

DEGENERATIVE SURGICAL TECHNIQUE
LOW PROFILE POLYAXIAL SPINE SYSTEM

En

M **PASS LP**®



INTRODUCTION

PASS LP® - PolyAxial Spine System Low Profile

The PASS LP system is a pedicle screw fixation system for the thoracolumbar spine. PASS LP is cleared for use in skeletally mature patients. This top loading, side connecting system allows for connection to the rod at a distance from the spine. Controlled spondylolisthesis reduction is achieved by a powerful, gentle rod reduction onto the screw-posts and by using offset screws.

The PASS LP system is comprised of pedicle screws, sacral plates, rod-plates and connectors made of Titanium Alloy (Ti-6Al-4V). Rods are offered both in Titanium Alloy and Cobalt Chrome (CoCr).

The PASS LP system offers many distinct advantages, including:

- Polyaxiality of all anchorage points
- Extremely low profile
- Proven restoration of kyphosis*
- Maximized purchase strength
- Segmental load sharing
- Streamlined instrumentation for efficient assembly.

*Multi US-site clinical trial showed significant improvement of 9° on thoracic kyphosis on the average in hypokyphotic patients (TK<20°) and no reduction of thoracic kyphosis in normal kyphotic patients. European clinical trial significantly improved TK by 23° in hypokyphotic patients.

INDICATIONS

PASS LP Spinal Systems include a pedicle system intended to provide immobilization and stabilization of spinal segments in skeletally mature patients as an adjunct to fusion in the treatment of the following acute and chronic instabilities or deformities of the thoracic, lumbar and sacral spine, including:

- Fractures
- Dislocation
- Failed previous fusion (Pseudarthrosis)
- Spinal stenosis
- Degenerative spondylolisthesis with objective evidence of neurological impairment
- Spinal deformations such as scoliosis or kyphosis
- Loss of stability due to tumors

CONTRAINDICATIONS

The non-exhaustive list of contradictions includes:

1. Active infection at the operative site.
2. Local inflammation.
3. Fever or leukocytosis.
4. Pathologic obesity.
5. Pregnancy.
6. Mental illness.
7. Any medical or surgical condition which would compromise the success of the procedure (e.g. malignant tumors or severe developmental anomalies, elevation of ESR that is not attributable to other pathologies, increase or decrease in white blood cell count).
8. Rapidly developing joint disease, bone resorption, osteopenia, and/ or osteoporosis. Osteoporosis is a relative contraindication because it may result in insufficient correction and compromise stability of the mechanical fixation.
9. Allergies and intolerance (suspected or known) to metals.
10. Any condition that does not require bone grafting or bone fusion.

Contraindications are similar to those applying to other spinal implants. This spinal implant is not designed, intended or sold for uses other than those previously mentioned.

*For a more complete list of Indications and Contraindications please refer to the IFU.

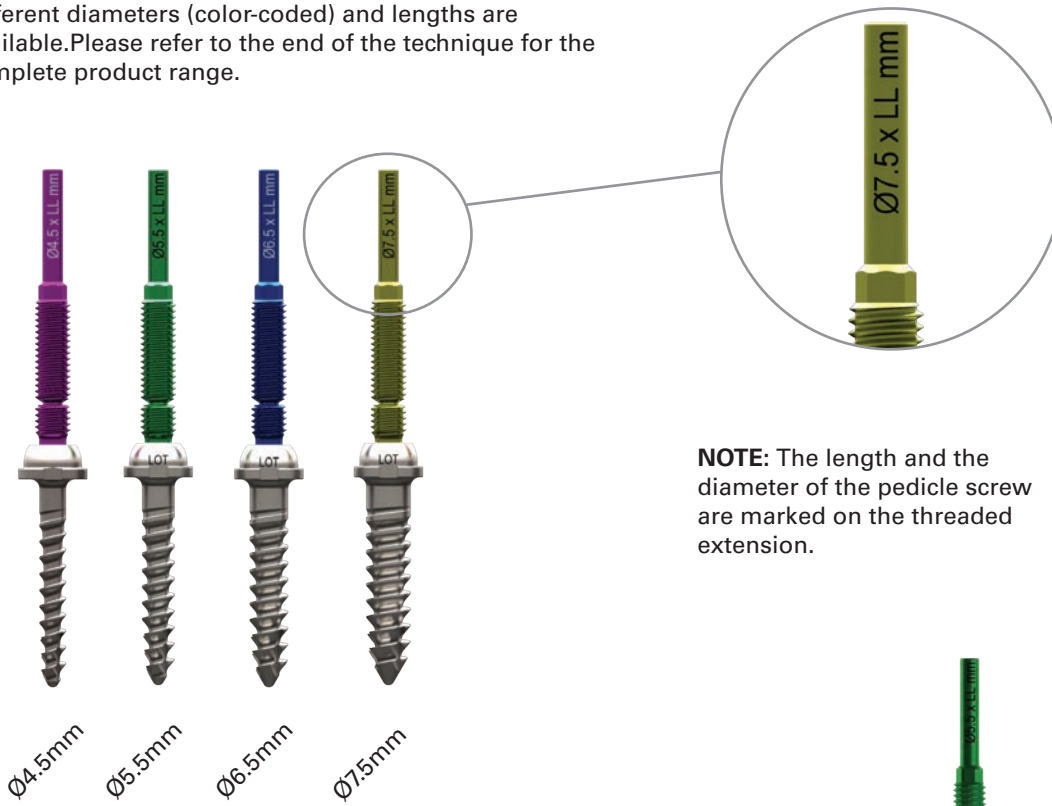
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SECTION 1: PEDICLE SCREW FIXATION

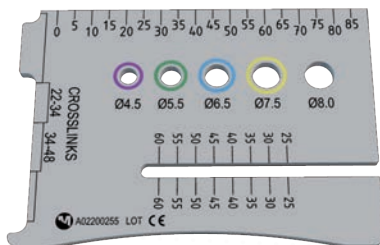
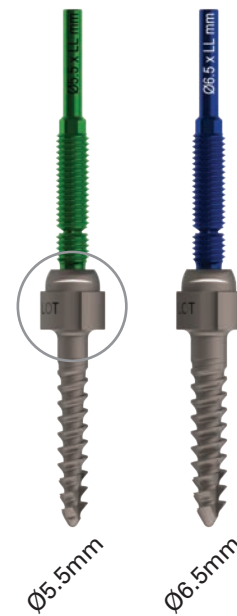
1 IMPLANT SELECTION

Different diameters (color-coded) and lengths are available. Please refer to the end of the technique for the complete product range.



NOTE: The length and the diameter of the pedicle screw are marked on the threaded extension.

OPTION: Use offset pedicle screws to block a potential shift (example: spondylolisthesis) in the alignment of the rod on the screw head. The screw head is raised an additional 5mm.



A02200255 PASS LP Measuring Card

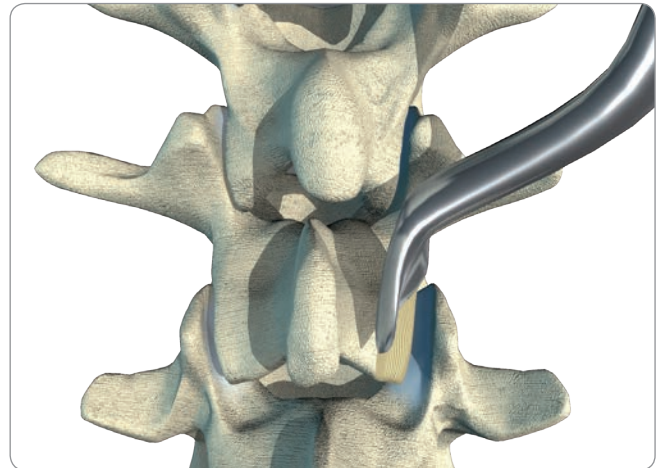
Use the PASS LP® Measuring Card (A02200255) to check screw length and diameter by color-coding as well as crosslink size.

2 INSERTION OF LUMBAR PEDICLE SCREW

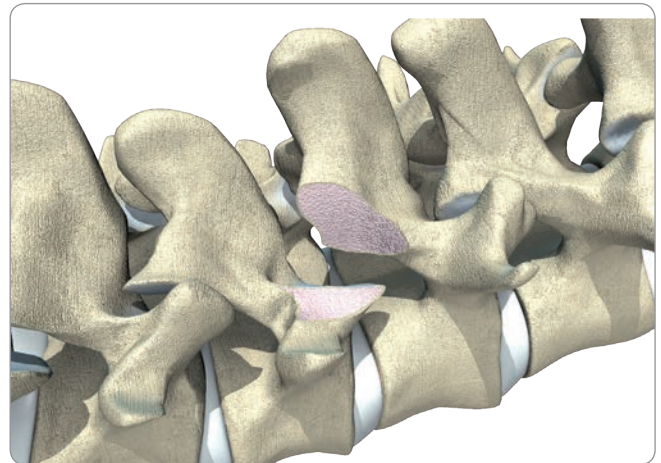
2.1. Localization of entry point on lumbar vertebrae

The technique described below is a free-hand technique. The use of an image intensifier (C-arm) is highly recommended for perioperative control of pedicle screw placement. As an alternative, a surgical navigation system can be used.

Perform the Facetectomy: Resect the inferior articular process of the overlying vertebra using a gouge chisel.



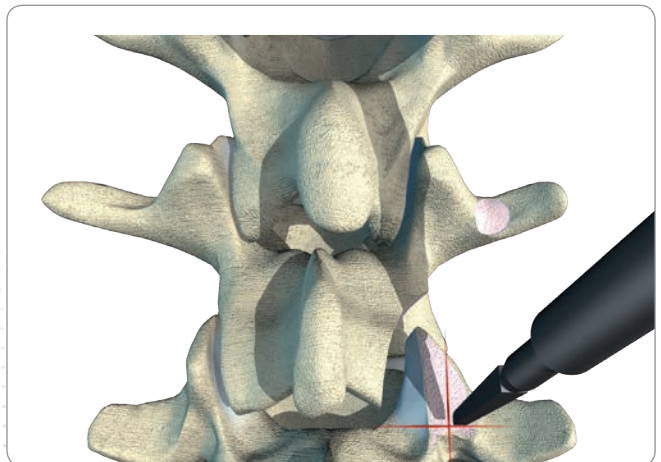
Prepare the implantation site:
Resect the bone with a rongeur.



Locate the pedicle entry point and create a pilot hole: Use the Squared Awl (A02110010) to perforate the cortex at the screw entry point. This hole is usually located at the intersection of a horizontal line that bisects the transverse process and a vertical line through the middle of the superior articular process.



