stryker

Trident® II PSL Clusterhole HA Acetabular System

Surgical protocol

Instruments

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This publication sets forth detailed validated procedures for using the Trident II PSL Clusterhole HA Acetabular System. It offers instructions that you should heed, but, as with any such technical guide, each surgeon must consider the particular needs of each patient and make appropriate adjustments when and as required.

This surgical protocol is intended for distribution in the EU and Canada only.

Indications, contraindications and precautions

Indications for the U.S. and the rest of the world:

- Painful, disabling joint disease of the hip resulting from: degenerative arthritis, rheumatoid arthritis, post-traumatic arthritis or late-stage avascular necrosis.
- Revision of previous unsuccessful femoral head replacement, cup arthroplasty or other procedure.
- Clinical management problems where arthrodesis or alternative reconstructive techniques are less likely to achieve satisfactory results.
- Where bone stock is of poor quality or is inadequate for other reconstructive techniques as indicated by deficiencies of the acetabulum.

When used with MDM Liners

- Treatment of nonunion, femoral neck and trochanteric fractures of the proximal femur with head involvement that are unmanageable using other techniques.
- Dislocation risks.

When used with Constrained Liners

- The TRIDENT Constrained Acetabular Insert is indicated for use in primary and revision patients at high risk of hip dislocation due to a history of prior dislocation, bone loss, joint or soft tissue laxity, neuromuscular disease, or intraoperative instability.

The TRIDENT II Acetabular Shells are indicated for cementless use only.

Indications for EU, EMEA countries requiring CE Mark, and Australia:

- Painful, disabling joint disease of the hip resulting from: degenerative arthritis, rheumatoid arthritis, post-traumatic arthritis or late-stage avascular necrosis.
- Revision of previous unsuccessful femoral head replacement, cup arthroplasty or other procedure.
- Clinical management problems where arthrodesis or alternative reconstructive techniques are less likely to achieve satisfactory results.
- Where bone stock is of poor quality or is inadequate for other reconstructive techniques as indicated by deficiencies of the acetabulum.

When used with MDM Liners

- Dislocation risks

When used with Constrained Liners

- The TRIDENT Constrained Acetabular Insert is indicated for use in primary and revision patients at high risk of hip dislocation.

The TRIDENT II Acetabular Shells are indicated for cementless use only.

For indications for use of the associated femoral heads please refer to the following instructions for use (IFU) numbers enclosed within product packaging, or visit ifu.stryker.com:

- Alumina Ceramic C-taper Femoral Head QIN 4350
- Alumina Ceramic V40™ Femoral Heads QIN 4350
- Ceramic V40 Femoral Heads QIN 4350
- Ceramic C-Taper Femoral Heads QIN 4350
- Universal Taper Femoral Head QIN 4350
- C-Taper CoCr LFIT Head QIN 4309
- V40 CoCr Femoral Heads 0095-3-2000
- Universal C-Taper Adapter Sleeve QIN 4350
- Universal V40™ Taper Adapter Sleeve QIN 4350

For indications for use of the associated acetabular inserts please refer to the following instructions for use (IFU) numbers enclosed within product packaging, or visit ifu.stryker.com:

- Alumina Ceramic Acetabular Insert QIN 4365
- Trident Crossfire and X3 Poly Inserts QIN 4351
- Trident Constrained Inserts QIN 4357
- MDM Liner QIN 4500

Contraindications

- Any active or suspected latent infection in or about the hip joint.
- Any mental or neuromuscular disorder which would create an unacceptable risk of prosthesis instability, prosthesis fixation failure, or complications in postoperative care.
- Bone stock compromised by disease, infection or prior implantation which cannot provide adequate support and/or fixation to the prosthesis.
- Skeletal immaturity.

Warnings and precautions

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

Before using Trident II Acetabular System instrumentation, verify:

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

For Instructions for Cleaning, Sterilization, Inspection and Maintenance of Orthopaedic Medical Devices, refer to LSTPI-B, SLI0001 (ifu.stryker.com) and the following Greatbatch Inc. IFUs: MAN-000020, MAN-000026, MAN-0000, D3.3.1.31NT and D3.3.1.16

Introduction

This surgical protocol is a guide to preparing the acetabulum for Trident II PSL Clusterhole HA Shells utilizing Trident II System instrumentation.

The Trident II Acetabular System is a modular component design assembled intraoperatively.

Trident II PSL (peripheral self-locking) Clusterhole HA shells are designed to achieve a peripheral interference fit. The shells are oversized in the periphery by approximately 1.8mm of the labeled size (e.g., 52mm shell= 53.8mm at the shell rim).

Shells are available in 2mm increments. The shells range from 42mm– 66mm in a clusterhole configuration.

The Trident II Acetabular System uses the Trident Locking Mechanism and is compatible with Trident X3 and Crossfire polyethylene liners, MDM, Trident Alumina Ceramic lnserts, and Constrained Inserts.

Note

The Trident Alumina Ceramic Inserts must exclusively be used with Stryker's Alumina Heads.

Refer to Tables 1 and 2 for insert and shell compatibility and sizing options.

Refer to the Trident Constrained Insert surgical protocol for constrained insert use.

Table 1: Femoral head, X3 liner and shell compatibility chart

Shell size, liner alpha code, poly thickness and head size (mm)

Trident II PSL Clusterhole HA†		**42**	**44**	**46**	**48, 50**	**52, 54**	**56, 58**	**60, 62**	**64, 66**
Alpha code		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**
Anatomic femoral heads	44mm	—	—	—	—	—	3.8	5.4	7.1
	40mm	—	—	—	—	3.8	5.8	7.4	9.1
	36mm	—	—	—	3.9	5.9	7.9	9.4	11.2
Femoral heads	32mm	—	3.9	4.9	5.9	7.9	9.9	11.4	13.2
	28mm	4.9	5.9	6.9	7.9	9.9	11.9	13.4	15.2
	22mm	7.8	8.8	9.8	10.8	12.8	14.8	16.3	18.1

†Clusterhole shell sizes 42mm-50mm have three holes, and 52mm-66mm have five holes.

Trident II PSL Clusterhole HA Shell

Alpha code	Trident II PSL Clusterhole HA Shell size (mm)	Trident X3 0°, 10° Inserts (mm)	Trident X3 Eccentric* 0°, 10° Inserts (mm)	Alumina Ceramic Liner (mm)	Trident X3 Elevated Rim Inserts (mm)	Trident 0° Constrained Inserts (mm)	Trident 10° Constrained Inserts (mm)
A	42	22, 28†	—	—	—	—	—
B	44	22, 28†, 32†	28†	—	—	—	—
C	46	22, 28, 32†	28	—	28	—	—
D	48, 50	22, 28, 32, 36†	28, 32	28	28	22	—
E	52, 54	22, 28, 32, 36, 40†	28, 32, 36	32	28, 32, 36	22	22
F	56, 58	22, 28, 32, 36, 40†, 44†	28, 32, 36	32	28, 32, 36	28	22
G	60, 62	22, 28, 32, 36, 40†, 44†	28, 32, 36	36	28, 32, 36	28	28
H	64, 66	22, 28, 32, 36, 40†, 44†	28, 32, 36	36	28, 32, 36	32	28

†Available in 0˚only

*This product is not CE marked in accordance with applicable EU regulations and directives. Stryker is not marketing or distributing this product in the EU. Any reference to this product is for presentation purposes only.

Table 2: MDM Liner and insert compatibility with Trident II Shells

Shell size (mm), liner alpha code

Trident II PSL Clusterhole HA Shell	**46**	**48, 50**	**52, 54**	**56, 58**	**60, 62**	**64, 66**
Alpha code	**C**	**D**	**E**	**F**	**G**	**H**
MDM CoCr Liner	36C	38D	42E	46F	48G	52H
Poly Insert OD (mm)	36	38	42	46	48	52
Poly Insert ID (mm)	22.2	22.2	28	28	28	28
Nominal poly thickness (mm)	6.7	7.7	6.8	8.8	9.8	11.8

Trident II PSL Clusterhole HA Shell

MDM CoCr Liner

Alumina Ceramic Liner

X3 Polyethylene Insert

Trident Constrained Insert

Alumina Ceramic Femoral Head

LFIT CoCr Femoral Head

BIOLOX delta Ceramic Head

Step 1

Preoperative planning and X-ray evaluation

Preoperative planning is an essential part of the procedure, and templating should be performed prior to every case. The preoperative planning process should take qualitative and quantitative factors (including patient bone quality, density and morphology) into consideration in order to evaluate and select the appropriate instrument/implant system for the patient. X-ray evaluation may also help detect anatomic anomalies that could prevent the intraoperative achievement of the established preoperative goals. Selecting potential implant style and sizes can facilitate operating room preparation and assure availability of an appropriate selection. When it is done using X-rays that have been suitably scaled for magnification, templating allows the surgeon to predict the style, size and position of the implant that may help restore the correct anatomy of the individual patient.

Template planning can be done using acetate templates for printed X-rays or preoperative planning software for digital studies.

Use the template overlay LTEM115/ATHEM0115, available through your Stryker representative.

Step 2

Acetabular preparation

The acetabulum is prepared by using the surgeon's preferred technique to gain adequate exposure for reaming. Excision of the labrum and osteophytes allows for proper visualization of the bony anatomy and improves ease of reaming.

Stryker's femoral and wing retractors can be utilized to gain acetabular exposure. **(Figure 1)**

With the acetabulum exposed, bony defects can be identified. If necessary, bone grafting options may be considered prior to reaming.

