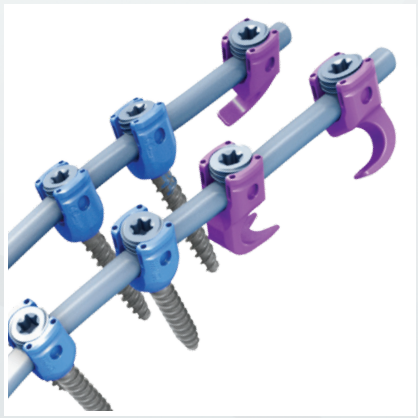
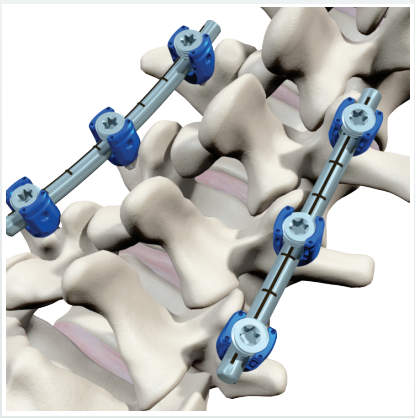
# Vital™ Deformity

## Spinal Fixation System

Surgical Technique Guide

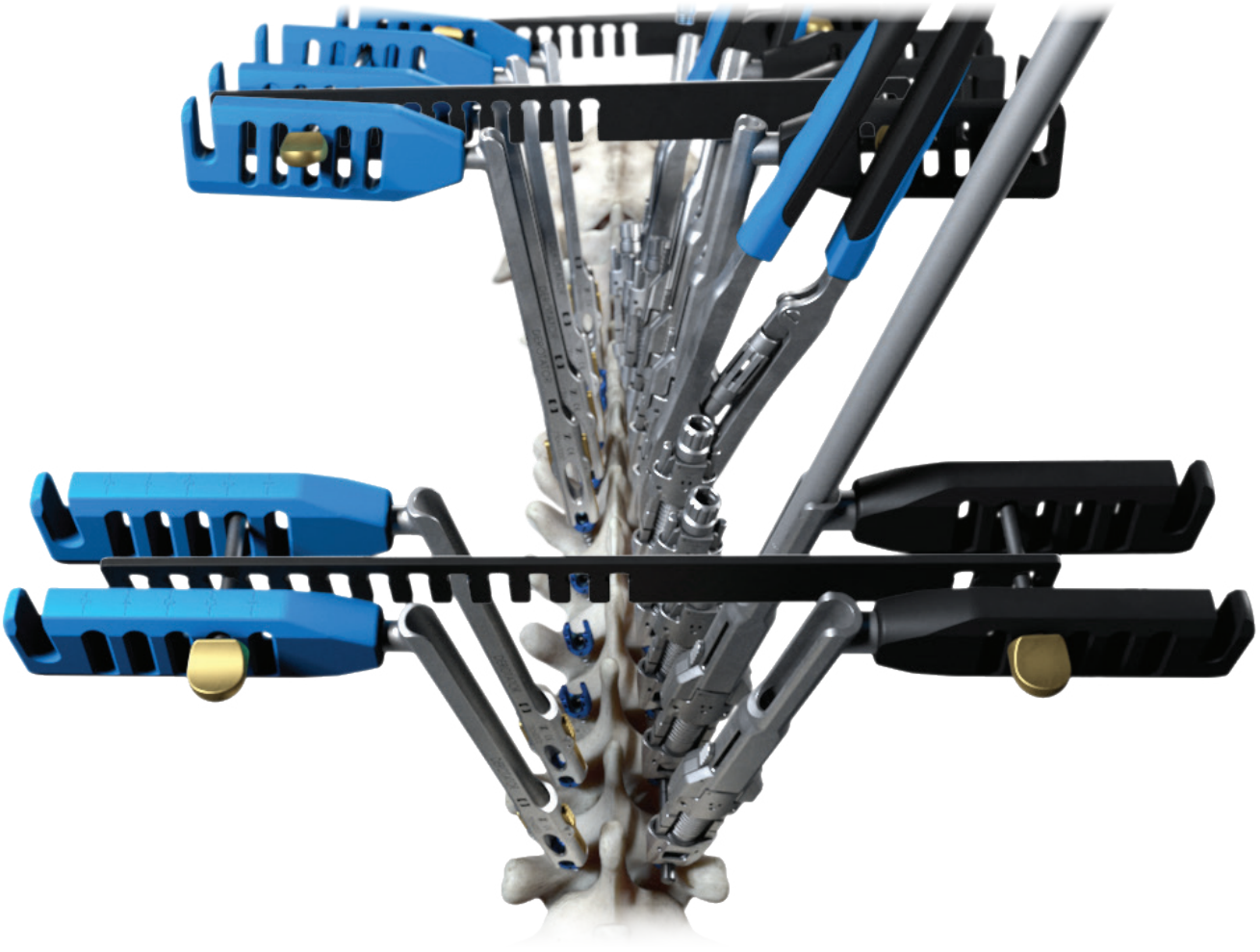




ZimVie

# Vital™ Deformity
## Spinal Fixation System

The Vital Spinal Fixation System was developed to address the modern demands of surgeons treating complex spinal pathologies. The system provides a comprehensive solution for rigid spinal fixation, from the thoracic spine to the ilium.



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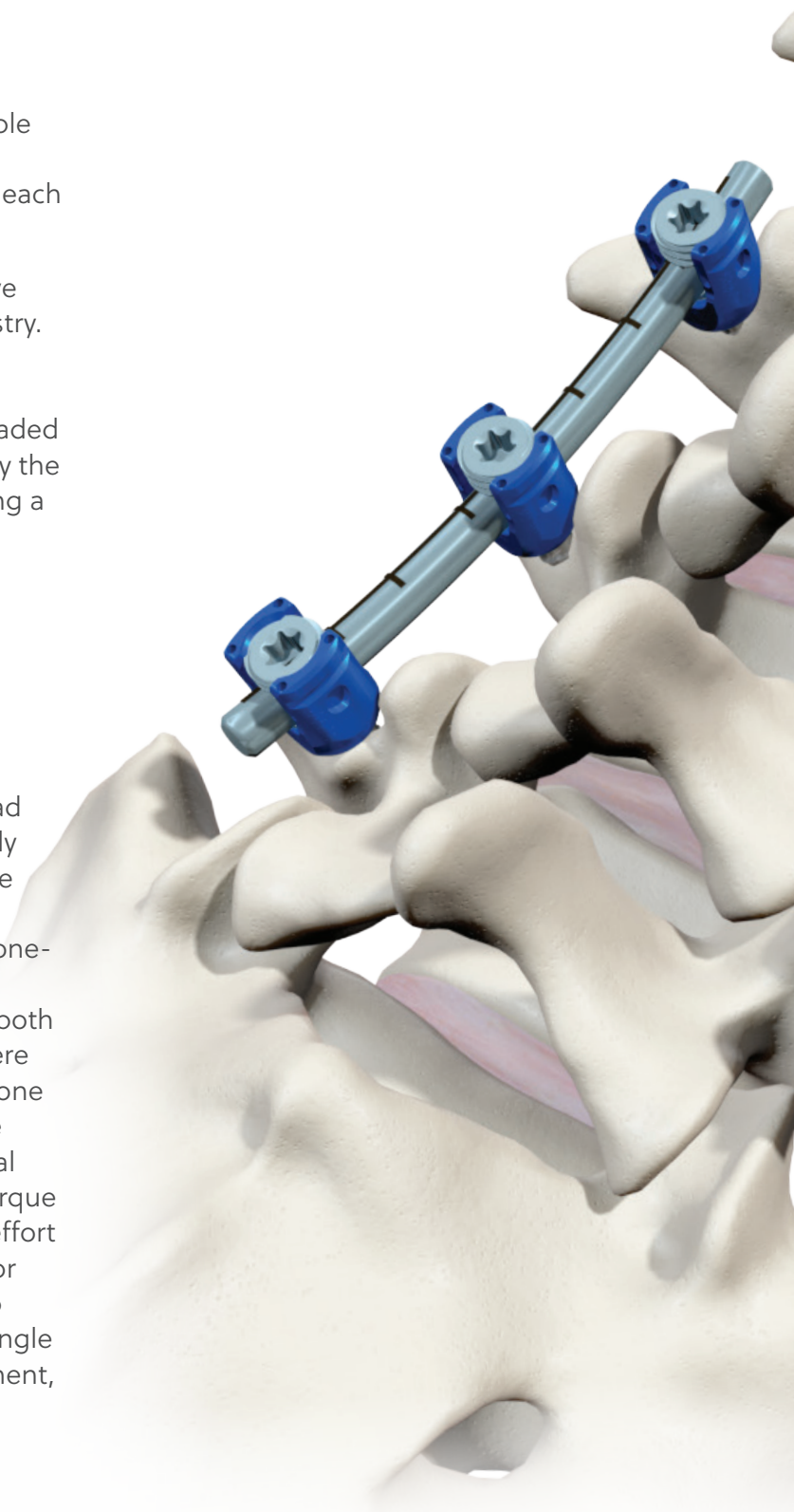
ZimVie Spine does not practice medicine. This technique was developed in conjunction with health care professionals. This document is intended for surgeons and is not intended for laypersons. Each surgeon should exercise his or her own independent judgment in the diagnosis and treatment of an individual patient, and this information does not purport to replace the comprehensive training surgeons have received. As with all surgical procedures, the technique used in each case will depend on the surgeon's medical judgment as the best treatment for each patient. Results will vary based on health, weight, activity and other variables. Not all patients are candidates for this product and/or procedure.

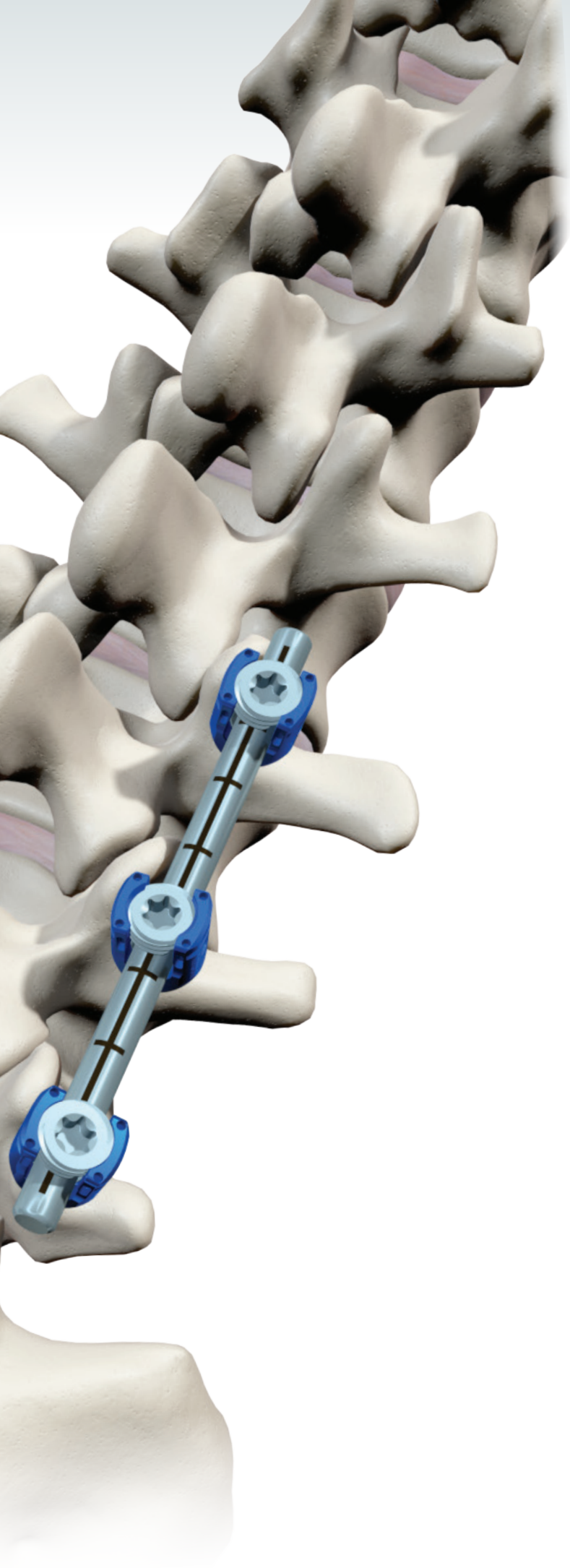
# Vital Spinal Fixation System Overview

The Vital System includes multiple screw options: monoaxial, polyaxial, uniplanar, reduction and iliac. All screw types are available in multiple diameters and lengths. In order to provide the surgeon with greater intraoperative flexibility, the fixation implants are specifically designed to accept both 5.5 and 6.0 mm diameter rods, in either Titanium, or Cobalt Chromium. The ability to intraoperatively pivot between multiple rod options with the same system, allows the surgeon to better accommodate the needs of each individual patient.

All Vital screws incorporate a T27 hexalobe drive feature which is one of the largest in the industry. The T27 drive feature is 30% stronger than the T25 hexalobe and is designed to reduce driver breakage. All Vital screws incorporate an upgraded attachment feature that is designed to simplify the engagement of multiple instruments, providing a solid connection for manipulation.

All polyaxial and uniplanar screws feature a proprietary friction fit head, designed to hold the desired head position and facilitate rod placement. All the pedicle screws feature a dual-lead thread form that doubles insertion speed, without sacrificing pull-out strength, when evaluated against comparable single lead screw thread forms. The screws also offer a fully threaded screw shank designed to improve the starting characteristics of the screw. The Vital System screw shank is designed to improve bone-screw fixation while reducing insertion torque. The thread material profile, thread pitch, and both the major and minor diameter of the screw were upgraded, so as to maximize the amount of bone material compacted between the threads. The Vital System's iliac screws offer a low pitch, dual lead thread designed to minimize insertion torque and require fewer revolutions to insert, in an effort to reduce surgeon fatigue and the potential for driver breakage. The Vital System's closure top incorporates a blunt start, dual lead, reverse angle thread designed to improve starting engagement, advance quickly and help prevent head splay.





The Vital System also offers a variety of implant options including multiple rod to rod connectors, lateral offset connectors (iliac), fixed and adjustable transverse connectors, 5.5 and 6.0 mm pre-cut, curved and straight titanium and cobalt chromium rods. The Vital System deformity rods include reference markings every 1 cm along the rod and a large hex end feature for de-rotation maneuvers.

The Vital System instrumentation is designed to treat a wide variety of spinal pathologies and to allow surgeons the flexibility to build constructs that meet the anatomical challenges associated with complex spine procedures. The Vital System instrumentation is designed for ergonomic comfort and surgical efficiency. The offering of reduction and manipulation instruments supports complex spinal surgery with ease of use and expediency of implantation at their core.

The Vital Spinal Fixation System incorporates innovative instrumentation for posterior three-dimensional spinal deformity correction techniques. These techniques give the surgeon the ability to correct most spinal deformities in all three dimensions. With idiopathic scoliosis in adolescents, it has been shown that lumbar motion segments can be spared in thoracolumbar and lumbar curves, truncal offset can be more predictably reduced, and significant rib hump correction can be achieved without the need for thoracoplasty. Force coupling is an integral part of the correction process. Multiple screws clustered about the curve apex can be linked and levered synchronously to achieve axial plane correction. In designing this system, special attention was given to maximizing ease of use, by following a stepwise, non-regressive technique, for the purpose of optimizing efficiency.

# Vital Implant Features

### Multiple Instrument Connection Features

- The multiple screw head connection points allow various instruments to quickly and securely attach, simplifying manipulation maneuvers.

### Friction Fit Screw Head

- Retains alignment, allowing for easy screw-rod orientation and ease of screw loading.
- Accommodates ø5.5 mm and ø6.0 mm rods.

### Fully Threaded Dual-lead Screw Shank

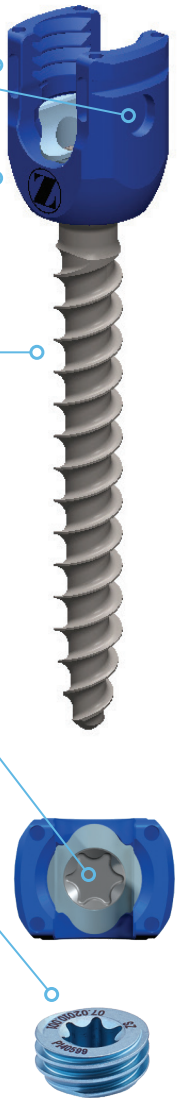
- Self-tapping fully threaded blunt tip screw shank designed to improve the starting characteristics and improve bone screw fixation while reducing insertion torque.
- Improves surgeon efficiency by allowing screw insertion twice as fast as comparable single lead screws without sacrificing pull-out strength.*

### T27 Hexalobe Drive Feature

- Screws and closure tops utilize T27 drive (one of largest in industry): 30% greater strength than T25 drive (MDT), 90% greater strength than T20 drive (D/S).*

### Dual-lead Reverse Angle Thread Closure Top

- Dual-lead reverse angle thread designed to improve engagement, advance quickly and help prevent head splay.
- Closure top design supports loosening after final tightening and re-tightening of closure top without performance loss.



### Screw Sizes

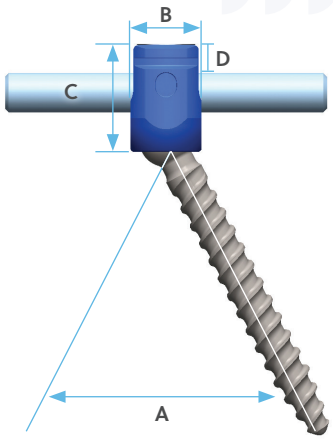
- The Vital Deformity System includes multiple screw options; monoaxial, polyaxial, uniplanar, reduction and iliac.
- All screw types are available in multiple diameters and lengths designed to secure to either 5.5 or 6 mm rods in titanium or cobalt chromium — which provide different strength and stiffness options.

| Color | Diameter |
|---|---|
| Gold | 4.0 mm |
| Magenta | 4.5 mm |
| Dark Blue | 5.5 mm |
| Light Blue | 6.5 mm |
| Green | 7.5 mm |
| Gold | 8.5 mm |
| Light Blue | 9.5 mm |
| Purple | 10.5 mm |

*Data on file.

## Polyaxial Screw Specifications

| Thread Major Diameter | (A) Cone of Angulation | (B) Run on Rod | (C) Head Height | (D) Height Above 5.5 mm Rod | Neck Diameter |
|---|---|---|---|---|---|
| 4.0 mm | 67° | 9.1 mm | 15 mm | 3.94 mm | 4.01 mm |
| 4.5 mm | 58° | 9.1 mm | 15 mm | 3.94 mm | 4.52 mm |
| 5.5 mm | 54° | 9.1 mm | 15 mm | 3.94 mm | 4.77 mm |
| 6.5 mm | 54° | 9.1 mm | 15 mm | 3.94 mm | 4.77 mm |
| 7.5 mm | 54° | 9.1 mm | 15 mm | 3.94 mm | 4.77 mm |
| 8.5 mm | 44° | 9.1 mm | 16.5 mm | 3.94 mm | 4.77 mm |
| 9.5 mm | 35° | 9.1 mm | 16.5 mm | 3.94 mm | 5.26 mm |
| 10.5 mm | 35° | 9.1 mm | 16.5 mm | 3.94 mm | 5.26 mm |

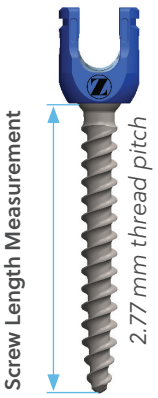



## Uniplanar Screw Specifications

| Thread Major Diameter | (A) Cephalad/ Caudal Angulation | (B) Run on Rod | (C) Head Height | (D) Height Above 5.5 mm Rod | Neck Diameter |
|---|---|---|---|---|---|
| 4.5 mm | 58° | 9.1 mm | 15 mm | 3.94 mm | 4.52 mm |
| 5.5 mm | 54° | 9.1 mm | 15 mm | 3.94 mm | 4.77 mm |
| 6.5 mm | 54° | 9.1 mm | 15 mm | 3.94 mm | 4.77 mm |
| 7.5 mm | 54° | 9.1 mm | 15 mm | 3.94 mm | 4.77 mm |

## Monoplanar Screw Specifications

| Thread Major Diameter | (A) Cephalad/ Caudal Angulation | (B) Run on Rod | (C) Head Height | (D) Height Above 5.5 mm Rod | Neck Diameter |
|---|---|---|---|---|---|
| 4.0 mm | N/A | 9.1 mm | 15 mm | 3.94 mm | 4.52 mm |
| 4.5 mm | N/A | 9.1 mm | 15 mm | 3.94 mm | 4.77 mm |
| 5.5 mm | N/A | 9.1 mm | 15 mm | 3.94 mm | 4.77 mm |
| 6.5 mm | N/A | 9.1 mm | 15 mm | 3.94 mm | 4.77 mm |
| 7.5 mm | N/A | 9.1 mm | 15 mm | 3.94 mm | 4.77 mm |




## Iliac Screw Specifications

| Thread Major Diameter | (A) Cephalad/ Caudal Angulation | (B) Run on Rod | (C) Head Height | (D) Height Above 5.5 mm Rod | Neck Diameter |
|---|---|---|---|---|---|
| 7.5 mm | 35° | 9.1 mm | 16.5 mm | 3.94 mm | 5.25 mm |
| 8.5 mm | 35° | 9.1 mm | 16.5 mm | 3.94 mm | 5.25 mm |
| 9.5 mm | 35° | 9.1 mm | 16.5 mm | 3.94 mm | 5.25 mm |
| 10.5 mm | 35° | 9.1 mm | 16.5 mm | 3.94 mm | 5.25 mm |

# Surgical Technique

The following surgical technique guide describes the recommended placement and use of all Vital Spinal Fixation System components.

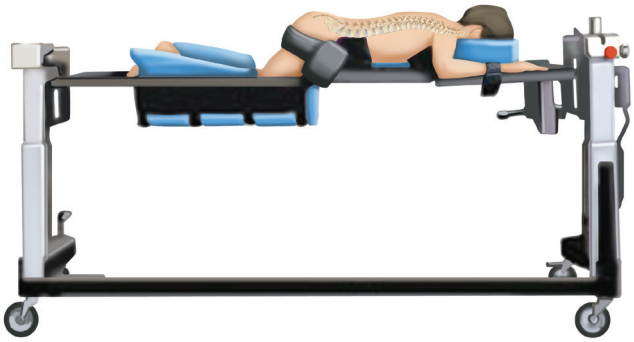


***Figure 1***
*Patient positioning*

# Pedicle Screw Placement

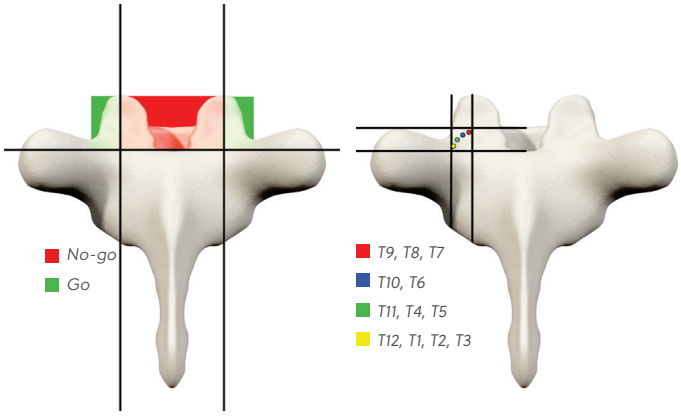



***Figure 2***
*Thoracic pedicle trajectory targeting chart*

## Patient Positioning

- Place patient in the prone, or knee-chest, position on a radiolucent operating table (Figure 1). Take care to ensure that the patient's abdomen remains unsuspended. By allowing the patient's lumbar region to hang freely, the surgeon can maximize the patient's naturally occurring lordosis and minimize epidural bleeding. Adjust the table (as needed) so that the C-arm provides true A/P images when at 90° and true lateral images at 0°.

## Thoracic Pedicle Targeting

- Precise positioning of the pedicle entry point is essential. Using standard anatomic markings, resect a small portion of the dorsal cortex to create an entry point (Figure 2). Proper orientation of the pedicle screw is dependent upon the position of the pilot hole.

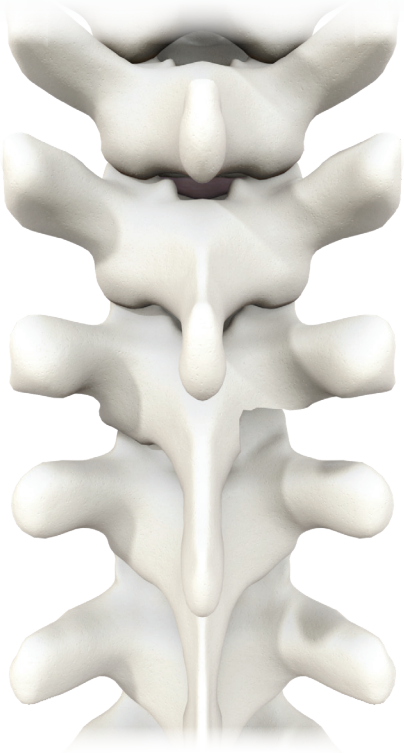


***Figure 3***
*Hemifacetectomy*

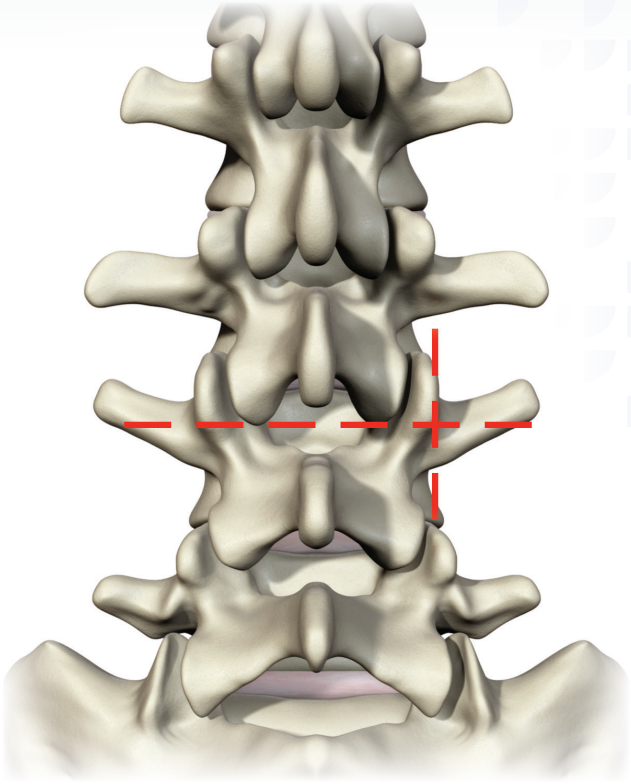


***Figure 4***
*Lumbar pedicle targeting*

- For thoracic pedicle screws, a hemi-facetectomy of the inferior articular process at the level above the targeted pedicle is necessary. As an example, when targeting a T6 pedicle, the inferior articular process of T5 must be resected, in order to gain proper access to the pedicle. These hemifacetectomies also allow greater range of motion at each segment when performing deformity correction (Figure 3).

## Lumbar Pedicle Targeting

- For lumbar pedicle screws, the pilot hole should be started where a line through the middle of the transverse process crosses a vertical line at the lateral edge of the facet joints (Figure 4).

# Manual Pedicle Preparation and Screw Insertion

***Figure 5***
*Manual pedicle preparation - probing*


***Figure 6***
*Manual pedicle preparation - curved Lenke probe*

## Awl

- Using the awl, pierce the bone cortex at the entry point (Figure 5).

  ***Note:*** *The optional thoracic bone awl creates a 2.75 mm wide by 8 mm deep pilot hole and the standard lumbar bone awl creates a 4 mm wide by 10 mm deep pilot hole.*

- Using one of the Lenke pedicle probes provided in the Vital system, place the instrument's tip into the entry point created by the awl. Keeping proper pedicle trajectory in mind, pass the probe's tip down the pedicle's medullary channel.

## Probe

- If using the curved Lenke probe, make sure the curved tip initially faces laterally, as it is passed through the pedicle's medullary channel.
- Once the tip of the instrument has reached the border between the pedicle and the vertebral body, remove the instrument from the pedicle and re-insert with the pedicle probe's curved tip facing medially.
- Continue progressing the pedicle probe forward until the desired depth has been reached. Using the curved Lenke probe, make sure the curved tip is initially pointed laterally for the first 20-25 mm (to avoid breaching the medial cortex) (Figure 6).

  ***Note:*** *Laser markings are etched onto the probe tip every 10mm to assist with determining the depth of the probe.*

  ***Note:*** *There are different pedicle probes provided in the Vital System, in order to accommodate individual surgeon preference and patient anatomy. These may be used in place of the curved Lenke probe, at the discretion of the surgeon.*

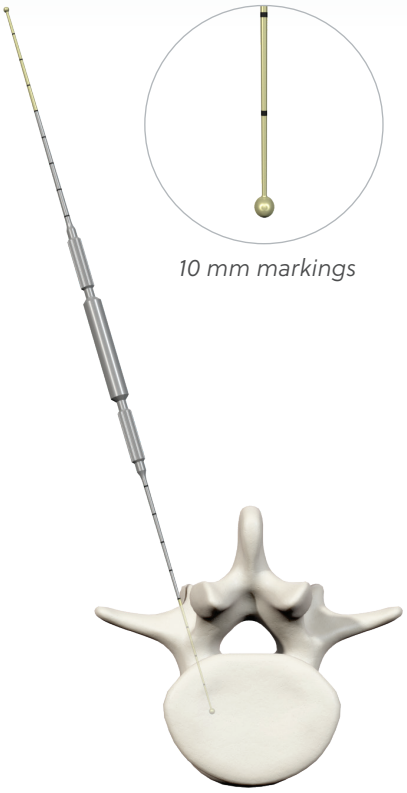



***Figure 7***
*Manual pedicle preparation – sounding*


***Figure 8***
*Manual pedicle preparation - tapping*

## Confirm Pedicle Integrity

- After removing the pedicle probe, verify the integrity of the pedicle and the vertebral body walls using the ball tip probe (Figure 7). When fully inserted, forceps can be clamped onto the ball-tip probe to determine the hole depth for choosing the appropriate screw length.

  **Note:** *10 mm laser markings are etched on the distal portions of each probe to assist with determining the depth of the probe when it is fully inserted into the bone. Optional pedicle markers for fluoroscopic visualization, are available upon request. See the optional instruments section of this guide, starting on page 115.*

## Tapping

- Connect the appropriate diameter tap to the desired handle. Insert the tap into the pedicle and rotate it clockwise. A depth gauge on the tap indicates the hole depth. Remove the tap by turning the dial on the handle to the reverse position and then rotating the handle itself in a counterclockwise motion (Figure 8).

  ***Note:*** *The Vital System offers taps that are true to labeled size. After removing the tap, the ball-tip probe can be used again to verify the integrity of the pedicle and vertebral body walls.*

  ***Note:*** *Guidewires and cannulated taps may be used in conjunction with each other, if desired. Cannulated polyaxial, uniplanar, and monoaxial screws are available, should the surgeon choose to use these implants. Additional information regarding guidewire insertion and use with cannulated instruments and implants can be found in the Vital MIS Surgical Technique Guide as needed.*

# Manual Pedicle Preparation and Screw Insertion *(continued)*


***Figure 9***
*Manual pedicle screw insertion – loading polyaxial, uniplanar, monoplanar, and iliac screws*

## Selecting Appropriate Pedicle Screw

- Depending on the spinal pathology being treated, a surgeon may choose to utilize different types of pedicle screws. Polyaxial screws are generally the most commonly utilized screw.
- Uniplanar screws will most often be utilized at the apex of a scoliotic curve, because they are fixed in the medial-lateral plane. Uniplanar screws are designed to provide additional stability during vertebral body derotation maneuvers, to help restore global balance.
- Monoaxial screws can also be utilized at the apex of a scoliotic curve, as they are also intended to provide additional stability during vertebral body derotation maneuvers.

  ***Note:*** *It is recommended that reduction instrumentation be used, when placing monoaxial screws at the end of a construct. This will ensure the rod is fully seated in the screw head prior to introducing and final tightening the closure top.*

## Standard Screwdriver Loading

Depending on the spinal pathology being treated, a surgeon may choose to utilize different types of pedicle screws.

1 Connect the ratcheting straight handle to the standard screwdriver.

2 Place the appropriate screw on to the standard screwdriver by inserting the screwdriver tip into the female hexalobe on the screw shank, making sure the screw shank is straight.

3 Secure the screw by turning the standard screwdriver sleeve clockwise into the screw head.

4 The screwdriver sleeve may be locked by pushing the button on the secondary lock and sliding the collar downwards. This secure locking system is designed to prevent screw loosening and toggle during insertion. Confirm the collar is fully engaged and locked.

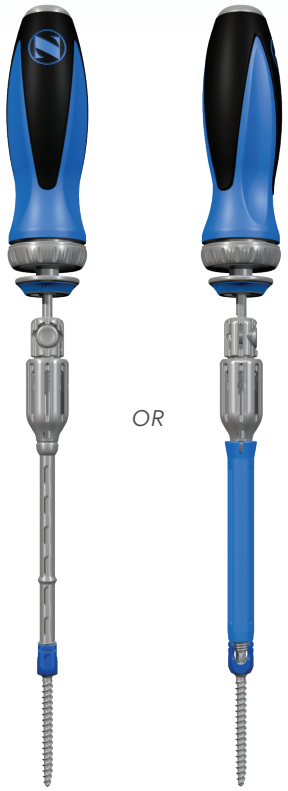



***Figure 10***
*Screwdriver tissue sleeve*

***Note:*** *The screwdriver tissue sleeve may be used during this step. To connect, slide the tissue sleeve over the screwdriver sleeve until it is fully engaged on the retaining feature. The tissue sleeve must be assembled prior to loading the pedicle screw* (Figure 10).

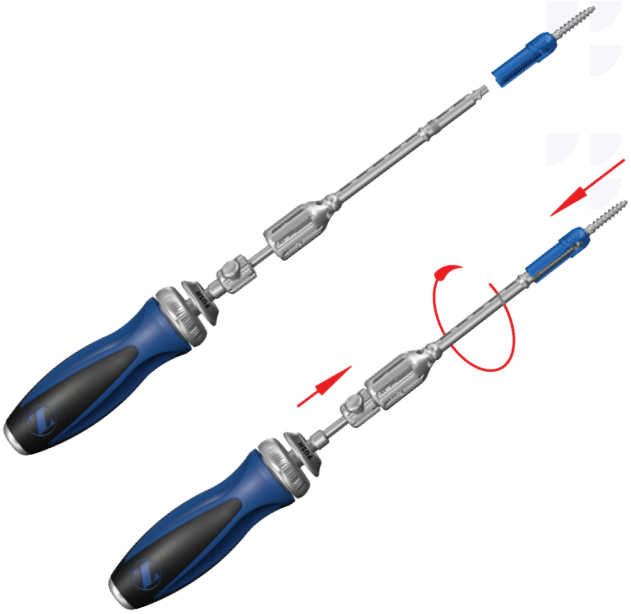


***Figure 11***
*Manual pedicle screw insertion – loading reduction polyaxial and uniplanar screws*

## Screw Driver Assembly — Reduction Screws

For reduction screws, connect the reduction screw driver to the desired handle.

- Place the appropriate length screw on the reduction screw driver by inserting the screw driver tip into the female hexalobe on the screw shank.
- Secure the reduction screw by turning the screw driver retention sleeve clockwise. The screw driver sleeve may be locked by pushing the button on the secondary lock and sliding the collar forward. This secure locking system prevents screw loosening and toggle during insertion (Figure 11).
- Confirm the collar sleeve is fully engaged and locked.

# Pedicle Screw Insertion

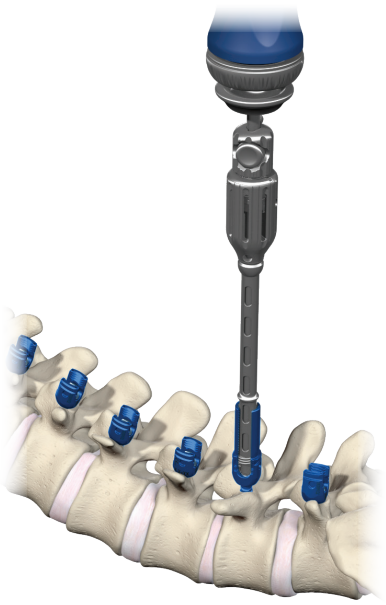


***Figure 12***
*Manual pedicle screw placement – screw insertion*

***Figure 13***
*Manual pedicle screw placement – removing screwdriver*

## Screw Insertion

- Insert the screw through the prepared pedicle until it reaches the desired depth (Figure 12).

## Release Screwdriver

- To release standard, short, or reduction screwdrivers, first depress the button on the screwdriver lock, then retract the lock towards the handle. Finally, turn the sleeve counterclockwise, until no longer threaded into the head of the screw (Figure 13).
- Repeat pedicle preparation and screw insertion steps for all of the screws.

# Assembly/Disassembly of ZimVie Universal Power System and Vital Power


***Figure 14***
*Universal Power components needed to use Vital Power*



***Figure 15***
*Virage small AO fixed handle*

## Universal Power System Handpiece & Attachment Assembly

The Vital Power Instrument Kit features five types of instruments that are available for use with the Zimmer Biomet Universal Power System: drills, reamers, taps, drivers, and adapters. The Universal Power System is available in 2 handpiece styles: the single trigger handpiece and the double trigger handpiece (Figure 14). The Universal Power System also features various attachments that alter the speed and torque of the handpiece. Please refer to the ZimVie Universal Power System Instruction Manual (06001800100) for in-depth information on the system.

***Note:*** *The ZimVie Universal Power System is not manufactured or sold by ZimVie Spine. Please contact ZimVie Surgical Solutions group to acquire these handpieces.*

## Vital Power Drill/Reamer & Universal Power Small AO Attachment Assembly

The drills and reamers are intended for use with the Universal Power 1000 RPM Small AO Attachment. To assemble, insert the Universal Power Small AO Attachment into the Universal Power Handpiece of choice, ensuring the teeth of the attachment align with those of the handpiece. Once assembled, pull back the top sleeve of the attachment, to insert a drill or reamer. Following insertion, drills and reamers should be checked, so as to ensure proper mating with the Universal Power Small AO attachment (Figure 15).

***Note:*** *When using the double trigger handpiece, press the bottom trigger for clockwise rotation. For counterclockwise rotation, first press the top trigger, followed by the bottom trigger.*

***Note:*** *The toggle switch located above the trigger determines the direction of rotation, for the single trigger handpiece.*

***Note:*** *If needed, the Vitality+ Power Instrument Kit includes a straight, non-ratcheting handle that accepts Vital Power instruments that feature a male, Small AO connection.*

# Assembly/Disassembly of ZimVie Universal Power System and Vital Power *(continued)*

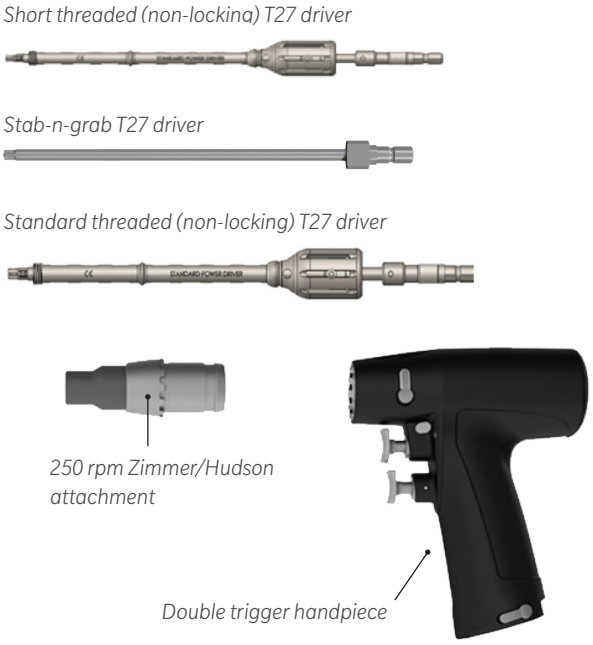



***Figure 16***
*Universal Power components needed to use Vital Power*


***Figure 17***
*Axial axial handle, Z-connect*

## Vital Power Tap, Driver, and Universal Power System 250 RPM Zimmer/Hudson Attachment Assembly

All taps and drivers feature a Zimmer/Hudson Z-Connect mating feature for use with the Universal Power 250 RPM Zimmer/Hudson Attachment. Assemble the Universal Power Zimmer/Hudson Attachment with the handpiece in an identical manner to the Universal Power Small AO Attachment. Once the attachment and handpiece are assembled, pull back on the black collar of the attachment to insert the instrument (Figure 16).

Note: *If needed, the Vital Power System includes a straight ratcheting handle that accepts Vital Power instruments that feature a male Universal Power Z-Connect (Figure 17).*

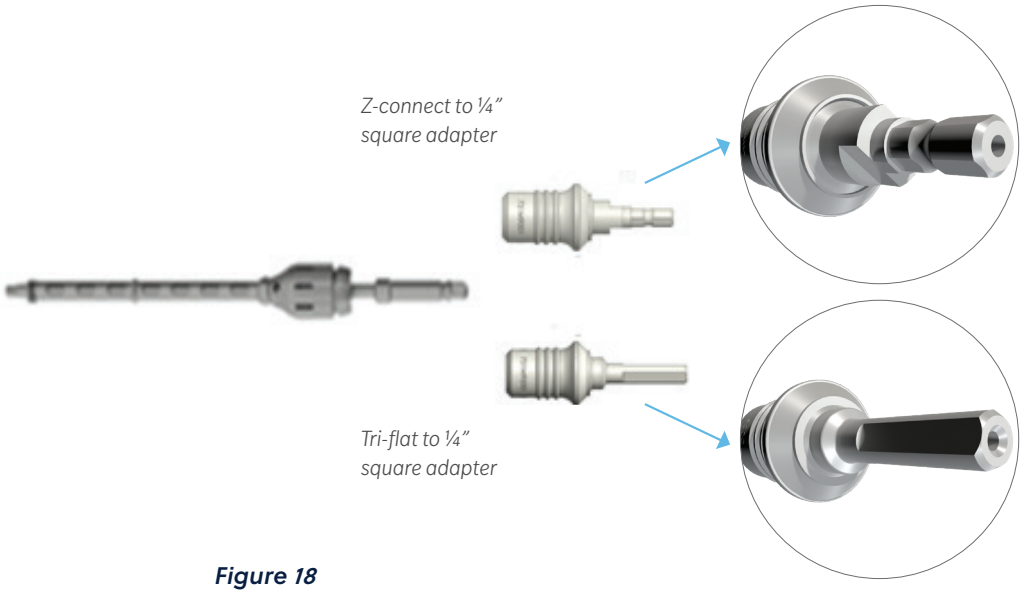



***Figure 18***

## Vital Power Adapter Assembly with Universal Power System 250 RPM Zimmer/Hudson Attachment

The taps and drivers from the Vitality Preparation Instrument Kit (Kit #07.02136.401) feature male ¼" square proximal ends and may be used in conjunction with two ¼" square adapters that are found in the Vital Power Instrument Kit:

- Universal Power Z-Connect to ¼" Square Adapter
- Universal Power Tri-flat to ¼" Square Adapter

The Universal Power Z-Connect to ¼" Square Adapter is used with the Universal Power 250RPM Zimmer/Hudson Attachment. When using either the Universal Power Z-Connect to ¼" Square Adapters, or the Universal Power Tri-flat to ¼" Square Adapters; the Vitality instruments may be loaded into the ¼" square receiver, by pulling back on the adapter collar and firmly inserting the proximal end of the instrument until fully seated (Figure 18).

## Universal Power System and Vital Power Disassembly

To disassemble, pull on the attachment and/or adapter collars used for assembly and remove instruments. Press the two buttons located on either side of the handpiece's attachment receiver housing and pull the attachment out of the handpiece.

# Powered Pedicle Preparation and Screw Insertion

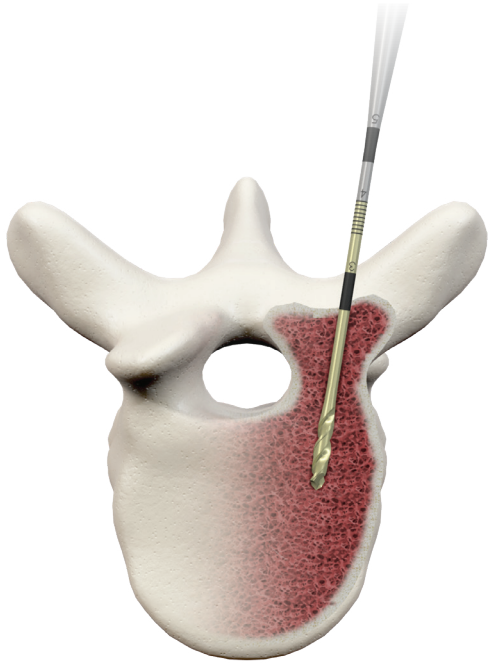


***Figure 19***
*Powered pedicle preparation – drill insertion*

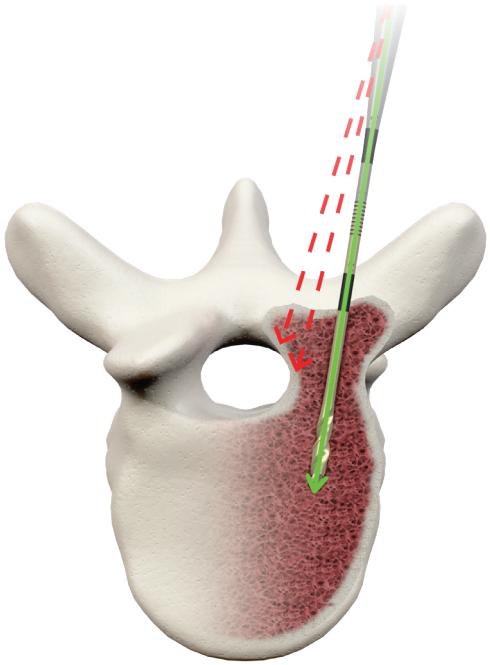


***Figure 20***
*Powered pedicle preparation – drill trajectory*

## Powered Pedicle Preparation

- Using the Universal Power Handpiece with Universal Power Small AO Attachment secured, insert either the Vital Power 2.4 mm pilot drill or the Vital Power 2.0 mm standard drill to the attachment, to create a pilot trajectory that follows the pedicle canal. These drills are recommended for initiating the pilot trajectory, as they allow the surgeon to use tactile feedback, to find the pedicle channel (Figures 19 and 20).
- The drill bit should be spun very slowly during insertion–approximately 1 to 3 rotations per second is recommended. In most cases, the weight of the handpiece is entirely sufficient, to ensure progression of the drill bit through the pedicle channel. If necessary, carefully apply minimal force to the handpiece, while maintaining the recommended rotational speed of the drill bit. By maintaining low RPM and applying minimal force to the handpiece during this process, the cortical bone of the pedicle resists the pilot drill more than cancellous bone, thus providing tactile feedback to the surgeon. Using this technique, the surgeon should be able to tactilely determine the path of least resistance through the pedicle's cancellous channel.

