

artemis

Proximal Femoral Nail System

Operative Technique



Artemis Proximal Femoral Nail System

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This publication sets forth detailed recommended procedures for using Altior Trauma Innovations' Artemis Proximal Femoral Nail System. It offers guidance that you should heed, but, as with any such technical guide, each surgeon must consider the particular needs of each patient and make appropriate adjustments when and as required.

A workshop training is recommended prior to first surgery.

Indications

Intended use

The Artemis Femoral Nail System is intended to achieve functionally stable osteosyntheses and stabilization of bones and bone fragments.

Indications

The Artemis Proximal Femoral Nail System is indicated for fixation of stable and unstable intertrochanteric fractures, including but not limited to nonunion, malunion and tumor resections.

Additionally, the Long Nail Kit is indicated for the fixation of subtrochanteric fractures and shaft fracture extending distally to a point approximately 10cm proximal to the intercondylar notch.

Contraindications

The Artemis Proximal Femoral Nail System is not intended for femoral neck fractures. Short nails are not intended for subtrochanteric fractures.

The physician's education, training and professional judgement must be relied upon to choose the most appropriate device and treatment. Conditions representing an increased risk of implant failure include:

- Any active or suspected latent infection or marked local inflammation in or about the affected area.
- Compromised vascularity that would inhibit adequate blood supply to the fracture or the operative site.
- Bone stock compromised by disease, infection or prior implantation that can not provide adequate support and/or fixation of the devices.
- Material sensitivity, documented or suspected.
- Patients having inadequate tissue coverage over the operative site.
- Implant utilization that would interfere with anatomical structures or physiological performance.
- Any mental or neurological disorder which would present an unacceptable risk of fixation failure or complications in postoperative care.
- Patients who are unwilling or incapable of following postoperative care instructions.
- Other medical or surgical conditions which would preclude the potential benefit of surgery.

The surgeon must discuss all relevant risks, including the service life of the device and the need for postoperative protection of the implant with the patient, when necessary.



Design Features



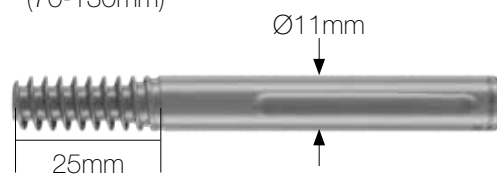
Long Nail
(Length: 300mm–440mm)
with lag screw

Trochanteric Nail
(Length: 180mm)
with lag screw

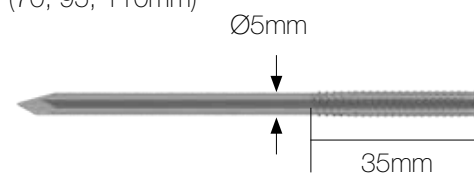
Long Nail
(Length: 300mm–440mm)
with lag screw and
anti-rotational locking pin

Trochanteric Nail
(Length: 180mm)
with lag screw
and anti-rotational
locking pin

Lag screw
(70-130mm)



Anti-Rotational Locking Pin
(70, 95, 110mm)



Design Features

The Artemis Proximal Femoral Nail System encompasses four implant components. All components are available in sterile packaging only.

Proximal Femoral Nail Kit

The proximal femoral nail kits, consist of the **Nail** and a preassembled **Set Screw**. Its universal design is intended for left and right application.

The nail is constructed of a titanium alloy core encompassed by injection molded carbon fiber reinforced (CFR) polyether ether ketone (PEEK). The set screw is made of titanium alloy.

Lag Screw

The lag screw has a diameter of 11mm and is available in lengths ranging from 70 to 130mm in 5mm increments. The most common lengths are offered in 2.5mm increments. The lag screw is made of titanium alloy.

Anti-Rotational Locking Pin

The anti-rotational locking pin is designed to provide additional rotational stability and fixation performance.

Locking Screw

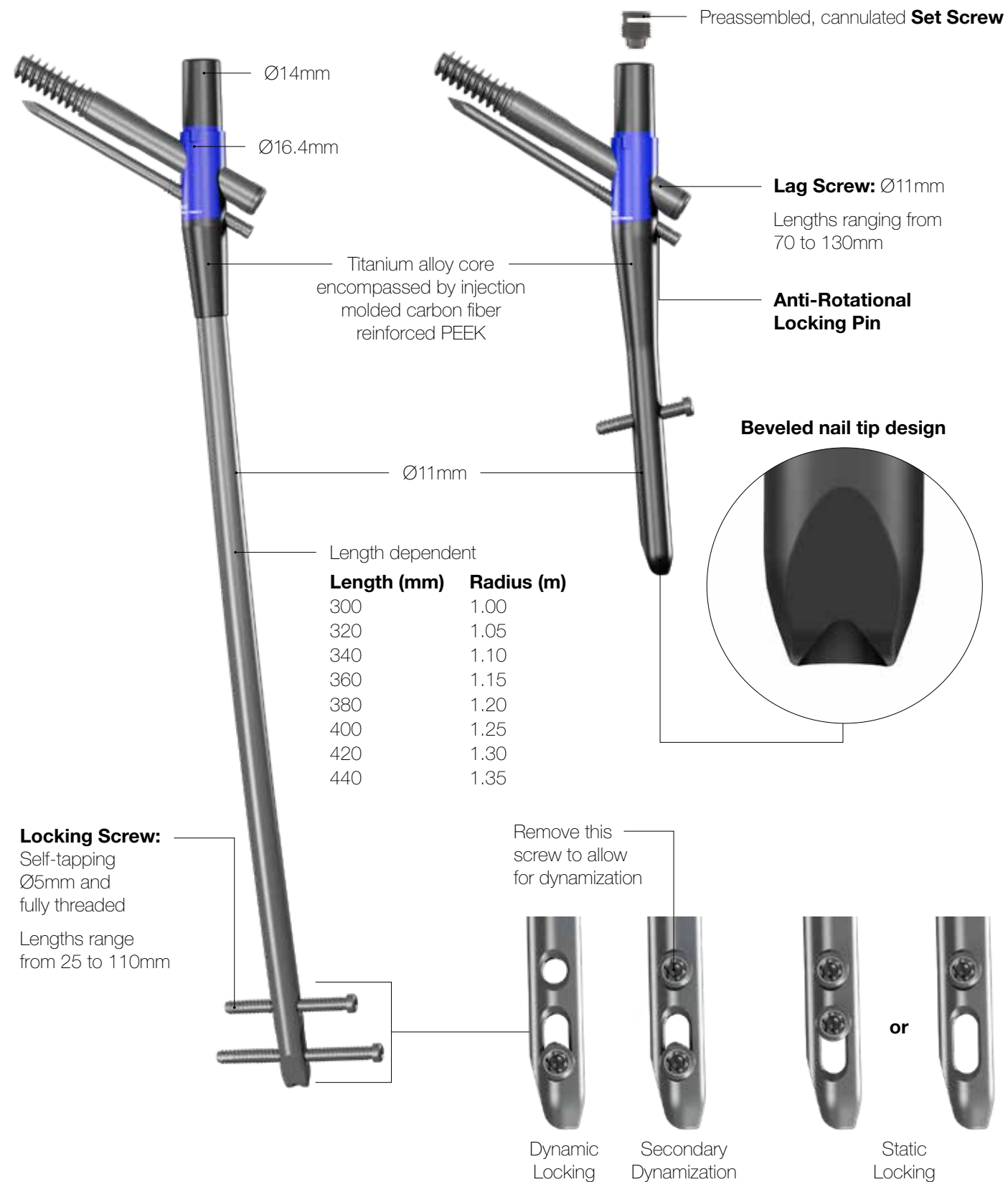
The locking screw of the Artemis Proximal Femoral Nail System is blunt tipped, self tapping, dual lead thread and have a diameter of 5mm. It is fully threaded and comes in a wide range from 25mm to 110mm in 2.5mm increments up to 50mm and in 5mm increments up to 110mm. A high torque transfer is achieved through the T25 torx screw head.

Instrumentation

The Artemis system has a state-of-the-art instrument platform. The instruments are designed for a minimally invasive surgical technique.



Design Features – Technical Specifications



Design Features

Hybrid Materials and Manufacturing

Patented* manufacturing process utilizes a combination of titanium and composite materials. The nail's structural benefits are provided by the strength of titanium and the flexibility of CFR PEEK.

The process of minimized titanium milling with the benefit of injection molded CFR PEEK results in zero waste manufacturing.

Lagshield™ Function

Lagshield is a protective layer of CFR PEEK on the lateral side of the nail.

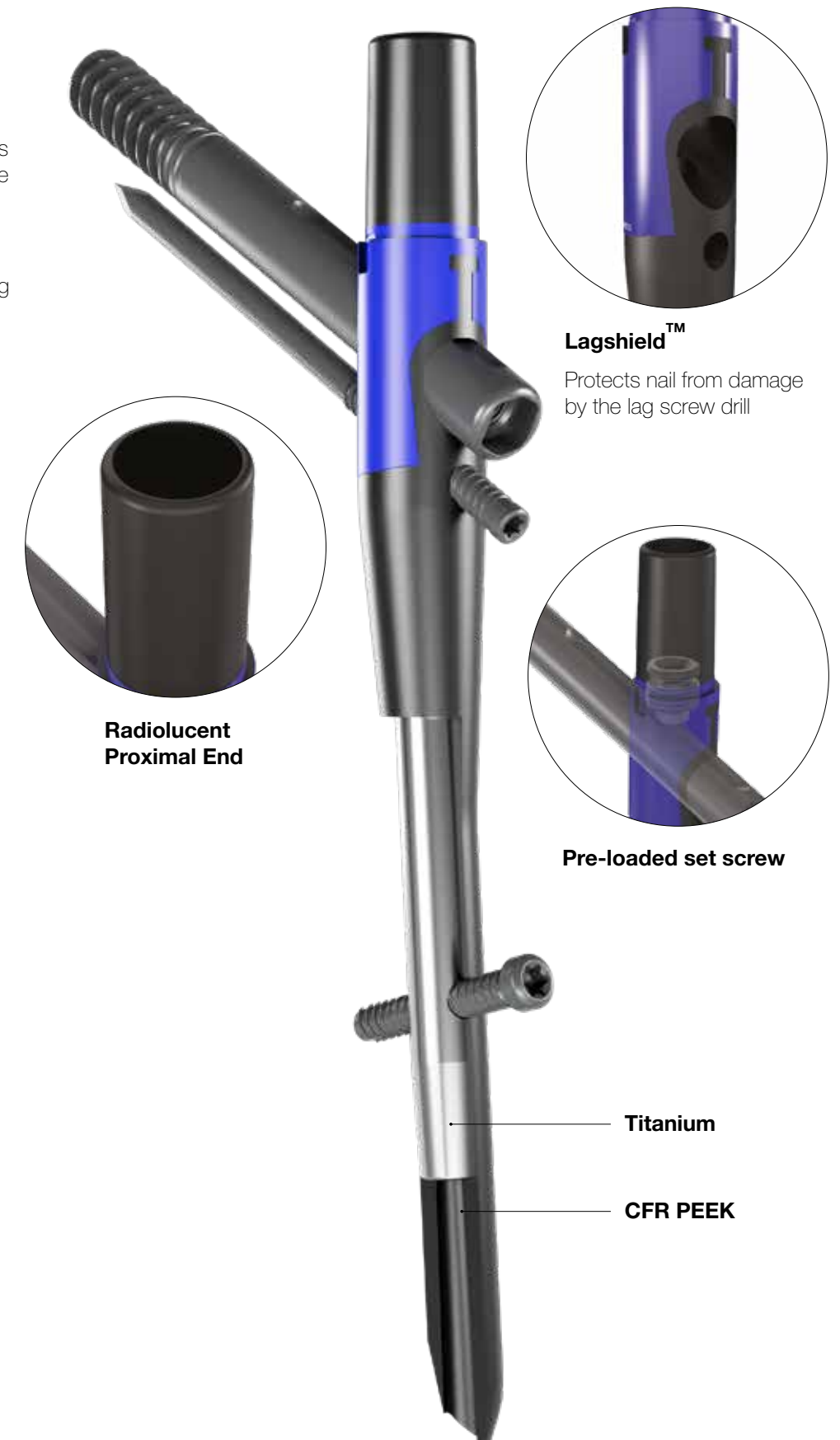
This prevents the lag screw reamer from notching the nail's titanium core during the reaming procedure.