Note
Careful identification and removal of osteophytes can help reduce the possibility of bone-to-bone or component-to-bone impingement.

Figure 1.

Step 3

Reaming

Handles are available in straight and offset configurations to connect to CuttingEdge reamers **(Figures 2a, 2b, 3)**. It is recommended to begin reaming at least 4mm smaller than the template size after removing medial osteophyte. Progressive reaming should proceed in 1mm to 2mm increments until the final size is achieved.

The Trident II PSL Clusterhole HA Shell periphery is oversized by approximately 1.8mm of the labeled size (e.g., 52mm shell = 53.8mm at the shell rim). The surgeon should consider the acetabular bone quality and assess bone stock, amount of interference fit, and desired amount of reaming when preparing the interference fit. It is recommended to ream to the labeled shell size; however, the surgeon may choose to over-ream by 1mm based on his/her assessment of the bone quality. Start rotating the reamer prior to engaging bone to reduce initial torque upon contact.

The profile of the reamer necessitates reaming to the full depth. The reamer should be driven to the point where the rim contacts the acetabular wall at the peripheral lunate region. If bone stock allows, reaming should optimize bone contact against both the posterior and anterior walls.

Care should be taken to prevent enlarging or distorting the prepared cavity by eccentric reaming. Ideally, final reaming provides mechanical support for the acetabular shell directly on viable host bone.

Many surgeons prefer to target a zone of 40±10˚ of inclination and 15±10˚ of anteversion depending on patient anatomy and biomechanics.

Notes

- **Changes in pelvic tilt and pelvic flexion caused by patient positioning on the table, as well as disease in the contralateral hip, spine and pelvis, may impact a surgeon's ability to attain the desired component placement from preoperative planning.**
- **The amount of interference fit should be determined intraoperatively based upon the patient's bone quality and acetabular size. When osteoporotic bone is encountered, it is recommended to under-ream by 1mm of the labeled shell size. When sclerotic bone is encountered, it may be difficult to fully seat the shell. In this situation, it is recommended to ream line-to-line to reduce the potential for problems that may typically occur in dense bone.**

  Potential challenges when implanting acetabular shells may include: acetabular fracture, incomplete seating of the implant in the prepared cavity, or slight deformation of the titanium shell making the insert more difficult to seat.
- **Following reaming, the surgeon should ensure that soft tissues are clear and osteophytes are removed from the prepared site.**
- **The reamers perform best when sharp. Care should be taken to protect the reamer from unnecessary handling, as dull or damaged cutting teeth may cause improper reaming. Dull cutting teeth may deflect to cut softer bone and resist hard bone. This situation may result in an irregularly shaped or enlarged acetabular preparation.**

Figure 2a.
Straight Reamer Handle (2102-0410)

Figure 2b.
Offset Reamer Handle (T6320)

Figure 3. (2102-04xx) CuttingEdge reamer basket

CuttingEdge Reamer Handle instructions

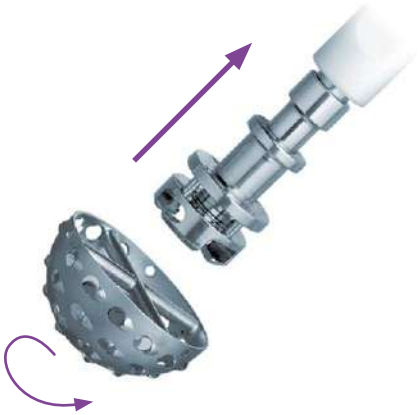


Figure 4.
The reamer is attached to the reamer handle by pushing down and applying a quarter-turn to lock in place.

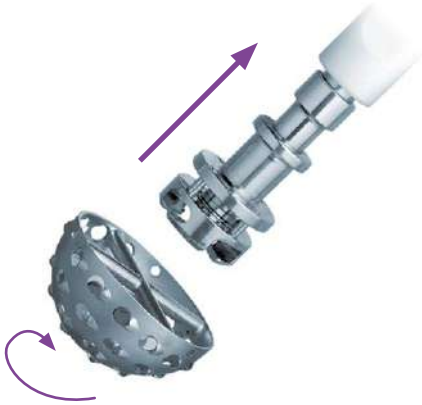


Figure 5.
Removal of the reamer from the handle is performed by pulling back on the locking sleeve and rotating the reamer head a quarter-turn in a clockwise direction.

Step 4

Window Trial evaluation

Select a Window Trial of equal diameter or 1mm smaller than the last acetabular reamer used. Attach the Window Trial onto the Shell Impactor to evaluate the fit within the reamed acetabulum **(Figure 6)**. The trial is windowed for visualization and assessment of depth, position, bone contact and congruency within the acetabulum. Impact gently into the acetabulum to avoid damage to the surrounding bone or press-fit.

Figure 6.

Instructions

Window Trial

To attach, insert the tip of the impactor flush with the square recess in the dome of the trial. Turn the knob clockwise until the trial is attached. For the straight impactor, it may be required to apply light pressure on the knob in the direction of the trial to initially engage the threads.

Failure to completely thread the components together may result in damage to the threads upon impaction and lead to difficulty in detaching the components. Do not overtighten.

Note

It is recommended to use a Window Trial that is line-to-line or 1mm smaller than the last reamer.

Step 5

Shell implantation

Assess the acetabular bone and surrounding soft tissue to ensure shell insertion will not be inhibited. Prior to implantation, it is prudent to reassess patient positioning in the surgical field and adjust to the correct position if necessary.

Select the appropriately sized Trident II PSL Clusterhole HA Shell as identified on the product label. Attach the shell to the impactor using the instructions in the table.

An Alignment Guide can be attached to the Shell Impactor to aid in establishing abduction/inclination and anteversion angles **(Figure 9)**. Many surgeons prefer to target a zone of 40±10˚ of abduction and 15±10˚ of anteversion depending on patient anatomy and biomechanics. The shell abduction angle of approximately 45° can be determined by positioning the Alignment Guide perpendicular to the long axis of the patient **(Figure 10)**. Shell anteversion can be set at approximately 20° by moving the Shell Impactor so that the left/right anteversion rod is parallel to the long axis of the patient **(Figure 11)**.

The screw hole pattern in the shell is intended to be oriented superiorly for ancillary screw fixation. During shell insertion, avoid damage to the roughened surface from instruments such as retractors, and avoid dragging across soft tissue to keep the shell free of debris.

Impact the shell into the acetabulum using a mallet until a stable press-fit is achieved. Remove the impactor by carefully unthreading from the shell. The shell seating depth may be determined by viewing the acetabulum through the exposed dome hole. Should further seating be required, the impactor can be reattached to the shell to facilitate secondary impaction.

An optional Hex Dome Hole Plug may be inserted into the shell using the Trident II screw drivers. Evaluate the plug after insertion to confirm it is fully threaded into the shell to prevent impingement with the liner.

Straight Shell Impactor: 7004-0100

Instrument instructions

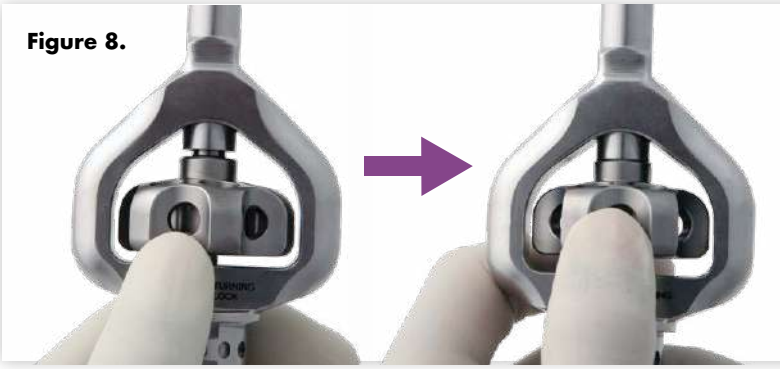
Shell Impactors

Insert the impactor tip flush with the square recess in the shell dome **(Figure 7)**. Turn the knob clockwise while applying a slight pressure towards the shell until it is attached. For the Straight Shell Impactor, it may be required to apply light pressure on the knob in the direction of the shell to initially engage the threads.

Figure 7.

Failure to completely thread the components together may result in damage to the threads upon impaction. Do not overtighten. The gap on the knob indicates an inadequate connection and will be concealed after appropriate tightening **(Figure 8)**.

Figure 8.



Alignment Guides

Lateral 1440-1370
or
Supine 1440-1380

To attach, slide the Alignment Guide onto the flats of the impactor spindle and rotate it to the desired location.

Figure 9.

Figure 10.

