

Surgical Technique for
JOURNEY II TKA with
SYNC Performance
Instruments



JOURNEY[®] II TKA
Total Knee Arthroplasty

SYNC
Performance Instruments



JOURNEY[◇] II TKA with SYNC Performance Instruments

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Nota Bene

The following technique is for informational and educational purposes only. It is not intended to serve as medical advice. It is the responsibility of treating physicians to determine and utilize the appropriate products and techniques according to their own clinical judgment for each of their patients. For more information on the products, including indications for use, contraindications, and product safety information, please refer to the product's label and the Instructions for Use packaged with the product.

Introduction

JOURNEY II TKA is designed to restore normal shapes, position and motion¹⁻⁵ to help patients rediscover their normal through a smoother recovery^{+6,7}, improved function⁷⁻¹¹ and higher patient satisfaction.^{7-9,12}

Constraint Options

JOURNEY II TKA offers multiple levels of constraint based on surgeon preference and patient requirements.

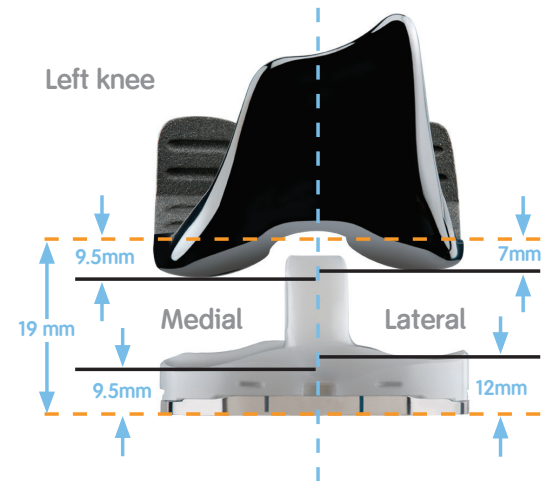
JOURNEY II CR Femoral Component

When the PCL is intact, the JOURNEY II CR femoral component can be used with the CR, Medial Dished or Deep Dished insert.

When the PCL is resected, the JOURNEY II CR femoral component can be used with the Medial Dished or Deep Dished insert.

JOURNEY II BCS Femoral Component

When the PCL is resected, the JOURNEY II BCS femoral component can be used with the BCS, Articular Stabilized (AS) or Constrained inserts. The Constrained insert can be used to provide additional varus/valgus stability for patient's requiring additional constraint to best balance the soft tissue.



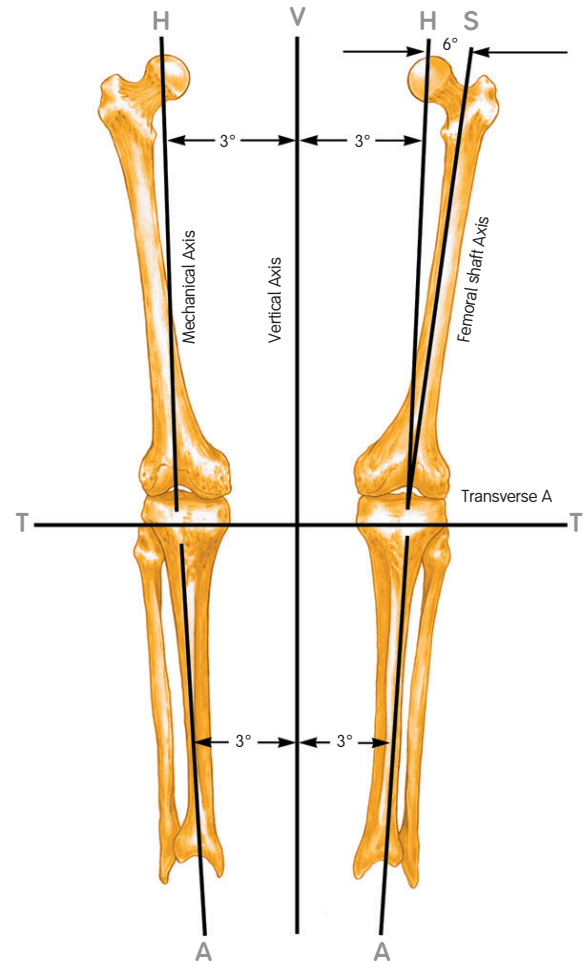
Introduction

Preoperative planning

Determine the angle between the anatomical and the mechanical axis. This measurement will be used intraoperatively to select the appropriate valgus angle so that correct limb alignment is restored. Beware of misleading angles in knees with a flexion contracture or rotated lower extremities.

Note It is recommended to use preoperative templating to determine femoral size because sizes 1-8 and 9-10 have different resection depths.

For patients that present with significant varus or valgus deformities ($> 15^\circ$), morbid obesity or deficient collateral ligaments consider whether additional implant constraint is more appropriate. If patients with the above mentioned conditions are scheduled for a JOURNEY[®] II TKA then assess the flexion space under full ligament tension (e.g., laminar spreaders) with the patella reduced and consider having a constrained implant option on hand.



Pin Offerings

Cat. Item	Description	Quantity per package
74013480	Non-headed 65mm SPEED Pin	3
74013472	Headed 65mm SPEED Pin	3
74016466	MIS Headed 65mm Pin	3
74013471	Headed 45mm SPEED Pin	3
74016465	MIS Headed 45mm Pin	3
71512449	Short Bone Spike	6

Distal Femur

Instrument Assembly: Adjustable Femoral Alignment

1. Attach the Adjustable Valgus Bridge to the Adjustable Valgus Guide. Dial on the bridge should point towards the button on the Valgus Guide (Figure 1).

Note The Adjustable Valgus Bridge was designed to move anterior and posterior within the Adjustable Valgus Guide to accommodate various patient morphology.

2. Attach the IM rod to the T-handle and insert through the alignment assembly (Figure 3). IM rod will lock into the alignment assembly in one of three places (see Figure 2).

Note There are two locking positions on the IM Rod. If the alignment assembly can make a full rotation around the IM Rod, the second lock has not engaged. Remove the IM Rod and reengage.

3. Attach the Distal Femoral Cutting block onto the Bridge. Positioning the block and the dial on the adjustable bridge at the primary ("0") resection level will ensure the cut will equal the distal thickness of the femoral prosthesis (Figure 4).

Note The Distal Femoral Cutting block is designed to pivot medial and lateral to accommodate various patient morphology.

Tip If surgeon preference is to pin the -2mm pin holes initially, it is recommended to add the Wide Distal Cut Block to the set.

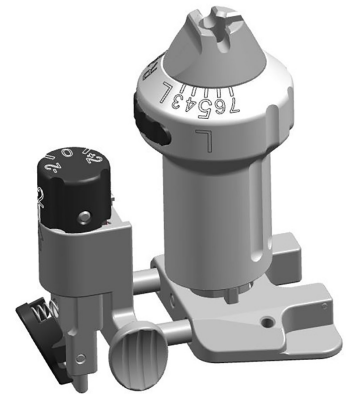


Figure 1

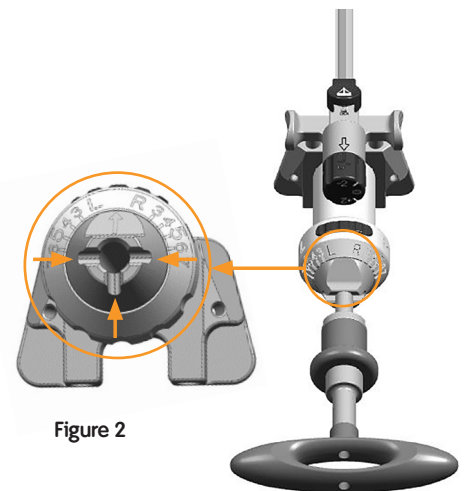


Figure 2

Figure 3

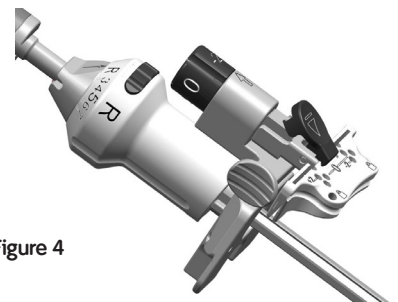


Figure 4



Adjustable Valgus Guide
74016210



Adjustable Valgus Bridge
74016203



T-Handle
71674576



IM Rod
Long 74016211
Short 74016212



Distal Cutting Block
74016205

Distal Femur

Intramedullary alignment

- 1. Open the femoral canal with the 9.5mm Intramedullary Drill. The drill has a 12mm step to open the entry point further (Figure 5).

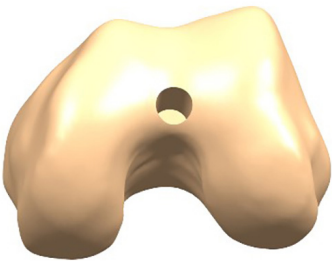


Figure 5

- 2. Slide the Intramedullary Rod of the alignment assembly into the femoral canal until the Valgus Guide contacts the distal femur (Figure 6).

Note There may be times when only one side of the guide will touch bone.

Tip To avoid a shallow distal resection, it is recommended to not push the Bridge all the way into the Valgus Guide until it has been seated on the distal surface.

Tip Alternately, the Bridge can be assembled after seating the Valgus Guide onto the distal femur.

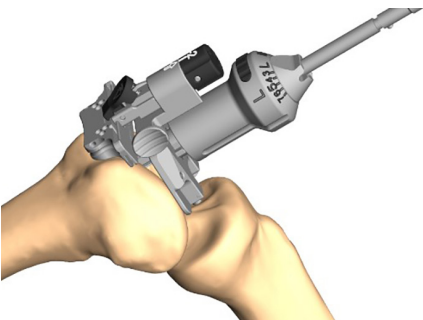


Figure 6

- 3. Push the button on the Valgus Guide and rotate (“L” for a left knee, “R” for a right knee) to set the valgus angle (3°, 4°, 5°, 6°, or 7°).

Tip This angle may be set before inserting the IM rod into the canal.

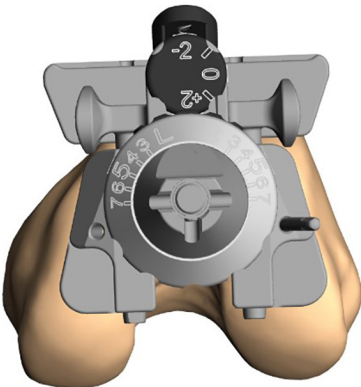
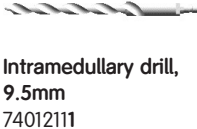


Figure 7

- 4. Orient rotation of the assembly neutral to the posterior condyles (Figure 7) insert a headed or non-headed 65mm pin into one or both of the oblique pin holes.

Note Distal Cutting Guide will pivot to conform to the anterior bone geometry.



Distal Femur

Distal Resection

1. With the Adjustable Valgus Bridge dial set to 0mm, using non-headed 65mm pins, pin the distal femoral cutting block to the anterior femur using the holes marked '0'. Once adequate distal femoral resection is noted, a headed or non-headed 65mm pin should be placed in one or both oblique pin holes for additional stability (Figure 8).

Tip The resection level can be adjusted before pinning the distal block by using the dial on the Valgus Bridge. +2mm or -2mm can be dialed in prior to resection.

Note Resection level can also be adjusted using the alternate pin holes on the cutting block, -2mm or +2mm of bone.

Tip The chamfer on the -2mm pin holes of the Standard Distal Cutting Block may cause pins to become stuck in the block. Place pin into pinhole before starting power.

Tip The oblique pin holes on the Distal Cut Block may come in contact with the IM rod. If any resistance is present, stop and assess.

2. Push the button on the Valgus Bridge (Figure 9) to remove the alignment assembly from the incision site. Only the distal cutting block should remain on the femur.
3. Resect the distal femur (Figure 10) then remove the distal femoral cutting block.

Tip If the distal femoral resection is not adequate, remove the oblique pin, and reposition the block through the pin holes marked +2mm and re-insert the oblique pin.

JOURNEY® II CR Tips and tricks To avoid raising the joint line, it is recommended to resect a maximum of implant thickness. Additional distal femoral resection will raise the joint line and potentially compromise the PCL and create a flexion/extension imbalance.

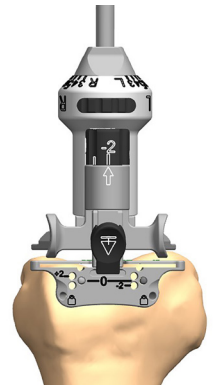


Figure 8

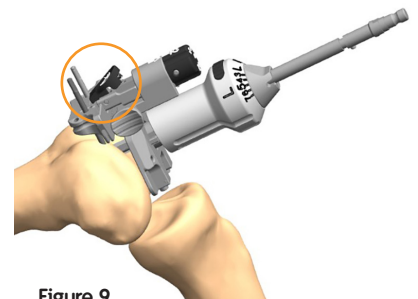


Figure 9

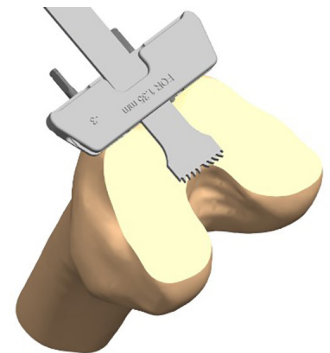


Figure 10



Adjustable Valgus Guide
74016210



Adjustable Valgus Bridge
74016203



T-Handle
71674576



IM Rod
Long 74016211
Short 74016212



Distal Cutting Block
74016205



SPEED PIN
Non-Headed 65mm
74013480

Distal Femur

Sizing note

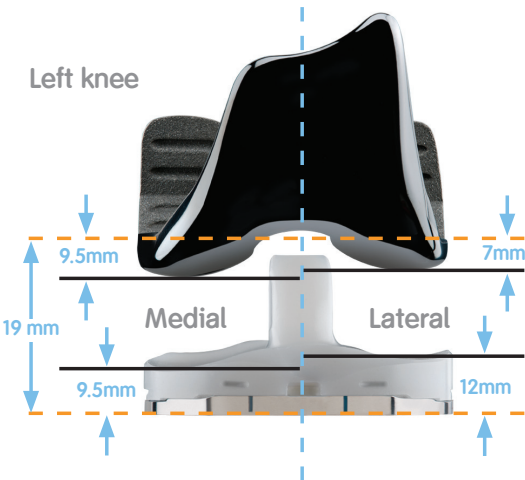
The JOURNEY® II Total Knee System femoral component features a proportional distal resection for the Standard and Large sizes (see table).

Use preoperative templating to estimate the femur size to determine the appropriate distal resection.

If the approximate size is between a size 8 and size 9, it is recommended to make the distal resection for the larger of the two sizes and proceed as normal.

The Distal Cutting Block is designed to remove 9.5mm off of the most distal femoral condyle.

	Size	Distal Resection
Standard	1-8	9.5mm
Large	9-10	11.5mm



Proximal Tibia

Instrument Assembly: Macro Tibial Alignment

1. Attach the EM Posterior Slope Guide to the Ankle Clamp (Figure 11) by depressing the button on the Slope Guide and slide to the desired position.

Tip The neck on the Slope Guide should orient toward the arms and dials of the Ankle Clamp.

Note Each tooth is 1mm apart.



Figure 11

2. Attach the Macro EM Tibial Alignment Tube to the EM Posterior Slope Guide by depressing the inferior button on the Alignment Tube (Figure 12) and sliding to the desired position. Once the button is released, the height will be locked in position.

