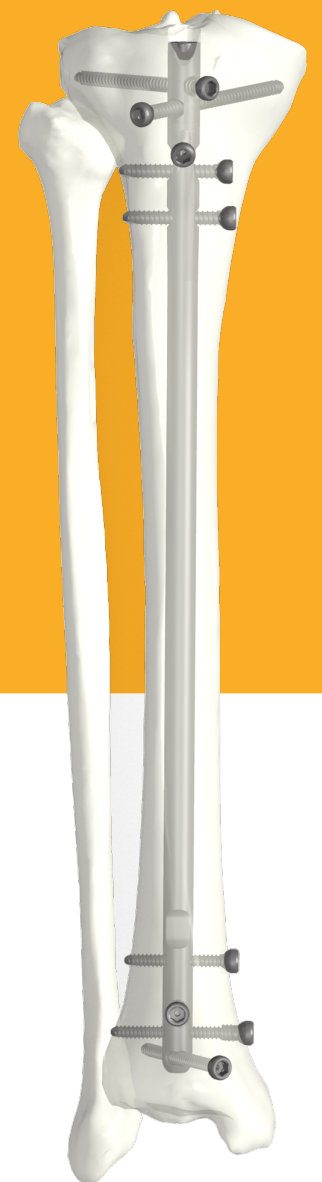


## Ramic Intramedullary Nail Systems -Tibial Nail

Surgical Technique



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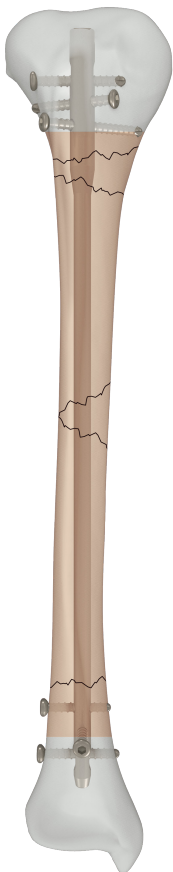
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Indications

- Tibial diaphyseal fractures
- Tibial metaphysis fractures
- Certain intra-articular fractures of tibia plateau and PILON fractures



Contraindications

- A medullary canal obliterated by a previous fracture or tumor
- Bone shaft having excessive bow or deformity
- Active infection
- Lack of bone substance which makes stable seating of the implant impossible
- Allergy to the implant material
- Patient conditions including blood supply limitations, and insufficient quantity or quality of bone

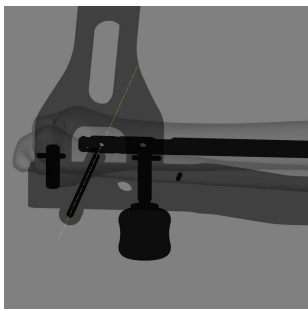
Intra-Operative Compression

Oblong hole in the coronal plane enable intra-operative compression or post-operative compression.

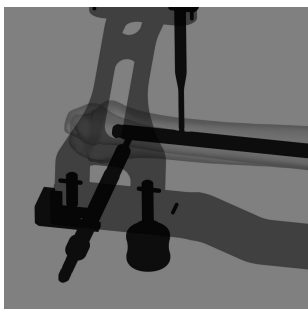


Distal Targeting Device

Adjustable radiolucent targeting arm



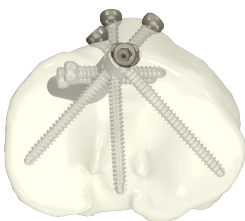
Lever-compression targeting arm



Features & Benefits

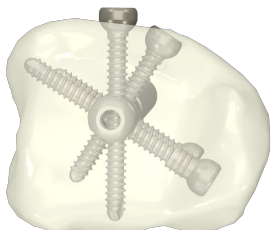
Proximal locking

Multi-plane Locking options, in combination with cancellous bone locking screws, increase the stability of the proximal fragment for intra-articular fractures of tibia.



Distal Locking

Multi-plane locking options increase the stability of distal fragment  
Oblique locking screw creates an axially stable angle of 28° to the coronal plane.



Locking Screw Design

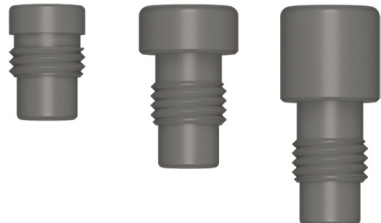
Dual-lead thread and large core diameter increase bending and shear strength

Dual core shaft design (cortex thread and cancellous thread) for optimized purchase in cancellous bone



Tibial End Caps

Different specifications of end cap, 5 and 10mm end caps may extend nail length if nail is over inserted.



Surgical Technique

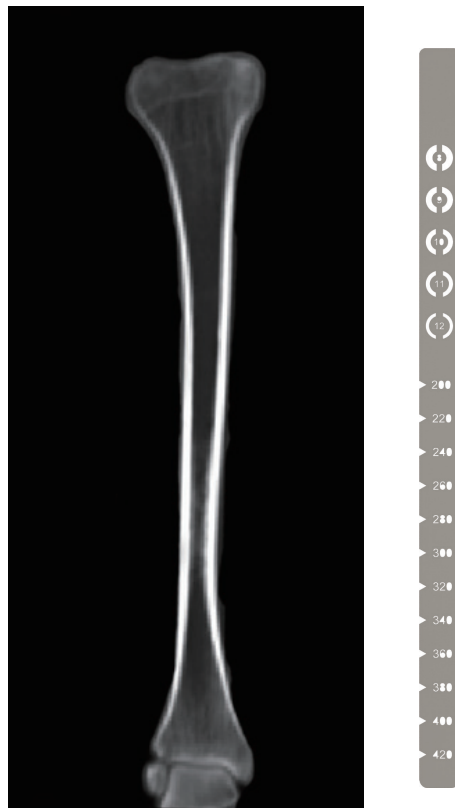
Step 1. Position Patient

Position the patient in supine position on a radiolucent table or orthopedic traction bed, with the knee of the affected leg flexed 90°, and with the unaffected leg abducted.



Step 2. Choose a Tibial Nail

Choose a tibial nail of proper length and diameter by measuring the diameter of the isthmus and the length of the tibia in the unaffected leg. When choosing the length of the tibial nail, dynamization and compression should be taken into consideration, meaning the tibial nail should be slightly shorter than the measured length. The dynamic locking hole allows for 6 mm of travel. When using unreamed technique, the edge of isthmus should be slightly broader than radiographic ruler, that is, the edges of the isthmus are visible on both sides of the marking. If reamed technique is used, the diameter of the soft reamer should be 0.5 mm to 1.5 mm larger than the nail diameter.

