REVISION
KNEE SYSTEM

ADAPTIVE • SMART • COMPLETE

SURGICAL TECHNIQUE

Lima Corporate
Orthopaedic motion

REVISION KNEE SYSTEM SURGICAL TECHNIQUE

Surgical Steps

Components removal

Tibial stem size determination

CCK Tibial resection

H Tibial resection

Tibial plate sizing and stem offset determination

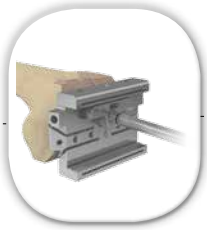
Tibial keel preparation

Tib

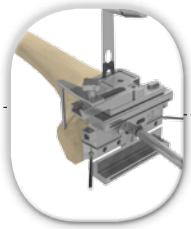
Femoral size determination

Femoral stem size determination

Distal resection



Femoral Resection and femoral offset determination



Femoral box preparation

Fe

OPTIONAL

Patellar preparation

Patellar definitve implant

ibial trials

emoral trials

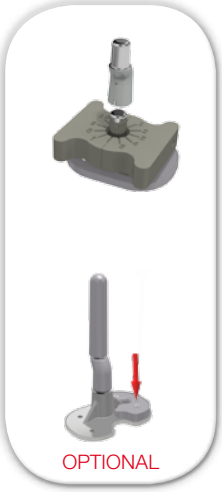
Articular test

CCK or H Definitive
femoral implant assembly

CCK definitive Tibial
implant assembly

CCK definitive Tibial
insert assembly

MULTIGEN CCK
definitive Implant



H definitive Tibial
implant assembly

H Hinge mechanism
final assembly

MULTIGEN H
definitive Implant

REVISION KNEE SYSTEM SURGICAL TECHNIQUE

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Limacorporate S.p.A. is a manufacturer of prosthetic implants and as such dœs not perform medical procedures. This documentation concerning surgical techniques, which provides surgeons with general guidelines for implanting the REVISION KNEE SYSTEM*, was developed with the advice of a team of surgical experts. All decisions as to the type of surgery and most suitable technique are obviously the responsibility of the health care professional. Surgeons must make their own decisions as to the adequacy of each planned implant technique based on their training, experience and the clinical condition of the patient. For further information about our products, please visit our web site at www.limacorporate.com*

LEONARDO DA VINCI: Vitruvian Man. Study of the proportions of the human body (1490)

REVISION
KNEE SYSTEM

ADAPTIVE • SMART • COMPLETE

THE MULTIGEN-PLUS H TOGETHER WITH THE MULTIGEN-PLUS CCK, CONSTITUTE A COMPLETE REVISION KNEE SYSTEM

REGAINING MOBILITY

The Lima Corporate Revision Knee System provides the surgeon with a solution to most knee surgery cases, from complex primary to revision surgery.

ADAPTIVE

The extensive modularity, intra-operative versatility and bone-preserving design of the system provide surgeons with a patient-specific management toolset

SMART

The interchangeability of the key components and a common instrument set offer surgeons an effective and efficient Revision TKA system

COMPLETE

The system can solve the more challenging situations in revision surgery thanks to a condylar constrained and an hinge knee configurations, designed to maximize stability alongside mobility

REVISION KNEE SYSTEM SURGICAL TECHNIQUE

Indications, Contraindications and Warnings

INDICATIONS

1. Rheumatoid arthritis.
2. Post-traumatic arthritis, osteoarthritis, or degenerative arthritis in older patients whose age, weight, and activity level are compatible with an adequate long-term result.
3. Failed osteotomies, unicompartimental replacement, or total knee replacement.
4. Posterior stabilized knee systems are designed for use in patients in primary and revision surgery, where the anterior and posterior cruciate ligaments are incompetent and the collateral ligaments remain intact.
5. Constrained and hinge knee systems are designed for use in patients in primary and revision surgery, where the posterior cruciate ligament and one or both of the collateral ligaments (i.e. medial collateral and/or lateral collateral ligament) are absent or incompetent.

This device is intended for cemented use only.

Please follow the instructions for use enclosed in the product packaging.

CONTRAINDICATIONS

Contraindications include:

- severe instability of the knee joint secondary to the absence of collateral ligament integrity and/or function;
- local or systemic infection;
- important bone loss on femoral or tibial joint side;
- progressive tumor diseases;
- known incompatibility or allergy to the product materials (CoCrMo / PE / Ti6Al4V);
- septicaemia;
- persistent acute or chronic osteomyelitis;
- open epiphyses (immature patient with active bone growth)

The relative contraindications are:

- vascular or nerve diseases affecting the concerned limb;
- bone stock compromised by disease, infection or prior implantation that cannot provide adequate support and/or fixation to the prosthesis;
- metabolic disorders which may impair fixation and stability of the implant;
- any concomitant disease and dependence that might affect the implanted prosthesis;
- metal hypersensitivity to implant materials;
- important osteoporosis, haemophilic disease;
- internistic problems with high risk for surgery;
- skeletal immaturity.

RISK FACTORS

The following risk factors may come from in poor results with this prosthesis:

- overweight;
- strenuous physical activities (active sports, heavy physical work);
- fretting of modular junctions;
- incorrect implant positioning;
- insufficient bone to support the femoral and/or tibial components;
- medical disabilities which can lead to an unnatural gait and loading of the knee joint;
- muscle deficiencies;
- multiple joint disabilities;
- refusal to modify postoperative physical activities;
- patient's history of infections or falls;
- systemic diseases and metabolic disorders;
- local or disseminated neoplastic diseases;
- drug therapies that adversely affect bone quality, healing, or resistance to infection;
- drug use or alcoholism;
- marked osteoporosis or osteomalacia;
- patient's resistance to disease generally weakened (HIV, tumour, infections);
- severe deformity leading to impaired anchorage or improper positioning of implants.
- errors of surgical technique.
- Lack of tightening of the hinge locking screw (only for MULTIGEN PLUS H).

WARNINGS

Surgeons must carefully plan the procedure after viewing the surgical technique to be used to implant this system.

ALLOWED/PROHIBITED COMBINATIONS

For the MULTIGEN-PLUS CCK system, the following combinations of sizes are allowed:

MULTIGEN CCK		FEMORAL COMPONTENT				
		#1	#2	#3	#4	#5
TIBIAL COMPONENT= TIB. LIN.	#1	OK	OK	NO	NO	NO
	#2	OK	OK	OK	NO	NO
	#3	NO	OK	OK	OK	NO
	#4	NO	NO	OK	OK	OK
	#5	NO	NO	NO	OK	OK

For the MULTIGEN PLUS H system, the following combinations of sizes are allowed:

MULTIGEN H		FEM. COMP.= TIB. LIN.				
		#1	#2	#3	#4	#5
TIBIAL COMPONENT	#1	OK	OK	NO	NO	NO
	#2	OK	OK	OK	NO	NO
	#3	OK	OK	OK	OK	NO
	#4	OK	OK	OK	OK	OK
	#5	OK	OK	OK	OK	OK

- The CCK Tibial modules can be assembled only with CCK tibial component and with a CCK/H stem.
- The Tibial augments can be assembled only with cemented fixed tibial component.
- The H Tibial modules can be assembled only with an H tibial component and with a CCK/H stem.
- The H Tibial augments can be assembled only with an H tibial component.
- The H Tibial liners must be coupled only with H tibial component.

INTRODUCTION

In Revison Knee Surgery (Revision TKA) the surgeon removes a previous implant and replaces it with a new prosthesis. Revision implants may also be used in primary cases with severe bone loss, traumatic events or compromised ligaments.

Failed primary TKA is not common but it is problematic for the patient. TKA patients needing revision often have compromised collateral ligaments and subsequent varus/valgus instability. The common device used to treat these cases is a Constrained Condylar Knee (CCK) implant.

Rotating-Hinge total knee prostheses (H) is used for the treatment of global instability due to weakness or absence of collateral ligaments or severe bone loss around the knee. A ligament deficiency in the knee can be related to a previous trauma, associated with severe varus-valgus deformities, or due to revision surgery associated with severe bone losses. The rotating-hinge arthroplasty offers enough stability, allowing for an intrinsic rotation that simulates the biomechanical reply of a normal knee and diminishes the stress produced by an elevated constriction.

With the REVISION KNEE SYSTEM, MULTIGEN-PLUS CONDYLAR CONSTRAINED KNEE together with the MULTIGEN-PLUS HINGE KNEE, Lima Corporate, provides a solution for most of knee surgery situations from complex primary to revision.

Components removal

Figure 1

COMPONENTS REMOVAL

Remove the components previously implanted and remove any cement residual from bone surfaces (Fig. 1).

Figure 2

TIBIA

TIBIAL STEM SIZE DETERMINATION

Insert the handle on the reamer arm. Introduce the smallest reamer (14 mm) into the tibial canal *(Fig.2)*.

Progressively ream the canal until cortical contact is achieved.

Once reached the first reference (S), is to be used the trial implant assembly which includes both the trial stem and the "S" trial module *(Fig.3)*.

Also in the definitive implant assembly both final stem and "S" tibial module are to be used.

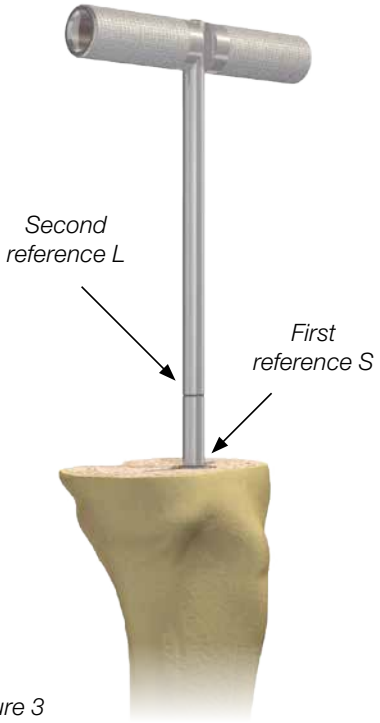


Figure 3

REVISION KNEE SYSTEM SURGICAL TECHNIQUE

Tibia

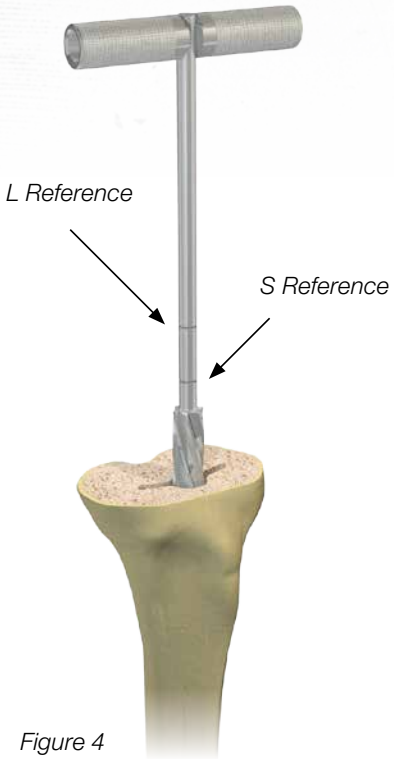


Figure 4

When the second reference is reached (L), the trial implant assembly to be used is the trial stem assembled with the S tibial module and the L extension. Therefore for the final implant assembly, the definitive stem will be assembled with the "L" module *(Fig. 4) (See tab. 1)*.

Tab. 1

Ref	LENGTH	TRIAL	DEFINITIVE
S	30 mm	S Tibial Module	S Tibial Module
L	55 mm	S Tibial Module + L Extension	L Tibial Module

Whether the reamer goes below the L reference use reamers with bigger diameters.

If there is a difference between the medial and the lateral plateau use the highest as reference.

Note the diameter and depth level (S or L) reached.

The size of the latest reamer used corresponds to the diameter of both trial and definitive stem.

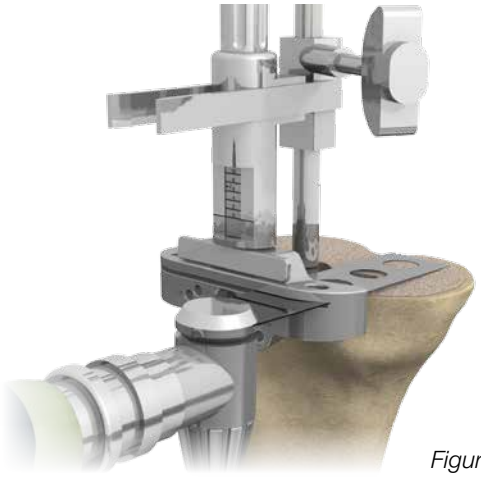


Figure 5

CCK TIBIAL RESECTION

Remove the handle from the reamer and insert the prismatic guide onto the reamer arm. Insert the intramedullary tibial resection jig on the prismatic guide.

Through the jig slot introduce the sickle or a free blade and place it on the highest tibial plateau *(Fig. 5)* (if there is difference between medial and lateral plateau).

Lock the screw of the prismatic guide on the reamer arm. Rotate the millimetric screw until the desired resection level is reached *(Fig. 6)* and secure the jig using pins *(Fig. 7)*.

It is also possible to use the +0mm gauge to measure the gap between the two tibial emiplateau.

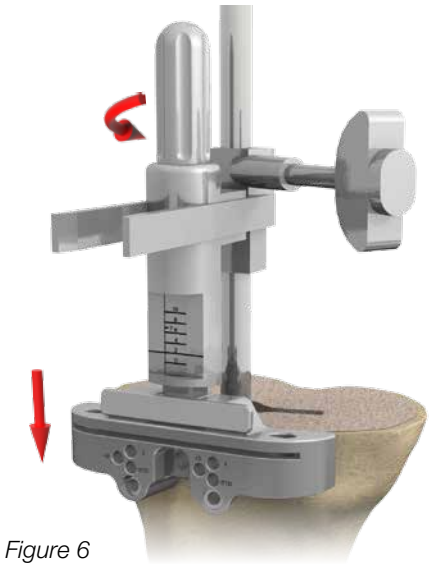


Figure 6

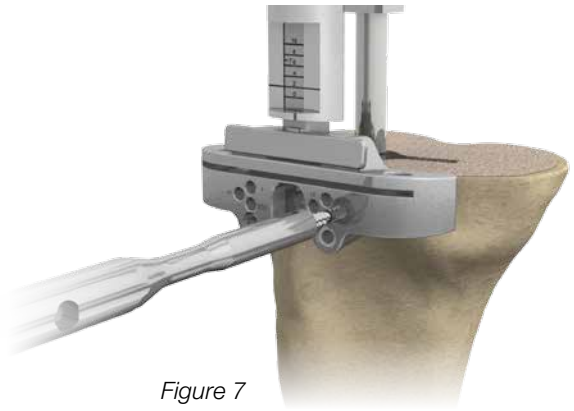


Figure 7

REVISION KNEE SYSTEM SURGICAL TECHNIQUE

Tibia

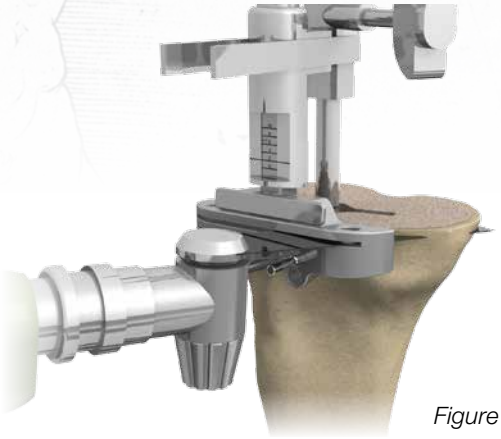


Figure 8

Proceed with the tibial resection (Fig. 8).

