

IMHS[®] CP

Clinically Proven
Intramedullary Hip Screw



IMHS[◇] CP

Clinically Proven
Intramedullary Hip Screw
Surgical Technique

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Nota Bene

The technique description herein is made available to the healthcare professional to illustrate the author's suggested treatment for the uncomplicated procedure. In the final analysis, the preferred treatment is that which addresses the needs of the specific patient.

Indications

IMHS[®] CP Intramedullary Hip Screw is indicated for fractures of the proximal femur including peritrochanteric fractures, reverse obliquity fractures, and subtrochanteric fractures.

The long nails expand indications to include comminuted neck and shaft fractures, and prophylactic nailings of impending pathological fractures.

IMHS CP Intramedullary Hip Screw is indicated for intracapsular fractures of the femoral neck; trochanteric or subtrochanteric fractures; osteotomies for patients with diseases or deformities of the hip; hip arthrodesis; supracondylar fractures and distal femoral fractures using a supracondylar plate; ipsilateral femoral shaft/neck fractures; intertrochanteric fractures; femoral neck fractures; subcapital fractures; comminuted neck and shaft fractures; femur reconstruction following tumor resection; leg length discrepancies secondary to femoral inequality; and prophylactic nailing of impending pathologic fractures.



Design rationale

IMHS® CP Intramedullary Hip Screw is the *first and only* intramedullary hip screw device that provides a barrel through which a lag screw can slide. Introduced in 1991 with its design, the IMHS system provided a more minimally invasive technique than the traditional Compression Hip Screw. By featuring a Centering Sleeve to enhance Lag Screw sliding and medializing the implant to reduce the moment arm, this design improved implant biomechanics for the treatment of hip fractures.

IMHS CP retains the *clinically proven* features of the original design while adding new features to simplify the procedure and provide more options for the surgeon to treat the indication that presents.

Features and benefits

Clinically proven

Proven to reduce OR time and blood loss through a minimally invasive nailing technique and the 4° ML bend¹ in the treatment of intertrochanteric hip fractures versus side plates.

Proven to increase stability and early weight bearing in unstable fractures from sliding compression and providing an intramedullary trochanteric buttress.^{2,3}

Features and benefits

With new and improved instrumentation such as captured screws, IMHS° CP Intramedullary Hip Screw offers a more streamlined surgical technique.

Available with Standard Lag Screw and Sleeve. The new Subtrochanteric Lag Screw provides more clinical options.

The Set Screw is preloaded and cannulated to allow nail insertion over a ball tip guide rod, removing steps from the technique.

Additional steps are removed by using the 3 in 1 Lag Screw Inserter that places the Lag Screw and Sleeve and compresses the Lag Screw all in one instrument.

IMHS CP has added a 125° neck angle providing more clinical options.

Other new features

A more anatomical 2.0 meter radius of curvature has been added to all nails to reduce anterior cortex impingement. Short nails now have left and right components.

The proximal end of the nail has been reduced by 5mm in length to avoid prominence at the greater trochanter.

All nails can be dynamically or statically locked.

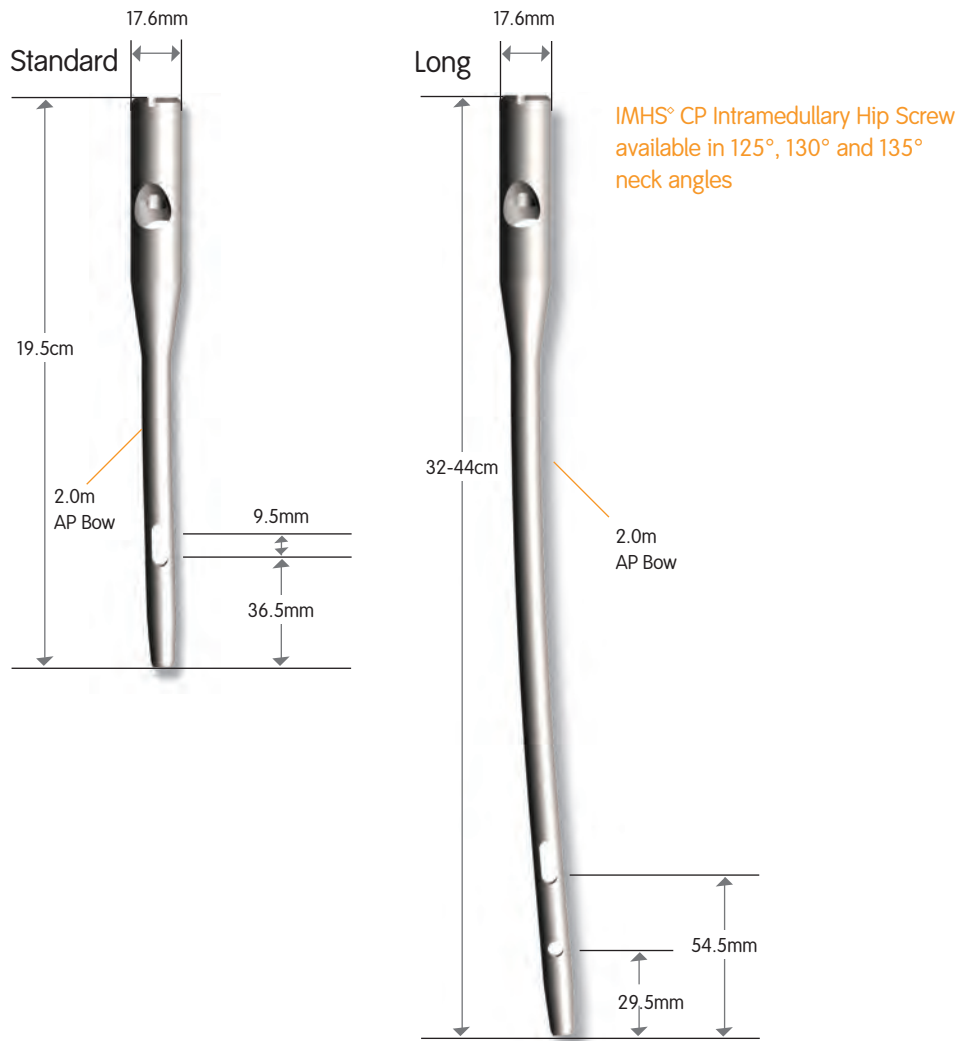
AP and ML alignment guides to make placement easier and more precise, while reducing X-Ray exposure.



