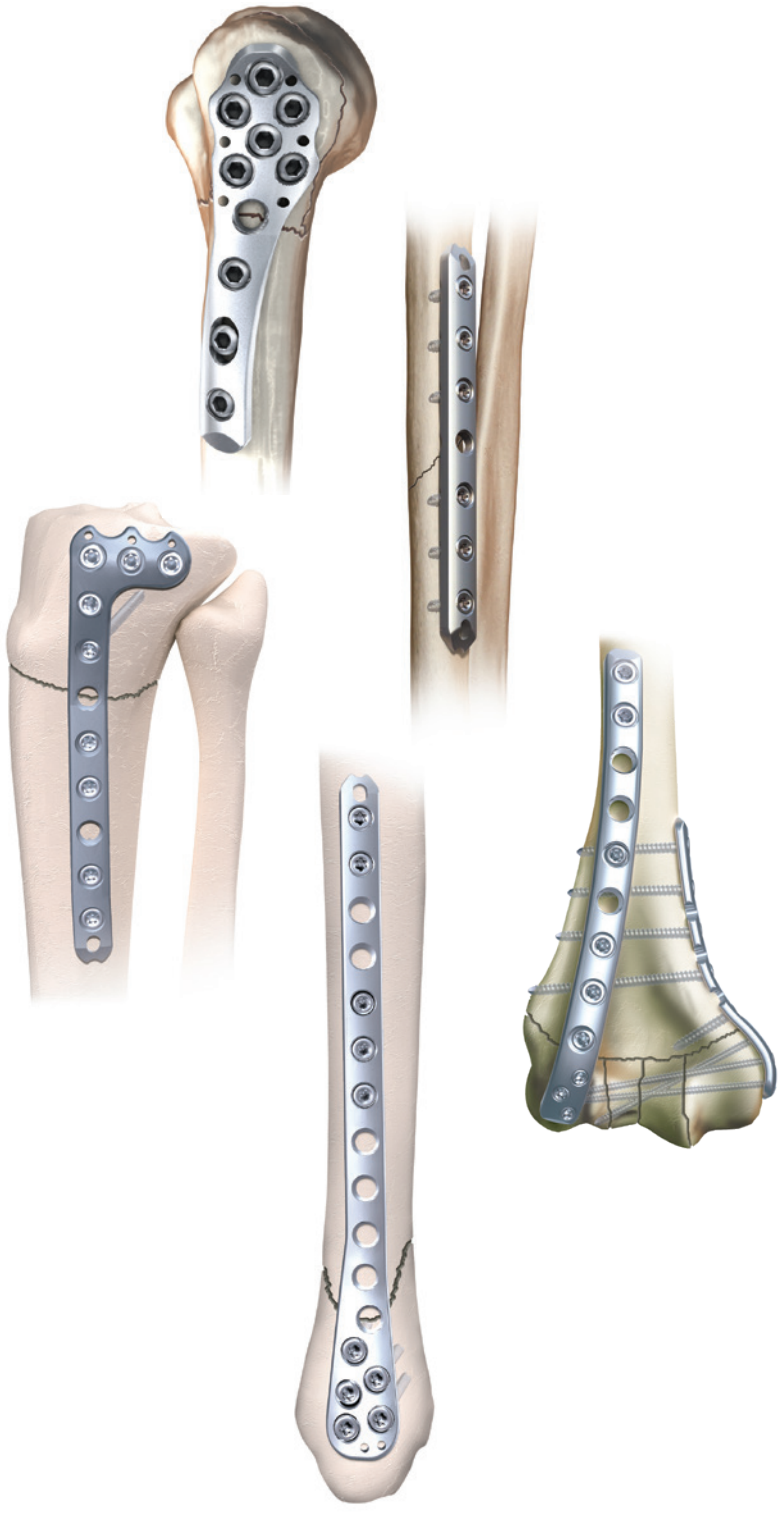
Surgical Technique

smith&nephew
PERI-LOC®
Locked Plating System

Locking Small Fragment Overview



PERI-LOC◇ Locked Plating System

Locking Small Fragment Overview Surgical Technique

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Nota Bene

The technique description herein is made available to the healthcare professional to illustrate the treatment for the uncomplicated procedure. In the final analysis, the preferred treatment is the individual surgeon's decision, which addresses the needs of the specific patient.