Whether a tibial augment is needed it's possible to directly perform the +7 mm or the +12 mm resection to host it. Rotate the millimetric screw until the desired resection level +7 mm or +12 mm is reached *(Fig. 9).*

Remove the pins, the resection jig and the prismatic guide.

Once the tibial resection has been performed and the tibial resection mask has been removed, if needed it's possible to prepare the seat for one or two tibial augments using the augment tibial resection guide inserted onto the reamer arm (Fig. 10).

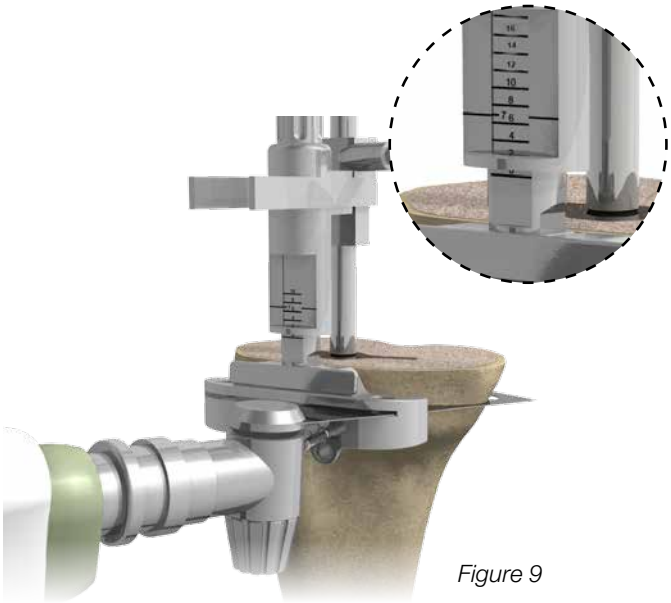


Figure 9

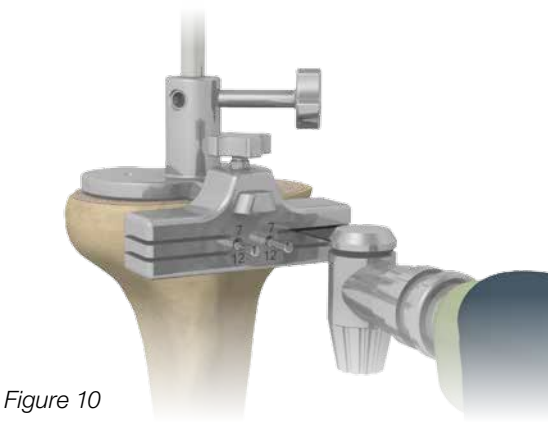
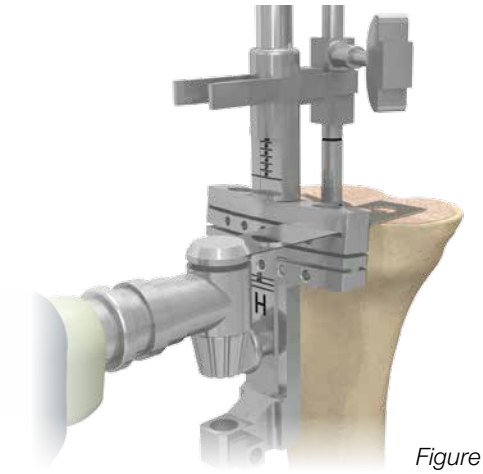


Figure 10



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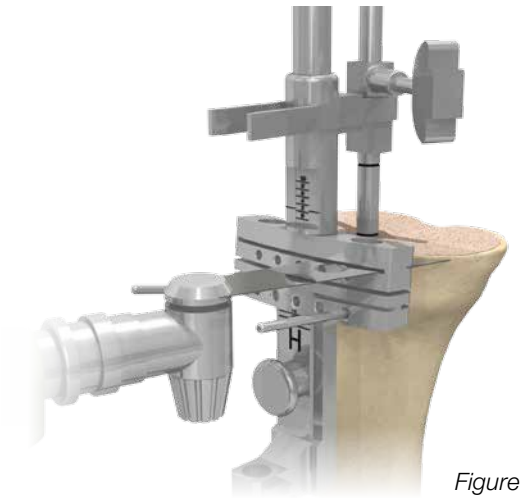

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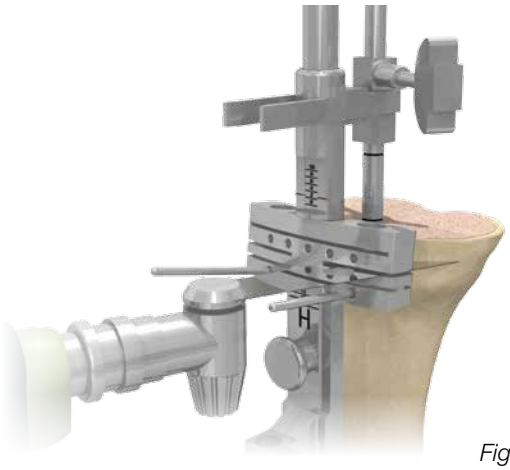


Figure 13

H TIBIAL RESECTION

Remove the handle of the reamer and insert the H intramedullary tibial resection jig.

Through the jig slot introduce the sickle or a free blade and place it on the highest tibial plateau (if there is difference between medial and lateral plateau) *(Fig. 11).*

Lock the screw of the prismatic guide on the reamer arm. Rotate the millimetric screw until the desired resection level is reached and secure the jig using pins.
It is also possible to use the +0mm gauge to measure the gap between the two tibial emiplateau.
Proceed with the resection *(Fig. 12)*.

Whether a tibial augment is needed it's possible to directly perform the +7 mm or the +12 mm resection through the dedicated slot on the H tibial resection jig. *(Fig. 13).*

Remove the pins and the resection jig.

Tibia

Figure 14

TIBIAL PLATE SIZE AND TIBIAL STEM OFFSET DETERMINATION

Depending on the configuration is to be implanted, take the CCK or H trial tibial plate.
Leaving the reamer in situ, place the trial tibial plate on the tibial surface.
Slide the neutral compass along the arm and insert it into the groove of the trial tibial plate.
At the neutral compass corresponds the neutral tibial module (without offset, CCK or H depending on the configuration is to be implanted).

Select the tibial size to achieve maximal tibial coverage *(Figs. 14-15)*.

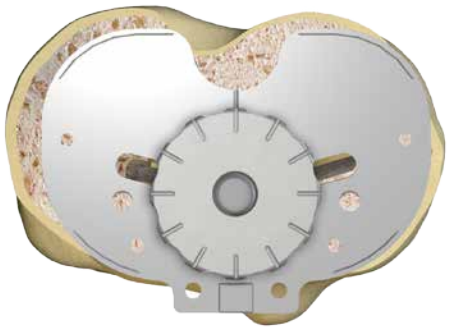


Figure 15

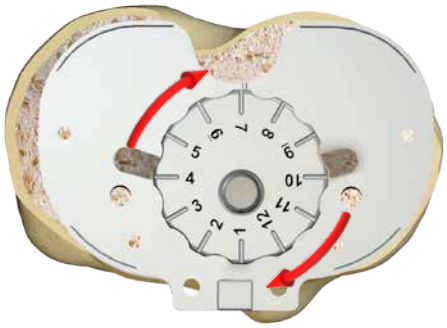


Figure 16

Use, if necessary, trial tibial augment with the same size of the tibial plate (It can be fixed magnetically to the trial plate).

Whether it is necessary, replace the neutral compass with the +3mm or + 6mm eccentrical compass and rotate it until the maximal tibial coverage is reached *(Fig. 16)*.

At +3 and +6 compass correspond +3 and +6 tibial module (CCK or H depending on the configuration is to be implanted) *(see tab. 2)*.

Tab. 2

Compass	Trial/Definitive
0	Straight Module
+3	+3 Module
+6	+6 Module

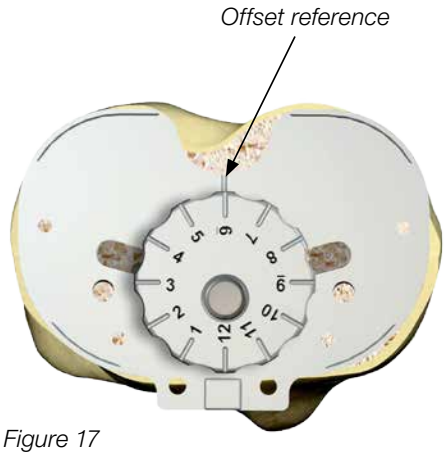


Figure 17

Note *the number, marked on the compass, corresponds to the reference of the trial tibial plate (Fig. 17).*

Tibia

Figure 18

TIBIAL KEEL PREPARATION

Insert two K-wires (dia. 2 mm) through the small diameter holes of the trial tibial plate *(Fig. 18)*.

Remove the compass, the trial tibial plate and the reamer. Depending on the configuration is to be implanted, take the CCK or H trial tibial plate.

Reposition the trial tibial plate using the two K-wires as guides *(Fig. 19)* and secure the tibial the plate by using the pins.

If a trial tibial augment is used, secure the plate using the long pins.

Remove the two K-wires.

Depending on the implant is to be implanted, select the CCK or H guide for the winged broach.
Attach the guide for the winged broach onto the trial tibial plate *(Fig. 20)*.

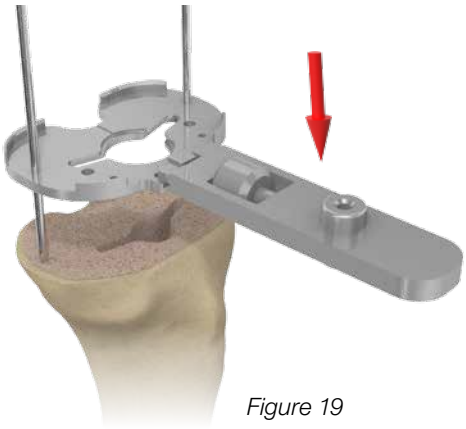


Figure 19

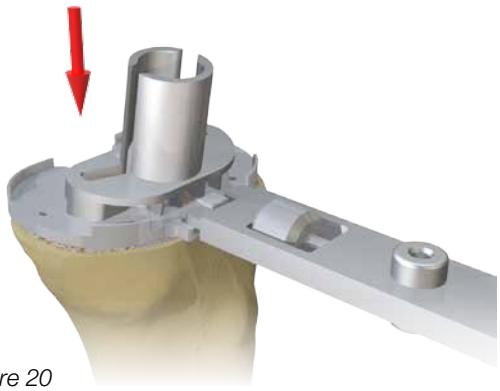


Figure 20

Figure 21

Insert the winged broach into the guide and hammer it axially until it clips to the guide for the winged broach *(Fig. 21)*.

Use the extractor to remove the broach and the guide *(Fig. 22)*.

In order to avoid any interference between tibial module and bone, reattach the guide for the broach onto trial tibial plate and ream the tibia using the tibial reamer for offset until it's in even contact with the guide for tibial broach *(Fig. 23)*.

This procedure is necessary when a tibial module with +6 mm offset is to be used.

If using a tibial module with +3 mm offset this procedure is necessary only if the last reamer used was smaller than 20 mm.

Figure 22

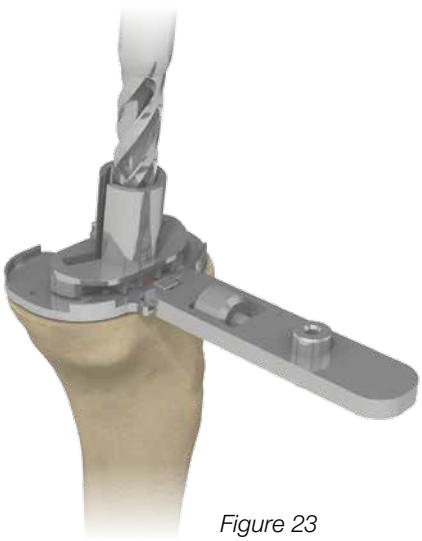


Figure 23

Tibial

Figure 24

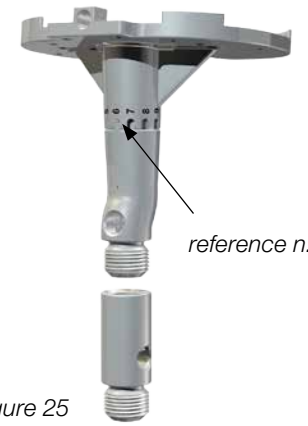


Figure 25

Figure 26

TIBIAL TRIALS

Depending on the configuration is to be implanted, take the CCK or H trial tibial plate and the CCK or H tibial keel. Attach the trial tibial plate with the tibial keel and the tibial module, using the tibial locking screw *(Fig. 24)*.

The position of the trial module must correspond to the reference previously determined (ex. reference n°6) *(Fig. 25)*.

If the reamer has reached the reference L, the additional L extension must be tightened to the S module *(Fig. 25)*.

Select the appropriate trial stem diameter and tighten it to the module or to the L extension *(Fig. 26)*.

The trial stem corresponds to the last reamer used *(see tab. 3)*.

Tab. 3

Diameters	Stem + S Module (N, +3, +6)	Stem + S Module (N, +3, +6) + L extension
Dia. 14 mm	L = 90 mm	L = 115 mm
Dia. 16 mm	L = 90 mm	L = 115 mm
Dia. 18 mm	L = 115 mm	L = 140 mm
Dia. 20 mm	L = 115 mm	L = 140 mm
Dia. 22 mm	L = 140 mm	L = 165 mm
Dia. 24 mm	L = 140 mm	L = 165 mm

If necessary, connect under the surface of the trial tibial plate the augment of the corresponding size with the appropriate thickness.
The augment is magnetically attached to the trial tibial plate.

Figure 27

FEMUR

FEMORAL SIZE DETERMINATION

Use the lateral femoral templates to approximate femoral size *(Fig. 27)*.

FEMORAL STEM SIZE DETERMINATION

Insert the handle on the reamer arm. Introduce the smallest reamer (14 mm) into the femoral canal.
Progressively ream the canal until cortical contact is achieved. *(Fig. 28)*.