Stability and Rotational Control

The integrated anti-rotation locking pin** screws into the nail and the lateral cortex. This in combination with the lag screw provides enhanced stability and rotational control*** in the femoral head.

Added Visibility

The composite materials provide clinical benefits with improved visualization in both long and short nail configurations. This added visibility allows for easier assessment of bone healing.



*Patent US 10,610,270 B2.

**Patent pending.

***Data on file.

Design Features – Technical Specifications

Instrumentation

Streamlined one instrument system tray with three dedicated layers for preparation, insertion and extraction, allowing for a minimally invasive technique.

The one-piece targeting device has greater clearance proximally and 10% more soft tissue clearance distally versus competition. The targeter's proximal geometry is the same as the nail allowing for optimal seating of the nail and lag screw placement.



Operative Technique

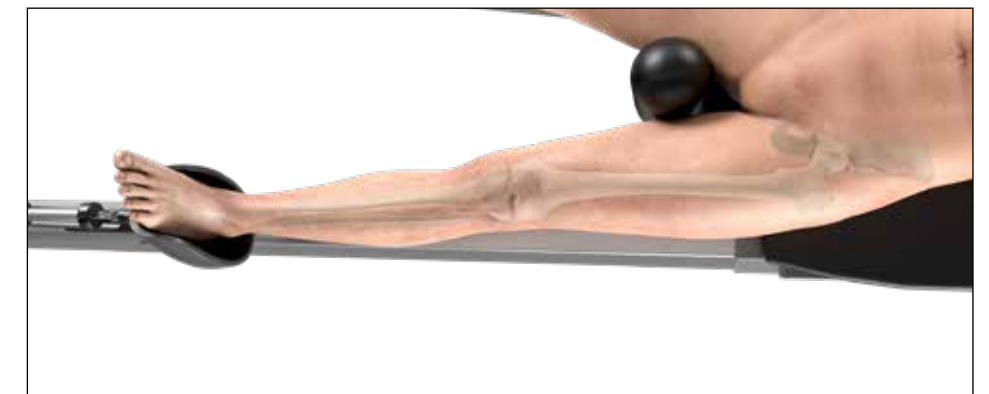
Step 1 – Patient Positioning

Place the patient in a supine position on the fracture table. Place the patient in the hemilitotomy or scissored legs position, apply traction to the fracture, if needed. Abduct the unaffected leg as far as possible to make room for the C-arm. The best position of the C-arm to allow an unobstructed AP and lateral view is achieved when its axis of rotation is centered on the femoral neck. It is important that the distal and proximal ends of the nail are visible during the procedure.



Step 2 – Fracture Reduction

Closed reduction should be obtained by gentle manipulation according to the normal procedure for unstable fractures. Rotate the fractured leg as needed to complete fracture reduction.



Operative Technique

Step 3 – Incision

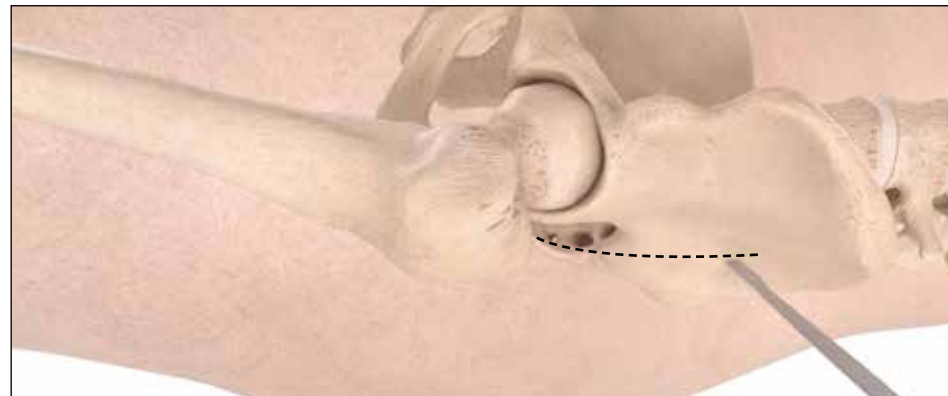
Locate the tip of the greater trochanter. Make a 2-3cm skin incision from the greater trochanter towards the iliac crest. To expose the tip of the greater trochanter, make a small incision through the fascia lata and split the gluteal muscle immediately above the tip of the greater trochanter.



Step 4 – Entry Point

Step 4.1: Option 1: With K-wire

The correct entry point is located in the anterior rather than in the posterior portion of the greater trochanter and can be determined in two different ways. Option 1 is to place the K-wire with threaded trocar tip (T5-0130-000) on the tip of the greater trochanter aligned with the femoral canal in both the ML and the AP view.



Drive the K-wire centrally into the medullary canal.

Warning:

Improper starting point could result in malreduction of the fracture and sub optimal nail position.

Optional Feature

Step 4.2: Entry Point Repositioning

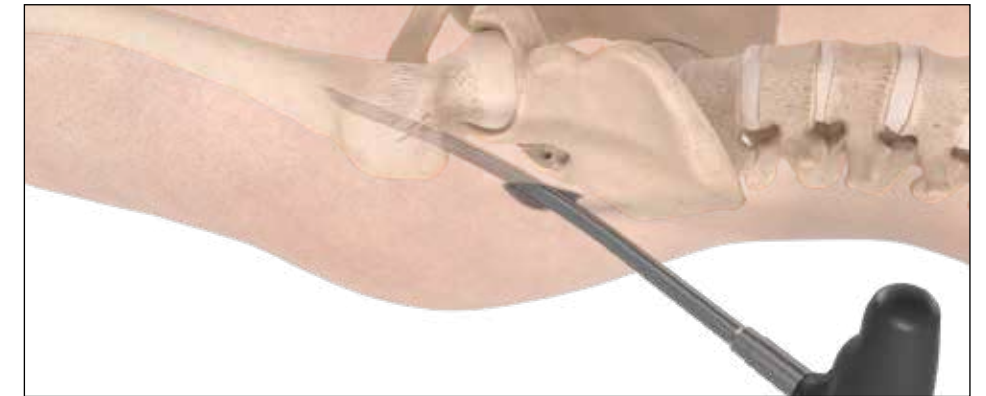
Slide the repositioning guide (T5-0150-000) over the threaded K-wire. Target the new position by turning the repositioning guide.

Insert a second threaded K-wire at the desired position. Remove the first K-wire.



Step 4.3: Option 2: With Curved Awl

Alternatively, the curved awl (T5-0120-000) can be placed on the tip of the greater trochanter. Verify the correct position of the awl by an AP and lateral image.



Operative Technique

Step 5 – Opening the Cortex

Step 5.1: Option 1: With K-wire

If a threaded K-wire was used to determine the entry point, slide the opening reamer guide sleeve (T5-0160-000) and the opening reamer (T5-0170-000) over the threaded K-wire and open the cortex with the opening reamer.

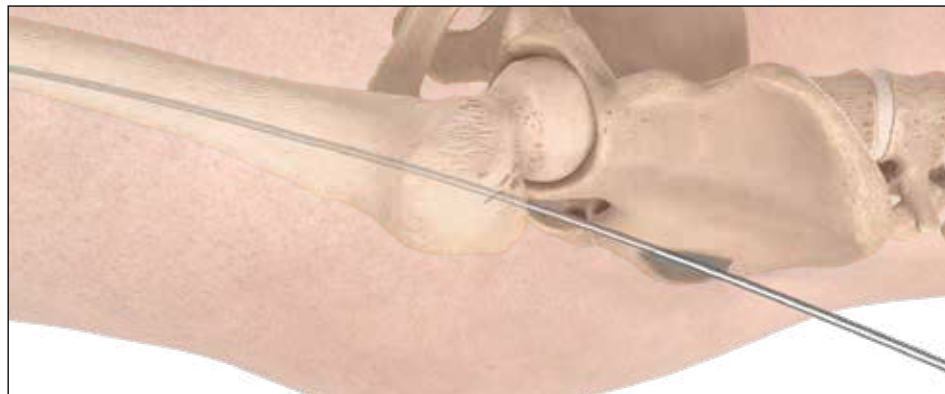
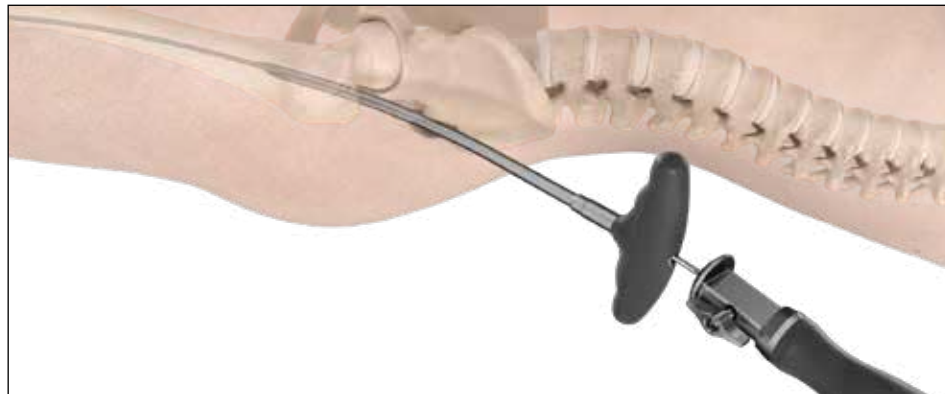
Best practice: push tissue protector medially to ensure reamer does not migrate laterally.