***Note:*** *Gentle application of pressure to the handpiece's trigger will give the desired speed. Some surgeons may find that paced, intermittent trigger presses of 1 to 2 seconds at a time, will help maintain low RPM and minimize downward pressure.*

***Note:*** *The surgeon should ensure that the drill bit's trajectory is not inadvertently altered by soft tissue, while attempting to cannulate the pedicle. Therefore, it is important that the surgeon provide sufficient tissue retraction, when using either drill bit. As an example, the surgeon should take special care to provide adequate tissue retraction, when attempting pedicle screw preparation at highly rotated vertebral segments, the Lowest Instrumented Vertebra (LIV), the Upper Instrumented Vertebra (UIV), and when attempting promontory trajectories at S1. If the surgeon observes a bend in the shank of either drill bit; he, or she, may either alter their retractor placement, increase exposure, or use a pedicle probe for initial pedicle cannulation.*

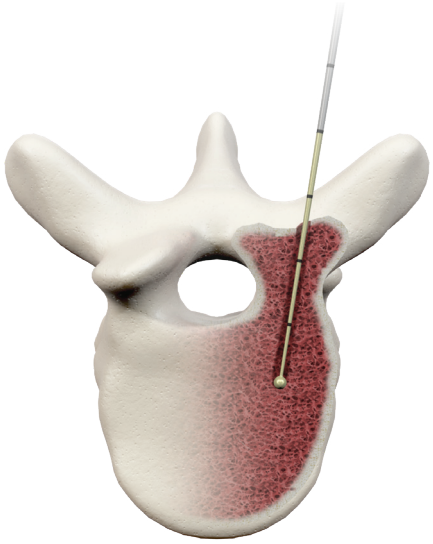


***Figure 21***
*Powered pedicle preparation – sounding*

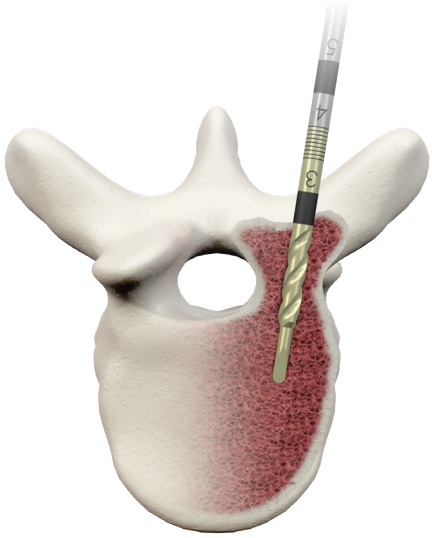


***Figure 22***
*Powered pedicle preparation – pedicle dilation*

## Powered Pedicle Preparation and Screw Insertion

- Use a ball-tipped, sounding probe to confirm that the pedicle has not been breached and that the depth is appropriate (Figure 21).
- Secure either the Vital Power 3.0 mm reamer probe, or the optional Vital Power 3.2 mm reamer probe, to the Universal Power Small AO Attachment. Use the reamer to further dilate the channel that the pilot drill previously created through the pedicle canal. This reamer should self-center in the pilot hole created by the drill (Figure 22).

  ***Note:*** *The optional 3.2 mm reamer probe matches the inner diameter of the 5.5 mm Vital screw.*

# Powered Pedicle Preparation and Screw Insertion *(continued)*

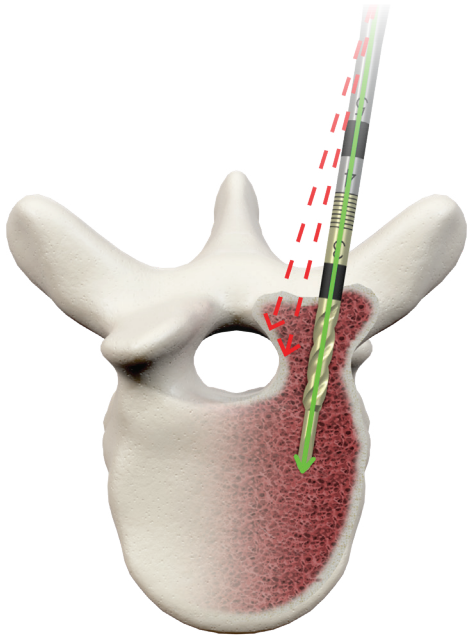


***Figure 23***
*Powered pedicle preparation - reamer trajectory*

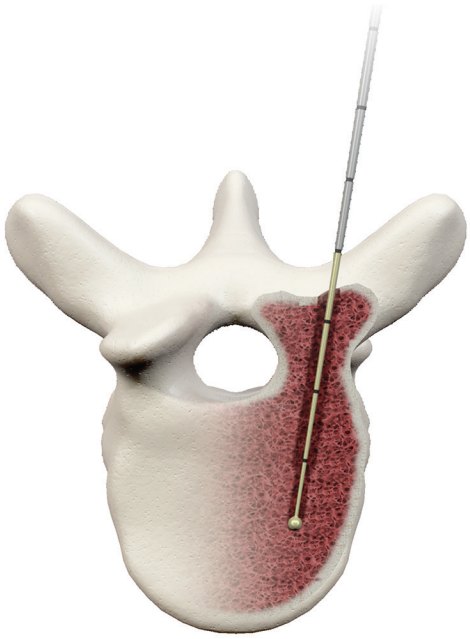


***Figure 24***
*Powered pedicle preparation - sounding*

- As with the drill bit from the previous step, the reamer should be spun very slowly during insertion—approximately 1 to 3 rotations per second is recommended. Just as before, apply minimal force to the handpiece and reamer, when deemed necessary. In most cases, the weight of the handpiece is entirely sufficient, to ensure progression of the drill bit through the pedicle channel (Figure 23). By maintaining low RPM applying minimal force to the handpiece during this process, the cortical bone of the pedicle offers resistance to the blunted tip of the reamer more than cancellous bone and provides tactile feedback to the surgeon. Using this technique, the surgeon should be able to tactilely determine the path of least resistance through the pedicle's cancellous channel and establish the optimal path for pedicle screw insertion.

  ***Note:*** *Gentle application of pressure to the handpiece's trigger will give the desired speed. Some surgeons may find that paced, intermittent trigger presses of 1 to 2 seconds at a time, will help maintain low RPM and minimize downward pressure.*

  ***Note:*** *The reamers have a larger diameter than the drills and will dilate the pedicle further in preparation of pedicle screw placement.*

  ***Note:*** *If using a 6.5 mm screw or larger in hard bone, a pedicle probe may be used to further widen the channel. This step is only necessary for the first 20 mm of screw length, as the cancellous bone of the vertebra does not need to be widened.*

- A ball-tipped, sounding probe may be used to check pedicle integrity, trajectory, and depth (Figure 24).

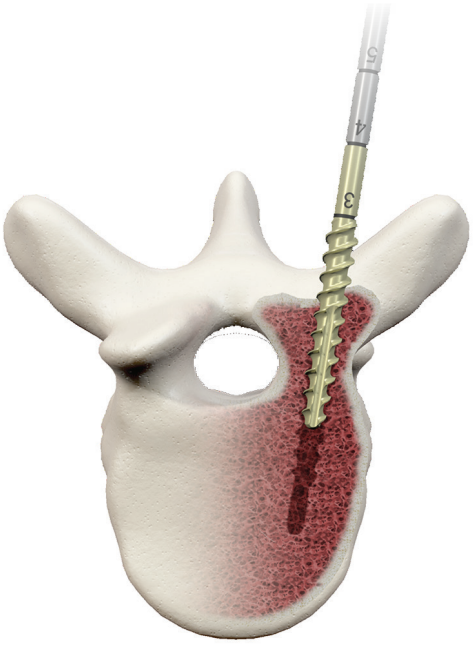



***Figure 25***
*Tapping*

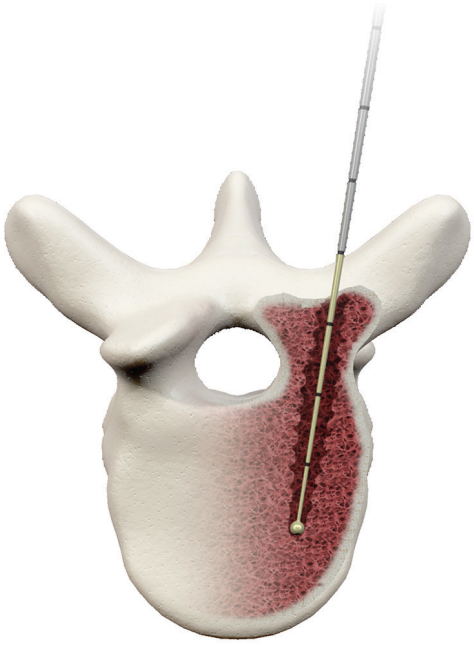


***Figure 26***
*Sounding probe check*

## Optional: tapping

- Some surgeons may elect to use a tap following use of the Vital Power 3.0 mm blunt-tip reamer. There is an assortment of taps available in various diameters to accommodate these surgeons. Care should be taken to ensure that the tap is inserted slowly into the pedicle (Figure 25).
- A ball-tipped, sounding probe may be used to check pedicle integrity, trajectory, depth, and/or threads tapped into bone (Figure 26).

## Selecting Appropriate Pedicle Screw

- Depending on the spinal pathology being treated, a surgeon may choose to utilize different types of pedicle screws.
- Polyaxial screws are generally the most commonly utilized screw.
- Uniplanar screws will most often be utilized at the apex of a scoliotic curve, because they are fixed in the medial-lateral plane. Uniplanar screws provide additional stability during vertebral body derotation maneuvers, to help restore global balance.
- Monoaxial screws can be utilized at the apex of a scoliotic curve as they also provide additional stability during vertebral body derotation maneuvers.

  ***Note:*** *It is recommended that reduction instrumentation is used when placing monoaxial screws at the end of a construct. This will ensure the rod is fully seated in the screw head prior to introducing and final tightening the closure top.*

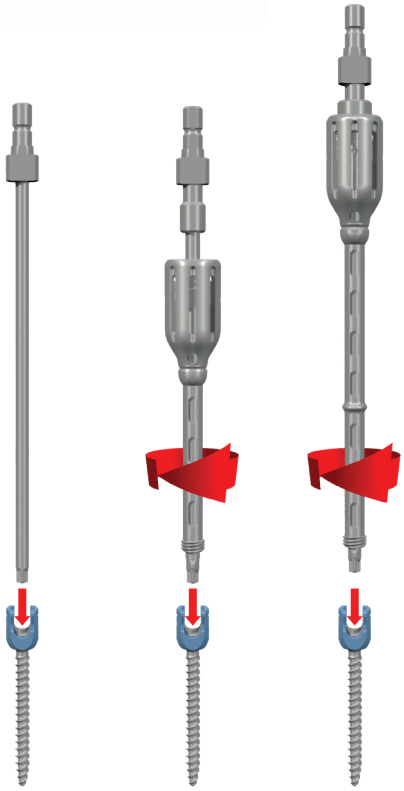


*Figure 27*
*Powered pedicle screw insertion - loading polyaxial, uniplanar, monoplanar, and iliac screws*

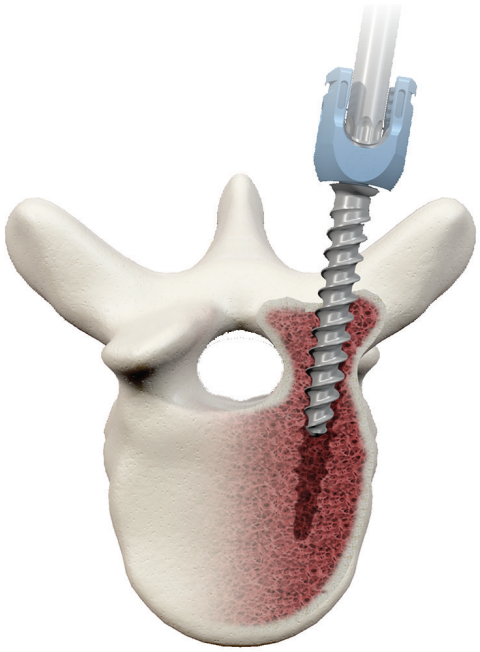


*Figure 28*
*Powered pedicle screw insertion*

## Pedicle Screwdriver Loading

The Vital Power Instrument Kit comes with a comprehensive range of pedicle screwdrivers to satisfy a variety of surgeon preferences.

Attach desired pedicle screw to chosen driver:

1. Secure Zimmer/Hudson Attachment to Universal Power Handpiece (not pictured).
2. Secure proximal Universal Power Z-Connect end of the selected Vital Power screwdriver into the Universal Power Zimmer/Hudson Attachment (not pictured).
3. Attach the screw to the selected Vital Power pedicle screwdriver by inserting the driver tip into the female T27 hexalobe on the screw shank. Make sure the screw shank is straight and aligned with the shaft of the inserter (Figure 27).
4. For threaded, non-locking inserters, attach the screw by turning the driver's retention sleeve clockwise into the screw head.
5. Optional: A free floating tissue sleeve may be placed anywhere along the shaft of the Vital Power stab-n-grab driver. The Vital Power stab-n-grab tissue sleeve will float freely and does not lock into place on the driver shaft.
6. Optional: A blue, free-spinning tissue sleeve may be placed over the driver's threaded retention sleeve. The tissue sleeve must be placed onto the threaded, non-locking driver retention sleeve before the screw is attached.

- Use the handpiece to slowly drive the selected screw into the pedicle. The screw should self-center in pilot hole previously created (Figure 28).

# Vital Hooks Overview

***Figure 14***
*Laminar hook*

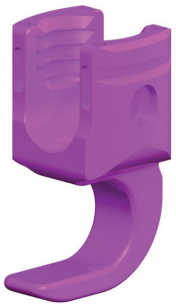


***Figure 15***
*Narrow laminar hook*

***Figure 16***
*Narrow reduced laminar hook*

***Figure 17***
*Angled blade hook*

***Figure 18***
*Extended laminar hook*

***Figure 19***
*Left angled hook*

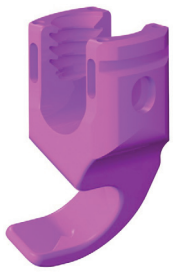


***Figure 20***
*Right angled hook*

***Figure 21***
*Left offset hook*

***Figure 22***
*Right offset hook*

***Figure 23***
*Left transverse process hook*

***Figure 24***
*Right transverse process hook*

## Hook Placement

A wide selection of laminar hooks is included in the Vital Hook Implant and Instrument Kit, available for use in different anatomic locations, depending on surgeon need and patient anatomy. Each laminar hook is compatible with vertical, angled, and side hook holders.

The kit includes narrow reduced laminar hooks (Figure 16). These hooks are often placed in the thoracic spine, in a down-going fashion. They are often used at the end of a scoliotic curve's concavity, or in a rigid segment. These hooks prevent unnecessary crowding of the hook blade into the spinal canal.

The extended body laminar hooks are best used, in a down-going fashion in the mid-lumbar spine, to maintain the appropriate rod height at the proximal and distal aspects of the construct (Figure 18).

The system also features offset and angled laminar hooks (Figures 19-22). These hooks may be placed in either an up-going, or down-going, fashion; to maintain co-linearity of the implant tulip. In some situations, particularly when a sub-adjacent pedicle screw is in place, the offset and angled laminar hooks are ideal to ensure that the hook tulip will meet the rod.

On some occasions the surgeon may desire to place hooks at one or more transverse processes. In these instances, the surgeon may find the transverse process hooks and the angled hooks advantageous, in order to ensure co-linear implant tulips along the construct (Figures 23 and 24).

***Note:*** *When placing down-going angled and offset hooks, left hooks are used on the right side and vice versa.*

***Note:*** *Care should be taken to ensure that the bone captured by the hook completely fills the throat of the implant, preventing unnecessary penetration of the blade into the canal.*

# Vital Hooks Overview *(continued)*

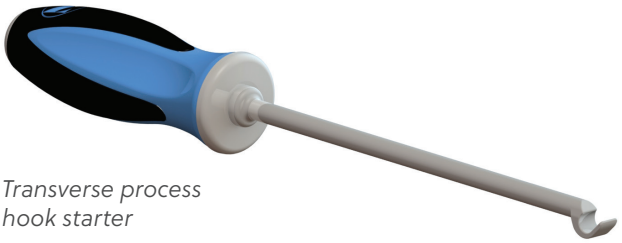
*Narrow laminar hook starter*

*Thoracic hook starter*

*Medium laminar hook starter*

*Pedicle hook starter*

*Wide laminar hook starter*



*Transverse process hook starter*

***Figure 25***
*Assorted hook starters*

## Hook Starters

An assortment of hook starters is available in the Vital system (Figure 25). These instruments are designed to assist the surgeon in preparing the implant site and separating ligamentous attachments from bone prior to affixing a hook. These hook starters may be used to facilitate the placement of hooks using sublaminar, transverse process, and pedicle fixation techniques.

***Figure 26***
*Vertical hook holder*

***Figure 27***
*Angled hook holder*

***Figure 28***
*Side hook holder*

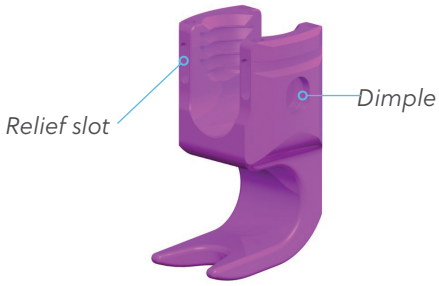



***Figure 29***
*Hook tulip relief slot and dimple*

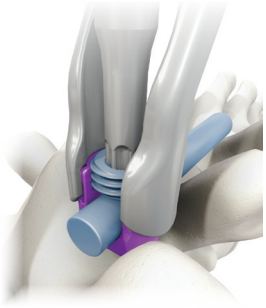


***Figure 30***
*Closure top introduced to hook, with angled hook holder attached*

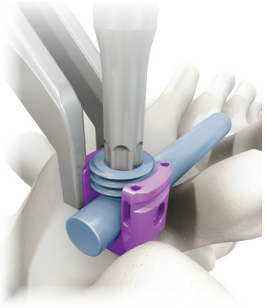


***Figure 31***
*Closure top introduced to hook, with side hook holder attached*

## Hook Holders

- All hooks may be inserted using a vertical, angled, or side hook holder (Figures 26, 27, and 28).
- Attach the vertical and angled hook holders, via the dimples on the sides of the hook tulip (Figures 29 and 30).
- The side hook holder attaches to any hook in the system via ipsilateral relief slots found on the front and rear aspect of each tulip wall (Figures 31).

  ***Note:*** *A closure top can be pre-loaded into the hook's tulip before insertion, using any of the hook holders.*

  ***Note:*** *The angled and side hook holders allow the surgeon to introduce, adjust, and remove a closure top, while the hook holder is still affixed to a hook (Figures 30 and 31).*

# Surgical Techniques Using Hooks

***Figure 32***
*Sublaminar hook site preparation using hook starter*

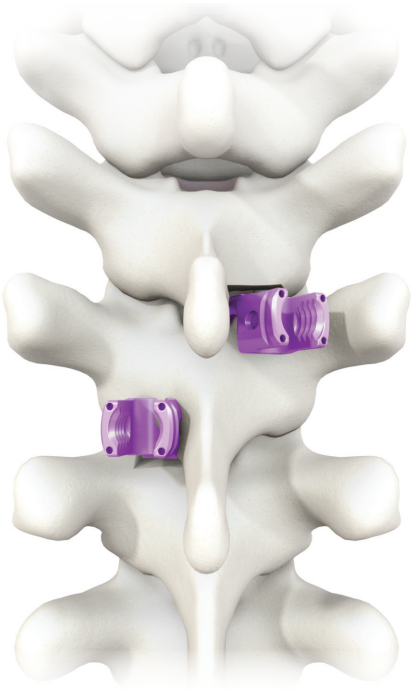


***Figure 33***
*Supralaminar and infralaminar laminotomies*

## Sublaminar Hook Technique

- The surgeon may choose to use one of the Vital Hook starters to separate the ligamentum flavum from the lamina intended for hook fixation (Figure 32).
- In some instances, the surgeon may find it necessary to resect some of the bone surrounding the fixation site, via infralaminar and/or supralaminar laminotomies (Figure 33).

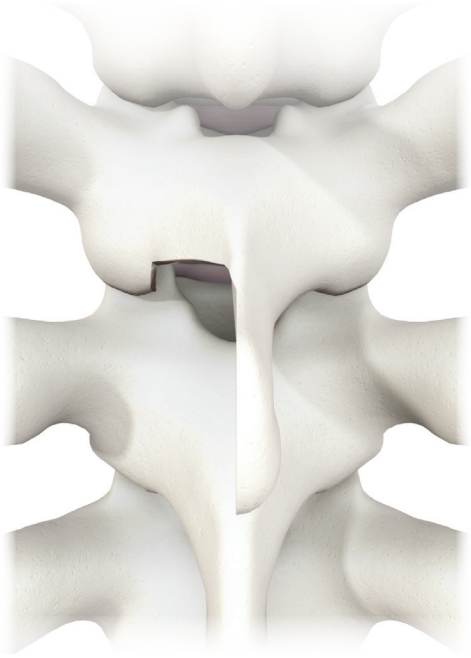


***Figure 34***
*Partial spinous process resection and laminotomy*

***Figure 35***
*Total spinous process resection*

- The surgeon may also find the need to perform a partial, or total, removal of the superior spinous process. The shingle-like properties of thoracic lamina and their spinous processes can often require the surgeon use multiple resection techniques.
- Regardless of the resection techniques used, care should be taken to protect the integrity of the instrumented lamina in order to preserve fixation.

***Note:*** *When placing any instrumentation at the proximal end of a construct, take care to leave the interspinous ligament intact to avoid iatrogenic proximal junctional kyphosi.*

***Figure 36***
*Transverse process preparation*

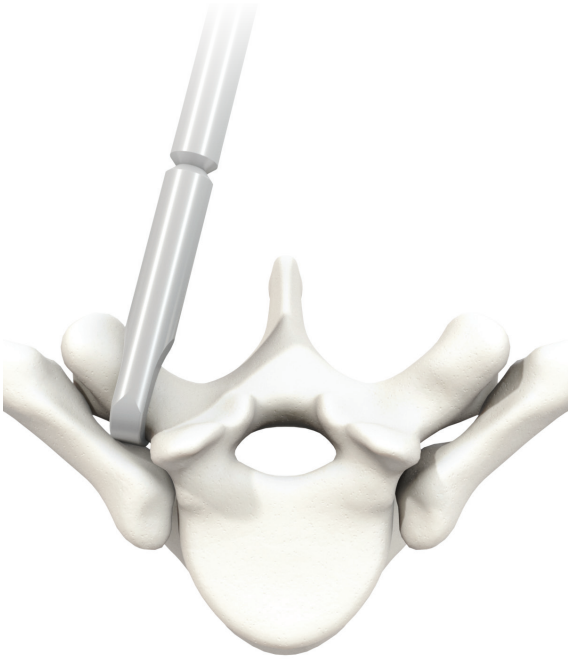


***Figure 37***
*Transverse Process preparation – axial view*

## Transverse Process Hook Technique

The transverse process hook technique is often used at the top of a thoracic construct. This technique is used when patient anatomy prevents pedicle screw insertion.

A transverse process hook technique is also particularly advantageous; when the surgeon requires a greater moment arm for leverage, to achieve the desired coronal correction at the upper instrumented level.

The left and right angled laminar hooks and transverse process hooks are ideal for transverse process hook placement, in either an up-going or down-going orientation.

- Use a laminar hook starter to separate the ligamentous attachments between the undersurface of the transverse process and the posterior arch of the rib, medial to the costotransverse joint (Figures 36 and 37).

  ***Note:*** *When placing any instrumentation at the proximal end of a construct, take care to leave the interspinous ligament intact to avoid iatrogenic proximal junctional kyphosi.*

- After selecting the angled hook for implantation at the transverse process, place the hook on the desired hook holders.

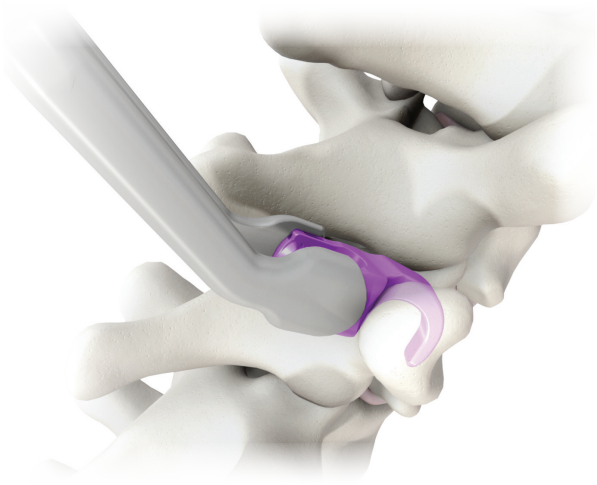


***Figure 38***
*Angled hook holder with down-going angled or TP hooks*

***Figure 39***
*Hemifacetectomy*

- When placing a down-going hook on a transverse process at the proximal end of the construct, some surgeons find it advantageous to attach the hook to an angled hook holder, so that the throat of the hook faces in the same direction as the bend in the holder (Figure 38).
- The surgeon may then leave the hook holder attached to the hook, thus angling the handle away from the incision site. This technique also helps guide the rod into the hook's tulip and allows the surgeon to introduce a closure top without removing the holder.

## Pedicle Hook Technique

In instances where the surgeon encounters difficult pedicle anatomy, it may be determined that a pedicle hook is appropriate in order to gain fixation at a particular vertebral level.

In some instances, a portion of the inferior articular process may be removed to facilitate insertion of the hook.

- This is done by making two cuts on the superior vertebra's inferior articular process at the motion segment to be instrumented.
- First perform a superior-to-inferior cut at the lateral margin of the ligamentum flavum, 2-3 mm proximally. The second cut is made in a transverse plane from the lateral edge of the facet to the medial cut. Approximately 6 mm of the inferior vertebra's superior articular process should remain, when measured from the base of the transverse process.
- Remove the osteotomized bone and curette the facet cartilage.

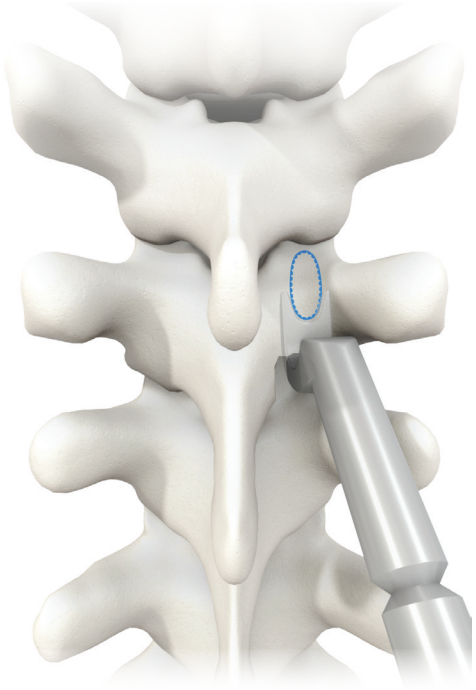


***Figure 40***
*Pedicle hook site preparation with pedicle hook starter*

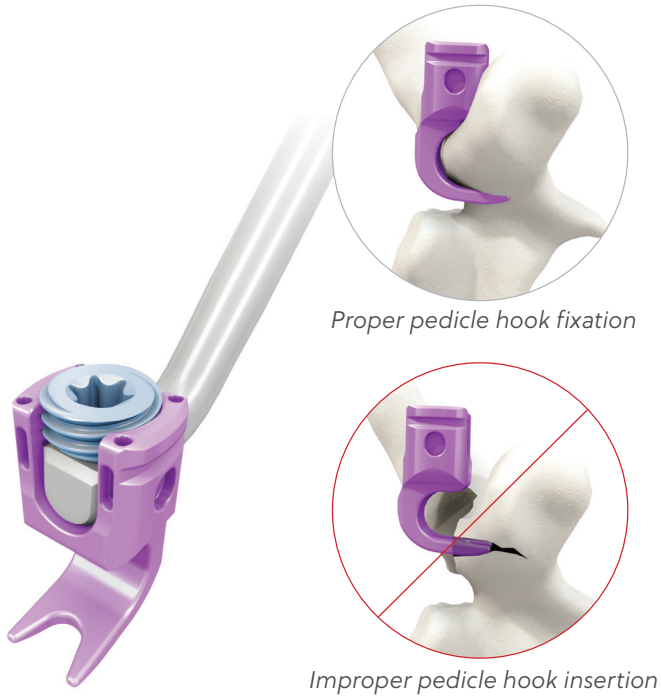



***Figure 41***
*Hook impactor used for pedicle hook insertion*

## Pedicle Hook Technique *(continued)*

In some instances, with a hook of sufficient size the surgeon may simply choose to forgo a hemifacetectomy and instead simply divide the facet capsule and begin pedicle hook site preparation.

- A pedicle hook starter may be used from T1 to T10. Place the hook blade cephalad in the infralaminar position (Figure 40).
- Once the pedicle has been clearly identified with the help of the pedicle hook starter, the hook may be inserted.

  ***Note:*** *Use caution to prevent medial penetration of the canal with the pedicle hook starter.*

A pedicle hook may be inserted using the hook impactor. The impactor is designed to seat in the hook's tulip.

- After seating the impactor's distal end in the hook's tulip, insert a closure top and tighten, securing the hook to the impactor (Figure 41). Gently mallet the proximal end of the hook impactor to insert and seat the pedicle hook.
- If the surgeon chooses not to use a mallet, a hook holder may be attached to the hook for extra control and the hook may be pushed into place by hand using the grip of the hook impactor.

  ***Note:*** *It is important that the pedicle hook not split any of the bony anatomy as it is inserted.*

# Optional Iliac Fixation

***Figure 42***
*Claw hook construct*

## Transverse Process and Pedicle Hook "Claw" Technique

- A down-going hook placed on the transverse process and a pedicle hook may be used in a "claw" hook construct (Figure 42). This technique allows for a greater degree of coronal correction, through compression and distraction of the levels captured by the claw construct and those levels adjacent to them.
- Use an angled hook in a down-going fashion on the transverse process at the level below an implanted pedicle hook. At this point the surgeon can compress and distract as needed on and against these fixation points, in order to gain the desired coronal correction.

## Iliac Fixation

In some instances, such as neuromuscular scoliosis with pelvic obliquity, or when additional fixation is necessary to load share at the lumbosacral junction, iliac fixation may be valuable. The iliac wing and posterior superior iliac spine are exposed by the surgeon's preferred method. The iliac wing is typically exposed enough to orient the path of the iliac screw to ensure that the iliac cortex is not violated during placement of the iliac screw. Place the pelvic probe down between the iliac tables in a manner that places the path about 1.0 cm to 1.5 cm above the greater sciatic notch. The pelvic probe placement and trajectory can be confirmed with fluoroscopy of the pelvis or by tactile feedback, depending on the surgeon's standard protocol. The screw is placed after the inner and outer tables are palpated with a ball-tipped probe and the iliac walls and floors are noted to be intact. It is recommended to notch the iliac wing around the screw head to sink the screw head to prevent prominence.

# Optional Iliac Fixation *(continued)*

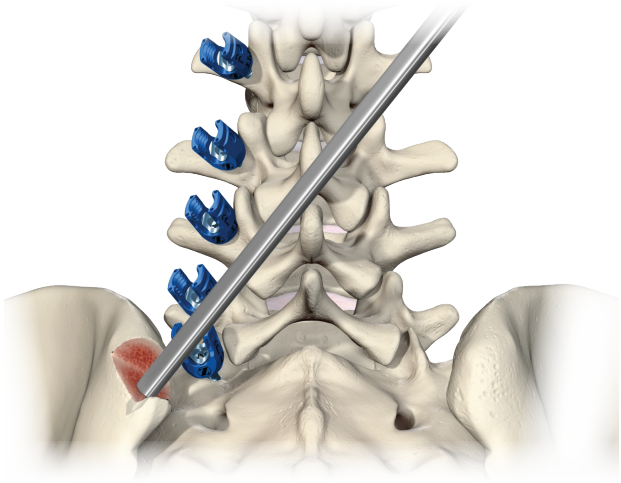


***Figure 43***
*Iliac screw prep - awl*

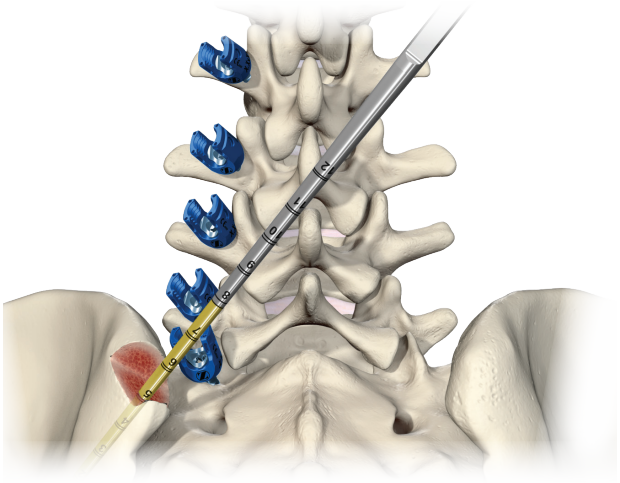


***Figure 44***
*Iliac screw prep - probe*

## Awl

- After selecting the entry point, use the awl to pierce the bone cortex and create a pilot hole.

## Iliac Probe

- Determine the optimal trajectory of the screw pathway based on the patient's anatomy. Insert the iliac probe through the pilot hole into the ilium to create a path to guide the screw. Reference the depth indicators on the Iliac.
- Probe shaft to ensure the probe reaches the desired depth.

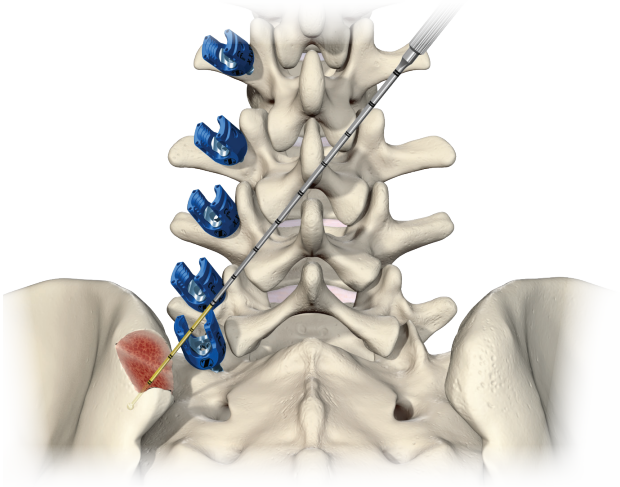


***Figure 45***
*Iliac screw prep - sounding*

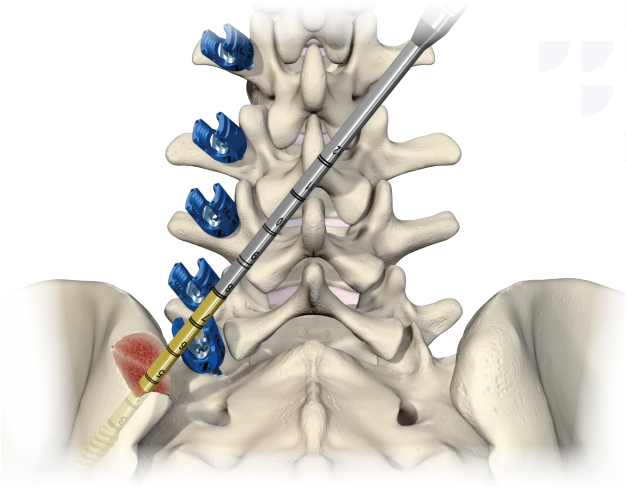


***Figure 46***
*Iliac screw prep - tapping*

## Confirm Pathway Integrity

- After removing the iliac probe, verify the integrity of the cortical walls by using the ball-tip probe. When fully inserted, forceps can be clamped onto the ball tip probe to mark the hole depth and assist in iliac screw selection.

## Tapping

- Connect the appropriate diameter iliac tap to the desired handle. Insert the iliac tap into the ilium and advance the threads by rotating the handle clockwise.
- After removing the tap by rotating the instrument counterclockwise, verify the integrity of the cortical walls again using the ball-tip probe.

  ***Note:*** *The Vital system offers taps that are true to labeled size – i.e. line-to-line.*

  ***Note:*** *Guidewires and cannulated taps may be used in conjunction with each other, if so desired. Cannulated open iliac screws are also available, should the surgeon need these implants. Additional information regarding guidewire insertion and use with cannulated instruments and implants can be found in the Vital MIS Surgical Technique Guide as needed.*

# Optional Iliac Fixation *(continued)*

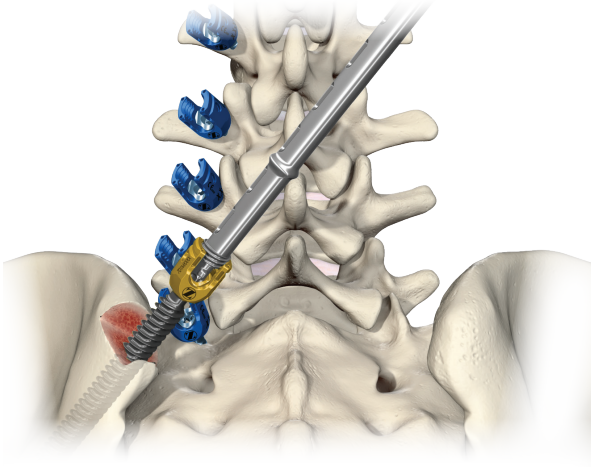


***Figure 47***
*Iliac screw insertion*

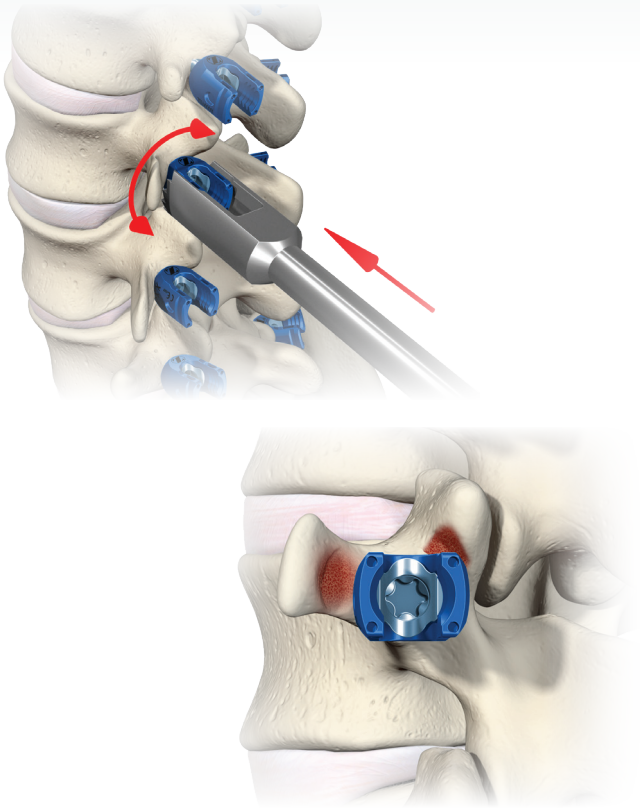


***Figure 48***
*Bone planer*

## Screw Insertion

- Attach the appropriate size iliac screw to the screwdriver assembly. Insert the iliac screw into the pilot hole and advance it to the desired dorsal height by turning the standard screwdriver clockwise.
- To release the screwdriver, push the retention collar button and pull the collar toward the handle. Turn the sleeve counterclockwise to loosen the screwdriver from the tulip head.
- After removing the iliac probe, verify the integrity of the cortical walls by using the ball-tip probe. When fully inserted, forceps can be clamped onto the ball-tip probe to mark the hole depth and assist in iliac screw selection.

## Bone Planing Around Screw

- The bone planer is used to remove bone before or after the rod is introduced (e.g., base of thoracic transverse process or lamina) that may be hindering engagement of instruments onto the screw, particularly when introducing the rod (Figure 48).

# Rod Insertion and Provisional Tightening

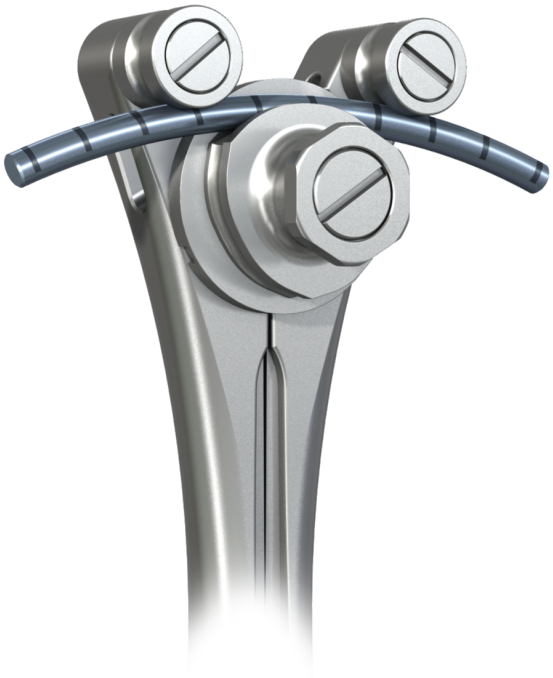


***Figure 49***
*French bender*

## Rod Selection and Bending

The Vital system offers multiple rod diameter and material choices. Surgeons should select the rod that is appropriate for their patient's needs. The system includes a rod template that can be used to determine rod length and desired contour. The rod template should be inserted into screw heads and contoured to fully seat within the screw head. Appropriate length can be determined using the length markings on the rod template. Use the French rod bender to prepare and contour the rods with progressive bends until obtaining a shape similar to that defined by the rod template (Figure 49). Pre-contoured versions simplify the initial approximation.

***Note:*** *The surgeon should reference the markings on the rod to achieve contours in the desired place.*

The variety of stiffness and strength combinations of rods allow the surgeon to tailor the construct to the surgeon's preference according to the needs of the patient. As with any metal, rods should be bent with caution and minimally to prevent fracture and fatigue. The use of cobalt chrome alloy rods with titanium implants (screws, closure tops, and hooks) maintains imaging capabilities. The rods include two longitudinal lines along the length of the rod to help determine the correct plane and reference when bending and inserting the rod. These markings also aid in rod rotation. The rods also incorporate medial-lateral rod markings every 10 mm and are intended to allow the surgeon to observe how much compression and distraction is achieved during these rod adjustments. The rods incorporate two hex ends for further options with rod rotation.

***Note:*** *The surgeon should reference the markings on the rod to achieve the desired contour. The rods in the Vital Spinal Fixation System feature both longitudinal and horizontal markings, to assist the surgeon during the contouring process by helping to ensure that the rod is contoured in the desired plane.*

***Figure 50***
*Head height adjuster*

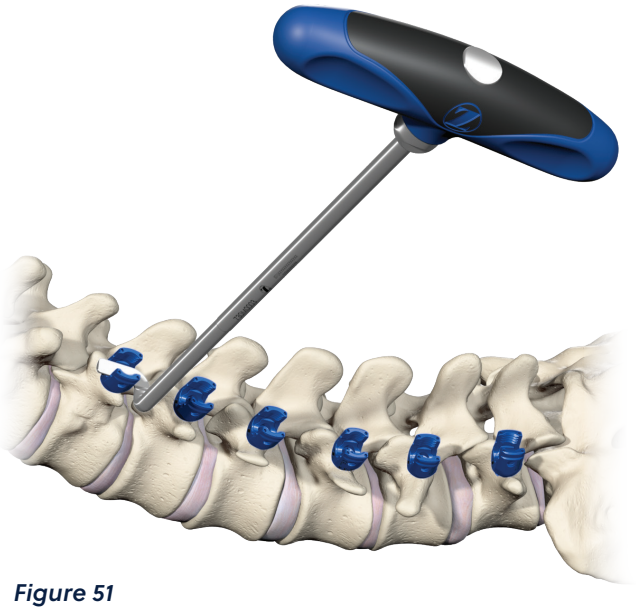


***Figure 51***
*Mono/fixed head hight adjuster*

## Screw Adjustment / Rod Insertion

- The head height adjuster can be used to adjust screw head alignment prior to rod insertion. To adjust screw height, fully insert the male T27 interface of the head height adjuster into the female T27 recess in the screw shank and turn until the screw head has reached the desired height (Figure 65). To simply adjust the screw head orientation, without adjusting the height of the implant, partially insert the distal end of the instrument into the head of the screw, without engaging the T27 interface. Turn to ensure screw heads are in proper orientation for rod insertion.Use the rod holder, rod gripper, or vise grips to provisionally position the rod within the screw heads. With longer constructs, the surgeon may simply choose to introduce the rod by hand.
- A mono/uniplanar screw head/height adjuster is also available in the Vital System. The end of this instrument is contoured to allow the surgeon to manipulate the monoaxial, or uniplanar, screw head when the rod, or other instrumentation might prevent the engagement of a standard head height adjuster (Figure 51).

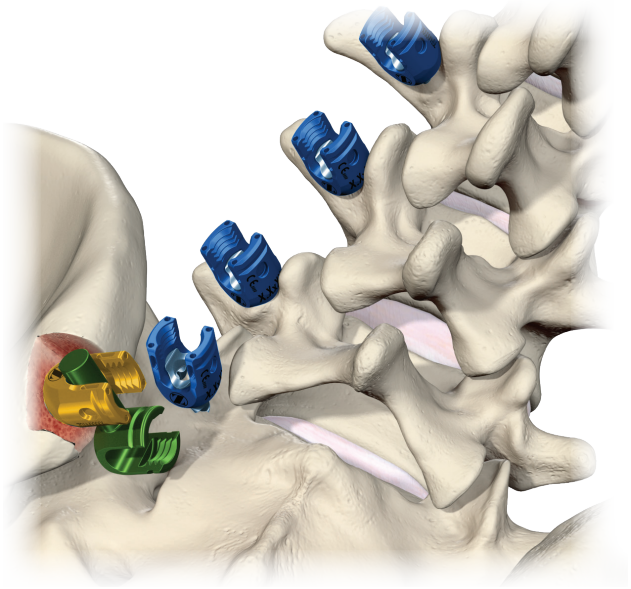


***Figure 52***
*Posterior superior iliac spine (PSIS) fixation with open lateral offset connector*

## Lateral Offset Connector Placement

- Open or closed lateral offset connectors are utilized to facilitate rod placement and bridge the construct between the iliac screw and rod (Figure 52). Determine the appropriate open or closed lateral offset connector. Place the lateral offset connector in the screw head of the open or closed iliac screw in a preferred orientation. Both open and closed lateral connectors options are available in straight (0°), or 15° and 25° angles.