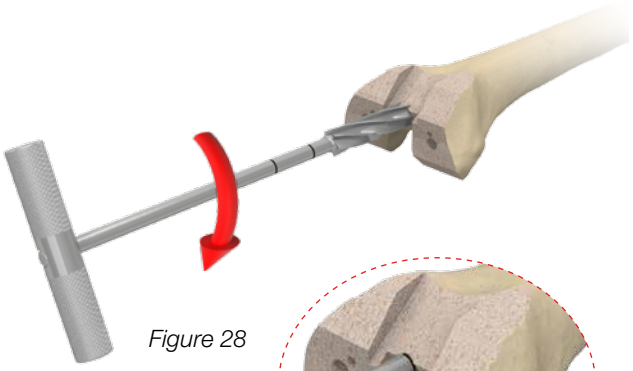


Figure 28

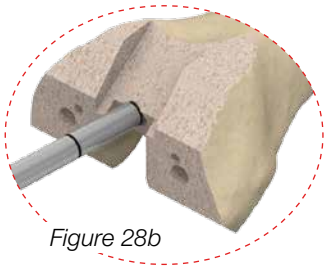


Figure 28b

Once reached the first reference (S), is to be used the trial implant assembly which includes both the trial stem and the "S" trial module *(Fig. 28b)*.
When the second reference is reached (L), the trial implant assembly to be used is the trial stem assembled with the S femoral module and the L extension. Therefore for the final implant assembly, the definitive stem will be assembled with the "L" module *(see tab. 4)*.

Tab. 4

Ref	Length	Trial	Definitive
S	**30 mm**	S Femoral Module	S Femoral Module
L	**55 mm**	S Femoral Module + L Extension	L Femoral Module

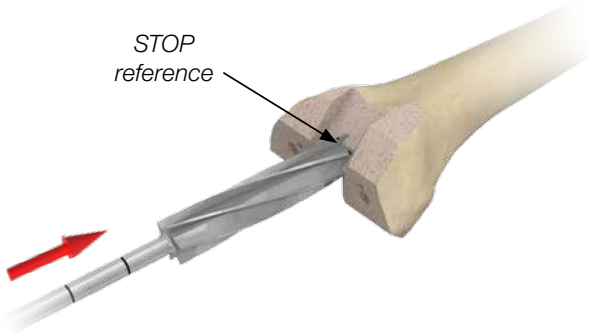


Figure 29

In case of sinking over the L reference, proceed with bigger diameter reamers.
At the last used reamer corresponds to the trial and definitive stem.

Note the diameter and depth level (S or L) reached.
In order to avoid any interference between femoral module and bone, ream again the femur using the 20 mm reamer. This procedure is necessary when using a diameter stem smaller than 20 mm.
The reference level on the 20mm reamer diameter defines the stop *(Fig. 29)*.

REVISION KNEE SYSTEM SURGICAL TECHNIQUE

Femur

Figure 30

DISTAL RESECTION

To re-cut the distal surface, insert on the distal resection jig the Re-Cut distal spacer *(Fig. 30)* and the 6° angles guide *(Fig. 31)*.

Leaving the reamer in situ, slide onto it the distal resection mask. Place the mask on the existing distal surface. Lock the angled guide turning the screw.
Secure the jig with pins and proceed with the distal resection by introducing the oscillating saw-blade through the +3mm slot *(Fig. 32)*.

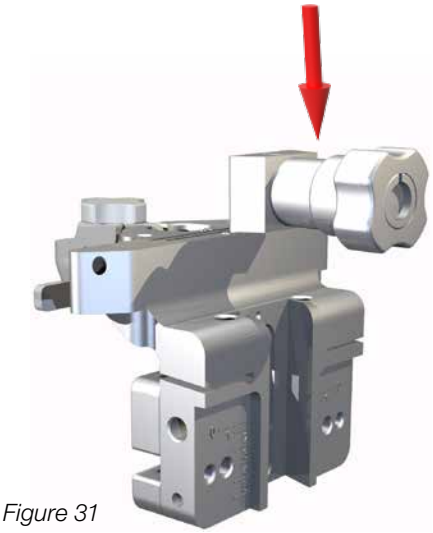


Figure 31

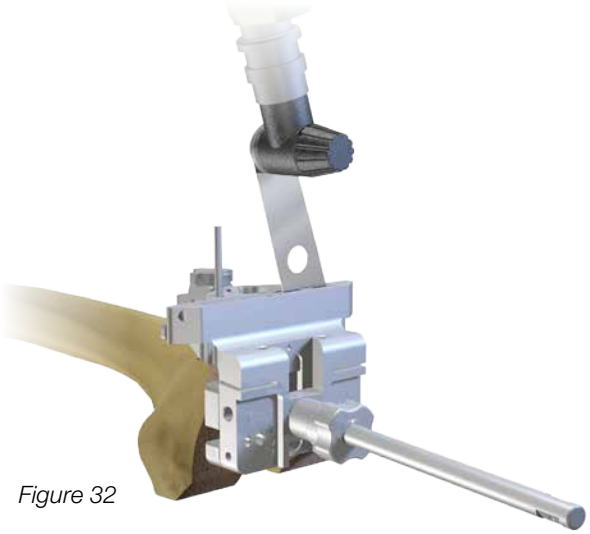


Figure 32

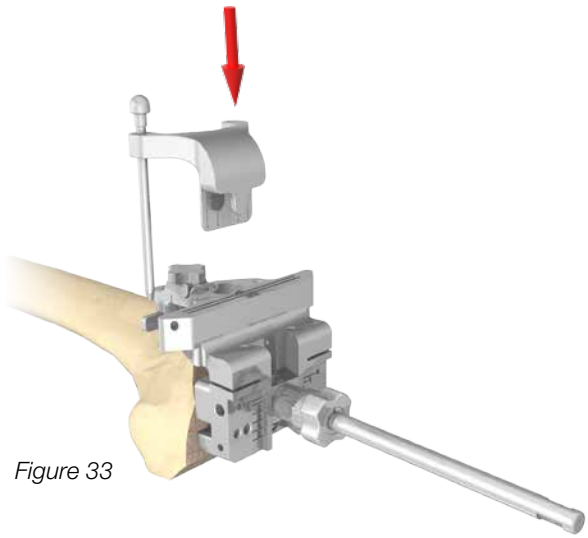


Figure 33

In case of big bone loss, it can be difficult to position the distal resection mask, the medial epicondyle can be used as a reference introducing the joint line guide for femoral distal mask into the slot of the distal mask *(Fig. 33)*.

In order to position the distal resection level at the correct distance from the femoral distal surface, slide the distal resection mask until the joint line guide is touching the medial epicondyle *(Fig. 34)*.

Secure the mask with pins and proceed with the distal resection introducing the saw blade into the +3mm slot *(Fig. 32).*
Remove the pins and the jig leaving the reamer into the canal.

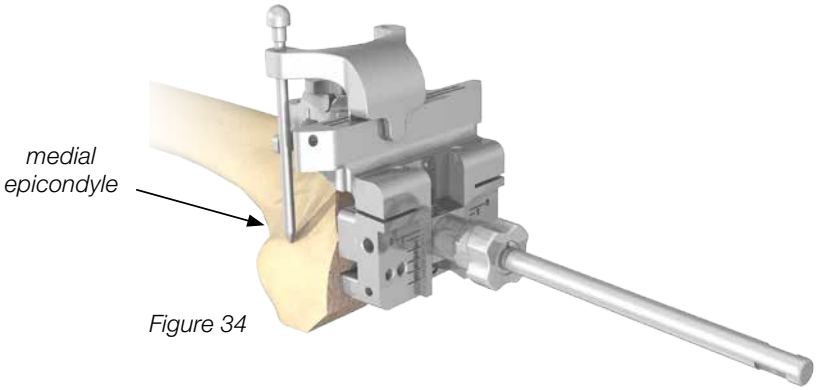


Figure 34

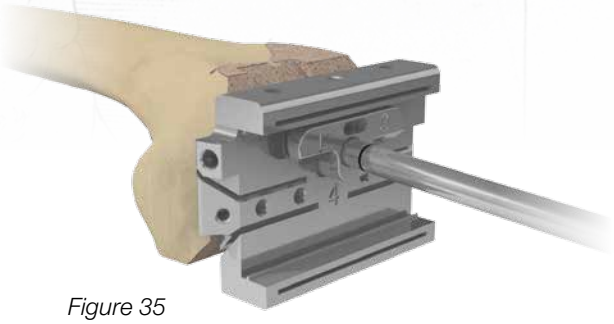


Figure 35

ANTERIOR, POSTERIOR AND CHAMFER RESECTIONS

Take the 4-in-1 mask of the appropriate size and insert on it the neutral femoral aligment guide (L or R).

Slide both along the reamer arm *(Fig. 35)*.

With the MULTIGEN-PLUS system the average distance between the medial epicondyle and the distal surface is ~19 mm *(Fig. 36).*

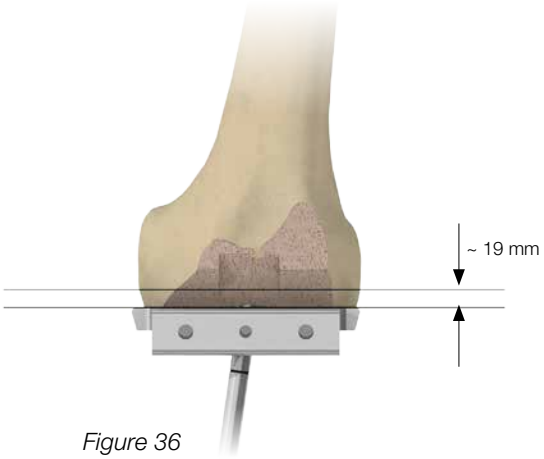


Figure 36

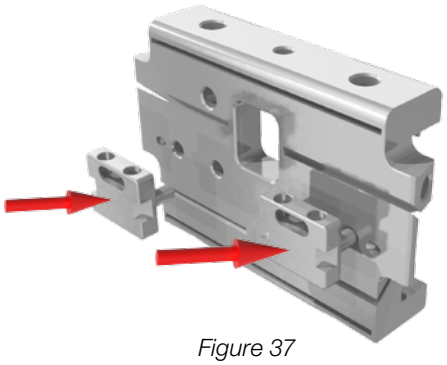


Figure 37

Gauges of different thicknesses (2,5,7,10 mm) can be placed between the 4-in-1 mask and the femoral distal surface.

In case of big bone loss, to aid stability of the 4-in-1 mask, it's possible to insert on the back of the mask two trial distal augments (5mm and 10mm), guided by the dedicated holes *(Fig. 37-38)*.

Align the 4-in-1 mask to the transepicondylar line or rotate it until the lower mask surface is parallel to the resected posterior condyles.

FEMORAL OFFSET DETERMINATION

Figure 38

Introduce through the anterior slot a free blade or the sickle *(Fig. 39)*.

To place the 4-in-1 mask in an anterior position (avoiding the risk of a possible notch) or in a posterior position (getting nearer to the anterior cortex) it is possible to use the femoral aligners (neutral, +3 mm, -3 mm) *(Fig. 40)*.

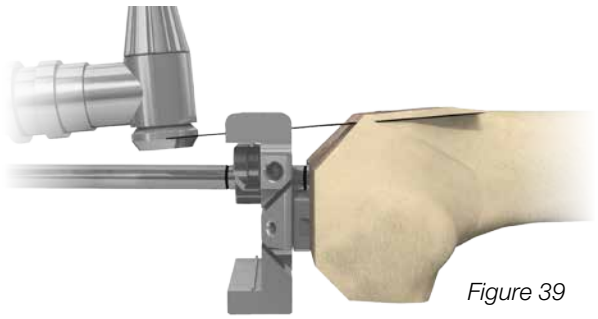


Figure 39

Each aligner corresponds to one different trial and definitive femoral module *(See tab.5).*

Tab. 5

Allgner	Trial/Definitive
R-L	R / L Module
R+3 or L-3	R+3 / L-3 Module
R-3 or L+3	R-3 / L+3 Module

R = Right; L = Left

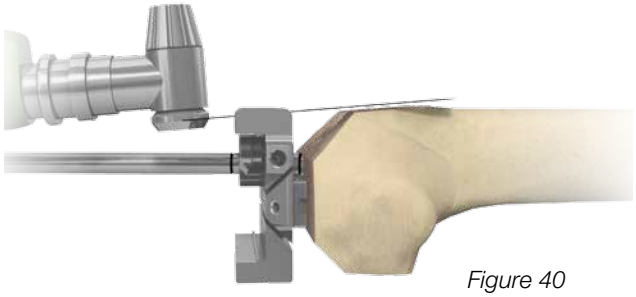


Figure 40

Secure the jig and proceed with the anterior, posterior and chamfers resections.

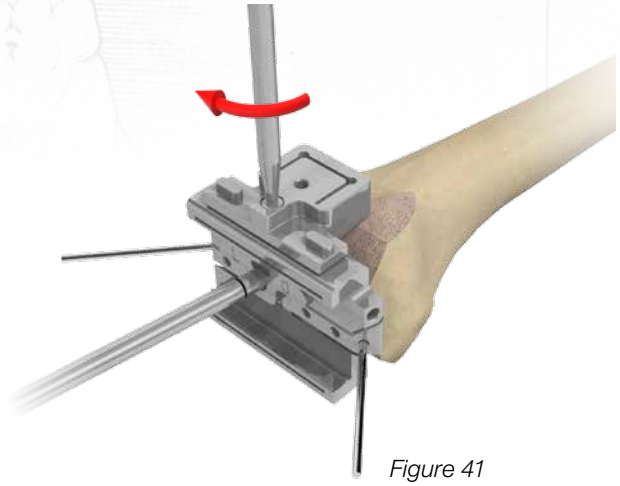


Figure 41

FEMORAL CCK/H BOX RESECTION

Attach the femoral box resection mask onto the 4-in-1 guide.
Secure the mask for the femoral box on the 4-in-1 mask with the screw built-in the femoral box mask *(Fig. 41).*

In case of bone loss on the anterior part of the femur, to aid stability to the femoral box mask insert the screw for CCK/H box and tighten it until touching the reamer arm *(Fig. 42).*

Insert a narrow saw blade through the slots and proceed with the box preparation *(Fig. 43).*