Tip The inferior button on Alignment Tube should face away from the arms of Ankle Clamp.

Note Each tooth is 1mm apart.







Figure 12

3. Attach the appropriate hand cutting block to the Alignment Tube by depressing the superior button on the Alignment Tube (Figure 13).



Figure 13

			
Ankle Clamp 74016241	EM Posterior Slope Guide 74016231	EM Macro Alignment Tube 74016231	Tibial Cutting Guide 3 Degree Left 74016216 Right 74016217

Proximal Tibia

Extramedullary Alignment

1. Open the arms of the ankle clamp and attach alignment jig to the tibia. Adjust height and distance from tibia by depressing the buttons on the Macro Alignment Tube and EM Posterior Slope guide, respectively.

Recommended Posterior Slope

- JOURNEY II CR: $\geq 5^\circ$
- JOURNEY II MD (w/PCL): $\geq 5^\circ$
- JOURNEY II MD (No PCL): 3°
- JOURNEY II BCS: 3°

Note 3° and 5° tibial cutting guides are available

2. Once approximate resection level is set, use a headed 45mm pin to pin through the provisional slot in the Tibia Cutting Block (Figure 15).
3. Insert Adjustable Footed Tibia Stylus into the saw slot of the Cutting Guide (Figure 16).
4. Adjust the stylus to desired resection level by rotating the dial.

Note The dial on the stylus adjusts from 2mm – 13mm in 1mm increments.

Note The 9mm tibial implant is 9.5mm thick on the medial side and 12mm thick on the lateral side

Tip Depending on provisional position, it may be necessary to depress the inferior button of the Alignment Tube while setting resection depth via the stylus. Alternately, this resection level may be set prior to attaching the jig to the patient.

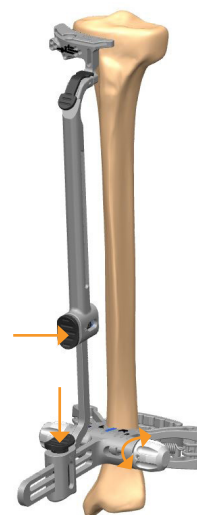


Figure 14

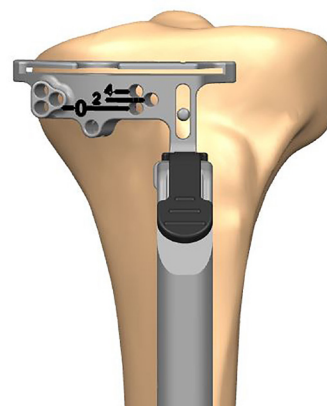


Figure 15

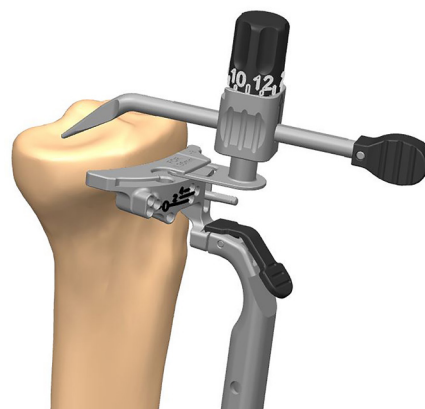


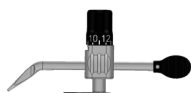
Figure 16



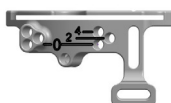
Ankle Clamp
74016241



EM Macro
Alignment Tube
74016231



Adjustable Footed
Stylus
74016229



Tibial Cutting Guide
3 Degree
Left 74016216
Right 74016217



SPEED PIN
Headed 45mm
74013471
MIS Headed 45mm
74016465

Proximal Tibia

Proximal Tibia Resection

1. With the Adjustable Tibia Stylus set to the desired resection level, using non-headed 65mm pins, pin the cutting guide in position through the holes marked '0.' For additional fixation, a headed or non-headed 65mm pin can be inserted through the oblique pin hole.

Note To do an extramedullary alignment check, remove alignment tube and replace with the EM alignment guide handle. Place the extramedullary alignment rod through the EM alignment guide handle (Figure 17).

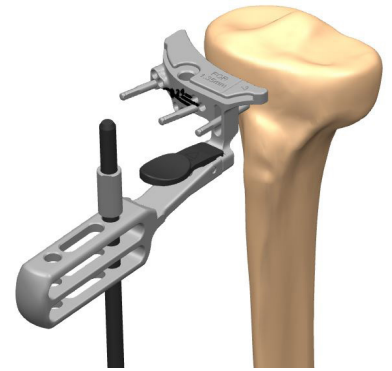


Figure 17

2. Remove the Tibia Stylus. Resect the proximal tibia (Figure 18) and remove the cutting guide.

Note If an uncaptured saw cut is desired, the resection can be performed by cutting on top of the block. An additional 3mm will be needed to account for this offset.

Tip If additional resection is needed, the cutting guide can be shifted to the holes marked '2' or '4' for an additional +2mm or +4mm of resection, respectively.

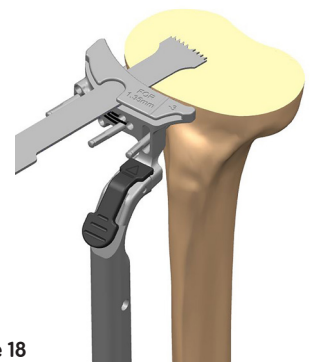


Figure 18

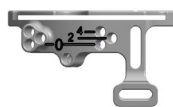
3. To remove assembly, depress the superior button on the Alignment tube to disengage from the cutting block.



EM Macro
Alignment Tube
74016231



Adjustable Footed
Stylus
74016229



Tibial Cutting Guide
3 Degree
Left 74016216
Right 74016217



SPEED PIN
Non-Headed 65mm
74013480



EM Alignment
Guide Handle
74016213



VNR Extramedullary
Alignment Rod
71440302

Initial Gap Assessment

Extension Gap

Note If performing a BCS surgery and the PCL has not already been removed, excise completely the entire PCL attachment from the femoral intercondylar notch with either a cautery or scalpel to prevent it from affecting the assessment. The femoral box prep will not completely detach all fibers of the PCL.

Tip Assess the extension gap prior to making the posterior cut as removing the posterior condyles can relax the posterior tissue and create a false sense of increased extension laxity.

Ensure that all posterior osteophytes are removed prior to assessing the extension gap. Posterior osteophytes at this stage may result in inaccurate balance once all resections are performed.

1. The 10mm end of the Extension Spacer Block should easily insert into the extension gap. (Figure 19).

Tip Use the 10mm side as a gauge to ensure a minimum of 1mm of extension laxity.

Note The 10mm side of the Extension Spacer Block has a 20mm thickness, which accommodates a standard size implant and 9mm insert (19mm) plus 1mm of laxity. Attach the 12mm Spacer Plate to the 9mm end for large Femoral Component sizes (9 or 10), as they have additional distal resections and 21mm of total thickness.

2. To adjust thickness of Extension Spacer Block, shims (11mm, 12mm, 13mm, etc.) can be added as needed to the 9mm end to determine the extension space.

Tip The Extramedullary Alignment Rod can be inserted through the Extension Spacer Block to check limb alignment.

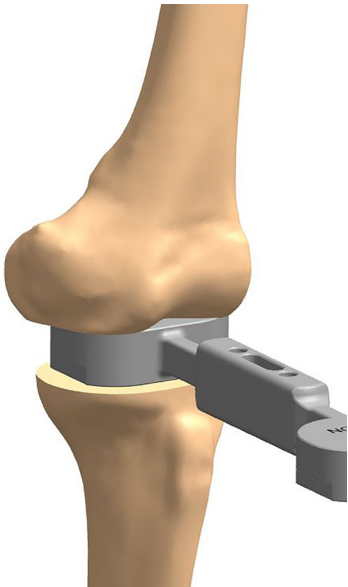


Figure 19



Extension Spacer Block
74016254



Spacer Plate Shim
11mm 74016257
12mm 74016258
13mm 74013721
15mm 74013722
18mm 74013723



VNR Extramedullary Alignment Rod
71440302

Initial Gap Assessment

Flexion Gap

Note If performing a BCS surgery and the PCL has not already been removed, excise the entire PCL attachment from the femoral intercondylar notch with either a cautery or scalpel as the PCL has been shown to alter the flexion assessment.

1. Assemble the EM Alignment Guide Handle to the Flexion Spacer Block.
2. With the knee flexed to 90°, place the Flexion Spacer Block into the joint space, allowing the flat surface to reference the resected tibial surface and the stepped, articular side to reference the native posterior femoral condyles (Figure 20).
3. Apply a varus/valgus force and assess the medial and lateral compartment laxity levels of the flexion space. Adjust thickness of shim (11mm, 12mm, etc.) as needed to determine the flexion space (Figure 21).

Note No 10mm Spacer Plate Shim available.

4. When the flexion space is determined, compare the thickness selected relative to the extension space on the previous page.

Note Remember any difference between the extension and flexion space assessments as this will affect how the femoral implant is positioned in the steps ahead (e.g., 10mm Ext – 11mm Flex = -1mm Flex Imbalance).

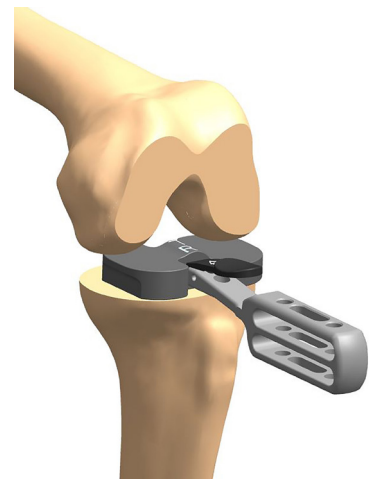


Figure 20



Figure 21

Scenario	Extension Gap	Flexion Gap	Next Step
1	Good	Good	Move on to Femoral Positioning and Sizing
2	Good	Tight	Set the JOURNEY II Sizing Guide to resect more posterior Femur
3	Good	Loose	Set the JOURNEY II Sizing Guide to resect less posterior Femur (Example: 10mm extension space minus a 12mm flexion space = -2mm imbalance. Set the Sizing Guide to the -2mm position)
4	Tight	Good	Resect 2mm more Distal Femur
5	Tight	Tight	Resect 2mm more Proximal Tibia
6	Tight	Loose	Resect 2mm more Distal Femur and determine if larger tibial insert can be used. If not, set the JOURNEY II Sizing Guide to resect less posterior Femur
7	Loose	Good	Set the JOURNEY II Sizing Guide to resect more posterior Femur and use a thicker tibial insert (Example: 11mm extension space minus an 10mm flexion space = +1mm imbalance. Set the Sizing Guide to the +1mm position)
8	Loose	Tight	Set the JOURNEY II Sizing Guide to resect more posterior Femur and consider downsizing the Femur
9	Loose	Loose	Implant thicker Tibial Insert



EM Alignment
Guide Handle
74016213



Flexion Spacer Block
74016255



Spacer Plate Shim
11mm 74016257
12mm 74016258
13mm 74013721
15mm 74013722
18mm 74013723

Femoral Positioning and Sizing

1. Optional: Mark the A/P and epicondylar axis on the femur (Figure 22).
2. Place the (left or right) JOURNEY® II DCF Sizing Guide on the resected distal femur. With the medial paddle contacting the posterior medial condyle and the sizing guide flush to the distal resection, place a 45mm headed pin through the hole just above the medial paddle (Figure 23). This will secure the sizing guide for the remainder of its use.
3. If there exists a known flexion/extension imbalance, unlock, translate and relock the drill guide appropriately (Figure 24).

Note For example, a 10mm extension space minus an 11mm flexion space = -1mm imbalance. Therefore, the drill guide should be translated to the -1mm position.

Note Do not translate the drill guide for anterior referencing. Anterior referencing, if desirable, is accomplished with the A/P Cutting Block.

4. Ensure that the lateral paddle contacts the posterior lateral condyle. Begin with the paddle set to 3°. Rotate away from 3° if it is desirable to match the A/P or epicondylar axis or if it is desirable to balance the medial and lateral flexion gaps (Figure 25).

Note Each degree of rotation away from 3° is approximately 1mm deviation away from the lateral condyle (eg at 6°, 3mm of implant material is added to the lateral flexion gap).

5. Once both the A/P and rotational measures are desirable relative to the anatomic landmarks, drill about a 1 inch (25mm) deep hole through each of the two holes in the drill guide (Figure 26).

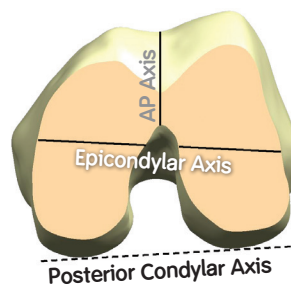


Figure 22

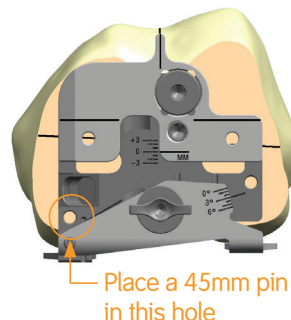


Figure 23

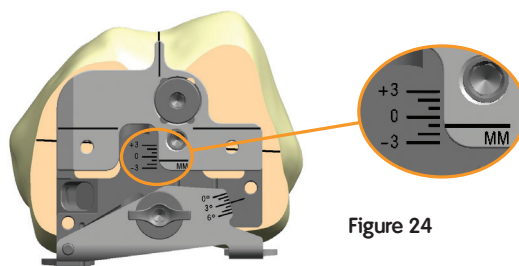


Figure 24

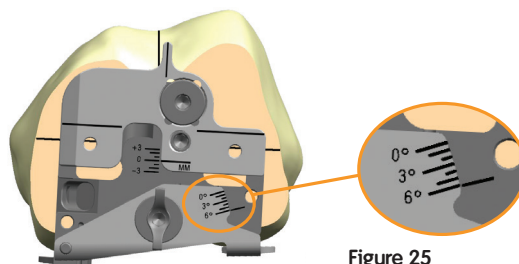


Figure 25

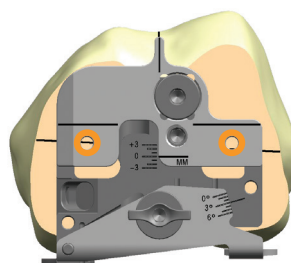


Figure 26



JOURNEY II TKA
Femoral Sizing
Guide Left
74012455



JOURNEY II TKA
Femoral Sizing
Guide Right
74012456

Femoral Positioning and Sizing

6. Finally, assemble the JOURNEY[®] Sizing Stylus to the guide and estimate the A/P femoral size.

Position the stylus tip just lateral of the anterior trochlear sulcus (Figure 27). If desired, use the indicated size Femoral Trial to compare the ML width before selecting which size A/P Cutting Block to use.

Design note The JOURNEY II DCF Sizing Guide is designed to reference the posterior condyles. At 3° the guide will make A/P resections at 3° externally rotated from the posterior condylar axis. The guide also allows for rotation between 0° and 6° relative to the posterior condylar axis.

