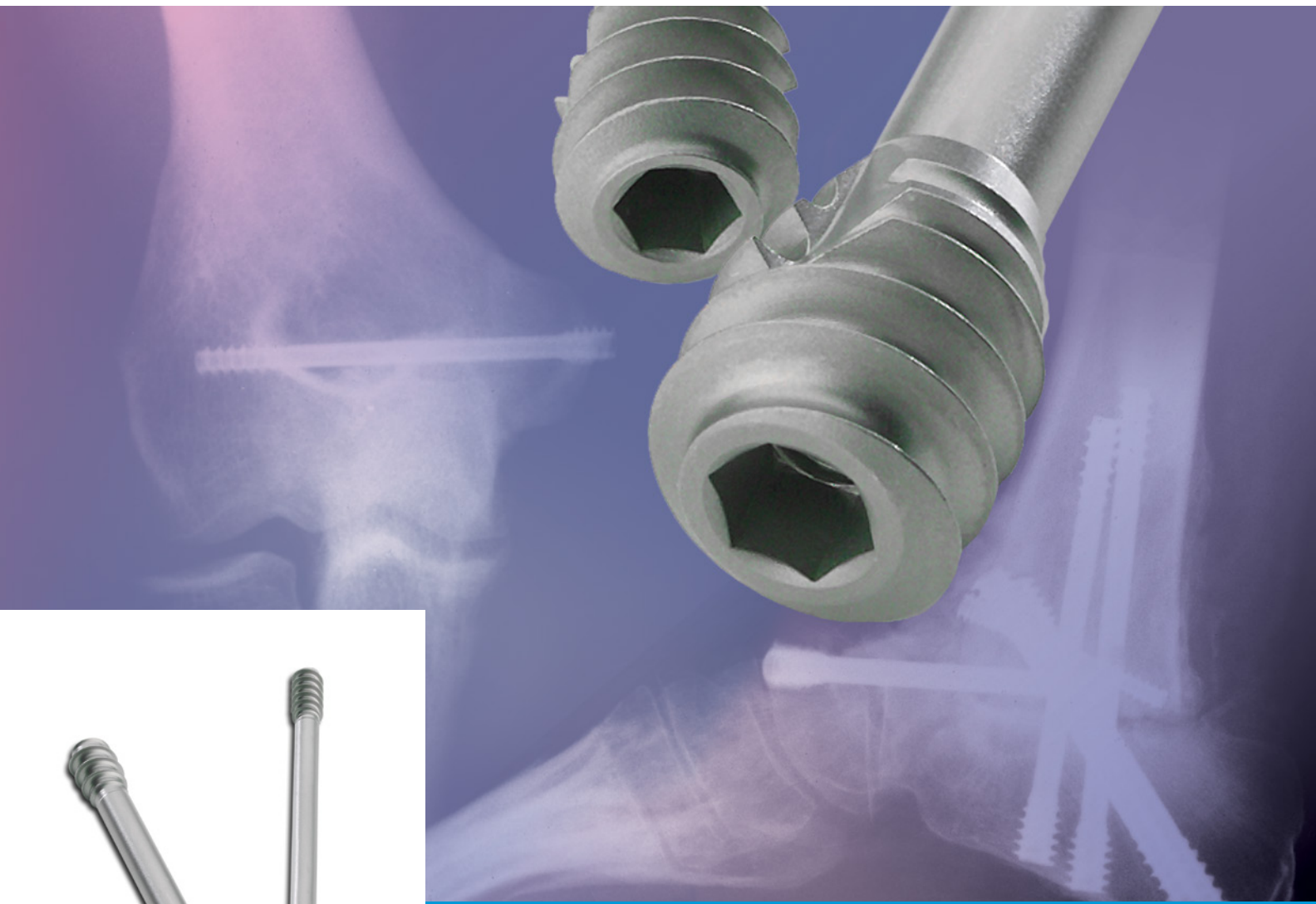
Zimmer® Herbert™ Cannulated Bone Screw



An innovative option for managing the reduction and fixation of difficult fractures

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Specifically Designed for Problem Internal Fixation

The headless design of the *Herbert* Screw means that the screw is completely embedded in the bone, without any protrusions to cause tissue irritation even in intra-articular placement. • Cannulation helps ensure precise placement of the screw. • *Herbert* Cannulated Guide Pins hold the fragment and act as guides for drilling, tapping, and screw placement. • The *Tivanium*® Ti-6A1-4V Alloy used in fabricating these screws is highly biocompatible and corrosion resistant. • The thread design of the *Herbert* Screw creates compression and provides fracture stability. As the proximal threads engage the bone, the fracture is drawn together, helping to create and maintain stability of the fracture site.