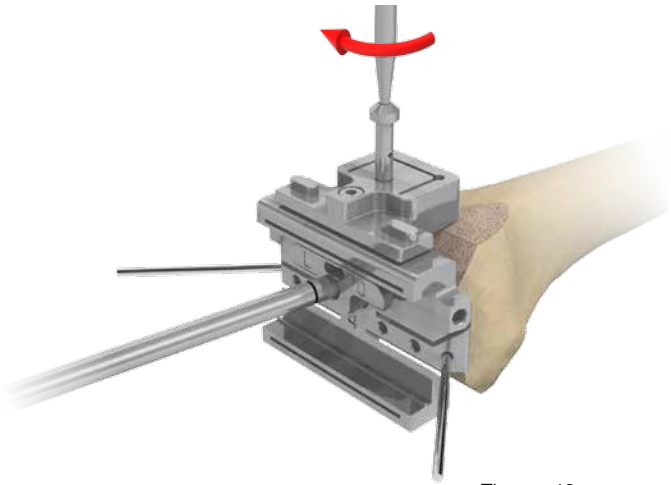


Figure 42

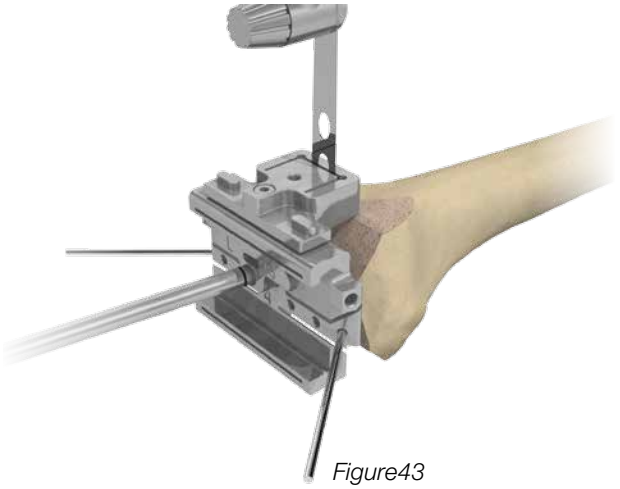


Figure43

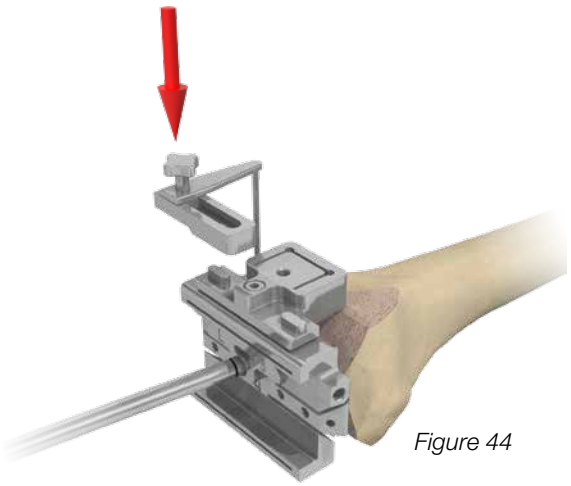


Figure 44

If the distal resection is not possible, use directly the 4-in-1 mask. It is important to know exactly the correct position of the 4-in-1 mask respect to the medial epicondyle; to define this position insert onto the box mask the joint line guide for femoral box *(Fig. 44).*

Once the caliper is touching the medial epicondyle, secure the 4-in-1 mask with pins and proceed with the preparation of the box introducing the saw blade into the slots *(Fig. 45).*

Remove the joint line guide for femoral box, the femoral box mask, the 4-in-1 mask and the reamer.
Finish the preparation of the box.

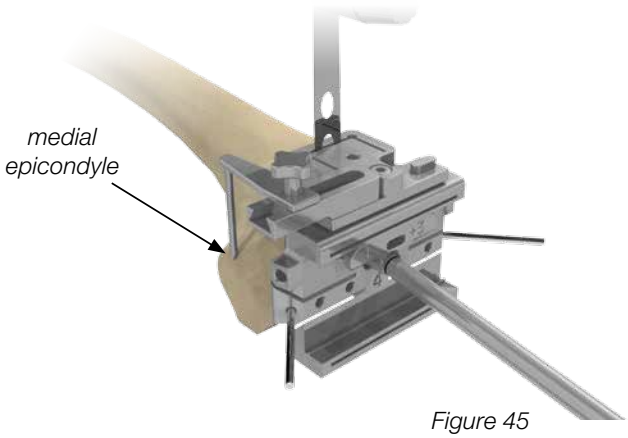


Figure 45

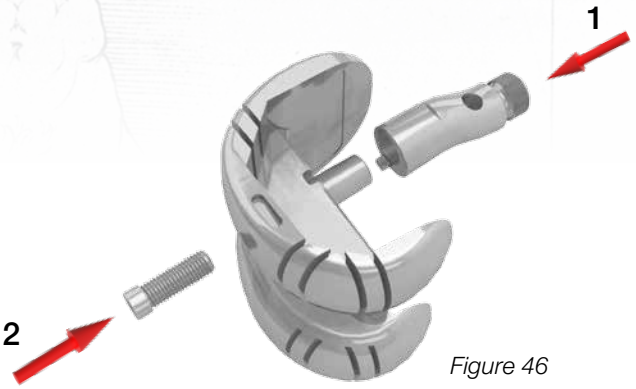


Figure 46

FEMORAL TRIALS

Attach the trial femoral component of the appropriate size with the femoral module *(see Tab. 5)* using the femoral locking screw *(Fig. 46).*

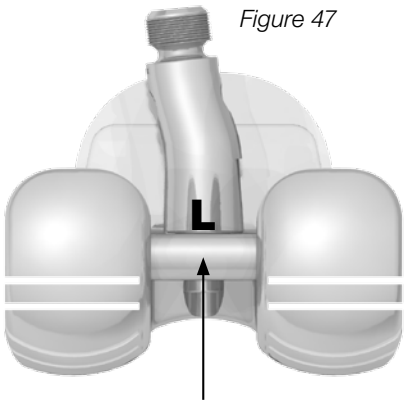
Positioning check: the mark of the module must be read looking the femoral component from the posterior side *(Fig. 47).*

If the reamer has reached the reference L, the additional L extension must be tightened to the S module *(Fig. 48).*

Fasten the trial stem with the trial femoral module (or with the L Extension) *(Fig. 49).*

Impact the femoral trial components with the provided impactor.

Figure 47



Left knee (L, L+3, L-3)

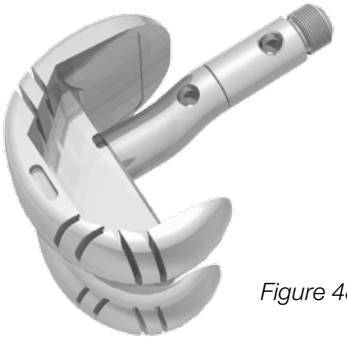


Figure 48

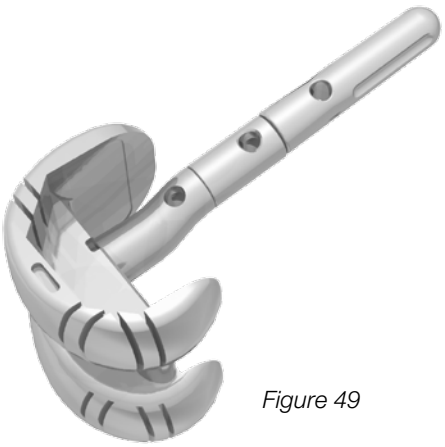


Figure 49

Figure 50

FEMORAL AUGMENTS

Once the femoral trial component is on place, check if it is necessary to perform the resections to host the distal and posterior augments.

Perform the resections *(Figs. 50-51)* and remove the components to assemble the augments *(Fig. 52)*.

Impact the femoral trial component.

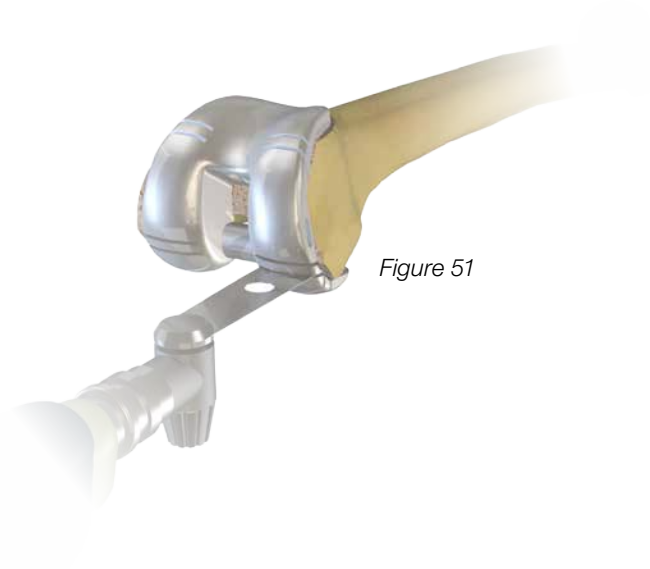


Figure 51

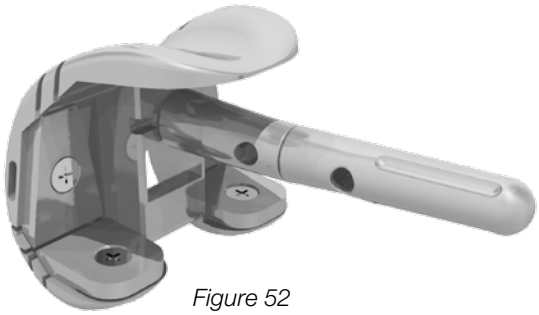


Figure 52

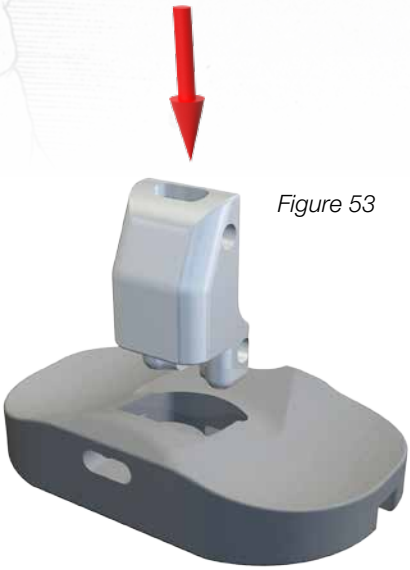


Figure 53

TRIAL REDUCTION

TIBIAL TRIALS WITH LINER

Introduce all the trial components, previously assembled, into the tibial canal with the tibial impactor and impact them gently.

Insert the CCK/H cam into the tibial trial liner of the appropriate thickness *(Fig. 53)*.

Insert the liner onto the trial tibial plate (CCK or H depending on the configuration is to be implanted) *(Fig. 54).*

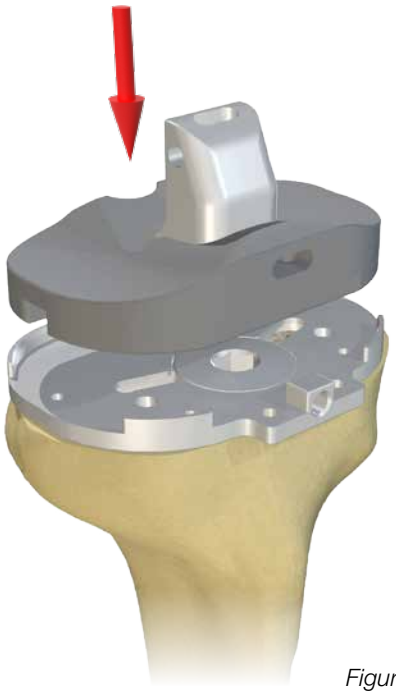


Figure 54

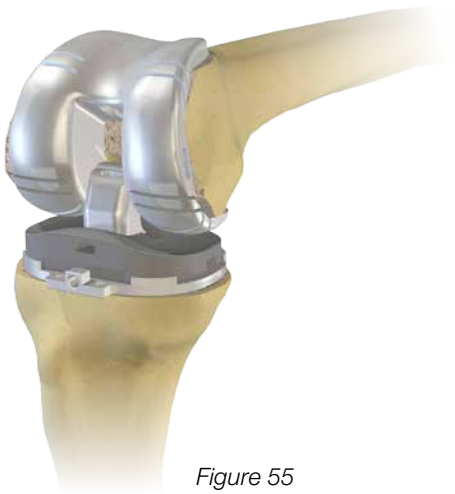


Figure 55

ARTICULAR TEST

Perform the final trial reduction. Check the position of the components and the liner thickness *(Fig. 55)*.

After the trial reduction, remove all the components without disassembling them.

Use the multifunction extractor to remove the tibial trials assembly *(Fig. 56)*.

Figure 56

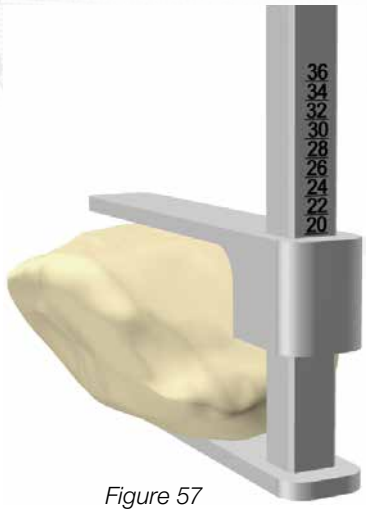


Figure 57

PATELLAR PROSTHESIS

MEASUREMENT OF THE PATELLA

Using the patellar gauge, measure the thickness of the patella before the resection *(Fig. 57)*.

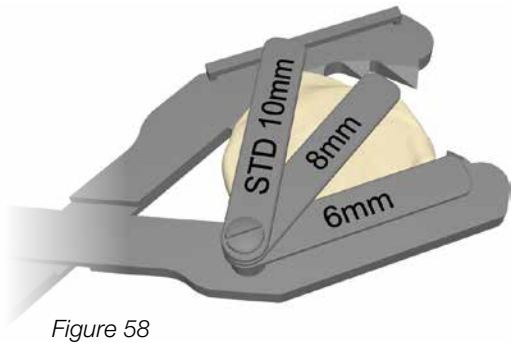


Figure 58

PATELLAR RESECTION

If the thickness is at least 20 mm, let the stylus marked 10 mm STD rest on the patella. In this case the amount of bone resection will be 10 mm as the thickness of the definitive patellar prosthesis *(Fig. 58).*

If the measured thickness is lower than 20 mm, in order to mantain at least 10 mm of bone, the amount of bone resection must be lower than 10 mm.

Let the 8 mm or 6 mm stylus rest on the patella.
In this case the amount of bone resection and the thickness of the definitive patellar prosthesis will be 8 or 6 mm.

For the resection, insert the saw blade through the slot from the lateral side of the plier *(Fig. 59)*.

Figure 59

Figure 60

FINAL PATELLA PREPARATION

Place and align the appropriate sized patellar drilling guide to the center of resected patellar surface and secure it *(Fig. 60)*.

Position the patellar drilling guide on the patellar mask and drill the peg holes using the patellar drill *(Figs. 61-62)*.

Place the trial patellar component onto the resected patellar surface and check the patellar tracking.

