

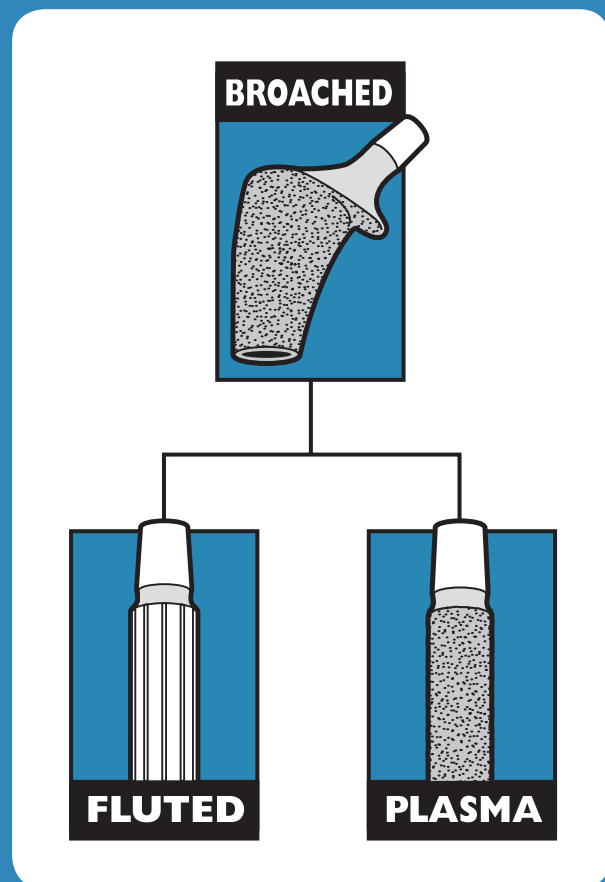
RESTORATION[®] MODULAR

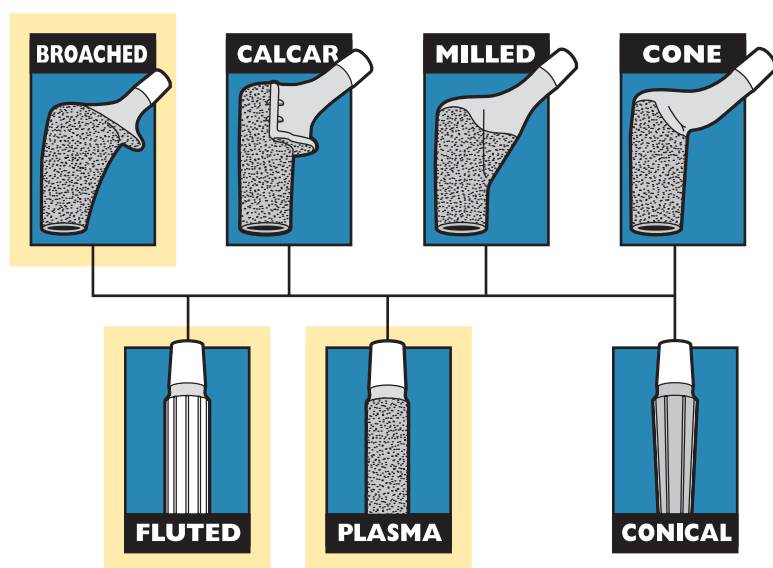
stryker[®]

REVISION HIP SYSTEM

Surgical Protocol

**Restoration Modular Broached
Body/Fluted & Plasma Distal
Stem Femoral Components
Using the Restoration Modular
Instrument System**





Restoration Modular
Revision Hip System

Restoration® Modular Revision Hip System

Surgical Protocol

Restoration Modular Broached Body/Fluted & Plasma Distal Stem Femoral Components Using the Restoration Modular Instrument System

Indications

- Noninflammatory degenerative joint disease, including osteoarthritis and avascular necrosis;
- Rheumatoid arthritis;
- Correction of functional deformity;
- Revision procedures where other treatments or devices have failed; and,
- Nonunions, femoral neck fractures, and trochanteric fractures of the proximal femur with head involvement that are unmanageable using other techniques.
- The Restoration Modular Hip System is intended for primary and revision total hip arthroplasty as well as in the presence of severe proximal bone loss. These femoral stems are designed to be press fit into the proximal femur.

Contraindications

- Active infection or suspected latent infection in or about the hip joint;
- Bone stock that is inadequate for support or fixation of the prosthesis;
- Skeletal immaturity;
- Any mental or neuromuscular disorder that would create an unacceptable risk of prosthesis instability, prosthesis fixation failure, or complications in postoperative care.

See package insert for warnings, precautions, adverse effects, information for patients and other essential product information.

Before using Restoration Modular instrumentation, verify:

- Instruments have been properly disassembled prior to cleaning and sterilization;
- Instruments have been properly assembled post-sterilization;
- Instruments have maintained design integrity; and,
- Proper size configurations are available.

For instructions for Cleaning, Sterilization, Inspection and Maintenance of Orthopaedic Medical Devices, refer to LSTPI-B.

Acetabular Options

Stryker Orthopaedics offers a wide variety of acetabular components that are compatible with the Restoration Modular Femoral Components. The surgeon should refer to a specific acetabular component's surgical technique for a discussion of acetabular surgical procedures. The Restoration Modular Hip System is compatible only with Stryker Orthopaedics femoral bearing heads listed in the chart on page 16 and page 23.

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System Overview

The Modular Broached Body/Fluted Distal Stem & Plasma Distal Stem Femoral components are part of the Restoration Modular Revision Hip System. The system takes advantage of the long clinical experience with distally fixed implants, while making use of modern technology to enhance proximal load transfer to the femur. This is achieved by mating a selected proximal body with a selected distal stem to provide a femoral prosthesis that minimizes proximal-distal mismatching, often associated with monolithic implants.

Revision hip surgery is very complex in that the surgeon may face compromised soft tissues, retained cement, severe bone loss, and poor residual bone. A set of implant options is essential to best fit the implant to the present bone defect. The Restoration Modular Broached Body/Fluted Distal Stem & Plasma Distal Stem Femoral components were designed specifically for use in revision cases in which the femoral bone stock is severely compromised in the proximal third or proximal half of the femur. They also may be used for less challenging reconstructive surgery ranging from difficult primary up to, and including, Type III revision cases.[†]

The titanium alloy (Ti-6Al-4V ELI) Broached Bodies are circumferentially plasma sprayed with commercially pure titanium and then over-sprayed with PureFix HA. These surface enhancements have demonstrated biocompatibility through many years of use at Stryker Orthopaedics. Proximally, the canal-filling, anthropometric-shaped Broached Body segment helps maintain rotational and axial stability when adjacent to viable bone. Eight Broached Bodies are available.

The Broached Bodies incorporate a V40 taper and are compatible with CoCr, BioloX delta Ceramic and Alumina Ceramic Femoral Heads, BioloX delta Ceramic V40 Femoral Heads and Universal Taper BioloX delta Ceramic Femoral Heads.

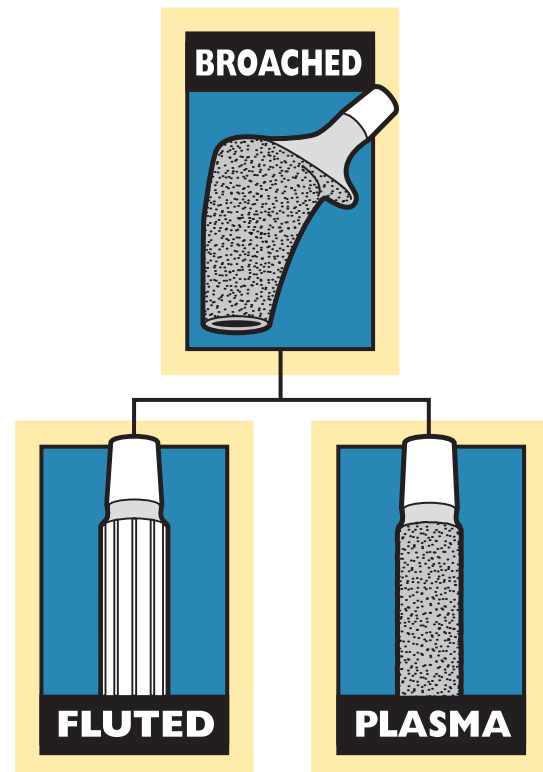
The Fluted Distal Stem design provides diaphyseal rotational stability through nine sharp, polished flutes on each stem. A tri-slot is featured on the distal end of all (13mm-26mm) 167mm, 217mm, 267mm, and 317mm stems. The stem diameter is measured on the outside of the flutes. Each flute is 1mm high, the outside of which determines the major diameter. The inside of the flutes determines the minor diameter, (e.g., a 16mm [major] diameter stem has a 14mm minor diameter - between the flutes).

The Plasma Distal Stem design provides diaphyseal rotational and axial stability. The Plasma Distal Stems are also circumferentially plasma sprayed with commercially pure titanium and then over-sprayed with PureFix HA. The bowed Plasma stems (167mm, 217mm, 267mm, 317mm) are available as a fully-coated or tri-slot option (tri-slot in 13mm - 26mm diameters). The diameters of these distal stems are measured at the midway point of the peak of the plasma coating.

Both the Fluted and the Plasma stem designs are available in five lengths – 127mm, 167mm, 217mm, 267mm, and 317mm. Each Fluted & Plasma Distal Stem length comes in 16 diameters from 11mm to 26mm in 1mm increments. The 127mm and 167mm Fluted & Plasma Distal Stems are offered with a straight design option. The 167mm Fluted & Plasma Distal Stem is also offered with a bowed option. The 217mm, 267mm, and 317mm Fluted & Plasma Distal Stems are only offered with a bowed option.

The total length of the Broached Body/Fluted Distal Stem & Plasma Distal Stem construct will be dependent upon the body and stem chosen. Standard stem lengths are measured from any size Broached Body with a +0mm (STD) Femoral Head from the head center to the distal tip of each of the five lengths of Fluted or Plasma Distal Stems. Review Sizing Charts on page 3 for stem lengths.

Note: The Broached Body/Fluted & Plasma Distal Stem lengths are measured using any Broached Body with a +0mm (STD) Femoral Head from the head center to the distal tip of the Fluted Distal Stem or Plasma Distal Stem.



[†] D'Antonio, J., et al. Classification of Femoral Abnormalities in Total Hip Arthroplasty. *Clin Ortho and Rel Research*. 1993; Number 296: pp. 133 – 139. Longjohn, D. & Dorr, L. Bone Stock Loss and Allografting: Femur. *Revision Total Hip Arthroplasty*. 1999. pp. 100 – 111.

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Stem Length Options

Broached Body Sizes and Head Offsets with V40 Femoral Heads
available in 22mm, 26mm, 28mm, 32mm, 36mm, 40mm & 44mm

Broached Body Sizes	-4mm*	+0mm (STD)	+4mm	+8mm	+12mm
Size #1	31mm	34mm	37mm	40mm	43mm
Size #2	33mm	36mm	39mm	42mm	45mm
Size #3	37mm	40mm	43mm	46mm	49mm
Size #4	41mm	44mm	47mm	50mm	53mm
Size #5	41mm	44mm	47mm	50mm	53mm
Size #6	41mm	44mm	47mm	50mm	53mm
Size #7	41mm	44mm	47mm	50mm	53mm
Size #8	41mm	44mm	47mm	50mm	53mm

*Not available in 22mm or 26mm diameter head (see Head Compatibility chart on pages 16 or 23).

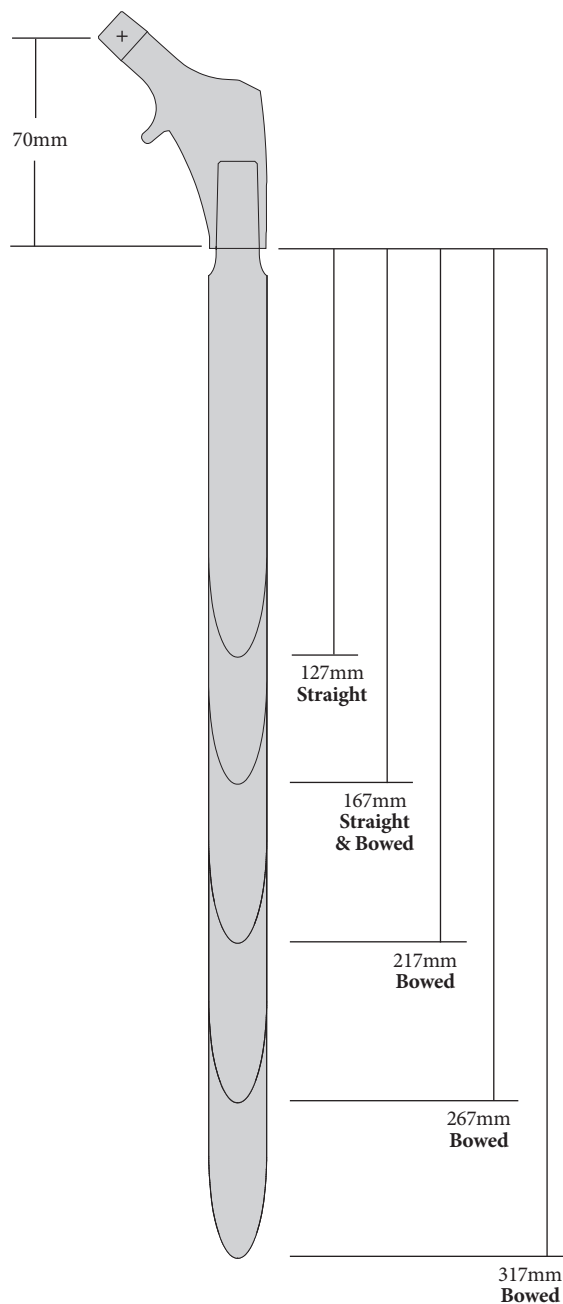
Broached Body/Fluted Distal Stem & Plasma Distal Stem Sizes

Broached Body Sizes	Neck Angle	Distal Stem Lengths (mm)	Distal Stem Diameters
Size #1 Size #2 Size #3 Size #4 Size #5 Size #6 Size #7 Size #8	132°	127, 167, 217, 267, 317	11mm – 26mm in 1mm Increments

Broached Body/Fluted Distal Stem & Plasma Distal Stem Combined Overall Lengths**

Fluted Distal Stem & Plasma Distal Stem Sizes	Broached Body Heights
	70mm
127mm Length 11mm-26mm dia. (Straight)	197mm
167mm Length 11mm-26mm dia. (Straight & Bowed)	237mm
217mm Length 11mm-26mm dia. (Bowed)	287mm
267mm Length 11mm-26mm dia. (Bowed)	337mm
317mm Length 11mm-26mm dia. (Bowed)	387mm

**Femoral head neck length options will increase overall stem lengths – range -4mm, +0mm (STD), +4mm, +8mm, and +12mm.
Head center (+0mm STD) to distal stem tip.



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Bone Defect Classifications

Type 1 - Minor Bone Loss

- The metaphysis is expanded, but intact.
- The calcar is partially absent.
- There is minimal bone loss anteriorly and posteriorly.
- The diaphysis is intact.

Type 2 - Significant Bone Loss

- The metaphysis is compromised.
- There is no calcar.
- There is minimal bone loss anteriorly and posteriorly.
- The available proximal bone may be thin, sclerotic, and incapable of support.
- The diaphysis is intact.

Type 2A - The calcar is non-supportive, but the diaphysis is still intact.

Type 2B - The calcar is non-supportive, the anterolateral metaphysis is deficient, but the diaphysis is still intact.

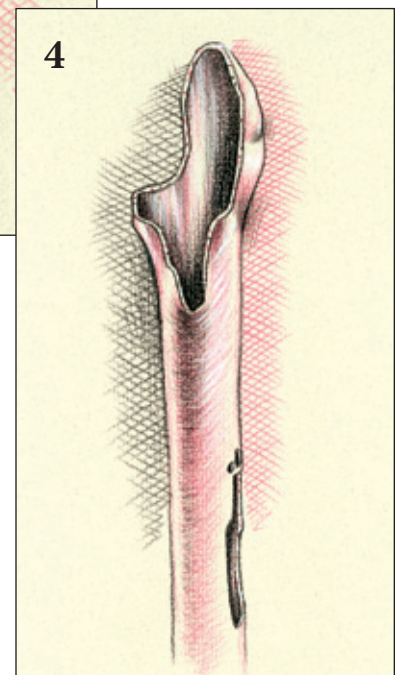
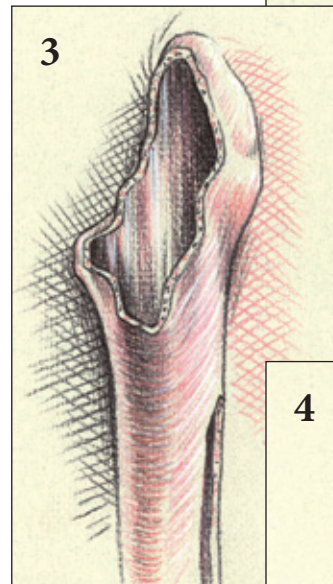
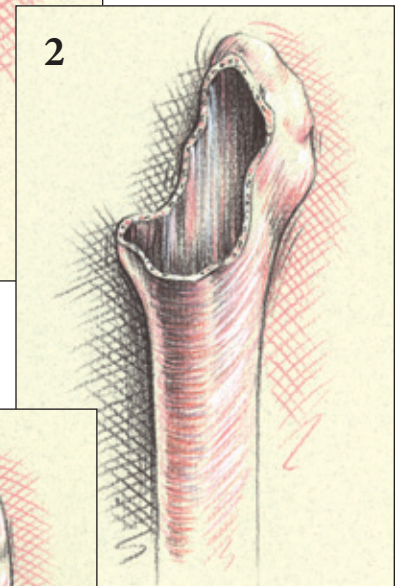
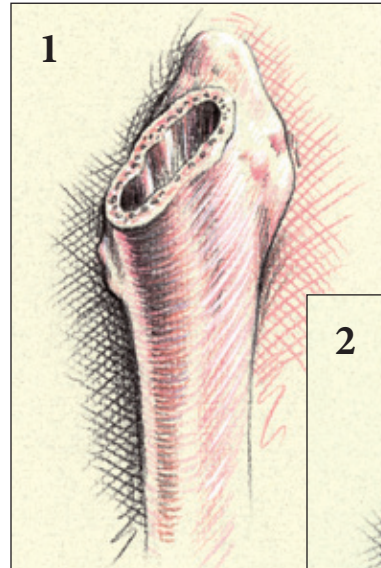
Type 2C - The calcar is non-supportive and the posteromedial part of the metaphysis is deficient, but the diaphysis is still intact.