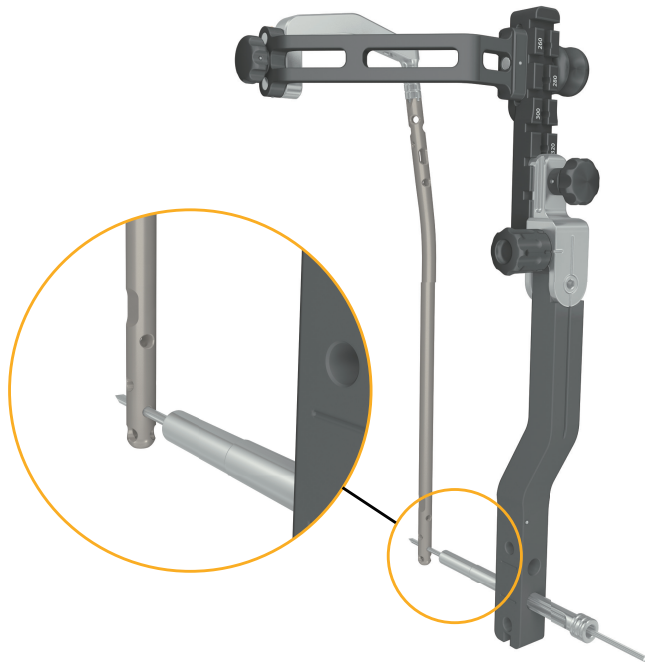


Step 3. Choosing an Aiming Method

Before fracture reduction, an aiming method must be chosen for the surgery. For distal locking of Ramic- tibial nail, two aiming methods are available.

Adjustable Aiming

Assemble the distal Adjustable Aiming Device for the tibial nail, and confirm that the distal end of the tibial nail is properly aimed as shown below:



Lever-Compression Aiming

Assemble Lever-Compression Aiming Arm for the tibial nail, and adjust the adjustable knob such that the Stabilizing Rod (13033016) is closely contacted with distal lever-compression plateau.



Step 4. Reduce Fracture

Use Instrument for Closed Reduction (13030007) ,if necessary, use reduction devices for fractures in upper and lower extremities, as well as external immobilizer for temporary immobilization.  
With fractures of proximal and distal tibial joints, reduction should be first achieved and then maintained.



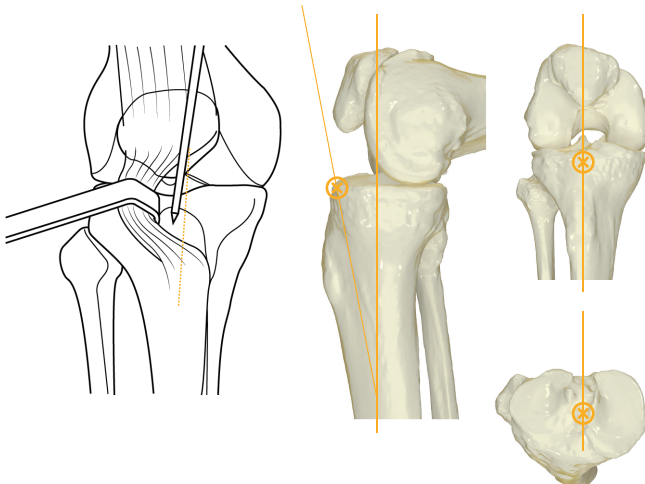
**Note**  
When using device-assisted reduction, the reduction needle should be slightly deviated from the central axis of the tibial medullary canal, lest it hinders nail insertion.

Step 5. Approach and Entry Point

Both trans-patellar and para-patellar approaches are viable. The opening of the medullary canal determines the final position of the tibial nail.

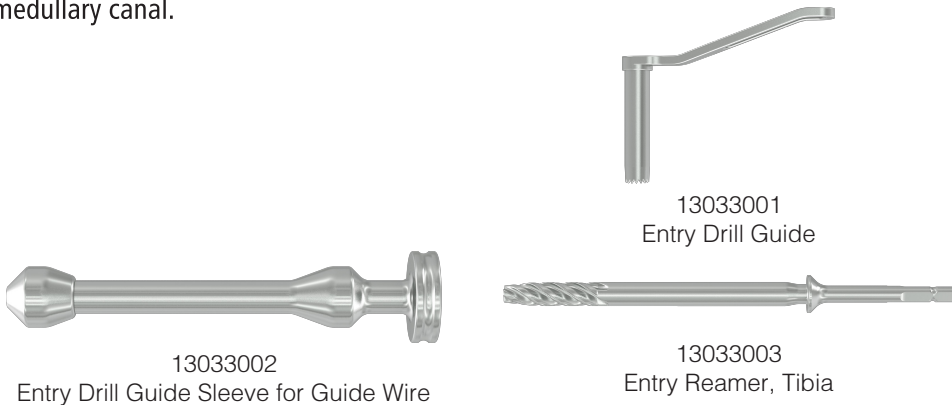
AP view: the opening is located on the central axis of the medullary canal, and the upper edge of the lateral tubercle of the inter-condylar eminence.

ML view: it is located on the anterior edge of the tibial plateau.



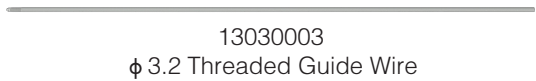
Step 6. Insert Guide Wire

Insert the Entry Drill Guide (13033001) and the Entry Drill Guide Sleeve for Guide Wire (13033002) via the incision. Insert a  $\Phi 3.2$  Threaded Guide Wire(13030003) using a power drive via the Drill Guide Sleeve for Guide Wire . The insertion angle should be  $11^\circ$  anteverted from the central axis of medullary canal on ML view. The Threaded Guide Wire should be not over inserted, preferably at 5 cm to 8 cm when the Threaded Guide Wire reaches the top of the medullary canal.



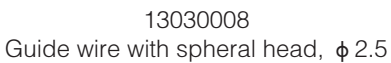
Step 7. Open Proximal Entry Point

Remove the Entry Drill Guide Sleeve for Guide Wire(13033002) and assemble the Entry Reamer, Tibia(13033033) on to the power drive. Insert the reamer along the $\Phi 3.2$  Threaded Guide Wire(13030003) until it is limited. Remove Entry Drill Guide, Entry Reamer and  $\Phi 3.2$  Threaded Guide Wire.



