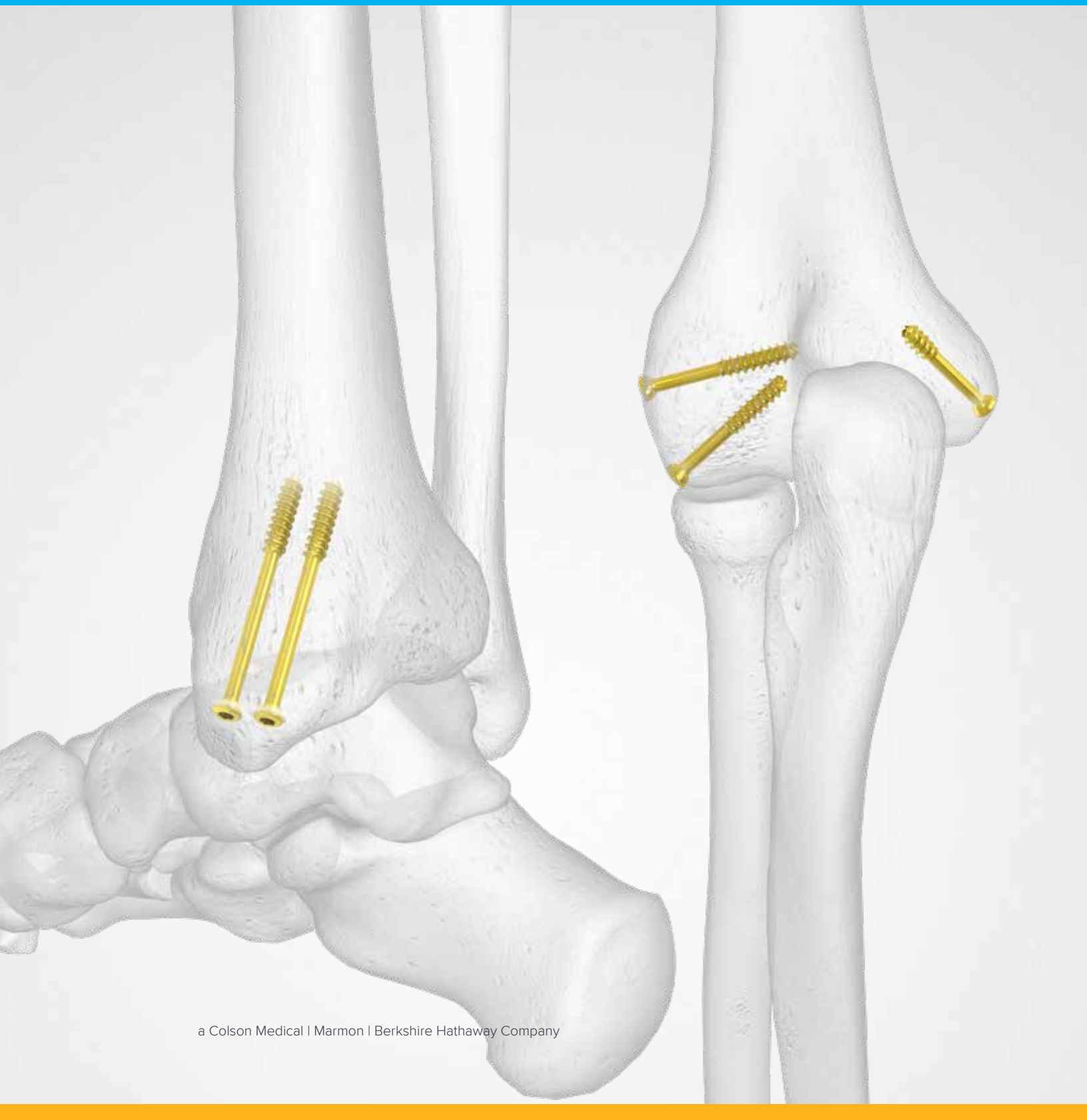
acumed®

4.0 mm Cannulated Screw System

Surgical Technique



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Acumed® is a global leader of innovative orthopaedic and medical solutions.

We are dedicated to developing products, service methods, and approaches that improve patient care.

Acumed® 4.0 mm Cannulated Screw System

The Acumed 4.0 mm Cannulated Screw System is designed to provide a minimally invasive method of anatomical fixation.

The system consists of screws, washers, and instruments designed to provide fixation for fractures, fusions, and osteotomies of large and small bones appropriate for the size of the device. The 4.0 mm screws are available in lengths ranging from 14 mm to 72 mm to accommodate various indications and patient anatomy. All screws and washers are made of titanium alloy per ASTM F136.

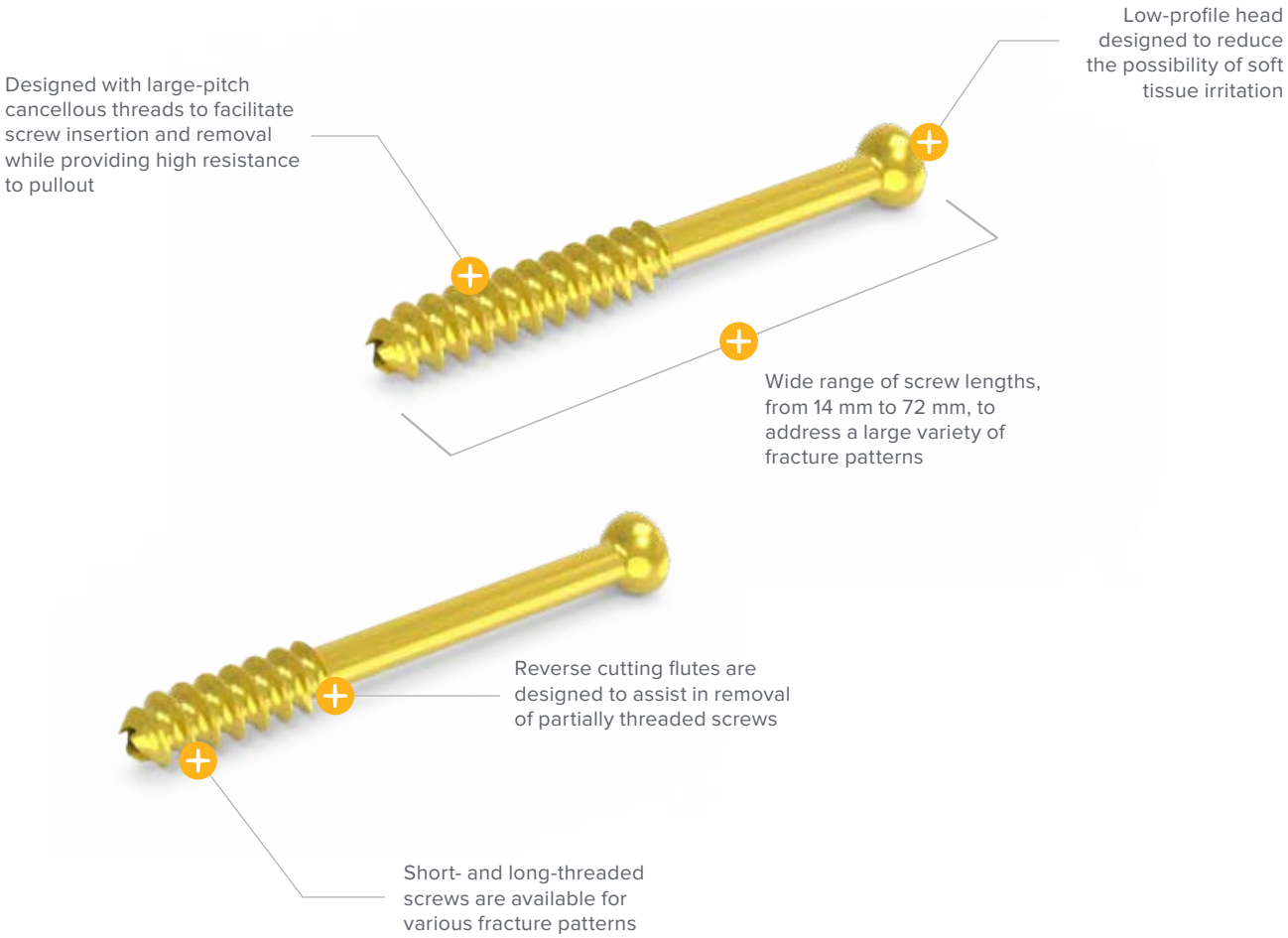
Screws are cannulated in order to be used over a guide wire with a cancellous thread form. Partially threaded screws are offered in one-half and one-third length threads. Cannulation is intended for minimally invasive percutaneous insertion. Partially threaded screws may be used to lag one bone fragment to another, where the far bone fragment is captured by the threads of the screw and pulled toward the near cortex fragment on the head side of the screw.

	Definition
Warning	Indicates critical information about a potential serious outcome to the patient or the user.
Caution	Indicates instructions that must be followed in order to ensure the proper use of the device.
Note	Indicates information requiring special attention.

Table of Contents

System Features

4.0 Cannulated Screw Features



4.0 mm x 16–72 mm
Partially Threaded Long – 1/2 Thread
(3006-400XX)

16–60 mm – 2 mm increments
60–72 mm – 4 mm increments

4.0 mm x 14–72 mm
Partially Threaded Short – 1/3 Thread
(3005-400XX)

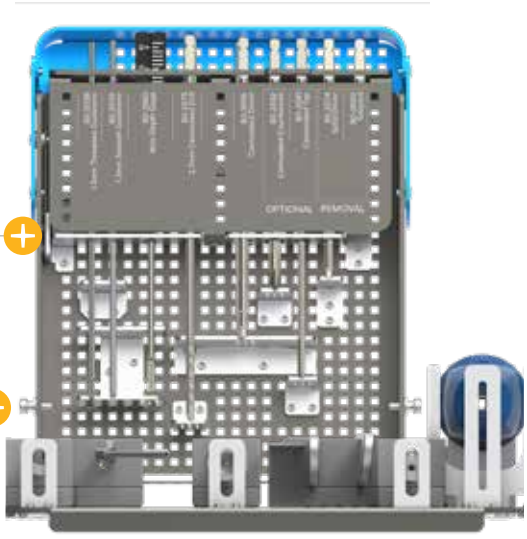
14–60 mm – 2 mm increments
60–72 mm – 4 mm increments

Cannulated Screw Washer
7.0 mm OD x 3.6 mm ID
(7003-07036)

System Features [continued]

Instrument Features

Locking Flip-Up Caddy
Contains core implantation instruments in an upright orientation with integrated locking feature, designed for maximum stability on the back table.