Type 3 - Massive Bone Loss

- Complete circumferential bone loss in the metaphysis, extending to the diaphysis.
- The metaphysis and part of the diaphysis are deficient.
- The anterolateral bone and supporting subtrochanteric metaphyseal bone are absent.
- The metaphysis is not stable and will not offer rotational stability.
- There is massive bone loss anteriorly and posteriorly.
- The stability of the implant is dependent on distal diaphyseal fixation.

Type 4 - Massive Bone Loss

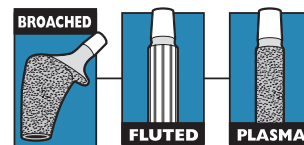
- Extensive circumferential segmental bone loss proximally.
- Extensive cavitory loss involving the entire diaphysis.
- Extensive ectasia of the diaphysis.
- Proximal femoral allograft required with reduction osteotomy of the diaphysis.
- Cortical diaphyseal bone is often thin and needs to be supplemented with cortical strut grafts.
- Segmental defects can be repaired with cortical strut graft and cerclage wiring, and cavitory defects can be filled with impacted particulate graft.



Source: D'Antonio, J., et al. Classification of Femoral Abnormalities in Total Hip Arthroplasty. *Clin Ortho and Rel Research*. 1993; Number 296: pp. 133 – 139. Longjohn, D. & Dorr, L. Bone Stock Loss and Allografting: Femur. *Revision Total Hip Arthroplasty*. 1999. pp. 100 – 111.

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Preoperative Evaluation and Planning

The Restoration Modular Broached Body/Fluted & Plasma Distal Stem Femoral Hip System offers a complete set of femoral X-ray templates for the surgeon to help assess the implant requirements. All eight Broached Body Templates can be combined with each of the Fluted & Plasma Distal Stem Templates. All templates are at 120% magnification. The use of mag markers will facilitate accurate magnification measurements. If mag markers are not used, measure the existing implants on the X-ray to ensure that magnification is approximately 120%.

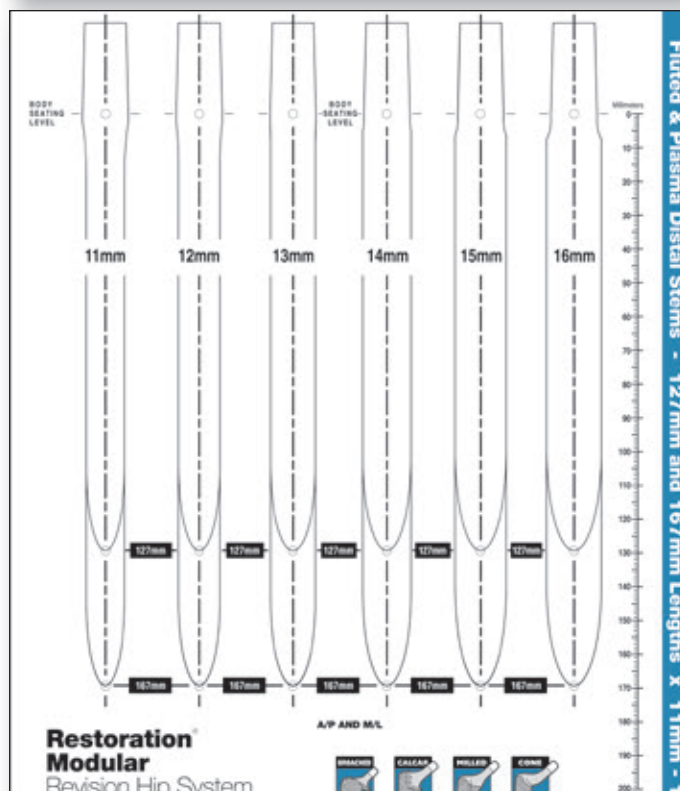
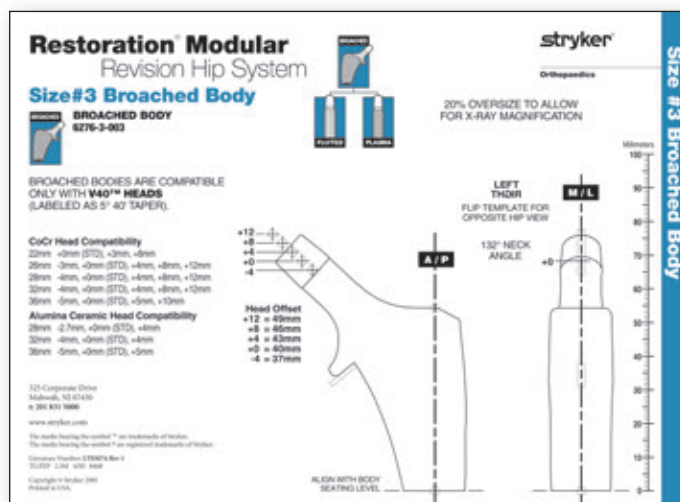
Preoperative planning is strongly recommended for leg length planning, measuring the length of the existing prosthesis being revised, predicting the potential use and type of trochanteric osteotomy, the Broached Body size, and the Plasma & Fluted Distal Stem diameter and length of the prosthesis to be implanted.

Anterior-Posterior (A/P) and Medial-Lateral (M/L) radiographs are necessary for X-ray templating. In cases of severe femoral compromise, a full A/P pelvic X-ray of the operative side as well as the contralateral side is helpful to assess the biomechanical requirements of the reconstruction. The lateral X-ray is informative in that it will show the anterior bow of the femur, which is useful when templating with the 127mm and 167mm straight stems, and the 167mm, 217mm, 267mm, and 317mm, bowed long stems.

First, position an acetabular template over the A/P radiograph, aligning the acetabular shell surface with the subchondral bone. Mark the center of rotation of the acetabulum indicated on the template.

Place the appropriate two-piece femoral template on the radiograph. Ensure that the distal length of the prosthesis will be sufficiently anchored in good cortical bone – this is generally two-to-three canal diameters below the tip of the existing implant or defect.

IMPORTANT: Adjunctive proximal fixation/support is required for stem diameters of 11mm, 12mm, and 13mm, and is recommended for stem diameters of 14mm and larger.



Restoration® Modular Revision Hip System

Fluted Distal Stem and Plasma Distal Stem

127mm/167mm Lengths

11mm-16mm Diameters

FLUTED DISTAL STEM (STRAIGHT)

6276-4-011	11mm x 127mm
6276-4-012	12mm x 127mm
6276-4-013	13mm x 127mm
6276-4-014	14mm x 127mm
6276-4-015	15mm x 127mm
6276-4-016	16mm x 127mm
6276-4-111	11mm x 167mm
6276-4-112	12mm x 167mm
6276-4-113	13mm x 167mm
6276-4-114	14mm x 167mm
6276-4-115	15mm x 167mm
6276-4-116	16mm x 167mm

16 diameters in 1mm increments available (11mm - 20mm)

PLASMA DISTAL STEM (STRAIGHT)

6276-5-011	11mm x 127mm
6276-5-012	12mm x 127mm
6276-5-013	13mm x 127mm
6276-5-014	14mm x 127mm
6276-5-015	15mm x 127mm
6276-5-016	16mm x 127mm
6276-5-111	11mm x 167mm
6276-5-112	12mm x 167mm
6276-5-113	13mm x 167mm
6276-5-114	14mm x 167mm
6276-5-115	15mm x 167mm
6276-5-116	16mm x 167mm

16 diameters in 1mm increments available (11mm - 20mm)

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Patient Selection

Proper implant selection is critical to the stability and longevity of the femoral stem implant in hip arthroplasty. Proper implant selection must consider design, fixation, and environmental variables including: patient weight, age, bone quality and size, activity level and preoperative level of health, as well as the surgeon's experience and familiarity with the implant device. Longevity and stability of the implant may be affected by these factors. Surgeons should advise patients of these factors.

The smaller sized femoral stem implants are intended for use in patients with smaller intramedullary femoral canals. Their geometry has been reduced to accommodate the anatomy of the smaller intramedullary femoral canal, which thereby decreases their fatigue-strength and load-bearing characteristics. Therefore, patients with high physical activity levels, poor bone quality, or who are overweight may be poor candidates for the smaller femoral implant stem.

Patients with high-activity level and/or higher weight patients are at greater risk for implant complications or failures. For patients with poor proximal bone quality, the use of supplemental adjunctive proximal fixation/support is advised for implant stability.

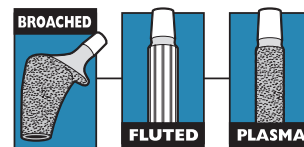
The surgeon must evaluate each situation carefully based upon the patient's clinical presentation before making any decisions regarding the selection of the implant.



A full range of implant sizes provides choice in selecting an implant to meet the specific demands of each patient.

Restoration® Modular

Surgical Protocol



Determine the Approximate Implant Size

Note that the tip of the greater trochanter is approximately at the same level as the center of rotation of the femoral head. If no change in leg length is necessary, then the Broached Body and femoral head center that is closest to the center of rotation marks the appropriate neck length and femoral head offset required. If leg lengthening is required, choose the Broached Body and offset that places the center of the femoral head on the overlay above the center of rotation. If it is necessary to shorten the length of the femoral neck, then select the femoral head center below the center of rotation.

Once the proximal geometry has been determined, select the appropriate Fluted or Plasma Distal Stem diameter of the implant by establishing the region of the femoral cortices that appears to be perfectly defined or free from defects that will allow the implant to achieve 10cm - 12cm of suitable distal fixation. Determine also the length required to place the distal stem tip two-to-three canal diameters below the lowest distal defect.

Patient Positioning and Surgical Approach

Revision total hip surgery presents challenges not seen in primary surgery. Therefore, each surgeon should position the patient and use the surgical approach for revision total hip arthroplasty with which he is most familiar. Patient positioning, prepping and draping, the skin incision, soft tissue dissection, and hip dislocation are performed according to the surgeon's preferred technique, making certain to adequately expose the acetabulum and femur as required by each revision situation.

There are also many femoral and trochanteric osteotomy techniques available to surgeons that assist in implant removal, overall reconstruction, and finally, postoperative management. The surgeon should use osteotomies that he is most familiar with and that best fit the challenge faced by each particular revision situation.

Note: To reduce the potential for femoral fracture, it is recommended that areas of defects in the femur are prophylactically cabled prior to reaming and stem insertion. Dall-Miles Cables work well to assist the surgeon in this step.



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Cement Removal

Implant removal and subsequent cement removal can be a challenging proposition. Surgeons should utilize methods they are most familiar with or are most appropriate for the many revision situations that may arise. The Gray Revision Instruments are helpful in removing the existing acetabular and femoral prostheses as well as bone cement if present.

After removal of the femoral component, the acetabular component is removed and the acetabulum is prepared. Cement and fibrous tissue still present in the femoral canal may be left to help minimize blood loss during acetabular preparation. After the acetabulum has been prepared, any remaining cement, fibrous tissue, or debris in the femoral canal may be removed and reaming begun.



Gray Revision Instruments

Neck Resection Guide – Primary Surgery

A Neck Resection Guide is available for those instances where a surgeon chooses to utilize the Broached Body and Fluted & Plasma Distal Stem implants in a primary surgery, or to excise additional bone in a revision scenario (**Figure 1**).

The resection level should be identical to the level chosen during preoperative templating. Key features of the Neck Resection Guide (**Figure 2**):

1. The slotted area in the proximal portion of the guide helps to reference the proximal tip of the greater trochanter. This is a good landmark that generally coincides with the center of rotation for the femoral head. Align the Broached Body size and its corresponding engraved line with the tip of the trochanter. The notches on the medial extension of the guide correspond with the head centers of the noted diameters.
2. The angled surface provides a plane for marking the level of the cut, or it can be used as a cutting surface for the saw blade. The neck resection is made on the lower angled surface.
3. The long tail of the guide is used for alignment with the femoral shaft axis. It is designed to be inserted under the soft tissues of the posterior aspect of the femur.

Figure 1

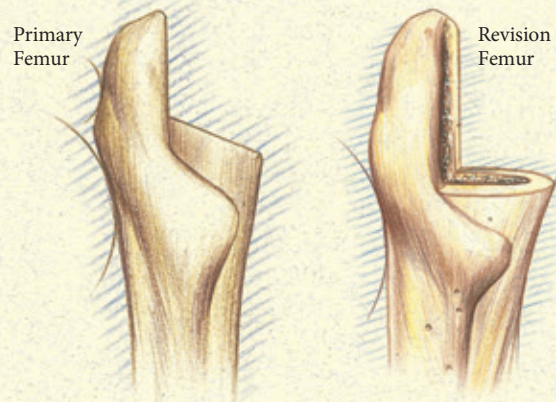
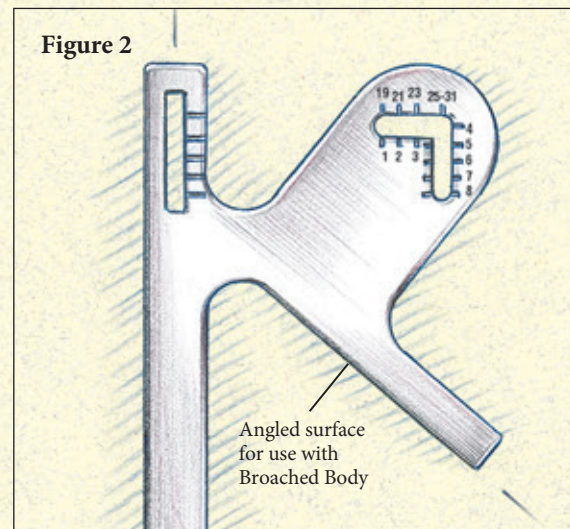
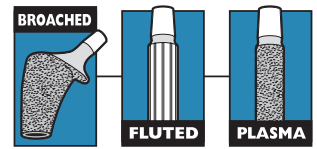


Figure 2



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Surgical Protocol



Box Chisel and Starter Awl – Primary Surgery

The Box Chisel may be used to open the proximal femur prior to use of the Starter Awl or in conjunction with the Starter Awl.

Box Chisel Use Prior to the Starter Awl

After the osteotomy has been performed, the Box Chisel is introduced into the anatomic axis of the femoral shaft (**Figure 3**). This will remove a wedge of bone at the medial base of the greater trochanter, helping to achieve neutral/lateral alignment of the Starter Awl.

Use of the Starter Awl and Depth Markings

The Starter Awl can be used by hand or on power. It is designed to open the femoral canal to a diameter of 9.5mm. Assemble the T-Handle or Power Reamer to the proximal end of the awl and target the piriformis fossa to open the canal. The awl is very sharp; therefore, care must be taken to centralize the awl within the femoral canal before reaming is started, avoiding extra osseous penetration with the tip (**Figure 4**).

There are two bold depth marking grooves on the Starter Awl (200mm and 240mm), and markings for the +10mm, +20mm, and +30mm resection levels. Measurement for depth insertion of the Starter Awl when used with all Broached Body/Fluted & Plasma Distal Stems is at the tip of the greater trochanter.