Step 8. Ream Medullary Canal

Confirm fracture reduction on X-ray, and insert a Guide wire with Spheral Head,  $\Phi 2.5$ (13030008) via the opening to distal medullary canal. Use the skin protector to

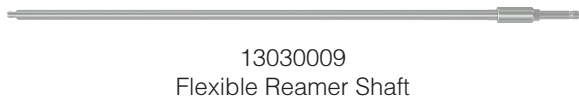
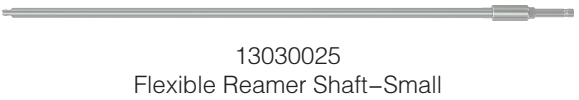


protect proximal soft tissue, start reaming from 7.5 mm.  
The reamed canal should be 0.5 mm to 1.5 mm larger  
than previously confirmed diameter of the tibial nail.

Note

Do not force and avoid retrograde reaming during the  
reaming. If resistance is encountered, retract the reaming  
device and then insert again.

| Flexible Reamer Head |              | Flexible Reamer Shaft           |              |
|----------------------|--------------|---------------------------------|--------------|
| specification        | Product Code | Product Name                    | Product Code |
| Φ7.5                 | 13033004     | Flexible Reamer Shaft<br>–small | 13030025     |
| Φ8                   | 13033005     |                                 |              |
| Φ8.5                 | 13033006     |                                 |              |
| Φ9                   | 13030010     |                                 |              |
| Φ9.5                 | 13030011     | Flexible Reamer Shaft           | 13030009     |
| Φ10                  | 13030012     |                                 |              |
| Φ10.5                | 13030013     |                                 |              |
| Φ11                  | 13030014     |                                 |              |
| Φ11.5                | 13030015     |                                 |              |



Step 9. Assemble Nail Insertion Device

Remove the reaming device, and insert the Locking Bolt  
(13033013) through the Insertion Handle (13033008)  
and secure the chosen tibial nail to the handle with a  
Hexagonal Screwdriver with spheral head, SW7.  
(13030033)



13033013  
Locking Bolt



13033008  
Insertion Handle



13030033  
Hexagonal Screwdriver with  
spheral head, SW7



Step 10. Insert Tibial Nail

Insert the nail by slow twisted motion. To avoid poor fraction reduction,  
monitor the nail passage across the fracture. Check the nail position on  
AF or ML view.

Every 5mm there is a marking on the Insertion Handle( 13033008)  
which corresponds to the length of the Tibial End Caps , 0 mm, 5  
mm ,10mm,and 15 mm. The markings on the Insertion Handle are  
designed to allow adjustment of the depth of nail insertion. If primary  
compression or secondary dynamization is planned, then the distance  
generated by compression should be taken into consideration.



13033008  
Insertion Handle

If nail insertion is difficult, use a Combined Hammer(13030047)to blow  
gently. A smaller tibial nail or further reaming may be adopted. After the  
hammer blows, it is essential to confirm the connection between the  
tibial nail and the Insertion Handle, in case it is loosened or deformed. If  
it is loosened, fasten again.



13030047  
Combined Hammer

Note:

The depth of nail insertion is critical for distal segment. Make sure two  
locking screws are placed in the distal fractured segment.

Selection of locking screw :

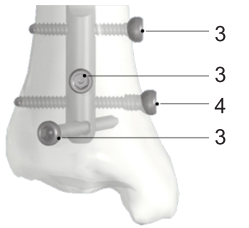


Proximal fractures: It is recommended to use three proximal locking screws. This neutralizes or reduces the deforming force on the proximal segment caused by the quadriceps, as well as the pressure on soft tissue caused by nail insertion devices.

Shaft fractures: It is recommended to lock the distal screws first, follow by compression and proximal locking.

Distal fractures: Lock the distal end first to facilitate reduction.

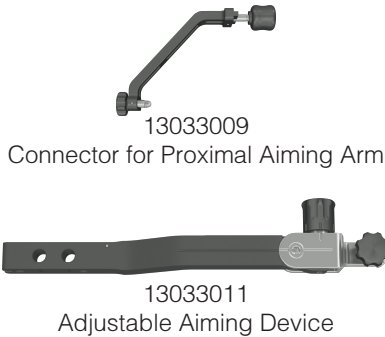
Tibia distal screw choice

| Tibia screw hole Image                                                            | Holes | Screw Description                    | Screw picture                                                                       |
|-----------------------------------------------------------------------------------|-------|--------------------------------------|-------------------------------------------------------------------------------------|
|  | 1     | 5.0mm Tibial Condyles Locking screws |  |
|                                                                                   |       | 5.0mm Tibial Locking Screw A         |  |
|                                                                                   | 2     | 5.0mm Tibial Locking Screw A         |  |
|                                                                                   | 3     | 4.2mm Tibial Locking Screw A         |  |
|                                                                                   | 4     | 4.2mm Tibial Locking Screw B         |  |

Step 11. Distal Locking

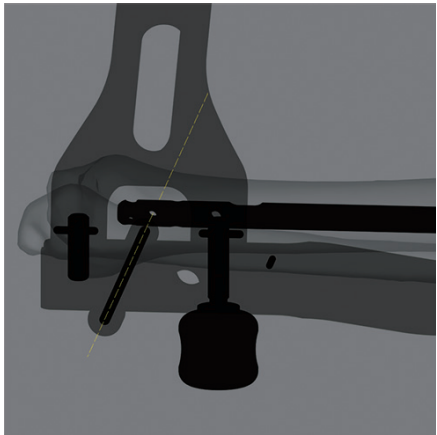
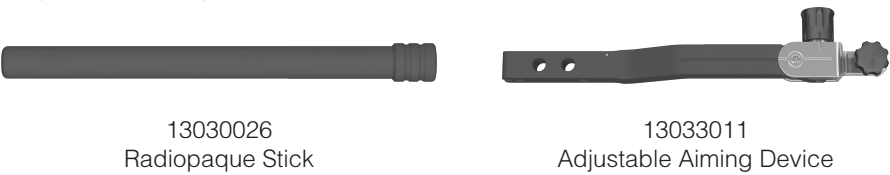
Connect the Insertion Handle(13033008)of the tibial nail to the Connector for Distal Aiming Arm(13033010)and Connector for Proximal Aiming Arm(13033009), and connect the Adjustable Aiming Device(13033011) to the Connector for Distal Aiming Arm (13033010)at the corresponding place and fasten the fixation knob. Trauhui tibial nail provides adjustable aiming and lever-compression aiming for distal aiming.

