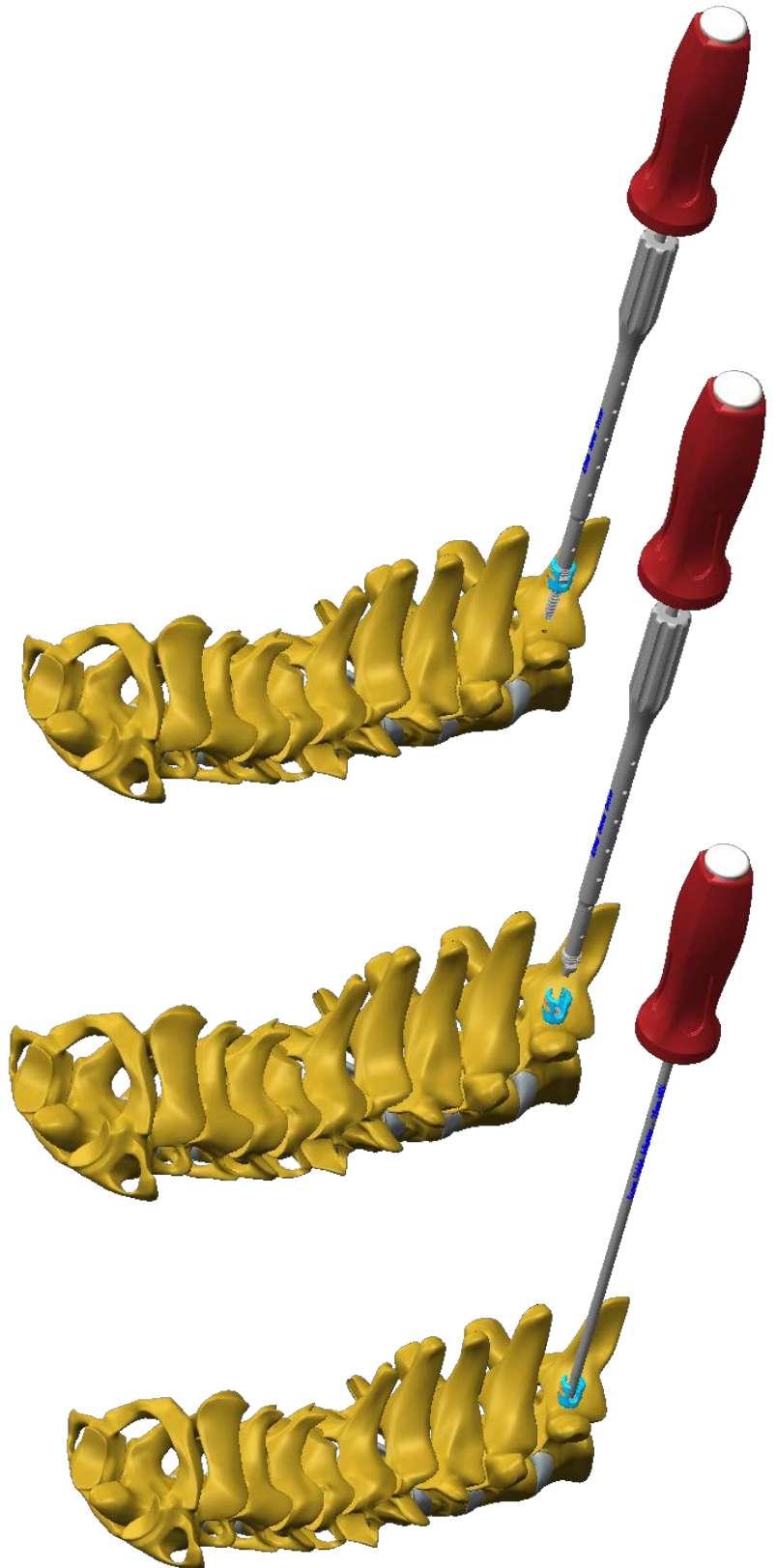
Step 6 – Screw Insertion

Assemble the appropriate size and length screw to the polyaxial screw inserter instrument. The distal tip of the inserter instrument engages the hex hole in the bone screw and the outer sleeve of the instrument threads into the tulip head of the screw to lock the screw and instrument together during implantation.

Place the screw tip into the bone hole and turn clockwise while maintaining a slight downward force on the instrument. Advance the screw until the desired depth is achieved.

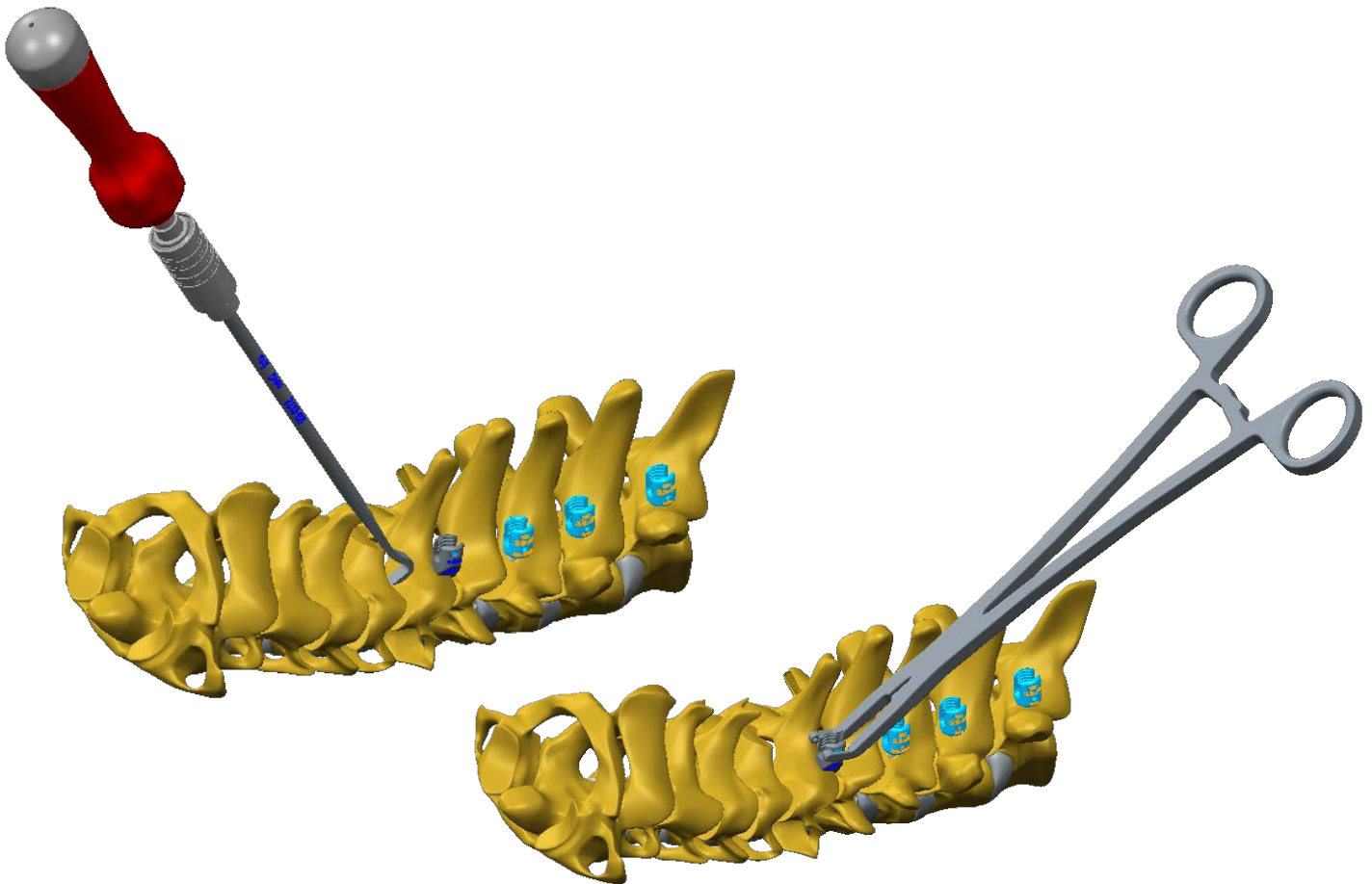
To remove the instrument, grip the handle while rotating the outer sleeve counterclockwise until the sleeve disengages from the head of the polyaxial screw. Pull the instrument axially to disengage the hex from the bone screw.

