# **Pilon Fusion System**

Surgical Technique





### Introduction

The Arthrex Pilon Fusion System is designed to treat distal tibia fractures that require both fracture reduction and primary ankle arthrodesis. Severe damage to the tibiotalar (TT) joint often results in posttraumatic arthritis, pain, stiffness, and the need for secondary surgeries. The Primary Pilon Fusion System provides another option to address these severe fracture patterns with primary TT arthrodesis of the articular surface to help avoid secondary surgery and chronic pain. Anterolateral and posterior approaches, depending on the fracture pattern, allow for fracture management, lengthy bridging techniques, anatomic implants, and fracture-specific locking configurations.

Arthrex offers comprehensive solutions to treat these patients with the ArthroFX® large external fixation system, Ankle Fusion Plating System, Titanium Ankle Fracture Management System, Distal Tibia Plating System, and the FibuLock® fibular nail.

Note: The Ankle Fusion System is required for Pilon Fusion system use

The tibial shaft and talus fixation points can use a combination of 4.5 mm locking, 4.5 mm cortical, and 5.5 mm cancellous screws for increased strength across the ankle joint. The anterolateral plate has two rows of distal 3.5 mm locking or 3.5 mm cortical screws to address complex, high-energy pilon fractures. The use of 3.5 mm screws distally allows for a high density of screw fixation and additional options for fracture reduction. An oblong slot and K-wire/BB-Tak holes facilitate proper plate placement and provisional fixation.

### Note: 15-hole and 18-hole plates are only available in sterile.

The anatomic distal contour allows for robust fixation across the ankle joint while providing the maximum number of fixation points for a successful fusion.

- Plate lengths: 5-hole (112 mm), 7-hole (137 mm),
  9-hole (163 mm), and 12-hole (201 mm)
- Sterile options: 15-hole (239 mm) and 18-hole (277 mm)



#### Anterolateral Primary Pilon Fusion Plate Technique



Use an anterior or anterolateral approach, ensuring the neurovascular structures are protected. The fracture can be addressed with provisional fixation to aid in restoring the articular surface of the distal tibia.



Fracture management and joint preparation are managed accordingly based on the fracture pattern and surgeon preference. The ankle joint can be prepped for a fusion by using the various chisels and curettes offered in the system.



Attach the 4.5 mm percutaneous insertion handle to the most distal shaft screw of the plate. Slide the plate proximally in the previously created submuscular pocket. It is recommended to slide the plate proximally first and then seat it distally into the appropriate position based on anatomic contours.

The percutaneous insertion handle is cannulated to enable provisional fixation with a K-wire if desired.

#### Anterolateral Primary Pilon Fusion Plate Technique (Cont.)



Once the plate is positioned, drill with the 3.0 mm drill bit through the 3.0 mm/4.5 mm drill guide. Measure the appropriate screw length with the depth gauge and place a 4.5 mm cortical screw in the oblong slot; conversely, a BB-Tak can be used to provide provisional fixation.



Provisionally fix the talus with a BB-Tak. Drill with the 3.0 mm calibrated drill through the 4.5 mm locking drill guide; the screw length can be measured off the back of the drill guide. Using the T20 driver, insert the appropriate locking or cortical screw.



Use 1.6 mm K-wires to secure the plate to the distal tibia and to secure the fracture fragments. Use a 3.5 mm cortical screw to manipulate the bone toward the plate or a 3.5 mm locking screw to maintain spatial positioning. Drill with the 2.5 mm calibrated drill through the 3.5 mm locking drill guide. Measure with the drill guide or the depth gauge and implant a 3.5 mm cortical or locking screw with the T15 driver.

#### Anterolateral Primary Pilon Fusion Plate Technique (Cont.)



Once the distal fixation is completed, add a 4.5 mm locking screw in the kickstand screw hole to provide additional stability across the joint. Use the 4.5 mm locking drill guide drill with the 3.0 mm calibrated drill to measure the screw length off the drill guide.



Distal screw trajectories.

Note: A 4.5 mm nonlocking cortical or 5.5 mm cancellous screw may be used if desired.



Once the distal fixation is completed, add 4.5 mm cortical nonlocking or locking screws proximally as needed.



**Optional:** AlloSync<sup>™</sup> demineralized bone graft hydrated with concentrated platelet-rich plasma (PRP) from bone marrow aspirate (BMA) can be used to augment the ankle arthrodesis procedure.