Calibration must be performed before nail insertion according to the chosen aiming method.



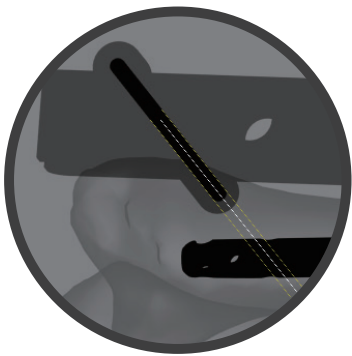
Adjustable Aiming

1. Insert the Radiopaque Stick(13030026) via the distal holes of the Adjustable Aiming Device(13033011).

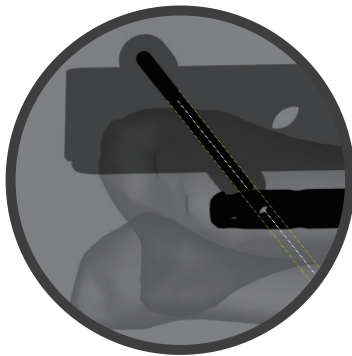


2. Make sure the extended line of the core of the Radiopaque Stick pass through the far distal transverse locking hole under C-arm.

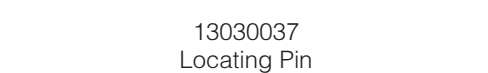
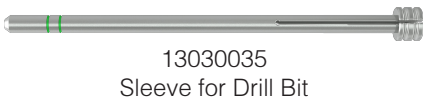
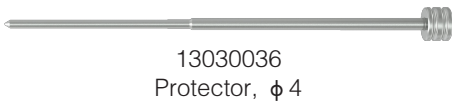
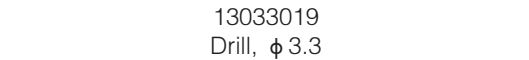
3. Insert the Protector,  $\Phi 4$ (13030036) and Sleeve for Drill Bit(13030035)Sleeve for Lateral Stabilizing Rod (13030029)via the distal aiming hole of the Adjustable Aiming Device.Guide a  $\Phi 3.3$  Locating Pin (13030037) through the Sleeve for Drill Bit and make a stab on the bone surface for positioning purpose.Drill the bone with Drill,  $\Phi 3.3$ (13033019) to pass through the distal hole.If the Drill,  $\Phi 3.3$  (13033019) can not make it through the distal hole of the tibial nail, insert the Radiopaque Stick into the most distal locking hole of the Adjustable Aiming Device. Adjust the C arm device to obtain ML view of the distal locking holes of the tibial nail. Turn the micro-adjustment knob to make the distal aiming arm up and down. Make sure the extended line pass through the distal hole of tibial nail.



Incorrect Position

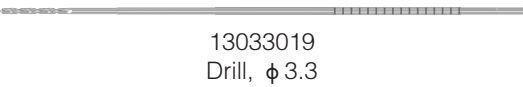


Correct Position





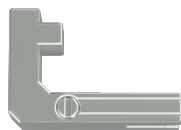
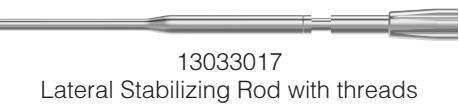
4. After the calibration,penetrate both cortices of the tibia with the Drill,  $\Phi$ 3.3(13033019)



5. Confirming passage of Drill, 3.3 (13033019 )through corresponding locking hole to the far cortex with the C arm, remove the Drill,  $\Phi$ 3.3 and Sleeve for Drill Bit(13030035) connect a Reamer for Lateral Cortex(13033021) and power drive.Expand the hole in the lateral cortex with the Reamer for Lateral Cortex.



6. Remove the Reamer for Lateral Cortex(13033021)Choose a Lateral Stabilizing Rod with threads (13033017).Insert it through Sleeve for Lateral Stabilizing Rod (13030029).Until its thread is completely tightened with the distal hole thread. Insert Stabilizing Spacer(13033018). This signifies the completion of positioning.



7. Insert Sleeve for Locking Screw(13030034) and Protector,  $\Phi$ 4(13030036), Sleeve for Drill Bit(13030035) via the second locking hole on the adjustable aiming arm, Assemble Drill,  $\Phi$ 3.3(13033019) with power drive to drill a hole, then measure the depth and insert  $\Phi$ 4.2 Tibial Locking screws-A.

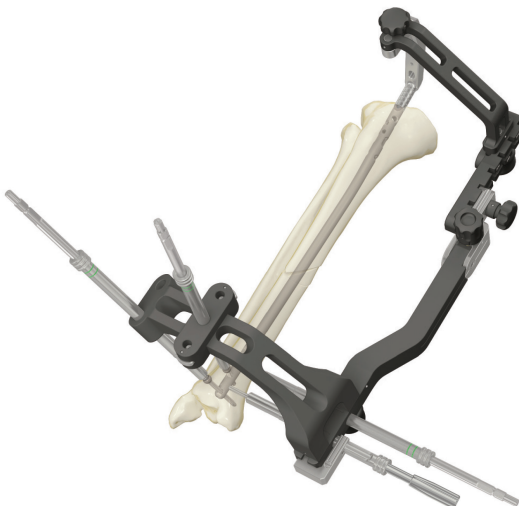


8. Assemble the Transverse Targeting Arm(13033012).



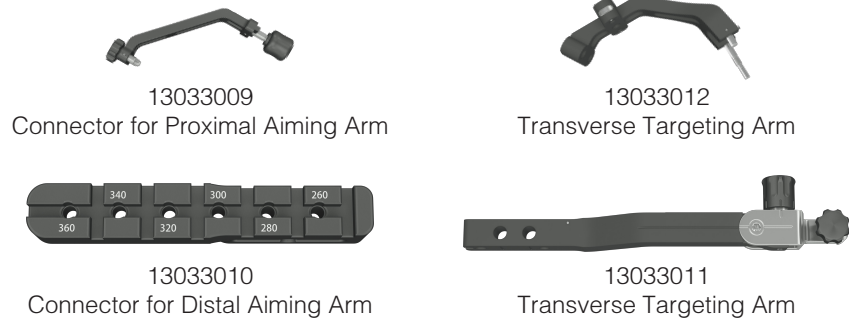
9. Follow above procedure, insert 4.2 Tibital Locking Screw-A via the central locking hole on the sagittal plain of the Transverse Targeting Arm(13033012) and the most distal locking hole on the Transverse Targeting Arm. Connect the Drill, $\Phi$ 3.3 to the power drive to drill a hole, and then measure the depth and insert proper length  $\Phi$ 4.2 Tibial Locking screws-A.