A02110010 Squared Awl



2.2. Preparation of the pathway

A straight or curved probe may be used to cannulate the pedicle pathway.



A01110050 Straight Spatula

A01110060 Curved Spatula



A01110070 Bone Probe

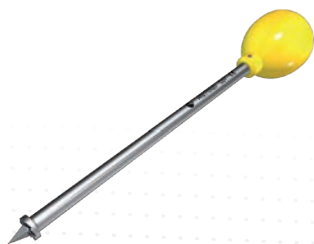
A02110030 Lenke Type Spatula

Check the pathway. Use the Pedicle Probe (MS219) to check that the pedicle wall has not been breached.

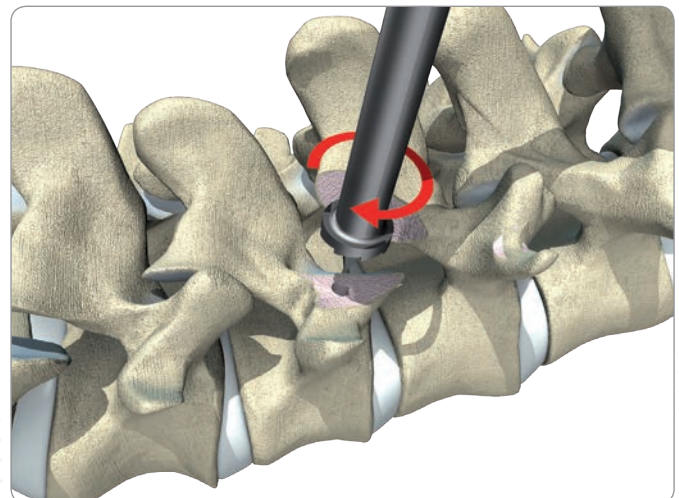
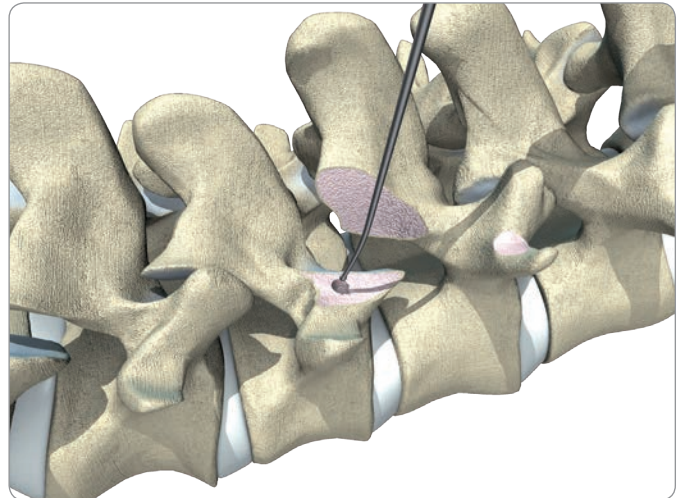
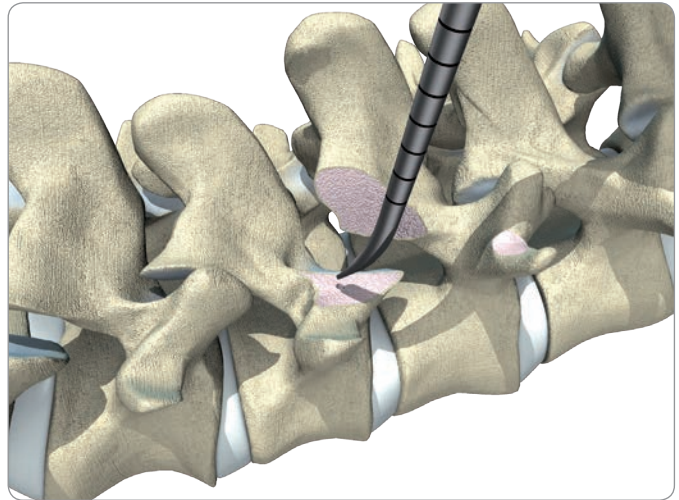


MS219 Pedicle Probe

IMPORTANT: Use the Squared Awl Reamer (A02110020) to level the area in order to ensure that the screw head can sit flush on the bone.

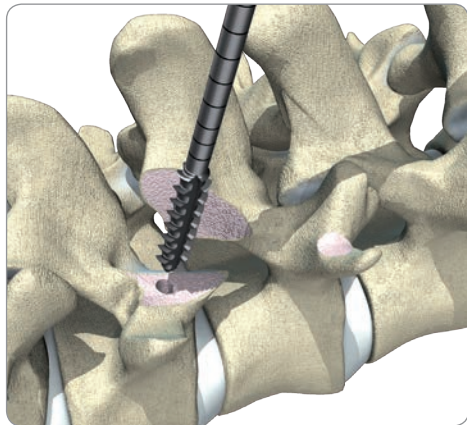


A02110020 Squared Awl Reamer



Determine the appropriate screw length using the laser marks on the spatulas or the Depth Gauge (A02110050).

NOTE: The Depth Gauge measures from 20 to 100mm in 2mm increments.



Screws are self-tapping, however if needed a Tap can be used.

- Ø4.5mm: A02214500,
- Ø5.5mm: A02215500,
- Ø6.5mm: A02216500 or
- Ø7.5mm: A02217500

NOTE: The Taps are undersized by 0.5mm.



RATCHET HANDLES:

The handles offer 3 settings:

- F = Forward position for tightening
- 0 = Neutral position to lock ratchet function
- R = Reverse position for loosening



A02100002T Ratchet Handle



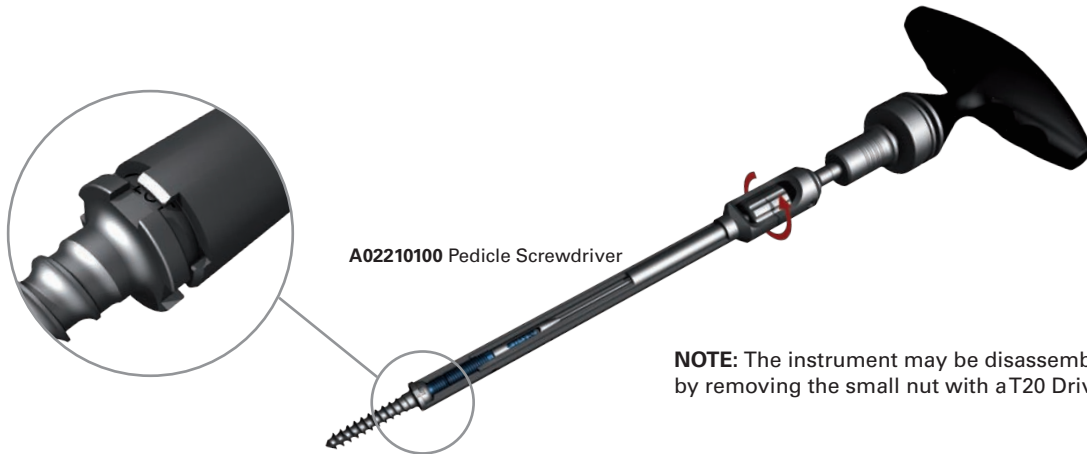
A02100001 Straight Ratchet Handle for Shaft



A02100005 Palm Ratchet Handle for Shaft

2.3. Pedicle screw insertion

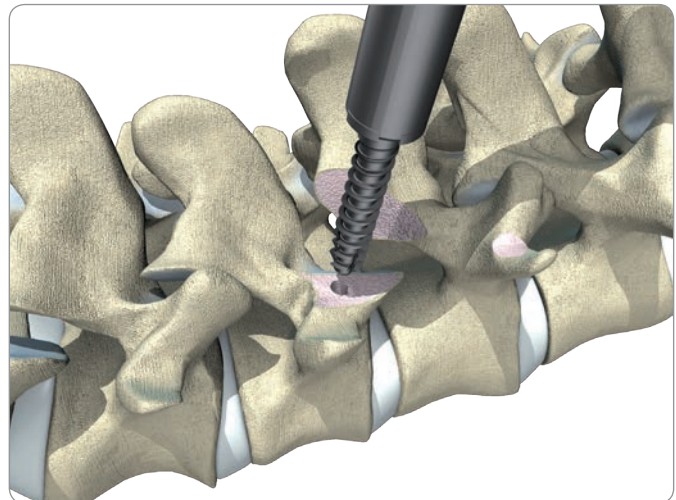
Align the 4 prongs on the Pedicle Screwdriver (A02210100) with the 4 notches of the screw head. Turn the knob clockwise, until one audible click is heard.



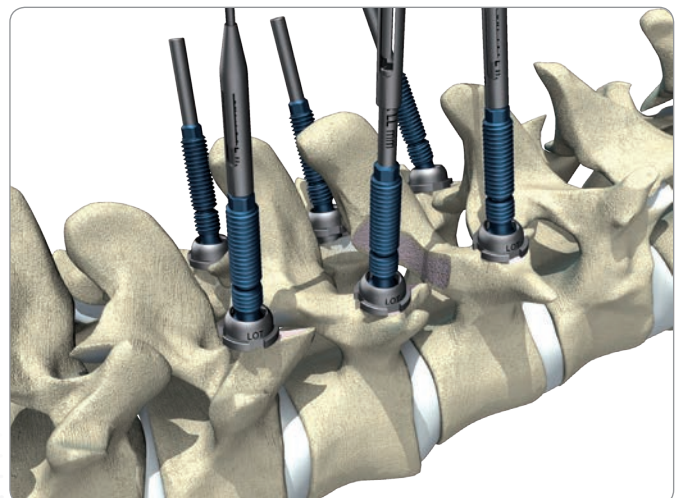
NOTE: The instrument may be disassembled for cleaning by removing the small nut with a T20 Driver Shaft.

Attach the preferred Ratchet Handle (A02100001, A02100002 or A02100005) onto the Screwdriver Shaft.

Insert the Pedicle Screw.



NOTE: The Flexible Guide can be used on top of the post for connection to the rod at a distance from the spine.



SECTION 2: ROD CONSTRUCT

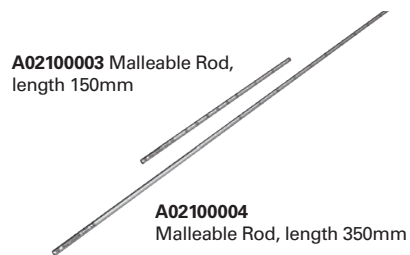
NOTE: Refer to Section 5, if using a rod-plate.