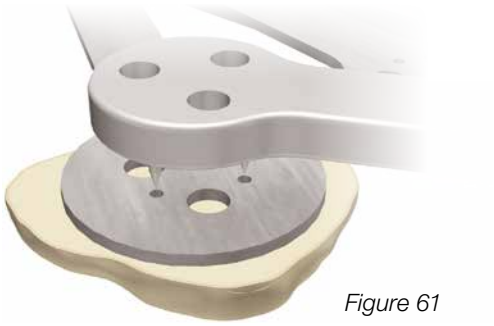


Figure 61

Figure 62

Figure 63

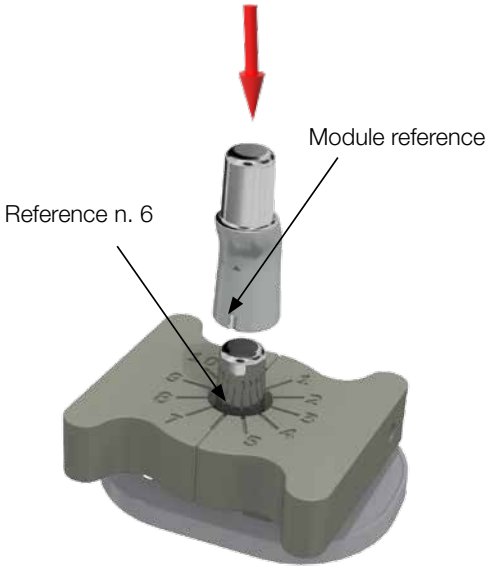


Figure 64

Figure 65

DEFINITIVE IMPLANT

Open the definitive components (CCK or H depending on the configuration is to be implanted) and assemble them.

CCK TIBIAL IMPLANT

The CCK tibial module with offset (+3mm or +6 mm) must be assembled to the definitive cemented fixed tibial plate in the same position determinated during the tibial offset determination.

Overturne the definitive tibial plate and attach the two parts of the tibial module positioning jig to the tibial keel, hugging the keel *(Fig. 63).*

Align the CCK tibial module reference mark to number engraved on the positioning jig which corresponds to the offset position previously determinated during the tibial preparation *(Fig. 64).*

Assemble the CCK tibial module onto the tibial plate by striking it with a hammer once in order to couple the Morse taper. Then assemble the appropriate CCK/H stem to the CCK tibial module using the same procedure *(Fig. 65)*.

Definitive implant

Figure 66

If a tibial augment is utilized, position the augment on the underside of the tibial tray and secure with two screws from the top using the hexagonal screwdriver 3.5 mm. Start both screws first before fully tightening *(Fig. 66).*

Note. *Use the screws contained in the package to secure the augment to the tibial plate.*

Apply a layer of bone cement to the underside of the definitive tibial component.

Carefully insert the definitive CCK tibial component avoiding malrotation. When fully inserted, several hammer blow may be delivered to the end of the tibial impactor *(Figure 67).*

Remove all extruded cement residual.

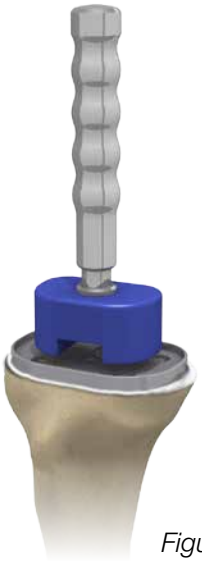


Figure 67

Figure 68

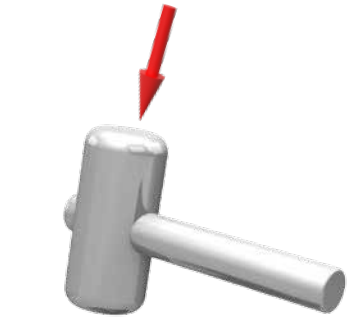


Figure 69

Figure 70

CCK FEMORAL IMPLANT

Use the coupling base to assemble the appropriate sized definitive femoral component with the appropriate femoral module.

Femoral module positioning check: as previously done with the femoral trials, the mark of the module must be read looking the CCK femoral component from the posterior side *(Fig. 68)*.

Assemble the femoral module onto the CCK femoral component by striking it with a hammer once in order to couple the Morse taper *(Fig. 69)*.

Then assemble the appropriate CCK/H stem to the femoral module using the same procedure *(Fig. 70)*.

Definitive implant

Figure 71

If distal or posterior augments are used, attach the augment onto the CCK femoral component. Insert the screw through the augment and tighten with the hexagonal screwdriver 3.5 mm cardan joint *(Fig. 71)*.

Note. *Use the screw contained in the package to secure the femoral augment to the femoral component.*

Place a layer of cement on the underside of the CCK femoral prosthesis

Insert the CCK femoral component onto the distal femur. Take care to avoid scratching the implant component surfaces.

Be sure that soft tissue is not trapped beneath the implant. Use the Femoral Impactor to fully seat the femoral component *(Fig. 72)*.
Check the medial and lateral sides to make sure the CCK femoral component is fully impacted.

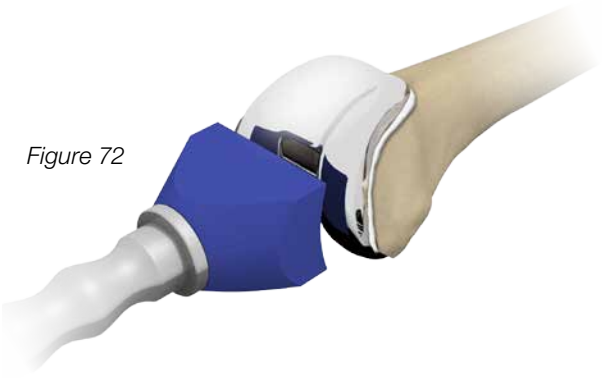


Figure 72

Remove any cement particulate or presence of soft tissue from the definitive tibial plate. Insert onto the tibial plate the appropriate definitive tibial liner.

Slide the definitive CCK liner first posteriorly onto the tibial plate in order to fit the polyethylene back lip beneath the posterior tooth of the tibia plate.

Than impact to snap the liner in place anteriorly, using the liner impactor *(Fig. 73)*.

Figure 73

Definitive implant

Figure 74

A locking screw is required for the CCK tibial liner. Insert the screw through the tibial liner post and then strongly tighten it using the hexagonal screwdriver 3.5 mm *(Fig. 74)*.

Note. *The locking screw is packaged with the CCK tibial liner. The locking screw has an anti-unscrewing system which keeps the screw itself completely inside the tibial liner post.*

CCK definitive implant *(Fig. 75)*.

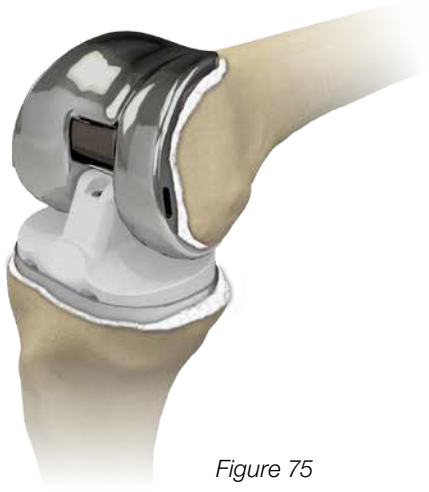


Figure 75

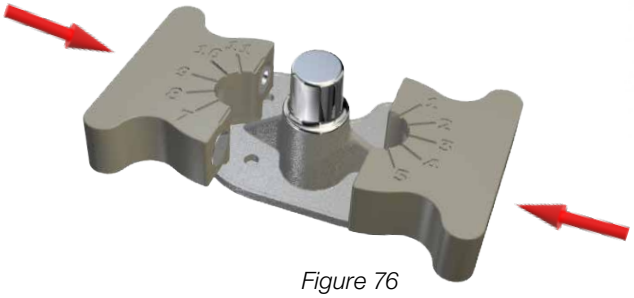


Figure 76

H TIBIAL IMPLANT

The H tibial module with offset (+3mm or +6 mm) must be assembled to the definitive H tibial plate in the same position determinated during the tibial offset determination.

Overturne the definitive H tibial plate and attach the two parts of the tibial module positioning jig to the tibial keel, hugging the keel *(Fig. 76)*

Align the H tibial module reference mark to number engraved on the positioning jig which corresponds to the offset position previously determinated during the tibial preparation *(Fig. 77).*

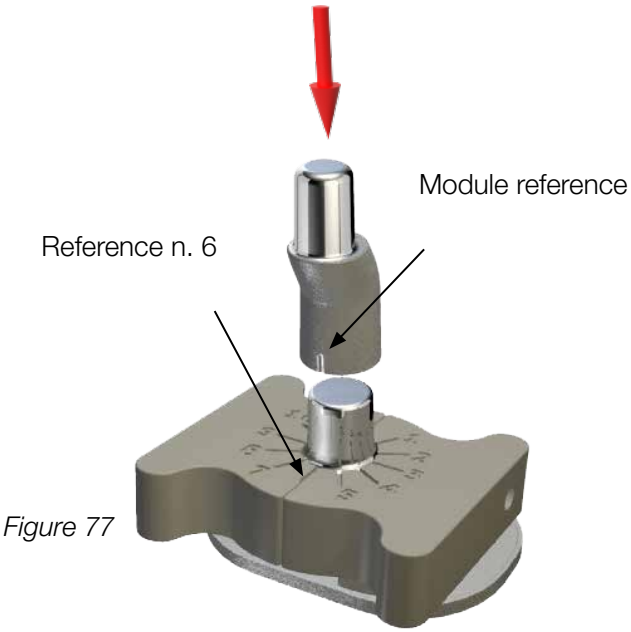


Figure 77

Definitive implant

Figure 78

Assemble the H tibial module onto the H tibial plate by striking it with a hammer once in order to couple the Morse taper

Then assemble the appropriate CCK/H stem to the H tibial module using the same procedure *(Fig. 78)*.

If a H tibial augment is utilized, fasten them firmly to the tibial plate *(Fig. 79)* using the following procedure:
1. the screws must be completely tightened to the H tibial augment;
2. the protruding part of the screws must be inserted into their seat on the H tibial plate, and then the H tibial augment must be pressed on the H tibial plate.

Figure 79

Note. *Use the two screws contained in the package to secure the H tibial augment to the tibial plate.*

Apply a layer of bone cement to the underside of the definitive H tibial component.

Carefully insert the definitive H tibial component avoiding malrotation. When fully inserted, several hammer blow may be delivered to the end of the tibial impactor *(Figure 67)*.

Remove all extruded cement residual *(Fig. 80)*.

Figure 80

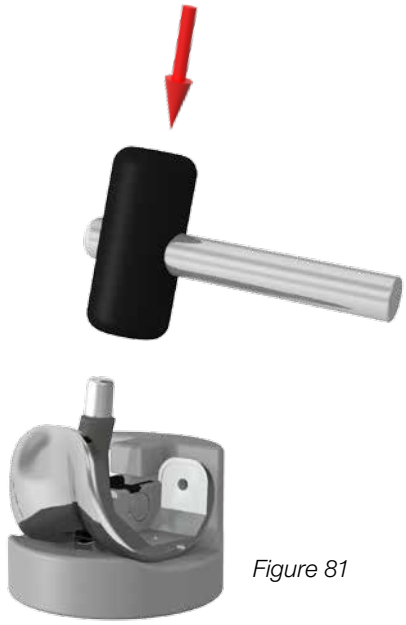


Figure 81

Figure 82

Figure 83

H FEMORAL IMPLANT

Use the coupling base to assemble the definitive appropriate sized H femoral component with the appropriate femoral module.
Femoral module positioning check: as previously done with the femoral trials, the mark of the module must be read looking the H femoral component from the posterior side.

Assemble the femoral module onto the H femoral component by striking it with a hammer once in order to couple the Morse taper *(Fig. 81)*.

Then assemble the appropriate CCK/H stem to the femoral module using the same procedure *(Fig. 82)*.

If distal or posterior augments are used, attach the augment implant onto the H femoral component. Insert the screw through the augment and tighten with the hexagonal screwdriver 3.5 mm cardan joint *(Fig. 83)*.

Note. Use the screw contained in the package to secure the femoral augment to the H femoral component.

Place a layer of cement on the underside of the H femoral prosthesis. Insert the H femoral component onto the distal femur. Take care to avoid scratching the implant component surfaces.

Be sure that soft tissue is not trapped beneath the implant. Use the Femoral Impactor to fully seat the H femoral component *(Fig. 84)*. Check the medial and lateral sides to make sure the H femoral component is fully impacted.

Remove all extruded cement residual.

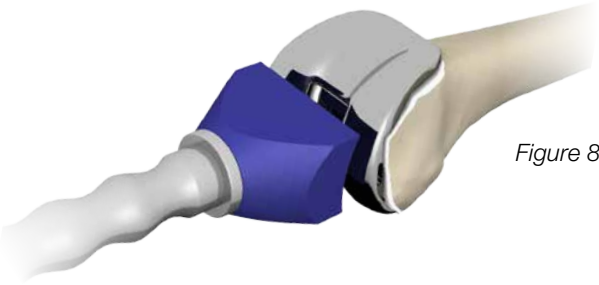


Figure 84

Definitive implant

Figure 85

H HINGE FINAL ASSEMBLY

Open the definitive H tibial liner.

Take the polyethylene component only and snap it onto the metal peg on the H tibial plate *(Fig. 85)*.

Insert the H Hinge through the H tibial liner into the hole on the H tibial plate *(Fig. 86)*.

While distracting the joint, rotate the hinge post and align it with the hole in the middle of the H tibial liner *(Fig. 87)*.

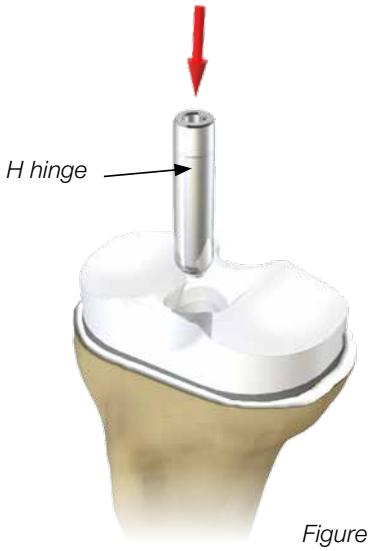


Figure 86

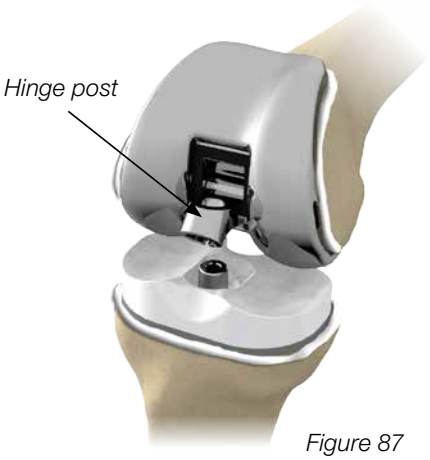


Figure 87

Definitive implant

Figure 88

Insert the femoral hinge positioner through the hinge post and tighten it to the H hinge *(Fig. 88)*

Slide the wrench onto the hinge positioner and tighten it clockwise *(Fig. 89)*.

Torque it until the upper edge of the wrench reaches the appropriate mark on the hinge positioner *(Fig. 90)*.

When the wrench is completely tightened, the H hinge Morse taper mates with the taper in the hinge post to provide the “lock” between the components.