#### Posterior Pilon/Tibiotalar Fusion Plate Design

The posterior plate has two rows of distal 4.5 mm locking or 4.5 mm nonlocking cortical screws to address complex, high-energy pilon fractures while providing stability and strength for a successful fusion. With three points of fixation in the talus, along with the locking kickstand screw across the ankle joint, the posterior plate provides a robust buttress effect for addressing fracture reduction while providing the spatial arrangement and stability needed to maintain talus positioning for tibiotalar arthrodesis. An oblong slot and K-wire/BB-Tak holes facilitate proper plate placement and provisional fixation. The anatomic distal contour allows for robust fixation across the ankle joint while providing the maximal number of fixation points.

- Plate lengths: 5-hole (119 mm), 7-hole (144 mm),
  9-hole (170 mm), 12-hole (208 mm)
- Sterile options: 15-hole (246 mm)



#### Note: 15-hole plate is only available in sterile.



Use a posterolateral or posteromedial approach, dictated by fracture pattern and surgeon preference, while carefully protecting tendons and neurovascular structures. Obtain provisional fracture reduction and prepare the ankle joint surfaces for fusion.



Attach the 4.5 mm percutaneous insertion handle to the most distal shaft screw of the plate. Slide the plate proximally past the ideal insertion point and then move it distally until it seats in the appropriate position on the distal tibia poster facet of the talus.

The percutaneous insertion handle is cannulated to enable provisional fixation with a K-wire if desired.

#### Posterior Pilon/Tibiotalar Fusion Plate Technique (Cont.)





Place a BB-Tak in the oblong hole for provisional fixation and begin fixation with 4.5 mm cortical screws. Drill with the 3.0 mm drill bit through the 3.0/4.5 mm drill guide.

Measure the length with the depth gauge and insert the desired 4.5 mm screw. Remove the BB-Tak.



Add additional 4.5 mm screws as needed. Strategically placed screws may help with manipulations of the fracture fragment position.



Secure the talus by placing a BB-Tak in the medial or lateral talar screw hole. A 4.5 mm cortical screw can help decrease any gaps between the bone and the plate, but may affect alignment. Be sure to maintain the desired foot and fracture alignment while drilling. The use of 4.5 mm locking screws will help maintain fracture alignment. Drill with the 3.0 mm drill bit and the 3.0 mm/4.5 mm drill guide.

#### Posterior Pilon/Tibiotalar Fusion Plate Technique (Cont.)



Once the distal fixation is completed, add a 4.5 mm locking screw to the kickstand screw hole to provide additional stability across the joint. Use the 4.5 mm locking drill guide drill with the 3.0 mm calibrated drill to measure the screw length off the drill guide.

Note: A 4.5 mm nonlocking cortical or 5.5 mm cancellous screw can also be used.



Distal screw trajectories.

Note: The locking screw trajectories of the kickstand screw and the central talar screw will intersect. The surgeon must be mindful during drilling and select screws of the appropriate length to avoid interference.



Once the distal fixation is completed, add a 4.5 mm cortical or locking screw as needed.



**Optional:** AlloSync<sup>™</sup> demineralized bone graft hydrated with concentrated PRP from BMA can be used to augment the ankle arthrodesis procedure.

#### Pilon Fusion Tray Overview



Note: Ankle Fusion System is required for Pilon Fusion System use.

### **Supporting Products**

Arthrex Ankle Fusion Plating System

The titanium Ankle Fusion Plating System provides a complete solution for ankle fusion management, with a comprehensive offering of anatomy-specific plates available for either tibiotalar or tibiotalocalcaneal arthrodesis. A variety of screw options—including locking, nonlocking, cortical, cancellous, and hybrid designs—are provided to address all fixation needs. Specific instrumentation designed to help gain access to and prepare the fusion sites is also included in the set. The Ankle Fusion Plating System was designed to provide the solution to your ankle fusion fixation needs.

- Comprehensive instrumentation for joint preparation, distraction, and compression and assistance with optimal fixation
- Maximum fixation points within each plate



#### **System Features**

- Anatomically designed for use with three surgical approaches: anterior, lateral, posterior
- Four compression modes available in system
  - Anatomic compression hole
  - Oblong compression hole
  - Mini joint compressor/distractor
  - 6.7 mm cannulated lag screws or 7.0 mm XL Compression FT screws

#### Note: Ankle Fusion System is required for Pilon Fusion System use.



#### **Cannulated Screws**

The versatility of the Ankle Fusion System provides a complete solution for treating ankle arthritis in one comprehensive instrument case. The instrument set can be configured to house either 6.7 mm cannulated lag screws or 7.0 mm XL Compression FT screws for percutaneous compression across the arthrodesis site.