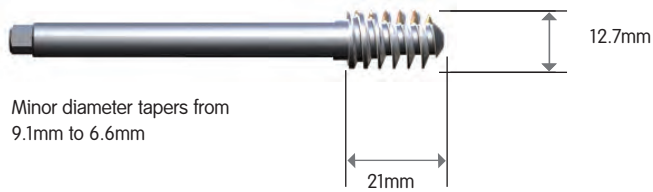
Captured Locking Screws

References

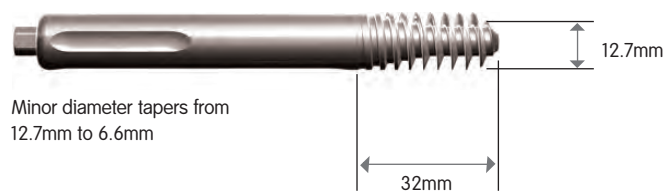
- 1 Baumgaertner, et al; *CORR*; 348:87-94; March 1998
- 2 Hardy, et al; *JBJS*; 80A:5:618-630, May, 1998
- 3 Rebutzi, et al; *Injury*; 33:407-412; 2002



Standard Lag Screw



Subtrochanteric Lag Screw



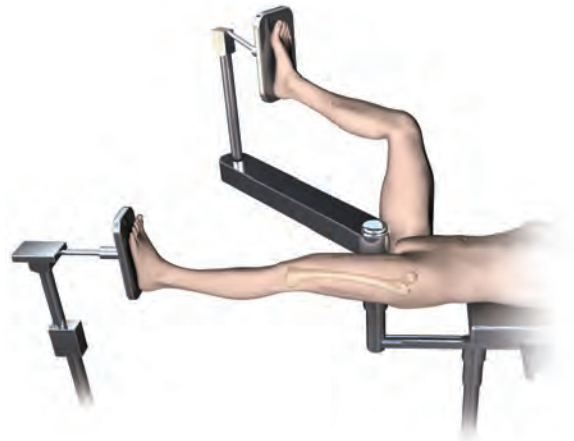
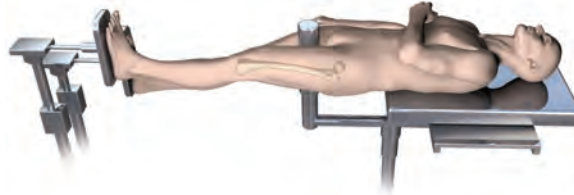
Surgical technique

Preoperative Planning Templates are available for preoperative planning.

Patient positioning

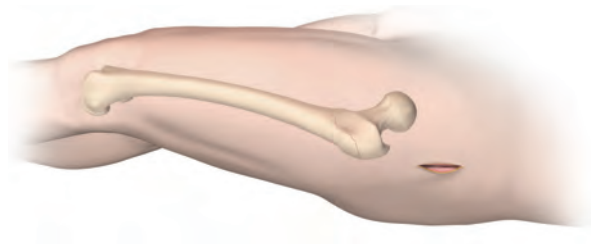
Patient is placed supine on a fracture table with unaffected limb extended below the affected limb and trunk. The affected limb is adducted. Flex the affected hip 15° – 30° . Apply traction through a skeletal traction pin or with the fracture table foot holder. Adjust the affected limb for length and rotation by comparison with the unaffected limb. Check rotation by rotating the C-arm in line with the femoral neck anteversion and then making the appropriate correction, usually 0° – 15° of external rotation. This is best checked by visualizing the femoral anteversion proximally and matching it with correct rotation at the knee.

Another common position is to flex the hip and knee of the unaffected extremity and place it in a leg holder. Abduction and internal rotation of the hip allows unimpeded fluoroscopic imaging.



Incision

Identify the greater trochanter. Make a 1 to 3cm incision that is approximately 3 to 6cm proximal to the greater trochanter. Angle this incision posteriorly at its proximal end. Carry the incision through the fascia.

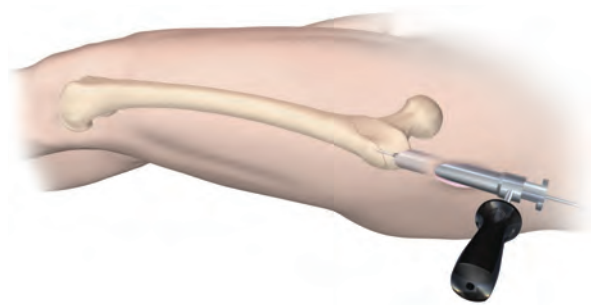


Entry portal location and guide pin insertion

Option 1

Insert the Tissue Protector with the Guide Pin Centering Sleeve such that it rests on the medial apex of the greater trochanter.

Insert the 3.2mm Guide Pin through the Guide Pin Centering Sleeve 2–3cm into the greater trochanter and centered over the canal in the AP and ML views.



Tissue Protector
Cat. No. 71687003



Guide Pin
Centering Sleeve
Cat. No. 71687004



3.2mm Guide Pin
Cat. No. 71687000

Entry portal location and Ball-Tip Guide Rod insertion

Option 2

Attach the T-Handle to the Cannulated Awl and pass the Trocar through this assembly as shown.

Insert the Awl/Trocar assembly 3-4cm into the medial aspect of the greater trochanter.

Remove the Trocar and replace with the 3.0mm Ball-Tip Guide Rod.



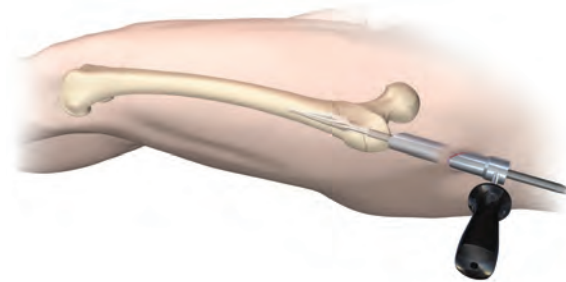
Entry portal location and proximal reaming

With the 3.2mm Guide Pin or the Ball-Tip Guide Rod in place, ream over the pin/rod with the Proximal Reamer.

Ream until the proximal femur is prepared to accept the proximal portion of the implant. Reaming depth should be sufficient when the indicator on the reamer is level with the top of the tissue protector.

Check depth on AP X-Ray to ensure that the widest part of the reamer has reached the level of the lesser trochanter and has sufficiently opened the canal.

If not satisfied with depth, continue reaming and confirm depth with X-Ray.



T-Handle
Cat. No. 71631172



Cannulated Awl
Cat. No. 71674000



Trocar
Cat. No. 71687005



3.0mm Ball-Tip
Guide Rod
Cat. No. 71631626



Proximal Reamer
Cat. No. 71687006

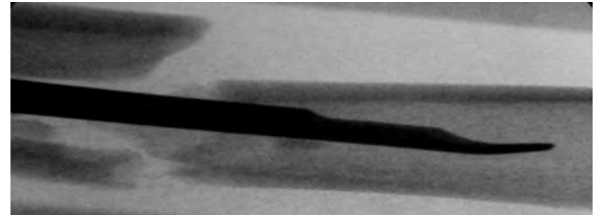
Shaft reduction and length measurement (long nail)

Reduce the fracture using the Reducer and the T-Handle.

