



---

***Surgical Technique***

---

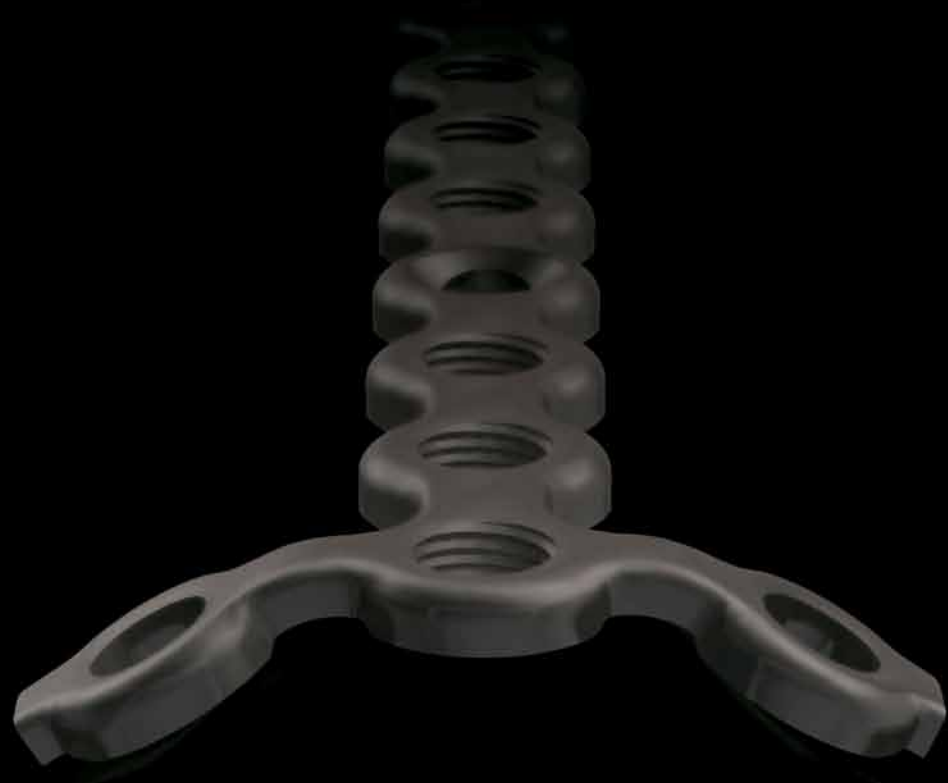
*never stop moving*<sup>®</sup>





# Contents

|                                   |    |
|-----------------------------------|----|
| Surgeon Design Team               | 8  |
| Introduction                      | 9  |
| 1.5 mm Locking Plates             | 10 |
| 1.5 mm Plate Specifications       | 11 |
| 2.5 mm Locking Plates             | 12 |
| 2.5 mm Plate Specifications       | 13 |
| Plate Options                     | 14 |
| Instruments                       | 16 |
| Surgical Technique                | 18 |
| Multi-Directional Screw Insertion | 24 |
| Ordering Information              | 25 |



# Low Profile Locked Plating Anatomically Contoured **The Hand Fracture System**

A low profile helps minimize discomfort and soft tissue irritation

Contoured plates mimic the anatomy of the fingers

Plates are available in five plate styles, to suit fracture complexity



Flexible Plating Technology delivers in-situ contourability



Coronal



Axial



Sagittal

Cobalt chrome screws for strong stable fixation

For metacarpal and phalangeal procedures that often involve complex fractures and minimal tissue coverage, the Hand Fracture System provides both strength and low-profile advantages. Having one of the thinnest profiles available and uniquely contoured to align with the fingers, these plates may be used to treat even the most challenging cases.



# Fast, accurate procedures

## F.A.S.T. Guide® Inserts and Multi-Directional Screws

### F.A.S.T. Guides

Facilitate accurate drilling

Pre-loaded and disposable

Save time in the O.R.: No intraoperative assembly is required

Color coded F.A.S.T. Guides make identification easy: Silver=1.5 mm, Gold=2.5 mm

### Multi-Directional Screws

Cobalt Chrome screws create a strong mechanical lock

1.5 mm and 2.5 mm screws provide angular stability in a locked construct

To facilitate surgical procedures even more, the Hand Fracture System Plates come pre-loaded with Fixed Angle Screw Targeting Guides - F.A.S.T. Guides.





# Versatility in construct

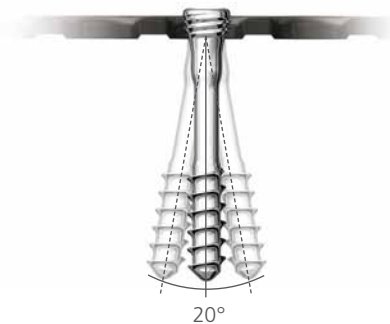
## Locking, non-locking, and multi-directional screw options

Choose locking, non-locking, or multi-directional screws according to need

All options available in each locking hole

Locking screws establish a fixed angle construct for strong fixation  
or when optimal screw purchase is required

Locking Multi-Directional Screws allow for angulation from fixed angle axis



1.5 mm Non-locking and 2.5 mm locking screws with washers can be utilized  
with slotted holes to create axial compression at the fracture site

Particularly helpful in challenging fracture cases, the multiple screw options allow plates and screws to be placed as close to the bone surface as possible.

# Surgeon Design Team

**Lloyd P. Champagne, M.D.**

Arizona Center for Hand Surgery  
Phoenix, Arizona

**Brian J. Hartigan, M.D.**

(Deceased)  
Northwestern School of Medicine  
Chicago, Illinois

**Matthew M. Tomaino, M.D., M.B.A.**

Tomaino Orthopaedic Care  
Rochester, New York

# Introduction

The A.L.P.S. Hand Fracture System represents the next generation in anatomic plate design. It combines the benefits of low profile titanium plate metallurgy with the advantages of multiplanar locked screw technology. These features allow the formation of a three dimensional matrix of fixed and variable angle screws to create a true subchondral scaffold that can provide improved fixation in comminuted fractures or osteoporotic bone.

The A.L.P.S. Hand Fracture System features TiMAX™ low profile, anatomically contoured implants. In hand surgery where soft tissue coverage is at risk, these low profile plates are designed to minimize discomfort and soft tissue irritation matching the anatomy of the phalanx and metacarpal, while still having the required strength. The TiMAX™ surface treatment may inhibit bony ingrowth.<sup>1</sup>

