

Balanced Knee® Revision System

Surgical Technique



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The following technique is a general guide for instrumentation of the Balanced Knee® Revision System.

It is assumed that the surgeon is already familiar with the fundamentals of Total Knee Arthroplasty (TKA). Each patient represents an individual case that may require modification of the technique according to the surgeon's judgment and experience.

Please see the Balanced Knee® Revision System Instructions for Use for intended uses/indications, device description, contraindications, precautions, warnings and potential risks associated with the Balanced Knee® Revision System.

U.S. Federal Law restricts this device to sale by or on the order of a physician.

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Introduction

The Balanced Knee® Revision System expands the options available to surgeons for patients with severe deformities and those requiring revision procedures. The intramedullary instrumentation has been designed to prepare both the femur and tibia for precise fit of the implanted components without sacrificing simplicity and ease of use. The Balanced Knee® Revision System combines precision and reproducibility for superior results.

Preoperative Planning

Preoperative planning is essential in cases where it is anticipated that a stem extension and/or augment will be required. Templates with 10% magnification are provided by Ortho Development® Corporation to assist the surgeon in determining the appropriate diameter and length of stem to be used. Additionally, distal and posterior femoral defects, as well as proximal tibial defects, can be assessed. If any defects are determined, the appropriate type and size of augment which best addresses the defect should be selected.

Surgical Exposure

Based on surgeon preference, a medial parapatellar, quadriceps snip or tibial tubercle osteotomy can be performed as needed. Prior incisions should be considered to avoid creating avascular skin segments. Where parallel incisions are present, the more lateral is generally preferred, since the blood supply to the extensor surface is medially dominant. Where a transverse patellectomy scar is present, the incision should intersect it at 90° (Figure 1).

To perform a capsular incision, the fascial incision extends from the proximal margin of the rectus femoris to the distal margin of the tibial tubercle following the medial border of the patella, maintaining a 1/8" cuff for reapproximation of the vastus medialis aponeurosis at closure. Where mobilization of the extensor mechanism and patella is problematic, the skin and capsular incisions are extended proximally (Figure 2).

Occasionally, an early lateral retinacular release is indicated to assist patellar eversion. Where eversion difficulties persist, a quadriceps snip, a proximal inverted quadriceps incision, or a tibial-tubercle osteotomy may be indicated. Fibrous adhesions are released to re-establish the suprapatellar pouch and medial and lateral gutters (Figure 3).

(continued)

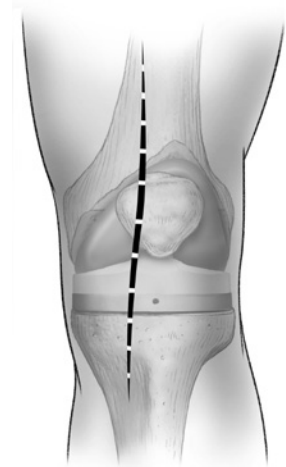


Figure 1

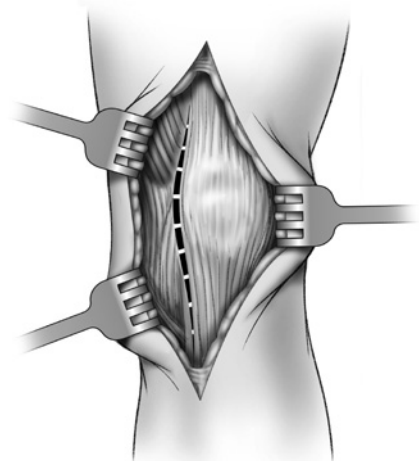


Figure 2

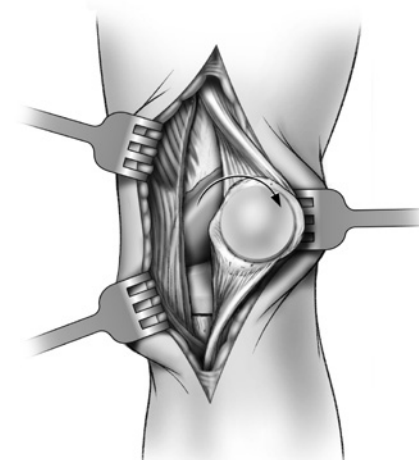


Figure 3

With the knee exposed, the current implants can be removed. Care should be taken to disrupt the prosthetic/cement interfaces prior to using any aggressive extraction techniques preserving as much bone as possible. Remove the femoral component first, as this will enhance access to the tibia (Figure 4). After removing all the components, any remaining cement or osteophytes should also be removed. Once clear of components, cement, and osteophytes, preparation for revision components can proceed.

RECOMMENDED SURGICAL PRIORITY

1. Tibial medullary canal preparation
2. Proximal tibial resection
3. Femoral medullary canal preparation
4. Distal femoral resection
5. Establishment of femoral rotation
6. Anteroposterior, notch and chamfer resection
7. Establishment of tibial rotation
8. Tibial deficit augmentation
9. Final tibial preparation
10. Patellar preparation
11. Implantation of the components

The surgeon should establish two anatomic conditions to facilitate revision arthroplasty: the level of the joint line and the disparity in the flexion and extension gaps.

Joint Line Evaluation

An average knee in full extension can estimate the true joint line by locating several landmarks (Figure 5):

- (A) The joint line lies 12-16mm distal to the femoral PCL attachment (behind patella).
- (B) The joint line lies approximately 3cm distal to the medial epicondyle and 2.5cm distal to the lateral epicondyle.
- (C) The joint line is distal to the inferior pole of the patella (approximately one finger width).
- (D) The joint line is level with the old meniscal scar, if available.

Additional preoperative joint line estimate tools include:

1. Evaluation of original preoperative x-ray of the total knee arthroplasty (TKA).
2. Evaluation of x-ray of contralateral knee if not implanted to determine correct size of femoral implant and subsequently the proper joint line in flexion.



Figure 4

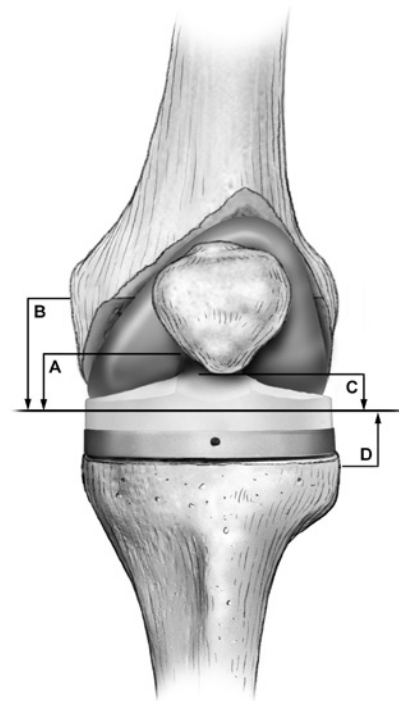


Figure 5

Joint Space Assessment

Evaluate the joint space with spacer blocks to determine the flexion/extension gap relationship and the balance of both the flexion and extension gaps (Figure 6), and to indicate if prosthetic augmentation is needed to ensure postoperative balance. Spacing can be adjusted to accommodate the following situations:

FLEXION GAP IS GREATER THAN EXTENSION GAP:

To reduce the flexion gap without affecting the extension gap, use a larger femoral component. If a lateral x-ray of the preoperative knee is available, templating the appropriate size will be very helpful in choosing the appropriate femoral implant size.

When the joint line is elevated, the preferred correction is posterior and distal femoral augmentation with a larger femoral component. Using additional distal femoral resection and a thicker tibial insert to tighten the flexion gap is not recommended since considerable bone stock has usually been sacrificed in the primary procedure. It is important to avoid additional resection of the distal femur. Although there are exceptions where the joint line is not elevated and minimal distal resection will increase the extension gap toward equivalency with the flexion gap.

EXTENSION GAP IS GREATER THAN FLEXION GAP:

To decrease the extension gap without affecting flexion gap, augment the distal femur with bone graft or prosthetic augmentation.

Note: This will lower the joint line and reduce the incidence of postoperative patella infera. The joint line is generally found to be elevated in revision cases.

	EXTENSION OK	EXTENSION TIGHT	EXTENSION LOOSE
FLEXION OK	No changes	Resect distal femur Posterior release Remove posterior osteophytes	Augment distal femur
FLEXION TIGHT	Smaller femoral component Increase posterior tibial slope Consider PS TKA	Thinner tibial component Resect additional tibia	Smaller femoral component with distal augments Consider PS TKA
FLEXION LOOSE	Larger femoral component with posterior augments	Larger femoral component with posterior augments Resect distal femur	Thicker tibial component

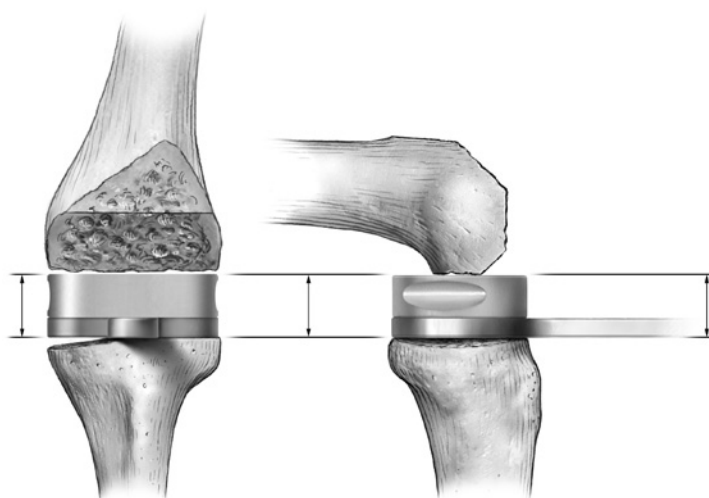


Figure 6

Preparing the Tibia (Press-fit Stem)

Note: If using a cemented stem refer to Appendix 1 on page 21.

It is recommended in a revision situation to begin the bony cuts on the tibial side. Care should be taken to ensure that all excess bone cement is removed from the proximal tibia and medullary canal after removal of the failed tibial component.

If preoperative planning determines that a Stem greater than 50mm in length will be used, it is recommended that the tibial resection be referenced off of the intramedullary instrumentation. For Cemented Stems 50mm in length or shorter, the surgeon may opt to use extramedullary instrumentation. For a description of this alternate technique, refer to Appendix 1 on page 21 (Figure 57).

To enter the medullary canal, center the 8mm I/M Drill mediolaterally and approximately 15mm from the anterior cortex. The drill should be located over the midpoint of the tibial canal, which does not necessarily coincide with the midpoint of the proximal tibia (Figure 7).

Next, assemble the Reamer Handle onto a small diameter Reamer. The Reamers are color marked to indicate the length of the fluted stems which represents the total length of the implant, tibial stem, and keel. Fluted Stems are available in 80mm (yellow), 110mm (green), and 150mm (blue) lengths. The same Stems and Reamers can be used for both the femur and tibia.

Note: It is recommended that hand drilling be performed as opposed to using a power drill.

Ream initially to the desired depth of the tibial plateau using the small diameter Reamer (Figure 8) (see Chart A on page 5). The canal is sequentially opened with progressively larger diameter Reamers until endosteal engagement is achieved. The last Reamer should be a half size (.5mm).

Note: Trial Stems are undersized by 1/2mm relative to actual ream and stem diameter (see Chart A on page 5). For example, if a 14.5mm Reamer is used, the corresponding 15mm Stem Trial is actually 14.5mm in diameter (see Chart B on page 6).

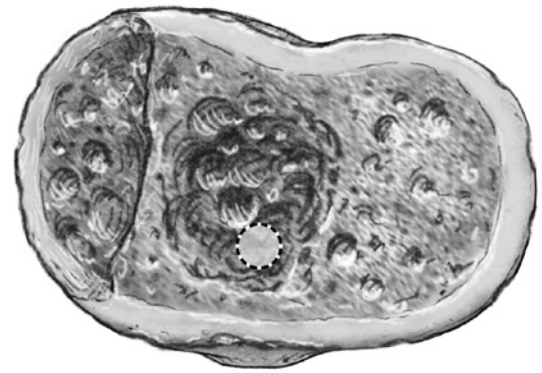


Figure 7

Reamer Handle

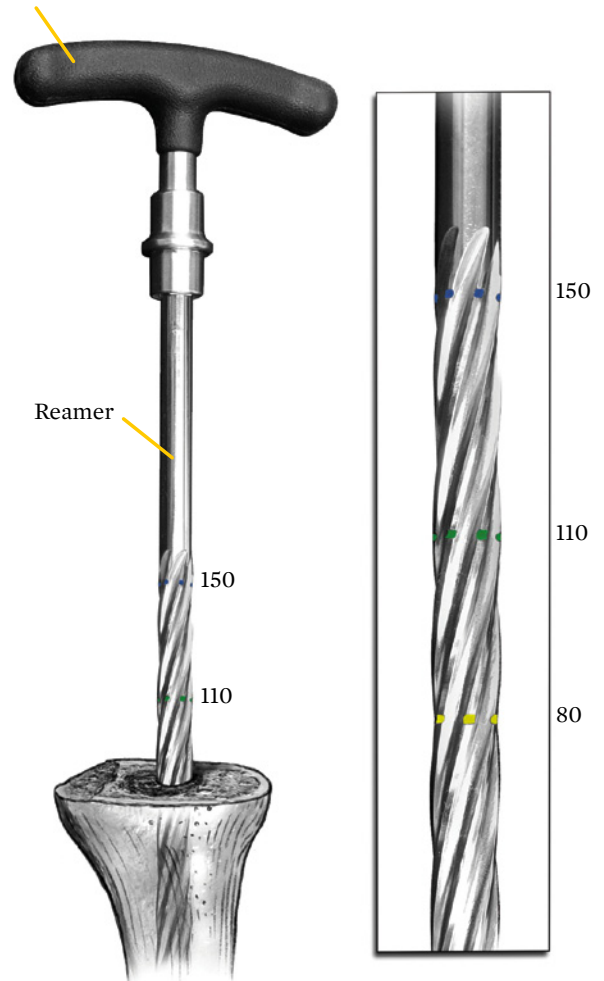


Figure 8

Intramedullary Tibial Resection

Assemble the I/M Adapter (long 152mm; medium 90mm; short 55mm) (Figure 9) to the appropriate Stem Trial. Stem Extenders are provided in three lengths (75, 150, and 225mm). The Stem Extenders may be assembled to the distal end of the Stem Trial to gain engagement at the diaphyseal isthmus, and thus enhance stability. Attach the Quick Connect T-Handle to the I/M Adapter.

(continued)



Figure 9

CHART A - PRESS-FIT STEM

REAMER/OD	TRIAL MARKED	ACTUAL TRIAL OD	IMPLANT DIAMETER
8.0mm	8.0	7.5mm	
8.5mm			
9.0mm	9.0	8.5mm	
9.5mm			
10.0mm	10.0	9.5mm	10.0mm
10.5mm			
11.0mm	11.0	10.5mm	
11.5mm			
12.0mm	12.0	11.5mm	12.0mm
12.5mm			
13.0mm	13.0	12.5mm	13.0mm
13.5mm			
14.0mm	14.0	13.5mm	14.0mm
14.5mm			
15.0mm	15.0	14.5mm	15.0mm
15.5mm			
16.0mm	16.0	15.5mm	16.0mm
16.5mm			
17.0mm	17.0	16.5mm	17.0mm
17.5mm			
18.0mm	18.0	17.5mm	18.0mm
18.5mm			
19.0mm	19.0	18.5mm	
19.5mm			
20.0mm	20.0	19.5mm	20.0mm
20.5mm			
21.0mm	21.0	20.5mm	
21.5mm			
22.0mm	22.0	21.5mm	22.0mm
22.5mm			
23.0mm	23.0	22.5mm	
23.5mm			24.0mm

(OD = Outer Diameter)

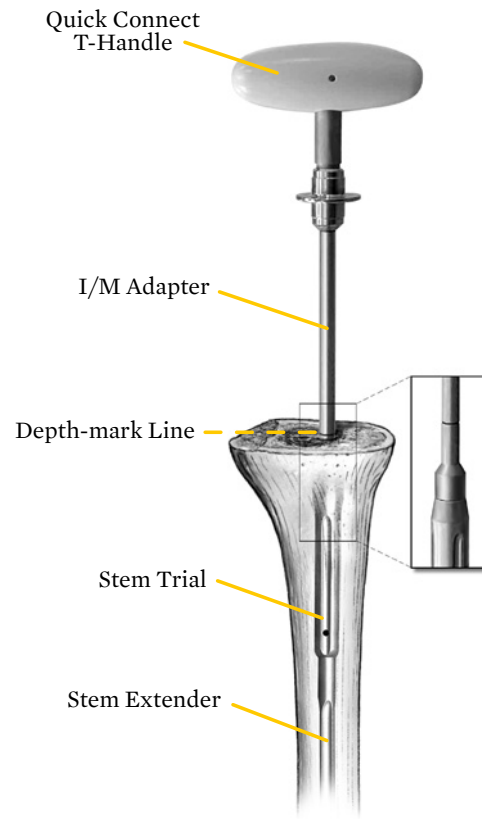


Figure 10

Insert the construct into the canal until the depth mark line on the I/M Adapter rests approximately at the level of the proximal tibial surface (Figure 10).

Assemble the appropriate Tibial Cut Block to the I/M Cut Guide Scaffolding. Tibial Cut Blocks are provided in right and left configurations to avoid interference with surrounding soft tissues. Care should be taken to assemble the I/M Cut Guide Scaffolding in the proper orientation (Figure 11).

The proper orientation is dependent upon whether a neutral or sloped tibial tray will be used. If a neutral tray is to be used, proper orientation is 0°. If a sloped tray is to be used, the proper orientation is 5°.

Note: The Neutral Tray is cut at 0°. The distal surface of the tray is at 0°, while the proximal surface is at a 5° slope. The Sloped Tray is cut at 5°. Both the distal and proximal surfaces are at a 5° slope (Figure 12). The dotted line represents the Sloped Tibial Tray.

After the proper orientation is determined, the I/M Cut Guide Scaffolding and Tibial Cut Block are assembled together and handed to the surgeon.

Remove the Quick Connect T-Handle from the I/M Adapter and slide the I/M Cut Guide Scaffolding over the I/M Adapter until it rests on the proximal tibia (Figure 13).

(continued)

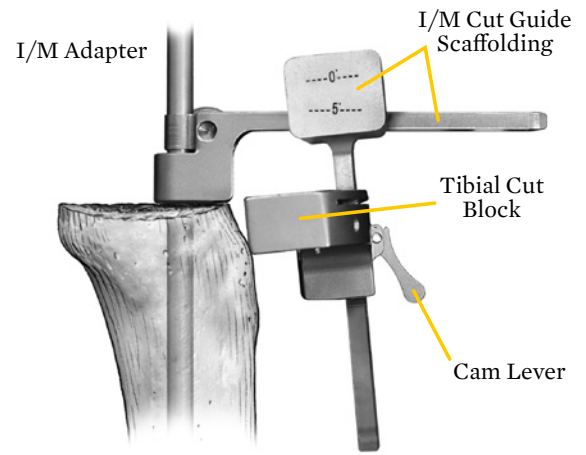


Figure 11

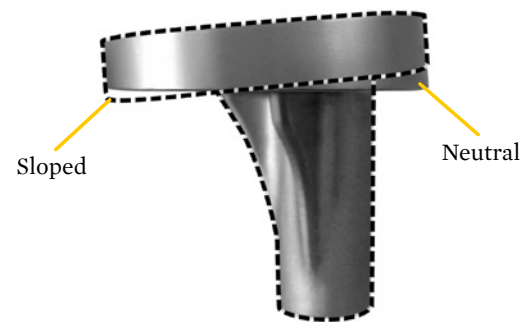


Figure 12

CHART B - REAMER-TRIAL-IMPLANT EXAMPLE

	MARKING	OD DIMENSION
Final Reamer	14.5mm	14.5mm
Stem Trial	15.0mm	14.5mm
Implant	15.0mm	15.0mm

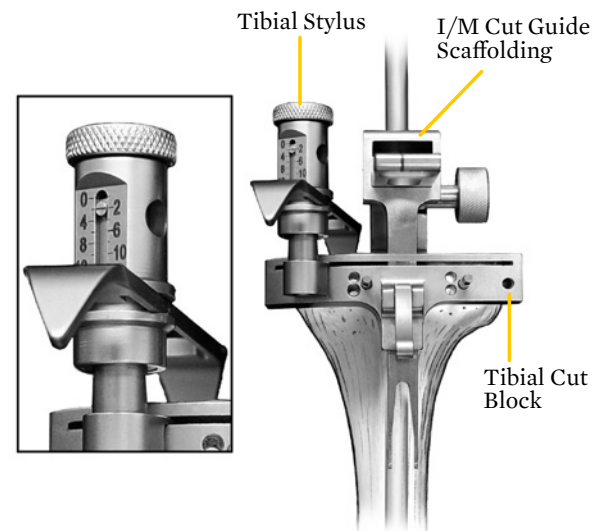


Figure 13

The Tibial Stylus is used to gage the depth of the tibial resection. Care should be taken to select the correct side of the stylus, which is dependent on whether or not the saw capture will be used. If using a saw capture, use the SLOTTED option, if not using a saw capture, use the OPEN option (Figure 14). If the saw capture is used a 1.35mm thick blade is preferable.

Set the depth of the resection by pressing down on the cam lever on the Tibial Cut Block to lock in place. In a revision surgery, the amount resected from the tibial plateau should be minimal. The resection should be enough to create a fresh level proximal tibial surface (Figure 15). In a primary situation, it is recommended that the surgeon resect 8mm from the prominent side or 2mm from the deficient side (Figure 16).

Secure the Tibial Cut Block to the tibia using two 3.2mm Quick Pins. Once the Tibial Cut Block is securely fixed to the tibia, the I/M Cut Guide Scaffolding can be removed from the assembly. To remove the assembly, first release the cam lever on the Tibial Cut Block. Then, re-assemble the Quick Connect T-Handle to the I/M Adapter and remove the entire assembly from the medullary canal. This will leave the Tibial Cut Block pinned to the tibia. Make the proximal tibial resection using an oscillating saw (Figure 17).

Note: If the surgeon desires, the proximal tibial resection may be started while the Tibial Cut Block is still attached to the I/M assembly. This will provide additional stability, especially in cases where the Quick Pins are engaged in poor quality bone stock (Figure 18).



