OSS Modular Arthrodesis System

Assembly Guide

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One Surgeon. One Patient.

Over 1 million times per year, Biomet helps one surgeon provide personalized care to one patient.

The science and art of medical care is to provide the right solution for each individual patient. This requires clinical mastery, a human connection between the surgeon and the patient, and the right tools for each situation.

At Biomet, we strive to view our work through the eyes of one surgeon and one patient. We treat every solution we provide as if it's meant for a family member.

Our approach to innovation creates real solutions that assist each surgeon in the delivery of durable personalized care to each patient, whether that solution requires a minimally invasive surgical technique, advanced biomaterials or a patient-matched implant.

When one surgeon connects with one patient to provide personalized care, the promise of medicine is fulfilled.

OSS Modular Arthrodesis System

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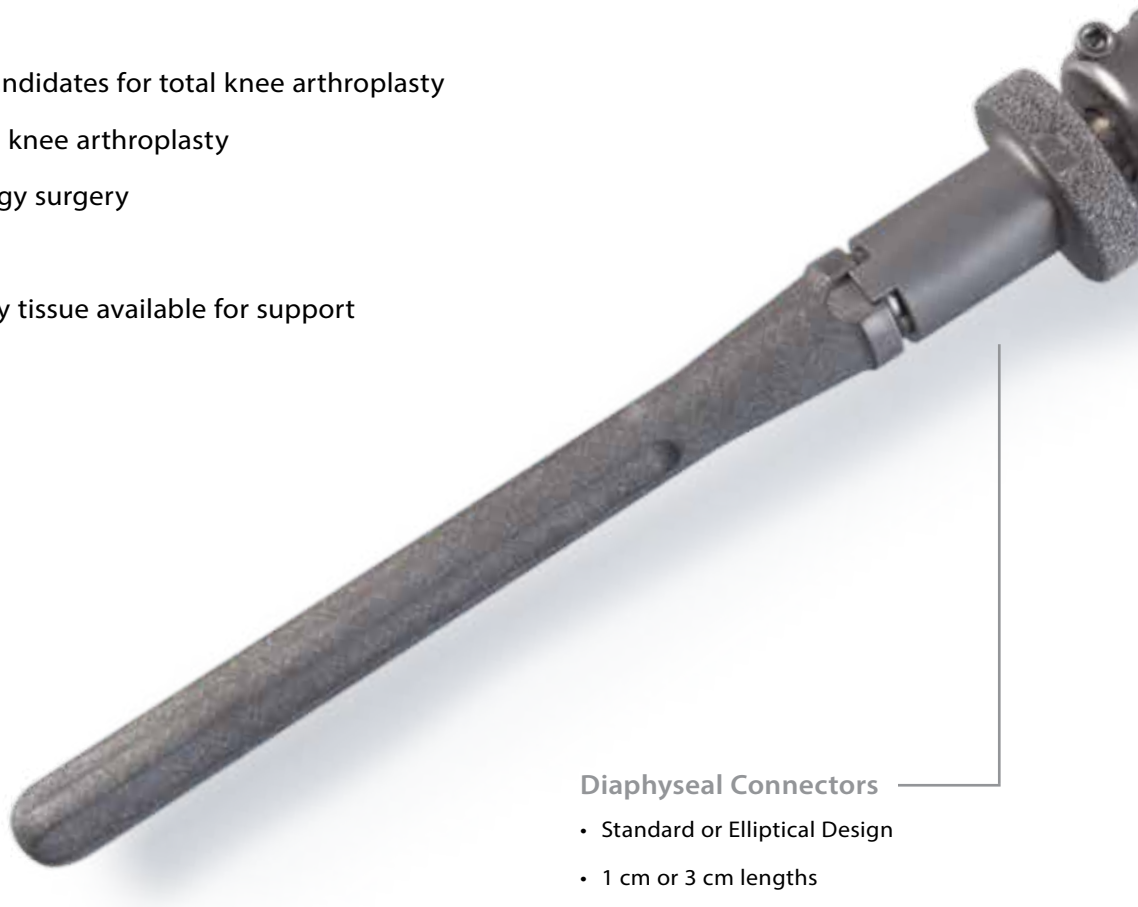
OSS Modular Arthrodesis System

The OSS Modular Arthrodesis System is a supplemental component offering, compatible with the Orthopaedic Salvage System, and commonly used as a segmental knee arthrodesis. The Orthopaedic Salvage System is the most comprehensive limb salvage family on the market providing complete interchangeability and intraoperative flexibility. In conjunction with OSS, the Modular Arthrodesis System is available in a variety of construct lengths to accurately match today's patient population.