Step 5.2: Option 2: With Curved Awl

If the curved awl is already in the correct position at the entry point, open the cortex by rotating the handle and driving the instrument forward into the bone. Insert the ball tip guide wire (T5-0140-000S) through the curved awl using the guide wire driver (T5-0180-000). If the curved awl is clogged with bone debris, use the guide wire pusher (T5-0410-000) to clear it. A gentle tap of the slotted hammer (T5-0440-000) on the pusher may be needed.

Remove the curved awl once the guide wire is in the medullary canal. Slide the opening reamer sleeve and the opening reamer over the guide wire and open the cortex.



Step 6 – Preparation of the Medullary Canal

After the cortex has been opened with the opening reamer in one of the techniques presented above, the width of the medullary canal may require further reaming.

For reaming the medullary canal, insert the channel tube (T5-0460-000) into the opening reamer sleeve.

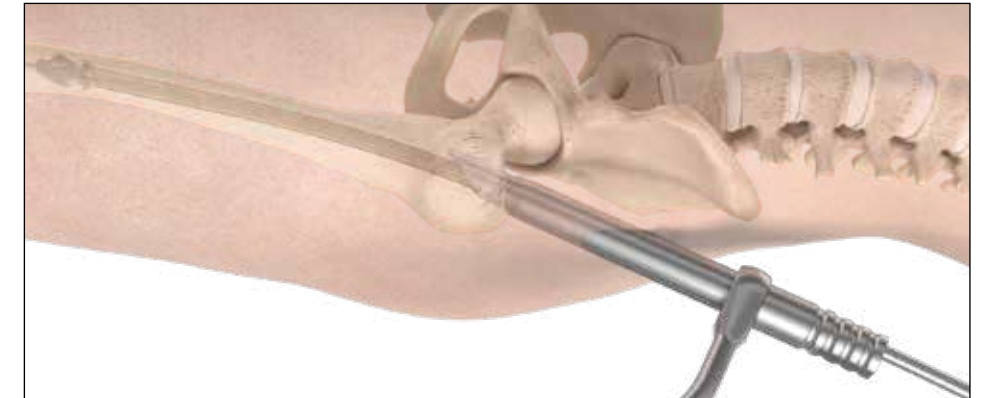
Ream the distal femur with a flexible reamer incrementally, starting with a 9mm reamer head, up to 1.5mm larger than distal diameter of the nail (i.e. 12.5mm for the 11mm nail).

The maximum diameter reamer that can safely fit through the channel tube is 15mm.

Caution:

Do not use the threaded K-wire for distal reaming. For distal reaming of the femoral shaft the threaded K-wire has to be replaced with the long guide wire.

Measure the insertion depth of the Guide Wire by sliding the Ruler for Long Nail (T5-0190-000) over until it reaches the bone. Read off the scale of the ruler at the position of the laser marking. The ruler gives you the true length of the Guide Wire inside the bone



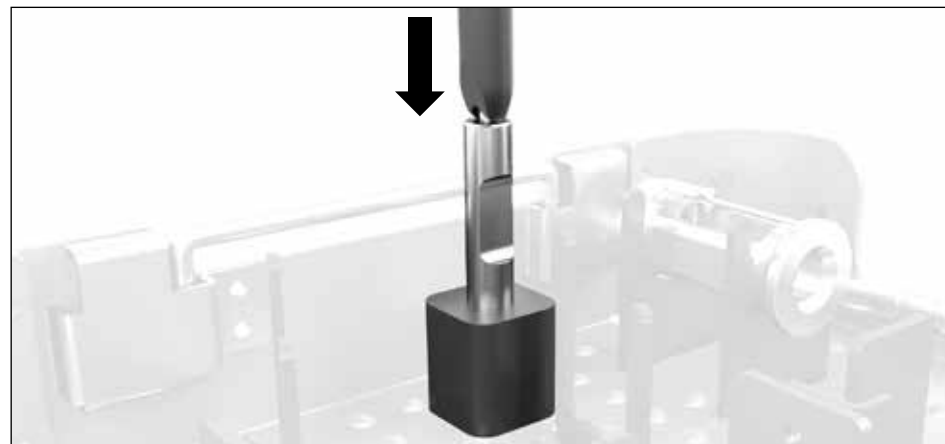
Operative Technique

Step 7 – Assembly of the Nail and the Targeting Device

The targeting device (T5-0210-000) consists of only one part, sparing the effort of assembling various components before use.

Insert the nail into the targeting device. Insert the nail holding bolt (T5-0200-000) into the opening of the targeting device and firmly tighten it with the ball tip screwdriver (T5-0220-000).

As an option, the nail can be set in a vertical position on the stand pin in the sterilization tray to aid in assembly of the nail and the targeting device.



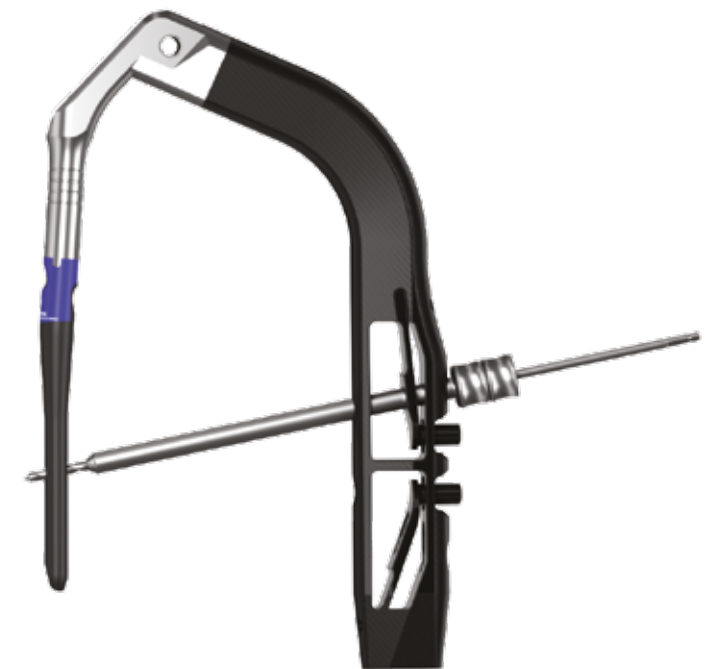
Step 8 – Alignment Verification

To check the proper alignment of the guide and drill sleeves, assemble the lag screw guide sleeve (T5-0230-000) and the K-wire sleeve (T5-0240-000) for the proximal hole and insert the assembly through the dedicated hole in the targeting device. The self-retaining mechanism in the targeting arm keeps the sleeve in place without the need for further tightening it.

Slide the lag screw drill (T5-0250-000) through the guide sleeve / drill sleeve assembly into the proximal hole for the lag screw. The drill should pass through the hole unobstructed.



To check the distal locking function of the nail, assemble the locking screw drill sleeve (T5-0330-000) into the locking screw guide sleeve (T5-0320-000). Insert the assembly into the targeting device. Slide the long locking screw drill (T5-0350-000S) through the assembly and check the proper alignment of the nail and the targeting device. The drill should pass through the hole unobstructed.



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Step 9 – Nail Insertion

Start inserting the nail through the entry point. Passing the fracture line, advancing the nail fully into the prepared medullary canal without excessive force. Too much resistance may require nail removal and further flexible reaming. Monitor the nail depth during insertion with the C-arm.

The lag screw hole is visible as two crescent shaped cavities in the AP view. The position of the projected line through the lag screw hole axis should be in the center or slightly inferior in the femoral head.

Warning:

Do not insert nail over short K-wire.

Warning:

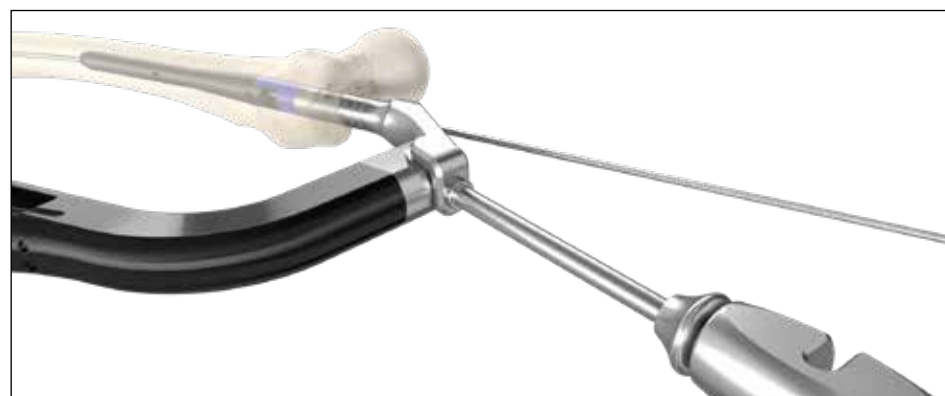
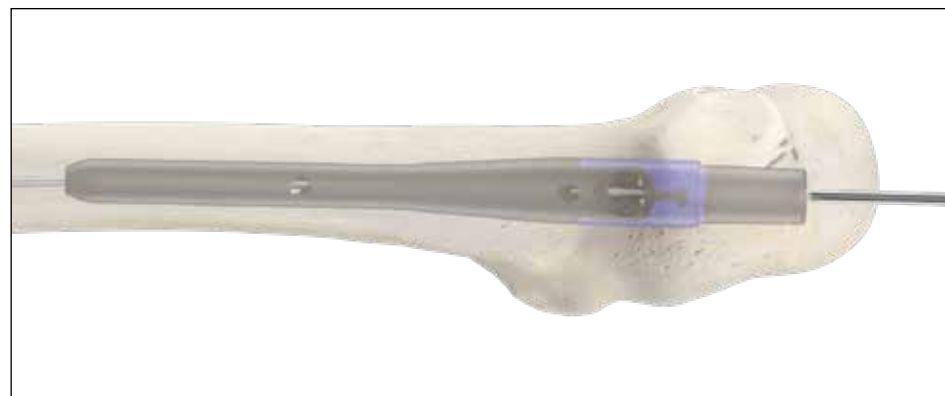
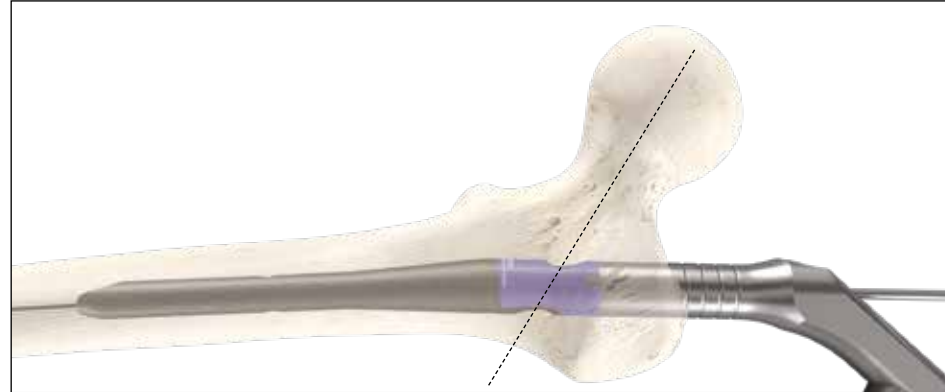
Excessive force should not be used for nail insertion. The nail should slide in by hand. Use of the slotted hammer is not recommended and should not be required.

