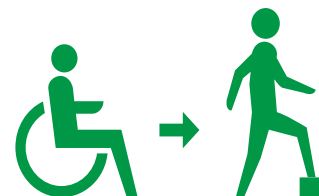


ORTHO CARE

Femoral Neck Dynamic Cross Plating System (FNPS)



CE
1023



FROM **WHEELS** TO **HEELS**



1 Hole Plate
2 Holes Plate



Bolt



Antirotation Screw

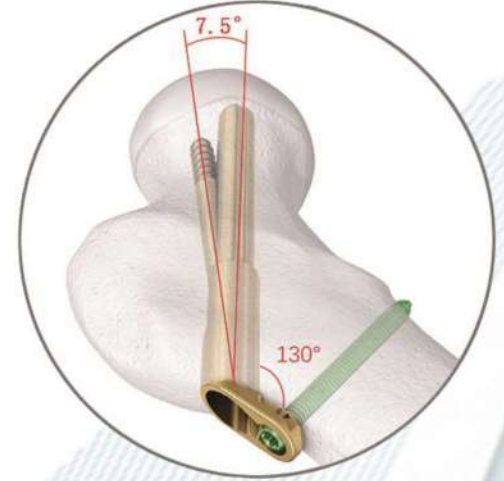


Locking Screw

Femoral Neck
Dynamic Cross Plating System (FNPS)



(FNPS) FEMORAL NECK PLATE SYSTEM		
Products	Ref. No.	Specification
Plate (130° CCD angle)	FNS-01	1 hole
	FNS-021	2 holes
Bolts	CBS-075	75mm
	CBS-080	80mm
	CBS-085	85mm
	CBS-090	90mm
	CBS-095	95mm
	CBS-100	100mm
	CBS-105	105mm
	CBS-110	110mm
	CBS-115	115mm
	CBS-120	120mm
	CBS-125	125mm
	CBS-130	130mm
	Antirotation Screws	CAS-075
CAS-080		80mm
CAS-085		85mm
CAS-090		90mm
CAS-095		95mm
CAS-100		100mm
CAS-105		105mm
CAS-110		110mm
CAS-115		115mm
CAS-120		120mm
CAS-125		125mm
CAS-130		130mm
5.0 mm Locking Screws (Self-tapping)		CLS-030
	CLS-032	32mm
	CLS-034	34mm
	CLS-036	36mm
	CLS-038	38mm
	CLS-040	40mm
	CLS-042	42mm
	CLS-044	44mm
	CLS-046	46mm
	CLS-048	48mm
	CLS-050	50mm
	CLS-052	52mm
	CLS-054	54mm
	CLS-056	56mm
	CLS-058	58mm
	CLS-060	60mm



Specifications, size, shape subject to change without notice.
Picture shape if similar to any other manufacturers is just a co-incident.

FNS-PLUS-01 Protection Sleeve



FNS-PLUS-02 Drill Bit 4.3mm



FNS-PLUS-03 Depth Gauge



FNS-PLUS-04 Screw Driver Shaft T25*2



FNS-PLUS-05 Multifunctional Rod



FNS-PLUS-06 Drill Stop



FNS-PLUS-07 Handle with Quick Coupling



FNS-PLUS-08 Torque Limiting Attachment



FNS-PLUS-09 Adaptor



Femoral Neck
Dynamic Cross Plating System (FNPS)



FNS-PLUS-10 Guide Wires 3.2mm*5



FNS-PLUS-11 Guide Pin*2



FNS-PLUS-12 Direct Measuring Device



FNS-PLUS-13 Complete Opening Drill Bit/Reamer Assembly



FNS-PLUS-14 130° Angled Guide



FNS-PLUS-15 Correction Guide



FNS-PLUS-16 Insert, for Femoral neck System Insertion Handle



Specifications, size, shape subject to change without notice.
Picture shape if similar to any other manufacturers is just a co-incident.



FNS-PLUS-17 Insertion Handle for Femoral Neck System



FNS-PLUS-18 Cylinder



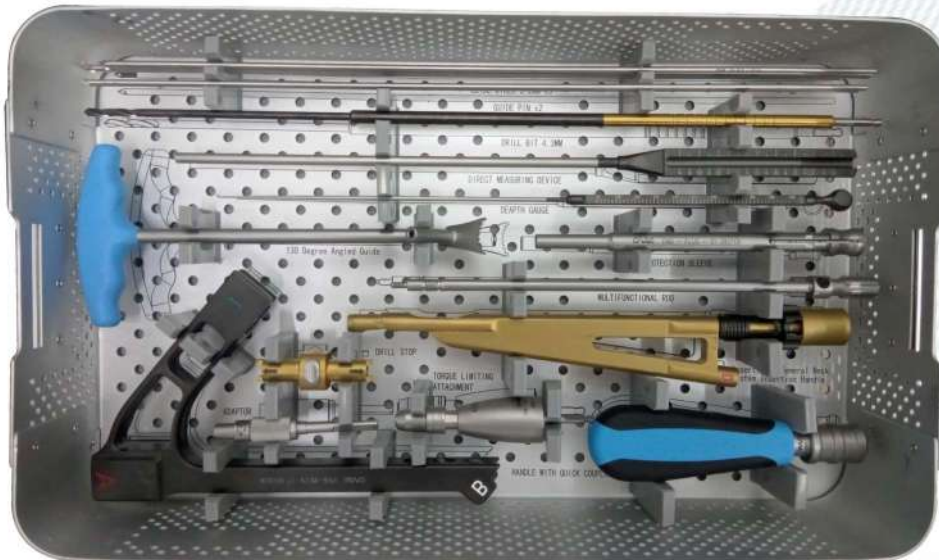
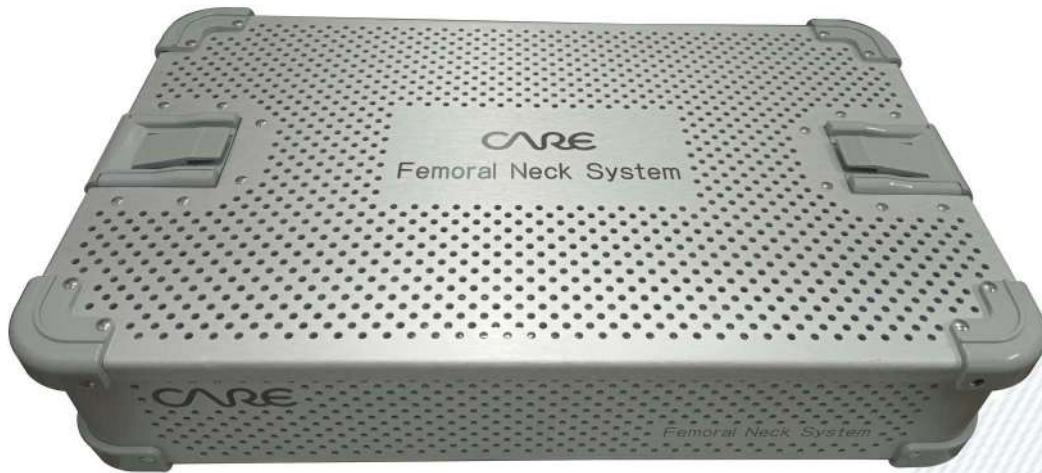
FNS-PLUS-19 Guide Pin Resetter