TripleTwist™ Cannula System
This modular cannula system is designed to protect the soft tissues and support a minimally invasive procedure. The cannulas feature an intuitive locking mechanism and are stacking and interchangeable to streamline the procedure. The cannulas can be used singularly or sequentially for flexibility and to accommodate procedural variations over nonstacking cannulas.

Parallel Wire Guide
Allows placement of two parallel wires. The drop-in cannula can be assembled after initial wire placement, then adjusted to select the optimal distance between wires and ultimately screw fixation.

Wire Depth Gauge
Includes large, high-contrast markings designed for accuracy and ease of use.

System Features [continued]

4.0 mm Cannulated Screw Instrument Specifications

	1.3 mm Threaded Guide Wire, 150 mm (80-2038)	Offered for provisional fixation and over-the-wire screw placement
	1.3 mm Smooth Guide Wire, 150 mm (80-2039)	Offered for provisional fixation and over-the-wire screw placement
	2.5 mm Short Cannulated Hex Driver (80-3956)	Laser marked for use with the modular cannula system
	4.0 mm Cannulated Tap (80-2081)	Provided for patients with hard bone and can be used according to surgeon preference
	5.3 mm Cannulated Countersink (80-2042)	The shorter length countersink is designed to improve control compared with competitors' longer devices, and features a textured portion for improved grip over competitive smooth-shaft countersinks when used by hand.
	2.5 mm Screw Driver Sleeve (80-3957)	Designed for retrieval of 4.0 mm screw, and retention on screw driver, from caddy to over-the-wire placement

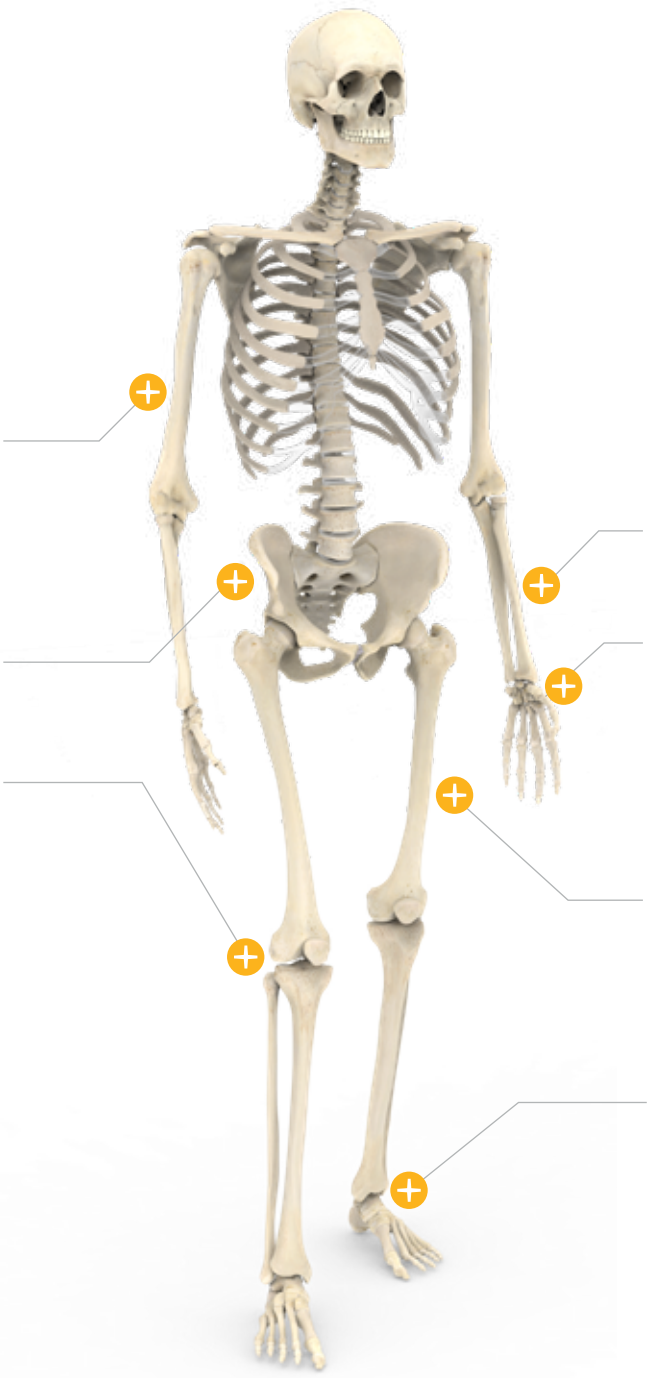
System Features [continued]

Indications for Use

The Acumed 4.0 mm Cannulated Screw System is indicated for the fixation of fractures, fusions, and osteotomies of large and small bones appropriate for the device, which may include the following:

- Minimally invasive reconstruction of fractures and joints
- Adjuvant for osteosynthesis in complex joint fractures
- Multi-fragment joint fractures
- Simple metaphyseal fractures
- Fractures of the wrist, ankle, elbow, and shoulder
- Condylar fractures
- Other small fragment, cancellous bone fractures
- Areas where accurate screw placement is vital
- Fractures of the foot
- Fractures of small joints, such as ankle fractures and navicular fractures

Potential Applications



Shoulder and Elbow
Fractures of the olecranon and distal humerus
Radial head fractures
Humeral head fractures
Glenoid fractures

Pelvis and Hip
Acetabular fractures
Pelvic ring
Iliac crest

Knee
Fractures of the distal femur and proximal tibia
Patellar fractures
Tibial plateau fractures

Forearm
Fractures of the ulna and radius

Hand and Wrist
Fragments of the wrist

Femur
Intercondylar femur fractures
Supracondylar femoral fractures

Foot and Ankle
Metatarsal osteotomies
Avulsion fractures
Subtalar and ankle arthrodesis
Distal tibia and pilon fractures
Fractures of the fibula, malleoli, and calcaneus
Fractures of the tarsals and metatarsals
Calcaneal and talar fractures
Tarsometatarsal and metatarsophalangeal arthrodesis

Instrument Overview

Flip-up Caddy Instruments

1.3 mm Threaded Guide Wire, 150 mm
(80-2038)

1.3 mm Smooth Guide Wire, 150 mm
(80-2039)

1.3 mm Wire Depth Gauge
(80-3960)

2.7 mm Cannulated Drill, Quick Connect
(80-2075)

Cannula Handle
(80-3961)

1.3 mm Wire Cannula
(80-3962)

2.7 mm Drill Cannula
(80-3963)

4.0 mm Screw Cannula
(80-3964)

2.5 mm Short Cannulated Hex Driver
(80-3956)

5.3 mm Cannulated Countersink
(80-2042)

4.0 mm Cannulated Tap
(80-2081)

1.25 mm Cleaning Stylet
(80-2246)

Large Screw Holding Forceps
(MS-45210)

2.5 mm Screw Driver Sleeve
(80-3957)

1.3/2.7 mm Double Drill Sleeve
(80-2079)

1.3 mm Parallel Guide Base
(80-3778)

1.3 mm Parallel Guide Drop-in Cannula
(80-3781)

Small Ratchet Handle with Quick Release Connection
(80-0398)

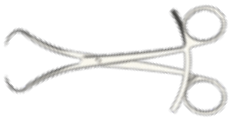
2.5 mm Solid Hex Driver, Quick Connect
(80-2074)

2.5 mm Easyout, Quick Release
(80-0600)

Instrument Overview [continued]

Reduction Instruments

Pointed Forceps w/Ratchet, Narrow Long
(80-2376)



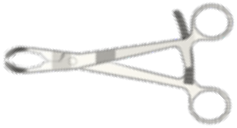
8" Bone Reduction Forceps
(MS-1280)

Periosteal Elevator
(MS-46212)

15 mm Hohmann Retractor
(MS-46827)

Freer Elevator 7.5
(MS-57614)

Bone Reduction Forceps, 5.25
(MS-45300)



Reduction Forceps w/ Serrated Jaw
(PL-CL04)

8 mm Hohmann Retractor
(PL-CL05)

Sharp Hook
(PL-CL06)

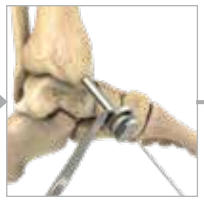
Note: Instrumentation in the system is not available in all markets or configurations.

Surgical Technique Overview

Medial Malleolar Fracture Surgical Technique

Patient Positioning and Exposure; Fracture Reduction and Preparation

Single Guide Wire Placement



Double Guide Wire Placement

Determine Screw Length

Extra- and Intra-articular Fractures of the Distal Humerus

Patient Positioning and Exposure; Fracture Reduction and Preparation

Single Guide Wire Placement

Determine Screw Length

Drill

Place Screw/
Optional
Countersink

4.0 mm Cannulated
Screw Placement

Removal (Optional)

Drill

Place Screw/
Optional
Countersink

4.0 mm Cannulated
Screw Placement

Removal (Optional)

4.0 mm Cannulated Screw System Surgical Technique

Introduction

The self-drilling, self-tapping flutes of the 4.0 mm Cannulated Screws make pre-drilling and pre-tapping unnecessary in most cases. The set includes a 2.7 mm Cannulated Drill, Quick Connect (80-2075) and a 4.0 mm Cannulated Tap (80-2081) for use in dense bone if needed.

Two options are included in the system to retrieve the 4.0 mm screws from the screw caddy.