Place the Ball Tip Guide Rod through the T-Handle, into the intramedullary canal, and across the fracture site. Use the T-Handle Jacob's Chuck for Guide Rod manipulation.

The Reducer can be used to place the Ball-Tip Guide Rod in the center of the intramedullary canal in both the AP and ML views. This will help ensure proper reaming of the canal.

If a long nail is being implanted, it will be necessary to measure for nail length. To measure the length of the implant needed, ensure that the distal tip of the Ball-Tip Guide Rod is located at the desired position of the distal tip of the nail. Slide the Ruler over the proximal end of the Ball-Tip Guide Rod and advance the open end of the Ruler to where the proximal portion of the implant will be seated, just below the tip of the greater trochanter. Read the nail length from the calibrations exposed at the other end of the Ruler.



Canal preparation (long nail)

Proceed to sequentially ream over the Ball-Tip Guide Rod through the Tissue Protector using the reamers contained in the set. Begin reaming with the 9.0mm End Cutting Reamer Head and ream sequentially to 1–2mm over the selected nail diameter. Use the Obturator to help ensure the Ball Tip Guide Rod stays in position during reaming.



Reducer
Cat. No. 71687007



T-Handle
Jacob's Chuck
Cat. No. 71170183



Ruler
Cat. No. 71631128



9.0mm End Cutting
Reamer Head
Cat. No. 71118231



Obturator
Cat. No. 71631122

Implant selection

If using Implant Trials to determine diameter and fit, then assemble the trial to either the Trial Arm and T-Handle or the Drill Guide, and insert it into the canal. Implant trials have left and right components.

If an implant has not been previously selected, determine the following:

Short (19.5cm) or Long* (**32**, 34, 36, 38, 40, **42**, or **44**cm)

Neck angle* (125°, 130° or **135°**)

Short nail diameter* (10, 12, **14** or **16**mm)

Long nail diameter* (10, 12, or **14**mm)

Left or right

Classic IMHS° Lag Screw or Subtrochanteric Lag Screw

* Items in bold have limited availability and may not be included in your set

Drill Guide assembly

Confirm that the pre-loaded Cannulated Set Screw does not obstruct the Lag Screw hole in the nail and will not interfere with the Guide Bolt.

Select the Drill Guide based on the neck angle of the nail being used. Insert the Guide Bolt into the Drill Guide and use the Guide Bolt Wrench and T-Handle to secure the bolt to the nail. To help ensure the accuracy of the drill guide, it is helpful to tighten the Guide Bolt with the Tissue Protector and Lag Screw Reamer in place.



Trial Arm
Cat. No. 71687038

Guide Bolt
Cat. No. 71674024

Drill Guide*
Cat. No. 71687017,
71687018 and
71687019

Guide Bolt Wrench
Cat. No. 71674028

*This illustration depicts an older design where the side plates have now been removed, as well as the mating holes for the Anteversion Locking Guide.

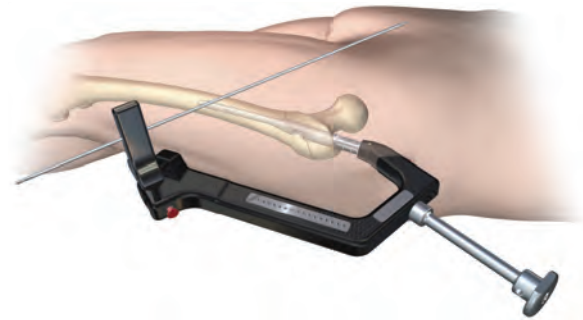
Initial implant insertion

Assemble the Impactor to the Drill Guide and advance the nail over the Guide Rod and carefully pass the fracture using **hand force** only. The nail should **always** enter easily.

If the nail fails to advance adequately, use biplanar imaging of the nail tip and the fracture zone to identify the source of the impingement.

Additional reaming may be required, or, in some instances, a smaller implant diameter may be selected.

Remove the Ball-Tip Guide Rod, if used.



AP implant positioning

To help determine the proper AP position of the Lag Screw in the femoral head, attach the Lag Screw Positioning Guide to the Drill Guide and insert a 3.2mm Guide Pin through a hole that is anterior to the patient's soft tissues as shown.

The C-Arm and Drill Guide must then be positioned so that the Guide Pin and the center of the Lag Screw hole in the nail are in line with the beam from the C-Arm.

The nail is properly placed in the AP plane when the Guide Pin is seen on the X-Ray to be parallel to the neck and center in the femoral head.



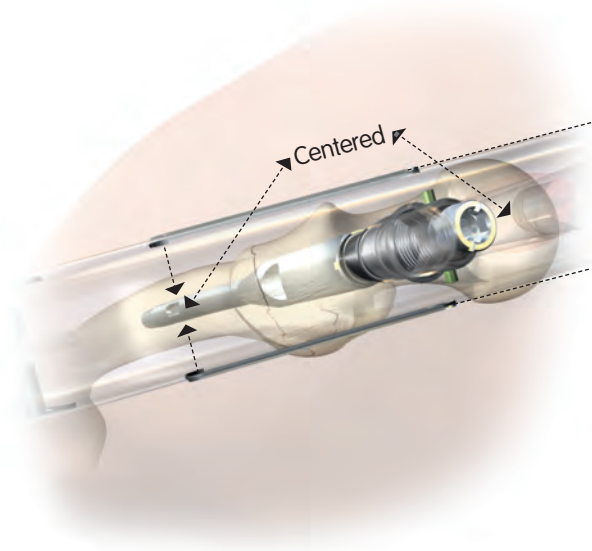
Impactor
Cat. No. 71665020



Lag Screw
Positioning Guide
Cat. No. 71687020

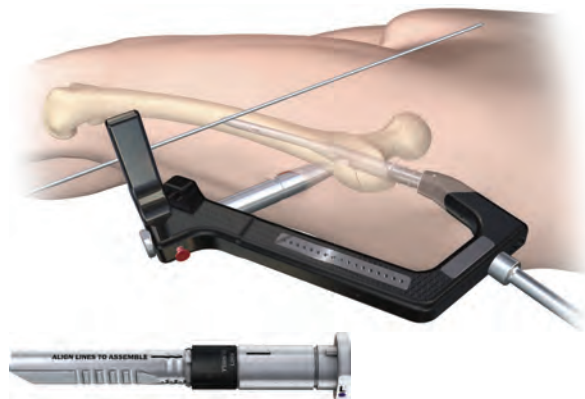
Anteversión alignment

Under fluoroscopy, adjust the drill guide until the wire embedded in the handle transects the nail and the femoral neck and head in the lateral view.