Figure 3

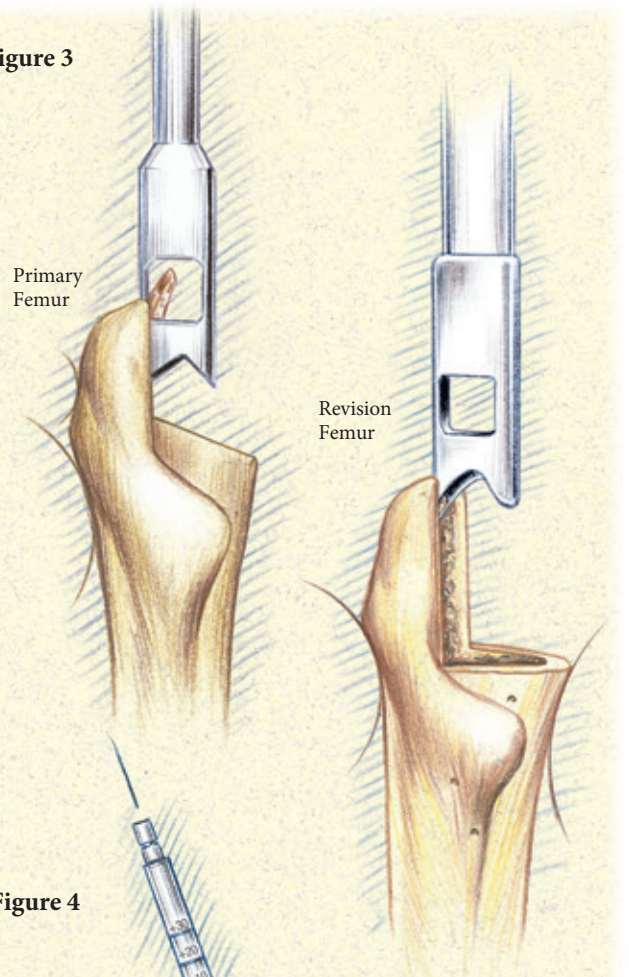
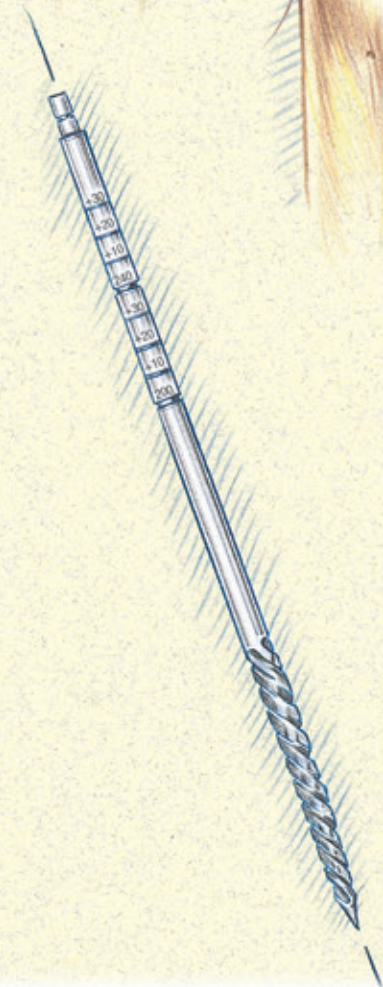


Figure 4



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Surgical Protocol

Box Chisel and Starter Awl – Primary Surgery (continued)

Box Chisel Use With the Starter Awl

After the awl has been used to open the femoral canal, the T-Handle or Power Reamer is removed with the awl engaged in the isthmus of the femoral canal. The shaft of the awl may now be used as an axial guide coinciding with the long axis of the femur. The Box Chisel is cannulated so that it slides over the shaft of the awl, removing a wedge of bone at the medial base of the greater trochanter (Figure 5).

Reaming with the Cylindrical Distal Reamers progresses sequentially after use of the Starter Awl.

Note: To reduce the potential for femoral fracture, it is recommended that areas of defects in the femur are prophylactically cabled prior to reaming and stem insertion. Dall-Miles Cables work well to assist the surgeon in this step.

Clear Out Reamer Use

The Clear Out Reamer is used to open up the proximal portion of the canal when preparing for 11mm, 12mm, and 13mm cylindrical distal stems (both straight and bowed, Fluted or Plasma). The Clear Out Reamer is used after the Starter Awl and before the Cylindrical Distal Reamers (Figure 6). The function of this reamer is two-fold. First, it prepares the canal for the tapered junction of the 11mm, 12mm, and 13mm stems since the tapered junction diameter is slightly larger than 13mm. Second, it prepares the canal to accept the first Broach.

The reamer is inserted into the canal until the correct depth marking on the shaft aligns with the tip of the greater trochanter. When preparing for a Broached Body, the +0mm (STD) marking should be aligned with the tip of the greater trochanter. The lines for +10mm, +20mm, or +30mm are not used when preparing for the Broached Body.

IMPORTANT: Adjunctive proximal fixation/support is required for stem diameters of 11mm, 12mm, and 13mm, and is recommended for stem diameters of 14mm and larger.

Figure 5

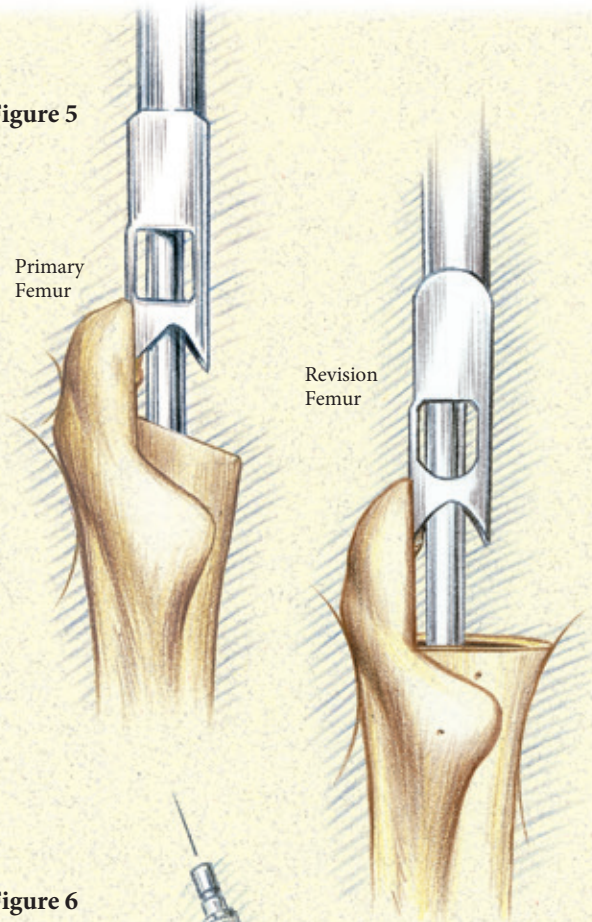
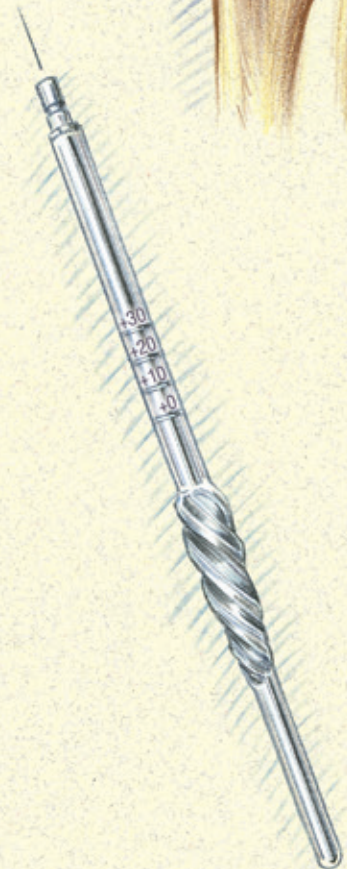
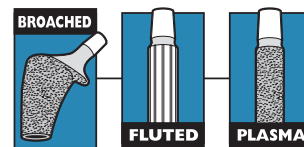


Figure 6



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Surgical Protocol



Distal Reaming – Fluted & Plasma Straight Stems

Use of the Cylindrical Distal Reamer - 127mm & 167mm Straight Stems

Cylindrical distal reaming for the 127mm or 167mm Fluted & Plasma Straight Distal Stems can be accomplished by use of a T-Handle (Figure 7) or on power (Figure 8). Select the diameter of a Cylindrical Distal Reamer starting with a size two millimeters smaller than the templated size. The reamer diameters are available in 0.5mm increments from 10.0mm - 26.0mm. There are two bold depth marking grooves on the reamers, 200mm and 240mm. Measure the distance from tip of the greater trochanter to the tip of the 127mm and 167mm distal stems.

Note that the tip of the greater trochanter is approximately at the same level as the center of rotation of the femoral head. Therefore, the depth markings also correspond to the distance from the center of a +0mm (STD) Femoral Head implant on the Broached Body to the tip of the 127mm or 167mm Fluted & Plasma Distal Stems.

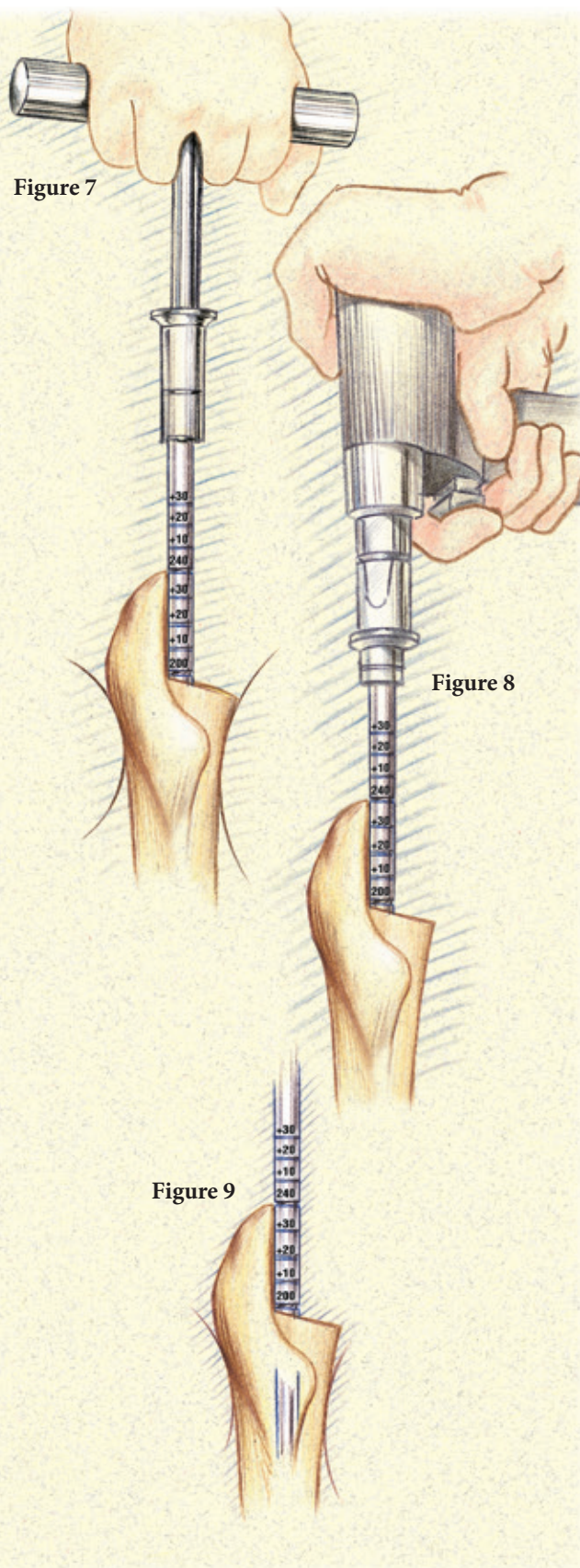
If the greater trochanter is off or not present, the measurements made during preoperative templating are necessary to determine the approximate location of the greater trochanter or head center. Alternately, measurements may be taken from an X-ray of the contralateral side.

Ream until the desired stem length depth groove (200mm or 240mm) aligns with the tip of the greater trochanter, or other landmark as planned during preoperative templating (Figure 9).

Note: Depending on bone quality and surgeon preference, the surgeon may choose to ream line-to-line, or under-ream for the Fluted & Plasma Distal Stems. If under-reaming, the final reamer size should be .5mm to 1mm smaller than the desired stem diameter.

Note: For the 127mm Straight Fluted or Plasma Distal Stems, reaming to at least 200mm is recommended.

Note: For the 167mm Straight Fluted or Plasma Distal Stems, reaming to at least 240mm is recommended.



Restoration® Modular

Surgical Protocol

Distal Reaming – Fluted & Plasma Straight Stems (continued)

Use of the Cylindrical Distal Reamer – 127mm & 167mm Straight Stems (continued)

Progressively ream until resistance accompanied by cortical chatter is encountered. The reamers must be advanced into the femoral canal until the appropriate depth markings align with the tip of the greater trochanter, or approximate center of rotation.

If good cortical contact is not achieved, increase the reamer diameter in 0.5mm increments and insert only as deep as the 200mm or 240mm lines based on distal stem templating (Figure 10).

Note: Intraoperative X-rays are valuable to gauge the position of the distal end of the Cylindrical Reamers relative to the anterior bow of the femur.

Use of Broached Body Reamer for Broached Body Sizes #1, #2, & #3

The Broached Body Reamer is used with all Broached Body implants size #1, #2, and #3 (Figure 11) **regardless of distal stem length**. It is placed over the final size Distal Cylindrical Reamer at the 200mm level or 240mm level. The Broached Body Reamer is then reamed until the top of the cutting flutes align with the tip of the greater trochanter.

If the surgical plan is to use Broached Body implant #4 or larger, then this reamer is not required.

After appropriate distal and proximal reaming preparation, broaching proximally can begin.

Figure 10

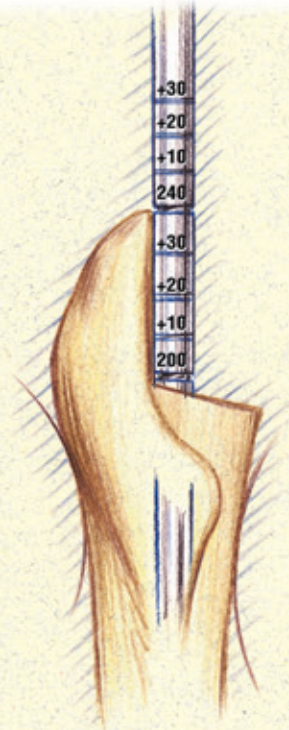
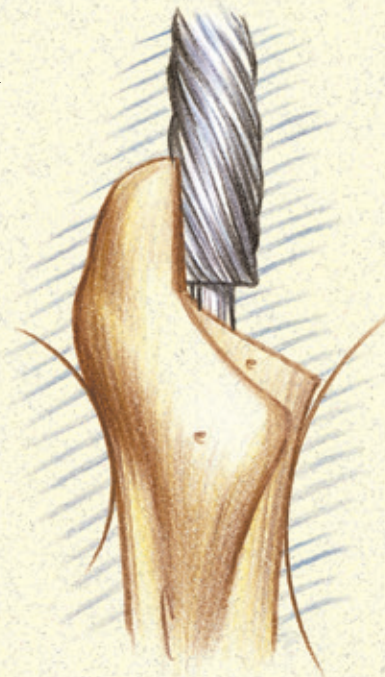
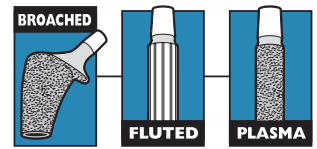


Figure 11



Restoration® Modular

Surgical Protocol



Distal Reaming – Fluted & Plasma Bowed Stems

Use of Flexible Reamers –

167mm, 217mm, 267mm & 317mm Bowed Long Stems

Flexible Reamers are used to prepare the distal canal to accept the anteriorly bowed Fluted or Plasma long stem implants - 167mm, 217mm, 267mm, and 317mm (Figures 12 and 13). To determine the appropriate size Flexible Reamer, it is necessary to know the distal stem diameter planned for preoperatively. Select the diameter of a Flexible Reamer starting with a size two millimeters smaller than the templated size.

Note: It is important to use Flexible Reamers that are available in 0.5mm increments only. Flexible Reamers should always be used with a guide wire for guidance and removal in the event the reamer becomes lodged.

Reaming should progress sequentially up by 0.5mm increments under power to the closest reamer size corresponding with the stem size indicated for the patient. Ream until resistance accompanied by cortical chatter is encountered and the appropriate stem length depth is also achieved. In some instances, the curvature of the prepared canal may prevent the prosthesis from seating properly. At this point, the surgeon may choose to additionally ream 1mm to 2mm greater than the distal diameter of the intended stem. The full size Flexible Reamers correspond to the stem diameters of the Fluted & Plasma Distal Stems. Review charts on page 3 for all stem sizes.

After reaming with the straight Cylindrical Distal Reamers and/or the Flexible Reamers, broaching of the proximal femur can begin.

Figure 12

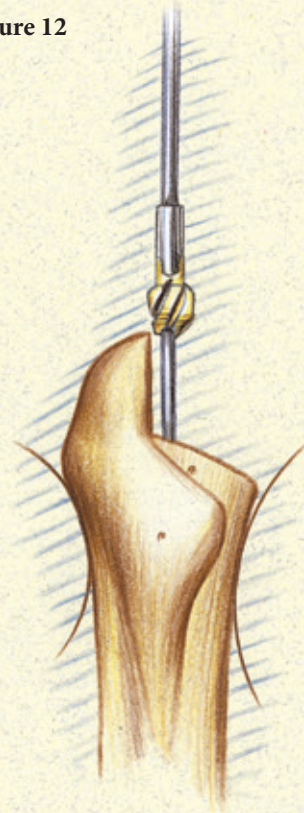
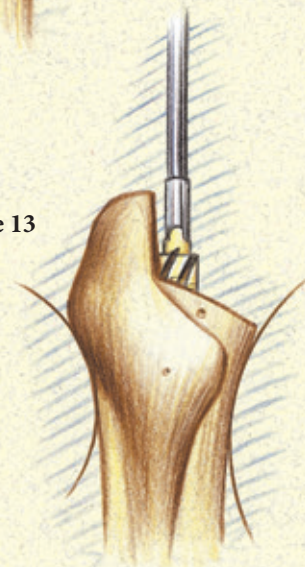


Figure 13



Restoration® Modular

Surgical Protocol

Broaching – Fluted & Plasma Stems

Assemble Broach Tip to Broach

Select a Broach one or two sizes smaller than the templated implant size. Select the Broach Tip that corresponds to the required distal stem length and at least 1mm smaller than the distal diameter of the last reamer used – remember, there are 127mm and 167mm Broach Tips available in sizes from 10mm to 26mm in 1mm increments (**Figure 14**). Assemble the Broach Tip to the Broach by threading it tightly onto the end of the Broach until it is fully seated, using the “Tommy Bar” if necessary (**Figure 15**). The accurately sized Broach Tip engages the axis that you have reamed, providing for neutral placement of the Broach and Broach Tip.