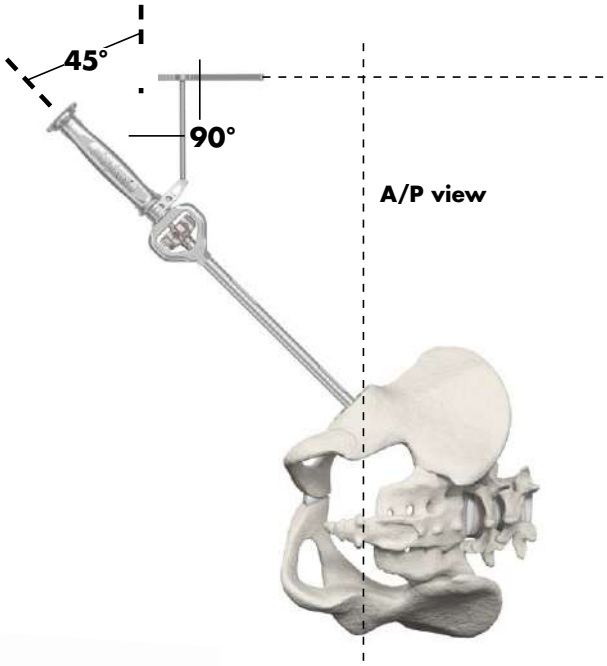
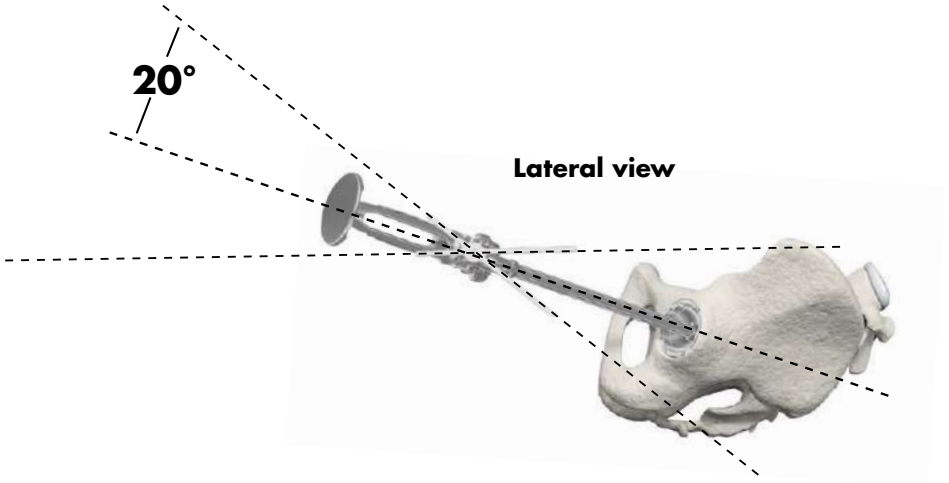


Figure 11.



Notes

- **Avoid catching soft tissue debris onto the frictional shell surface during implantation.**
- **Shell positioning must be carefully considered when selecting certain inserts as hooded options are not available in all sizes to adjust joint stability. Proper positioning of the Trident II Acetabular Shell may minimize potential impingement and promote stability and articulation between the insert and head. As with any acetabular system, excessive vertical orientation and/or anteversion of the shell should be avoided as this may lead to premature wear and/or noise of the components' surfaces.**
- **While the Alignment Guides offer some assistance in shell placement, it is important to critically evaluate anatomic landmarks before shell implantation. These anatomic landmarks include the anterior and posterior walls of the acetabulum, the sciatic notch, the transacetabular ligament (TAL), the floor and/or acetabular fossa of the acetabulum.**

Caution

Alignment Guide functionality may be impacted if the pelvis has moved from the original position during intraoperative manipulation. Small changes in pelvic flexion will greatly affect anteversion. The Alignment Guide is only one aid to assist with proper implant positioning. The surgeon must also rely on anatomic landmarks to avoid improper positioning of components.

Step 5A

Optional ancillary screw fixation

If the decision is made to use ancillary screw fixation, then only 6.5mm Low Profile Hex Screws (7030-65XX) may be used. The cancellous bone screws are 6.5mm in diameter and available in a variety of lengths from 15-60mm **(Table 3)**. The acetabular screws are designed to be inserted and removed with the Trident II screw instrumentation **(Table 4)**. Single Use Drill Bits are also offered for bone preparation.

Attach a 3.3 or 4.0mm Drill Bit to the Ball Joint Drill Shaft and connect to an appropriate power bone drill. After determining the site for screw placement, pass the appropriately sized Drill Bit through the Drill Guide of equivalent diameter size and insert the guide flush to the shell screw hole **(Figure 12)**. Use of the guide is required to ensure proper alignment of the hole trajectory to the screw hole and facilitates full seating of the screw head within the shell upon insertion. Drill to the desired depth and insert the Depth Gauge to aid in selection of the appropriate screw size.

Attach the screw to the Trident II U-Joint or Straight Driver. The driver tip is tapered to hold the screw on, however excessive shaking or motion may cause the screw to detach. Screw Forceps may be used to hold the screw and guide into the implant. Following screw insertion into bone, confirm the screw head is seated flush against the shell to help prevent eventual improper seating of the acetabular insert.

Table 3.

6.5mm Low Profile Hex Screws

15mm	7030-6515
20mm	7030-6520
25mm	7030-6525
30mm	7030-6530
35mm	7030-6535
40mm	7030-6540
45mm	7030-6545
50mm	7030-6550
55mm	7030-6555
60mm	7030-6560

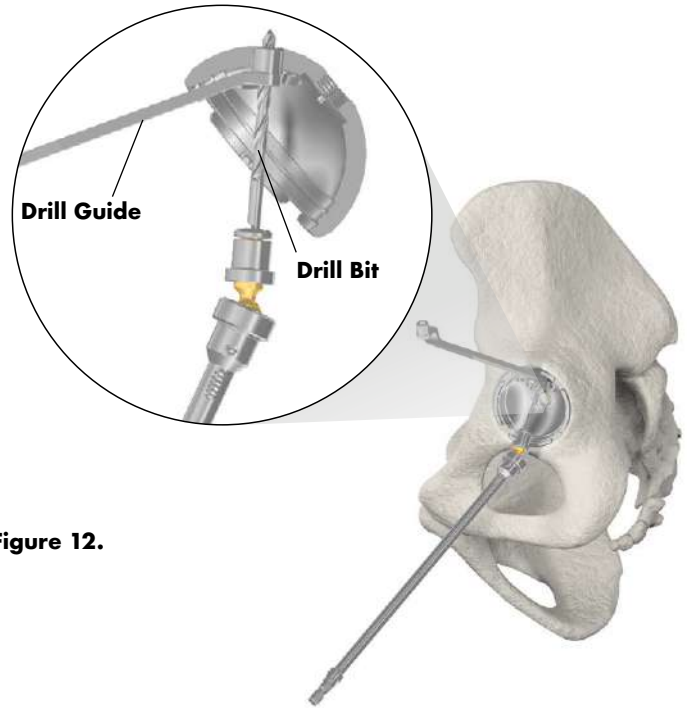


Figure 12.

Notes

- **Trident II Acetabular Shells are not intended to be drilled through.**
- **In dense bone, the use of 4.0mm Drill Bits may facilitate easier insertion of screws without substantial compromise of screw purchase.**
- **For drilling screw holes deeper than 40mm, it is recommended to drill sequentially with a 25mm/40mm bit and then follow with a 60mm bit to deepen to desired depth.**

Caution

- **Do not use a dull Drill Bit as it may generate excessive stresses in the bone.**
- **Do not pass a drill, screw or any other instrumentation beyond the inner table of the pelvis.**

  Malposition of either the shell screw hole orientation or bone hole trajectory, or improper use of the screws may result in injury to the neurovascular structures in the vicinity.
- **Once screws are inserted, confirm screw heads do not protrude into the inside of shell and interfere with proper assembly of liner implant.**
- **Do not use a power drill to insert the screw as excessive torque may result in damage to screw or driver.**
- **Operating the Ball Joint Drill Shaft at angles exceeding 45˚ for prolonged periods of time or with excessive force can lead to damage to the flexible joint and Drill Bit.**

Screw instrument instructions

Ball Joint Drill Shaft
To attach, retract the sleeve and insert the bit so that the lasermarking on the bit is concealed within the shaft tip.

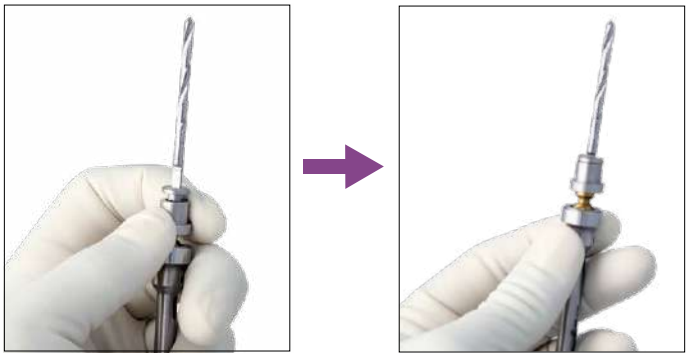


Figure 13.

Ratchet Handle
To attached driver, retract the sleeve and insert the driver so that engraved line on the shaft is concealed within the sleeve.

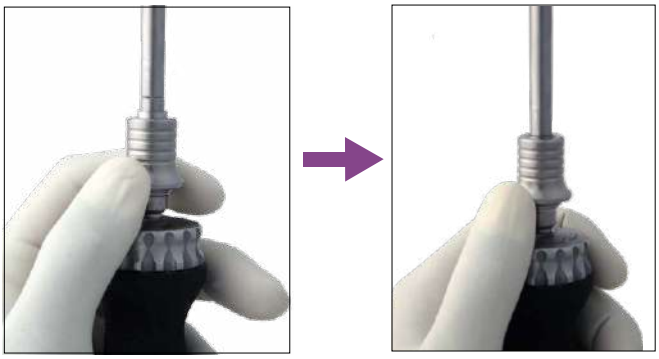


Figure 14.

Drill Bit length
The Drill Guide conceals 10mm of the Drill Bit length **(Figure 15** - example of 40mm Drill Bit).

Depth Gauge
Locate the end of the bone hole using the hook on the tip of the gauge. Clamp onto the gauge at the level of the screw hole and extract the gauge to use the markings to aid in appropriate screw size selection.