1 IMPLANT SELECTION

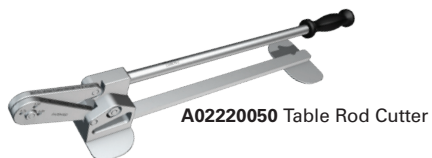
The rods are available in Titanium alloy (Ti6Al4V ELI) in 2 diameters: Ø5.5mm and Ø6.0mm. All rods have a 5mm hexagonal end with the length laser marked "LLmm". Refer to the end of the technique for the complete rod offering.



Use the Malleable Rods (A02100003 or A02100004) to select rod length and determine rod contouring.



IMPORTANT: When determining rod length, 5mm should be considered to provide sufficient run within the first and last connector of the construct.



NOTE: If necessary, the rods may be cut using the Table Rod Cutter (A02220050). However, the hexagonal end with laser-marking must be maintained for rod positioning and traceability purposes.

2 ROD CONTOURING

Titanium alloy rods ranging from 30mm to 100mm in 10mm increment lengths are delivered pre-contoured.

For further contouring of short rods or for contouring long rods use the French Bender (A02120100).



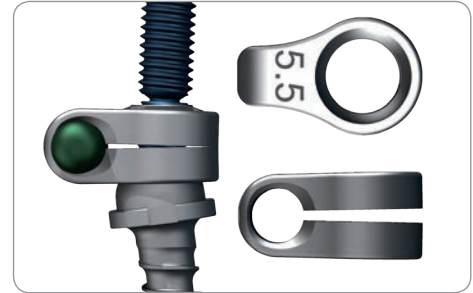
3 CONNECTOR OFFERING

The **PASS LP®** system provides a complete range of connectors to control and customize correction. The compatible rod diameter is laser marked on the implant to ease identification.

1) Standard connector

- B02235501 for Ø5.5mm rod
- B02236001 for Ø6.0mm rod

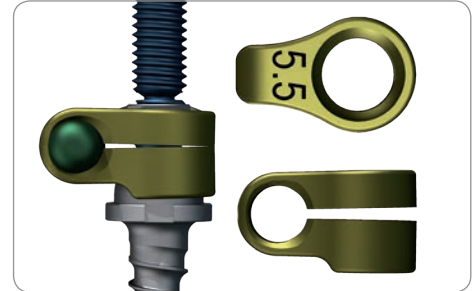
The standard connector provides a polyaxial rod connection. Useful when a simple fixation is required.



2) Realignment connector

- B02235510 for Ø5.5mm rod
- B02236010 for Ø6.0mm rod

The realignment connector renders the screw monoaxial through its connection to the screw head. Upon final tightening, the polyaxial screw will be positioned perpendicular to the rod (like a standard monoaxial screw).



IMPORTANT: Laser mark must be facing upwards. The use of realignment connectors is not recommended when operating on patients with poor bone quality such as severe osteoporosis.

3) Angled connector

- B02235530 for Ø5.5mm rod
- B02236030 for Ø6.0mm rod

The angled connector is useful at the top of the construct to protect against adjacent level facet impingement. It may also be used at a steep L5/S1 angulation at the bottom of the construct. The connector reduces the rod length required by 5mm



IMPORTANT: The Counter-Torque (A02230030) may not be used over angulated connectors. Instead, use the Positioning Handle (A02230150) as a Counter-torque by placing it through the Nutdriver (A02130160) cannulation while tightening.

4) Offset connector

- B02235540 for Ø5.5mm rod
- B02236040 for Ø6.0mm rod

The offset connector increases the lateral distance between the rod and the screw by 5mm. The connector is useful in maintaining rod alignment due to different anatomical placement of screws.



NOTE: Standard, realignment, angled and offset connectors all offer 360 degree secure rod capture.

5) Trauma connector

- B02236025 for both Ø5.5mm and Ø6.0mm rods

The trauma connector renders the screw monoaxial with independent locking on the rod via the set screw to perform parallel compression/distraction maneuvers.

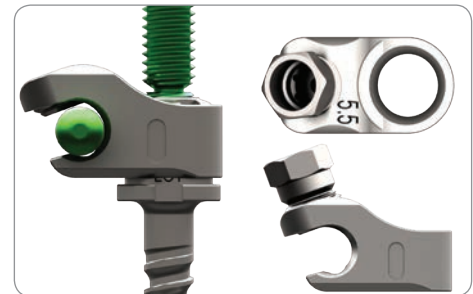
Useful to facilitate realignment of the vertebrae in the sagittal plane in severe spondylolisthesis cases, burst fractures, and compression fractures.



6) Open connector

- B02235570 for Ø5.5mm rod
- B02236070 for Ø6.0mm rod

The Open Connector is useful in revisions. Insert a new screw and place the Open Connector onto the screw post. Rotate the C-shaped coupling onto the rod. Tighten the set screw to lock onto the rod and break the plug at final tightening with the Nutdriver (A02130160).



IMPORTANT: Breakaway plugs are tightened with the Nutdriver (A02130160) and set screws with the T30 Screwdriver (A02230020). If the plug is detached from the connector, a T30 Screwdriver can still be used to adjust the set screw.

4 ROD AND CONNECTOR INSERTION

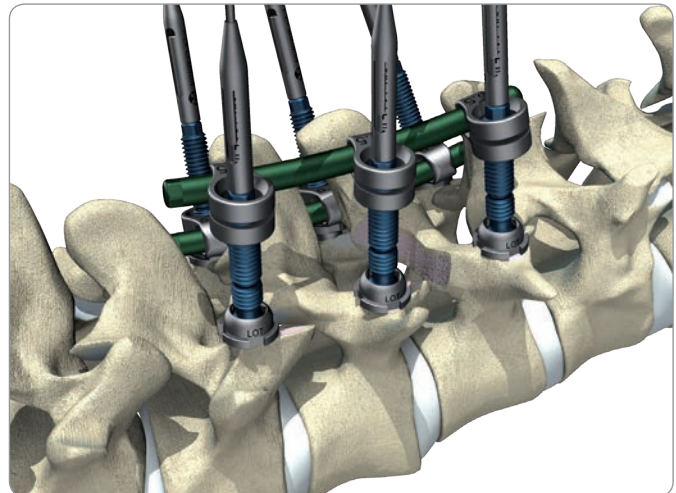
Slide the connectors onto the rod. Ensure the connectors are in the correct order to match the corresponding anchorages on each side of the construct.

NOTE: In most cases, the rods are placed medial to the screws. However, lateral rod placement is possible, especially to facilitate the placement of a PLIF cage.



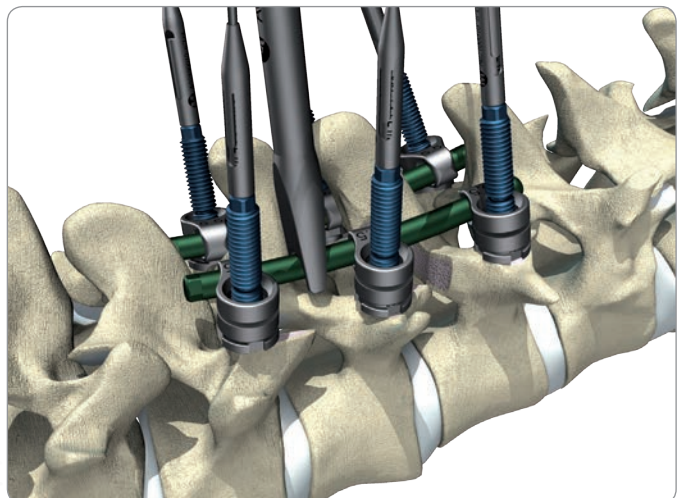
NOTE: If necessary, use the Connecting Clamp Releaser (MS227) to slightly re-open the connectors.

Drop the assembly over the Flexible Guides (A02200010) placed onto the threaded extensions. Ensure that each connector is correctly paired to engage with all anchorages.



IMPORTANT: Remove any tissue structures inhibiting the seating of the connectors and rods.

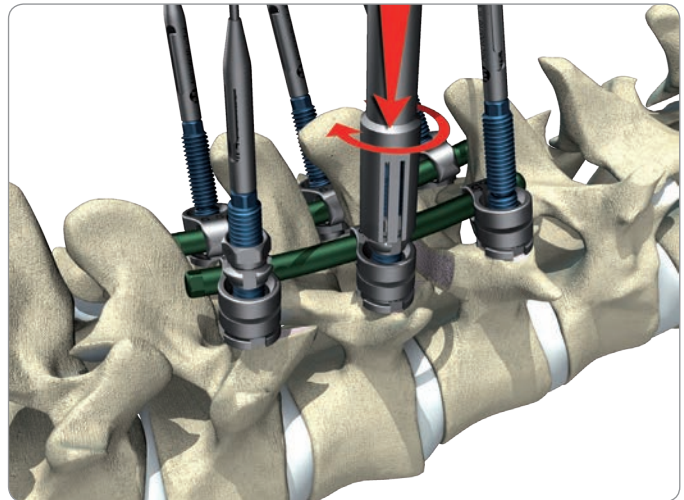
If necessary, gently use the rod pusher (A02120020) to facilitate the rod and connector loading.



5 TIGHTENING

5.1. Nut insertion

Load the nut into either the Speed Driver (A02230050) or the Nut Holder (A02230010) with the 4 notches facing downward and introduce it onto the threaded extension.



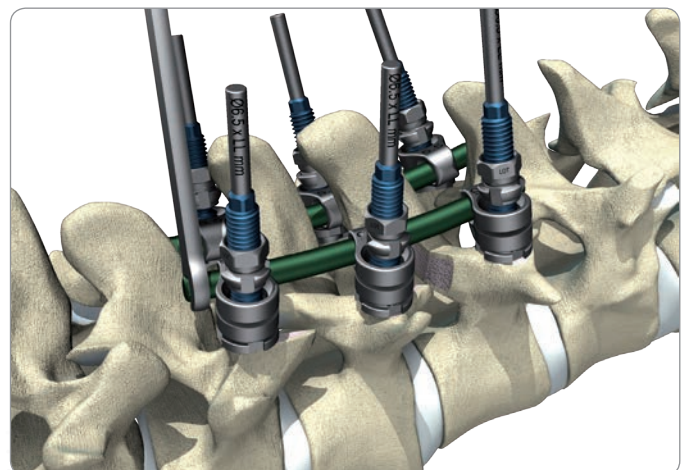
It is not necessary to remove the Flexible Guides (A02200010) during the initial tightening of the nut. The Speed Driver may be used to quickly advance the nuts down the threaded posts but not to apply reduction forces.