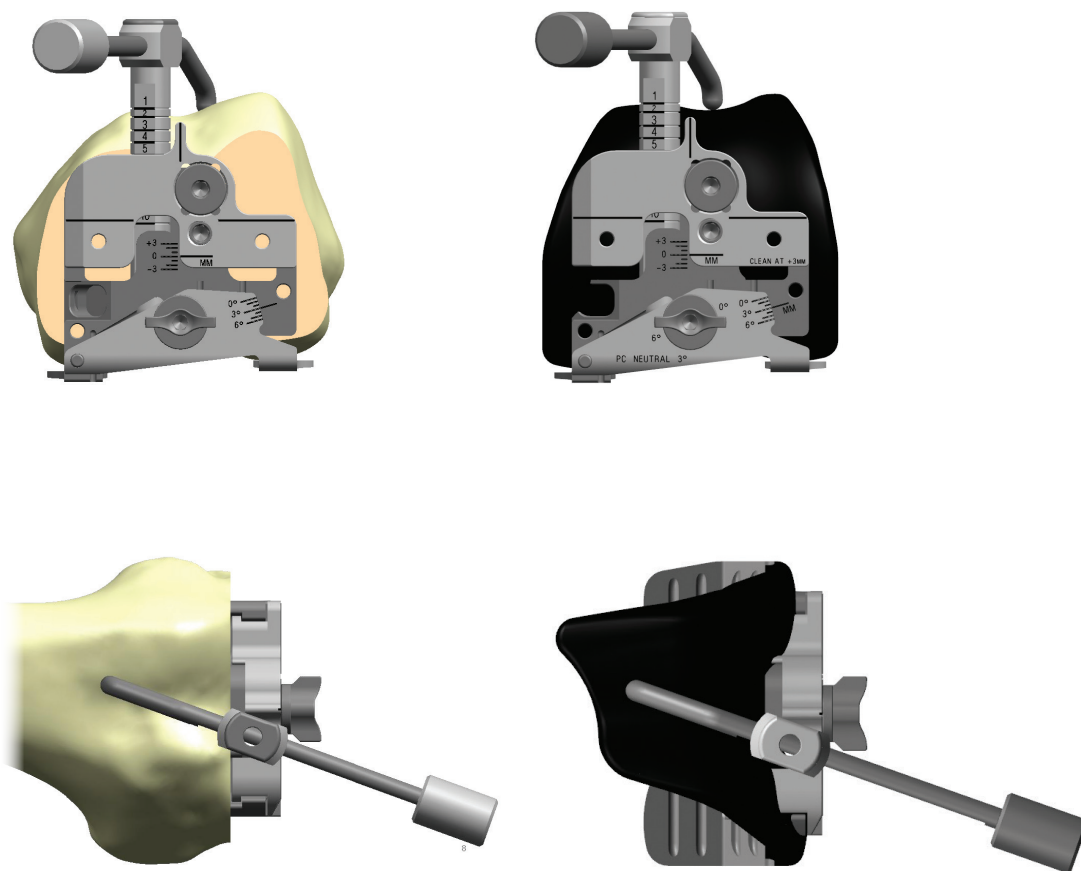


Figure 27



JOURNEY II TKA
Femoral Sizing Stylus
74012457

Femoral A/P and Chamfer Resections

1. Position the spikes on the DCF A/P Femoral Block into the pre-drilled holes (Figure 28). Use the Mallet to impact the A/P Block assembly until the block is flush with the resected distal femur. Remove the A/P Block Impactor.

Note The posterior resection will match the implant thickness when the highlighted indicator in the A/P Block knob is aligned with “Post. Ref”.

Note The A/P Femoral Cutting Block allows adjustment of up to 2mm either anteriorly or posteriorly.

2. Use the Resection Check to check the location of the anterior cutting slot. Make any necessary anterior/posterior adjustments to avoid over stuffing the patella femoral joint, over stuffing the flexion space or femoral notching (Figure 29).

Note If 2mm upshift is not enough to avoid notching, select the next largest A/P cutting block size and adjust until notching is avoided.

Design note The difference between JOURNEY® II TKA femoral implant sizes is 3mm on average.

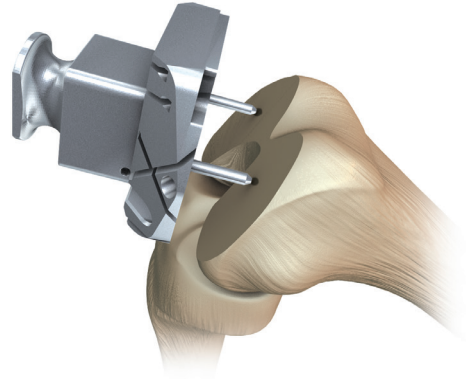


Figure 28

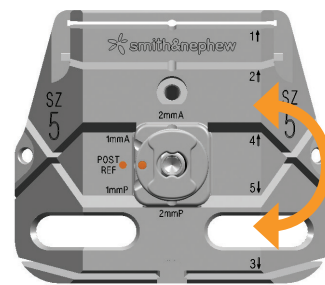


Figure 29



JOURNEY DCF AP
femoral cutting
block Size 5
74012415



JOURNEY DCF
AP femoral block
impactor
74012421



Hex driver
115035



Resection Check
74016271

Femoral A/P and Chamfer Resections

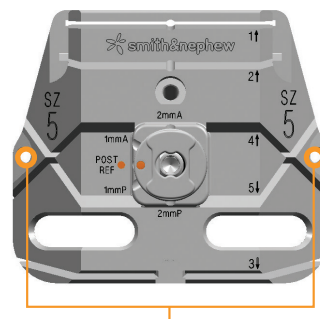
3. Use two headed 45mm pins through the medial and lateral fixation holes on the cutting block (Figure 30).

Note Any bone spikes placed in either the medial or lateral anterior spike holes should be removed before making the anterior chamfer resection.

4. Complete the cuts in the order indicated on the block:

- 1 Anterior
- 2 Anterior Chord
- 3 Posterior
- 4 Posterior Chamfer
- 5 Anterior Chamfer

Note While performing the posterior and posterior chamfer resections use careful placement of retractors to protect the Popliteus Tendon attachments to the femur. Releasing the Popliteus Tendon can destabilize the knee laterally in flexion.



Use two 45mm pins

Figure 30

SPEED PIN
Headed 45mm
74013471
MIS Headed 45mm
74016465

Resected Flexion Gap Assessment

1. The 10mm end of the Extension Spacer Block should easily insert into the flexion gap in 105° of flexion (due to 15° posterior cut) (Figure 31).

Tip Use the 10mm side as a gauge to ensure a minimum of 1mm of flexion laxity.

Note The 10mm Extension Spacer Block has a 20mm thickness, which accommodates a standard size implant and 9mm insert (19mm) plus 1mm of laxity. Attach the 12mm Spacer Plate to the 9mm end for large Femoral Component sizes (9 or 10), as they have additional distal resections and 21mm of total thickness.

2. If the 10mm end of the Extension Spacer Block goes in tight in flexion and loose in extension, consider downsizing the femur.

If the 10mm end goes in tight in flexion and extension, consider taking 2mm more tibia.

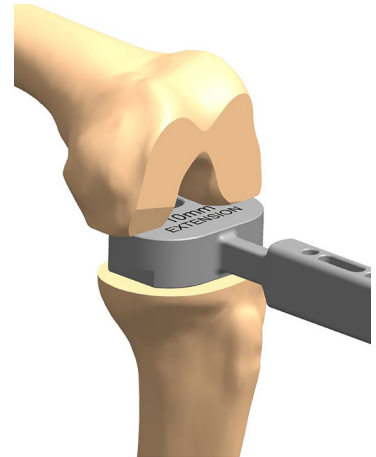


Figure 31



Extension Spacer Block
74016254



Spacer Plate Shim,
12mm
74016258

Downsizing Femoral Component

1. Place the smaller DCF A/P Block into the pre-drilled holes. Turn the center knob of the A/P Block until either the anterior resection cutting slot is aligned with the anterior resection or positioned as desired. This can be verified using the Resection Check.
2. Secure the A/P Block to the distal femur and remake the cuts as indicated on the block: anterior, anterior chord, posterior, posterior chamfer and anterior chamfer.

Additional Distal Resection

1. If the pre-drilled holes in the anterior cortex can be located, place two non-headed 65mm pins into the anterior femur. Place the Distal Cutting Block over the non-headed pins through the spike holes at the desired resection level.
2. If the pre-drilled holes cannot be found, place the Resection Check through the Distal Block resection slot and position the plane onto the distal resection. Pin the Distal Block through the "0" holes. Remove the Resection Check and then shift the block to the desired resection level, pin obliquely and remake the distal resection.
3. Place the A/P Cutting Block into the pre-drilled holes on the distal resection. Turn the center knob of the A/P Block until the anterior resection cutting slot is aligned with the anterior resection. This can be verified using the Resection Check.

Tip Due to the flexed posterior resections taking more distal resection will create a small gap posteriorly (i.e. 0.5mm gap for 2mm additional distal resection). Some surgeons will look to move the A/P Cutting Block 1mm anteriorly to move the gap to the anterior cortex.

4. Secure the A/P Cutting Block to the distal femur and remake the cuts as indicated on the block: anterior, anterior chord, posterior, posterior chamfer and anterior chamfer.



Resection Check
74016271



Distal Cutting Block
Standard 74016205



SPEED PIN
Non-Headed 65mm
74013480

Patella Preparation: Resection Technique

1. Measure the overall thickness of the patella with the Caliper and assess how much bone to remove based on selected patella implant thickness (Figure 32).

Note Round patella options come in 9mm and/or 7.5mm. See chart below for Oval patella options.

2. Determining the depth of cut (usually based on patella implant thickness) and dial in the stylus on the patella saw guide to have the corresponding resection level. Clamp the patella between the jaws of the guide (Figure 33).

Note It is recommended to leave at least 12mm of residual patella to minimize the risk of fracture.

3. Resect the patella through slots of the dedicated saw guides (Figure 33).
4. Assess size (diameter) of the patella with the sizing guides.
5. Select the appropriate diameter Patella Drill Guide and slide it onto the Resection Patella Clamp. Attach the Assembly to the resected patella and tighten to the patella.
6. Use the Patella Peg Drill to drill for the three peg holes through the Patella Drill Guide until the drill bottoms out in the guide (Figure 34).
7. Remove the Patella Resection Clamp and Drill Guide from the patella.
8. Place the Round Patella Trial onto the resected patella. Use the Caliper to reassess the patella thickness.



Figure 32

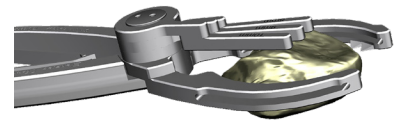


Figure 33

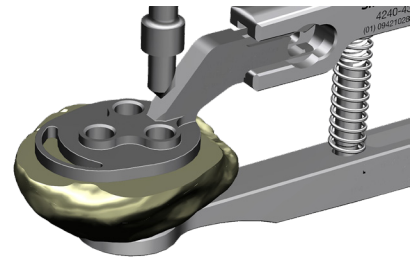


Figure 34

Oval Patella sizing options

Oval Patella implant

Diameter	Thickness
29mm	8.5mm
32mm	9.0mm
35mm	9.0mm
38mm	9.5mm
41mm	10.0mm



Classic Patella
Saw Guide
42404211



Sizing Guides
74015461



Resection Clamp
42404321



Peg Drill Guide
4240436X



Peg Drill
74014748

Patella Preparation: Reaming Technique

The recommended time to prepare the patella is after all tibial and femoral cuts are made, but prior to trial placement. In some cases, the patella is cut just after the arthrotomy to facilitate exposure.

Evert the patella, or at least partially evert the patella to 90°, measure its thickness and determine the appropriate diameter implant.

1. Measure the overall thickness of the patella with the caliper. Assess how much bone to remove based on selected patella implant thickness (Figure 35).

Note It is recommended to leave at least 12mm of residual patella. Depth gages allows 10mm and 12mm depth of ream (Figure 36).

2. Attach the Reaming Patella Clamp with appropriate collet, based on patella diameter, to the patella and tighten the reamer guide on the patella.
3. Attach the Patella Reamer Shaft with depth stop to the drill and lower the reamer through the Patella Clamp until the reamer dome contacts the patella.
4. Place the Depth Gage on the top of the patella collet around the reamer shaft. Use Biconvex side of depth gage if using biconvex patella implant. Use Resurfacing side if using Round patella implant (Figure 36).
5. Lower the Patella Depth Stop until it contacts the Patella Depth Gage.
6. Remove the Depth Gage.
7. Ream the patella until the depth stop engages the patella clamp (Figure 36).



Figure 35



Figure 36

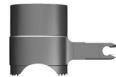
Note *Outcome data reported in some registries suggest that resurfacing the patella during primary TKA should be considered since it may decrease the rate of revision, provided the patient's anatomy.^{13,14†}



Calipers
114943



Reaming Clamp
42404322



Reaming Collet



Depth Gage
42407380



Reamers



Depth Stop
71440427

Patella Preparation: Reaming Technique

Biconvex patella (inset)

8. If the Biconvex design is selected, use a towel clip to insert the appropriate diameter Biconvex Patella Trial into the recess in the patella. Use the Patella Caliper to reassess the patella thickness.

Round patella (onset)

9. If the Round Patella design is selected, use the Caliper to reassess the patella thickness (Figure 37).
10. Remove the Patella Reamer Collet from the Patella Reamer Guide.
11. Select the appropriate diameter Patella Drill Guide and slide it onto the Patella Reamer Guide. Attach the Patella Reamer Guide Assembly to the reamed patella and tighten the reamer guide on the patella (Figure 38).
12. Use the Patella Peg Drill to drill the three pegs through the Patella Drill Guide until the drill bottoms out in the guide (Figure 38).
13. Remove the Patella Reamer Guide and drill guide from the patella.
14. Place the Round Patella Trial onto the resected patella. Use the Patella Caliper to reassess the patella thickness.

Note All GENESIS® II patellae are designed for use with JOURNEY® II Total Knee System.

Note To decrease the patella thickness further, depress the button on the depth stop to raise it on the Patella Reamer Shaft. Each tooth adjustment will ream an additional 1mm. Engage the Patella Reamer back into the Patella Reamer Collet and ream the patella until the Patella Depth Stop engages the Patella Reamer Collet.

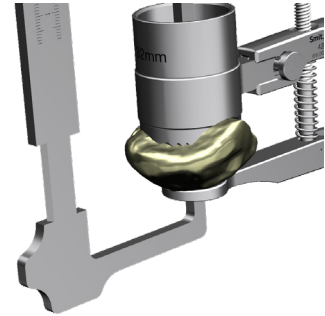


Figure 37

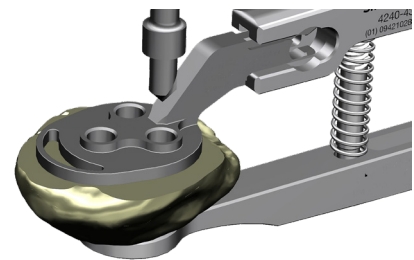


Figure 38



Peg Drill
74014748



Peg Drill Guide
4240436X

Tibial and Femoral Trialing

1. Select the baseplate trial based upon best fit and coverage on the resected tibia. Set position of the tibial baseplate based upon the anatomic landmarks of the tibia (best fit coverage and medial third of the tubercle). Pin the baseplate using two short bone spikes (Figure 39).

Tip If desired, for additional fixation, a headed 45mm pin can be used in the anterior medial pin hole.