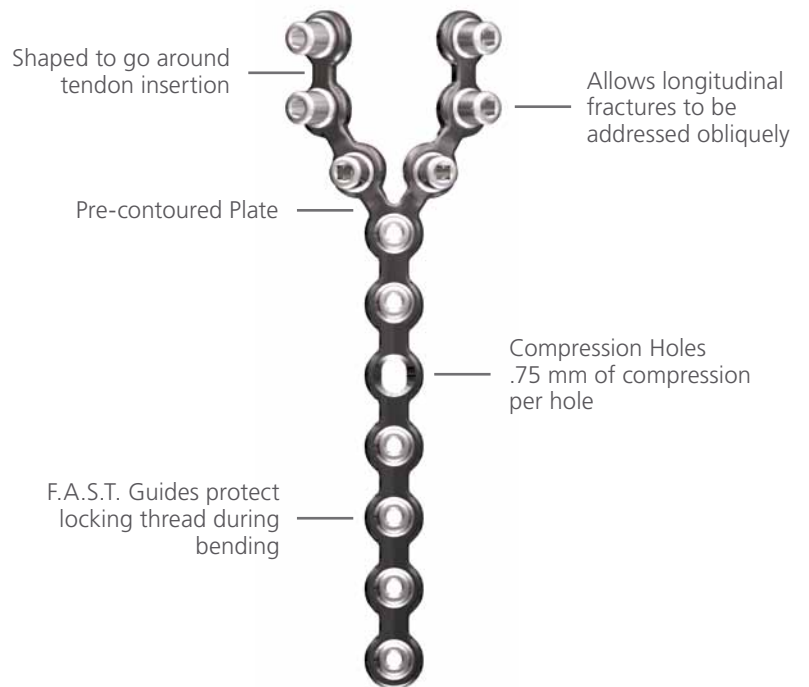
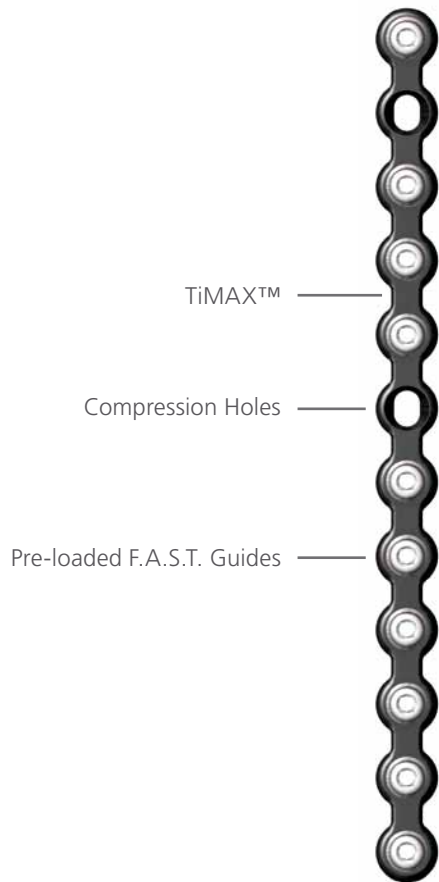
The System features F.A.S.T. Guide® and Flexible Plating Technology to facilitate surgical procedures and save time in the operating room. F.A.S.T. Guides allow for accurate drilling and placement of screws. F.A.S.T. Guides are preloaded and do not require intraoperative assembly, resulting in significant time savings.

Additionally, the A.L.P.S. Hand Fracture System allows the use of locking, variable angle, and standard screws. This hybrid fixation concept allows the surgeon to stabilize the fracture either by the use of lag screw techniques through the plate, or by compression plating techniques. Locking screws serve to provide stability to comminuted, unstable metaphyseal fractures or in osteopenic bone.

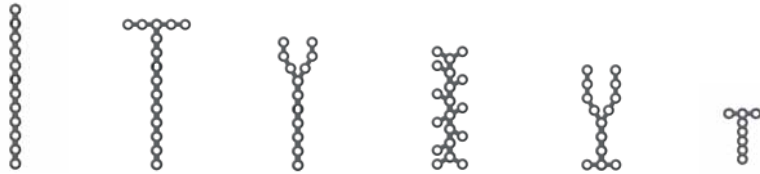
## Intended Use:

This system is intended for stabilization and fixation of small bone fragments in fresh fractures, revision procedures, joint fusion and reconstructions of small bones of the hand, foot, wrist, ankle, humerus, scapula, finger, toe, pelvis and craniomaxillofacial skeleton, particularly in osteopenic bone.

# 1.5 mm Locking Plates



# 1.5 mm Plate Specifications



| Plate Styles:    | Straight | T       | Y       | Web     | T/Y     | Small T |
|------------------|----------|---------|---------|---------|---------|---------|
| Plate Width:     | 4.3 mm   | 20.4 mm | 13.8 mm | 12.8 mm | 14.1 mm | 13.5 mm |
| Plate Thickness: | 1.1 mm   | 1.1 mm  | 1.1 mm  | 1.1 mm  | 1.1 mm  | 1.0 mm  |
| Lengths          | 61.7 mm  | 56.3 mm | 49.6 mm | 46.0 mm | 39.3 mm | 25.9 mm |



### 1.5 mm Locking Cortical Screw:

- CoCr screws for strength
- Self tapping tip minimizes the need for pre-tapping and eases screw insertion
- Locking screw head minimizes screw back-out and construct pullout
- Square drive
- Available in lengths of 8 – 24 mm
- Doubles as a multi-directional locking screw



### 1.3 mm Non-Locking Cortical Screw:

- Stand alone screw
- CoCr Screw for strength
- Self tapping tip eases screw insertion
- Cruciate Head design
- Available in 8 – 24 mm



### 1.5 mm Non-Locking Cortical Screw:

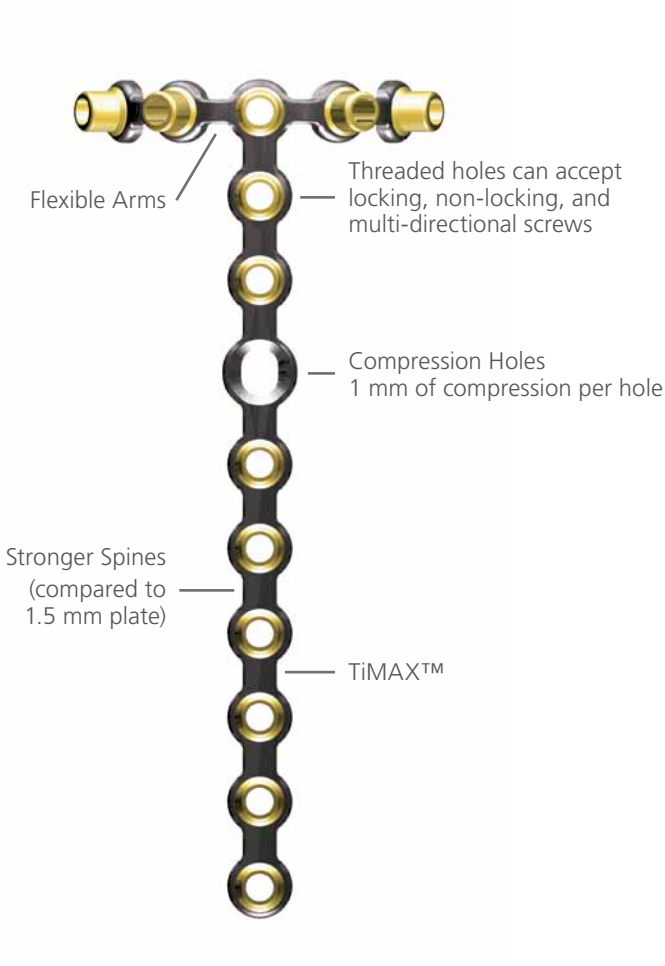
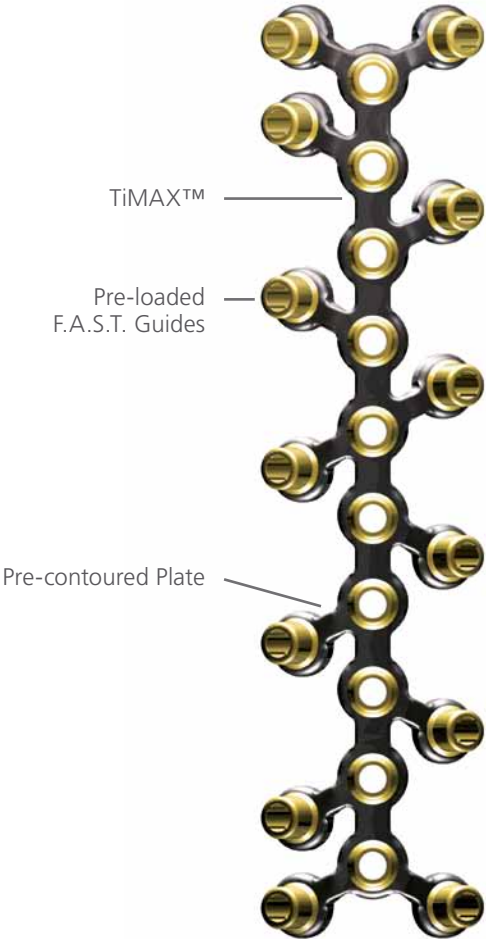
- Self tapping tip minimizes the need for pre-tapping and eases screw insertion
- TiMAX™
- Square drive
- Available in lengths of 8 – 24 mm