4.5mm *Herbert* Cannulated Bone Screw

6.5mm *Herbert* Cannulated Bone Screw

INDICATIONS FOR USE

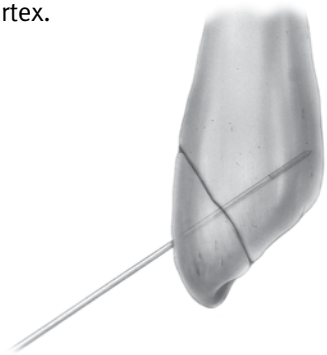
The *Herbert* Cannulated Bone Screw System (4.5mm and 6.5mm diameter) are indicated for fracture fixation, reconstruction, osteotomy, and arthrodesis of various bones and bone fragments including joint fusions (arthrodeses) in the foot and fixation of intra-articular fractures of the humerus, femur and tibia.

The *Herbert* Cannulated Bone Screw is designed for the management of fractures where minimal tissue coverage makes standard screw use inappropriate or where extreme precision in fragment alignment is imperative. Such locations might include fractures of the:

- *Olecranon and malleolar region*
- *Distal femur*
- *Proximal tibia*
- *Distal tibia*

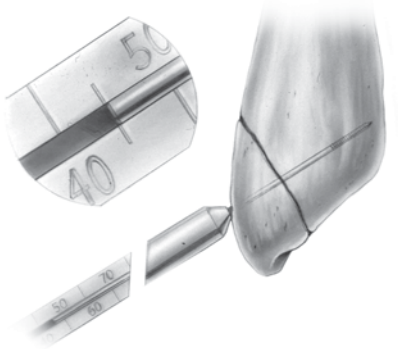
1 Guide Pin

After initial reduction of the fracture fragments is obtained, the specifically designed *Herbert* Cannulated Guide Pin is placed through the fragments to act as a Guide Wire for the rest of the placement operation. The Guide Pin should not perforate the opposite cortex.



2 Depth Gauge

Use the Depth Gauge to measure the length of the Guide Pin in the bone. If the Guide perforates the opposite cortex, corresponding compensation must be made when selecting the implant length.



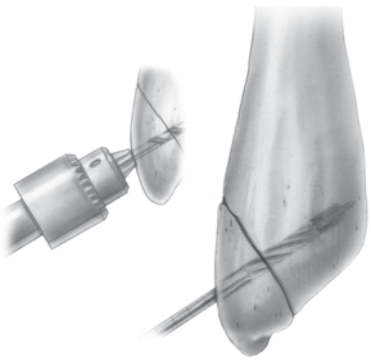
3 Proximal Drill Bit

Insert the Proximal Drill Bit over the Guide Pin to drill the cortex. The Drill Bit should be advanced until the built-in stop contacts the cortex of the bone.

4 Distal Drill Bit

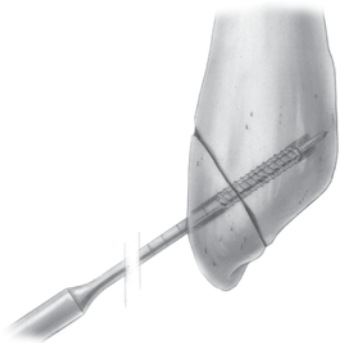
Insert the Distal Drill Bit over the Guide Pin and drill to the desired depth. At this time the surgeon may choose to drill 5mm less than the pilot length.

Option: The Distal Drill Bit may be inserted into a Jacob's Chuck to the appropriate calibration, thus allowing the surgeon to utilize the Chuck as an automatic stop.



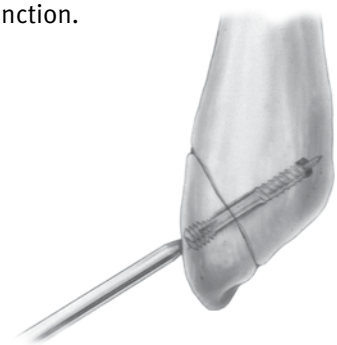
5 Cannulated Tap

Insert the Cannulated Tap over the Guide Pin and tap the channel to prepare for the leading screw threads of the implant. Tap depth should be equal to the depth created by the Distal Drill Bit.



6 Insert Screw

In determining screw length, the surgeon may wish to choose an implant 5mm to 10mm shorter than the measured pilot length. Using the Cannulated Screwdriver, insert the *Herbert* Cannulated Screw. As the trailing threads engage the bone, reduction is achieved. These trailing threads should be seated approximately 1mm below the cortex of the bone to ensure that there is no intra-articular protrusion or interference with the joint function.