2. Place the Femoral Trial onto the femur by positioning the proximal edge of the posterior condyles at the proximal end of the posterior resection.
3. Impact on the angled surface of the Femoral Trial Impactor to rotate the Femoral Trial from posterior to anterior until the distal surface is completely flush with the distal resection (Figure 40).
4. Place a short bone spike in the anterior flange to secure the Femoral Trial to the femur. Loosen the lock knob of the Femoral Trial Impactor and remove anteriorly, leaving the trial in place.

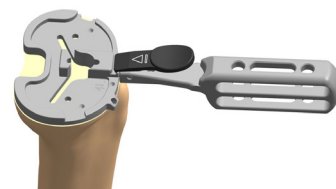


Figure 39

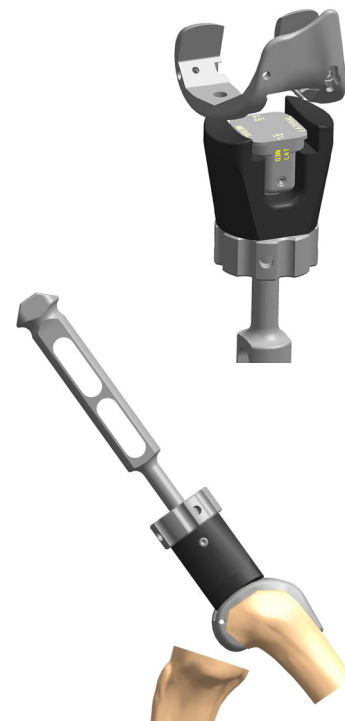


Figure 40



Universal Tibia
Baseplate Trial
74033804



Femoral Trial
Impactor
74012514



JOURNEY II TKA
Femoral Trial
74031225

JOURNEY II CR Notch Preparation

1. Using the angled face on the femoral trial as the guide, remove the anterior intercondylar femoral bone using a narrow sawblade (Figure 41).
2. Select the appropriate size JOURNEY® II CR notch trial and engage the anterior portion of the notch trial first. Then use the femoral implant impactor to impact the posterior portion of the notch trial until it sits flush with the femoral trial (Figure 41).

Note The intercondylar notch preparation removes the bone allowing for a deepened trochlear groove.

Note Impaction of the notch trial self-preps for the posterior gussets on the femoral implant.

3. Use the Lug Drill to prepare for the femoral lugs by drilling to the bottom of both distal holes in the femoral trial (Figure 41).

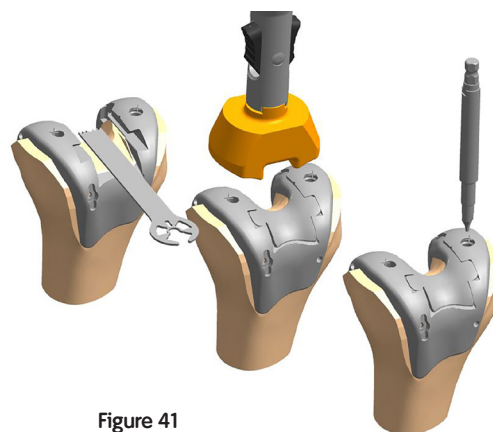


Figure 41



Modular Impact Handle
74016242



JOURNEY II CR Femoral
Notch Trial
74031364



JOURNEY II CR Femoral
Lug Drill
74013480



JOURNEY II CR Femoral
Implant Impactor
74016252

JOURNEY II BCS Box Preparation

1. Insert the appropriate size JOURNEY II BCS Box Prep Guide into the T-slot of the Femoral Trial from the anterior side until the pegs on the Box Prep Guide engage in the Femoral Trial (Figure 42).

Tip If the pegs on the Box Prep Guide do not automatically engage, apply hand pressure down to manually engage pegs.

2. Insert the PS Box Reamer into the BCS Box Prep Guide and ream posteriorly first and then anteriorly (Figure 43).

Tip If the power equipment has “Drill” and “Reamer” settings, ensure “Drill” setting is selected and allow the PS Box Reamer to reach maximum speed before engaging the bone.

3. Connect the Modular Box Chisel to the Modular Impact Handle. Insert the Chisel into the posterior portion of the BCS Box Prep Guide and impact until flush. Repeat punching on anterior portion (Figure 44). Use underside of strike plate to remove.
4. Remove the BCS Box Prep Guide by lifting up on the outside casing to disengage the pegs and sliding anteriorly.
5. Remove any remaining bone debris within the box preparation area.
6. Position the anterior tabs of the JOURNEY® II BCS Cam Trial into the Femoral Trial’s anterior recess and rotate the Cam Trial posteriorly until the Femoral Trial detents have secured the Cam Trial (Figure 45).



Figure 42

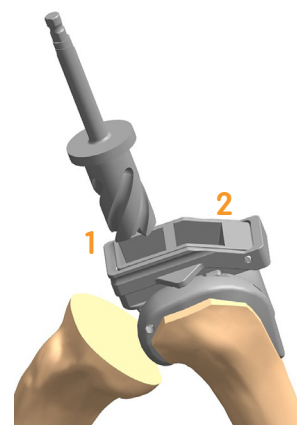


Figure 43

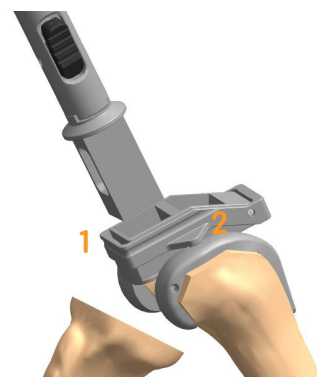


Figure 44

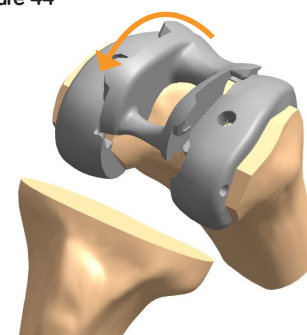


Figure 45



PS Box Reamer
74016269



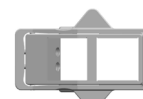
Modular Impact Handle
74016242



Modular Box Chisel
74036248



JOURNEY II BCS Cam Trial
74032145



BCS Box Prep Guides
SZ 1-2 74012574
SZ 3-5 74012575
SZ 6-8 74012576
SZ 9-10 74012577

Tibial Insert Trialing

1. Place the appropriate size and desired thickness Articular Insert Trial onto the Tibia Baseplate Trial.

The insert trial pitchfork can aid in placement of the insert trial (Figure 46).

Tip Placing the insert trial into the trial baseplate can be difficult because of the high medial posterior lip of the insert. The best technique is to flex the knee to 120°, push in the insert as far as possible and bring the leg out into full extension.

Note To trial thicknesses 11mm and higher, assemble the appropriate thickness Universal Insert Spacer with the 9mm Articular Insert Trial.

2. Perform trial range of motion and assess laxity and balance (Figure 47). The knee should drop passively under full extension. Under varus/valgus stresses, there should be approximately 1-2mm of gapping both medially and laterally throughout the range of motion. There should be no increase in resistance as the knee flexes from 0° to 90°. If the knee is too tight, try a thinner insert or resect more tibia.

Tip A cautery tip is ~2mm wide.

3. Once the trial assessment is completed and the correct insert thickness has been determined, take the leg into full extension (Figure 48). Use a cautery to mark the location of the laser etch lines on the anterior cortex of the tibia to reference the baseplate rotation.

Tip In most cases, rotational alignment of the tibial baseplate based upon 1) best fit and coverage, 2) the medial third of the tubercle, and 3) the cautery mark will all match.

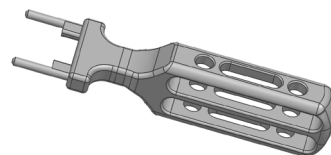


Figure 46



Figure 47

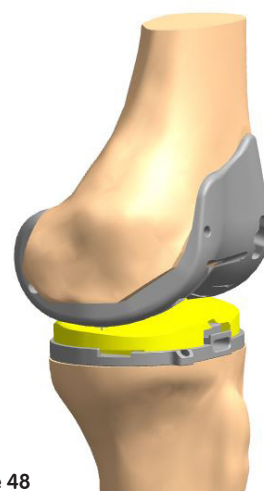


Figure 48



Articular insert trial
74035241



Universal Tibia
Baseplate Trial
74033804



Insert Trial
Pitchfork
74034196



Universal Insert
Spacer
74016263



Universal pin driver
71513331

Tibial Keel Preparation

- Once the trial assessment is complete, and final implant sites determined, remove the Insert Trial and Femoral Trial.

- Optional Step: Use the Tibial Drill to prepare the canal.






Note An alternative method to setting tibial rotation is to use the tibia trial bullet. This can be used once the central canal has been prepared but before the keel preparation. With the tibia trial not pinned to the tibial surface, insert the bullet into the prepared canal, insert desired articular insert trial and appropriate femoral trial. Assess baseplate rotation and use a cautery to mark correct position. Then pin, remove bullet and prepare keel.

- Connect the appropriate size Modular Fin Punch to the Modular Impact Handle. Impact through the baseplate trial (Figure 49). Use the underside of the strike plate to remove.
- Remove the two short bone spikes and anterior pin, if used, with the JOURNEY® II TKA Removal Tool, and remove the baseplate trial.

Note If a constrained insert has been selected, the patient should have good femoral bone quality and a tibial stem is recommended.



Figure 49

				
JOURNEY II Removal Tool 74012825	Modular Impact Handle 74016242	Modular NP Fin Punch SZ 1-2 74016244 SZ 3-4 74016245 SZ 5-6 74016246 SZ 7-8 74016247	11mm Tibial Drill 71440040	Tibia Bullet 71442196

Final Implantation

Option 1: Outer-Grip Impactor (JOURNEY II CR and BCS)

1. Assemble the JOURNEY® II Bumper onto the Outer Grip Locking Femoral Impactor.
2. Unthread the lock knob completely.
3. Press both outer levers to open both arms (Figure 50).
4. Position the Femoral Component to the LATERAL and MEDIAL distal condyles as shown on the bumper. Release the outer levers. Arms should mate with the notches on the medial and lateral edges of the Femoral Component.
5. Lock the knob until hand tight. Do not over tighten.



Figure 50

Option 2: JOURNEY II BCS Locking Femoral Impactor (JOURNEY II BCS only)

1. Assemble the Femoral Implant Impactor Bumper (available in Left and Right) onto the Femoral Implant Impactor.
2. Unthread the lock knob completely.
3. Press the thumb lever on the posterior side to push the dual arm mechanism upwards.
4. Position the taller arm inside the posterior cam of the femoral component and rotate the shorter arm onto the anterior cam. Release the thumb lever (Figure 51).
5. Thread the lock knob until hand tight.



Figure 51

Cement Preparation

1. Mix and prepare cement for final implants and prepared bone surfaces.



JOURNEY II Outer Grip Bumper
74018903



Outer Grip Locking Femoral Impactor
74018902



JOURNEY® Femoral Impactor Bumper
74012821



JOURNEY II BCS Locking Femoral Impactor
74012812

Final Implantation

Tibial Component

1. Maximally flex the knee and place a thin bent Hohmann laterally and medially and an Aufranc Retractor posteriorly to sublux the tibia forward.
2. Suction the keel prep hole and avoid contaminating the implant cement interface surface with fat or other fluids prior to cement application.
3. Apply generous amounts of cement to the dry underside of the baseplate, keel and into the keel prep hole.
4. Connect the Modular Tibia Impactor to the Modular Handle. Use a mallet to fully seat the Tibial Baseplate Component onto the proximal tibia (Figure 52).

Optional Instrument Use the Locking Tibia Impactor and a mallet to introduce the Tibial Baseplate Component onto the prepared proximal tibia. Release the locking tabs from the center island of the Baseplate Component. Finish with Modular Handle and Modular Tibia Impactor.

5. Remove excess cement.



Figure 52



Modular Impact Handle
74016242



Modular Universal
Tibial Impactor
74016249



JOURNEY® II
Locking Tibia
Impactor
74016268

Final Implantation

Femoral Component

1. Flex the knee to 90°, keeping the thin bent Hohmann laterally and removing the Aufranc retractor.
2. Apply generous amounts of cement to the dry inside surfaces of the femoral component and onto the prepared surfaces of the bone.
3. Place the Femoral Component onto the femur by positioning the proximal edge of the posterior condyles at the proximal end of the posterior resection (Figure 53).

Tip Care should be taken to avoid excess cement on the posterior aspect of the femur and femoral component. Excess cement that extrudes posteriorly is difficult to remove.

4. Impact on the angled surface of the Femoral Implant Impactor to rotate the Femoral Component from posterior to anterior until the distal surface is completely flush with the distal resection.
5. Unthread the lock knob completely. Rotate the Femoral Implant Impactor posteriorly to disengage it from the Femoral Component.
6. Connect the Modular JOURNEY° Femoral Impactor to the Modular Impact Handle for final impactions (Figure 54).
7. Remove excess cement giving particular care to remove cement along the proximal portion of the femoral cam.
8. Extend the knee to remove cement anteriorly without retracting the proximal soft tissue.

Radiographic note The JOURNEY II Total Knee System features an anatomical joint line in the A/P view. The distal condyles of the Femoral Component will present a 3° varus angle relative to the Tibial Component when correctly aligned.

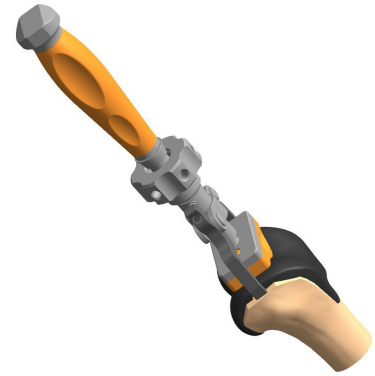


Figure 53



Figure 54



JOURNEY II BCS Locking
Femoral Impactor
74012812



Modular Impact Handle
74016242



Modular JOURNEY
Femoral Impactor
74016252

Final Implantation

Patellar Component

1. Assemble the Patella Cement Clamp to the Clamp
2. Apply bone cement to the patella.
3. Place the patellar implant onto the prepared patella.
4. Clamp the patellar implant into the bone and remove the extruded cement (Figure 55).

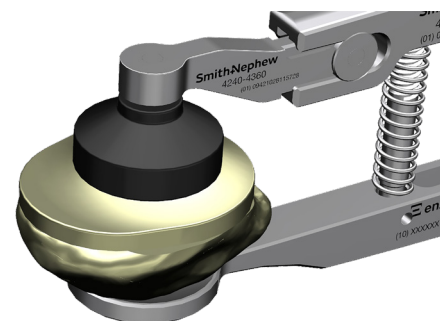


Figure 55

JOURNEY® II TKA articular insert

1. Clear any debris from the locking mechanism.
2. Manually slide the insert into the tibial baseplate engaging the locking mechanism until the insert periphery is within 1-2mm of the Tibial Component periphery.

Note The articular insert can be difficult to insert because of the high medial posterior lip. The best technique is to flex the knee to 110°, push in the insert as far as possible and bring the leg out into full extension. Externally rotating the tibial in flexion can also help with getting in the insert.

3. Insert the tip of the Articular Insert Assembly Tool into the center notch of the anterior lock detail (handle up) and engage the two tabs of the Tool into the two recesses on the anterior periphery of the insert (Figure 56).

Note Make sure the tool is level with the plane of the baseplate.