The height adjuster instrument can be used to adjust the height of the screw after the polyaxial screw driver instrument has been removed. The height adjuster instrument distal tip engages the bone screw hex without fixation to the polyaxial screw head for rapid height adjustment.



Step 7 – Hook Insertion

Using the lamina elevator instrument prepare the lamina for hook insertion. Use the hook trials to select the proper hook size. Attach the holding forceps to the flats on the appropriate shape and size hook. Insert the hook onto the prepared lamina.

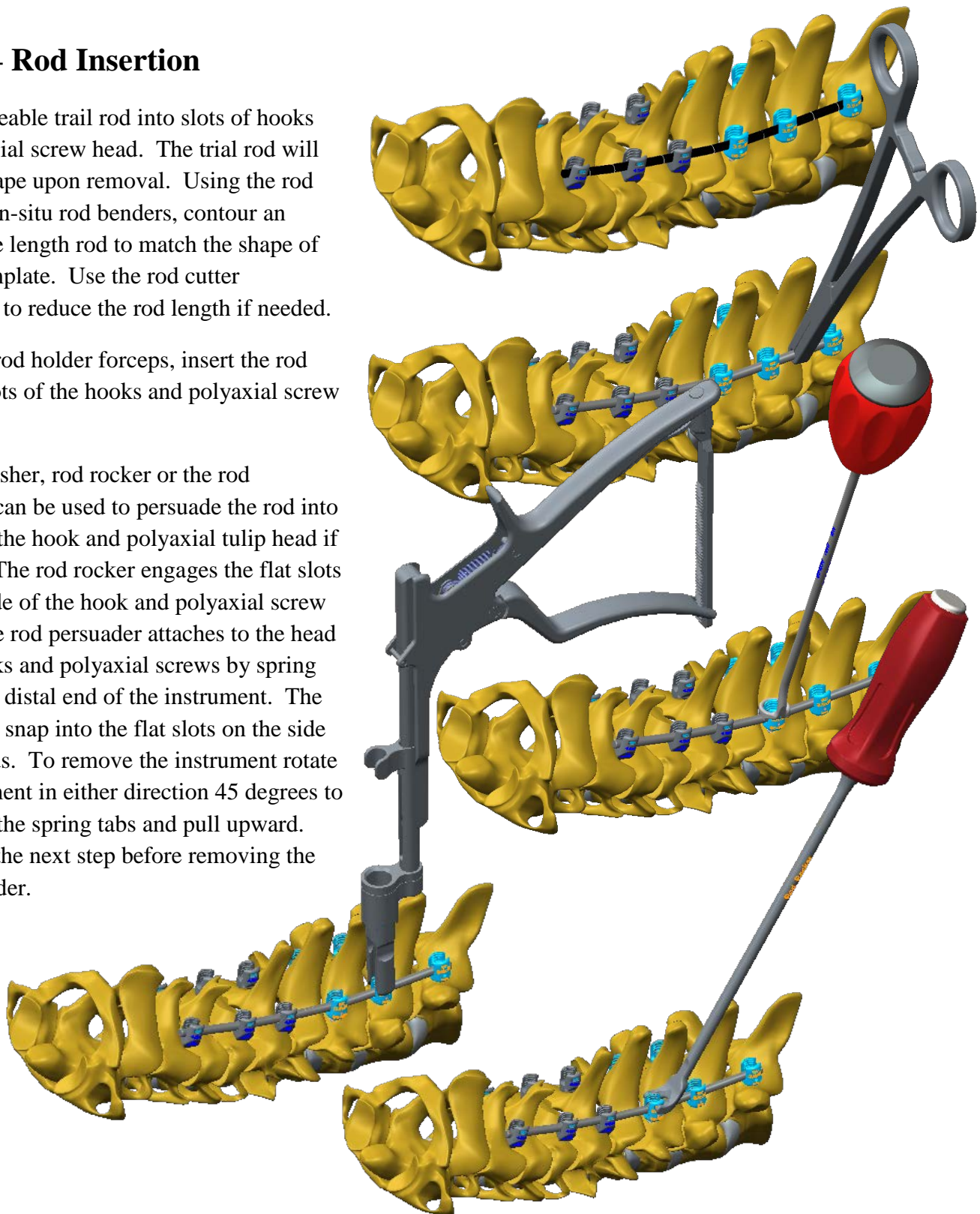


Step 8 – Rod Insertion

Insert malleable trail rod into slots of hooks and polyaxial screw head. The trial rod will hold its shape upon removal. Using the rod bender or in-situ rod benders, contour an appropriate length rod to match the shape of the rod template. Use the rod cutter instrument to reduce the rod length if needed.

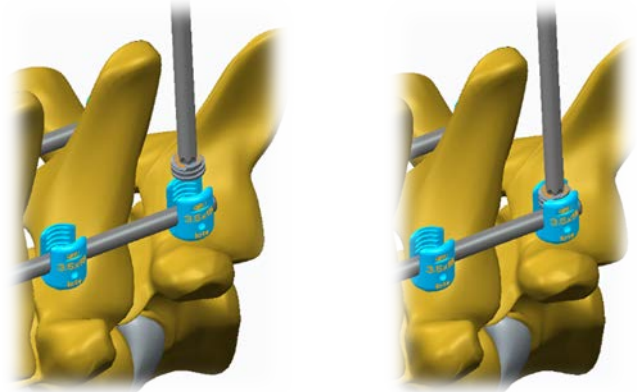
Using the rod holder forceps, insert the rod into the slots of the hooks and polyaxial screw heads.

The rod pusher, rod rocker or the rod persuader can be used to persuade the rod into the slot of the hook and polyaxial tulip head if required. The rod rocker engages the flat slots on each side of the hook and polyaxial screw heads. The rod persuader attaches to the head of the hooks and polyaxial screws by spring tabs on the distal end of the instrument. The spring tabs snap into the flat slots on the side of the heads. To remove the instrument rotate the instrument in either direction 45 degrees to disengage the spring tabs and pull upward. Complete the next step before removing the rod persuader.