Assemble Broach to Broach Handle

Assemble the Broach to the Broach Handle. Make sure that the tip of the Broach Handle is correctly mated with the keyway on the Broach. Turn the cam in “Lock” (clockwise) direction until audible clicks are heard and the Broach is securely attached (**Figure 16**). Final tightening can be accomplished with a “Tommy Bar” or clamp.

Figure 14

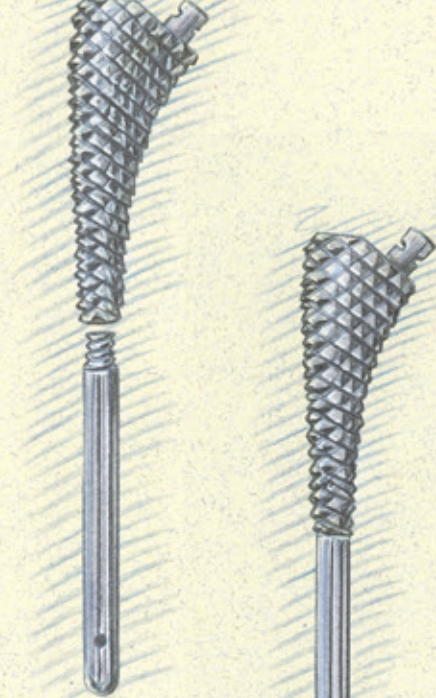


Figure 15

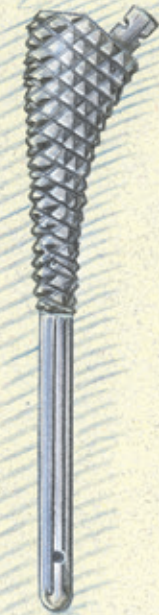
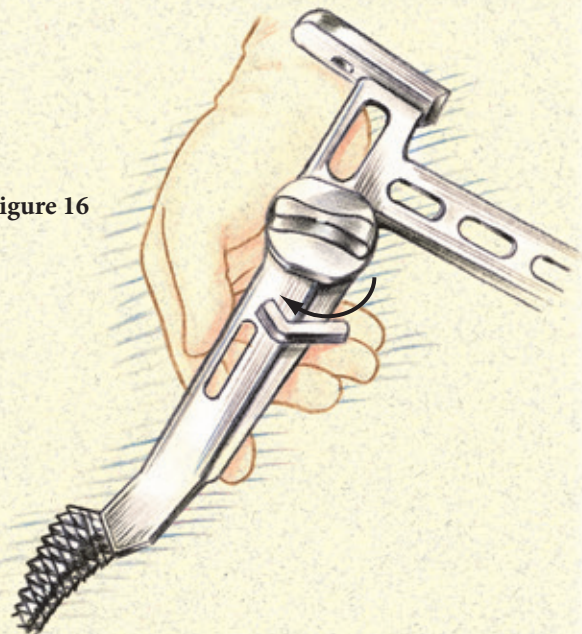
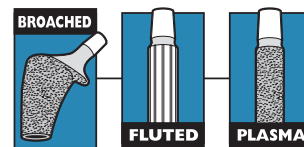


Figure 16



Restoration® Modular

Surgical Protocol



Broaching – Fluted & Plasma Stems (continued)

Introduce the Broach

If bone stock is compromised or very thin, the surgeon may elect to prophylactically wire the femoral shaft with cerclage wires or Dall-Miles Cables to secure the proximal femur and help prevent fracture.

As mentioned earlier, initial broaching is undertaken with a Broach that is one or two sizes smaller than the anticipated final size. Introduce the Broach into the proximal femur, protecting the abductor muscle mass (**Figure 17**). Drive the Broach down the canal with a heavy mallet, using firm, short, sharp taps rather than long hard ones (**Figure 18**). Keep the Broach aligned with the neutral femoral axis. If the Broach does not advance, it must be removed and redirected.

Note: If the Broach does not fully advance, the distal tip of the Broach may be impinging on the cortex. In this case, the surgeon may elect to use a smaller diameter and/or shorter length Broach Tip.

Once the smaller size Broach is buried beneath the edge of the calcar and removed, the next size Broach should be impacted. Assess the fit and resistance to movement. If a larger size is needed, remove the Broach and replace it with the next size. To facilitate the final seating of the Broach, partially withdraw the Broach to clear the cutting teeth of bone; then re-introduce the instrument into the canal with mallet blows.

When the proper size Broach is fully inserted at the level of the calcar, calcar planing and a trial reduction using trial necks and heads should be carried out to assess stability and leg length.

Figure 17

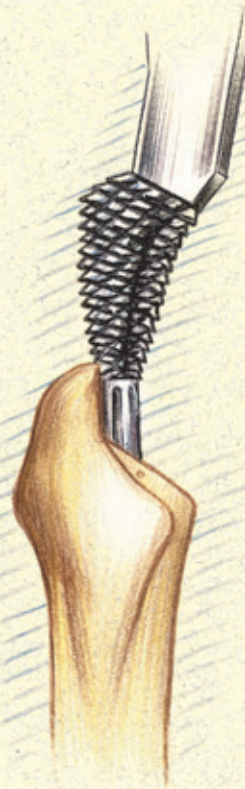
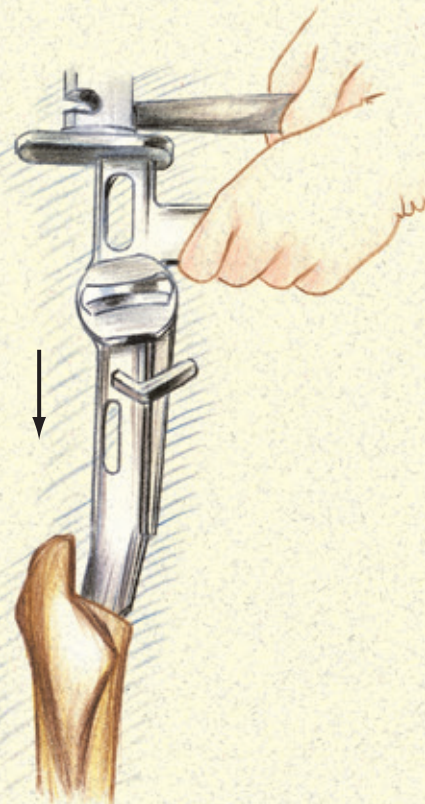


Figure 18



Restoration® Modular

Surgical Protocol

Calcar Planing – Fluted & Plasma Stems

Calcar Planing

Leave the final Broach fully seated or slightly below the cut surface of the femoral neck. Remove the Broach Handle. The Broach trunnion may be used as a guide for the Calcar Planer. The Calcar Planer is attached to the power adapter. The female bushing on the Calcar Planer is guided over the Broach trunnion (**Figure 19**). The abductor mechanism and the greater trochanter must be protected. The Calcar Planer creates a smooth surface on which the Restoration Broached Body medial collar may be fully seated, aiding in load transfer (**Figure 20**).

Trial Reduction – Fluted & Plasma Stems

Fit the Neck Trial to the Broach

Select the appropriate size Neck Trial corresponding to the broach/implant size, and fit the Neck Trial securely onto the Broach (**Figure 21**).

Head	Head Size	Head Offsets
CoCr V40	22	+0, +3, +8
	26	-3, +0, +4, +8, +12
	28	-4, +0, +4, +8, +12
	32	-4, +0, +4, +8, +12
	36	-5, +0, +5, +10
	40	-4, +0, +4, +8, +12
	44	-4, +0, +4, +8, +12
Alumina V40	28	-2.7, +0, +4
	32	-4, +0, +4
	36	-5, +0, +5
Alumina C-Taper (when used with C-Taper Adaptor Sleeve-catalog #17-0000E)	28	-2.5, +0, +5
	32	-2.5, +0, +5
	36	-5, +0, +5
delta BIOLOX V40	28	-4, -2.7, +0, +4
	32	-4, +0, +4
	36	-5, -2.5, +0, +2.5, +5, +7.5
delta Biolox C-Taper (when used with C-Taper Sleeve -catalog #17-0000E)	28	-2.5, +0, +2.5, +5
	32	-2.5, +0, +2.5, +5
	36	-5, -2.5, +0, +2.5, +5, +7.5
delta Biolox Universal Taper (when used with Universal Taper Sleeve - catalog #6519-T-XXX)	28	-2.5, +0, +4
	32	-2.5, +0, +4
	36	-2.5, +0, +4
	40	-2.5, +0, +4
	44	-2.5, +0, +4

Figure 19

Figure 20

Figure 21

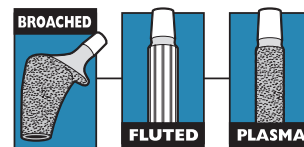
Figure 22

Attach Head Trial

Select the head diameter according to surgeon preference and needs. The Femoral Head Trials have a circumferential groove, which identifies the level of the center of rotation. Select the appropriate V40 Femoral Head Trial based on preoperative templating from the chart below or surgical need. If additional offset is needed, a higher neck cut may be made initially. Attach the Femoral Head Trial to the Neck Trial and perform a trial reduction, assessing the hip for stability, telescoping, leg length, and overall range of motion (**Figure 22**). Remove the Femoral Head Trial, Neck Trial, and Broach/Distal Stem Trial combination.

Restoration® Modular

Surgical Protocol



Trial Reduction – Fluted & Plasma Stems (continued)

Bone Grafting

Femoral deficiencies should be planned for and appropriately addressed as discussed in the preoperative planning part of this protocol. If the femoral cortex above the diaphyseal stem fixation point is deficient, the surgeon should be prepared to apply cortical strut grafts to repair and strengthen the femur.

Trial Reduction with Broached Body Trial and Distal Stem Trials – Optional

Once broaching has been accomplished, an optional Broached Body Trial can be assembled to the 127mm or the 167mm Straight Distal Stem Trial or 167mm, 217mm, 267mm, or 317mm Bowed Distal Stem Trial, to assess fit of the proximal and distal components (Figure 23).

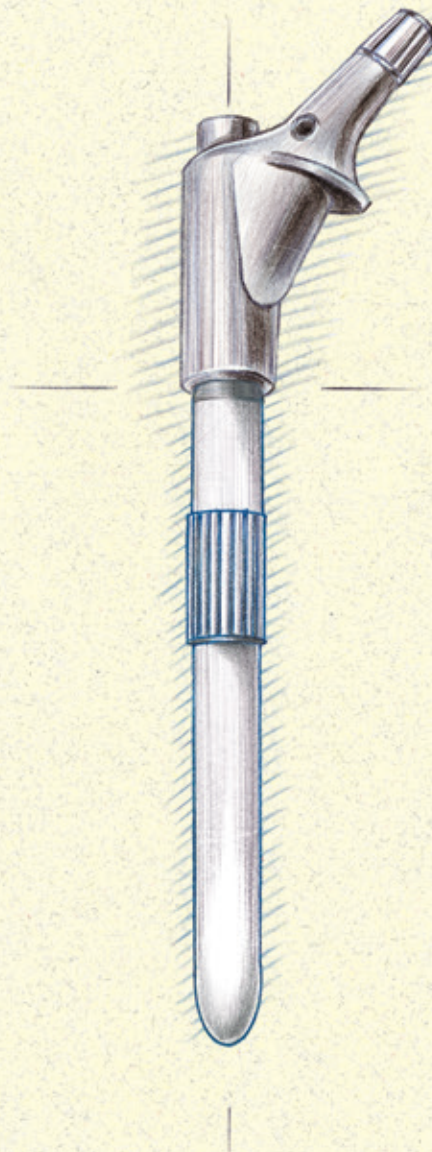
The Broached Body Trial offers a slightly undersized fit to the Broached Body implant. The 127mm and 167mm Straight Distal Stem Trials offer a slight (1mm) oversize (spline) portion to assist in stabilization during trial reduction – the remainder of the trial is line-to-line, i.e., 16mm reamer = 16mm trial.

The Bowed Distal Stem Trials (167mm, 217mm, 267mm, 317mm) are available in whole 1mm increments.

For Fluted Distal Stems, they match the actual stem diameter measured at the outside of the flutes. For Plasma Distal Stems, the Trials match the actual implant geometry minus the Plasma Spray with PureFix HA.

“In some cases, the surgeon may want to trial with a trial stem instead of the Broach...this option is included in the system.”

Figure 23



Restoration® Modular

Surgical Protocol

Trial Reduction – Fluted & Plasma Stems (continued)

Assemble Broached Body Trial to Straight Distal Stem Trial

Position the appropriate Broached Body Trial with the integral locking bolt onto the Distal Stem Trial (**Figure 24**). Tighten the locking bolt with the 8mm Hex Locking Bolt Driver, Version Control Stem Inserter, or Distal Stem Inserter (**Figure 25**). Excessive torque is not required when tightening. Insert into the femur and assess leg length, range of motion, etc. (**Figures 26 and 27**).

After this point, the final implants are ready for insertion.

Trial Reduction with Bowed Trials

The Broached Body Trials/Bowed Distal Stem Trials are available to evaluate prosthetic stem size, biomechanical function, and implant stability prior to final insertion of the Bowed Stem implants. Optional Bowed Stem Trials are not necessarily identical in size and shape to the intended prosthesis and thus can only provide an estimation of the distal fit of the intended stem. The Bowed Stem Trials are inserted with the Version Control Stem Inserter or Distal Stem Inserter (**Figure 28**).

After this point, the final implants are ready for insertion.

Note: The bowed femoral canal, which is prepared by Flexible Reamers, may be slightly mismatched to the bow of the prosthesis.

Figure 28

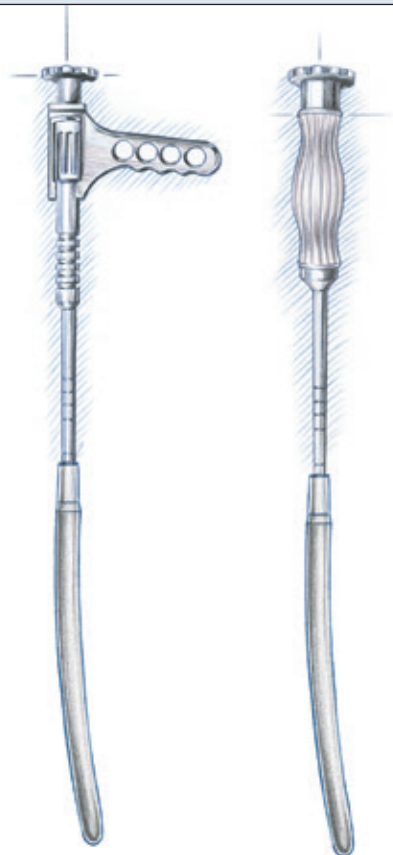


Figure 24



Figure 25

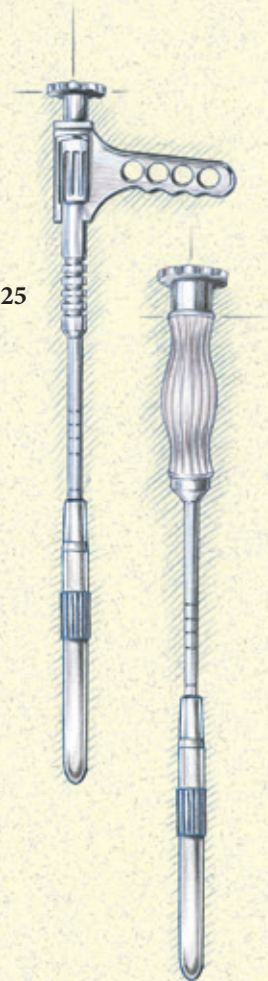
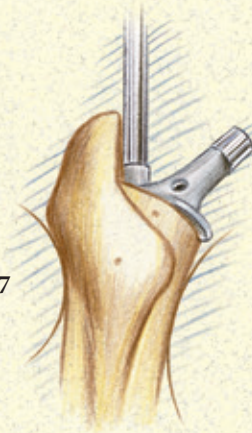


Figure 26

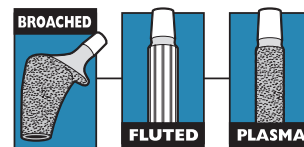


Figure 27



Restoration® Modular

Surgical Protocol



Implant Insertion – Version Control Stem Inserter & Distal Stem Inserter with Fluted & Plasma Distal Stems

Distal Stem Insertion

There are two options for inserting distal stems, the Version Control Stem Inserter (Figure 29) and the Stem Inserter (Figure 30).