4. Squeeze the tool handle until the insert is fully seated within the Tibial Component. The insert should not move under any pressure in flexion or extension.

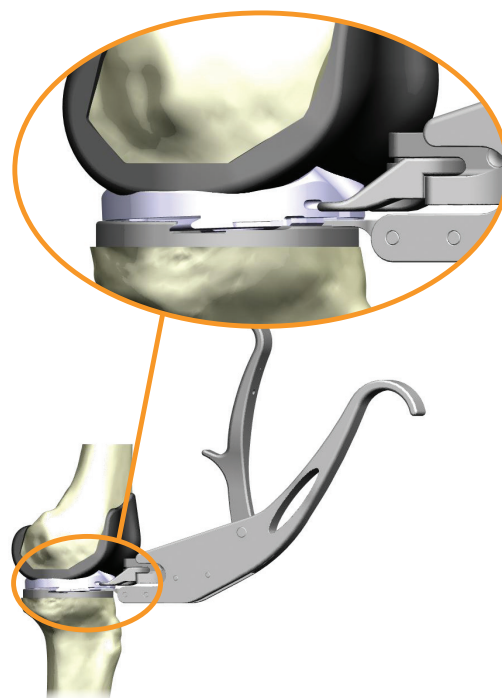


Figure 56



Articular insert
assembly tool
74018911



Cement Clamp
42404360

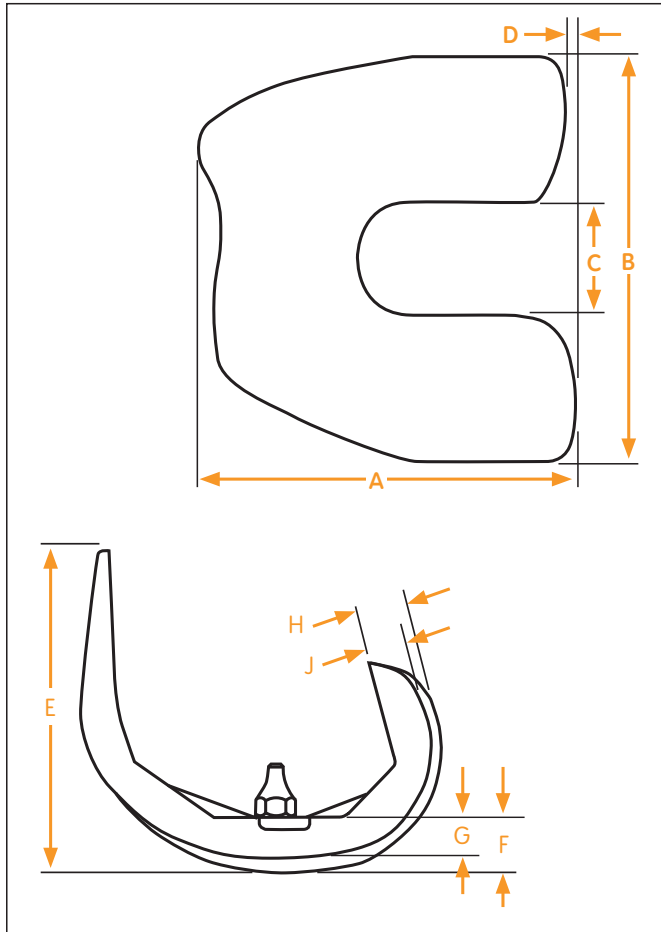
Closure

1. Close the arthrotomy by placing three O-Vicryl™ sutures at the superior border of the patella just distal to the VMO. A stitch is placed to close the VMO fascia. The remainder of the arthrotomy is closed in the standard fashion.
2. Perform routine subcutaneous and skin closure.

Tip Closing the knee in flexion may benefit early rehab.

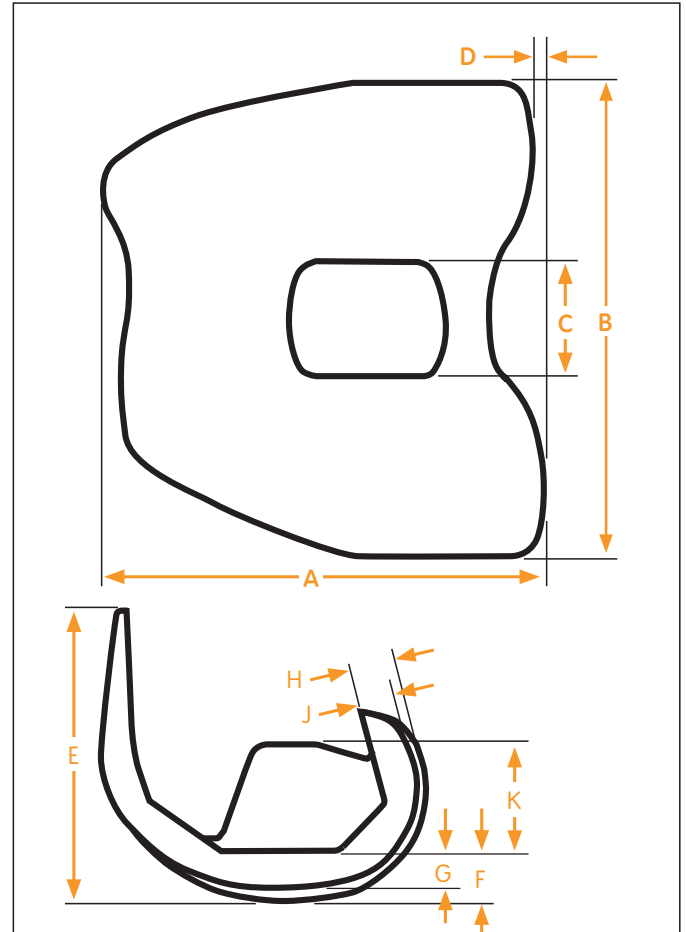
Femoral Component Dimensions (mm)

JOURNEY® II CR



	Anterior Posterior	Medial Lateral	IC Notch Width	Posterior Condylar Offset	Flange Height	Distal Medial Thickness	Distal Lateral Thickness	Posterior Medial Thickness	Posterior Lateral Thickness
Size	A	B	C	D	E	F	G	H	J
1	51.7	59.0	19	1.7	49.5	9.5	7	9	7.4
2	53.7	60.0	19	1.7	50.7	9.5	7	9	7.4
3	56.7	61.5	19	1.7	52.5	9.5	7	9	7.4
4	59.7	64.5	19	1.7	54.3	9.5	7	9	7.4
5	62.7	67.5	19	1.7	56.0	9.5	7	9	7.4
6	65.7	70.5	19	1.8	57.7	9.5	7	9	7.4
7	68.8	73.5	19	1.8	59.5	9.5	7	9	7.4
8	71.8	76.0	19	1.8	61.2	9.5	7	9	7.4
9	75.8	80.0	19	1.8	63.5	11.5	9	11	9.4
10	79.8	82.0	19	1.8	65.7	11.5	9	11	9.4

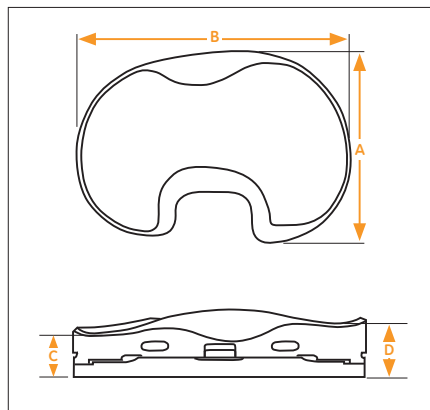
JOURNEY II BCS



	Anterior Posterior	Medial Lateral	PS Box Width	Posterior Condylar Offset	Range Height	Distal Medial Thickness	Distal Lateral Thickness	Posterior Medial Thickness	Posterior Lateral Thickness	Box Height
Size	A	B	C	D	E	F	G	H	J	K
1	51.7	59.0	16.5	1.7	49.5	9.5	7	9	7.4	16.0
2	53.7	60.0	16.5	1.7	50.7	9.5	7	9	7.4	17.0
3	56.7	61.5	16.5	1.7	52.5	9.5	7	9	7.4	17.0
4	59.7	64.5	16.5	1.7	54.3	9.5	7	9	7.4	20.5
5	62.7	67.5	16.5	1.7	56.0	9.5	7	9	7.4	20.5
6	65.7	70.5	16.5	1.8	57.7	9.5	7	9	7.4	22.0
7	68.8	73.5	16.5	1.8	59.5	9.5	7	9	7.4	22.0
8	71.8	76.0	16.5	1.8	61.2	9.5	7	9	7.4	22.0
9	75.8	80.0	16.5	1.8	63.5	11.5	9	11	9.4	22.8
10	79.8	82.0	16.5	1.8	65.7	11.5	9	11	9.4	22.8

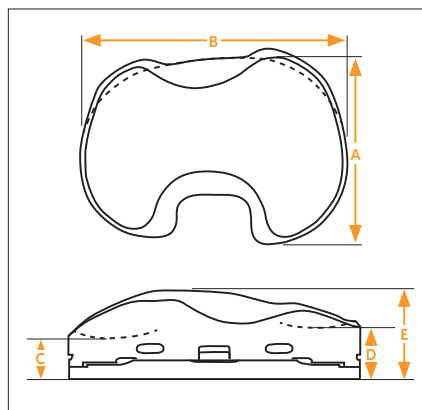
Tibial Insert Dimensions (mm)

JOURNEY® II CR



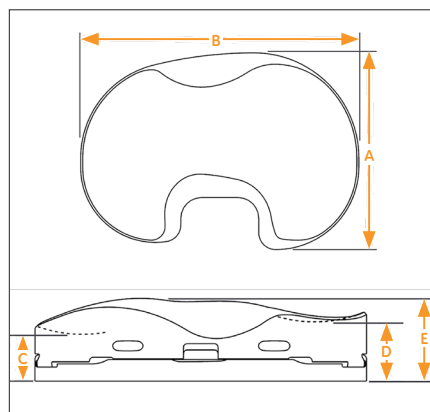
	Anterior Posterior	Medial Lateral	Medial Thickness*	Lateral Thickness*
9mm CR Insert	A	B	C	D
Sz 1-2	42	60	9.6	12.0
Sz 3-4	48	68	9.6	12.0
Sz 5-6	52	74	9.6	11.9
Sz 7-8	56	81	9.6	11.9

JOURNEY II Deep Dished



	Anterior Posterior	Medial Lateral	Medial Thickness*	Lateral Thickness*	Anterior Thickness*
9mm Deep-Dished Insert	A	B	C	D	E
Sz 1-2	42	60	9.6	12.1	16.9
Sz 3-4	48	68	9.6	12.1	18.1
Sz 5-6	52	74	9.6	12.1	19.3
Sz 7-8	56	81	9.6	12.1	19.9

JOURNEY II Medial Dished



	Anterior Posterior	Medial Lateral	Medial Thickness*	Lateral Thickness*	Anterior Thickness*
9mm Medial-Dished Insert	A	B	C	D	E
Sz 1-2	42	60	9.6	12.1	16.2
Sz 3-4	48	68	9.6	12.1	16.9
Sz 5-6	52	74	9.6	12.1	18.8
Sz 7-8	56	81	9.6	12.1	19.5

Insert offering/compatibility (Medial Dished and Deep Dished)

JOURNEY II CR tibial insert is completely interchangeable with all size femoral components.

	Femoral Size									
Insert Size	1	2	3	4	5	6	7	8	9	10
1-2	●	●	●	●						
3-4		●	●	●	●	●				
5-6				●	●	●	●	●	●	
7-8**						●	●	●	●	●

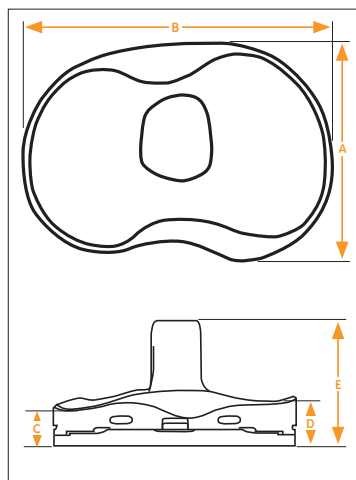
**Size 7-8 tibia inserts can also be used with size 9 tibia baseplates

Minimum polyethylene thickness for a 9mm metal-backed component is 6.7mm on the medial side.

* Baseplate thickness included.

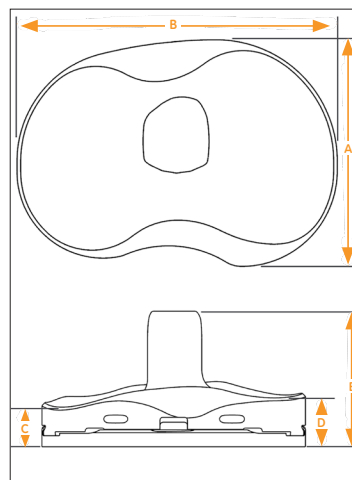
Tibial Insert Dimensions (mm)

JOURNEY® II BCS



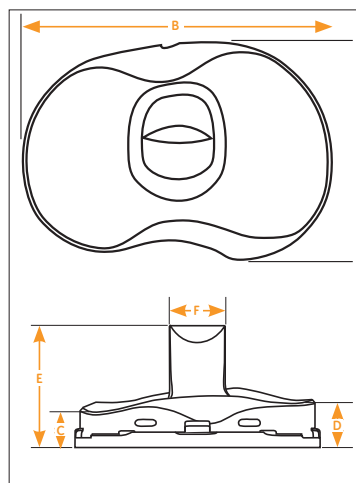
	Anterior Posterior	Medial Lateral	Medial Thickness*	Lateral Thickness*	Post Height*
9mm Insert	A	B	C	D	E
Size 1-2	42	60	9.6	11.9	34.1
Size 3-4	48	68	9.6	11.9	35.1
Size 5-6	52	74	9.6	11.9	38.6
Size 7-8	56	81	9.6	11.9	40.1

JOURNEY II AS



	Anterior Posterior	Medial Lateral	Medial Thickness*	Lateral Thickness*	Post Height*
9mm Insert	A	B	C	D	E
Size 1-2	42	60	9.6	12.1	34.1
Size 3-4	48	68	9.6	12.1	35.1
Size 5-6	52	74	9.6	12.1	38.6
Size 7-8	56	81	9.6	12.1	40.1

JOURNEY II Constrained



	Anterior Posterior	Medial Lateral	Medial Thickness*	Lateral Thickness*	Post Height*	Post Width
9mm Insert	A	B	C	D	E	F
Size 1-2	42	60	9.6	12.1	34.1	16.1
Size 3-4	48	68	9.6	12.1	35.3	16.1
Size 5-6	52	74	9.6	12.1	38.6	16.1
Size 7-8	56	81	9.6	12.1	40.1	16.1

Insert offering/compatibility (All)

	Femoral Size									
Insert Size	1	2	3	4	5	6	7	8	9	10
1-2	●	●	●	●						
3-4		●	●	●	●	●				
5-6				●	●	●	●	●	●	
7-8**						●	●	●	●	●

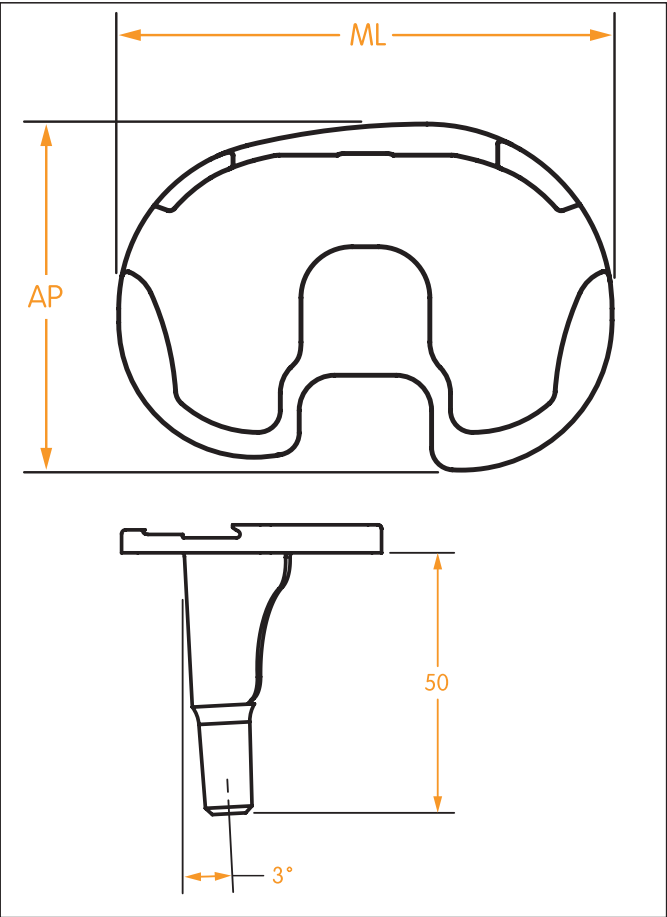
** Size 7-8 tibia inserts can also be used with size 9 tibia baseplates.