NOTE: The threaded extensions are completely mobile during this step and no stress is applied to the anchorages.

5.2. Rod orientation

Before final tightening, orient the rod in the sagittal plane using the Rod Rotating Wrench (A02120002).



5mm hex fits all PASS LP rods.

5.3. Distraction and compression

Before the final tightening procedure, it may be necessary to use distraction or compression at the instrumented levels.

5.3.1. Distraction

Assemble the L-shaped Jaws (A02120375) onto the end of the Spreader(A02120350).

Lock the first screw, then place the tips over the rod by applying directly on the inner side of the connectors (see image) and distract.

Lock the second screw with the Nutdriver Shaft (A02130170) with ratchet handle.

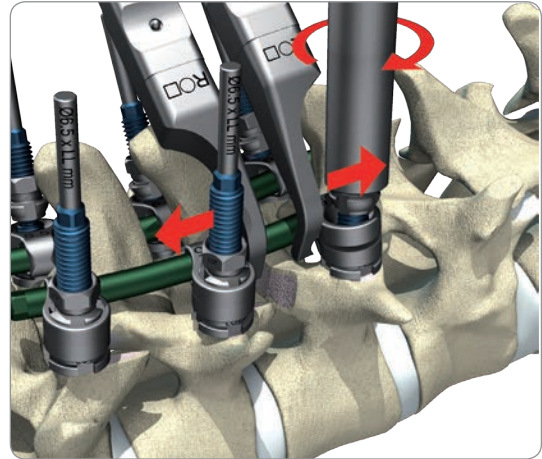


A02120375 L-shaped Jaws

A02120350 Rod Spreader



A02100002T RATCHET HANDLE



5.3.2. Compression

Assemble the L-shaped Jaws (A02120375) onto the end of Compressor (A02120250).

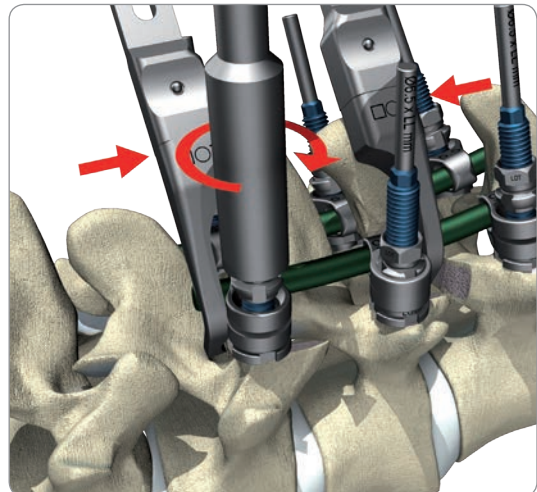
Lock the first screw, then place the tips over the rod by applying directly on the outer side of the adjacent connectors (see image) and compress.

Lock the second screw with the Nutdriver Shaft (A02130170) with ratchet handle.



A02120375 L-shaped Jaws

A02120250 Compressor

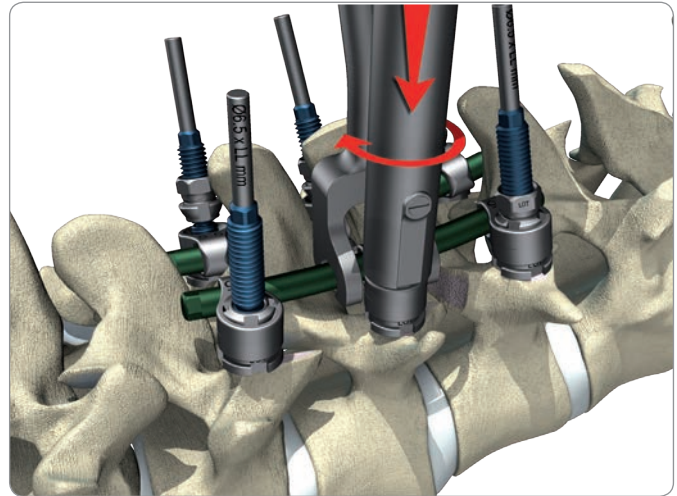


5.4. Final tightening

Remove the Flexible Guides (A02200010) in order to tighten the nuts using the Nutdriver (A02130160). The nut must be tightened until the top shears off (average value of 12 Nm).



A02130160 Nutdriver



During the final tightening and nut breakage, use a method of counter-torque to ensure the anchorage is maintained. 2 options are available:



A02230030 Counter-torque

Option 1:

The Counter-torque (A02230030) must be used to stabilize the construct during tightening. This Counter-torque is not functional with angulated connectors.



A02230150 Positioning Handle

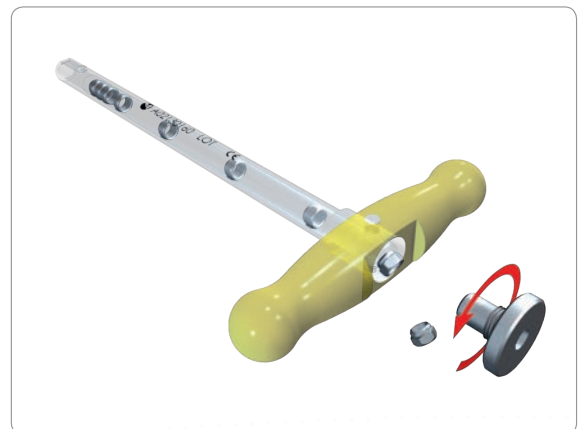
Option 2:

It is also possible to use the Positioning Handle (A02230150) as a Counter-torque by placing it through the Nutdriver (A02130160) cannulation while tightening. This method is mandatory for nuts with angulated connectors.

While torquing the nut, exert a downward force to contain the broken part in the instrument.

This instrument is cannulated for storage of the broken parts. To empty the instrument, unscrew the plug in the handle and turn the instrument upside down to release the broken parts.

If a broken part is blocked in the instrument, use the Malleable Rod (A02100004) to push it out.



IMPORTANT: A count of all the broken parts held within the shaft is recommended to ensure none have been left in the wound.

If a nut has been final tightened and must be removed, use the Nutdriver Shaft for Dismantling (A02230250). Align the 4 prongs with the 4 notches present on the remaining part of the nut.

IMPORTANT: If tightening must be re-executed, it is **MANDATORY** to re-execute the tightening procedure with a pristine nut.



A02230250 Nutdriver Shaft for Dismantling

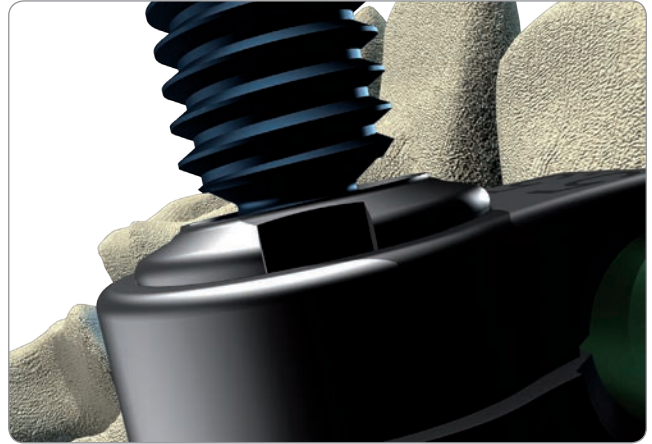
6 FINAL PROCEDURE

6.1. Checking

The groove on the threaded extension must flush with the top of the nut surface.

If it is not flush, unscrew the nut using the Nutdriver Shaft for Dismantling (A02230250) :

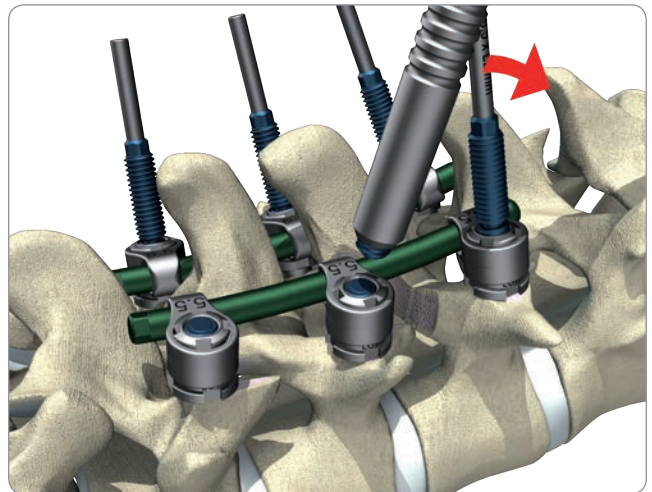
- Check that nothing is preventing the connector from reaching the screw head (osteophytes, etc.) and use a rongeur to remove if necessary.
- Re-execute the tightening procedure using a pristine nut.



6.2. Removal of the threaded extensions

Place the Threaded Extension Breaker (A02230010) onto the threaded extension of the screw and snap off the upper part along the longitudinal axis of the rod. Repeat this step on each extension.

The broken part remains in the instrument. It is necessary to remove each broken part before breaking the next one.



IMPORTANT: A count of all the broken parts is recommended to ensure none have been left in the wound.

If crosslinks are used, please refer to Section 3.

NOTE: It is also possible to use the Positioning Handle (A02230150) with the Nutdriver (A02130160) to break the post by twisting it counter-clockwise. Torsional forces required to twist off the post are 5 Nm.

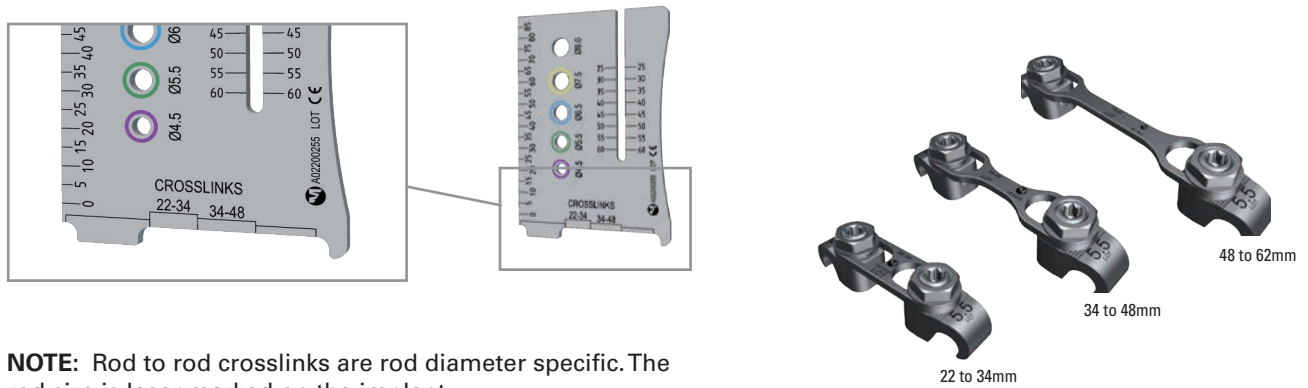
6.3. Assessing implant position

A final x-ray is recommended prior to wound closure to confirm implant position.