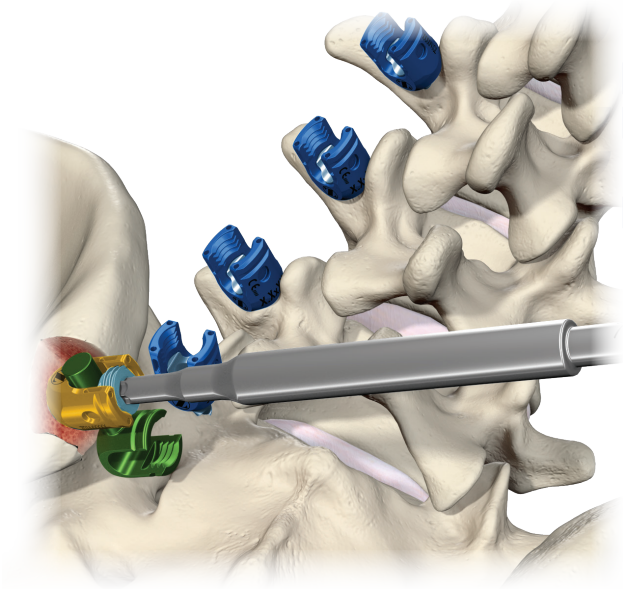


***Figure 53***
*Provisional tightening of open lateral offset connector in iliac open iliac screw for PSIS fixation*

## Closure Top Placement — Iliac Screws

- While holding the lateral offset connector in place, insert a closure top and provisionally tighten the closure top on the tulip head of the iliac screw with the closure top starter (Figure 53).

  ***Note:*** *At least 2 mm of the offset connector rod should extend beyond the tulip head before tightening the closure top.*

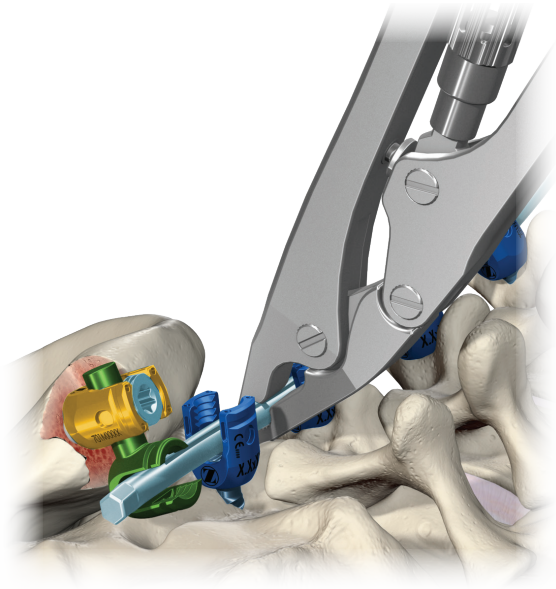


***Figure 54***
*Seating rod in open lateral offset connector*

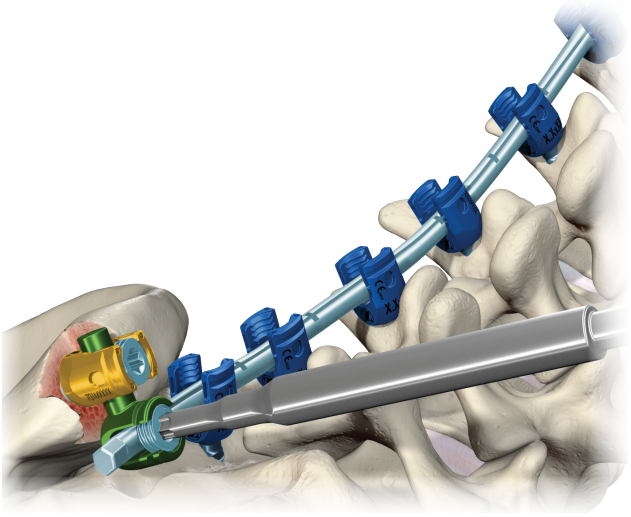


***Figure 55***
*Provisionally securing rod into open lateral offset connector*

## Iliac Screw + Lateral Connector: Rod Insertion

- Use the rod holder, rod gripper, or vise grips to provisionally position the rod within the screw heads. With longer constructs, the surgeon may simply choose to introduce the rod by hand.
- Select the appropriate length rod and cut to a desired length. Rods may be bent to facilitate placement. Place the rod in the lateral offset connector, followed by each remaining cephalad pedicle screw (Figure 54).

## Closure Top Insertion — Lateral Offset Connectors

- Provisionally tighten the closure top in the saddle of the lateral offset connector with the closure top starter (Figure 55).

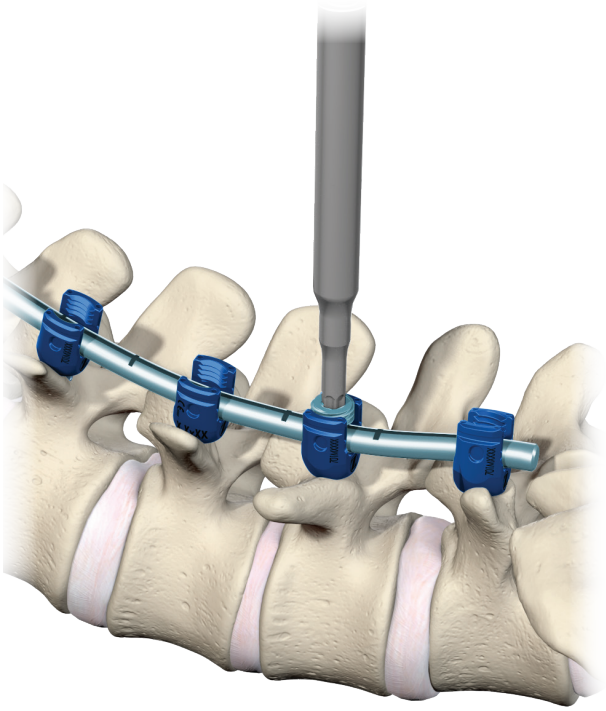


***Figure 56***
*Closure top insertion and provisional tightening*

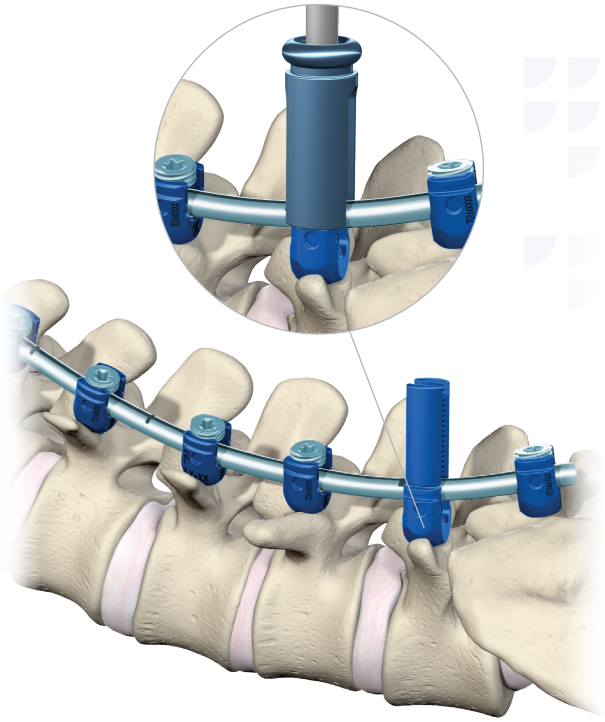


***Figure 57***
*Reduction screw tab sleeve used during closure top insertion and provisional tightening*

## Provisional Tightening

- Insert the T27 provisional driver or dual-ended closure top starter into the hexalobe drive interface of the closure top.
- Align the driver with the screw head and introduce the closure top. Turn the closure top until it meets the rod. Do not final tighten (Figure 56).
- Repeat this procedure for inserting all closure tops.

## Option 1: Reduction Screws

- Insert the rod into the reduction screw head. When using reduction tab screws, reduction tab sleeves must always be used to protect the reduction tabs during rod manipulation and to ensure closure tops thread into the screw tulips properly.
- After the rod is placed within the screw head, slide the reduction tab sleeve over the reduction screw head (Figure 57). Use the T27 provisional starter to insert the closure top into the reduction screw.

  ***Note:*** *Shear-off closure tops are not compatible with reduction screws.*
- Using the closure top starter, advance the closure top until the rod is fully seated and the closure top is provisionally tight. Remove the reduction tab sleeve.

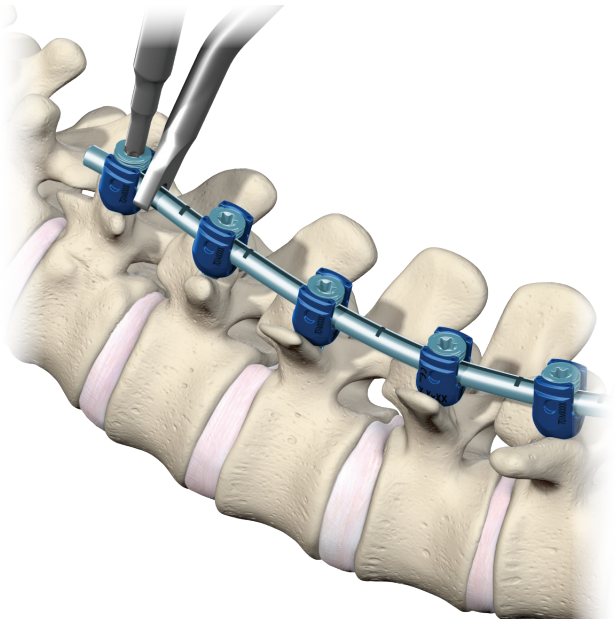


***Figure 58***
*Rod pusher*

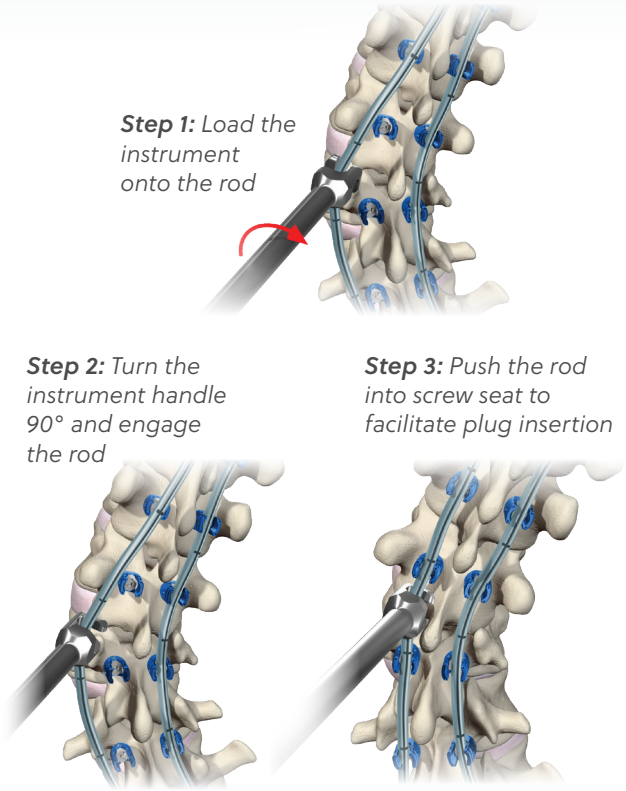



***Figure 59***
*Rod manipulator used to seat rod*

## Option 2: Rod Pusher

- For slight reduction, the rod pusher can be used to directly introduce the rod into the screw head. Use the closure top starter or dual ended closure top starter to introduce the closure top into the screw head. Turn the closure top until it meets the rod. Do not final tighten (Figure 58).

## Option 3: Rod Manipulator

- The rod manipulator is used to persuade the rod into the tulip and can move the rod cephalad/caudal, medial/lateral. First place the manipulator on the rod, turn the handle 90° clockwise to lock the instrument to the rod, push, pull, or translate the rod into the seat (Figure 59). Provisionally place the closure top into the tulip, turn the handle 90° counterclockwise to release the manipulator and lift up.

  ***Note:*** *Be cautious as to potential bone that may be underneath the instrument that may hinder the application and release of the instrument. If this occurs, use a different rod reduction option or remove the bone with the bone planer.*

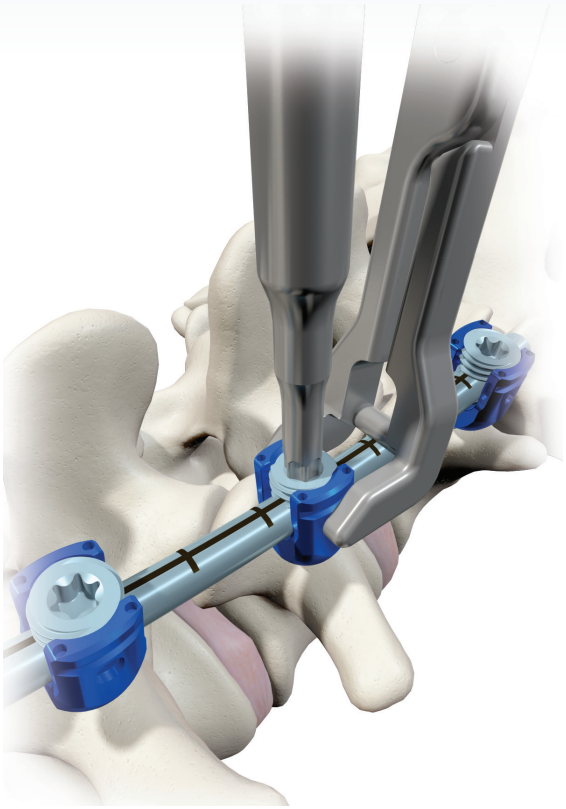


***Figure 60***
*Rod rocker used to seat rod.*

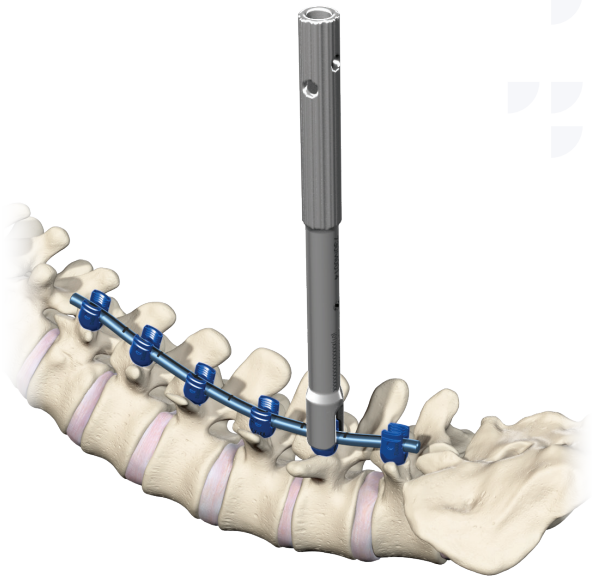


***Figure 61***
*Tube rod pusher*

## Option 4: Rod Rocker

- For moderate reduction, the rod rocker may be used. Align the prongs of the rod rocker in the medial and lateral slots on the screw head. Close and lock the rod rocker and use the rod rocker as a lever to introduce the rod into the screw head (Figure 60). There are two different rod rockers available in the Vital system—a standard short throw rocker in the Vital Implant Kit and a long throw rocker found in Complex Instrument Kit 2.
- Once the rod is fully reduced into the screw head, use the T27 provisional driver or dual-ended closure top starter to introduce the closure top into the screw head. Turn the closure top until it meets the rod. Do not final tighten.

## Option 5: Tube Rod Pusher

- The tube rod pusher can be used to align the rod with the screw head. Position the tube rod pusher over the rod and manipulate alignment to the screw head. Once the rod is positioned within the screw head, use the rod pusher to position the rod into the screw head (Figure 61).
- Use the closure top starter or dual ended closure top starter to introduce the closure top into the screw head. Turn the closure top until it meets the rod. Do not final tighten.

***Figure 62***
*Closure top starter - reducer*


***Figure 63***
*Single action reducer*

## Option 6: Single Action Rod Reducer

- When the rod is above the screw head, the single action rod reducer may be used to seat the rod. Ensure the reducer is fully open and engage the cephalad and caudal relief slots of the screw head by pressing the single action rod reducer down gently onto the screw head.
- Slowly squeeze the handles together, sliding the external sleeve down to seat the rod into the screw head. The ratchet allows controlled reduction and maintains position until the closure top is placed.

  ***Note:*** *The single action rod reducer offers 20 mm of reduction capability.*
- Once the rod is fully reduced into the screw head, use the closure top starter - reducer to introduce the closure top into the screw head (Figure 62).

The orientation of the handles may be changed before, or after attaching to the implant by simply pressing the gold button on the front of the instrument and rotating the handles 90° (Figure 63).

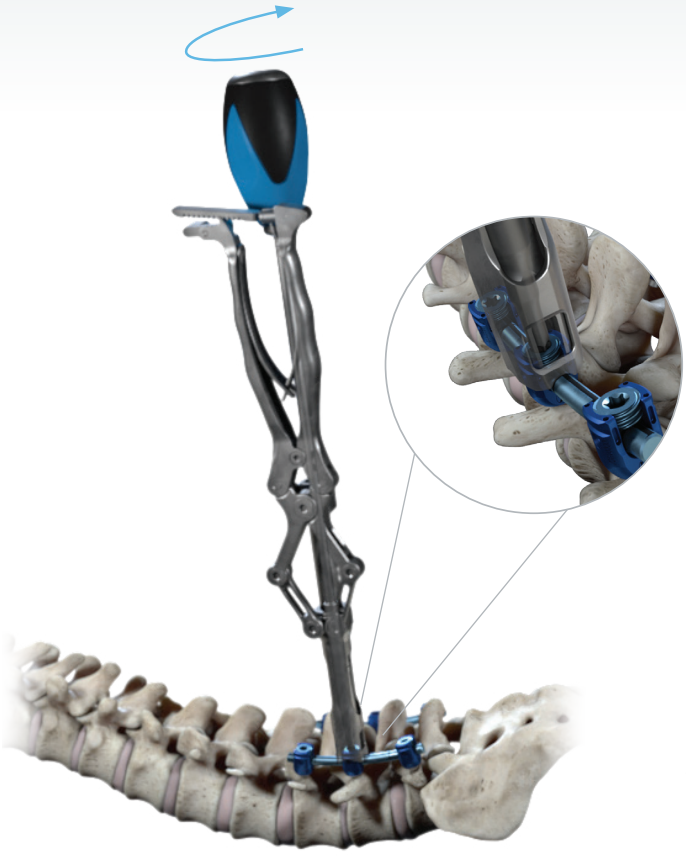


***Figure 64***
*Closure top introduction through single-action reducer*

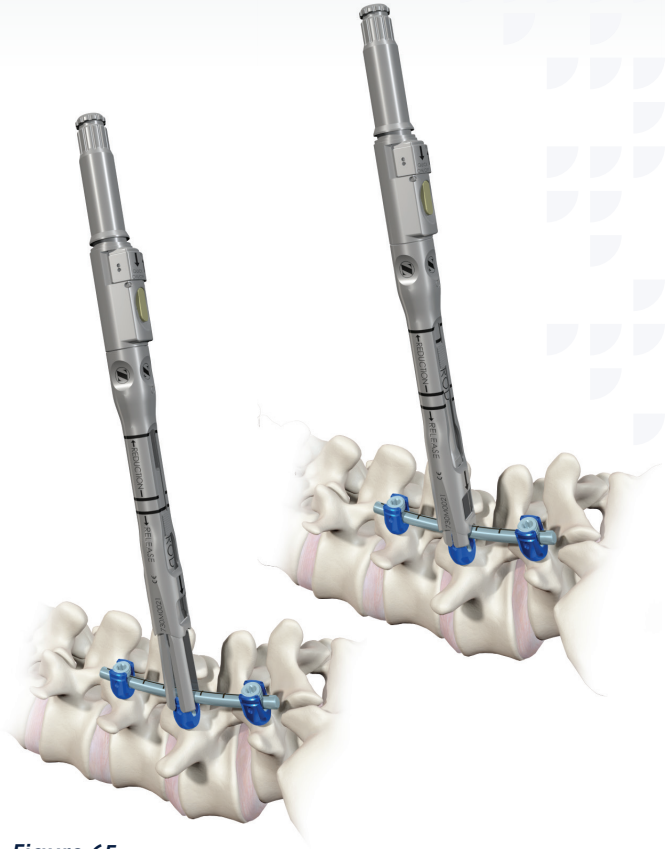


***Figure 65***
*Attaching and priming tower reducer*

- Once the rod is fully reduced into the screw head, use the closure top starter - reducer to introduce the closure top into the screw head (Figure 64). Turn the closure top clockwise until it meets the rod. Do not final tighten.
- To remove the single action rod reducer, release the ratchet, open the handles and disconnect the Reducer from the screw head.

## Option 7: Tower Rod Reducer

- Engage the four vertical slots cephalad and caudal by gently setting the tower reducer onto the screw head.
- Press and hold the tower reducer's gold button and advance the tower reducer by pushing downward until the reduction anvil meets the rod (Figure 65).

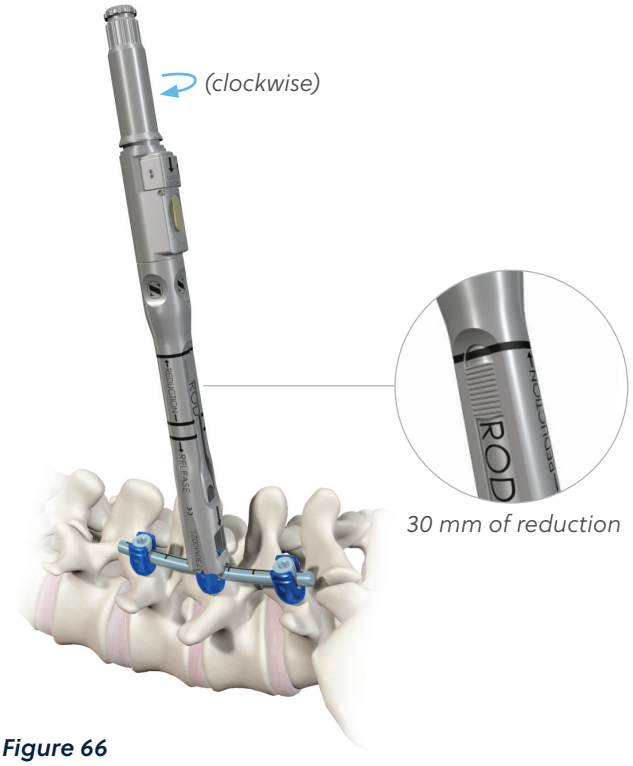



***Figure 66***
*Rod reduction using tower reducer*

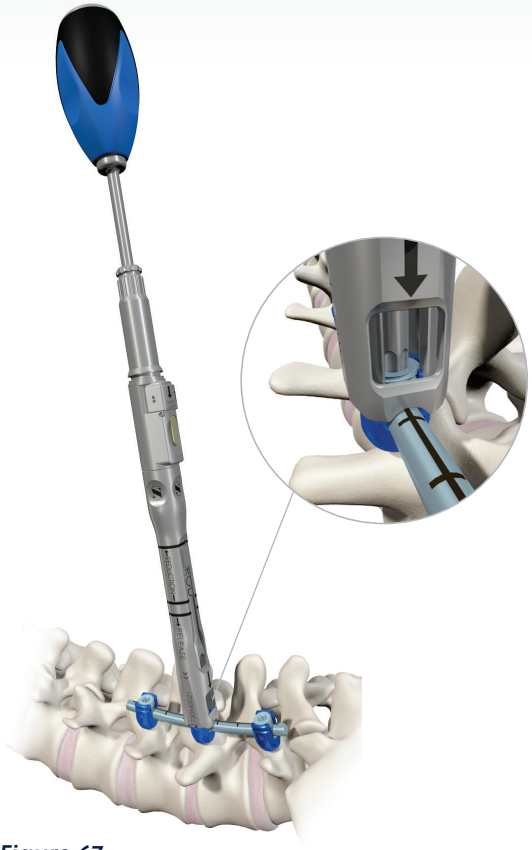


***Figure 67***
*Closure top introduction and provisional tightening*

## Option 7: Tower Rod Reducer *(continued)*

- Rotate the top sleeve clockwise until the rod is fully reduced into the screw head. The tower reducer offers 30 mm of reduction capability.
- Confirm the rod is fully reduced by looking at the laser mark reduction lines on the outer sleeve (Figure 66). The inner and outer sleeve lines should match when the rod is fully reduced.

  ***Note:*** *For additional leverage during the reduction maneuver, attach the tower reducer T-handle to the top of the reducer by pressing the gold button and sliding over the top of tower reducer.*

  *The short quick connect adapter (attached to preferred handle) can be utilized to reduce the screw to the rod.*
- Once the rod is fully reduced into the screw head, use the T27 provisional driver to introduce the closure top into the screw head. Turn the closure top until it meets the rod. Do not final tighten (Figure 67).

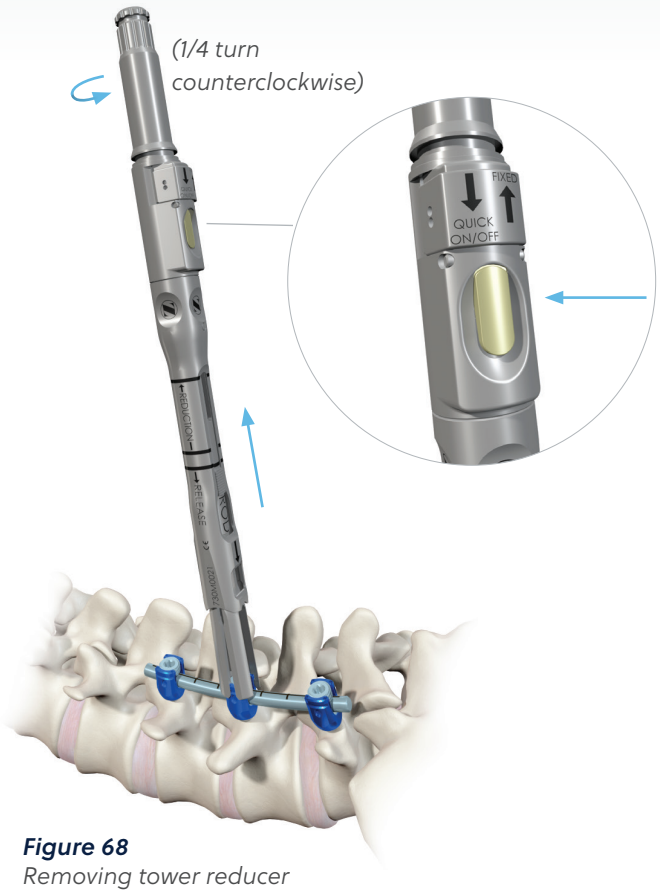



***Figure 68***
*Removing tower reducer*

- To remove the tower reducer, turn the handle a ¼ turn counterclockwise, push and hold the gold button at the proximal end of the reducer and gently lift the tower reducer off of the screw head (Figure 68).

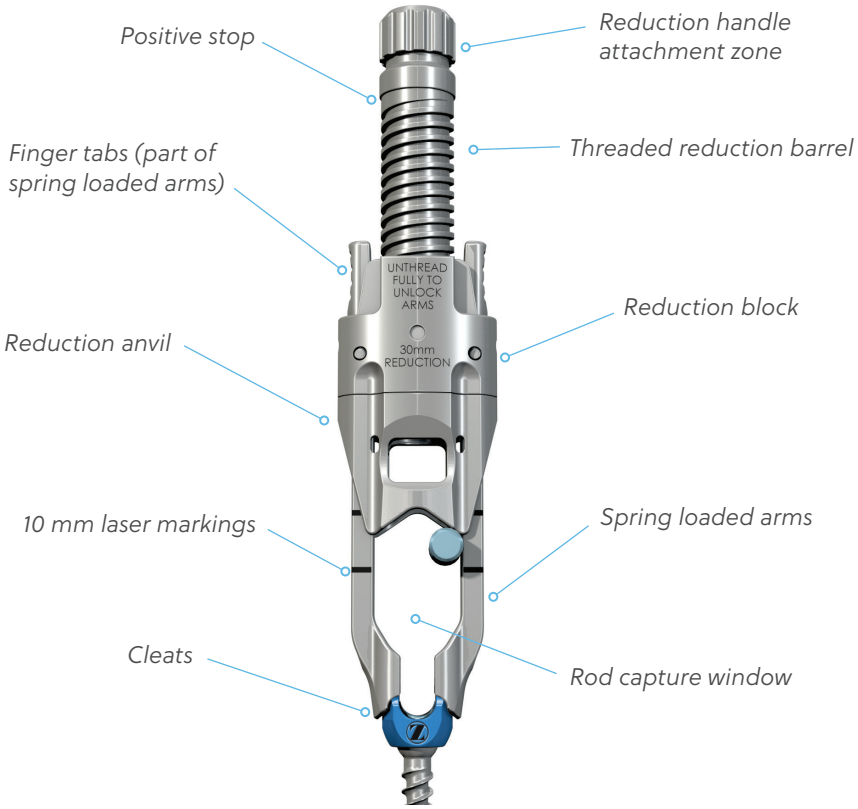



***Figure 69***
*Rocket reducer*

## Option 8: Rocket Reducer

The short rocket threaded reducer provides simultaneous rod translation and reduction. Its design features guide a rod into proper screw head position.

The rod capture window allows straightforward screw engagement while accommodating significant medial or lateral rod offset. The short rocket threaded reducer allows for 30 mm of total reduction and 15 mm of medial-lateral rod translation (Figure 69).

**Rocket™ Threaded Reducer features and benefits:**

- The rocket threaded reducer provides gradual tactile rod reduction.
- The rocket threaded reducer features spring loaded tips that provide tactile feedback and secure engagement with screw and hook implants from the Vital Spinal Fixation System.
- The rocket threaded reducer allows for 15 mm of medial-lateral rod translation and a self-centering reduction anvil.
- The rocket threaded reducer's self-centering rod anvil features infinite adjustability for controlled and sequential reduction.

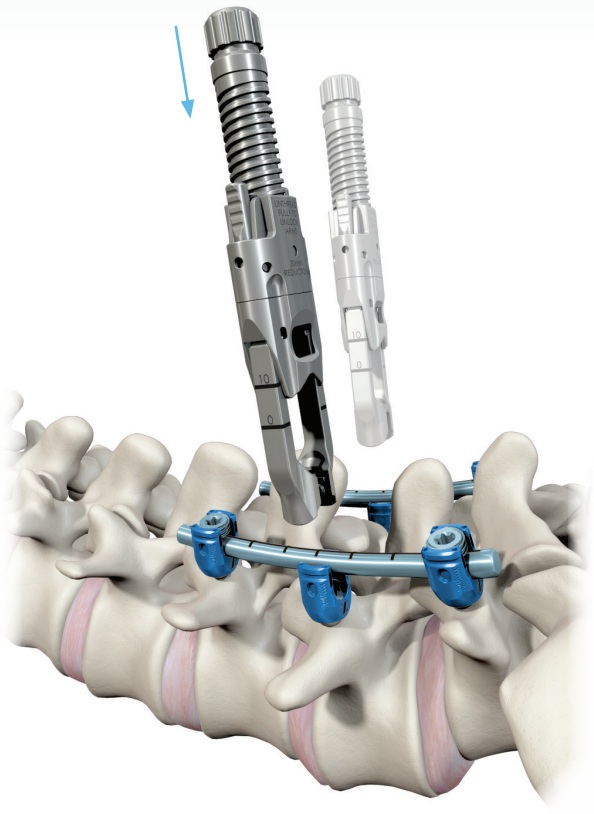


***Figure 70***
*Attaching rocket reducer to screw*

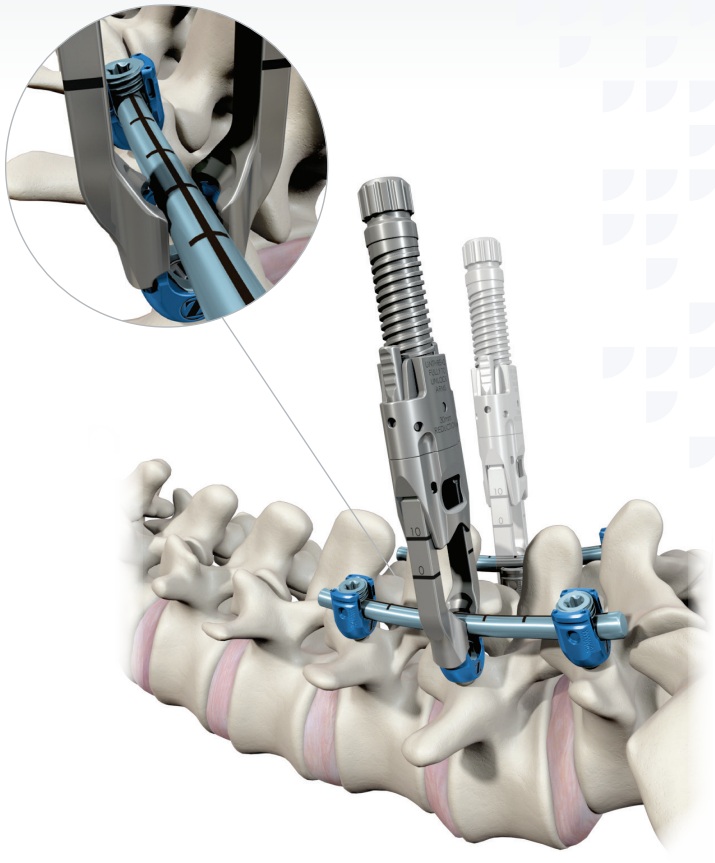


***Figure 71***
*Rocket attached to screw*

## Rocket Threaded Reducer Steps

- To properly attach and remove the rocket reducer, ensure the reducer is completely unthreaded, where there is no gap between the reduction anvil and reduction block. Grasp the rocket reducer by the reduction block or the threaded reduction barrel.
- To attach the Rocket reducer to the vital screw tulip, depress both of the finger tabs of the spring-loaded arms and position the arms of the rocket so that they mate with the side features of the screw tulip (Figure 70).
- To provisionally secure the rocket reducer to the screw tulip head, grasp the positive stop area at the proximal end of the rocket reducer's threaded reduction barrel and rotate clockwise—1/2 turn to ensure full engagement of the rocket (Figure 71).

# Reduction Instrumentation *(continued)*

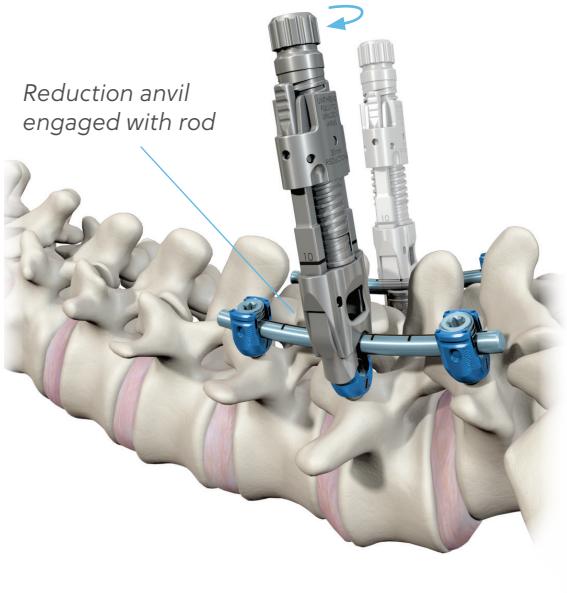



***Figure 72***
*Provisionally reducing rocket anvil to meet rod*

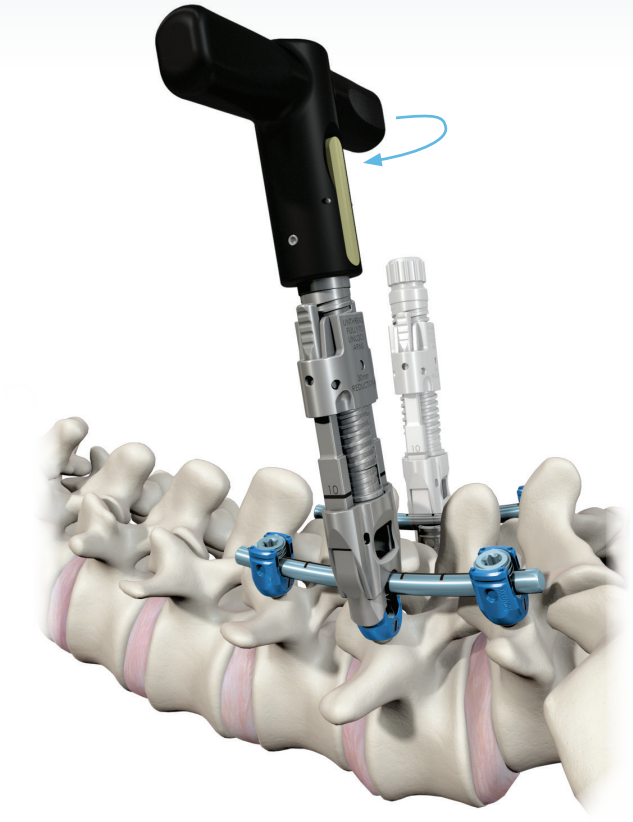
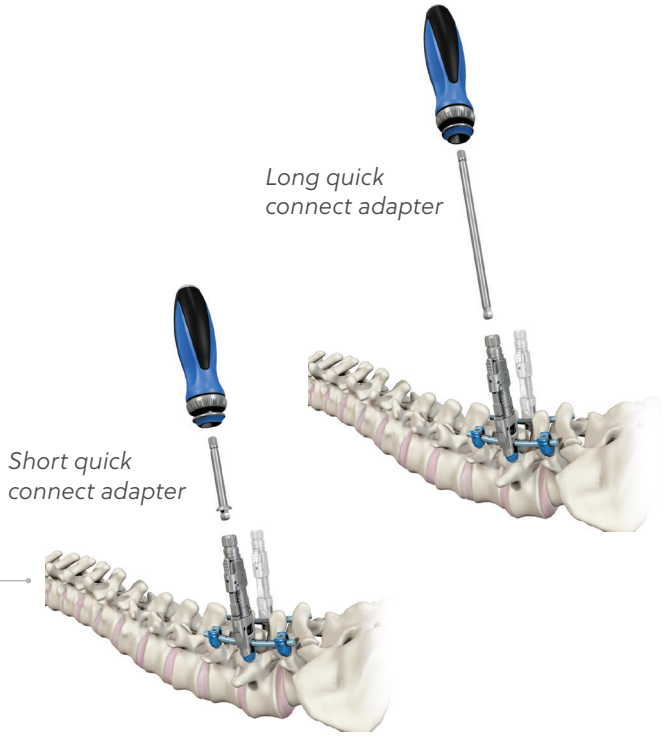


***Figure 73***
*Rod persuasion using rocket reducer and T-handle*

## Rocket Threaded Reducer Steps *(continued)*

- Once the desired number of rocket reducers are attached, manually rotate each rocket reducer's threaded reduction barrel clockwise until the reduction anvil engages the rod (Figure 72).
- Once all rocket reducers are properly attached, aligned, and their reduction anvils are contacting the rod, utilize the black reduction T-handle to sequentially reduce the screws to the rod by turning the threaded reduction barrel clockwise (Figure 73).
- The rod is fully reduced when the positive stop on the rocket reducer is reached, and can be confirmed by the laser markings on the spring loaded arms if visible.

***Note:*** *The short and long quick connect adapters (attached to preferred handle) can be utilized to reduce the screws to the rod.*



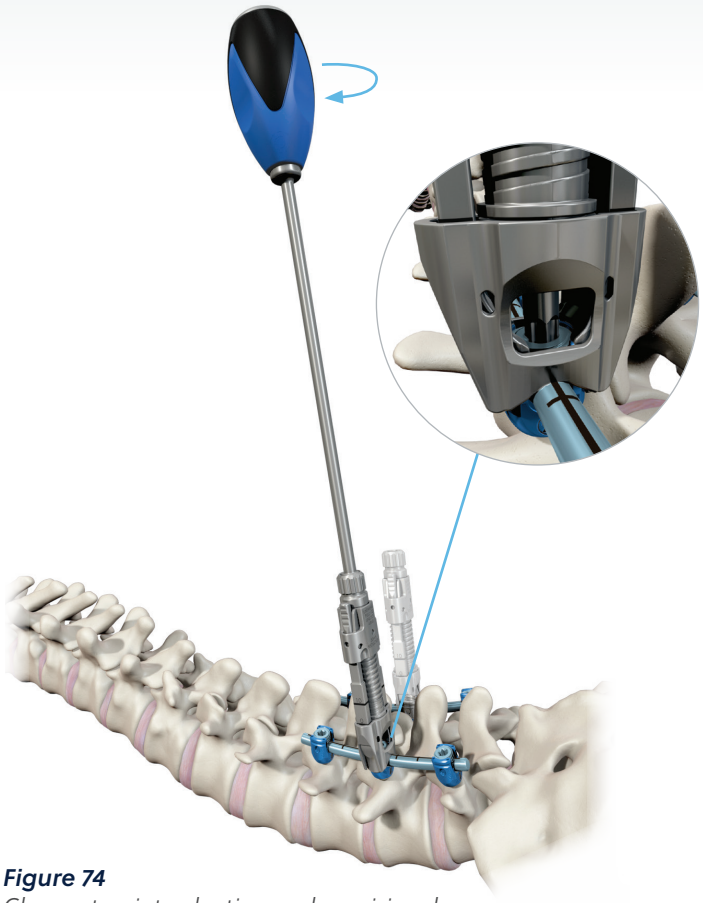


***Figure 74***
*Closure top introduction and provisional tightening through rocket reducer*

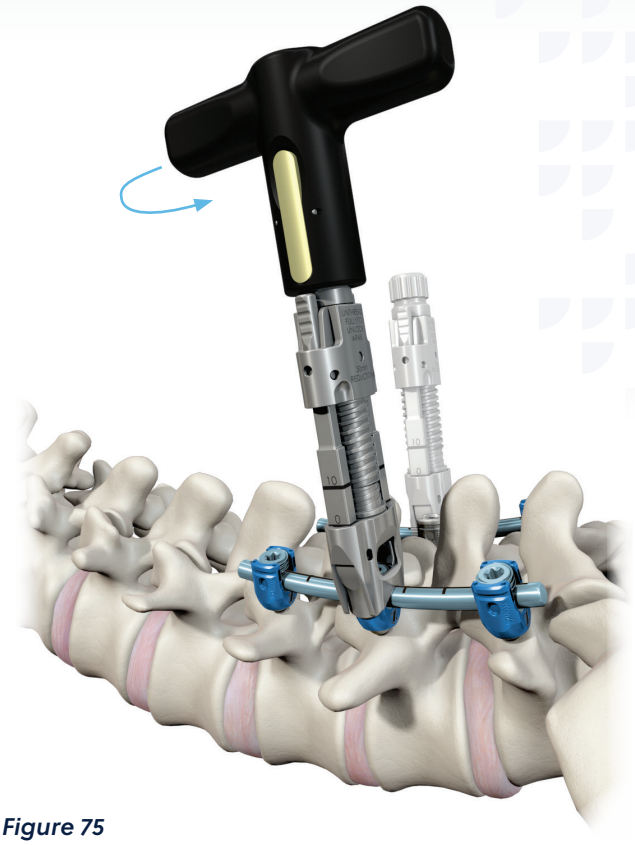
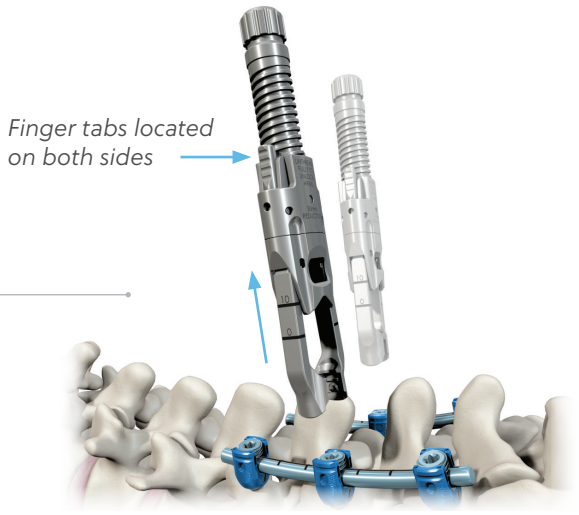


***Figure 75***
*Removing rocket reducer*

- Once the rod is fully seated in each screw head, use the T27 provisional driver to introduce the closure tops into the screw heads.
- Turn the T27 provisional driver clockwise until the closure top is fully seated in the screw tulip and holds the rod in place. Do not final tighten (Figure 74).
- To remove the rocket reducer, utilize the black reduction T-handle to turn the threaded reduction barrel counterclockwise until the anvil and reduction block of the rocket meet (Figure 75).
- Once the rocket reducer is completely unthreaded, depress the finger tabs of the spring loaded arms and remove the rocket. Repeat until all rockets have been removed.



# Compression and Distraction

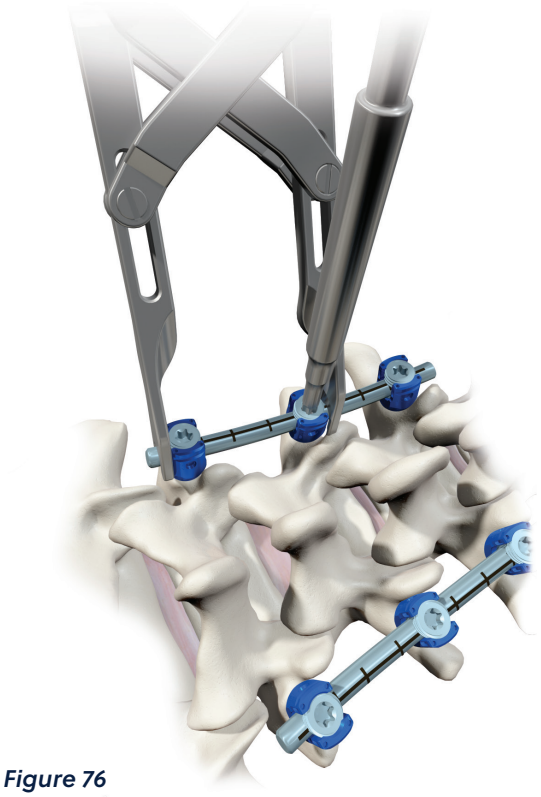


***Figure 76***
*Compression*

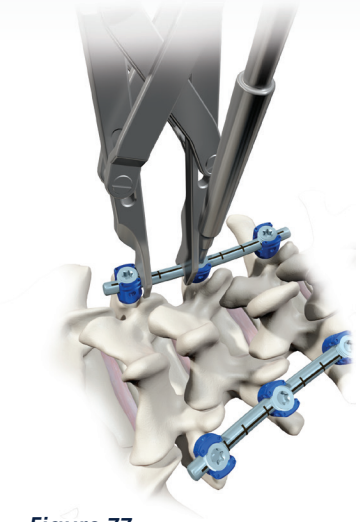


***Figure 77***
*Distraction using parallel distractor*

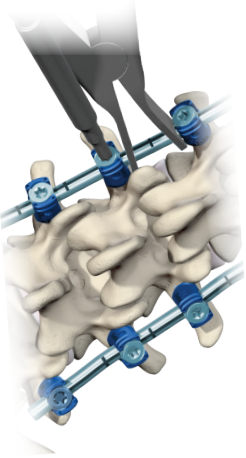


***Figure 78***
*Distraction using single-pivot distractor*

## Compression/Distraction

- To compress two screws simultaneously, place the compressor against the screws' tulip heads and squeeze the handle. Compression can also be performed sequentially by provisionally locking one screw using the T27 provisional closure top driver and compressing off the provisionally locked screw. When the compression maneuver is complete, provisionally lock the compressed screw and release the compressor.
- To distract two screws simultaneously, place the distractor against the screws' tulip heads and squeeze the handle. Distraction can also be performed sequentially by provisionally locking one screw using the closure top starter and distracting off the provisionally locked screw. When the distraction maneuver is complete, provisionally lock the distracted screw and release the distractor.
- The distraction or compression device will maintain the position of the vertebra until the closure top is tightened with the provisional driver, thus securing the rod.