Minimum polyethylene thickness for a 9mm metal-backed component is 6.7mm on the medial side.

* Baseplate thickness included.

Tibial Baseplate Dimensions (mm)

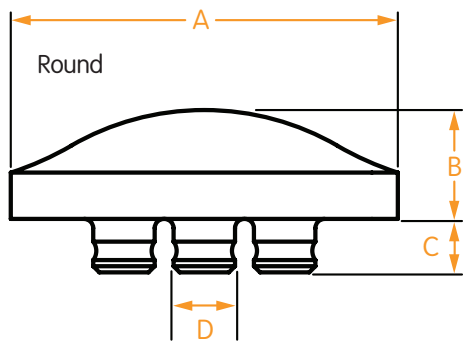
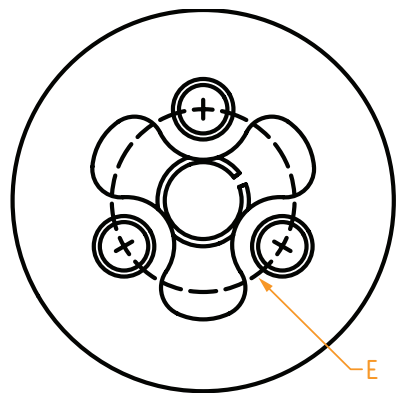
JOURNEY® Tibial baseplate



Size	Anterior Posterior	Medial Lateral
	A/P	M/L
1	42	60
2	45	64
3	48	68
4	50	71
5	52	74
6	54	77
7	56	81
8	59	85
9	61	89

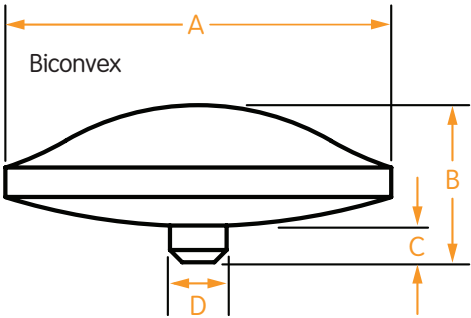
Note Stem sloped 3° posteriorly.
Stem length is 50mm on all
nonporous sizes.

JOURNEY[◇] Patella Dimensions (mm)



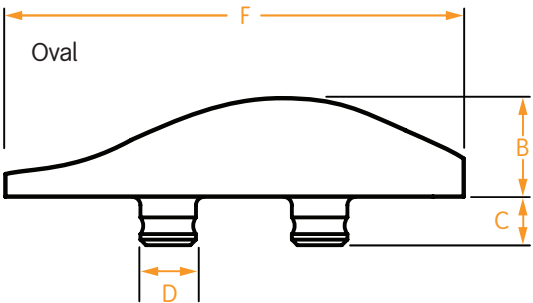
Round

Size	Diameter					Peg Circle Diameter
	A	B	C	D	E	
26mm Std	26	9	4.4	5.1	15.3	
29mm Std	29	9	4.4	5.1	15.3	
32mm Std	32	9	4.4	5.1	15.3	
35mm Std	35	9	4.4	5.1	17.9	
38mm Std	38	9	4.4	5.1	17.9	
41mm Std	41	9	4.4	5.1	17.9	



Biconvex

Size	Diameter					Peg Diameter
	A	B	C	D	E	
23mm Std	23	13	4.1	4.7		
26mm Std	26	13	4.1	4.7		
29mm Std	29	13	3.1	4.7		
32mm Std	32	13	3.1	4.7		



Oval

Size	Diameter						Peg Circle Diameter
	A	B	C	D	E	F	
29mm Std	29	8.5	4.4	5.1	15.3	35	
32mm Std	32	9.0	4.4	5.1	15.3	38	
35mm Std	35	9.0	4.4	5.1	17.9	41	
38mm Std	38	9.5	4.4	5.1	17.9	44	
41mm Std	41	10.0	4.4	5.1	17.9	47	

Fixed Femoral Alignment Technique

Instrument Assembly: Fixed Femoral Guide

1. Attach the appropriate Fixed Valgus Bushing (4-7 Degrees) to the Fixed Valgus Guide Base.

Tip Position the bushing such that the appropriate hand (“LT” or “RT”) orients toward “ANTERIOR” on the Valgus Guide.

2. Attach the desired Valgus Bridge to the Valgus Guide Base (Figure 57).

Note The Valgus Bridge was designed to move anterior and posterior within the Valgus Guide to accommodate various patient morphology

3. Attach the IM rod to the T-handle and insert through the alignment assembly (Figure 58). IM rod will lock into the alignment assembly in one of four places (see Figure 59).

Note There are two locking positions on the IM Rod. If the alignment assembly can make a full rotation around the IM Rod, the second lock has not engaged. Remove the IM Rod and reengage.

4. Attach the Distal Femoral Cutting block onto the Bridge. Positioning the block and the dial on the adjustable bridge at the primary (“0”) resection level will ensure the cut will equal the distal thickness of the femoral prosthesis (Figure 60).

Note The Distal Femoral Cutting block is designed to pivot medial and lateral to accommodate various patient morphology.

Tip If surgeon preference is to pin the -2mm pin holes initially, it is recommended to add the Wide Distal Cut Block to the set.

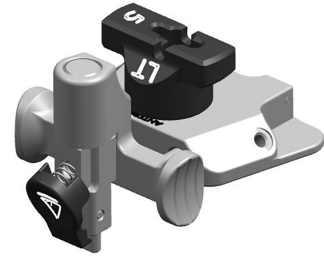


Figure 57



Figure 59

Figure 58

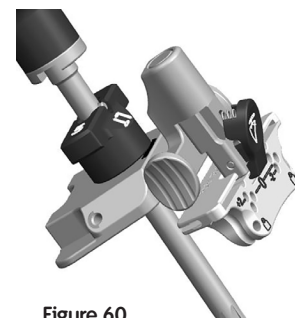

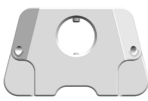






Figure 60

					
Fixed Valgus Bushing	Fixed Valgus Guide Base	Fixed Valgus Bridge	T-Handle	IM Rod	Distal Cutting Block
4 Degrees 74016206	74016200	74016202	71674576	Long 74016211	74016205
5 Degrees 74016207				Short 74016212	
6 Degrees 74016208					
7 Degrees 74016209					

Fixed Femoral Alignment Technique

Intramedullary Alignment

1. Open the femoral canal with the 9.5mm Intramedullary Drill. The drill has a 12mm step to open the entry point further (Figure 61).

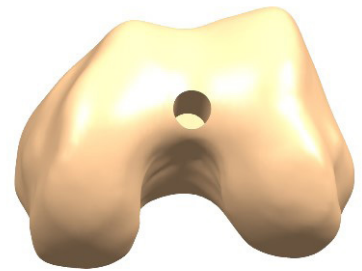


Figure 61

2. Slide the Intramedullary Rod of the alignment assembly into the femoral canal until the Valgus Guide contacts the distal femur (Figure 62).

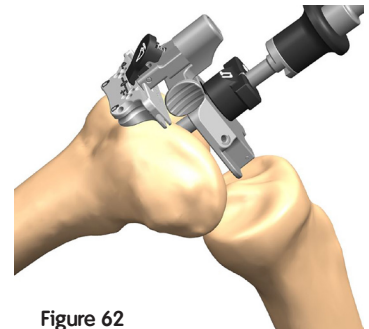


Figure 62

Note There may be times when only one side of the guide will touch bone.

Note To avoid a shallow resection, it is recommended to not push the Bridge all the way into the Valgus Guide until it has been seated on the distal surface.

Tip Alternately, the Bridge can be assembled after seating the Valgus Guide onto the distal femur.

3. Orient rotation of the assembly neutral to the posterior condyles (Figure 63) insert a headed or non-headed 65mm pin into one or both of the oblique pin holes.

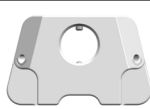


Figure 63

Note Distal Cutting Guide will pivot to conform to the anterior bone geometry.



Fixed Valgus Bushing
4 Degrees 74016206
5 Degrees 74016207
6 Degrees 74016208
7 Degrees 74016209



Fixed Valgus Guide Base
74016200



Fixed Valgus Bridge
74016202



T-Handle
71674576



IM Rod
Long 74016211
Short 74016212



Distal Cutting Block
74016205



Intramedullary drill,
9.5mm
74012111

Fixed Femoral Alignment Technique

Distal Resection

1. Using non-headed 65mm pins, pin the distal femoral cutting block to the anterior femur using the holes marked '0'. Once adequate distal femoral resection is noted, a headed or non-headed 65mm pin should be placed in one or both oblique pin holes for additional stability (Figure 64).

Note Resection level can be adjusted using the alternate pin holes on the cutting block, -2mm or +2mm of bone.

Tip The chamfer on the -2mm pin holes of the Standard Distal Cutting Block may cause pins to become stuck in the block. Place pin into pinhole before starting power.

Tip The oblique pin holes on the Distal Cut Block may come in contact with the IM rod. If any resistance is present, stop and assess.

2. Push the button on the Valgus Bridge (Figure 65) to remove the alignment assembly from the incision site. Only the distal cutting block should remain on the femur.

3. Resect the distal femur (Figure 66) then remove the distal femoral cutting block.

Tip If the distal femoral resection is not adequate, remove the oblique pin, and reposition the block through the pin holes marked +2mm and re-insert the oblique pin.

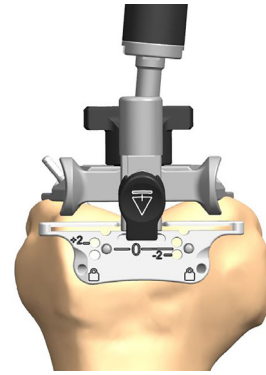


Figure 64

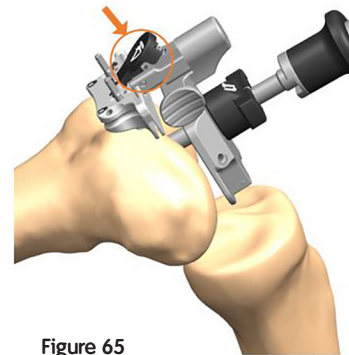


Figure 65

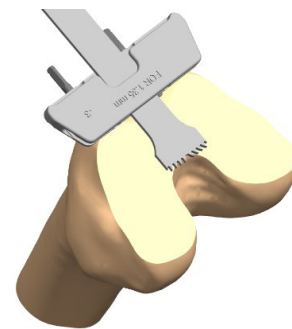


Figure 66



Fixed Valgus Bushing
4 Degrees 74016206
5 Degrees 74016207
6 Degrees 74016208
7 Degrees 74016209



Fixed Valgus Guide Base
74016200



Fixed Valgus Bridge
74016202



Distal Cutting Block
74016205



SPEED PIN
Non-Headed 65mm
74013480

Kinematic Alignment Instrument Technique

Introduction to Kinematic Alignment

Kinematic Alignment aims to restore the patient's pre-arthritis anatomy by:

1. Restoring the native femoral and tibial articular surfaces
2. Restore the native knee and limb alignments
3. Restore the native soft-tissue laxities of the knee.

The femoral and tibial instruments described in this section will allow for restoration of the patient's knee anatomy by aligning the resections in a way to remove the implant thickness on each condyle accounting for cartilage wear if present.

In this Kinematic Alignment technique, it is assumed that that healthy cartilage is approximately 2mm. Therefore, the target resection depth for a worn condyle would be (Implant Thickness – 2mm).

Kinematic Alignment Instrument Technique

Distal Femoral Alignment Guide Assembly

1. Insert the Fixed Valgus Bridge into the appropriate, handed JOURNEY Kinematic Alignment Valgus Guide (Figure 67).

Note The Valgus Bridge was designed to move anterior and posterior within the Valgus Guide to accommodate various patient morphology.

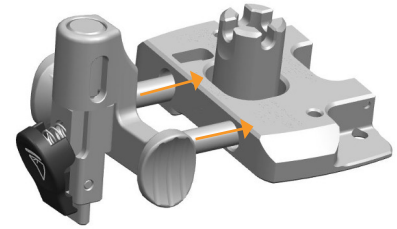


Figure 67

2. Attach the Distal Femoral Cutting block onto the Fixed Valgus Bridge (Figure 68).

Note The Distal Femoral Cutting block is designed to pivot medial and lateral to accommodate various patient morphology.

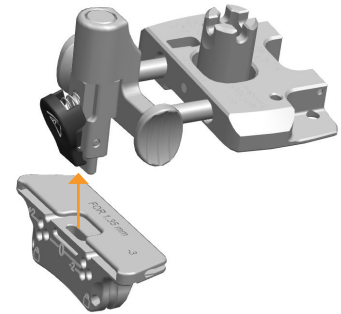


Figure 68

3. Attach the Short IM rod to the T-handle and insert through the alignment assembly (Figure 69). IM rod will lock into the alignment assembly in one of four places

Note There are two locking positions on the IM Rod. If the alignment assembly can make a full rotation around the IM Rod, the second lock has not engaged. Remove the IM Rod and reengage.

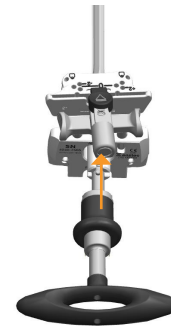


Figure 69

4. Assess the distal femoral condyles for cartilage wear (medial, lateral or both), and place a 2mm shim on the worn side/s of the Kinematic Alignment Valgus Guide to accommodate for the cartilage wear (Figure 70).

Note If a distal condyle is partially worn, use a ring curette to remove the remaining cartilage.