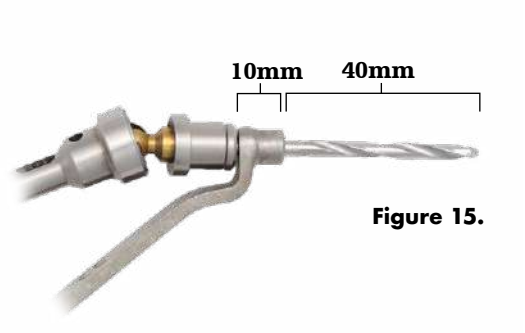


Figure 15.

Table 4.

Trident II screw instruments

Description	Catalog no.
Ratchet Driver Handle	7005-0101
U-Joint Driver	7005-0100
Straight Driver	7005-0099
Screw Forceps	7005-0500
Depth Gauge - Short	7005-0200
Depth Gauge - Long	7005-0201
Ball Joint Drill Shaft	7005-0300
Drill Guide 3.3mm	7005-0433
Drill Guide 4.0mm	7005-0440
Drill Bit 3.3mm X 25mm	7005-3325
Drill Bit 3.3mm X 40mm	7005-3340
Drill Bit 3.3mm X 60mm	7005-3360
Drill Bit 4.0mm X 25mm	7005-4025
Drill Bit 4.0mm X 40mm	7005-4040
Drill Bit 4.0mm X 60mm	7005-4060

Single-use instruments

Catalog no.	Description
7005-3315S	Single Use Drill Bit 3.3mm x 15mm
7005-3325S	Single Use Drill Bit 3.3mm x 25mm
7005-3340S	Single Use Drill Bit 3.3mm x 40mm
7005-3360S	Single Use Drill Bit 3.3mm x 60mm
7005-4015S	Single Use Drill Bit 4.0mm x 15mm
7005-4025S	Single Use Drill Bit 4.0mm x 25mm
7005-4040S	Single Use Drill Bit 4.0mm x 40mm
7005-4060S	Single Use Drill Bit 4.0mm x 60mm

Step 6

Trial Insert reduction

A joint mechanics evaluation may be performed with implant trials following femoral preparation and shell implantation. Insert a Trial Insert into the Trident II Shell **(Figure 16a)**.

An optional Trial Insert Hex Containment Screw for securing the trial to the shell is available **(Figure 16b)**. Use a 3.5mm hex driver to insert the Hex Containment Screw.

Only these two drivers have a captive tip design to hold the Hex Containment Screw on, however excessive shaking or motion may cause the screw to detach.

Do not overtighten as this may lead to liner trial damage.

To facilitate insertion/removal of the Trial Insert, Screw Forceps may be placed into the two holes in the plastic face.

After reducing the femoral and acetabular trials, the patient should be taken through a complete range of motion. Trials matching the final selected implant sizes should be used. Careful assessment of impingement at the extreme range of motion should be performed. A final check of hip mechanics should be completed to include range of motion consistent with the patient's normal daily activities.

At this point joint laxity should also be assessed, taking into consideration the type of anesthetic used and its effects on soft tissue. Additionally, an intraoperative X-ray may be taken at this point to assess leg length, offset, component size and position.

Note

Impingement should be carefully assessed and avoided during range of motion. Impingement can result in increased wear in metal-polyethylene systems, as well as instability.

▲ = 0° (2200-XXX) only
● = 0° (2200-XXX) & 10° (2210-XXX)
■ = 0° (2200-XXX),10° (2210-XXX) & Elevated rim (2260-XXX)

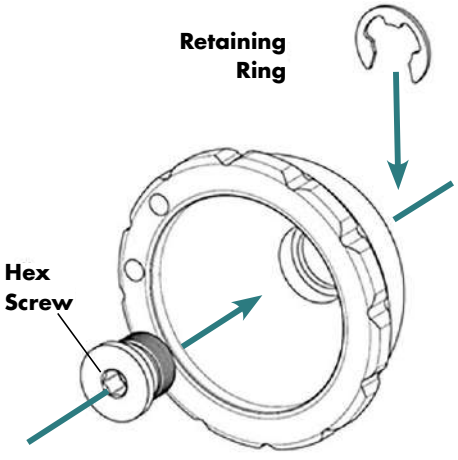
Alpha code	22mm	28mm	32mm	36mm	40mm	44mm
A	●	▲				
B	●	▲	▲			
C	●	■	▲			
D	●	■	●	▲		
E	●	■	■	■	▲	
F	●	■	■	■	▲	▲
G	●	■	■	■	▲	▲
H	●	■	■	■	▲	▲

Trident eccentric trials

▲ = 0° (2240-XXX) only
● = 0° (2240-XXX) & 10° (2250-XXX)

Alpha code	28mm	32mm	36mm
B	▲		
C	●		
D	●	●	
E	●	●	●
F	●	●	●
G	●	●	●
H	●	●	●

Figure 16a.



Trial Insert Hex Containment Screw Kit 7003-0000

Figure 16b.

Appendix A

Insert implantation

The Trident Polyethylene Insert is designed to lock into the shell by means of a circumferential ring that engages the mating groove within the shell. Rotational stability can be achieved when the anti-rotational barbs of the shell interlock with the insert scallops. Trident Alumina Ceramic Inserts gain fixation within the shell by means of mating tapers. Rotational stability between the components is achieved when the shell's anti-rotational barbs interlock with the insert scallops.

1. Ensure that the inside of the shell and periphery are clean and free of soft tissue or any other debris which can cause eccentric positioning of the insert and improper seating in the shell.

2. Gently introduce the ceramic or polyethylene insert making sure that the insert flange scallops are aligned with the slots at the rim of the shell. This orientation will allow the insert to rest on the four indexing barbs and will ensure that the insert is parallel with the shell. Once the insert is seated at the initial position, slowly turn and drop the insert into the final prelocked position.

3. Select the appropriately sized Plastic Insert Impactor Tip and load onto Insert Positioner/Impactor Handle **(Figure 17)**.

4. Position Insert Positioner/Impactor Handle into inner diameter of insert. Take care to align handle with the axis of shell. Strike handle with approximately four firm mallet blows to fully seat the insert **(Figure 18)**.

Note

Having a clear view of the rim of the acetabulum will allow easier visualization of the shell slots and indexing barbs for proper positioning and seating of the liner.

Note

Use caution handling ceramic components during assembly because of brittle nature of the ceramic material. All components are pre-sterilized and cannot be sterilized after opening.

Figure 17.

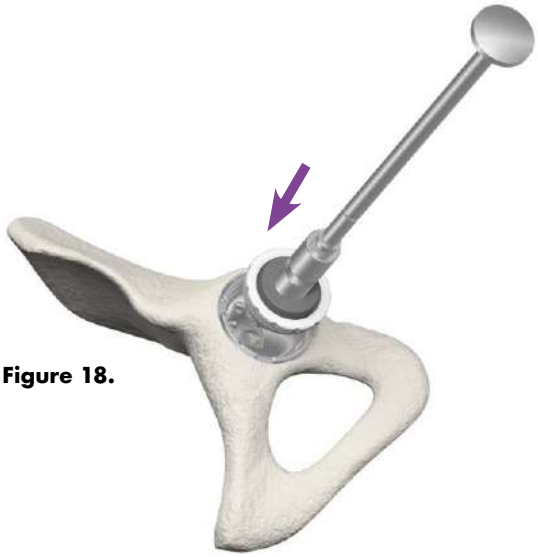
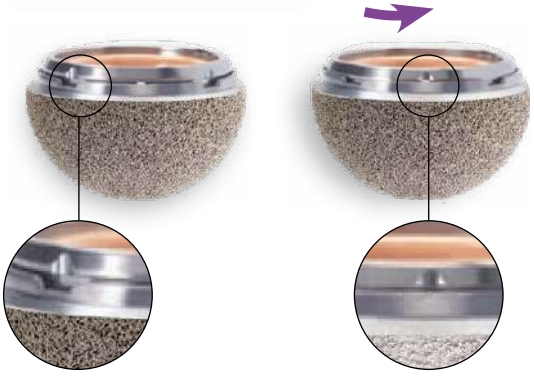
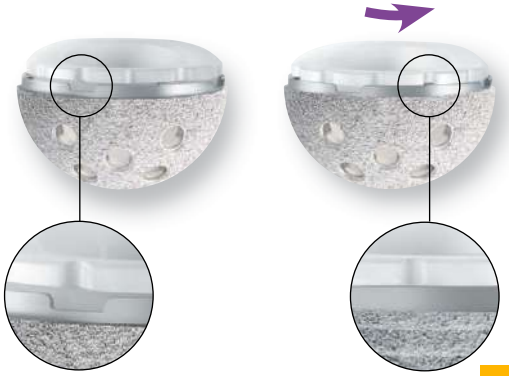


Figure 18.





Appendix A (continued)

Head assembly

Prior to head assembly to the implanted femoral stem, neck length selection may be reevaluated using Stryker's V40 or C-Taper head trial. Place the head trial onto the stem neck taper and reduce the hip to verify that the mechanics have not been altered due to shell seating.

Remove the head trial and dry the implant trunnion with a laparatomy sponge or sterile towel.

Select the appropriate corresponding V40 or C-Taper femoral head size and place it onto the dry trunnion of the femoral stem with a slight twist. Impact the head with moderate impactions in line with the neck using the Stem Head Impactor (1104-1000) **(Figure 19)**. Care should be taken to prevent scratching of the femoral head against the acetabular component rim during final reduction.