Figure 14

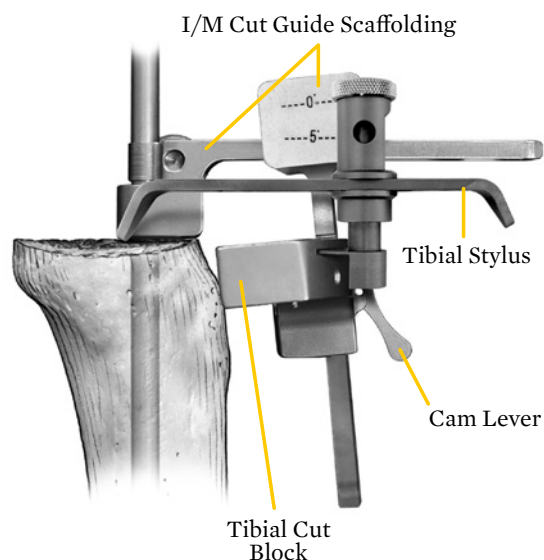


Figure 15

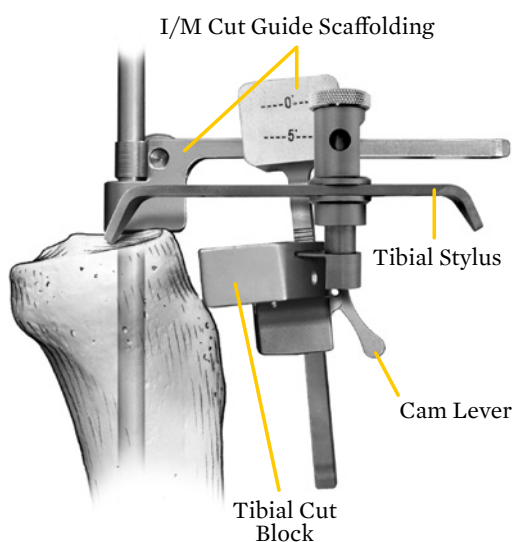


Figure 16

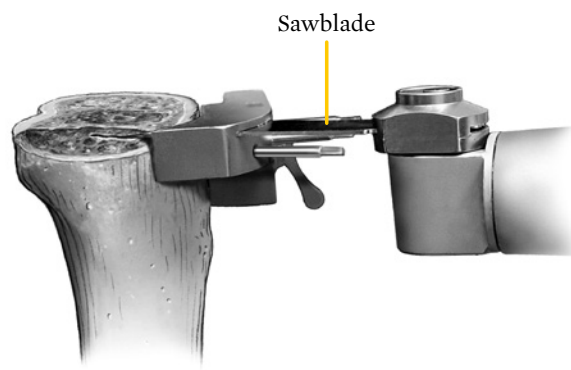


Figure 17

Flexion/Extension Gap Verification and Soft Tissue Balancing

Attach a Spacer Block to the Spacer Block Handle and insert the assembly into the joint space at 90° of flexion and at full extension (Figure 19). Check for symmetry of flexion and extension gaps (See Joint Space Assessment; page 3). Once the flexion and extension gaps are equal, soft tissue balancing should be performed (Figure 20).

Note: Incremental soft tissue release is recommended as needed. Use caution when performing soft tissue release so as to not fully release attachment of soft tissue.

Note: The number on the Spacer Block corresponds to the Tibial Insert Implant that would fit in the joint space. The Spacer Block plus Spacer Block Handle equals total thickness of: Distal or Posterior Femur (9mm), Tibial Tray (4mm) and Tibial Insert Implant. The Spacer Blocks are color coded to indicate what types of Tibial Inserts are available in the marked thickness. Grey = PS Insert only; Green = PS or CK Insert Implant; Yellow = CK Insert Implant only; Blue = No Tibial Insert Available. The blue Spacer Blocks are available in the following thickness: -2 (at least 2mm tight) No Insert Implant available. -1 (at least 1mm tight) No Insert Implant available.

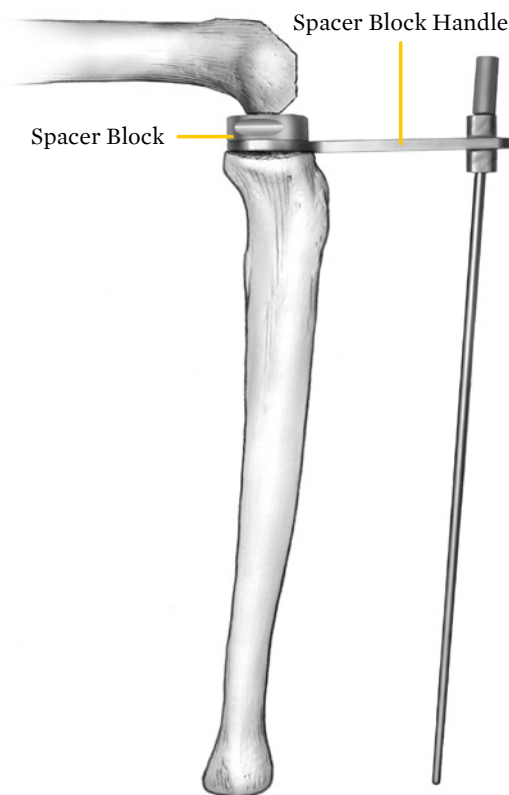


Figure 19

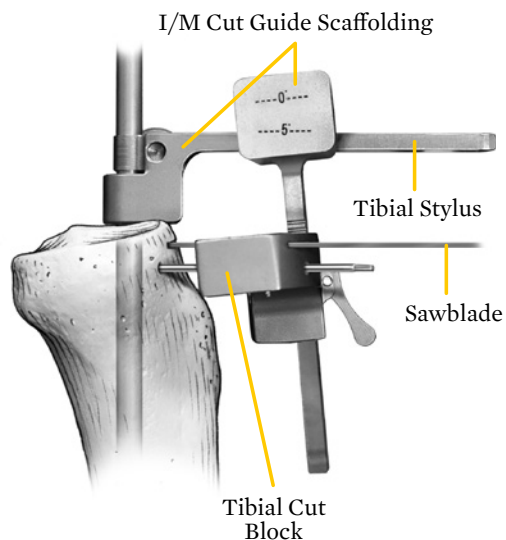


Figure 18



Figure 20

Preparing the Femur (Press-fit Stem)

The Femoral C-Sizer or Trial Femoral Component is placed on the distal femur to help initially determine which size femoral implant will be used (Figure 21). If there are no significant bone defects, the appropriate Femoral C-Sizer will replicate the normal A/P femoral dimension. If significant bone defects are present, the Femoral Sizer will help determine the original condylar geometry.

Note: The Femoral C-Sizer may also be used to determine if Femoral Augments will be necessary.

Next, to access the medullary canal, create a pilot hole using the 8mm I/M Drill. The I/M entry hole should line up with the anatomic axis of the femur (Figure 22). Once the femoral canal is accessed, the Reamer Handle is assembled onto a small diameter Reamer. The colored markings on the Reamers indicate and correspond to the length of the Fluted Stems (available in 80mm (yellow), 110mm (green) and 150mm (blue) lengths). (Refer to Figure 8, page 4).

Ream initially to a desired depth using the small diameter Reamer. The canal is sequentially enlarged with progressively larger diameter Reamers until firm endosteal engagement is achieved (see Chart A on page 5). The Reamer is then removed from the canal. It is recommended that hand drilling be performed as opposed to using a power drill.

To accommodate Stem Trials and final implants the distal 30mm of the Femur must be reamed to at least 14mm diameter.

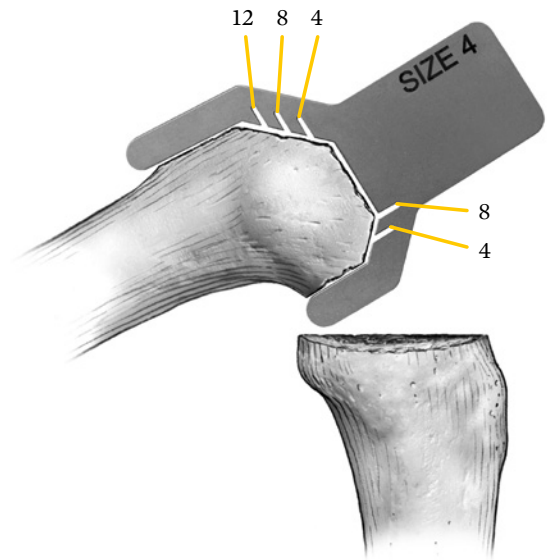


Figure 21

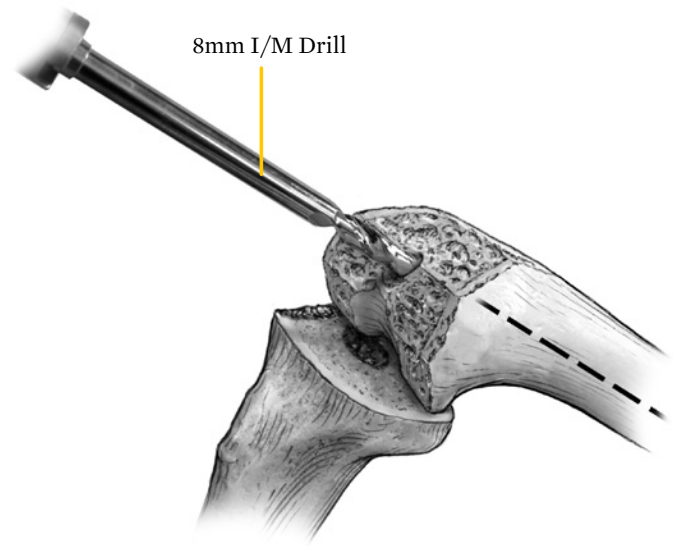


Figure 22

Distal Femur Resection

Assemble the I/M Adapter to the appropriate Stem Trial. The Stem Trial size coincides to the last size Reamer used (see Chart B on page 6). Stem Extenders are provided in three lengths (short 75mm, medium 150mm, long 225mm) and may be assembled to the end of the Stem Trial to gain engagement at the diaphyseal isthmus, and thus enhance stability.

Attach the Quick Connect T-Handle to the I/M Adapter and insert the construct into the medullary canal (Figure 23). Continue until the line on the I/M Adapter rests approximately at the level of the distal femoral resection line (Figure 24).

Note: Optional Stem Adapter Caps may also be used for added stability. They are available in sizes 16, 18, 20, and 22mm.

Next, slide the Varus/Valgus Guide (5°) on to the I/M Adapter and Stem Trial using the Right or Left Hole. Secure the Varus/Valgus Guide to the I/M Adapter by tightening the thumb screw. The Distal Cut Guide Scaffolding is placed onto the Varus/Valgus Guide. The Distal Cut Guide is then pinned in place using 3.2mm Quick Pins (Figure 25).

If it was determined in Flexion/Extension Gap Verification and Soft Tissue Balancing (page 8), that the extension gap is larger than the flexion gap, the Distal Cut Guide should be positioned more distal prior to securing with Quick Pins. This will help create more equal flexion and extension gaps. Distal Augments may also be used at this point to lower the joint line and decrease the extension gap.

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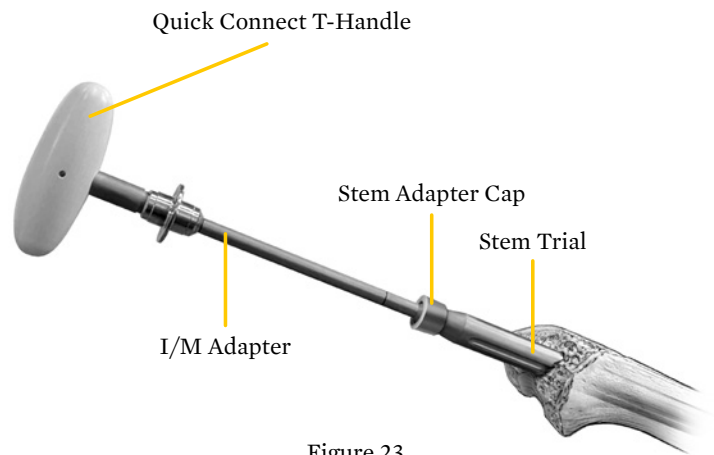


Figure 23

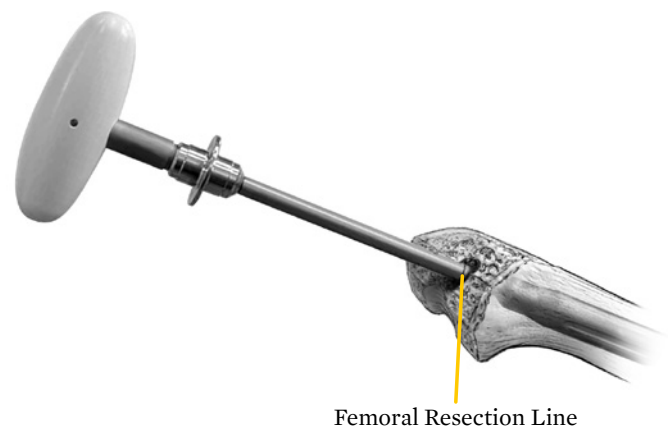


Figure 24

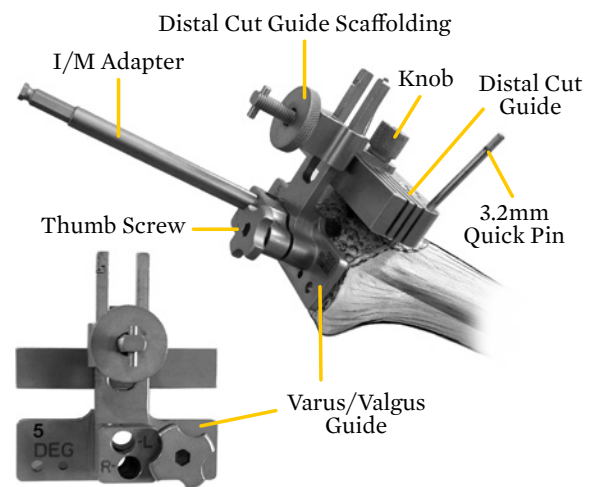


Figure 25

The Varus/Valgus Guide and Scaffolding, along with the Stem Extension Trial, are removed and the distal resection is made (Figure 26). If it is determined that distal augments are necessary, the appropriate resection depth for 4mm, 8mm, or 12mm is established and resections are made. Once the distal resection and augment resection(s) are made, the Quick Pins and Distal Cut Guide are removed.

Note: If the Surgeon desires, the distal resection may be started while the Distal Cut Guide is still attached to the I/M Assembly. This will provide additional stability, especially in cases where the Quick Pins are engaged in poor quality bone stock.

Note: In a revision situation, the amount resected should be held to a minimum. In a primary situation, it is recommended that the surgeon resect 9mm from the distal femur.

Distal Cut Guide slots are 4mm apart. The pinholes are 2mm apart.

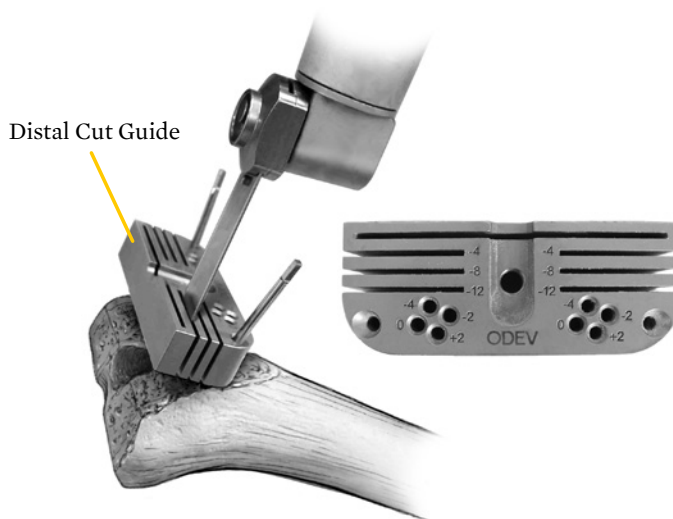


Figure 26

A/P and Chamfer Resection

If Distal Augment resections are made, Augment Spacer Blocks are available and can be attached to the proximal side of the 4-in-1 Cut Guide to restore proper positioning prior to securing and making resections (Figure 27).

To remove the Augment Spacer Block, a Spacer Block Removal Tool is available. Tighten the threaded portion of the Removal Tool until tight with the block. Pull the Tool back and the Spacer Block will snap out (Figure 28).

Replace the previously selected Stem Trial assembly in the femoral medullary canal.

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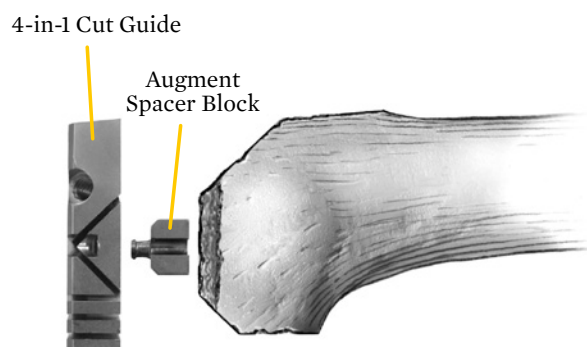


Figure 27

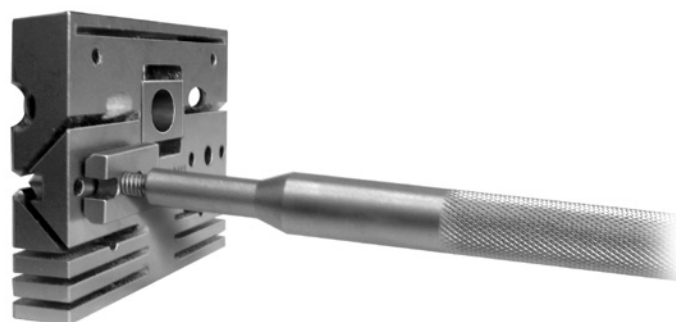


Figure 28

The 4-in-1 Cut Guide is then placed on the I/M Adapter and Stem Trial Assembly and the Anterior Stylus is attached. Anterior placement is initially determined by positioning the 4-in-1 Cut Guide so that the Anterior Stylus is well positioned on the anterior cortex of the femur with the adjustment placed at zero on the 4-in-1 Cut Guide (Figure 29). The Anterior Stylus setting is determined by the appropriate femoral implant size.

If it was previously determined in Flexion/Extension Gap Verification and Soft Tissue Balancing (page 8), that the flexion gap is larger than the extension gap, the 4-in-1 Cut Guide can be positioned more posterior prior to securing with Quick Pins to decrease the flexion gap. A larger Femoral Component may also be used along with Posterior Augments.

If the Femoral Component needs to be upsized in order to decrease a larger flexion gap, the larger size 4-in-1 Cut Guide is selected and placed on the distal end of the femur. The appropriate anterior/posterior positions are then chosen. See Chart C.

To adjust the 4-in-1 Cut Guide, insert the 2.5mm Hex Driver into the Hex Screw on the anterior surface of the 4-in-1 Cut Guide and turn the Hex Driver (Figure 30). The position reading is identified from the center of the 4-in-1 Cut Guide. This can be positioned until adequate placement is achieved.

Note: As the numeric value on the guide increases (+) the flexion gap decreases - as the Block is moved posterior. As the numeric value on the guide decreases (-) the flexion gap increases - as the Block is moved anterior.

Take note of the position in order to adjust the actual Femoral Component similarly when implanting. This reading will be used on page 17, Implanting the Components.

(continued)

CHART C

SIZE	A/P POSITION
1	-2 to 2
2	-2 to 2
3	-2 to 2
4	-2 to 4
5	-2 to 6
6	-2 to 8
7	-2 to 10

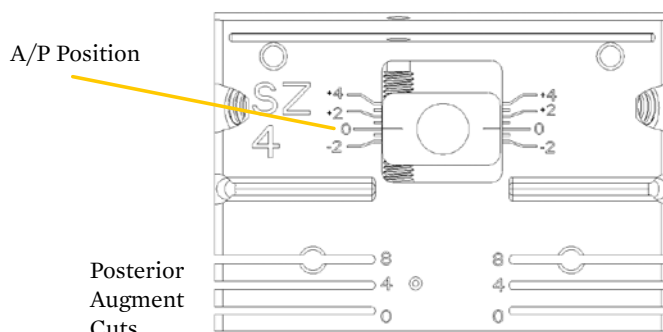
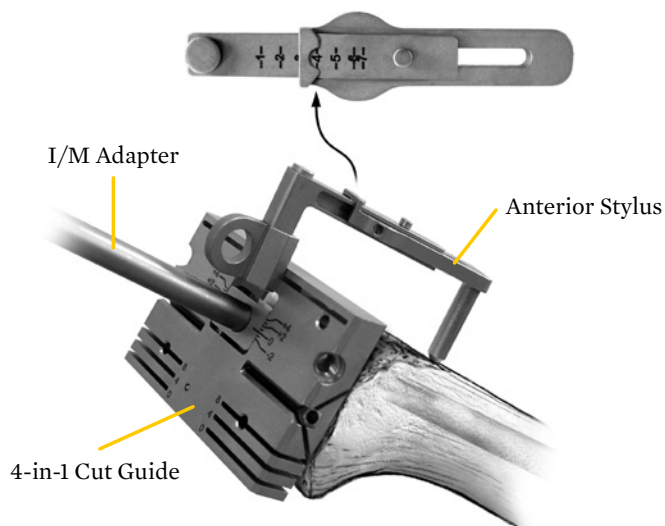


Figure 29

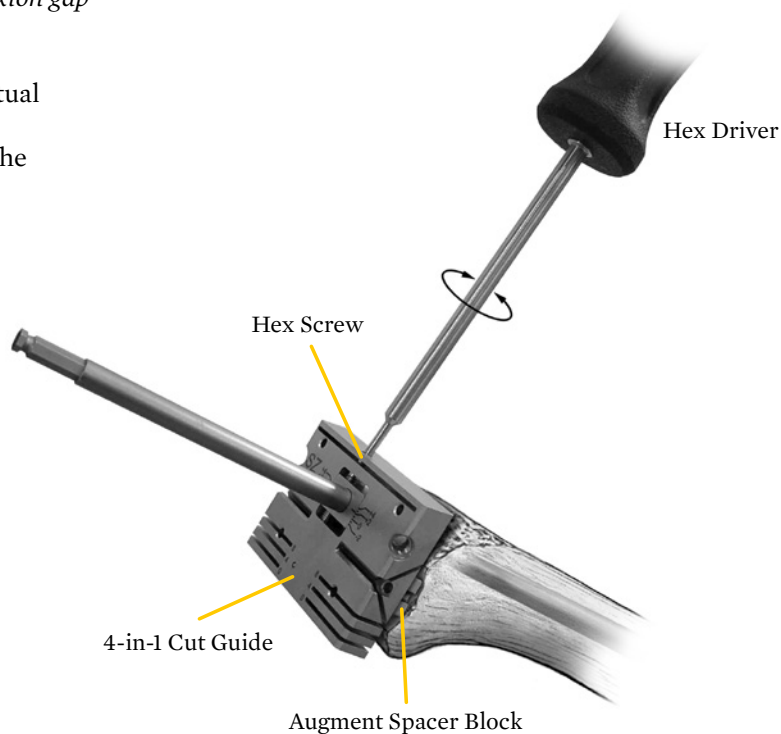


Figure 30

Note: Use caution when making anterior resections to be sure to not notch the femur.

Before securing the 4-in-1 Cut Guide in place, the femoral rotation should be established.

The rotational positioning of the Revision A/P Cutting Block is important to the establishment of a balanced flexion gap and patellofemoral alignment. Rotation is achieved when the distal surface of the A/P Cutting Block is parallel to the resurfaced proximal tibia under tension, and balance is validated with Spacer Blocks. Where asymmetry exists, additional soft-tissue balancing may be indicated. Positioning is further established by assuring parallel alignment of the cutting block with the transepicondylar axis (Figure 31).

Once rotation is achieved, the Cut Guide is then pinned in place with the Quick Pins and the stylus is removed. Next, the anterior and posterior condyle resections are made. The anterior resection is made through the single anterior slot and the posterior condyle resection is made through the posterior neutral slots (Figure 32). If posterior augments are needed, appropriate resections are also made at this time. Depending on the posterior bone defect, appropriate augment resections are made through either the 4mm or 8mm slot. Next, anterior and posterior chamfer cuts are made and the Quick Pins and 4-in-1 Cut Guide are removed.