The Version Control Stem Inserter has a removable sleeve which can be used for distal stem impaction (alone) or impaction of the proximal body and distal stem together (Figure 31). This feature is especially useful when impacting a long, bowed distal stem with a Broached Body. The two components are held independent of each other (separated by 3mm – 5mm) upon impaction. This allows the distal stem to rotate freely upon impaction and give the surgeon the option of placing the Broached Body in the most appropriate anteversion required for the patient. See page 21 for more detail on this inserter.

The Distal Stem Inserter is used only for distal stem impaction.

Thread the appropriate Fluted or Plasma Distal Stem onto either Distal Stem Inserter. The distal end of each inserter has a hex geometry with a spring-loaded threaded end that mates with a corresponding hex geometry on the stem. Make sure that the distal tip of the chosen Distal Stem Inserter is correctly aligned with the hex orientation feature of the insertion hole of the implant. Fully and securely attach the instrument to the distal stem by turning the locking knob clockwise.

Insert the Distal Stem

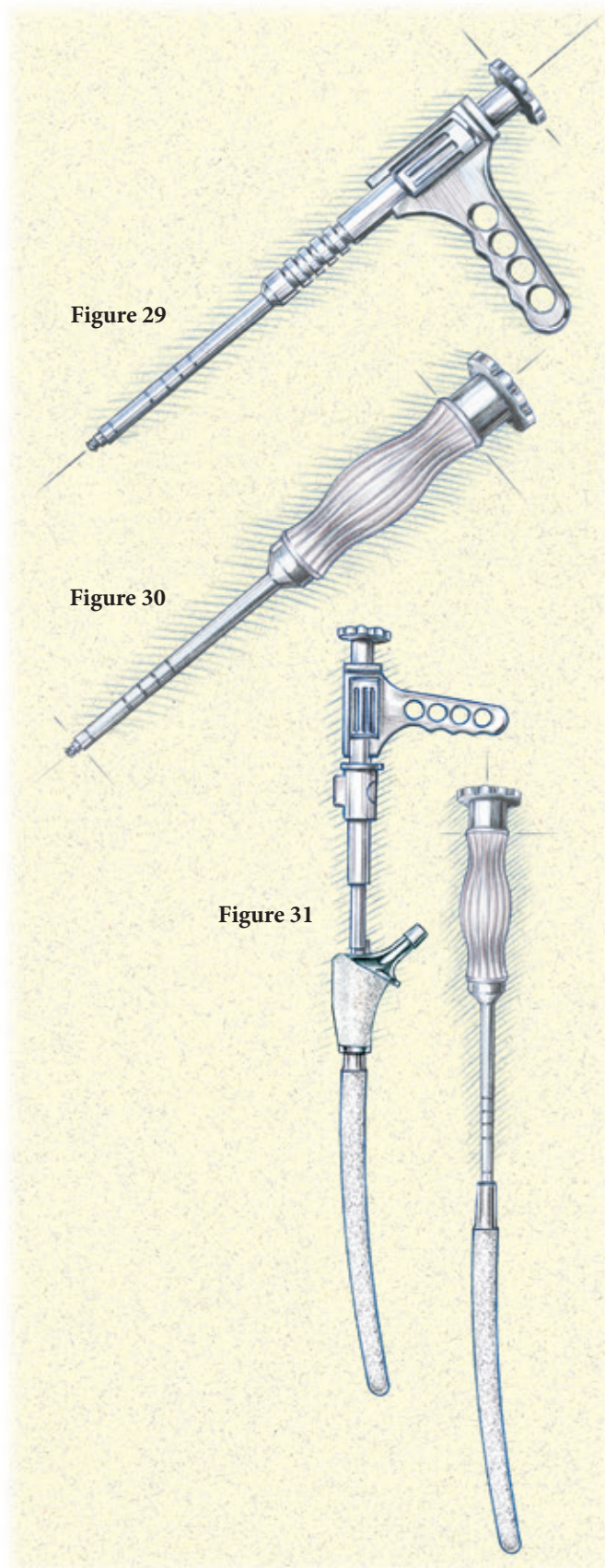
The +0mm (STD) depth marking groove corresponds to the head center of a Broached Body with a +0mm (STD) femoral head. The distal-most marking (BB) corresponds to the medial resection level of all Broached Bodies.

Note: Preoperative planning should have ensured that the tip of the distal stem will pass any distal defects by two to three canal diameters and will have 10cm – 12cm satisfactory mechanical stability. Make sure that sufficient distal fixation is attained with all Fluted or Plasma Distal Stems, especially those that are significantly larger than the templated stem size.

Figure 29

Figure 30

Figure 31



Restoration® Modular

Surgical Protocol

Implant Insertion (continued)

Fluted Distal Stems

Impact the Fluted Distal Stem into the femoral canal until the stem achieves rotational stability and is positioned at the +0mm (STD) seating level on the impactor. The Fluted Distal Stem offers limited axial stability, so it is important to stop inserting the stem upon reaching the +0mm (STD) seating level (**Figure 32**).

Plasma Distal Stems

Impact the Plasma Distal Stem into the femoral canal until the stem achieves rotational stability and axial stability and is positioned at the +0mm (STD) seating level on the impactor.

The +0mm (STD) depth groove will generally determine the center of rotation of the hip when aligned with the tip of the greater trochanter (**Figure 33**).

Note: At this point the surgeon may choose to perform a trial reduction with the implanted distal stem using the Broached Body Trials.

Broached Body Impaction

Based on the trial reduction, select the appropriate size Broached Body implant. Lavage the area surrounding the proximal taper of the distal stem. Wipe the cylindrical distal stem trunnion clean, and align the neck and trunnion of the Broached Body implant with the methylene blue marking, indicating desired anteversion on the distal stem trunnion. Attach the Proximal Body Impactor to the Broached Body and impact the Broached Body implant onto the trunnion of the distal stem maintaining proper anteversion. The impaction of the Broached Body onto the trunnion of the distal stem cold-welds the tapers, locking the components together (**Figure 34**).

Note: If the collar contacts the calcar easily, the stem may be undersized.

Note: The Broached Body and straight Fluted or Plasma Distal Stem combination may be assembled and impacted together on the back table prior to insertion into the femur.

IMPORTANT: Insert and tighten the Locking Bolt after the construct has been fully impacted into the femur.

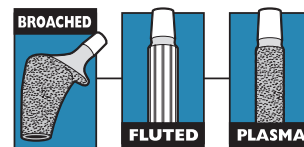
Figure 32

Figure 33

Figure 34

Restoration® Modular

Surgical Protocol



Implant Insertion (continued)

Assemble Implants onto the Version Control Stem Inserter – Optional

Attach the Broached Body onto the Proximal Body Impactor and lock it into the correct position on the Version Control Stem Inserter. The first position on the Version Control Stem Inserter corresponds to Broached Body sizes 1-4 while the second position corresponds to Broached Body sizes 5-8. When the Proximal Impactor is locked into the correct position it maintains a short gap (approximately 3mm – 5mm) between the Broached Body and distal stem tapers. With the Broached Body locked into the correct position, load the distal stem onto the tip of the Version Control Stem Inserter. Fully and securely attach the instrument to the distal stem by turning the thumb-wheel locking knob or hand knob clockwise.

Insert the Broached Body and Distal Stem

The Version Control Stem Inserter allows independent control of both the proximal Broached Body and distal stem during insertion (Figure 35).

As the construct is impacted, the handle of the Version Control Stem Inserter controls the version of the distal stem while the grip of the Proximal Body Impactor independently controls the version of the proximal body. Impact the components into the femoral canal until the Broached Body lies approximately 1cm – 2cm proud of its final seating position. Detach the Version Control Stem Inserter from the distal stem, and remove the instrument while simultaneously depressing the button on the Proximal Body Impactor. Impact the Proximal Body Impactor with a mallet to lock the proximal body and distal stem taper and drive the assembly to the final seating position.

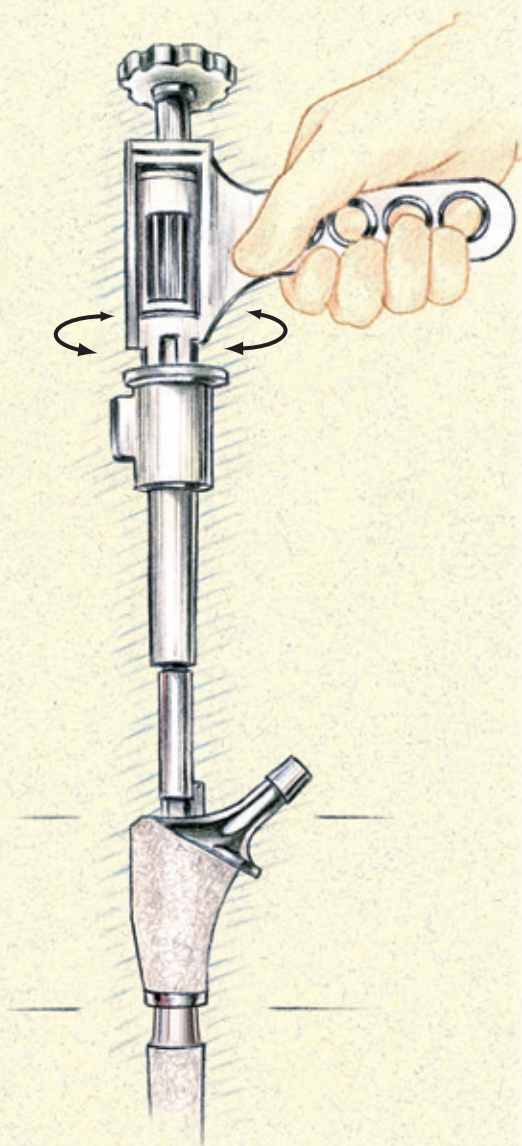
If the Version Control Stem Inserter is utilized without the Proximal Body Impactor to seat the distal stem, reference the +0mm (STD) marking on the Version Control Stem Inserter for the approximate height of the Broached Body.

IMPORTANT: Do not fully seat the final implant before setting version; make a final assessment and then secure the body to the stem.

Note: The Broached Body and straight Fluted or Plasma Distal Stem combination may be assembled and impacted together on the back table prior to insertion into the femur.

IMPORTANT: Insert and tighten the locking bolt after the construct has been fully impacted into the femur.

Figure 35



Restoration® Modular

Surgical Protocol

Implant Insertion (continued)

Taper Lock Gauge

After the Broached Body has been impacted onto the distal stem, the Taper Lock Gauge can be used to assess proper engagement of the body with the stem. Insert the Taper Lock Gauge through the proximal body until it is seated on the distal stem (**Figure 36**). Slide the handle down until it is fully seated in the proximal body (**Figure 37**). The slotted indicator on the top of the handle will align within the groove corresponding to the Broached Body height implanted (**Figure 38**).

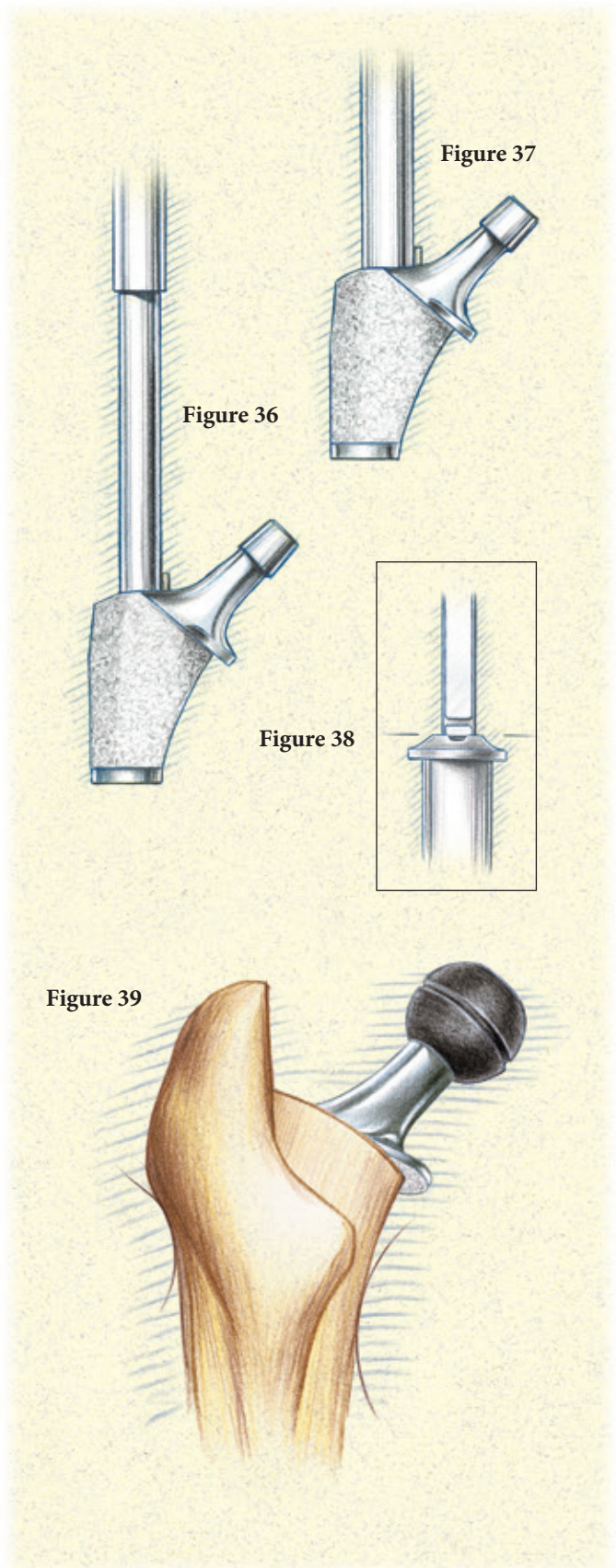
Note: If the indicator is outside the corresponding groove, it may be necessary to further impact the body, or re-ream the proximal femur to clear out any bone stock that may interfere with the body properly seating on the stem.

Attach Head Trial

Select the head diameter according to surgeon preference. Select the desired neck length for the head based on the last trial reduction. The Femoral Head Trials have a circumferential groove, which identifies the level of the center of rotation (**Figure 39**). Select the desired V40 Femoral Head Trial based on previous trial reduction or surgical need. Attach the Femoral Head Trial to the Broached Body Trial. The head center of the +0mm (STD) Head Trial, when attached to the implant construct, should correspond with the tip of the greater trochanter.

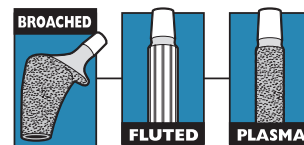
Trial Reduction

Perform a trial reduction and assess the hip for stability, leg length, and overall range of motion. Adjust the Femoral Head Trials as necessary to achieve maximum joint stability. Mark the desired anteversion on the femur with methylene blue, in line with the neck. Carefully remove the Femoral Head Trial.



Restoration® Modular

Surgical Protocol



Implant Insertion (continued)

Locking Bolt Assembly and Tightening

Place the Locking Bolt into the Broached Body and tighten the Locking Bolt with the 5mm Hex Locking Bolt Driver assembly (Figure 40). Assemble the Torque Wrench and Torque Wrench Adapter, and apply a minimum load of 150in-lb and a maximum load of 180in-lb of torque to ensure that the locking bolt is sufficiently tightened (Figure 41). The Steady Handle must be used to hold the anteversion of the Broached Body in place while applying torque. The Steady Handle counter balances the torque applied to the bolt to ensure that only the implant and not the femur is torqued.

Note: The Fluted & Plasma Distal Stems have Spirallock® threads that will not loosen if the locking bolt is sufficiently tightened. The Spirallock® thread form reduces vibration loosening, provides a more uniform load distribution, reduces stress concentration, reduces fatigue failure, and eliminates the need for additional locking devices such as end caps.

Final Trial Reduction

A Femoral Head Trial can be placed on the Broached Body, and a final trial reduction performed.

Impact Head onto Broached Body Trunnion

Select the appropriate corresponding V40 Femoral Head (CoCr, Alumina Ceramic, Biolox delta Ceramic) or sleeve and place it onto the dry trunnion of the femoral stem with a slight twist. Impact the the head with two moderate impactions using the Femoral Head Impactor.