  ***Note:*** *The rod gripper may act as an intermediary point when compressing/distracting.*

**Specific compressors and distractors are available to facilitate various anatomical and pathological considerations.**

- Single-level parallel compressor: 15 mm to 54 mm
- Multi-level parallel compressor: 42 mm to 86 mm (Figure 76)
- Single-level parallel distractor: 6 mm to 41 mm (Figure 77)
- Single-level pivot distractor: 5 mm to 24 mm (Figure 78)
- Multi-level parallel distractor: 39.1 mm to 74.9 mm

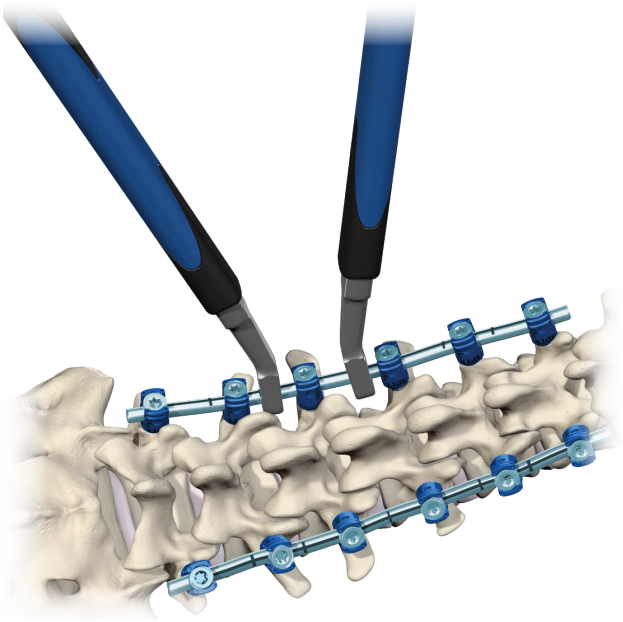


***Figure 79***
*Sagittal bending irons*

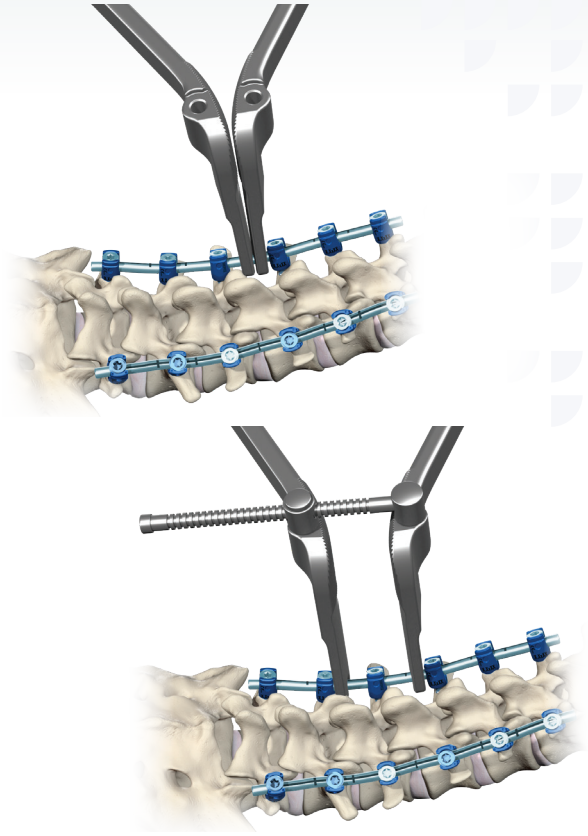


***Figure 80***
*Coronal bending irons with and without bender fulcrum*

## *In Situ* Bending

- *In situ* contouring may be performed with sagittal and/or coronal benders prior to final tightening. In general, the sagittal benders are primarily used to improve or adjust kyphosis and lordosis, while the coronal benders are used to reduce coronal plane deformity (Figure 79).
- The coronal benders may be used in conjunction with the coronal bender fulcrum, in order to bend the rod over a larger arc radius, rather than bend at a focal point on the rod (Figure 80).

  ***Note:*** *Provisionally tighten the implants using the closure top starter before attempting to bend in situ.*

  ***Note:*** *Choose the appropriate diameter sagittal bender based on the diameter of rod being used.*

***Figure 81***
*Final tightening*

## Final Tightening

- Once rod reduction, compression/distraction, and manipulation maneuvers have been completed, all of the closure tops must be final tightened. If monoaxial screws are used at the proximal or distal end of a construct, it is highly recommended that reduction instruments are used to ensure closure top and rod are fully seated prior to final locking.
- When using the standard closure top, connect the final driver to the 90 in-lb (10.17 Nm) torque-limiting handle. Pass the final driver through the counter-torque and insert it into the hexalobe driver interface on the closure top. While applying appropriate counter-torque, turn the final closure top driver clockwise until the 90 in-lb (10.17 Nm) torque-limiting handle clicks over a minimum of two times (Figure 81).

***Note:*** *Visually confirm the final driver tip full engagement in the closure top before sliding the counter-torque over the screw head.*

***Note:*** *Always use the 90 in-lb (10.17 Nm) torque-limiting handle for final tightening closure tops.*

- When using the shear-off closure top, use the shear-off final driver. Pass the shear-off final driver through the counter-torque and engage the hex interface on the shear-off closure top. While applying appropriate counter-torque, turn the final shear-off driver clockwise until the hex drive feature on the shear-off closure top breaks off.

***Note:*** *The shear-off closure top will snap off at 90 in-lb (10.17 Nm).*

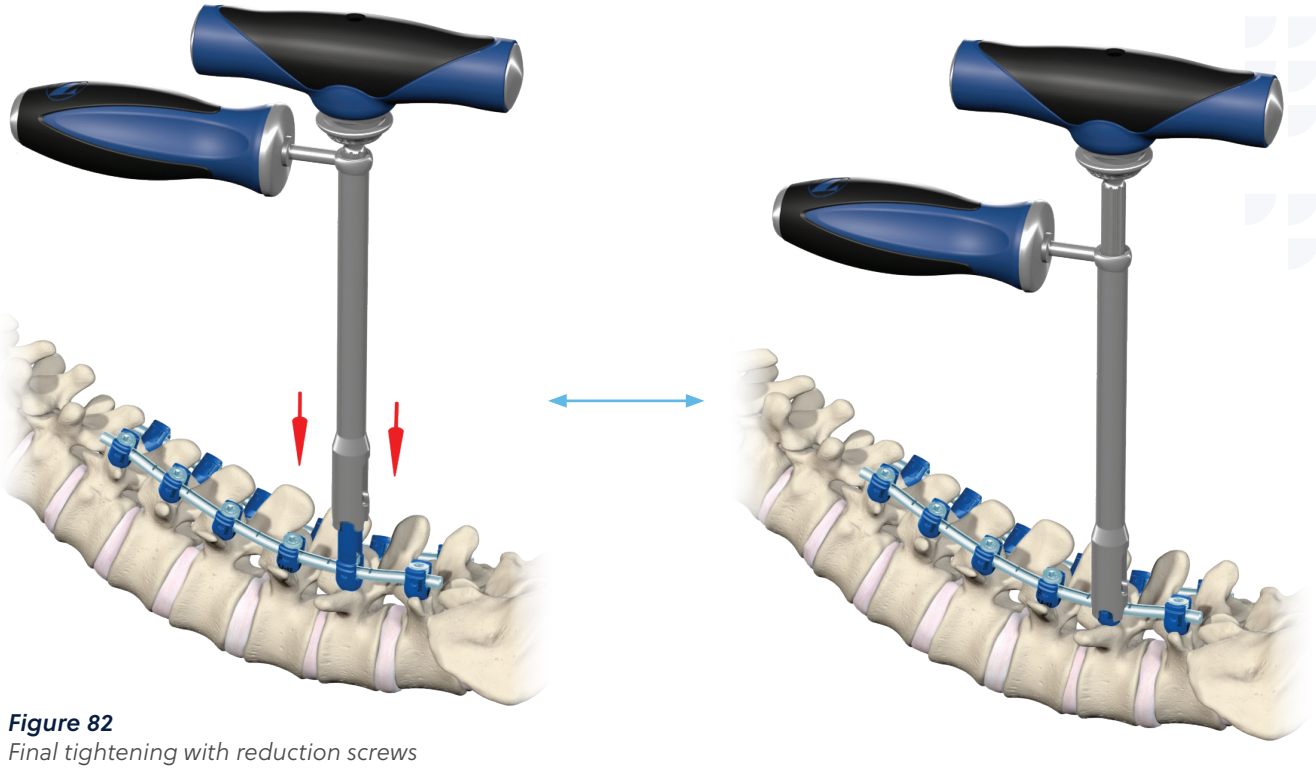


***Figure 82***
*Final tightening with reduction screws*

- To empty the snapped off portion of the closure top, turn the shear-off final driver upside down and depress the release button where the shaft of the instrument meets the handle. A rod may be used to push out any caps that remain in the driver. The snapped off portions of the closure tops should only be removed from the driver over the back table and away from the sterile field around the patient. Always collect these break-off portions of the closure tops until after the surgical team's count has been performed. Only after the count should the break-offs be disposed of.
- The standard counter-torque handle works with all Vital screws. When ready to final tighten the closure tops used in conjunction with reduction screws, connect the final driver to the torque-limiting handle, pass the final driver through the counter-torque and engage the T27 final driver tip into the closure top.
- Slide the counter-torque over the reduction screw head and final tighten the closure top using the 90 in-lb (10.17 Nm) torque-limiting handle. Turn the final closure top driver clockwise until the 90 in-lb (10.17 Nm) torque-limiting handle clicks a minimum of two times. Only after final tightening should the reduction screw tabs be removed (Figure 82).

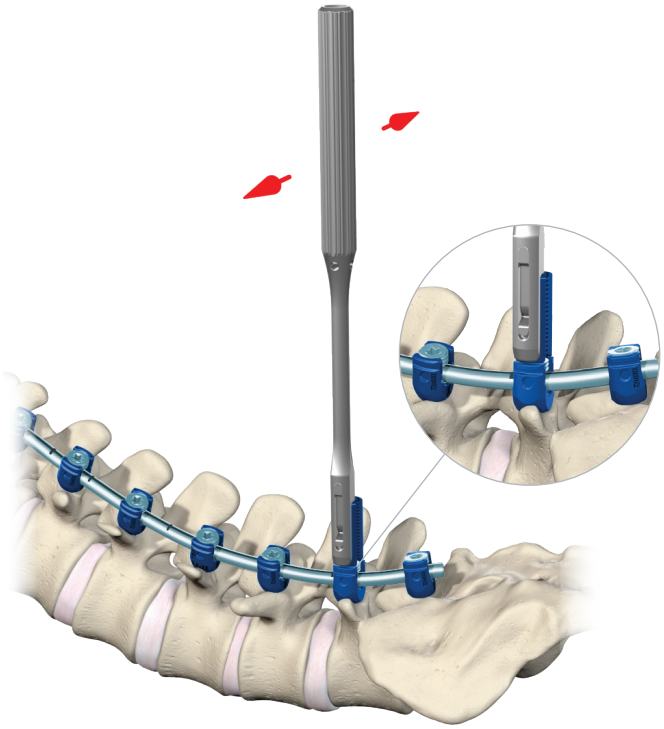


***Figure 83***
*Removing reduction screw's extended tabs*

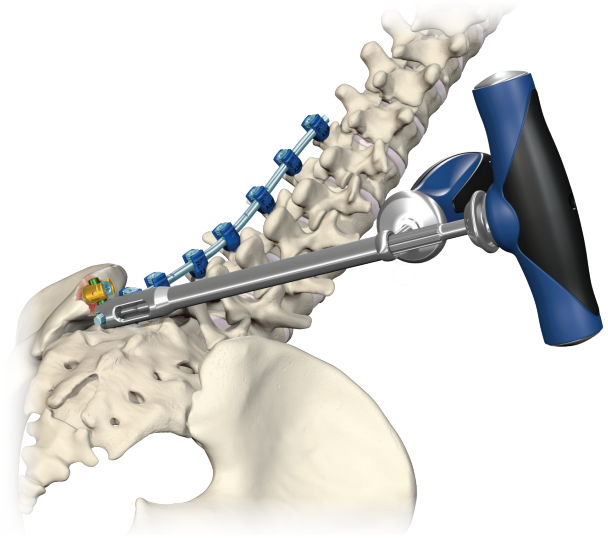


***Figure 84***
*Final tightening lateral offset connector*

## Tab Removal

- Use the reduction tab breaker to remove the reduction screw tabs. Bending the tab medial to lateral will release it from screw head. Repeat for the second tab (Figure 83).

  ***Note:*** *Reduction screw tabs may have rough edges after removal, which should be handled with care. Reduction screws with the tabs broken off may not be compatible with the tower, rocket, or single action reducers. In this case rod reduction may be achieved with the rod pusher, rod manipulator, or rod rocker.*

## Lateral Offset Connector Final Locking

- Connect the final driver to the torque-limiting handle. Pass the final driver through the counter-torque and engage the final driver tip into the closure top. Slide the counter-torque over the lateral connector head and final tighten the closure top using the 90 in-lb (10.17 Nm) torque-limiting handle. Turn the final closure top driver clockwise until the 90 in-lb torque-limiting handle clicks a minimum of two times (Figure 84). Repeat for the closure top on the iliac screw.

  ***Note:*** *The lateral offset connector should be final tightened before final locking the closure top on the iliac screw.*

- The iliac screws and offset connectors provide additional stabilization for an S1 screw. It is recommended that iliac screws are used in conjunction with S1 screw fixation.

# Connector Options

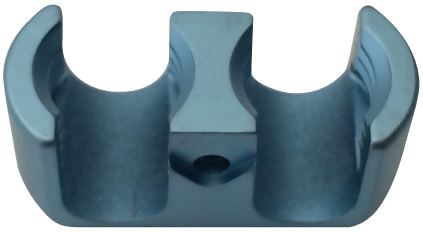


***Figure 85***
*Lateral channel rod connector*


***Figure 86***
*Connectors with closure tops using T20 interface*

## Rod-to Rod-Connectors

Should a surgeon need to link two separate rods together, the Vital System offers a variety of different style rod-to-rod connectors, which connect to 3.5 mm, 5.5 mm and 6.0 mm rods. Depending on the style of connector that is being used, a closure top or connector set screw will be used in conjunction with the appropriate final driver, torque-limiting handle and counter-torque to final lock the rod-to-rod connectors.

The lateral channel rod connector (Figure 85) accepts either a standard or break-off closure top that are provisionally tightened with the T27 provisional driver and are final tightened with either the T27 Final driver and the 90 in-lb (10.17 Nm) torque-limiting handle; or the shear-off final driver.

The other connectors include connector set screws that accept the T20 driver and are finally tightened using the T20 final driver and 50 in-lb (5.65 Nm) torque-limiting handle (Figure 86).

***Note:*** *The rod-to-rod connector forceps can be used to assist with placing any of the connectors onto the rods.*

***Note:*** *The counter-torque should be used adjacent to the selected connector along the rod to provide adequate counter-torque when final tightening.*

***Figure 87***
*Transverse connector*

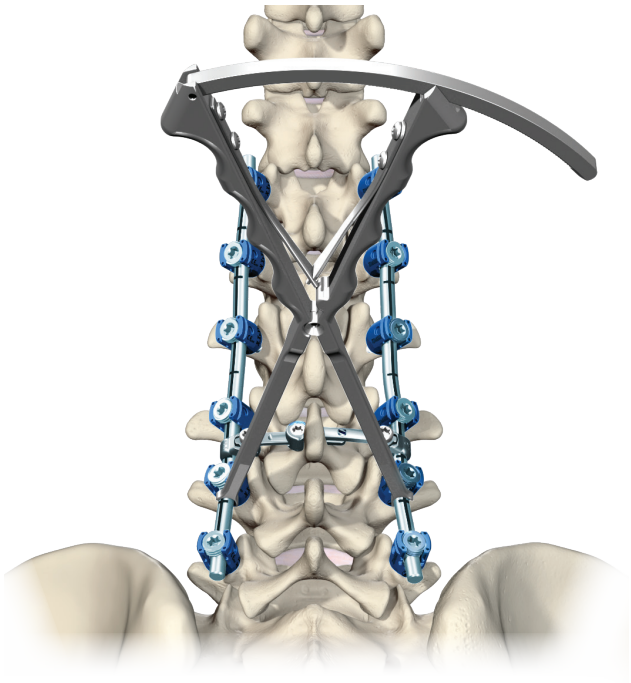


***Figure 88***
*Transverse connector calipers*

## Transverse Connecters

- A transverse connector may be used at the surgeon's discretion if additional construct stability is desired. The Vital system offers both adjustable and fixed transverse connectors. Ensure the appropriate size of transverse connector is selected to match the rod diameter (Figure 87).

  ***Note:*** *With 5.5 mm rods use the light blue transverse connectors and with 6 mm rods use the green transverse connectors.*

## Transverse Connector Caliper

- Use the transverse connector caliper to determine the appropriate size transverse connector. Place the ends of the caliper directly onto each rod at the desired location for connector placement (Figure 88). The corresponding measurement reading provides the suggested length of the connector. The transverse connector caliper has dedicated markings that correlate to both the appropriate length implant and the location in the caddy.

  ***Note:*** *The caliper markings A–E refer to adjustable transverse connectors and 1–6 refer to fixed transverse connectors.*

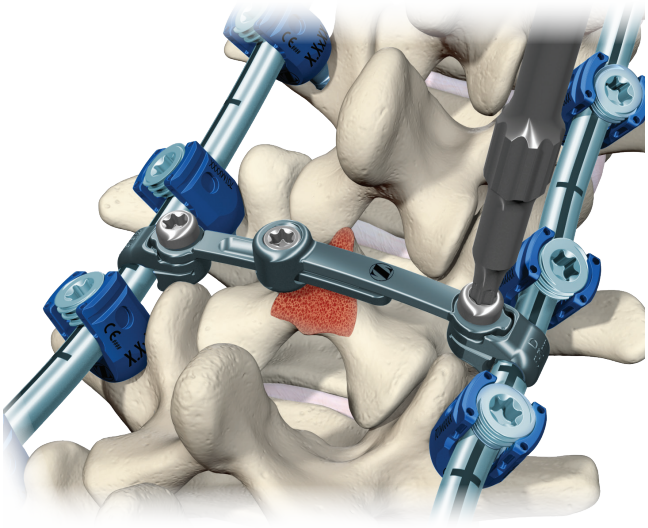


***Figure 89***
*Adjustable transverse connector*

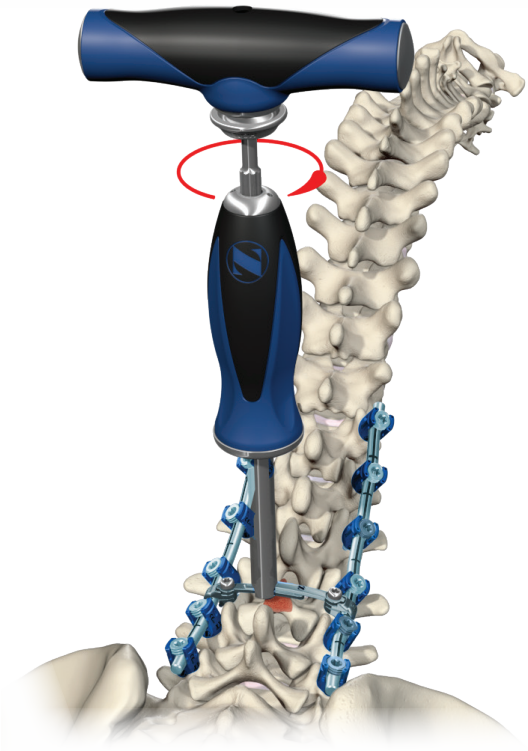


***Figure 90***
*Final tightening of transverse connector*

## Transverse Connector Placement

- When using an adjustable transverse connector, first confirm that the center set screw is loose to allow for free range of motion prior to placing the adjustable transverse connector onto the rod construct. Fixate each end of the connector to each rod by pushing anteriorly on the set screw using the set screw starter (Figure 89). Final lock each end of the transverse connector to the rod using the T20 final driver, 50 in-lb torque-limiting handle and transverse connector counter-torque. Turn the T20 final driver clockwise until the 50 in-lb (5.65 Nm) torque-limiting handle clicks over a minimum of two times.

  ***Note:*** *The transverse connector counter-torque has a "Medial" marking indicating the orientation of the instrument when locking the set screws on the rod.*

- Final lock the middle transverse connector set screw last using the same T20 final driver and torque-limiting handle. Turn the T20 final driver clockwise until the 50 in-lb (5.65 Nm) torque-limiting handle clicks over a minimum of two times (Figure 90).

  ***Note:*** *Make sure the same size transverse connector and rod (5.5 mm or 6.0 mm) are used together.*

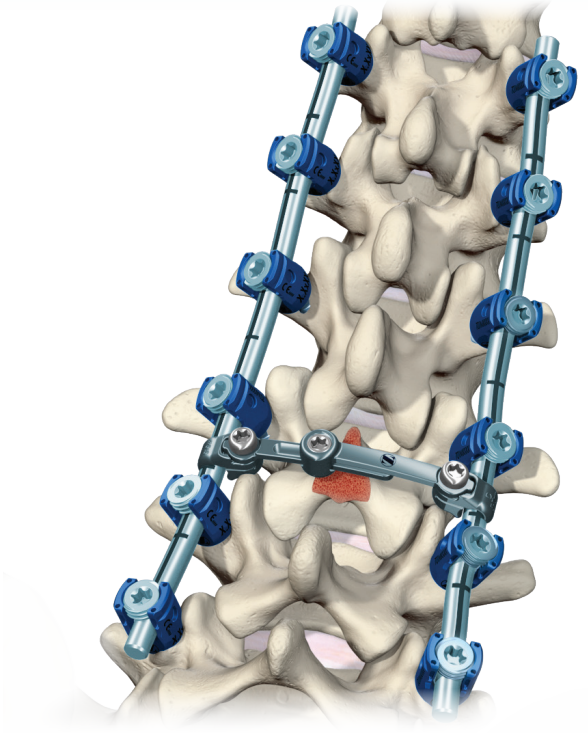


***Figure 91***
*Final construct*

## Final Construct

- Re-check all connections of the final construct. Intraoperative radiographic image of the final construct should be taken to confirm the desired construct is achieved prior to wound closure (Figure 91).

# Removal or Revision

***Figure 92***
*Closure top removal*

***Figure 93***
*Pedicle screw removal with head height adjuster*

***Figure 94***
*Pedicle screw removal with the vital standard screwdriver*

## Remove Closure Tops *(if necessary)*

- Remove the closure tops by turning the closure top counterclockwise using the T27 final closure top driver. The counter-torque may be used to provide additional leverage to loosen the closure top (Figure 92). When all closure tops have been removed, the rod may be removed manually or by using the rod holder.

  ***Note:*** *If the closure top interface is damaged, the easy out removal driver can be used to loosen the closure top.*

## Remove Implanted Screw

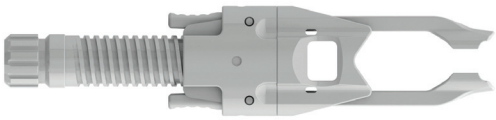
The Vital head height adjuster or the Vital screwdriver can be used to remove an implanted screw.

- To remove a screw using the head height adjuster, align the head height adjuster coaxially with the shank of the screw and engage the adjuster's male hexalobe with the female hexalobe of the screw shank. Turn the head height adjuster counterclockwise to back out an implanted screw (Figure 93).
- To remove a screw using the vital standard screwdriver, align the driver coaxially with the shank of the screw and engage the driver's male hexalobe with the female hexalobe of the screw. Turn the outer driver sleeve clockwise to fully engage the screw head. Lock the driver sleeve by pushing on the secondary lock and sliding the collar downwards. Turn the driver counterclockwise to remove an implanted screw (Figure 94).

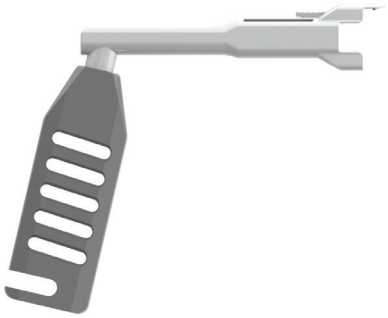
# Vital Deformity Derotation and Instrumentation

The Vital Deformity System includes an efficient combination of rod reduction and vertebral body derotation instruments. It embodies the next evolution of instrumentation from ZimVie focused on of instrumentation focused on addressing complex spinal deformity. The foundation of the system is built upon the Rocket™ threaded reducer, DeRoduction™ handles, and derotation handles. Traditionally, three-dimensional deformity correction techniques have required rod reduction, followed by vertebral body derotation. The Rocket threaded reducer and DeRoduction handles now provide the surgeon with the intra-operative flexibility to choose the sequence of vertebral body derotation and rod reduction independently. No longer is the surgeon forced to reduce the screw to the rod, in order to then derotate the spinal deformity.

## Component Overview

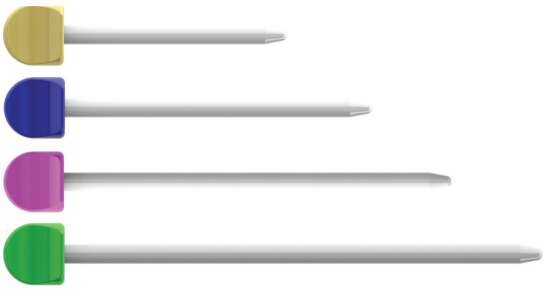


| Rocket Threaded Rod Reducer | PART NUMBER |
|---|---|
| | 730M0024 |



| DeRoduction Handle | PART NUMBER |
|---|---|
| | 14-500204 |

| Derotation Handle | PART NUMBER |
|---|---|
| | 730M0000 |



| Linkage Rods | PART NUMBER |
|---|---|
| Size 2-3 | 14-501003 |
| Size 3-4 | 14-501004 |
| Size 4-5 | 14-501005 |
| Size 5-6 | 730M0043 |

| 25 cm Alignment Rod | PART NUMBER |
|---|---|
| | 14-501006 |

| 38 cm Alignment Rod | PART NUMBER |
|---|---|
| | 14-501007 |

| 30 cm Comb | PART NUMBER |
|---|---|
| | 14-501008 |

| 36 cm Comb | PART NUMBER |
|---|---|
| | 14-501009 |

The Vital Deformity System is designed to provide versatile and efficient instrumentation that is specifically designed for complex spinal deformity correction. By truly providing deformity correction in all three anatomical planes, the Vital Deformity derotation instrumentation represents the next evolution in deformity correction from ZimVie. The specialized deformity instrumentation allows the surgeon to adopt and merge numerous combinations of traditional derotation techniques.

### Notes on Implant and Derotation Instrumentation Placement:

Common areas where derotation can be of benefit are the apical and end vertebrae. Vertebral derotation is most effective when opposing axial plane corrective forces are counter-rotated against each other—for example a right thoracic curve being counter-rotated against a left thoracolumbar curve.

In order to safely and effectively correct axially rotated segments of the spine; it is important that there are appropriate and sufficient fixation points against which to derotate. For this reason, the Rocket threaded reducer and derotation handles provided in the system are designed to attach to any fixation implant along a Vital construct. By doing so, this instrumentation is designed to maximize axial corrective forces and load-shares by reducing the stress applied to individual pedicles.

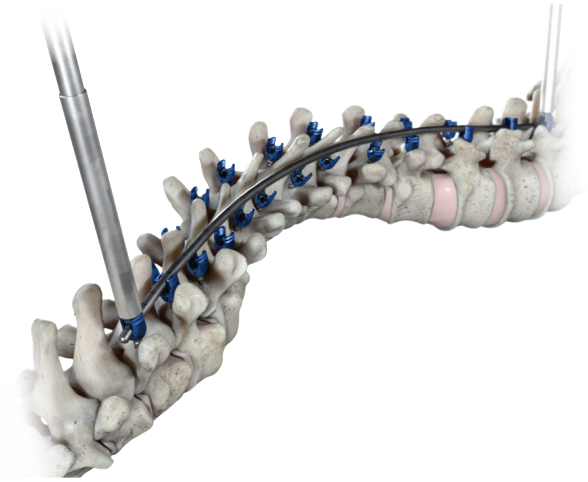


***Figure 95***
*Provisionally secure rod into proximal and distal screw tulips*

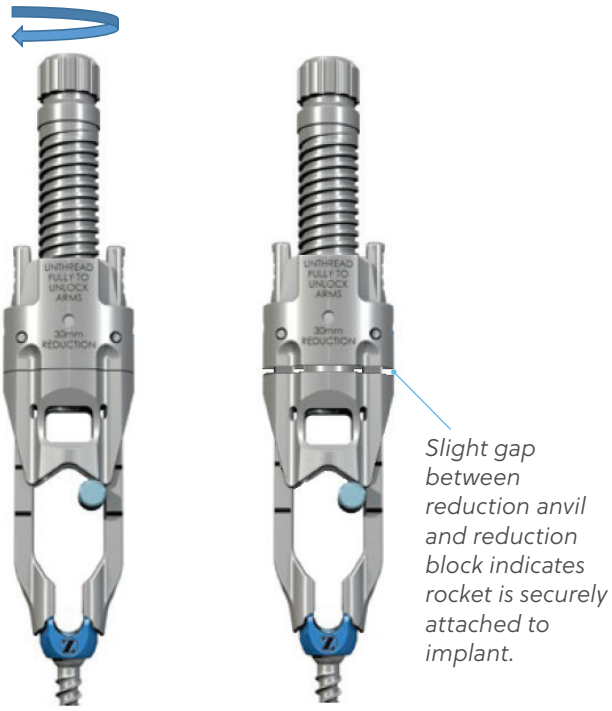



***Figure 96***
*Placement of rocket and securing it to implant*

## Single Rod En Bloc Derotation

- After placing screw and hook implants at the desired vertebral levels, use one of the head alignment tools to properly align the screw heads that are ipsilateral to the concavity of the patient's thoracic curve. Since the majority of adolescent idiopathic scoliosis patients will present with a right thoracic curve, most often the first rod is introduced to the patient's left side.
- Using the rod template, measure the length to which the rod will need to span. Select the appropriate length rod and cut to the length previously measured. Using the French rod bender, bend the rod to the desired contour.
- Place the cephalad and caudal ends of the rod into the saddles of the most proximal and distal screws within the construct. Provisionally secure the rod into place using at least one closure top at either the proximal or distal pedicle screw—both, if at all possible (Figure 95).
- Begin placing Rocket threaded reducers along the rod at each pedicle screw.

  ***Note:*** *Some surgeons may find that first using the planar tool to remove soft and bony tissue around the thoracic pedicle screws will make securing Rockets at these levels an easier task.*
- To properly attach and remove the rocket reducer, ensure the reducer is completely unthreaded, where there is no gap between the reduction anvil and reduction block.
- To attach the Rocket reducer to the vital screw tulip, depress both of the finger tabs of the spring-loaded arms and position the arms of the rocket so that they mate with the side features of the screw tulip.
- To provisionally secure the rocket to the screw head, grasp the positive stop area at the proximal end of the rocket's threaded barrel and rotate clockwise – ½ turn to ensure full engagement of the rocket (Figure 96).

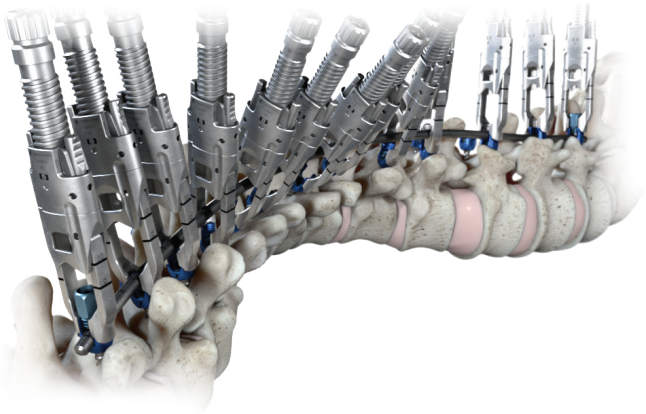


***Figure 97***
*Rockets used to capture rod*

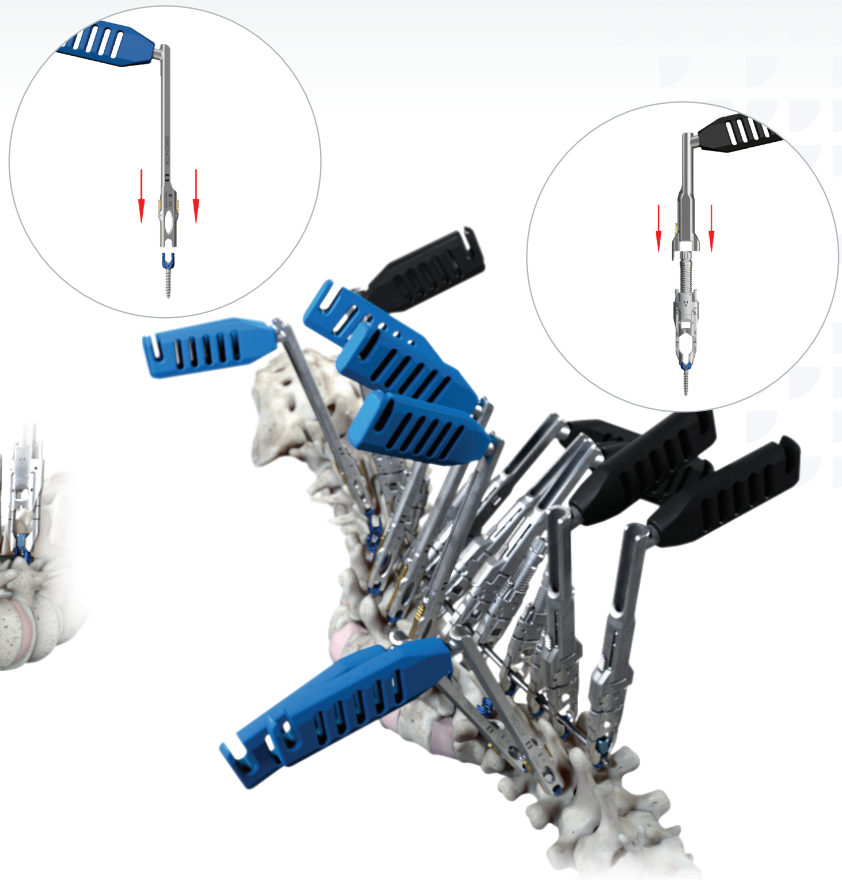


***Figure 98***
*Deroducers and derotation handles attached along construct*

- Continue this process at each desired implant along that side of the construct. With larger curves, in order to facilitate rocket placement at apical vertebrae, it is suggested that the surgeon begin by first placing Rocket threaded reducers at the periphery of the construct and work towards those apical vertebrae (Figure 97).

  ***Note:*** *If the cleats of the rockets cannot reach the apical screws when the arms are placed around the rod, the rod may be temporarily rotated out of the ideal sagittal alignment in order for the rockets to capture the rod.*

- Once the rockets are in place, attach the DeRoduction handles to the rockets intended for en bloc or direct vertebral rotation. On the contralateral aspect of the construct, place derotation handles on implants opposite from the pedicles where rockets and deroduction handles are in place (Figure 98). Again, vertebral derotation is most effective when opposing axial plane corrective forces are counter-rotated against each other—for example a right thoracic curve being counter-rotated against a left thoracolumbarcurve.


***Figure 99***
*Linkage rods added to handle clusters*

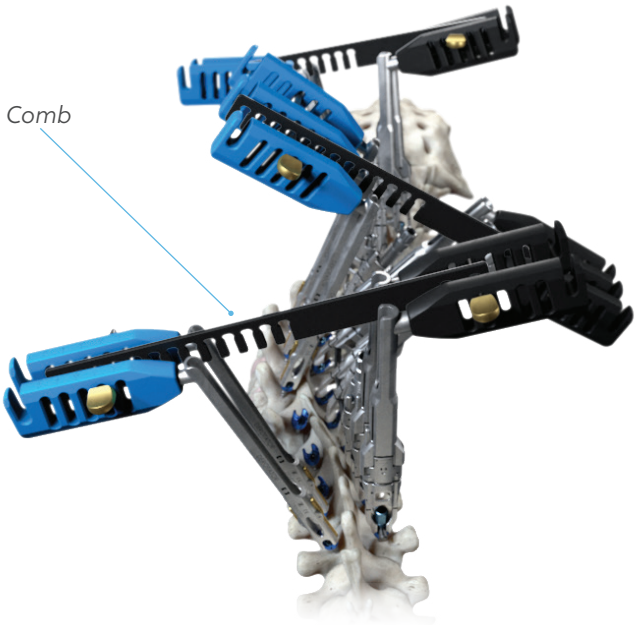



***Figure 100***
*Combs affixed between handle clusters by linkage rods*

## Single Rod En Bloc Derotation *(continued)*

- Linkage rods are inserted through the handle slots of grouped derotation and deroduction handles (Figure 99).
- Attach the comb to the linkage rods, thus linking contralateral handles (Figure 100).

***Figure 101***
*Derotate spine by rotating apices against each other, or proximal and distal blocs against apex*

***Figure 102***
*En bloc derotation with blocs aligned*

- Derotate the spine by manipulating the linked handles. The clusters should be rotated counter to one another. For example, when addressing a double major deformity featuring a right thoracic curve, the thoracic apical cluster should be rotated to the patient's right, while the corresponding lumbar apical cluster should be rotated in the opposite direction, to the patient's left. If the surgeon is addressing a single structural curve with a compensatory adjacent curve, the apical cluster may be counter-torqued against instrument clusters adjacent at the proximal and distal segments of the construct (Figure 101).
- Once the handles in each bloc are aligned, the surgeon may choose to use the linkage clusters in order to hold the handles in place and prevent the handle clusters from returning to their original positions. Otherwise the surgeon may choose to have one of the surgical staff hold the clusters in place (Figure 102).

***Figure 103***
*Global derotation using rod grippers*

***Figure 104***
*Rocket reduction using QC adaptor and handle*

## Single Rod En Bloc Derotation *(continued)*

- The surgeon should then use rod grippers, or vise grips, to rotate the rod into the proper sagittal alignment (Figure 103).
- While maintaining the ideal sagittal alignment of the rods with the rod grippers, or vise grips, use the long, ball-nosed hex driver and driver handle of any type, to sequentially reduce each rocket and persuade the spine to the rod. Once the rockets are fully reduced and the rod is seated in each screw tulip (Figure 104).

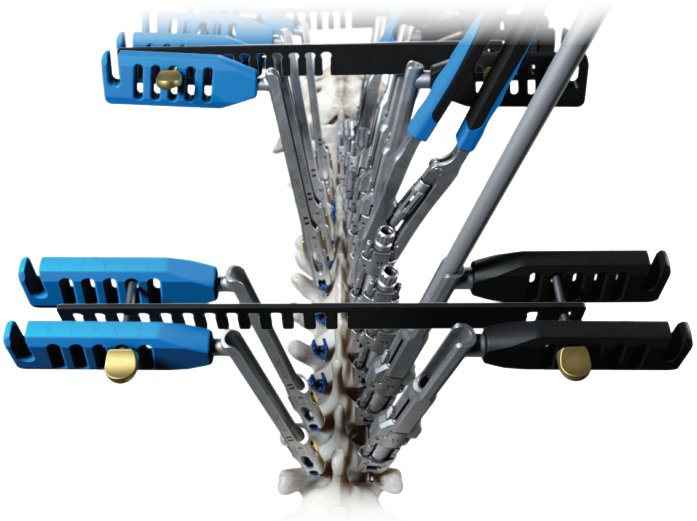


***Figure 105***
*Provisional placement and tightening of closure tops along construct*

- Place closure tops along the construct at each screw, using one of the T27 provisional drivers and inserting them through the cannulas of the rockets and DeRoduction handles (Figure 105).
- Once the rod is provisionally secured, remove the derotation handles, deroducers, and rockets.
- At this point, the surgeon should determine if any additional in situ bending is necessary. If so, use the sagittal and coronal benders to adjust the rod contour.
- Using the rod template, determine the length necessary for the second rod.
- Use the French bender to bend the second rod to the desired contour. Just as before, provisionally place the rod into the screw tulips at the proximal and distal ends of the construct and secure the rod into place using closure tops at one or both of the peripheral screws.
- Use one of the head alignment tools to properly align the open screw heads that are contralateral to the first rod.
- Using the rod template, measure the length to which the rod will need to span. Select the appropriate length rod and cut to the length previously measured. Using the French rod bender, bend the rod to the desired contour.
- Place the cephalad and caudal ends of the second rod into the open saddles of the most proximal and distal screws within the construct.
- Provisionally secure the rod into place using at least one closure top at either the proximal or distal pedicle screw—both, if at all possible.

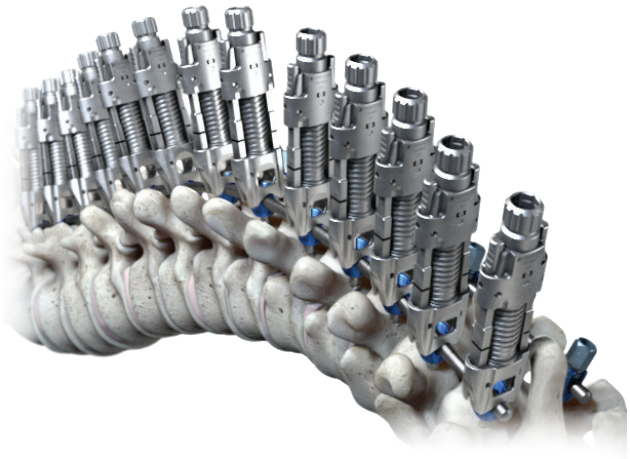


***Figure 106***
*Securing and persuading second rod with rocket reducers*

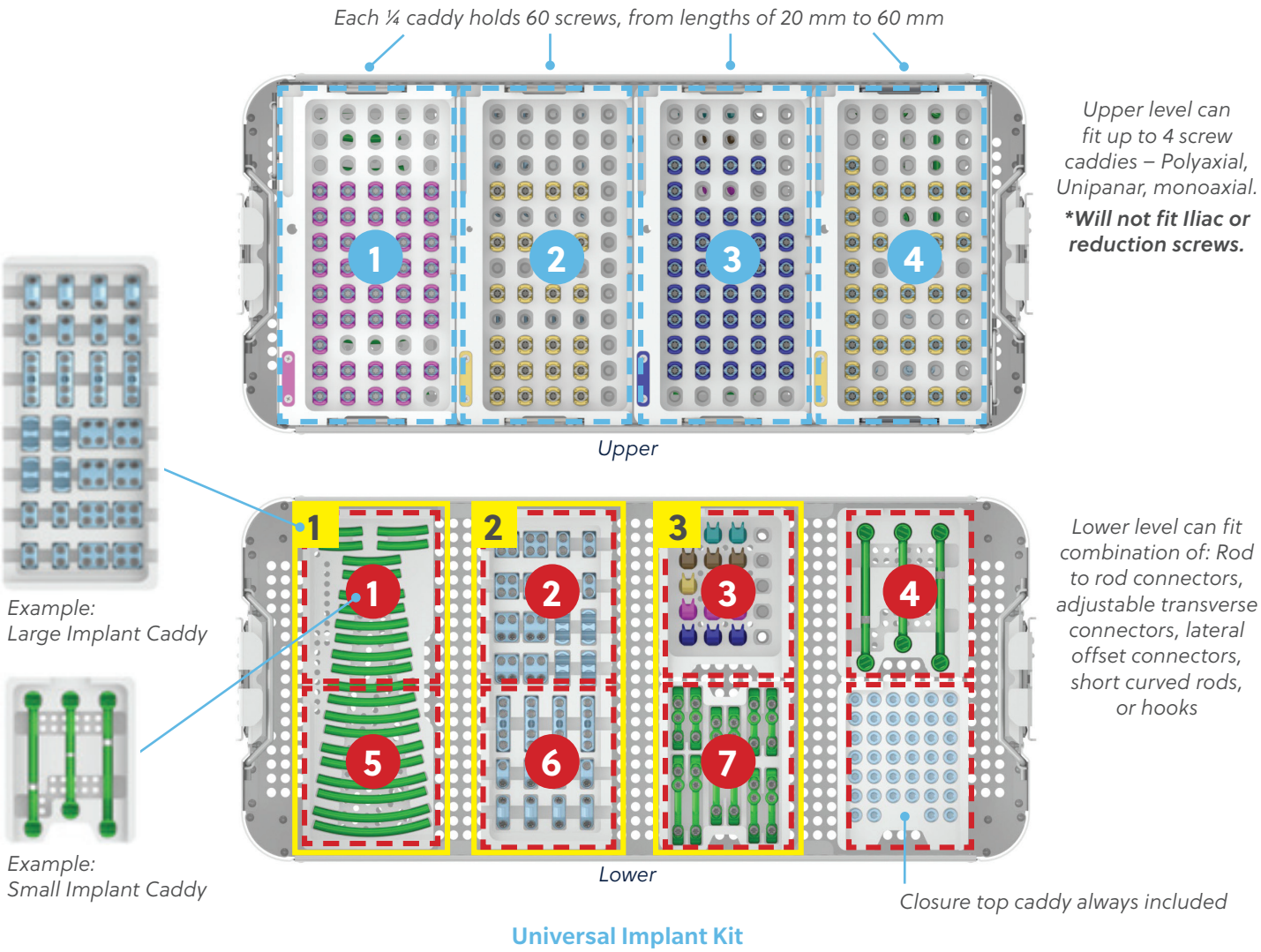
## Single Rod En Bloc Derotation *(continued)*

- Begin placing rocket threaded reducers along the second rod at each pedicle screw.
- Sequentially reduce each rocket until the spine is persuaded to the rod and the rod is seated in each screw or hook tulip (Figure 106). Using one of the T27 provisional drivers, introduce closure tops to each implant tulip and provisionally tighten. Once the rod is secured in each implant tulip, remove the rockets.
- At this point, the surgeon may desire to make slight segmental adjustments to the construct by using compressors, and/or distractors. Once these adjustments are made, the construct must be finalized by either final tightening the standard closure tops, or breaking off the tops of the shear-off closure tops.