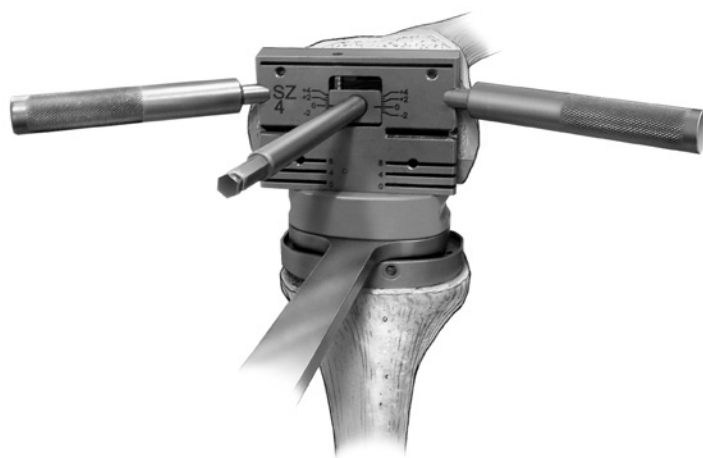


Figure 31

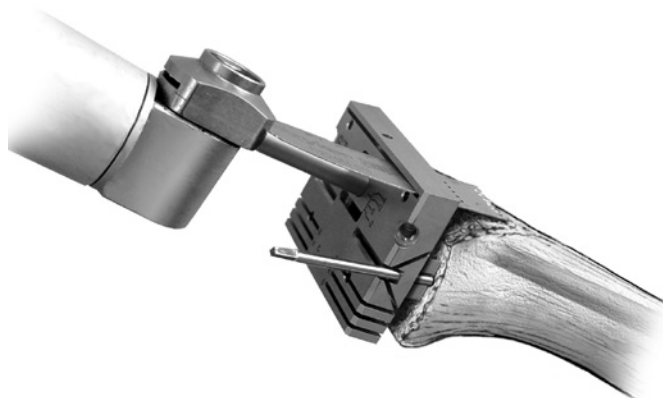


Figure 32

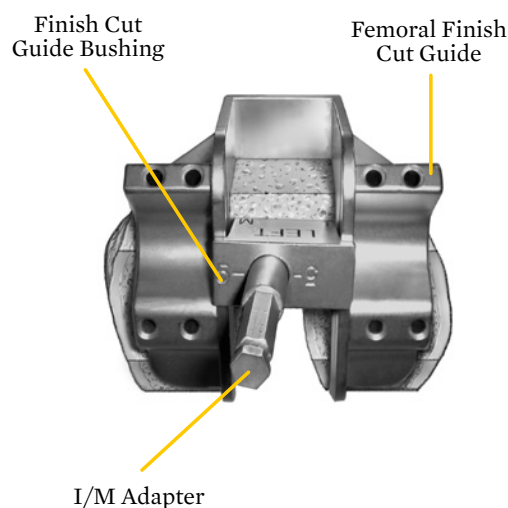


Figure 33

Femoral Finish Resection

The Femoral Finish Cut Guide and Finish Cut Guide Bushing are placed on the I/M Adapter and Stem Trial assembly and secured using the Quick Pins (Figure 33).

Note: Take care when selecting the orientation of the Finish Cut Guide Bushing. Make sure that the orientation (right or left) matches the orientation of the surgical side.

Note: If Distal Augment resections were made, Augment Spacer Blocks should be attached to the proximal side of the Finish Cut Guide to restore proper positioning prior to securing and making resections. The trial spacer selected should be the same as was used on the A/P cutting block (Figure 34).

The Finish Cut Guide Bushing and the Stem Extension Trial are removed and the notch cut is made (Figure 35).

Once the notch resection is complete, the Femoral Finish Cut Guide and Quick Pins are removed and the proximal tibial preparation can now begin.

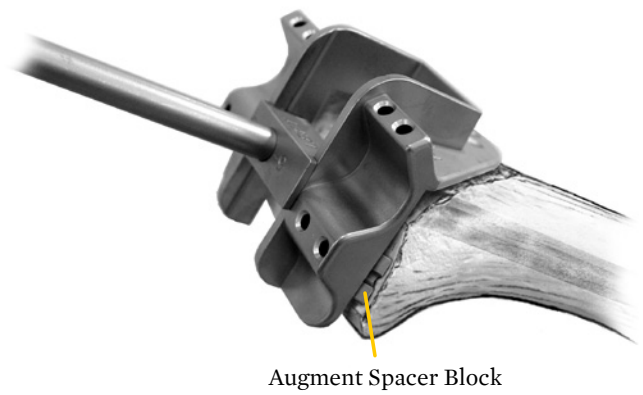
Proximal Tibial Augment Preparation

The central portion of all keeled tibias is 14mm. If the last Reamer used is not 14mm or greater, ream proximally with the 14mm Reamer approximately 35mm deep.

If a cement mantle around the tibial keel is desired, and the final Reamer is less than 17mm, it will be necessary to ream for the central portion of the tibial keel to a depth of 35mm.

Assemble the appropriate Stem Trial to the selected Augment Cut Base. The optional Stem Extender may be assembled to the end of the Stem Trial to provide additional stability. The assembly should then be introduced into the medullary canal until the distal surface of the Augment Cut Base contacts the prepared proximal tibia. Assemble the appropriate Augment Cut Block to the Augment Cut Base. The Augment Cut Base can be pinned to the proximal tibia using Long Headed Pins or the Augment Cut Base Handle can be used to apply downward pressure while making the augment cut (Figure 36).

(continued)



Augment Spacer Block

Figure 34

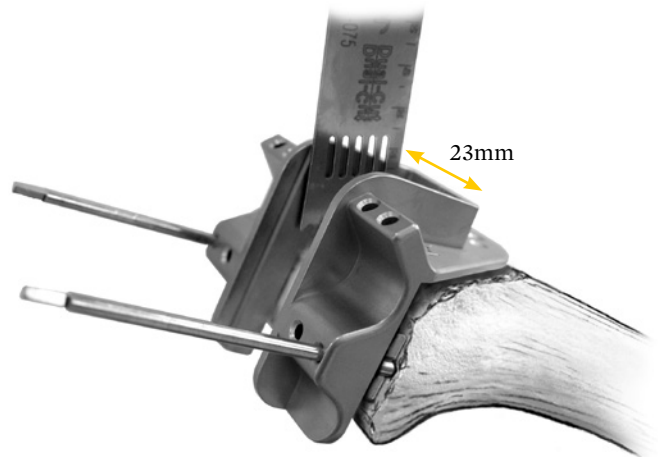


Figure 35

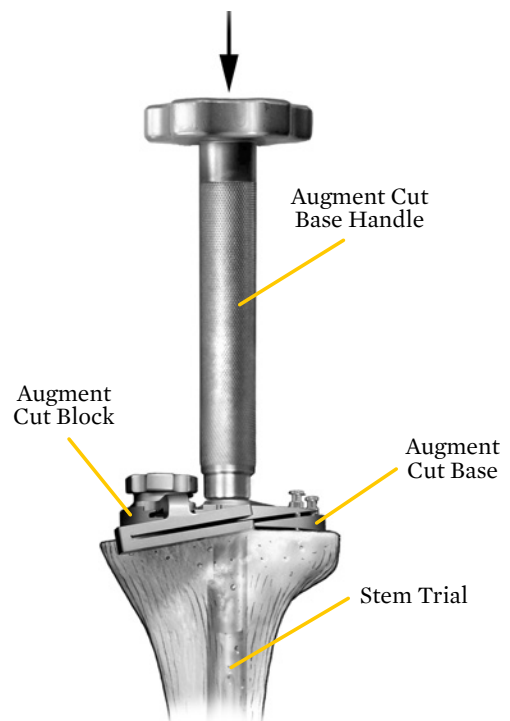


Figure 36

If the augment selected is a lateral wedge, the cut may be made through the slot in the top of the Augment Cut Base to avoid interference with the soft tissues (Figure 37). Otherwise, make the augment cut through the Augment Cut Block using an oscillating saw and a 1.35mm narrow blade (Figure 38). Augment Cut Bases are available in both Right-Medial/Left-Lateral or Right-Lateral/Left-Medial configurations.

Note: The augment preparation may be done after a preliminary trial reduction. Postponing this step allows the surgeon to verify tibial component rotation before committing to the final resection (See Appendix 1, Figure 58).

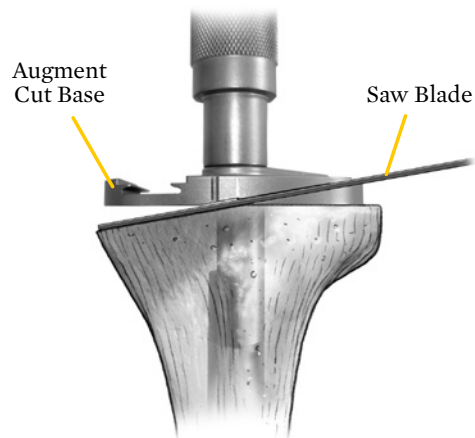


Figure 37

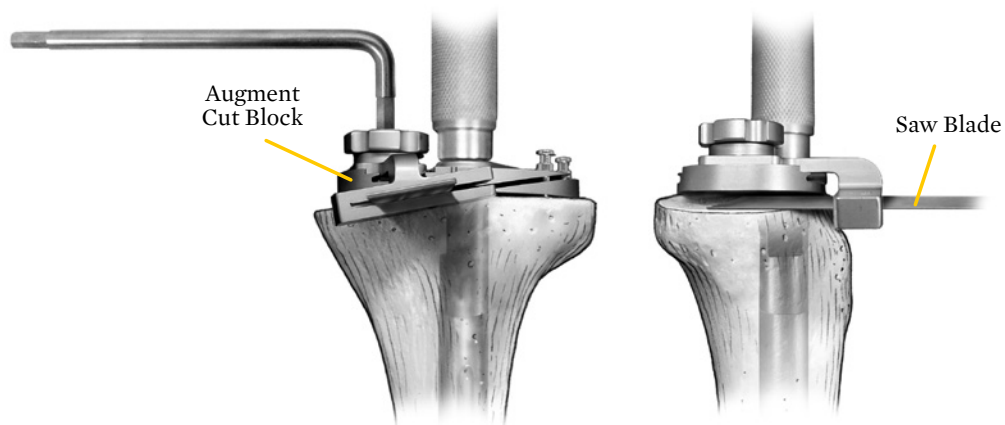


Figure 38

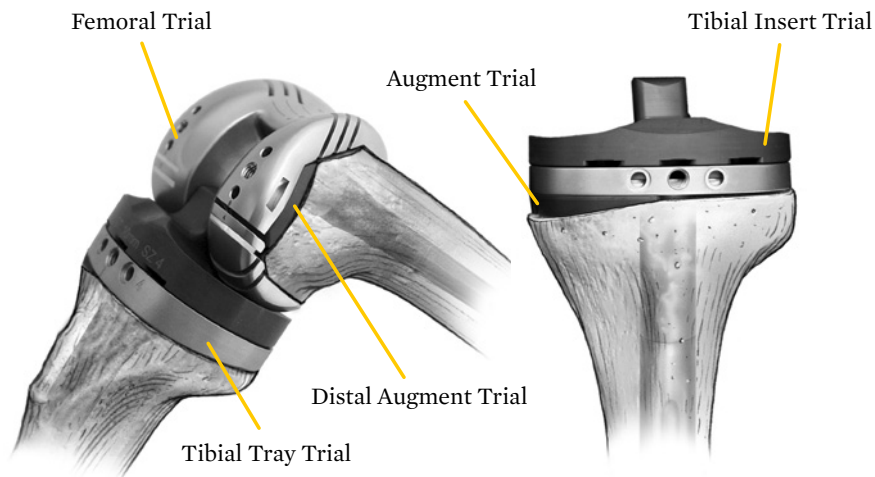


Figure 39

Trial Reduction

Assemble the appropriate Augment Trials, Femoral Junction Box Trial, and Stem Extension Trials to the correctly sized Femoral Trial and Tibial Tray Trial. The constructs are then placed onto the femur and tibia. Next, select the appropriate Tibial Insert Trial and insert it into the Tibial Tray Trial. Rotational alignment and range of motion can be inspected. Make sure that the trial prosthesis fits the resected bone surfaces with appropriate apposition to bone. If augments are necessary, use Augment Trials to correct any bone deficiencies. Any undesired gaps should be corrected by adjusting the bone cuts until a good fit is obtained (Figure 39). When a satisfactory fit of the trial prosthesis is achieved, perform a trial reduction.

After performing the trial reduction, assemble the Tibial Punch Guide to the Stemmed Tibial Tray Trial by assembling the Tibial Punch Guide to the Tibial Tray Trial from a posterior-to-anterior direction (Figure 40). Use the appropriately sized Tibial Keel Punch to broach the keel recess. Impact the Tibial Keel Punch until the impact head is fully seated against the Tibial Punch Guide (Figure 41). Occasionally, a power burr will be required to remove sclerotic bone.

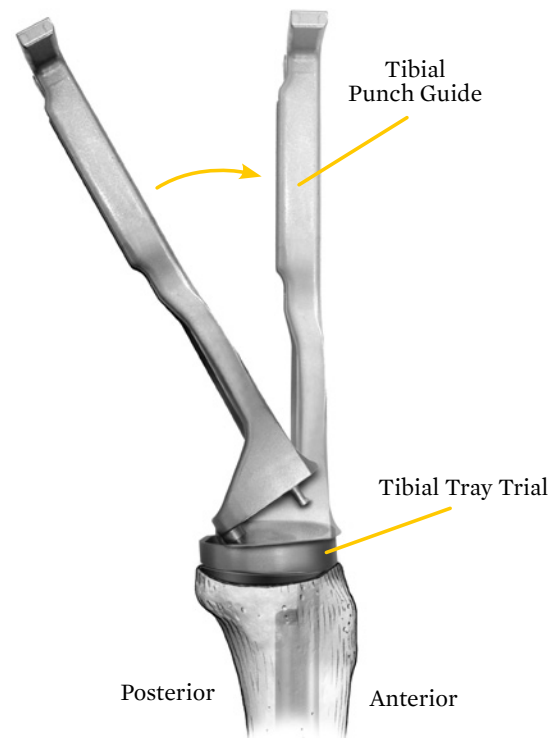


Figure 40

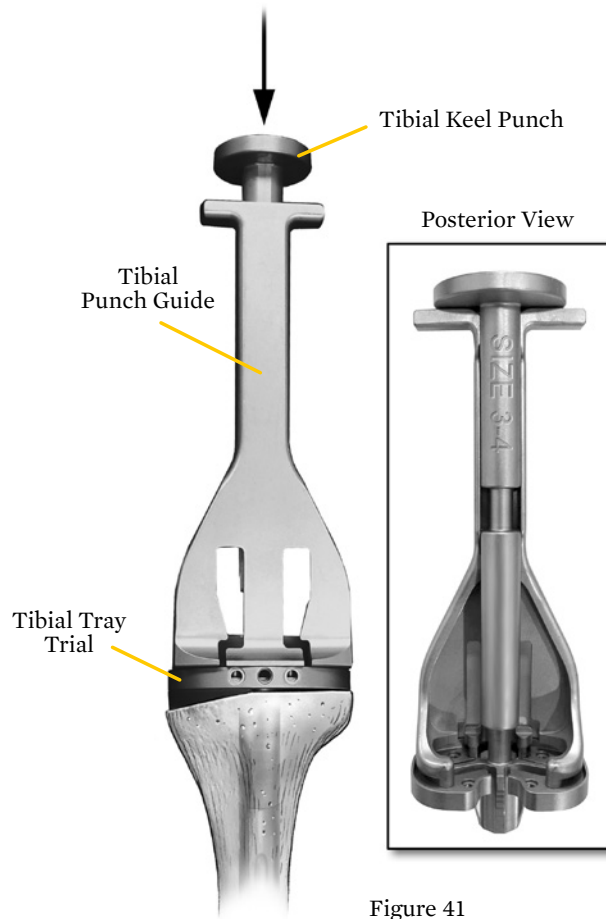


Figure 41

Implanting The Components

TIBIA

If a Stem is to be used, remove and discard the Tibial Tray Keel Cap from the Modular Tibial Tray using the 5mm Hex Wrench. Next, thread the selected Stem into the threaded hole in the distal end of the keel. Use the Tibial Tray Wrench and Stem Extension Wrench to tighten the Stem Extension (Figure 42).

If Augments are to be used, remove the Plastic Retaining Tab from the Snap-Loc™ Screw by pulling on the Retaining Tab (Figure 43).

Assemble the selected Augment to the appropriate surface of the Modular Tibial Tray by snapping it into the appropriate hole. A click sound will be heard to indicate the augment is secure (Figure 44).

If the Augment does not easily click into place upon the first try, loosen the Snap-Loc™ Screw a half-turn using the 2.5mm Hex Driver. Then attempt to assemble again ensuring even pressure is placed directly above the Snap-Loc™ Screw.

Use the 2.5mm Hex Driver to tighten the Snap-Loc™ Screw until the Augment fits snugly with the Modular Tibial Tray (Figure 45).

Note: Once the Snap-Loc™ mechanism is engaged, the Augment may be removed by using the Hex Driver. However, the screw cannot be removed from the Tibial Tray once it is in place.

To attach a new Augment, remove the existing Augment from the Tibial Tray leaving just the screw. In addition, remove the screw from the new Augment before assembly. Place the new Augment on top of the old screw and tighten using the Hex Driver.

If I/M guides were employed or the bony anatomy dictates, a cement restrictor may be inserted into the medullary canal to allow proper pressurization of the cement and to prevent cement from extruding down the canal. If E/M guides were utilized, and the bone in the canal is solid, a cement restrictor need not be used (see Appendix 1).

Note: If a cement restrictor is used, ream distally by the additional depth (see Chart E on page 22).

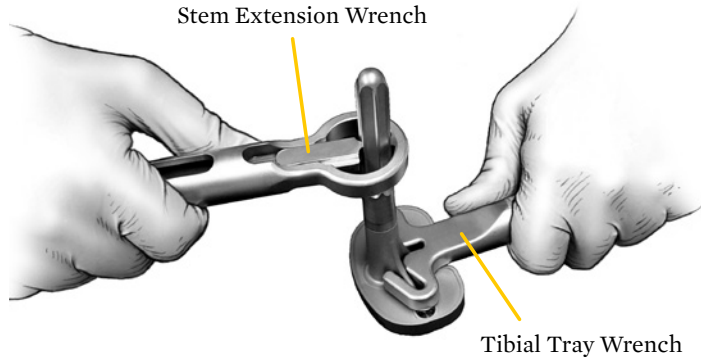


Figure 42

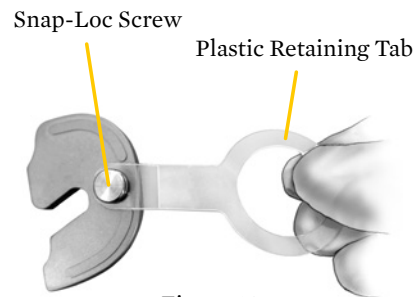


Figure 43

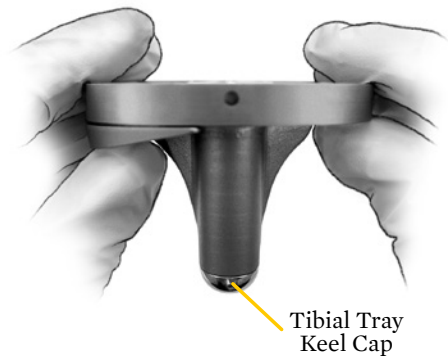


Figure 44

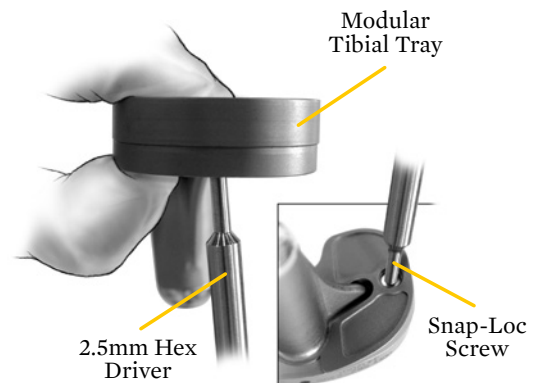


Figure 45

(continued)

TIBIAL SITE PREPARATION

Prepare the bone with pulsatile lavage. Bone cement is prepared and applied to the proximal tibial surface or the underside of the implant. If a Fluted Stem is used, care should be taken to keep cement out of the medullary canal. Insert the assembled implant into the prepared tibia and use a mallet and the Tibial Impactor to securely seat the implant and pressurize the cement. Remove all excess cement (Figure 46).

FEMUR

If Femoral Augments are to be used, remove the Plastic Retaining Tab from the Snap-Loc™ Screw by pulling on the Retaining Tab (Figure 47).

Assemble the selected Augment to the appropriate surface of the Femoral Component by pushing down and snapping the Snap-Loc™ feature into the relative augment hole, distal or posterior (Figure 48). When the Augment is fully seated it will make a clicking sound.

Note: To ease insertion of the Augments, it is recommended to first assemble the Posterior Augment followed by the Distal Augment, if necessary (Figure 49). In addition, the Augment Assembly Tool may be used for added leverage.

If the Augment does not easily click into place upon the first try, loosen the Snap-Loc™ Screw a half-turn using the 2.5mm Hex Driver. Then attempt to assemble again ensuring even pressure is placed directly above the Snap-Loc™ Screw.

Use the 2.5mm Hex Driver to tighten the Snap-Loc™ Screw until the Augment fits snugly with the Modular Femoral Component (Figure 49). A Universal 2.5mm Hex Driver is provided to reach the posterior augment screws.

Note: Once the Snap-Loc™ mechanism is engaged, the Augment may be removed by using the Hex Driver. However, the screw cannot be removed from the Femoral Component once it is in place.

(continued)



Figure 46

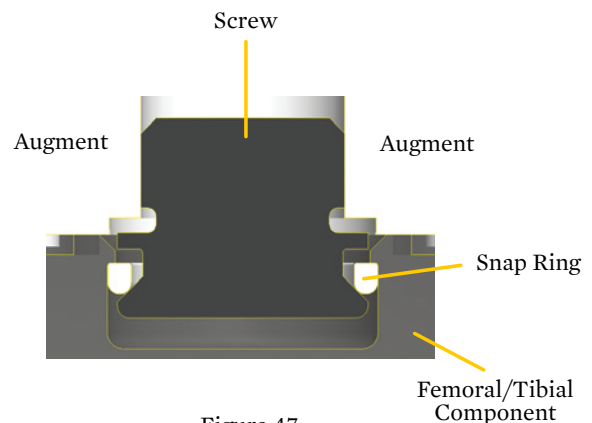
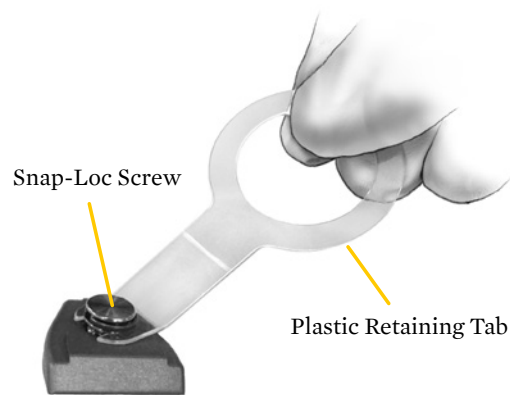


Figure 47

To attach a new Augment, remove the existing Augment from the Femoral Component leaving just the screw. In addition, remove the screw from the new Augment before assembly. Place the new Augment on top of the old screw and tighten using the Hex Driver (See Figure 47 for cross section of Augment and screw).