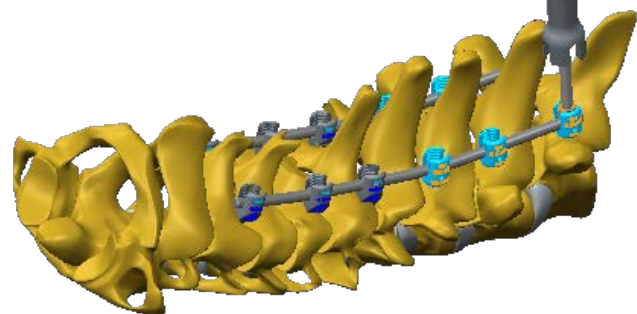
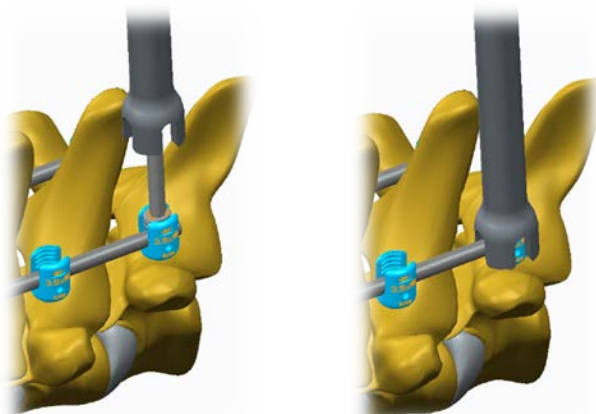
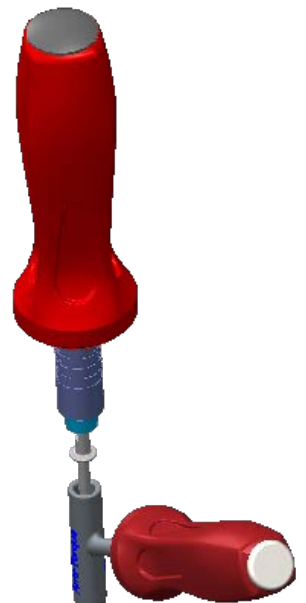
Step 9 – Set Screw

The set screw inserter instrument grasp and retains the set screw during insertion. Start the set screw in the polyaxial screw head, hook, and/or offset and apply enough torque to prevent the construct from moving prior to final torquing of the set screw. The set screw can be inserted through the rod pusher, rod rocker, rod persuader and anti-torque instruments.



Step 10 – Set Screw Torque

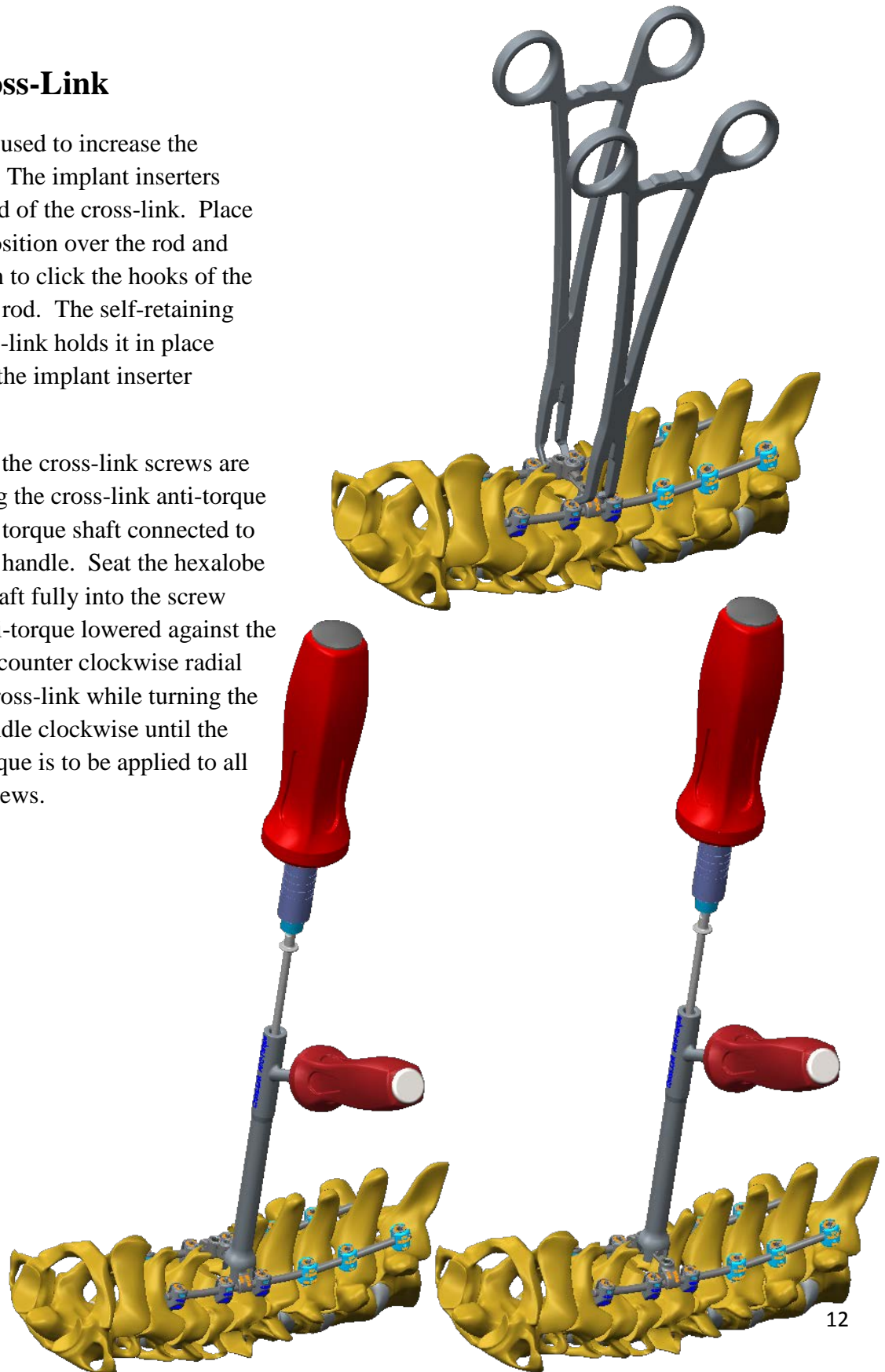
The set screws of the polyaxial screw, hooks, offsets, rod connectors, cross-links must be tightened with the torque limiting handle. Connect the torque shaft to the torque limiting handle and insert the instrument through the anti-torque instrument. Seat the hexalobe tip of the instrument fully into the set screw hole. With the anti-torque lowered against the construct, place a counter clockwise radial force against the construct while turning the torque limiting handle clockwise until the handle clicks.