- Replacement for a large cement spacer
- Allows for implantation without having to "hop" the stem taper
- May be used to correct varus/valgus deformities
- Minimum replacement construct is 8.5 cm utilizing 1 cm adapters
- Minimum replacement construct is 12 cm utilizing 3 cm adapters

The system is designed for orthopedists, oncologists, and traumatologists who discover the following indications:

- Patients who are not candidates for total knee arthroplasty
- Irretrievably failed total knee arthroplasty
- Limb salvage in oncology surgery
- Trauma
- Little soft tissue or bony tissue available for support



Diaphyseal Connectors

- Standard or Elliptical Design
- 1 cm or 3 cm lengths

OSS Cemented Stems

- Offered in four lengths and nine diameters
- Straight or bowed stems

OSS Diaphyseal Segments

- 12 lengths, 3 cm–23 cm in 2 cm increments (also includes a 4 cm for additional options)
- 3 cm offered in standard or elliptical designs

Locking Collar

- Composed of two 55 mm halves
- Available in 0, 5, 7 degree options to provide an anatomical fit for each patient
- Can be used to correct varus/valgus deformities

Figure 1

Figure 3

Figure 2

Figure 4

Figure 5

Figure 6

Canal Preparation

Please reference the OSS Segmental Distal Femur Surgical Technique (Form No. BOI0214.0) for suggested canal preparation technique.

Trial Selection

Important Note: The 1 cm modular arthrodesis diaphyseal connectors accept only OSS stems; they are not designed for use with either the OSS Segmental Adapters or the OSS Diaphyseal Segments. The 3 cm modular arthrodesis diaphyseal connectors are designed for use with either the OSS Segmental Adapters or the OSS Diaphyseal Segments.

Assemble the selected tibial stem trial to the diaphyseal segment trial and insert the trial assembly into the tibial canal (Figures 1 and 2).

Assemble the selected femoral stem trial to the remaining diaphyseal segment trial and insert the trial assembly into the femoral canal (Figures 3 and 4).

Connect both assemblies with the locking collar trial (Figures 5 and 6).

Note: Minimum replacement with the OSS Modular Arthrodesis is 8.5 cm.

Note: OSS Diaphyseal Segment trials are used to represent both the diaphyseal connectors and the diaphyseal segment implants.

Figure 7

Figure 8

Implant Assembly

Diaphyseal Connector Construct Only

Impact an OSS Stem directly into a diaphyseal connector and secure with the long big head/small thread locking screw packaged with the connector (Figures 7 and 8). Repeat the process with the other diaphyseal connector.

Note: 3 cm Elliptical Connector is shown.

Note: If using the 1 cm connector, the XL big head/small thread screw must be utilized.*

* The 1 cm connector is packaged with XL big head/small thread screw.

Figure 9

Figure 10

Implant Assembly (cont.)

Diaphyseal Connector and Diaphyseal Segment Construct

Impact an OSS Stem into an OSS Diaphyseal Segment and secure with the OSS small head/small thread locking screw packaged with the diaphyseal segment (Figures 9 and 10).

Note: 5 cm OSS Diaphyseal Segment is shown.