6.7 mm LPS Screw (18 mm thread)

- Low-profile head 1.0 mm shorter than a traditional 6.5 mm AO screw, while still using a 3.5 mm hex driver.
- Increased pull-out 30% better than a standard 6.5 mm AO screw.<sup>1</sup>
- Deeper threads Using a 2.4 mm guide pin allows the threads to be deeper than a standard AO screw.
- Self-drilling/tapping Speeds up the insertion process.



7.0 mm XL Compression FT Screw

- Headless design Minimal risk of impingement or soft-tissue irritation.
- Fully threaded compression Variable-stepped thread pitch and tapered proximal profile work together to compress bone fragments with the purchase of a fully threaded screw.
- Self-drilling/tapping Helical relief flutes assist in bone removal to reduce insertion torque.

#### Osteotome, angled up, 5.5 mm

Osteotome, angled up, 12 mm

Osteotome, straight, 5.5 mm

Osteotome, straight, 12 mm



Cup Curette, curved, 6.0 mm

#### **Joint Preparation**

Straight and curved curettes and osteotomes have been added to the ankle fusion tray to help with the removal of cartilage from the ankle and subtalar joints. These instruments are appropriately designed for the ankle and come standard in each ankle fusion tray, simplifying joint preparation in the OR setting.

#### Mini Joint Compressor/Distractor

Adaptable for distraction and compression of arthrodesis sites, this unique device facilitates joint preparation and allows for excellent compression prior to definitive fixation. The device uses 1.6 mm or 2.4 mm guidewires or 3.0 mm traction screws, which are included in the system.



#### Ankle Fusion Tray Overview





#### Level 3 Auxiliary Instruments and Screw Caddy



Screw Caddy Interchangeable **Cannulated Screws** 

7.0 mm AR-8770-XXXX  $(\mathfrak{I})$  $\bigcirc$ ۲ ۲ 0  $\bigcirc$ 0 0 O 0

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#### Screw Caddy Inserts

- **7.0** mm Compression FT Screw Caddy (AR-8970C-SC-70)
- 6.7 mm Cannulated Screw Caddy (AR-8970C-SC-67)

### **Supporting Products**

**Biologic Options** 

#### Angel<sup>®</sup> Concentrated PRP System

Technology is what sets the Angel system apart from the competition. The Angel system is the only one to provide PRP concentrate from BMA with adjustable cellular levels. Bone marrow is a rich source of platelets and nucleated and progenitor cells. Customization of cellular levels is necessary to reduce the number of neutrophils in BMA, which can be detrimental to bone healing.

#### **Features and Benefits**

- Proprietary platelet sensor system
- Adjustable platelet concentrations
- Adjustable WBC concentrations
- Flexible processing volume 40 mL to 180 mL
- Each processing kit can process 3 cycles up to 180 mL on the same patient
- Programmable can store up to 30 custom processing protocols
- Closed system: delivers PRP, platelet-poor plasma, and RBCs into separate, sterile compartments

In vitro culture expansion of progenitor cells<sup>2</sup>

48 hours



96 hours

Angel cPRP System	Platelet Concentration (K/µL)	Nucleated Cell Concentration (K/µL)	Hematopoietic Cell Concentration (K/µL)	Total Neutrophils (×10 <sup>6</sup> )
ВМА	87.7 ± 6.4	24.5 ± 15.6	$0.002 \pm 0.001$	612.1
PRP Concentrate From BMA	787.0 ± 317.6	240.5 ± 186.6	0.081 ± 0.056	132.9
Increase Above Baseline	~9×	~10×	~33×	80% +

Data from Arthrex, Inc. Data on file (APT-02569). Naples, FL; 2018.