With the final selected femoral, head and acetabular implants in place, reduce the components and perform a final joint mechanics evaluation of the patient.

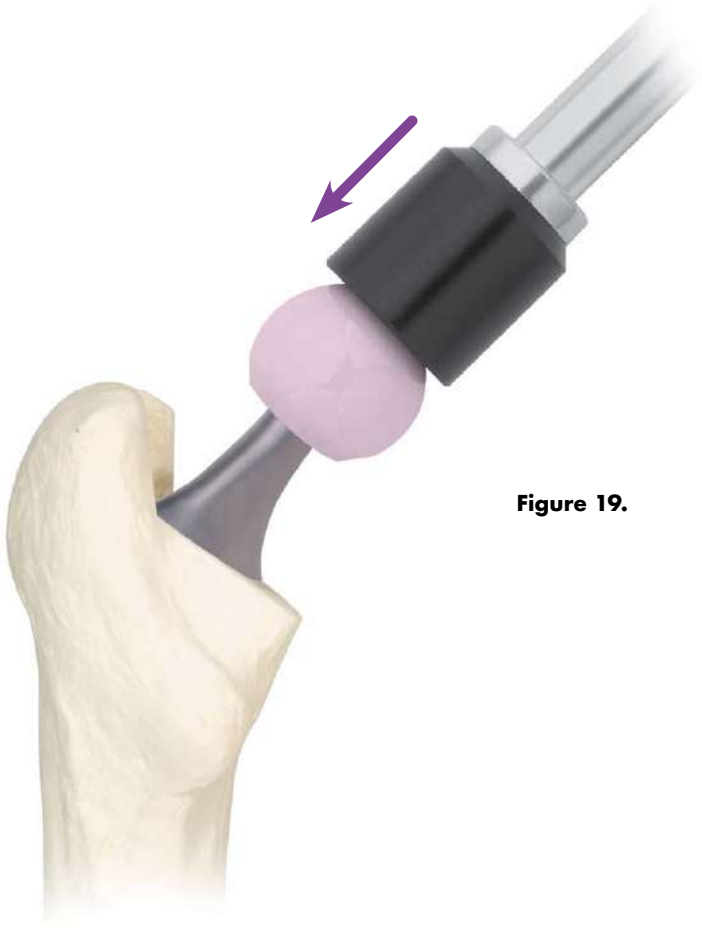


Figure 19.

Optional step

Universal Adapter Sleeves

Part numbers	Taper	Stem material compatibility
19-0XXXT	C-Taper	TMZF, Ti-6Al-4V, CoCr
6519-T-XXX	V40	TMZF, Ti-6Al-4V, CoCr, Stainless Steel

After completing the trialing process, assemble the Universal Adapter Sleeve to the femoral stem manually. The Universal Adapter Sleeve must be fully seated on the stem taper before the head is assembled. Intraoperatively assemble the BIOLOX delta Universal Taper Ceramic Head onto the sleeved femoral stem and set with moderate impactions in line with the neck using the Stem Head Impactor (1104-1000). Care must be taken to avoid excessive impact forces when assembling the BIOLOX delta Ceramic Head to the sleeved femoral component.

Notes

- **When selecting a BIOLOX delta Universal Taper Ceramic Head for implantation, use of a Universal Adapter Sleeve is necessary.**
- **In no instance should any attempt be made to preassemble the Universal Adapter Sleeve inside the BIOLOX delta Universal Ceramic Head.**

Appendix B

Modular Dual Mobility

MDM Liner implantation

Ensure that the inside of the shell is clean, dry and free of soft tissue or any other debris, which could prevent the liner from properly seating in the shell.

Gently introduce the MDM Liner making sure that the liner flange scallops are aligned with the slots in the rim of the shell. This orientation will allow the liner to rest on the four indexing barbs and will ensure that the liner is parallel with the shell. Next, slowly turn the liner until it drops into the final pre-locking position. Correct rotational orientation will result in the liner tabs aligned with the slots on the shell rim.

Apply finger pressure around the rim of the liner first to engage the liner within the shell.

Load a 36mm Plastic Insert Impactor Tip onto the Insert Positioner/Impactor Handle. It may be necessary to lightly tap on the rim of the liner with the Plastic Insert Impactor Tip, working around the rim in all four quadrants, to ensure the liner is properly seated and concentric within the shell.

The liner is properly seated when there is no further rocking or movement of the liner within the shell. This step should be done prior to final impaction of the liner.

Position the Postioner/Impactor handle into the inner diameter of the liner. Take care to align the handle with the axis of the shell. Strike the handle with several mallet blows to fully seat the liner. MDM Liners are designed to lock within the shell by means of mating tapers.

Verify the liner is properly aligned and fully seated into the acetabular shell. Check the taper lock by running a small blunt instrument (or the Liner Removal Tool) around the periphery of the shell/ liner interface. There should not be any space between the rim of the shell and the underside of the rim.

Visually assess the inner articular surface of the MDM Liner to ensure it is not scratched or damaged prior to the trial insert/head reduction.

Notes

- **As with any modular interface under load, there is a potential for fretting and/or corrosion. Proper alignment and locking of the MDM Liner into the shell may help to minimize this risk.**
- **Having a clear view of the rim of the acetabulum will allow easier visualization of the shell slots and indexing barbs for proper positioning and seating of the liner.**

Caution

- **Care should be taken to avoid forcing MDM Liner Trial into place when trialing with the shell. The liner trial should freely assemble with the shell.**
- **Care should be taken to avoid damage to the highly polished inner surface of the MDM CoCr Liner.**
- **Care should be taken to ensure that the liner is correctly aligned within the shell. Failure to do so may result in incomplete or incorrect liner engagement.**

Appendix C

Removal of the insert and shell

Polyethylene insert removal

Use a 3.3mm Drill Bit to create an off-center hole in the polyethylene insert. Care must be taken to avoid drilling through an unused screw hole and into the wall of the acetabulum. Use the T-Handle (1101-2100) to thread the Polyethylene Insert Removal Tool (2112-0010) into the insert, and advance the tool to the medial wall of the shell to dislodge the insert **(Figures 20 and 21)**. If the Polyethylene Insert Removal Tool is not available, then a 6.5mm cancellous screw may be used.

MDM Liner removal

Should it become necessary to remove the MDM Liner from the Trident II Shell, refer to the MDM X3 surgical technique.

Ceramic insert removal

The Trident Alumina Insert Removal Tool is designed to provide the surgeon with two options for extracting the ceramic insert from the Trident shell.

Option 1: Flat head

Connect the T-Handle to the L-shaped end of the removal tool. Insert the flat end of the removal tool between the shell and ceramic insert at one of the four notches at the shell rim.

While applying continuous force toward the center of the shell, twist the T-Handle (like a screwdriver) to dislodge the ceramic insert (**Figure 23**). It may be required to repeat this procedure at the other notches in order to successfully disengage the taper.

Option 2: L-shaped

Insert the L-shaped end of the removal tool between the shell and ceramic insert at one of the four notches at the shell rim.

Apply continuous force toward the center of the shell, and lever the tool in a plane tangent to the shell's outside edge to dislodge the ceramic insert (**Figure 23**). It may be required to repeat this procedure at the other notches in order to successfully disengage the taper.

The removal tool may be attached to the Insert Positioner/ Impactor Handle to increase leverage and length for larger patients.

Revising the Trident II Shell with a Trident Insert

Should it become necessary to remove the insert, a new polyethylene insert can be inserted into the Trident II Shell.

1. Carefully remove the Trident Insert (refer to instructions above) and inspect the shell locking mechanism for any potential damage. If the locking mechanism is damaged during liner removal, the shell should not be used.
2. The Trident Insert Trials are designed to evaluate the shell face position and provide a final check of hip biomechanics. Polyethylene inserts are available in various configurations and sizes, including 0°, 10° and constrained insert options. The polyethylene inserts provide 12 different insert orientations within the shell to provide optimal joint stability.
3. Follow Appendix A: Insert Liner.

Trident II Shell removal

Should removal of the metal shell become necessary, a curved osteotome, compatible cup removal system or small burr can be passed around the cup periphery to loosen the fixation interface. The Shell Impactor is then threaded into the dome hole of the cup. Gently impact the impaction pad with a mallet to assist with shell removal.

Notes

- **An alternative shell removal technique is to toggle the shell to loosen it and remove it by hand. Use caution when using shell extraction devices.**
- **Having a clear view of the rim of the acetabulum will allow easier visualization of the shell slots and indexing barbs for proper positioning and seating of the insert.**

Figure 20.

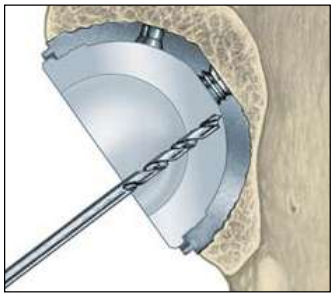


Figure 21.

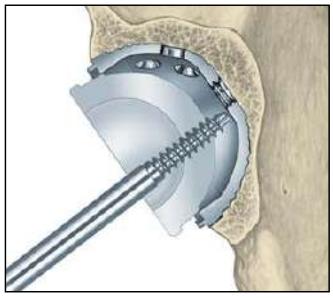


Figure 22.