Step 12 – Cross-Link

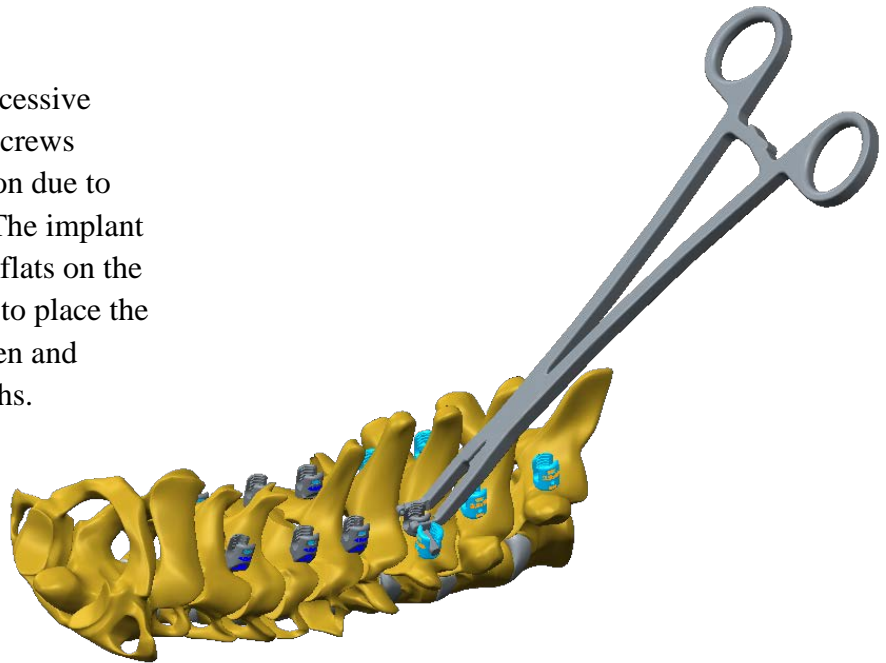
Cross-links can be used to increase the construct strength. The implant inserter attaches to each end of the cross-link. Place the cross-link in position over the rod and slightly press down to click the hooks of the cross-link over the rod. The self-retaining feature of the cross-link holds it in place during removal of the implant inserter instruments.

Final tightening of the cross-link screws are accomplished using the cross-link anti-torque instrument and the torque shaft connected to the torque limiting handle. Seat the hexalobe tip of the torque shaft fully into the screw hole. With the anti-torque lowered against the cross-link, place a counter clockwise radial force against the cross-link while turning the torque limiting handle clockwise until the handle clicks. Torque is to be applied to all three cross-link screws.



Step 13 – Offsets

Offsets are available to prevent excessive bending of rods to accommodate screws placed at an extreme lateral position due to patient anatomy or bone integrity. The implant inserter instrument attaches to the flats on the side of the offset head and is used to place the offset. Offsets are available in open and closed styles and in multiple lengths.



Step 14 – Transition Rods

Transition rods are available to extend the Z-LINK_{PC} construct. Connect the 3.5mm end to the Z-LINK_{PC} construct and the 5.5mm rod end to the appropriate ZAVATION Spinal System.

Step 15 – Rod Connectors

Rods connectors are also available to extend the Z-LINK_{PC} construct. Connect the 3.5mm side to the Z-LINK_{PC} construct rod and the larger side to the appropriate ZAVATION Spinal System rod. Connections are available in 3.5, 4.5, and 5.5/6.0mm.



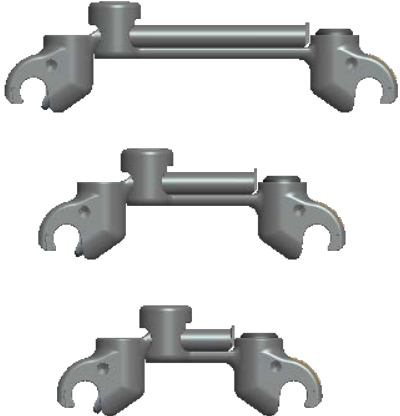

Removal Process

The removal of the Z-LINK_{PC} System is accomplished by reversing the order of the implant procedure.






Device View	Part #	Description												
Implants														
	9X-XXXX	<p>Polyaxial Screws</p> <ul style="list-style-type: none"> • Polyaxial Screws: <table border="0" style="margin-left: 20px;"> <tr> <td style="padding-right: 20px;">Diameter</td> <td>Lengths</td> </tr> <tr> <td>3.5mm</td> <td>10-52mm in 2mm increments</td> </tr> <tr> <td>4.0mm</td> <td>10-52mm in 2mm increments</td> </tr> <tr> <td>4.5mm</td> <td>10-52mm in 2mm increments</td> </tr> </table> • Polyaxial Shaft Screws: <table border="0" style="margin-left: 20px;"> <tr> <td style="padding-right: 20px;">3.5mm</td> <td>20-50mm in 2mm increments</td> </tr> <tr> <td>4.0mm</td> <td>20-50mm in 2mm increments</td> </tr> </table> • Screw angulation: 70° • Polyaxial screw driver: 2.5mm hex • Cap Screw torque: 25 lbs-in • Cap screw driver: T-15 hexalobe • Material: Titanium per ASTM F-136 • Titanium color anodized head identifies screw diameter and associated instruments 	Diameter	Lengths	3.5mm	10-52mm in 2mm increments	4.0mm	10-52mm in 2mm increments	4.5mm	10-52mm in 2mm increments	3.5mm	20-50mm in 2mm increments	4.0mm	20-50mm in 2mm increments
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3.5mm	20-50mm in 2mm increments													
4.0mm	20-50mm in 2mm increments													
	95-2003	<p>Cap Screw:</p> <ul style="list-style-type: none"> • Used with all polyaxial screw sizes, hooks, and offsets • Square threads • Torque: 25 lbs-in • Material: Titanium per ASTM F-136 • Type II titanium anodized 												

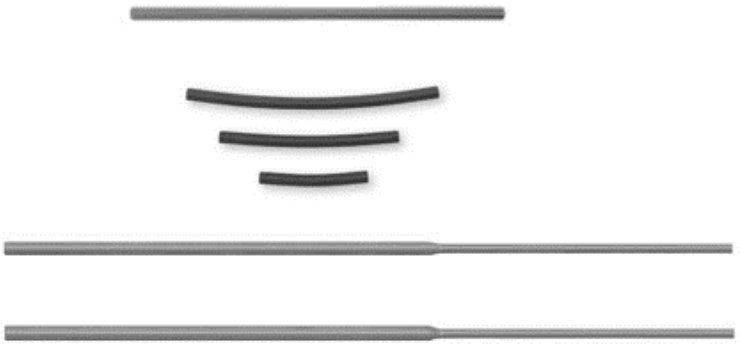

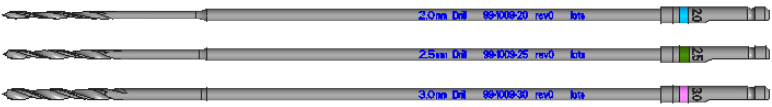


Device View	Part #	Description
	<p>98-XX</p>	<p>Cross-Links:</p> <ul style="list-style-type: none"> • Three sizes fits rod spacing of: 28-34mm 34-45mm 45-68mm • Snap on rod attachment feature • T-15 hexalobe drive feature • Torque: 25 lbs-in • Material: Titanium per ASTM F-136
	<p>94-1045-S 94-1060-S 94-1045-R 94-1060-R 94-1045-L 94-1060-L</p>	<p>Hooks:</p> <ul style="list-style-type: none"> • Styles: Straight – 4.5 and 6.0mm Left – 4.5 and 6.0mm Right – 4.5 and 6.0mm • Cap screw torque: 25 lbs-in • Material: Titanium per ASTM F-136