#### AlloSync<sup>™</sup> Pure Demineralized Bone Matrix

AlloSync Pure demineralized bone matrix (DBM) is derived from 100% human allograft bone with no extrinsic carriers. AlloSync Pure bone matrix resists irrigation and can be used in a fluid environment. The clinician can control the handling properties of AlloSync Pure bone matrix, which includes decreasing the viscosity for injectable applications or increasing the viscosity for open procedures. The proprietary rice-shape fiber technology used to process AlloSync Pure bone matrix increases the osteoinduction and osteoconductive surface area to accelerate cellular ingrowth.<sup>3</sup>



#### AlloSync<sup>™</sup> Demineralized Bone

Demineralized cancellous sponges and cortical fibers are optimal for combination with blood products such as concentrated BMA. When combined with BMA, AlloSync demineralized bone grafts provide an optimal environment for bone formation that includes the "healing triad": cell, signal and scaffold.<sup>4</sup>



Product Description	Item Number
Angel System	ABS- <b>10060</b>
Angel Bone Marrow Processing Kit	ABS-10062
Angel Blood Access Kit	ABS-10067

#### AlloSync Cancellous Sponges

Product Description	Item Number
Cube, 8.0 mm × 8.0 mm × 8.0 mm	ABS-2005-01
Cube, 10 mm × 10 mm × 10 mm	ABS-2005-02
Cube, 12 mm × 12 mm × 12 mm	ABS-2005-03
Strip, 10 mm × 10 mm × 3.0 mm	ABS-2006-01
Strip, 15 mm × 40 mm × 3.0 mm	ABS-2006-02
Strip, 26 mm × 19 mm × 7.0 mm	ABS-2006-03
Strip, 10 mm × 20 mm × 7.0 mm	ABS-2006-04
Chips (1.0 mm-4.0 mm), 1.0 cc	ABS-2007-01
Chips (1.0 mm-4.0 mm), 2.5 cc	ABS-2007-02
Chips (1.0 mm-4.0 mm), 5.0 cc	ABS-2007-03

#### AlloSync Cortical Fibers

Product Description	Item Number
Fibers, 1.0 cc	ABS- <b>2008-01</b>
Fibers, 2.5 cc	ABS- <b>2008-02</b>
Fibers, 5.0 cc	ABS- <b>2008-03</b>
Fibers, 10 cc	ABS- <b>2008-04</b>

#### AlloSync Pure DBM

Product Description	Item Number
Pure DBM, 1.0 cc	ABS-2010-01
Pure DBM, 2.5 cc	ABS- <b>2010-02</b>
Pure DBM, 5.0 cc	ABS- <b>2010-05</b>
Pure DBM, 10 cc	ABS- <b>2010-10</b>



### **Supporting Products**

Snap-Off Compression FT Pins



The new Snap-Off Compression FT pins offer solutions for upper and lower extremities and the trauma setting. The ease of use, variable-stepped thread pitch, and wide range of sizes in diameters of both 1.9 mm and 2.4 mm represent an innovative new technology to help treat pathologies including joint arthrodesis, hammertoe, intra- and extra-articular fractures, and nonunions. The system can be used in conjunction with other Arthrex products to compress bone fragments.

- Variable-stepped thread pitch—the screw tip's wider thread pitch enters the bone faster than trailing threads, gradually compressing the fragments as the screw is advanced
- Convenient and quick surgical technique
- Self-drilling and self-tapping to facilitate insertion
- Multiple size options available in both 1.9 mm and 2.4 mm diameters
- Available in titanium

#### Snap-Off Compression FT Pins (AR-9938S)

Instruments	
Pin Insertion Guide A	AR- <b>9938-01</b>
Measuring Drill Guide A	AR- <b>9938-02</b>
Depth Device A	AR- <b>9938-03</b>
Locking Pin Driver A	AR- <b>9938-09</b>
Pin Cutter A	AR- <b>9938-11</b>
Cannulated Scalpel Handle, 1.35 mm A	AR- <b>9938-12</b>
Implants	
1.9 mm Snap-Off Compression FT Pins, 10 mm-50 mm    A      (2.0 mm increments)    A	AR- <b>9919-10-50</b>
2.4 mm Snap-Off Compression FT Pins, 10 mm-50 mmA(2.0 mm increments)	AR- <b>9924-10-50</b>
Compression FT Pin, solid (sterile), 1.9 mm × 30 mm	AR-9919T-30S
Compression FT Pin, solid (sterile), 1.9 mm × 50 mm	AR-9919T-50S
Compression FT Pin, solid (sterile), 2.4 mm × 30 mm	AR- <b>9924T-30S</b>
Compression FT Pin, solid (sterile), 2.4 mm × 50 mm A	AR- <b>9924T-50S</b>
Disposables for 1.9 mm Snap-Off Compression FT Pins	
Calibrated Measuring K-Wire, 1.1 mm, qty. 6 A	AR- <b>9938-04</b>
Hard-Bone Drill, 1.5 mm, qty. 2	AR- <b>9938-05</b>
Pin Extractor, 1.9 mm, qty. 2 A	AR- <b>9938-08</b>
Disposables for 2.4 mm Snap-Off Compression FT Pins	
Calibrated Measuring K-Wire, 1.35 mm, qty. 6	AR- <b>9938-10</b>
Hard-Bone Drill, 1.7 mm, qty. 2 A	AR-9938-06
Pin Extractor, 2.4 mm, qty. 2 A	AR- <b>9938-07</b>