Product overview

Introduction

The PERI-LOC® Periarticular Locked Plating System from Smith & Nephew offers the advantages of locked plating with the flexibility and benefits of traditional plating in one system. Offering both locking and non-locking screw options, the PERI-LOC system can provide a construct that is designed to resists angular (e.g. varus, valus, torsional and axial) collapse while simultaneously acting as an effective aid to fracture reduction.

A simple and straight forward instrument set features standardized drill bits and color-coded instrumentation, designed to make PERI-LOC efficient and easy to use.

Note Disposable components in the PERI-LOC Periarticular Locked Plating System are for single use only.

Design features and benefits

Anatomical plate contours

The plate contours in the PERI-LOC® system were determined by studying a large collection of cadaveric specimens at the Cleveland Museum of Natural History. Recon segments were added to plates that are specific to highly variable anatomic structures to assist with additional contouring.

Unique, versatile screw hole design

The PERI-LOC system features a unique screw hole that was designed to be used in a variety of applications at the surgeon's discretion. Each screw hole accepts both locking and non-locking screw options. and allows for up to 1mm of axial compression, distraction or translation per hole. The unique design of this screw hole supports customized screw configurations to optimally treat each specific fracture.

Streamlined instrumentation

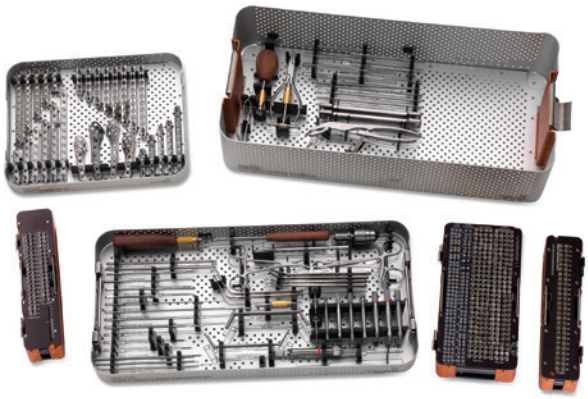
The PERI-LOC Small Fragment System has been designed to minimize confusion during the procedure. Coordinating drill guides, drill bits, and screwdrivers are color-coded for ease of use.

	Drill Diameter	Screw Diameter	Driver Size
Blue	2.0mm	2.7mm	T15
Orange	2.7mm	3.5mm, 4.0mm	T20
Red	3.5mm	N/A	N/A

System overview

The PERI-LOC® Small Fragment Instrumentation and Implant System contains the following components:

- Basic Instrument Set – Instruments and disposables for a standard small fragment plating procedure
- Base Tray Instruments – Additional instruments for small fragment plating procedures as well as instrumentation for 4.0mm Cannulated Screws
- Small Fragment Plate Set – Straight plates (locking and non-locking) as well as the 3 and 5 hole versions of the 3.5mm Proximal Humerus Locking Plates
- Small Fragment Screw Set – Contains 2.7mm and 3.5mm (Locking and Cortex each) Screws

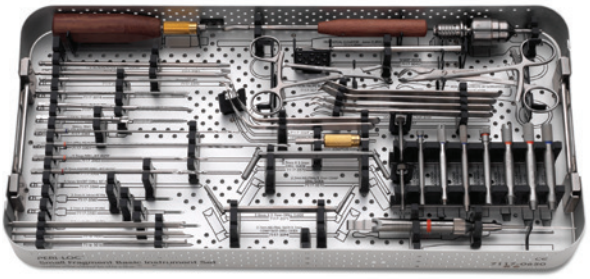


The system also contains the option to modularize the tray to meet specific needs. The system will support either:

- 4.0mm Cancellous Screw Set – Partially Threaded and Fully Threaded Cancellous Screws
- 4.0mm Cannulated Screw Set – Partially Threaded Cannulated Screws

Basic instrumentation set

The PERI-LOC® Small Fragment Basic Instrumentation Set contains all of the necessary instruments required for a case. An optional lid (7117-0651) is available allowing the Basic Instrumentation Set to be used as a stand-alone instrument tray. This tray contains the following items:



- K-wires (1.25mm, 1.6mm and 2.0mm)
- Drill Guide Provisional Fixation Pins (14mm, 25mm and 40mm)
- Drill bits (2.0mm, 2.7mm and 3.5mm)
- Small Fragment Countersink
- Taps (2.7mm, 3.5mm and 4.0mm)
- Screwdriver shafts with AO connectors (T15 and T20)
- T20 Screwdriver
- Driver Handle with AO Connector
- 2.0Nm Torque Limiting Adapter with AO Connector
- Reduction Forceps
- Hohmann Retractors
- Periosteal Elevator
- Sharp Hook
- Locking drill guides and inserts (2.7mm and 3.5mm)
- Double-ended drill guides and inserts
- Depth gauges (2.7mm and 3.5mm)
- AO-Trinkle Adapter

Base tray instruments

The Small Fragment System also contains instrumentation and disposables found in the base layer of the overall tray. These items include:

- Bending Irons
- Reverse Verbrugge Clamp
- Wire Bending Pliers
- Teardrop Driver Handle with AO Connector
- T-handle with AO Connector
- Screw Forceps
- Long Screw Depth Gauge (3.5mm)
- Hexdrivers with AO connectors (2.5mm and 3.5mm)
- Removal drivers with AO connectors (T15 and T20)
- 4.0mm Cannulated Screw instruments and disposables:
  - Double-ended Drill Guide
  - 2.5mm Cannulated Hexdriver Shaft
  - K-wire Direct Measuring Gauge
  - 4.7mm Cannulated Hexdriver Shaft
  - 2.7mm Cannulated Drill Bit
  - 4.0mm Cannulated Tap

Small Fragment Plate Set

The PERI-LOC® Small Fragment Instrumentation and Implant System contains a Small Fragment Plate Set. This plate set includes the following plate families:

- 3.5mm Locking Compression
- 3.5mm Compression
- 3.5mm Locking Reconstruction
- 3.5mm Locking One-third Tubular
- 3.5mm Proximal Humerus (3 and 5 hole configurations)

This Small Fragment Plate Set can be removed from the system and treated as a stand-alone tray with the use of an optional lid (7117-0658).

Small Fragment Screw Set

The PERI-LOC® Small Fragment Instrumentation and Implant System contains a Small Fragment Screw Set. This screw set includes the following implants:

- 2.7mm T15 Cortex Screws (10mm–60mm)
- 2.7mm T15 Locking Screws (10mm–60mm)
- 3.5mm T20 Cortex Screws (10mm–60mm)
- 3.5mm T20 Locking Screws (10mm–60mm)

Additional screw lengths are available (sterile packaged):

- 2.7mm T15 Cortex Screws (65mm and 70mm)
- 3.5mm T15 Cortex Screws (65mm–110mm)
- 3.5mm T15 Locking Screws (10mm–110mm)

4.0mm Cancellous Screw Set

The PERI-LOC Small Fragment Instrumentation and Implant System is designed in such a manner that it can be modularized to meet specific needs. The system will support either the 4.0mm Cancellous Screw Caddy or the 4.0mm Cannulated Screw Caddy. This 4.0mm Cancellous Screw caddy includes the following implants:

- 4.0mm T20 Partially Threaded Screws (10mm–60mm)
- 4.0mm T20 Fully Threaded Screws (10mm–60mm)

Additional screws lengths are available (sterile packaged):

- 4.0mm T20 Partially Threaded Screws (65mm–100mm)
- 4.0mm T20 Fully Threaded Screws (65mm–100mm)