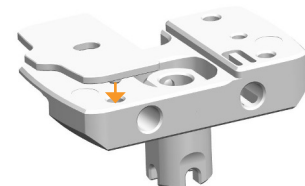
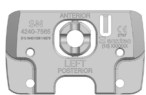


Figure 70



Fixed Valgus Bridge
74016202



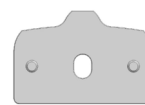
JOURNEY KA Distal Valgus Guide
Left 42407565
Right 42407566



Short IM Rod
74016212



Distal Cutting Block
74016205



2mm Distal Cartilage Shim
42407562

Kinematic Alignment Instrument Technique

Placing Femoral Alignment Guide

1. Open the femoral canal with the 9.5mm Intramedullary Drill. The drill has a 12mm step to open the entry point further (Figure 71).
2. Slide the Intramedullary Rod of the Kinematic Alignment assembly and pivot the Distal Valgus Guide until both sides contact the distal femur (Figure 72). Contacting both sides of the femur ensures that the resection will match the implant thickness accounting for cartilage wear

Note To avoid a shallow resection, it is recommended to not push the Bridge all the way into the Valgus Guide until it has been seated on the distal surface.

3. Orient rotation of the assembly neutral to the posterior condyles and insert a non-headed 65mm pin into one of the distal holes to maintain rotation (Figure 73).

Note Distal Cutting Guide will pivot to conform to the anterior bone geometry.

4. Using non-headed 65mm pins, pin the distal femoral cutting block to the anterior femur using the holes marked '0'. Once adequate distal femoral resection is noted, a headed or non-headed 65mm pin should be placed in one or both oblique pin holes for additional stability (Figure 74).

Tip The oblique pin holes on the Distal Cut Block may come in contact with the IM rod. If any resistance is present, stop and assess.

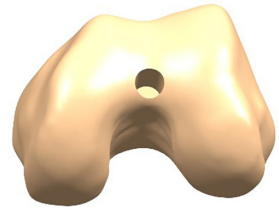


Figure 71

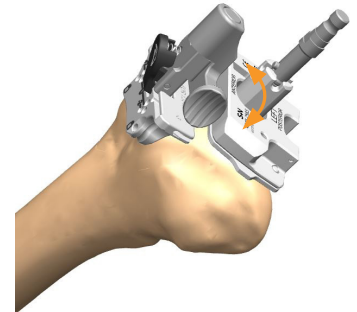


Figure 72

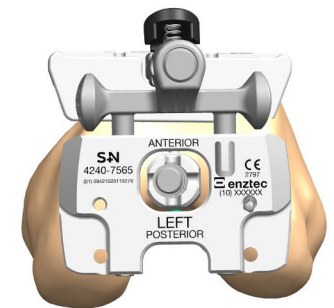


Figure 73

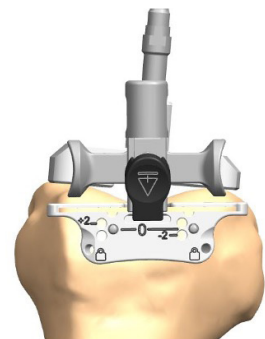


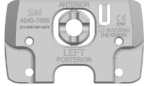






Figure 74

						
Intramedullary drill, 9.5mm 74012111	Fixed Valgus Bridge 74016202	JOURNEY KA Distal Valgus Guide Left 42407565 Right 42407566	Short IM Rod 74016212	Distal Cutting Block 74016205	2mm Distal Cartilage Shim 42407562	Speed Pin 74013480

Kinematic Alignment Instrument Technique

- 5. Push the button on the Valgus Bridge to remove the alignment assembly from the incision site (Figure 75). Only the distal cutting block should remain on the femur.

Distal Resection

- 1. Resect the distal femur (Figure 76) then remove the distal femoral cutting block.
- 2. Measure the distal cuts with the caliper to ensure that implant thickness was taken on both sides while accounting for 2mm of wear on the worn side/s

Note JOURNEY II Femoral Thicknesses (Sizes 1-8)

Medial: 9.5mm

Lateral: 7.0mm

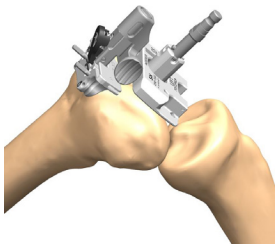


Figure 75

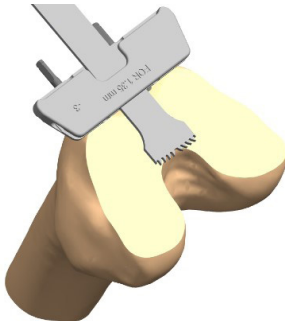


Figure 76

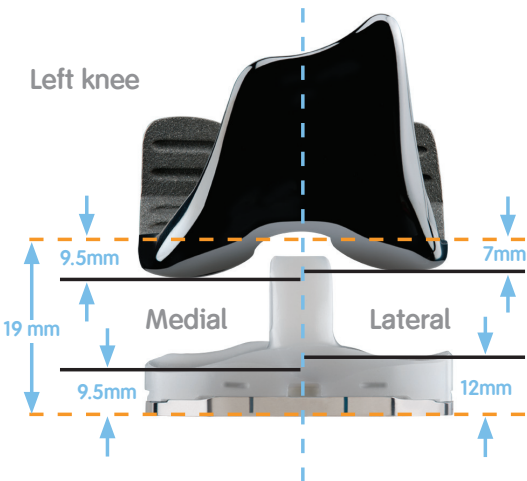
Sizing note

The JOURNEY® II Total Knee System femoral component features a proportional distal resection for the Standard and Large sizes (see table).

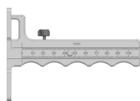
Use preoperative templating to estimate the femur size to determine the appropriate distal resection.

If the approximate size is between a size 8 and size 9, it is recommended to make the distal resection for the larger of the two sizes and proceed as normal.

	Size	Distal Resection
Standard	1-8	9.5mm
Large	9-10	11.5mm



Distal Cutting Block
74016205



Kinematic Alignment Caliper
42407354

Kinematic Alignment Instrument Technique

Proximal Tibia Assembly: Macro Extramedullary tibial alignment guide

1. Attach the EM Posterior Slope Guide to the Ankle Clamp by depressing the button on the Slope Guide and slide to the desired position (Figure 77).

Tip The neck on the Slope Guide should orient toward the arms and dials of the Ankle Clamp.

Note Each tooth is 1mm apart.

2. Attach the Macro EM Tibial Alignment Tube to the EM Posterior Slope Guide by depressing the inferior button on the Alignment Tube and sliding to the desired position (Figure 78). Once the button is released, the height will be locked in position.

Tip The inferior button on Alignment Tube should face away from the arms of Ankle Clamp.

Note Each tooth is 1mm apart.

3. Attach the appropriate hand tibial cutting block to the Alignment Tube by depressing the superior button on the Alignment Tube (Figure 79).



Figure 77



Figure 78



Figure 79



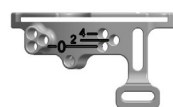
Ankle Clamp
74016241



EM Posterior Slope
Guide
74016231



EM Macro
Alignment Tube
74016231



Tibial Cutting Guide
3 Degree
Left 74016216
Right 74016217

Kinematic Alignment Instrument Technique

Placing Extramedullary Tibial Alignment Guide

1. Open the arms of the ankle clamp and attach alignment jig to the tibia. Adjust height and slope by depressing the buttons on the Macro Alignment Tube and EM Posterior Slope guide, respectively (Figure 80).

Note Varus/valgus adjustments can be made by rotating the dial on the ankle clamp.

2. Once approximate resection level is set, use a headed 45mm pin to pin through the provisional slot in the Tibia Cutting Block (Figure 81).
3. Insert Adjustable Footed Tibia Stylus into the saw slot of the Cutting Guide (Figure 82).

4. Adjust the stylus to desired resection level by rotating the dial and reference the lateral tibial plateau with its respective implant thickness accounting for (and subtracting) cartilage wear if present.

Note JOURNEY II Tibial Thicknesses

Medial: 9.5mm

Lateral: 12.0mm

5. With the Adjustable Tibia Stylus set to the desired resection level on the lateral side, pin the cutting block on the lateral side by using a non-headed 65mm pin through the hole marked '0.' (Figure 83).

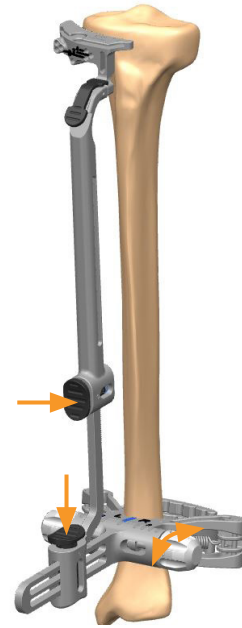


Figure 80

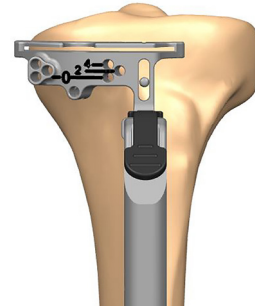


Figure 81

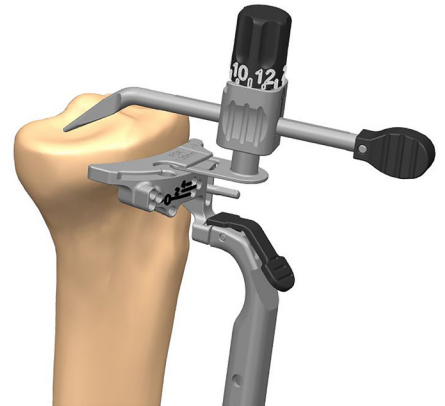


Figure 82



Adjustable Footed Stylus
74016229



SPEED PIN
Non-Headed 65mm
74013480

Kinematic Alignment Instrument Technique

6. Repeat the same resection depth measurement on the medial side by adjusting the stylus to account for implant thickness and cartilage wear if present. Place a non-headed 65mm pin through the hole marked '0'. For additional fixation, a headed or non-headed 65mm pin can be inserted through the oblique pin hole.

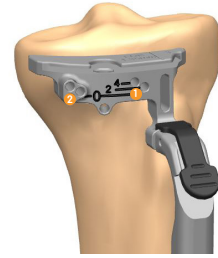


Figure 83

Proximal Tibia Resection

1. Remove the Tibia Stylus. Resect the proximal tibia and remove the cutting guide (Figure 84).
2. Measure the proximal tibia cuts with the caliper to ensure that implant thickness was taken on both sides while accounting for 2mm of wear on the worn side/s

Note JOURNEY II Tibial Thicknesses

Medial: 9.5mm

Lateral: 12.0mm

Tip If additional resection depth is needed, the cutting guide can be shifted to the holes marked '2' or '4' for an additional +2mm or +4mm of resection, respectively.

3. To remove assembly, depress the superior button on the Alignment tube to disengage from the cutting block.
4. If additional varus or valgus resection is needed, place the flat surface of Varus/Valgus Recut Block on the cut tibial surface to add an additional 2° in either direction (Figure 85).

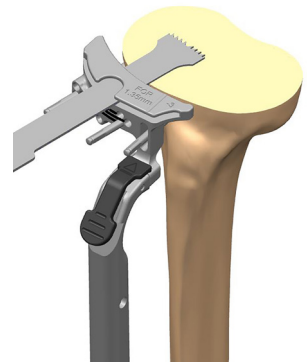


Figure 84

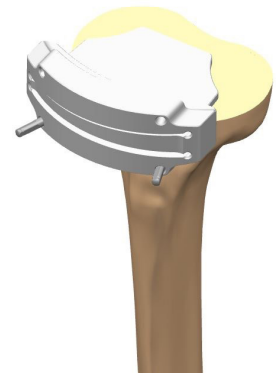
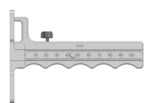
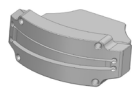


Figure 85



Kinematic
Alignment Caliper
42407354



2° Varus/Valgus
Recut Block
42407624

Kinematic Alignment Instrument Technique

Femoral Rotation and Sizing

1. Place the appropriate (left or right) JOURNEY® II DCF Sizing Guide on the resected distal femur with the rotation set to 3° to resect implant thickness from the posterior condyles. Place a 45mm headed pin through the hole just above the medial paddle to secure the sizing guide for the remainder of its use (Figure 86).

Note Rotation is set to 3° for the JOURNEY II Femur due to the asymmetric posterior condyles.

2. Ensure that both medial and lateral paddles are contacting the posterior condyles with the guide set to 3°.
3. Once both the A/P and rotational measures are desirable relative to the anatomic landmarks, drill about a 1 inch (25mm) deep hole through each of the two holes in the drill guide (Figure 87).

4. Insert the JOURNEY Sizing Stylus to the guide and estimate the A/P femoral size. Position the stylus tip just lateral of the anterior trochlear sulcus (Figure 88). If desired, use the indicated size Femoral Trial to compare the ML width before selecting which size A/P Cutting Block to use.

Design note The JOURNEY II DCF Sizing Guide is designed to reference the posterior condyles.

Continue to Femoral Cuts on page 14 of this surgical technique

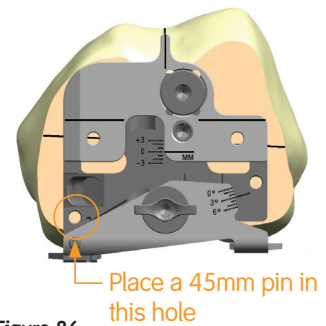


Figure 86

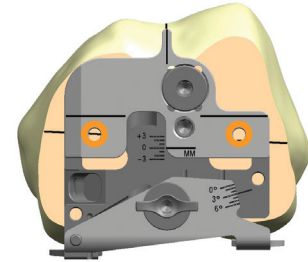


Figure 87

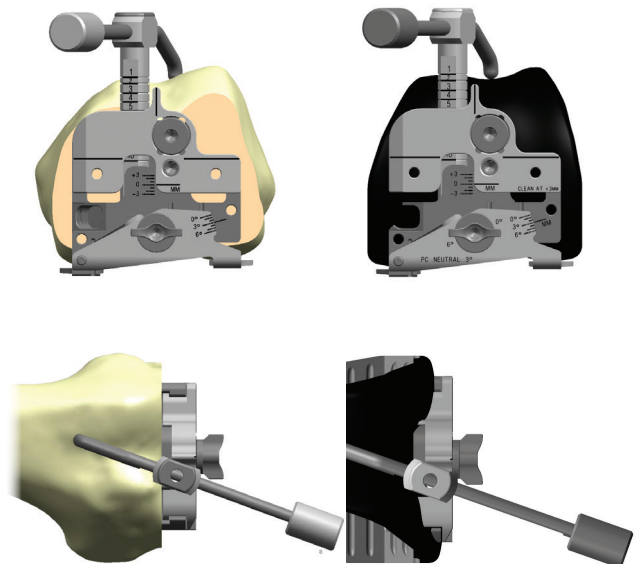


Figure 88



JOURNEY II TKA
Femoral Sizing
Guide Left
74012455



JOURNEY II TKA
Femoral Sizing
Guide Right
74012456

Micro EM Tibial Alignment Technique

Micro Alignment Assembly

1. Attach the EM Posterior Slope Guide to the Ankle Clamp (Figure 89) by depressing the button on the Slope Guide and slide to the appropriate position

Tip The neck of the Slope Guide should orient toward the arms and dials of the Ankle Clamp.

Note Each tooth is 1mm apart.