#### Ordering Information

#### Primary Pilon Fusion System (AR-8963FS)

Product Description	Item Number
Screwdriver, T15 hexalobe	AR- <b>8943-10</b>
Drill Guide, 3.5/2.5 mm	AR- <b>8943-14</b>
Drill Guide, locking, 3.5 mm	AR- <b>8943-43</b>
Countersink, 3.5/4.0 mm	AR- <b>8950-03</b>
Depth Device, 3.5/4.0 mm	AR- <b>8963-13</b>
Chisel, straight, 14 mm	AR- <b>8963-14</b>
Chisel, curved, 14 mm	AR- <b>8963-15</b>
Chisel, curved, 7.0 mm	AR- <b>8963-16</b>
Chisel, straight, 7.0 mm	AR- <b>8963-17</b>
Cup Curette, 9.0 mm	AR- <b>8963-18</b>
Lag Drill Guide, 3.5 mm/2.5 mm	AR- <b>8963-21</b>
Percutaneous Insertion Handle, 4.5 mm	AR- <b>8963-24</b>
Driver, T15 hexalobe, 6.0 in, AO, qty. 2	AR- <b>8963-25</b>
Driver, T15 hexalobe, 6.0 in, straight, AO, qty. 2	AR- <b>8963-26</b>
Primary Pilon Fusion Case	AR-8963C-03
Plates	
Anterolateral Pilon Fusion Plate, 5h, left	AR-8963ALF-05
Anterolateral Pilon Fusion Plate, 7h, left	AR-8963ALF-07
Anterolateral Pilon Fusion Plate, 9h, left	AR-8963ALF-09
Anterolateral Pilon Fusion Plate, 12h, left	AR-8963ALF-12
Anterolateral Pilon Fusion Plate, 5h, right	AR-8963ARF-05
Anterolateral Pilon Fusion Plate, 7h, right	AR-8963ARF-07
Anterolateral Pilon Fusion Plate, 9h, right	AR-8963ARF-09
Anterolateral Pilon Fusion Plate, 12h, right	AR-8963ARF-12
Posterior Pilon Fusion Plate, 5h	AR-8963PF-05
Posterior Pilon Fusion Plate, 7h	AR-8963PF-07
Posterior Pilon Fusion Plate, 9h	AR-8963PF-09
Posterior Pilon Fusion Plate, 12h	AR-8963PF-12

Product Description	Item Number	
Sterile Plates		
Anterolateral Pilon Fusion Plate, 15h, left	AR-8963ALF-15S	
Anterolateral Pilon Fusion Plate, 18h, left	AR-8963ALF-18S	
Anterolateral Pilon Fusion Plate, 15h, right	AR-8963ARF-15S	
Anterolateral Pilon Fusion Plate, 18h, right	AR-8963ARF-18S	
Posterior Pilon Fusion Plate, 15h	AR-8963PF-15S	
3.5 mm Screws, Low Profile, Ti		
3.5 mm × 20 mm-60 mm (2.0 mm increments)	AR-8935-20-60	
3.5 mm × 65 mm-80 mm (5.0 mm increments)	AR- <b>8935-65-80</b>	
3.5 mm × 90 mm-120 mm (10 mm increments)	AR-8935-90-120	
3.5 mm Screws, Low Profile, Ti, locking		
3.5 mm × 20 mm-50 mm (2.0 mm increments)	AR-8935L-20-50	
3.5 mm × 55 mm-60 mm (2.0 mm increments)	AR-8935L-55 -60	
Disposables		
Drill Bit, 3.5 mm, qty. 2	AR- <b>4160-35</b>	
Drill Bit, 2.5 mm, qty. 2	AR- <b>8963-19</b>	
Guidewire, drill tip, 3.0 mm, qty. 4	AR- <b>8963-20</b>	
Drill Bit, calibrated, long, 3.0 mm	AR- <b>8970-30L</b>	
Bone Tap	AR- <b>8963-23</b>	