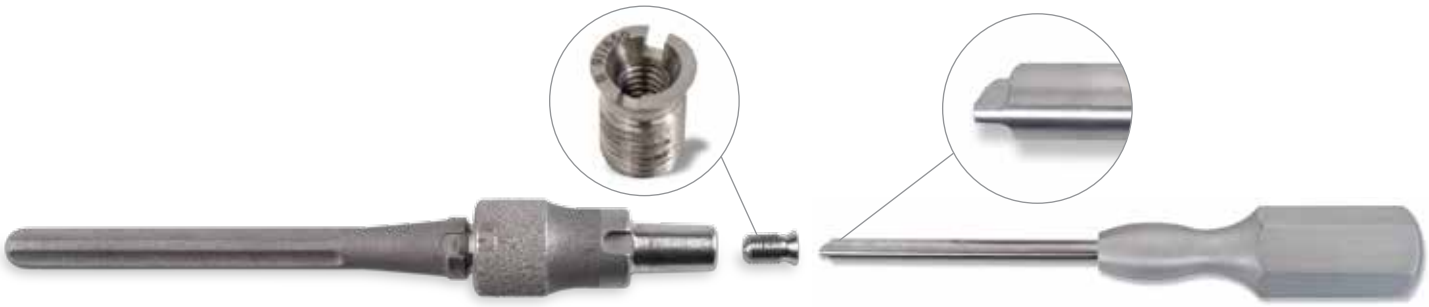


Figure 11

Figure 12

Thread an OSS Stacking Adapter (Figure 11) into the male taper of the diaphyseal segment/stem construct with an axle screwdriver until fully seated (Figure 12).

Figure 13

Figure 14

Implant Assembly (cont.)

Impact the selected diaphyseal connector (3 cm Elliptical is shown) onto the construct and secure with the long large head/small thread locking screw packaged with the diaphyseal connector (Figures 13 and 14).

If an additional OSS Diaphyseal Segment is required on the opposite side, repeat the process. If not, impact the remaining OSS Stem into the final diaphyseal connector and secure with the long big head/small thread locking screw.

Note: Locking screws are required at all taper junctions.

Figure 15a

Figure 15

Stem Insertion

Using the Modular Arthrodesis Nail Stem Impactor (Figure 15a), fully seat both the tibial and femoral constructs so that the external build-ups are in full contact with the respective host bone (Figure 15).

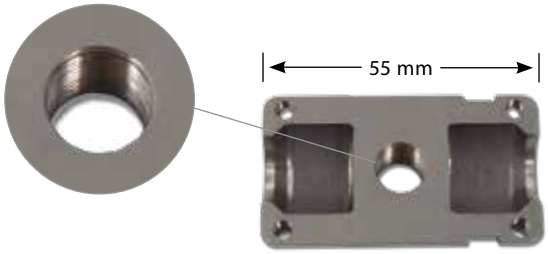


Figure 16

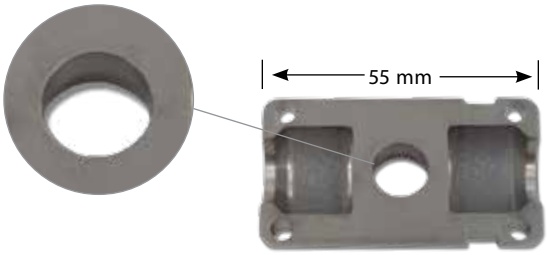


Figure 17

Figure 18

The Locking Collar

The OSS Modular Arthrodesis System features a locking collar comprised of two 55 mm halves: a threaded half (Figure 16) and a counter-bored half (Figure 17).

The locking collars are available in three options (Figure 18):

- 0 degrees
- 5 degrees
- 7 degrees

Figure 19

Figure 20

Figure 21

The 5 and 7 degree locking collars each have two internal markings to assist in correct orientation (Figure 19):

- L PROX (left proximal)
- R PROX (right proximal)

When using the angled locking collars and following the orientation markings, a variety of positions may be achieved (Figures 20 and 21).

Figure 22

Figure 23

Figure 24

The Locking Collar (cont.)

Place the threaded locking collar half behind each diaphyseal connector head (Figures 22–24).