1. Large Screw Holding Forceps (MS-45210)
2. 2.5 mm Screw Driver Sleeve (80-3957), designed for use with the 2.5 mm Short Cannulated Hex Driver (80-3956)

Three optional cannula instrument systems are offered for soft tissue protection and for use where clinically appropriate.

1. 1.3/2.7 mm Double Drill Sleeve (80-2079)
2. A modular locking tissue protection system with Cannula Handle (80-3961), 1.3 mm Wire Cannula (80-3962), 2.7 mm Drill Cannula (80-3963), and 4.0 mm Screw Cannula (80-3964)
3. 1.3 mm Parallel Guide Base (80-3778) with 1.3 mm Parallel Guide Drop-in Cannula (80-3781) where two parallel wires are needed

Note: The TripleTwist™ Cannula System is not designed to be used in conjunction with the 1.3 mm Parallel Guide Drop-in Cannula offered in this system.

Warning: Take care to avoid damage to surrounding vital tissues.

Note: Cannula systems are not compatible with washer usage.

2.7 mm Cannulated Drill, Quick Connect
(80-2075)

4.0 mm Cannulated Tap
(80-2081)

Large Screw Holding Forceps
(MS-45210)

2.5 mm Screw Driver Sleeve
(80-3957)

2.5 mm Short Cannulated Hex Driver
(80-3956)

1.3/2.7 mm Double Drill Sleeve
(80-2079)

Cannula Handle
(80-3961)

1.3 mm Wire Cannula
(80-3962)

2.7 mm Drill Cannula
(80-3963)

4.0 mm Screw Cannula
(80-3964)

1.3 mm Parallel Guide Base
(80-3778)

1.3 mm Parallel Guide Drop-in Cannula
(80-3781)

Medial Malleolar Fracture Surgical Technique

1 Patient Positioning and Exposure

Position the patient supine and make a medial surgical incision to expose the fracture of the tibia. For a percutaneous approach, make a stab incision at the screw insertion site, then bluntly dissect down to the bone (Figure 1). Soft tissue protection instrumentation may be provided in your system.

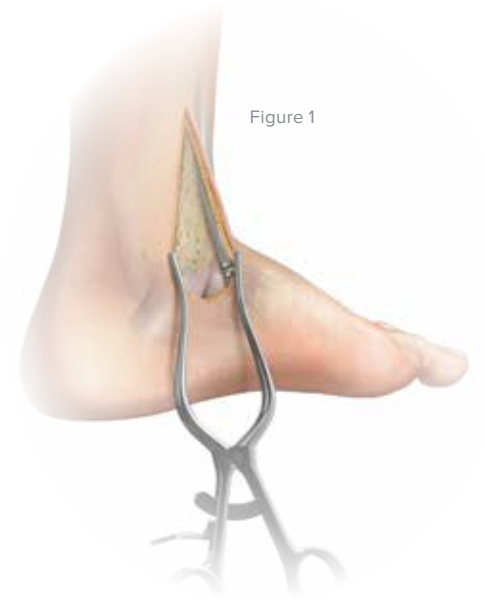


Figure 1

2 Fracture Reduction and Preparation

Reduce and prepare the fracture site using the surgeon's preferred technique. Provisional stability and fracture site preparation can be achieved using the optional reduction/preparation instruments included in the full system. Provisional fixation can also be achieved using the 1.3 mm Threaded Guide Wire, 150 mm (80-2038) or 1.3 mm Smooth Guide Wire, 150 mm (80-2039). Evaluate the reduction under fluoroscopy.

Note: Instrumentation in the system is not available in all markets or configurations.

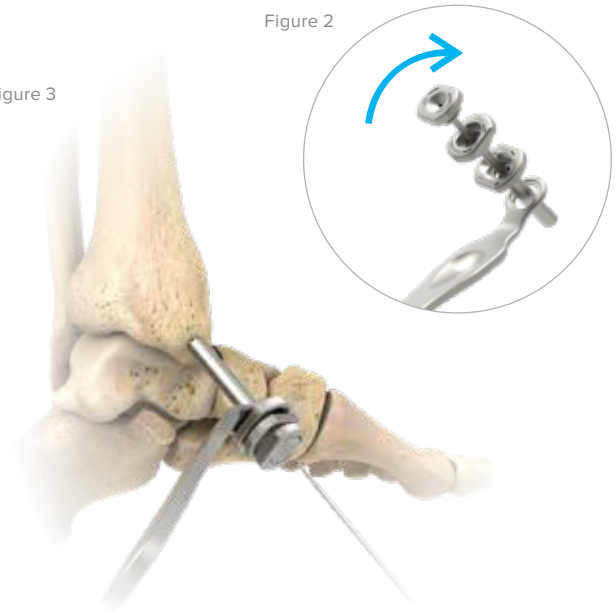
1.3 mm Threaded Guide Wire, 150 mm (80-2038)

1.3 mm Smooth Guide Wire, 150 mm (80-2039)

Medial Malleolar Fracture Surgical Technique [continued]

Figure 2

Figure 3



3 Guide Wire Placement

Caution: Take care to avoid damage to surrounding vital tissues. The 1.3 mm Parallel Guide Drop-in Cannula (80-3781) is not designed for use with the TripleTwist™ Cannula System.

Several cannula options are offered for soft tissue protection and for use where clinically appropriate.

Note: Cannulas are not compatible with washer usage.

Single and double guide wire placement are as follows:

Single Guide Wire Placement

- Optional: 1.3/2.7 mm Double Drill Sleeve (80-2079)
- Optional: Modular locking tissue protection system includes a Cannula Handle (80-3961), 4.0 mm Screw Cannula (80-3964), 2.7 mm Drill Cannula (80-3963), and 1.3 mm Wire Cannula (80-3962)

Loading Instructions for optional modular locking cannula system:

Select the appropriate cannulas to be used with the system. Lock the largest selected cannula into the handle by twisting clockwise. One by one, insert and lock sequential cannulas into the system (Figure 2).

Note: Ensure all cannulas are locked in place prior to use.

Note: The TripleTwist™ Cannula System is not designed to be used in conjunction with the 1.3 mm Parallel Guide Drop-in Cannula offered in this system.

Insert the 1.3 mm Threaded Guide Wire, 150 mm (80-2038) or the 1.3 mm Smooth Guide Wire, 150 mm (80-2039) through the cannula to the appropriate depth so that it is perpendicular to the fracture line and occupies the future position of the lag screw (Figure 3). Evaluate guide wire placement under fluoroscopy.

1.3/2.7 mm Double Drill Sleeve
(80-2079)

Cannula Handle
(80-3961)

4.0 mm Screw Cannula
(80-3964)

2.7 mm Drill Cannula
(80-3963)

1.3 mm Wire Cannula
(80-3962)

1.3 mm Threaded Guide Wire, 150 mm
(80-2038)

1.3 mm Smooth Guide Wire, 150 mm
(80-2039)

Medial Malleolar Fracture Surgical Technique [continued]

Double Guide Wire Placement

- Optional: 1.3 mm Parallel Guide Base (80-3778)
- Optional: 1.3 mm Parallel Guide Drop-in Cannula (80-3781)

This guide features a drop-in cannula that can be assembled after the primary guide wire is placed, or loaded before surgical use.

Load the 1.3 mm Parallel Guide Drop-in Cannula into the 1.3 mm Parallel Guide Base (Figure 4). Place the primary guide wire through the cannula of choice. Move the adjustable sleeve to the desired location. Insert the secondary guide wire (Figure 5).

Note: The parallel wire guide is not designed to be used in conjunction with other cannulas offered in this system.

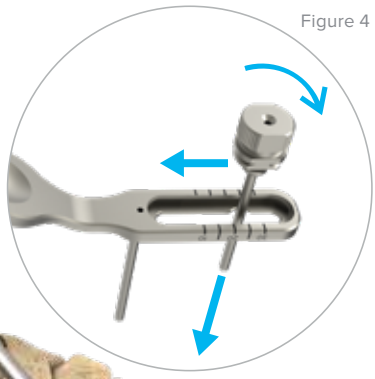


Figure 4

Figure 5

4 Determine Screw Length

Remove the optional 1.3 mm Wire Cannula (80-3962). Measure for screw length by sliding the 1.3 mm Wire Depth Gauge (80-3960) over the guide wire (Figure 6) and through the 2.7 mm Drill Cannula (80-3963) or 4.0 mm Screw Cannula (80-3964) if present.

Read the length directly from the 1.3 mm Wire Depth Gauge by noting the location of the end of the guide wire in relation to numerals and hash marks on the device (Figure 7). This measurement must be taken with one of the supplied guide wires.

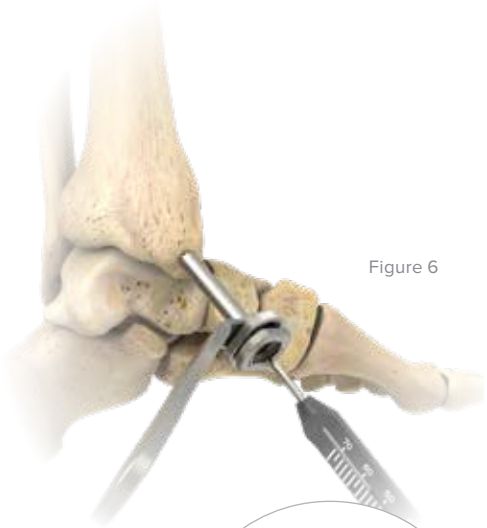


Figure 6

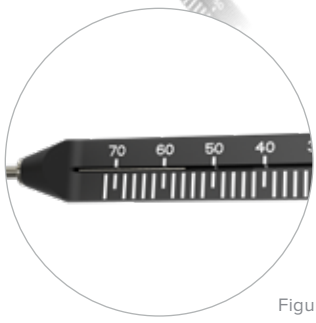


Figure 7

1.3 mm Parallel Guide Base (80-3778)

1.3 mm Parallel Guide Drop-in Cannula (80-3781)

1.3 mm Wire Cannula (80-3962)

1.3 mm Wire Depth Gauge (80-3960)

2.7 mm Drill Cannula (80-3963)

4.0 mm Screw Cannula (80-3964)

Medial Malleolar Fracture Surgical Technique [continued]

Figure 8

5.3 mm Cannulated Countersink

2.7 mm Cannulated Drill, Quick Connect

4.0 mm Cannulated Tap

5 Drill

Remove the 1.3 mm Wire Depth Gauge (80-3960) and load the 2.7 mm Cannulated Drill, Quick Connect (80-2075) over the guide wire and through the desired drill guide (Figure 8). Drill to the desired depth.