### Ankle Fusion Plating System, 7.0 mm Set (AR-8970S-70)

Product Description	Item Number
Perc Drill Guide, Compression FT	AR- <b>8750-02</b>
Drill Guide, threaded, locking, 4.5 mm, qty. 2	AR- <b>8970-01</b>
Drill Guide, 3.0 mm/4.5 mm	AR- <b>8970-02</b>
Drill Guide, 3.0 mm/5.5 mm	AR- <b>8970-05</b>
Depth Measuring Device, long, 4.5 mm/5.5 mm	AR- <b>8970-07L</b>
Depth Device, cannulated screws	AR- <b>8750-01</b>
Drive Shaft, T20 hexalobe, qty. 2	AR- <b>8970-03</b>
Driver, T20 hexalobe, straight	AR- <b>8970-04</b>
Driver, T20 hexalobe, straight, AO, qty.2	AR- <b>8970-08</b>
Driver, T25 hexalobe, ISO, cannulated, qty. 2	AR- <b>8770-01</b>
Driver, T25 hexalobe, ISO, solid	AR- <b>8770-04</b>
Ratcheting Handle, cannulated, large AO handle, QC	AR- <b>8970RH</b>
Mini Joint Distractor/Compressor	AR- <b>8970JD</b>
Axial Handle, trilobe QC, ratcheting	AR- <b>8770RH</b>
Soft Tissue Protector, 2.4 mm	AR- <b>8770-06</b>
Bone Reduction Forceps, qty. 2	AR- <b>8943-07</b>
Hohmann Retractor, 9.5 in, 17 mm pointed, qty. 2	AR- <b>9260-34</b>
Cup Curette, straight shaft, 6.0 mm	AR- <b>8970-11</b>
Cup Curette, curved shaft, 6.0 mm	AR- <b>8970</b> -12
Cobb Elevator, 9.0 mm	AR- <b>8640</b>
Small Joint Osteotome Angled Up, 0.217 in (5.5 mm), w/ handle	AR- <b>8650-08</b>
Small Joint Osteotome Straight, 0.217 in (5.5 mm), w/ handle	AR- <b>8650-09</b>
Small Joint Osteotome Angled Up, 0.472 in (12 mm), w/ handle	AR- <b>8970-13</b>
Small Joint Osteotome Straight, 0.472 in (12 mm), w/ handle	AR- <b>8970-14</b>
Screw Holding Forceps	AR- <b>8941F</b>
Guidewire Sleeve Insert, 1.6 mm	AR- <b>8970-06</b>
Ankle Fusion Plating System Instrument Case	AR-8970C-01
Ankle Fusion Instrument Case, 7.0 mm tray	AR-8970C-70
Ankle Fusion Caddy, 7.0 mm insert	AR-8970C-SC-70

### Disposables for AR-8970S-70 (not included in set, order separately)

Product Description	Item Number
Drill Bit, calibrated, long, 3.0 mm	AR- <b>8970-30L</b>
Drill Bit, cannulated, long, 3.0 mm	AR-8970-30CL
Drill Bit, cannulated, long, 4.5 mm	AR-8970-45CL
Drill Bit, long, 4.5 mm	AR- <b>8970-45L</b>
Drill Bit, long, 5.5 mm	AR- <b>8970-55L</b>
Drill Bit, cannulated, long, 5.5 mm	AR-8970-55CL
Drill Bit, cannulated, 5.0 mm	AR- <b>8770-02</b>
Profile Drill, X-large, 7.0 mm	AR-8770-03
BB-Tak, large	AR- <b>8970-09</b>
BB-Tak, large, threaded	AR- <b>8970-09T</b>
Traction Screw, 20 mm	AR-8950JD-2