SECTION 3: ROD TO ROD CROSSLINK

1 IMPLANT SELECTION

Use the PASS LP® Measuring Card (A02200255) to measure the distance between the 2 rods and select the implant size accordingly.



NOTE: Rod to rod crosslinks are rod diameter specific. The rod size is laser marked on the implant.

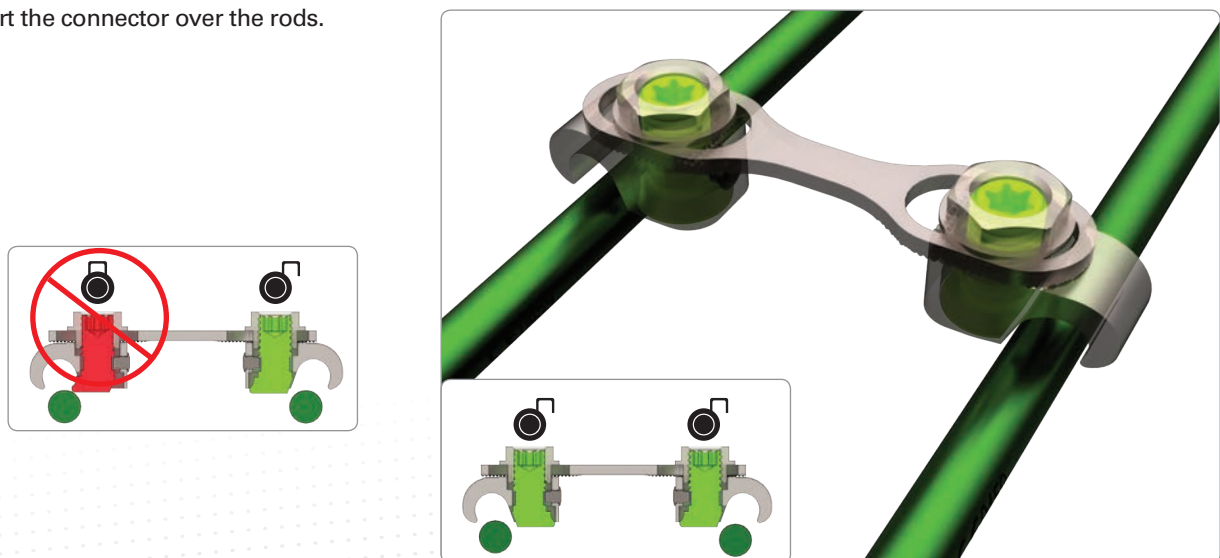
2 INSERTION OF CROSSLINK

Check that the rod passage is free on both sides of the crosslink.

If not, open the passage by releasing the cam using the T20 Screwdriver (A01130250) one quarter turn until the stop is reached.

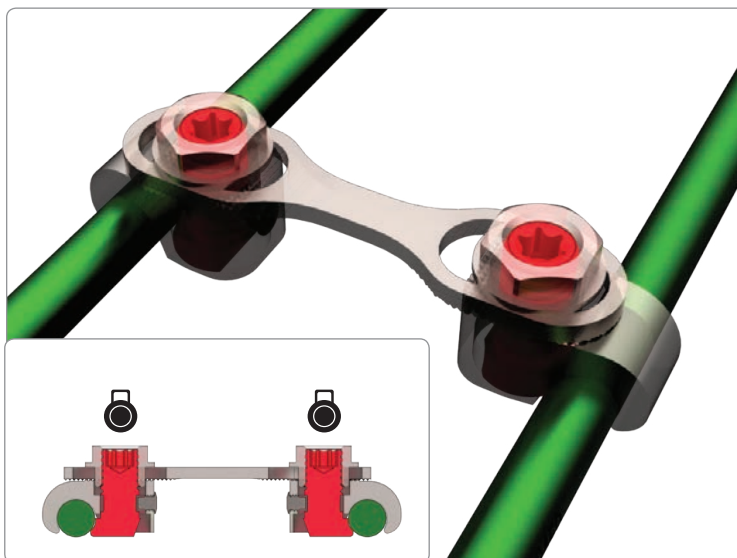


1. Insert the connector over the rods.



2. Gently engage the cams using the T20 Screwdriver until the internal stop is reached.

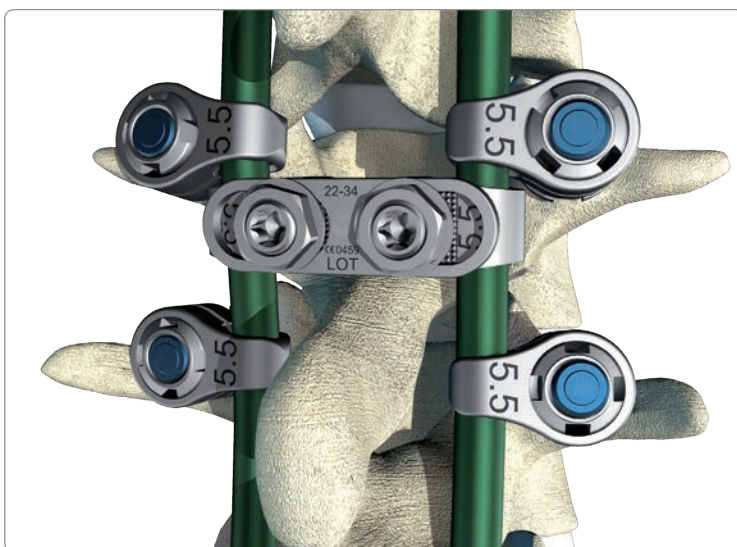
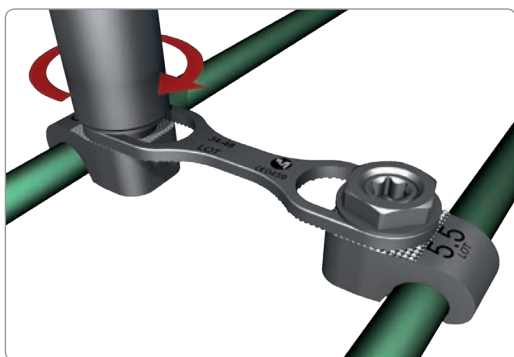
At this stage, the crosslink is able to slide freely along the rods without escaping. A gentle compression or distraction can then be applied between the 2 rods prior to locking the crosslink.



3. Lock the length of the crosslink by tightening the locking nuts using the Nutdriver (A02130160).



A02130160 Nutdriver



SECTION 4: SACRAL FIXATION

1 IMPLANT SELECTION

Two specific designs are available for the sacral plate in order to fit patient anatomy :

- Laser mark "L" indicates left side
- Laser mark "R" indicates right side

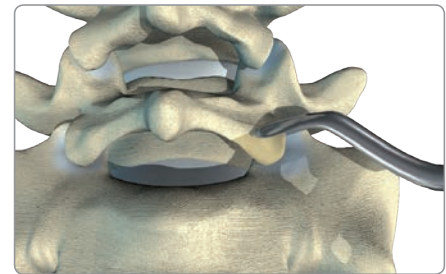
Ø6.5 and Ø7.2 sacral screws are available from 25mm to 60mm in 5mm increments.



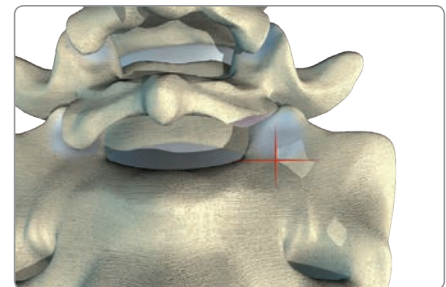
2 INSERTION OF BICORTICAL S1 SCREW

2.1. Localization of S1 entry point

Facetectomy: Resect the inferior articular process of L5 using a gouge chisel.



Identify the S1 pedicle entry point in the inferior part of the S1 articular surface.

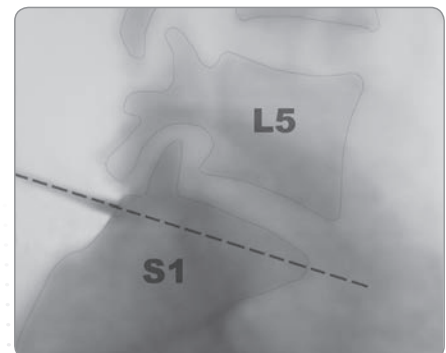


NOTE: To check the correct positioning of the implant, a lateral view from an image intensifier (C-arm) is recommended.

Perforate the cortex with an awl and create the pathway for a bicortical fixation of the S1 screw using the Straight Spatula (A01110050).

Use the Pedicle Probe (MS219) to ensure that the bone is intact on all sides of the pathway.

Determine the appropriate screw length using the Depth Gauge (A02110050).



2.2. Placement of the plate and insertion of S1 screw

Assemble the plate on the Sacral Plate Holder (A02250010) by turning the central knob.

Place the drilling guide over the S2 hole (bevelled edge).

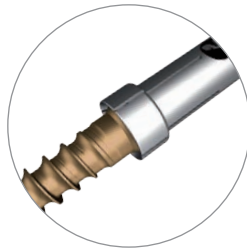
Position the plate holder in the direction of the end implanted.



Assemble the T20 Screwdriver (A01130250) with the desired ratchet handle.

Slide the Sacral Screw Holder for T20 Screwdriver (A02150030) onto the T20 Screwdriver.

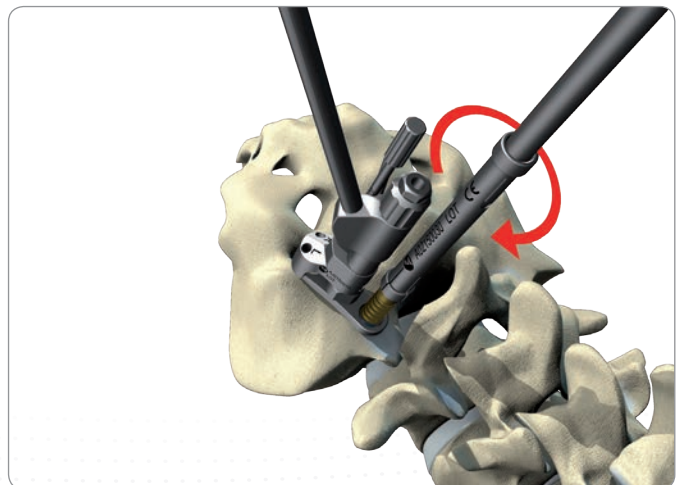
Firmly push the holding sleeve onto the screw head so that it is retained on the driver/sleeve assembly.