Head	Head Size	Head Offsets
CoCr V40	22	+0, +3, +8
	26	-3, +0, +4, +8, +12
	28	-4, +0, +4, +8, +12
	32	-4, +0, +4, +8, +12
	36	-5, +0, +5, +10
	40	-4, +0, +4, +8, +12
	44	-4, +0, +4, +8, +12
Alumina V40	28	-2.7, +0, +4
	32	-4, +0, +4
	36	-5, +0, +5
Alumina C-Taper (when used with C-Taper Adaptor Sleeve-catalog #17-0000E)	28	-2.5, +0, +5
	32	-2.5, +0, +5
	36	-5, +0, +5
delta BIOLOX V40	28	-4, -2.7, +0, +4
	32	-4, +0, +4
	36	-5, -2.5, +0, +2.5, +5, +7.5
delta Biolox C-Taper (when used with C-Taper Sleeve - catalog #17-0000E)	28	-2.5, +0, +2.5, +5
	32	-2.5, +0, +2.5, +5
	36	-5, -2.5, +0, +2.5, +5, +7.5
delta Biolox Universal Taper (when used with Universal Taper Sleeve - catalog #6519-T-XXX)	28	-2.5, +0, +4
	32	-2.5, +0, +4
	36	-2.5, +0, +4
	40	-2.5, +0, +4
	44	-2.5, +0, +4

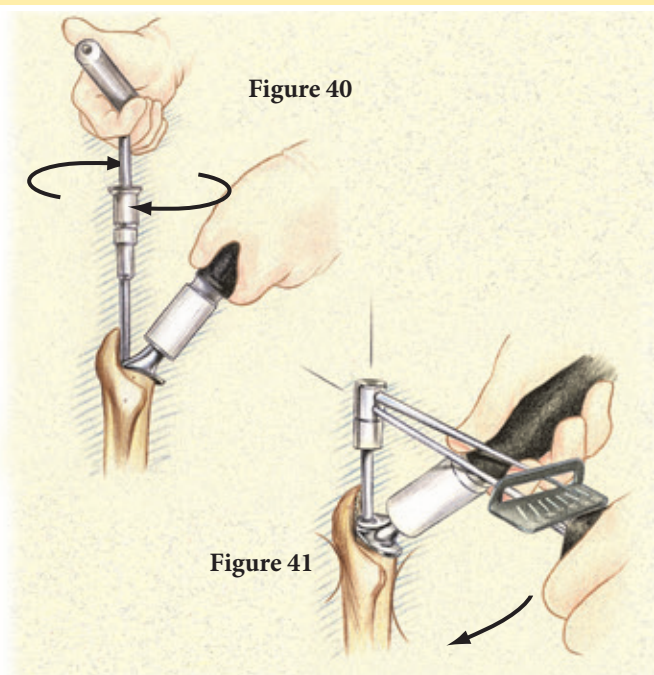


Figure 40

Figure 41

Reduce Joint and Close

Relocate the Femoral Head into the acetabular cup and check the stability and range of motion. The surgical site is then closed according to the standard procedure for the surgical approach chosen.

Postoperative Care

Postoperative care should progress according to surgeon preference and recommendation.

Optional Step

When selecting a BIOLOX delta Universal Taper Ceramic Femoral Head (6519-1-0xx) for implantation, use of a Universal Adaptor Sleeve is necessary.

Catalog No.	Offset (mm)	Taper
6519-T-025	-2.5	V40
6519-T-100	+0	V40
6519-T-204	+4	V40

After completing the trialing process, intra-operatively assemble the adaptor sleeve to the femoral stem manually. The Universal Adaptor Sleeve must be fully seated on the stem taper before the head is assembled.

Note

In no instance should any attempt be made to pre-assemble the adaptor sleeve inside the BIOLOX delta Universal Ceramic Head.

Intra-operatively assemble the BIOLOX delta Universal Taper Ceramic Head onto the sleeved femoral stem and set with two moderate strikes using the Head Impactor. Care must be taken to avoid excessive impact forces when assembling the Ceramic Head to the sleeved femoral component.

Restoration® Modular

Surgical Protocol

Restoration Modular Broached Body/Fluted & Plasma Distal Stem Removal

If new components are to be disassembled during surgery (i.e., to readjust version) inspect the proximal body and distal stem closely for damage prior to re-impacting the body onto the distal stem. If the proximal body or distal stem shows damage, do not reuse the components but instead re-implant new, undamaged components.

Note: The locking bolt must be removed prior to using stem removal instruments (Figure 42).

Broached Body Removal

The Body/Stem Separator is made up of three parts: Jackscrew, Shaft Puller, and a reverse-thread Distal Collet (Figure 43). Two modular handles are also available for use with the Body/Stem Separator, which assist in counter-rotation when tightening with the T-Handle.

Unthread the Jackscrew completely from the Shaft Puller prior to inserting through the Broached Body. Ensure that the Distal Collet is fully threaded into the Shaft Puller, keeping in mind that the Collet and Shaft Puller are reverse-threaded. Insert the Shaft Puller/Distal Collet assembly through the Broached Body until the collet is fully inserted. An audible click will be heard along with a decrease in resistance upon full insertion.

Thread the Jackscrew through the Shaft Puller/Distal Collet by hand until the Jackscrew cannot be advanced further. Insert the modular handle(s) into the upper hub of the Shaft Puller. The handles are spring-loaded and will engage when rotated to the correct position. Assemble the T-Handle to the Jackscrew and turn the T-Handle until the Broached Body disengages from the distal stem (Figure 44).

Note: In order to remove the body from the Shaft Puller assembly, remember that the Distal Collet is a *REVERSE-THREAD*, and must be completely removed from the assembly to release the body.

Figure 43



Figure 42

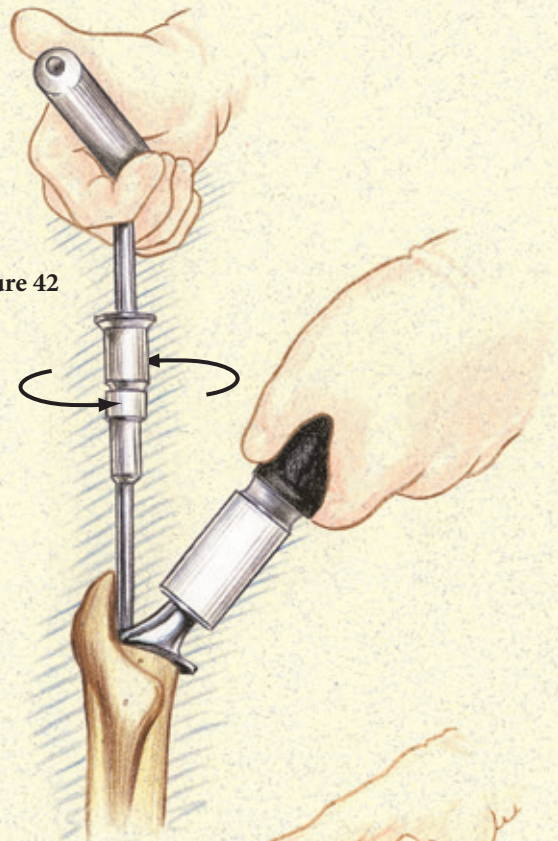
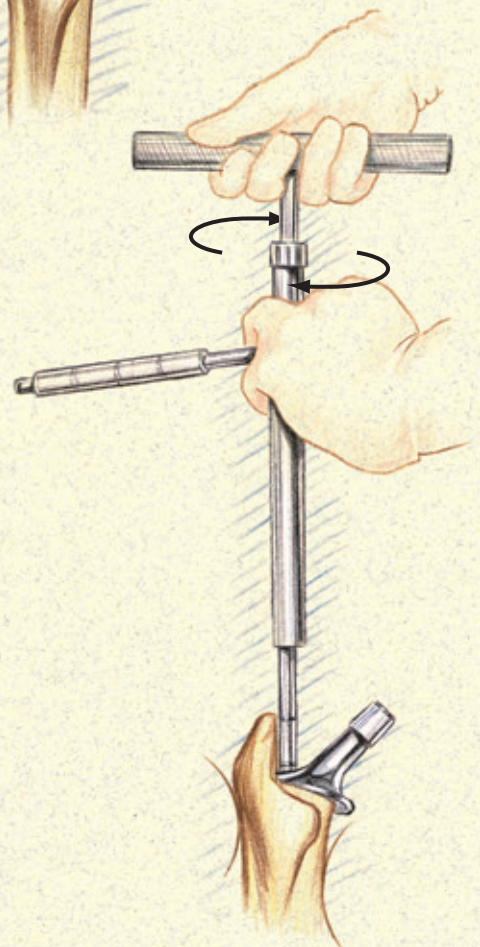
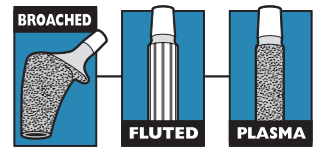


Figure 44



Restoration® Modular

Surgical Protocol



Restoration Modular Broached Body/Fluted & Plasma Distal Stem Removal (continued)

Distal Stem Removal

Assemble the Distal Stem Removal Adapter to the McReynolds Driver-Extractor. Thread the distal stem removal assembly into the insertion feature of the distal stem (**Figure 45**). Use the slap hammer to remove the distal stem from the canal.

Restoration® Modular

Broached Body/Fluted & Plasma Stem Removal

The Distal Stem Removal Adapter/McReynolds Driver-Extractor assembly may be threaded through the Broached Body into the distal stem to remove the entire stem assembly. Use the slap hammer to remove the stem assembly from the canal (**Figures 46 and 47**).

Figure 45

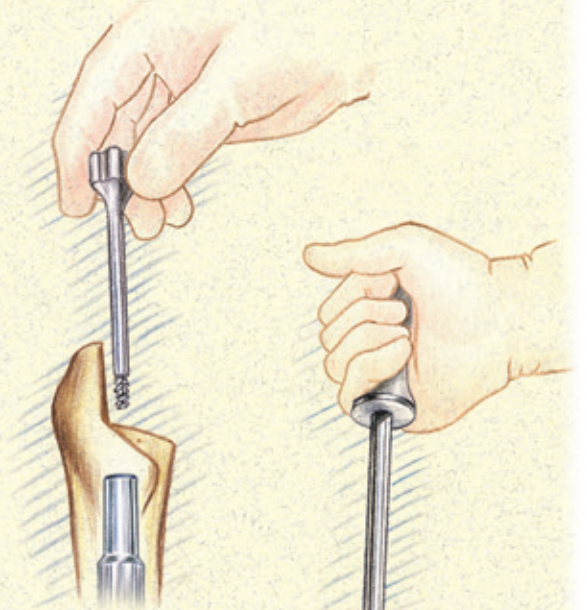


Figure 46

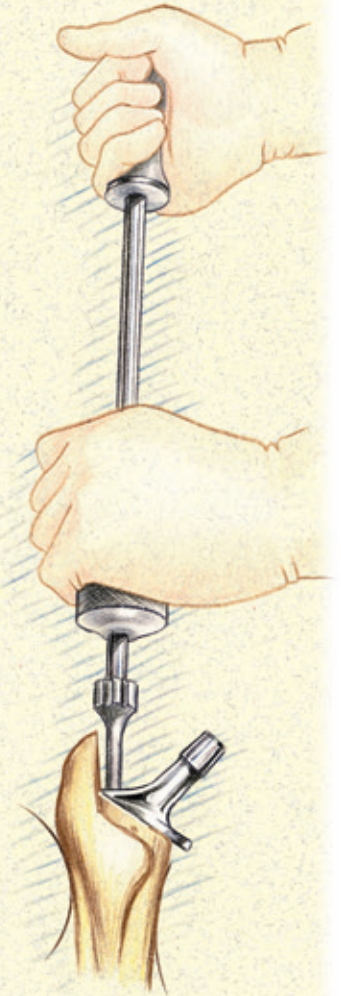
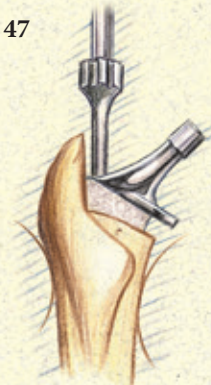


Figure 47



Restoration® Modular

Surgical Protocol

Broached Bodies



Broached Bodies	
CATALOG NO.	SIZE
6276-3-001	Size #1
6276-3-002	Size #2
6276-3-003	Size #3
6276-3-004	Size #4
6276-3-005	Size #5
6276-3-006	Size #6
6276-3-007	Size #7
6276-3-008	Size #8

Restoration® Modular

Surgical Protocol

Fluted Distal Stems



Fluted Stems - Straight	
CATALOG NO.	SIZE
6276-6-011	11mm x 127mm
6276-6-012	12mm x 127mm
6276-6-013	13mm x 127mm
6276-6-014	14mm x 127mm
6276-6-015	15mm x 127mm
6276-6-016	16mm x 127mm
6276-6-017	17mm x 127mm
6276-6-018	18mm x 127mm
6276-6-019	19mm x 127mm
6276-6-020	20mm x 127mm
6276-6-021	21mm x 127mm
6276-6-022	22mm x 127mm
6276-6-023	23mm x 127mm
6276-6-024	24mm x 127mm
6276-6-025	25mm x 127mm
6276-6-026	26mm x 127mm

Fluted Stems - Bowed	
CATALOG NO.	SIZE
6276-6-211	11mm x 167mm
6276-6-212	12mm x 167mm
6276-6-213	13mm x 167mm
6276-6-214	14mm x 167mm
6276-6-215	15mm x 167mm
6276-6-216	16mm x 167mm
6276-6-217	17mm x 167mm
6276-6-218	18mm x 167mm
6276-6-219	19mm x 167mm
6276-6-220	20mm x 167mm
6276-6-221	21mm x 167mm
6276-6-222	22mm x 167mm
6276-6-223	23mm x 167mm
6276-6-224	24mm x 167mm
6276-6-225	25mm x 167mm
6276-6-226	26mm x 167mm

Fluted Stems - Bowed	
CATALOG NO.	SIZE
6276-6-511	11mm x 267mm
6276-6-512	12mm x 267mm
6276-6-513	13mm x 267mm
6276-6-514	14mm x 267mm
6276-6-515	15mm x 267mm
6276-6-516	16mm x 267mm
6276-6-517	17mm x 267mm
6276-6-518	18mm x 267mm
6276-6-519	19mm x 267mm
6276-6-520	20mm x 267mm
6276-6-521	21mm x 267mm
6276-6-522	22mm x 267mm
6276-6-523	23mm x 267mm
6276-6-524	24mm x 267mm
6276-6-525	25mm x 267mm
6276-6-526	26mm x 267mm

Fluted Stems - Straight	
CATALOG NO.	SIZE
6276-6-111	11mm x 167mm
6276-6-112	12mm x 167mm
6276-6-113	13mm x 167mm
6276-6-114	14mm x 167mm
6276-6-115	15mm x 167mm
6276-6-116	16mm x 167mm
6276-6-117	17mm x 167mm
6276-6-118	18mm x 167mm
6276-6-119	19mm x 167mm
6276-6-120	20mm x 167mm
6276-6-121	21mm x 167mm
6276-6-122	22mm x 167mm
6276-6-123	23mm x 167mm
6276-6-124	24mm x 167mm
6276-6-125	25mm x 167mm
6276-6-126	26mm x 167mm

Fluted Stems - Bowed	
CATALOG NO.	SIZE
6276-6-411	11mm x 217mm
6276-6-412	12mm x 217mm
6276-6-413	13mm x 217mm
6276-6-414	14mm x 217mm
6276-6-415	15mm x 217mm
6276-6-416	16mm x 217mm
6276-6-417	17mm x 217mm
6276-6-418	18mm x 217mm
6276-6-419	19mm x 217mm
6276-6-420	20mm x 217mm
6276-6-421	21mm x 217mm
6276-6-422	22mm x 217mm
6276-6-423	23mm x 217mm
6276-6-424	24mm x 217mm
6276-6-425	25mm x 217mm
6276-6-426	26mm x 217mm

Fluted Stems - Bowed	
CATALOG NO.	SIZE
6276-6-611	11mm x 317mm
6276-6-612	12mm x 317mm
6276-6-613	13mm x 317mm
6276-6-614	14mm x 317mm
6276-6-615	15mm x 317mm
6276-6-616	16mm x 317mm
6276-6-617	17mm x 317mm
6276-6-618	18mm x 317mm
6276-6-619	19mm x 317mm
6276-6-620	20mm x 317mm
6276-6-621	21mm x 317mm
6276-6-622	22mm x 317mm
6276-6-623	23mm x 317mm
6276-6-624	24mm x 317mm
6276-6-625	25mm x 317mm
6276-6-626	26mm x 317mm

Restoration[®] Modular

Surgical Protocol

Plasma Distal Stems



Plasma Stems - Straight	
CATALOG NO.	SIZE
6276-5-011	11mm x 127mm
6276-5-012	12mm x 127mm
6276-5-013	13mm x 127mm
6276-5-014	14mm x 127mm
6276-5-015	15mm x 127mm
6276-5-016	16mm x 127mm
6276-5-017	17mm x 127mm
6276-5-018	18mm x 127mm
6276-5-019	19mm x 127mm
6276-5-020	20mm x 127mm
6276-5-021	21mm x 127mm
6276-5-022	22mm x 127mm
6276-5-023	23mm x 127mm
6276-5-024	24mm x 127mm
6276-5-025	25mm x 127mm
6276-5-026	26mm x 127mm

Plasma Stems - Bowed	
CATALOG NO.	SIZE
6276-5-211	11mm x 167mm
6276-5-212	12mm x 167mm
6276-5-213	13mm x 167mm
6276-5-214	14mm x 167mm
6276-5-215	15mm x 167mm
6276-5-216	16mm x 167mm
6276-5-217	17mm x 167mm
6276-5-218	18mm x 167mm
6276-5-219	19mm x 167mm
6276-5-220	20mm x 167mm
6276-5-221	21mm x 167mm
6276-5-222	22mm x 167mm
6276-5-223	23mm x 167mm
6276-5-224	24mm x 167mm
6276-5-225	25mm x 167mm
6276-5-226	26mm x 167mm