### Disposables for AR-8970S-70 (not included in set, order separately)

Product Description	Item Number
Traction Post, threaded, 4.5 mm	AR-8970JD-45S
Guidewire w/ Trocar Tip, 0.095 in (2.4 mm) × 9.25 in	AR- <b>8770K</b>
Guidewire w/ Trocar Tip, threaded, 0.094 in (2.4 mm) × 9.25 in	AR- <b>8770KT</b>
Guidewire w/ Trocar Tip, 0.062 in (1.6 mm) × 7.0 in	AR- <b>8941</b> -7

#### Plates for 6.7 mm/7.0 mm Sets (order separately)

Product Description	Item Number
Anterior Plate, 3H, left	AR- <b>8970AL</b>
Anterior Plate, 4H, left	AR- <b>8970AL-04</b>
Anterior Plate, 5H, left	AR- <b>8970AL-05</b>
Anterior Plate, 6H, left	AR- <b>8970AL-06</b>
Anterior Plate, 3H, right	AR- <b>8970AR</b>
Anterior Plate, 4H, right	AR- <b>8970AR-04</b>
Anterior Plate, 5H, right	AR- <b>8970AR-05</b>
Anterior Plate, 6H, right	AR- <b>8970AR-06</b>
Anterior Plate, short	AR-8970AS-03
Anterior Plate, minimally invasive	AR- <b>8970MA</b>
Lateral Tibiotalar Plate, 3H	AR- <b>8970TT</b>
Lateral Tibiotalar Plate, 4H	AR-8970TT-04
Lateral Tibiotalar Plate,5H	AR-8970TT-05
Lateral Tibiotalar Plate, 6H	AR-8970TT-06
Lateral Tibiotalocalcaneal Plate, 3H	AR-8970TTC
Lateral Tibiotalocalcaneal Plate, 4H	AR-8970TTC-04
Lateral Tibiotalocalcaneal Plate, 5H	AR-8970TTC-05
Lateral Tibiotalocalcaneal Plate, 6H	AR-8970TTC-06
Posterior Tibiotalocalcaneal Plate, left	AR- <b>8970PL</b>
Posterior Tibiotalocalcaneal Plate, right	AR- <b>8970PR</b>

#### Low Profile Screws, 4.5 mm/5.5 mm Screws

Product Description	Item Number
Low Profile Locking Screws	
4.5 mm × 18 mm-50 mm (2.0 mm increments)	AR-8545L-18-50
4.5 mm × 55 mm-75 mm (5.0 mm increments)	AR-8545L-55-75
Low Profile Screws	
4.5 mm × 18 mm-50 mm (2.0 mm increments)	AR-8545-18-50
4.5 mm × 55 mm-100 mm (5.0 mm increments)	AR-8545-55-100
Low Profile Screws, cancellous	
5.5 mm × 20 mm-100 mm (5.0 mm increments)	AR-8555-20-100

#### 7.0 XL Compression FT screws

Product Description	Item Number
7.0 XL Compression FT Screws, cannulated, Ti, fully	AR-8770-40H-100H
threaded, 40 mm-100 mm (5.0 mm increments)	

### Ankle Fusion Plating System, 6.7 mm Set (AR-8970S-67)

Product Description	Item Number
Drill Guide, threaded, locking, 4.5 mm, qty. 2	AR- <b>8970-01</b>
Drill Guide, 3.0 mm/4.5 mm	AR- <b>8970-02</b>
Drill Guide, 4.0 mm/6.7 mm	AR- <b>8967G</b>
Drill Guide, 3.0 mm/5.5 mm	AR- <b>8970-05</b>
Depth Measuring Device, long, 4.5 mm/5.5 mm	AR- <b>8970-07L</b>
Depth Device, cannulated, for 6.7 mm screws	AR- <b>8967DG</b>
Depth Device, large	AR- <b>4167</b>
Drive Shaft, T20 hexalobe, qty. 2	AR- <b>8970-03</b>
Driver, cannulated, 3.5 mm hex, qty. 2	AR- <b>8967D</b>
Driver, T20 hexalobe, straight	AR- <b>8970-04</b>
Driver, T20 hexalobe, straight, AO, qty.2	AR- <b>8970-08</b>
Ratcheting Handle, cannulated, large AO handle, QC	AR- <b>8970RH</b>
Mini Joint Distractor/Compressor	AR- <b>8970JD</b>
Screwdriver Handle, ratcheting	AR- <b>1999</b>
Bone Reduction Forceps, qty. 2	AR- <b>8943-07</b>
Hohmann Retractor, 9.5 in, 17 mm pointed, qty. 2	AR- <b>9260-34</b>
Hudson Adapter	AR- <b>1416</b>
Cup Curette, straight shaft, 6.0 mm	AR- <b>8970-11</b>
Cup Curette, curved shaft, 6.0 mm	AR- <b>8970-12</b>
Cobb Elevator, 9.0 mm	AR- <b>8640</b>
Screw Holding Forceps	AR- <b>8941F</b>
Countersink, fixed handle, cannulated, 6.7 mm	AR-8967CSF
Guidewire Sleeve Insert, 1.6 mm	AR- <b>8970-06</b>
Small Joint Osteotome Angled Up, 0.217 in (5.5 mm) w/ handle	AR- <b>8650-08</b>
Small Joint Osteotome Straight, 0.217 in (5.5 mm) w/ handle	AR- <b>8650-09</b>
Small Joint Osteotome Angled Up, 0.472 in (12 mm) w/ handle	AR- <b>8970-13</b>
Small Joint Osteotome Straight, 0.472 in (12 mm) w/ handle	AR- <b>8970-14</b>
Ankle Fusion Instrument Case	AR-8970C-01
Ankle Fusion Instrument Case, 6.7 mm tray	AR-8970C-67
Ankle Fusion Caddy, 6.7 mm insert	AR-8970C-SC-67