NOTE: Bone wax can be used to facilitate this step.



Insert the S1 screw into the prepared hole through the plate positioned on the sacrum. Do not completely seat the S1 screw; leave enough space to facilitate the insertion of the second sacral screw.



3 INSERTION OF BICORTICAL SACRAL ALA SCREW

3.1. Localization of entry point

Position the plate with its lower end lying on the sacral ala, lateral to the first posterior sacral foramen.

Use the drilling guide of the Sacral Plate Holder (A02150020) to determine the entry point of the inferior screw (S2) located lateral to the first sacral hole ("R" for right plate and "L" for left plate).



3.2. Preparation of the hole

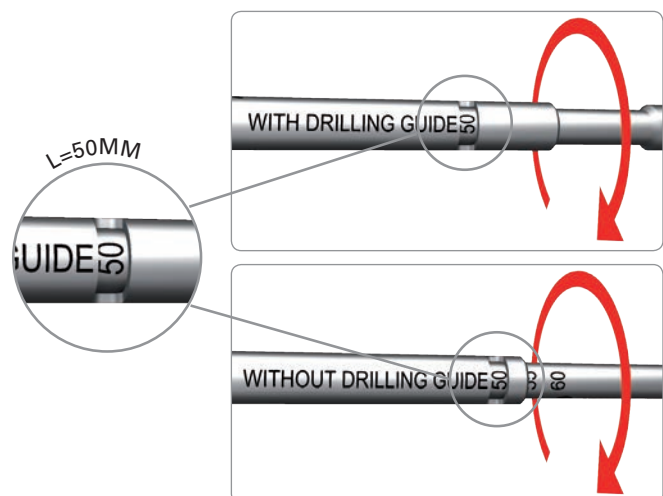
3.2.1. Adjustment of hand drill



The desired length of drilling is adjustable using the Sacral Screw Gimlet (A02150020).

If the drilling guide is used, the laser mark "WITH DRILLING GUIDE" should be referenced to tighten/loosen the drill bit until the desired length appears in the window.

NOTE: Refer to the other side of the sleeve where the window reads "WITHOUT DRILLING GUIDE" and adjust the length accordingly.

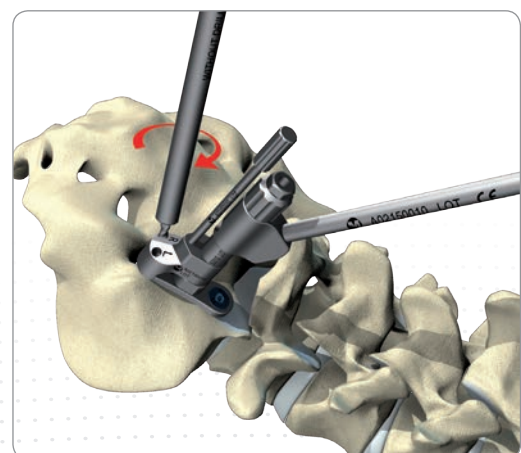


3.2.2. Preparation of the pathway

The drill (A02150020) is then assembled with one of the Ratchet Handles and inserted through the drilling guide in the hole corresponding to the side instrumented ("L" when using the left sacral plate, and "R" when using the right sacral plate).

Use the Pedicle Probe (MS219) to ensure that the bone is intact on all sides of the pathway.

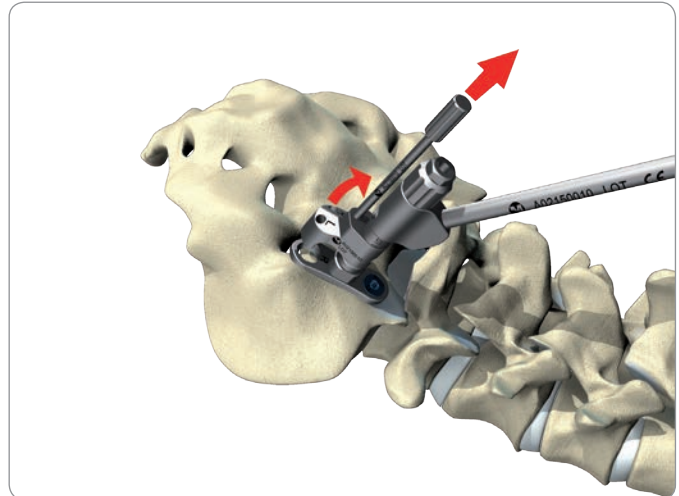
IMPORTANT: If using an electric drill, the drilling guide is compatible with up to a $\text{Ø}3.2\text{mm}$ size drill.



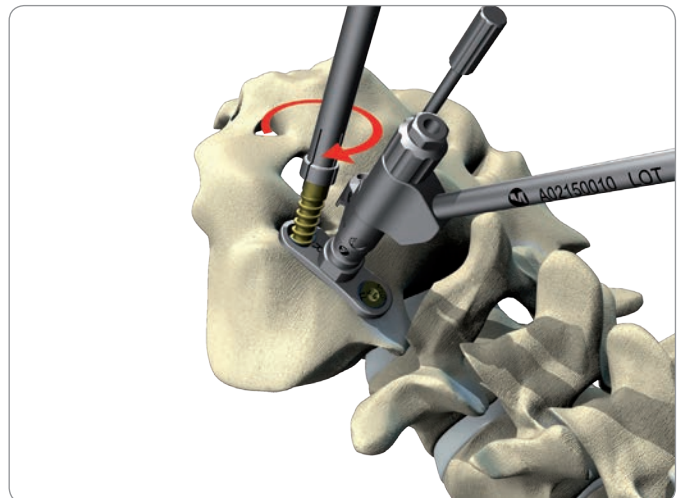
3.3. Insertion of the inferior screw

Assemble the Sacral Screw onto the Sacral Screw Holder for T20 Screwdriver, as described in the S1 screw insertion.

Lift and swing the drill guide aside by pulling the small knob. The S2 screw hole is visible for implantation.

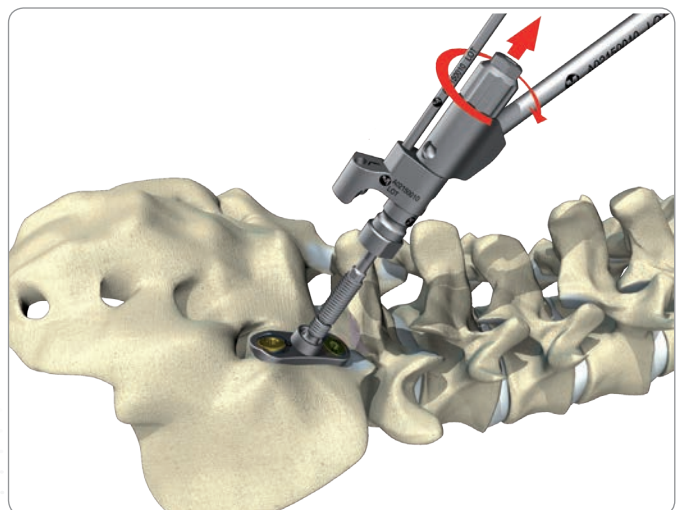


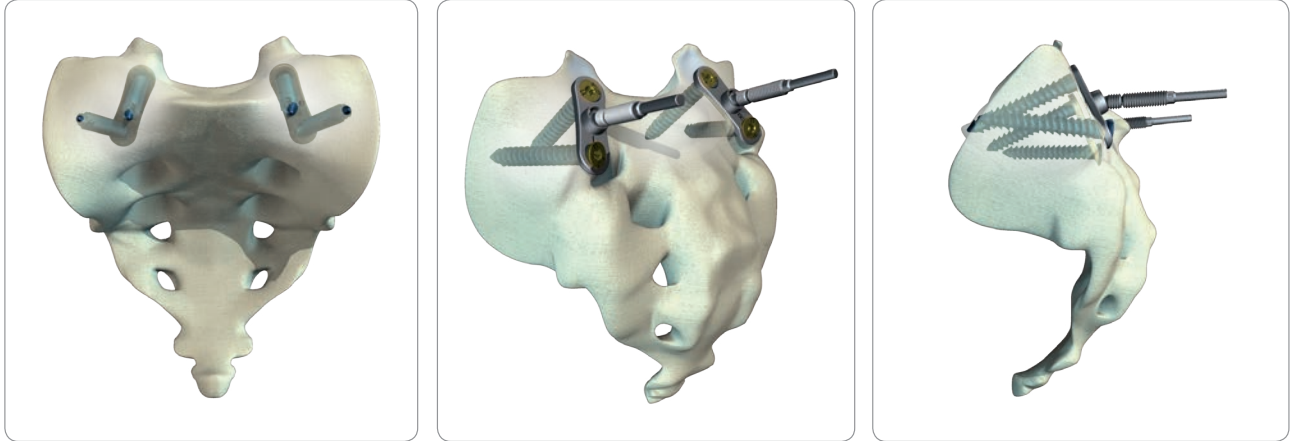
Insert the S2 screw into the plate following the prepared pathway.



Remove the Sacral Plate Holder by loosening the central knob.

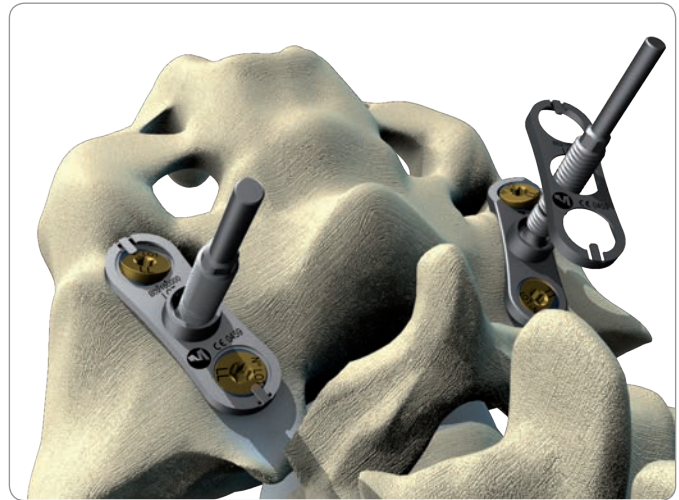
IMPORTANT: Complete tightening of S1 screw.