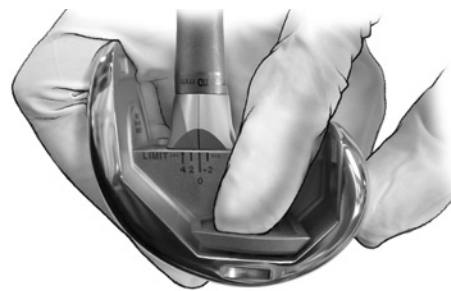


Figure 48

Next, the Stem is threaded onto the Junction Box of the selected Femoral Component using the previously determined A/P position (Figure 50). The Junction Box line must face lateral to align lateral with the A/P markings on the Femoral Component. Use the Femoral Wrench and Stem Extension Wrench to tighten the Stem and Junction Box to the Femoral Component (Figure 51).

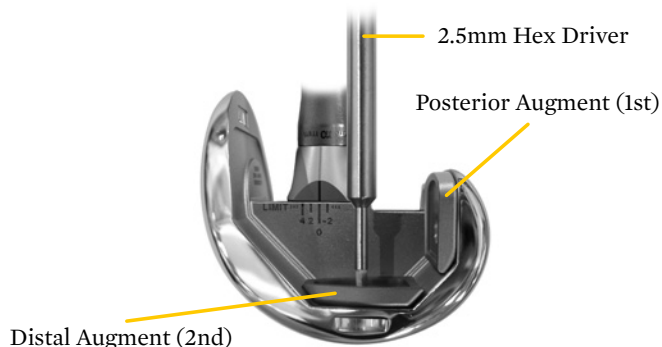


Figure 49

FEMORAL SITE PREPARATION

Cleanse the surgical site thoroughly with pulsatile lavage. Bone cement is prepared and applied to the femoral surface or the underside of the implant. If a Fluted Stem is used, care should be taken to keep cement out of the medullary canal. Insert the assembled implant into the prepared femur and use a mallet and the Femoral Impactor to securely seat the implant and pressurize the cement. Remove all excess cement (Figure 52).

TIBIAL INSERT

Once the Femoral and Tibial Components have been implanted and the bone cement has cured, final trial reduction is performed. A Tibial Insert Trial is placed onto the Tibial Tray. Begin trialing with a PS Tibial Insert.

(continued)



Figure 50

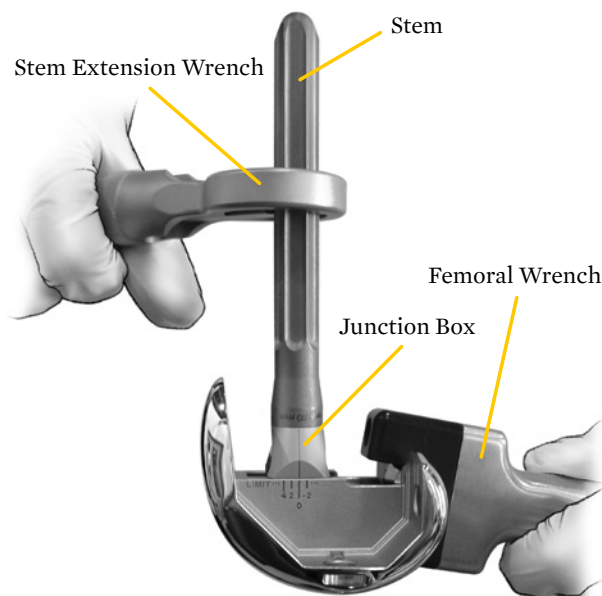


Figure 51

If good stability is achieved, the appropriate PS Insert is chosen. If flexion/extension gap is compromised and/or a varus/valgus laxity exists then a CK Tibial Insert should be used. When using a CK Tibial Insert, first subluxe the tibia and then inspect the Tibial Tray for any debris. Using caution to avoid scratching the tray, load the CK Tibial Insert onto the Tibial Tray by positioning the titanium pin of the CK Tibial Insert within the central hole of the Tibial Tray (Figure 53).

Ensure that the other mating features, including the posterior lip of both the Tibial Insert and Tibial Tray, are properly aligned.

Impact the Tibial Tray Insert once with the Tibial Insert Impactor to couple the components for complete assembly (Figure 54).

Note: If using a PS Tibial Insert, the insert should seat onto the Tibial Tray implant and snap into place using the Tibial Insert Clamp (Figure 55). See Implanting the Components section in the Balanced Knee® System Surgical Technique.

Once the Tibial Tray Insert has been secured to the Tibial Tray, the knee can be taken through final range of motion tests.

Once satisfactory results are achieved with the implanted components, the wound is closed in a routine manner.

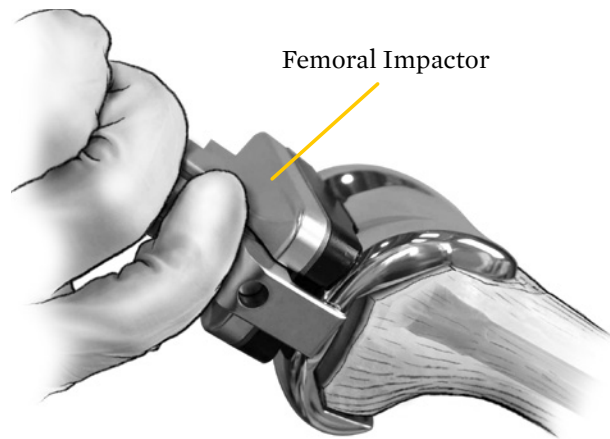


Figure 52



Figure 53

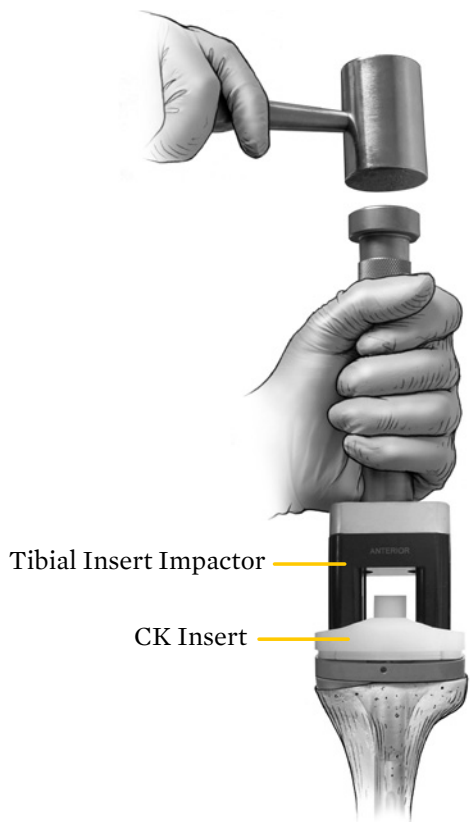


Figure 54

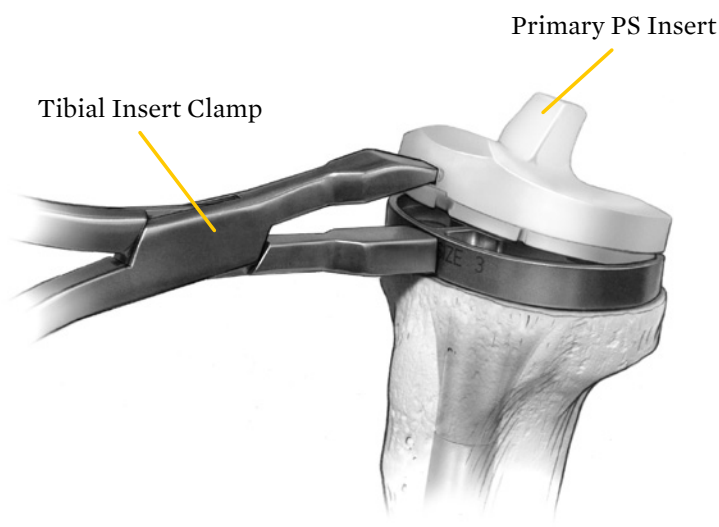


Figure 55

Appendix 1: Cemented Tibial Stem Extension

If it is determined that a Cemented Tibial Stem Extension will be used, an alternate surgical technique may be followed. According to preference and patient anatomy, perform the proximal tibial resection using either the I/M (intramedullary) (Figure 56) or E/M (extramedullary) (Figure 57) instrumentation.

If using a Short Cemented Stem, it is not necessary that the position of the Tibial Tray be determined by the medullary canal. In this case, the medullary canal may be prepared after the proximal tibial cut is made. Position the appropriate Tibial Tray Sizer Trial on the proximal tibial surface and determine the proper rotation (Figure 58).

Note: Proper rotation is determined by trialing (refer to Trial Reduction) and standard landmarks such as medial 1/3 of the tibial tubercle.

If a cemented stem will be used a Tibial Drill Guide and Cemented Reamers are provided in a 15mm and 17mm diameter (Neutral and Sloped). Pin the Tibial Tray Sizer Trial using Headed Pins to the prepared proximal tibia. Depending upon the diameter of the Cemented Stem Extension selected, assemble the appropriate Drill Guide to the appropriate Tibial Tray Sizer Trial (see Chart D). Use the appropriate Cemented Reamer (15mm or 17mm) to drill through the Drill Guide (15mm or 17mm) until reaching the appropriate depth mark on the Reamer 30mm (orange); 50mm (black); 80mm (white); 120mm (top of Reamer) (Figure 59).

(continued)

CHART D

STEM	REAMER/DRILL GUIDE
ø12 x 30, 50mm	ø15mm
ø14 x 30, 50mm	ø17mm

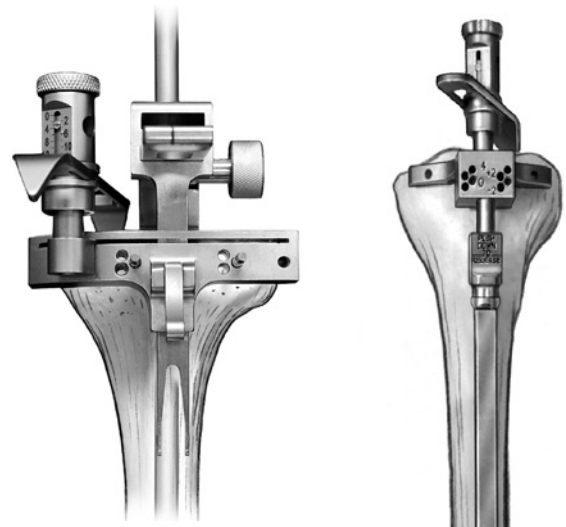


Figure 56



Figure 57



Figure 58

Note: The Tibial Keel is 14mm in diameter. If a 15mm Reamer was used a 1mm cement mantle is created around the tibial keel. If a 3mm cement mantle is desired replace the 15mm Drill Guide for the 17mm Drill Guide. Ream for the 3mm cement mantle using the Tibial Stop Drill.

Once distal reaming has been achieved, prepare the proximal surface for the final trials by using either the Tibial Punch and Tibial Punch Guide through the Tibial Tray Sizer Trial or by using the Tibial Punch through the Stemmed Tibial Trial. Either of these steps may be performed after orientation of Tibial Tray is confirmed (Figure 60). The Cemented Reamers will ream to a depth of 20mm beyond the distal tip of the stem, allowing for the recommended 1cm cement mantle distal to the tip of the stem and placement of a cement restrictor.

Note: Depending on depth of restrictor used (see Chart E), push distal tip of restrictor 25-30mm beyond distal tip of stem. This will allow for both cement mantle and depth of restrictor.

If I/M guides were employed or the bony anatomy dictates, a cement restrictor may be inserted into the medullary canal to allow proper pressurization of the cement and to prevent cement from extruding down the canal. If E/M guides were utilized, and the bone in the canal is solid, a cement restrictor need not be used.

If augments are to be used, attach the selected Stem Extension Trial to the Augment Cut Base Block Assembly. Secure the Augment Cut Base to the proximal tibia using Long Headed Pins and the Augment Cut Base Handle to apply downward pressure during resection (Figure 61). A Stem Extender may be used to increase stability. (Refer to Tibial Augment Preparation.)

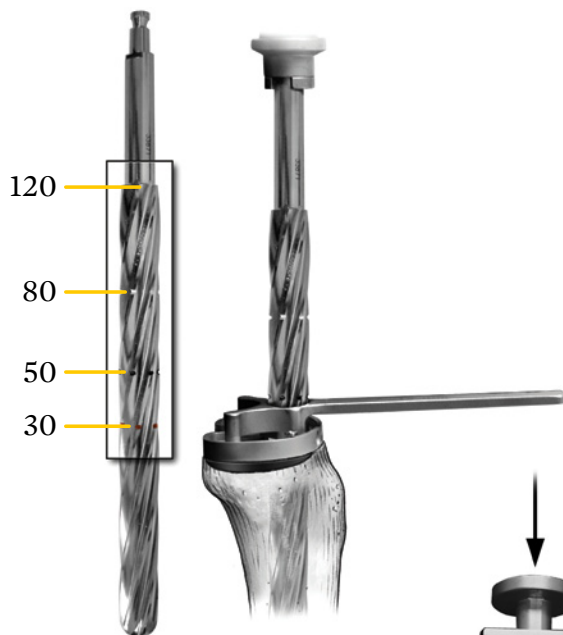


Figure 59



Figure 60

CHART E

PART NUMBER	DIAMETER (MM)	DEPTH (MM)
114-2009	10mm	16mm
114-2010	12mm	17mm
114-2012	14mm	18mm
114-2014	16mm	19mm
114-2016	18mm	20mm
114-2018	19mm	21mm

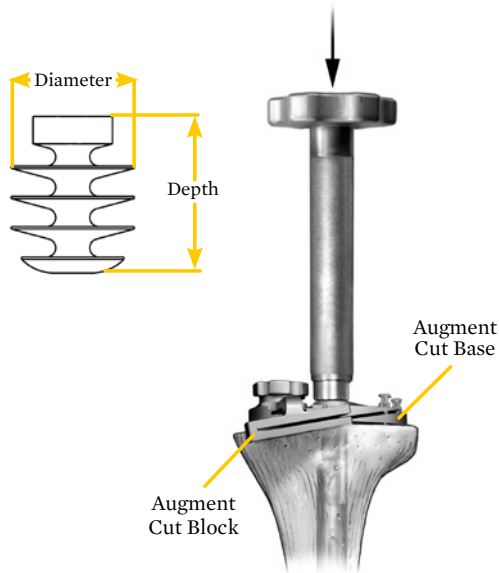


Figure 61

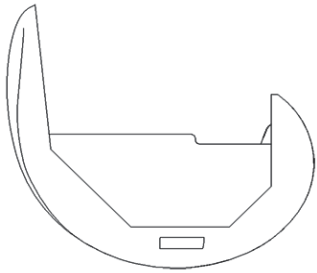
Appendix 2: Balanced Knee Component Compatibility

TIBIAL TRAYS		FEMORAL COMPONENTS													
		SIZE 1		SIZE 2		SIZE 3		SIZE 4		SIZE 5		SIZE 6		SIZE 7	
		50.0 A/P 56.5 M/L		54.0 A/P 59.5 M/L		57.5 A/P 63.5 M/L		61.5 A/P 66.5 M/L		65.5 A/P 70.5 M/L		69.5 A/P 74.5 M/L		74.5 A/P 79.5 M/L	
		PS	Revision	PS	Revision	PS	Revision	PS	Revision	PS	Revision	PS	Revision	PS	Revision
SIZE 1	Primary														
36.5 A/P 57.5 M/L	Revision														
SIZE 2	Primary														
39.0 A/P 61.0 M/L	Revision														
SIZE 3	Primary														
41.5 A/P 65.0 M/L	Revision														
SIZE 4	Primary														
44.5 A/P 69.5 M/L	Revision														
SIZE 5	Primary														
48.0 A/P 75.0 M/L	Revision														
SIZE 6	Primary														
51.5 A/P 80.5 M/L	Revision														
SIZE 7	Primary														
55.0 A/P 86.0 M/L	N/A													N/A	N/A

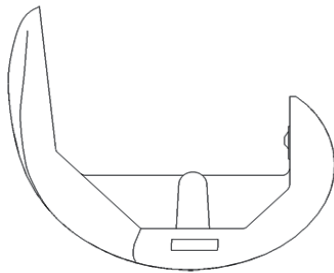
Key: PS Insert Only, Either CK or PS Insert

- insert and tibia size must match
- femur to tibia size up or down 1 size

FEMORAL COMPONENTS

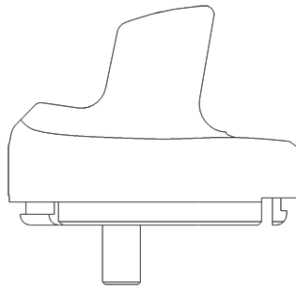


Revision Modular Femoral Component

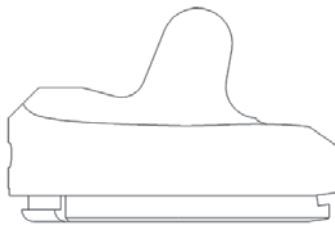


Primary Femoral Component

INSERTS

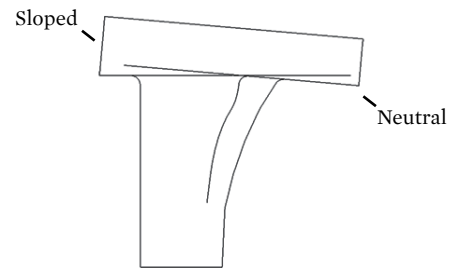


CK Insert

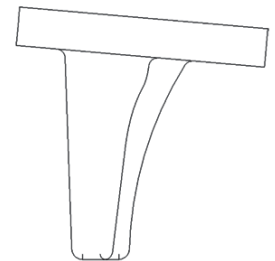


PS Insert

TIBIAL TRAY



Revision Modular Tibial Tray (Neutral and Sloped) See page 6.



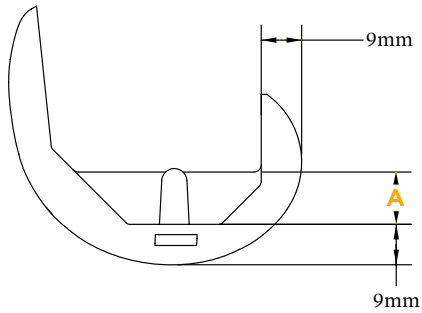
Primary Tibial Tray

Implant Dimensions

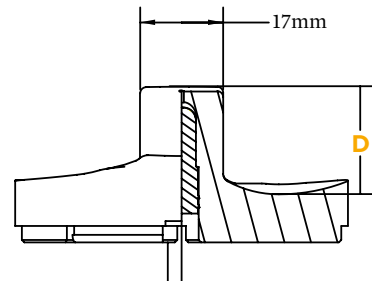
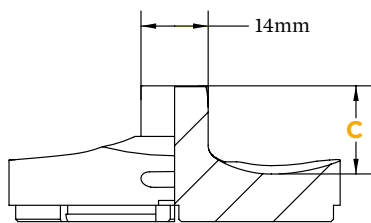
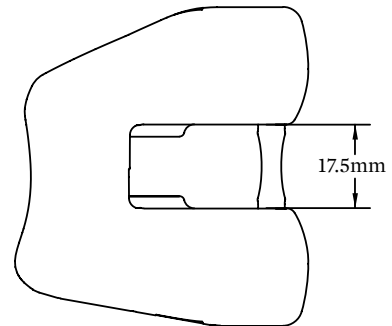
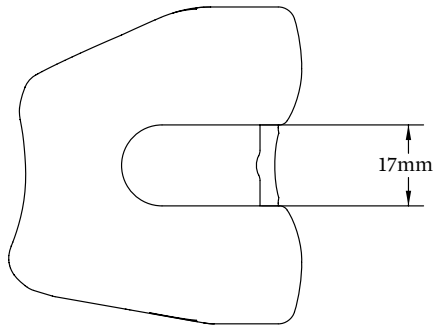
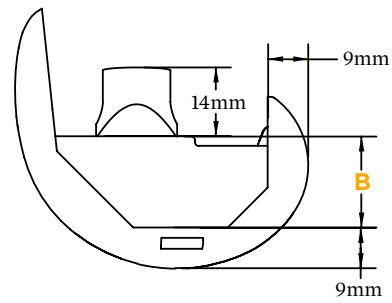
SIZE	A	B	C	D	E (PAGE 25)
1	10.3mm	18.4mm	17.8mm	22.1mm	31.8mm
2	10.6mm	18.7mm	18.1mm	22.3mm	31.8mm
3	10.8mm	18.9mm	18.3mm	22.4mm	36.9mm
4	11.0mm	19.1mm	18.5mm	22.6mm	36.9mm
5	11.2mm	19.3mm	18.7mm	22.7mm	42.3mm
6	11.5mm	19.6mm	20.0mm	22.8mm	42.3mm
7	11.7mm	19.8mm	20.2mm	-	42.3mm

Measurements given are the same for all sizes unless they are in parentheses () or given a letter that refers to the table.