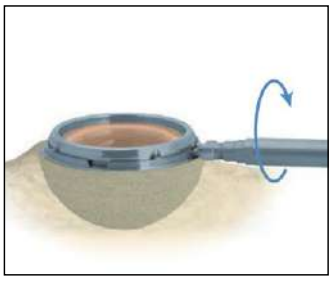
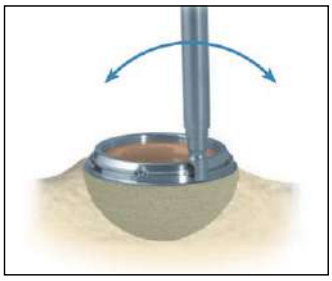


Figure 23.



Step 7

Head disassembly

The Head Disassembly Instrument is used to remove an impacted head **(Figures 24 and 25)**. Inspect the stem neck trunnion to verify that no damage has occurred prior to impacting a replacement head. A replacement head may then be attached to the stem neck taper and secured using the Stem Head Impactor.

Revision of BIOLOX delta Ceramic Heads assembled with an adapter sleeve

If the BIOLOX delta Ceramic Head needs to be revised for any reason, remove the Ceramic Head with the Head Disassembly Instrument (1118-6000* or 6059-9-505 depending on femoral head size) and remove the adapter sleeve with the Ceramic Head Sleeve Disassembly Adapter (1118-1005* and 1118-6000*).

Figure 25.

Notes
This Head Disassembly Instrument (1118-6000*) cannot be used with 36, 40, and 44mm heads. (Figure 25)

Figure 24.

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Step 7

Head disassembly (continued)

The following table provides a guide for selecting a replacement head. The first two columns describe the stem taper type and original femoral head material used, and the third column lists the available replacement options.

Original stem taper type	Original femoral head material	Replacement femoral head options
V40	Metal	1. V40 to C-Taper adapter sleeve with a C-Taper BIOLOX delta Ceramic Head 2. V40 Universal Taper sleeve with a BIOLOX delta Universal Ceramic Head 3. V40 Metal Head
	BIOLOX delta Ceramic	1. V40 to C-Taper adapter sleeve with a C-Taper BIOLOX delta Ceramic Head 2. V40 Universal Taper sleeve with a BIOLOX delta Universal Ceramic Head 3. V40 Metal Head
	Universal BIOLOX delta Ceramic	1. V40 Metal Head after removal of sleeve 2. New V40 Universal Taper sleeve with a BIOLOX delta Universal Ceramic Head 3. V40 to C-Taper adapter sleeve with a C-Taper BIOLOX delta Ceramic Head
C-Taper	Metal	1. C-Taper Universal Taper sleeve with a BIOLOX delta Universal Ceramic Head 2. C-Taper Metal Head
	BIOLOX delta Ceramic	1. C-Taper Universal Taper sleeve with a BIOLOX delta Universal Ceramic Head 2. C-Taper Metal Head
	Universal BIOLOX delta Ceramic	1. Metal Head after removal of sleeve 2. New C-Taper Universal Taper sleeve with a BIOLOX delta Universal Ceramic Head

Notes:

- **Metal heads and BIOLOX delta Ceramic Heads with sleeve only can be used in revision cases only if the stem trunnion appears undamaged and intact upon close inspection. The entire hip stem must be revised if this is not the case.**
- **BIOLOX delta Ceramic Heads and metal heads can be used with polyethylene liners.**
- **Do not reassemble a BIOLOX delta Ceramic Head and stem. Once a BIOLOX delta Ceramic Head has been assembled to a stem taper, it should never be reassembled to that stem or subsequently assembled to any other stem. In addition, a BIOLOX delta Ceramic Head should only be assembled to an unused stem taper. Once a stem taper has been assembled to any femoral head, it should never be subsequently assembled to any BIOLOX delta Ceramic Head component due to deformation of the stem's taper locking mechanism during initial stem/head assembly.**

Catalog information

Trident II PSL Clusterhole HA Shell

Catalog no.	Size (mm)
742-11-42A	42
742-11-44B	44
742-11-46C	46
742-11-48D	48
742-11-50D	50
742-11-52E	52
742-11-54E	54
742-11-56F	56
742-11-58F	58
742-11-60G	60
742-11-62G	62
742-11-64H	64
742-11-66H	66

6.5mm Low Profile Hex Screws

Catalog no.	Size (mm)
7030-6515	15mm
7030-6520	20mm
7030-6525	25mm
7030-6530	30mm
7030-6535	35mm
7030-6540	40mm
7030-6545	45mm
7030-6550	50mm
7030-6555	55mm
7030-6560	60mm

Hex Dome Hole Plug

Catalog no.	Size (mm)
7060-0000	Hex Dome Hole Plug

Catalog information

Trident X3 Polyethylene Inserts

X3 0° catalog no.	X3 10° catalog no.	X3 Eccentric 0° catalog no.**	X3 Eccentric 10° catalog no.	X3 Elevated Rim catalog no.
623-00-22A or 723-00-22A	623-10-22A or 723-10-22A	-	-	-
623-00-22B or 723-00-22B	623-10-22B or 723-10-22B	-	-	-
623-00-22C or 723-00-22C	623-10-22C or 723-10-22C	-	-	-
623-00-22D or 723-00-22D	623-10-22D or 723-10-22D	-	-	-
623-00-22E or 723-00-22E	623-10-22E or 723-10-22E	-	-	-
623-00-22F or 723-00-22F	623-10-22F or 723-10-22F	-	-	-
623-00-22G or 723-00-22G	623-10-22G or 723-10-22G	-	-	-
623-00-22H or 723-00-22H	623-10-22H or 723-10-22H	-	-	-
	623-10-26C or 723-10-26C			
	623-10-26D or 723-10-26C			
	623-10-26C or 723-10-26C			
	623-10-26C or 723-10-26C			
	623-10-26C or 723-10-26C			
	623-10-26C or 723-10-26C			
623-00-28A or 723-00-28A	-	-	-	-
623-00-28B or 723-00-28B	-	663-00-28B or 763-00-28B	-	-
623-00-28C or 723-00-28C	623-10-28C or 723-10-28C	663-00-28C or 763-00-28C	663-10-28C or 763-10-28C	643-00-28C or 743-00-28C
623-00-28D or 723-00-28D	623-10-28D or 723-10-28D	663-00-28D or 763-00-28D	663-10-28D or 763-10-28D	643-00-28D or 743-00-28D
623-00-28E or 723-00-28E	623-10-28E or 723-10-28E	663-00-28E or 763-00-28E	663-10-28E or 763-10-28E	643-00-28E or 743-00-28E
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623-00-28G or 723-00-28G	623-10-28G or 723-10-28G	663-00-28G or 763-00-28G	663-10-28G or 763-10-28G	643-00-28G or 743-00-28G
623-00-28H or 723-00-28H	623-10-28H or 723-10-28H	663-00-28H or 763-00-28H	663-10-28H or 763-10-28H	643-00-28H or 743-00-28H
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623-00-32C or 723-00-32C	-	-	-	-
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623-00-32E or 723-00-32E	623-10-32E or 723-10-32E	663-00-32E or 763-00-32E	663-10-32E or 763-10-32E	643-00-32E or 743-00-32E
623-00-32F or 723-00-32F	623-10-32F or 723-10-32F	663-00-32F or 763-00-32F	663-10-32F or 763-10-32F	643-00-32F or 743-00-32F
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623-00-32H or 723-00-32H	623-10-32H or 723-10-32H	663-00-32H or 763-00-32H	663-10-32H or 763-10-32H	643-00-32H or 743-00-32H
623-00-36D or 723-00-36D	-	-	-	-
623-00-36E or 723-00-36E	623-10-36E or 723-10-36E	663-00-36E or 763-00-36E	663-10-36E or 763-10-36E	643-00-36E or 743-00-36E
623-00-36F or 723-00-36F	623-10-36F or 723-10-36F	663-00-36F or 763-00-36F	663-10-36F or 763-10-36F	643-00-36F or 743-00-36F
623-00-36G or 723-00-36G	623-10-36G or 723-10-36G	663-00-36G or 763-00-36G	663-10-36G or 763-10-36G	643-00-36G or 743-00-36G
623-00-36H or 723-00-36H	623-10-36H or 723-10-36H	663-00-36H or 763-00-36H	663-10-36H or 763-10-36H	643-00-36H or 743-00-36H
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623-00-40E or 723-00-40E	-	-	-	-
623-00-40F or 723-00-40F	-	-	-	-
623-00-40G or 723-00-40G	-	-	-	-
623-00-40H or 723-00-40H	-	-	-	-
623-00-44F or 723-00-44F	-	-	-	-
623-00-44G or 723-00-44G	-	-	-	-
623-00-44H or 723-00-44H	-	-	-	-

Crossfire Inserts 0°:

0° catalog no.	0° catalog no.
621-00-22A	621-00-32G
621-00-22B	621-00-32H
621-00-28C	621-00-36E
621-00-28D	621-00-36F
621-00-32D	621-00-36G
621-00-32E	621-00-36H
621-00-32F	

Crossfire Inserts 10°:

10° catalog no.	10° catalog no.
621-10-22A	621-10-32G
621-10-22B	621-10-32H
621-10-28C	621-10-36E
621-10-28D	621-10-36F
621-10-32D	621-10-36G
621-10-32E	621-10-36H
621-10-32F	