The sacral screws have intersected trajectories in all 3 planes in order to obtain optimal pull-out resistance.

NOTE: In order to avoid sacral screw back-out, a cap (B02150005 or B02150000) can be inserted on top of the plate after the 2 sacral screws have been inserted (before rod insertion).



4 ROD AND CONNECTORS INSERTION

Please refer to Section 2.

5 TIGHTENING

Please refer to Section 2.

6 FINAL PROCEDURE

Please refer to Section 2.

SECTION 5: ROD-PLATE CONSTRUCT

1 IMPLANT SELECTION

The rod-plate can be used with standard polyaxial screws, offset polyaxial screws and sacral plates.

Measure the distance between the threaded extensions of the anchorages with a Malleable Rod (A02100003 ,A02100004) and choose a compatible implant.



NOTE: The rod-plate is delivered pre-bent. Further bending of the rod-plate is not recommended, as this may cause distortion of the rod-plate holes.

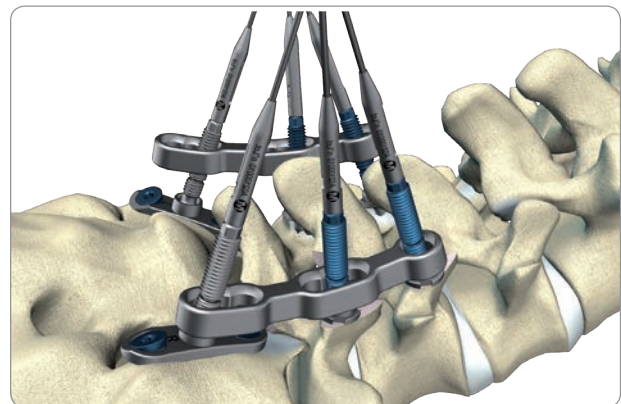
2 INSERTION OF ROD-PLATE

The Flexible Guide (A02200010) can be loaded onto the threaded extension of the anchorages prior to rod-plate insertion.

Orient the rod-plate so that the laser mark is placed on top.

NOTE: The single hole should be placed on the cranial part of the construct in order to avoid any conflict with the facets.

Slide the rod-plate over the Flexible Guides, or directly over the threaded extensions. A single threaded extension should be placed through each rod-plate opening.



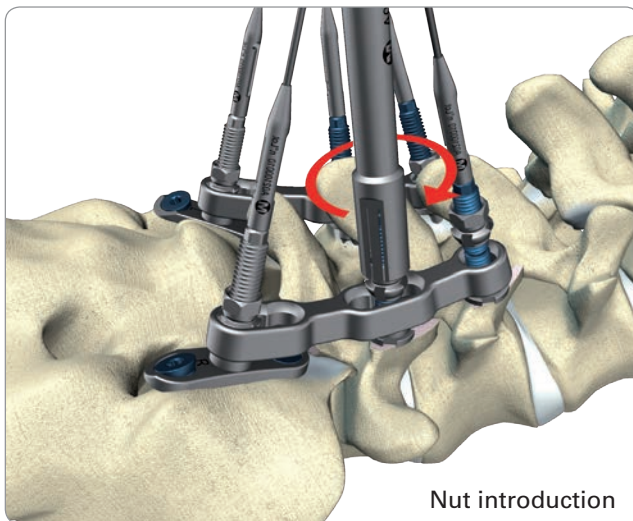
IMPORTANT: Remove any tissue structures inhibiting the seating of the rod-plate.

3 TIGHTENING

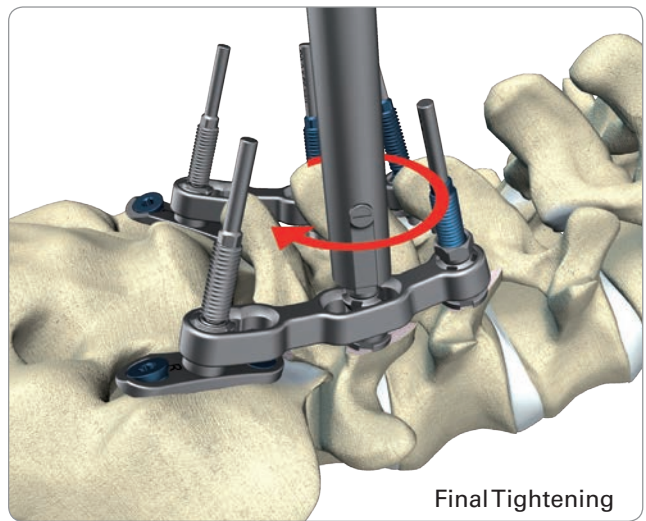
The Counter-torque for Rod-Plate (A02230040) must be used to stabilize the construct during tightening. Please refer to Section 2.



A02230040 Counter-torque for Rod Plate



Nut introduction

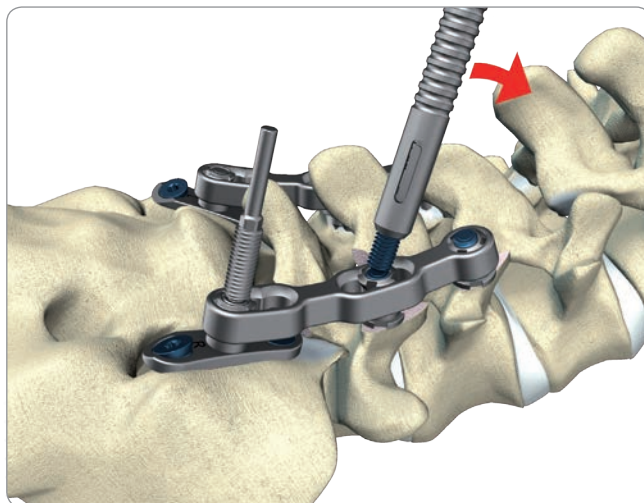


Final Tightening

NOTE: The inferior opening(s) of the rod-plate are scalloped to allow for 3 unique nut placements.

4 FINAL PROCEDURE

Please refer to Section 2.



IMPLANTS

POLYAXIAL PEDICLE SCREWS	
Reference	Designation
B02214525	POLYAXIAL PEDICLE SCREW Ø 4.5mm x 25mm
B02214530	POLYAXIAL PEDICLE SCREW Ø 4.5mm x 30mm
B02214535	POLYAXIAL PEDICLE SCREW Ø 4.5mm x 35mm
B02214540	POLYAXIAL PEDICLE SCREW Ø 4.5mm x 40mm
B02214545	POLYAXIAL PEDICLE SCREW Ø 4.5mm x 45mm
B02214550*	POLYAXIAL PEDICLE SCREW Ø 4.5mm x 50mm (Option)
B02214555*	POLYAXIAL PEDICLE SCREW Ø 4.5mm x 55mm (Option)
B02215525*	POLYAXIAL PEDICLE SCREW Ø 5.5mm x 25mm (Option)
B02215530	POLYAXIAL PEDICLE SCREW Ø 5.5mm x 30mm
B02215535	POLYAXIAL PEDICLE SCREW Ø 5.5mm x 35mm
B02215540	POLYAXIAL PEDICLE SCREW Ø 5.5mm x 40mm
B02215545	POLYAXIAL PEDICLE SCREW Ø 5.5mm x 45mm
B02215550	POLYAXIAL PEDICLE SCREW Ø 5.5mm x 50mm
B02215555*	POLYAXIAL PEDICLE SCREW Ø 5.5mm x 55mm (Option)
B02215560*	POLYAXIAL PEDICLE SCREW Ø 5.5mm x 60mm (Option)
B02216525*	POLYAXIAL PEDICLE SCREW Ø 6.5mm x 25mm (Option)
B02216530	POLYAXIAL PEDICLE SCREW Ø 6.5mm x 30mm
B02216535	POLYAXIAL PEDICLE SCREW Ø 6.5mm x 35mm
B02216540	POLYAXIAL PEDICLE SCREW Ø 6.5mm x 40mm
B02216545	POLYAXIAL PEDICLE SCREW Ø 6.5mm x 45mm
B02216550	POLYAXIAL PEDICLE SCREW Ø 6.5mm x 50mm
B02216555	POLYAXIAL PEDICLE SCREW Ø 6.5mm x 55mm
B02216560*	POLYAXIAL PEDICLE SCREW Ø 6.5mm x 60mm (Option)
B02217525*	POLYAXIAL PEDICLE SCREW Ø 7.5mm x 25mm (Option)
B02217530*	POLYAXIAL PEDICLE SCREW Ø 7.5mm x 30mm (Option)
B02217535	POLYAXIAL PEDICLE SCREW Ø 7.5mm x 35mm
B02217540	POLYAXIAL PEDICLE SCREW Ø 7.5mm x 40mm
B02217545	POLYAXIAL PEDICLE SCREW Ø 7.5mm x 45mm
B02217550	POLYAXIAL PEDICLE SCREW Ø 7.5mm x 50mm
B02217555	POLYAXIAL PEDICLE SCREW Ø 7.5mm x 55mm
B02217560*	POLYAXIAL PEDICLE SCREW Ø 7.5mm x 60mm (Option)

BREAKAWAY NUT	
Reference	Designation
B02130005	BREAKAWAY NUT

OFFSET POLYAXIAL PEDICLE SCREWS	
Reference	Designation
B02185525*	OFFSET POLYAXIAL PEDICLE SCREW Ø5.5 x 25mm (Option)
B02185530*	OFFSET POLYAXIAL PEDICLE SCREW Ø5.5 x 30mm (Option)
B02185535	OFFSET POLYAXIAL PEDICLE SCREW Ø 5.5 x 35mm
B02185540	OFFSET POLYAXIAL PEDICLE SCREW Ø 5.5 x 40mm
B02185545	OFFSET POLYAXIAL PEDICLE SCREW Ø 5.5 x 45mm
B02185550*	OFFSET POLYAXIAL PEDICLE SCREW Ø 5.5 x 50mm (Option)
B02185555*	OFFSET POLYAXIAL PEDICLE SCREW Ø 5.5 x 55mm (Option)
B02185560*	OFFSET POLYAXIAL PEDICLE SCREW Ø 5.5 x 60mm (Option)
B02186525*	OFFSET POLYAXIAL PEDICLE SCREW Ø 6.5 x 25mm (Option)
B02186530*	OFFSET POLYAXIAL PEDICLE SCREW Ø 6.5 x 30mm (Option)
B02186535	OFFSET POLYAXIAL PEDICLE SCREW Ø 6.5 x 35mm
B02186540	OFFSET POLYAXIAL PEDICLE SCREW Ø 6.5 x 40mm
B02186545	OFFSET POLYAXIAL PEDICLE SCREW Ø 6.5 x 45mm
B02186550	OFFSET POLYAXIAL PEDICLE SCREW Ø 6.5 x 50mm
B02186555*	OFFSET POLYAXIAL PEDICLE SCREW Ø 6.5 x 55mm (Option)
B02186560*	OFFSET POLYAXIAL PEDICLE SCREW Ø 6.5 x 60mm (Option)