Plasma Stems - Bowed	
CATALOG NO.	SIZE
6276-5-511	11mm x 267mm
6276-5-512	12mm x 267mm
6276-5-513	13mm x 267mm
6276-5-514	14mm x 267mm
6276-5-515	15mm x 267mm
6276-5-516	16mm x 267mm
6276-5-517	17mm x 267mm
6276-5-518	18mm x 267mm
6276-5-519	19mm x 267mm
6276-5-520	20mm x 267mm
6276-5-521	21mm x 267mm
6276-5-522	22mm x 267mm
6276-5-523	23mm x 267mm
6276-5-524	24mm x 267mm
6276-5-525	25mm x 267mm
6276-5-526	26mm x 267mm

Plasma Stems - Straight	
CATALOG NO.	SIZE
6276-5-111	11mm x 167mm
6276-5-112	12mm x 167mm
6276-5-113	13mm x 167mm
6276-5-114	14mm x 167mm
6276-5-115	15mm x 167mm
6276-5-116	16mm x 167mm
6276-5-117	17mm x 167mm
6276-5-118	18mm x 167mm
6276-5-119	19mm x 167mm
6276-5-120	20mm x 167mm
6276-5-121	21mm x 167mm
6276-5-122	22mm x 167mm
6276-5-123	23mm x 167mm
6276-5-124	24mm x 167mm
6276-5-125	25mm x 167mm
6276-5-126	26mm x 167mm

Plasma Stems - Bowed	
CATALOG NO.	SIZE
6276-5-411	11mm x 217mm
6276-5-412	12mm x 217mm
6276-5-413	13mm x 217mm
6276-5-414	14mm x 217mm
6276-5-415	15mm x 217mm
6276-5-416	16mm x 217mm
6276-5-417	17mm x 217mm
6276-5-418	18mm x 217mm
6276-5-419	19mm x 217mm
6276-5-420	20mm x 217mm
6276-5-421	21mm x 217mm
6276-5-422	22mm x 217mm
6276-5-423	23mm x 217mm
6276-5-424	24mm x 217mm
6276-5-425	25mm x 217mm
6276-5-426	26mm x 217mm

Plasma Stems - Bowed	
CATALOG NO.	SIZE
6276-5-611	11mm x 317mm
6276-5-612	12mm x 317mm
6276-5-613	13mm x 317mm
6276-5-614	14mm x 317mm
6276-5-615	15mm x 317mm
6276-5-616	16mm x 317mm
6276-5-617	17mm x 317mm
6276-5-618	18mm x 317mm
6276-5-619	19mm x 317mm
6276-5-620	20mm x 317mm
6276-5-621	21mm x 317mm
6276-5-622	22mm x 317mm
6276-5-623	23mm x 317mm
6276-5-624	24mm x 317mm
6276-5-625	25mm x 317mm
6276-5-626	26mm x 317mm

Restoration[®] Modular

Surgical Protocol

Plasma Distal Stems Tri-Slot



Plasma Stems - Bowed Tri-Slot	
CATALOG NO.	SIZE
6276-8-213	13mm x 167mm
6276-8-214	14mm x 167mm
6276-8-215	15mm x 167mm
6276-8-216	16mm x 167mm
6276-8-217	17mm x 167mm
6276-8-218	18mm x 167mm
6276-8-219	19mm x 167mm
6276-8-220	20mm x 167mm
6276-8-221	21mm x 167mm
6276-8-222	22mm x 167mm
6276-8-223	23mm x 167mm
6276-8-224	24mm x 167mm
6276-8-225	25mm x 167mm
6276-8-226	26mm x 167mm

Plasma Stems - Bowed Tri-Slot	
CATALOG NO.	SIZE
6276-8-413	13mm x 217mm
6276-8-414	14mm x 217mm
6276-8-415	15mm x 217mm
6276-8-416	16mm x 217mm
6276-8-417	17mm x 217mm
6276-8-418	18mm x 217mm
6276-8-419	19mm x 217mm
6276-8-420	20mm x 217mm
6276-8-421	21mm x 217mm
6276-8-422	22mm x 217mm
6276-8-423	23mm x 217mm
6276-8-424	24mm x 217mm
6276-8-425	25mm x 217mm
6276-8-426	26mm x 217mm

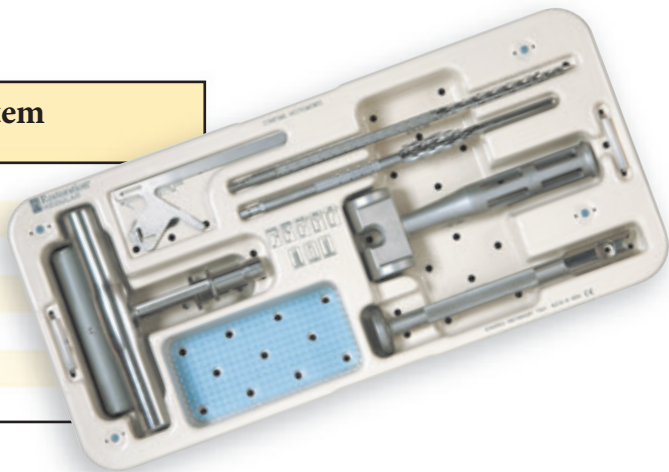
Plasma Stems - Bowed Tri-Slot	
CATALOG NO.	SIZE
6276-8-513	13mm x 267mm
6276-8-514	14mm x 267mm
6276-8-515	15mm x 267mm
6276-8-516	16mm x 267mm
6276-8-517	17mm x 267mm
6276-8-518	18mm x 267mm
6276-8-519	19mm x 267mm
6276-8-520	20mm x 267mm
6276-8-521	21mm x 267mm
6276-8-522	22mm x 267mm
6276-8-523	23mm x 267mm
6276-8-524	24mm x 267mm
6276-8-525	25mm x 267mm
6276-8-526	26mm x 267mm

Plasma Stems - Bowed Tri-Slot	
CATALOG NO.	SIZE
6276-8-613	13mm x 317mm
6276-8-614	14mm x 317mm
6276-8-615	15mm x 317mm
6276-8-616	16mm x 317mm
6276-8-617	17mm x 317mm
6276-8-618	18mm x 317mm
6276-8-619	19mm x 317mm
6276-8-620	20mm x 317mm
6276-8-621	21mm x 317mm
6276-8-622	22mm x 317mm
6276-8-623	23mm x 317mm
6276-8-624	24mm x 317mm
6276-8-625	25mm x 317mm
6276-8-626	26mm x 317mm

Restoration[®] Modular

Surgical Protocol

Restoration [®] Modular Instrument System Starter Tray #6278-9-900	
6278-1-150	Resection Guide
6278-5-200	Starter Awl
6278-5-250	Box Chisel
6278-9-090	Large T-Handle
1101-2100	Small T-Handle
1120-1000	Mallet
6278-5-300	Clear Out Reamer

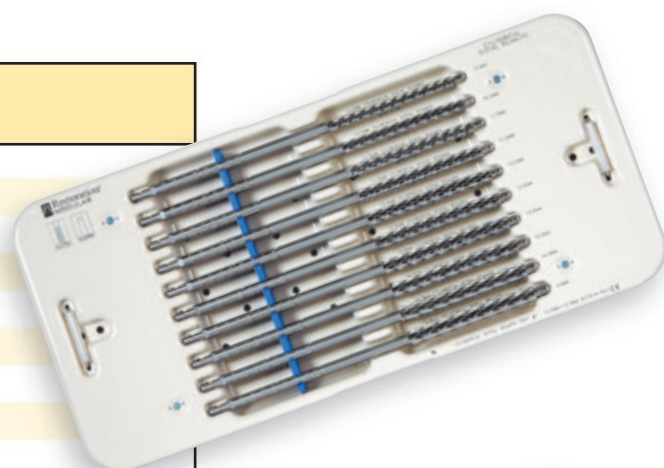


Restoration[®] Modular

Surgical Protocol

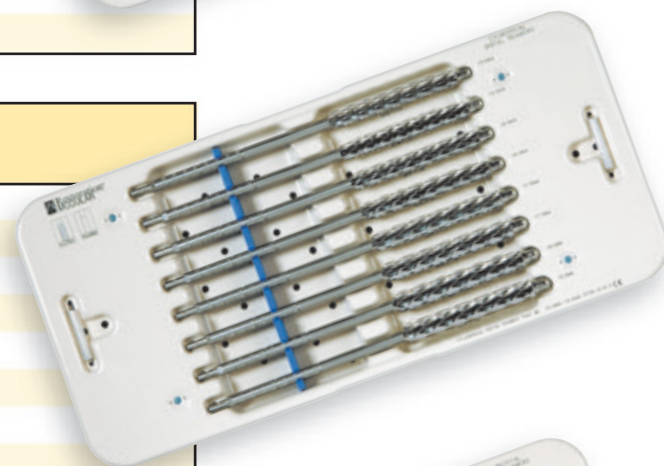
Cylindrical Distal Reamer Tray #1 10.0mm - 14.5mm #6278-9-912

6278-7-100	10.0mm Cylindrical Distal Reamer
6278-7-105	10.5mm Cylindrical Distal Reamer
6278-7-110	11.0mm Cylindrical Distal Reamer
6278-7-115	11.5mm Cylindrical Distal Reamer
6278-7-120	12.0mm Cylindrical Distal Reamer
6278-7-125	12.5mm Cylindrical Distal Reamer
6278-7-130	13.0mm Cylindrical Distal Reamer
6278-7-135	13.5mm Cylindrical Distal Reamer
6278-7-140	14.0mm Cylindrical Distal Reamer
6278-7-145	14.5mm Cylindrical Distal Reamer



Cylindrical Distal Reamer Tray #2 15.0mm - 18.5mm #6278-9-913

6278-7-150	15.0mm Cylindrical Distal Reamer
6278-7-155	15.5mm Cylindrical Distal Reamer
6278-7-160	16.0mm Cylindrical Distal Reamer
6278-7-165	16.5mm Cylindrical Distal Reamer
6278-7-170	17.0mm Cylindrical Distal Reamer
6278-7-175	17.5mm Cylindrical Distal Reamer
6278-7-180	18.0mm Cylindrical Distal Reamer
6278-7-185	18.5mm Cylindrical Distal Reamer



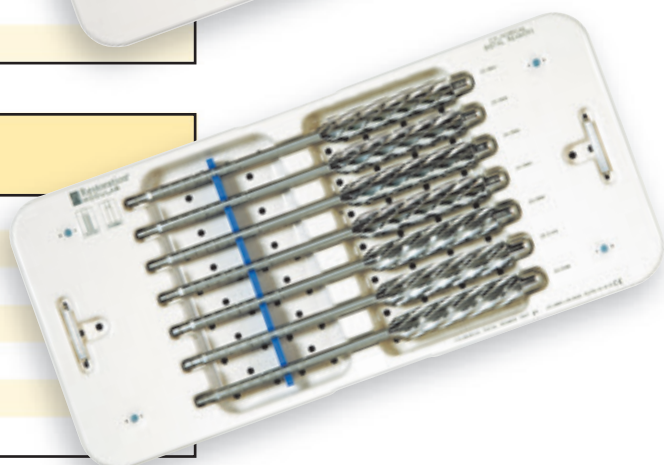
Cylindrical Distal Reamer Tray #3 19.0mm - 22.5mm #6278-9-914

6278-7-190	19.0mm Cylindrical Distal Reamer
6278-7-195	19.5mm Cylindrical Distal Reamer
6278-7-200	20.0mm Cylindrical Distal Reamer
6278-7-205	20.5mm Cylindrical Distal Reamer
6278-7-210	21.0mm Cylindrical Distal Reamer
6278-7-215	21.5mm Cylindrical Distal Reamer
6278-7-220	22.0mm Cylindrical Distal Reamer
6278-7-225	22.5mm Cylindrical Distal Reamer



Cylindrical Distal Reamer Tray #4 23.0mm - 26.0mm #6278-9-915

6278-7-230	23.0mm Cylindrical Distal Reamer
6278-7-235	23.5mm Cylindrical Distal Reamer
6278-7-240	24.0mm Cylindrical Distal Reamer
6278-7-245	24.5mm Cylindrical Distal Reamer
6278-7-250	25.0mm Cylindrical Distal Reamer
6278-7-255	25.5mm Cylindrical Distal Reamer
6278-7-260	26.0mm Cylindrical Distal Reamer

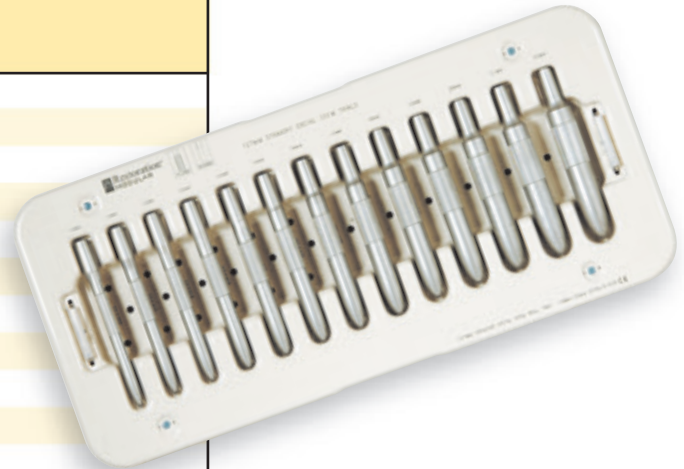


Restoration® Modular

Surgical Protocol

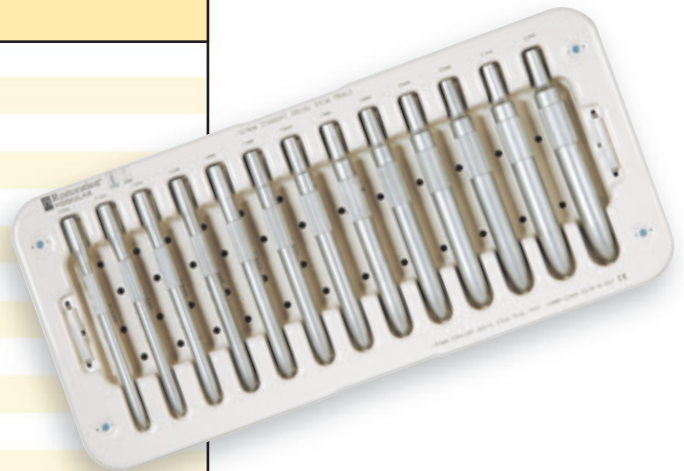
127mm Straight Distal Stem Trial Tray #6278-9-920

6278-9-010	10mm x 127mm Straight Distal Stem Trial
6278-9-011	11mm x 127mm Straight Distal Stem Trial
6278-9-012	12mm x 127mm Straight Distal Stem Trial
6278-9-013	13mm x 127mm Straight Distal Stem Trial
6278-9-014	14mm x 127mm Straight Distal Stem Trial
6278-9-015	15mm x 127mm Straight Distal Stem Trial
6278-9-016	16mm x 127mm Straight Distal Stem Trial
6278-9-017	17mm x 127mm Straight Distal Stem Trial
6278-9-018	18mm x 127mm Straight Distal Stem Trial
6278-9-019	19mm x 127mm Straight Distal Stem Trial
6278-9-020	20mm x 127mm Straight Distal Stem Trial
6278-9-021	21mm x 127mm Straight Distal Stem Trial
6278-9-022	22mm x 127mm Straight Distal Stem Trial



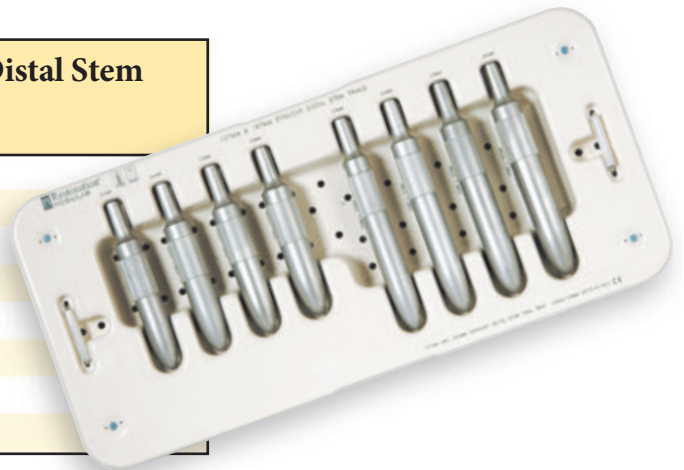
167mm Straight Distal Stem Trial Tray #6278-9-921

6278-9-110	10mm x 167mm Straight Distal Stem Trial
6278-9-111	11mm x 167mm Straight Distal Stem Trial
6278-9-112	12mm x 167mm Straight Distal Stem Trial
6278-9-113	13mm x 167mm Straight Distal Stem Trial
6278-9-114	14mm x 167mm Straight Distal Stem Trial
6278-9-115	15mm x 167mm Straight Distal Stem Trial
6278-9-116	16mm x 167mm Straight Distal Stem Trial
6278-9-117	17mm x 167mm Straight Distal Stem Trial
6278-9-118	18mm x 167mm Straight Distal Stem Trial
6278-9-119	19mm x 167mm Straight Distal Stem Trial
6278-9-120	20mm x 167mm Straight Distal Stem Trial
6278-9-121	21mm x 167mm Straight Distal Stem Trial
6278-9-122	22mm x 167mm Straight Distal Stem Trial



127mm & 167mm Large Diameter Straight Distal Stem Trial Tray 23mm-26mm #6278-9-922