FNS-PLUS-00 Instrument Box



FNS-PLUS-00 CARE FEMORAL NECK SYSTEM



FNS-PLUS-00 CARE FEMORAL NECK PLATE SYSTEM

Ref. No.	Description	Specification
FNS-PLUS-01	Protection Sleeve	1
FNS-PLUS-02	Drill Bit 4.3mm	1
FNS-PLUS-03	Depth Guage	1
FNS-PLUS-04	Screw Driver Shaft T25*2	2
FNS-PLUS-05	Multifunctional Rod	1
FNS-PLUS-06	Drill Stop	1
FNS-PLUS-07	Handle with Quick Coupling	1
FNS-PLUS-08	Torque Limiting Attachment	1
FNS-PLUS-09	Adaptor	1
FNS-PLUS-10	Guide Wires 3.2mm*5	5
FNS-PLUS-11	Guide Pin*2	2
FNS-PLUS-12	Direct Measuring Device	1
FNS-PLUS-13	Complete Opening Drill Bit/Reamer Assembly	1
FNS-PLUS-14	130° Angled Guide	1
FNS-PLUS-15	Correction Guide	1
FNS-PLUS-16	Insert, for FNS Insertion Handle	1
FNS-PLUS-17	Insertion Handle for Femoral Neck System	1
FNS-PLUS-18	Cylinder	1
FNS-PLUS-19	Guide pin resetter	1
FNS-PLUS-00	Instrument Box	1

ORTHO CARE

Femoral Neck Plate System

Surgical Technique



CE
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FROM WHEELS TO HEELS

INTRODUCTION

Implant Features

Instrument Features

SURGICAL TECHNIQUE

Preparation

Implant Insertion

Locking Screw Insertion

Antirotation Screw Insertion

Intra-Operative Compression

Instrument Disassembly and
Final Check

PRODUCT INFORMATION

Implants

Instruments

The Femoral Neck System (FNS) is a dedicated product for the fixation of femoral neck fractures and offers the following features:

Antirotation-Screw (ARScrew):

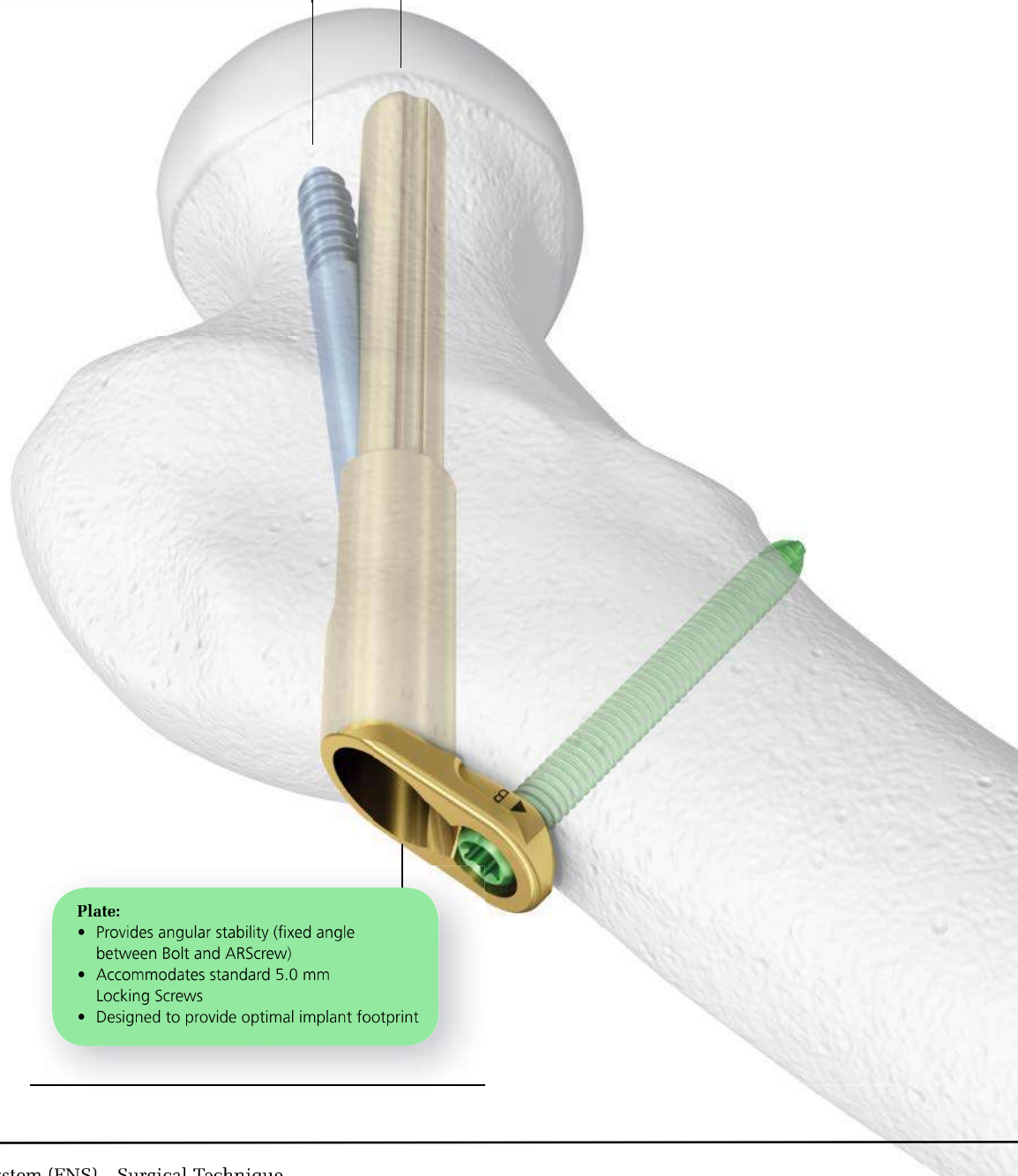
- Integrated Bolt and ARScrew provides rotational stability (7.5° divergence angle)
- Allows implant placement even in a small femoral neck