Optional Feature:

Step 9.1: Strike Plate

If the slotted hammer is needed for insertion of nail in dense bone after adequate flexible reaming, the strike plate (T5-0400-000) can be assembled to the top of the targeting device and be used together with the slotted hammer. Tap the strike plate lightly to insert the nail to the desired depth.

If it was used, remove the guide wire when the nail is in its final position, taking care to stabilize the nail in its position.



Step 10 – Preparation of Lag Screw Channel

The targeting device may be held by an assistant to prevent its weight from externally rotating the nail until the next stage is completed.

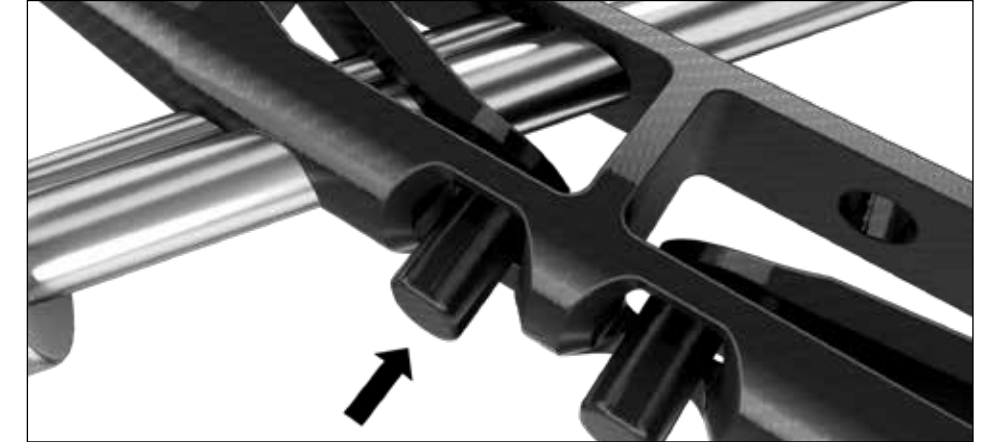
Insert the lag screw guide sleeve and the K-wire sleeve assembly into the targeting device once the final nail position is approximately reached. The orientation of the handle when attached to the K-wire sleeve corresponds with the orientation of the tip of the K-wire sleeve.

Warning:

Improper K-wire position may lead to suboptimal lag screw placement potentially increasing risk of cutout.

Move the assembly towards the skin, then make an incision and advance the lag screw guide sleeve and the K-wire sleeve against the bone.

Insert K-wire into cannulation of the K-wire sleeve. The K-wire should be placed either centrally or slightly inferiorly in the femoral head in the frontal plane and on the midline in the lateral plane.



Operative Technique

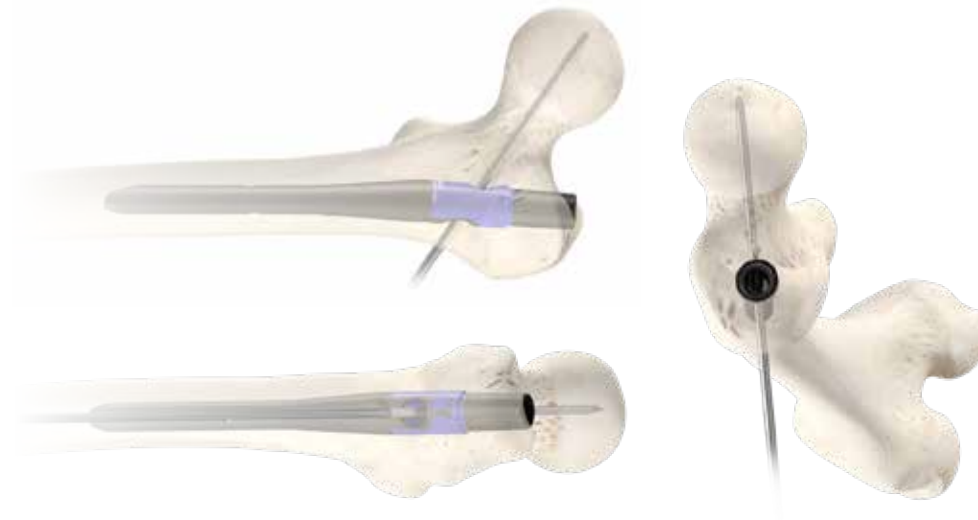
Step 11 – Optimal K-wire Placement

The K-wire should be advanced up to the subchondral bone.

Before starting to measure, ensure that the K-wire guide sleeve is still pressed firmly against the lateral cortex of the femur.

Measure the insertion depth of the K-wire by sliding the depth gauge over the K-wire sleeve and select the appropriate lag screw. The lag screw measuring gauge gives you the true length of the K-wire inside of the bone. Usually a 5-10mm shorter lag screw is selected.

If the reading is in between two values the shorter is the correct value.



Optional Feature:

Step 11.1: Anti-Rotation Wire

An anti-rotation wire can be inserted in cases of rotationally unstable fractures. The anti-rotation wire prevents rotation of the proximal fracture fragment during lag screw insertion.

Ensure the correct Anti-Rotation Wire is used dependent on the Lag Screw length:

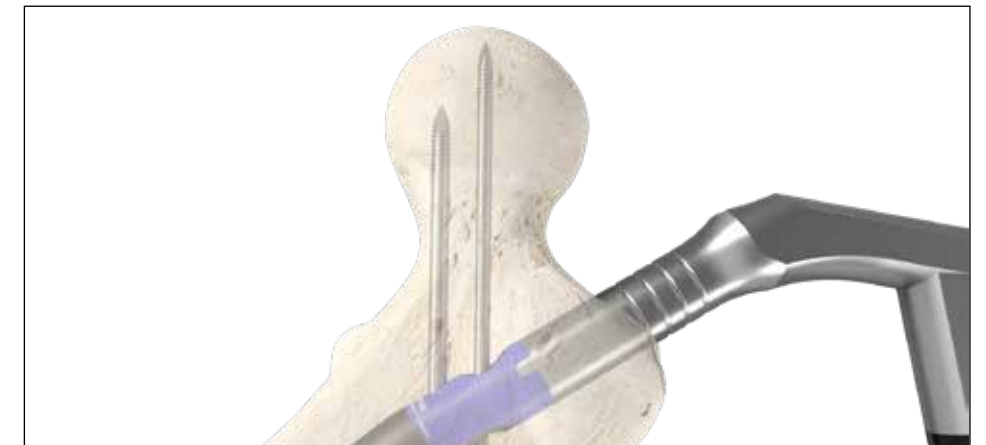
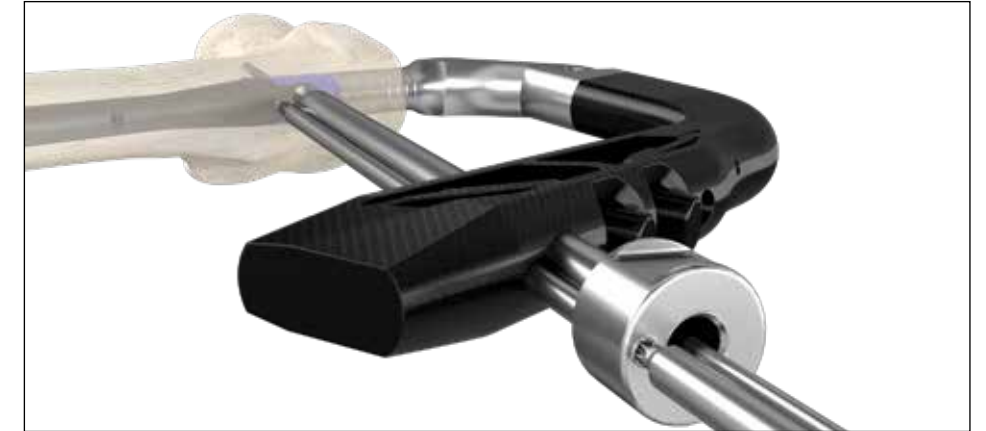
- Anti-Rotation Wire Short (T5-0270-000S) to be used with Lag Screws of 70mm or higher
- Anti-Rotation Wire Long (T5-0550-000S) to be used with Lag Screws of 95mm or higher
- Anti-Rotation Wire Extra Long (T5-0570-000S) to be used with Lag Screws of 110mm or higher

Insert the anti-rotation wire through the more distal opening in the lag screw guide sleeve and drive it through the dedicated hole until the anti-rotation wire is flush with the rear end of the guide sleeve. Do not lock the anti-rotation wire into the guide sleeve on power.

Keep in mind that anti-rotation wires are recommended as single use devices intended for one surgical procedure.

Warning:

Failure to hand tighten anti-rotation wire could lead to cold welding of wire into sleeve.

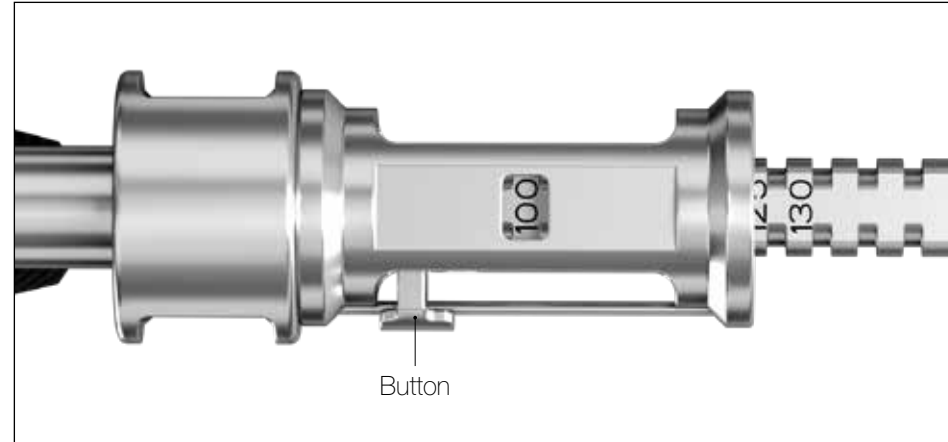


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Step 12 – Lag Screw Reaming

Depress button to slide the drill stop along reamer.

Transfer the length of the selected lag screw to the lag screw drill. Set the lag screw drill stop (T5-0260-000) to the selected length. The reading should be visible in the window of the depth stop.



Pass the lag screw drill over the K-wire through the lag screw guide sleeve.



Drill until the depth stop contacts the guide sleeve. During drilling pay close attention to the drill, position and shape of the K-wire using the C-arm.

Ensure that the lag screw guide sleeve is still in contact with the bone.

Warning:

The K-wire must under no circumstances be advanced into the pelvis, where it may damage large blood vessels or potentially cause other serious injuries.



Step 13 – Lag Screw Insertion

Assemble the lag screw to the lag screw driver which consists of the shaft (T5-0290-000) and the fixation rod (T5-0300-000). Use the fixation rod to secure the lag screw to the lag screw driver. As an option, the lag screw can be stood vertically on the stand pin in the sterilization tray to aid in assembly of the lag screw to the lag screw driver.