SACRAL PLATES & SACRAL SCREWS	
Reference	Designation
B02250010	RIGHT SACRAL PLATE
B02250020	LEFT SACRAL PLATE
B02150000	CAP FOR SACRAL PLATE
B02150005*	SACRAL CAP (Option)
B02156525*	SACRAL SCREW Ø 6.5 mm x 25 mm (Option)
B02156530	SACRAL SCREW Ø 6.5 mm x 30 mm
B02156535	SACRAL SCREW Ø 6.5 mm x 35 mm
B02156540	SACRAL SCREW Ø 6.5 mm x 40 mm
B02156545	SACRAL SCREW Ø 6.5 mm x 45 mm
B02156550	SACRAL SCREW Ø 6.5 mm x 50 mm
B02156555*	SACRAL SCREW Ø 6.5 mm x 55 mm (Option)
B02156560*	SACRAL SCREW Ø 6.5 mm x 60 mm (Option)
B02157225*	SACRAL SCREW Ø 7.2mm x 25mm (Option)
B02157230	SACRAL SCREW Ø 7.2mm x 30mm
B02157235	SACRAL SCREW Ø 7.2mm x 35mm
B02157240	SACRAL SCREW Ø 7.2mm x 40mm
B02157245	SACRAL SCREW Ø 7.2mm x 45mm
B02157250	SACRAL SCREW Ø 7.2mm x 50mm
B02157255*	SACRAL SCREW Ø 7.2mm x 55mm (Option)
B02157260*	SACRAL SCREW Ø 7.2mm x 60mm (Option)

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*MANUFACTURED TO ORDER

CONNECTORS FOR Ø 5.5 mm RODS	
Reference	Designation
B02235501	STANDARD CONNECTOR FOR Ø 5.5 mm ROD
B02235510	REALIGNMENT CONNECTOR FOR Ø 5.5 mm ROD
B02235530	ANGULATED CONNECTOR FOR Ø 5.5 mm ROD
B02235540*	OFFSET CONNECTOR FOR Ø 5.5 mm ROD (Option)
B02235570	OPEN CONNECTOR FOR Ø 5.5 mm ROD
B02236025*	TRAUMA CONNECTOR (Option)

CROSSLINKS FOR Ø 5.5 mm RODS	
Reference	Designation
B02265534	CROSSLINK FOR Ø 5.5 mm ROD. 22 TO 34 mm
B02265548	CROSSLINK FOR Ø 5.5 mm ROD. 34 TO 48 mm
B02265562	CROSSLINK FOR Ø 5.5 mm ROD. 48 TO 62 mm

Ø 5.5 mm RODS (Ti6Al4V ELI)	
Reference	Designation
B02175503	PRE BENT ROD Ø 5.5 x 30 mm
B02175504	PRE BENT ROD Ø 5.5 x 40 mm
B02175505	PRE BENT ROD Ø 5.5 x 50 mm
B02175506	PRE BENT ROD Ø 5.5 x 60 mm
B02175507	PRE BENT ROD Ø 5.5 x 70 mm
B02175508	PRE BENT ROD Ø 5.5 x 80 mm
B02175509	PRE BENT ROD Ø 5.5 x 90 mm
B02175510	PRE BENT ROD Ø 5.5 x 100 mm
B02125512	ROD Ø 5.5 mm x 120 mm
B02125514	ROD Ø 5.5 mm x 140 mm
B02125516	ROD Ø 5.5 mm x 160 mm
B02125518	ROD Ø 5.5 mm x 180 mm
B02125520	ROD Ø 5.5 mm x 200 mm
B02125522	ROD Ø 5.5 mm x 220 mm
B02125524	ROD Ø 5.5 mm x 240 mm
B02125526	ROD Ø 5.5 mm x 260 mm
B02125528	ROD Ø 5.5 mm x 280 mm
B02125530	ROD Ø 5.5 mm x 300 mm
B02125532	ROD Ø 5.5 mm x 320 mm
B02125534	ROD Ø 5.5 mm x 340 mm
B02125536	ROD Ø 5.5 mm x 360 mm
B02125538	ROD Ø 5.5 mm x 380 mm
B02125540	ROD Ø 5.5 mm x 400 mm
B02125545	ROD Ø 5.5 mm x 450 mm
B02125550*	ROD Ø 5.5 mm x 500 mm (Option)

CONNECTORS FOR Ø 6.0 mm RODS	
Reference	Designation
B02236001	STANDARD CONNECTOR FOR Ø 6.0 mm ROD
B02236010	REALIGNMENT CONNECTOR FOR Ø 6.0 mm ROD
B02236030	ANGULATED CONNECTOR FOR Ø 6.0 mm ROD
B02236040*	OFFSET CONNECTOR FOR Ø 6.0 mm ROD (Option)
B02236070	OPEN CONNECTOR FOR Ø 6.0 mm ROD
B02236025*	TRAUMA CONNECTOR (Option)

CROSSLINKS FOR Ø 6.0 mm RODS	
Reference	Designation
B02266034	CROSSLINK FOR Ø 6.0 mm ROD. 22 TO 34 mm
B02266048	CROSSLINK FOR Ø 6.0 mm ROD. 34 TO 48 mm
B02266062	CROSSLINK FOR Ø 6.0 mm ROD. 48 TO 62 mm

Ø 6.0 mm RODS (Ti6Al4V ELI)	
Reference	Designation
B02176003	PRE BENT ROD Ø 6.0 x 30 mm
B02176004	PRE BENT ROD Ø 6.0 x 40 mm
B02176005	PRE BENT ROD Ø 6.0 x 50 mm
B02176006	PRE BENT ROD Ø 6.0 x 60 mm
B02176007	PRE BENT ROD Ø 6.0 x 70 mm
B02176008	PRE BENT ROD Ø 6.0 x 80 mm
B02176009	PRE BENT ROD Ø 6.0 x 90 mm
B02176010	PRE BENT ROD Ø 6.0 x 100 mm
B02126012	ROD Ø 6.0 mm x 120 mm
B02126014	ROD Ø 6.0 mm x 140 mm
B02126016	ROD Ø 6.0 mm x 160 mm
B02126018	ROD Ø 6.0 mm x 180 mm
B02126020	ROD Ø 6.0 mm x 200 mm
B02126022	ROD Ø 6.0 mm x 220 mm
B02126024	ROD Ø 6.0 mm x 240 mm
B02126026	ROD Ø 6.0 mm x 260 mm
B02126028	ROD Ø 6.0 mm x 280 mm
B02126030	ROD Ø 6.0 mm x 300 mm
B02126032	ROD Ø 6.0 mm x 320 mm
B02126034	ROD Ø 6.0 mm x 340 mm
B02126036	ROD Ø 6.0 mm x 360 mm
B02126038	ROD Ø 6.0 mm x 380 mm
B02126040	ROD Ø 6.0 mm x 400 mm
B02126045	ROD Ø 6.0 mm x 450 mm
B02126050*	ROD Ø 6.0 mm x 500 mm (Option)

ROD-PLATES	
Reference	Designation
B02270010*	ROD-PLATE 1 LEVEL SMALL (Option)
B02270015*	ROD-PLATE 1 LEVEL LARGE (Option)
B02270020*	ROD-PLATE 2 LEVELS SMALL (Option)
B02270025*	ROD-PLATE 2 LEVELS LARGE (Option)

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*MANUFACTURED TO ORDER

INSTRUMENTATION

RATCHET HANDLES



A02100002 - T RATCHET HANDLE



A02100001 - STRAIGHT RATCHET HANDLE FOR SHAFT



A02100005 - PALM RATCHET HANDLE FOR SHAFT

PEDICLE SCREW & SACRAL PLATE INSTRUMENTATION



A02110010 - SQUARED AWL



A01110050 - STRAIGHT SPATULA



A01110060 - CURVED SPATULA



A02110030 - LENKETYPE SPATULA



A01110070 - BONE PROBE



MS219 - PEDICLE PROBE



A02110050 - DEPTH GAUGE



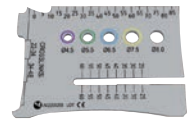
A02110020 - SQUARED AWL REAMER



A02214500 - TAP FOR Ø4.5MM SCREW
A02215500 - TAP FOR Ø5.5MM SCREW
A02216500 - TAP FOR Ø6.5MM SCREW
A02217500 - TAP FOR Ø7.5MM SCREW



A02210100 - PEDICLE SCREWDRIVER SHAFT



A02200255 - PASS LP MEASURING CARD



A02250010 - SACRAL PLATE HOLDER



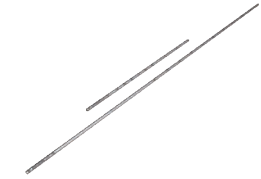
A02150020 - SACRAL SCREW GIMLET



A02150030 - SACRAL SCREW HOLDER FOR T20 SCREWDRIVER



A01130250 - T20 SCREWDRIVER SHAFT



A02100004 - MALLEABLE ROD,
LENGTH 450MM
A02100003 - MALLEABLE ROD,
LENGTH 150MM



A02120100 - FRENCH BENDER



A02120000 - ROD HOLDER



MS511 - ROD GRIPPER



A02120020 - ROD PUSHER SHAFT



A02120002 - ROD ROTATING WRENCH



A02200010 - FLEXIBLE GUIDE



MS227 - CONNECTING CLAMP
RELEASER



A02230010 - NUT HOLDER AND
THREADED EXTENSION BREAKER



A02230050 - SPEED DRIVER



A02130170 - NUTDRIVER SHAFT



A02130160 - NUTDRIVER



A02230020 - T30
SCREWDRIVER



A02230150 - POSITIONING HANDLE



A02230030 - COUNTER-TORQUE



A02230040 - COUNTER-TORQUE FOR
ROD PLATE



A02120250 - COMPRESSOR



A02120350 - ROD SPREADER



A02120375 - SET OF L-SHAPED JAWS



A02230250 - NUTDRIVER SHAFT FOR
DISMANTLING



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