#### References

- Robert KQ, Chandler R, Baratta RV, et. al. The effect of divergent screw placement on the initial strength of plate-to-one fixation. *J Trauma*. 2003;55(6):1139-1144. doi:10.1097/01.TA.0000031103.15337.CA
- 2. Arthrex, Inc. Data on file (APT-05220). Naples, FL; 2021.
- Martin GJ, Boden SD, Titus L, Scarborough NL. New formulations of demineralized bone matrix as a more effective graft alternative in experimental posterolateral lumbar spine arthrodesis. *Spine*. 1999;24(7):637-645. doi:10.1097/00007632-199904010-0000
- 4. Arthrex, Inc. LA1-000006-en-US\_A. Naples, FL; 2019.

#### Disposables for AR-8970S-67 (order separately)

Product Description	Item Number
BB-Tak, large	AR- <b>8970-09</b>
BB-Tak, large, threaded	AR- <b>8970-09T</b>
Guidewire w/ Trocar Tip, nonthreaded,	AR- <b>8967K</b>
0.094 in (2.4 mm) × 8.0 in, qty. 6	
Guidewire w/ Trocar Tip, threaded,	AR- <b>8967KT</b>
0.094 in (2.4 mm) × 8.0 in, qty. 6	
Guidewire w/ Trocar Tip, nonthreaded,	AR-8967K-12
0.094 in (2.4 mm) × 12 in, qty. 6	
Guidewire w/ Trocar Tip, threaded,	AR-8967KT-12
0.094 in (2.4 mm) × 12 in, qty. 6	
Guidewire w/ Trocar Tip, 0.062 in (1.6 mm) × 7.0 in,	AR- <b>8941-7</b>
qty. 6	
Washer, Ti, 13 mm	AR- <b>8967W</b>
Traction Screw, 20 mm	AR- <b>8950JD-2</b>
Drill Bit, cannulated, 4.0 mm	AR- <b>8970-40C</b>
Drill Bit, calibrated, long, 3.0 mm	AR- <b>8970-30L</b>
Drill Bit, cannulated, long, 3.0 mm	AR-8970-30CL
Drill Bit, cannulated, long, 4.5 mm	AR-8970-45CL
Drill Bit, long, 4.5 mm	AR- <b>8970-45L</b>
Drill Bit, long, 5.5 mm	AR- <b>8970-55L</b>
Drill Bit, cannulated, long, 5.5 mm	AR-8970-55CL

#### Cannulated Lag Screws

Product Description	Item Number
Low Profile Screws, cannulated, partially threaded,	AR- <b>8967-1840</b> -
(5.0 mm increments)	18100





This description of technique is provided as an educational tool and clinical aid to assist properly licensed medical professionals in the usage of specific Arthrex products. As part of this professional usage, the medical professional must use their professional judgment in making any final determinations in product usage and technique. In doing so, the medical professional should rely on their own training and experience, and should conduct a thorough review of pertinent medical literature and the product's directions for use. Postoperative management is patient-specific and dependent on the treating professional's assessment. Individual results will vary and not all patients will experience the same postoperative activity level and/or outcomes.

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