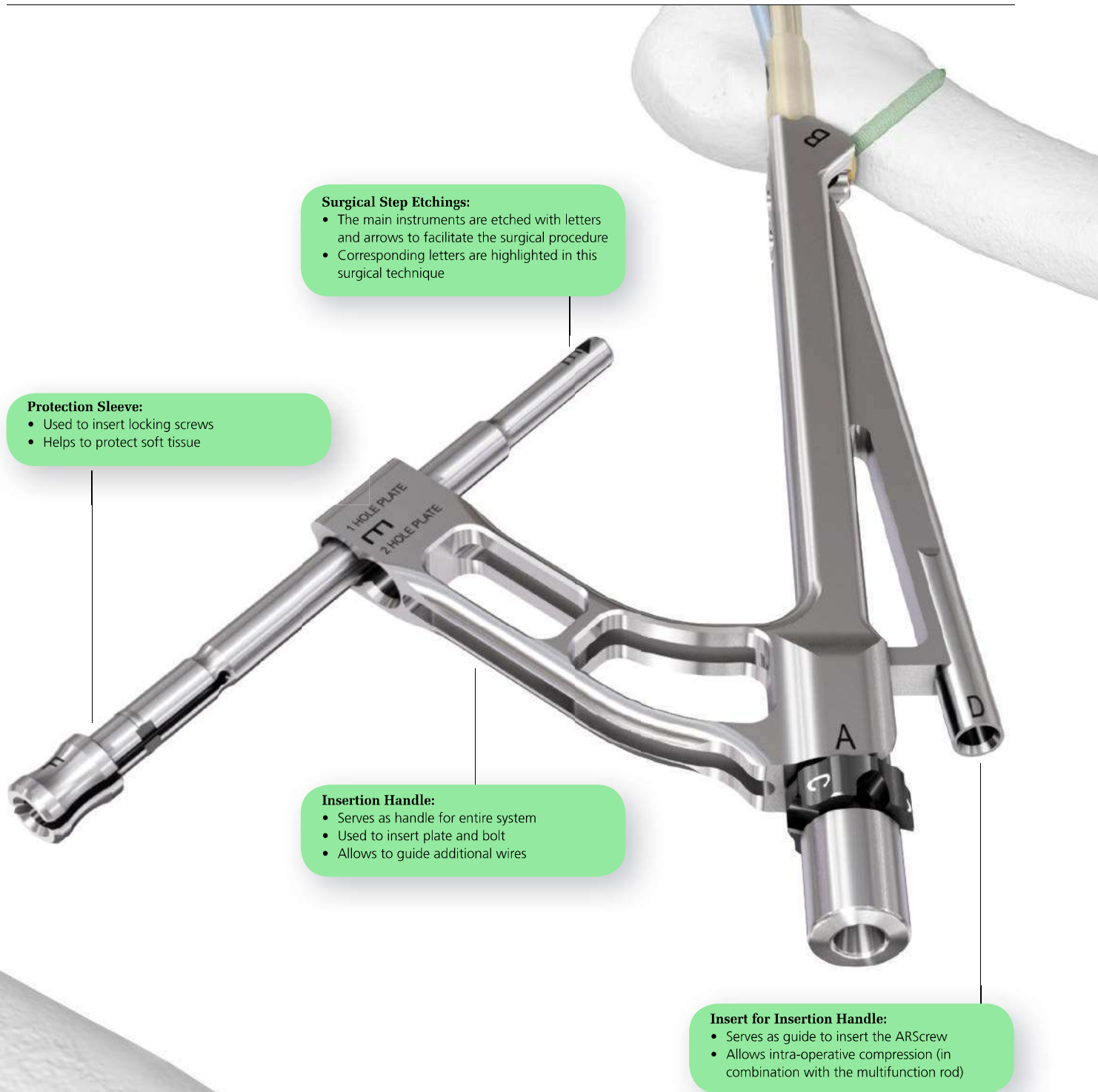
Bolt:

- Cylindrical bolt design intended to maintain reduction during insertion
- Provides angular stability (fixed angle between Bolt and ARScrew)
- Dynamic design of integrated Bolt and ARScrew allows for 20 mm of guided collapse
- Designed to reduce lateral protrusion

Plate:

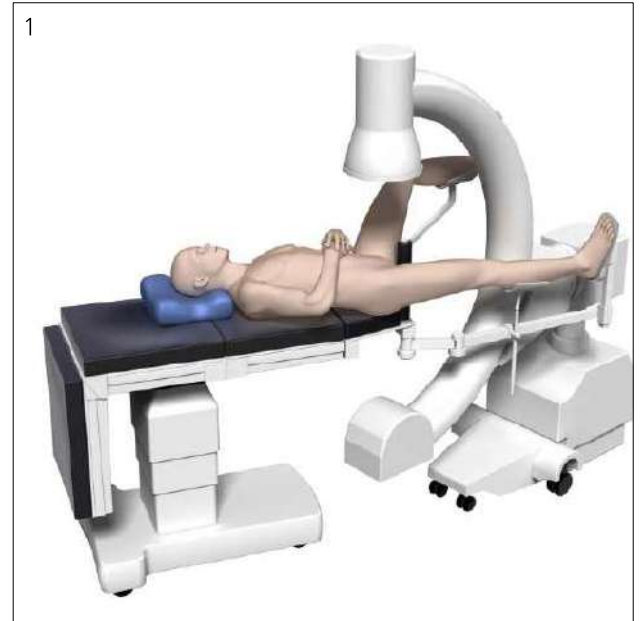
- Provides angular stability (fixed angle between Bolt and ARScrew)
- Accommodates standard 5.0 mm Locking Screws
- Designed to provide optimal implant footprint





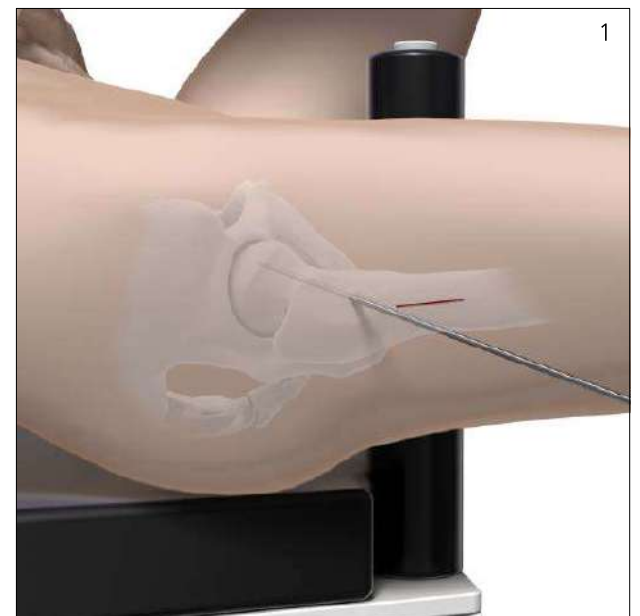
1.0 Position of Patient

- Place the patient in a supine position on the operating table.
- Position the image intensifier to enable visualization of the proximal femur in both the AP and lateral planes.



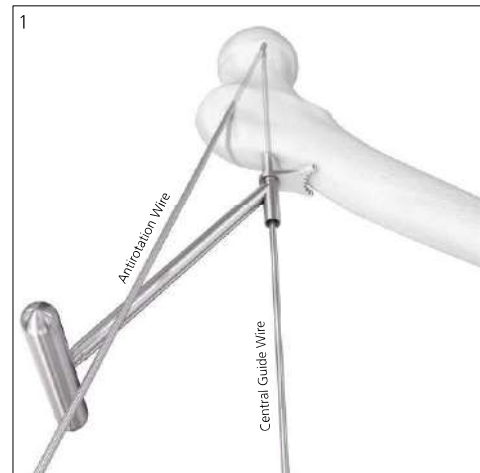
2.0 Approach

- Make a straight lateral skin incision of approximately 6 cm in length, starting 2 to 3 cm proximal to the center of the femoral neck axis.
- Option:-
In obese patients, consider making a second incision during locking screw insertion. The second incision needs to be at the entry point of the protection sleeve, proximal to the main incision



1.0 Insert Guide Wire

- Irrigate and apply suction for removal of debris potentially generated during implant insertion.
- Dia. 3.2 mm Guide Wire used for Insertion.
- Insert a second, unused guide wire as central guide wire, using the 130° angled guide.
- Use image intensification to place the guide wire slightly inferior to the apex of the femoral head, extending into the subchondral bone on the AP view.
- In the lateral view, the guide wire should be central in the femoral neck and head.

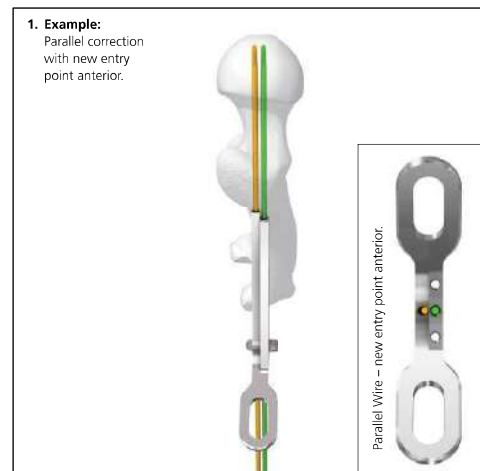


2.0 Adjust Guide Wire

- If required, use the correction guide and an unused guide wire to adjust the position of the central guide wire in reference to the initial central guide wire.