Remove the Lateral Stabilizing Rod with threads(13033017) insert a proper length  $\Phi$ 4.2 Tibial Locking screws-B.

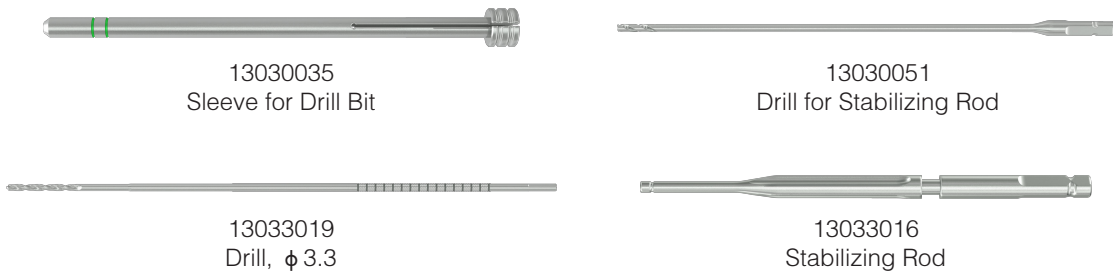


Lever-compression Targeting

1. Assemble the Connector for Distal Aiming Arm(13033010) and Connector for Proximal Aiming Arm(13033009) onto the Insertion Handle(13033008). Assemble the Adjustable Aiming Device(13033011) at the marking on the gearing arm corresponding to the length of the tibial nail. Tighten the fixation knob. Connect the Transverse Targeting Arm (13033012)to the distal upper edge of the Adjustable Aiming Device.



2. Insert Sleeve for Drill Bit(13030035) via the distal lever-compression hole of the Transverse Targeting Arm(13033012), and make a small incision on corresponding skin site. Connect the Drill,  $\Phi 3.3$ (13033019) to the power drive and drill a hole until the drill reaches the tibial nail plateau. Remove Sleeve for Drill Bit and the Drill,  $\Phi 3.3$ , and insert Drill for Stabilizing Rod(13030051) to ream the hole. Thereafter, insert the Stabilizing Rod(13033016) completely until the distal end of the Stabilizing Rod touches the tibial nail plateau and the groove and until it is tightly fastened to the snap joint of the Transverse Targeting Arm.



3. The method of positioning of distal locking hole is same with that of Adjustable Aiming Way, Please refer to above procedure 4, 5, 6 .

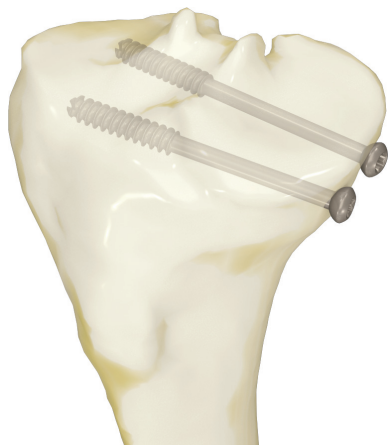


4. Insert four distal locking screws using the procedures described for adjustable aiming method.



Step 12. Proximal Locking

Dynamization option is available above the dynamic hole and allows for dynamic compression on the fractured segment to a certain extent. In type C plateau fracture as in AO classification, make a small incision to expose the condyle, and insert cannulated lag screw after reduction. But note not to interfere with the insertion of tibial nail.



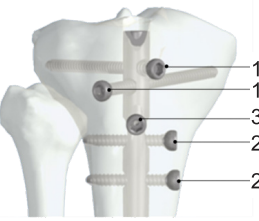
Disassemble the Transverse Targeting Arm(13033012), Adjustable Aiming Device(13033011) and Connector for Proximal Aiming Arm(13033009), and connect the Proximal Aiming Device, double transverse holes(13033014) to the Insertion Handle. Check the connection between the tibial nail and the Insertion Handle, and between the Insertion Handle and the Connector for Proximal Aiming Arm for any loosening.





Assemble a Stopper for Φ4 Drill(13030039) to the Drill, Φ4 and set aproper length. Insert a Φ5.0 locking screw.

Tibial proximal screw choice

| Tibia screw hole Image                                                            | Holes | Screw Description                    | Screw picture                                                                       |
|-----------------------------------------------------------------------------------|-------|--------------------------------------|-------------------------------------------------------------------------------------|
|  | 1     | 5.0mm Tibial Condyles Locking screws |  |
|                                                                                   |       | 5.0mm Tibial Locking Screw A         |  |
|                                                                                   | 2     | 5.0mm Tibial Locking Screw A         |  |
|                                                                                   | 3     | 4.2mm Tibial Locking Screw A         |  |
|                                                                                   | 4     | 4.2mm Tibial Locking Screw B         |  |

Intra-Operative Compression

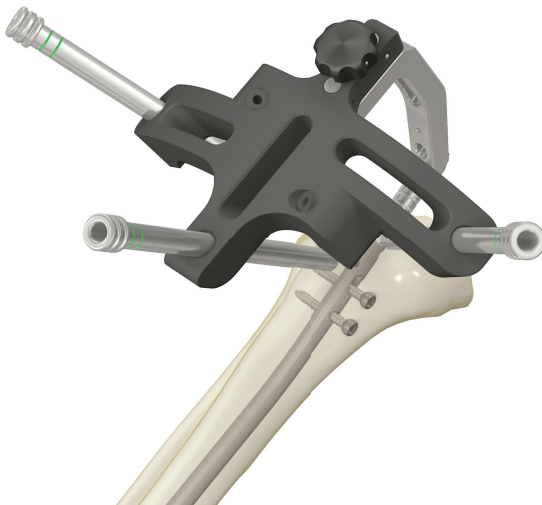
If compression is to be used, compression screw technique may be used in addition to the back-striking compression following distal locking. Insert the Proximal Compression Shaft(13033024) from the handle top such that the Φ5.0mm proximal locking screw slides, causes depression of the proximal fractured segment and generates compression.



To insert the second 5.0 locking screw in static hole at the lower edge of coronal plain in proximal end.