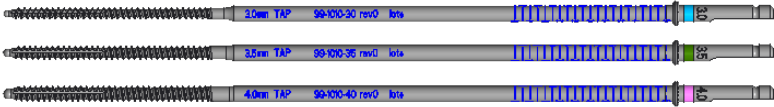

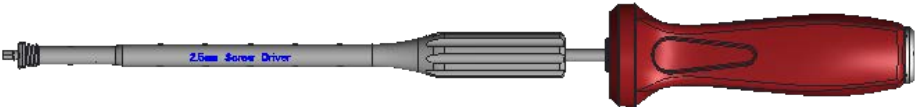


Device View	Part #	Description
	94-31P-35-35 94-31P-35-45 94-31P-35-55 94-31-35-35 94-31-35-45 94-31-35-55 94-310-35-35 94-310-35-45 94-310-35-55	Rod Connectors: <ul style="list-style-type: none"> • Styles: Inline - 3.5 to 3.5mm, 3.5 to 4.5mm, 3.5 to 5.5/6.25mm Parallel - 3.5 to 3.5mm, 3.5 to 4.5mm, 3.5 to 5.5/6.25mm Open – 3.5 to 3.5mm, 3.5 to 4.5mm, 3.5 to 5.5/6.25mm • Cap screw torque: 25 lbs-in • Material: Titanium per ASTM F-136
	94-3100	Rod Connector Cap Screw: <ul style="list-style-type: none"> • Cap screw torque: 25 lbs-in • Material: Titanium per ASTM F-136
	94-2010-O 94-2014-O 94-2010-C 94-2014-C	Offsets: <ul style="list-style-type: none"> • Styles: Open – 10 and 14mm lengths Closed – 10 and 14mm lengths • Uses 95-2003 cap screw • Cap screw torque: 25 lbs-in • Material: Titanium per ASTM F-136








Device View	Part #	Description
	<p>96-SXXX 96-CXXX 96-TXXX</p>	<p>Rods:</p> <ul style="list-style-type: none"> • 3.5mm Straight Rod 20-120mm in 10mm increments, and 150, 200, 240mm lengths • 3.5mm Curved Rod 20-120mm in 10mm increment, 24mm radius • 3.5/5.5mm Transition Rod 60, 80, 100, 120, 175, 240, 450 • Material: Titanium per ASTM F-136
Instruments		
	<p>99-1004</p>	<p>Awl:</p> <ul style="list-style-type: none"> • 2mm diameter • 10mm depth • Impact palm handle • Material: Stainless steel with silicon handle
	<p>99-1009-20 99-1009-25 99-1009-30</p>	<p>Drill:</p> <ul style="list-style-type: none"> • Diameters: <ul style="list-style-type: none"> ○ 2.0mm – blue – used with 3.5mm screw ○ 2.5mm – green – used with 4.0mm screw ○ 3.0mm – magenta – used with 4.5mm screw • AO handle connection used with jeweler handle • Used with adjustable and fixed drill guides







Device View	Part #	Description
	<p>99-1010-30 99-1010-35 99-1010-40</p>	<ul style="list-style-type: none"> Material: Stainless steel <p>Tap:</p> <ul style="list-style-type: none"> Major Diameters: <ul style="list-style-type: none"> 3.0mm – blue – used with 3.5mm screw 3.5mm – green – used with 4.0mm screw 4.0mm – magenta – used with 4.5mm screw AO handle connection used with jeweler handle Used with tap sleeve Depth markings from 10mm to 52mm in 2mm increments Material: Stainless steel
	<p>99-1033</p>	<p>Tap Sleeve:</p> <ul style="list-style-type: none"> Self-retaining feature grips tap OD Sight windows at distal end Used with all tap sizes Material: Stainless steel
	<p>99-1001-S 99-1001-L</p>	<p>Polyaxial Screw Driver:</p> <ul style="list-style-type: none"> 2.5mm Hex driver fits all polyaxial screws Available in small and large handles Outer sleeve locks driver to screw Material: Stainless steel with silicon handle

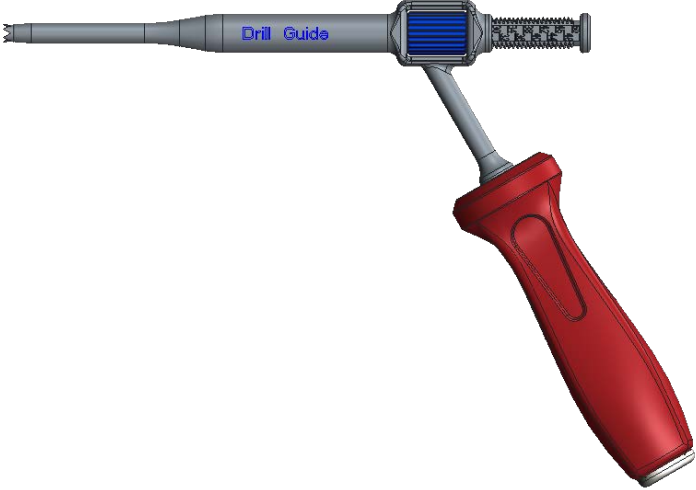
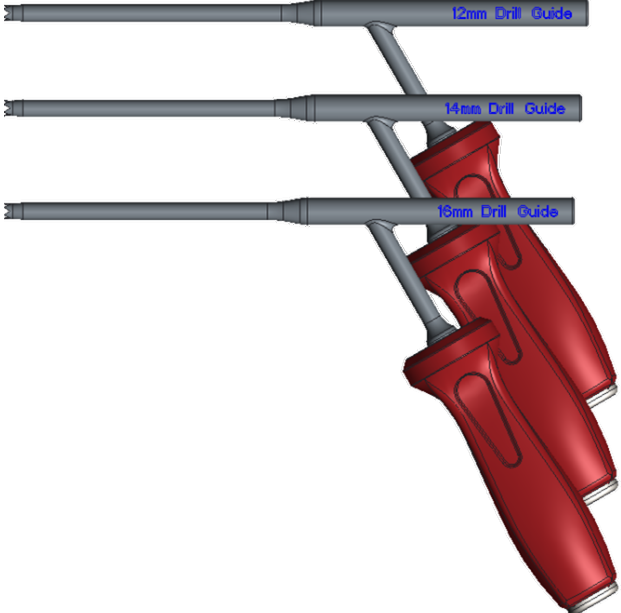


Device View	Part #	Description
	99-1002	Cap Screw Inserter: <ul style="list-style-type: none"> • T-15 Hexalobe driver fits all cap screw • Self-retaining feature grips cap screw • Material: Stainless steel with silicon handle
	99-1000	Torque Shaft: <ul style="list-style-type: none"> • T-15 Hexalobe driver fits all cap screw • AO handle connection used with jewelers handle • Used to apply final tightening to cap screws • Used with anti-torque instruments • Material: Stainless steel
	99-1016	Polyaxial Screw Height Adjuster: Cap Screw Inserter: <ul style="list-style-type: none"> • 2.5mm Hex driver fits polyaxial screws • Used to adjust height of polyaxial screws after placement • Material: Stainless steel with silicon handle
	99-1013-45 99-1013-60	Hook Trail: <ul style="list-style-type: none"> • 4.5 and 6.0mm hook trails • Used with all hook styles • AO handle connection used with jewelers handle • Material: Stainless steel
	99-1019	Ball Tip Probe: <ul style="list-style-type: none"> • 1.5mm ball tip • Malleable shaft • Material: Stainless steel