Note:

Handle is parallel to targeter.

Insert the lag screw and thread it into the femoral head. The final position of the lag screw is indicated by the laser marking "DONE" around the shaft of the lag screw driver. Check the lag screw position with the C-arm.

The lag screw handle must end parallel to the targeter.

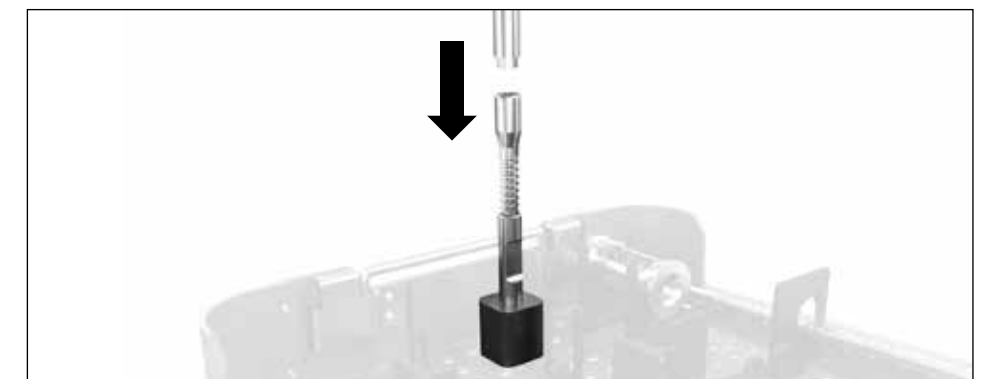
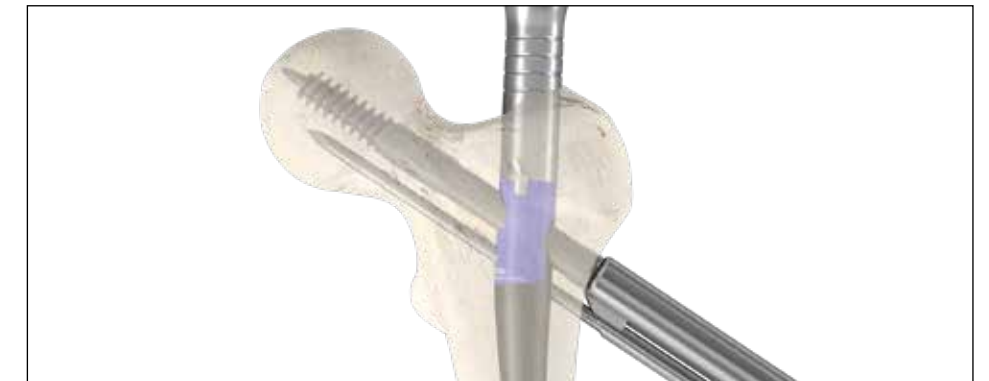
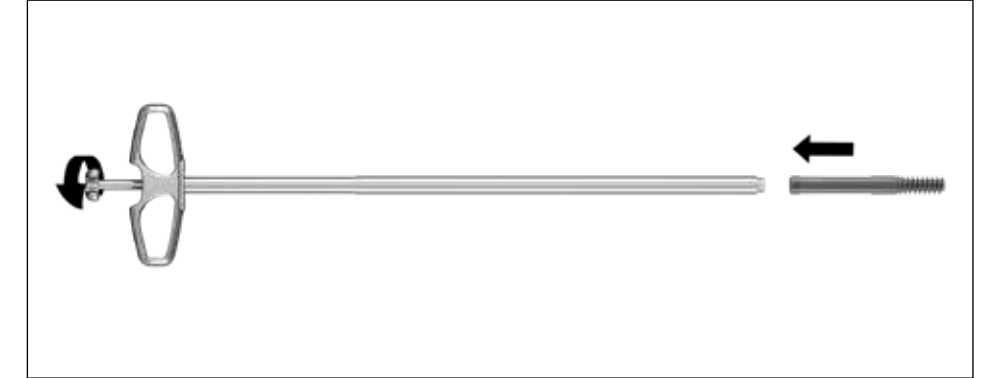
Warning:

The K-wire must under no circumstances be advanced into the pelvis, where it may cause serious injury.

If lag screw insertion requires excessive force, remove lag screw and replace with the lag screw tap (T5-0530-000). Tap to the desired depth using the C-arm.

Remove the lag screw tap from lag screw driver, and continue with the lag screw insertion.

When the lag screw is satisfactorily in place, remove the K-wire.



Operative Technique

Step 14 – Compression Device

After the lag screw has been fully inserted, compression can be applied by mounting the compression device (T5-0450-000) onto the lag screw driver.

Warning:

Use caution if compressing over Anti-Rotation Wire. X-Ray control is recommended.

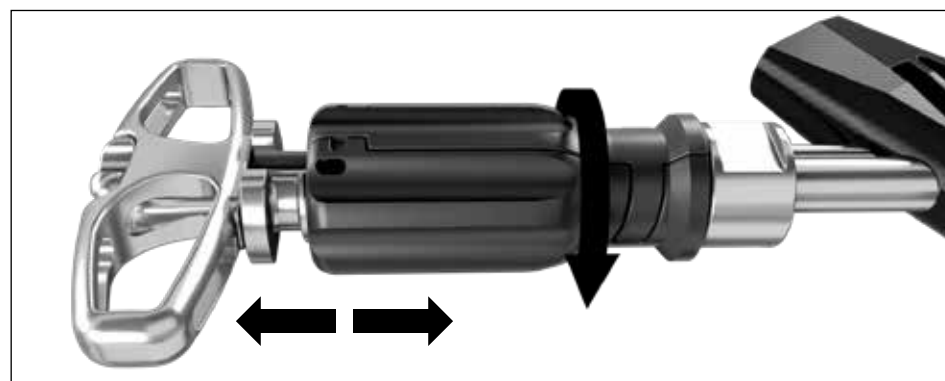
Slide the compression device over the lag screw driver shaft. Insert the two pegs of the metal component of the compression device into the dedicated holes in the handle of the lag screw driver. Click the plastic component firmly onto the shaft.

Place the lid on the compression device to close the handle before turning.

Warning:

Excessive compression may lead to “pulling out” of lag screw from the femoral head.

Turn the handle clockwise to apply compression under C-arm. One full turn produces 3mm of compression.



Optional Feature:

Step 15 – Anti-Rotation Locking Pin insertion

The Anti-Rotation Locking Pin can be used for additional proximal fixation and rotational control.

Step 15 (Anti-Rotation Wire) must be performed, if the Anti-rotation locking pin is being inserted.

Remove the Anti-Rotation Wire before the insertion of the Pin.

Ensure the correct Pin length is used dependent on the Lag Screw length:

- Short (REF# T5-0255-070S) to be used with Lag Screws of 70mm or larger.
- Long (REF# T5-0255-095S) to be used with Lag Screws of 95mm or larger.
- Extra Long (REF# T5-0255-110S) to be used with Lag Screws of 110mm or larger.

Insert the Pin through the Lag Screw Guide Sleeve with the Screwdriver Bit T15 (T5-0560-000), advance until the screw head is in contact with the lateral cortex. Check the position with the C-arm.



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Step 16 – Lag Screw Fixation with Set Screw

The Artemis Proximal Femoral Nail System comes with a preassembled set screw. It is already inside the proximal part of the nail and only needs to be tightened. Align the handle of the lag screw driver with the targeting device so that they are in parallel. This ensures that one of the grooves in the lag screw is correctly positioned to accommodate the set screw.

Warning:

The set screw must be driven into the groove of the lag screw to prevent unintended motion of the lag screw. If the set screw is not positioned in the groove, the lag screw can rotate and migrate out of the femoral head or into the pelvis.

Warning:

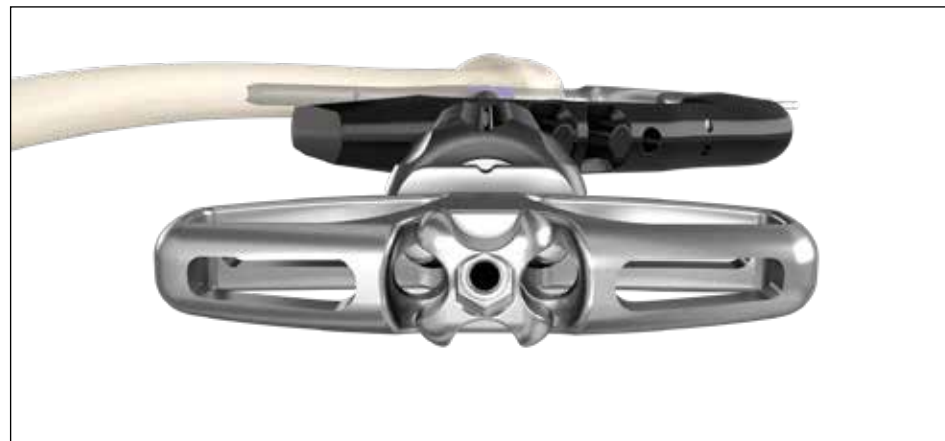
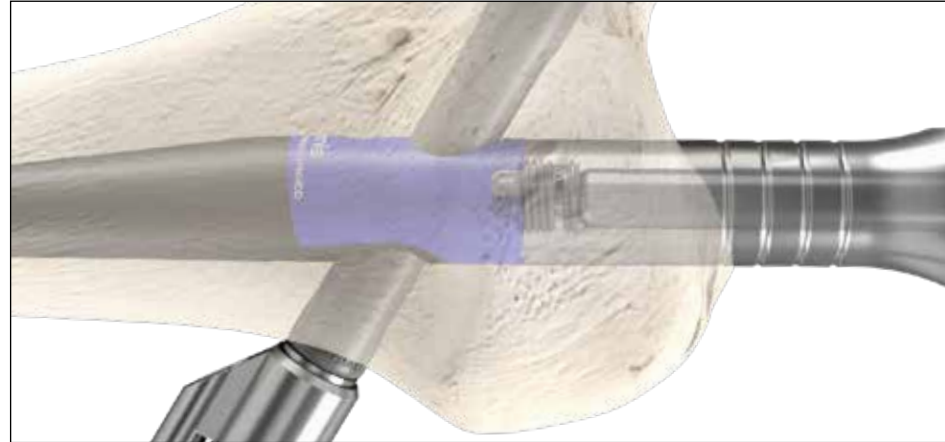
The set screw should never be removed from the nail as it cannot be reinserted. The removal of the set screw renders the nail inoperable and it should be discarded.

Insert the flexible screwdriver (T5-0310-000) into the set screw and turn it until you feel contact with the lag screw. Verify the correct position of set screw by trying to turn the handle of the lag screw driver. Make sure the lag screw driver has only slight rotational motion, while it is not possible to be fully rotated.

Disconnect the lag screw driver by release of the fixation rod. Remove the lag screw guide sleeve.