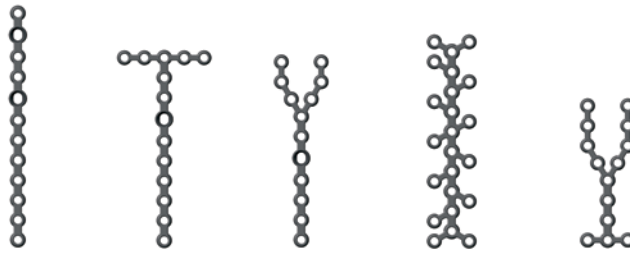
### 1.5 mm Small T Plate

- Specialty plate designed for mid-phalanx fractures
- Bridges shortened between nodes on the spine to allow more screws to be inserted in the smaller anatomy
- Arms can be contoured in all 3 planes (axial, coronal and sagittal)
- Spine can be contoured axially by skipping one node between bending irons
- Cutter must be used to shorten the spine
- Plate holder can only be used on the arms and not the spine

# 2.5 mm Locking Plates



## 2.5 mm Plate Specifications



| Plate Styles:    | Straight | T       | Y       | Web     | T/Y     |
|------------------|----------|---------|---------|---------|---------|
| Plate Width:     | 6.8 mm   | 27.6 mm | 19.5 mm | 17.4 mm | 19.5 mm |
| Plate Thickness: | 1.65 mm  | 1.65 mm | 1.65 mm | 1.65 mm | 1.65 mm |
| Lengths          | 90.2 mm  | 73.8 mm | 71.8 mm | 79.8 mm | 55.5 mm |



### 2.5 mm Locking Cortical Screw:

- Larger core diameter and shallower thread pitch for improved bending and shear strength compared to a standard 2.5 mm cortical screw
- Self tapping tip minimizes the need for pre-tapping and eases screw insertion
- Locking screw head minimizes screw back-out and construct pullout
- When paired with the 2.5 mm Compression Washer, it can be used as a compression screw in the 2.5 mm plate compression holes
- Square drive
- Available in lengths of 8 – 28 mm



### 2.5 mm Compression Washer:

- Convert **only** the 2.5 mm Locking Cortical Screw into a compression screw
- Designed to be used in the compression holes in the 2.5 mm plates



### 2.5 mm Non-Locking Cortical Screw:

- Self tapping tip minimizes the need for pre-tapping and eases screw insertion
- Square drive
- Available in lengths of 8 – 28 mm



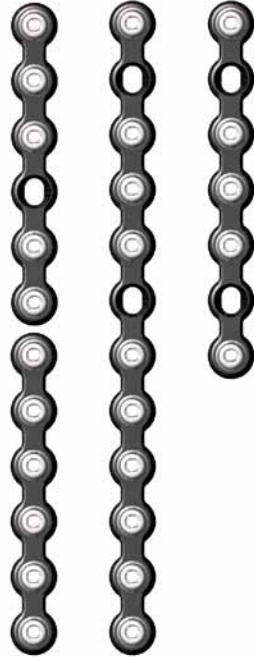
### 2.5 mm Multi-Directional Locking Cortical Screw (MDTP):

- CoCr Screws create new thread path in the plate
- Locking screw head minimizes screw back-out and construct pullout
- Narrow shaft matches bending stiffness with 2.5 mm locking screws
- Square drive
- Available in lengths of 10 – 28 mm

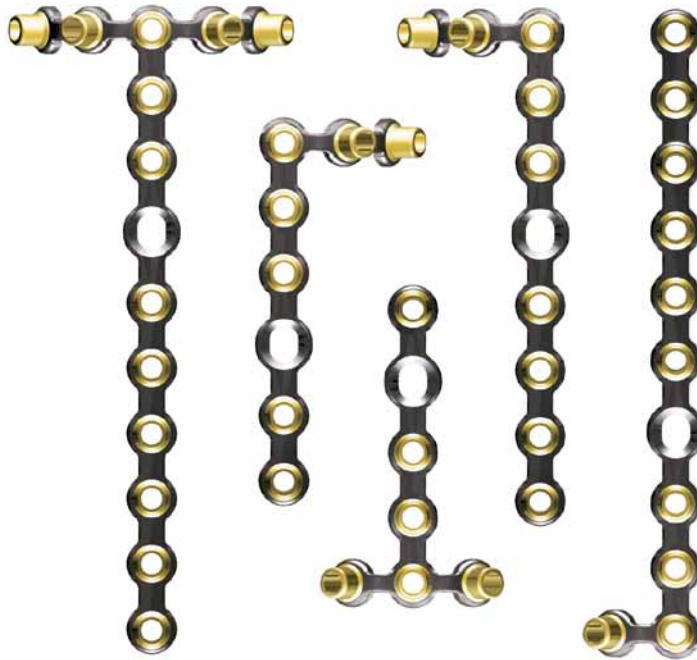
**NOTE:** With enough force it is possible to drive the 2.5 mm MDTPs through the plate. Stop advancing the screw when the head of screw is flush with the surface of the plate.