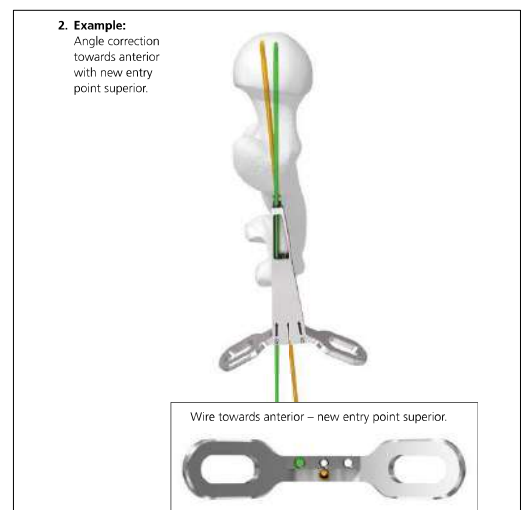
1. Parallel Correction (5 mm)

- Insert the correction guide over the initial wire (Red) and turn the correction guide to define the new entry point (anterior/posterior or inferior/superior).
- Then use a new wire in the parallel hole (Blue) and remove the initial wire.



2. Angle Correction (5°) and Entry Point Correction (5 mm)

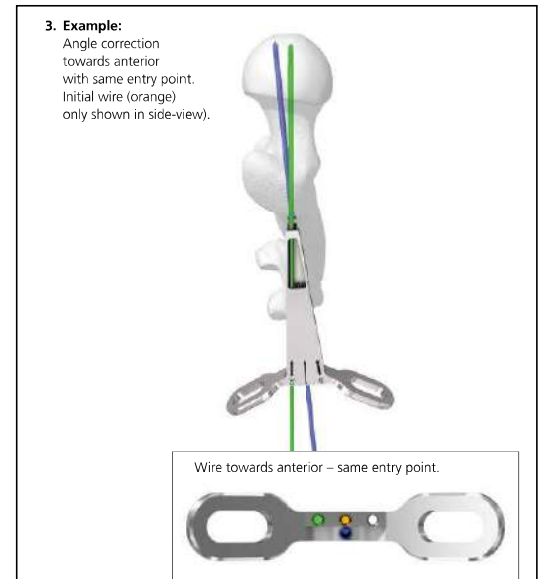
- Insert the correction guide over the initial wire (Red) and turn the correction guide to define the new entry point. Then use a new wire in either the left or the right 5°-hole (Blue).



IMPLANT INSERTION

3. Angle Correction (5°) and Same Entry Point

- Insert the correction guide over the initial wire (Red hole in side-view), turn the correction guide to choose the new temporary entry point, insert a new wire in the parallel hole (Yellow) and remove the initial wire.
- Then use a new wire in either the left or the right 5°-hole (Blue) to correct the angle.

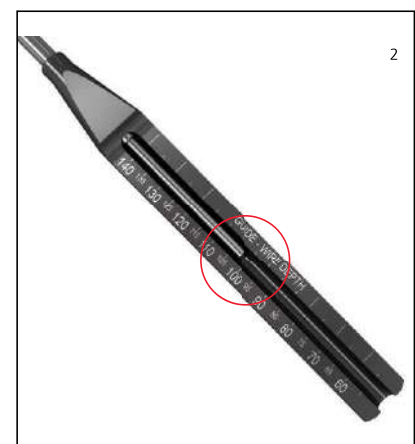
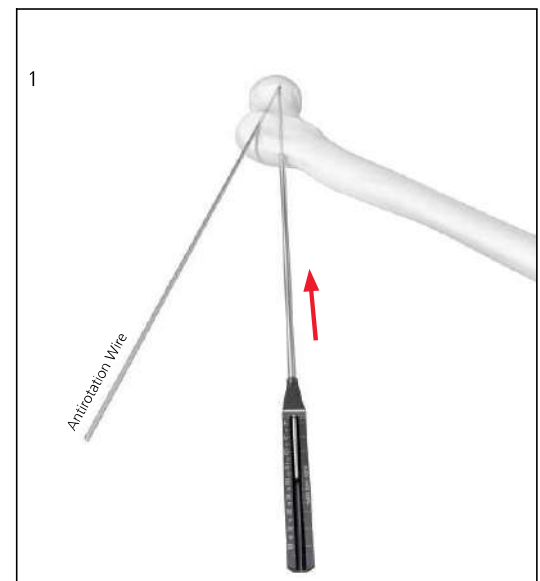


3.0 Determine Length

- Slide the direct measuring device over the central guide wire.
- Read the depth of the guide wire on the direct measuring device.

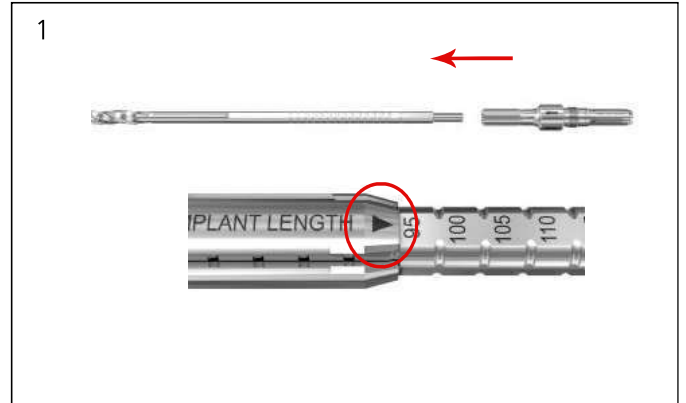
Note:- As the guide wire is inserted into the subchondral bone remove 5 mm from the measured depth and choose the next shorter construct size, resulting in the calculated construct size.

Example: If you read 102 mm on the direct measuring device, the calculated construct size should be 95 mm (102 – 5 = 97 choose 95 mm).