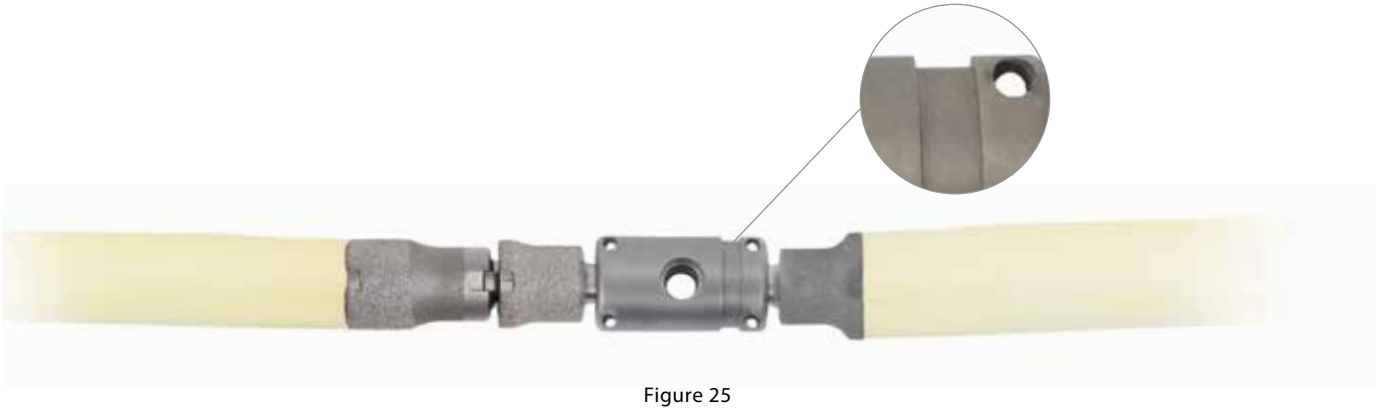


Figure 25

Align the counter-bored locking collar half over the threaded locking collar half, making sure that the grooves on the locking collars are properly oriented (Figure 25).

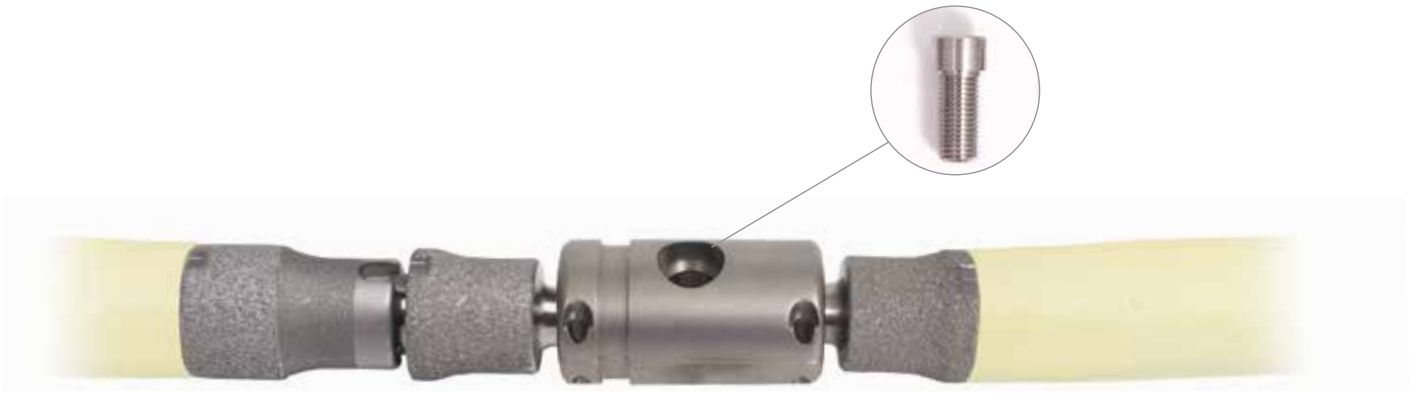


Figure 26

Figure 27

The Locking Collar (cont.)

Insert the large locking collar bolt into the center hole and tighten with manual pressure until snug enough to hold the assembly together (Figures 26 and 27).