# Kit Ordering Overview

The Vital Spinal Fixation System is designed to deliver value to the entire surgical team, not simply the surgeon. The kits and implant caddies that make up the system are optimized to provide greater intraoperative and perioperative efficiency and adaptability, while minimizing shelf space and back table footprint.

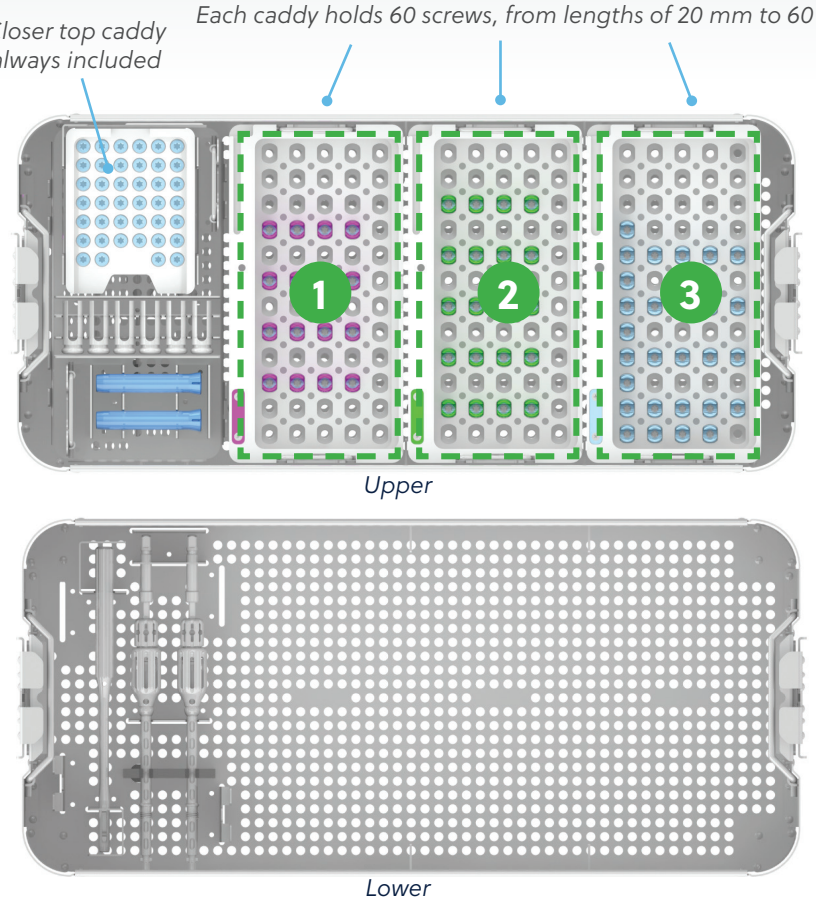
- The core of the system are the Vital Instrument Kit and Vital Implant Kit. There are additional instrument kits intended to accommodate more complex procedures.
- Each Vital Implant Caddy is to be ordered independently of an outer kit. These implant caddies may be sterilized independently, or placed into one of 6 implant kits
  1. Universal Implant Kit
  2. Reduction Kit
  3. Iliac Implant and Instrument Kit
  4. Complex Rod Kit
  5. Hook Kit
  6. Cannulated Implant and Instrument Kit




**Universal Implant Kit**

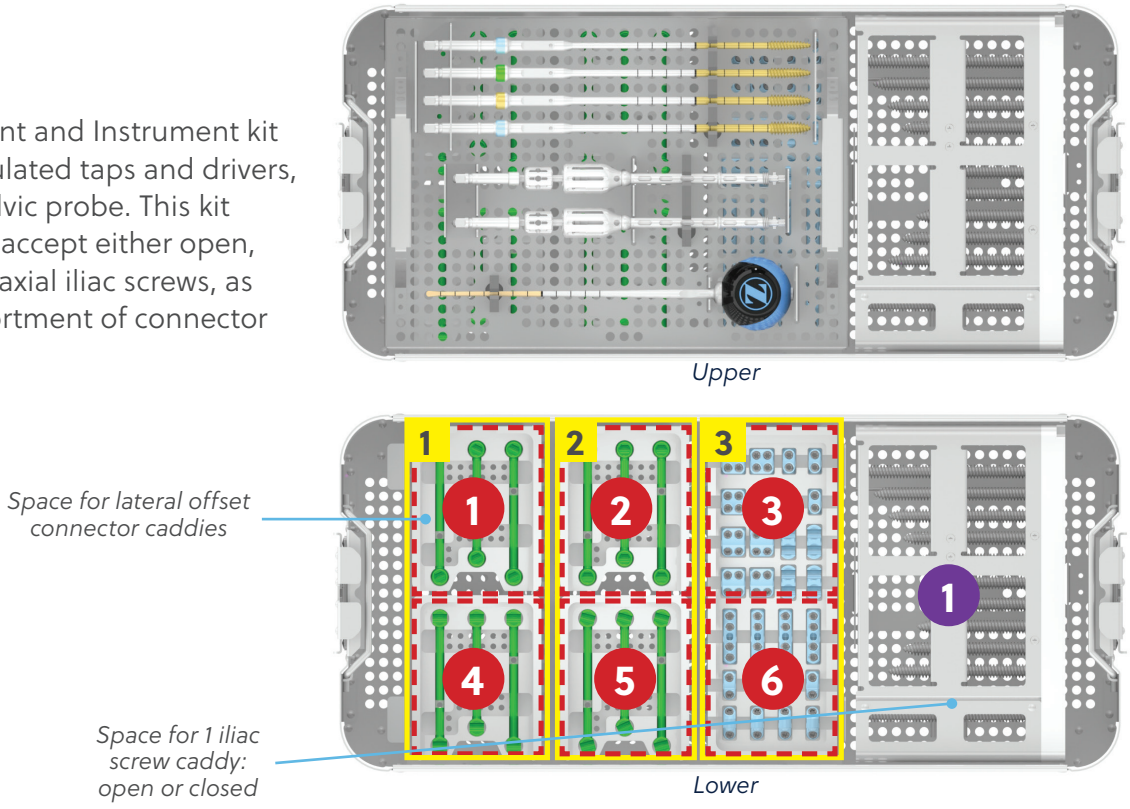
# Kit Ordering Overview *(continued)*

- The Universal Implant Kit is designed to accept 4 standard pedicle screw caddies—polyaxial, uniplanar, and monoaxial—and has space for a wide variety of rod, connector, and hook caddies.
- The Universal Reduction Implant Kit is designed to accept any 3 reduction screw caddies and includes drivers, anti-splay sleeves, and the tab breaker.
- Both the Universal Implant Kit and the Universal Reduction Kit include a caddy with 40 closure tops, in order to accommodate larger, more complex cases.



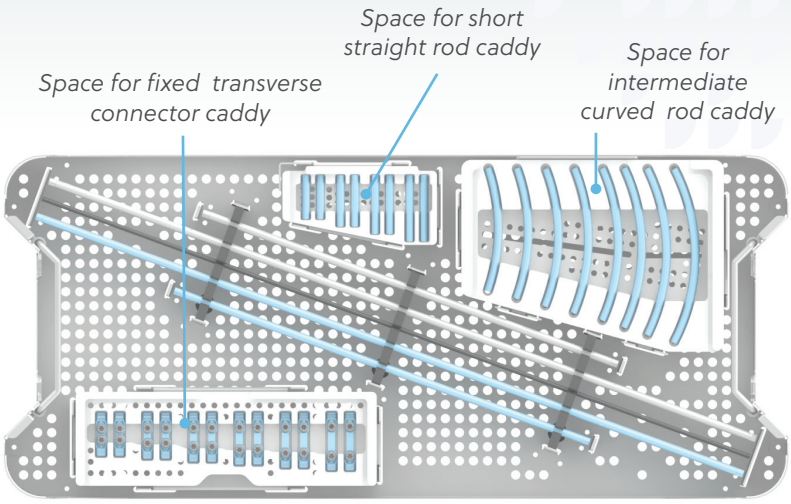

**Reduction Kit**

- The Iliac Implant and Instrument kit features cannulated taps and drivers, as well as a pelvic probe. This kit is designed to accept either open, or closed, polyaxial iliac screws, as well as an assortment of connector caddies.

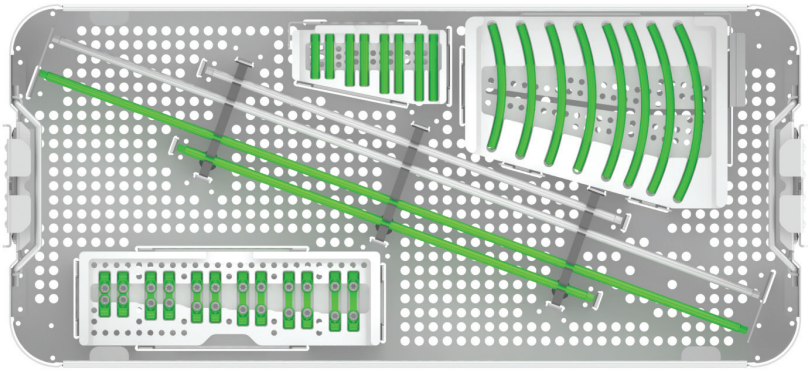



**Iliac Implant and Instrument Kit**

- The Complex Rod Kit includes a variety of long, straight titanium and cobalt chrome rod options. A variety of transverse connector caddies and pre-cut rod caddies may be ordered independently and then added to this set.



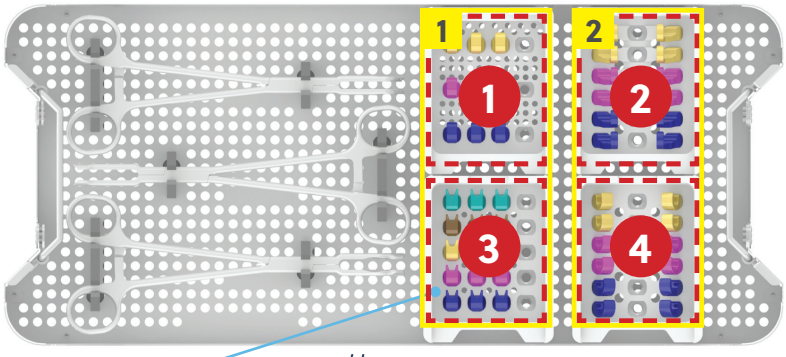

*Upper - 5.5 Rods*



*Lower - 6.0 Rods*

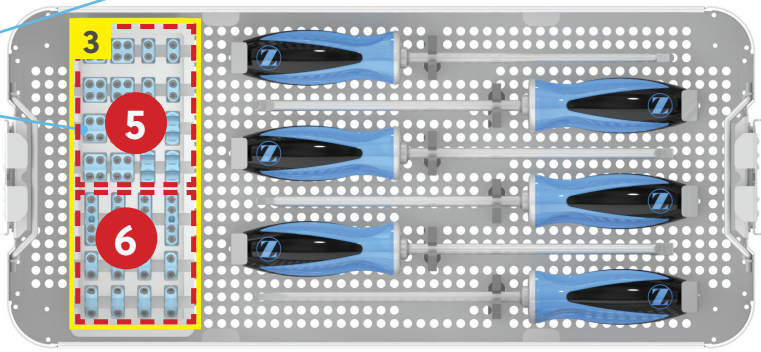
**Complex Rod Kit**

- The Hook Instrument Kit features various hook site prep instruments and hook inserters. This kit is designed to hold up to 6 hook caddies. These spaces may also be used to house a wide variety of connector caddies and the 6.0 mm pre-cut/pre-contoured rods (30-80 mm).




*Upper*

*Space for hook caddies, rod-to-rod connectors, adjustable transverse connectors, lateral offset connectors and short curved rods*



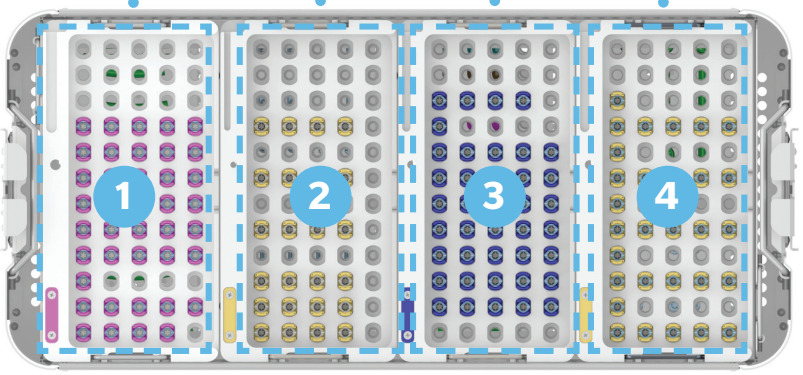

*Lower*

**Hook Kit**

# Kit Ordering Overview *(continued)*

- The Cannulated Implant and Instrument kit features cannulated taps and drivers, as well as guidewires. The kit is designed to accept 4 standard pedicle screw caddies – polyaxial, uniplanar, and monoaxial – and has space for a wide variety of rod, connector, and hook caddies.

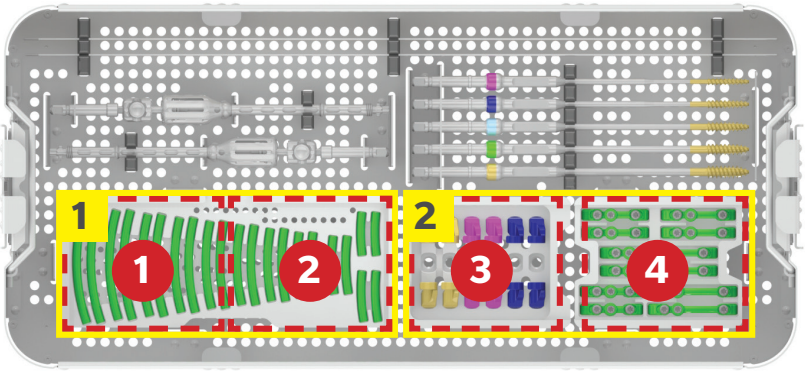
*Each ¼ caddy holds 60 screws, from lengths of 20 mm to 60 mm*




*Upper*

*Upper level can fit up to 4 screw caddies – Polyaxial, Unipanar, monoaxial.*

***Will not fit Iliac or reduction screws.**

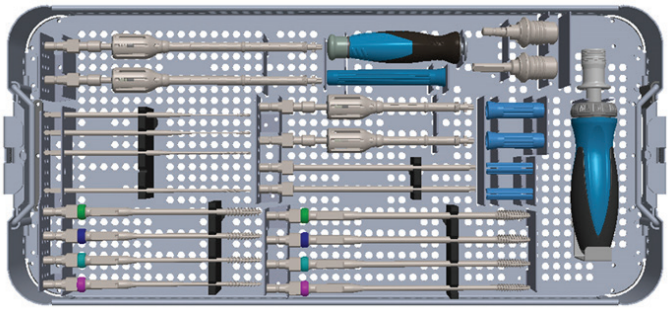



*Lower*

*Lower level can fit combination of: Rod to rod connectors, adjustable transverse connectors, lateral offset connectors, short curved rods, or hooks*

**Cannulated Implant and instrument Kit**

# Kit Contents



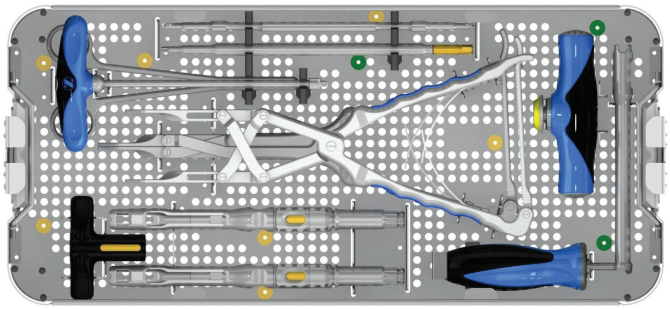
## Vital Power Instrument Kit
## Kit Number: PCR700M2101

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Standard Threaded Driver (non-locking) | 2 | 731M0000 |
| Short Threaded Driver (non-locking) | 2 | 731M0001 |
| Stab-N-Grab Driver | 2 | 731M0010 |
| Stab-N-Grab Sleeve | 1 | 731M0005 |
| Threaded Screwdriver Sleeve, Standard | 1 | 07.02131.001 |
| Threaded Screwdriver Sleeve, Short | 1 | 07.02131.003 |
| Pilot Drill, ø2.4 mm | 2 | 731M0040 |
| Reamer Probe, ø3.0 mm | 1 | 731M0031 |
| Optional Reamer Probe, ø3.2 mm | 1 | 731M0030 |
| Standard Drill, ø2.0 mm | 1 | 731M0021 |
| Adapter, Tri Flat to ¼" Sq | 1 | 731M9000 |
| Adapter, Z-Connect to ¼" Sq | 1 | 731M9001 |
| ø4.5 mm Tap, Z-Connect | 1 | 731M0145 |
| ø5.5 mm Tap, Z-Connect | 1 | 731M0155 |
| ø6.5 mm Tap, Z-Connect | 1 | 731M0165 |
| ø7.5 mm Tap, Z-Connect | 1 | 731M0175 |
| ø6.5 mm Iliac Tap, Z-Connect | 1 | 731M0265 |
| ø7.5 mm Iliac Tap, Z-Connect | 1 | 731M0275 |
| ø8.5 mm Iliac Tap, Z-Connect | 1 | 731M0285 |
| ø9.5 mm Iliac Tap, Z-Connect | 1 | 731M0295 |
| Ratcheting Axial Handle, Z-Connect | 1 | 731M9002 |
| Small AO Axial Handle | 1 | 07.01788.001 |

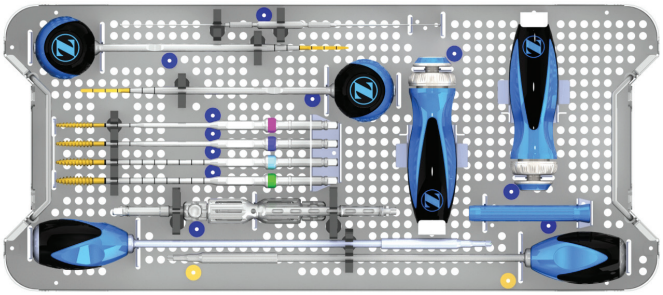
## Capital Equipment *(not available through ZimVie, contact Zimmer Biomet Surgical Solutions)*

| DESCRIPTION | PART NUMBER |
|---|---|
| Double Trigger Handpiece | 89-8507-400-00 |
| Single Trigger Handpiece | 89-8507-400-10 |
| Small AO 1000RPM | 89-8509-410-20 |
| Zimmer/Hudson Attachment 250 RPM | 89-8509-425-80 |

# Kit Contents *(continued)*



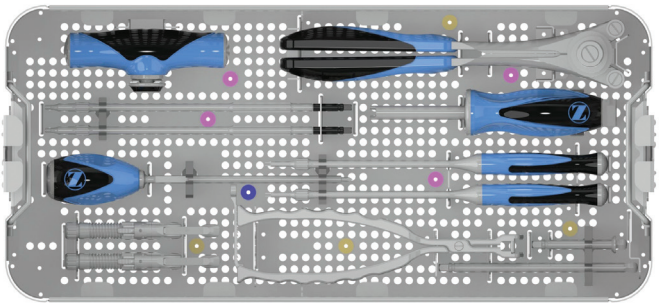
*Upper*

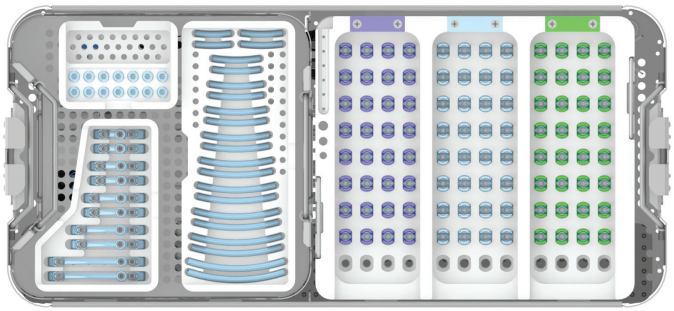


*Lower*

## Vital Instrument Kit
## Kit Number: PCR700M4101

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Adult Degen/Deformity Reducer | 2 | 730M0021 |
| Reducer T-handle | 1 | 730M0022 |
| Screwdriver, Standard | 2 | 07.02054.001 |
| Quick Connect — Ratcheting Handle, Straight | 2 | 07.02051.001 |
| Rod Holder | 1 | 07.02064.001 |
| Head-Height Adjuster | 1 | 07.02060.001 |
| Pedicle Probe, Straight — Lumbar | 1 | 730M1001 |
| Pedicle Probe, Curved — Lumbar Lenke | 1 | 730M1004 |
| Tap 4.5 mm | 1 | 730M3045 |
| Tap 5.5 mm | 1 | 730M3055 |
| Tap 6.5 mm | 1 | 730M3065 |
| Tap 7.5 mm | 1 | 730M3075 |
| Ball Tip Probe — Dual-ended Stiff/Flexible | 1 | 07.02117.001 |
| Compressor | 1 | 07.02089.001 |
| Distractor | 1 | 07.02109.001 |
| T27 Provisional Driver | 2 | 730M0019 |
| Counter-torque | 1 | 730M0016 |
| Torque-limiting Handle, 90 in-lb | 1 | 07.02053.001 |
| T27 Driver, Final | 2 | 730M0017 |
| Dual-ended Closure Starter | 1 | 730M0018 |
| Screw Driver Sleeve | 2 | 07.02131.001 |



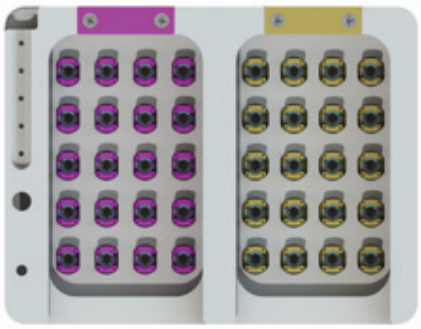


## Implant and Additional Instrument Kit
## Kit Number: PCR700M4111

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Rocket Threaded Reducer | 1 | 730M0024 |
| Quick Connect Adapter - Short | 1 | 730M0023 |
| Quick Connect Adapter - Long | 1 | 730M0005 |
| Rod Rocker | 1 | 07.02093.001 |
| Bone Awl | 1 | 07.02076.001 |
| French Bender | 1 | 07.02092.001 |
| T20 Provisional Driver | 2 | 07.02119.001 |
| T20 Driver, Final | 2 | 07.02063.001 |
| Torque-limiting Driver — 50 in-lb (5.65Nm) | 1 | 07.02118.001 |
| Counter-torque — Transverse Connector | 1 | 07.02121.001 |
| ø5.5 mm × 35 mm Polyaxial Screw | 4 | 701M5535 |
| ø5.5 mm × 40 mm Polyaxial Screw | 8 | 701M5540 |
| ø5.5 mm × 45 mm Polyaxial Screw | 8 | 701M5545 |
| ø5.5 mm × 50 mm Polyaxial Screw | 8 | 701M5550 |
| ø5.5 mm × 55 mm Polyaxial Screw | 4 | 701M5555 |
| ø6.5 mm × 35 mm Polyaxial Screw | 4 | 701M6535 |
| ø6.5 mm × 40 mm Polyaxial Screw | 8 | 701M6540 |
| ø6.5 mm × 45 mm Polyaxial Screw | 8 | 701M6545 |
| ø6.5 mm × 50 mm Polyaxial Screw | 8 | 701M6550 |
| ø6.5 mm × 55 mm Polyaxial Screw | 4 | 701M6555 |
| ø7.5 mm × 35 mm Polyaxial Screw | 4 | 701M7535 |
| ø7.5 mm × 40 mm Polyaxial Screw | 8 | 701M7540 |
| ø7.5 mm × 45 mm Polyaxial Screw | 8 | 701M7545 |
| ø7.5 mm × 50 mm Polyaxial Screw | 8 | 701M7550 |
| ø7.5 mm × 55 mm Polyaxial Screw | 4 | 701M7555 |
| ø5.5 mm–6.0 mm Standard Closure Top | 14 | 07.02010.001 |

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| ø5.5 mm × 30 mm Rod, Curved | 4 | 07.02015.003 |
| ø5.5 mm × 35 mm Rod, Curved | 4 | 07.02015.004 |
| ø5.5 mm × 40 mm Rod, Curved | 4 | 07.02015.005 |
| ø5.5 mm × 45 mm Rod, Curved | 4 | 07.02015.006 |
| ø5.5 mm × 50 mm Rod, Curved | 4 | 07.02015.007 |
| ø5.5 mm × 55 mm Rod, Curved | 4 | 07.02015.008 |
| ø5.5 mm × 60 mm Rod, Curved | 4 | 07.02015.009 |
| ø5.5 mm × 65 mm Rod, Curved | 4 | 07.02015.010 |
| ø5.5 mm × 70 mm Rod, Curved | 4 | 07.02015.011 |
| ø5.5 mm × 75 mm Rod, Curved | 4 | 07.02015.012 |
| ø5.5 mm × 80 mm Rod, Curved | 4 | 07.02015.013 |
| Transverse Connector Adjustable, 33-36 mm Wide x 5.5 mm | 2 | 07.02030.001 |
| Transverse Connector Adjustable, 36-41 mm Wide x 5.5 mm | 2 | 07.02030.002 |
| Transverse Connector Adjustable, 41-51 mm Wide x 5.5 mm | 2 | 07.02030.003 |
| Transverse Connector Adjustable, 51-70 mm Wide x 5.5 mm | 2 | 07.02030.004 |
| Transverse Connector Adjustable. 70-90 mm Wide x 5.5 mm | 2 | 07.02030.005 |

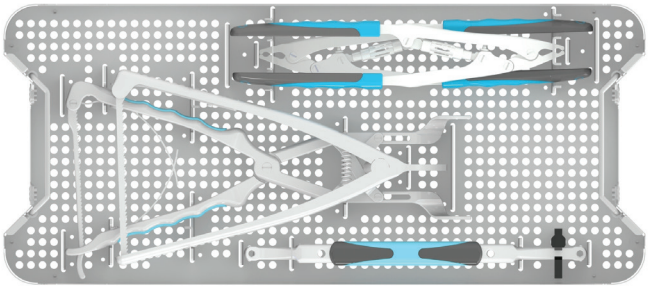
# Kit Contents *(continued)*



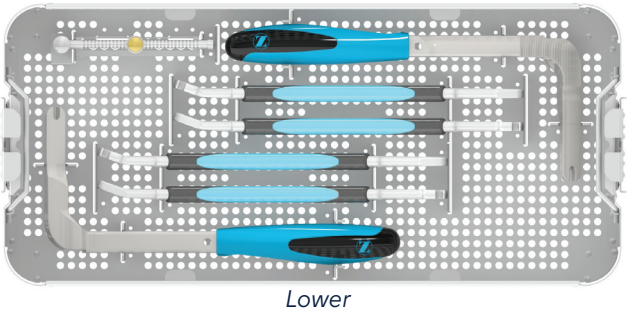
## Vital 4.5 mm/8.5 mm Auxiliary Implant Caddy PCR700M4995*

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| ø4.5 mm × 30 mm Polyaxial Screw | 4 | 701M4530 |
| ø4.5 mm × 35 mm Polyaxial Screw | 4 | 701M4535 |
| ø4.5 mm × 40 mm Polyaxial Screw | 4 | 701M4540 |
| ø4.5 mm × 45 mm Polyaxial Screw | 4 | 701M4545 |
| ø4.5 mm × 50 mm Polyaxial Screw | 4 | 701M4550 |
| ø8.5 mm × 40 mm Polyaxial Screw | 4 | 709M8540 |
| ø8.5 mm × 45 mm Polyaxial Screw | 4 | 709M8545 |
| ø8.5 mm × 50 mm Polyaxial Screw | 4 | 709M8550 |
| ø8.5 mm × 55 mm Polyaxial Screw | 4 | 709M8555 |
| ø8.5 mm × 60 mm Polyaxial Screw | 4 | 709M8560 |

**Independent caddy that does not fit in any kit*



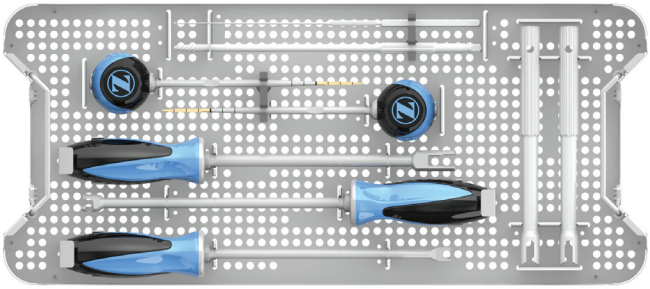
*Upper*



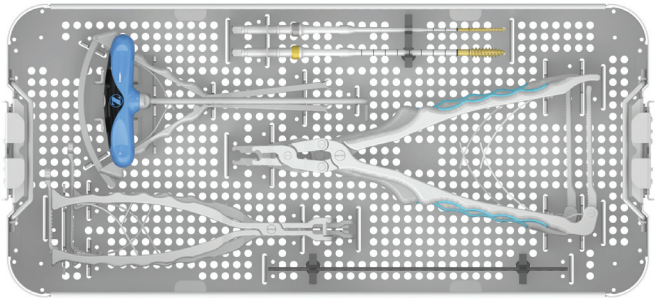
*Lower*

## Vital Complex Instrument Kit 1 Kit Number: PCR700M5021

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Vise Grips | 2 | 07.02104.001 |
| Hex End Rod Rotation Tool | 2 | 07.02127.001 |
| Sagittal Bender - 5.5 mm Left | 1 | 07.02091.001 |
| Sagittal Bender - 5.5 mm Right | 1 | 07.02091.002 |
| Sagittal Bender - 6.0 mm Left | 1 | 07.02102.001 |
| Sagittal Bender - 6.0 mm Right | 1 | 07.02102.002 |
| Left Coronal Bender | 1 | 730M0011 |
| Right Coronal Bender | 1 | 730M0012 |
| Coronal Bender Fulcrum | 1 | 730M0013 |
| Compressor - Multi-Level | 1 | 07.02090.001 |
| Distractor (Single Pivot) | 1 | 730M0039 |



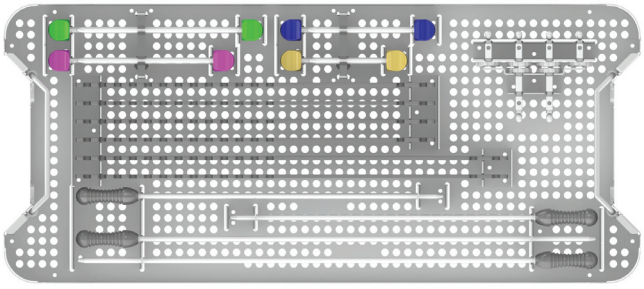
*Upper*



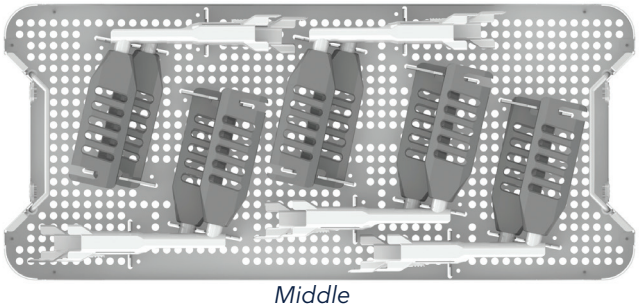
*Lower*

## Vital Complex Instrument Kit 2
## Kit Number: PCR700M5031

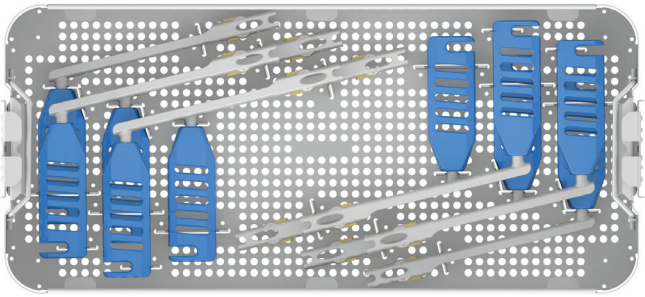
| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Pedicle Probe - Thoracic Straight | 1 | 730M1005 |
| Pedicle Probe – Thoracic Curved | 1 | 730M1006 |
| Tap 3.5 mm | 1 | 730M3035 |
| Tap 8.5 mm | 1 | 730M3085 |
| Ball Tip Probe - Single Ended Stiff - Standard | 1 | 07.02115.001 |
| Fixed Screw Height Adjuster | 1 | 730M0003 |
| Bone Planer | 1 | 730M0004 |
| Rod Pusher | 1 | 07.02101.001 |
| Rod Manipulator | 1 | 730M0015 |
| Tube Rod Pusher | 2 | 730M0014 |
| Rod Gripper | 2 | 07.02100.001 |
| Rod Rocker, Long | 1 | 730M0037 |
| T27 Easy Out Removal Driver | 1 | 07.02065.001 |
| Caliper - Transverse Connector | 1 | 07.02111.001 |
| Rod Template - 250 mm | 1 | 07.02099.002 |
| Rod to Rod Connector Holder | 1 | 07.02123.001 |



*Upper*



*Middle*

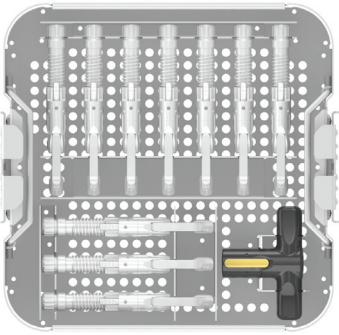


*Lower*

## Vital Derotation Instruments Kit
## Kit Number: PCR700M5041

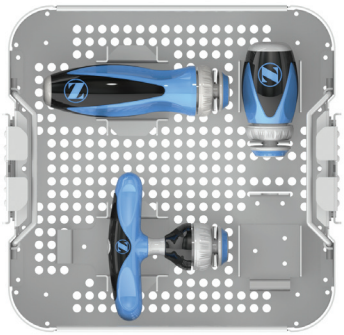
| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Derotator | 10 | 730M0000 |
| DeRoducer | 10 | 14-500204 |
| 2-3 Handle Linkage Rod | 4 | 14-501003 |
| 3-4 Handle Linkage Rod | 4 | 14-501004 |
| 4-5 Handle Linkage Rod | 4 | 14-501005 |
| 5-6 Handle Linkage Rod | 4 | 730M0043 |
| 25 cm Cluster Rod | 2 | 14-501006 |
| 38 cm Cluster Rod | 2 | 14-501007 |
| 30 cm Comb | 4 | 14-501008 |
| 36 cm Comb | 2 | 14-501009 |
| Segmental Linkage | 4 | 730M0054 |
| Multilevel Linkage | 2 | 730M0053 |

# Kit Contents *(continued)*



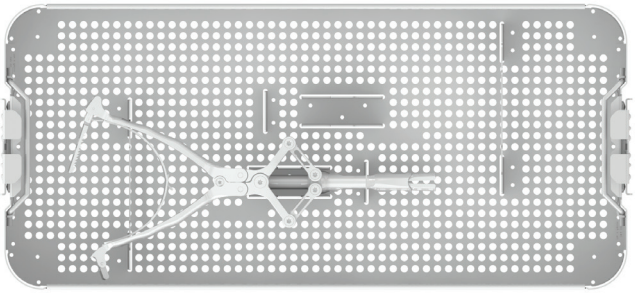
## Rocket Kit
## Kit Number: PCR700M5051

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Short Rocket Reducer | 10 | 730M0024 |
| Reducer T-Handle | 1 | 730M0022 |



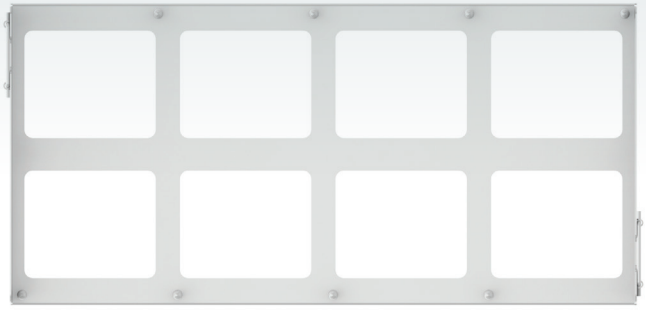
## Handles Kit
## Kit Number: PCR700M5101

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Ratcheting Straight Handle | 1 | 07.02051.001 |
| Ratcheting T-Handle | 1 | 07.02052.001 |
| Ratcheting Palm Handle | 1 | 07.02105.001 |

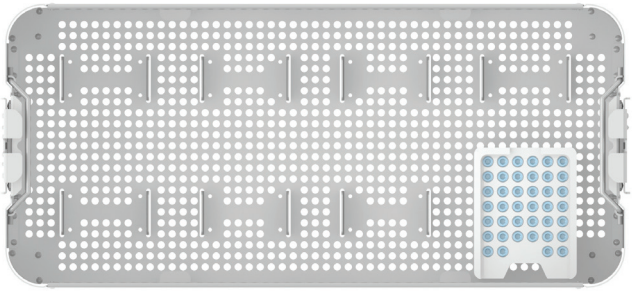


## Single Action Reducer Kit
## Kit Number: PCR700M5081

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Single Action Reducer | 1 | 730M0026 |



*Upper*



*Lower*

## Universal Implant Kit PCR700M5001

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| ø5.5 mm-6.0 mm Standard Closure Top | 40 | 07.02010.001 |

## Compatible Implant Caddies

### *Universal Implant Kit Accepts up to 3 of the following:*

| DESCRIPTION | PART NUMBER |
|---|---|
| ø6.0 mm Curved Rods | PCR700M1216 |
| ø5.5-6.0 mm Rod Connectors | PCR700M5056 |
| ø3.5 mm x ø5.5-6.0 mm Rod Connectors | PCR700M5035 |

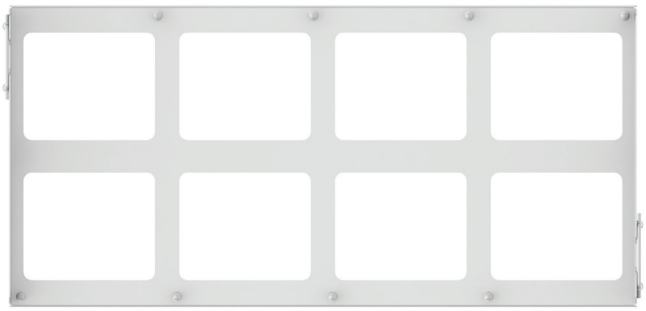
### *Universal Implant Kit Accepts up to 7 of the following:*

| DESCRIPTION | PART NUMBER |
|---|---|
| Open Straight Lateral Offset Connectors | PCR700M3001 |
| Open 15° Lateral Offset Connectors | PCR700M3151 |
| Open 25° Lateral Offset Connectors | PCR700M3251 |
| Closed Straight Lateral Offset Connectors | PCR700M3002 |
| Closed 15° Lateral Offset Connectors | PCR700M3152 |
| Closed 25° Lateral Offset Connectors | PCR700M3252 |
| ø6.0 mm Adjustable Transverse Connectors | PCR700M4206 |
| Pedicle Hooks | PCR700M6001 |
| Angled Hooks | PCR700M6002 |
| Laminar Hooks | PCR700M6003 |
| Narrow Laminar Hooks | PCR700M6004 |
| Narrow Reduced Laminar Hooks | PCR700M6005 |
| Offset Hooks | PCR700M6006 |
| Angled Blade Hooks | PCR700M6007 |
| Extended Laminar Hooks | PCR700M6008 |
| Transverse Process Hooks | PCR700M6009 |

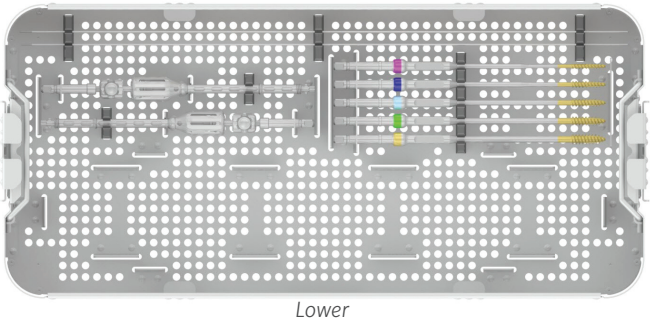
### *Universal Implant Kit accepts 4 total of the following:*

| DESCRIPTION | PART NUMBER |
|---|---|
| ø4.0 mm Polyaxial Screws | PCR700M0140 |
| ø4.5 mm Polyaxial Screws | PCR700M0145 |
| ø5.0 mm Polyaxial Screws | PCR700M0150 |
| ø5.5 mm Polyaxial Screws | PCR700M0155 |
| ø6.0 mm Polyaxial Screws | PCR700M0160 |
| ø6.5 mm Polyaxial Screws | PCR700M0165 |
| ø7.0 mm Polyaxial Screws | PCR700M0170 |
| ø7.5 mm Polyaxial Screws | PCR700M0175 |
| ø8.5 mm Polyaxial Screws | PCR700M0185 |
| ø9.5 mm Polyaxial Screws | PCR700M0195 |
| ø10.5 mm Polyaxial Screws | PCR700M0115 |
| ø4.5 mm Uniplanar Screws | PCR700M0345 |
| ø5.0 mm Uniplanar Screws | PCR700M0350 |
| ø5.5 mm Uniplanar Screws | PCR700M0355 |
| ø6.0 mm Uniplanar Screws | PCR700M0360 |
| ø6.5 mm Uniplanar Screws | PCR700M0365 |
| ø7.5 mm Uniplanar Screws | PCR700M0375 |
| ø4.0 mm Monoaxial Screws | PCR700M0540 |
| ø4.5 mm Monoaxial Screws | PCR700M0545 |
| ø5.5 mm Monoaxial Screws | PCR700M0555 |
| ø6.5 mm Monoaxial Screws | PCR700M0565 |
| ø7.5 mm Monoaxial Screws | PCR700M0575 |
| ø4.5 mm Cannulated Polyaxial Screws | PCR800M0145 |
| ø5.0 mm Cannulated Polyaxial Screws | PCR800M0150 |
| ø5.5 mm Cannulated Polyaxial Screws | PCR800M0155 |
| ø6.0 mm Cannulated Polyaxial Screws | PCR800M0160 |
| ø6.5 mm Cannulated Polyaxial Screws | PCR800M0165 |
| ø7.0 mm Cannulated Polyaxial Screws | PCR800M0170 |
| ø7.5 mm Cannulated Polyaxial Screws | PCR800M0175 |
| ø8.5 mm Cannulated Polyaxial Screws | PCR800M0185 |
| ø9.5 mm Cannulated Polyaxial Screws | PCR800M0195 |
| ø4.5 mm Cannulated Uniplanar Screws | PCR800M0345 |
| ø5.0 mm Cannulated Uniplanar Screws | PCR800M0350 |
| ø5.5 mm Cannulated Uniplanar Screws | PCR800M0355 |
| ø6.0 mm Cannulated Uniplanar Screws | PCR800M0360 |
| ø6.5 mm Cannulated Uniplanar Screws | PCR800M0365 |
| ø7.5 mm Cannulated Uniplanar Screws | PCR800M0375 |
| ø4.5 mm Cannulated Monoaxial Screws | PCR800M0545 |
| ø5.5 mm Cannulated Monoaxial Screws | PCR800M0555 |
| ø6.5 mm Cannulated Monoaxial Screws | PCR800M0565 |
| ø7.5 mm Cannulated Monoaxial Screws | PCR800M0575 |

# Kit Contents *(continued)*



*Upper*



*Lower*

## Cannulated Instrument Kit
## Kit Number: PCR800M1500

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| K-Wire Blunt | 8 | 14-500360 |
| K-Wire Trochar | 8 | 14-500361 |
| Cannulated Screwdriver | 2 | 730M0060 |
| Cannulated Tap 4.5mm | 1 | 735M0145 |
| Cannulated Tap 5.5mm | 1 | 735M0155 |
| Cannulated Tap 6.5mm | 1 | 735M0165 |
| Cannulated Tap 7.5mm | 1 | 735M0175 |
| Cannulated Tap 8.5mm | 1 | 735M0185 |

## Compatible Implant Caddies

***Cannulated Instrument Kit accepts up to 2 of the following:***

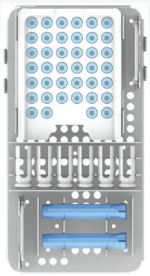
| DESCRIPTION | PART NUMBER |
|---|---|
| ø6.0 mm Curved Rods | PCR700M1216 |
| ø5.5-6.0 mm Rod Connectors | PCR700M5056 |
| ø3.5 mm x ø5.5-6.0 mm Rod Connectors | PCR700M5035 |