# Plate Options

**Straight**



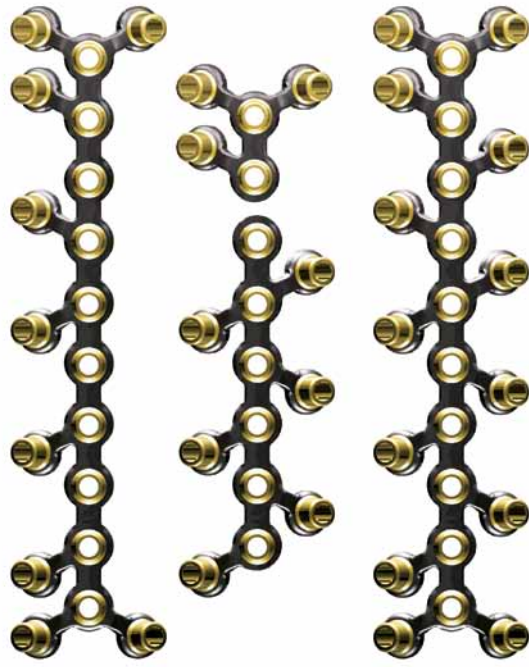
**T**



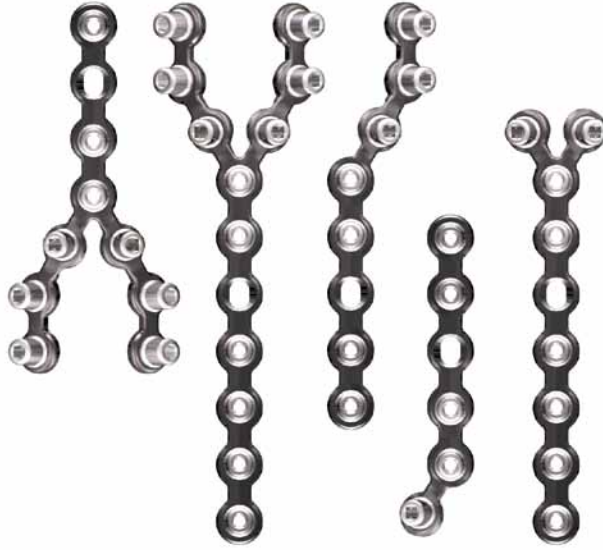
The Hand Fracture System plates were designed to be modified to meet the needs of the patient and the fracture. The plates can be shortened, cut, or shaped to create an almost infinite array of plate constructs. The plates can be shortened by using the benders or cut using the plate cutters. When shortening with the benders, it is recommended that you straddle the bridge to be removed with the benders and simply bend toward the bottom of the plate until it releases. This is the preferred shortening method since it will make the broken edge of the plate face toward the bone, keeping it hidden from the soft tissues. This simple chart demonstrates some of the plate shapes that can be created from the basic 5 shapes.



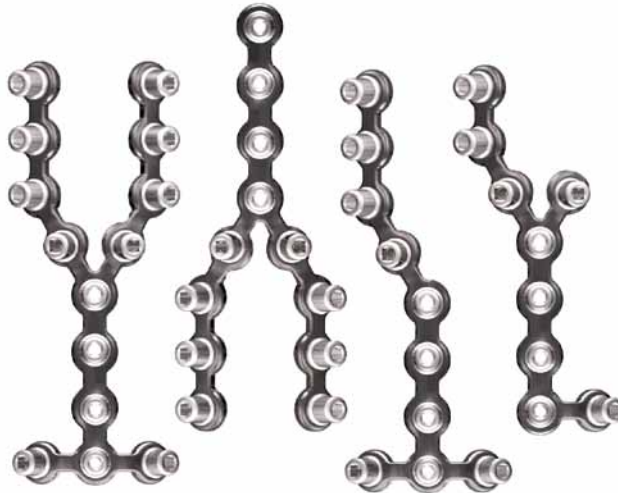
Web



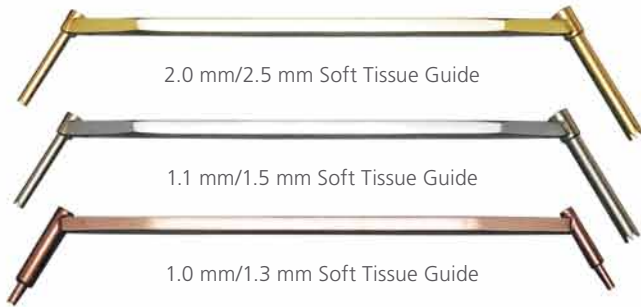
Y



T/Y



# Instruments



Screw Pickup  
(shown with 1.3 mm Cruciate Driver)



1.5 mm Plate Holder



2.5 mm Plate Holder



1.3 mm/1.5 mm Bone Depth Gauge



2.0 mm/2.5 mm Bone Depth Gauge



1.5 mm Plate Benders



2.5 mm Plate Benders

The Hand Fracture System instrumentation provides the hand surgeon with all the tools needed to perform a hand fracture procedure. To help reduce confusion when selecting the correct instrument, the modules have been color coded so that the bronze instruments are used with 1.3 mm screws, silver instruments are used with 1.5 mm plates and screws, and gold instruments are used with 2.5 mm plates and screws. Similar color coding is extended to the F.A.S.T. Guides on the plates, creating a simple and convenient identification system. General instrumentation is also included in the set, allowing for a comprehensive instrumentation system that will facilitate an efficient surgical procedure.



K-wire Reduction Clamp  
(use with K-wires that are .045 inches or smaller)



Small Reduction Clamps



Cutting Pliers



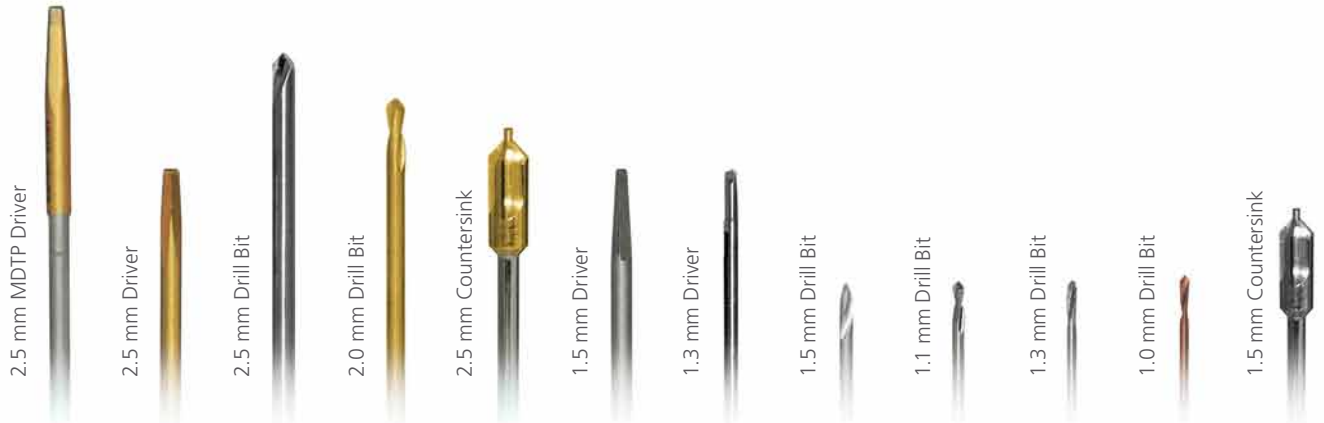
Elevator



MQC Handles (2)



Retractors (2)