6278-9-023	23mm x 127mm Straight Distal Stem Trial
6278-9-024	24mm x 127mm Straight Distal Stem Trial
6278-9-025	25mm x 127mm Straight Distal Stem Trial
6278-9-026	26mm x 127mm Straight Distal Stem Trial
6278-9-123	23mm x 167mm Straight Distal Stem Trial
6278-9-124	24mm x 167mm Straight Distal Stem Trial
6278-9-125	25mm x 167mm Straight Distal Stem Trial
6278-9-126	26mm x 167mm Straight Distal Stem Trial



Restoration® Modular

Surgical Protocol

167mm Bowed Distal Stem Trial Tray #6278-9-923

6278-9-210	10mm x 167mm Bowed Distal Stem Trial
6278-9-211	11mm x 167mm Bowed Distal Stem Trial
6278-9-212	12mm x 167mm Bowed Distal Stem Trial
6278-9-213	13mm x 167mm Bowed Distal Stem Trial
6278-9-214	14mm x 167mm Bowed Distal Stem Trial
6278-9-215	15mm x 167mm Bowed Distal Stem Trial
6278-9-216	16mm x 167mm Bowed Distal Stem Trial
6278-9-217	17mm x 167mm Bowed Distal Stem Trial
6278-9-218	18mm x 167mm Bowed Distal Stem Trial
6278-9-219	19mm x 167mm Bowed Distal Stem Trial
6278-9-220	20mm x 167mm Bowed Distal Stem Trial
6278-9-221	21mm x 167mm Bowed Distal Stem Trial
6278-9-222	22mm x 167mm Bowed Distal Stem Trial

217mm Bowed Distal Stem Trial Tray #6278-9-924

6278-9-410	10mm x 217mm Bowed Distal Stem Trial
6278-9-411	11mm x 217mm Bowed Distal Stem Trial
6278-9-412	12mm x 217mm Bowed Distal Stem Trial
6278-9-413	13mm x 217mm Bowed Distal Stem Trial
6278-9-414	14mm x 217mm Bowed Distal Stem Trial
6278-9-415	15mm x 217mm Bowed Distal Stem Trial
6278-9-416	16mm x 217mm Bowed Distal Stem Trial
6278-9-417	17mm x 217mm Bowed Distal Stem Trial
6278-9-418	18mm x 217mm Bowed Distal Stem Trial
6278-9-419	19mm x 217mm Bowed Distal Stem Trial
6278-9-420	20mm x 217mm Bowed Distal Stem Trial
6278-9-421	21mm x 217mm Bowed Distal Stem Trial
6278-9-422	22mm x 217mm Bowed Distal Stem Trial

167mm and 217mm Bowed Distal Stem Trial Tray #6278-9-925

6278-9-223	23mm x 167mm Bowed Distal Stem Trial
6278-9-224	24mm x 167mm Bowed Distal Stem Trial
6278-9-225	25mm x 167mm Bowed Distal Stem Trial
6278-9-226	26mm x 167mm Bowed Distal Stem Trial
6278-9-423	23mm x 217mm Bowed Distal Stem Trial
6278-9-424	24mm x 217mm Bowed Distal Stem Trial
6278-9-425	25mm x 217mm Bowed Distal Stem Trial
6278-9-426	26mm x 217mm Bowed Distal Stem Trial

267mm Bowed Distal Stem Trial Tray #6278-9-926

6278-9-510	10mm x 267mm Bowed Distal Stem Trial
6278-9-511	11mm x 267mm Bowed Distal Stem Trial
6278-9-512	12mm x 267mm Bowed Distal Stem Trial
6278-9-513	13mm x 267mm Bowed Distal Stem Trial
6278-9-514	14mm x 267mm Bowed Distal Stem Trial
6278-9-515	15mm x 267mm Bowed Distal Stem Trial
6278-9-516	16mm x 267mm Bowed Distal Stem Trial
6278-9-517	17mm x 267mm Bowed Distal Stem Trial
6278-9-518	18mm x 267mm Bowed Distal Stem Trial
6278-9-519	19mm x 267mm Bowed Distal Stem Trial

267mm Bowed Distal Stem Trial Tray #6278-9-927

6278-9-520	20mm x 267mm Bowed Distal Stem Trial
6278-9-521	21mm x 267mm Bowed Distal Stem Trial
6278-9-522	22mm x 267mm Bowed Distal Stem Trial
6278-9-523	23mm x 267mm Bowed Distal Stem Trial
6278-9-524	24mm x 267mm Bowed Distal Stem Trial
6278-9-525	25mm x 267mm Bowed Distal Stem Trial
6278-9-526	26mm x 267mm Bowed Distal Stem Trial

317mm Bowed Distal Stem Trial Tray #6278-9-928

6278-9-610	10mm x 317mm Bowed Distal Stem Trial
6278-9-611	11mm x 317mm Bowed Distal Stem Trial
6278-9-612	12mm x 317mm Bowed Distal Stem Trial
6278-9-613	13mm x 317mm Bowed Distal Stem Trial
6278-9-614	14mm x 317mm Bowed Distal Stem Trial
6278-9-615	15mm x 317mm Bowed Distal Stem Trial
6278-9-616	16mm x 317mm Bowed Distal Stem Trial
6278-9-617	17mm x 317mm Bowed Distal Stem Trial
6278-9-618	18mm x 317mm Bowed Distal Stem Trial
6278-9-619	19mm x 317mm Bowed Distal Stem Trial

317mm Bowed Distal Stem Trial Tray #6278-9-929

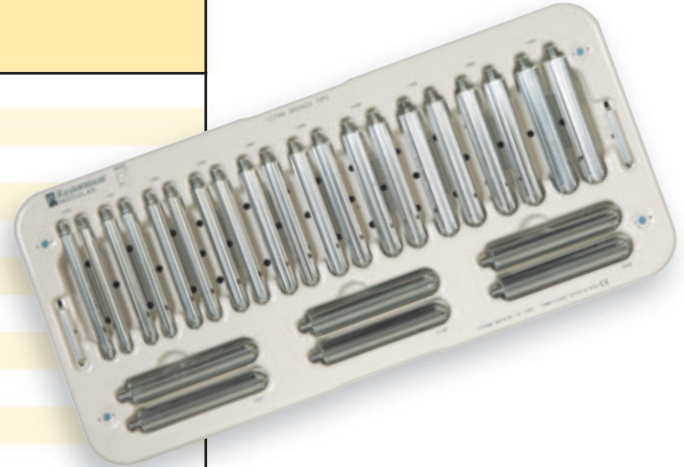
6278-9-620	20mm x 317mm Bowed Distal Stem Trial
6278-9-621	21mm x 317mm Bowed Distal Stem Trial
6278-9-622	22mm x 317mm Bowed Distal Stem Trial
6278-9-623	23mm x 317mm Bowed Distal Stem Trial
6278-9-624	24mm x 317mm Bowed Distal Stem Trial
6278-9-625	25mm x 317mm Bowed Distal Stem Trial
6278-9-626	26mm x 317mm Bowed Distal Stem Trial

Restoration® Modular

Surgical Protocol

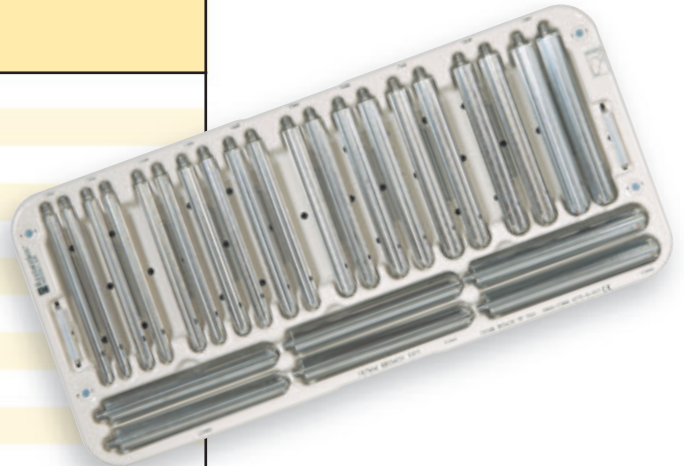
127mm Broach Tip Tray 10mm - 22mm #6278-9-932

6278-3-100	10mm x 127mm Broach Tips (2 per tray)
6278-3-110	11mm x 127mm Broach Tips (2 per tray)
6278-3-120	12mm x 127mm Broach Tips (2 per tray)
6278-3-130	13mm x 127mm Broach Tips (2 per tray)
6278-3-140	14mm x 127mm Broach Tips (2 per tray)
6278-3-150	15mm x 127mm Broach Tips (2 per tray)
6278-3-160	16mm x 127mm Broach Tips (2 per tray)
6278-3-170	17mm x 127mm Broach Tips (2 per tray)
6278-3-180	18mm x 127mm Broach Tips (2 per tray)
6278-3-190	19mm x 127mm Broach Tips (2 per tray)
6278-3-200	20mm x 127mm Broach Tips (2 per tray)
6278-3-210	21mm x 127mm Broach Tips (2 per tray)
6278-3-220	22mm x 127mm Broach Tips (2 per tray)



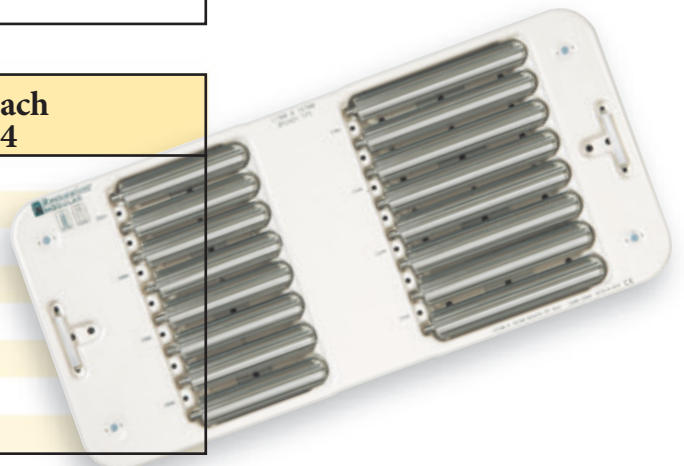
167mm Broach Tip Tray 10mm - 22mm #6278-9-933

6278-4-100	10mm x 167mm Broach Tips (2 per tray)
6278-4-110	11mm x 167mm Broach Tips (2 per tray)
6278-4-120	12mm x 167mm Broach Tips (2 per tray)
6278-4-130	13mm x 167mm Broach Tips (2 per tray)
6278-4-140	14mm x 167mm Broach Tips (2 per tray)
6278-4-150	15mm x 167mm Broach Tips (2 per tray)
6278-4-160	16mm x 167mm Broach Tips (2 per tray)
6278-4-170	17mm x 167mm Broach Tips (2 per tray)
6278-4-180	18mm x 167mm Broach Tips (2 per tray)
6278-4-190	19mm x 167mm Broach Tips (2 per tray)
6278-4-200	20mm x 167mm Broach Tips (2 per tray)
6278-4-210	21mm x 167mm Broach Tips (2 per tray)
6278-4-220	22mm x 167mm Broach Tips (2 per tray)



127mm & 167mm Large Diameter Broach Tip Tray 23mm - 26mm #6278-9-934

6278-3-230	23mm x 127mm Broach Tips (2 per tray)
6278-3-240	24mm x 127mm Broach Tips (2 per tray)
6278-3-250	25mm x 127mm Broach Tips (2 per tray)
6278-3-260	26mm x 127mm Broach Tips (2 per tray)
6278-4-230	23mm x 167mm Broach Tips (2 per tray)
6278-4-240	24mm x 167mm Broach Tips (2 per tray)
6278-4-250	25mm x 167mm Broach Tips (2 per tray)
6278-4-260	26mm x 167mm Broach Tips (2 per tray)



Restoration® Modular

Surgical Protocol

Broach Body Trial /Broach Tray #6278-9-930	
6278-3-001	#1 Broach Body Trial
6278-3-002	#2 Broach Body Trial
6278-3-003	#3 Broach Body Trial
6278-3-004	#4 Broach Body Trial
6278-3-005	#5 Broach Body Trial
6278-3-006	#6 Broach Body Trial
6278-3-007	#7 Broach Body Trial
6278-3-008	#8 Broach Body Trial
6278-3-801	#1 Neck Trial
6278-3-802	#2 Neck Trial
6278-3-803	#3 Neck Trial
6278-3-804	#4 Neck Trial
6278-3-805	#5 Neck Trial
6278-3-806	#6 Neck Trial
6278-3-807	#7 Neck Trial
6278-3-808	#8 Neck Trial
6278-3-900	#0 Broach Body - Broach
6278-3-901	#1 Broach Body - Broach
6278-3-902	#2 Broach Body - Broach
6278-3-903	#3 Broach Body - Broach
6278-3-904	#4 Broach Body - Broach
6278-3-905	#5 Broach Body - Broach
6278-3-906	#6 Broach Body - Broach
6278-3-907	#7 Broach Body - Broach
6278-3-908	#8 Broach Body - Broach
6278-3-500	Broach Body Reamer
6266-5-130	Distal Tip Retriever
6266-0-100	Broach Handle
6278-3-600	Standard Calcar Planer
5744-2-000	Tommy Bars (2 per tray)

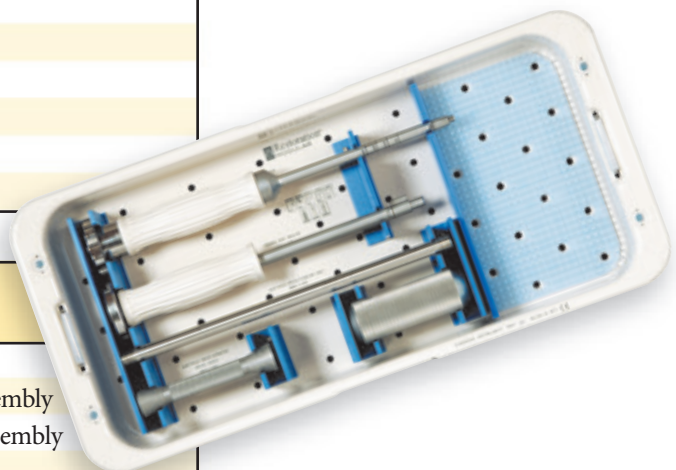
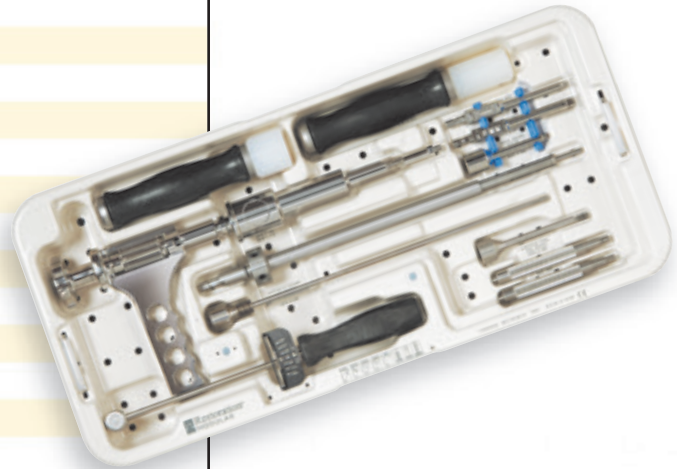


Restoration® Modular

Surgical Protocol

Finishing Instrument Tray #1 #6278-9-970

6278-1-100	Version Control Stem Inserter
6278-1-110	Stem Inserter Proximal Body Impactor
6278-9-070	Body/Stem Separator
8000-0000	Body/Stem Separator Handles (2 per tray)
6278-9-080	McReynolds Proximal Body Adapter
6266-0-140	Head Impactor
6260-4-070	Proximal Body Steady Handle
6260-4-080	Torque Wrench Adapter
6260-4-090	McReynolds Distal Stem Adapter
6278-5-100	5mm Hex Locking Bolt Driver
6278-5-120	8mm Hex Locking Bolt Driver
6060-2-640	Torque Wrench
6264-8-122R	22mm +0 Head Trial
6264-8-222R	22mm +3 Head Trial
6264-8-322R	22mm +8 Head Trial
6264-8-026R	26mm -3 Head Trial
6264-8-126R	26mm +0 Head Trial
6264-8-226R	26mm +4 Head Trial
6264-8-326R	26mm +8 Head Trial
6264-8-426R	26mm +12 Head Trial
6264-8-028R	28mm -4 Head Trial
6264-8-128R	28mm +0 Head Trial
6264-8-228R	28mm +4 Head Trial
6264-8-328R	28mm +8 Head Trial
6264-8-428R	28mm +12 Head Trial
6264-8-032R	32mm -4 Head Trial
6264-8-132R	32mm +0 Head Trial
6264-8-232R	32mm +4 Head Trial
6264-8-332R	32mm +8 Head Trial
6264-8-432R	32mm +12 Head Trial
6264-8-036R	36mm -5 Head Trial
6264-8-136R	36mm +0 Head Trial
6264-8-236R	36mm +5 Head Trial
6264-8-336R	36mm +10 Head Trial



Finishing Instrument Tray #2 #6278-9-971

6869-1-000	Shaft, McReynolds Extractor Assembly
6869-2-000	Driving Handle, McReynolds Extractor Assembly
6869-3-000	Sliding Hammer, McReynolds Extractor Assembly
6278-1-200D	Distal Stem Impactor
6278-1-350	Proximal Body Impactor



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