Note:

If it is difficult to release the fixation rod, the ball tip screwdriver hex 8mm can be used to loosen the fixation rod.



Step 17 – Distal Locking

For Distal Locking of the Short Nail follow step 17.1. For Distal Locking of the Long Nail follow step 17.2.

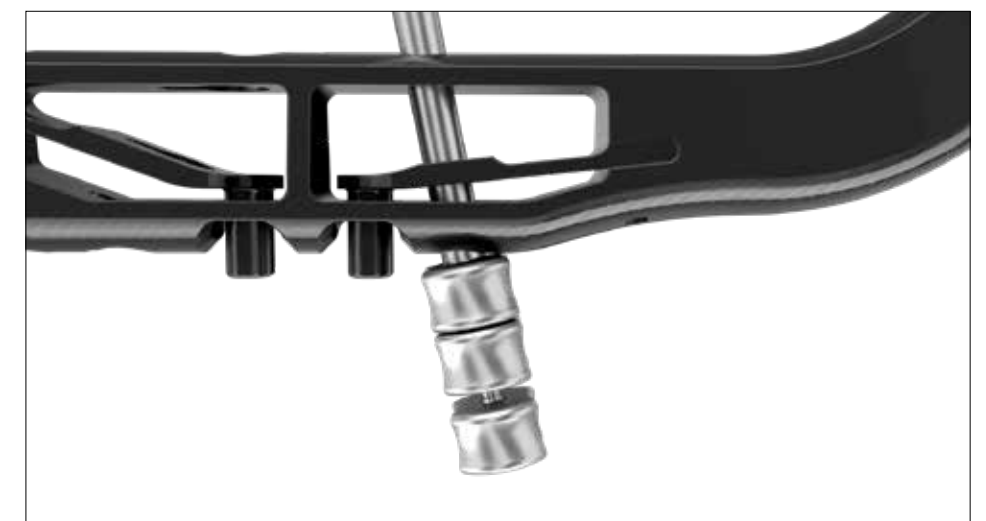
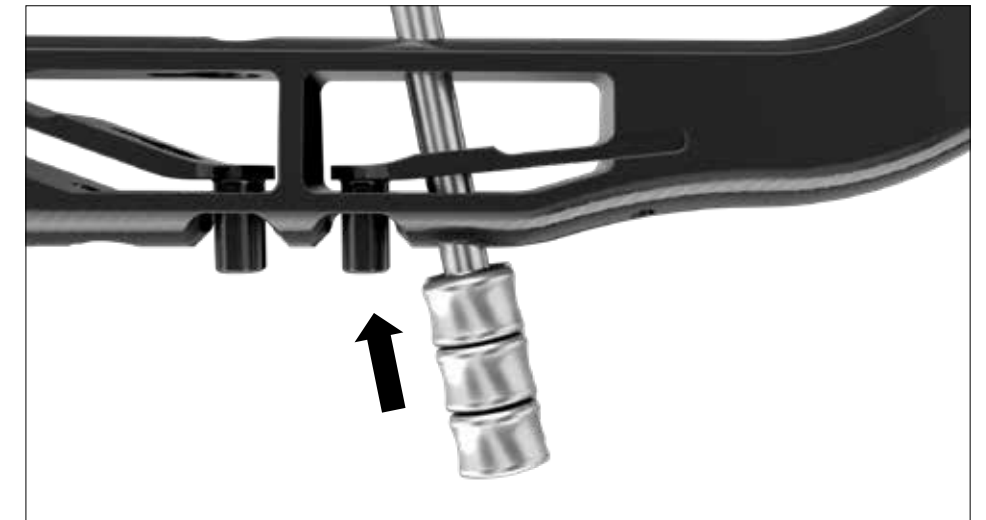
Step 17.1 – Distal Locking

Slip the locking screw trocar (T5-0340-000) into the locking screw drill sleeve and insert this assembly into the locking screw guide sleeve. Insert the complete assembly into the dedicated hole in the targeting device and advance it to the skin.

It is not necessary to push the button for insertion of the sleeve assembly. The button is only intended to release the sleeve later for removal.

Make a small incision from the tip of the trocar down to the lateral cortex. Push the locking screw guide sleeve assembly down to the bone surface until the locking drill guide sleeve makes contact with the lateral cortex and the trocar is pushed back.

The sleeve assembly is kept in place by the clamping mechanism in the handle of the targeting device.



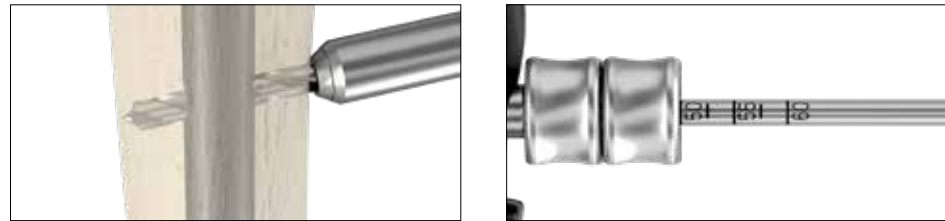
Operative Technique

Step 17.1 – Distal Locking (continued)

Remove the trocar and replace it with the drill for the locking screw, long. Drill through the first cortex. When you reach the second cortex, determine the required screw length by reading off the scale on the drill. Add the cortex thickness of approx. 2.5mm-5mm to this measurement and select the screw accordingly.

Again, when measuring for the locking screw be sure the sleeve assembly is in contact with the lateral cortex of the bone.

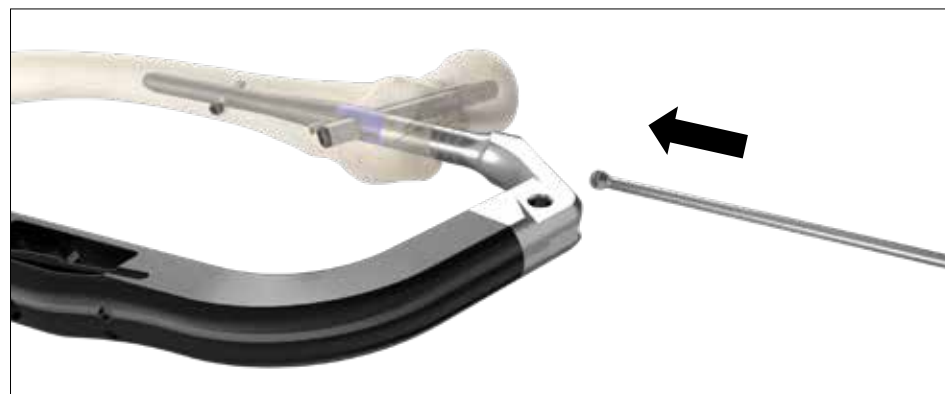
Alternative you may use c-arm Fluoroscopy to verify the depth of the drill bit.



Proceed to drill the second cortex. Remove the drill sleeve from the locking screw guide sleeve. The latter will remain in place as a tissue protection sleeve. Insert the 5mm distal locking screw through the locking screw guide sleeve with the screwdriver bit T25 (T5-0390-000), advance until the screw head is in contact with the lateral cortex.



Disconnect the targeter from the nail by using the ball tip screwdriver 8mm to loosen the nail holding bolt inside the proximal end of the targeter.



Step 17.2 – Distal Locking

The Artemis Long Nail offers three locking options for distal fixation of the nail:

- Dynamic locking with one screw in the distal part of the oblong hole
- Static & dynamic locking with one screw in the round hole and a second screw in the distal part of the oblong hole. If dynamization is required postoperative, the screw in the round hole can be removed
- Static locking with one screw in the round hole and a second screw in the proximal part of the oblong hole

A free-hand technique (e.g. perfect circle) can be used for drilling. When you reach the second cortex, determine the required screw length by sliding the Direct Measuring Gauge (T5-0370-000) over the drill. Read off the scale at the position of the laser marking and add the cortex thickness of approx. 2.5mm-5mm.

Alternatively, the Depth Gauge (T5-0380-000) can be used to measure the screw length after drilling.



Dynamic Locking

Secondary Dynamization

Static Locking

Operative Technique

Step 17.2 – Distal Locking (continued)

Insert the the 5mm distal Locking Screw with the Screwdriver Bit T25, short (T5-0580-000) until the head is in contact with the lateral cortex. Repeat procedure with second Locking Screw if needed.

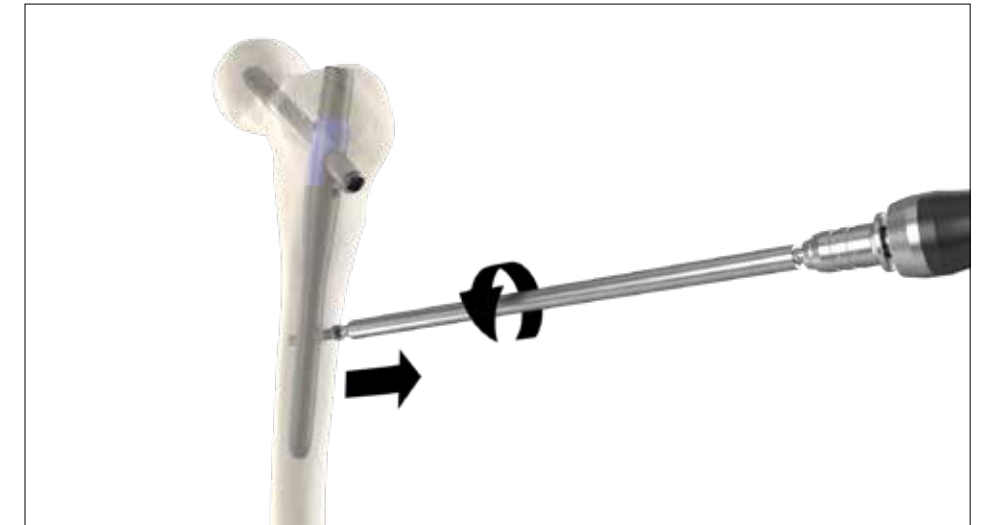


Disconnect the targeter from the nail by using the ball tip screwdriver 8mm to loosen the nail holding bolt inside the proximal end of the targeter.



Implant Extraction

Make a small skin incision through the previous distal scar. Locate distal locking screw and remove it using the screwdriver bit T25 with AO handle.