# Surgical Technique



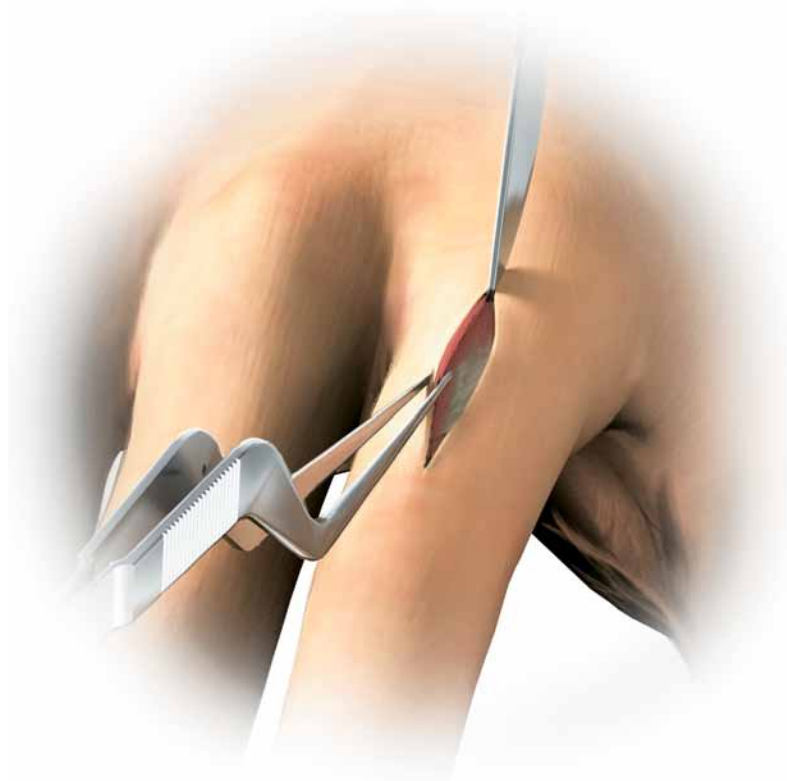
## 1. Assess the fracture fluoroscopically

Assess the fracture based on preoperative radiographs and/or intraoperative fluoroscopy.

- Assessment needs to consider fracture, comminution, bone loss, and geometry
- Fixation may require simply interfragmentary screw fixation, use of plate and screws, compression at the fracture site, and/or supplementation with bone graft
- In the absence of malrotation or shortening, simple plate application with locking technology provides rigidity and may allow early motion
- In the presence of clinically relevant displacement (rotation, shortening, angulation) anatomic reduction should precede plate application or be provided via in-situ adjustment of the fracture prior to final plate fixation

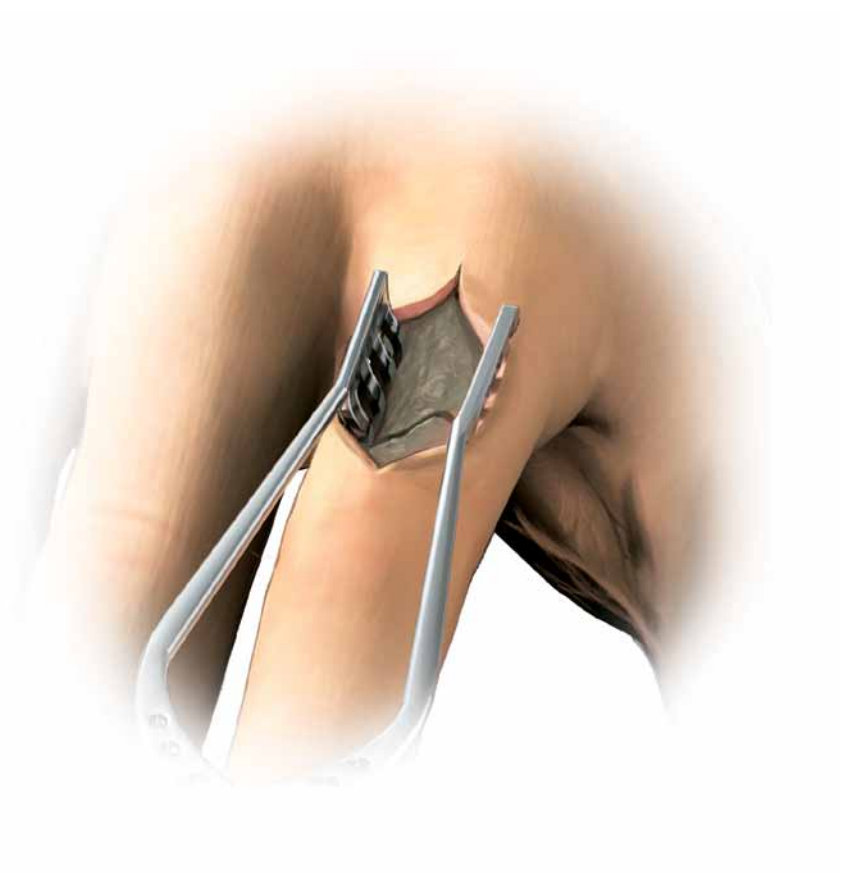
## 2. Make an incision

- While dorsal surgical approaches to metacarpal fractures and both dorsal and lateral approaches to phalangeal fractures are feasible, the decision regarding where to make an incision and its length are subject to surgeon preference
- While extensor tendon complications potentially complicate the use of plates, both the low profile design and the potential for early postoperative range of motion afforded by locking technology may minimize extensor tendon adherence



### 3. Reduce the fracture

- After adequate exposure and irrigation of hematoma, the fracture should be reduced
- This can usually be afforded based on visual cues, but when comminution exists, the use of intraoperative fluoroscopy may be helpful



### 4. Achieve temporary stabilization

Achieve provisional stabilization of the fracture and assess optimal fixation.

- This may require the use of towel clamps or other types of reduction clamps
- Provisional fixation with K-wires may also be necessary

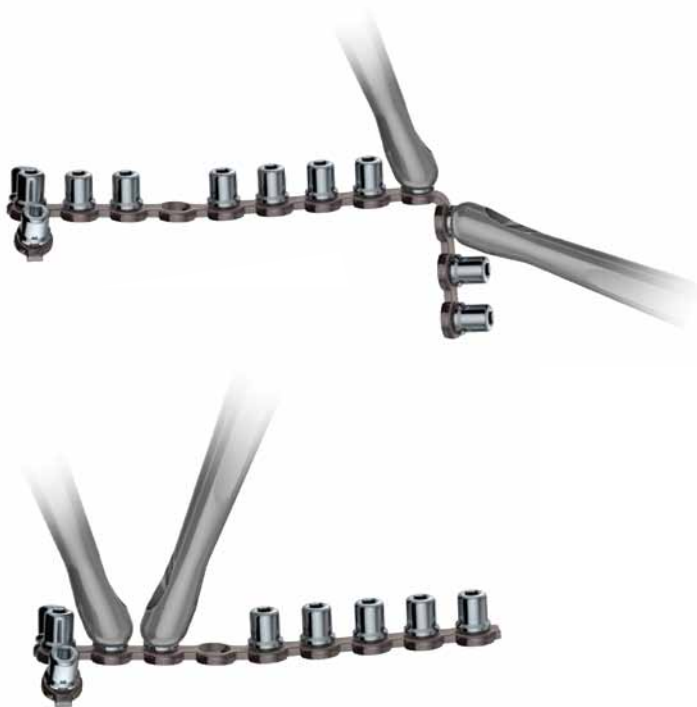




## 5. Determine appropriate plate

Determine the optimal plate shape and length.

- Select the proper plate size (either 1.5 for phalangeal fractures or 2.5 for metacarpal fractures)
- Transverse diaphyseal fractures require straight plates; depending on the fracture geometry the other plate shapes can be utilized
- These can be trimmed and shortened depending on the decision regarding fixation
- Length can be assessed by placing the plate on the bone. Trimming is performed prior to fixation, but contouring can be performed in-situ



## 6. Prepare the plate

Prepare the plate shape, length, and contour.