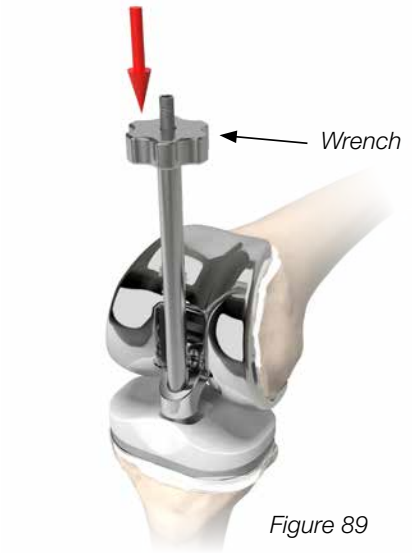


Figure 89

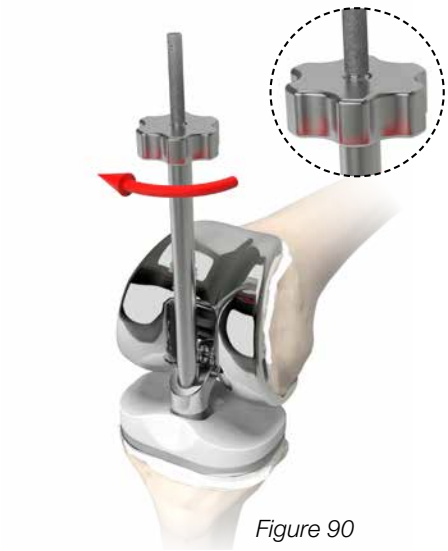


Figure 90

REVISION KNEE SYSTEM SURGICAL TECHNIQUE

Definitive implant

Figure 91

Unscrew the hinge positioner and remove it together with the wrench. Use the hexagonal screwdriver 3.5 mm or with the dynamometric screwdriver to unscrew the positioner *(Fig. 91).*

Then, insert the H locking screw, through the hinge post, onto the H hinge *(Fig. 92)*.

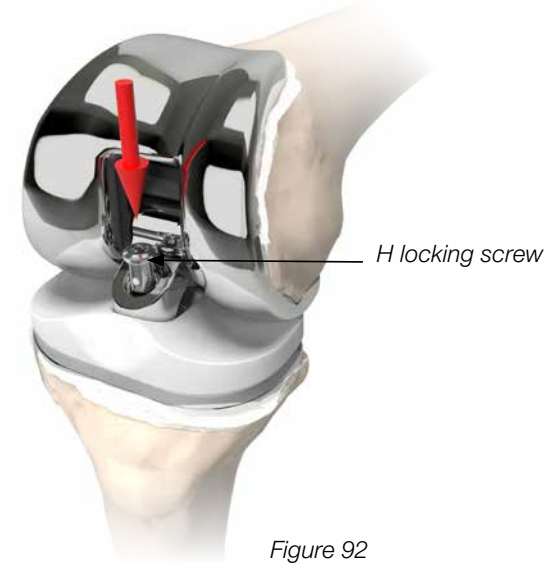


Figure 92

Definitive implant

Figure 94

Figure 93

Tighten the H locking screw strongly with the dynamometric screwdriver *(Fig. 93)*.
Torque until the black tip on the wrench reaches the 5Nm mark on the dynamometric screwdriver *(Fig. 94).*

The H locking screw has an anti-unscrewing system which is composed by a polyethylene pin built-in the H locking screw. During tightening the locking screw, a resistance can be felt due to the anti-unscrewing system.
It is recommended not to stop the tightening of the screw until the 5Nm mark on the dynamometric screwdriver is reached.

Note. *5Nm is the suggested torque in order to fully tighten the screw, ensuring a safe system well assembled and locked. This value is marked on the dynamometric screwdriver, it is recommended not to exceed this value to avoid any damaging of the screw.*

H definitive implant *(Fig. 95)*.

PATELLAR IMPLANT

Place a layer of cement on the underside of the definitive patellar prosthesis. Introduce the pegs of the patellar component in the previously drilled holes onto the resected patellar surface.
Use the clamp to apply a significant amount of pressure to the implant to fully seat the implant on the patellar surface. Remove all extruded cement residual *(Fig. 96)*.

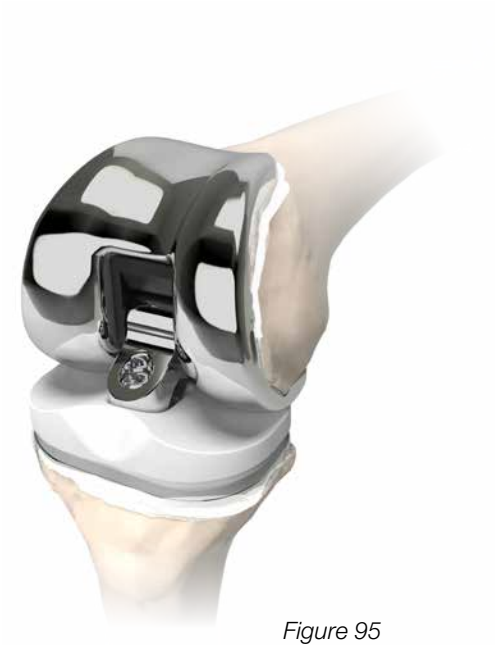


Figure 95

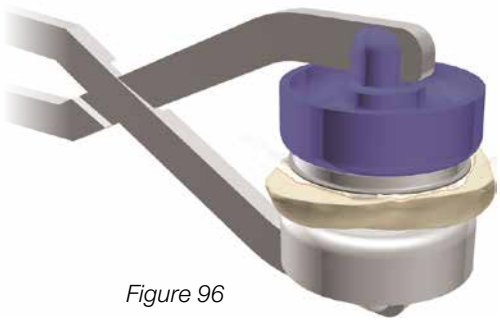
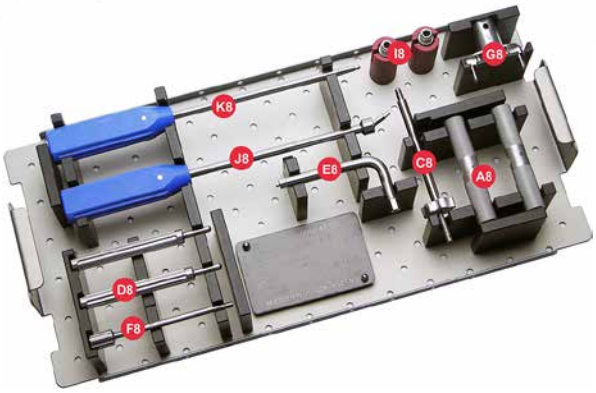


Figure 96

REVISION KNEE SYSTEM SURGICAL TECHNIQUE

Instrument Set

9066.47.000 MULTIGEN-PLUS CCK-H Common Set n. 8

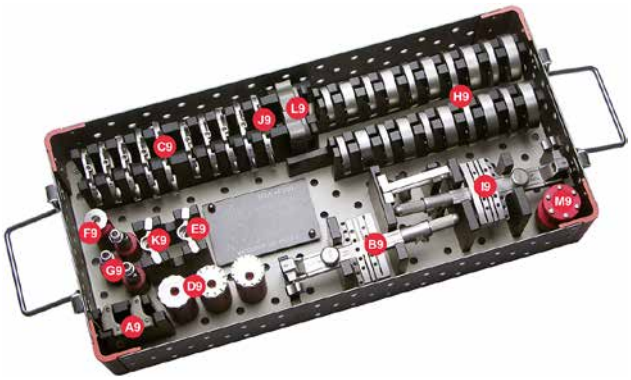


Upper tray

Lower tray

Ref.	CODE	DESCRIPTION	Qty.
A8	9066.47.005	Handle for Reamers	2
B8	9066.47.014	Reamer Dia.14mm	1
B8	9066.47.016	Reamer Dia.16mm	1
B8	9066.47.018	Reamer Dia.18mm	1
B8	9066.47.020	Reamer Dia.20mm	1
B8	9066.47.022	Reamer Dia.22mm	1
B8	9066.47.024	Reamer Dia.24mm	1
C8	9066.47.076	“H” Tibial Pin Positioner	1
D8	9066.47.080	Unlock Pivot	2
E8	9066.47.085	"L" Hexagonal Wrench 8mm-3mm	1
F8	9066.47.090	M8-M6 Adaptor	1
G8	9066.47.095	"H" Tibial Winged Broach guide	1
H8	9066.47.230	Trial Stem Dia. 14mm	2
H8	9066.47.235	Trial Stem Dia. 16mm	2
H8	9066.47.240	Trial Stem Dia. 18mm	2
H8	9066.47.245	Trial Stem Dia. 20mm	2
H8	9066.47.250	Trial Stem Dia. 22mm	2
H8	9066.47.255	Trial Stem Dia. 24mm	2
I8	9066.47.615	Extension	2
J8	9095.10.223	Hexagonal Screwdriver 3.5mm	1
K8	9095.10.224	Hexagonal Screwdriver 3.5mm Cardan Joint	1
	9066.47.950	Sterilizable Box	1

9066.48.000 MULTIGEN-PLUS CCK-H Tibia Set n. 9



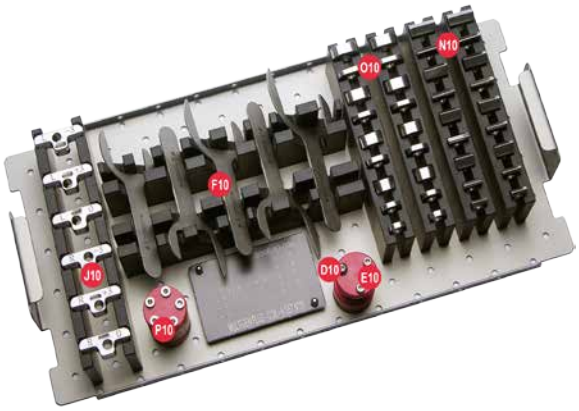
Ref.	CODE	DESCRIPTION	Qty.
A9	9066.35.137	CCK-H Cam #1-5	2
B9	9066.47.050	IM Tibial Cutting Guide	1
C9	9066.47.110	CCK Trial Tibial Plate #1	1
C9	9066.47.120	CCK Trial Tibial Plate #2	1
C9	9066.47.130	CCK Trial Tibial Plate #3	1
C9	9066.47.140	CCK Trial Tibial Plate #4	1
C9	9066.47.150	CCK Trial Tibial Plate #5	1
D9	9066.47.170	Straight Tibila Dialer	1
D9	9066.47.173	3mm Eccentrical Tibial Dialer	1
D9	9066.47.176	6mm Eccentrical Tibial Dialer	1
E9	9066.47.180	CCK Tibial Keel	1
F9	9066.47.190	Trial Tibial Locking Screw	1
G9	9066.47.200	Trial Short Straight Tibial Module	1
G9	9066.47.203	Trial Short Offset +3mm Tibial Module	1
G9	9066.47.206	Trial Short Offset +6mm Tibial Module	1
H9	9066.47.315	Trial Tibial Augment #1 h=7mm	2
H9	9066.47.320	Trial Tibial Augment #1 h=12mm	2
H9	9066.47.325	Trial Tibial Augment #2 h=7mm	2
H9	9066.47.330	Trial Tibial Augment #2 h=12mm	2
H9	9066.47.335	Trial Tibial Augment #3 h=7mm	2
H9	9066.47.340	Trial Tibial Augment #3 h=12mm	2
H9	9066.47.345	Trial Tibial Augment #4 h=7mm	2
H9	9066.47.350	Trial Tibial Augment #4 h=12mm	2
H9	9066.47.355	Trial Tibial Augment #5 h=7mm	2
H9	9066.47.360	Trial Tibial Augment #5 h=12mm	2
I9	9066.48.050	IM Tibial Cutting Guide H	1
J9	9066.48.110	H Trial Tibial Plate #1	1
J9	9066.48.120	H Trial Tibial Plate #2	1
J9	9066.48.130	H Trial Tibial Plate #3	1
J9	9066.48.140	H Trial Tibial Plate #4	1
J9	9066.48.150	H Trial Tibial Plate #5	1
K9	9066.48.180	H Tibial Keel	1
L9	9066.48.190	Tibial Module Positioning Jig	1
M9	9069.10.285	Long Pins for Trial Tibial Plates	6
	9066.48.950	Sterilizable Box	1

REVISION KNEE SYSTEM SURGICAL TECHNIQUE

Instrument set

99066.49.000 MULTIGEN-PLUS CCK-H Femur Set n. 10

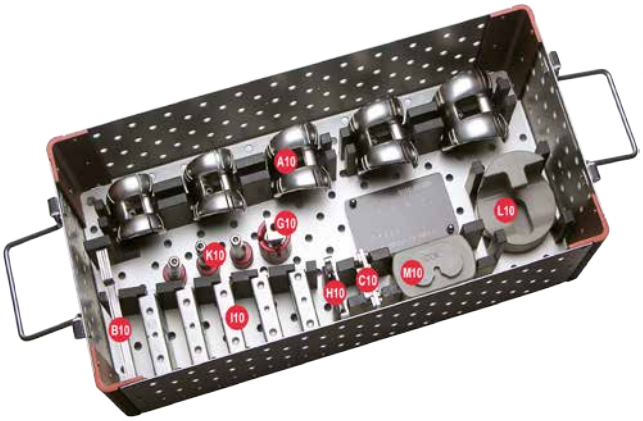
Ref.	CODE	DESCRIPTION	Qty.
D10	9066.47.071	Screw for CCK-H box	1
E10	9066.47.195	Trial Femoral Locking Screw	2
F10	9066.47.410	Phantom #1	1
F10	9066.47.420	Phantom #2	1
F10	9066.47.430	Phantom #3	1
F10	9066.47.440	Phantom #4	1
F10	9066.47.450	Phantom #5	1
J10	9066.47.570	Right Femoral Aligment Guide	1
J10	9066.47.575	Right Offset +3mm Fem. Aligment Guide	1
J10	9066.47.580	Right Offset -3mm Fem. Aligment Guide	1
J10	9066.47.585	Left Femoral Aligment Guide	1
J10	9066.47.590	Left Offset +3mm Fem. Aligment Guide	1
J10	9066.47.595	Left Offset -3mm Fem. Aligment Guide	1
N10	9066.71.105	Trial Distal Femoral Augment #1 h=5mm	2
N10	9066.71.205	Trial Distal Femoral Augment #2 h=5mm	2
N10	9066.71.210	Trial Distal Femoral Augment #2 h=10mm	2
N10	9066.71.305	Trial Distal Femoral Augment #3 h=5mm	2
N10	9066.71.310	Trial Distal Femoral Augment #3 h=10mm	2
N10	9066.71.405	Trial Distal Femoral Augment #4 h=5mm	2
N10	9066.71.410	Trial Distal Femoral Augment #4 h=10mm	2
N10	9066.71.505	Trial Distal Femoral Augment #5 h=5mm	2
N10	9066.71.510	Trial Distal Femoral Augment #5 h=10mm	2
O10	9066.72.105	Trial Posterior Femoral Augment #1 h=5mm	2
O10	9066.72.205	Trial Posterior Femoral Augment #2 h=5mm	2
O10	9066.72.210	Trial Posterior Femoral Augment #2 h=10mm	2
O10	9066.72.305	Trial Posterior Femoral Augment #3 h=5mm	2
O10	9066.72.310	Trial Posterior Femoral Augment #3 h=10mm	2
O10	9066.72.405	Trial Posterior Femoral Augment #4 h=5mm	2
O10	9066.72.410	Trial Posterior Femoral Augment #4 h=10mm	2
O10	9066.72.505	Trial Posterior Femoral Augment #5 h=5mm	2
O10	9066.72.510	Trial Posterior Femoral Augment #5 h=10mm	2
P10	6622.15.020	Femoral Augment Locking Screw	5