Guide pin insertion

Insert the Telescoping Reamer Sleeve and the Lime 3.2mm Guide Pin Sleeve into the Drill Guide, make a 2.5cm incision in the skin and tensor fascia and push the Telescoping Reamer Sleeve to bone, ensuring that it locks to the Drill Guide.



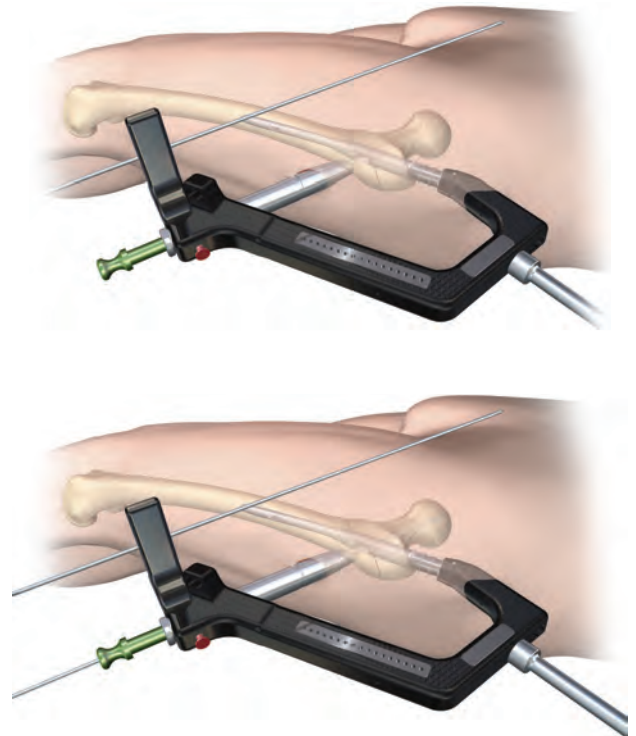
Adjustable Lag
Screw Reamer
Sleeve
Cat. No. 71687022

Lime 3.2mm Guide
Pin Sleeve
Cat. No. 71687023

This illustration depicts an older design where the side plates have now been removed, as well as the mating holes for the Anteverision Locking Guide.

Guide pin insertion

With the C-Arm still in the lateral/anteverted position and maintaining the desired anteversion with the Drill Guide, begin to insert the Guide Pin. Final positioning of the Guide Pin should be done with the C-Arm in the AP plane. Insert the Guide Pin until the tip reaches the optimal Tip-Apex Distance (TAD), 5mm from the articular surface of the femoral head. Reconfirm the final placement of the pin with a lateral C-Arm image.



Lime 3.2mm
Guide Pin Sleeve
Cat. No. 71687023



3.2mm Lime Inner
Drill Sleeve
Cat. No. 71687032



Anti-Rotation Guide*
Cat. No. 71687021



Lag Screw
Positioning Guide
Cat. No. 71687020

*This illustration depicts an older design where the side plates have now been removed, as well as the mating holes for the Anteversion Locking Guide.

Lag Screw measurement

Measure the Guide Pin using the Lag Screw Length Gauge. It is inserted into the Telescoping Reamer Sleeve until it abuts the end of the sleeve. Take the Lag Screw measurement by lining up the end of the 3.2mm Guide Pin with the calibrations on the Lag Screw Length Gauge.



Lag Screw
Length Gauge
Cat. No. 71687024

This illustration depicts an older design where the side plates have now been removed, as well as the mating holes for the Anteversion Locking Guide.

Lag Screw reaming

Determine whether the Standard Lag Screw and Sleeve, or if the Subtrochanteric Lag Screw will be used.

Adjust the appropriate reamer for the length shown on the Lag Screw Length Gauge.

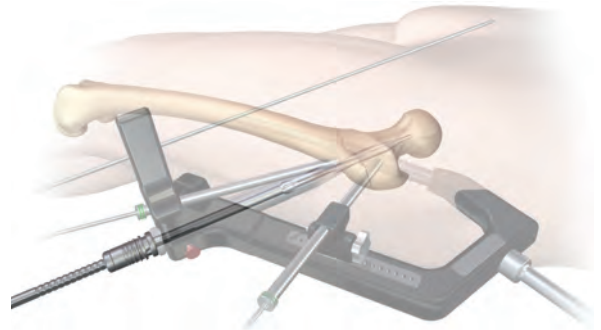
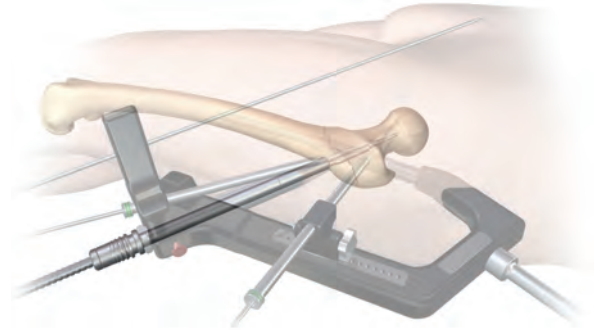
Ream over the Guide Pin using either the Combination Reamer (Standard Lag Screw and Sleeve) or the Subtrochanteric Lag Screw Reamer (Subtrochanteric Lag Screw). Visualize reaming with X-Ray to confirm that the Guide Pin is not being forced forward. Ream until the positive stop on the reamer abuts the Telescoping Reamer Sleeve that is locked into the Drill Guide.

Note Always use imaging in addition to guides to confirm reamer depth and positioning.

Use the Obturator to prevent the Guide Pin from backing out as the reamer is removed.

Tap over the Guide Pin as necessary, using imaging to determine the proper depth. Connect the Tap to the Lag Screw Insertion Handle to tap.

Tip If the Combination Reamer is difficult to pass through the nail, it is likely the teeth of the Reamer Sleeve are obstructed with bone. It is recommended to pass the Subtrochanteric Reamer through the nail to clear the bone, remove it, then complete reaming with the Combination Reamer to the correct depth.



Combination Reamer for Standard Lag and Sleeve shown with both anti-rotation pins



Combination Reamer
Cat. No. 71687061



Subtrochanteric Lag Screw Reamer
Cat. No. 71687027



Tap
Cat. No. 71687028



Lag Screw Insertion Handle
Cat. No. 71687029



Obturator
Cat. No. 71631122

Lag Screw insertion – Standard Lag Screw and Centering Sleeve

The Lag Screw is inserted until the “Stop” indicator is flush with the Telescoping Reamer Sleeve. This indicator is found at the end of the threads located on the shaft of the Lag Screw Insertion Wrench. At final seating, the T-Handle should be positioned perpendicular to the Drill Guide to properly orient the Lag Screw.