Cleaning Stylet (optional)

If biologic material accumulates within cannulated instruments, the 1.25 mm Cleaning Stylet (80-2246) may assist in its removal. The Stylet is not designed to be used through handles or power instruments.

Note: if using the optional Tap or Countersink, remove the drill cannula.

Countersink (optional)

In areas with limited soft tissue coverage, the optional 5.3 mm Cannulated Countersink (80-2042) is provided to create a recess for the screw head and reduce screw prominence where desired. The countersink incorporates a textured surface to grip the device by hand if desired. Grooves are incorporated in the design at 2 mm intervals for use as a depth reference when used with the cannula system.

Note: The screw length should be reduced corresponding to the countersunk depth.

Tap (optional)

In sclerotic or particularly hard bone, pre-drilling and pre-tapping may be necessary. A 4.0 mm Cannulated Tap (80-2081) can be used according to surgeon preference.

1.3 mm Wire Depth Gauge (80-3960)

2.7 mm Cannulated Drill, Quick Connect (80-2075)

1.25 mm Cleaning Stylet (80-2246)

5.3 mm Cannulated Countersink (80-2042)

4.0 mm Cannulated Tap (80-2081)

Medial Malleolar Fracture Surgical Technique [continued]

6 4.0 mm Cannulated Screw Placement

Screw insertion without washer

Connect the 2.5 mm Short Cannulated Hex Driver (80-3956) to the Small Ratchet Handle w/Quick Release Connection (80-0398).

If using the 2.5 mm Screw Driver Sleeve (80-3957), load the screw sleeve on the driver, and pull back the driver sleeve until the tab passes the groove on the driver. While the screw is in the caddy, engage the screw head with the driver tip and advance the sleeve in one smooth motion to grasp the head of the 4.0 mm Cannulated Screw (300X-400XX).

Insert the appropriate length 4.0 mm Cannulated Screw over the guide wire and through the screw sleeve if present (Figure 9). The screw must lie with its threads completely beyond the fracture line to achieve the appropriate compression.

The 2.5 mm Short Cannulated Hex Driver has a laser band to indicate when screw seating is imminent. The screw should be advanced with care once the leading edge of the band aligns with the top of the screw cannula until fully seated (Figures 10 and 11).

Screw insertion with washer (optional)

Note: Cannula must be removed prior to placement with a washer.

A washer may be used to prevent the screw head from sinking into the bone. Place the Cannulated Screw Washer 7.0 mm OD x 3.6 mm ID (7003-07036) onto the screw before insertion (Figure 12).

Note: The washer should be oriented so that the beveled edge is away from the bone.

Confirm screw placement under fluoroscopy. Closing and postoperative protocol are at the discretion of the surgeon.

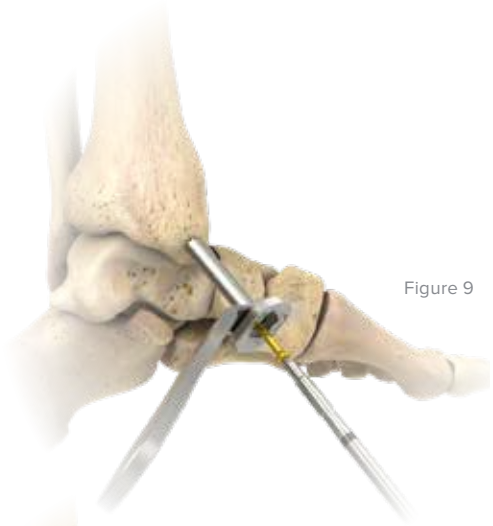


Figure 9

Figure 10

Figure 11

Figure 12

2.5 mm Short Cannulated Hex Driver
(80-3956)

Small Ratchet Handle w/ Quick Release Connection
(80-0398)

2.5 mm Screw Driver Sleeve
(80-3957)

4.0 mm Cannulated Screw
(300X-400XX)

Cannulated Screw Washer 7.0 mm OD x 3.6 mm ID
(7003-07036)

Medial Malleolar Fracture Surgical Technique [continued]

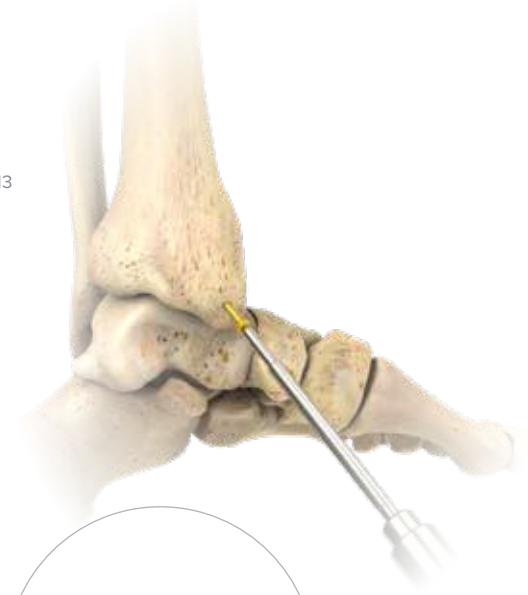


Figure 13

Figure 14

7 Removal

The cannulated screws are designed to be removable when necessary. After surgically accessing the head of the screw, use the 2.5 mm Solid Hex Driver, Quick Connect (80-2074) attached to the Small Ratchet Handle with Quick Release Connection (80-0398) to remove the screw by engaging the driver tip within the hex recess in the screw head and turning counterclockwise (Figure 13). A 2.5 mm Easyout, Quick Release (80-0600) is also provided for removal of damaged screws (Figure 14).

Note: It may be necessary to clean bony ingrowth from the head of the screw using the 1.25 mm Cleaning Stylet (80-2246).

2.5 mm Solid Hex Driver, Quick Connect
(80-2074)

Small Ratchet Handle with Quick Release Connection
(80-0398)

2.5 mm Easyout, Quick Release
(80-0600)

1.25 mm Cleaning Stylet
(80-2246)

Extra- and Intra-articular Fractures of the Distal Humerus

1 Patient Positioning and Exposure

Position the patient and use the appropriate surgical incision and approach to treat the specific indication. For a percutaneous approach, make a stab incision at the screw insertion site, then bluntly dissect down to the bone (Figure 1). Soft tissue retraction instrumentation is provided in the full 4.0 mm Cannulated Screw System.

Note: Soft tissue retraction instrumentation in the system is not available in all markets or configurations.

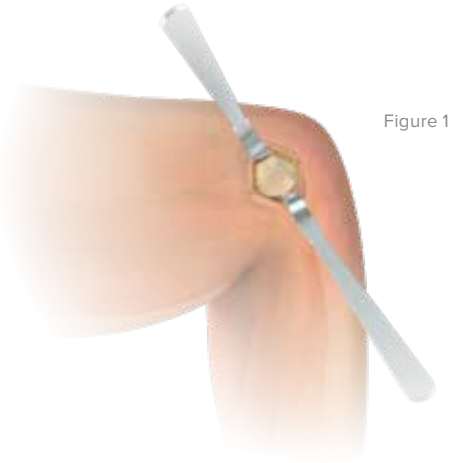


Figure 1

2 Fracture Reduction and Preparation

Reduce and prepare the fracture site using surgeon's preferred technique. Provisional stability and fracture site preparation can be achieved using the optional reduction/ preparation instruments included in the full system. Provisional fixation can also be achieved using 1.3 mm Threaded Guide Wire, 150 mm (80-2038) or 1.3 mm Smooth Guide Wire, 150 mm (80-2039). Evaluate the reduction under fluoroscopy.

1.3 mm Threaded Guide Wire, 150 mm (80-2038)

1.3 mm Smooth Guide Wire, 150 mm (80-2039)

Extra- and Intra-articular Fractures of the Distal Humerus [continued]

Figure 2

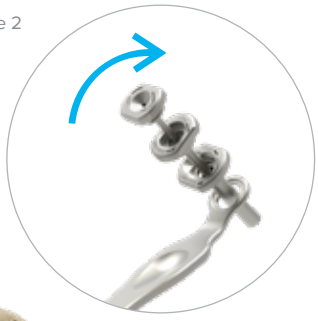
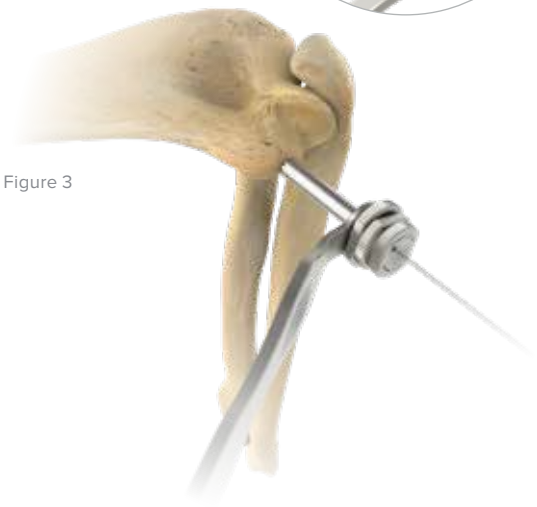


Figure 3



3 Guide Wire Placement

Caution: Take care to avoid damage to surrounding vital tissues. The 1.3 mm Parallel Guide Drop-in Cannula (80-3781) is not designed for use with the TripleTwist™ Cannula System.

Several cannula options are offered for soft tissue protection and for use where clinically appropriate.

Note: Cannulas are not compatible with washer usage.