Upper tray

REVISION KNEE SYSTEM SURGICAL TECHNIQUE

Instrument set



Lower tray

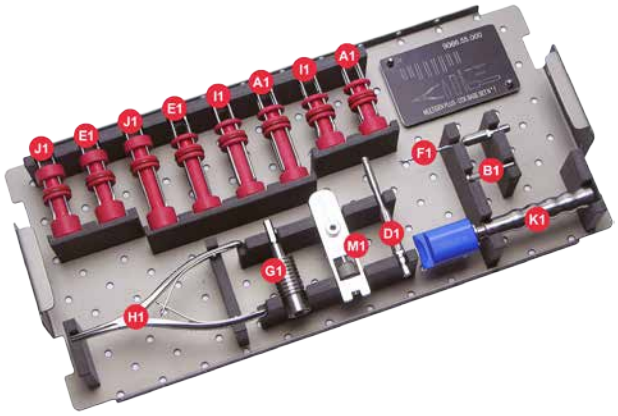
Ref.	CODE	DESCRIPTION	Qty.
A10	9066.20.015	CCK/H Trial Femoral Component - #1	1
A10	9066.20.025	CCK/H Trial Femoral Component - #2	1
A10	9066.20.035	CCK/H Trial Femoral Component - #3	1
A10	9066.20.045	CCK/H Trial Femoral Component - #4	1
A10	9066.20.055	CCK/H Trial Femoral Component - #5	1
B10	9066.47.060	Thickness Gauge	1
C10	9066.47.070	CCK/H Box Mask	1
G10	9066.47.470	Angled Guide 6°	1
H10	9066.47.480	Distal Re-Cut Spacer	1
K10	9066.47.600	Trial Rt - Lt Short Femoral Module	1
K10	9066.47.605	Trial Rt+3 Lt-3 Short Femoral Module	1
K10	9066.47.610	Trial Rt-3 Lt+3 Short Femoral Module	1
I10	9066.47.510	Femoral Guide #1	1
I10	9066.47.520	Femoral Guide #2	1
I10	9066.47.530	Femoral Guide #3	1
I10	9066.47.540	Femoral Guide #4	1
I10	9066.47.550	Femoral Guide #5	1
L10	9066.49.900	Femoral Module Stems Coupling Base	1
M10	9066.49.910	Tibial Module Stems Coupling Base	1
	9066.49.950	Sterilizable Box	1

REVISION KNEE SYSTEM SURGICAL TECHNIQUE

Instrument set

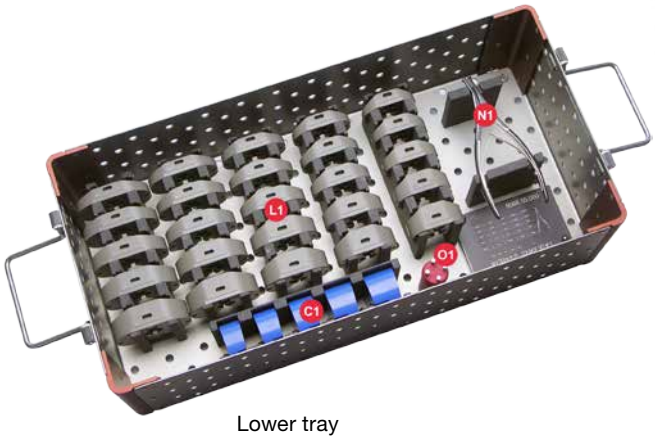
9066.55.000 CCK-H Base Set n. 1

Ref.	CODE	DESCRIPTION	Qty.
A1	9066.15.092	Dia.3x60mm Fiches	4
A1	9066.15.095	Dia.3x80mm Fiches	4
B1	9066.15.235	Fiches beater	1
D1	9066.22.010	Pin Driver	1
E1	9066.22.060	Screwed Pin with Head Dia.3x60mm	4
E1	9066.22.080	Screwed Pin with Head Dia.3x80mm	4
F1	9066.22.160	pre-drill Dia. 3mm	1
G1	9066.22.170	Zimmer Rapid Connector	1
H1	9066.22.180	Tibial Nail Exctractor Plier	1
I1	9066.22.260	Pin with Head dia.3x60mm	4
I1	9066.22.280	Pin with Head dia.3x80mm	4
J1	9066.24.060	Screwed Pin Without Head Dia. 3x60	4
J1	9066.24.080	Screwed Pin Without Head Dia. 3x80	4
K1	9066.30.160	Liners Impactor	1
M1	9066.35.600	Handle for Trial Tibial Plate	1



Upper tray

Instrument set



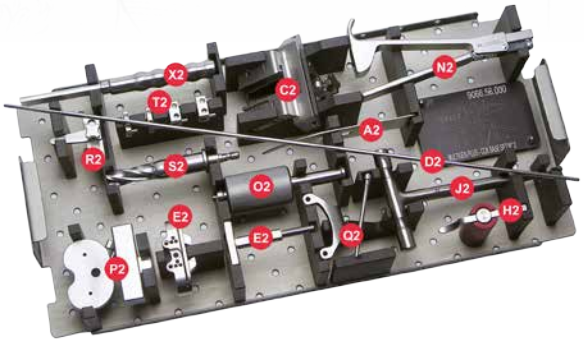
Lower tray

Ref.	CODE	DESCRIPTION	Qty.
C1	9066.20.710	h 10mm Trial Ligament Tension Thickness	1
C1	9066.20.720	h 12mm Trial Ligament Tension Thickness	1
C1	9066.20.730	h 14mm Trial Ligament Tension Thickness	1
C1	9066.20.740	h 17mm Trial Ligament Tension Thickness	1
C1	9066.20.750	h 20mm Trial Ligament Tension Thickness	1
L1	9066.35.110	CR- PS Trial Liner – #1 / 10mm	1
L1	9066.35.112	CR- PS Trial Liner – #1 / 12mm	1
L1	9066.35.114	CR- PS Trial Liner – #1 / 14mm	1
L1	9066.35.117	CR- PS Trial Liner – #1 / 17mm	1
L1	9066.35.120	CR- PS Trial Liner – #1 / 20mm	1
L1	9066.35.210	CR- PS Trial Liner – #2 / 10mm	1
L1	9066.35.212	CR- PS Trial Liner – #2 / 12mm	1
L1	9066.35.214	CR- PS Trial Liner – #2 / 14mm	1
L1	9066.35.217	CR- PS Trial Liner – #2 / 17mm	1
L1	9066.35.220	CR- PS Trial Liner – #2 / 20mm	1
L1	9066.35.310	CR- PS Trial Liner – #3 / 10mm	1
L1	9066.35.312	CR- PS Trial Liner – #3 / 12mm	1
L1	9066.35.314	CR- PS Trial Liner – #3 / 14mm	1
L1	9066.35.317	CR- PS Trial Liner – #3 / 17mm	1
L1	9066.35.320	CR- PS Trial Liner – #3 / 20mm	1
L1	9066.35.410	CR- PS Trial Liner – #4 / 10mm	1
L1	9066.35.412	CR- PS Trial Liner – #4 / 12mm	1
L1	9066.35.414	CR- PS Trial Liner – #4 / 14mm	1
L1	9066.35.417	CR- PS Trial Liner – #4 / 17mm	1
L1	9066.35.420	CR- PS Trial Liner – #4 / 20mm	1
L1	9066.35.510	CR- PS Trial Liner – #5 / 10mm	1
L1	9066.35.512	CR- PS Trial Liner – #5 / 12mm	1
L1	9066.35.514	CR- PS Trial Liner – #5 / 14mm	1
L1	9066.35.517	CR- PS Trial Liner – #5 / 17mm	1
L1	9066.35.520	CR- PS Trial Liner – #5 / 20mm	1
N1	9066.35.610	Plier for Trial Tibial Liner extractor	1
O1	9069.10.275	Pin for Trial Tibial Plates	4
	9066.55.950	Sterilizable Box	1

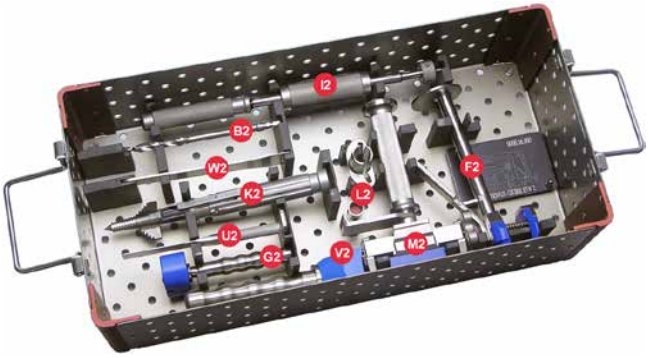
REVISION KNEE SYSTEM SURGICAL TECHNIQUE

Instrument set

9066.56.000 CCK-H Base Set n. 2



Upper tray

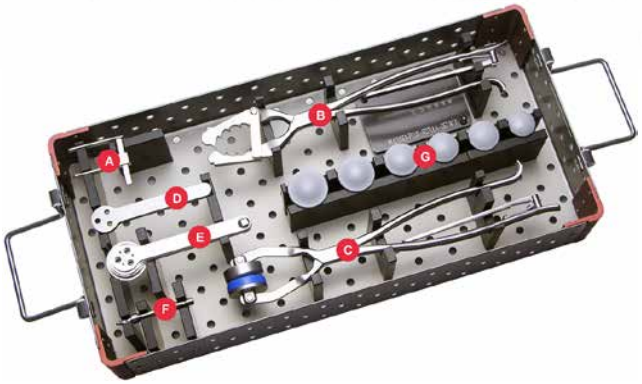


Lower tray

Ref.	CODE	DESCRIPTION	Qty.
A2	9066.12.010	Sickle	1
B2	9066.12.030	Starting Reamer	1
C2	9066.15.050	Distal Resection Guide	1
D2	9066.15.090	Alignment Rod	1
E2	9066.22.120	Tibial Cutting Guide	1
F2	9066.25.100	Multifunction Impactor-Extractor	1
G2	9066.25.110	Tibial Impactor	1
H2	9066.25.160	0mm Tibial Depth Resection Gauge	1
I2	9066.25.190	Multifunction Extractor	1
J2	9066.30.020	Awl	1
K2	9066.30.100	Tibial Winged Broach	1
L2	9066.30.110	Guide for Winged Broach/ Reamer	1
M2	9066.30.120	Femoral Extractor/Positioner	1
N2	9066.35.620	Fiches Exctractor Plier	1
O2	9066.35.621	Inertial Beater	1
P2	9066.47.055	Augment Tibial Resection Guide	1
Q2	9066.47.064	Joint line guide for femoral distal mask	1
R2	9066.47.065	Joint line guide for femoral box mask	1
S2	9066.47.225	Tibial Reamer	1
T2	9066.47.650	Trial Distal Augment - H 5mm	2
T2	9066.47.655	Trial Distal Augment - H 10mm	2
U2	9066.50.130	Osteotome #0	1
V2	9069.10.220	Femoral Impactor	1
W2	9069.50.040	Tibial Liner Extractor	1
X2	9095.10.337	Flat Rasp	1
	9066.56.950	Sterilizable Box	1

9066.41.000 Patellar Set n. 7

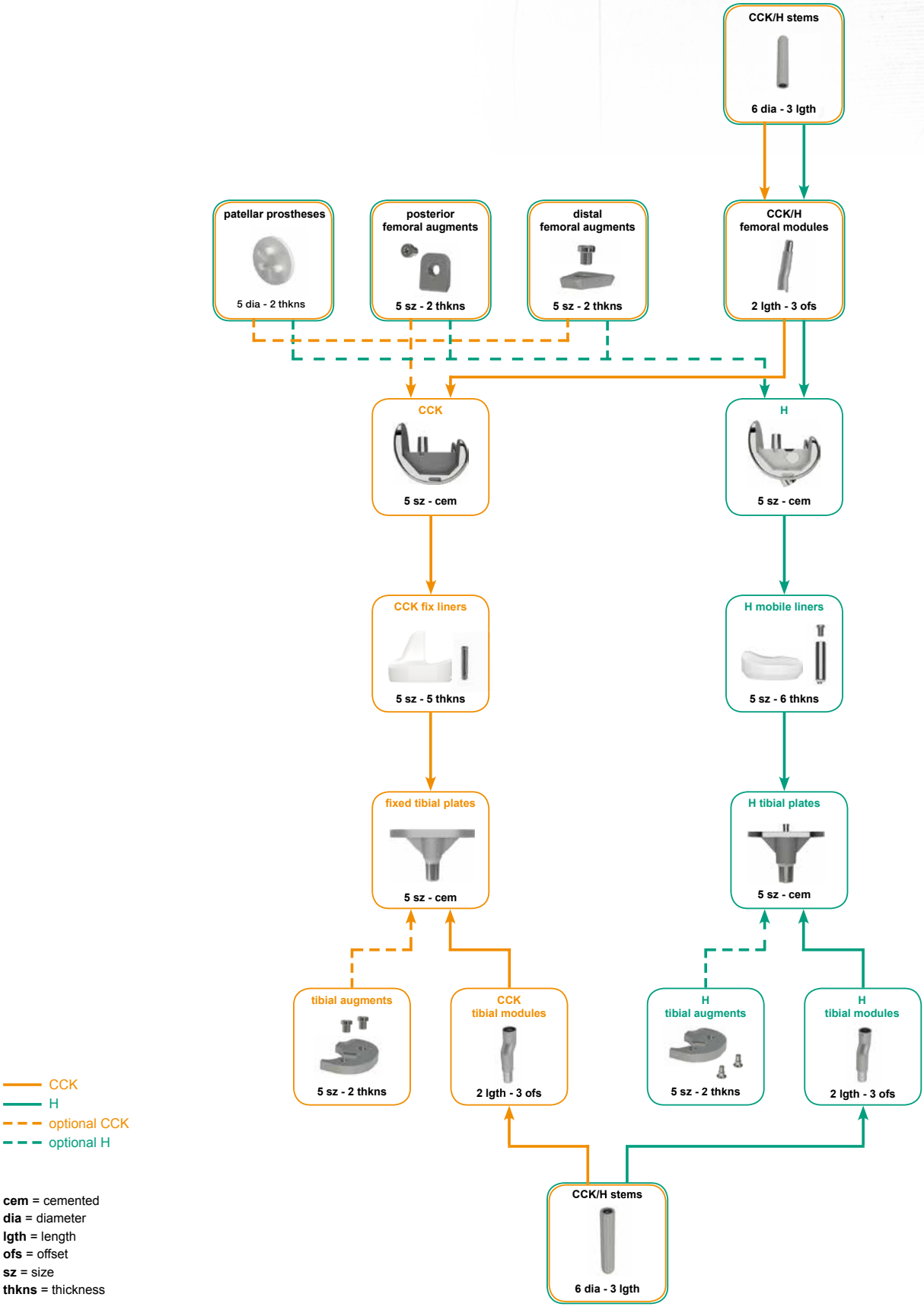
Ref.	CODE	DESCRIPTION	Qty.
A7	9066.40.050	Patellar Gauge	1
B7	9066.40.010	Patellar Pliers	1
C7	9066.40.020	Patellar Vice	1
D7	9066.40.025	Patellar Drilling Guide	1
E7	9066.40.070	Patellar Mask	1
F7	9066.40.060	Patellar Drill	1
G7	9066.40.128	Trial Patellar Dome - Dia. 28mm h 8mm	1
G7	9066.40.132	Trial Patellar Dome - Dia. 32mm h 8mm	1
G7	9066.40.032	Trial Patellar Dome - Dia. 32mm h 10mm	1
G7	9066.40.035	Trial Patellar Dome - Dia. 35mm h 10mm	1
G7	9066.40.038	Trial Patellar Dome - Dia. 38mm h 10mm	1
G7	9066.40.041	Trial Patellar Dome - Dia. 41mm h 10mm	1
	9066.41.950	Sterilizable Box	1