The T-Handle and Guide Pin are then removed, and the Centering Sleeve Inserter is now placed over the Insertion Wrench and used to push the Centering Sleeve into the nail. The Centering Sleeve is correctly positioned in the nail when the Centering Sleeve Inserter abuts the Telescoping Reamer Sleeve.

Lock the Centering Sleeve with the Set Screw Driver. Use the Torque Wrench to achieve two “clicks” to confirm proper tightening.

Compression can be achieved by inserting the Compression Screw into the Lag Screw using the captured internal Hex Medium Screw Driver.



Centering Sleeve
Cat. No. HN1200

Compression Dial
Cat. No. 71687026

Centering Sleeve
Inserter
Cat. No. 71687031

Hex Medium
Screw Driver
Cat. No. 71631066

Set Screw Driver
Cat. No. 71687058

Torque Wrench
Cat. No. 71665027

Lag Screw insertion – Subtrochanteric Lag Screw

Thread the Compression Dial onto the Lag Screw Insertion Wrench. Connect this assembly to the Subtrochanteric Lag Screw.



Compression Dial function

Set the Compression Dial at “0”, and insert the Lag Screw over the Guide Pin.

Note If the fracture is not going to be compressed, a longer Lag Screw (at least 5mm longer than the measurement) must be selected, to ensure proper lag screw length. The Compression Dial on the Insertion Wrench must also be set for added length.

Example If the measured length was 95mm and a 100mm screw was selected, the Compression Dial on the Insertion Wrench must be set to 5.

The Lag Screw is correctly positioned in the femoral head when the Compression Dial abuts the Telescoping Reamer Sleeve.

The Subtrochanteric Lag Screw can be oriented in a manner that allows up to 15mm of limited sliding or unlimited sliding. For limited sliding, orient the T-Handle parallel to the Drill Guide. For more sliding, orient the T-Handle perpendicular to the Drill Guide.

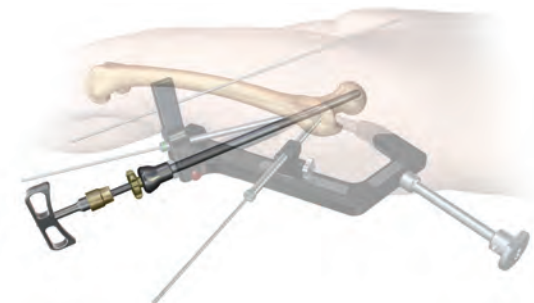
To help prevent sliding, tighten the Set Screw to two “clicks” with the T-Handle in the parallel position.

To allow sliding, tighten the Set Screw until you feel it contact one of the grooves in the Lag Screw and then reverse the screw 1/4 turn.

Compression can be achieved by turning the gold knob on the Compression Dial clockwise. The calibration marks on the shaft of the Lag Screw indicate the amount of compression.



Parallel T-Handle position — limited sliding



Perpendicular T-Handle position — more sliding



Distal locking (short nails)

To lock short nails distally, insert the Black 3.5mm Drill Sleeve into the 9mm Gold Outer Drill Sleeve and place this assembly through the Drill Guide. Make a stab incision and seat the Drill Sleeve assembly to bone. Using the 3.5mm Graduated Brad Point Drill, drill through the Drill Sleeves and through both cortices. The screw length measurement can be taken from the Drill Bit calibrations measured against the Black 3.5mm Drill Sleeve. Screw length may also be determined using the Screw Depth Gauge. Attach the appropriate length 4.5mm Captured Locking Screw to the Medium Hex Driver. Attach the T-Handle to the Hex Driver and insert the screw. Both static (proximal) and dynamic (distal) locking options are available through the Drill Guide.



Lateral cortex over drilling (optional)

When distally locking (especially in diaphyseal bone) it may be desirable to over drill the lateral cortex with the optional 4.7mm Diaphyseal Starter Drill. This is achieved by inserting the 4.7mm Diaphyseal Starter Drill through the 9mm Gold Outer Drill Sleeve once the 3.5mm Graduated Brad Point Drill has been used and screw length determined. While this is a stopped drill, care should be taken to ensure only the lateral cortex is over drilled.



Black 3.5mm
Drill Sleeve
Cat. No. 71687033



9mm Gold Outer
Drill Sleeve
Cat. No. 71631152



3.5mm Graduated
Brad Point Drill
Cat. No. 71687002



Screw Depth Gauge
Cat. No. 71631189

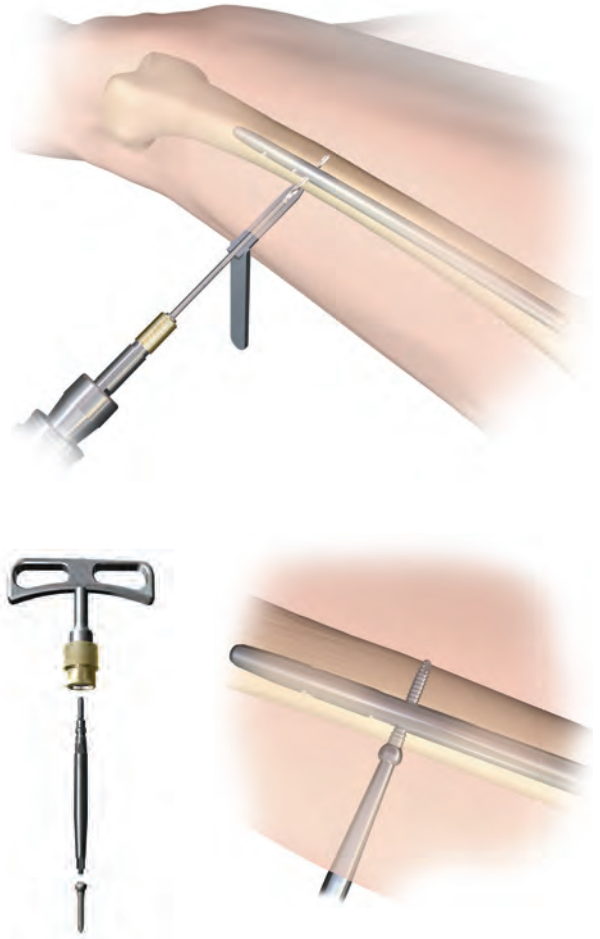
Distal locking (long nails)

Distal locking in the long nail will require a free hand technique. Use the Screw Length Half Sleeve, Short 3.5mm Graduated Brad Point Drill, and the Short Hexdriver for this technique.