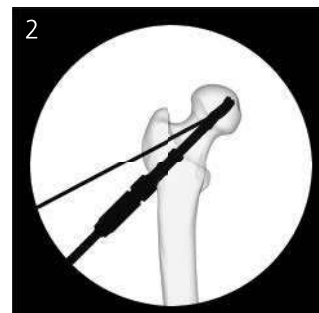
4.0 Ream for Insertion of Plate and Bolt

- Dia.10.2mm Drill bit is used for insertion of Plate and Bolt.
- After Drilling Dia.12.5mm Reamer is used For Insertion of Plate and Bolt.
- Assemble the reamer by sliding the reamer component over the drill bit until it clicks into place at the selected construct size.
- Secure the reamer by tightening the nut.



Note:-

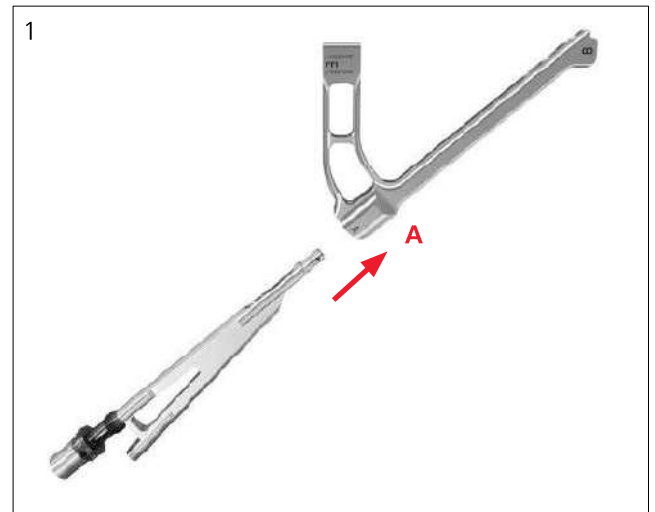
- Avoid excessive reaming force during reaming.
- It is recommended that the femoral head is temporarily fixated with an antirotation wire prior to reaming.
- After Completion of reaming Remove the reamer.



IMPLANT INSERTION

5.0 Assemble Implant and Instruments

- Slide the insert into the insertion handle, without tightening the black screw



- Fully insert the bolt with the selected construct size into the plate.



Note:-

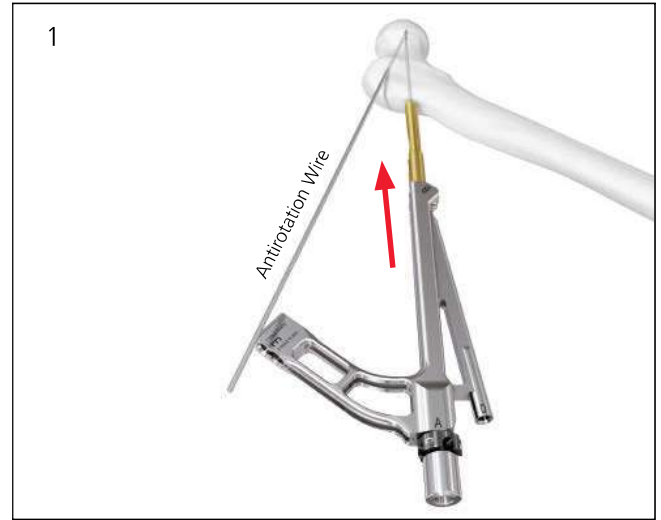
A longer side plate with two locking holes (2-hole plate) is available as option.

- Mount the implant onto the insertion handle

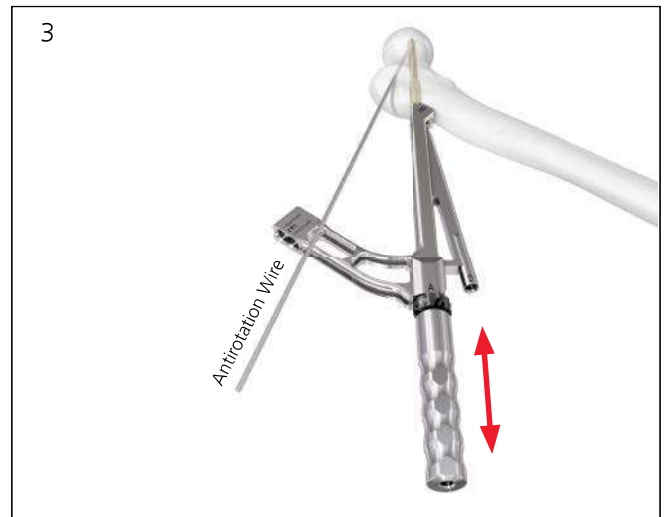


6.0 Insert Implant

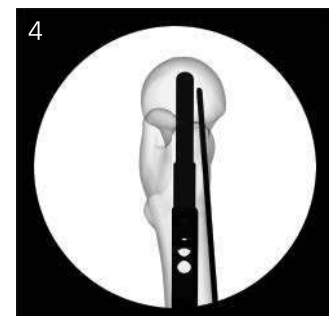
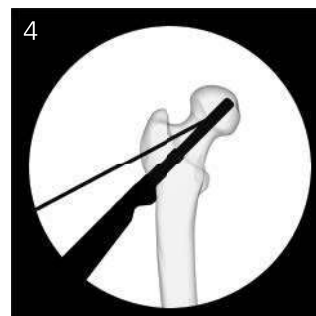
- Insert the implant over the central guide wire into the pre-reamed hole.



- If additional tapping is required, use a standard surgical hammer to slightly tap onto the cylinder.