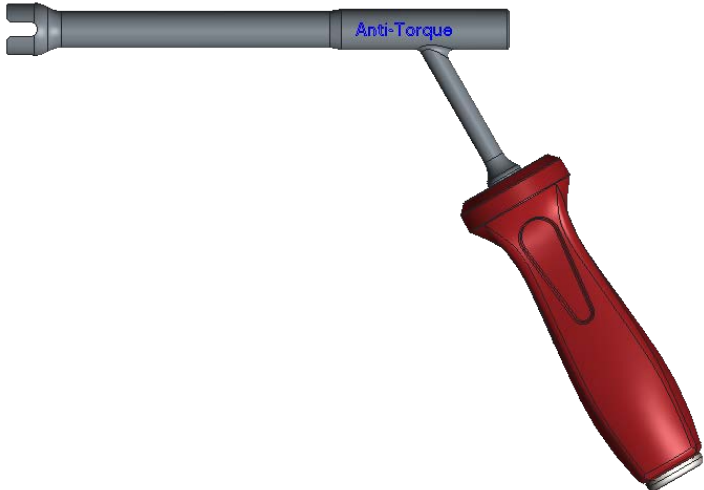
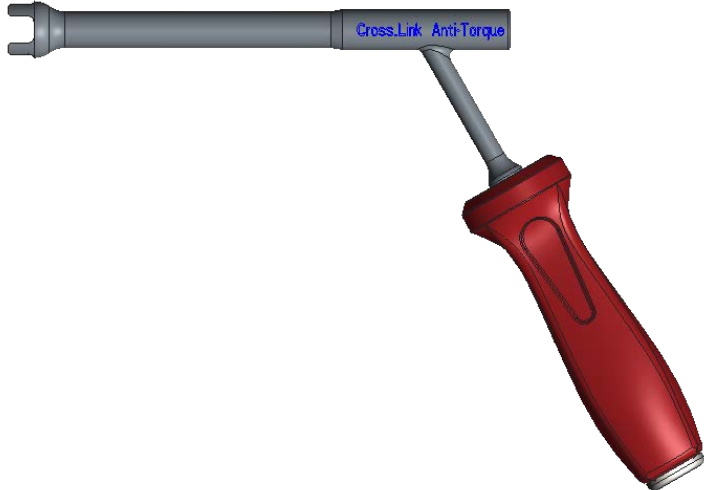



Device View	Part #	Description
	Z-1004	Jeweler handle: <ul style="list-style-type: none"> • Quick release • Spinner cap • AO connection • Material: Stainless steel with silicon handle
	99-1022	Torque Limiting Handle: <ul style="list-style-type: none"> • Quick release • 25 lbs-in torque setting • Used with torque shaft • AO connection • Material: Stainless steel with silicon handle
	99-1028	Rod Template: <ul style="list-style-type: none"> • 3.5mm diameter • 200mm length • Length marked in 10mm increments • Malleable material • Material: Silicon
	99-1032	Lamina Elevator: <ul style="list-style-type: none"> • AO handle connection used with jeweler handle • Material: Stainless steel

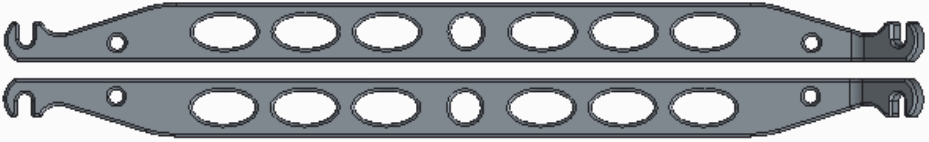

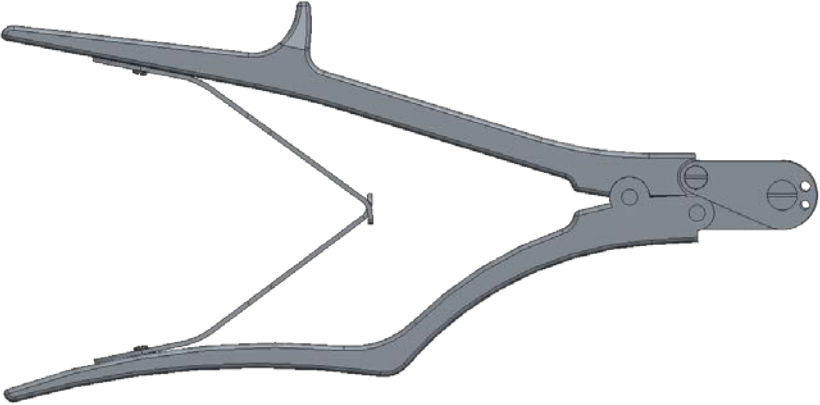



Device View	Part #	Description
 <p>An adjustable drill guide with a red handle and a grey shaft. The shaft has a blue ring with a scale and a drill bit at the end. The text "Drill Guide" is printed on the grey shaft.</p>	<p>99-1007</p>	<p>Adjustable Drill Guide:</p> <ul style="list-style-type: none"> • Used with all drill diameters • Adjustable depth range: 10 – 52mm • Depth markings from 10 -52mm • Material: Stainless steel with silicon handle
 <p>Three fixed drill guides with red handles and grey shafts. The shafts are labeled "12mm Drill Guide", "14mm Drill Guide", and "16mm Drill Guide".</p>	<p>99-1008-12 99-1008-14 99-1008-16</p>	<p>Fixed Drill Guide:</p> <ul style="list-style-type: none"> • Used with all drill diameters • Fixed drill depth: <ul style="list-style-type: none"> ○ 12mm ○ 14mm ○ 16mm • Material: Stainless steel with silicon handle

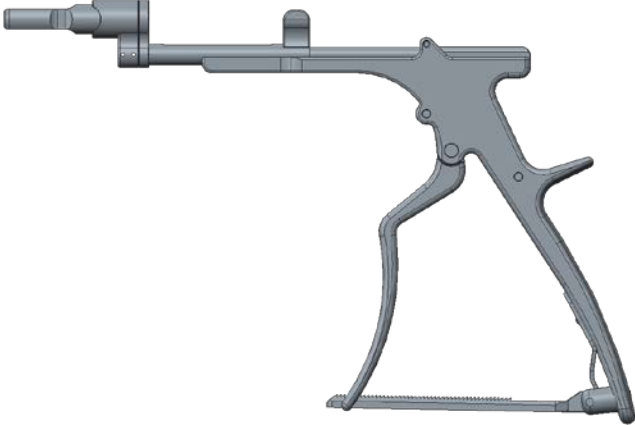
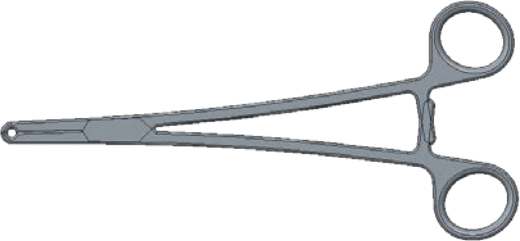
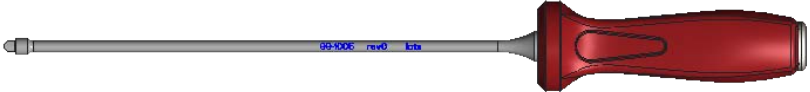



Device View	Part #	Description
 <p>The image shows a surgical device with a grey shaft and a red handle. The shaft has a hook-like end and is labeled "Anti-Torque".</p>	<p>99-1012</p>	<p>Cannulated Anti-Torque:</p> <ul style="list-style-type: none"> • Used with torque shaft • Used on polyaxial screws, hooks, offsets • Material: Stainless steel with silicon handle
 <p>The image shows a surgical device with a grey shaft and a red handle. The shaft has a hook-like end and is labeled "Cross.Link Anti-Torque".</p>	<p>99-1014</p>	<p>Cross-Link Anti-Torque:</p> <ul style="list-style-type: none"> • Used with torque shaft • Used on cross-links • Material: Stainless steel with silicon handle
 <p>The image shows a depth gauge with a grey shaft and a red handle. The shaft has a hook-like end and a scale on the handle. The scale is labeled "0 10 20 30 40".</p>	<p>99-1021</p>	<p>Depth Gauge:</p> <ul style="list-style-type: none"> • Depth markings • Material: Stainless steel