4.0mm Cannulated Screw Set

The PERI-LOC® Small Fragment Instrumentation and Implant System also supports a 4.0mm Cancellous Screw Caddy. The 4.0mm Cannulated Screw Caddy includes the following implants:

- 4.0mm Partially Threaded Screws (10mm–60mm)

The screws in this caddy utilize a 2.5mm Cannulated Screwdriver for insertion. Additional screws lengths are available (sterile packaged):

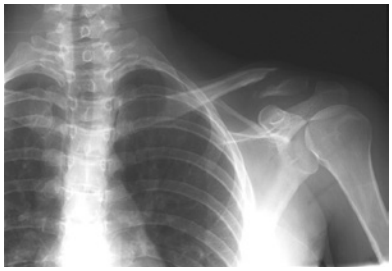
- 4.0mm Partially Threaded Screws (65mm and 70mm)

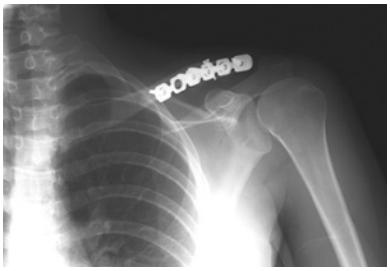
Implant overview

Anatomically contoured locking plates

Clavicle Locking Plates

- Four plates: Superior medial, superior distal, inferior medial and inferior distal
- Plate configurations allow for either superior or anterior-inferior plating techniques
- Left/right specific superior distal plates with convergent lateral screw trajectory for maximum pull-out strength
- Anatomically pre-contoured plates
- Reconstruction plate segments facilitate additional contouring if necessary
- Superior and Inferior Distal plate screw holes accept 2.7mm Locking and 2.7mm Cortex Screws in the lateral section and 3.5mm Locking and 3.5mm Cortex Screws in the shaft
- Superior and Inferior Medial plate screw holes accept 3.5mm Locking and 3.5mm Cortex Screws
- Superior plates are left/right specific
- Superior Medial Plate available in 6, 7, 8 and 10 hole configurations (73-120mm)
- Superior Distal Plate available in 4 and 6 hole configurations (84-109mm)
- Inferior Medial Plate available in 6, 7, 8 and 10 hole configurations (73-117mm)
- Inferior Distal Plate available in 4 hole configuration (81mm)





Inferior Medial

Specification overview

Plate dimensions	
Profile thickness of head	NA
Width of head	NA
Profile thickness of shaft	3.0mm
Width of shaft	10.9mm
Shaft hole spacing	12.0mm

Superior Medial

Specification overview

Plate dimensions	
Profile thickness of head	NA
Width of head	NA
Profile thickness of shaft	3.0mm
Width of shaft	10.9mm
Shaft hole spacing	12.0mm

Inferior Distal

Specification overview

Plate dimensions	
Profile thickness of head	NA
Width of head	NA
Profile thickness of shaft	3.0mm
Width of shaft	10.9mm
Shaft hole spacing	12.0mm

Superior Distal

Specification overview

Plate dimensions	
Profile thickness of head	NA
Width of head	NA
Profile thickness of shaft	3.0mm
Width of shaft	10.9mm
Shaft hole spacing	12.0mm

3.5mm Proximal Humerus Locking Plate

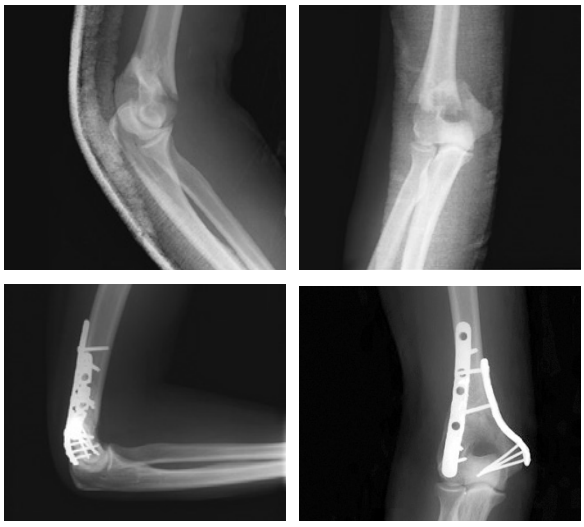
- Anteromedial bend of the plate shaft avoids excessive stripping of the deltoid
- Periarticular recesses allow for easy placement of independent lag screws
- Screw trajectory designed for optimal fixation of three and four part fractures
- Proximal suture holes with undercuts facilitate repair of soft tissues, particularly the rotator cuff tendons to augment bony fixation (up to a 2.0mm needle)
- Left/right specific
- Available in 3, 5, 7, 9, 11 and 13 hole configurations (89-216mm)