PS FEMORAL COMPONENT

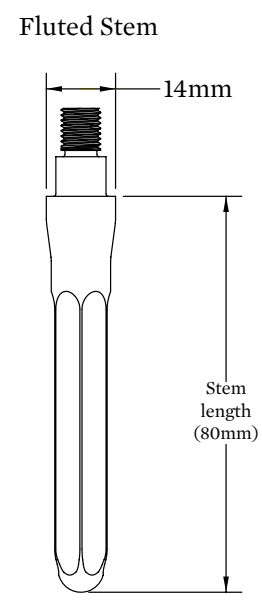
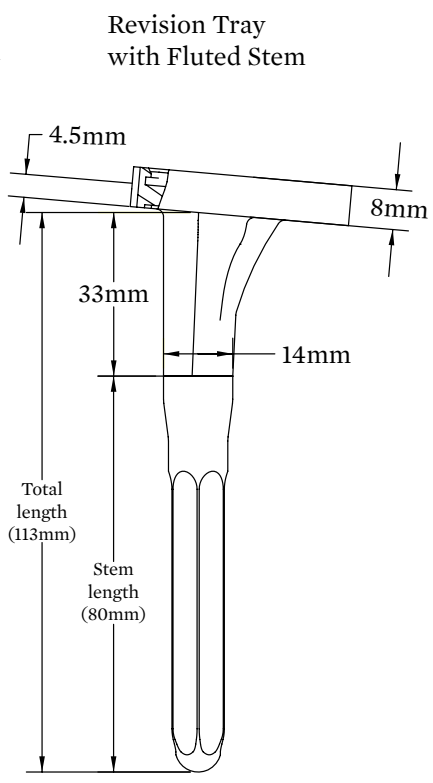
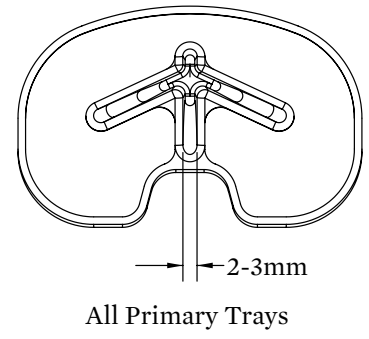
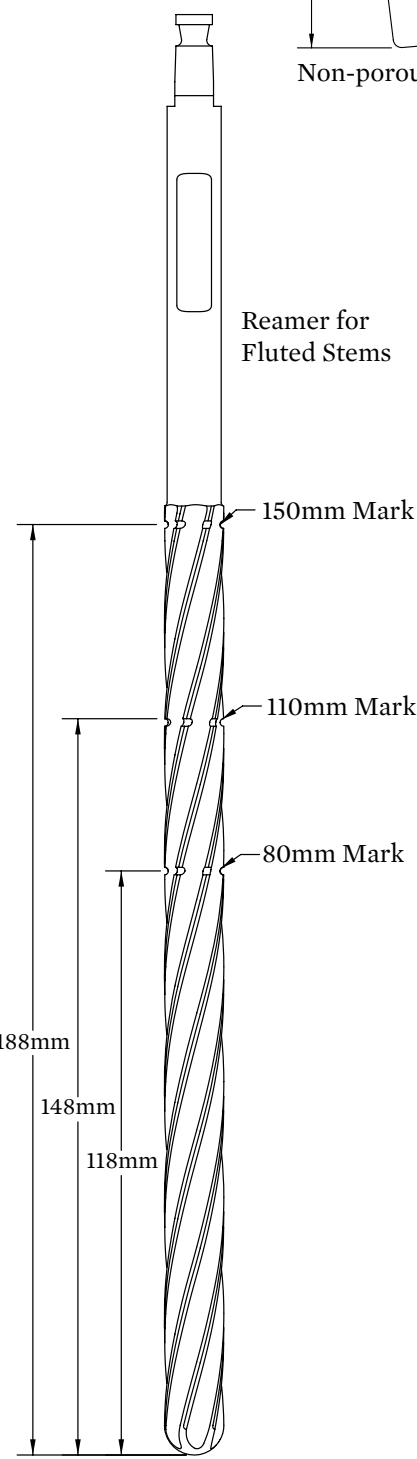
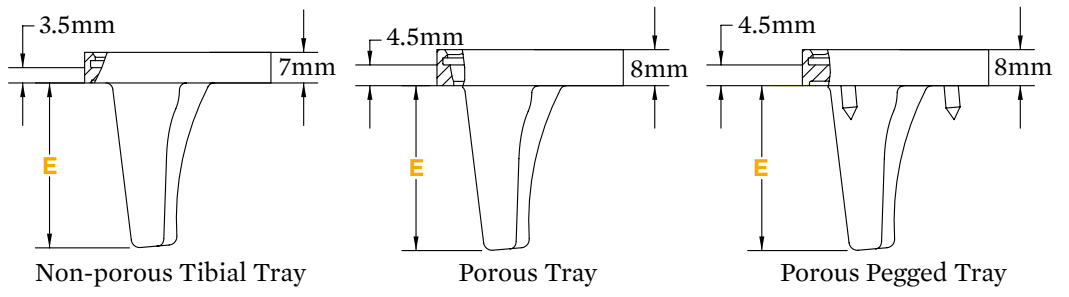


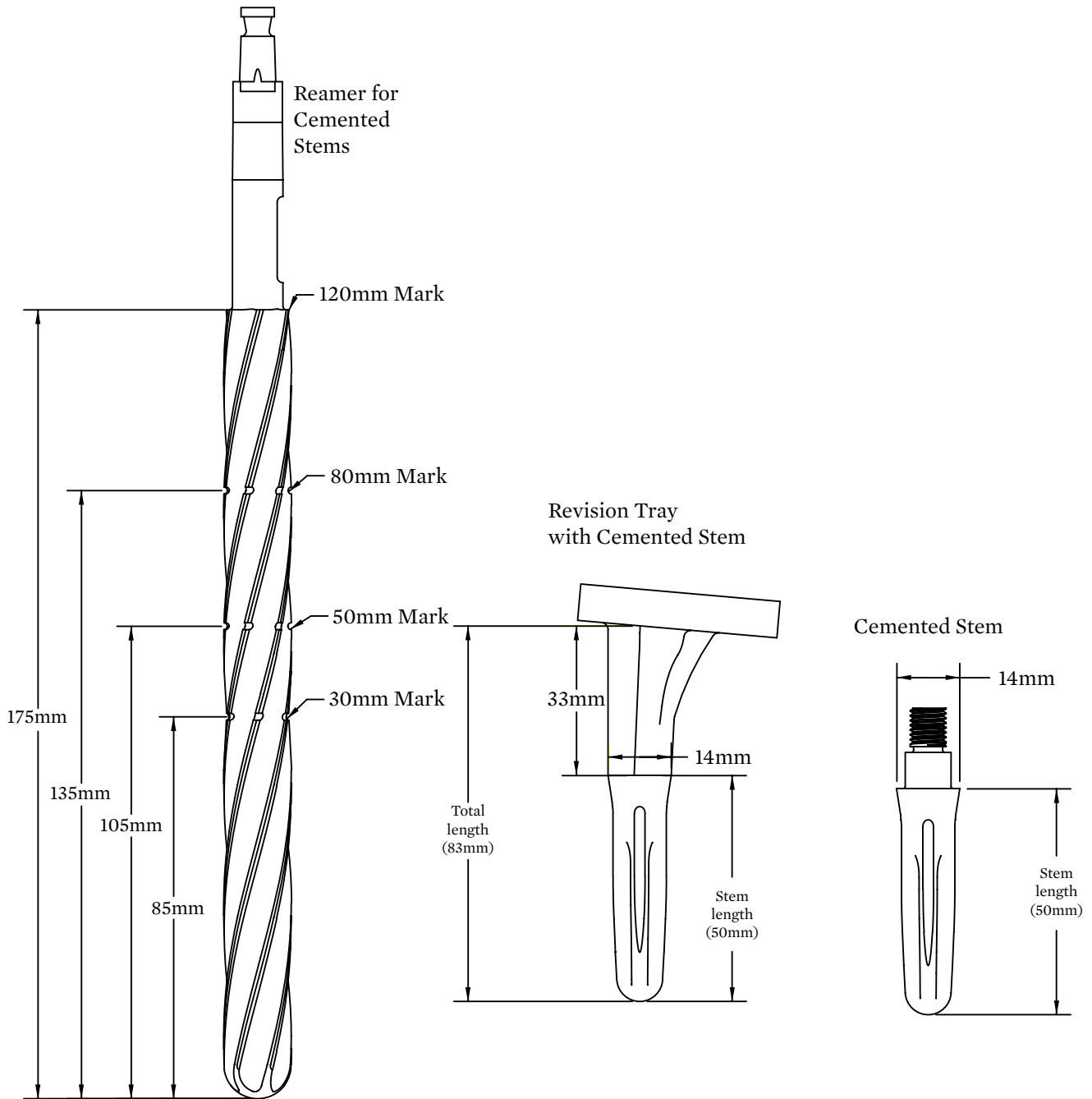
REVISION FEMORAL COMPONENT



PS TIBIAL INSERT

CK TIBIAL INSERT





Appendix 3: Components

The Balanced Knee® Revision System is comprised of the following components:

- Revision Femoral Component is available in seven sizes
- Revision Tibial Tray is available in six sizes
- Ability to up/downsize femur to tibia
- 4mm, 8mm and 12mm Distal Femoral Augments
- 4mm and 8mm Posterior Femoral Augments
- 80mm, 110mm and 150mm Fluted Stem Lengths in 10mm, 12mm, 13mm, 14mm, 15mm, 16mm, 17mm, 18mm, 20mm, 22mm and 24mm
- 30mm, 50mm, 80mm and 120mm Cemented Stem Lengths in 12mm and 14mm diameters
- Two types of Tibial Augmentation Components: Wedge in 10° and 20° angles, and Blocks in 5mm, 10mm, and 15mm thickness
- Same patented locking mechanism and balancing techniques as the primary Balanced Knee® System
- Easy intraoperative transition from the primary Balanced Knee® components to the Balanced Knee® Revision System if necessary

Appendix 4: Ordering Information

Balanced Knee® Revision System Implants

JUNCTION BOX

ITEM#	DESCRIPTION
561-5000	Femoral Junction Box 5°
561-7000	Femoral Junction Box 7°

MODULAR FEMORAL COMPONENTS

ITEM#	DESCRIPTION
561-1101	Size 1 Modular Femoral Component LT
561-1201	Size 2 Modular Femoral Component LT
561-1301	Size 3 Modular Femoral Component LT
561-1401	Size 4 Modular Femoral Component LT
561-1501	Size 5 Modular Femoral Component LT
561-1601	Size 6 Modular Femoral Component LT
561-1701	Size 7 Modular Femoral Component LT

ITEM#	DESCRIPTION
561-1102	Size 1 Modular Femoral Component RT
561-1202	Size 2 Modular Femoral Component RT
561-1302	Size 3 Modular Femoral Component RT
561-1402	Size 4 Modular Femoral Component RT
561-1502	Size 5 Modular Femoral Component RT
561-1602	Size 6 Modular Femoral Component RT
561-1702	Size 7 Modular Femoral Component RT

MODULAR TIBIAL TRAYS

ITEM#	DESCRIPTION (CUT AT 5°)
562-2100	Size 1 Modular Tibial Tray Sloped
562-2200	Size 2 Modular Tibial Tray Sloped
562-2300	Size 3 Modular Tibial Tray Sloped
562-2400	Size 4 Modular Tibial Tray Sloped
562-2500	Size 5 Modular Tibial Tray Sloped
562-2600	Size 6 Modular Tibial Tray Sloped

ITEM#	DESCRIPTION (CUT AT 0°)
562-1100	Size 1 Modular Tibial Tray Neutral
562-1200	Size 2 Modular Tibial Tray Neutral
562-1300	Size 3 Modular Tibial Tray Neutral
562-1400	Size 4 Modular Tibial Tray Neutral
562-1500	Size 5 Modular Tibial Tray Neutral
562-1600	Size 6 Modular Tibial Tray Neutral

DISTAL FEMORAL AUGMENTS

ITEM#	DESCRIPTION
568-1104	Size 1 4mm Distal Femoral Augment
568-1108	Size 1 8mm Distal Femoral Augment
568-1204	Size 2 4mm Distal Femoral Augment
568-1208	Size 2 8mm Distal Femoral Augment
568-1212	Size 2 12mm Distal Femoral Augment
568-1304	Size 3 4mm Distal Femoral Augment
568-1308	Size 3 8mm Distal Femoral Augment
568-1312	Size 3 12mm Distal Femoral Augment
568-1404	Size 4 4mm Distal Femoral Augment
568-1408	Size 4 8mm Distal Femoral Augment
568-1412	Size 4 12mm Distal Femoral Augment
568-1504	Size 5 4mm Distal Femoral Augment
568-1508	Size 5 8mm Distal Femoral Augment
568-1512	Size 5 12mm Distal Femoral Augment
568-1604	Size 6 4mm Distal Femoral Augment
568-1608	Size 6 8mm Distal Femoral Augment
568-1612	Size 6 12mm Distal Femoral Augment
568-1704	Size 7 4mm Distal Femoral Augment
568-1708	Size 7 8mm Distal Femoral Augment
568-1712	Size 7 12mm Distal Femoral Augment

POSTERIOR FEMORAL AUGMENTS

ITEM#	DESCRIPTION
568-2104	Size 1 4mm Posterior Femoral Augment
568-2108	Size 1 8mm Posterior Femoral Augment
568-2204	Size 2 4mm Posterior Femoral Augment
568-2208	Size 2 8mm Posterior Femoral Augment
568-2304	Size 3 4mm Posterior Femoral Augment
568-2308	Size 3 8mm Posterior Femoral Augment
568-2404	Size 4 4mm Posterior Femoral Augment
568-2408	Size 4 8mm Posterior Femoral Augment
568-2504	Size 5 4mm Posterior Femoral Augment
568-2508	Size 5 8mm Posterior Femoral Augment
568-2604	Size 6 4mm Posterior Femoral Augment
568-2608	Size 6 8mm Posterior Femoral Augment
568-2704	Size 7 4mm Posterior Femoral Augment
568-2708	Size 7 8mm Posterior Femoral Augment

TIBIAL INSERTS

ITEM#	DESCRIPTION
563-1108	Size 1 8mm CK Tibial Insert
563-1110	Size 1 10mm CK Tibial Insert
563-1112	Size 1 12mm CK Tibial Insert
563-1114	Size 1 14mm CK Tibial Insert
563-1116	Size 1 16mm CK Tibial Insert
563-1118	Size 1 18mm CK Tibial Insert
563-1120	Size 1 20mm CK Tibial Insert
563-1122	Size 1 22mm CK Tibial Insert
563-1124	Size 1 24mm CK Tibial Insert
563-1126	Size 1 26mm CK Tibial Insert
563-1128	Size 1 28mm CK Tibial Insert
563-1130	Size 1 30mm CK Tibial Insert
563-1208	Size 2 8mm CK Tibial Insert
563-1210	Size 2 10mm CK Tibial Insert
563-1212	Size 2 12mm CK Tibial Insert
563-1214	Size 2 14mm CK Tibial Insert
563-1216	Size 2 16mm CK Tibial Insert
563-1218	Size 2 18mm CK Tibial Insert
563-1220	Size 2 20mm CK Tibial Insert
563-1222	Size 2 22mm CK Tibial Insert
563-1224	Size 2 24mm CK Tibial Insert
563-1226	Size 2 26mm CK Tibial Insert
563-1228	Size 2 28mm CK Tibial Insert
563-1230	Size 2 30mm CK Tibial Insert
563-1308	Size 3 8mm CK Tibial Insert
563-1310	Size 3 10mm CK Tibial Insert
563-1312	Size 3 12mm CK Tibial Insert
563-1314	Size 3 14mm CK Tibial Insert
563-1316	Size 3 16mm CK Tibial Insert
563-1318	Size 3 18mm CK Tibial Insert
563-1320	Size 3 20mm CK Tibial Insert
563-1322	Size 3 22mm CK Tibial Insert
563-1324	Size 3 24mm CK Tibial Insert
563-1326	Size 3 26mm CK Tibial Insert
563-1328	Size 3 28mm CK Tibial Insert
563-1330	Size 3 30mm CK Tibial Insert

ITEM#	DESCRIPTION
563-1408	Size 4 8mm CK Tibial Insert
563-1410	Size 4 10mm CK Tibial Insert
563-1412	Size 4 12mm CK Tibial Insert
563-1414	Size 4 14mm CK Tibial Insert
563-1416	Size 4 16mm CK Tibial Insert
563-1418	Size 4 18mm CK Tibial Insert
563-1420	Size 4 20mm CK Tibial Insert
563-1422	Size 4 22mm CK Tibial Insert
563-1424	Size 4 24mm CK Tibial Insert
563-1426	Size 4 26mm CK Tibial Insert
563-1428	Size 4 28mm CK Tibial Insert
563-1430	Size 4 30mm CK Tibial Insert
563-1508	Size 5 8mm CK Tibial Insert
563-1510	Size 5 10mm CK Tibial Insert
563-1512	Size 5 12mm CK Tibial Insert
563-1514	Size 5 14mm CK Tibial Insert
563-1516	Size 5 16mm CK Tibial Insert
563-1518	Size 5 18mm CK Tibial Insert
563-1520	Size 5 20mm CK Tibial Insert
563-1522	Size 5 22mm CK Tibial Insert
563-1524	Size 5 24mm CK Tibial Insert
563-1526	Size 5 26mm CK Tibial Insert
563-1528	Size 5 28mm CK Tibial Insert
563-1530	Size 5 30mm CK Tibial Insert
563-1608	Size 6 8mm CK Tibial Insert
563-1610	Size 6 10mm CK Tibial Insert
563-1612	Size 6 12mm CK Tibial Insert
563-1614	Size 6 14mm CK Tibial Insert
563-1616	Size 6 16mm CK Tibial Insert
563-1618	Size 6 18mm CK Tibial Insert
563-1620	Size 6 20mm CK Tibial Insert
563-1622	Size 6 22mm CK Tibial Insert
563-1624	Size 6 24mm CK Tibial Insert
563-1626	Size 6 26mm CK Tibial Insert
563-1628	Size 6 28mm CK Tibial Insert
563-1630	Size 6 30mm CK Tibial Insert

CEMENTED STEMS

ITEM#	DESCRIPTION
565-1203	ø12mmx30mm Cemented Stem Extension
565-1205	ø12mmx50mm Cemented Stem Extension
565-1208	ø12mmx80mm Cemented Stem Extension
565-1212	ø12mmx120mm Cemented Stem Extension
565-1403	ø14mmx30mm Cemented Stem Extension
565-1405	ø14mmx50mm Cemented Stem Extension
565-1408	ø14mmx80mm Cemented Stem Extension
565-1412	ø14mmx120mm Cemented Stem Extension

FLUTED STEMS

ITEM#	DESCRIPTION
566-1008	ø10mmx80mm Fluted Stem Extension
566-1011	ø10mmx110mm Fluted Stem Extension
566-1015	ø10mmx150mm Fluted Stem Extension
566-1208	ø12mmx80mm Fluted Stem Extension
566-1211	ø12mmx110mm Fluted Stem Extension
566-1215	ø12mmx150mm Fluted Stem Extension
566-1308	ø13mmx80mm Fluted Stem Extension
566-1311	ø13mmx110mm Fluted Stem Extension
566-1315	ø13mmx150mm Fluted Stem Extension
566-1408	ø14mmx80mm Fluted Stem Extension
566-1411	ø14mmx110mm Fluted Stem Extension
566-1415	ø14mmx150mm Fluted Stem Extension
566-1508	ø15mmx80mm Fluted Stem Extension
566-1511	ø15mmx110mm Fluted Stem Extension
566-1515	ø15mmx150mm Fluted Stem Extension
566-1608	ø16mmx80mm Fluted Stem Extension
566-1611	ø16mmx110mm Fluted Stem Extension
566-1615	ø16mmx150mm Fluted Stem Extension
566-1708	ø17mmx80mm Fluted Stem Extension
566-1711	ø17mmx110mm Fluted Stem Extension
566-1715	ø17mmx150mm Fluted Stem Extension
566-1808	ø18mmx80mm Fluted Stem Extension
566-1811	ø18mmx110mm Fluted Stem Extension
566-1815	ø18mmx150mm Fluted Stem Extension
566-2008	ø20mmx80mm Fluted Stem Extension
566-2011	ø20mmx110mm Fluted Stem Extension
566-2015	ø20mmx150mm Fluted Stem Extension
566-2208	ø22mmx80mm Fluted Stem Extension
566-2211	ø22mmx110mm Fluted Stem Extension
566-2215	ø22mmx150mm Fluted Stem Extension
566-2408	ø24mmx80mm Fluted Stem Extension
566-2411	ø24mmx110mm Fluted Stem Extension
566-2415	ø24mmx150mm Fluted Stem Extension

TIBIAL BLOCK AUGMENT

ITEM#	DESCRIPTION
567-5101	Size 1 5mm Tibial Block Augment Rt Lat/Lt Med
567-5102	Size 2 5mm Tibial Block Augment Rt Lat/Lt Med
567-5103	Size 3 5mm Tibial Block Augment Rt Lat/Lt Med
567-5104	Size 4 5mm Tibial Block Augment Rt Lat/Lt Med
567-5105	Size 5 5mm Tibial Block Augment Rt Lat/Lt Med
567-5106	Size 6 5mm Tibial Block Augment Rt Lat/Lt Med
567-5201	Size 1 5mm Tibial Block Augment Lt Lat/Rt Med
567-5202	Size 2 5mm Tibial Block Augment Lt Lat/Rt Med
567-5203	Size 3 5mm Tibial Block Augment Lt Lat/Rt Med
567-5204	Size 4 5mm Tibial Block Augment Lt Lat/Rt Med
567-5205	Size 5 5mm Tibial Block Augment Lt Lat/Rt Med
567-5206	Size 6 5mm Tibial Block Augment Lt Lat/Rt Med
567-6101	Size 1 10mm Tibial Block Augment Rt Lat/Lt Med
567-6102	Size 2 10mm Tibial Block Augment Rt Lat/Lt Med
567-6103	Size 3 10mm Tibial Block Augment Rt Lat/Lt Med
567-6104	Size 4 10mm Tibial Block Augment Rt Lat/Lt Med
567-6105	Size 5 10mm Tibial Block Augment Rt Lat/Lt Med
567-6106	Size 6 10mm Tibial Block Augment Rt Lat/Lt Med
567-6201	Size 1 10mm Tibial Block Augment Lt Lat/Rt Med
567-6202	Size 2 10mm Tibial Block Augment Lt Lat/Rt Med
567-6203	Size 3 10mm Tibial Block Augment Lt Lat/Rt Med
567-6204	Size 4 10mm Tibial Block Augment Lt Lat/Rt Med
567-6205	Size 5 10mm Tibial Block Augment Lt Lat/Rt Med
567-6206	Size 6 10mm Tibial Block Augment Lt Lat/Rt Med
567-7101	Size 1 15mm Tibial Block Augment Rt Lat/Lt Med
567-7102	Size 2 15mm Tibial Block Augment Rt Lat/Lt Med
567-7103	Size 3 15mm Tibial Block Augment Rt Lat/Lt Med
567-7104	Size 4 15mm Tibial Block Augment Rt Lat/Lt Med
567-7105	Size 5 15mm Tibial Block Augment Rt Lat/Lt Med
567-7106	Size 6 15mm Tibial Block Augment Rt Lat/Lt Med
567-7201	Size 1 15mm Tibial Block Augment Lt Lat/Rt Med
567-7202	Size 2 15mm Tibial Block Augment Lt Lat/Rt Med
567-7203	Size 3 15mm Tibial Block Augment Lt Lat/Rt Med
567-7204	Size 4 15mm Tibial Block Augment Lt Lat/Rt Med
567-7205	Size 5 15mm Tibial Block Augment Lt Lat/Rt Med
567-7206	Size 6 15mm Tibial Block Augment Lt Lat/Rt Med

TIBIAL WEDGE AUGMENT

ITEM#	DESCRIPTION
567-1101	Size 1 10° Tibial Wedge Augment Rt Lat/Lt Med
567-1102	Size 2 10° Tibial Wedge Augment Rt Lat/Lt Med
567-1103	Size 3 10° Tibial Wedge Augment Rt Lat/Lt Med
567-1104	Size 4 10° Tibial Wedge Augment Rt Lat/Lt Med
567-1105	Size 5 10° Tibial Wedge Augment Rt Lat/Lt Med
567-1106	Size 6 10° Tibial Wedge Augment Rt Lat/Lt Med
567-1201	Size 1 10° Tibial Wedge Augment Lt Lat/Rt Med
567-1202	Size 2 10° Tibial Wedge Augment Lt Lat/Rt Med
567-1203	Size 3 10° Tibial Wedge Augment Lt Lat/Rt Med
567-1204	Size 4 10° Tibial Wedge Augment Lt Lat/Rt Med
567-1205	Size 5 10° Tibial Wedge Augment Lt Lat/Rt Med
567-1206	Size 6 10° Tibial Wedge Augment Lt Lat/Rt Med
567-2101	Size 1 20° Tibial Wedge Augment Rt Lat/Lt Med
567-2102	Size 2 20° Tibial Wedge Augment Rt Lat/Lt Med
567-2103	Size 3 20° Tibial Wedge Augment Rt Lat/Lt Med
567-2104	Size 4 20° Tibial Wedge Augment Rt Lat/Lt Med
567-2105	Size 5 20° Tibial Wedge Augment Rt Lat/Lt Med
567-2106	Size 6 20° Tibial Wedge Augment Rt Lat/Lt Med
567-2201	Size 1 20° Tibial Wedge Augment Lt Lat/Rt Med
567-2202	Size 2 20° Tibial Wedge Augment Lt Lat/Rt Med
567-2203	Size 3 20° Tibial Wedge Augment Lt Lat/Rt Med
567-2204	Size 4 20° Tibial Wedge Augment Lt Lat/Rt Med
567-2205	Size 5 20° Tibial Wedge Augment Lt Lat/Rt Med
567-2206	Size 6 20° Tibial Wedge Augment Lt Lat/Rt Med

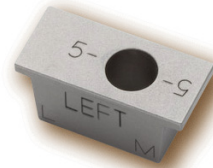
Balanced Knee® Revision System Instruments