Remove the Proximal Aiming Device, double transverse holes(13033014) and Connector for Proximal Aiming Arm(13033009). Connect the Proximal Aiming Device, cross locking holes(13033015) to the Insertion Handle.



Proximal locking includes:

Two upper oblique locking options( use either 5.0mm Tibial Condyles Locking screws or 5.0 Tibial Locking Screw A )and one AP locking options( use 4.2 Tibial Locking Screw A ) .

These two oblique locking screws along with the end cap create an angled stable construct. For unstable fractures, or upper third tibial fracture and metaphyseal fracture, insert an oblique screw below the plateau.

Insert the Protector,4(13030036) via the Proximal Aiming Device, cross locking holes(13033015) and locking aiming hole.



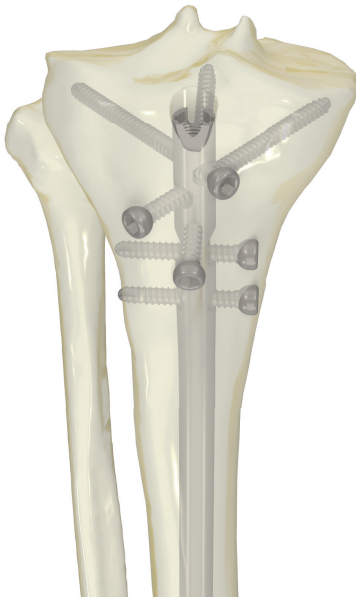
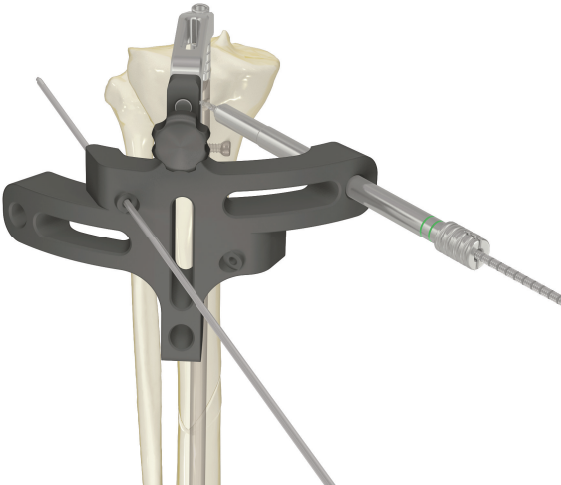
13030036  
Protector, Φ 4



13033015  
Proximal Aiming Device, cross locking holes

The guide wire hole of the proximal aiming arm provides hint about the length of cross locking screws, so as to avoid injury to popliteal artery, common peroneal nerve, and tibial nerve. Do not penetrate the far cortex during insertion.

Finish all the proximal locking by drilling, measuring, insertion steps.

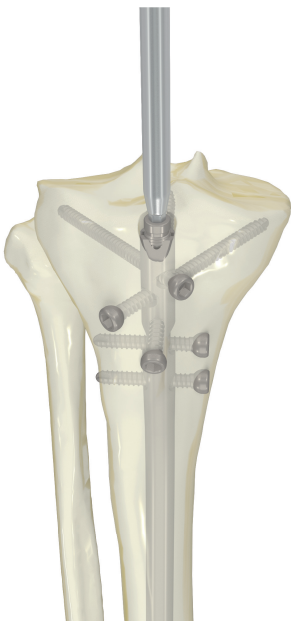


Step 13. Insert Tibial End Caps

Tibial end caps are available in fore lengths, 0 mm, 5 mm ,10mm,and 10 mm. Select a end cap of proper length, remove the Proximal Aiming Device, cross locking holes(13033015) and Insertion Handle, and insert the tibial end cap.



13033015  
Proximal Aiming Device, cross locking holes



Step 14. Remove Implants

Remove Distal Locking Screws

Make an incision on the scar tissue, and remove distal locking screws with a Stardrive Wrench, Quick Coupling,  $\Phi$ 5.6(13030041).



13030041  
Stardrive Wrench, Quick Coupling,  $\Phi$  5.6

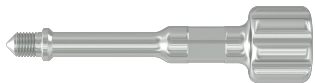


Remove Tibial End Caps

Remove the end cap with a Stardrive Wrench, Quick Coupling,  $\Phi$ 5.6(13030041) and connect the Extractor for Intramedullary Nail (13033023) to the tibial nail.



13030041  
Stardrive Wrench, Quick Coupling,  $\Phi$  5.6



13033023  
Extractor for Intramedullary Nail



Remove Proximal Locking Screws

Make an incision on the scar tissue, and remove proximal locking screws with a Stardrive Wrench, Quick Coupling,  $\Phi$ 5.6(13030041)..



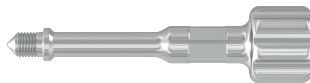
13030041  
Stardrive Wrench, Quick Coupling,  $\Phi$  5.6

Remove Tibial Nail

Connect the Hammer Guide(13030049) to Extractor for Intramedullary Nail(13033023), blow gently on Hammer Guide with a Combined Hammer(13030047) and extract the tibial nail.



13030049  
Hammer Guide



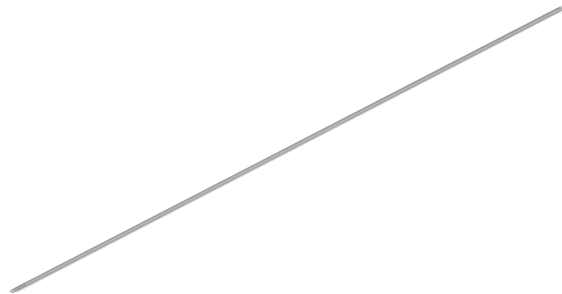
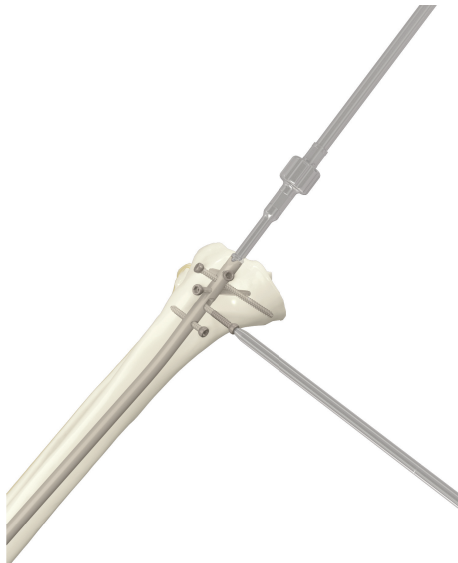
13033023  
Extractor for Intramedullary Nail



13030047  
Combined Hammer

Step 15. Cleanse Instruments

After the surgery, cleanse all cannulated instruments with the  $\Phi$ 3.2 Threaded Guide Wire.