Single Guide Wire Placement

- Optional: 1.3/2.7 mm Double Drill Sleeve (80-2079)
- Optional: The modular locking tissue protection system includes a Cannula Handle (80-3961), 4.0 mm Screw Cannula (80-3964), 2.7 mm Drill Cannula (80-3963) and 1.3 mm Wire Cannula (80-3962).

Loading Instructions for optional modular, locking cannula system:

Select the appropriate cannulas to be used with the system. Lock the largest selected cannula into the handle by twisting clockwise. One by one, insert and lock sequential cannulas into the system (Figure 2).

Note: Ensure all cannulas are locked in place prior to use.

Note: The TripleTwist™ Cannula System is not designed to be used in conjunction with the 1.3 mm Parallel Guide Drop-in Cannula offered in this system.

Insert the 1.3 mm Threaded Guide Wire, 150 mm (80-2038) or the 1.3 mm Smooth Guide Wire, 150 mm (80-2039) through the cannula to the appropriate depth so that it is perpendicular to the fracture line and occupies the future position of the lag screw (Figure 3). Evaluate the guide wire placement under fluoroscopy.

1.3/2.7 mm Double Drill Sleeve
(80-2079)

Cannula Handle
(80-3961)

4.0 mm Screw Cannula
(80-3964)

2.7 mm Drill Cannula
(80-3963)

1.3 mm Wire Cannula
(80-3962)

1.3 mm Threaded Guide Wire, 150 mm
(80-2038)

1.3 mm Smooth Guide Wire, 150 mm
(80-2039)

Extra- and Intra-articular Fractures of the Distal Humerus [continued]

4 Determine Screw Length

Measure for screw length by sliding the 1.3 mm Wire Depth Gauge (80-3960) over the guide wire (Figure 4) and through the 2.7 mm Drill Cannula (80-3963) if present.

Read the length directly from the 1.3 mm Wire Depth Gauge by noting the location of the end of the guide wire in relation to numerals and hash marks on the device (Figure 5). This measurement must be taken with one of the supplied guide wires.

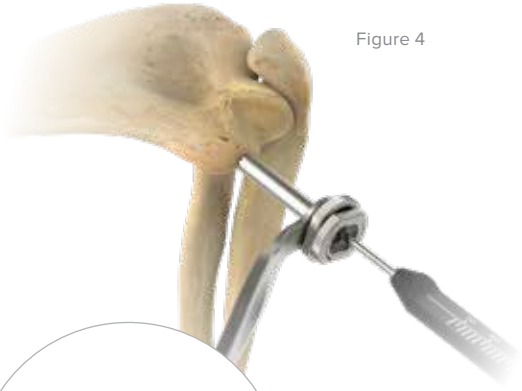


Figure 4

Figure 5

5 Drill

Remove the 1.3 mm Wire Depth Gauge (80-3960) and load the 2.7 mm Cannulated Drill, Quick Connect (80-2075) over the guide wire and through the desired drill guide (Figure 6). Drill to the desired depth.

Cleaning Stylet (optional)

The 1.25 mm Cleaning Stylet (80-2246) may assist in the removal of biologic material that may accumulate within cannulated instruments. The Stylet is not designed to be used through handles or power instruments.

Countersink (optional)

In areas with limited soft tissue coverage, the optional 5.3 mm Cannulated Countersink (80-2042) is provided to create a recess for the screw head and reduce screw prominence where desired. The countersink incorporates a textured surface to grip the device by hand if desired. Grooves are incorporated in the design at 2 mm intervals to use as a depth reference when used with the cannula system.

Note: The screw length should be reduced corresponding to the countersunk depth.

Tap (optional)

In sclerotic or particularly hard bone, pre-drilling and pre-tapping may be necessary. A 4.0 mm Cannulated Tap (80-2081) can be used according to surgeon preference.

Note: If using the optional Tap or Countersink, remove the drill sleeve.

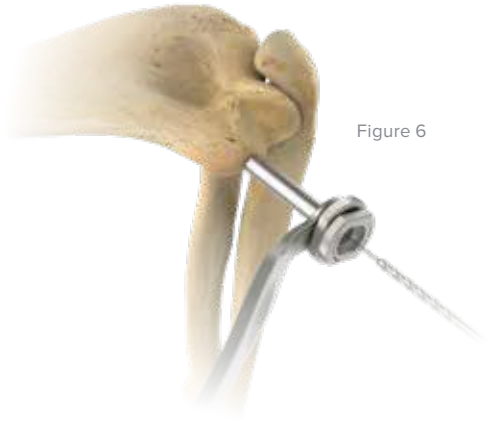


Figure 6

5.3 mm Cannulated Countersink

2.7 mm Cannulated Drill, Quick Connect

4.0 mm Cannulated Tap

1.3 mm Wire Depth Gauge (80-3960)

2.7 mm Drill Cannula (80-3963)

2.7 mm Cannulated Drill, Quick Connect (80-2075)

1.25 mm Cleaning Stylet (80-2246)

5.3 mm Cannulated Countersink (80-2042)

4.0 mm Cannulated Tap (80-2081)

Extra- and Intra-articular Fractures of the Distal Humerus [continued]

Figure 7

Figure 8

Figure 9

6 4.0 mm Cannulated Screw Placement

Screw insertion without washer

Connect the 2.5 mm Short Cannulated Hex Driver (80-3956) to the Small Ratchet Handle with Quick Release Connection (80-0398).

If using the 2.5 mm Screw Driver Sleeve (80-3957), load the screw sleeve on the driver, and pull back the driver sleeve until the tab passes the groove on the driver. While the screw is in the caddy, engage the screw head with the driver tip and advance the sleeve in one smooth motion to grasp the head of the 4.0 mm Cannulated Screw (300X-400XX).

Utilizing the 2.5 mm Short Cannulated Hex Driver, insert the appropriate-length 4.0 mm Cannulated Screw over the guide wire (Figure 7). The screw must lie with its threads completely beyond the fracture line to achieve the appropriate compression.

The 2.5 mm Short Cannulated Hex Driver has a laser band to indicate when screw seating is imminent. The screw should be advanced with care once the leading edge of the band aligns with the top of the screw cannula until fully seated (Figure 8).

Screw Insertion with washer (optional)

Note: Cannula must be removed prior to placement with a washer.

A washer may be used to prevent the screw head from sinking into the bone. Place the Cannulated Screw Washer 7.0 mm OD x 3.6 mm ID (7003-07036) onto the screw before insertion (Figure 9).

Note: The washer should be oriented so that the beveled edge away from the bone.

Confirm the screw placement under fluoroscopy. Closing and postoperative protocol are at the discretion of the surgeon.

2.5 mm Short Cannulated Hex Driver
(80-3956)

Small Ratchet Handle w/ Quick Release Connection
(80-0398)

2.5 mm Screw Driver Sleeve
(80-3957)

4.0 mm Cannulated Screw
(300X-400XX)

Cannulated Screw Washer 7.0 mm OD x 3.6 mm ID
(7003-07036)

Extra- and Intra-articular Fractures of the Distal Humerus [continued]

7 Removal

The cannulated screws are designed to be removable when necessary. After surgically obtaining access to the head of the screw, use the 2.5 mm Solid Hex Driver, Quick Connect (80-2074) attached to the Small Ratchet Handle with Quick Release Connection (80-0398) to remove the screw by engaging the driver tip within the hex recess in the screw head and turning counterclockwise (Figure 10). A 2.5 mm Easyout, Quick Release (80-0600) is also provided for removal of damaged screws (Figure 11).

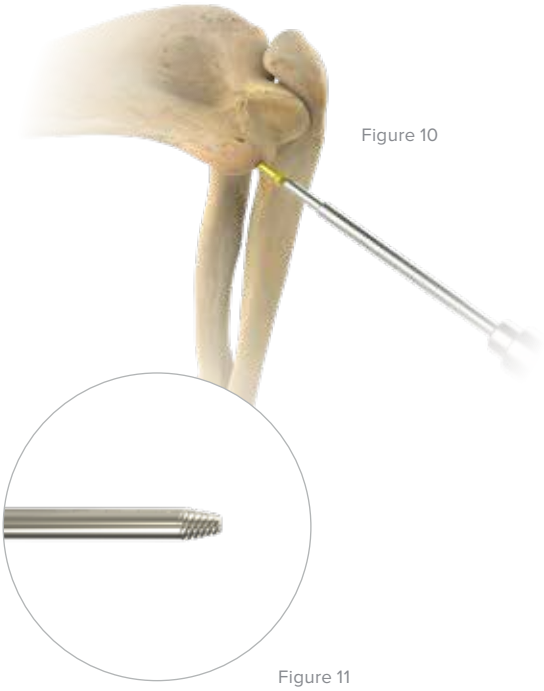


Figure 10

Figure 11

2.5 mm Solid Hex Driver, Quick Connect
(80-2074)

Small Ratchet Handle with Quick Release Connection
(80-0398)