<p>8MM I/M DRILL</p>	<p>TIBIAL CUT GUIDE</p>
 <p>A long, silver-colored metal drill bit with a double-flute design.</p>	 <p>Two views of a TIBIAL CUT GUIDE. The left view is labeled "Slotted" and the right view is labeled "Open". Both are silver-colored metal guides with a central slot and four small circular holes.</p>
<p>3.2MM QUICK PINS</p>	<p>TIBIAL STYLUS</p>
 <p>A single, long, thin, silver-colored metal pin.</p>	 <p>A TIBIAL STYLUS, a silver-colored metal tool with a central shaft and a T-shaped handle.</p>
<p>FEMORAL IMPACTOR</p>	<p>TIBIAL IMPACTOR</p>
 <p>A FEMORAL IMPACTOR, a silver-colored metal tool with a textured handle and a black impact head.</p>	 <p>A TIBIAL IMPACTOR, a silver-colored metal tool with a textured handle and a black impact head.</p>
<p>TIBIAL ALIGNMENT GUIDE</p>	<p>HEADED PIN</p>
 <p>A TIBIAL ALIGNMENT GUIDE, a long, silver-colored metal tool with a handle and a guide head.</p>	 <p>A HEADED PIN, a silver-colored metal pin with a flat, arrow-shaped head.</p>

SPACER BLOCK HANDLE



FINISH CUT GUIDE BUSHING



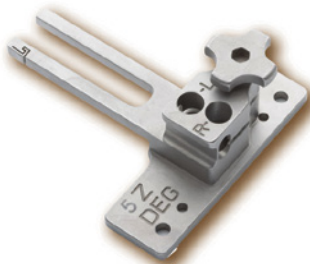
SPACER BLOCK



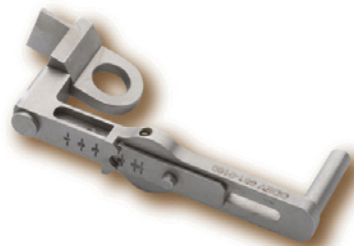
FEMORAL WRENCH



VARUS/VALGUS GUIDE



4-IN-1 CUT GUIDE STYLUS



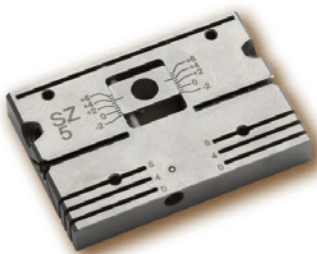
DISTAL CUT GUIDE AND SCAFFOLDING



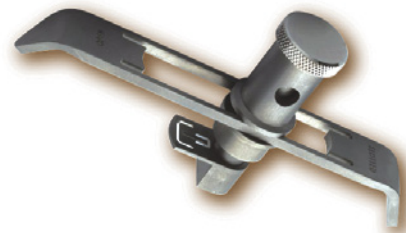
FEMORAL FINISH CUT GUIDE



4-IN-1 CUT GUIDE



SLOT REFERENCING TIBIAL STYLUS



FEMORAL C-SIZER



QUICK CONNECT T-HANDLE



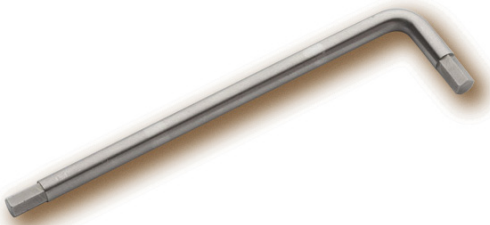
FEMORAL TRIAL



I/M ROD



5MM HEX WRENCH



I/M CUT GUIDE SCAFFOLDING



TIBIAL CUT BLOCK



TIBIAL PUNCH GUIDE



TIBIAL TRAY SIZER TRIAL



TIBIAL KEEL PUNCH



DRILL GUIDE (15 OR 17MM)



TIBIAL TRAY TRIAL



TIBIAL KEEL STOP DRILL



TIBIAL INSERT IMPACTOR



CK TIBIAL INSERT TRIAL



STEM EXTENSION WRENCH



I/M ADAPTER



CEMENTED REAMER



STEM EXTENDERS



STEM EXTENSION TRIAL



TIBIAL TRAY WRENCH



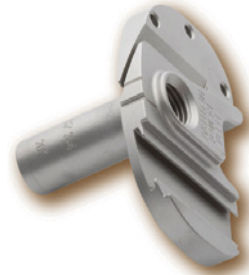
REAMER



2.5MM HEX WRENCH



AUGMENT CUT BASE



2.5MM HEX DRIVER



TIBIAL AUGMENT TRIAL



AUGMENT CUT BASE HANDLE



FEMORAL AUGMENTS



AUGMENT CUT BLOCK



AUGMENT SPACER BLOCK



TIBIAL ALIGNMENT HANDLE



AUGMENT ASSEMBLY TOOL



STEM ADAPTER CAP



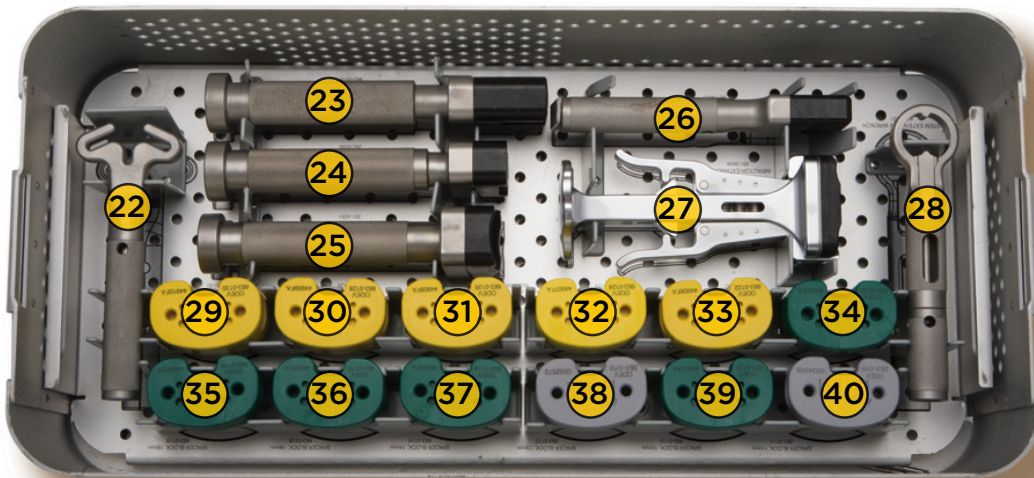
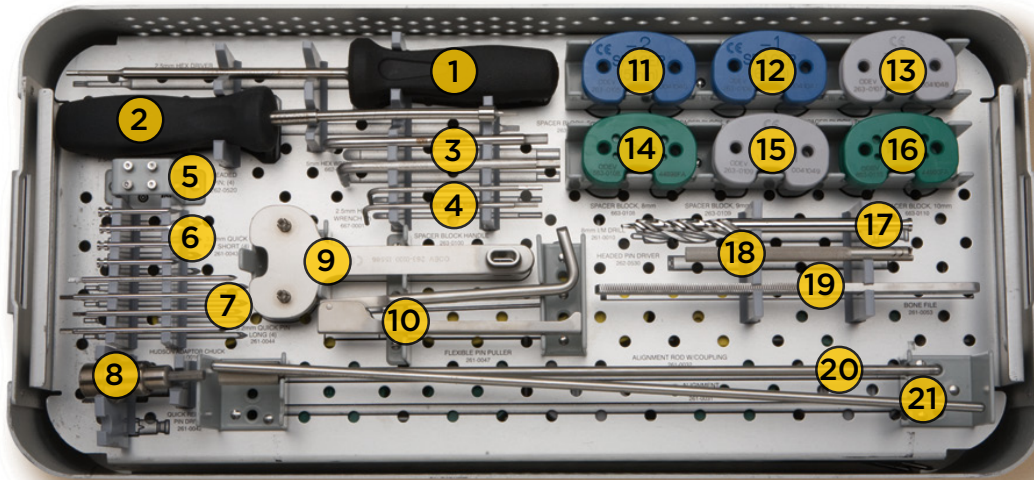
UNIVERSAL 2.5MM HEX DRIVER



SPACER BLOCK REMOVER



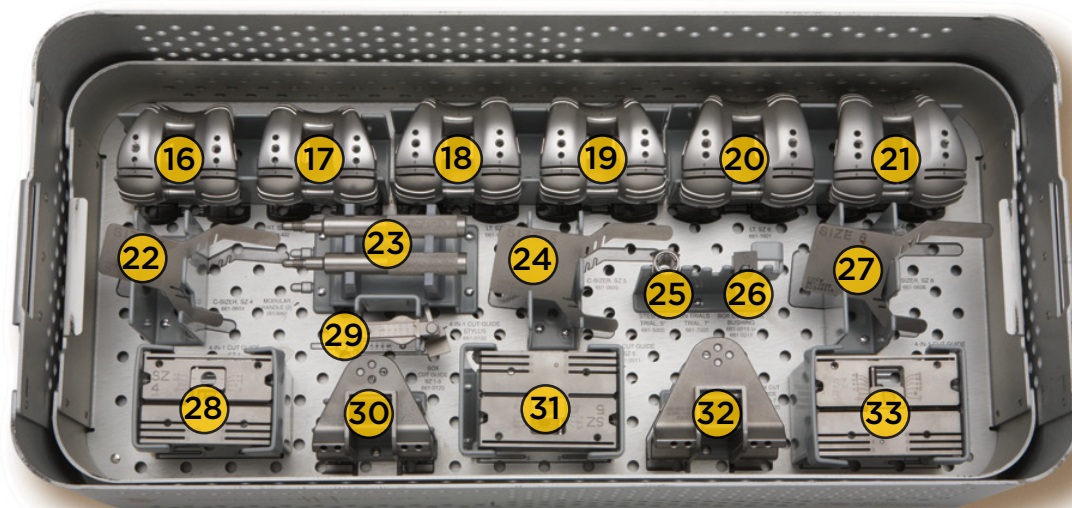
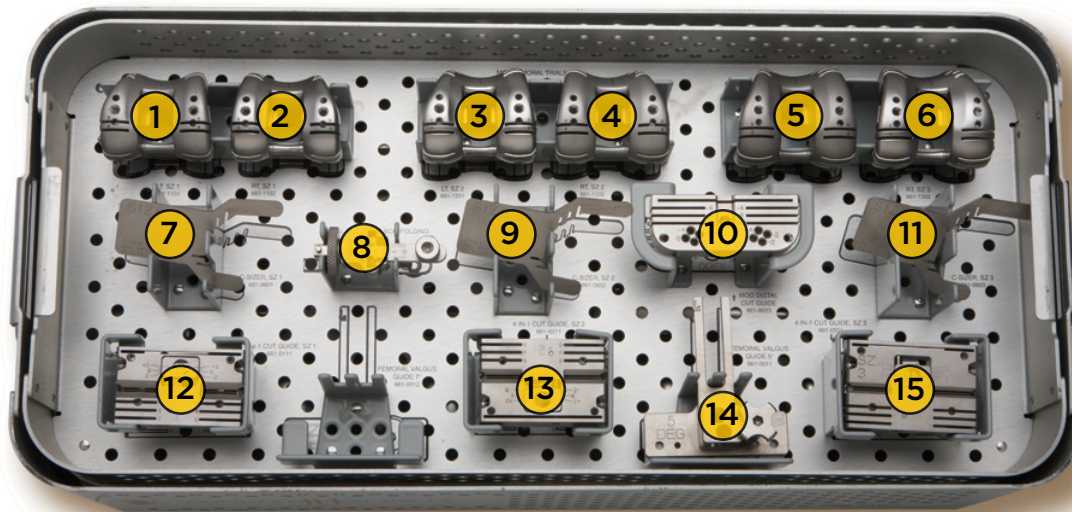
Balanced Knee® Revision System Instrument Trays



661-9001 COMMON INSTRUMENTS KIT

NUMBER	ITEM #	DESCRIPTION
1	667-0002	2.5mm Hex Driver
2	668-0125	2.5mm Universal Hex Driver
3	662-0005	5mm Hex Wrench (2)
4	667-0001	2.5mm Hex Wrench (2)
5	262-0520	Headed Pin (4)
6	262-0525	Headed Pin Long (4)
7	261-0044	3.2mm Quick Pin Long (4)
8	211-0016	Hudson Adapter Chuck
9	263-0100	Spacer Block Handle
10	261-0047	Flexible Pin Puller
11	263-0105	5mm Spacer Block
12	263-0106	6mm Spacer Block
13	263-0107	7mm Spacer Block
14	663-0108	8mm Spacer Block
15	263-0109	9mm Spacer Block
16	663-0110	10mm Spacer Block
17	261-0010	8mm I/M Drill
18	262-0530	Headed Pin Driver
19	261-0053	Bone File
20	261-0032	Alignment Rod with Coupling
21	261-0031	Alignment Rod
22	665-0020	Tibial Tray Wrench
23	663-0010	Insert Impactor

NUMBER	ITEM #	DESCRIPTION
24	262-0500	Tibial Tray Impactor
25	261-0051	Femoral Impactor
26	661-0045	Modular Femoral Wrench
27	261-0054	Femoral Impactor/Extractor
28	665-0021	Stem Extension Wrench
29	663-0130	30mm Spacer Block
30	663-0128	28mm Spacer Block
31	663-0126	26mm Spacer Block
32	663-0124	24mm Spacer Block
33	663-0122	22mm Spacer Block
34	663-0120	20mm Spacer Block
35	663-0118	18mm Spacer Block
36	663-0116	16mm Spacer Block
37	663-0114	14mm Spacer Block
38	263-0113	13mm Spacer Block
39	663-0112	12mm Spacer Block
40	263-0111	11mm Spacer Block
Not pictured	262-0600	Cut Feeler Gage
Not pictured	263-0010	Tibial Insert Clamp
Not pictured	261-0042	Quick Release Pin Driver
Not pictured	228-0001	Hudson Screwdriver Handle
	661-6001	BKS Common Case



661-9002 MODULAR FEMORAL SIZE 1-6 KIT

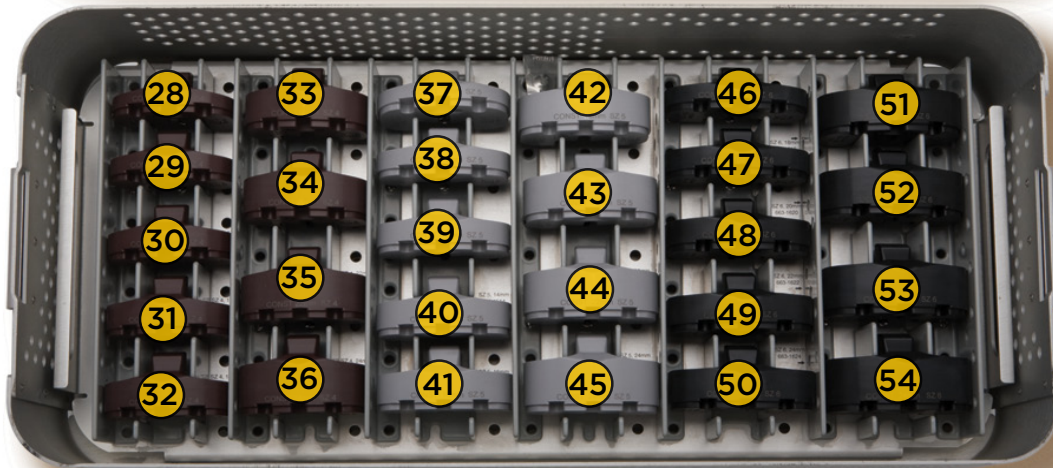
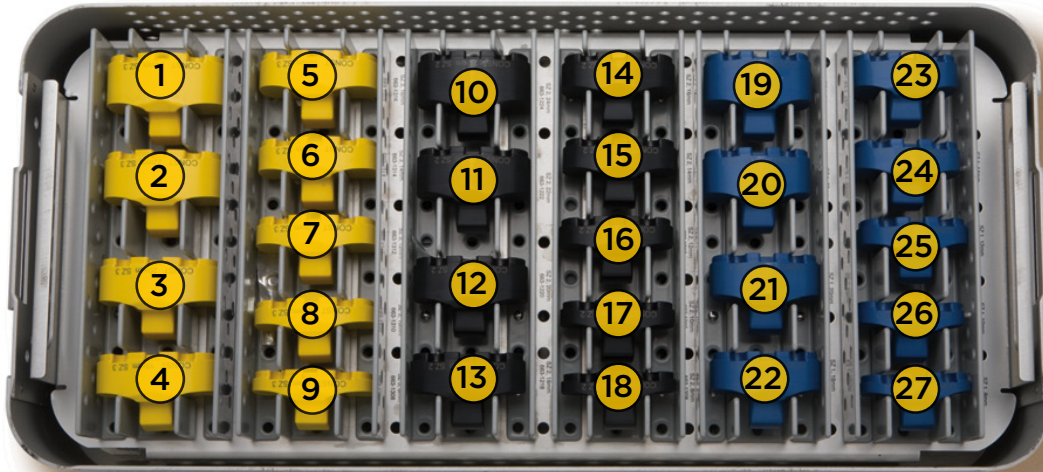
NUMBER	ITEM #	DESCRIPTION
1	661-1101	LT Size 1 Modular Femoral Trial
2	661-1102	RT Size 1 Modular Femoral Trial
3	661-1201	LT Size 2 Modular Femoral Trial
4	661-1202	RT Size 2 Modular Femoral Trial
5	661-1301	LT Size 3 Modular Femoral Trial
6	661-1302	RT Size 3 Modular Femoral Trial
7	661-0601	Size 1 C-sizer
8	661-0020	Distal Cut Guide Scaffolding
9	661-0602	Size 2 C-sizer
10	661-0023	Modular Distal Cut Guide
11	661-0603	Size 3 C-sizer
12	661-0111	Size 1 4-in-1 Cut Guide
13	661-0211	Size 2 4-in-1 Cut Guide
14	661-0011	Femoral Valgus Guide 5°
15	661-0311	Size 3 4-in-1 Cut Guide
16	661-1401	LT Size 4 Modular Femoral Trial
17	661-1402	RT Size 4 Modular Femoral Trial
18	661-1501	LT Size 5 Modular Femoral Trial
19	661-1502	RT Size 5 Modular Femoral Trial

NUMBER	ITEM #	DESCRIPTION
20	661-1601	LT Size 6 Modular Femoral Trial
21	661-1602	RT Size 6 Modular Femoral Trial
22	661-0604	Size 4 C-sizer
23	261-0052	Modular Handle
24	661-0605	Size 5 C-sizer
25	661-5000	Stem Junction Trial 5°
26	661-0215	Box Cut Guide 5° Bushing
27	661-0606	Size 6 C-sizer
28	661-0411	Size 4 4-in-1 Cut Guide
29	661-0100	4-in-1 Cut Guide Stylus
30	661-0120	Size 1-5 Box Cut Guide
31	661-0511	Size 5 4-in-1 Cut Guide
32	661-0620	Size 6-7 Box Cut Guide
33	661-0611	Size 6 4-in-1 Cut Guide
Not pictured	661-0515	15mm Femoral Reamer Guide, 5°
Not pictured	661-0517	17mm Femoral Reamer Guide, 5°
Not pictured	661-0500	Femoral Reamer Guide Stylus
	661-6002	BKS Modular Femoral Size 1-6 Case



661-9003 FEMORAL AUGMENT KIT

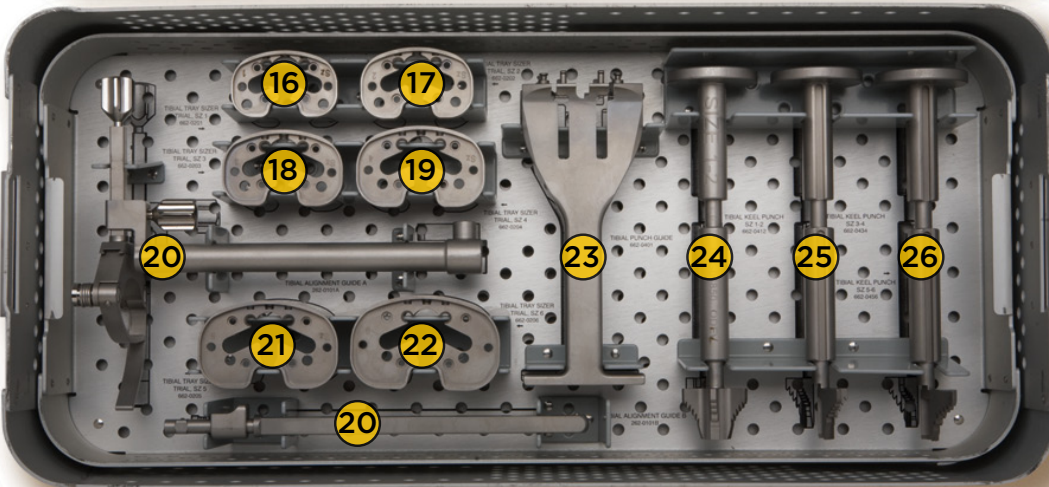
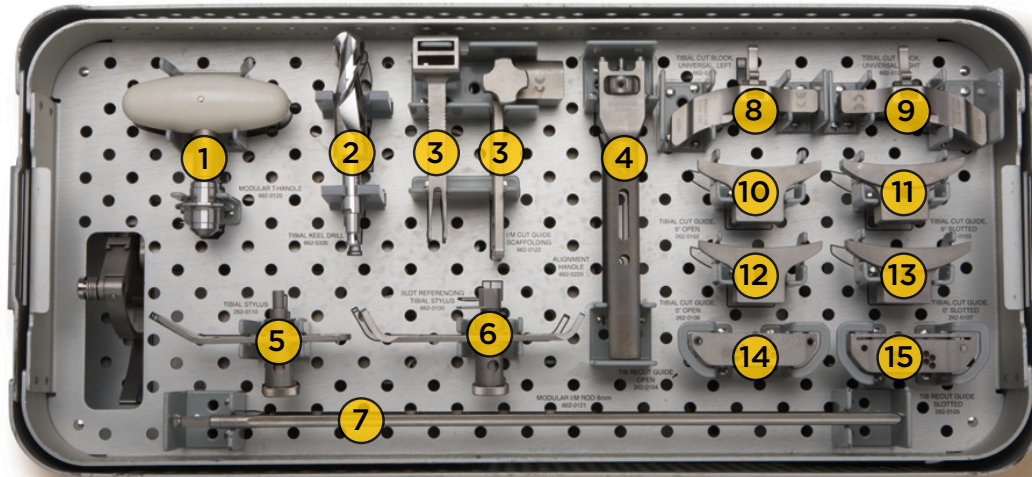
NUMBER	ITEM #	DESCRIPTION
1	668-2608	Size 6 8mm Femoral Augment Trial Posterior (2)
2	668-2508	Size 5 8mm Femoral Augment Trial Posterior (2)
3	668-2408	Size 4 8mm Femoral Augment Trial Posterior (2)
4	668-2308	Size 3 8mm Femoral Augment Trial Posterior (2)
5	668-2208	Size 2 8mm Femoral Augment Trial Posterior (2)
6	668-2108	Size 1 8mm Femoral Augment Trial Posterior (2)
7	668-2604	Size 6 4mm Femoral Augment Trial Posterior (2)
8	668-2504	Size 5 4mm Femoral Augment Trial Posterior (2)
9	668-2404	Size 4 4mm Femoral Augment Trial Posterior (2)
10	668-2304	Size 3 4mm Femoral Augment Trial Posterior (2)
11	668-2204	Size 2 4mm Femoral Augment Trial Posterior (2)
12	668-2104	Size 1 4mm Femoral Augment Trial Posterior (2)
13	668-1612	Size 6 12mm Femoral Augment Trial Distal (2)
14	668-1512	Size 5 12mm Femoral Augment Trial Distal (2)
15	668-1412	Size 4 12mm Femoral Augment Trial Distal (2)
16	668-1312	Size 3 12mm Femoral Augment Trial Distal (2)
17	668-1212	Size 2 12mm Femoral Augment Trial Distal (2)
18	668-1604	Size 6 4mm Femoral Augment Trial Distal (2)
19	668-1504	Size 5 4mm Femoral Augment Trial Distal (2)
20	668-1404	Size 4 4mm Femoral Augment Trial Distal (2)
21	668-1304	Size 3 4mm Femoral Augment Trial Distal (2)
22	668-1204	Size 2 4mm Femoral Augment Trial Distal (2)
23	668-1104	Size 1 4mm Femoral Augment Trial Distal (2)
24	668-0001	Augment Spacer Tool
25	668-0012	12mm Femoral Spacer (2)
26	668-0008	8mm Femoral Spacer (2)
27	668-0004	4mm Femoral Spacer (2)
28	668-1608	Size 6 8mm Femoral Augment Trial Distal (2)
29	668-1508	Size 5 8mm Femoral Augment Trial Distal (2)
30	668-1408	Size 4 8mm Femoral Augment Trial Distal (2)
31	668-1308	Size 3 8mm Femoral Augment Trial Distal (2)
32	668-1208	Size 2 8mm Femoral Augment Trial Distal (2)
33	668-1108	Size 1 8mm Femoral Augment Trial Distal (2)
Not pictured	668-0100	Augment Assembly Tool
	661-6003	BKS Modular Femoral Augment Case