***Cannulated Instrument Kit accepts 4 total of the following screw caddies:***

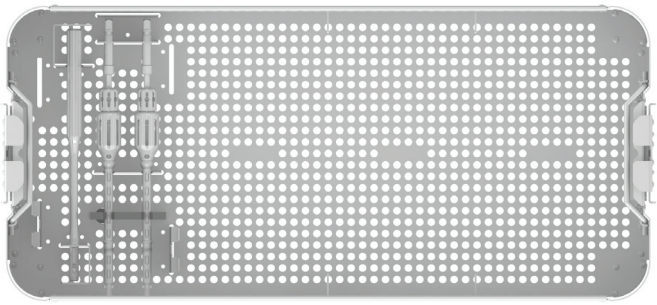
| DESCRIPTION | PART NUMBER |
|---|---|
| ø4.0 mm Polyaxial Screws | PCR700M0140 |
| ø4.5 mm Polyaxial Screws | PCR700M0145 |
| ø5.0 mm Polyaxial Screws | PCR700M0150 |
| ø5.5 mm Polyaxial Screws | PCR700M0155 |
| ø6.0 mm Polyaxial Screws | PCR700M0160 |
| ø6.5 mm Polyaxial Screws | PCR700M0165 |
| ø7.0 mm Polyaxial Screws | PCR700M0170 |
| ø7.5 mm Polyaxial Screws | PCR700M0175 |
| ø8.5 mm Polyaxial Screws | PCR700M0185 |
| ø9.5 mm Polyaxial Screws | PCR700M0195 |
| ø10.5 mm Polyaxial Screws | PCR700M0115 |
| ø4.5 mm Uniplanar Screws | PCR700M0345 |
| ø5.0 mm Uniplanar Screws | PCR700M0350 |
| ø5.5 mm Uniplanar Screws | PCR700M0355 |
| ø6.0 mm Uniplanar Screws | PCR700M0360 |
| ø6.5 mm Uniplanar Screws | PCR700M0365 |
| ø7.5 mm Uniplanar Screws | PCR700M0375 |
| ø4.0 mm Monoaxial Screws | PCR700M0540 |
| ø4.5 mm Monoaxial Screws | PCR700M0545 |
| ø5.5 mm Monoaxial Screws | PCR700M0555 |
| ø6.5 mm Monoaxial Screws | PCR700M0565 |
| ø7.5 mm Monoaxial Screws | PCR700M0575 |
| ø4.5 mm Cannulated Polyaxial Screws | PCR800M0145 |
| ø5.0 mm Cannulated Polyaxial Screws | PCR800M0150 |
| ø5.5 mm Cannulated Polyaxial Screws | PCR800M0155 |
| ø6.0 mm Cannulated Polyaxial Screws | PCR800M0160 |
| ø6.5 mm Cannulated Polyaxial Screws | PCR800M0165 |
| ø7.0 mm Cannulated Polyaxial Screws | PCR800M0170 |
| ø7.5 mm Cannulated Polyaxial Screws | PCR800M0175 |
| ø8.5 mm Cannulated Polyaxial Screws | PCR800M0185 |
| ø9.5 mm Cannulated Polyaxial Screws | PCR800M0195 |
| ø4.5 mm Cannulated Uniplanar Screws | PCR800M0345 |
| ø5.0 mm Cannulated Uniplanar Screws | PCR800M0350 |
| ø5.5 mm Cannulated Uniplanar Screws | PCR800M0355 |
| ø6.0 mm Cannulated Uniplanar Screws | PCR800M0360 |
| ø6.5 mm Cannulated Uniplanar Screws | PCR800M0365 |
| ø7.5 mm Cannulated Uniplanar Screws | PCR800M0375 |
| ø4.5 mm Cannulated Monoaxial Screws | PCR800M0545 |
| ø5.5 mm Cannulated Monoaxial Screws | PCR800M0555 |
| ø6.5 mm Cannulated Monoaxial Screws | PCR800M0565 |
| ø7.5 mm Cannulated Monoaxial Screws | PCR800M0575 |

### *Cannulated Instrument Kit accepts up to 4 of the following:*

| DESCRIPTION | PART NUMBER |
|---|---|
| Open Straight Lateral Offset Connectors | PCR700M3001 |
| Open 15° Lateral Offset Connectors | PCR700M3151 |
| Open 25° Lateral Offset Connectors | PCR700M3251 |
| Closed Straight Lateral Offset Connectors | PCR700M3002 |
| Closed 15° Lateral Offset Connectors | PCR700M3152 |
| Closed 25° Lateral Offset Connectors | PCR700M3252 |
| ø6.0 mm Adjustable Transverse Connectors | PCR700M4206 |
| Pedicle Hooks | PCR700M6001 |
| Angled Hooks | PCR700M6002 |
| Laminar Hooks | PCR700M6003 |
| Narrow Laminar Hooks | PCR700M6004 |
| Narrow Reduced Laminar Hooks | PCR700M6005 |
| Offset Hooks | PCR700M6006 |
| Angled Blade Hooks | PCR700M6007 |
| Extended Laminar Hooks | PCR700M6008 |
| Transverse Process Hooks | PCR700M6009 |



*Upper*



*Lower*

## Reduction Implant Kit
## Kit Number: PCR700M5071

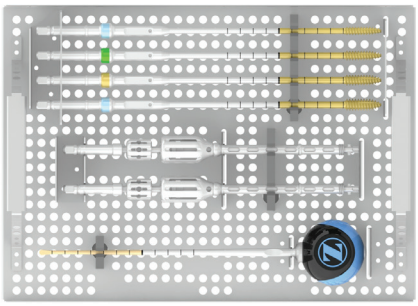
| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Reduction Tab Removal Tool | 1 | 07.02074.001 |
| Reduction Tab Sleeve | 6 | 730M0038 |
| Reduction Screwdriver | 2 | 07.02058.001 |
| Screwdriver Sleeve - Reduction | 2 | 07.02131.002 |
| ø5.5 mm – 6.0 mm Closure Top | 40 | 07.02010.001 |

## Compatible Implant Caddies

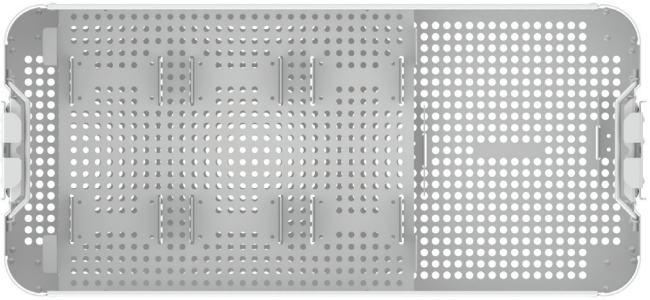
### *Reduction Implant Kit accepts a total of 3 of the following reduction screw caddies*

| DESCRIPTION | PART NUMBER |
|---|---|
| ø4.5 mm Polyaxial Reduction Screws | PCR700M0245 |
| ø5.0 mm Polyaxial Reduction Screws | PCR700M0250 |
| ø5.5 mm Polyaxial Reduction Screws | PCR700M0255 |
| ø6.0 mm Polyaxial Reduction Screws | PCR700M0260 |
| ø6.5 mm Polyaxial Reduction Screws | PCR700M0265 |
| ø7.0 mm Polyaxial Reduction Screws | PCR700M0270 |
| ø7.5 mm Polyaxial Reduction Screws | PCR700M0275 |
| ø8.5 mm Polyaxial Reduction Screws | PCR700M0285 |
| ø4.5 mm Uniplanar Reduction Screws | PCR700M0445 |
| ø5.0 mm Uniplanar Reduction Screws | PCR700M0450 |
| ø5.5 mm Uniplanar Reduction Screws | PCR700M0455 |
| ø6.0 mm Uniplanar Reduction Screws | PCR700M0460 |
| ø6.5 mm Uniplanar Reduction Screws | PCR700M0465 |

# Kit Contents *(continued)*



*Upper*



*Lower*

## Iliac Instrument Kit
## Kit Number: PCR700M5061

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Screwdriver | 2 | 730M0060 |
| Pedicle Probe - Iliac | 1 | 730M1007 |
| Cannulated Tap 6.5 mm - Iliac | 1 | 730M5065 |
| Cannulated Tap 7.5 mm - Iliac | 1 | 730M5075 |
| Cannulated Tap 8.5 mm - Iliac | 1 | 730M5085 |
| Cannulated Tap 9.5 mm - Iliac | 1 | 730M5095 |

## Compatible Implant Caddies

***Iliac Instrument Kit accepts up to 1 of the following iliac screw caddies:***

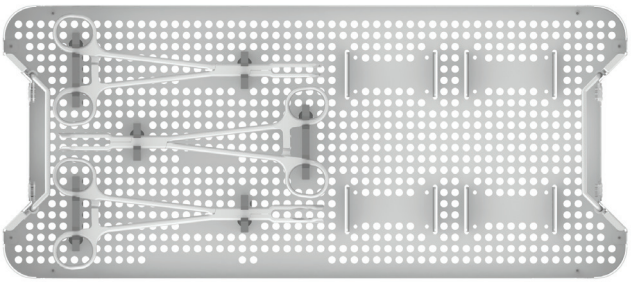
| DESCRIPTION | PART NUMBER |
|---|---|
| Open Iliac Screws | PCR700M0601 |
| Closed Iliac Screws | PCR700M0602 |
| Cannulated Open Iliac Screws | PCR800M0601 |

***Iliac Instrument Kit accepts up to 3 of the following implant caddies:***

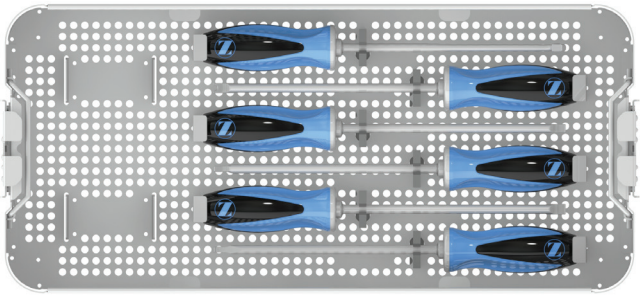
| DESCRIPTION | PART NUMBER |
|---|---|
| ø6.0 mm Curved Rods | PCR700M1216 |
| ø5.5-6.0 mm Rod Connectors | PCR700M5056 |
| ø3.5 mm x ø5.5-6.0 mm Rod Connectors | PCR700M5035 |

***Iliac Instrument Kit accepts up to 6 of the following implant caddies:***

| DESCRIPTION | PART NUMBER |
|---|---|
| Open Straight Lateral Offset Connectors | PCR700M3001 |
| Open 15° Lateral Offset Connectors | PCR700M3151 |
| Open 25° Lateral Offset Connectors | PCR700M3251 |
| Closed Straight Lateral Offset Connectors | PCR700M3002 |
| Closed 15° Lateral Offset Connectors | PCR700M3152 |
| Closed 25° Lateral Offset Connectors | PCR700M3252 |
| ø6.0 mm Adjustable Transverse Connectors | PCR700M4206 |
| Pedicle Hooks | PCR700M6001 |
| Angled Hooks | PCR700M6002 |
| Laminar Hooks | PCR700M6003 |
| Narrow Laminar Hooks | PCR700M6004 |
| Narrow Reduced Laminar Hooks | PCR700M6005 |
| Offset Hooks | PCR700M6006 |
| Angled Blade Hooks | PCR700M6007 |
| Extended Laminar Hooks | PCR700M6008 |
| Transverse Process Hooks | PCR700M6009 |



*Upper*



*Lower*

## Hook Instrument Kit PCR700M5111

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Vertical Hook Holder | 2 | 730M0027 |
| Angled Hook Holder | 2 | 730M0028 |
| Side Hook Holder | 2 | 730M0029 |
| Hook Impactor | 1 | 730M0030 |
| Pedicle Hook Starter | 1 | 730M0031 |
| Wide Laminar Hook Starter | 1 | 730M0032 |
| Narrow Laminar Hook Starter | 1 | 730M0034 |
| Thoracic Hook Starter | 1 | 730M0035 |
| TP Hook Starter | 1 | 730M0052 |

## Compatible Implant Caddies

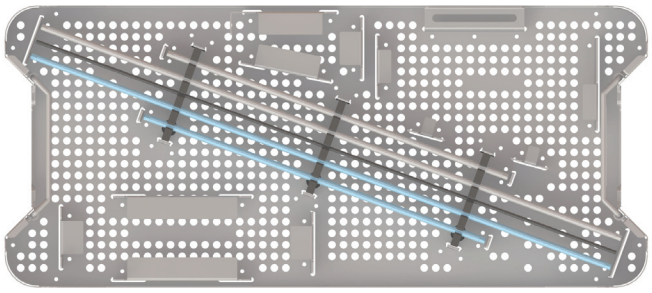
### *Hook Instrument Kit accepts up to 6 of the following implant caddies*

| DESCRIPTION | PART NUMBER |
|---|---|
| Pedicle Hooks | PCR700M6001 |
| Angled Hooks | PCR700M6002 |
| Laminar Hooks | PCR700M6003 |
| Narrow Laminar Hooks | PCR700M6004 |
| Narrow Reduced Laminar Hooks | PCR700M6005 |
| Offset Hooks | PCR700M6006 |
| Angled Blade Hooks | PCR700M6007 |
| Extended Laminar Hooks | PCR700M6008 |
| Transverse Process Hooks | PCR700M6009 |
| Open Straight Lateral Offset Connectors | PCR700M3001 |
| Open 15° Lateral Offset Connectors | PCR700M3151 |
| Open 25° Lateral Offset Connectors | PCR700M3251 |
| Closed Straight Lateral Offset Connectors | PCR700M3002 |
| Closed 15° Lateral Offset Connectors | PCR700M3152 |
| Closed 25° Lateral Offset Connectors | PCR700M3252 |
| ø6.0 mm Adjustable Transverse Connectors | PCR700M4206 |

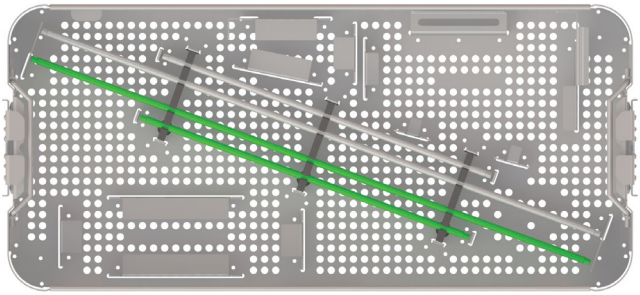
### *Hook Instrument Kit accepts up to 3 of the following implant caddies*

| DESCRIPTION | PART NUMBER |
|---|---|
| ø6.0 mm Curved Rods | PCR700M1216 |
| ø5.5-6.0 mm Rod Connectors | PCR700M5056 |
| ø3.5 mm x ø5.5-6.0 mm Rod Connectors | PCR700M5035 |

# Kit Contents *(continued)*



*Upper*



*Lower*

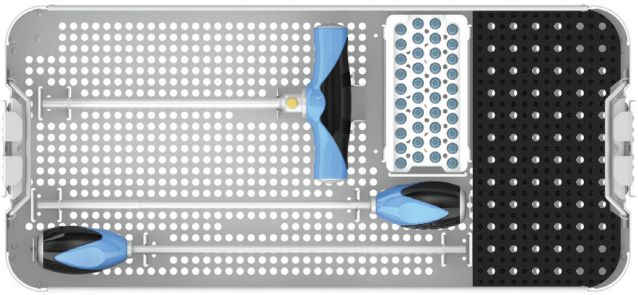
## Complex Rods Kit
## PCR700M5011

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| ø5.5 x 300 mm, Straight Rod, Ti | 4 | 07.02013.001 |
| ø5.5 x 300 mm, Straight Rod, CoCr | 4 | 07.02016.001 |
| ø5.5 x 510 mm, Straight Rod, Ti | 4 | 07.02013.003 |
| ø5.5 x 510 mm, Straight Rod, CoCr | 4 | 07.02016.003 |
| ø6.0 x 300 mm, Straight Rod, Ti | 4 | 07.02019.001 |
| ø6.0 x 300 mm, Straight Rod, CoCr | 4 | 07.02022.001 |
| ø6.0 x 510 mm, Straight Rod, Ti | 4 | 07.02019.003 |
| ø6.0 x 510 mm, Straight Rod, CoCr | 4 | 07.02022.003 |
| 510 mm Rod Template | 1 | 07.02099.004 |

## Compatible Implant Caddies

***Complex Rod Kit accepts 1 of each of the following:***

| DESCRIPTION | PART NUMBER |
|---|---|
| ø5.5 mm Straight Rods | PCR700M1115 |
| ø6.0 mm Straight Rods | PCR700M1116 |
| ø5.5 mm Intermediate Curved Rods | PCR700M1225 |
| ø6.0 mm Intermediate Curved Rods | PCR700M1226 |
| ø5.5 mm Fixed Transverse Connectors | PCR700M4105 |
| ø6.0 mm Fixed Transverse Connectors | PCR700M4106 |



## Shear-off Closure Top Kit
## PCR700M5091

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Shear-Off Closure Top | 40 | 07.02011.001 |
| Shear-Off Final Driver | 1 | 730M0002 |
| Shear-Off Closure Top Starter | 2 | 730M0050 |

***Note:*** *Implant caddies may be sterilized and wrapped independently, or they may be inserted into the Universal Implant Kit, Reduction Implant Kit, Complex Rod Kit, Iliac Instrument Kit, Hook Instrument Kit, or the Cannulated Instrument Kit.*

Polyaxial Screws

## ø4.0 mm Polyaxial Screws PCR700M0140

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Screw, ø4.0 mm x 20 mm | 4 | 701M4020 |
| Polyaxial Screw, ø4.0 mm x 25 mm | 4 | 701M4025 |
| Polyaxial Screw, ø4.0 mm x 30 mm | 4 | 701M4030 |
| Polyaxial Screw, ø4.0 mm x 35 mm | 4 | 701M4035 |
| Polyaxial Screw, ø4.0 mm x 40 mm | 4 | 701M4040 |
| Polyaxial Screw, ø4.0 mm x 45 mm | 4 | 701M4045 |

## ø4.5 mm Polyaxial Screws PCR700M0145

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Screw, ø4.5 mm x 20 mm | 4 | 701M4520 |
| Polyaxial Screw, ø4.5 mm x 25 mm | 4 | 701M4525 |
| Polyaxial Screw, ø4.5 mm x 30 mm | 4 | 701M4530 |
| Polyaxial Screw, ø4.5 mm x 35 mm | 4 | 701M4535 |
| Polyaxial Screw, ø4.5 mm x 40 mm | 4 | 701M4540 |
| Polyaxial Screw, ø4.5 mm x 45 mm | 4 | 701M4545 |

## ø5.0 mm Polyaxial Screws PCR700M0150

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Screw, ø5.0 mm x 30 mm | 6 | 701M5030 |
| Polyaxial Screw, ø5.0 mm x 35 mm | 6 | 701M5035 |
| Polyaxial Screw, ø5.0 mm x 40 mm | 6 | 701M5040 |
| Polyaxial Screw, ø5.0 mm x 45 mm | 4 | 701M5045 |
| Polyaxial Screw, ø5.0 mm x 50 mm | 4 | 701M5050 |

## ø5.5 mm Polyaxial Screws PCR700M0155

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Screw, ø5.5 mm x 30 mm | 10 | 701M5530 |
| Polyaxial Screw, ø5.5 mm x 35 mm | 10 | 701M5535 |
| Polyaxial Screw, ø5.5 mm x 40 mm | 10 | 701M5540 |
| Polyaxial Screw, ø5.5 mm x 45 mm | 6 | 701M5545 |
| Polyaxial Screw, ø5.5 mm x 50 mm | 4 | 701M5550 |

## ø6.0 mm Polyaxial Screws PCR700M0160

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Screw, ø6.0 mm x 30 mm | 6 | 701M6030 |
| Polyaxial Screw, ø6.0 mm x 35 mm | 6 | 701M6035 |
| Polyaxial Screw, ø6.0 mm x 40 mm | 6 | 701M6040 |
| Polyaxial Screw, ø6.0 mm x 45 mm | 6 | 701M6045 |
| Polyaxial Screw, ø6.0 mm x 50 mm | 6 | 701M6050 |

## ø6.5 mm Polyaxial Screws PCR700M0165

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Screw, ø6.5 mm x 30 mm | 4 | 701M6530 |
| Polyaxial Screw, ø6.5 mm x 35 mm | 6 | 701M6535 |
| Polyaxial Screw, ø6.5 mm x 40 mm | 10 | 701M6540 |
| Polyaxial Screw, ø6.5 mm x 45 mm | 10 | 701M6545 |
| Polyaxial Screw, ø6.5 mm x 50 mm | 10 | 701M6550 |

## ø7.0 mm Polyaxial Screws PCR700M0170

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Screw, ø7.0 mm x 30 mm | 4 | 701M7030 |
| Polyaxial Screw, ø7.0 mm x 35 mm | 6 | 701M7035 |
| Polyaxial Screw, ø7.0 mm x 40 mm | 10 | 701M7040 |
| Polyaxial Screw, ø7.0 mm x 45 mm | 10 | 701M7045 |
| Polyaxial Screw, ø7.0 mm x 50 mm | 10 | 701M7050 |

## ø7.5 mm Polyaxial Screws PCR700M0175

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Screw, ø7.5 mm x 30 mm | 4 | 701M7530 |
| Polyaxial Screw, ø7.5 mm x 35 mm | 4 | 701M7535 |
| Polyaxial Screw, ø7.5 mm x 40 mm | 6 | 701M7540 |
| Polyaxial Screw, ø7.5 mm x 45 mm | 6 | 701M7545 |
| Polyaxial Screw, ø7.5 mm x 50 mm | 6 | 701M7550 |

# Kit Contents *(continued)*

## Polyaxial Screws *(continued)*

### ø8.5 mm Polyaxial Screws PCR700M0185

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Screw, ø8.5 mm x 30 mm | 4 | 709M8530 |
| Polyaxial Screw, ø8.5 mm x 35 mm | 4 | 709M8535 |
| Polyaxial Screw, ø8.5 mm x 40 mm | 4 | 709M8540 |
| Polyaxial Screw, ø8.5 mm x 45 mm | 4 | 709M8545 |
| Polyaxial Screw, ø8.5 mm x 50 mm | 4 | 709M8550 |

### ø10.5 mm Polyaxial Screws PCR700M0115

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Screw, ø10.5 mm x 30 mm | 2 | 709M1530 |
| Polyaxial Screw, ø10.5 mm x 35 mm | 2 | 709M1535 |
| Polyaxial Screw, ø10.5 mm x 40 mm | 4 | 709M1540 |
| Polyaxial Screw, ø10.5 mm x 45 mm | 4 | 709M1545 |
| Polyaxial Screw, ø10.5 mm x 50 mm | 4 | 709M1550 |

### ø9.5 mm Polyaxial Screws PCR700M0195

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Screw, ø9.5 mm x 30 mm | 2 | 709M9530 |
| Polyaxial Screw, ø9.5 mm x 35 mm | 2 | 709M9535 |
| Polyaxial Screw, ø9.5 mm x 40 mm | 4 | 709M9540 |
| Polyaxial Screw, ø9.5 mm x 45 mm | 4 | 709M9545 |
| Polyaxial Screw, ø9.5 mm x 50 mm | 4 | 709M9550 |

## Cannulated Polyaxial Screws

### ø4.5 mm Cannulated Polyaxial Screws PCR800M0145

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Polyaxial Screw, ø4.5 mm x 20 mm | 4 | 801M4520 |
| Cannulated Polyaxial Screw, ø4.5 mm x 25 mm | 4 | 801M4525 |
| Cannulated Polyaxial Screw, ø4.5 mm x 30 mm | 4 | 801M4530 |
| Cannulated Polyaxial Screw, ø4.5 mm x 35 mm | 4 | 801M4535 |
| Cannulated Polyaxial Screw, ø4.5 mm x 40 mm | 4 | 801M4540 |
| Cannulated Polyaxial Screw, ø4.5 mm x 45 mm | 4 | 801M4545 |

### ø5.5 mm Cannulated Polyaxial Screws PCR800M0155

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Polyaxial Screw, ø5.5 mm x 30 mm | 10 | 801M5530 |
| Cannulated Polyaxial Screw, ø5.5 mm x 35 mm | 10 | 801M5535 |
| Cannulated Polyaxial Screw, ø5.5 mm x 40 mm | 10 | 801M5540 |
| Cannulated Polyaxial Screw, ø5.5 mm x 45 mm | 6 | 801M5545 |
| Cannulated Polyaxial Screw, ø5.5 mm x 50 mm | 4 | 801M5550 |

### ø5.0 mm Cannulated Polyaxial Screws PCR800M0150

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Polyaxial Screw, ø5.0 mm x 30 mm | 6 | 801M5030 |
| Cannulated Polyaxial Screw, ø5.0 mm x 35 mm | 6 | 801M5035 |
| Cannulated Polyaxial Screw, ø5.0 mm x 40 mm | 6 | 801M5040 |
| Cannulated Polyaxial Screw, ø5.0 mm x 45 mm | 4 | 801M5045 |
| Cannulated Polyaxial Screw, ø5.0 mm x 50 mm | 4 | 801M5050 |

### ø6.0 mm Cannulated Polyaxial Screws PCR800M0160

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Polyaxial Screw, ø6.0 mm x 30 mm | 6 | 801M6030 |
| Cannulated Polyaxial Screw, ø6.0 mm x 35 mm | 6 | 801M6035 |
| Cannulated Polyaxial Screw, ø6.0 mm x 40 mm | 6 | 801M6040 |
| Cannulated Polyaxial Screw, ø6.0 mm x 45 mm | 6 | 801M6045 |
| Cannulated Polyaxial Screw, ø6.0 mm x 50 mm | 6 | 801M6050 |

## ø6.5 mm Cannulated Polyaxial Screws PCR800M0165

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Polyaxial Screw, ø6.5 mm x 30 mm | 4 | 801M6530 |
| Cannulated Polyaxial Screw, ø6.5 mm x 35 mm | 6 | 801M6535 |
| Cannulated Polyaxial Screw, ø6.5 mm x 40 mm | 10 | 801M6540 |
| Cannulated Polyaxial Screw, ø6.5 mm x 45 mm | 10 | 801M6545 |
| Cannulated Polyaxial Screw, ø6.5 mm x 50 mm | 10 | 801M6550 |

## ø7.0 mm Cannulated Polyaxial Screws PCR800M0170

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Polyaxial Screw, ø7.0 mm x 30 mm | 4 | 801M7030 |
| Cannulated Polyaxial Screw, ø7.0 mm x 35 mm | 6 | 801M7035 |
| Cannulated Polyaxial Screw, ø7.0 mm x 40 mm | 10 | 801M7040 |
| Cannulated Polyaxial Screw, ø7.0 mm x 45 mm | 10 | 801M7045 |
| Cannulated Polyaxial Screw, ø7.0 mm x 50 mm | 10 | 801M7050 |

## ø7.5 mm Cannulated Polyaxial Screws PCR800M0175

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Polyaxial Screw, ø7.5 mm x 30 mm | 4 | 801M7530 |
| Cannulated Polyaxial Screw, ø7.5 mm x 35 mm | 4 | 801M7535 |
| Cannulated Polyaxial Screw, ø7.5 mm x 40 mm | 6 | 801M7540 |
| Cannulated Polyaxial Screw, ø7.5 mm x 45 mm | 6 | 801M7545 |
| Cannulated Polyaxial Screw, ø7.5 mm x 50 mm | 6 | 801M7550 |

## ø8.5 mm Cannulated Polyaxial Screws PCR800M0185

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Polyaxial Screw, ø8.5 mm x 30 mm | 4 | 802M8530 |
| Cannulated Polyaxial Screw, ø8.5 mm x 35 mm | 4 | 802M8535 |
| Cannulated Polyaxial Screw, ø8.5 mm x 40 mm | 4 | 802M8540 |
| Cannulated Polyaxial Screw, ø8.5 mm x 45 mm | 4 | 802M8545 |
| Cannulated Polyaxial Screw, ø8.5 mm x 50 mm | 4 | 802M8550 |

## ø9.5 mm Cannulated Polyaxial Screws PCR800M0195

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Polyaxial Screw, ø9.5 mm x 30 mm | 2 | 802M9530 |
| Cannulated Polyaxial Screw, ø9.5 mm x 35 mm | 2 | 802M9535 |
| Cannulated Polyaxial Screw, ø9.5 mm x 40 mm | 4 | 802M9540 |
| Cannulated Polyaxial Screw, ø9.5 mm x 45 mm | 4 | 802M9545 |
| Cannulated Polyaxial Screw, ø9.5 mm x 50 mm | 4 | 802M9550 |

# Kit Contents *(continued)*

Polyaxial Reduction Screws

## ø4.5 mm Polyaxial Reduction Screws PCR700M0245

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Reduction Screw, ø4.5 mm x 30 mm | 4 | 703M4530 |
| Polyaxial Reduction Screw, ø4.5 mm x 35 mm | 4 | 703M4535 |
| Polyaxial Reduction Screw, ø4.5 mm x 40 mm | 4 | 703M4540 |
| Polyaxial Reduction Screw, ø4.5 mm x 45 mm | 4 | 703M4545 |

## ø5.0 mm Polyaxial Reduction Screws PCR700M0250

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Reduction Screw, ø5.0 mm x 30 mm | 4 | 703M5030 |
| Polyaxial Reduction Screw, ø5.0 mm x 35 mm | 4 | 703M5035 |
| Polyaxial Reduction Screw, ø5.0 mm x 40 mm | 4 | 703M5040 |
| Polyaxial Reduction Screw, ø5.0 mm x 45 mm | 4 | 703M5045 |
| Polyaxial Reduction Screw, ø5.0 mm x 50 mm | 4 | 703M5050 |

## ø5.5 mm Polyaxial Reduction Screws PCR700M0255

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Reduction Screw, ø5.5 mm x 30 mm | 6 | 703M5530 |
| Polyaxial Reduction Screw, ø5.5 mm x 35 mm | 6 | 703M5535 |
| Polyaxial Reduction Screw, ø5.5 mm x 40 mm | 6 | 703M5540 |
| Polyaxial Reduction Screw, ø5.5 mm x 45 mm | 6 | 703M5545 |
| Polyaxial Reduction Screw, ø5.5 mm x 50 mm | 4 | 703M5550 |

## ø6.0 mm Polyaxial Reduction Screws PCR700M0260

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Reduction Screw, ø6.0 mm x 30 mm | 4 | 703M6030 |
| Polyaxial Reduction Screw, ø6.0 mm x 35 mm | 6 | 703M6035 |
| Polyaxial Reduction Screw, ø6.0 mm x 40 mm | 6 | 703M6040 |
| Polyaxial Reduction Screw, ø6.0 mm x 45 mm | 6 | 703M6045 |
| Polyaxial Reduction Screw, ø6.0 mm x 50 mm | 6 | 703M6050 |

## ø6.5 mm Polyaxial Reduction Screws PCR700M0265

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Reduction Screw, ø6.5 mm x 30 mm | 4 | 703M6530 |
| Polyaxial Reduction Screw, ø6.5 mm x 35 mm | 6 | 703M6535 |
| Polyaxial Reduction Screw, ø6.5 mm x 40 mm | 6 | 703M6540 |
| Polyaxial Reduction Screw, ø6.5 mm x 45 mm | 6 | 703M6545 |
| Polyaxial Reduction Screw, ø6.5 mm x 50 mm | 6 | 703M6550 |

## ø7.0 mm Polyaxial Reduction Screws PCR700M0270

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Reduction Screw, ø7.0 mm x 30 mm | 4 | 703M7030 |
| Polyaxial Reduction Screw, ø7.0 mm x 35 mm | 6 | 703M7035 |
| Polyaxial Reduction Screw, ø7.0 mm x 40 mm | 6 | 703M7040 |
| Polyaxial Reduction Screw, ø7.0 mm x 45 mm | 6 | 703M7045 |
| Polyaxial Reduction Screw, ø7.0 mm x 50 mm | 6 | 703M7050 |

## ø7.5 mm Polyaxial Reduction Screws PCR700M0275

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Reduction Screw, ø7.5 mm x 30 mm | 4 | 703M7530 |
| Polyaxial Reduction Screw, ø7.5 mm x 35 mm | 4 | 703M7535 |
| Polyaxial Reduction Screw, ø7.5 mm x 40 mm | 4 | 703M7540 |
| Polyaxial Reduction Screw, ø7.5 mm x 45 mm | 4 | 703M7545 |
| Polyaxial Reduction Screw, ø7.5 mm x 50 mm | 4 | 703M7550 |

## ø8.5 mm Polyaxial Reduction Screws PCR700M0285

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Polyaxial Reduction Screw, ø8.5 mm x 30 mm | 2 | 702M8530 |
| Polyaxial Reduction Screw, ø8.5 mm x 35 mm | 2 | 702M8535 |
| Polyaxial Reduction Screw, ø8.5 mm x 40 mm | 2 | 702M8540 |
| Polyaxial Reduction Screw, ø8.5 mm x 45 mm | 2 | 702M8545 |
| Polyaxial Reduction Screw, ø8.5 mm x 50 mm | 2 | 702M8550 |

Uniplanar Screws

## ø4.5 mm Uniplanar Screws PCR700M0345

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Uniplanar Screw, ø4.5 mm x 25 mm | 4 | 706M4525 |
| Uniplanar Screw, ø4.5 mm x 3 0mm | 6 | 706M4530 |
| Uniplanar Screw, ø4.5 mm x 35 mm | 6 | 706M4535 |
| Uniplanar Screw, ø4.5 mm x 40 mm | 6 | 706M4540 |
| Uniplanar Screw, ø4.5 mm x 45 mm | 6 | 706M4545 |

## ø5.0 mm Uniplanar Screws PCR700M0350

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Uniplanar Screw, ø5.0 mm x 30 mm | 10 | 706M5030 |
| Uniplanar Screw, ø5.0 mm x 35 mm | 10 | 706M5035 |
| Uniplanar Screw, ø5.0 mm x 40 mm | 10 | 706M5040 |
| Uniplanar Screw, ø5.0 mm x 45 mm | 8 | 706M5045 |
| Uniplanar Screw, ø5.0 mm x 50 mm | 6 | 706M5050 |

## ø5.5 mm Uniplanar Screws PCR700M0355

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Uniplanar Screw, ø5.5 mm x 30 mm | 10 | 706M5530 |
| Uniplanar Screw, ø5.5 mm x 35 mm | 10 | 706M5535 |
| Uniplanar Screw, ø5.5mm x 40 mm | 10 | 706M5540 |
| Uniplanar Screw, ø5.5 mm x 45 mm | 8 | 706M5545 |
| Uniplanar Screw, ø5.5 mm x 50 mm | 4 | 706M5550 |

## ø6.0 mm Uniplanar Screws PCR700M0360

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Uniplanar Screw, ø6.0 mm x 30 mm | 10 | 706M6030 |
| Uniplanar Screw, ø6.0 mm x 35 mm | 10 | 706M6035 |
| Uniplanar Screw, ø6.0 mm x 40 mm | 10 | 706M6040 |
| Uniplanar Screw, ø6.0 mm x 45 mm | 8 | 706M6045 |
| Uniplanar Screw, ø6.0 mm x 50 mm | 4 | 706M6050 |

## ø6.5 mm Uniplanar Screws PCR700M0365

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Uniplanar Screw, ø6.5 mm x 30 mm | 6 | 706M6530 |
| Uniplanar Screw, ø6.5 mm x 35 mm | 8 | 706M6535 |
| Uniplanar Screw, ø6.5 mm x 40 mm | 8 | 706M6540 |
| Uniplanar Screw, ø6.5 mm x 45 mm | 8 | 706M6545 |
| Uniplanar Screw, ø6.5 mm x 50 mm | 4 | 706M6550 |

## ø7.5 mm Uniplanar Screws PCR700M0375

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Uniplanar Screw, ø7.5 mm x 30 mm | 6 | 706M7530 |
| Uniplanar Screw, ø7.5 mm x 35 mm | 8 | 706M7535 |
| Uniplanar Screw, ø7.5 mm x 40 mm | 8 | 706M7540 |
| Uniplanar Screw, ø7.5 mm x 45 mm | 8 | 706M7545 |
| Uniplanar Screw, ø7.5 mm x 50 mm | 4 | 706M7550 |

# Kit Contents *(continued)*

## Cannulated Uniplanar Screws

### ø4.5 mm Cannulated Uniplanar Screws PCR800M0345

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Uniplanar Screw, ø4.5 mm x 25 mm | 4 | 807M4525 |
| Cannulated Uniplanar Screw, ø4.5 mm x 30 mm | 6 | 807M4530 |
| Cannulated Uniplanar Screw, ø4.5 mm x 35 mm | 6 | 807M4535 |
| Cannulated Uniplanar Screw, ø4.5 mm x 40 mm | 6 | 807M4540 |
| Cannulated Uniplanar Screw, ø4.5 mm x 45 mm | 6 | 807M4545 |

### ø5.0 mm Cannulated Uniplanar Screws PCR800M0350

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Uniplanar Screw, ø5.0 mm x 30 mm | 10 | 807M5030 |
| Cannulated Uniplanar Screw, ø5.0 mm x 35 mm | 10 | 807M5035 |
| Cannulated Uniplanar Screw, ø5.0 mm x 40 mm | 10 | 807M5040 |
| Cannulated Uniplanar Screw, ø5.0 mm x 45 mm | 8 | 807M5045 |
| Cannulated Uniplanar Screw, ø5.0 mm x 50 mm | 6 | 807M5050 |

### ø5.5 mm Cannulated Uniplanar Screws PCR800M0355

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Uniplanar Screw, ø5.5 mm x 30 mm | 10 | 807M5530 |
| Cannulated Uniplanar Screw, ø5.5 mm x 35 mm | 10 | 807M5535 |
| Cannulated Uniplanar Screw, ø5.5 mm x 40 mm | 10 | 807M5540 |
| Cannulated Uniplanar Screw, ø5.5 mm x 45 mm | 8 | 807M5545 |
| Cannulated Uniplanar Screw, ø5.5 mm x 50 mm | 4 | 807M5550 |

### ø6.0 mm Cannulated Uniplanar Screws PCR800M0360

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Uniplanar Screw, ø6.0 mm x 30 mm | 10 | 807M6030 |
| Cannulated Uniplanar Screw, ø6.0 mm x 35 mm | 10 | 807M6035 |
| Cannulated Uniplanar Screw, ø6.0 mm x 40 mm | 10 | 807M6040 |
| Cannulated Uniplanar Screw, ø6.0 mm x 45 mm | 8 | 807M6045 |
| Cannulated Uniplanar Screw, ø6.0 mm x 50 mm | 4 | 807M6050 |

### ø6.5 mm Cannulated Uniplanar Screws PCR800M0365

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Uniplanar Screw, ø6.5 mm x 30 mm | 6 | 807M6530 |
| Cannulated Uniplanar Screw, ø6.5 mm x 35 mm | 8 | 807M6535 |
| Cannulated Uniplanar Screw, ø6.5 mm x 40 mm | 8 | 807M6540 |
| Cannulated Uniplanar Screw, ø6.5 mm x 45 mm | 8 | 807M6545 |
| Cannulated Uniplanar Screw, ø6.5 mm x 50 mm | 4 | 807M6550 |

### ø7.5 mm Cannulated Uniplanar Screws PCR800M0375

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Uniplanar Screw, ø7.5 mm x 30 mm | 6 | 807M7530 |
| Cannulated Uniplanar Screw, ø7.5 mm x 35 mm | 8 | 807M7535 |
| Cannulated Uniplanar Screw, ø7.5 mm x 40 mm | 8 | 807M7540 |
| Cannulated Uniplanar Screw, ø7.5 mm x 45 mm | 8 | 807M7545 |
| Cannulated Uniplanar Screw, ø7.5 mm x 50 mm | 4 | 807M7550 |

Uniplanar Reduction Screws

## ø4.5 mm Uniplanar Reduction Screws PCR700M0445

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Uniplanar Reduction Screw, ø4.5 mm x 30 mm | 6 | 707M4530 |
| Uniplanar Reduction Screw, ø4.5 mm x 35 mm | 6 | 707M4535 |
| Uniplanar Reduction Screw, ø4.5 mm x 40 mm | 6 | 707M4540 |
| Uniplanar Reduction Screw, ø4.5 mm x 45 mm | 4 | 707M4545 |

## ø5.0 mm Uniplanar Reduction Screws PCR700M0450

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Uniplanar Reduction Screw, ø5.0 mm x 30 mm | 6 | 707M5030 |
| Uniplanar Reduction Screw, ø5.0 mm x 35 mm | 6 | 707M5035 |
| Uniplanar Reduction Screw, ø5.0 mm x 40 mm | 6 | 707M5040 |
| Uniplanar Reduction Screw, ø5.0 mm x 45 mm | 6 | 707M5045 |
| Uniplanar Reduction Screw, ø5.0 mm x 50 mm | 2 | 707M5050 |

## ø5.5 mm Uniplanar Reduction Screws PCR700M0455

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Uniplanar Reduction Screw, ø5.5 mm x 30 mm | 6 | 707M5530 |
| Uniplanar Reduction Screw, ø5.5 mm x 35 mm | 6 | 707M5535 |
| Uniplanar Reduction Screw, ø5.5 mm x 40 mm | 6 | 707M5540 |
| Uniplanar Reduction Screw, ø5.5 mm x 45 mm | 6 | 707M5545 |
| Uniplanar Reduction Screw, ø5.5 mm x 50 mm | 2 | 707M5550 |

## ø6.0 mm Uniplanar Reduction Screws PCR700M0460

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Uniplanar Reduction Screw, ø6.0 mm x 30 mm | 6 | 707M6030 |
| Uniplanar Reduction Screw, ø6.0 mm x 35 mm | 6 | 707M6035 |
| Uniplanar Reduction Screw, ø6.0 mm x 40 mm | 6 | 707M6040 |
| Uniplanar Reduction Screw, ø6.0 mm x 45 mm | 6 | 707M6045 |
| Uniplanar Reduction Screw, ø6.0 mm x 50 mm | 2 | 707M6050 |

## ø6.5 mm Uniplanar Reduction Screws PCR700M0465

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Uniplanar Reduction Screw, ø6.5 mm x 30 mm | 6 | 707M6530 |
| Uniplanar Reduction Screw, ø6.5 mm x 35 mm | 6 | 707M6535 |
| Uniplanar Reduction Screw, ø6.5 mm x 40 mm | 6 | 707M6540 |
| Uniplanar Reduction Screw, ø6.5 mm x 45 mm | 4 | 707M6545 |
| Uniplanar Reduction Screw, ø6.5 mm x 50 mm | 4 | 707M6550 |

# Kit Contents *(continued)*

Monoaxial Screws

## ø4.0 mm Monoaxial Screws PCR700M0540

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Monoaxial Screw, ø4.0 mm x 20 mm | 6 | 708M4020 |
| Monoaxial Screw, ø4.0 mm x 25 mm | 6 | 708M4025 |
| Monoaxial Screw, ø4.0 mm x 30 mm | 6 | 708M4030 |
| Monoaxial Screw, ø4.0 mm x 35 mm | 6 | 708M4035 |
| Monoaxial Screw, ø4.0 mm x 40 mm | 6 | 708M4040 |
| Monoaxial Screw, ø4.0 mm x 45 mm | 6 | 708M4045 |

## ø4.5 mm Monoaxial Screws PCR700M0545

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Monoaxial Screw, ø4.5 mm x 20 mm | 6 | 708M4520 |
| Monoaxial Screw, ø4.5 mm x 25 mm | 6 | 708M4525 |
| Monoaxial Screw, ø4.5 mm x 30 mm | 6 | 708M4530 |
| Monoaxial Screw, ø4.5 mm x 35 mm | 6 | 708M4535 |
| Monoaxial Screw, ø4.5 mm x 40 mm | 6 | 708M4540 |
| Monoaxial Screw, ø4.5 mm x 45 mm | 6 | 708M4545 |

## ø5.5 mm Monoaxial Screws PCR700M0555

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Monoaxial Screw, ø5.5 mm x 20 mm | 6 | 708M5520 |
| Monoaxial Screw, ø5.5 mm x 25 mm | 6 | 708M5525 |
| Monoaxial Screw, ø5.5 mm x 30 mm | 8 | 708M5530 |
| Monoaxial Screw, ø5.5 mm x 35 mm | 8 | 708M5535 |
| Monoaxial Screw, ø5.5 mm x 40 mm | 8 | 708M5540 |
| Monoaxial Screw, ø5.5 mm x 45 mm | 8 | 708M5545 |

## ø6.5 mm Monoaxial Screws PCR700M0565

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Monoaxial Screw, ø6.5 mm x 35 mm | 8 | 708M6535 |
| Monoaxial Screw, ø6.5 mm x 40 mm | 8 | 708M6540 |
| Monoaxial Screw, ø6.5 mm x 45 mm | 8 | 708M6545 |
| Monoaxial Screw, ø6.5 mm x 50 mm | 4 | 708M6550 |
| Monoaxial Screw, ø6.5 mm x 55 mm | 2 | 708M6555 |

## ø7.5 mm Monoaxial Screws PCR700M0575

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Monoaxial Screw, ø7.5 mm x 30mm | 6 | 708M7530 |
| Monoaxial Screw, ø7.5 mm x 35 mm | 6 | 708M7535 |
| Monoaxial Screw, ø7.5 mm x 40 mm | 6 | 708M7540 |
| Monoaxial Screw, ø7.5 mm x 45 mm | 6 | 708M7545 |
| Monoaxial Screw, ø7.5 mm x 50 mm | 2 | 708M7550 |

## ø4.5 mm Cannulated Monoaxial Screws PCR800M0545

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Monoaxial Screw, ø4.5 mm x 20 mm | 6 | 809M4520 |
| Cannulated Monoaxial Screw, ø4.5 mm x 25 mm | 6 | 809M4525 |
| Cannulated Monoaxial Screw, ø4.5 mm x 30 mm | 6 | 809M4530 |
| Cannulated Monoaxial Screw, ø4.5 mm x 35 mm | 6 | 809M4535 |
| Cannulated Monoaxial Screw, ø4.5 mm x 40 mm | 6 | 809M4540 |
| Cannulated Monoaxial Screw, ø4.5 mm x 45 mm | 6 | 809M4545 |

## ø6.5 mm Cannulated Monoaxial Screws PCR800M0565

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Monoaxial Screw, ø6.5 mm x 35 mm | 8 | 809M6535 |
| Cannulated Monoaxial Screw, ø6.5 mm x 40 mm | 8 | 809M6540 |
| Cannulated Monoaxial Screw, ø6.5 mm x 45 mm | 8 | 809M6545 |
| Cannulated Monoaxial Screw, ø6.5 mm x 50 mm | 4 | 809M6550 |
| Cannulated Monoaxial Screw, ø6.5 mm x 55 mm | 2 | 809M6555 |

## ø5.5 mm Cannulated Monoaxial Screws PCR800M0555

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Monoaxial Screw, ø5.5 mm x 20 mm | 6 | 809M5520 |
| Cannulated Monoaxial Screw, ø5.5 mm x 25 mm | 6 | 809M5525 |
| Cannulated Monoaxial Screw, ø5.5 mm x 30 mm | 8 | 809M5530 |
| Cannulated Monoaxial Screw, ø5.5 mm x 35 mm | 8 | 809M5535 |
| Cannulated Monoaxial Screw, ø5.5 mm x 40 mm | 8 | 809M5540 |
| Cannulated Monoaxial Screw, ø5.5 mm x 45 mm | 8 | 809M5545 |

## ø7.5 mm Cannulated Monoaxial Screws PCR800M0575

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Monoaxial Screw, ø7.5 mm x 30 mm | 6 | 809M7530 |
| Cannulated Monoaxial Screw, ø7.5 mm x 35 mm | 6 | 809M7535 |
| Cannulated Monoaxial Screw, ø7.5 mm x 40 mm | 6 | 809M7540 |
| Cannulated Monoaxial Screw, ø7.5 mm x 45 mm | 6 | 809M7545 |
| Cannulated Monoaxial Screw, ø7.5 mm x 50 mm | 2 | 809M7550 |