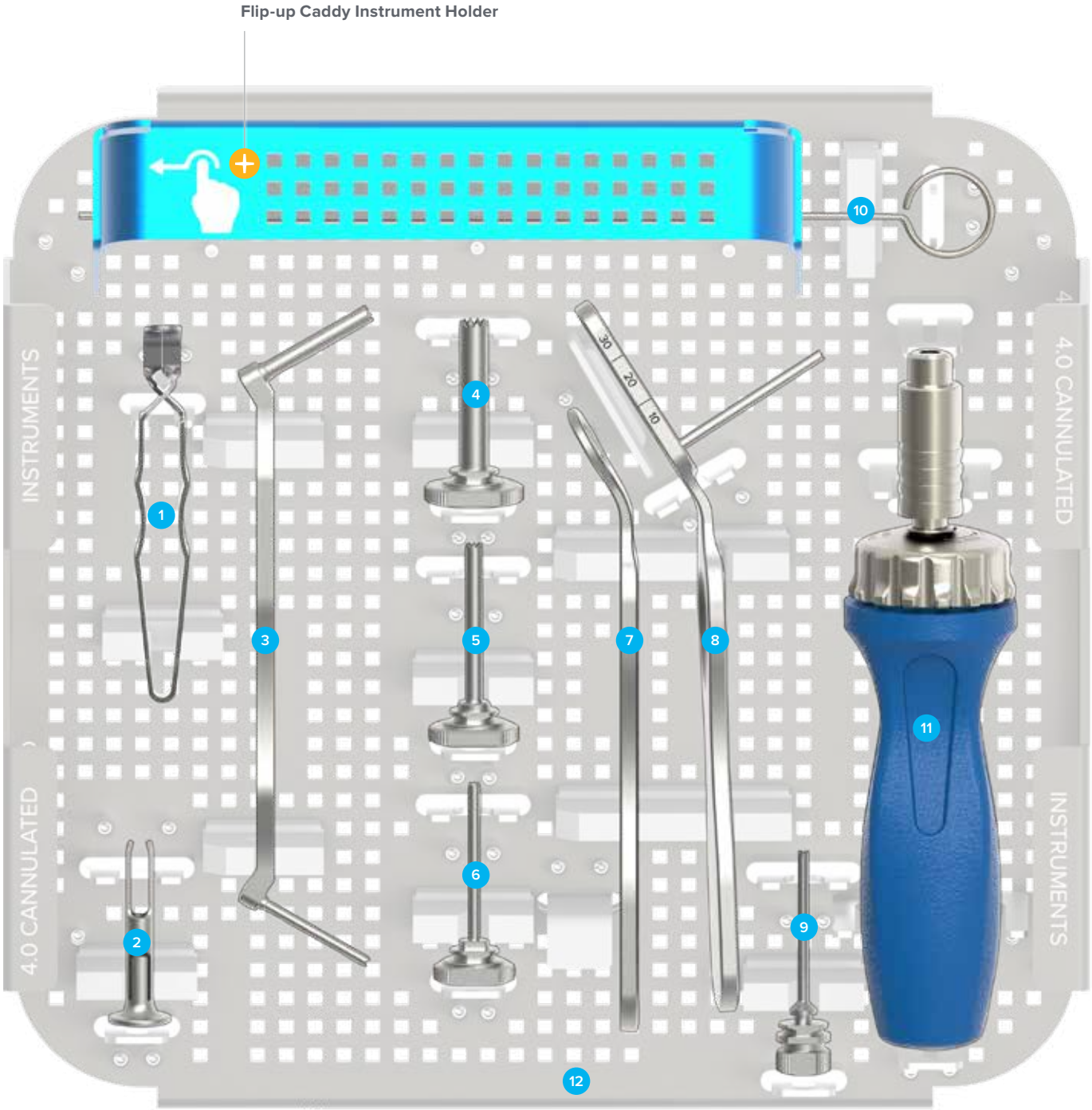
2.5 mm Easyout, Quick Release
(80-0600)

Ordering Information

Tray Components

4.0 mm Cannulated Screw Instruments

1	Large Screw Holding Forceps	MS-45210
2	2.5 mm Screw Driver Sleeve	80-3957
3	1.3/2.7 mm Double Drill Sleeve	80-2079
4	4.0 mm Screw Cannula	80-3964
5	2.7 mm Drill Cannula	80-3963
6	1.3 mm Wire Cannula	80-3962
7	Cannula Handle	80-3961
8	1.3 mm Parallel Guide Base	80-3778
9	1.3 mm Parallel Guide Drop-in Cannula	80-3781
10	1.25 mm Cleaning Stylet	80-2246
11	Small Ratchet Handle with Quick Release Connection	80-0398
12	4.0 mm Cannulated Screw Instrument Tray 1	80-3923

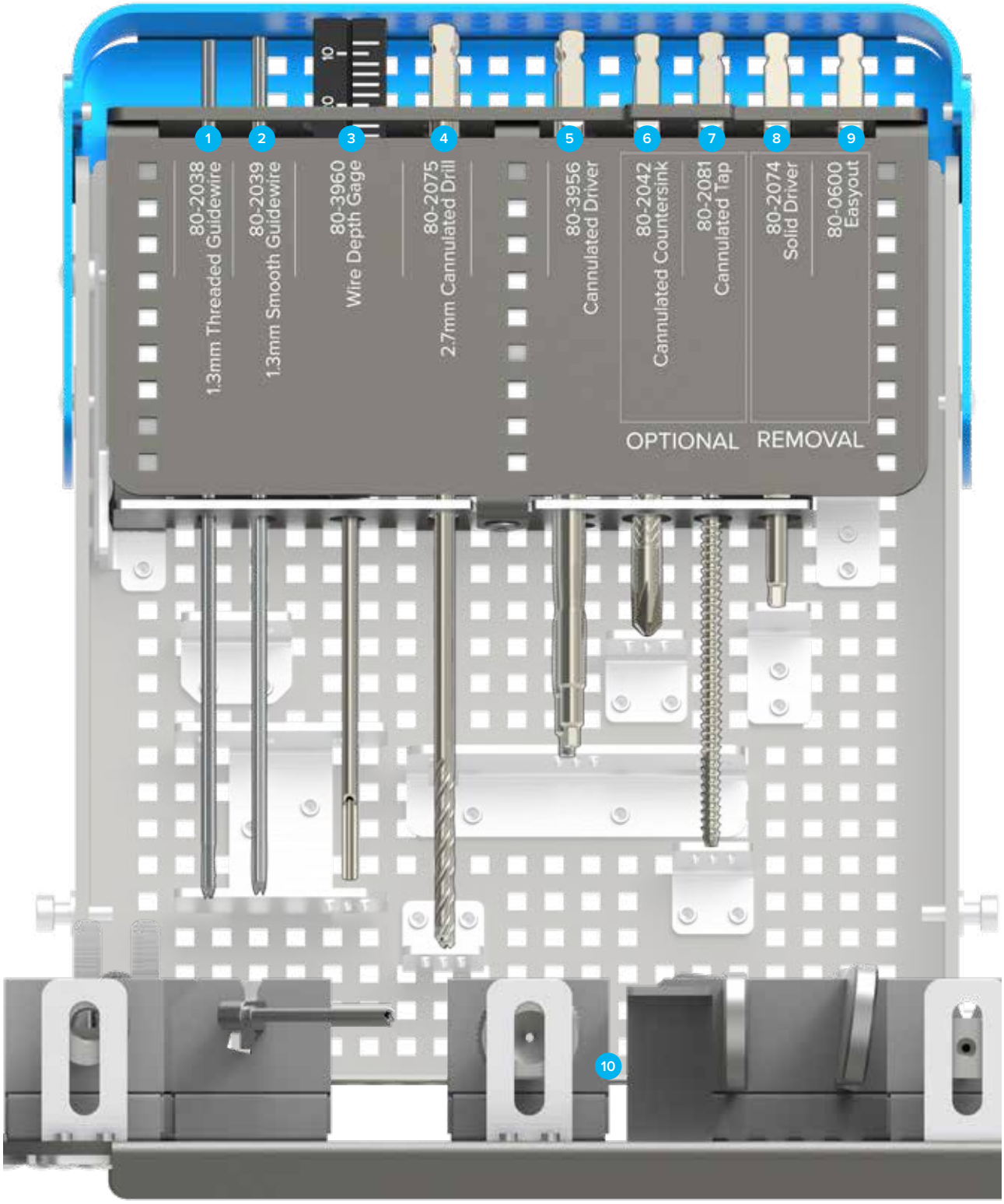

Flip-up Caddy Instrument Holder
INSTRUMENTS
4.0 CANNULATED
4.0 CANNULATED
INSTRUMENTS
30
20
10
1
2
3
4
5
6
7
8
9
10
11
12

Ordering Information [continued]

Tray Components

4.0 mm Cannulated Screw Instruments

1	1.3 mm Threaded Guide Wire, 150 mm	80-2038
2	1.3 mm Smooth Guide Wire, 150 mm	80-2039
3	1.3 mm Wire Depth Gauge	80-3960
4	2.7 mm Cannulated Drill, Quick Connect	80-2075
5	2.5 mm Short Cannulated Hex Driver	80-3956
6	5.3 mm Cannulated Countersink	80-2042
7	4.0 mm Cannulated Tap	80-2081
8	2.5 mm Solid Hex Driver, Quick Connect	80-2074
9	2.5 mm Easyout, Quick Release	80-0600
10	4.0 mm Cannulated Screw Instrument Tray 1	80-3923


1
80-2038
1.3mm Threaded Guidewire
2
80-2039
1.3mm Smooth Guidewire
3
80-3960
Wire Depth Gage
4
80-2075
2.7mm Cannulated Drill
5
80-3956
Cannulated Driver
6
80-2042
Cannulated Countersink
7
80-2081
Cannulated Tap
8
80-2074
Solid Driver
9
80-0600
Easyout
OPTIONAL
REMOVAL
10

Ordering Information [continued]

Tray Components

4.0 mm Cannulated Screw Instruments

1	Periosteal Elevator	MS-46212
2	Freer Elevator, 7.5	MS-57614
3	8 mm Hohmann Retractor	PL-CL05
4	15 mm Hohmann Retractor	MS-46827
5	8" Bone Reduction Forceps	MS-1280
6	Sharp Hook	PL-CL06
7	4.0 mm Cannulated Screw Reduction Instrument Tray 2	80-3924