661-9004 CK INSERT 8-24MM KIT

NUMBER	ITEM #	DESCRIPTION
1	663-1324	Size 3 24mm CK Insert Trial
2	663-1322	Size 3 22mm CK Insert Trial
3	663-1320	Size 3 20mm CK Insert Trial
4	663-1318	Size 3 18mm CK Insert Trial
5	663-1316	Size 3 16mm CK Insert Trial
6	663-1314	Size 3 14mm CK Insert Trial
7	663-1312	Size 3 12mm CK Insert Trial
8	663-1310	Size 3 10mm CK Insert Trial
9	663-1308	Size 3 8mm CK Insert Trial
10	663-1224	Size 2 24mm CK Insert Trial
11	663-1222	Size 2 22mm CK Insert Trial
12	663-1220	Size 2 20mm CK Insert Trial
13	663-1218	Size 2 18mm CK Insert Trial
14	663-1216	Size 2 16mm CK Insert Trial
15	663-1214	Size 2 14mm CK Insert Trial
16	663-1212	Size 2 12mm CK Insert Trial
17	663-1210	Size 2 10mm CK Insert Trial
18	663-1208	Size 2 8mm CK Insert Trial
19	663-1124	Size 1 24mm CK Insert Trial
20	663-1122	Size 1 22mm CK Insert Trial
21	663-1120	Size 1 20mm CK Insert Trial
22	663-1118	Size 1 18mm CK Insert Trial
23	663-1116	Size 1 16mm CK Insert Trial
24	663-1114	Size 1 14mm CK Insert Trial
25	663-1112	Size 1 12 mm CK Insert Trial
26	663-1110	Size 1 10 mm CK Insert Trial
27	663-1108	Size 1 8 mm CK Insert Trial

NUMBER	ITEM #	DESCRIPTION
28	663-1408	Size 4 8mm CK Insert Trial
29	663-1410	Size 4 10mm CK Insert Trial
30	663-1412	Size 4 12mm CK Insert Trial
31	663-1414	Size 4 14mm CK Insert Trial
32	663-1416	Size 4 16mm CK Insert Trial
33	663-1418	Size 4 18mm CK Insert Trial
34	663-1420	Size 4 20mm CK Insert Trial
35	663-1422	Size 4 22mm CK Insert Trial
36	663-1424	Size 4 24mm CK Insert Trial
37	663-1508	Size 5 8mm CK Insert Trial
38	663-1510	Size 5 10mm CK Insert Trial
39	663-1512	Size 5 12mm CK Insert Trial
40	663-1514	Size 5 14mm CK Insert Trial
41	663-1516	Size 5 16mm CK Insert Trial
42	663-1518	Size 5 18mm CK Insert Trial
43	663-1520	Size 5 20mm CK Insert Trial
44	663-1522	Size 5 22mm CK Insert Trial
45	663-1524	Size 5 24mm CK Insert Trial
46	663-1608	Size 6 8mm CK Insert Trial
47	663-1610	Size 6 10mm CK Insert Trial
48	663-1612	Size 6 12mm CK Insert Trial
49	663-1614	Size 6 14mm CK Insert Trial
50	663-1616	Size 6 16mm CK Insert Trial
51	663-1618	Size 6 18mm CK Insert Trial
52	663-1620	Size 6 20mm CK Insert Trial
53	663-1622	Size 6 22mm CK Insert Trial
54	663-1624	Size 6 24mm CK Insert Trial
	661-6004	BKS CK Insert 8-24 Case

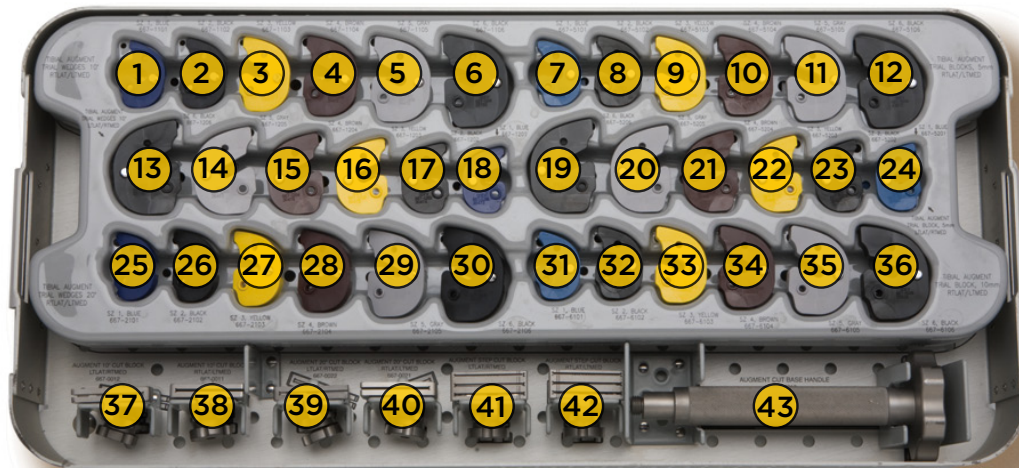


661-9024 CK INSERT 26-30MM KIT

NUMBER	ITEM #	DESCRIPTION
Not pictured	663-1126	Size 1 26mm CK Insert Trial
Not pictured	663-1128	Size 1 28mm CK Insert Trial
Not pictured	663-1130	Size 1 30mm CK Insert Trial
Not pictured	663-1226	Size 2 26mm CK Insert Trial
Not pictured	663-1228	Size 2 28mm CK Insert Trial
Not pictured	663-1230	Size 2 30mm CK Insert Trial
Not pictured	663-1326	Size 3 26mm CK Insert Trial
Not pictured	663-1328	Size 3 28mm CK Insert Trial
Not pictured	663-1330	Size 3 30mm CK Insert Trial
Not pictured	663-1426	Size 4 26mm CK Insert Trial
Not pictured	663-1428	Size 4 28mm CK Insert Trial
Not pictured	663-1430	Size 4 30mm CK Insert Trial
Not pictured	663-1526	Size 5 26mm CK Insert Trial
Not pictured	663-1528	Size 5 28mm CK Insert Trial
Not pictured	663-1530	Size 5 30mm CK Insert Trial
Not pictured	663-1626	Size 6 26mm CK Insert Trial
Not pictured	663-1628	Size 6 28mm CK Insert Trial
Not pictured	663-1630	Size 6 30mm CK Insert Trial
	661-6024	BKS CK Insert 26-30mm Case

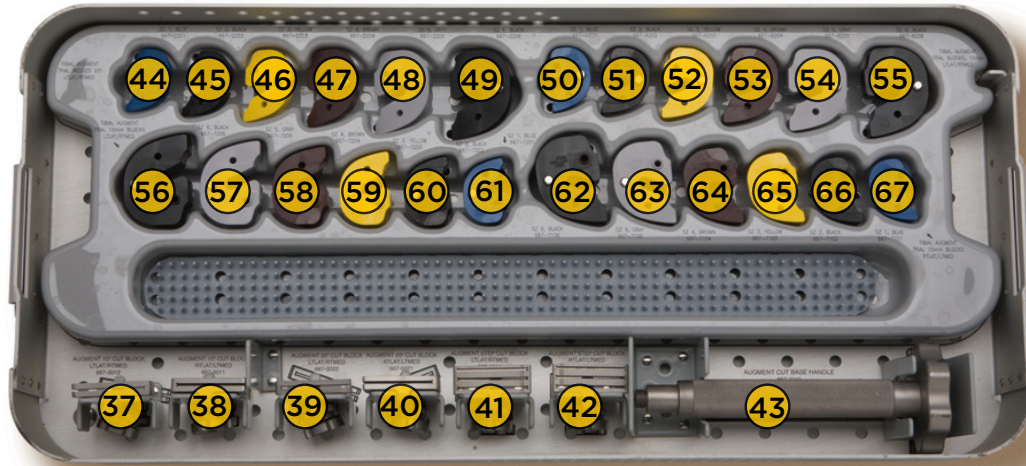
661-9005 COMMON MODULAR TIBIAL KIT

NUMBER	ITEM #	DESCRIPTION
1	662-0120	Modular T-Handle
2	662-0320	Tibial Keel Drill
3	662-0122	I/M Cut Guide Scaffolding (2)
4	662-0220	Alignment Handle
5	262-0110	Tibial Stylus
6	662-0100	Slot Referencing Tibial Stylus
7	662-0121	8mm Modular I/M Rod
8	662-0123	LT Tibial Cut Block Universal
9	662-0124	RT Tibial Cut Block Universal
10	262-0102	Tibial Cut Guide 5° Open
11	262-0103	Tibial Cut Guide 5° Slotted
12	262-0106	Tibial Cut Guide 0° Open
13	262-0107	Tibial Cut Guide 0° Slotted
14	262-0104	Tibial Recut Guide Open
15	262-0105	Tibial Recut Guide Slotted
16	662-0201	Size 1 Tibial Tray Sizer Trial
17	662-0202	Size 2 Tibial Tray Sizer Trial
18	662-0203	Size 3 Tibial Tray Sizer Trial
19	662-0204	Size 4 Tibial Tray Sizer Trial
20	262-0101	Tibial Alignment Guide (2)
21	662-0205	Size 5 Tibial Tray Sizer Trial
22	662-0206	Size 6 Tibial Tray Sizer Trial
23	662-0401	Tibial Punch Guide
24	662-0412	Size 1-2 Tibial Keel Punch
25	662-0434	Size 3-4 Tibial Keel Punch
26	662-0456	Size 5-6 Tibial Keel Punch
	661-6005	BKS Common Modular Tibial Case



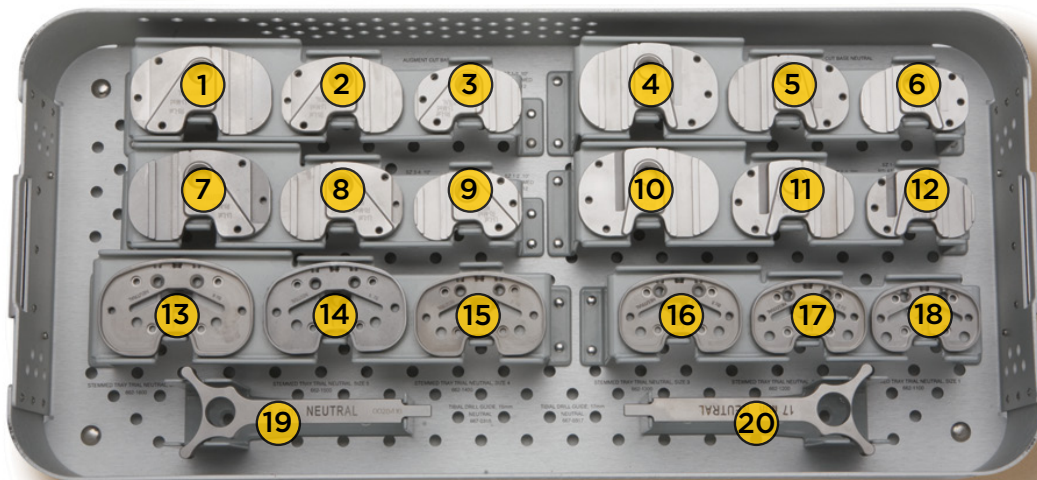
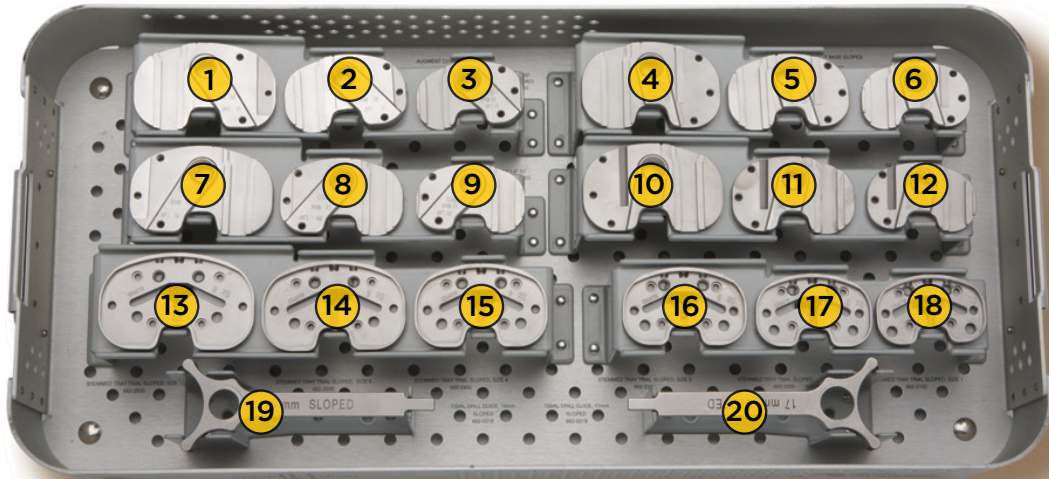
661-9006 TIBIAL AUGMENT KIT | UPPER TRAY

NUMBER	ITEM #	DESCRIPTION
1	667-1101	Size 1 Tibial Augment Trial 10° Wedge Rt Lat/Lt Med
2	667-1102	Size 2 Tibial Augment Trial 10° Wedge Rt Lat/Lt Med
3	667-1103	Size 3 Tibial Augment Trial 10° Wedge Rt Lat/Lt Med
4	667-1104	Size 4 Tibial Augment Trial 10° Wedge Rt Lat/Lt Med
5	667-1105	Size 5 Tibial Augment Trial 10° Wedge Rt Lat/Lt Med
6	667-1106	Size 6 Tibial Augment Trial 10° Wedge Rt Lat/Lt Med
7	667-5101	Size 1 Tibial Augment Trial 5mm Block Rt Lat/Lt Med
8	667-5102	Size 2 Tibial Augment Trial 5mm Block Rt Lat/Lt Med
9	667-5103	Size 3 Tibial Augment Trial 5mm Block Rt Lat/Lt Med
10	667-5104	Size 4 Tibial Augment Trial 5mm Block Rt Lat/Lt Med
11	667-5105	Size 5 Tibial Augment Trial 5mm Block Rt Lat/Lt Med
12	667-5106	Size 6 Tibial Augment Trial 5mm Block Rt Lat/Lt Med
13	667-1206	Size 6 Tibial Augment Trial 10° Wedge Lt Lat/Rt Med
14	667-1205	Size 5 Tibial Augment Trial 10° Wedge Lt Lat/Rt Med
15	667-1204	Size 4 Tibial Augment Trial 10° Wedge Lt Lat/Rt Med
16	667-1203	Size 3 Tibial Augment Trial 10° Wedge Lt Lat/Rt Med
17	667-1202	Size 2 Tibial Augment Trial 10° Wedge Lt Lat/Rt Med
18	667-1201	Size 1 Tibial Augment Trial 10° Wedge Lt Lat/Rt Med
19	667-5206	Size 6 Tibial Augment Trial 5mm Block Lt Lat/Rt Med
20	667-5205	Size 5 Tibial Augment Trial 5mm Block Lt Lat/Rt Med
21	667-5204	Size 4 Tibial Augment Trial 5mm Block Lt Lat/Rt Med
22	667-5203	Size 3 Tibial Augment Trial 5mm Block Lt Lat/Rt Med
23	667-5202	Size 2 Tibial Augment Trial 5mm Block Lt Lat/Rt Med
24	667-5201	Size 1 Tibial Augment Trial 5mm Block Lt Lat/Rt Med
25	667-2101	Size 1 Tibial Augment Trial 20° Wedge Rt Lat/Lt Med
26	667-2102	Size 2 Tibial Augment Trial 20° Wedge Rt Lat/Lt Med
27	667-2103	Size 3 Tibial Augment Trial 20° Wedge Rt Lat/Lt Med
28	667-2104	Size 4 Tibial Augment Trial 20° Wedge Rt Lat/Lt Med
29	667-2105	Size 5 Tibial Augment Trial 20° Wedge Rt Lat/Lt Med
30	667-2106	Size 6 Tibial Augment Trial 20° Wedge Rt Lat/Lt Med
31	667-6101	Size 1 Tibial Augment Trial 10mm Block Rt Lat/Lt Med
32	667-6102	Size 2 Tibial Augment Trial 10mm Block Rt Lat/Lt Med
33	667-6103	Size 3 Tibial Augment Trial 10mm Block Rt Lat/Lt Med
34	667-6104	Size 4 Tibial Augment Trial 10mm Block Rt Lat/Lt Med
35	667-6105	Size 5 Tibial Augment Trial 10mm Block Rt Lat/Lt Med
36	667-6106	Size 6 Tibial Augment Trial 10mm Block Rt Lat/Lt Med



661-9006 TIBIAL AUGMENT KIT | LOWER TRAY

NUMBER	ITEM #	DESCRIPTION
37	667-0011	Augment 10° Cut Block Rt Lat/Lt Med
38	667-0012	Augment 10° Cut Block Lt Lat/Rt Med
39	667-0021	Augment 20° Cut Block Rt Lat/Lt Med
40	667-0022	Augment 20° Cut Block Lt Lat/Rt Med
41	667-0051	Augment Step Cut Block Rt Lat/Lt Med
42	667-0052	Augment Step Cut Block Lt Lat/Rt Med
43	667-0010	Augment Cut Base Handle
44	667-2201	Size 1 Tibial Augment Trial 20° Wedge Lt Lat/Rt Med
45	667-2202	Size 2 Tibial Augment Trial 20° Wedge Lt Lat/Rt Med
46	667-2203	Size 3 Tibial Augment Trial 20° Wedge Lt Lat/Rt Med
47	667-2204	Size 4 Tibial Augment Trial 20° Wedge Lt Lat/Rt Med
48	667-2205	Size 5 Tibial Augment Trial 20° Wedge Lt Lat/Rt Med
49	667-2206	Size 6 Tibial Augment Trial 20° Wedge Lt Lat/Rt Med
50	667-6201	Size 1 Tibial Augment Trial 10mm Block Lt Lat/Rt Med
51	667-6202	Size 2 Tibial Augment Trial 10mm Block Lt Lat/Rt Med
52	667-6203	Size 3 Tibial Augment Trial 10mm Block Lt Lat/Rt Med
53	667-6204	Size 4 Tibial Augment Trial 10mm Block Lt Lat/Rt Med
54	667-6205	Size 5 Tibial Augment Trial 10mm Block Lt Lat/Rt Med
55	667-6206	Size 6 Tibial Augment Trial 10mm Block Lt Lat/Rt Med
56	667-7206	Size 6 Tibial Augment Trial 15mm Block Lt Lat/Rt Med
57	667-7205	Size 5 Tibial Augment Trial 15mm Block Lt Lat/Rt Med
58	667-7204	Size 4 Tibial Augment Trial 15mm Block Lt Lat/Rt Med
59	667-7203	Size 3 Tibial Augment Trial 15mm Block Lt Lat/Rt Med
60	667-7202	Size 2 Tibial Augment Trial 15mm Block Lt Lat/Rt Med
61	667-7201	Size 1 Tibial Augment Trial 15mm Block Lt Lat/Rt Med
62	667-7106	Size 6 Tibial Augment Trial 15mm Block Rt Lat/Lt Med
63	667-7105	Size 5 Tibial Augment Trial 15mm Block Rt Lat/Lt Med
64	667-7104	Size 4 Tibial Augment Trial 15mm Block Rt Lat/Lt Med
65	667-7103	Size 3 Tibial Augment Trial 15mm Block Rt Lat/Lt Med
66	667-7102	Size 2 Tibial Augment Trial 15mm Block Rt Lat/Lt Med
67	667-7101	Size 1 Tibial Augment Trial 15mm Block Rt Lat/Lt Med
	661-6006	BKS Tibial Augment Case

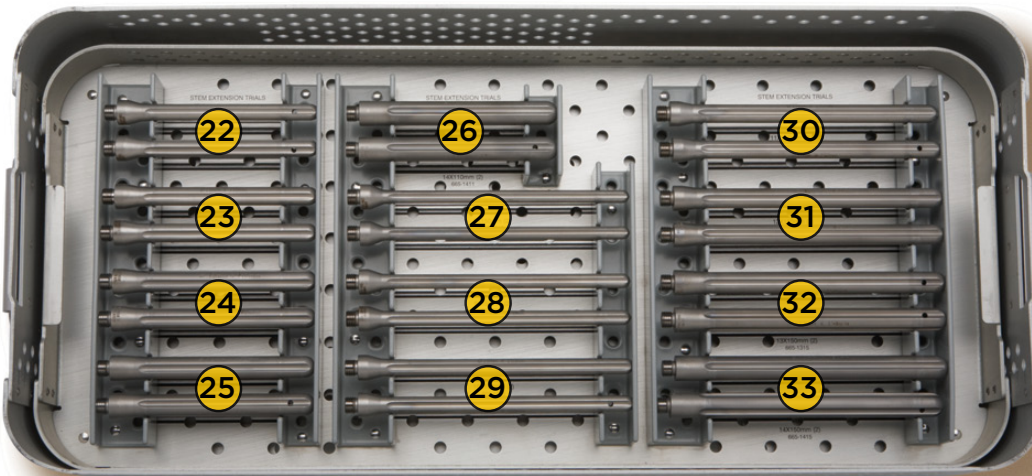
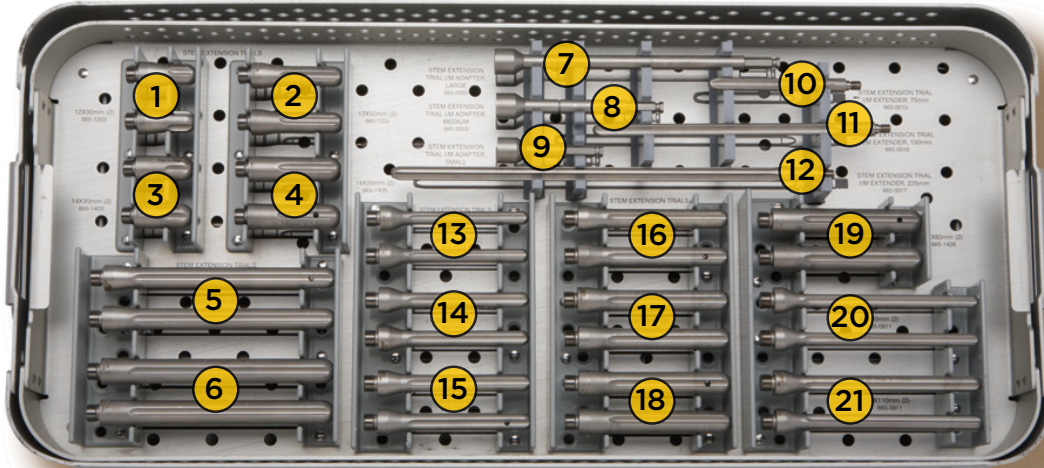