## Closed Iliac Screws PCR700M0602

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Closed Iliac Screw, ø7.5 mm x 70 mm | 2 | 705M7570 |
| Closed Iliac Screw, ø7.5 mm x 80 mm | 2 | 705M7580 |
| Closed Iliac Screw, ø7.5 mm x 90 mm | 2 | 705M7590 |
| Closed Iliac Screw, ø7.5 mm x 100 mm | 2 | 705M7500 |
| Closed Iliac Screw, ø7.5 mm x 110 mm | 2 | 705M7510 |
| Closed Iliac Screw, ø7.5 mm x 120 mm | 2 | 705M7521 |
| Closed Iliac Screw, ø8.5 mm x 70 mm | 2 | 705M8570 |
| Closed Iliac Screw, ø8.5 mm x 80 mm | 2 | 705M8580 |
| Closed Iliac Screw, ø8.5 mm x 90 mm | 2 | 705M8590 |
| Closed Iliac Screw, ø8.5 mm x 100 mm | 2 | 705M8500 |
| Closed Iliac Screw, ø8.5 mm x 110 mm | 2 | 705M8510 |
| Closed Iliac Screw, ø8.5 mm x 120 mm | 2 | 705M8521 |

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Closed Iliac Screw, ø9.5 mm x 70 mm | 2 | 705M9570 |
| Closed Iliac Screw, ø9.5 mm x 80 mm | 2 | 705M9580 |
| Closed Iliac Screw, ø9.5 mm x 90 mm | 2 | 705M9590 |
| Closed Iliac Screw, ø9.5 mm x 100 mm | 2 | 705M9500 |
| Closed Iliac Screw, ø9.5 mm x 110 mm | 2 | 705M9510 |
| Closed Iliac Screw, ø9.5 mm x 120 mm | 2 | 705M9521 |
| Closed Iliac Screw, ø10.5 mm x 70 mm | 2 | 705M1570 |
| Closed Iliac Screw, ø10.5 mm x 80 mm | 2 | 705M1580 |
| Closed Iliac Screw, ø10.5 mm x 90 mm | 2 | 705M1590 |
| Closed Iliac Screw, ø10.5 mm x 100 mm | 2 | 705M1500 |
| Closed Iliac Screw, ø10.5 mm x 110 mm | 2 | 705M1510 |
| Closed Iliac Screw, ø10.5 mm x 120 mm | 2 | 705M1521 |

# Kit Contents *(continued)*

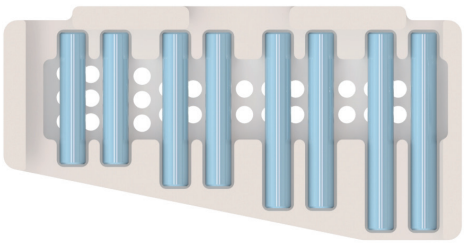
Open Iliac Screws

## Open Iliac Screws PCR700M0601

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Open Iliac Screw, ø7.5 mm x 70 mm | 2 | 704M7570 |
| Open Iliac Screw, ø7.5 mm x 80 mm | 2 | 704M7580 |
| Open Iliac Screw, ø7.5 mm x 90 mm | 2 | 704M7590 |
| Open Iliac Screw, ø7.5 mm x 100 mm | 2 | 704M7500 |
| Open Iliac Screw, ø7.5 mm x 110 mm | 2 | 704M7510 |
| Open Iliac Screw, ø7.5 mm x 120 mm | 2 | 704M7521 |
| Open Iliac Screw, ø8.5 mm x 70 mm | 2 | 704M8570 |
| Open Iliac Screw, ø8.5 mm x 80 mm | 2 | 704M8580 |
| Open Iliac Screw, ø8.5 mm x 90 mm | 2 | 704M8590 |
| Open Iliac Screw, ø8.5 mm x 100 mm | 2 | 704M8500 |
| Open Iliac Screw, ø8.5 mm x 110 mm | 2 | 704M8510 |
| Open Iliac Screw, ø8.5 mm x 120 mm | 2 | 704M8521 |
| Open Iliac Screw, ø9.5 mm x 70 mm | 2 | 704M9570 |
| Open Iliac Screw, ø9.5 mm x 80 mm | 2 | 704M9580 |
| Open Iliac Screw, ø9.5 mm x 90 mm | 2 | 704M9590 |
| Open Iliac Screw, ø9.5 mm x 100 mm | 2 | 704M9500 |
| Open Iliac Screw, ø9.5 mm x 110 mm | 2 | 704M9510 |
| Open Iliac Screw, ø9.5 mm x 120 mm | 2 | 704M9521 |
| Open Iliac Screw, ø10.5 mm x 70 mm | 2 | 704M1570 |
| Open Iliac Screw, ø10.5 mm x 80 mm | 2 | 704M1580 |
| Open Iliac Screw, ø10.5 mm x 90 mm | 2 | 704M1590 |
| Open Iliac Screw, ø10.5 mm x 100 mm | 2 | 704M1500 |
| Open Iliac Screw, ø10.5 mm x 110 mm | 2 | 704M1510 |
| Open Iliac Screw, ø10.5 mm x 120 mm | 2 | 704M1521 |

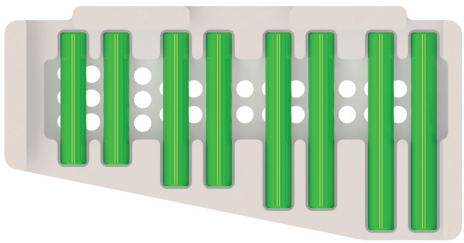
## Cannulated Open Iliac Screws PCR800M0601

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Cannulated Open Iliac Screw Ø7.5mm X 70mm | 2 | 805M7570 |
| Cannulated Open Iliac Screw Ø7.5mm X 80mm | 2 | 805M7580 |
| Cannulated Open Iliac Screw Ø7.5mm X 90mm | 2 | 805M7590 |
| Cannulated Open Iliac Screw Ø7.5mm X 100mm | 2 | 805M7500 |
| Cannulated Open Iliac Screw Ø7.5mm X 110mm | 2 | 805M7510 |
| Cannulated Open Iliac Screw Ø7.5mm X 120mm | 2 | 805M7521 |
| Cannulated Open Iliac Screw Ø8.5mm X 70mm | 2 | 805M8570 |
| Cannulated Open Iliac Screw Ø8.5mm X 80mm | 2 | 805M8580 |
| Cannulated Open Iliac Screw Ø8.5mm X 90mm | 2 | 805M8590 |
| Cannulated Open Iliac Screw Ø8.5mm X 100mm | 2 | 805M8500 |
| Cannulated Open Iliac Screw Ø8.5mm X 110mm | 2 | 805M8510 |
| Cannulated Open Iliac Screw Ø8.5mm X 120mm | 2 | 805M8521 |
| Cannulated Open Iliac Screw Ø9.5mm X 70mm | 2 | 805M9570 |
| Cannulated Open Iliac Screw Ø9.5mm X 80mm | 2 | 805M9580 |
| Cannulated Open Iliac Screw Ø9.5mm X 90mm | 2 | 805M9590 |
| Cannulated Open Iliac Screw Ø9.5mm X 100mm | 2 | 805M9500 |
| Cannulated Open Iliac Screw Ø9.5mm X 110mm | 2 | 805M9510 |
| Cannulated Open Iliac Screw Ø9.5mm X 120mm | 2 | 805M9521 |
| Cannulated Open Iliac Screw Ø10.5mm X 70mm | 2 | 805M1570 |
| Cannulated Open Iliac Screw Ø10.5mm X 80mm | 2 | 805M1580 |
| Cannulated Open Iliac Screw Ø10.5mm X 90mm | 2 | 805M1590 |
| Cannulated Open Iliac Screw Ø10.5mm X 100mm | 2 | 805M1500 |
| Cannulated Open Iliac Screw Ø10.5mm X 110mm | 2 | 805M1510 |
| Cannulated Open Iliac Screw Ø10.5mm X 120mm | 2 | 805M1521 |



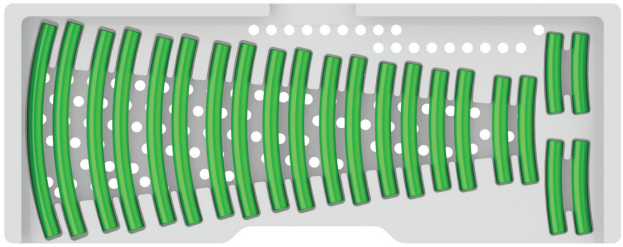
## ø5.5 mm Straight Rods
## PCR700M1115

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| ø5.5 x 30 mm, Straight Rod, Ti | 2 | 07.02014.003 |
| ø5.5 x 35 mm, Straight Rod, Ti | 2 | 07.02014.004 |
| ø5.5 x 40 mm, Straight Rod, Ti | 2 | 07.02014.005 |
| ø5.5 x 45 mm, Straight Rod, Ti | 2 | 07.02014.006 |



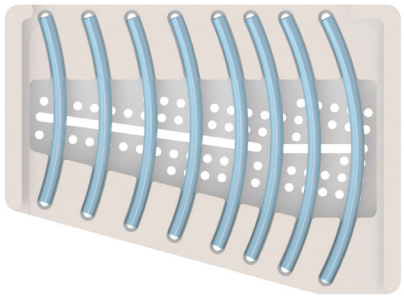
## ø6.0 mm Straight Rods
## PCR700M1116

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| ø6.0 x 30 mm, Straight Rod, Ti | 2 | 07.02020.003 |
| ø6.0 x 35 mm, Straight Rod, Ti | 2 | 07.02020.004 |
| ø6.0 x 40 mm, Straight Rod, Ti | 2 | 07.02020.005 |
| ø6.0 x 45 mm, Straight Rod, Ti | 2 | 07.02020.006 |



## ø6.0 mm Curved Rods
## PCR700M1216

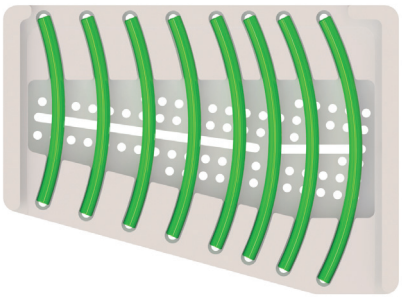
| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| ø6.0 x 30 mm, Curved Rod, Ti | 2 | 07.02021.003 |
| ø6.0 x 35 mm, Curved Rod, Ti | 2 | 07.02021.004 |
| ø6.0 x 40 mm, Curved Rod, Ti | 2 | 07.02021.005 |
| ø6.0 x 45 mm, Curved Rod, Ti | 2 | 07.02021.006 |
| ø6.0 x 50 mm, Curved Rod, Ti | 2 | 07.02021.007 |
| ø6.0 x 55 mm, Curved Rod, Ti | 2 | 07.02021.008 |
| ø6.0 x 60 mm, Curved Rod, Ti | 2 | 07.02021.009 |
| ø6.0 x 65 mm, Curved Rod, Ti | 2 | 07.02021.010 |
| ø6.0 x 70 mm, Curved Rod, Ti | 2 | 07.02021.011 |
| ø6.0 x 75 mm, Curved Rod, Ti | 2 | 07.02021.012 |
| ø6.0 x 80 mm, Curved Rod, Ti | 2 | 07.02021.013 |



## ø5.5 mm Intermediate Curved Rods
## PCR700M1225

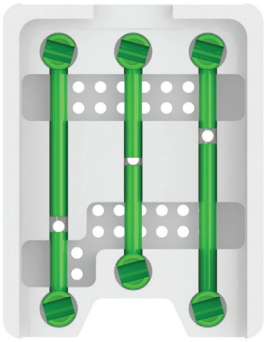
| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| ø5.5 x 85 mm, Curved Rod, Ti | 4 | 07.02015.014 |
| ø5.5 x 90 mm, Curved Rod, Ti | 4 | 07.02015.015 |
| ø5.5 x 95 mm, Curved Rod, Ti | 4 | 07.02015.016 |
| ø5.5 x 100 mm, Curved Rod, Ti | 4 | 07.02015.017 |
| ø5.5 x 105 mm, Curved Rod, Ti | 4 | 07.02015.018 |
| ø5.5 x 110 mm, Curved Rod, Ti | 4 | 07.02015.019 |
| ø5.5 x 115 mm, Curved Rod, Ti | 4 | 07.02015.020 |
| ø5.5 x 120 mm, Curved Rod, Ti | 4 | 07.02015.021 |

# Kit Contents *(continued)*



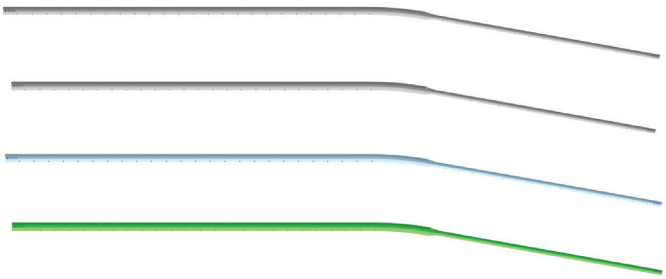
## ø6.0 mm Intermediate Curved Rods PCR700M1226

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| ø6.0 x 85 mm, Curved Rod, Ti | 2 | 07.02021.014 |
| ø6.0 x 90 mm, Curved Rod, Ti | 2 | 07.02021.015 |
| ø6.0 x 95 mm, Curved Rod, Ti | 2 | 07.02021.016 |
| ø6.0 x 100 mm, Curved Rod, Ti | 2 | 07.02021.017 |
| ø6.0 x 105 mm, Curved Rod, Ti | 2 | 07.02021.018 |
| ø6.0 x 110 mm, Curved Rod, Ti | 2 | 07.02021.019 |
| ø6.0 x 115 mm, Curved Rod, Ti | 2 | 07.02021.020 |
| ø6.0 x 120 mm, Curved Rod, Ti | 2 | 07.02021.021 |



## Open 15° Lateral Offset Connectors PCR700M3151

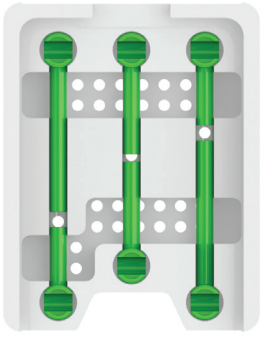
| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Lateral Offset Connector, Open, L15°, 20 mm | 1 | 07.02025.025 |
| Lateral Offset Connector, Open, L15°, 30 mm | 1 | 07.02025.027 |
| Lateral Offset Connector, Open, L15°, 50 mm | 1 | 07.02025.031 |
| Lateral Offset Connector, Open, R15°, 20 mm | 1 | 07.02025.047 |
| Lateral Offset Connector, Open, R15°, 30 mm | 1 | 07.02025.049 |
| Lateral Offset Connector, Open, R15°, 50 mm | 1 | 07.02025.053 |



## Transition Rods

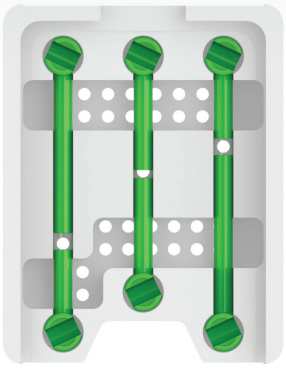
***Optional implants not included in a kit***

| DESCRIPTION | PART NUMBER |
|---|---|
| Transition Rod, ø3.5-ø5.5 CoCr, 300 mm | 726M1300 |
| Transition Rod, ø3.5-ø5.5 CoCr, 450 mm | 726M1450 |
| Transition Rod, ø3.5-ø5.5 CoCr, 510 mm | 726M1510 |
| Transition Rod, ø3.5-ø5.5 CoCr, 600 mm | 726M1600 |
| Transition Rod, ø3.5-ø6.0 CoCr, 300 mm | 726M5300 |
| Transition Rod, ø3.5-ø6.0 CoCr, 450 mm | 726M5450 |
| Transition Rod, ø3.5-ø6.0 CoCr, 510 mm | 726M5510 |
| Transition Rod, ø3.5-ø6.0 CoCr, 600 mm | 726M5600 |
| Transition Rod, ø3.5-ø5.5 Ti, 300 mm | 726M2300 |
| Transition Rod, ø3.5-ø5.5 Ti, 450 mm | 726M2450 |
| Transition Rod, ø3.5-ø5.5 Ti, 510 mm | 726M2510 |
| Transition Rod, ø3.5-ø5.5 Ti, 600 mm | 726M2600 |
| Transition Rod, ø3.5-ø6.0 Ti, 300 mm | 726M6300 |
| Transition Rod, ø3.5-ø6.0 Ti, 450 mm | 726M6450 |
| Transition Rod, ø3.5-ø6.0 Ti, 510 mm | 726M6510 |
| Transition Rod, ø3.5-ø6.0 Ti, 600 mm | 726M6600 |



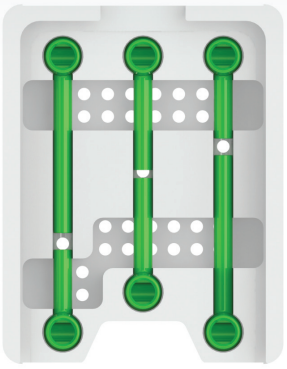
## Open Straight Lateral Offset Connectors PCR700M3001

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Lateral Offset Connector, Open, S00°, 20 mm | 2 | 07.02025.003 |
| Lateral Offset Connector, Open, S00°, 30 mm | 2 | 07.02025.005 |
| Lateral Offset Connector, Open, S00°, 50 mm | 2 | 07.02025.009 |



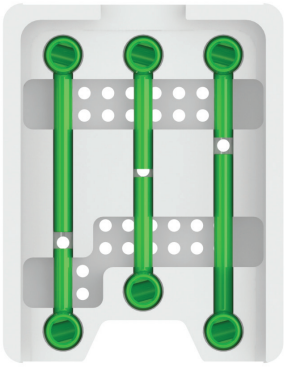
## Open 25° Lateral Offset Connectors PCR700M3251

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Lateral Offset Connector, Open, L25°, 20 mm | 1 | 07.02025.069 |
| Lateral Offset Connector, Open, L25°, 30 mm | 1 | 07.02025.071 |
| Lateral Offset Connector, Open, L25°, 50 mm | 1 | 07.02025.075 |
| Lateral Offset Connector, Open, R25°, 20 mm | 1 | 07.02025.091 |
| Lateral Offset Connector, Open, R25°, 30 mm | 1 | 07.02025.093 |
| Lateral Offset Connector, Open, R25°, 50 mm | 1 | 07.02025.097 |



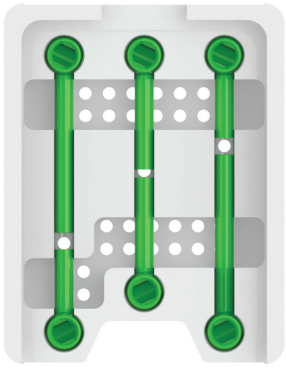
## Closed Straight Lateral Offset Connectors PCR700M3002

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Lateral Offset Connector, Closed, S00°, 20 mm | 2 | 07.02026.003 |
| Lateral Offset Connector, Closed, S00°, 30 mm | 2 | 07.02026.005 |
| Lateral Offset Connector, Closed, S00°, 50 mm | 2 | 07.02026.009 |



## Closed 15° Lateral Offset Connectors PCR700M3152

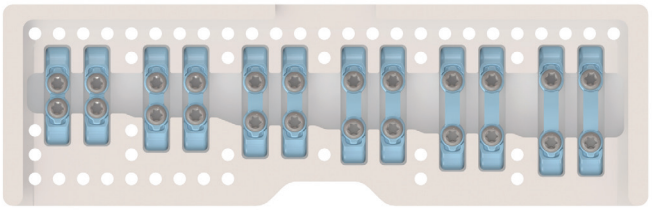
| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Lateral Offset Connector, Closed, L15°, 20 mm | 1 | 07.02026.025 |
| Lateral Offset Connector, Closed, L15°, 30 mm | 1 | 07.02026.027 |
| Lateral Offset Connector, Closed, L15°, 50 mm | 1 | 07.02026.031 |
| Lateral Offset Connector, Closed, R15°, 20 mm | 1 | 07.02026.047 |
| Lateral Offset Connector, Closed, R15°, 30 mm | 1 | 07.02026.049 |
| Lateral Offset Connector, Closed, R15°, 50 mm | 1 | 07.02026.053 |



## Closed 25° Lateral Offset Connectors PCR700M3252

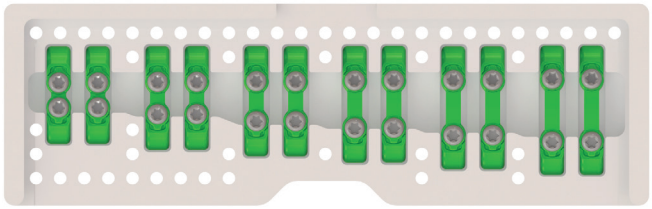
| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Lateral Offset Connector, Closed, L25°, 20 mm | 1 | 07.02026.069 |
| Lateral Offset Connector, Closed, L25°, 30 mm | 1 | 07.02026.071 |
| Lateral Offset Connector, Closed, L25°, 50 mm | 1 | 07.02026.075 |
| Lateral Offset Connector, Closed, R25°, 20 mm | 1 | 07.02026.091 |
| Lateral Offset Connector, Closed, R25°, 30 mm | 1 | 07.02026.093 |
| Lateral Offset Connector, Closed, R25°, 50 mm | 1 | 07.02026.097 |

# Kit Contents *(continued)*



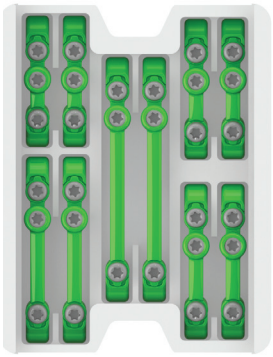
## ø5.5 mm Fixed Transverse Connectors PCR700M4105

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Transverse Connector, Fixed, 21 mm x 5.5 mm | 2 | 07.02048.001 |
| Transverse Connector, Fixed, 23 mm x 5.5 mm | 2 | 07.02048.002 |
| Transverse Connector, Fixed, 25 mm x 5.5 mm | 2 | 07.02048.003 |
| Transverse Connector, Fixed, 27 mm x 5.5 mm | 2 | 07.02048.004 |
| Transverse Connector, Fixed, 29 mm x 5.5 mm | 2 | 07.02048.005 |
| Transverse Connector, Fixed, 31 mm x 5.5 mm | 2 | 07.02048.006 |



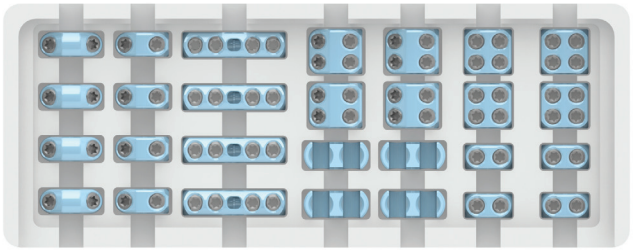
## ø6.0 mm Fixed Transverse Connectors PCR700M4106

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Transverse Connector, Fixed, 21 mm x 6.0 mm | 2 | 07.02048.017 |
| Transverse Connector, Fixed, 23 mm x 6.0 mm | 2 | 07.02048.018 |
| Transverse Connector, Fixed, 25 mm x 6.0 mm | 2 | 07.02048.019 |
| Transverse Connector, Fixed, 27 mm x 6.0 mm | 2 | 07.02048.020 |
| Transverse Connector, Fixed, 29 mm x 6.0 mm | 2 | 07.02048.021 |
| Transverse Connector, Fixed, 31 mm x 6.0mm | 2 | 07.02048.022 |



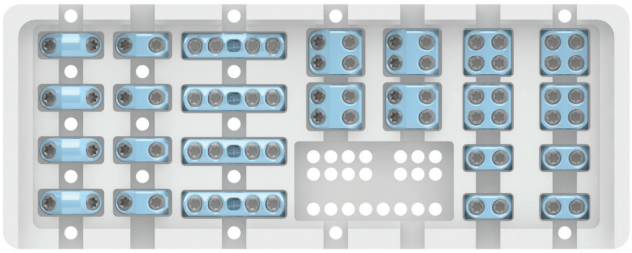
## ø6.0 mm Adjustable Transverse Connectors PCR700M4206

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Transverse Connector, Adjustable, 33-36 mm wide x 6.0 mm | 2 | 07.02030.006 |
| Transverse Connector, Adjustable, 36-41 mm wide x 6.0 mm | 2 | 07.02030.007 |
| Transverse Connector, Adjustable, 41-51 mm wide x 6.0 mm | 2 | 07.02030.008 |
| Transverse Connector, Adjustable, 51-70 mm wide x 6.0 mm | 2 | 07.02030.009 |
| Transverse Connector, Adjustable, 70-90 mm wide x 6.0 mm | 2 | 07.02030.010 |



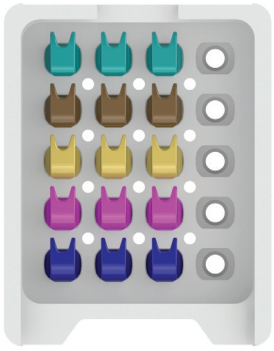
## ø5.5-6.0 mm Rod Connectors
## PCR700M5056

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Rod Connector, Lateral, Open, 2 Screw, ø5.5-6.0 mm x 5.5-6.0 mm | 4 | 07.02027.001 |
| Rod Connector, Lateral, Closed, 4 Screw, ø5.5-6.0 mm x 5.5-6.0 mm | 4 | 07.02028.001 |
| Rod Connector, Axial, Closed, ø5.5-6.0 mm x 5.5-6.0 mm | 4 | 07.02029.001 |
| Rod Connector, Lateral, Closed, 2 Screw, ø5.5-6.0 mm x 5.5-6.0 mm | 4 | 07.02032.001 |
| Rod Connector, Lateral, Hybrid, 2 Screw, ø5.5-6.0 mm x 5.5-6.0 mm | 4 | 07.02033.001 |
| Rod Connector, Lateral, Hybrid, 4 Screw, ø5.5-6.0 mm x 5.5-6.0 mm | 4 | 07.02034.001 |
| Rod Connector, Lateral, Channel | 4 | 07.02035.001 |



## ø3.5 mm x Ø5.5-6.0 mm Rod Connectors
## PCR700M5035

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Rod Connector, Lateral, Open, 2 Screw, ø3.5 mm x 5.5-6.0 mm | 4 | 07.02027.002 |
| Rod Connector, Lateral, Closed, 4 Screw, ø3.5 mm x 5.5-6.0 mm | 4 | 07.02028.002 |
| Rod Connector, Axial, Closed, ø3.5 mm x 5.5-6.0 mm | 4 | 07.02029.002 |
| Rod Connector, Lateral, Closed, 2 Screw, ø3.5 mm x 5.5-6.0 mm | 4 | 07.02032.002 |
| Rod Connector, Lateral, Hybrid, 2 Screw, ø3.5 mm x 5.5-6.0 mm | 4 | 07.02033.002 |
| Rod Connector, Lateral, Hybrid, 4 Screw, ø3.5 mm x 5.5-6.0 mm | 4 | 07.02034.002 |



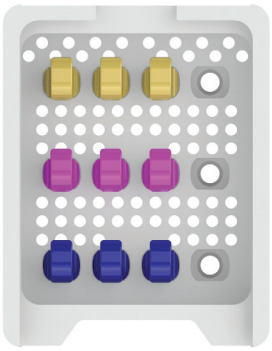
## Pedicle Hooks
## PCR700M6001

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Pedicle Hook, XXS | 3 | 720M0140 |
| Pedicle Hook, XS | 3 | 720M0150 |
| Pedicle Hook, Small | 3 | 720M0160 |
| Pedicle Hook, Medium | 3 | 720M0175 |
| Pedicle Hook, Large | 3 | 720M0190 |

## Angled Hooks
## PCR700M6002

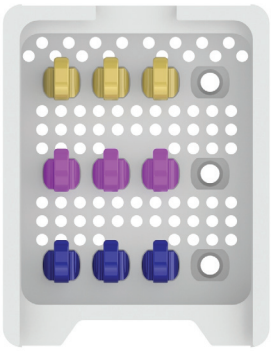
| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Left Angled Hook, Small | 2 | 720M3060 |
| Left Angled Hook, Medium | 2 | 720M3075 |
| Left Angled Hook, Large | 2 | 720M3090 |
| Right Angled Hook, Small | 2 | 720M3160 |
| Right Angled Hook, Medium | 2 | 720M3175 |
| Right Angled Hook, Large | 2 | 720M3190 |

# Kit Contents *(continued)*



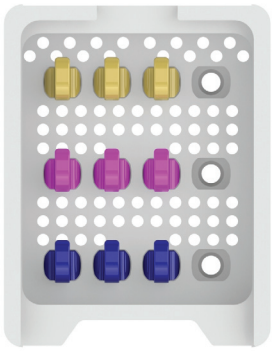
## Laminar Hooks
## PCR700M6003

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Laminar Hook, Small | 3 | 720M0460 |
| Laminar Hook, Medium | 3 | 720M0475 |
| Laminar Hook, Large | 3 | 720M0490 |



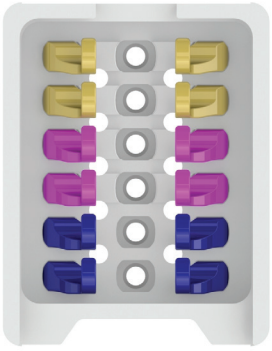
## Narrow Laminar Hooks
## PCR700M6004

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Narrow Laminar Hook, Small | 3 | 720M0560 |
| Narrow Laminar Hook, Medium | 3 | 720M0575 |
| Narrow Laminar Hook, Large | 3 | 720M0590 |



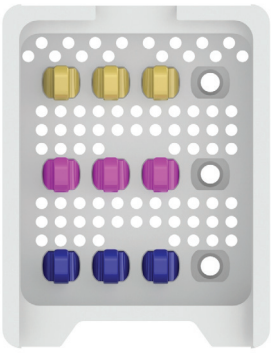
## Narrow Reduced Laminar Hooks
## PCR700M6005

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Narrow Reduced Laminar Hook, Small | 3 | 720M0660 |
| Narrow Reduced Laminar Hook, Medium | 3 | 720M0675 |
| Narrow Reduced Laminar Hook, Large | 3 | 720M0690 |



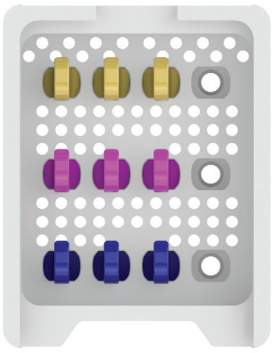
## Offset Hooks
## PCR700M6006

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Left Offset Hook, Small | 2 | 720M2060 |
| Left Offset Hook, Medium | 2 | 720M2075 |
| Left Offset Hook, Large | 2 | 720M2090 |
| Right Offset Hook, Small | 2 | 720M2160 |
| Right Offset Hook, Medium | 2 | 720M2175 |
| Right Offset Hook, Large | 2 | 720M2190 |



## Angled Blade Hooks
## PCR700M6007

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Angled Blade Hook, Small | 3 | 720M0960 |
| Angled Blade Hook, Medium | 3 | 720M0975 |
| Angled Blade Hook, Large | 3 | 720M0990 |



## Extended Laminar Hooks
## PCR700M6008

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Extended Laminar Hook, Small | 3 | 720M1060 |
| Extended Laminar Hook, Medium | 3 | 720M1075 |
| Extended Laminar Hook, Large | 3 | 720M1090 |

## Transverse Process Hooks
## PCR700M6009

| DESCRIPTION | QTY | PART NUMBER |
|---|---|---|
| Left Transverse Process Hook, Small | 2 | 720M7060 |
| Left Transverse Process Hook, Medium | 2 | 720M7075 |
| Left Transverse Process Hook, Large | 2 | 720M7090 |
| Right Transverse Process Hook, Small | 2 | 720M7160 |
| Right Transverse Process Hook, Medium | 2 | 720M7175 |
| Right Transverse Process Hook, Large | 2 | 720M7190 |

# Quick Reference Guide to Implant Caddies

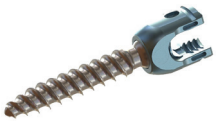
| DESCRIPTION | PART NUMBER |
|---|---|
| Vital Auxiliary Screws – 4.5/8.5* | PCR700M4995 |
| ø4.0 mm Polyaxial Screws | PCR700M0140 |
| ø4.5 mm Polyaxial Screws | PCR700M0145 |
| ø5.0 mm Polyaxial Screws | PCR700M0150 |
| ø5.5 mm Polyaxial Screws | PCR700M0155 |
| ø6.0 mm Polyaxial Screws | PCR700M0160 |
| ø6.5 mm Polyaxial Screws | PCR700M0165 |
| ø7.0 mm Polyaxial Screws | PCR700M0170 |
| ø7.5 mm Polyaxial Screws | PCR700M0175 |
| ø8.5 mm Polyaxial Screws | PCR700M0185 |
| ø9.5 mm Polyaxial Screws | PCR700M0195 |
| ø10.5 mm Polyaxial Screws | PCR700M0115 |
| ø4.5 mm Polyaxial Reduction Screws | PCR700M0245 |
| ø5.0 mm Polyaxial Reduction Screws | PCR700M0250 |
| ø5.5 mm Polyaxial Reduction Screws | PCR700M0255 |
| ø6.0 mm Polyaxial Reduction Screws | PCR700M0260 |
| ø6.5 mm Polyaxial Reduction Screws | PCR700M0265 |
| ø7.0 mm Polyaxial Reduction Screws | PCR700M0270 |
| ø7.5 mm Polyaxial Reduction Screws | PCR700M0275 |
| ø8.5 mm Polyaxial Reduction Screws | PCR700M0285 |
| ø4.5 mm Uniplanar Screws | PCR700M0345 |
| ø5.0 mm Uniplanar Screws | PCR700M0350 |
| ø5.5 mm Uniplanar Screws | PCR700M0355 |
| ø6.0 mm Uniplanar Screws | PCR700M0360 |
| ø6.5 mm Uniplanar Screws | PCR700M0365 |
| ø7.5 mm Uniplanar Screws | PCR700M0375 |
| ø4.5 mm Uniplanar Reduction Screws | PCR700M0445 |
| ø5.0 mm Uniplanar Reduction Screws | PCR700M0450 |
| ø5.5 mm Uniplanar Reduction Screws | PCR700M0455 |
| ø6.0 mm Uniplanar Reduction Screws | PCR700M0460 |
| ø6.5 mm Uniplanar Reduction Screws | PCR700M0465 |
| ø4.0 mm Monoaxial Screws | PCR700M0540 |
| ø4.5 mm Monoaxial Screws | PCR700M0545 |
| ø5.5 mm Monoaxial Screws | PCR700M0555 |
| ø6.5 mm Monoaxial Screws | PCR700M0565 |
| ø7.5 mm Monoaxial Screws | PCR700M0575 |
| ø4.5 mm Cannulated Polyaxial Screws | PCR800M0145 |
| ø5.0 mm Cannulated Polyaxial Screws | PCR800M0150 |
| ø5.5 mm Cannulated Polyaxial Screws | PCR800M0155 |
| ø6.0 mm Cannulated Polyaxial Screws | PCR800M0160 |
| ø6.5 mm Cannulated Polyaxial Screws | PCR800M0165 |
| ø7.0 mm Cannulated Polyaxial Screws | PCR800M0170 |
| ø7.5 mm Cannulated Polyaxial Screws | PCR800M0175 |

**Independent caddy does not fit in any kit*

| DESCRIPTION | PART NUMBER |
|---|---|
| ø8.5 mm Cannulated Polyaxial Screws | PCR800M0185 |
| ø9.5 mm Cannulated Polyaxial Screws | PCR800M0195 |
| ø4.5 mm Cannulated Uniplanar Screws | PCR800M0345 |
| ø5.0 mm Cannulated Uniplanar Screws | PCR800M0350 |
| ø5.5 mm Cannulated Uniplanar Screws | PCR800M0355 |
| ø6.0 mm Cannulated Uniplanar Screws | PCR800M0360 |
| ø6.5 mm Cannulated Uniplanar Screws | PCR800M0365 |
| ø7.5 mm Cannulated Uniplanar Screws | PCR800M0375 |
| ø4.5 mm Cannulated Monoaxial Screws | PCR800M0545 |
| ø5.5 mm Cannulated Monoaxial Screws | PCR800M0555 |
| ø6.5 mm Cannulated Monoaxial Screws | PCR800M0565 |
| ø7.5 mm Cannulated Monoaxial Screws | PCR800M0575 |
| Cannulated Open Iliac Screws | PCR800M0601 |
| Open Iliac Screws | PCR700M0601 |
| Closed Iliac Screws | PCR700M0602 |
| ø5.5 mm Straight Rods | PCR700M1115 |
| ø6.0 mm Straight Rods | PCR700M1116 |
| ø6.0 mm Curved Rods | PCR700M1216 |
| ø5.5 mm Intermediate Curved Rods | PCR700M1225 |
| ø6.0 mm Intermediate Curved Rods | PCR700M1226 |
| Open Straight Lateral Offset Connectors | PCR700M3001 |
| Open 15° Lateral Offset Connectors | PCR700M3151 |
| Open 25° Lateral Offset Connectors | PCR700M3251 |
| Closed Straight Lateral Offset Connectors | PCR700M3002 |
| Closed 15° Lateral Offset Connectors | PCR700M3152 |
| Closed 25° Lateral Offset Connectors | PCR700M3252 |
| ø5.5 mm Fixed Transverse Connectors | PCR700M4105 |
| ø6.0 mm Fixed Transverse Connectors | PCR700M4106 |
| ø5.5 mm x ø6.0 mm Fixed Transverse Connectors | PCR700M4156 |
| ø6.0 mm Adjustable Transverse Connectors | PCR700M4206 |
| ø5.5 mm x ø6.0 mm Adjustable Transverse Connectors | PCR700M4256 |
| ø5.5-6.0 mm Rod Connectors | PCR700M5056 |
| ø3.5 mm x ø5.5-6.0 mm Rod Connectors | PCR700M5035 |
| Pedicle Hooks | PCR700M6001 |
| Angled Hooks | PCR700M6002 |
| Laminar Hooks | PCR700M6003 |
| Narrow Laminar Hooks | PCR700M6004 |
| Narrow Reduced Laminar Hooks | PCR700M6005 |
| Offset Hooks | PCR700M6006 |
| Angled Blade Hooks | PCR700M6007 |
| Extended Laminar Hooks | PCR700M6008 |
| Transverse Process Hooks | PCR700M6009 |

# Implants Visual Guide

## Screws



Polyaxial Screws
(4.0 mm–10.5 mm)

Polyaxial Reduction Screws
(4.5 mm–8.5 mm)

Closed Polyaxial Iliac Screws
( 7.5 mm–10.5 mm)

Polyaxial Iliac Screws
(7.5 mm–10.5 mm)

Cannulated Polyaxial Screws
(4.5 mm - 9.5 mm)

Cannulated Uniplanar Screws
(4.5 mm - 7.5 mm)

Cannulated Monoaxial Screws
(4.5 mm - 7.5 mm)

Cannulated Polyaxial Iliac Screws
(7.5 mm - 10.5 mm)

Uniplanar Screws
(4.5 mm–7.5 mm)

Uniplanar Reduction Screws
( 4.5 mm–6.5 mm)

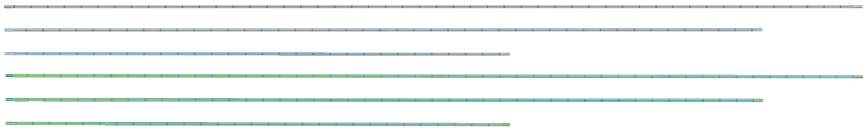
Monoaxial Screw
( 4.0 mm–7.5 mm)

## Closure Tops

Closure Tops, Torque Limit
07.02010.001

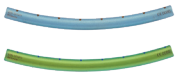
Closure Top, Shear Off
07.02011.001

## Rods

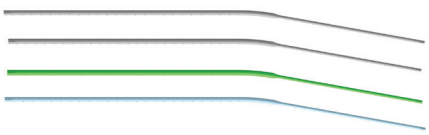


5.5mm (light blue)/6mm (green), Rod, Ti Alloy, Straight
(30 mm–510 mm)

5.5mm / 6mm Rod, Cobalt Chrome, Straight
(300 mm–510 mm)



5.5mm / 6mm, Rod, Ti Alloy,
Curved (30 mm–120 mm)



Ti Alloy, 3.5 mm to 5.5 mm (light blue)
Ti Alloy, 3.5 mm to 6.0 mm (green)
Cobalt Chrome, 3.5 mm to 5.5 mm
Cobalt Chrome, 3.5 mm to 6.0 mm
(300 mm-600 mm)

## Hooks

Hook styles are color-coded by throat size. All hooks are available in titanium.

| BLADE SIZES |
|---|
| Narrow, 5.0 mm |
| Wide, 7.3 mm |
| Pedicle, 8.4 mm |
| Transverse Process, 9.0 mm |

| THROAT SIZES | COLOR CODING |
|---|---|
| XX Small, 4.0 mm* | Teal |
| X Small, 5.0 mm* | Bronze |
| Small, 6.0 mm | Gold |
| Medium, 7.5 mm | Magenta |
| Large, 9.0 mm | Dark Blue |

**Pedicle hook only*

| PEDICLE HOOK | PART NUMBER |
|---|---|
| XX Small, 4.0 mm | 720M0140 |
| X Small, 5.0 mm | 720M0150 |
| Small, 6.0 mm | 720M0160 |
| Medium, 7.5 mm | 720M0175 |
| Large, 9.0 mm | 720M0190 |

| LAMINAR HOOK | PART NUMBER |
|---|---|
| Small, 6.0 mm | 720M0460 |
| Medium, 7.5 mm | 720M0475 |
| Large, 9.0 mm | 720M0490 |

| NARROW REDUCED LAMINAR HOOK | PART NUMBER |
|---|---|
| Small, 6.0 mm | 720M0660 |
| Medium, 7.5 mm | 720M0675 |
| Large, 9.0 mm | 720M0690 |

| OFFSET HOOK | PART NUMBER |
|---|---|
| Left, Small, 6.0 mm | 720M2060 |
| Left, Medium, 7.5 mm | 720M2075 |
| Left, Large, 9.0 mm | 720M2090 |
| Right, Small, 6.0 mm | 720M2160 |
| Right, Medium, 7.5 mm | 720M2175 |
| Right, Large, 9.0 mm | 720M2190 |

| ANGLED BLADE HOOK | PART NUMBER |
|---|---|
| Small, 6.0 mm | 720M0960 |
| Medium, 7.5 mm | 720M0975 |
| Large, 9.0 mm | 720M0990 |

| ANGLED HOOK | PART NUMBER |
|---|---|
| Left, Small, 6.0 mm | 720M3060 |
| Left, Medium, 7.5 mm | 720M3075 |
| Left, Large, 9.0 mm | 720M3090 |
| Right, Small, 6.0 mm | 720M3160 |
| Right, Medium, 7.5 mm | 720M3175 |
| Right, Large, 9.0 mm | 720M3190 |

| NARROW LAMINAR HOOK | PART NUMBER |
|---|---|
| Small, 6.0 mm | 720M0560 |
| Medium, 7.5 mm | 720M0575 |
| Large, 9.0 mm | 720M0590 |

| EXTENDED LAMINAR HOOK | PART NUMBER |
|---|---|
| Small, 6.0 mm | 720M1060 |
| Medium, 7.5 mm | 720M1075 |
| Large, 9.0 mm | 720M1090 |

| TRANSVERSE PROCESS HOOK | PART NUMBER |
|---|---|
| Left, Small, 6.0 mm | 720M7060 |
| Left, Medium, 7.5 mm | 720M7075 |
| Left, Large, 9.0 mm | 720M7090 |
| Right, Small, 6.0 mm | 720M7160 |
| Right, Medium, 7.5 mm | 720M7175 |
| Right, Large, 9.0 mm | 720M7190 |

# Implants Visual Guide *(continued)*

## Connectors

Lateral Offset Connector, Open
(20 mm–50 mm)
07.02025.XXX

Lateral Offset Connector, Closed
(20 mm–50 mm)
07.02026.XXX

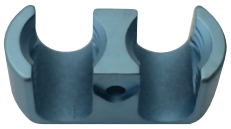
Rod Connector, Lateral, Open
07.02027.001 (5.5/6 mm)
07.02027.002 (3.5 mm)

Rod Connector, Lateral, Closed
07.02028.001 (5.5/6 mm)
07.02028.002 (3.5 mm)


Rod Connector, Axial, Closed
07.02029.001 (5.5/6 mm)
07.02029.002 (3.5 mm)

Rod Connector, Lateral, Closed
07.02032.001 (5.5/6 mm)
07.02032.002 (3. mm)

Rod Connector, Lateral, Hybrid
07.02033.001 (2 screw 5.5/6 mm)
07.02033.002 (2 screw 3.5 mm)
07.02034.001 (4 screw 5.5/6 mm)
07.02034.002 (4 screw 3.5 mm)



Rod Connector, Lateral, Channel
07.02035.001

Adjustable Transverse Connector
(32 mm–90 mm)
07.02030.001-005 (5.5 mm)
07.02030.006-010 (6 mm)

Transverse Connector, Fixed
(21 mm–31 mm)
07.02048.001-006 (5.5 mm)
07.02048.017-022 (6 mm)

# Instruments

## Pedicle Preparation

| Awl | PART NUMBER |
|---|---|
| | 07.02076.001 |

| Pilot Drill, 2.4 mm | PART NUMBER |
|---|---|
| | 731M0040 |

| Standard Drill, 2.0 mm | PART NUMBER |
|---|---|
| | 731M0021 |

| Blunt-tip Reamesr, 3.0 mm | PART NUMBER |
|---|---|
| | 731M0031 |

| Pedicle Probes | PART NUMBER |
|---|---|
| Pedicle Probe - Thoracic Straight | 730M1005 |
| Pedicle Probe – Thoracic Curved | 730M1006 |
| Pedicle Probe - Lumbar Straight | 730M1001 |
| Pedicle Probe - Lumbar Curved Lenke | 730M1004 |
| Pedicle Probe - Iliac | 730M1007 |

| Ball Tip Probe, Standard — Dual-Ended | PART NUMBER |
|---|---|
| | 07.02117.001 |



| Ball Tip Probe, Single-Ended, Stiff — Standard | PART NUMBER |
|---|---|
| | 07.02115.001 |

| Taps | PART NUMBER |
|---|---|
| 3.5 mm (Grey) | 730M3035 |
| 4.5 mm (Magenta) | 730M3045 |
| 5.5 mm (Dark Blue) | 730M3055 |
| 6.5 mm (Light Blue) | 730M3065 |
| 7.5 mm (Green) | 730M3075 |
| 8.5 mm (Gold) | 730M3085 |
| 4.5 mm (Magenta), Cannulated | 735M0145 |
| 5.5 mm (Dark Blue), Cannulated | 735M0155 |
| 6.5 mm (Light Blue), Cannulated | 735M0165 |
| 7.5 mm (Green), Cannulated | 735M0175 |
| 8.5 mm (Gold), Cannulated | 735M0185 |

| Taps (Power) | PART NUMBER |
|---|---|
| 4.5 mm (Magenta), Non-cannulated, Z-Connect | 731M0145 |
| 5.5 mm (Dark Blue), Non-cannulated, Z-Connect | 731M0155 |
| 6.5 mm (Light Blue), Non-cannulated, Z-Connect | 731M0165 |
| 7.5 mm (Green), Non-cannulated, Z-Connect | 731M0175 |

| Iliac Taps | PART NUMBER |
|---|---|
| 6.5 mm (Light Blue) Cannulated Iliac Tap | 730M5065 |
| 7.5 mm (Green) Cannulated Tap Iliac Tap | 730M5075 |
| 8.5 mm (Gold) Cannulated Tap Iliac Tap | 730M5085 |
| 9.5 mm (Light Blue) Cannulated Iliac Tap | 730M5095 |