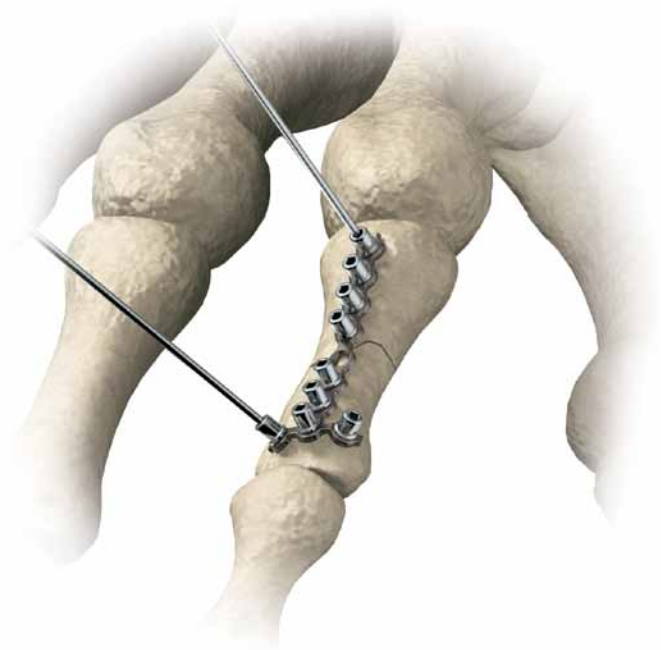
- It is highly recommended that the plates be shortened by using the plate benders to create a smooth edge and avoid soft tissue and tendon irritation
- Do this by using the benders in the F.A.S.T. Guide inserts and bending the end of the plate towards the bottom of the plate section you wish to keep
- Alternatively, in-situ contouring can be performed after provisional plate fixation proximally and distally to the fracture

*NOTE: For the 1.5mm small T plate, the cutter must be used to shorten the spine due to space limitations between the nodes*



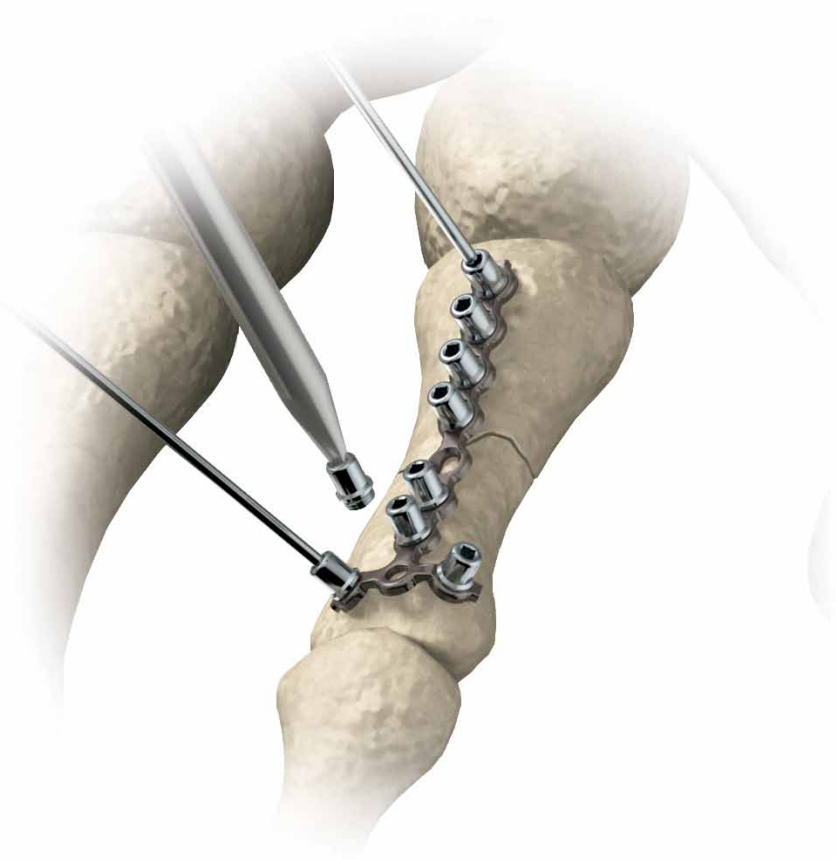
## 7. Achieve temporary fixation of the plate

- This may include initial placement of k-wires proximally and distally to assess plate contour (Use 0.028" and 0.035" k-wires through the 1.5 mm F.A.S.T. Guide inserts and 0.045" and 0.062" k-wires through the 2.5 mm)
- Determine whether any screws will be placed in compression node
- This may include placing the drill bit or k-wire in one F.A.S.T Guide to assist in plate fixation while another screw is placed
- In-situ contouring, when necessary, can be provided once screw fixation proximally and distally to the fracture is afforded



## 8. Drill and remove F.A.S.T. Guide

- After drilling with the appropriate drill (1.1 mm silver drill for a 1.5 mm screw and 2.0 mm gold drill for a 2.5 mm screw), remove the F.A.S.T. Guide
- When drilling through the compression slot, use the soft tissue guide and drill on the side of the slot furthest from the fracture site
- To remove a F.A.S.T. Guide press the screw driver tip into the F.A.S.T. Guide and turn counter clockwise to disengage the guide
- The F.A.S.T. Guides are disposable and must be removed



## 9. Insert appropriate screw

- Each locking hole provides the option for either a locked fixed angle, locked multi-directional, or non-locking screw
- The 2.5 mm MDTP is the locked multi-directional screw for the 2.5 mm plates and the 1.5 mm locked screw can be locked into the plate off axis if desired (20 degree cone)
- The 2.5 mm locking screws with the washer and the 1.5 mm non-locked screws can be used in the compression holes to provide compression to a fracture site

## 10. Contour plate as desired

- Plates can be bent, twisted, and curved by utilizing the plate benders
- To bend or twist a plate in the axial or coronal plane, place the long end of the bender over (1.5 mm) or into (2.5 mm) the F.A.S.T. Guides of adjacent nodes. Hold one bender as an anchor and manipulate the other
- To curve a plate sagittally, place the short end of the benders over the F.A.S.T. Guides of adjacent nodes. Hold one bender as an anchor and curve with the other