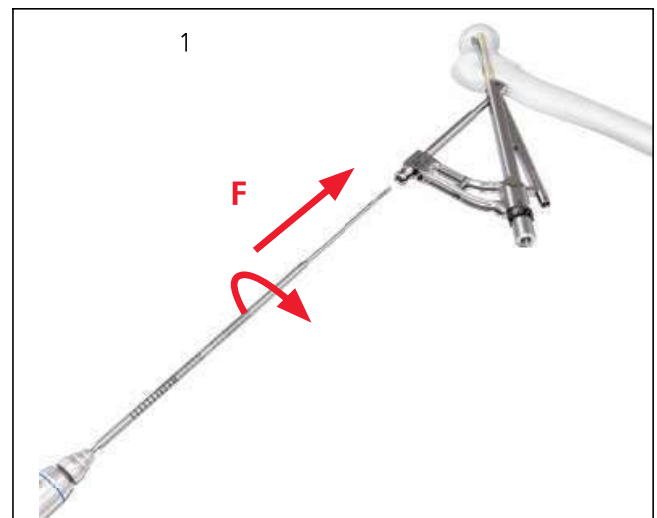
- Use image intensification to confirm the insertion depth and ensure that the plate is inserted down to the bone as well as aligned with the axis of the femoral shaft.



IMPLANT INSERTION

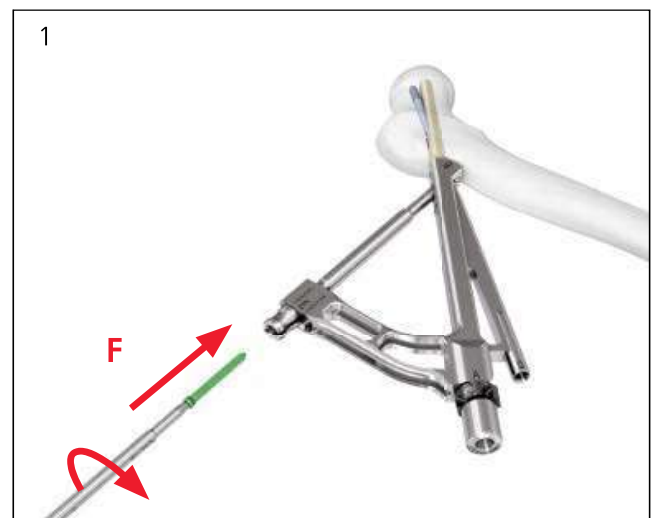
1.0 Drill for Locking Screw

- Drill the hole for the locking screw through the protection sleeve.
- 4.3mm Drill Bit Used For this Drilling.
- Use the depth gauge through the protection sleeve to determine the depth of the drilled hole.



2.0 Insert Locking Screw

- Insert the locking screw with the determined length, as read from the drill bit or depth gauge.
- The locking screw may be inserted using power equipment.
- Final tightening must be done slowly and by hand using the screwdriver shaft



- If using a 2-hole plate, repeat the same procedure is mentioned above.

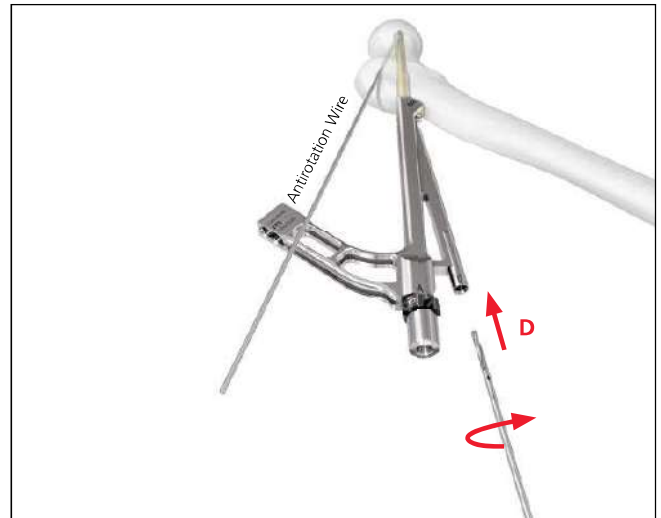


1.0 Drill for Antirotation-Screw

- 4.3mm Drill Bit Used For this Drilling.
- Use the guide of the insert to drill the hole for the antirotation-screw.

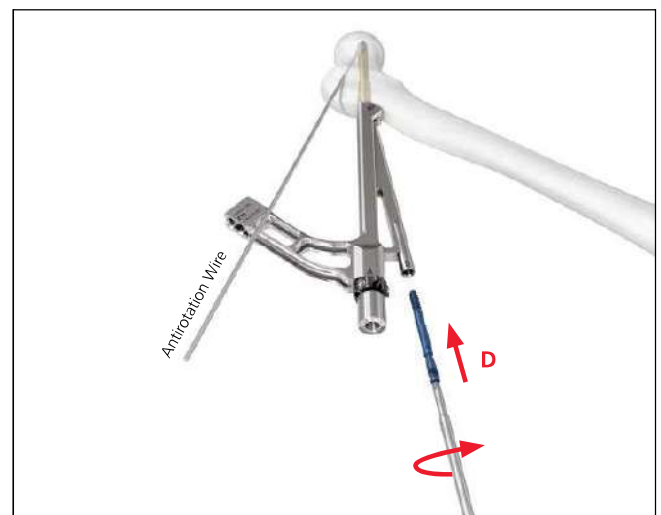
Note:-

- Monitor depth during drilling using the image intensifier.
- Drilling too deep could lead to bone damage.



2.0 Insert Antirotation-Screw

- Via use of Screw driver Insert the Antirotation Screw.



- Insertion as well as final tightening should be done slowly and by hand using the screwdriver shaft, together with the 4 Nm Torque Limiter and the appropriate handle.

- If dense bone is preventing antirotation screw insertion, then carefully use the handle without Torque Limiter for insertion.



IMPLANT INSERTION

- Inter-fragmentary compression may be applied intra-operatively.
- The locking screw as well as the antirotation screw need to be inserted prior to applying compression.