Once “perfect circles” are established, make a stab incision and using the Short 3.5mm Graduated Drill Bit and power, drill through the bone and the locking hole in the nail. Leave the Drill Bit in place and slide the Screw Length Half Sleeve down to bone.

Take the screw length measurement from the calibrations on the Drill Bit as it relates to the end of the Screw Length Half Sleeve.

Attach the appropriate length screw to the Short Hexdriver, connect the T-Handle and insert the screw until it is seated.



Screw Length
Half Sleeve
Cat. No. 110238



Short 3.5mm
Graduated Brad
Point Drill
Cat. No. 71687001



Short Hexdriver
Cat. No. 71631068

Catalog information – Implants

IMHS[®] CP 125° Standard Nails

Cat No.	Description
71682510L	10mm x 19.5cm Left
71682510R	10mm x 19.5cm Right
71682512L	12mm x 19.5cm Left
71682512R	12mm x 19.5cm Right
71682514L	14mm x 19.5cm Left
71682514R	14mm x 19.5cm Right
71682516L	16mm x 19.5cm Left
71682516R	16mm x 19.5cm Right



IMHS CP 125° Long Nails

Cat No.	Description
71682532L	10mm x 32cm Left
71682532R	10mm x 32cm Right
71682534L	10mm x 34cm Left
71682534R	10mm x 34cm Right
71682536L	10mm x 36cm Left
71682536R	10mm x 36cm Right
71682538L	10mm x 38cm Left
71682538R	10mm x 38cm Right
71682540L	10mm x 40cm Left
71682540R	10mm x 40cm Right
71682542L	10mm x 42cm Left
71682542R	10mm x 42cm Right
71682544L	10mm x 44cm Left
71682544R	10mm x 44cm Right
71682632L	12mm x 32cm Left
71682632R	12mm x 32cm Right
71682634L	12mm x 34cm Left
71682634R	12mm x 34cm Right
71682636L	12mm x 36cm Left
71682636R	12mm x 36cm Right
71682638L	12mm x 38cm Left
71682638R	12mm x 38cm Right
71682640L	12mm x 40cm Left
71682640R	12mm x 40cm Right
71682642L	12mm x 42cm Left
71682642R	12mm x 42cm Right
71682644L	12mm x 44cm Left
71682644R	12mm x 44cm Right



IMHS[®] CP 130° Standard Nails

Cat No.	Description
71683010L	10mm x 19.5cm Left
71683010R	10mm x 19.5cm Right
71683012L	12mm x 19.5cm Left
71683012R	12mm x 19.5cm Right
71683014L	14mm x 19.5cm Left
71683014R	14mm x 19.5cm Right
71683016L	16mm x 19.5cm Left
71683016R	16mm x 19.5cm Right



IMHS CP 130° Long Nails

Cat No.	Description
71683032L	10mm x 32cm Left
71683032R	10mm x 32cm Right
71683034L	10mm x 34cm Left
71683034R	10mm x 34cm Right
71683036L	10mm x 36cm Left
71683036R	10mm x 36cm Right
71683038L	10mm x 38cm Left
71683038R	10mm x 38cm Right
71683040L	10mm x 40cm Left
71683040R	10mm x 40cm Right
71683042L	10mm x 42cm Left
71683042R	10mm x 42cm Right
71683044L	10mm x 44cm Left
71683044R	10mm x 44cm Right
71683132L	12mm x 32cm Left
71683132R	12mm x 32cm Right
71683134L	12mm x 34cm Left
71683134R	12mm x 34cm Right
71683136L	12mm x 36cm Left
71683136R	12mm x 36cm Right
71683138L	12mm x 38cm Left
71683138R	12mm x 38cm Right
71683140L	12mm x 40cm Left
71683140R	12mm x 40cm Right
71683142L	12mm x 42cm Left
71683142R	12mm x 42cm Right
71683144L	12mm x 44cm Left
71683144R	12mm x 44cm Right



IMHS[®] CP 135° Standard Nails

Cat No.	Description
71683510L	10mm x 19.5cm Left
71683510R	10mm x 19.5cm Right
71683512L	12mm x 19.5cm Left
71683512R	12mm x 19.5cm Right
71683514L	14mm x 19.5cm Left
71683514R	14mm x 19.5cm Right
71683516L	16mm x 19.5cm Left
71683516R	16mm x 19.5cm Right



IMHS CP 135° Long Nails

Cat No.	Description
71683532L	10mm x 32cm Left
71683532R	10mm x 32cm Right
71683534L	10mm x 34cm Left
71683534R	10mm x 34cm Right
71683536L	10mm x 36cm Left
71683536R	10mm x 36cm Right
71683538L	10mm x 38cm Left
71683538R	10mm x 38cm Right
71683540L	10mm x 40cm Left
71683540R	10mm x 40cm Right
71683542L	10mm x 42cm Left
71683542R	10mm x 42cm Right
71683544L	10mm x 44cm Left
71683544R	10mm x 44cm Right
71683632L	12mm x 32cm Left
71683632R	12mm x 32cm Right
71683634L	12mm x 34cm Left
71683634R	12mm x 34cm Right
71683636L	12mm x 36cm Left
71683636R	12mm x 36cm Right
71683638L	12mm x 38cm Left
71683638R	12mm x 38cm Right
71683640L	12mm x 40cm Left
71683640R	12mm x 40cm Right
71683642L	12mm x 42cm Left
71683642R	12mm x 42cm Right
71683644L	12mm x 44cm Left
71683644R	12mm x 44cm Right



Standard Lag Screws

Cat No.	Description
121100	55mm
121101	60mm
121102	65mm
121103	70mm
121104	75mm
121105	80mm
121106	85mm
121107	90mm
121108	95mm
121109	100mm
121110	105mm
121111	110mm
121112	115mm
121113	120mm
121114	125mm
121176	130mm
121177	135mm
121178	140mm



IMHS[®] CP Subtrochanteric Lag Screws

Cat No.	Description
71684070	12.7mm x 70mm
71684075	12.7mm x 75mm
71684080	12.7mm x 80mm
71684085	12.7mm x 85mm
71684090	12.7mm x 90mm
71684095	12.7mm x 95mm
71684100	12.7mm x 100mm
71684105	12.7mm x 105mm
71684110	12.7mm x 110mm
71684115	12.7mm x 115mm
71684120	12.7mm x 120mm
71684125	12.7mm x 125mm
71684130	12.7mm x 130mm
71684135	12.7mm x 135mm
71684140	12.7mm x 140mm



IMHS CP Captured Locking Screws

Cat No.	Description
71661222	4.5mm X 22mm
71661224	4.5mm X 24mm
71661226	4.5mm X 26mm
71661228	4.5mm X 28mm
71661230	4.5mm X 30mm
71661232	4.5mm X 32mm
71661234	4.5mm X 34mm
71661236	4.5mm X 36mm
71661238	4.5mm X 38mm
71661240	4.5mm X 40mm
71661242	4.5mm X 42mm
71661244	4.5mm X 44mm
71661246	4.5mm X 46mm
71661248	4.5mm X 48mm
71661250	4.5mm X 50mm
71661252	4.5mm X 52mm
71661254	4.5mm X 54mm
71661256	4.5mm X 56mm
71661258	4.5mm X 58mm
71661260	4.5mm X 60mm
71661262	4.5mm X 62mm
71661264	4.5mm X 64mm



Catalog information – Essential implants/instruments

Centering Sleeve

Cat. No. HN1200



Nail Cap

Cat. No. 71683935

Not pictured.