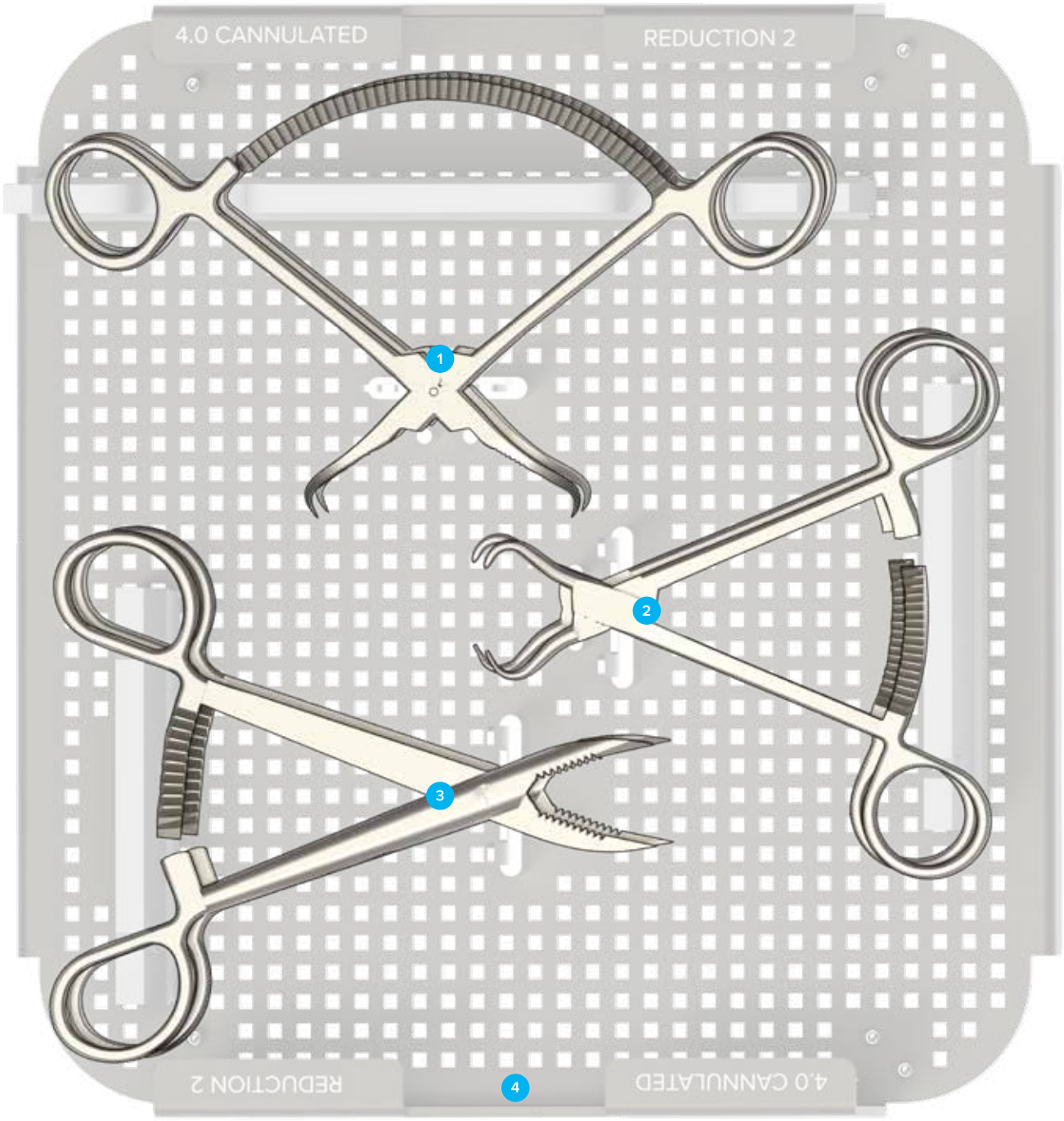

4.0 CANNULATED
REDUCTION 1
1
2
3
4
5
6
7

Ordering Information [continued]

Tray Components

4.0 mm Cannulated Screw Instruments

1	Pointed Forceps w/Ratchet, Narrow Long	80-2376
2	Bone Reduction Forceps, 5.25	MS-45300
3	Reduction Forceps w/Serrated Jaw	PL-CL04
4	4.0 mm Cannulated Screw Reduction Instrument Tray 3	80-3925

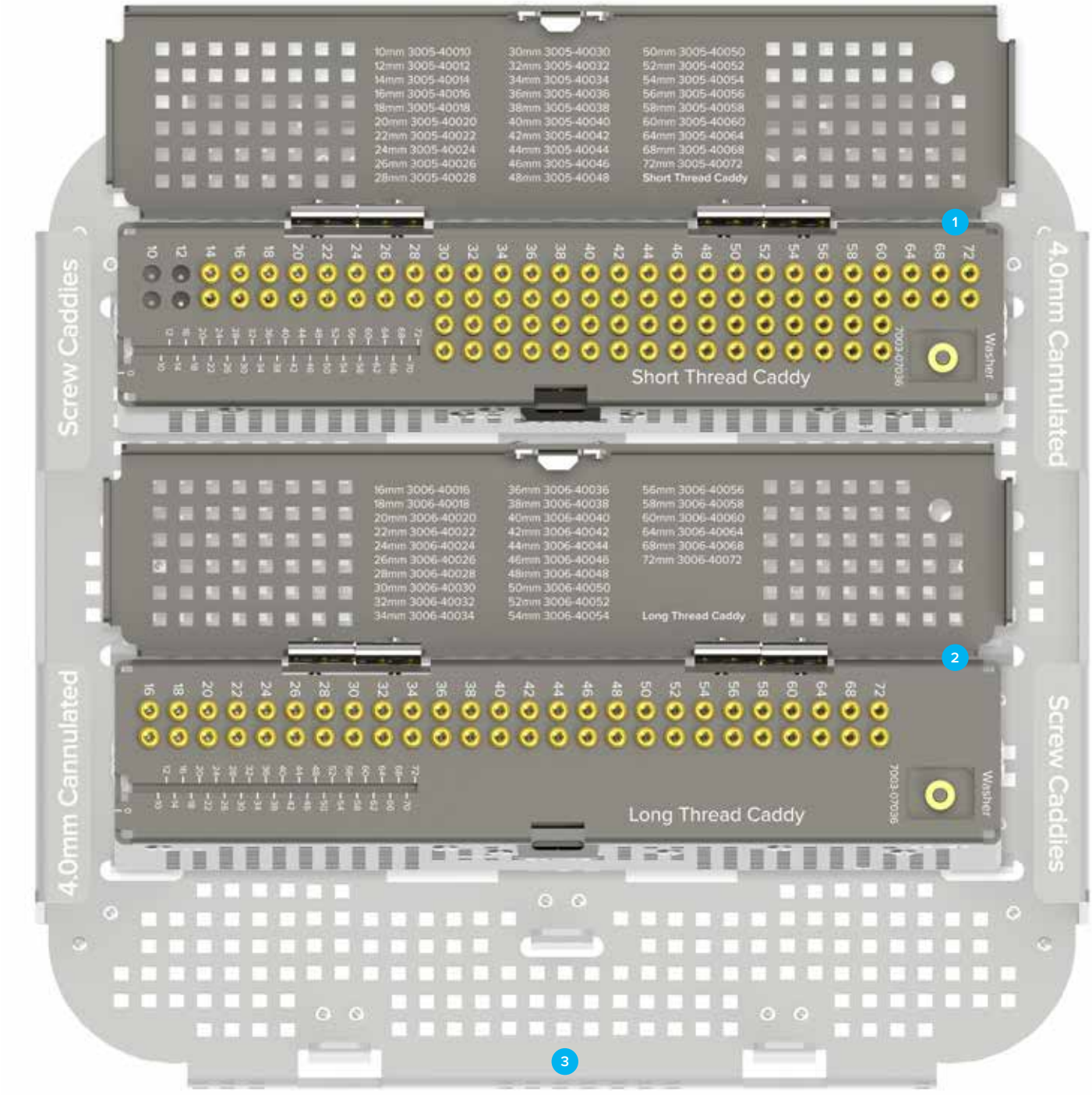

4.0 CANNULATED
REDUCTION 2
1
2
3
4
REDUCTION 2
4.0 CANNULATED

Ordering Information [continued]

4.0 mm Cannulated Screws

4.0 mm Cannulated Screw—Short Thread

1 4.0 mm Cannulated Screw Short Thread Caddy Assembly	80-3767
4.0 mm x 14 mm Cannulated Screw, Short Thread	3005-40014
4.0 mm x 16 mm Cannulated Screw, Short Thread	3005-40016
4.0 mm x 18 mm Cannulated Screw, Short Thread	3005-40018
4.0 mm x 20 mm Cannulated Screw, Short Thread	3005-40020
4.0 mm x 22 mm Cannulated Screw, Short Thread	3005-40022
4.0 mm x 24 mm Cannulated Screw, Short Thread	3005-40024
4.0 mm x 26 mm Cannulated Screw, Short Thread	3005-40026
4.0 mm x 28 mm Cannulated Screw, Short Thread	3005-40028
4.0 mm x 30 mm Cannulated Screw, Short Thread	3005-40030
4.0 mm x 32 mm Cannulated Screw, Short Thread	3005-40032
4.0 mm x 34 mm Cannulated Screw, Short Thread	3005-40034
4.0 mm x 36 mm Cannulated Screw, Short Thread	3005-40036
4.0 mm x 38 mm Cannulated Screw, Short Thread	3005-40038
4.0 mm x 40 mm Cannulated Screw, Short Thread	3005-40040
4.0 mm x 46 mm Cannulated Screw, Short Thread	3005-40046
4.0 mm x 48 mm Cannulated Screw, Short Thread	3005-40048
4.0 mm x 50 mm Cannulated Screw, Short Thread	3005-40050
4.0 mm x 52 mm Cannulated Screw, Short Thread	3005-40052
4.0 mm x 54 mm Cannulated Screw, Short Thread	3005-40054
4.0 mm x 56 mm Cannulated Screw, Short Thread	3005-40056
4.0 mm x 58 mm Cannulated Screw, Short Thread	3005-40058
4.0 mm x 60 mm Cannulated Screw, Short Thread	3005-40060
4.0 mm x 64 mm Cannulated Screw, Short Thread	3005-40064
4.0 mm x 68 mm Cannulated Screw, Short Thread	3005-40068
4.0 mm x 72 mm Cannulated Screw, Short Thread	3005-40072