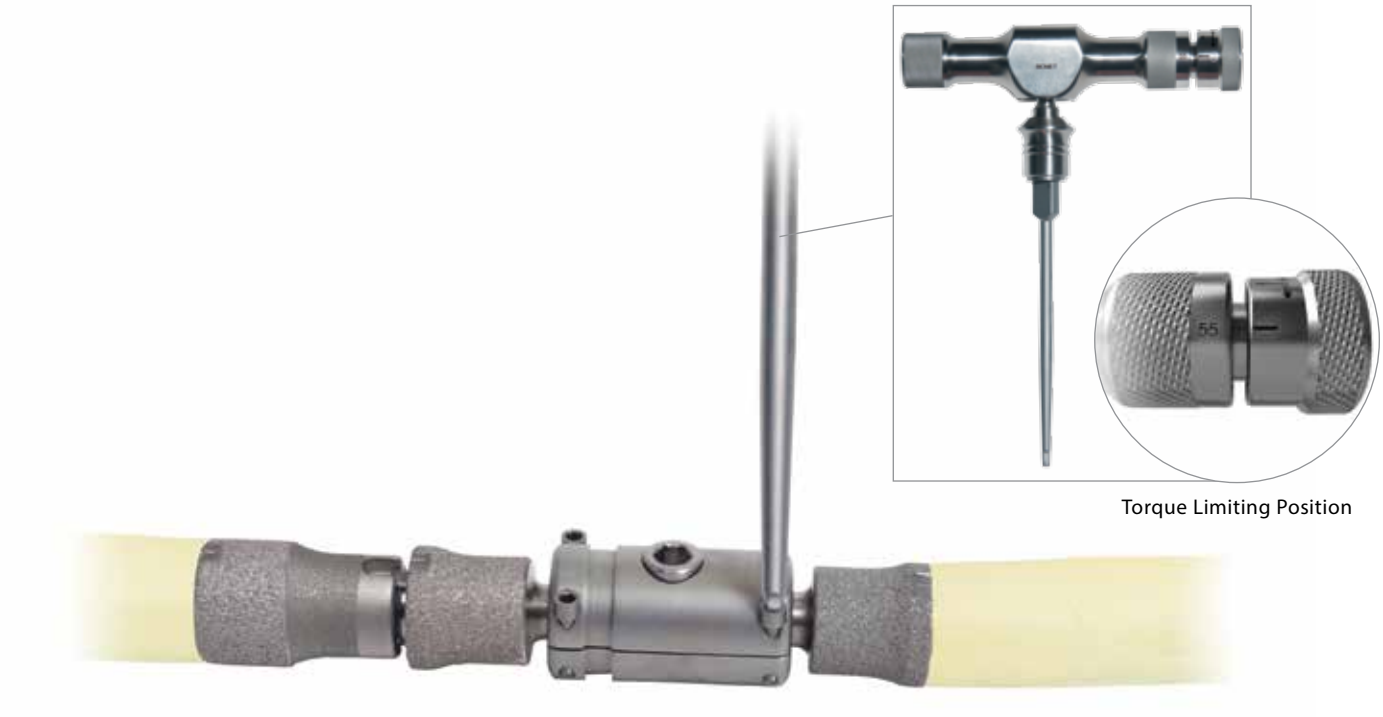


Figure 28

Assemble the 3.5 mm hex driver into the T-handle and adjust the torque limiting position by pushing the knob in and rotating it so that the alignment line is directly across from the 55 setting.

Tighten the four small screws into the corner holes until snug. **You must** maintain even gap spacing between the collar halves. Once all four have been initially assembled and the gap is even all around, use the provided torque wrench to tighten to the prescribed 55 in-lb torque (Figure 28).

Note: Do not exceed the 55 in-lb. torque limit.

Figure 29

Figure 30

The Locking Collar (cont.)

Use the large 5/16 inch hex wrench and the anti-torque bar to tighten the large locking collar bolt and complete the assembly (Figures 29 and 30).

Note: Ensure the four small perimeter screws are still snug after locking collar bolt has been tightened.

Implants

Diaphyseal Connectors

Product	Description	Part Number
	1 cm Diaphyseal Connector	CP260605
	3 cm Diaphyseal Connector	CP260607

Elliptical Connectors

Product	Description	Part Number
	1 cm Elliptical Connector	CP260606
	3 cm Elliptical Connector	CP260608

Locking Collars

Product	Description	Part Number
	0 Degree Locking Collar 5 Degree Locking Collar 7 Degree Locking Collar	CP260600 CP260601 CP260602

Screws

Product	Description	Part Number
	Small Locking Collar Bolt*	CP260603
	Locking Collar Bolt*	CP260604
	Long Big Head/Small Thread Locking Screw**	CP260609
	XL Big Head/Small Thread Locking Screw***	CP260610

* Packaged with Locking Collars

** Packaged and used with either 3 cm connectors

*** Packaged and used with either 1 cm connectors

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Instruments

Product	Description	Part Number
	5/16 Wrench	CP460390
	Torque Limiting T-handle Wrench	31-301850
	3.5 mm Hex Head Driver Bit	405898
	Anti-torque Bar	CP461564
	Impactor Base	CP460623
	Stem Impactor	CP461575

Loaner Sets

Product	Description	Part Number
–	OSS Modular Arthrodesis Instruments	999300
–	OSS Modular Arthrodesis Implants	999800

Notes

For product information, including Indications for Use, Contraindications, Warnings, Precautions and Possible Adverse Effects, see the package insert, and Patient Risk Information at www.biomet.com.

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