9095.10.226 Dynamometric Screwdriver

CODE	DESCRIPTION	Qty.
9095.10.226	Dynamometric Screwdriver 3,5mm 0-5Nm	1

Product combinations



cem = cemented
dia = diameter
lgth = length
ofs = offset
sz = size
thkns = thickness

REVISION KNEE SYSTEM SURGICAL TECHNIQUE

Product codes

CCK - CEMENTED FEMORAL COMPONENTS

CoCrMo

Size	REF
#1	6615.09.010
#2	6615.09.020
#3	6615.09.030
#4	6615.09.040
#5	6615.09.050

H - CEMENTED FEMORAL COMPONENTS

CoCrMo+ CFR Peek

Size	REF
#1	6616.09.010
#2	6616.09.020
#3	6616.09.030
#4	6616.09.040
#5	6616.09.050

CEMENTED FIXED TIBIAL PLATES

Ti6Al4V

Size	REF
#1	6624.15.110
#2	6624.15.120
#3	6624.15.130
#4	6624.15.140
#5	6624.15.150

H - CEMENTED TIBIAL PLATES

CoCrMo+ CFR Peek

Size	REF
#1	6620.09.110
#2	6620.09.120
#3	6620.09.130
#4	6620.09.140
#5	6620.09.150

Product codes

CCK - TIBIAL LINERS WITH LOCKING SCREW

UHMWPE + Ti6Al4V

FOR FIXED TIBIAL PLATE #1

Size	REF	THICKNESS
#1	6645.50.110	10 mm
#1	6645.50.112	12 mm
#1	6645.50.114	14 mm
#1	6645.50.117	17 mm
#1	6645.50.120	20 mm

FOR FIXED TIBIAL PLATE #2

Size	REF	THICKNESS
#2	6645.50.210	10 mm
#2	6645.50.212	12 mm
#2	6645.50.214	14 mm
#2	6645.50.217	17 mm
#2	6645.50.220	20 mm

FOR FIXED TIBIAL PLATE #3

Size	REF	THICKNESS
#3	6645.50.310	10 mm
#3	6645.50.312	12 mm
#3	6645.50.314	14 mm
#3	6645.50.317	17 mm
#3	6645.50.320	20 mm

FOR FIXED TIBIAL PLATE #4

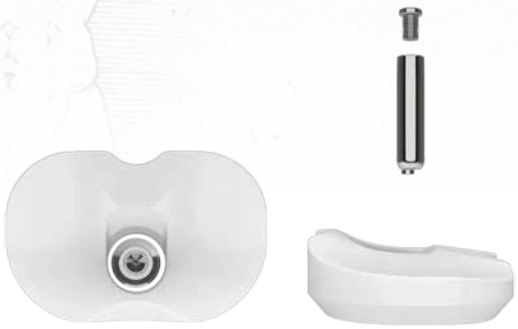
Size	REF	THICKNESS
#4	6645.50.410	10 mm
#4	6645.50.412	12 mm
#4	6645.50.414	14 mm
#4	6645.50.417	17 mm
#4	6645.50.420	20 mm

FOR FIXED TIBIAL PLATE #5

Size	REF	THICKNESS
#5	6645.50.510	10 mm
#5	6645.50.512	12 mm
#5	6645.50.514	14 mm
#5	6645.50.517	17 mm
#5	6645.50.520	20 mm

REVISION KNEE SYSTEM SURGICAL TECHNIQUE

Product codes



H - TIBIAL LINERS WITH HINGE

UHMWPE + CoCrMo + Ti6Al4V

FOR H FEMORAL COMPONENT #1

Size	REF	THICKNESS
#1	6660.50.110	10 mm
#1	6660.50.112	12 mm
#1	6660.50.114	14 mm
#1	6660.50.117	17 mm
#1	6660.50.120	20 mm
#1	6660.50.124	24 mm

FOR H FEMORAL COMPONENT #2

Size	REF	THICKNESS
#2	6660.50.210	10 mm
#2	6660.50.212	12 mm
#2	6660.50.214	14 mm
#2	6660.50.217	17 mm
#2	6660.50.220	20 mm
#2	6660.50.224	24 mm

FOR H FEMORAL COMPONENT #3

Size	REF	THICKNESS
#3	6660.50.310	10 mm
#3	6660.50.312	12 mm
#3	6660.50.314	14 mm
#3	6660.50.317	17 mm
#3	6660.50.320	20 mm
#3	6660.50.324	24 mm

FOR H FEMORAL COMPONENT #4

Size	REF	THICKNESS
#4	6660.50.410	10 mm
#4	6660.50.412	12 mm
#4	6660.50.414	14 mm
#4	6660.50.417	17 mm
#4	6660.50.420	20 mm
#4	6660.50.424	24 mm

FOR H FEMORAL COMPONENT #5

Size	REF	THICKNESS
#4	6660.50.510	10 mm
#4	6660.50.512	12 mm
#4	6660.50.514	14 mm
#4	6660.50.517	17 mm
#4	6660.50.520	20 mm
#4	6660.50.524	24 mm

Product codes

CCK/H - FEMORAL MODULES

Ti6Al4V

REF	LENGTH	OFFSET
6647.15.410	SHORT	R-L Straight
6647.15.420	SHORT	R +3mm - L -3mm
6647.15.430	SHORT	R -3mm - L +3mm
6647.15.440	LONG	R-L Straight
6647.15.450	LONG	R +3mm - L -3mm
6647.15.460	LONG	R -3mm - L +3mm

CCK - TIBIAL MODULE

Ti6Al4V

REF	LENGTH	OFFSET
6647.15.310	SHORT	Straight
6647.15.320	SHORT	+3 mm
6647.15.330	SHORT	+6 mm
6647.15.340	LONG	Straight
6647.15.350	LONG	+3 mm
6647.15.360	LONG	+6 mm

H - TIBIAL MODULE

Ti6Al4V

REF	LENGTH	OFFSET
6648.15.310	SHORT	Straight
6648.15.320	SHORT	+3 mm
6648.15.330	SHORT	+6 mm
6648.15.340	LONG	Straight
6648.15.350	LONG	+3 mm
6648.15.360	LONG	+6 mm

CCK/H - STEM

Ti6Al4V

REF	DIAMETER	LENGTH
6647.15.140	14 mm	60 mm
6647.15.160	16 mm	60 mm
6647.15.180	18 mm	85 mm
6647.15.200	20 mm	85 mm
6647.15.220	22 mm	110 mm
6647.15.240	24 mm	110 mm

REVISION KNEE SYSTEM SURGICAL TECHNIQUE

Product codes

PATELLAR PROSTHESES

UHMWPE

REF	DIAMETER	THICKNESS
■ 6695.50.103	28 mm	8 mm
■ 6695.50.105	32 mm	8 mm
■ 6695.50.005	32 mm	10 mm
■ 6695.50.010	35 mm	10 mm
■ 6695.50.020	38 mm	10 mm
■ 6695.50.030	41 mm	10 mm

■ upon request

TIBIAL AUGMENTS

Ti6Al4V

Size	REF	THICKNESS
FOR FIXED TIBIAL PLATE #1		
#1	6625.15.010	7 mm
#1	6625.15.020	12 mm
FOR FIXED TIBIAL PLATE #2		
#2	6626.15.010	7 mm
#2	6626.15.020	12 mm
FOR FIXED TIBIAL PLATE #3		
#3	6628.15.010	5 mm
#3	6628.15.020	10 mm
FOR FIXED TIBIAL PLATE #4		
#3	6630.15.010	7 mm
#3	6630.15.020	12 mm
FOR FIXED TIBIAL PLATE #5		
#3	6632.15.010	7 mm
#3	6632.15.020	12 mm

Product codes

H - TIBIAL AUGMENTS

Ti6Al4V

FOR H TIBIAL PLATE #1		
Size	REF	THICKNESS
#1	6621.15.107	7 mm
#1	6621.15.112	12 mm
FOR H TIBIAL PLATE #2		
Size	REF	THICKNESS
#2	6621.15.207	7 mm
#2	6621.15.212	12 mm
FOR H TIBIAL PLATE #3		
Size	REF	THICKNESS
#3	6621.15.307	7 mm
#3	6621.15.312	12 mm
FOR H TIBIAL PLATE #4		
Size	REF	THICKNESS
#4	6621.15.407	7 mm
#4	6621.15.412	12 mm
FOR H TIBIAL PLATE #5		
Size	REF	THICKNESS
#5	6621.15.507	7 mm
#5	6621.15.512	12 mm

REVISION KNEE SYSTEM SURGICAL TECHNIQUE

Product codes

DISTAL FEMORAL AUGMENTS

Ti6Al4V

FOR FEMORAL COMPONENT #1		
Size	REF	THICKNESS
#1	6671.15.105	5 mm
FOR FEMORAL COMPONENT #2		
Size	REF	THICKNESS
#2	6671.15.205	5 mm
#2	6671.15.210	10 mm
FOR FEMORAL COMPONENT #3		
Size	REF	THICKNESS
#3	6671.15.305	5 mm
#3	6671.15.310	10 mm
FOR FEMORAL COMPONENT #4		
Size	REF	THICKNESS
#4	6671.15.405	5 mm
#4	6671.15.410	10 mm
FOR FEMORAL COMPONENT #5		
Size	REF	THICKNESS
#5	6671.15.505	5 mm
#5	6671.15.510	10 mm

Product codes

POSTERIOR FEMORAL AUGMENTS

Ti6Al4V

FOR FEMORAL COMPONENT #1		
Size	REF	THICKNESS
#1	6672.15.105	5 mm
FOR FEMORAL COMPONENT #2		
Size	REF	THICKNESS
#2	6672.15.205	5 mm
#2	6672.15.210	10 mm
FOR FEMORAL COMPONENT #3		
Size	REF	THICKNESS
#3	6672.15.305	5 mm
#3	6672.15.310	10 mm
FOR FEMORAL COMPONENT #4		
Size	REF	THICKNESS
#4	6672.15.405	5 mm
#4	6672.15.410	10 mm
FOR FEMORAL COMPONENT #5		
Size	REF	THICANESS
#5	6672.15.505	5 mm
#5	6672.15.510	10 mm

REVISION KNEE SYSTEM SURGICAL TECHNIQUE
Tables summary

Here following are listed some useful tables to be checked before opening the definitive implants, such as the femoral or tibial modules:

FEMORAL OR TIBIAL MODULE LENGHT

REAMER REFERENCE	TRIAL MODULE	DEFINITIVE MODULE
S Reference	S Module	S Module
L Reference	S Module + L Extension	L Module

TIBIAL OFFSET

COMPASS	TIBIAL TRIAL MODULE	TIBIAL DEFINITIVE MODULE
0	Straight Module	Straight Module
+3	+3 Module	+3 Module
+6	+6 Module	+6 Module

FEMORAL OFFSET

ALIGNER	FEMORAL TRIAL MODULE	FEMORAL DEFINITIVE MODULE
R-L	R/L Module	R/L Module
R+3 or L-3	R+3/L-3 Module	R+3/L-3 Module
R-3 or L+3	R-3/L+3 Module	R-3/L+3 Module

Here following are listed the total lengths of the CCK/H stems assembled with femoral or with tibial modules:

CCK/H STEMS AND FEMORAL MODULES ASSEMBLY LENGTH

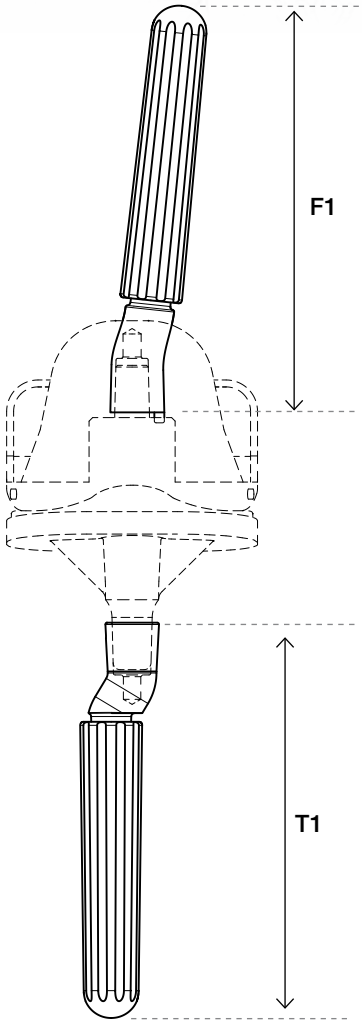
	F1	
CCK/H PRESS FIT STEM DIAMETERS	STEM + SHORT FEMORAL MODULE*	STEM + LONG FEMORAL MODULE*
Dia. 14 mm	91 mm	116 mm
Dia. 16 mm	91 mm	116 mm
Dia. 18 mm	116 mm	141 mm
Dia. 20 mm	116 mm	141 mm
Dia. 22 mm	141 mm	166 mm
Dia. 24 mm	141 mm	166 mm

* for the femoral component 18,5 mm must be added to obtain the total length from the femoral distal resection to the end of the stem.

CCK/H STEMS AND TIBIAL MODULES ASSEMBLY LENGTH

	T1	
CCK/H PRESS FIT STEM DIAMETERS	STEM + SHORT TIBIAL MODULE**	STEM + LONG TIBIAL MODULE**
Dia. 14 mm	87 mm	112 mm
Dia. 16 mm	87 mm	112 mm
Dia. 18 mm	112 mm	137 mm
Dia. 20 mm	112 mm	137 mm
Dia. 22 mm	137 mm	162 mm
Dia. 24 mm	137 mm	162 mm

** for the tibial component 22 mm must be added to obtain the total length from the tibial resection to the end of the stem.



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