Implants

Tibial Nail

| specification |     | Product Code |
|---------------|-----|--------------|
| D             | L   |              |
| Φ8.0          | 260 | 55108026     |
| Φ8.0          | 280 | 55108028     |
| Φ8.0          | 300 | 55108030     |
| Φ8.0          | 320 | 55108032     |
| Φ8.0          | 340 | 55108034     |
| Φ8.0          | 360 | 55108036     |
| Φ9.0          | 260 | 55109026     |
| Φ9.0          | 280 | 55109028     |
| Φ9.0          | 300 | 55109030     |
| Φ9.0          | 320 | 55109032     |
| Φ9.0          | 340 | 55109034     |
| Φ9.0          | 360 | 55109036     |
| Φ10           | 260 | 55101026     |
| Φ10           | 280 | 55101028     |
| Φ10           | 300 | 55101030     |
| Φ10           | 320 | 55101032     |
| Φ10           | 340 | 55101034     |
| Φ10           | 360 | 55101036     |
| Φ11           | 260 | 55101126     |
| Φ11           | 280 | 55101128     |
| Φ11           | 300 | 55101130     |
| Φ11           | 320 | 55101132     |
| Φ11           | 340 | 55101134     |
| Φ11           | 360 | 55101136     |

Tibial Locking screws-B

| specification |    | Product Code |
|---------------|----|--------------|
| D             | L  |              |
| Φ4.2          | 18 | 55134218     |
| Φ4.2          | 20 | 55134220     |
| Φ4.2          | 22 | 55134222     |
| Φ4.2          | 24 | 55134224     |
| Φ4.2          | 26 | 55134226     |
| Φ4.2          | 28 | 55134228     |
| Φ4.2          | 30 | 55134230     |
| Φ4.2          | 32 | 55134232     |
| Φ4.2          | 34 | 55134234     |
| Φ4.2          | 36 | 55134236     |
| Φ4.2          | 38 | 55134238     |
| Φ4.2          | 40 | 55134240     |
| Φ4.2          | 42 | 55134242     |
| Φ4.2          | 44 | 55134244     |
| Φ4.2          | 46 | 55134246     |
| Φ4.2          | 48 | 55134248     |
| Φ4.2          | 50 | 55134250     |
| Φ4.2          | 52 | 55134252     |
| Φ4.2          | 54 | 55134254     |
| Φ4.2          | 56 | 55134256     |
| Φ4.2          | 58 | 55134258     |
| Φ4.2          | 60 | 55134260     |
| Φ4.2          | 62 | 55134262     |
| Φ4.2          | 64 | 55134264     |
| Φ4.2          | 66 | 55134266     |
| Φ4.2          | 68 | 55134268     |
| Φ4.2          | 70 | 55134270     |
| Φ4.2          | 72 | 55134272     |
| Φ4.2          | 74 | 55134274     |
| Φ4.2          | 76 | 55134276     |
| Φ4.2          | 78 | 55134278     |
| Φ4.2          | 80 | 55134280     |

Tibial Locking screws-A

| specification |    | Product Code |
|---------------|----|--------------|
| D             | L  |              |
| Φ4.2          | 18 | 55124218     |
| Φ4.2          | 20 | 55124220     |
| Φ4.2          | 22 | 55124222     |
| Φ4.2          | 24 | 55124224     |
| Φ4.2          | 26 | 55124226     |
| Φ4.2          | 28 | 55124228     |
| Φ4.2          | 30 | 55124230     |
| Φ4.2          | 32 | 55124232     |
| Φ4.2          | 34 | 55124234     |
| Φ4.2          | 36 | 55124236     |
| Φ4.2          | 38 | 55124238     |
| Φ4.2          | 40 | 55124240     |
| Φ4.2          | 42 | 55124242     |
| Φ4.2          | 44 | 55124244     |
| Φ4.2          | 46 | 55124246     |
| Φ4.2          | 48 | 55124248     |
| Φ4.2          | 50 | 55124250     |
| Φ4.2          | 52 | 55124252     |
| Φ4.2          | 54 | 55124254     |
| Φ4.2          | 56 | 55124256     |
| Φ4.2          | 58 | 55124258     |
| Φ4.2          | 60 | 55124260     |
| Φ4.2          | 62 | 55124262     |
| Φ4.2          | 64 | 55124264     |
| Φ4.2          | 66 | 55124266     |
| Φ4.2          | 68 | 55124268     |
| Φ4.2          | 70 | 55124270     |
| Φ4.2          | 72 | 55124272     |
| Φ4.2          | 74 | 55124274     |
| Φ4.2          | 76 | 55124276     |
| Φ4.2          | 78 | 55124278     |
| Φ4.2          | 80 | 55124280     |
| Φ5.0          | 24 | 55125024     |
| Φ5.0          | 26 | 55125026     |
| Φ5.0          | 28 | 55125028     |
| Φ5.0          | 30 | 55125030     |
| Φ5.0          | 32 | 55125032     |
| Φ5.0          | 34 | 55125034     |
| Φ5.0          | 36 | 55125036     |
| Φ5.0          | 38 | 55125038     |
| Φ5.0          | 40 | 55125040     |
| Φ5.0          | 42 | 55125042     |
| Φ5.0          | 44 | 55125044     |
| Φ5.0          | 46 | 55125046     |
| Φ5.0          | 48 | 55125048     |
| Φ5.0          | 50 | 55125050     |
| Φ5.0          | 52 | 55125052     |
| Φ5.0          | 54 | 55125054     |
| Φ5.0          | 56 | 55125056     |
| Φ5.0          | 58 | 55125058     |
| Φ5.0          | 60 | 55125060     |
| Φ5.0          | 62 | 55125062     |

| specification |    | Product Code |
|---------------|----|--------------|
| D             | L  |              |
| Φ5.0          | 64 | 55125064     |
| Φ5.0          | 66 | 55125066     |
| Φ5.0          | 68 | 55125068     |
| Φ5.0          | 70 | 55125070     |
| Φ5.0          | 72 | 55125072     |
| Φ5.0          | 74 | 55125074     |
| Φ5.0          | 76 | 55125076     |
| Φ5.0          | 78 | 55125078     |
| Φ5.0          | 80 | 55125080     |
| Φ5.0          | 85 | 55125085     |
| Φ5.0          | 90 | 55125090     |
| Φ5.0          | 95 | 55125095     |