661-9007 SLOPED TIBIAL KIT

NUMBER	ITEM #	DESCRIPTION
1	667-0612	Size 5-6 Augment Cut Base 10° Lt Lat/Rt Med
2	667-0634	Size 3-4 Augment Cut Base 10° Lt Lat/Rt Med
3	667-0612	Size 1-2 Augment Cut Base 10° Lt Lat/Rt Med
4	667-0856	Size 5-6 Augment Cut Base 20° Lt Lat/Rt Med
5	667-0834	Size 3-4 Augment Cut Base 20° Lt Lat/Rt Med
6	667-0812	Size 1-2 Augment Cut Base 20° Lt Lat/Rt Med
7	667-0556	Size 5-6 Augment Cut Base 10° Rt Lat/Lt Med
8	667-0534	Size 3-4 Augment Cut Base 10° Rt Lat/Lt Med
9	667-0512	Size 1-2 Augment Cut Base 10° Rt Lat/Lt Med
10	667-0756	Size 5-6 Augment Cut Base 20° Rt Lat/Lt Med
11	667-0734	Size 3-4 Augment Cut Base 20° Rt Lat/Lt Med
12	667-0712	Size 1-2 Augment Cut Base 20° Rt Lat/Lt Med
13	662-2600	Size 6 Stemmed Tray Trial Sloped
14	662-2500	Size 5 Stemmed Tray Trial Sloped
15	662-2400	Size 4 Stemmed Tray Trial Sloped
16	662-2300	Size 3 Stemmed Tray Trial Sloped
17	662-2200	Size 2 Stemmed Tray Trial Sloped
18	662-2100	Size 1 Stemmed Tray Trial Sloped
19	662-0318	15mm Tibial Drill Guide Sloped
20	662-0319	17mm Tibial Drill Guide Sloped
	661-6007	BKS Sloped Modular Tibial Case

661-9008 NEUTRAL TIBIAL KIT

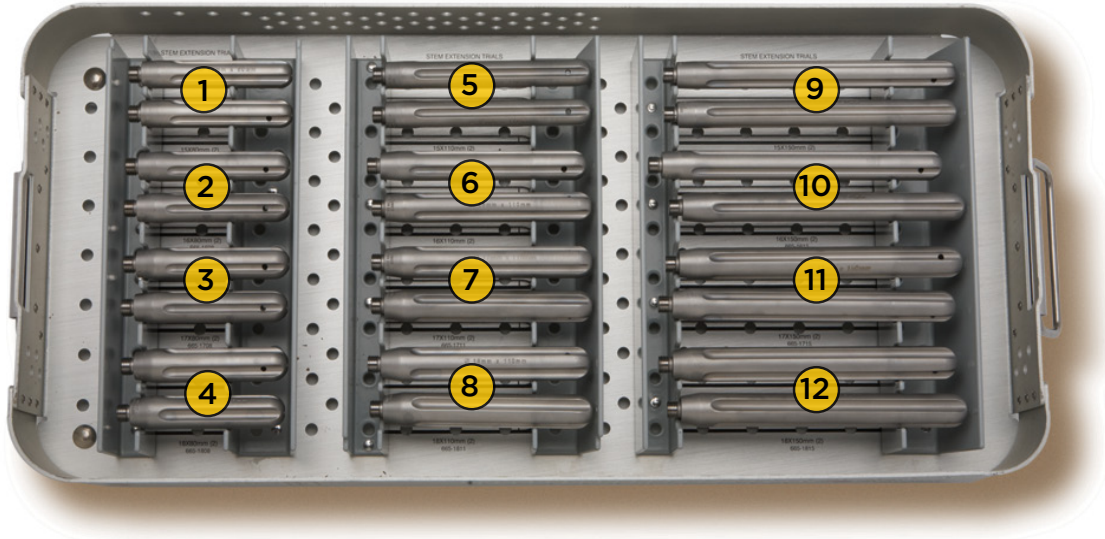
NUMBER	ITEM #	DESCRIPTION
1	667-0256	Size 5-6 Augment Cut Base 10° Lt Lat/Rt Med
2	667-0234	Size 3-4 Augment Cut Base 10° Lt Lat/Rt Med
3	667-0212	Size 1-2 Augment Cut Base 10° Lt Lat/Rt Med
4	667-0456	Size 5-6 Augment Cut Base 20° Lt Lat/Rt Med
5	667-0434	Size 3-4 Augment Cut Base 20° Lt Lat/Rt Med
6	667-0412	Size 1-2 Augment Cut Base 20° Lt Lat/Rt Med
7	667-0156	Size 5-6 Augment Cut Base 10° Rt Lat/Lt Med
8	667-0134	Size 3-4 Augment Cut Base 10° Rt Lat/Lt Med
9	667-0112	Size 1-2 Augment Cut Base 10° Rt Lat/Lt Med
10	667-0356	Size 5-6 Augment Cut Base 20° Rt Lat/Lt Med
11	667-0334	Size 3-4 Augment Cut Base 20° Rt Lat/Lt Med
12	667-0312	Size 1-2 Augment Cut Base 20° Rt Lat/Lt Med
13	662-1600	Size 6 Stemmed Tray Trial Neutral
14	662-1500	Size 5 Stemmed Tray Trial Neutral
15	662-1400	Size 4 Stemmed Tray Trial Neutral
16	662-1300	Size 3 Stemmed Tray Trial Neutral
17	662-1200	Size 2 Stemmed Tray Trial Neutral
18	662-1100	Size 1 Stemmed Tray Trial Neutral
19	662-0315	15mm Tibial Drill Guide Neutral
20	662-0317	17mm Tibial Drill Guide Neutral
	661-6008	BKS Neutral Modular Tibial Case



661-9009 STEMS 8-14MM KIT

NUMBER	ITEM #	DESCRIPTION
1	665-1203	ø12x30mm Stem Extension Trial (2)
2	665-1205	ø12x50mm Stem Extension Trial (2)
3	665-1403	ø14x30mm Stem Extension Trial (2)
4	665-1405	ø14x50mm Stem Extension Trial (2)
5	665-1212	ø12x120mm Stem Extension Trial (2)
6	665-1412	ø14x120mm Stem Extension Trial (2)
7	665-0005	Large Stem Extension Trial I/M Adapter
8	665-0003	Medium Stem Extension Trial I/M Adapter
9	665-0001	Small Stem Extension Trial I/M Adapter
10	665-0015	75mm Stem Extension Trial I/M Extender
11	665-0016	150mm Stem Extension Trial I/M Extender
12	665-0017	225mm Stem Extension Trial I/M Extender
13	665-0808	ø8x80mm Stem Extension Trial (2)
14	665-0908	ø9x80mm Stem Extension Trial (2)
15	665-1008	ø10x80mm Stem Extension Trial (2)
16	665-1108	ø11x80mm Stem Extension Trial (2)
17	665-1208	ø12x80mm Stem Extension Trial (2)
18	665-1308	ø13x80mm Stem Extension Trial (2)
19	665-1408	ø14x80mm Stem Extension Trial (2)

NUMBER	ITEM #	DESCRIPTION
20	665-0811	ø8x110mm Stem Extension Trial (2)
21	665-0911	ø9x110mm Stem Extension Trial (2)
22	665-1011	ø10x110mm Stem Extension Trial (2)
23	665-1111	ø11x110mm Stem Extension Trial (2)
24	665-1211	ø12x110mm Stem Extension Trial (2)
25	665-1311	ø13x110mm Stem Extension Trial (2)
26	665-1411	ø14x110mm Stem Extension Trial (2)
27	665-0815	ø8x150mm Stem Extension Trial (2)
28	665-0915	ø9x150mm Stem Extension Trial (2)
29	665-1015	ø10x150mm Stem Extension Trial (2)
30	665-1115	ø11x150mm Stem Extension Trial (2)
31	665-1215	ø12x150mm Stem Extension Trial (2)
32	665-1315	ø13x150mm Stem Extension Trial (2)
33	665-1415	ø14x150mm Stem Extension Trial (2)
Not pictured	665-4016	16mm I/M Adapter Cap
Not pictured	665-4018	18mm I/M Adapter Cap
Not pictured	665-4020	20mm I/M Adapter Cap
Not pictured	665-4022	22mm I/M Adapter Cap
	661-6009	BKS Modular Stems Cemented and 8-14mm Case

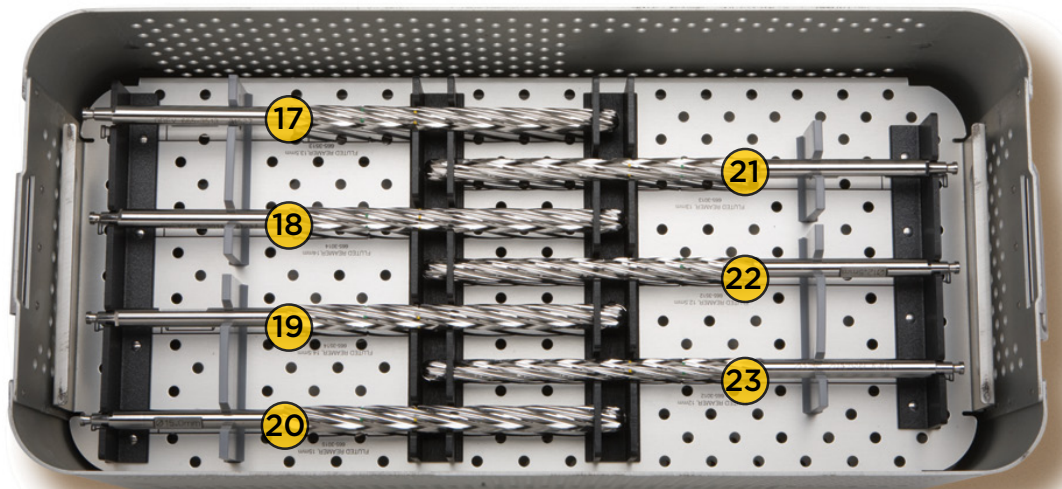
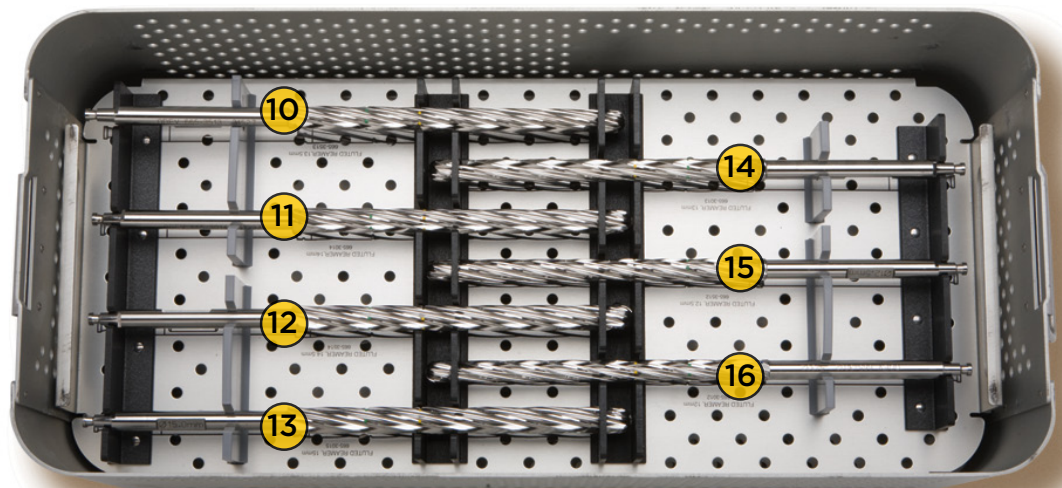
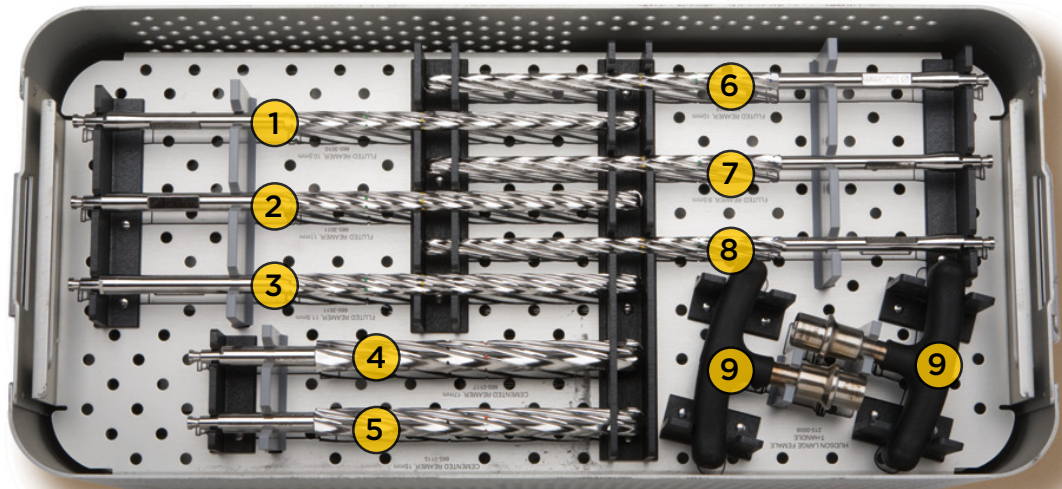


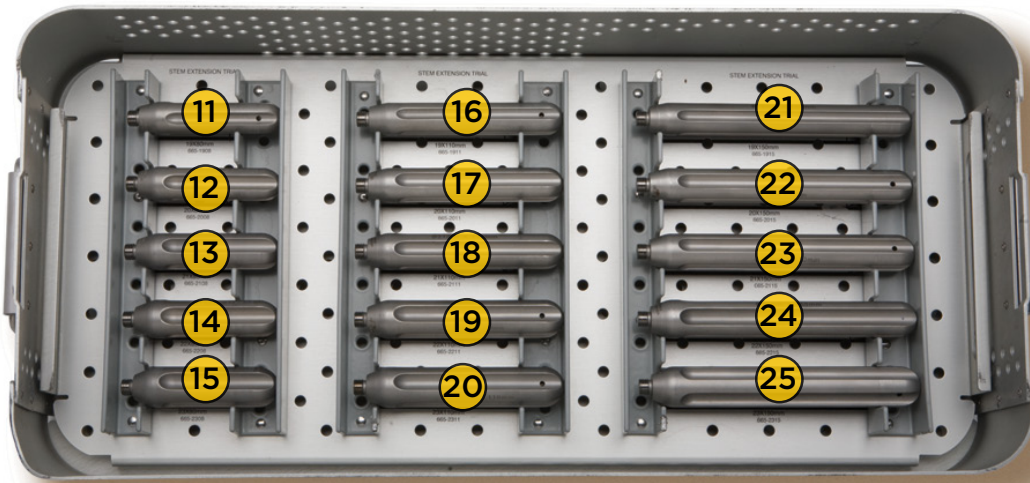
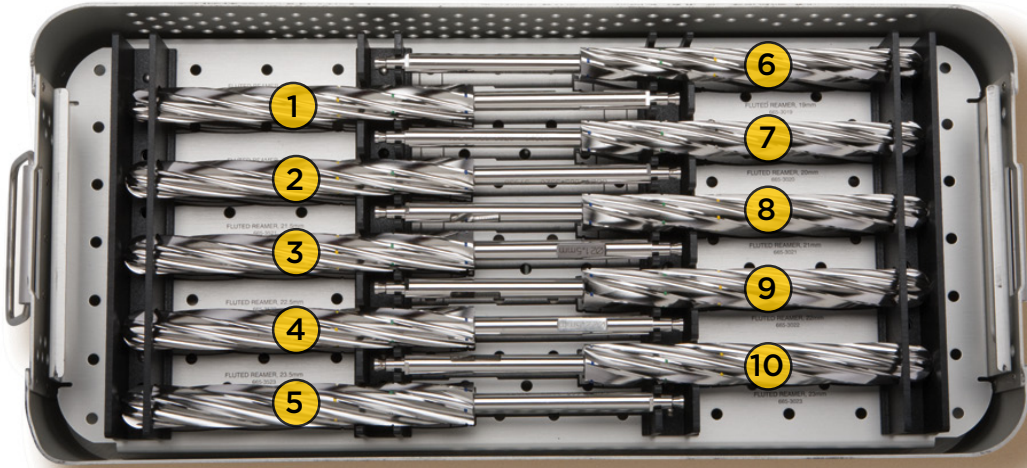
661-9010 STEMS 15-18 KIT

NUMBER	ITEM #	DESCRIPTION
1	665-1508	ø15x80mm Stem Extension Trial (2)
2	665-1608	ø16x80mm Stem Extension Trial (2)
3	665-1708	ø17x80mm Stem Extension Trial (2)
4	665-1808	ø18x80mm Stem Extension Trial (2)
5	665-1511	ø15x110mm Stem Extension Trial (2)
6	665-1611	ø16x110mm Stem Extension Trial (2)
7	665-1711	ø17x110mm Stem Extension Trial (2)
8	665-1811	ø18x110mm Stem Extension Trial (2)
9	665-1515	ø15x150mm Stem Extension Trial (2)
10	665-1615	ø16x150mm Stem Extension Trial (2)
11	665-1715	ø17x150mm Stem Extension Trial (2)
12	665-1815	ø18x150mm Stem Extension Trial (2)
	661-6010	BKS Modular Stems 15-18mm Case

661-9011 REAMERS KIT

NUMBER	ITEM #	DESCRIPTION
1	665-3510	10.5mm Reamer
2	665-3011	11mm Reamer
3	665-3511	11.5mm Reamer
4	665-0117	17mm Cemented Reamer
5	665-0115	15mm Cemented Reamer
6	665-3010	10mm Reamer
7	665-3509	9.5mm Reamer
8	665-3009	9mm Reamer
9	215-0009	Large Hudson Female T-Handle
10	665-3513	13.5mm Reamer
11	665-3014	14mm Reamer
12	665-3514	14.5mm Reamer
13	665-3015	15mm Reamer
14	665-3013	13mm Reamer
15	665-3512	12.5mm Reamer
16	665-3012	12mm Reamer
17	665-3017	17mm Reamer
18	665-3517	17.5mm Reamer
19	665-3018	18mm Reamer
20	665-3518	18.5mm Reamer
21	665-3516	16.5mm Reamer
22	665-3016	16mm Reamer
23	665-3515	15.5mm Reamer
	661-6011	BKS Modular Reamer Case

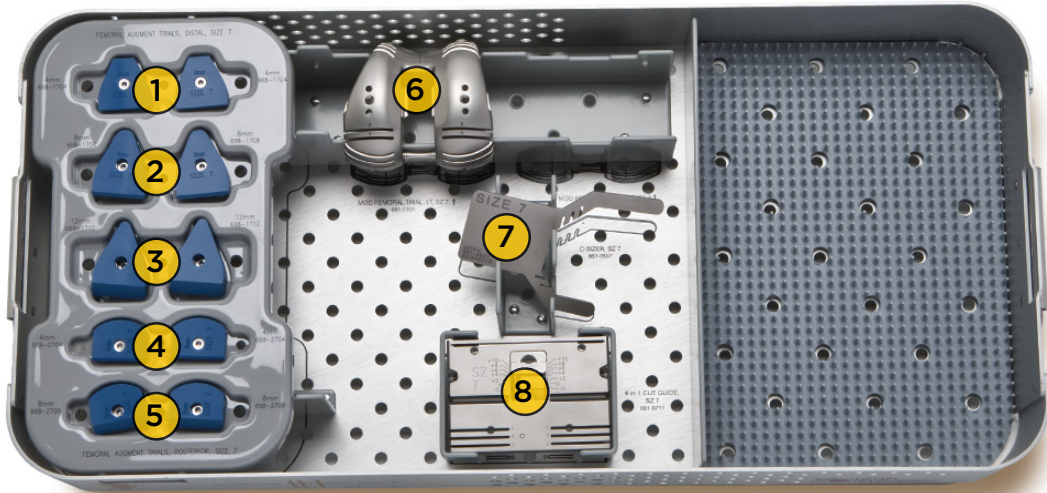




661-9012 LARGE REAMERS & STEMS KIT

NUMBER	ITEM #	DESCRIPTION
1	665-3519	19.5mm Fluted Reamer
2	665-3520	20.5mm Fluted Reamer
3	665-3521	21.5mm Fluted Reamer
4	665-3522	22.5mm Fluted Reamer
5	665-3523	23.5mm Fluted Reamer
6	665-3019	19mm Fluted Reamer
7	665-3020	20mm Fluted Reamer
8	665-3021	21mm Fluted Reamer
9	665-3022	22mm Fluted Reamer
10	665-3023	23mm Fluted Reamer
11	665-1908	ø19x80mm Stem Extension Trial
12	665-2008	ø20x80mm Stem Extension Trial
13	665-2108	ø21x80mm Stem Extension Trial

NUMBER	ITEM #	DESCRIPTION
14	665-2208	ø22x80mm Stem Extension Trial
15	665-2308	ø23x80mm Stem Extension Trial
16	665-1911	ø19x110mm Stem Extension Trial
17	665-2011	ø20x110mm Stem Extension Trial
18	665-2111	ø21x110mm Stem Extension Trial
19	665-2211	ø22x110mm Stem Extension Trial
20	665-2311	ø23x110mm Stem Extension Trial
21	665-1915	ø19x150mm Stem Extension Trial
22	665-2015	ø20x150mm Stem Extension Trial
23	665-2115	ø21x150mm Stem Extension Trial
24	665-2215	ø22x150mm Stem Extension Trial
25	665-2315	ø23x150mm Stem Extension Trial
	661-6012	BKS Modular Large Reamer and Stem Case



661-9013 MODULAR FEMORAL SIZE 7 KIT

NUMBER	ITEM #	DESCRIPTION
1	668-1704	Size 7 4mm Femoral Augment Trial Distal (2)
2	668-1708	Size 7 8mm Femoral Augment Trial Distal (2)
3	668-1712	Size 7 12mm Femoral Augment Trial Distal (2)
4	668-2704	Size 7 4mm Femoral Augment Trial Posterior (2)
5	668-2708	Size 7 8mm Femoral Augment Trial Posterior (2)
6	661-1701	Size 7 LT Modular Femoral Trial
7	661-0607	Size 7 C-Sizer
8	661-0711	Size 7 4-in-1 Cut Guide
Not pictured	661-1702	Size 7 RT Modular Femoral Trial
	661-6013	BKS Modular Femoral Size 7 Only Case



Ortho Development® Corporation designs, manufactures, and distributes orthopedic implants and related surgical instrumentation—with a specialty focus on hip and knee joint replacement, trauma fracture repair, and basic spinal fixation. Ortho was founded in 1994 and is located at the base of the Wasatch Mountains in the Salt Lake City suburb of Draper, Utah. The company has established distribution throughout the United States and Japan, along with other select international markets.



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