Captured Compression Screw 19mm

Cat. No. 71683945



3.2mm x 455mm Tip Threaded Guide Pin

Cat. No. 71687000



Long 3.5mm x 279mm Graduated Brad Point Drill

Cat. No. 71687002



3.0 x 1000mm Guide Rod

Cat. No. 71631626



Tissue Protector

Cat. No. 71687003



Guide Pin Centering Sleeve

Cat. No. 71687004



3.2mm T-Handle Trocar

Cat. No. 71687005



Proximal Reamer

Cat. No. 71687006



Obturator

Cat. No. 71631122



Lag Screw Length Gauge

Cat. No. 71687024



Cannulated Awl
Cat. No. 71674000



Subtroch Lag Screw Reamer
Cat. No. 71687027



Lag Screw Tap
Cat. No. 71687028



Lag Screw Insertion Wrench
Cat. No. 71687029



Compression Dial
Cat. No. 71687026



Centering Sleeve Inserter
Cat. No. 71687031



Torque Limiting T-Handle
Cat. No. 71665027



9mm Drill Sleeve
Cat. No. 71631152



3.5mm Black Inner Drill Sleeve
Cat. No. 71687033



Screw Depth Gauge
Cat. No. 71631189



4.7mm Medium Hexdriver
Cat. No. 71631066



4.7mm Short Hexdriver
Cat. No. 71631068



Mini Connector
Cat. No. 71631186



Trinkle Mini Connector
Cat. No. 71631187



AO Mini Connector
Cat. No. 71751153



Set Screw Driver

Cat. No. 71687058



T-Handle

Cat. No. 71631172



125° Radiolucent Drill Guide*

Cat. No. 71687017



130° Radiolucent Drill Guide*

Cat. No. 71687018



135° Radiolucent Drill Guide*

Cat. No. 71687019



Impactor

Cat. No. 71665020



Guide Bolt 7/16-20 unf

Cat. No. 71674024



Hammer

Cat. No. 71631150



Guide Bolt Wrench

Cat. No. 71674028



Adjustable Lag Screw Reamer Sleeve

Cat. No. 71687022



Lime 3.2mm Guide Pin Sleeve

Cat. No. 71687023



Multipurpose Wrench

Cat. No. 71687039



Tapered Combo Reamer

Cat. No. 71687061



*This illustration depicts an older design where the side plates have now been removed, as well as the mating holes for the Anteversion Locking Guide.

Accessories

Reducer
Cat. No. 71687007



Ruler
Cat. No. 71631128



Short 3.5mm Brad Point Drill
Cat. No. 71687001



Keyless Universal Chuck with T-Handle
Cat. No. 71170183



SculptOR Flexible Reamer with Circular Connector
Cat. No. 71118200



Modular Reamer Box
Cat. No. 71631218



Reamer Heads

Cat No.	Description
71118231	9.0mm Endcutting
71118232	9.0mm Pilot Nose INT
71118233	9.5mm Pilot Nose
71118234	10.0mm Pilot Nose
71118235	10.5mm Pilot Nose
71118236	11.0mm Pilot Nose
71118237	11.5mm Pilot Nose
71118238	12.0mm Pilot Nose
71118239	12.5mm Pilot Nose
71118240	13.0mm Pilot Nose
71118241	13.5mm Pilot Nose
71118242	14.0mm Pilot Nose
71118243	14.5mm Pilot Nose
71118244	15.0mm Pilot Nose
71118245	15.5mm Pilot Nose
71118246	16.0mm Pilot Nose



Lag Screw Positioning Guide
Cat. No. 71687020



Anti-Rotation Guide
Cat. No. 71687021



3.2mm Lime Inner Drill Sleeve
Cat. No. 71687032



Screw Length Sleeve

Cat. No. 11-0238



Large Nail Extractor (TRIGEN[®])

5/16-24 UNF

Cat. No. 71631278



4.5 Bone Screw Trepine

Cat. No. 71687035



Lag Screw Removal Wrench

Cat. No. 71152151



Removal Bolt (Classic IMHS[®])

7/16-20 UNF

Cat. No. 115174



3.5mm Hex Driver

Cat. No. 112088



4.0mm Set Screw Removal Hex Driver (Classic IMHS)

Cat. No. 71687043



CP Nail Extractor (Shorter tapered nose)

Cat. No. 71687111

CP Lag Screw Tap

Cat. No. 71683900

CP Lag Screw Reamer Sleeve

Cat. No. 71687110

Trays

Cat No.	Description
71687053	Top Instrument Tray
71687054	Bottom Instrument Tray
71687055	Accessories Instrument Tray
71687056	Trials Instrument Tray

Cases

Large Outer Case

Cat. No. 71129400



Small Outer Case

Cat. No. 71129401

Not Pictured

Lid for Outer Cases

Cat. No. 71129402



Replacement parts

Cat No.	Description
71687019	135° Radiolucent Drill Guide
71687040	Lag Removal Wrench Retaining Rod Replacement
71687041	Lag Screw Removal Wrench Knob Replacement
71687042	Lag Insertion Wrench Retaining Rod Replacement

Samples (Set # 71682000)

(Includes one of the following)

Cat No.	Description
71193935	Nail Cap Sample
71192918L	130° x 10mm x 19.5cm Left Sample
71192938L	130° x 10mm x 38cm Left Sample
71191250	Locking Screw Sample
71194095	Subtrochanteric Lag Screw 95mm Sample
631436	Centering Sleeve Sample
71193945	Compressing Screw Sample
631108	Lag Screw Sample
71180931	Sample Case