Tibial Condyles Locking screws

| specification |    | Product Code |
|---------------|----|--------------|
| D             | L  |              |
| Φ5.0          | 31 | 55115031     |
| Φ5.0          | 35 | 55115035     |
| Φ5.0          | 39 | 55115039     |
| Φ5.0          | 43 | 55115043     |
| Φ5.0          | 47 | 55115047     |
| Φ5.0          | 51 | 55115051     |
| Φ5.0          | 55 | 55115055     |
| Φ5.0          | 59 | 55115059     |
| Φ5.0          | 63 | 55115063     |
| Φ5.0          | 67 | 55115067     |
| Φ5.0          | 71 | 55115071     |
| Φ5.0          | 75 | 55115075     |
| Φ5.0          | 79 | 55115079     |
| Φ5.0          | 83 | 55115083     |
| Φ5.0          | 87 | 55115087     |
| Φ5.0          | 91 | 55115091     |
| Φ5.0          | 95 | 55115095     |

Tibial End Caps

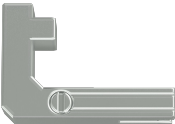
| specification | Product Code |
|---------------|--------------|
| L             |              |
| 0             | 55140000     |
| 5             | 55140005     |
| 10            | 55140010     |
| 15            | 55140015     |

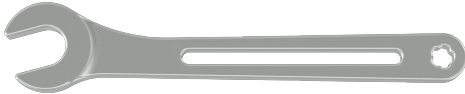
Instruments

| Product Code | Parts Description                       | QTY | Picture                                                                               |
|--------------|-----------------------------------------|-----|---------------------------------------------------------------------------------------|
| 13033001     | Entry Drill Guide                       | 1   |    |
| 13033002     | Entry Drill Guide Sleeve for Guide Wire | 1   |     |
| 13033003     | Entry Reamer, Tibia                     | 1   |     |
| 13030003     | φ 3.2 Threaded Guide Wire               | 4   |     |
| 13030006     | Universal Chuck with T-handle           | 1   |    |
| 13030007     | Instrument for Closed Reduction         | 1   |   |
| 13030008     | Guide wire with spheral head, φ 2.5     | 1   |   |
| 13030009     | Flexible Reamer Shaft                   | 1   |   |
| 13030025     | Flexible Reamer Shaft--Small            | 1   |   |
| 13033007     | Impactor                                | 1   |   |
| 13033008     | Insertion Handle                        | 1   |  |
| 13033009     | Connector for Proximal Aiming Arm       | 1   |  |

| Product Code | Parts Description                               | QTY | 图片<br>Picture                                                                         |
|--------------|-------------------------------------------------|-----|---------------------------------------------------------------------------------------|
| 13033004     | Flexible Reamer Head– φ 7.5                     | 1   |    |
| 13033005     | Flexible Reamer Head– φ 8                       | 1   |                                                                                       |
| 13033006     | Flexible Reamer Head– φ 8.5                     | 1   |                                                                                       |
| 13030010     | Flexible Reamer Head– φ 9                       | 1   |                                                                                       |
| 13030011     | Flexible Reamer Head– φ 9.5                     | 1   |                                                                                       |
| 13030012     | Flexible Reamer Head– φ 10                      | 1   |                                                                                       |
| 13030013     | Flexible Reamer Head– φ 10.5                    | 1   |                                                                                       |
| 13030014     | Flexible Reamer Head– φ 11                      | 1   |                                                                                       |
| 13030015     | Flexible Reamer Head– φ 11.5                    | 1   |                                                                                       |
| 13033010     | Connector for Distal Aiming Arm                 | 1   |                                                                                       |
| 13033011     | Adjustable Aiming Device                        | 1   |  |
| 13033012     | Transverse Targeting Arm                        | 1   |  |
| 13033013     | Locking Bolt                                    | 2   |  |
| 13033014     | Proximal Aiming Device, double transverse holes | 1   |  |
| 13033015     | Proximal Aiming Device, cross locking holes     | 1   |  |



| Product Code | Parts Description                            | QTY | Picture                                                                              |
|--------------|----------------------------------------------|-----|--------------------------------------------------------------------------------------|
| 13033016     | Stabilizing Rod                              | 1   |    |
| 13033017     | Lateral Stabilizing Rod with threads         | 1   |    |
| 13030026     | Radiopaque Stick                             | 1   |    |
| 13030029     | Sleeve for Lateral Stabilizing Rod           | 1   |    |
| 13033018     | Stabilizing Spacer                           | 1   |   |
| 13030032     | Locking Bolt for Targeting Arm               | 2   |  |
| 13030033     | Hexagonal Screwdriver with spheral head, SW7 | 1   |  |
| 13030034     | Sleeve for Locking Screw                     | 2   |  |
| 13030035     | Sleeve for Drill Bit                         | 2   |  |
| 13030036     | Protector, $\phi$ 4                          | 1   |  |
| 13030037     | Locating Pin                                 | 2   |  |
| 13030038     | Drill, $\phi$ 4                              | 3   |  |

| Product Code | Parts Description                            | QTY | Picture                                                                               |
|--------------|----------------------------------------------|-----|---------------------------------------------------------------------------------------|
| 13030039     | Stopper for $\phi$ 4 Drill                   | 2   |    |
| 13033019     | Drill, $\phi$ 3.3                            | 3   |    |
| 13033020     | Pin, $\phi$ 3.3                              | 2   |    |
| 13033021     | Reamer for Lateral Cortex                    | 1   |    |
| 13033022     | Depth Gauge for Locking Bolt                 | 1   |    |
| 13030041     | Stardrive Wrench, Quick Coupling, $\phi$ 5.6 | 3   |  |
| 13030047     | Combined Hammer                              | 1   |  |
| 13030048     | Combined Wrench                              | 1   |  |
| 13030051     | Drill for Stabilizing Rod                    | 1   |  |
| 13033023     | Extractor for Intramedullary Nail            | 1   |  |
| 13030049     | Hammer Guide                                 | 1   |  |
| 13033024     | Proximal Compression Shaft                   | 1   |  |