10mm 3005-40010
12mm 3005-40012
14mm 3005-40014
16mm 3005-40016
18mm 3005-40018
20mm 3005-40020
22mm 3005-40022
24mm 3005-40024
26mm 3005-40026
28mm 3005-40028
30mm 3005-40030
32mm 3005-40032
34mm 3005-40034
36mm 3005-40036
38mm 3005-40038
40mm 3005-40040
42mm 3005-40042
44mm 3005-40044
46mm 3005-40046
48mm 3005-40048
50mm 3005-40050
52mm 3005-40052
54mm 3005-40054
56mm 3005-40056
58mm 3005-40058
60mm 3005-40060
64mm 3005-40064
68mm 3005-40068
72mm 3005-40072
Short Thread Caddy
1
Short Thread Caddy
Washer
16mm 3006-40016
18mm 3006-40018
20mm 3006-40020
22mm 3006-40022
24mm 3006-40024
26mm 3006-40026
28mm 3006-40028
30mm 3006-40030
32mm 3006-40032
34mm 3006-40034
36mm 3006-40036
38mm 3006-40038
40mm 3006-40040
42mm 3006-40042
44mm 3006-40044
46mm 3006-40046
48mm 3006-40048
50mm 3006-40050
52mm 3006-40052
54mm 3006-40054
56mm 3006-40056
58mm 3006-40058
60mm 3006-40060
64mm 3006-40064
68mm 3006-40068
72mm 3006-40072
Long Thread Caddy
2
Long Thread Caddy
Washer
3
Screw Caddies
4.0mm Cannulated
4.0mm Cannulated
Screw Caddies

Ordering Information [continued]

4.0 mm Cannulated Screws

4.0 mm Cannulated Screw—Long Thread

2 4.0 mm Cannulated Screw Long Thread Caddy Assembly	80-3768
4.0 mm x 16 mm Cannulated Screw, Long Thread	3006-40016
4.0 mm x 18 mm Cannulated Screw, Long Thread	3006-40018
4.0 mm x 20 mm Cannulated Screw, Long Thread	3006-40020
4.0 mm x 22 mm Cannulated Screw, Long Thread	3006-40022
4.0 mm x 24 mm Cannulated Screw, Long Thread	3006-40024
4.0 mm x 26 mm Cannulated Screw, Long Thread	3006-40026
4.0 mm x 28 mm Cannulated Screw, Long Thread	3006-40028
4.0 mm x 30 mm Cannulated Screw, Long Thread	3006-40030
4.0 mm x 32 mm Cannulated Screw, Long Thread	3006-40032
4.0 mm x 34 mm Cannulated Screw, Long Thread	3006-40034
4.0 mm x 36 mm Cannulated Screw, Long Thread	3006-40036
4.0 mm x 38 mm Cannulated Screw, Long Thread	3006-40038
4.0 mm x 40 mm Cannulated Screw, Long Thread	3006-40040
4.0 mm x 42 mm Cannulated Screw, Long Thread	3006-40042
4.0 mm x 44 mm Cannulated Screw, Long Thread	3006-40044
4.0 mm x 46 mm Cannulated Screw, Long Thread	3006-40046
4.0 mm x 48 mm Cannulated Screw, Long Thread	3006-40048
4.0 mm x 50 mm Cannulated Screw, Long Thread	3006-40050
4.0 mm x 52 mm Cannulated Screw, Long Thread	3006-40052
4.0 mm x 54 mm Cannulated Screw, Long Thread	3006-40054
4.0 mm x 56 mm Cannulated Screw, Long Thread	3006-40056
4.0 mm x 58 mm Cannulated Screw, Long Thread	3006-40058
4.0 mm x 60 mm Cannulated Screw, Long Thread	3006-40060
4.0 mm x 64 mm Cannulated Screw, Long Thread	3006-40064
4.0 mm x 68 mm Cannulated Screw, Long Thread	3006-40068
4.0 mm x 72 mm Cannulated Screw, Long Thread	3006-40072
3 4.0 mm Cannulated Screw Tray	80-3695

Optional

Implants

Cannulated Screw Washer 7.0 mm OD x 3.6 mm ID	7003-07036

Sterile Implants

Cannulated Screw Washer 7.0 mm OD x 3.6 mm ID	7003-07036-S

Ordering Information [continued]

Sterile Implants

Sterile 4.0 mm Cannulated Screw—Short Thread

4.0 mm x 14 mm Cannulated Screw, Short Thread	3005-40014-S
4.0 mm x 16 mm Cannulated Screw, Short Thread	3005-40016-S
4.0 mm x 18 mm Cannulated Screw, Short Thread	3005-40018-S
4.0 mm x 20 mm Cannulated Screw, Short Thread	3005-40020-S
4.0 mm x 22 mm Cannulated Screw, Short Thread	3005-40022-S
4.0 mm x 24 mm Cannulated Screw, Short Thread	3005-40024-S
4.0 mm x 26 mm Cannulated Screw, Short Thread	3005-40026-S
4.0 mm x 28 mm Cannulated Screw, Short Thread	3005-40028-S
4.0 mm x 30 mm Cannulated Screw, Short Thread	3005-40030-S
4.0 mm x 32 mm Cannulated Screw, Short Thread	3005-40032-S
4.0 mm x 34 mm Cannulated Screw, Short Thread	3005-40034-S
4.0 mm x 36 mm Cannulated Screw, Short Thread	3005-40036-S
4.0 mm x 38 mm Cannulated Screw, Short Thread	3005-40038-S
4.0 mm x 44 mm Cannulated Screw, Short Thread	3005-40044-S
4.0 mm x 46 mm Cannulated Screw, Short Thread	3005-40046-S
4.0 mm x 48 mm Cannulated Screw, Short Thread	3005-40048-S
4.0 mm x 50 mm Cannulated Screw, Short Thread	3005-40050-S
4.0 mm x 52 mm Cannulated Screw, Short Thread	3005-40052-S
4.0 mm x 54 mm Cannulated Screw, Short Thread	3005-40054-S
4.0 mm x 56 mm Cannulated Screw, Short Thread	3005-40056-S
4.0 mm x 58 mm Cannulated Screw, Short Thread	3005-40058-S
4.0 mm x 60 mm Cannulated Screw, Short Thread	3005-40060-S
4.0 mm x 64 mm Cannulated Screw, Short Thread	3005-40064-S
4.0 mm x 68 mm Cannulated Screw, Short Thread	3005-40068-S
4.0 mm x 72 mm Cannulated Screw, Short Thread	3005-40072-S

Ordering Information [continued]

Sterile Implants

Sterile 4.0 mm Cannulated Screw—Long Thread

4.0 mm x 16 mm Cannulated Screw, Long Thread	3006-40016-S	4.0 mm x 42 mm Cannulated Screw, Long Thread	3006-40042-S
4.0 mm x 18 mm Cannulated Screw, Long Thread	3006-40018-S	4.0 mm x 44 mm Cannulated Screw, Long Thread	3006-40044-S
4.0 mm x 20 mm Cannulated Screw, Long Thread	3006-40020-S	4.0 mm x 46 mm Cannulated Screw, Long Thread	3006-40046-S
4.0 mm x 22 mm Cannulated Screw, Long Thread	3006-40022-S	4.0 mm x 48 mm Cannulated Screw, Long Thread	3006-40048-S
4.0 mm x 24 mm Cannulated Screw, Long Thread	3006-40024-S	4.0 mm x 50 mm Cannulated Screw, Long Thread	3006-40050-S
4.0 mm x 26 mm Cannulated Screw, Long Thread	3006-40026-S	4.0 mm x 52 mm Cannulated Screw, Long Thread	3006-40052-S
4.0 mm x 28 mm Cannulated Screw, Long Thread	3006-40028-S	4.0 mm x 54 mm Cannulated Screw, Long Thread	3006-40054-S
4.0 mm x 30 mm Cannulated Screw, Long Thread	3006-40030-S	4.0 mm x 56 mm Cannulated Screw, Long Thread	3006-40056-S
4.0 mm x 32 mm Cannulated Screw, Long Thread	3006-40032-S	4.0 mm x 58 mm Cannulated Screw, Long Thread	3006-40058-S
4.0 mm x 34 mm Cannulated Screw, Long Thread	3006-40034-S	4.0 mm x 60 mm Cannulated Screw, Long Thread	3006-40060-S
4.0 mm x 36 mm Cannulated Screw, Long Thread	3006-40036-S	4.0 mm x 64 mm Cannulated Screw, Long Thread	3006-40064-S
4.0 mm x 38 mm Cannulated Screw, Long Thread	3006-40038-S	4.0 mm x 68 mm Cannulated Screw, Long Thread	3006-40068-S
4.0 mm x 40 mm Cannulated Screw, Long Thread	3006-40040-S	4.0 mm x 72 mm Cannulated Screw, Long Thread	3006-40072-S

Ordering Information [continued]

Full System Set	
4.0 mm Cannulated Screw Full System Case Base	80-3919
4.0 mm Cannulated Screw Full System Case Lid	80-3920
Contains:	
4.0 mm Cannulated Screw Tray	80-3695
4.0 mm Cannulated Screw Instrument Tray 1	80-3923
4.0 mm Cannulated Screw Reduction Instrument Tray 2	80-3924
4.0 mm Cannulated Screw Reduction Instrument Tray 3	80-3925

Sterile System Base and Lid	
4.0 mm Cannulated Screw Reduction Instrument Base	80-3934
4.0 mm Cannulated Screw Reduction Instrument Lid	80-3935

Essential System Set	
4.0 mm Cannulated Screw Core System Case Base	80-3921
4.0 mm Cannulated Screw Core System Case Lid	80-3922
Contains:	
4.0 mm Cannulated Screw Instrument Tray 1	80-3923
4.0 mm Cannulated Screw Tray	80-3695

Essential Sterile System Base and Lid	
4.0 mm Cannulated Screw Core Instruments Base	80-4001
4.0 mm Cannulated Screw Core Instruments Lid	80-4002

Note: To learn more about the full line of Acumed innovative surgical solutions, please contact your authorized Acumed distributor, call 888.627.9957, or visit www.acumed.net.

Notes:

Notes:

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