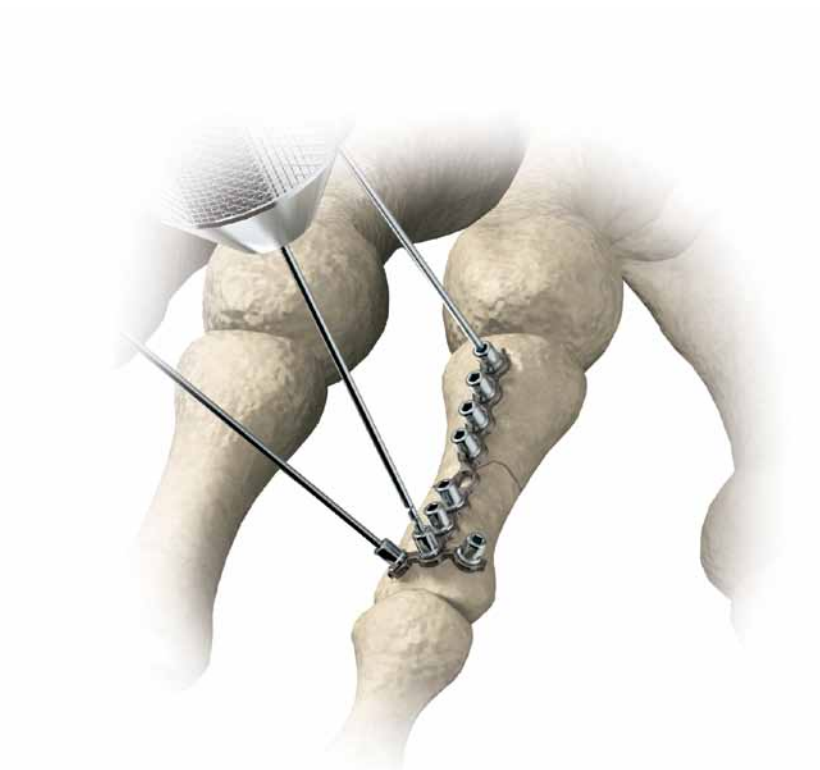
**NOTE:** *The benders are a matched pair. If curving an end node use the End Node bender at that position*

**NOTE:** *For the 1.5 mm small T plate, the arms can be contoured in all planes, but the spine can only be contoured axially by skipping 1 node between the bending irons*



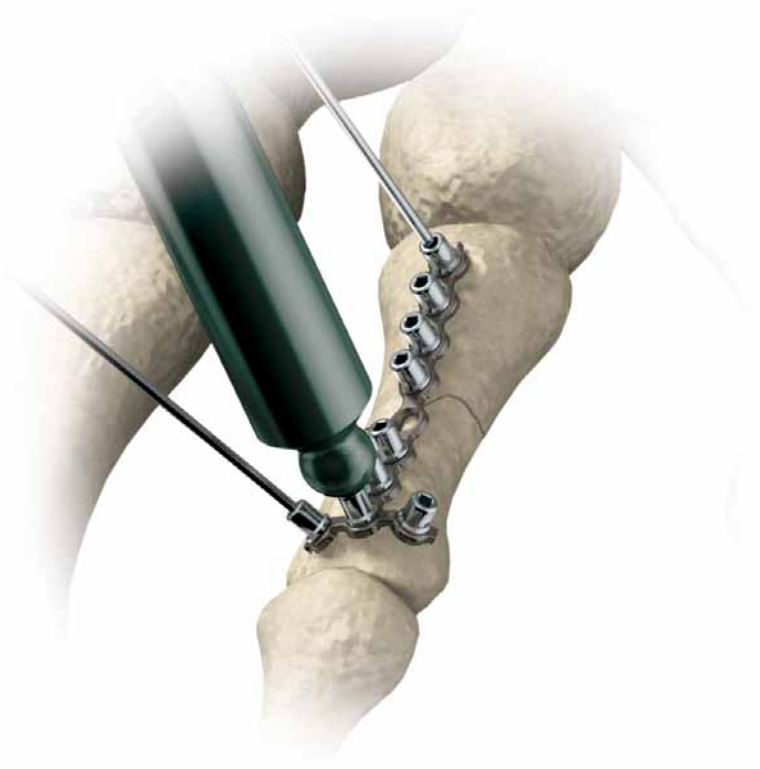
## 11. Achieve final fixation

- This may involve all locking screws
- Alternatively, a non-locking screw can be used to lag fragments to the plate
- When desired, 1.5 mm non-locking screws or 2.5 mm Locking (green) screws with washers can be placed through a compression hole to afford axial compression at the fracture site



## 12. Postoperative management

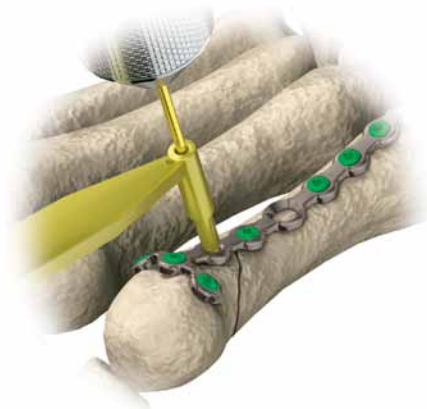
- The rigidity of the locking design feature of these plates may enable early range of motion, which will decrease the risk of joint stiffness and flexor and extensor tendon adherence
- A compressive dressing is recommended with a plaster splint or a bulky "soft" splint placed depending on the surgeon's individual assessment of fixation and patient compliance
- After 5-7 days early motion of the interphalangeal and MP joints may be possible with intermittent splinting until union, depending on the surgeon's preference and assessment of patient compliance



# Multi-Directional Threaded Peg Insertion

## 1. Prepare and drill

- Remove the F.A.S.T. Guide
- Drill through the soft tissue guide with the 2.0 mm drill (for the 2.5 mm MDTP) or the 1.1 mm drill (for the 1.5 mm locked screw) in the desired direction
- It is recommended that the off-axis angle is no greater than 10 degrees off center (20 degree cone). This recommendation applies to both 1.5 mm and 2.5 mm screws



## 2. Measure for screw length

## 3. Insert screws in the desired direction

- If necessary, re-drill and reinsert the screw in the desired direction



## 4. Lock screw into the plate

**NOTE:** It is possible, with enough force, to drive the 2.5 mm MDTPs through the plate. Stop inserting when the head of the screw is flush with the surface of the plate.

When inserting the 1.5 mm screws off axis the top of the screw will stand slightly proud of the plate.



# Ordering Information

## 1.5 / 1.3 mm Module Components

| Product#                     | Description                                  |
|------------------------------|--|
| 1312-20-151                  | 1.5 mm Locking plate, Straight               |
| 1312-20-152                  | 1.5 mm Locking plate, T-Shape                |
| 1312-20-153                  | 1.5 mm Locking plate, Y-Shape                |
| 1312-20-154                  | 1.5 mm Locking plate, T/Y Shape              |
| 1312-20-155                  | 1.5 mm Locking plate, Web                    |
| 1312-20-157                  | 1.5 mm Locking plate, Small T-Shape          |
| 1312-20-308 –<br>1312-20-324 | Non Locking Screw 1.3 mm X 8 mm - 24 mm      |
| 1312-20-508 –<br>1312-20-524 | Non Locking Screw 1.5 mm X 8 mm - 24 mm      |
| 1312-20-408 –<br>1312-20-424 | Locking Screw 1.5 mm X 8 mm - 24 mm          |
| 2312-20-200                  | 1.0 mm Drill Bit w/ Mini-Quick Connect       |
| 2312-20-201                  | 1.3 mm Drill Bit w/ Mini-Quick Connect       |
| 2312-20-202                  | FAST 1.1 mm Drill Bit w/ Mini-Quick Connect  |
| 2312-20-203                  | 1.5 mm Drill Bit w/ Mini-Quick Connect       |
| 2312-20-206                  | 1.3 mm / 1.5 mm Countersink                  |
| 2312-20-208                  | 1.3 mm Driver Bit                            |
| 2312-20-209                  | 1.5 mm Driver Bit                            |
| 2312-20-109                  | 1.5 mm plate Holder                          |
| 2312-20-102                  | 1.5 mm Plate Bender                          |
| 2312-20-103                  | 1.5 mm Plate Bender End                      |
| 2312-20-106                  | 1.0 mm / 1.3 mm Soft Tissue Guide            |
| 2312-20-116                  | 1.1 mm / 1.5 mm Soft Tissue Guide            |
| 2312-20-104                  | 1.3 mm / 1.5 mm Bone Depth Gauge             |
| 2312-20-210                  | Screw pickup                                 |
| 2312-20-121                  | 1.5 mm Bicortical BDG cap (Optional)         |
| 2312-20-122                  | 2.5 mm Bicortical BDG Cap (Optional)         |
| 2312-20-124                  | 1.3/1.5 mm Bicortical Depth Gauge (Optional) |
| 2312-20-125                  | 2.5 mm Bicortical Depth Gauge (Optional)     |