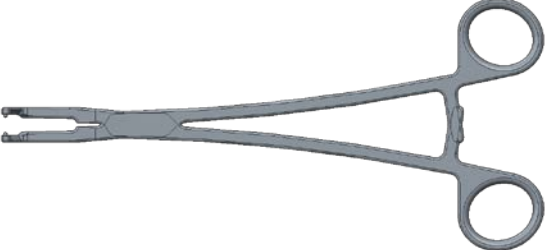

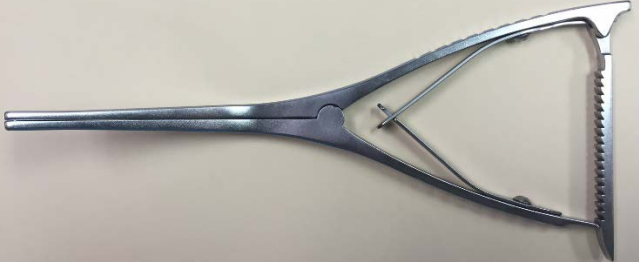


Device View	Part #	Description
	99-1026 99-1027	In-Situ Rod Bender: <ul style="list-style-type: none"> • Left and right rod benders • Fits 3.5mm rod • Material: Stainless steel
	99-1015	Rod Rocker: <ul style="list-style-type: none"> • Connects to all polyaxial screw sizes • Material: Stainless steel with silicon handle
	99-1023	Rod Cutter: <ul style="list-style-type: none"> • Fits 3.5mm rods • Material: Stainless steel
	99-1024	Rod Bender: <ul style="list-style-type: none"> • Fits 3.5mm rods • Material: Stainless steel



Device View	Part #	Description
	99-1018	<p>Rod Persuader:</p> <ul style="list-style-type: none"> • Connects to all polyaxial screw sizes • 25mm max rod persuasion depth • Fits 3.5mm rods • Material: Stainless steel
	99-1025	<p>Rod Holder:</p> <ul style="list-style-type: none"> • Holds 3.5mm rods • Material: Stainless steel
	99-1005	<p>Screw Head Positioner:</p> <ul style="list-style-type: none"> • Fits all polyaxial screw sizes • Material: Stainless steel with silicon handle
	99-1034	<p>Rod Pusher:</p> <ul style="list-style-type: none"> • Fits over all polyaxial screw sizes • Fits 3.5mm rods • Material: Stainless steel with silicon handle



Device View	Part #	Description
	99-1017	Inserter: <ul style="list-style-type: none">• Connects to crosslinks, offsets, and hooks.• Material: Stainless steel
	99-1029	Compressor: <ul style="list-style-type: none">• Fits 3.5mm rods• Parallel compression instrument• Material: Stainless steel
	99-1030	Distractor: <ul style="list-style-type: none">• Fits 3.5mm rods• Material: Stainless steel



Implants			
PN	Description		
96-S020	3.5mm x 20mm Rod	98-45	45mm Cross Link (34-45mm)
96-S030	3.5mm x 30mm Rod	98-68	68mm Cross Link (45-68mm)
96-S040	3.5mm x 40mm Rod	95-3510	3.5mm x 10mm Polyaxial Screw
96-S050	3.5mm x 50mm Rod	95-3512	3.5mm x 12mm Polyaxial Screw
96-S060	3.5mm x 60mm Rod	95-3514	3.5mm x 14mm Polyaxial Screw
96-S070	3.5mm x 70mm Rod	95-3516	3.5mm x 16mm Polyaxial Screw
96-S080	3.5mm x 80mm Rod	95-3518	3.5mm x 18mm Polyaxial Screw
96-S090	3.5mm x 90mm Rod	95-3520	3.5mm x 20mm Polyaxial Screw
96-S100	3.5mm x 100mm Rod	95-3522	3.5mm x 22mm Polyaxial Screw
96-S110	3.5mm x 110mm Rod	95-3524	3.5mm x 24mm Polyaxial Screw
96-S120	3.5mm x 120mm Rod	95-3526	3.5mm x 26mm Polyaxial Screw
96-S150	3.5mm x 150mm Rod	95-3528	3.5mm x 28mm Polyaxial Screw
96-S200	3.5mm x 200mm Rod	95-3530	3.5mm x 30mm Polyaxial Screw
96-S240	3.5mm x 240mm Rod	95-3532	3.5mm x 32mm Polyaxial Screw
96-T060	3.5/5.5mm x 60mm Transition Rod	95-3534	3.5mm x 34mm Polyaxial Screw
96-T080	3.5/5.5mm x 80mm Transition Rod	95-3536	3.5mm x 36mm Polyaxial Screw
96-T100	3.5/5.5mm x 100mm Transition Rod	95-3538	3.5mm x 38mm Polyaxial Screw
96-T120	3.5/5.5mm x 120mm Transition Rod	95-3540	3.5mm x 40mm Polyaxial Screw
96-T175	3.5/5.5mm x 175mm Transition Rod	95-3542	3.5mm x 42mm Polyaxial Screw
96-T240	3.5/5.5mm x 240mm Transition Rod	95-3544	3.5mm x 44mm Polyaxial Screw
96-T450	3.5/5.5mm x 450mm Transition Rod	95-3546	3.5mm x 46mm Polyaxial Screw
96-C020	3.5mm x 20mm Curved Rod	95-3548	3.5mm x 48mm Polyaxial Screw
96-C030	3.5mm x 30mm Curved Rod	95-3550	3.5mm x 50mm Polyaxial Screw
96-C040	3.5mm x 40mm Curved Rod	95-3552	3.5mm x 52mm Polyaxial Screw
96-C050	3.5mm x 50mm Curved Rod	95-4010	4.0mm x 10mm Polyaxial Screw
96-C060	3.5mm x 60mm Curved Rod	95-4012	4.0mm x 12mm Polyaxial Screw
96-C070	3.5mm x 70mm Curved Rod	95-4014	4.0mm x 14mm Polyaxial Screw
96-C080	3.5mm x 80mm Curved Rod	95-4016	4.0mm x 16mm Polyaxial Screw
96-C090	3.5mm x 90mm Curved Rod	95-4018	4.0mm x 18mm Polyaxial Screw
96-C100	3.5mm x 100mm Curved Rod	95-4020	4.0mm x 20mm Polyaxial Screw
96-C110	3.5mm x 110mm Curved Rod	95-4022	4.0mm x 22mm Polyaxial Screw
96-C120	3.5mm x 120mm Curved Rod	95-4024	4.0mm x 24mm Polyaxial Screw
94-1045-S	4.5mm Straight Hook	95-4026	4.0mm x 26mm Polyaxial Screw
94-1060-S	6.0mm Straight Hook	95-4028	4.0mm x 28mm Polyaxial Screw
94-1045-R	4.5mm Right Hook	95-4030	4.0mm x 30mm Polyaxial Screw
94-1060-R	6.0mm Right Hook	95-4032	4.0mm x 32mm Polyaxial Screw
94-1045-L	4.5mm Left Hook	95-4034	4.0mm x 34mm Polyaxial Screw
94-1060-L	6.0mm Left Hook	95-4036	4.0mm x 36mm Polyaxial Screw
95-2003	Cap Screw	95-4038	4.0mm x 38mm Polyaxial Screw
94-2010-O	10mm Open Offset	95-4040	4.0mm x 40mm Polyaxial Screw
94-2014-O	14mm Open Offset	95-4042	4.0mm x 42mm Polyaxial Screw
94-2010-C	10mm Closed Offset	95-4044	4.0mm x 44mm Polyaxial Screw
94-2014-C	14mm Closed Offset	95-4046	4.0mm x 46mm Polyaxial Screw
94-31P-35-35	3.5x3.5mm Parallel Domino	95-4048	4.0mm x 48mm Polyaxial Screw
94-31P-35-45	3.5x4.5mm Parallel Domino	95-4050	4.0mm x 50mm Polyaxial Screw
94-31P-35-55	3.5x5.5/6.35mm Parallel Domino	95-4052	4.0mm x 52mm Polyaxial Screw
94-31P-55-55	5.5/6.25x5.5/6.35mm Parallel Domino	95-4510	4.5mm x 10mm Polyaxial Screw
94-31-35-35	3.5x3.5mm Inline Domino	95-4512	4.5mm x 12mm Polyaxial Screw
94-31-35-45	3.5x4.5mm Inline Domino	95-4514	4.5mm x 14mm Polyaxial Screw
94-31-35-55	3.5x5.5/6.25mm Inline Domino	95-4516	4.5mm x 16mm Polyaxial Screw
94-31-55-55	5.5/6.25x5.5/6.25mm Inline Domino	95-4518	4.5mm x 18mm Polyaxial Screw
94-310-35-35	3.5x3.5mm Open Domino	95-4520	4.5mm x 20mm Polyaxial Screw
94-310-35-45	3.5x4.5mm Open Domino	95-4522	4.5mm x 22mm Polyaxial Screw
94-310-35-55	3.5x5.5/6.35mm Open Domino	95-4524	4.5mm x 24mm Polyaxial Screw
94-310-55-55	5.5/6.25x5.5/6.35mm Open Domino	95-4526	4.5mm x 26mm Polyaxial Screw
94-3100	Rod Connector Screw	95-4528	4.5mm x 28mm Polyaxial Screw
98-34	34mm Cross Link (28-34mm)	95-4530	4.5mm x 30mm Polyaxial Screw
		95-4532	4.5mm x 32mm Polyaxial Screw
		95-4534	4.5mm x 34mm Polyaxial Screw
		95-4536	4.5mm x 36mm Polyaxial Screw