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Catalog information

Modular Dual Mobility

MDM Liner, insert and femoral head compatibility

MDM Liner catalog no.	MDM X3 Insert catalog no.	Required femoral head size (mm) catalog no.	MDM Liner Trial catalog no.	MDM Dual Articulating Insert Trial catalog no.	MDM Monopolar Insert Trial catalog no.
626-00-36C	1236-2-242 or 7236-2-242	22.2	3200-36C	1235-0-242	1235-0-242M
626-00-38D	1236-2-244 or 7236-2-244	22.2	3200-38D	1235-0-244	1235-0-244M
626-00-42E	1236-2-848 or 7236-2-848	28	3200-42E	1235-0-848	1235-0-848M
626-00-46F	1236-2-852 or 7236-2-852	28	3200-46F	1235-0-852	1235-0-852M
626-00-48G	1236-2-854 or 7236-2-854	28	3200-48G	1235-0-854	1235-0-854M
626-00-52H	1236-2-858 or 7236-2-858	28	3200-52H	1235-0-858	1235-0-858M

V40 Taper LFIT Heads

Catalog no.	Diameter (mm)	Offset (mm)	Trial catalog no.
6260-9-122	22	+0	6264-8-122R
6260-9-222	22	+3	6264-8-222R
6260-9-322	22	+8	6264-8-322R
6260-9-028	28	-4	6264-8-028R
6260-9-128	28	+0	6264-8-128R
6260-9-228	28	+4	6264-8-228R
6260-9-328	28	+8	6264-8-328R
6260-9-428	28	+12	6264-8-428R
6260-9-032	32	-4	6264-8-032R
6260-9-132	32	+0	6264-8-132R
6260-9-232	32	+4	6264-8-232R
6260-9-332	32	+8	6264-8-332R
6260-9-432	32	+12	6264-8-432R

Note: Trial heads with an "R" suffix are made from radiopaque material, designed to allow for easy visibility on X-rays.

C-Taper LFIT Heads

Catalog no.	Diameter (mm)	Offset (mm)	Trial catalog no.
06-2200	22	+0	1100-2200R
S-1400-HH22*	22	+2.5	1100-2225R*
06-2205	22	+5	1100-2205R
06-2210	22	+10	1100-2210R
06-2898	28	-3	1100-2898R
06-2800	28	+0	1100-2800R
S-1400-HH82*	28	+2.5	1100-2825R
06-2805	28	+5	1100-2805R
S-1400-HH84*	28	+7.5	1100-2875R*
06-2810	28	+10	1100-2810R
06-3299	32	-5	1100-3299R
S-1400-HH31*	32	-2.5	1100-3297R*
06-3200	32	+0	1100-3200R
S-1400-HH32*	32	+2.5	1100-3225R
06-3205	32	+5	1100-3205R
S-1400-HH34*	32	+7.5	1100-3275R*
06-3210	32	+10	1100-3210R

Alumina Ceramic Insert compatibility

Alpha code	Implant catalog no.	ID (mm)	Shell size (mm)	Trial catalog no.	Trial color
D	625-0T-28D	22	48, 50	2200-28D	Black
E	625-0T-32E	32	52, 54	2200-32E	Blue
F	625-0T-32F	32	56, 58	2200-32F	Blue
G	625-0T-36G	36	60, 62	2200-36G	Gray
H	625-0T-36H	36	64, 66	2200-36H	Gray

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Catalog information

Femoral head compatibility

V40 Taper LFIT Anatomic Heads

Catalog no.	Diameter (mm)	Offset (mm)	Trial catalog no.
6260-9-036	36	-5	6264-8-036R
6260-9-136	36	+0	6264-8-136R
6260-9-236	36	+5	6264-8-236R
6260-9-336	36	+10	6264-8-336R
6260-9-040	40	-4	6264-8-040R
6260-9-140	40	+0	6264-8-140R
6260-9-240	40	+4	6264-8-240R
6260-9-340	40	+8	6264-8-340R
6260-9-440	40	+12	6264-8-440R
6260-9-044	44	-4	6264-8-044R
6260-9-144	44	+0	6264-8-144R
6260-9-244	44	+4	6264-8-244R
6260-9-344	44	+8	N/A
6260-9-444	44	+12	N/A

C-Taper LFIT Anatomic Heads

Catalog no.	Diameter (mm)	Offset (mm)	Trial catalog no.
06-3699	36	-5	1100-3699R
06-3697	36	-2.5	1100-3697R
06-3600	36	+0	1100-3600R
06-3625	36	+2.5	1100-3625R
06-3605	36	+5	1100-3605R
06-3675	36	+7.5	1100-3675R
06-3610	36	+10	1100-3610R
06-4099	40	-5	1100-4099R
06-4097	40	-2.5	1100-4097R
06-4000	40	+0	1100-4000R
06-4025	40	+2.5	1100-4025R
06-4005	40	+5	1100-4005R
06-4075	40	+7.5	1100-4075R
06-4010	40	+10	1100-4010R
06-4499	44	-5	1100-4499R
06-4497	44	-2.5	1100-4497R
06-4400	44	+0	1100-4400R
06-4425	44	+2.5	1100-4425R
06-4405	44	+5	1100-4405R
06-4475	44	+7.5	N/A
06-4410	44	+10	N/A

Note: Trial heads with an "R" suffix are made from radiopaque material, designed to allow for easy visibility on X-rays.

V40 Taper BIOLOX delta Ceramic Heads

Catalog no.	Diameter (mm)	Offset (mm)	Trial catalog no.
6570-0-028	28	-4	6264-8-028R
6570-0-328	28	-2.7	6264-8-928R
6570-0-128	28	+0	6264-8-128R
6570-0-228	28	+4	6264-8-228R
6570-0-032	32	-4	6264-8-032R
6570-0-132	32	+0	6264-8-132R
6570-0-232	32	+4	6264-8-232R

C-Taper BIOLOX delta Ceramic Heads

Catalog no.	Diameter (mm)	Offset (mm)	Trial catalog no.
18-28-3	28	-2.5	1100-2897R
18-2800	28	+0	1100-2800R
18-2825	28	+2.5	1100-2825R
18-2805	28	+5	1100-2805R
18-32-3	32	-2.5	1100-3297R
18-3200	32	+0	1100-3200R
18-3225	32	+2.5	1100-3225R
18-3205	32	+5	1100-3205R

Note: Trial heads with an "R" suffix are made from radiopaque material, designed to allow for easy visibility on X-rays.

Catalog information

Femoral head compatibility

V40 Taper BIOLOX delta Ceramic Anatomic Heads

Catalog no.	Diameter (mm)	Offset (mm)	Trial catalog no.
6570-0-036	36	-5	6264-8-036R
6570-0-436	36	-2.5	6264-8-436R
6570-0-136	36	+0	6264-8-136R
6570-0-536	36	+2.5	6264-8-536R
6570-0-236	36	+5	6264-8-236R
6570-0-736	36	+7.5	6264-8-736R

C-Taper BIOLOX delta Ceramic Anatomic Heads

Catalog no.	Diameter (mm)	Offset (mm)	Trial catalog no.
18-36-5	36	-5	1100-3699R
18-36-3	36	-2.5	1100-3697R
18-3600	36	+0	1100-3600R
18-3625	36	+2.5	1100-3625R
18-3605	36	+5	1100-3605R
18-3675	36	+7.5	1100-3675R

Universal Taper BIOLOX delta Ceramic Heads*

Catalog no.	Diameter (mm)
6519-1-028	28
6519-1-032	32
6519-1-036	36
6519-1-040	40
6519-1-044	44

***Requires use of Universal Adapter Sleeve.**

Universal Adapter Sleeves – Titanium

Catalog no.	Offset (mm)	Taper
19-0325T	-2.5	C-Taper
19-0000T	+0	C-Taper
19-0025T	+2.5	C-Taper
19-0005T	+5	C-Taper
6519-T-025	-2.5	V40
6519-T-100	+0	V40
6519-T-204	+4	V40

Universal Trial Heads

Catalog no.	Diameter (mm)	Offset (mm)	Trial catalog no.
1100-4497R	44	–2.5	C-Taper
1100-4425R	44	+2.5	C-Taper
6264-8-728R	28	-2.5	V40
6264-8-632R	32	-2.5	V40
6264-8-236R	36	+4.0	V40
6264-8-940R	40	-2.5	V40
6264-8-944R	44	-2.5	V40

Note: Trial heads with an "R" suffix are made from radiopaque material, designed to allow for easy visibility on X-rays.