## 2.5 mm Module Components

| Product#                     | Description  |
|------------------------------|--|
| 1312-20-251                  | 2.5 mm Locking plate, Straight                           |
| 1312-20-252                  | 2.5 mm Locking plate, T-Shape                            |
| 1312-20-253                  | 2.5 mm Locking plate, Y-Shape                            |
| 1312-20-254                  | 2.5 mm Locking plate, T/Y Shape                          |
| 1312-20-255                  | 2.5 mm Locking plate, Web                                |
| SP08000 –<br>SP28000         | Screw Peg 2.5 mm X 8 mm - 28 mm                          |
| FP08 – FP28                  | Fully Threaded Peg 2.5 mm X 8 mm - 28 mm                 |
| 1312-11-110 –<br>1312-11-128 | Multi-Directional Threaded Peg<br>2.5 mm X 10 mm - 28 mm |
| 1312-20-025                  | 2.5 mm Threaded Washer                                   |
| 2312-20-204                  | FAST 2.0 mm Drill Bit w/ Mini-Quick Connect              |
| 2312-20-205                  | 2.5 mm Drill Bit w/ Mini-Quick Connect                   |
| 2312-20-207                  | 2.0 mm / 2.5 mm Countersink                              |
| 2312-20-211                  | 2.0 mm / 2.5 mm Driver Bit                               |
| 2312-11-002                  | MDTP Driver Bit  |
| 2312-07-012                  | 2.0 mm plate Holder                                      |
| 2312-20-100                  | 2.0 mm Plate Bender                                      |
| 2312-20-101                  | 2.0 mm Plate Bender End                                  |
| 2312-20-107                  | 2.0 mm / 2.5 mm Soft Tissue Guide                        |
| 2312-20-105                  | 2.0 mm / 2.5 mm Bone Depth Gauge                         |

## Instrument Tray Components

| Product#    | Description                         |
|-------------|-------------------------------------|
| MQC         | MQC Handle                          |
| 2312-20-114 | Cutting Pliers                      |
| 9399-99-469 | Periosteal Elevator 3 mm            |
| 9399-99-518 | Reduction Small Clamps (Towel)      |
| 9399-99-444 | Reduction Standard Clamps (lobster) |
| 9399-99-277 | Retractor Mini Hohmann              |
| 2312-20-115 | K-Wire Towel Clamp                  |
| 1642-06-028 | K-Wire 6" Trocar Point .028 OD      |
| 1642-06-035 | K-Wire 6" Trocar Point .035 OD      |
| 1642-06-045 | K-Wire 6" Trocar Point .045 OD      |
| 1642-06-062 | K-Wire 6" Trocar Point .062 OD      |
| 2312-20-117 | AO to MQC Adapter (Optional)        |

## Optional Stocking Modules

| Product#    | Description           |
|-------------|-----------------------|
| 2312-20-008 | 1.5mm Stocking Module |
| 2312-20-007 | 2.5mm Stocking Module |



## Screws, Plates, Intramedullary Nails, Compression Hip Screws, Pins and Wires

### Important:

This Essential Product Information does not include all of the information necessary for selection and use of a device. Please see full labeling for all necessary information.

### Indications:

The use of metallic surgical appliances provides the orthopaedic surgeon a means of bone fixation and helps generally in the management of fractures and reconstructive surgeries. These implants are intended as a guide to normal healing, and are NOT intended to replace normal body structure or bear the weight of the body in the presence of incomplete bone healing. Delayed unions or nonunions in the presence of load bearing or weight bearing might eventually cause the implant to break due to metal fatigue. All metal surgical implants are subjected to repeated stress in use, which can result in metal fatigue.

### Contraindications:

Screws, plates, intramedullary nails, compression hip screws, pins and wires are contraindicated in: active infection, conditions which tend to retard healing such as blood supply limitations, previous infections, insufficient quantity or quality of bone to permit stabilization of the fracture complex and/or fusion of the joints, conditions that restrict the patient's ability or willingness to follow postoperative instructions during the healing process, foreign body sensitivity, and cases where the implant(s) would cross open epiphyseal plates in skeletally immature patients.

### Additional Contraindication for Orthopaedic Screws and Plates only:

Cases with malignant primary or metastatic tumors which preclude adequate bone support or screw fixations, unless supplemental fixation or stabilization methods are utilized.

**Additional Contraindications for Fusion Nails only:** Cases where there is an intact asymptomatic subtalar joint, cases of significant tibial misalignment (>10 degrees in either sagittal or coronal plane), cases of active soft tissue infection or osteomyelitis of foot and ankle and cases where there is a dysvascular limb.

**Additional Contraindication for Retrograde Femoral Nailing only:** A history of septic arthritis of the knee and knee extension contracture with inability to attain at least 45° of flexion.

**Additional Contraindications for Compression Hip Screws only:** Inadequate implant support due to the lack of medial buttress.

**Warnings and Precautions:** In using partial weight bearing or nonweight bearing appliances (orthopaedic devices other than prostheses), a surgeon should be aware that no partial weight bearing or nonweight bearing device can be expected to withstand the unsupported stresses of full weight bearing.

**Adverse Events:** The following are the most frequent adverse events after fixation with orthopaedic screws, plates, intramedullary nails, compression hip screws, pins and wires: loosening, bending, cracking or fracture of the components or loss of fixation in bone attributable to nonunion, osteoporosis, markedly unstable comminuted fractures; loss of anatomic position with nonunion or malunion with rotation or angulation; infection, both deep and superficial; and allergies and other adverse reactions to the device material. Surgeons should take care when targeting, drilling and placing proximal screws through all tibial nail which include oblique locking options. Care should be taken as the drill bit is advanced to penetrate the far cortex. Advancing the drill bit too far in this area may cause injury to the deep peroneal nerve. Fluoroscopy should be used to verify correct positioning of the drill bit.

**Additional Adverse Events for Compression Hip Screw only:** Screw cutout of the femoral head (usually associated with osteoporotic bone).

**NOTE:** Do NOT remove F.A.S.T. Guide® inserts prior to sterilization.

## References:

1. Technical Assessment of Materials for Fracture Fixation (cat. No. 0173-97-005 rev. 2)

### DePuy Orthopaedics, Inc.

700 Orthopaedic Drive  
Warsaw, IN 46581-0988  
USA  
Tel: +1 (800) 366 8143  
Fax: +1 (574) 267 7196

[www.depuy.com](http://www.depuy.com)

©DePuy Orthopaedics, Inc. 2011.  
All rights reserved.

0612-50-507 (Rev. 3) 2M 0211

*never stop moving*®

  
**TRAUMA**  
A division of DePuy Orthopaedics, Inc.