Trials

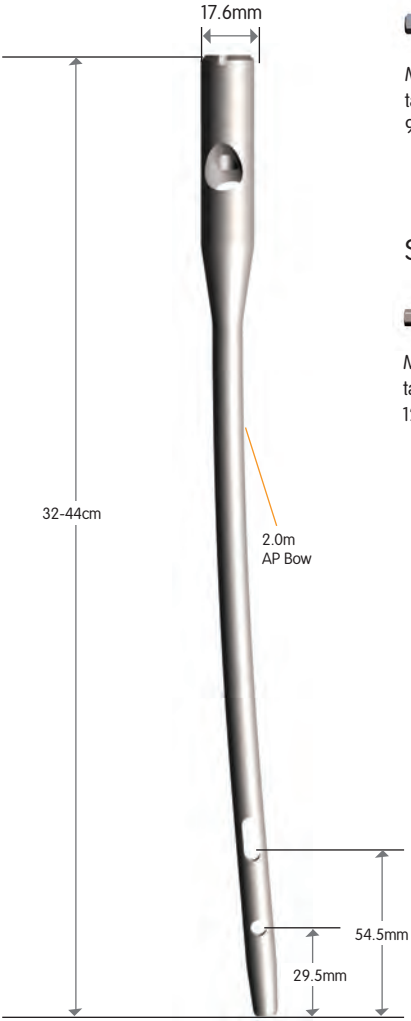
Cat No.	Description
71687008	10mm Short Trial Left
71687009	12mm Short Trial Left
71687010	14mm Short Trial Left
71687011	16mm Short Trial Left
71687012	10mm Short Trial Right
71687013	12mm Short Trial Right
71687014	14mm Short Trial Right
71687015	16mm Short Trial Right
71687038	Trial Arm

Short Trials

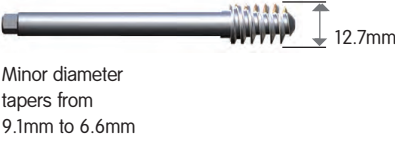
Cat No.	Description
71687008	10mm Left
71687009	12mm Left
71687010	14mm Left
71687011	16mm Left
71687012	10mm Right
71687013	12mm Right
71687014	14mm Right
71687015	16mm Right

IMHS[◇] CP specifications

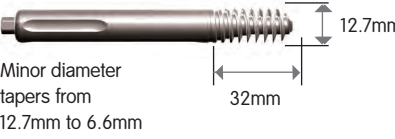
Long



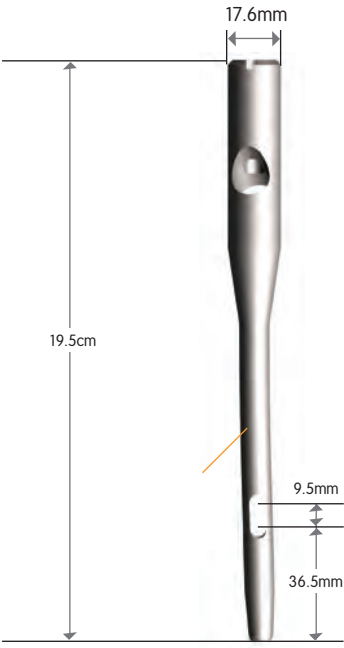
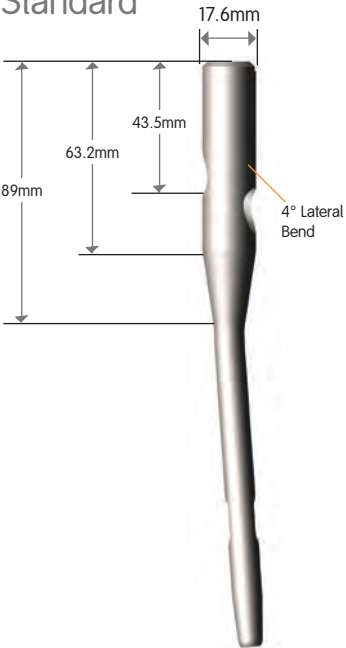
Standard Lag Screw



Subtrochanteric Lag Screw



Standard



Specifications	IMHS° CP
Material	316LVM stainless steel
Lengths (long)*	32, 34, 36, 38, 40, 42 or 44cm
Lengths (short)	19.5cm
Cross section	Round
Neck angle*	125°, 130°, or 135°
Proximal diameter (driving end)	17.6mm
Length of proximal body	63.2mm
Degree of lateral bend	4°
Location of lateral bend	89mm
AP bow (radius)	2.0m
Location of AP bow	89mm
Distal diameter long* (non-driving end)	10, 12, or 14mm
Distal diameter short* (non-driving end)	10, 12, 14 , or 16mm
Anteversión	12°
Shaft diameter	Same diameter as the nail
Smallest thru diameter	4.4mm
Wall thickness	2.5mm (10), 2.3mm (12), 1.7mm (14), and 1.3mm (16)
Alternative Guide Bolts (removal only)	RT Recon Guide Bolt (11-4256), RT Humeral Driver/Extractor (11-5126), RT Recon Extractor Bolt (91-4662)
Proximal locking (driving end)	
Lag Screw major diameter	12.7mm
Lag Screw minor diameter	9.0mm (tapered 6.6-9.1)
Lag Screw shank (Standard Lag Screw)	9.0mm
Lag Screw shank (Subtrochanteric Lag Screw)	12.7mm
Lag Screw thread length (Standard)	21mm
Lag Screw thread length (Subtrochanteric)	32mm
Lag Screw self tap	No
Lag Screw hex size	Special hex
Alternative Hexdrivers (removal only)	Classic IMHS (11-5176), AMBI° (11-0022), Classic CHS (11-0054 and 11-5061)
Lag Screw lengths	70-140mm in 5mm increments
Centering Sleeve OD	12.7mm
Centering Sleeve ID	9.0mm
Centering Sleeve Length	38.1mm
Proximal screw hole diameter	12.8mm
Location of proximal screw hole	43.5mm

Specifications	IMHS CP
Distal locking (non-driving end)	
Distal Screw diameters	4.5mm
Distal Screw major diameter	4.5mm
Distal Screw minor diameter (core)	4.0mm
Distal Screw self tap	Yes
Distal Screw lengths	22-64mm in 2mm increments
Distal Screw hex size	4.7mm
Distal Screw hole diameters	5.3mm
Location of distal static hole (Long only)	29.5mm
Dynamization slot	Yes
Dynamization slot length	9.5mm
Location of dynamization slot	36.5mm (short) 54.5mm (long)
Set Screw	
Hex size	4.7mm
Thread size	5/16-24 UNF
Cannulation ID	4.2mm
Compressing Screw	
Hex size	4.7mm
Self-captured	Yes
Length	19mm
Thread size	10-32 UNF
Nail Cap	
Hex size	4.7mm
Self-captured	Yes
Head height	0mm

* Items in bold have limited availability and may not be included in your set

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