1.0 Attach Multifunction Rod for Compression

- Insert the multifunction rod through the guide of the antirotation-screw.
- Hand-tighten the rod by turning it clockwise until the rod is fully inserted.



2.0 Apply Compression

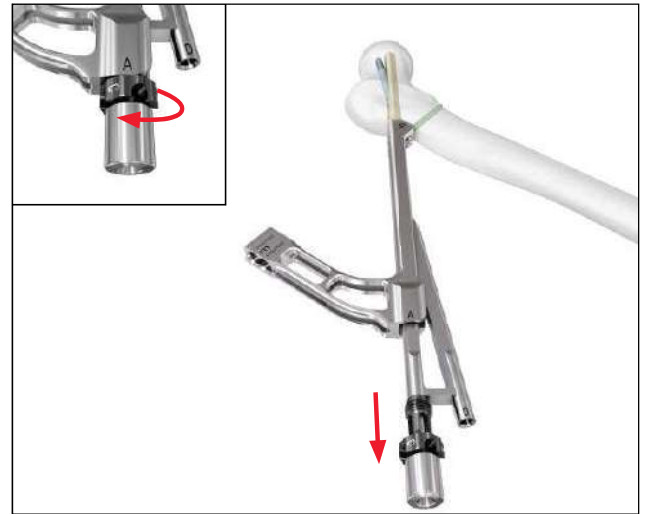
- Apply inter-fragmentary compression by turning the screw of the insert counter-clockwise.

Note:- Monitor the implant position during compression using of the insert counter-clockwise.



1.0 Remove Insertion Instruments

- Unscrew (counter-clockwise) the insert from the insertion handle by completely loosening the screw of the insert.



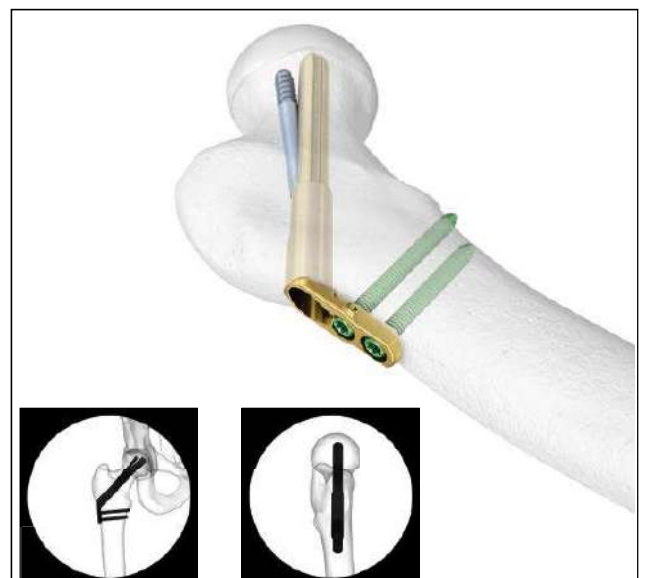
- Remove the insert from the insertion handle

- Remove the insertion handle by sliding it off the plate in a distal direction.



2.0 Final Check

- Before closing the wound, confirm the implant size and positioning under image intensifier control.



1. Plate

- Material:-Titanium
- Length:- 1Hole, 2 Hole
- Degree:- 130°

2. Bolt

- Material:-Titanium
- Diameter 10mm
- Lengths: 75 mm–130 mm

3. Antirotation Screw

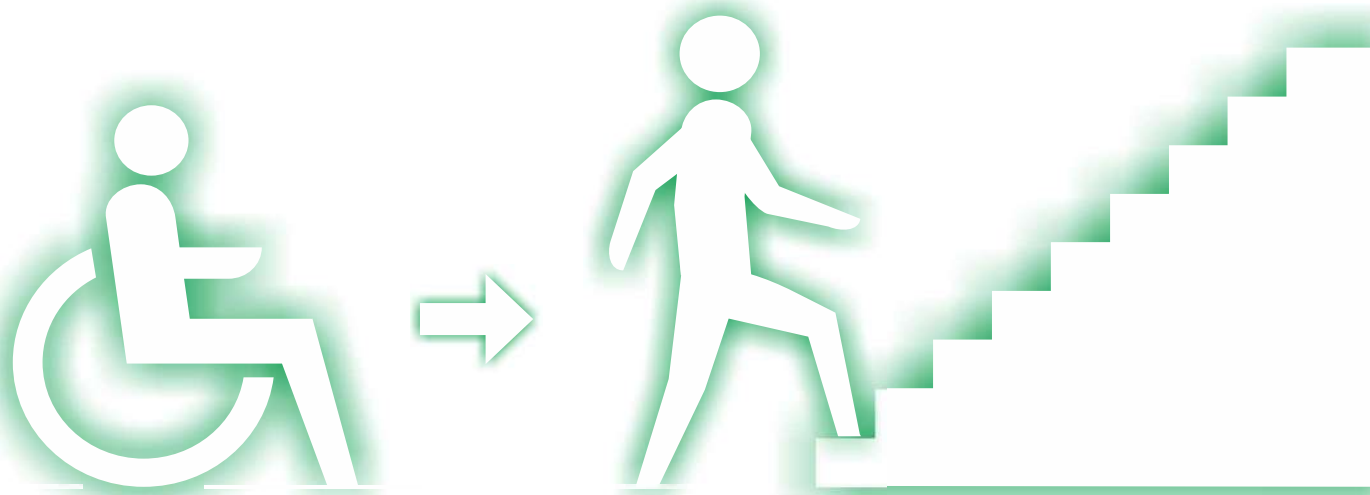
- Material:-Titanium
- Diameter 10mm
- Length: 75mm-130mm

4. Locking Screw

- Material:-Titanium
- Diameter 5.0mm
- Length: 30mm-50mm
50mm-60mm



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FROM **WHEELS** TO **HEELS**

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