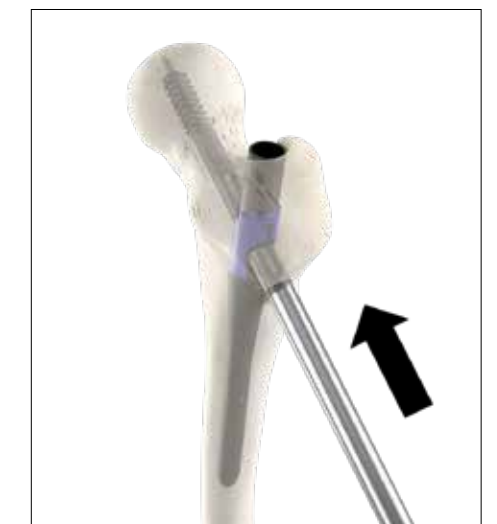
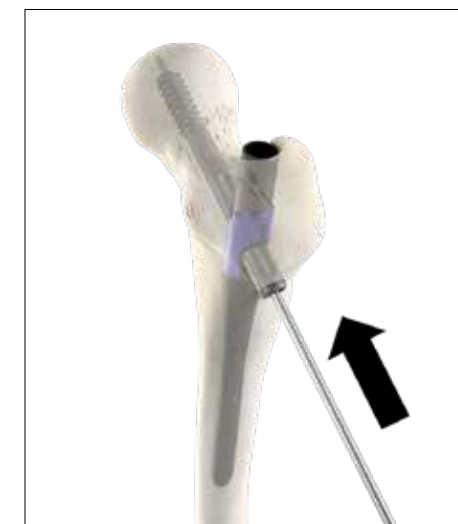


Remove the Support Pin, if present, using the Screwdriver Bit T15 with the T-Handle.



Make another incision through the proximal scar. Insert the threaded trocar tip K-wire into the lag screw. Attach the lag screw driver to the lag screw. Use the fixation rod to secure the lag screw driver to the lag screw.

DO NOT try to remove the lag screw at this time.

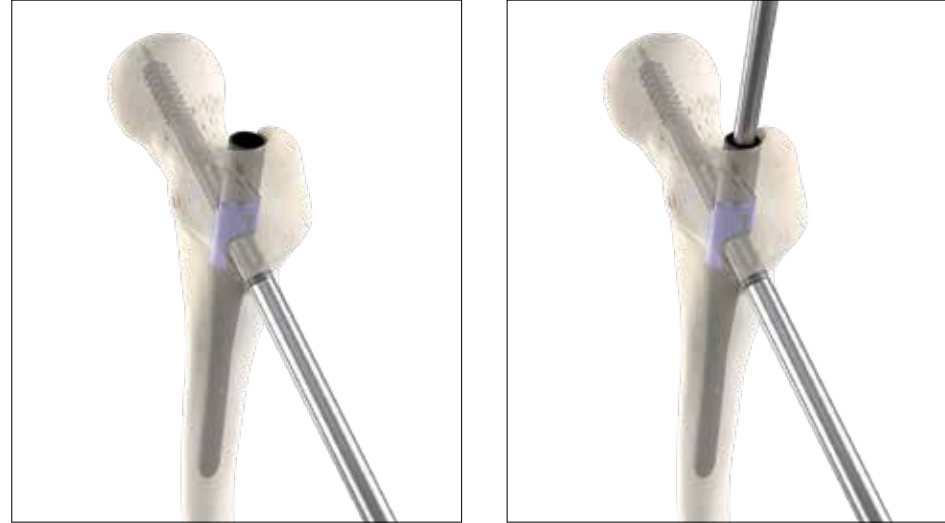


Operative Technique

The set screw shall remain in the nail. It is only loosened 1–1.5 turns to release it from the groove in the lag screw.

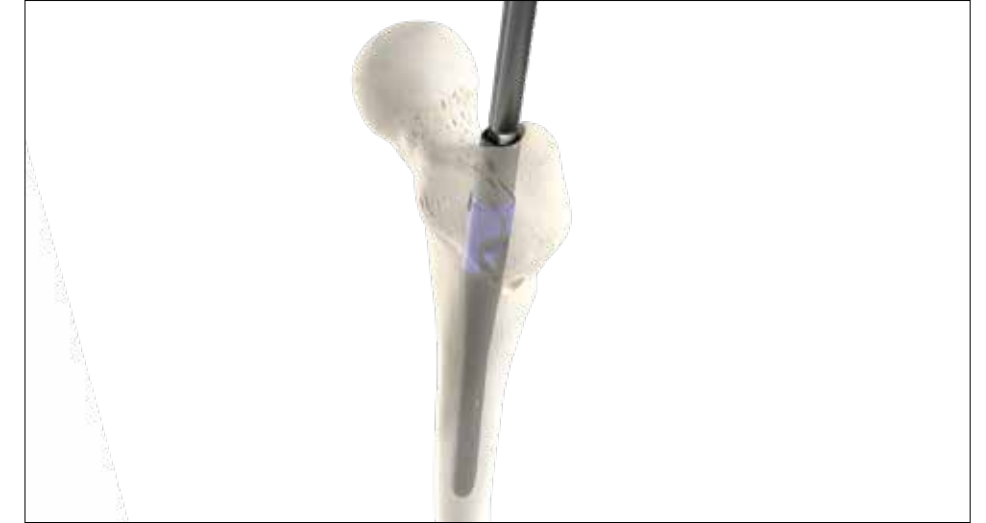
Warning:

Releasing it further can prevent the extraction rod (T5-0430-000) from engaging the nail.



When the extraction rod is connected to the nail, remove the lag screw and then the nail. If the nail proves difficult to remove, the slotted hammer can be used to aid in the removal.

If excess force is needed to remove the nail double check that both distal locking screw and lag screw have been removed.



Screw the extraction rod into the nail.

Warning:

Do not remove the lag screw before the extraction rod is firmly attached to the nail, otherwise the nail could inadvertently be pushed into the medullary canal when attempting to connect the extraction rod.






Catalog Information – Implants

Short Nail Kit (Set Screw Included)

	REF	Diameter mm	Length mm
	T6-0180-110S	Ø11	180

Long Nail Kit, Left (Set Screw Included)

	REF	Diameter mm	Length mm
	T6-1300-110S	Ø11	300
	T6-1320-110S	Ø11	320
	T6-1340-110S	Ø11	340
	T6-1360-110S	Ø11	360
	T6-1380-110S	Ø11	380
	T6-1400-110S	Ø11	400
	T6-1420-110S	Ø11	420
	T6-1440-110S	Ø11	440

Long Nail Kit, Right (Set Screw Included)

	T6-2300-110S	Ø11	300
	T6-2320-110S	Ø11	320
	T6-2340-110S	Ø11	340
	T6-2360-110S	Ø11	360
	T6-2380-110S	Ø11	380
	T6-2400-110S	Ø11	400
	T6-2420-110S	Ø11	420
	T6-2440-110S	Ø11	440

Catalog Information – Implants

Lag Screw



REF	Diameter mm	Length mm
T6-0200-070S	Ø11	70.0
T6-0200-075S	Ø11	75.0
T6-0200-080S	Ø11	80.0
T6-0200-085S	Ø11	85.0
T6-0200-090S	Ø11	90.0
T6-0200-092S	Ø11	92.5
T6-0200-095S	Ø11	95.0
T6-0200-097S	Ø11	97.5
T6-0200-100S	Ø11	100.0
T6-0200-102S	Ø11	102.5
T6-0200-105S	Ø11	105.0
T6-0200-110S	Ø11	110.0
T6-0200-115S	Ø11	115.0
T6-0200-120S	Ø11	120.0
T6-0200-125S	Ø11	125.0
T6-0200-130S	Ø11	130.0

Anti-Rotational Locking Pin



REF	Diameter mm	Length mm
T6-0255-070S	Ø5	70
T6-0255-095S	Ø5	95
T6-0255-110S	Ø5	110

Locking Screw



REF	Diameter mm	Length mm
T6-0300-025S	Ø5	25.0
T6-0300-027S	Ø5	27.5
T6-0300-030S	Ø5	30.0
T6-0300-032S	Ø5	32.5
T6-0300-035S	Ø5	35.0
T6-0300-037S	Ø5	37.5
T6-0300-040S	Ø5	40.0
T6-0300-042S	Ø5	42.5
T6-0300-045S	Ø5	45.0
T6-0300-047S	Ø5	47.5
T6-0300-050S	Ø5	50.0
T6-0300-055S	Ø5	55.0
T6-0300-060S	Ø5	60.0
T6-0300-065S	Ø5	65.0
T6-0300-070S	Ø5	70.0
T6-0300-075S	Ø5	75.0
T6-0300-080S	Ø5	80.0
T6-0300-085S	Ø5	85.0
T6-0300-090S	Ø5	90.0
T6-0300-095S	Ø5	95.0
T6-0300-100S	Ø5	100.0
T6-0300-105S	Ø5	105.0
T6-0300-110S	Ø5	110.0





Catalog Information – Instruments





























REF	Description	Quantity
T4-0200-010S	Procedure Kit Short Nail 1 x K-wire, Threaded Trocar Tip, 3.5 x 450mm 1 x K-Wire with Drill Tip 1 x Locking Screw Drill, Long	1
T4-0200-020S	Procedure Kit Long Nail 1 x K-wire, Threaded Trocar Tip, 3.5 x 450mm 1 x K-Wire with Drill Tip 1 x Locking Screw Drill, Short	1
T5-0140-000S	Guide Wire, Ø4.0mm Ball Tip	1
T5-0270-000S	Anti-Rotation Wire, Short (Lag Screws of 70mm+)	1
T5-0550-000S	Anti-Rotation Wire, Long (Lag Screws of 95mm+)	1
T5-0570-000S	Anti-Rotation Wire, Extra Long (Lag Screws of 110mm+)	1