Figure 89

2. Attach the Micro EM Tibial Alignment Tube to the EM Posterior Slope Guide by depressing the inferior button on the Alignment Tube (Figure 90) and sliding to the desired position. Once the button is released, the height will be locked in position.

Tip The inferior button on Alignment Tube should face away from the arms of Ankle Clamp.

Note Each tooth is 1mm apart.

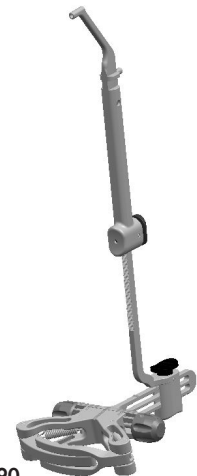


Figure 90

3. Attach the EM Tibial Alignment Guide Micro Head Dial to the Alignment Tube by depressing the button on the Micro Head Dial sliding it onto the Alignment Tube (Figure 91).
4. Attach the appropriate hand Cutting Guide Head to the Micro Adjustment Tibial Alignment Dial by engaging the threads and rotating the black dial (Figure 91).

Tip Adjust the Tibial Cutting Guide Head so that the "0" mark is aligned with the Micro Adjustment Tibial Alignment Dial.

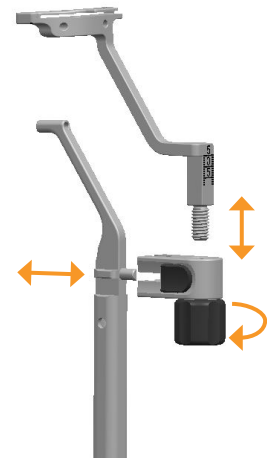


Figure 91



Ankle Clamp
74016241



EM Posterior Slope Guide
74016231



EM Tibial Alignment
Tub Micro
74016233



Tibial Cutting Guide
Head 3 Degree
Left 74016237
Right 74016238



EM Tib Align Guide
Micro Head
74016236

Micro EM Tibial Alignment Technique

Extramedullary Alignment

- 1. Open the arms of ankle clamp and attach alignment jig to tibia. Adjust height and distance from the tibia (slope) by depressing the buttons on the Micro Alignment Tube and EM Posterior Slope Guide, respectively.
- 2. Once approximate resection level is set, use a headed 45mm to pin through the provisional pin hole in the EM Micro Tibial Alignment Tube Micro.
- 3. Insert the 2 and 10mm Pegged Tibial Stylus into the hole of the Cutting Guide (Figure 92).
- 4. Reference the desired condyle with the desired stylus level. Stylus arms rotate to reference desired location.
- 5. Adjust the cutting guide to the desired amount of resection by rotating the dial.

Note The Dial allows for 13mm of total proximal-distal adjustment.



Figure 92



EM Tibial Alignment
Tub Micro
74016233



Tibial Cutting Guide
Head 3 Degree
Left 74016237
Right 74016238



EM Tib Align Guide
Micro Head
74016236



Tibial Stylus 2 and 10mm Pegged
74016229



SPEED PIN
Headed 45mm
74013471
MIS Headed 45mm
74016465

Micro EM Tibial Alignment Technique

Proximal Resection

1. With the 2 and 10mm Pegged Tibia Stylus set to the desired resection level, using non-headed pins, pin the cutting guide through the holes.
2. Remove the Tibia Stylus. Resect the proximal tibia (Figure 93) and remove the cutting guide.

Tip If an uncaptured saw cut is desired, the resection can be performed by cutting on top of the block. An additional 3mm will be needed to account for this offset.

Tip If additional resection is needed, the cutting guide can be adjusted by rotating the black dial.



Figure 93



EM Tibial Alignment
Tub Micro
74016233



Tibial Cutting Guide
Head 3 Degree
Left 74016237
Right 74016238



EM Tib Align Guide
Micro Head
74016236



SPEED PIN
Non-Headed 65mm
74013480

Spiked Extramedullary Tibia Technique

Spiked EM Tibial Alignment Guide Assembly

1. Attach the Spiked EM Posterior Slope Guide to the Ankle Clamp by depressing the button on the Slope Guide and slide to the desired position (Figure 94).

Tip The neck on the Slope Guide should orient toward the arms and dials of the Ankle Clamp.

Note Each tooth is 1mm apart.

2. Slide the Spiked EM Alignment Jig into the Spiked EM/IM Down Rod (Figure 95).
3. Slide the appropriate hand tibial cutting block up the Spiked EM/IM Down rod until it reaches the section of hash marks and lock into place by rotating the knob on the cutting block (Figure 96).
4. Complete the whole assembly by placing onto the EM Posterior Slope Guide (Figure 97).



Figure 94

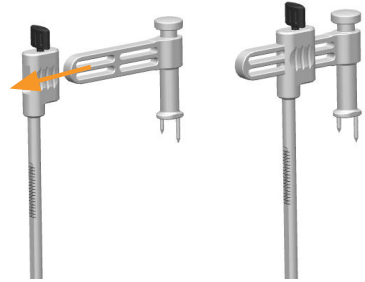


Figure 95



Figure 96



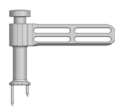
Figure 97



Spiked EM
Slope Guide
42407455



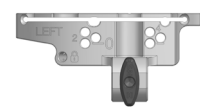
Ankle Clamp
74016241



Spiked EM
Alignment Jig
42407453



Spiked EM/IM Down Rod
42407454



Spiked EM/IM Tibia 3°
Cutting Block
Left 42407611
Right 42407612
Symmetric 42407616

Spiked Extramedullary Tibia Technique

Placing Spiked EM Tibial Alignment Guide

1. Open the arms of the ankle clamp and attach alignment jig to the tibia. Adjust height and impact first spike to set initial position (Figure 98).

Note The Spiked EM Alignment Jig can slide to optimize positioning on the proximal tibia

2. Assess rotation of the alignment guide and slope of the cutting plane. The slope can be adjusted with the button on the Spiked EM Posterior Slope Guide (Figure 98). Impact the second spike fully to secure the assembly.

Recommended Posterior Slope

- JOURNEY II CR: $\geq 5^\circ$
- JOURNEY II MD (w/PCL): $\geq 5^\circ$
- JOURNEY II MD (No PCL): 3°
- JOURNEY II BCS: 3°

3. Insert Adjustable Footed Tibia Stylus into the saw slot of the Cutting Guide (Figure 99).
4. Adjust the stylus to desired resection level by rotating the dial on the stylus and adjusting the height of the cutting block by using rotating the knob.

Note The dial on the stylus adjusts from 2mm – 13mm in 1mm increments.

Note The 9mm tibial implant is 9.5mm thick on the medial side and 12mm thick on the lateral side

Note All knobs on this assembly can be locked with the hex driver



Figure 98

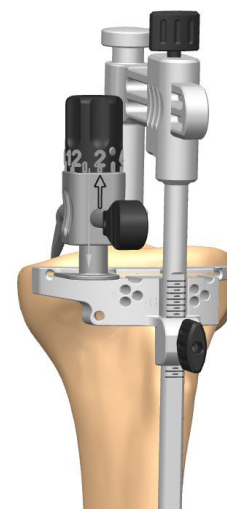


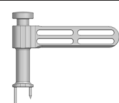
Figure 99



Spiked EM Slope Guide
42407455



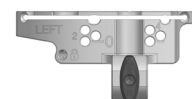
Ankle Clamp
74016241



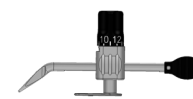
Spiked EM Alignment Jig
42407453



Spiked EM/IM Down Rod
42407454



Spiked EM/IM Tibia 3° Cutting Block
Left 42407611
Right 42407612
Symmetric 42407616



Tibial Stylus Adjustable Footed
74016229

Spiked Extramedullary Tibia Technique

Proximal Tibia Resection

1. With the Adjustable Tibia Stylus set to the desired resection level, using non-headed 65mm pins, pin the cutting guide in position through the holes marked '0.' For additional fixation, a headed or non-headed 65mm pin can be inserted through the oblique pin hole (Figure 100).
2. Remove the Tibia Stylus and assembly leaving the cutting block in place. Resect the proximal tibia (Figure 101).

Note If an uncaptured saw cut is desired, the resection can be performed by cutting on top of the block. An additional 3mm will be needed to account for this offset.

Tip If additional resection is needed, the cutting guide can be shifted to the holes marked '2' or '4' for an additional +2mm or +4mm of resection, respectively.

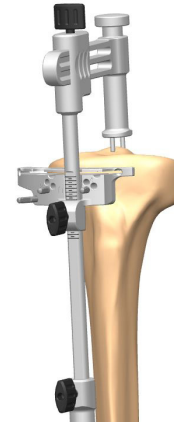


Figure 100

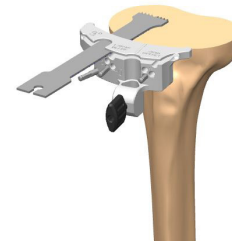


Figure 101

Intramedullary Tibia Technique

Intramedullary Tibial Alignment Guide Assembly

1. Slide the IM Alignment Jig into the Spiked EM/IM Down Rod (Figure 102).
2. Slide the appropriate hand tibial cutting block up the Spiked EM/IM Down rod until it reaches the section of hash marks and lock into place by rotating the knob on the cutting block (Figure 103).
3. Attach T-Handle onto the Long IM Rod and run the IM Rod through the IM Alignment Jig (Figure 104).



Figure 102

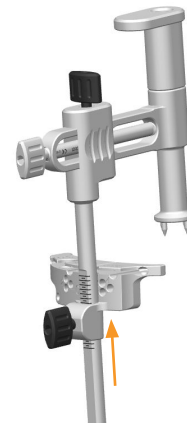


Figure 103



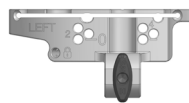
Figure 104



Intramedullary
Alignment Jig
42407457



Spiked EM/IM
Down Rod
42407454



Spiked EM/IM Tibia 3°
Cutting Block
Left 42407611
Right 42407612
Symmetric 42407616



T-Handle
71674576



IM Rod
74016211

Intramedullary Tibia Technique

Placing Intramedullary Tibial Alignment Guide

1. Open the tibial canal with the 9.5mm Intramedullary Drill. The drill has a 12mm step to open the entry point further (Figure 105). A preliminary resection of the tibial spine may facilitate seating of the tibial drill guide onto the proximal tibia.
2. Slowly insert the Intramedullary Rod of the IM assembly into the tibial Canal (Figure 106).
3. Assess rotation of the intramedullary tibial alignment guide.
4. Impact the top of the IM Alignment Jig to secure assembly to the proximal tibia (Figure 106).
5. Insert Adjustable Footed Tibia Stylus into the saw slot of the Cutting Guide (Figure 107).
6. Adjust the stylus to desired resection level by rotating the dial on the stylus and adjusting the height of the cutting block by using rotating the knob.

Note The dial on the stylus adjusts from 2mm – 13mm in 1mm increments.

Note The 9mm tibial implant is 9.5mm thick on the medial side and 12mm thick on the lateral side

Note All knobs on this assembly can be locked with the hex driver



Figure 105

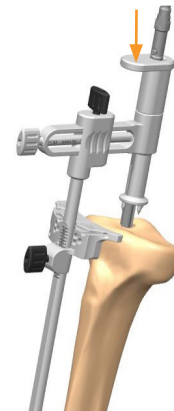


Figure 106

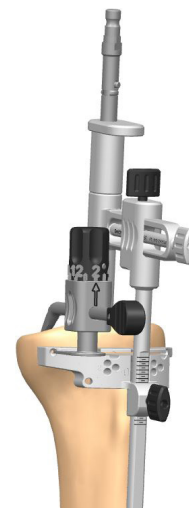


Figure 107



Intramedullary
drill, 9.5mm
74012111



Tibial Stylus
Adjustable Footed
74016229

Intramedullary Tibia Technique

Tibial Resection

1. With the Adjustable Tibia Stylus set to the desired resection level, using non-headed 65mm pins, pin the cutting guide in position through the holes marked '0.' For additional fixation, a headed or non-headed 65mm pin can be inserted through the oblique pin hole (Figure 108).
2. Remove the Tibia Stylus and assembly leaving the cutting block in place. Resect the proximal tibia (Figure 109).

Note If an uncaptured saw cut is desired, the resection can be performed by cutting on top of the block. An additional 3mm will be needed to account for this offset.

Tip If additional resection is needed, the cutting guide can be shifted to the holes marked '2' or '4' for an additional +2mm or +4mm of resection, respectively.

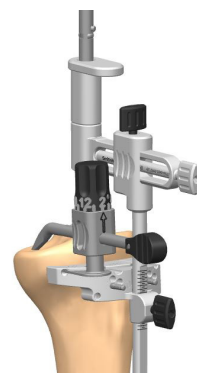


Figure 108

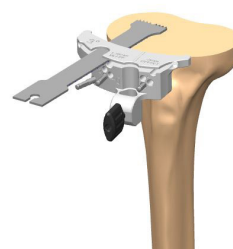


Figure 109

Fixed Femoral A/P and Chamfer Resections

A/P and Chamfer resections

1. Position the spikes on the Fixed A/P Femoral Block into the pre-drilled holes. Use the Mallet to impact the Fixed A/P Block until it is flush with the resected distal femur (Figure 110).
2. Use two headed 45mm pins through the medial and lateral fixation holes on the cutting block
3. Complete the cuts in the order indicated on the block:
 - 1 Anterior
 - 2 Anterior Chord
 - 3 Posterior
 - 4 Posterior Chamfer
 - 5 Anterior Chamfer

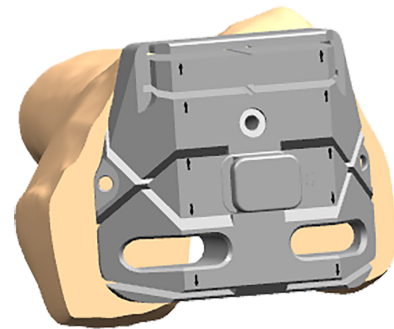
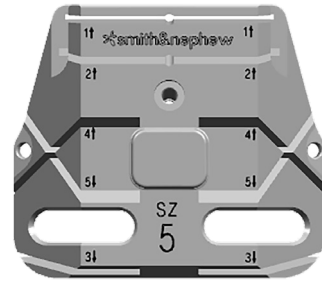


Figure 110

Downsizing the Femoral Component

1. Attach the downsizing drill guide to the cut femur, placing the spikes on the back of the plate into the same location holes used for the A/P cutting block (Figure 111).
2. Drill new location holes through the downsizing drill guide (shifted 2mm anterior).
3. Place the smaller A/P cutting block into the new location holes. Redo the posterior, anterior, anterior chord and chamfer cuts.

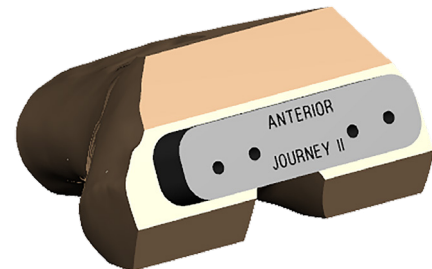


Figure 111



JOURNEY° DCF
FIXED AP femoral
cutting block
Size 5
74012665



SPEED PIN
Headed 45mm
74013471
MIS Headed 45mm
74016465



Downsizing Drill Guide
74016274

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*Compared to non-JOURNEY II knees

+Based on BCS evidence

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