C-Taper Alumina Ceramic Heads

Catalog no.	Diameter (mm)	Offset (mm)	Trial catalog no.
17-28-3E	28	–2.5	1100-2897R
17-2800E	28	+0	1100-2800R
17-2805E	28	+5	1100-2805R
17-32-3E	32	–2.5	1100-3297R
17-3200E	32	+0	1100-3200R
17-3205E	32	+5	1100-3205R
17-36-5E	36	–5	1100-3699R
17-3600E	36	+0	1100-3600R
17-3605E	36	+5	1100-3605R

V40 Taper Alumina Ceramic Heads

Catalog no.	Diameter (mm)	Offset (mm)	Trial catalog no.
6565-0-028	28	–2.7	6264-8-928R
6565-0-128	28	+0	6264-8-128R
6565-0-228	28	+4	6264-8-228R
6565-0-032	32	-4	6264-8-032R
6565-0-132	32	+0	6264-8-132R
6565-0-232	32	+4	6264-8-232R
6565-0-036	36	-5	6264-8-036R
6565-0-136	36	+0	6264-8-136R
6565-0-236	36	+5	6264-8-236R

Catalog information

Instruments

Trident II Core Reamers (38-66)mm Tray (7000-0100)

Catalog no.	Description
2102-0438	38mm CuttingEdge Acetabular Reamer
2102-0439	39mm CuttingEdge Acetabular Reamer
2102-0440	40mm CuttingEdge Acetabular Reamer
2102-0441	41mm CuttingEdge Acetabular Reamer
2102-0442	42mm CuttingEdge Acetabular Reamer
2102-0443	43mm CuttingEdge Acetabular Reamer
2102-0444	44mm CuttingEdge Acetabular Reamer
2102-0445	45mm CuttingEdge Acetabular Reamer
2102-0446	46mm CuttingEdge Acetabular Reamer
2102-0447	47mm CuttingEdge Acetabular Reamer
2102-0448	48mm CuttingEdge Acetabular Reamer
2102-0449	49mm CuttingEdge Acetabular Reamer
2102-0450	50mm CuttingEdge Acetabular Reamer
2102-0451	51mm CuttingEdge Acetabular Reamer
2102-0452	52mm CuttingEdge Acetabular Reamer
2102-0453	53mm CuttingEdge Acetabular Reamer
2102-0454	54mm CuttingEdge Acetabular Reamer
2102-0455	55mm CuttingEdge Acetabular Reamer
2102-0456	56mm CuttingEdge Acetabular Reamer
2102-0457	57mm CuttingEdge Acetabular Reamer
2102-0458	58mm CuttingEdge Acetabular Reamer
2102-0459	59mm CuttingEdge Acetabular Reamer
2102-0460	60mm CuttingEdge Acetabular Reamer
2102-0461	61mm CuttingEdge Acetabular Reamer
2102-0462	62mm CuttingEdge Acetabular Reamer
2102-0463	63mm CuttingEdge Acetabular Reamer
2102-0464	64mm CuttingEdge Acetabular Reamer
2102-0465	65mm CuttingEdge Acetabular Reamer
2102-0466	66mm CuttingEdge Acetabular Reamer
2102-0410	Straight Reamer Handle

Trident II General Tray (7000-0101)

Catalog no.	Description
7005-0500	Screw Forceps
7005-0101	Ratchet Driver Handle
7005-0099	Straight Driver
7005-0200	Depth Gauge - Short
7005-0201	Depth Gauge - Long
7005-0300	Ball Joint Drill Shaft
7005-0433	Drill Guide 3.3mm
7005-0440	Drill Guide 4.0mm
7005-3325	Drill Bit 3.3mm X 25mm
7005-3340	Drill Bit 3.3mm X 40mm
7005-3360	Drill Bit 3.3mm X 60mm
7005-4025	Drill Bit 4.0mm X 25mm
7005-4040	Drill Bit 4.0mm X 40mm
7005-4060	Drill Bit 4.0mm X 60mm
7004-0100	Straight Shell Impactor
1440-1370	Alignment Guide-Lateral Decubitus
2111-0000B	Insert Positioner / Impactor Handle
2111-3022	Insert Impactor Tip 22mm
2111-3028	Insert Impactor Tip 28mm
2111-3032	Insert Impactor Tip 32mm
2111-3036	Insert Impactor Tip 36mm
2111-3040	Insert Impactor Tip 40mm
2112-0010	Poly Removal Tool
6264-8-036R	36mm V40 Femoral Head Trial; -5mm
6264-8-436R	36mm V40 Femoral Head Trial; -2.5mm
6264-8-136R	36mm V40 Femoral Head Trial; 0mm
6264-8-536R	36mm V40 Femoral Head Trial; +2.5mm
6264-8-236R	36mm V40 Femoral Head Trial; +5mm
6264-8-736R	36mm V40 Femoral Head Trial; +7.5mm
6264-8-336R	36mm V40 Femoral Head Trial; +10mm
Optional	
1440-1380	Alignment Guide- Supine
510912*	Metal Handle Offset Cup Impactor
T7718	Cup Impactor Alignment Guide

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Catalog information

Instruments

Trident II Core Trials Tray (7000-0102)

Catalog no.	Description
7002-0141	41mm Window Trial
7002-0142	42mm Window Trial
7002-0143	43mm Window Trial
7002-0144	44mm Window Trial
7002-0145	45mm Window Trial
7002-0146	46mm Window Trial
7002-0147	47mm Window Trial
7002-0148	48mm Window Trial
7002-0149	49mm Window Trial
7002-0150	50mm Window Trial
7002-0151	51mm Window Trial
7002-0152	52mm Window Trial
7002-0153	53mm Window Trial
7002-0154	54mm Window Trial
7002-0155	55mm Window Trial
7002-0156	56mm Window Trial
7002-0157	57mm Window Trial
7002-0158	58mm Window Trial
7002-0159	59mm Window Trial
7002-0160	60mm Window Trial
7002-0161	61mm Window Trial
7002-0162	62mm Window Trial

Catalog no.	Description
2200-28A	A Insert Trial: 28 0º
2210-22A	A Insert Trial: 22 10º
2200-28B	B Insert Trial: 28 0º
2200-32B	B Insert Trial: 32 0º
2210-22B	B Insert Trial: 22 10º
2200-28C	C Insert Trial: 28 0º
2200-32C	C Insert Trial: 32 0º
2210-28C	C Insert Trial: 28 10º
2200-32D	D Insert Trial: 32 0º
2200-36D	D Insert Trial: 36 0º
2210-28D	D Insert Trial: 28 10º
2210-32D	D Insert Trial: 32 10º
2200-32E	E Insert Trial: 32 0º
2200-36E	E Insert Trial: 36 0º
2210-32E	E Insert Trial: 32 10º
2210-36E	E Insert Trial: 36 10º
2200-32F	F Insert Trial: 32 0º
2200-36F	F Insert Trial: 36 0º
2210-32F	F Insert Trial: 32 10º
2210-36F	F Insert Trial: 36 10º
2200-32G	G Insert Trial: 32 0º
2200-36G	G Insert Trial: 36 0º
2210-32G	G Insert Trial: 32 10º
2210-36G	G Insert Trial: 36 10º
Optional	
7003-0000	Trial Insert Hex Containment Screw Kit (10 per pack)

Catalog information

Instruments

Trident II Auxiliary Trials Tray (7000-0103)

Catalog no.	Description
6264-8-040R	40mm V40 Femoral Head Trial; -4mm
6264-8-940R	40mm V40 Femoral Head Trial; -2.5mm
6264-8-140R	40mm V40 Femoral Head Trial; 0mm
6264-8-240R	40mm V40 Femoral Head Trial; +4mm
6264-8-340R	40mm V40 Femoral Head Trial; +8mm
6264-8-440R	40mm V40 Femoral Head Trial; +12mm
2200-28B	B Insert Trial: 28 0º Eccentric
2260-28C	C Insert Trial: 28 Elevated
2240-28C	C Insert Trial: 28 0º Eccentric
2250-28C	C Insert Trial: 28 10º Eccentric
2260-28D	D Insert Trial: 28 Elevated
2240-32D	D Insert Trial: 32 0º Eccentric
2250-32D	D Insert Trial: 32 10º Eccentric
2200-40E	E Insert Trial: 40 0º
2260-36E	E Insert Trial: 36 Elevated
2240-36E	E Insert Trial: 36 0º Eccentric
2250-36E	E Insert Trial: 36 10º Eccentric
2200-40F	F insert Trial: 40 0º
2260-36F	F Insert Trial: 36 Elevated
2240-36F	F Insert Trial: 36 0º Eccentric
2250-36F	F Insert Trial: 36 10º Eccentric
2200-40G	G Insert Trial: 40 0º
2260-36G	G Insert Trial: 36 Elevated
2240-36G	G Insert Trial: 36 0º Eccentric
2250-36G	G Insert Trial: 36 10º Eccentric
2200-40H	H Insert Trial: 40 0º
2200-36H	H Insert Trial: 36 0º
2210-36H	H Insert Trial: 36 10º
2250-36H	H Insert Trial: 36 10º Eccentric
2240-36H	H Insert Trial: 36 0º Eccentric
7002-0163	Window Trial: 63mm
7002-0164	Window Trial: 64mm
7002-0165	Window Trial: 65mm
7002-0166	Window Trial: 66mm
Optional	
7003-0000	Trial Insert Hex Containment Screw Kit (10 per pack)

Catalog information

Instruments

Reamer/Cup Impactor Case (T7396)

Catalog no.	Description
T6320	Offset Reamer Handle

Auxiliary instruments

Catalog no.	Description
6147-0-100	Replacement Universal Lid
LTEM115 ATEMH0115*	Trident II PSL Clusterhole HA Acetabular System Templates
6059-9-505	Head Disassembly Instrument
1118-1005*	Ceramic Head Sleeve Dissassembly Adapter
1101-2100	T-Handle
1118-60008*	Head Disassembly instrument

Single-use instruments

Catalog no.	Description
7005-3315S	Single Use Drill Bit 3.3mm x 15mm
7005-3325S	Single Use Drill Bit 3.3mm x 25mm
7005-3340S	Single Use Drill Bit 3.3mm x 40mm
7005-3360S	Single Use Drill Bit 3.3mm x 60mm
7005-4015S	Single Use Drill Bit 4.0mm x 15mm
7005-4025S	Single Use Drill Bit 4.0mm x 25mm
7005-4040S	Single Use Drill Bit 4.0mm x 40mm
7005-4060S	Single Use Drill Bit 4.0mm x 60mm

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Notes:

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Howmedica Osteonics Corp.
325 Corporate Drive
Mahwah, NJ 07430, USA
A subsidiary of Stryker Corporation
t: 201 831 5000

stryker.com