Order Information

Prod. No.	Description	Qty. in Set
00-1155-001-00	***Herbert*** **Cannulated Bone Screw Set (Includes the following implants, instruments and case components)**	
4.5mm Implants		
47-1155-025-05	25mm	2
47-1155-030-05	30mm	2
47-1155-035-05	35mm	2
47-1155-040-05	40mm	2
47-1155-045-05	45mm	2
47-1155-050-05	50mm	2
47-1155-055-05	55mm	2
47-1155-060-05	60mm	2
47-1155-065-05	65mm	2
47-1155-070-05	70mm	2
47-1155-075-05	75mm	2
47-1155-080-05	80mm	2
47-1155-085-05	85mm	2
47-1155-090-05	90mm	2
47-1155-095-05	95mm	2
47-1155-100-05	100mm	2
6.5mm Implants		
47-1155-025-07	25mm	2
47-1155-030-07	30mm	2
47-1155-035-07	35mm	2
47-1155-040-07	40mm	2
47-1155-045-07	45mm	2
47-1155-050-07	50mm	2
47-1155-055-07	55mm	2
47-1155-060-07	60mm	2
47-1155-065-07	65mm	2
47-1155-070-07	70mm	2
47-1155-075-07	75mm	2
47-1155-080-07	80mm	2
47-1155-085-07	85mm	2
47-1155-090-07	90mm	2
47-1155-095-07	95mm	2
47-1155-100-07	100mm	2
Instrumentation		
• 00-1155-011-00	Cannulated Tap, 4.5mm	1
• 00-1155-012-00	Cannulated Screwdriver, 4.5mm	1
• 00-1155-013-00	Trephine, 4.5mm	1
• 00-1155-014-00	Pilot Drill Bit, 3.8mm	1
• 00-1155-015-00	Main Drill Bit, 3.1mm	1
• 00-1155-016-00	Guide Pin, Partially Threaded, 1.6mm	1
00-1155-021-00	Cannulated Tap, 6.5mm	1
00-1155-022-00	Cannulated Screwdriver, 6.5mm	1
00-1155-023-00	Trephine	1
00-1155-024-00	Pilot Drill Bit, 5.5mm	1
00-1155-026-00	Guide Pin, Partially Threaded, 2.0mm	1
00-1155-027-00	Main Drill Bit, 4.6mm	1
• 00-1180-040-00	Depth Guide	1
• 00-4808-020-00	Parallel Drill Guide, 2.0mm	1
• 00-1155-085-00	Sterilization Tray	1

Sets

00-1155-093-00	*Herbert* Cannulated Bone Screw Instrumentation Set (Includes all instrumentation listed)
00-1155-094-00	*Herbert* Cannulated 4.5mm Bone Screw instrumentation used for the 4.5mm bone screw (Denoted with a •)
00-1155-099-00	*Herbert* Cannulated Bone Screw Implant Set (Includes two each of every size bone screw)

Herbert Cannulated Bone Screws

4.5mm Diameter
Leading Thread Major Diameter 4.5mm
Trailing Thread Major Diameter 5.8mm

Length	Leading Thread Length	Trailing Thread Length	Pitch Difference Potential†	Flush Reduction Potential††	Flush 1 Turn Reduction
25-35mm	8.2mm	5.8mm	.41mm	1.23mm	1.64mm
40-70mm	12.0mm	6.4mm	.41mm	1.42mm	1.85mm
75-100mm	16.0mm	6.4mm	.41mm	1.42mm	1.85mm

6.5mm Diameter
Leading Thread Major Diameter 6.5mm
Trailing Thread Major Diameter 8.1mm

Length	Leading Thread Length	Trailing Thread Length	Pitch Difference Potential	Flush Reduction Potential	Flush 1 Turn Reduction
25-35mm	9.0mm	5.8mm	.41mm	1.23mm	1.64mm
40-70mm	11.9mm	6.4mm	.41mm	1.42mm	1.85mm
75-100mm	16.0mm	6.4mm	.41mm	1.42mm	1.85mm

† Amount of fracture reduction potential with screw tightened flush with bone surface
†† Amount of fracture reduction potential with screw tightened 1mm below bone surface

Warning: *This device is not approved by the U.S. FDA for screw attachment or fixation to the posterior elements (pedicles) of clavical, thoracic, or lumbar spine.*

DISCLAIMER:
This documentation is intended exclusively for physicians and is not intended for laypersons. Information on the products and procedures contained in this document is of a general nature and does not represent and does not constitute medical advice or recommendations. Because this information does not purport to constitute any diagnostic or therapeutic statement with regard to any individual medical case, each patient must be examined and advised individually, and this document does not replace the need for such examination and/or advise in whole or in part.

Please refer to the package inserts for important product information, including, but not limited to, indications, contraindications, warnings, precautions, and adverse effects.

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