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95-4538	4.5mm x 38mm Polyaxial Screw
95-4540	4.5mm x 40mm Polyaxial Screw
95-4542	4.5mm x 42mm Polyaxial Screw
95-4544	4.5mm x 44mm Polyaxial Screw
95-4546	4.5mm x 46mm Polyaxial Screw
95-4548	4.5mm x 48mm Polyaxial Screw
95-4550	4.5mm x 50mm Polyaxial Screw
95-4552	4.5mm x 52mm Polyaxial Screw
97-3520	3.5mm x 20mm Polyaxial Shaft Screw
97-3522	3.5mm x 22mm Polyaxial Shaft Screw
97-3524	3.5mm x 24mm Polyaxial Shaft Screw
97-3526	3.5mm x 26mm Polyaxial Shaft Screw
97-3528	3.5mm x 28mm Polyaxial Shaft Screw
97-3530	3.5mm x 30mm Polyaxial Shaft Screw
97-3532	3.5mm x 32mm Polyaxial Shaft Screw
97-3534	3.5mm x 34mm Polyaxial Shaft Screw
97-3536	3.5mm x 36mm Polyaxial Shaft Screw
97-3538	3.5mm x 38mm Polyaxial Shaft Screw
97-3540	3.5mm x 40mm Polyaxial Shaft Screw
97-3542	3.5mm x 42mm Polyaxial Shaft Screw
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97-3548	3.5mm x 48mm Polyaxial Shaft Screw
97-3550	3.5mm x 50mm Polyaxial Shaft Screw
97-4020	4.0mm x 20mm Polyaxial Shaft Screw
97-4022	4.0mm x 22mm Polyaxial Shaft Screw
97-4024	4.0mm x 24mm Polyaxial Shaft Screw
97-4026	4.0mm x 26mm Polyaxial Shaft Screw
97-4028	4.0mm x 28mm Polyaxial Shaft Screw
97-4030	4.0mm x 30mm Polyaxial Shaft Screw
97-4032	4.0mm x 32mm Polyaxial Shaft Screw
97-4034	4.0mm x 34mm Polyaxial Shaft Screw
97-4036	4.0mm x 36mm Polyaxial Shaft Screw
97-4038	4.0mm x 38mm Polyaxial Shaft Screw
97-4040	4.0mm x 40mm Polyaxial Shaft Screw
97-4042	4.0mm x 42mm Polyaxial Shaft Screw
97-4044	4.0mm x 44mm Polyaxial Shaft Screw
97-4046	4.0mm x 46mm Polyaxial Shaft Screw
97-4048	4.0mm x 48mm Polyaxial Shaft Screw
97-4050	4.0mm x 50mm Polyaxial Shaft Screw

Instruments	
PN	Description
99-1004	Awl - 2.0mm (0.078") diameter, 6mm tip length
99-1007	Drill Guide - 10-52mm height range
99-1008-12	12mm Fixed Drill Guide
99-1008-14	14mm Fixed Drill Guide
99-1008-16	16mm Fixed Drill Guide
99-1009-20	Drill - 2.0mm (0.078") diameter, color band
99-1009-25	Drill - 2.5mm (0.098") diameter, color band
99-1009-30	Drill - 3.0mm (0.118") diameter, color band
99-1005	Screw Head Positioner
99-1010-30	Tap 3.0mm
99-1010-35	Tap 3.5mm
99-1010-40	Tap 4.0mm
99-1033	Tap Sleeve
99-1001-S	Polyaxial Screwdriver, 2.5mm straight hex - small handle
99-1001-L	Polyaxial Screwdriver, 2.5mm straight hex - large handle
99-1002	Set Screw Inserter, T-15
99-1000	Torque Shaft, T-15
99-1012	Cannulated Anti-Torque
99-1013-45	Hook Trial, 4.5mm
99-1013-60	Hook Trial, 6.0mm
99-1014	Cross Link Anti-Torque
99-1015	Rod Rocker
99-1016	Screw Height Adjuster-HEX drive
99-1017	Hook, Offset, Crosslink Inserter, scissor type
99-1018	Rod Persuader, 3.5mm
99-1019	Ball Tip Probe (.060" ball)
Z-1004	Straight Handle, Spinner top
99-1021	Depth Gauge
Z-1012	Torque Limiting Axial Handle, 25 in-lbs
99-1023	Rod Cutter, 3.5mm
99-1024	Rod Bender, 3.5mm
99-1025	Rod Holder, 3.5mm
99-1026	In-Situ Rod Bender Left, 3.5mm
99-1027	In-Situ Rod Bender Right, 3.5mm
99-1028	200mm Rod Template, 3.0mm
99-1029	Cervical Compressor, 3.5mm
99-1030	Cervical Distractor, 3.5mm
99-1032	Lamina Elevator
99-1034	Rod Pusher, 3.5mm, fits over screw head