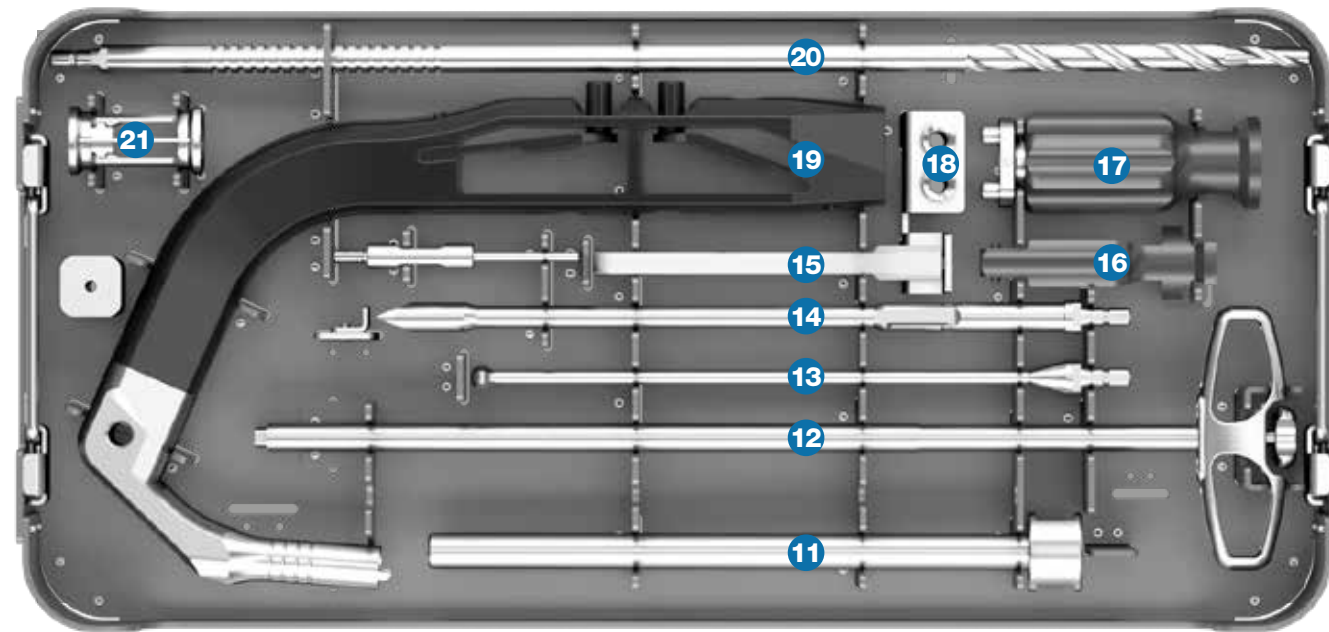
S = items are sterile/single use

Catalog Information – Instruments

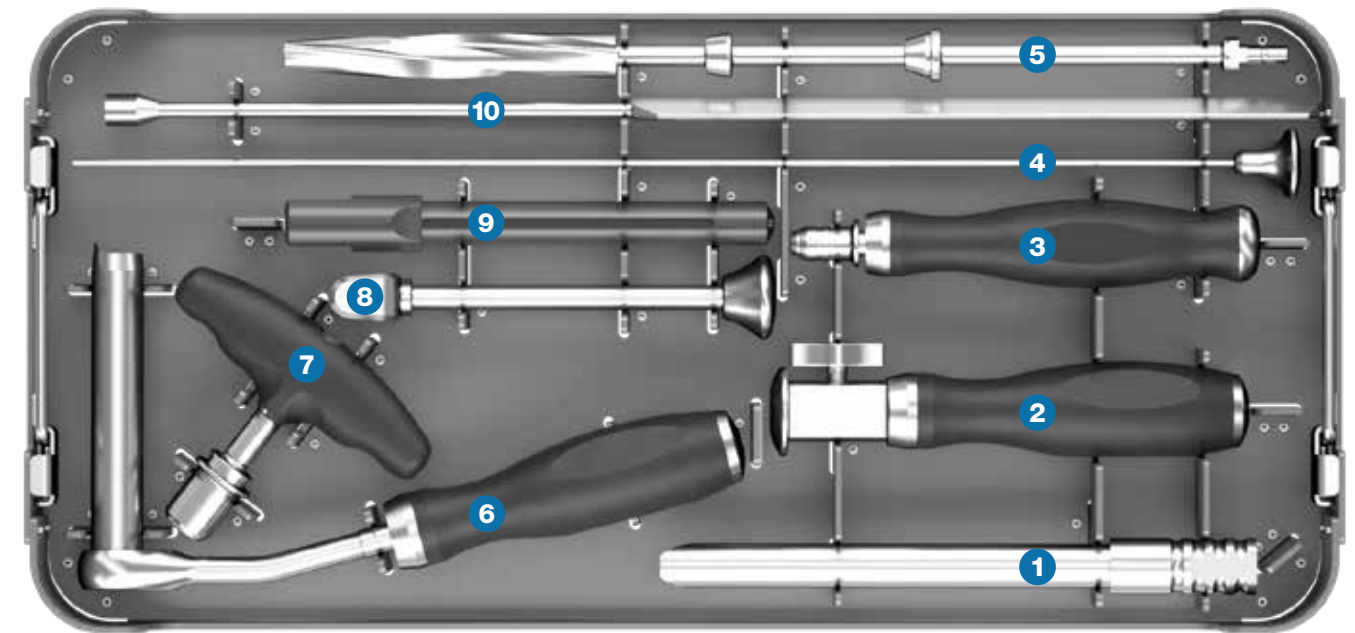
REF	Description
 T5-0100-000	Handle, AO small
 T5-0110-000	T-Handle, Zimmer/Hall coupling
 T5-0120-000	Awl, Curved
 T5-0150-000	Repositioning Guide
 T5-0160-000	Opening Reamer Sleeve
 T5-0170-000	Opening Reamer, Zimmer/Hall
 T5-0180-000	Guide Wire Driver
 T5-0200-000	Nail Holding Bolt
 T5-0210-000	Targeting Device

REF	Description
 T5-0190-000	Ruler for Long Nails
 T5-0220-000	Ball Tip Screwdriver, 8.0mm, Zimmer/Hall
 T5-0230-000	Lag Screw Guide Sleeve
 T5-0240-000	K-wire Sleeve
 T5-0250-000	Lag Screw Drill, Ø11mm, Zimmer/Hall
 T5-0260-000	Lag Screw Drill Stop
 T5-0280-000	Lag Screw Measuring Gauge
 T5-0290-000	Lag Screw Driver
 T5-0530-000	Lag Screw Tap
 T5-0300-000	Fixation Rod for Lag Screw Driver
 T5-0310-000	Flexible Screwdriver, 4.0mm, AO Small
 T5-0320-000	Locking Screw Guide Sleeve
 T5-0330-000	Locking Screw Drill Sleeve
 T5-0340-000	Locking Screw Trocar
 T5-0370-000	Direct Measuring Gauge
 T5-0380-000	Depth Gauge
 T5-0390-000	Screwdriver Bit T25, AO Small
 T5-0400-000	Strike Plate
 T5-0410-000	Guide Wire Pusher
 T5-0420-000	Reduction Spoon, Zimmer/Hall
 T5-0430-000	Extraction Rod, Zimmer/Hall
 T5-0440-000	Slotted Hammer
 T5-0450-000	Compression Device
 T5-0460-000	Channel Tube
 T5-0560-000	Screwdriver Bit T15
 T5-0580-000	Screwdriver Bit T25, short

Tray Layout – Instruments



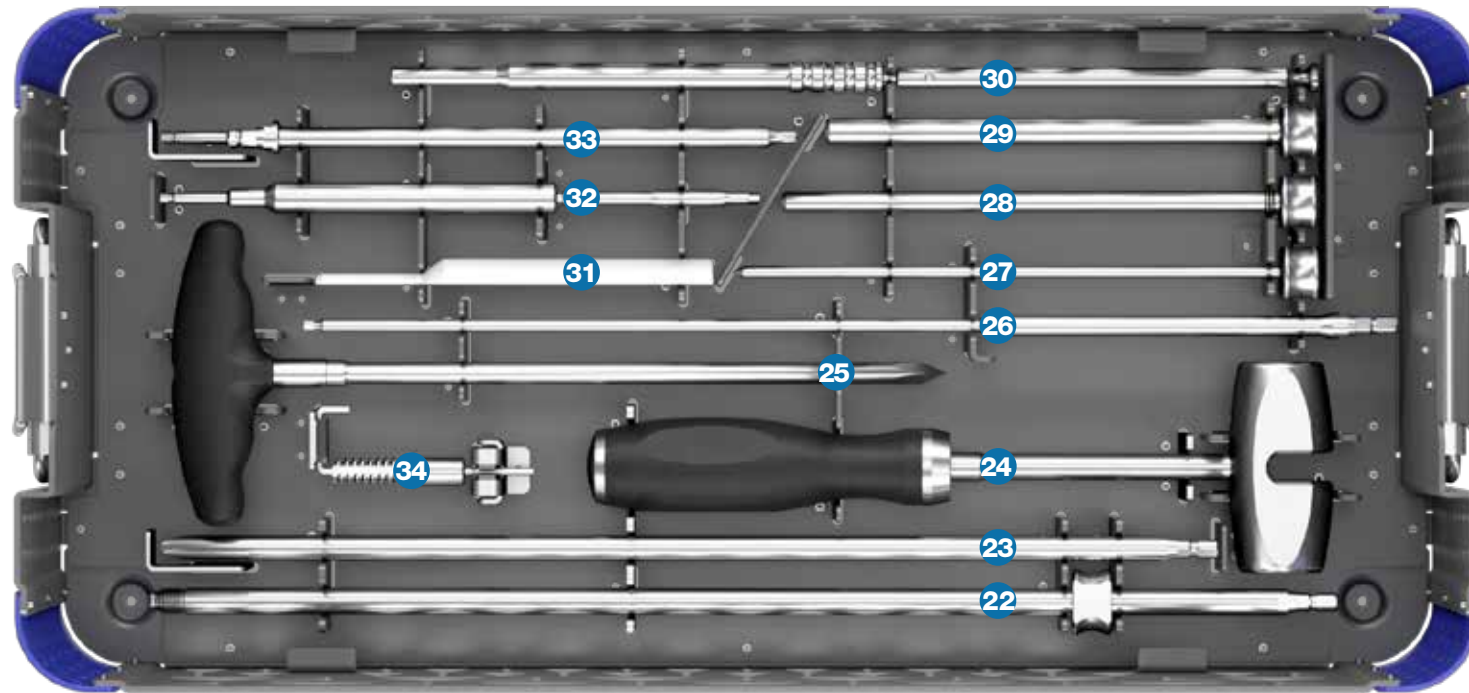
	REF	Description
11	T5-0230-000	Lag Screw Guide Sleeve
12	T5-0290-000	Lag Screw Driver
13	T5-0220-000	Ball Tip Screwdriver, 8.0mm, Zimmer/Hall
14	T5-0240-000	K-wire Sleeve
15	T5-0280-000	Lag Screw Measuring Gauge
16	T5-0450-000	Compression Device - Lever
17	T5-0450-000	Compression Device
18	T5-0200-000	Nail Holding Bolts
19	T5-0210-000	Targeting Device
20	T5-0250-000	Lag Screw Drill, Ø11mm, Zimmer/Hall
21	T5-0260-000	Lag Screw Drill Stop



	REF	Description
1	T5-0460-000	Channel Tube
2	T5-0180-000	Guide Wire Driver
3	T5-0100-000	Handle, AO small
4	T5-0410-000	Guide Wire Pusher
5	T5-0170-000	Opening Reamer, Zimmer/Hall
6	T5-0160-000	Opening Reamer Sleeve
7	T5-0110-000	T-Handle, Zimmer/Hall Coupling
8	T5-0400-000	Strike Plate
9	T5-0150-000	Repositioning Guide
10	T5-0190-000	Ruler for Long Nails

Tray Layout – Instruments

Notes



	REF	Description
22	T5-0430-000	Extraction Rod, Zimmer/Hall
23	T5-0420-000	Reduction Spoon, Zimmer/Hall
24	T5-0440-000	Slotted Hammer
25	T5-0120-000	Awl, Curved
26	T5-0560-000	Screwdriver Bit T15
27	T5-0340-000	Locking Screw Trocar
28	T5-0330-000	Locking Screw Drill Sleeve
29	T5-0320-000	Locking Screw Guide Sleeve
30	T5-0380-000	Depth Gauge
31	T5-0370-000	Direct Measuring Gauge
32	T5-0310-000	Flexible Screwdriver, 4.0mm, AO Small
33	T5-0390-000	Screwdriver Bit T25
34	T5-0530-000	Lag Screw Tap

Notes

Notes



CAUTION: Federal (USA) law restricts this device to sale by or on the order of a surgeon. Rx only.

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