## Pedicle Preparation *(continued)*

| Iliac Taps (Power) | PART NUMBER |
|---|---|
| 6.5 mm (Light Blue) Cannulated, Z-Connect | 731M0265 |
| 7.5 mm (Green) Cannulated, Z-Connect | 731M0275 |
| 8.5 mm (Gold) Cannulated, Z-Connect | 731M0285 |
| 9.5 mm (Light Blue) Cannulated, Z-Connect | 731M0295 |

| Screwdriver, Standard - Non-cannulated | PART NUMBER |
|---|---|
| | 07.02054.001 |

| Screwdriver, Standard - Cannulated | PART NUMBER |
|---|---|
| | 730M0060 |

| Screwdriver, Standard - Reduction | PART NUMBER |
|---|---|
| | 07.02058.001 |

| Screwdriver, Z-Connect Cannulated, Standard, Non-locking | PART NUMBER |
|---|---|
| | 731M0000 |

| Screwdriver, Z-Connect Cannulated, Short, Non-locking | PART NUMBER |
|---|---|
| | 731M0001 |

| Screwdriver, Z-Connect, Stab-N-Grab | PART NUMBER |
|---|---|
| | 731M0010 |

| Screwdriver Sleeve, Standard | PART NUMBER |
|---|---|
| | 07.02131.001 |

| Screwdriver Sleeve, Reduction | PART NUMBER |
|---|---|
| | 07.02131.002 |

| Standard Straight - Ratcheting | PART NUMBER |
|---|---|
| | 07.02051.001 |

| Straight – Ratcheting, Z-Connect | PART NUMBER |
|---|---|
| | 731M9002 |

# Instruments *(continued)*

## Pedicle Preparation *(continued)*

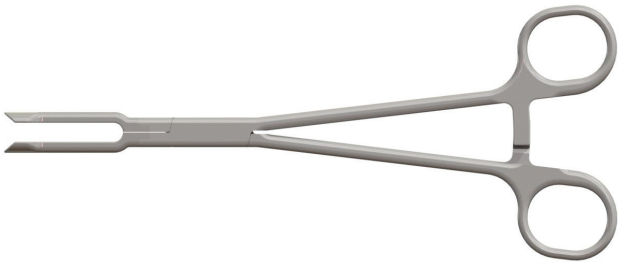
| T-handle - Ratcheting | PART NUMBER |
|---|---|
| | 07.02052.001 |

| Palm - Ratcheting | PART NUMBER |
|---|---|
| | 07.02105.001 |

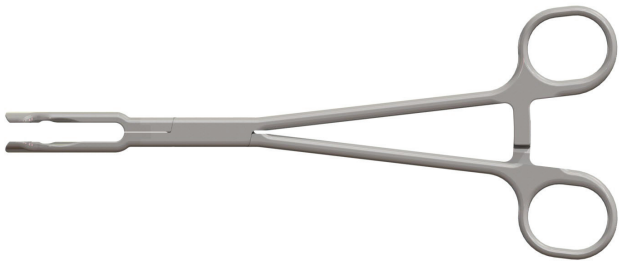
| Standard Head Height Adjuster | PART NUMBER |
|---|---|
| | 07.02060.001 |

| Fixed Screw Height Adjuster | PART NUMBER |
|---|---|
| | 730M0003 |

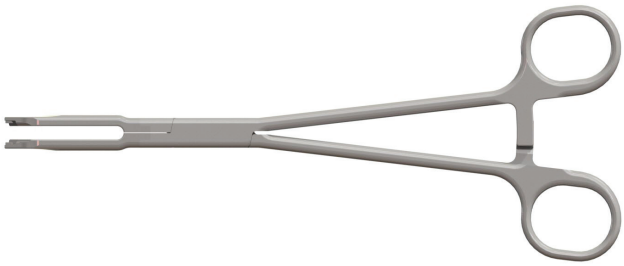
## Hook Prep and Insertion



| Vertical Hook Holder | PART NUMBER |
|---|---|
| | 730M0027 |



| Angled Hook Holder | PART NUMBER |
|---|---|
| | 730M0028 |



| Side Hook Holder | PART NUMBER |
|---|---|
| | 730M0029 |

| Hook Impactor | PART NUMBER |
|---|---|
| | 730M0030 |

## Hook Prep and Insertion *(continued)*

| Pedicle Hook Starter | PART NUMBER |
|---|---|
| | 730M0031 |

| Wide Laminar Hook Starter | PART NUMBER |
|---|---|
| | 730M0032 |

| Narrow Laminar Hook Starter | PART NUMBER |
|---|---|
| | 730M0034 |

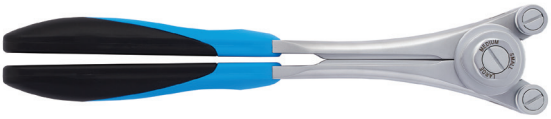
| Thoracic Hook Starter | PART NUMBER |
|---|---|
| | 730M0035 |

| Transverse Process Hook Starter | PART NUMBER |
|---|---|
| | 730M0052 |

## Rod Contouring and Insertion

| Bone Planer | PART NUMBER |
|---|---|
| | 730M0004 |

| Rod Templates | PART NUMBER |
|---|---|
| 250 mm | 07.02099.002 |
| 510 mm | 07.02099.004 |



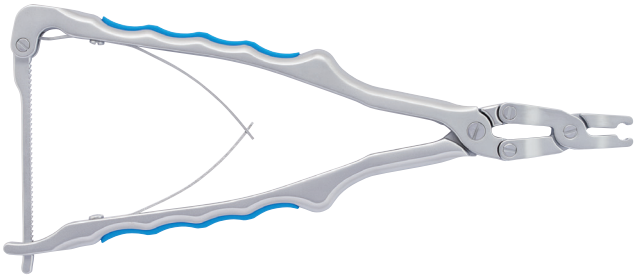
| French Rod Bender | PART NUMBER |
|---|---|
| | 07.02092.001 |

| Rod Holder | PART NUMBER |
|---|---|
| | 07.02064.001 |

| Vise Grips | PART NUMBER |
|---|---|
| | 07.02104.001 |

# Instruments *(continued)*

## Rod Contouring and Insertion *(continued)*



| Rod Gripper | PART NUMBER |
|---|---|
| | 07.02100.001 |

| Hex End Rod Rotation Tool | PART NUMBER |
|---|---|
| | 07.02127.001 |

## Closure Top Insertion

| T27 Provisional Driver (Male) – Reducer (Long) | PART NUMBER |
|---|---|
| | 730M0019 |

| T27 Provisional Driver (Male) - Dual-ended | PART NUMBER |
|---|---|
| | 730M0018 |

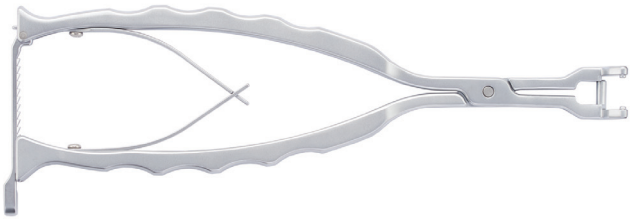
| Shear-off Closure Top Provisional Driver | PART NUMBER |
|---|---|
| | 730M0050 |

## Rod Persuasion

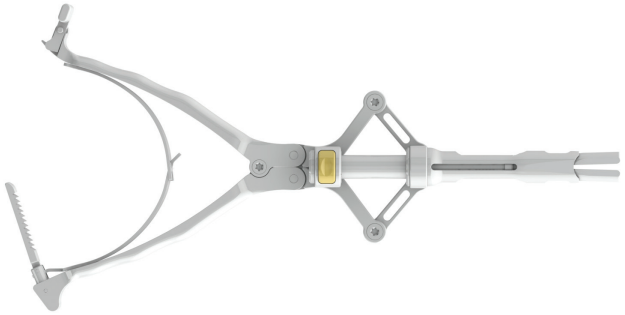
| Angled Rod Pusher | PART NUMBER |
|---|---|
| | 07.02101.001 |

| Rod Manipulator | PART NUMBER |
|---|---|
| | 730M0015 |

| Tube Rod Pusher | PART NUMBER |
|---|---|
| | 730M0014 |



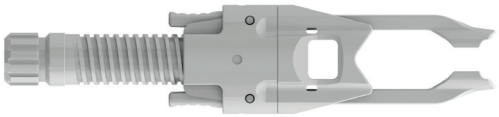
| Rod Rockers | PART NUMBER |
|---|---|
| Standard | 07.02093.001 |
| Rod Rocker, Long | 730M0037 |



| Single-action Rod Reducers | PART NUMBER |
|---|---|
| Standard | 730M0026 |

## Rod Persuasion *(continued)*


| Tower Reducer | PART NUMBER |
|---|---|
| | 730M0021 |



| Rocket™ Threased Rod Reducer | PART NUMBER |
|---|---|
| | 730M0024 |

| Quick Connect Adapter – Long | PART NUMBER |
|---|---|
| | 730M0005 |

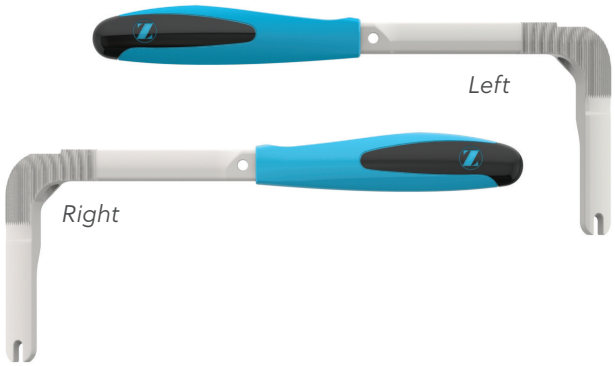
| Quick Connect Adapter – Short | PART NUMBER |
|---|---|
| | 730M0023 |

| Reducer T-handle | PART NUMBER |
|---|---|
| | 730M0022 |

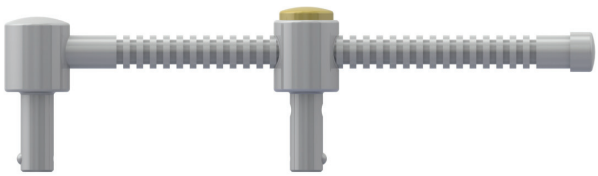
| Reduction Screw Tab Sleeve | PART NUMBER |
|---|---|
| | 730M0038 |

| Reduction Screw Tab Breaker | PART NUMBER |
|---|---|
| | 07.02074.001 |

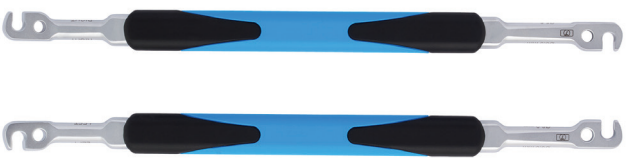
## *In Situ* Rod Bending




| Coronal Benders | PART NUMBER |
|---|---|
| Left | 730M0011 |
| Right | 730M0012 |



| Coronal Bender Fulcrum | PART NUMBER |
|---|---|
| | 730M0013 |



| Sagittal Benders | PART NUMBER |
|---|---|
| Left - 5.5 mm | 07.02091.001 |
| Right - 5.5 mm | 07.02091.002 |
| Left - 6.0 mm | 07.02102.001 |
| Right - 6.0 mm | 07.02102.002 |

# Instruments *(continued)*

## Rod Compression and Distraction

**Single-level Compressor - Parallel** PART NUMBER

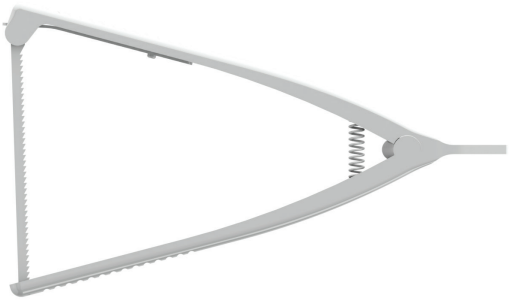
07.02089.001

**Multi-level Compressor - Parallel** PART NUMBER

07.02090.001

**Single-level Distractor - Parallel** PART NUMBER

07.02109.001



**Single-pivot Distractor** PART NUMBER

730M0039

## Screw and Hook Final Tightening


**T27 (Male) Final Driver** PART NUMBER

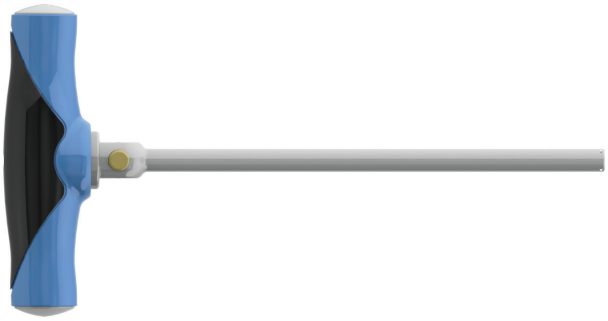
730M0017

**Torque-limiting Handle 90 in-lb (10.17 Nm)** PART NUMBER

07.02053.001

**Counter-torque** PART NUMBER

730M0016



**Shear-Off Final Driver** PART NUMBER

730M0002

## Transverse Connector Measurement, Insertion, and Final Tightening

| Caliper - Transverse Connector | PART NUMBER |
|---|---|
| | 07.02111.001 |

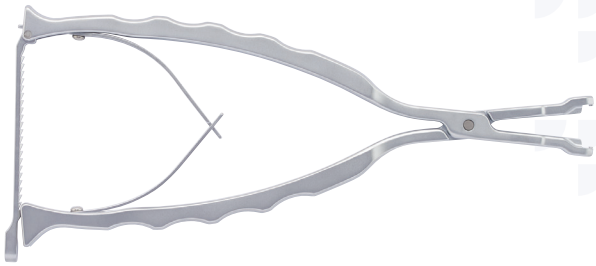
| T20 Provisional Driver | PART NUMBER |
|---|---|
| | 07.02119.001 |

| T20 Final Driver | PART NUMBER |
|---|---|
| | 07.02063.001 |

| Torque-limiting Handle 50 in-lb (5.65 Nm) | PART NUMBER |
|---|---|
| | 07.02118.001 |

| Counter-torque - Transverse Connector | PART NUMBER |
|---|---|
| | 07.02121.001 |

## Rod-to-Rod Connector Insertion



| Rod-to-Rod Connector Holder | PART NUMBER |
|---|---|
| | 07.02123.001 |

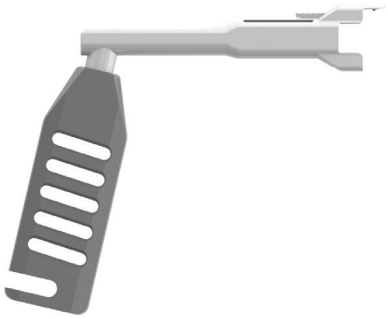
## Screw and Closure Top Extraction

| T27 Easy Out Removal Driver | PART NUMBER |
|---|---|
| | 07.02065.001 |

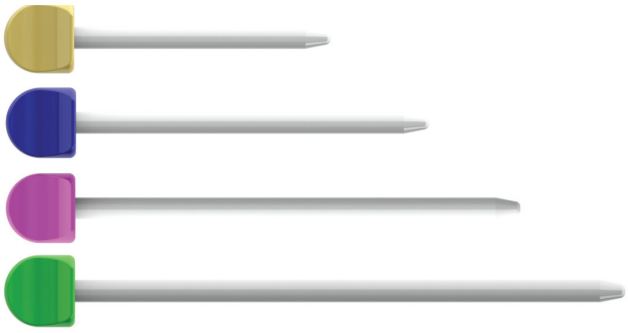
# Instruments *(continued)*

## Spinal Deformity Derotation

| Derotator | PART NUMBER |
|---|---|
| | 730M0000 |

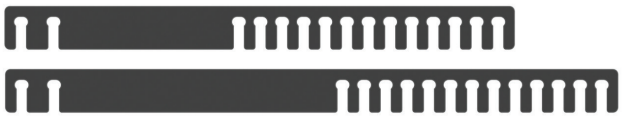


| DeRoducer | PART NUMBER |
|---|---|
| | 14-500204 |

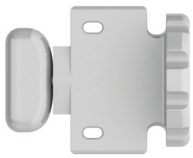


| Linkage Rods | PART NUMBER |
|---|---|
| 2-3 Handle Linkage Rod | 14-501003 |
| 3-4 Handle Linkage Rod | 14-501004 |
| 4-5 Handle Linkage Rod | 14-501005 |
| 5-6 Handle Linkage Rod | 730M0043 |

| Alignment Rods | PART NUMBER |
|---|---|
| 25 cm Alignment Rod | 14-501006 |
| 38 cm Alignment Rod | 14-501007 |



| Combs | PART NUMBER |
|---|---|
| 30 cm Comb | 14-501008 |
| 36 cm Comb | 14-501009 |



| Segmental Linkage | PART NUMBER |
|---|---|
| | 730M0054 |

| Multilevel Linkage | PART NUMBER |
|---|---|
| | 730M0053 |

# Optional Instruments

| Small Awl | PART NUMBER |
|---|---|
| | 07.02076.002 |

| Pedicle Probes (Tear Drop Handle) | PART NUMBER |
|---|---|
| Lumbar - Straight | 07.02067.001 |
| Lumbar - Curved | 07.02079.001 |
| Lumbar - Straight Lenke | 07.02077.001 |
| Lumbar - Curved Lenke | 07.02072.001 |

| Pedicle Probes (Round Handle) | PART NUMBER |
|---|---|
| Thoracic - Straight | 07.02080.001 |
| Thoracic - Curved | 07.02078.001 |
| Iliac | 07.02112.001 |

| Ball-tip Probes | PART NUMBER |
|---|---|
| Single-ended, Stiff - Small | 07.02082.001 |
| Single-ended, Flexible - Small | 07.02083.001 |
| Dual-ended Stiff/Flexible - Small | 07.02084.001 |
| Single-ended, Flexible - Standard | 07.02116.001 |

| Taps | PART NUMBER |
|---|---|
| 3.5 mm | 07.02088.001 |
| 4.0 mm | 07.02088.002 |
| 4.5 mm | 07.02088.003 |
| 5.0 mm | 07.02088.004 |
| 5.5 mm | 07.02088.005 |
| 6.0 mm | 07.02088.006 |
| 6.5 mm | 07.02088.007 |
| 7.0 mm | 07.02088.008 |
| 7.5 mm | 07.02088.009 |
| 8.0 mm | 07.02088.010 |
| 8.5 mm | 07.02088.011 |
| 9.0 mm | 07.02088.012 |
| 9.5 mm | 07.02088.013 |
| 10.0 mm | 07.02088.014 |
| 10.5 mm | 07.02088.015 |

| Iliac Taps | PART NUMBER |
|---|---|
| 6.0 mm | 07.02114.006 |
| 6.5 mm | 07.02114.007 |
| 7.0 mm | 07.02114.008 |
| 7.5 mm | 07.02114.009 |
| 8.0 mm | 07.02114.010 |
| 8.5 mm | 07.02114.011 |
| 9.0 mm | 07.02114.012 |
| 9.5 mm | 07.02114.013 |
| 10.0 mm | 07.02114.014 |
| 10.5 mm | 07.02114.015 |

| Pedicle Markers | PART NUMBER |
|---|---|
| Small Bulb | 07.02085.001 |
| Large Bulb | 07.02086.001 |

**Screwdriver - multi-piece** PART NUMBER

07.02087.001

**Screwdriver - Short** PART NUMBER

07.02055.001

**Reduction Screwdriver - Short** PART NUMBER

07.02128.001

**Screwdriver, Short - Cannulated** PART NUMBER

730M0061

**Fixed Handle - Straight** PART NUMBER

07.02106.001

**Fixed Handle - T-handle** PART NUMBER

07.02107.001

**Fixed Handle - Palm** PART NUMBER

07.02108.001

**Pivoting Axial Handle** PART NUMBER

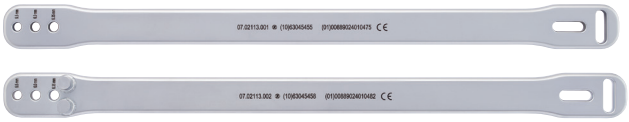
07.02130.001

**Alignment Tool** PART NUMBER

07.02094.001

# Optional Instruments *(continued)*

| Multi-level Distractor - Parallel | PART NUMBER |
|---|---|
| | 07.02110.001 |



| Scoli Rod Benders | PART NUMBER |
|---|---|
| Left | 07.02113.001 |
| Right | 07.02113.002 |

| Removal Driver | PART NUMBER |
|---|---|
| | 07.02061.001 |

| Rod Templates | PART NUMBER |
|---|---|
| 100 mm | 07.02099.001 |
| 470 mm | 07.02099.003 |

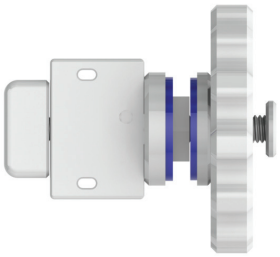
| Pedicle Probes | PART NUMBER |
|---|---|
| Pedicle Probe - Lumbar Curved | 730M1002 |
| Pedicle Probe - Lumbar Straight Lenke | 730M1003 |
| Pedicle Probe - Thoracic Straight, Small | 730M1008 |
| Pedicle Probe - Thoracic Curved, Small | 730M1009 |

| Taps | PART NUMBER |
|---|---|
| 4.0 mm (Gold) | 730M3040 |
| 5.0 mm (Green) | 730M3050 |
| 6.0 mm (Gold) | 730M3060 |
| 7.0 mm (Magenta) | 730M3070 |
| 8.0 mm (Dark Blue) | 730M3080 |
| 9.0 mm (Magenta) | 730M3090 |
| 9.5 mm (Light Blue) | 730M3095 |
| 10.0 mm (Teal) | 730M3100 |
| 10.5 mm (Purple) | 730M3105 |
| 5.0 mm (Green), Cannulated | 735M0150 |
| 6.0 mm (Gold), Cannulated | 735M0160 |
| 7.0 mm (Magenta), Cannulated | 735M0170 |
| 8.0 mm (Dark Blue), Cannulated | 735M0180 |

| Iliac Taps | PART NUMBER |
|---|---|
| 6.0 mm (Gold) Cannulated Iliac Tap | 730M5060 |
| 7.0 mm (Magenta) Cannulated Tap Iliac Tap | 730M5070 |
| 8.0 mm (Dark Blue) Cannulated Tap Iliac Tap | 730M5080 |
| 9.0 mm (Magenta) Cannulate Iliac Tap | 730M5090 |
| 10.0 mm (Teal) Cannulated Iliac Tap | 730M5100 |
| 10.5 mm (Purple) Cannulated Iliac Tap | 730M5105 |

| Screwdriver Sleeve, Short | PART NUMBER |
|---|---|
| | 07.02131.003 |

| Medium Laminar Hook Starter | PART NUMBER |
|---|---|
| | 730M0033 |



| Segmental Linkage, Threaded | PART NUMBER |
|---|---|
| | 730M0064 |

| Horizontalizer | PART NUMBER |
|---|---|
| Small, 55 mm | 14-500121 |
| Large, 75 mm | 14-500122 |

# Important information on the Vitality Spinal Fixation System

## Vital

The Vital Spinal Fixation System is a subsystem of the Vitality Spinal Fixation System.

## Device Description

The Vitality Spinal Fixation System is a thoracolumbar and sacroiliac fixation system designed to aid in the surgical correction of several types of spinal conditions. The system consists of a variety of spinal rods, pedicle screws, hooks and connectors intended only to provide temporary stabilization during the development of a solid fusion of the spine with bone graft. The system can be rigidly locked into a variety of configurations, with each construct being customized to the patient's anatomy. All implants are single use only and should not be reused under any circumstances. The implant system is intended to be removed after solid fusion has occurred.

The system also includes instrumentation for insertion, securing and removal of the implants. All implants are made from medical grade titanium alloy; select rods are also available in medical grade cobalt chromium alloy. Implants made from medical grade titanium, medical grade titanium alloy, and medical grade cobalt chromium may be used together. Never use titanium, titanium alloy and/or cobalt chromium with stainless steel in the same implant construct. The Vitality Spinal Fixation System is compatible with components from other cleared spinal fixation systems. See Indications below.

## Indications

The Vitality Spinal Fixation System implants are non-cervical spinal fixation devices intended for posterior pedicle screw fixation (T1 S2/ilium), posterior hook fixation (T1 L5), or anterolateral fixation (T8 L5). Pedicle screw fixation is indicated for skeletally mature patients and for adolescent patients.

These devices are indicated as an adjunct to fusion for all of the following indications: degenerative disc disease (defined as discogenic back pain with degeneration of the disc confirmed by history and radiographic studies), spondylolisthesis, trauma (i.e., fracture or dislocation), deformities or curvatures (i.e., scoliosis, kyphosis and/or lordosis, Scheuermann's Disease), tumor, stenosis, pseudoarthrosis and/or failed previous fusion. When used as an adjunct to fusion, the Vitality Spinal Fixation System is intended to be used with autograft and/or allograft.

In addition the Vitality Spinal Fixation System is intended for treatment of severe spondylolisthesis (Grade 3 and 4) of the L5–S1 vertebra in skeletally mature patients receiving fusion by autogenous bone graft, having implants attached to the lumbosacral spine and or ilium with removal of the implant after attainment of a solid fusion. Levels of pedicle screw fixation for these patients are L3-sacrum/ilium.

When used for posterior non-cervical pedicle screw fixation in pediatric patients, the Vitality System implants are indicated as an adjunct to fusion to treat adolescent idiopathic scoliosis. The Vitality System is intended to be used with autograft and/or allograft. Pediatric pedicle screw fixation is limited to a posterior approach.

The use of the Vitality Spinal Fixation System in skeletally mature patients may include the fixation of the Instinct® Java™ Spinal Fixation System* hooks, APEX Spinal System™* hooks, or fixation of the Universal Clamp® Spinal Fixation System* to the rods of the Vitality Spinal Fixation System. The Vitality Spinal Fixation System may also be used in skeletally immature patients when connected with the Universal Clamp Spinal Fixation System.

In order to achieve additional levels of fixation in skeletally mature patients, the Vitality Spinal Fixation System may be connected to the Virage® OCT Spinal Fixation System* and the Instinct Java Spinal Fixation System offered by ZimVie Spine, using rod connectors.

## Contraindications

The Vitality System is not designed or sold for any use except as indicated. DO NOT USE THE VITALITY SYSTEM IMPLANTS IN THE PRESENCE OF ANY CONTRAINDICATION.

- Insufficient bone quantity, severe osteoporosis or other condition that might compromise rigid fixation of the device.

** These optional components are not approved in all regions.*

- A history of infection, active systemic infection or infection localized to the site of the proposed implantation.
- Suspected or documented metal allergy or intolerance.
- A disorder affecting the normal process of bone remodeling, including but not limited to severe osteoporosis involving the spine, excessive bone reabsorption, osteopenia,
  a primary or metastatic tumor involving the spine or certain metabolic disorders of osteogenesis.
- Iliac screws and offset connectors should not be used in cases of tumor or trauma of the sacrum, when additional screw fixation in S1 is not possible.
- Other relative contraindications include obesity, pregnancy, certain degenerative diseases, and foreign body sensitivity.
  In addition, the patient's occupation or activity level or mental capacity may be relative contraindications to this surgery. Specifically, some patients may, because of their occupation or lifestyle, or because of conditions such as mental illness, alcoholism or drug abuse, place undue stresses on the implant

## Warnings and Precautions

Following are specific warnings, precautions and adverse effects associated with use of the Vitality System that should be understood by the surgeon and explained to the patients. General surgical risk should be explained to the patients prior to surgery.

- Implantation of the Vitality System should be performed only by experienced spinal surgeons.
- All implants are intended for single use only. Single-use devices should not be re-used. Possible risks associated with re-use of single-use devices include:
  - Mechanical malfunction
  - Transmission of infectious agents
- Metal sensitivity has been reported following exposure to orthopedic implants. The most common metallic sensitivities (nickel, cobalt and chromium) are present in medical grade stainless steel and cobalt-chrome alloys.
- Universal precautions should be observed by all end users that work with contaminated or potentially contaminated medical devices. Caution should be exercised when handling devices with sharp points or cutting edges to prevent injuries during and after surgical procedures and reprocessing.
- Warning: The safety and effectiveness of pedicle screw spinal systems have been established only for spinal conditions with significant mechanical instability or deformity requiring fusion with instrumentation. These conditions are significant mechanical instability or deformity of the thoracic, lumbar and sacral spine secondary to severe spondylolisthesis (grades 3 and 4) of the L5–S1 vertebra, degenerative spondylolisthesis with objective evidence of neurological impairment, fracture, dislocation, scoliosis, kyphosis, spinal tumor and failed previous fusion (pseudoarthrosis). The safety and effectiveness of these devices for any other conditions are unknown.
- Warning: The safety and effectiveness of this device has not been established for use as part of a growing rod construct. The device is only intended to be used when definitive fusion is being performed at all instrumented levels.
- Additional Warnings for Pediatric Patients: The use of pedicle screw fixation in the pediatric population may present additional risks when patients are of smaller stature and skeletally immature. Pediatric patients may have smaller spinal structures (pedicle diameter or length) that may preclude the use of pedicle screws or increase the risk of pedicle screw malpositioning and neurological or vascular injury. Patients who are not skeletally mature undergoing spinal fusion procedures may have reduced longitudinal spinal growth, or may be at risk for rotational spinal deformities (the "crankshaft phenomenon") due to continued differential growth of the anterior spine.
- Precaution: The implantation of pedicle screw spinal systems should be performed only by experienced spinal surgeons with specific training in the use of this pedicle screw spinal system because this is a technically demanding procedure presenting a risk of serious injury to the patient.

# Important information on the Vitality Spinal Fixation System *(continued)*

- Additional Precautions for Pediatric Patients: The implantation of pedicle screw spinal systems in pediatric patients should be performed only by experienced spinal surgeons with specific training in the use of this pedicle screw spinal system in pediatric patients because this is a technically demanding procedure presenting a risk of serious injury to the patient.

Preoperative and operating procedures, including knowledge of surgical techniques, good reduction, and proper selection and placement of the implants are important considerations in the successful utilization of the system in pediatric patients. The selection of the proper size, shape and design of the implant for each patient is crucial to the safe use of this device in pediatric patients.

Additional preoperative, intraoperative and postoperative warnings and precautions:

## Preoperative

- Usage of automated cleaning processes without supplemental manual cleaning may not result in adequate cleaning of instruments.
- Proper handling, decontamination (including pre-rinsing, washing, rinsing and sterilization), storage and utilization are important for the long and useful life of all surgical instruments. Even with correct use, care and maintenance, they should not be expected to last indefinitely. This is especially true for cutting instruments (e.g., bone awls/drills) and driving instruments (e.g., drivers). These items are often subjected to high loads and/or impact forces. Under such conditions, breakage can occur, particularly when the item is corroded, damaged, nicked or scratched.
- Never use titanium, titanium alloy, and/or cobalt chromium with stainless steel in the same implant construct; otherwise, galvanic corrosion may occur.
- ZimVie does not specify the maximum number of times a re-usable instrument may be re-used. The useful life of these instruments is highly dependent on a number of factors including the frequency and manner in which they are used and the handling they experience in between uses. Inspection and, where appropriate, functional testing prior to using, is the best way to determine whether or not an individual device should be used.

## Intraoperative

- If contouring of the implant is necessary for optimal fit, the contouring should be gradual and avoid any notching or scratching of the implant surface. Do not repeatedly or excessively bend the implant. Do not reverse bend the rods.
- Pedicle bone integrity should be verified.
- Care should be taken during pedicle preparation to avoid penetrating too deep.
- Care should be taken during bone preparation to avoid damage to the pedicle and to the surgical instruments.
- Care should be taken to minimize soft tissue damage during surgery.
- Care should be taken to avoid removing excess material from the lamina.
- Care should be taken to avoid cross-threading screws and closure tops.
- If any implant or instrument comes in contact with a non-sterile surface it should not be used.

## Postoperative

- Adequately instruct the patient. Postoperative care and the patient's ability and willingness to follow instructions are one of the most important aspects of successful bone healing. The patient must be made aware of the limitations of the implant and that physical activity and full weight bearing have been implicated in fracture. The patient should understand that an implant is not as strong as normal, healthy bone and will fracture if excessive demands are placed on it in the absence of complete bone healing. An active, debilitated, or demented patient who cannot properly use weight-supporting devices may be particularly at risk during postoperative rehabilitation.
- The Vitality System is a temporary internal fixation device. Internal fixation devices are designed to stabilize the operative site during the normal healing process. After healing occurs, these devices serve no functional purpose and should be removed. Implant removal should be followed by adequate postoperative management to avoid fracture or refracture.

## Adverse Effects

Complications and adverse reactions have been reported with the use of similar spinal instrumentation systems. These adverse effects, including the possibility of death, should be discussed with the patient prior to surgery.

- Non-union, delayed union
- Bending or fracture of implant. Fraying, kinking, loosening, bending or breaking of any or all implant components.
- Loosening of or migration of the implant
- Metal sensitivity or allergic reaction to a foreign body
- Infection
- Decrease in bone density due to stress shielding
- Pain, discomfort, or abnormal sensations due to the presence of the device
- Loss of the natural curvature of the spine
- Modification of the spinal geometric corrections of the vertebral and/or intervertebral height and/or of the reduction in spinal deformities
- Vascular and/or nerve damage due to surgical trauma
  or presence of the device.
- Neurological difficulties including bowel and/or bladder dysfunction, impotence, retrograde ejaculation and paraesthesia.
- Bursitis
- Dural leak
- Paralysis
- Death
- Erosion of blood vessels due to the proximity of the device, leading to hemorrhage and/or death
- Additional surgery may be required to correct any of these potential adverse effects
- Additional Potential Adverse Effects for Pediatric Patients:
  - Inability to use pedicle screw fixation due to anatomic limitations (pedicle dimensions, distorted anatomy)
  - Pedicle screw malpositioning, with or without neurological or vascular injury
  - Proximal or distal junctional kyphosis
  - Pancreatitis

Other adverse events related to pedicle screw fixation, such as screw or rod bending, breakage, or loosening, may also occur in pediatric patients and pediatric patients may be at increased risk for device-related injury because of their smaller stature.

# Important information on the Vitality Spinal Fixation System *(continued)*

## Vital™ Power

The Vital™ Power Instrument System is a subsystem of the Vitality Spinal Fixation System.

## Description

The Vitality Spinal Fixation System is a thoracolumbar and sacroiliac fixation system designed to aid in the surgical correction of several types of spinal conditions. The system consists of a variety of spinal rods, pedicle screws, hooks and connectors intended only to provide temporary stabilization during the development of a solid fusion of the spine with bone graft. The system can be rigidly locked into a variety of configurations, with each construct being customized to the patient's anatomy. All implants are single use only and should not be reused under any circumstances. The implant system is intended to be removed after solid fusion has occurred.

The system also includes instrumentation for insertion, securing and removal of the implants. All implants are made from medical grade titanium alloy; select rods are also available in medical grade cobalt chromium alloy. Implants made from medical grade titanium, medical grade titanium alloy, and medical grade cobalt chromium may be used together. Never use titanium, titanium alloy, and/or cobalt chromium with stainless steel in the same implant construct. The Vitality Spinal Fixation System is compatible with components from other cleared spinal fixation systems. See Indications below.

## Intended Use (Power)

Vital Power instruments and adapters are intended for use with the Zimmer Biomet Universal Power System to facilitate the preparation of the pedicle and ilium and insertion of Vitality Spinal Fixation System screws using a power surgical technique. Pedicle and iliac screws from the Vitality Spinal Fixation System may be implanted in the non-cervical spine using powered instrumentation during spinal surgery, including open and minimally invasive procedures.

## Indications (Power)

The Vitality Spinal Fixation System implants are non-cervical spinal fixation devices intended for posterior pedicle screw fixation (T1-S2/ilium), posterior hook fixation (T1-L5), or anterolateral fixation (T8-L5). Pedicle screw fixation is indicated for skeletally mature patients and for adolescent patients. These devices are indicated as an adjunct to fusion for all of the following indications: degenerative disc disease (defined as discogenic back pain with degeneration of the disc confirmed by history and radiographic studies), spondylolisthesis, trauma (i.e., fracture or dislocation), deformities or curvatures (i.e. scoliosis, kyphosis, and/or lordosis, Scheuermann's Disease), tumor, stenosis, pseudoarthrosis and/or failed previous fusion. When used as an adjunct to fusion, the Vitality Spinal Fixation System is intended to be used with autograft and/or allograft

In addition the Vitality Spinal Fixation System is intended for treatment of severe spondylolisthesis (Grade 3 and 4) of the L5-S1 vertebra in skeletally mature patients receiving fusion by autogenous bone graft, having implants attached to the lumbosacral spine and or ilium with removal of the implant after attainment of a solid fusion. Levels of pedicle screw fixation for these patients are L3-sacrum/ilium.

When used for posterior non-cervical pedicle screw fixation in pediatric patients, the Vitality System implants are indicated as an adjunct to fusion to treat adolescent idiopathic scoliosis. The Vitality System is intended to be used with autograft and/or allograft. Pediatric pedicle screw fixation is limited to a posterior approach.

The use of the Vitality Spinal Fixation System in skeletally mature patients may include the fixation of the Instinct® Java™ Spinal Fixation System* hooks, APEX Spinal System™* hooks, or fixation of the Universal Clamp® Spinal Fixation System* to the rods of the Vitality Spinal Fixation System. The Vitality Spinal Fixation System may also be used in skeletally immature patients when connected with the Universal Clamp Spinal Fixation System.

In order to achieve additional levels of fixation in skeletally mature patients, the Vitality Spinal Fixation System* may be connected to the Virage® OCT Spinal Fixation System and the Instinct Java Spinal Fixation System offered by Zimmer Biomet Spine, using rod connectors.

## Contraindications

The Vitality System is not designed or sold for any use except as indicated. Do not use the vitality system implants in the presence of any contraindication.

- Insufficient bone quantity, severe osteoporosis, or other condition that might compromise rigid fixation of the device.
- A history of infection, active systemic infection or infection localized to the site of the proposed implantation.
- Suspected or documented metal allergy or intolerance.
- A disorder affecting the normal process of bone remodelling, including but not limited to severe osteoporosis involving the spine, excessive bone reabsorption, osteopenia, a primary or metastatic tumor involving the spine, or certain metabolic disorders of osteogenesis.
- Iliac screws and offset connectors should not be used in cases of tumor or trauma of the sacrum, when additional screw fixation in S1 is not possible.

Other relative contraindications include obesity, pregnancy, certain degenerative diseases, and foreign body sensitivity. In addition, the patient's occupation or activity level or mental capacity may be relative contraindications to this surgery. Specifically, some patients may, because of their occupation or lifestyle, or because of conditions such as mental illness, alcoholism or drug abuse, place undue stresses on the implant.

## Warnings and Precautions

Following are specific warnings, precautions, and adverse effects associated with use of the Vitality System that should be understood by the surgeon and explained to the patients. General surgical risk should be explained to the patients prior to surgery.

- Implantation of the Vitality System should be performed only by experienced spinal surgeons.
- All implants are intended for single use only. Single use devices should not be re-used. Possible risks associated with re-use of single-use devices include:
  - Mechanical malfunction
  - Transmission of infectious agents
- Metal sensitivity has been reported following exposure to orthopedic implants. The most common metallic sensitivities (nickel, cobalt, and chromium) are present in medical grade stainless steel and cobalt-chrome alloys.
- Universal precautions should be observed by all end users that work with contaminated or potentially contaminated medical devices. Caution should be exercised when handling devices with sharp points or cutting edges to prevent injuries during and after surgical procedures and reprocessing.
- Warning: The safety and effectiveness of pedicle screw spinal systems have been established only for spinal conditions with significant mechanical instability or deformity requiring fusion with instrumentation. These conditions are significant mechanical instability or deformity of the thoracic, lumbar, and sacral spine secondary to severe spondylolisthesis (grades 3 and 4) of the L5-S1 vertebra, degenerative spondylolisthesis with objective evidence of neurological impairment, fracture, dislocation, scoliosis, kyphosis, spinal tumor, and failed previous fusion (pseudoarthrosis). The safety and effectiveness of these devices for any other conditions are unknown.
- Warning: The safety and effectiveness of this device has not been established for use as part of a growing rod construct. The device is only intended to be used when definitive fusion is being performed at all instrumented levels.
- Additional Warnings for Pediatric Patients: The use of pedicle screw fixation in the pediatric population may present additional risks when patients are of smaller stature and skeletally immature. Pediatric patients may have smaller spinal structures (pedicle diameter or length) that may preclude the use of pedicle screws or increase the risk of pedicle screw malpositioning and neurological or vascular injury. Patients who are not skeletally mature undergoing spinal fusion procedures may have reduced longitudinal spinal growth, or may be at risk for rotational spinal deformities (the "crankshaft phenomenon") due to continued differential growth of the anterior spine.

# Important information on the Vitality Spinal Fixation System *(continued)*

- Precaution: The implantation of pedicle screw spinal systems should be performed only by experienced spinal surgeons with specific training in the use of this pedicle screw spinal system because this is a technically demanding procedure presenting a risk of serious injury to the patient.
- Additional Precautions for Pediatric Patients: The implantation of pedicle screw spinal systems in pediatric patients should be performed only by experienced spinal surgeons with specific training in the use of this pedicle screw spinal system in pediatric patients because this is a technically demanding procedure presenting a risk of serious injury to the patient.

Additional preoperative, intraoperative, and postoperative warnings and precautions:

## Preoperative

- Usage of automated cleaning processes without supplemental manual cleaning may not result in adequate cleaning of instruments.
- Proper handling, decontamination (including pre-rinsing, washing, rinsing and sterilization), storage and utilization are important for the long and useful life of all surgical instruments. Even with correct use, care and maintenance, they should not be expected to last indefinitely. This is especially true for cutting instruments (e.g., bone awls/drills) and driving instruments (e.g., drivers). These items are often subjected to high loads and/or impact forces. Under such conditions, breakage can occur, particularly when the item is corroded, damaged, nicked or scratched.
- Never use titanium, titanium alloy, and/or cobalt chromium with stainless steel in the same implant construct; otherwise, galvanic corrosion may occur.
- Zimmer Biomet does not specify the maximum number of times a re-usable instrument may be re-used. The useful life of these instruments is highly dependent on a number of factors including the frequency and manner in which they are used and the handling they experience in between uses. Inspection and, where appropriate, functional testing prior to using, is the best way to determine whether or not an individual device should be used.

Prior to use, instruments should be visually inspected for wear and tested to assure they are functioning properly. If instruments are discolored, show evidence of corrosion, have loose screws/pins, are out of alignment, are cracked or have other irregularities, DO NOT USE. Instrumentation that appears damaged should be returned to the manufacturer.

## Intraoperative

- If contouring of the implant is necessary for optimal fit, the contouring should be gradual and avoid any notching or scratching of the implant surface. Do not repeatedly or excessively bend the implant. Do not reverse bend the rods.
- Pedicle bone integrity should be verified.
- Care should be taken during pedicle preparation to avoid penetrating too deep.
- Care should be taken during bone preparation to avoid damage to the pedicle and to the surgical instruments.
- Care should be taken to minimize soft tissue damage during surgery.
- Care should be taken to avoid removing excess material from the lamina.
- Care should be taken to avoid cross-threading screws and closure tops.
- If any implant or instrument comes in contact with a non-sterile surface it should not be used.

## Postoperative

- Adequately instruct the patient. Postoperative care and the patient's ability and willingness to follow instructions are one of the most important aspects of successful bone healing. The patient must be made aware of the limitations of the implant and that physical activity and full weight bearing have been implicated in fracture. The patient should understand that an implant is not as strong as normal, healthy bone and will fracture if excessive demands are placed on it in the absence of complete bone healing. An active, debilitated, or demented patient who cannot properly use weight-supporting devices may be particularly at risk during postoperative rehabilitation.

- The Vitality System is a temporary internal fixation device. Internal fixation devices are designed to stabilize the operative site during the normal healing process. After healing occurs, these devices serve no functional purpose and should be removed. Implant removal should be followed by adequate postoperative management to avoid fracture or refracture.

## Adverse Effects

Complications and adverse reactions have been reported with the use of similar spinal instrumentation systems. These adverse effects, including the possibility of death, should be discussed with the patient prior to surgery.

- Non-union, delayed union
- Bending or fracture of implant. Fraying, kinking, loosening, bending or breaking of any or all implant components.
- Loosening of or migration of the implant
- Metal sensitivity or allergic reaction to a foreign body
- Infection
- Decrease in bone density due to stress shielding
- Pain, discomfort, or abnormal sensations due to the presence of the device
- Loss of the natural curvature of the spine
- Modification of the spinal geometric corrections of the vertebral and/or intervertebral height and/or of the reduction in spinal deformities
- Vascular and/or nerve damage due to surgical trauma or esence of the device.
- Neurological difficulties including bowel and/or bladder dysfunction, impotence, retrograde ejaculation and paraesthesia.
- Bursitis
- Dural leak
- Paralysis
- Death
- Erosion of blood vessels due to the proximity of the device, leading to hemorrhage and/or death
- Additional surgery may be required to correct any of these potential adverse effects
- Additional Potential Adverse Effects for Pediatric Patients:
  - Inability to use pedicle screw fixation due to anatomic limitations (pedicle dimensions, distorted anatomy)
  - Pedicle screw malpositioning, with or without neurological or vascular injury
  - Proximal or distal junctional kyphosis
  - Pancreatitis

Other adverse events related to pedicle screw fixation, such as screw or rod bending, breakage, or loosening, may also occur in pediatric patients and pediatric patients may be at increased risk for device-related injury because of their smaller stature.

For more information, visit ZimVie.com

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