Specification overview

Plate dimensions	
Profile thickness of head	2.9mm
Width of head	22.9mm
Profile thickness of shaft	2.9mm
Width of shaft	12.3mm
Shaft hole spacing	12.7mm

Distal Humerus Locking Plates

- Three plates: medial, lateral and posterolateral
- Plate configurations allow for 90°-90° or 180° (parallel) plating techniques
- Reconstruction plate segments facilitate additional contouring if necessary
- Shaft holes accept 3.5mm Locking and 3.5mm Cortex Screws
- Distal articular holes accept 2.7mm Locking and 2.7mm Cortex Screws
- Left/right specific
- Medial plate available in 5, 7, 9, 11 and 13 hole configurations (79-174mm)
- Lateral plate available in 5, 7, 9 and 11 hole configurations (77-153mm)
- Posterolateral plate available in 5, 7, 9, 11 and 15 hole configurations (80-207mm)



Medial

Specification overview

Plate dimensions	
Profile thickness of head	NA
Width of head	NA
Profile thickness of shaft	3.1mm
Width of shaft	10.9mm
Shaft hole spacing	12.0mm

Lateral

Specification overview

Plate dimensions	
Profile thickness of head	NA
Width of head	NA
Profile thickness of shaft	3.1mm
Width of shaft	10.9mm
Shaft hole spacing	12.7mm

Posterolateral

Specification overview

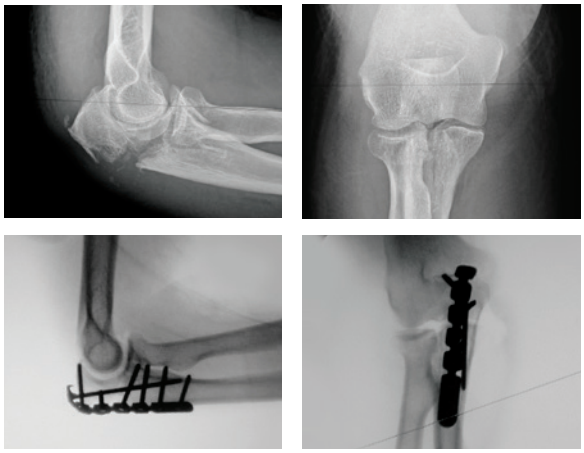
Plate dimensions	
Profile thickness of head	NA
Width of head	NA
Profile thickness of shaft	3.1mm
Width of shaft	10.9mm
Shaft hole spacing	12.7mm

Olecranon Locking Plate

- Coronal bend beginning with the 8 hole plate accommodates the ulnar anatomy
- Reconstruction plate segments facilitate additional contouring if necessary
- Two articular tines provide additional stability in the triceps tendon
- Proximal K-wire holes facilitate provisional wire fixation or triceps augmentation of fixation with sutures through holes
- Proximal articular screw holes accept 2.7mm Locking and 2.7mm Cortex Screws
- Shaft screw holes accept 3.5mm Locking and 3.5mm Cortex Screws
- Left/right specific
- Available in 4, 6, 8, 10 and 12 hole configurations (56-157mm)

Specification overview

Plate dimensions	
Profile thickness of head	NA
Width of head	NA
Profile thickness of shaft	3.1mm
Width of shaft	10.9mm
Shaft hole spacing	12.7mm

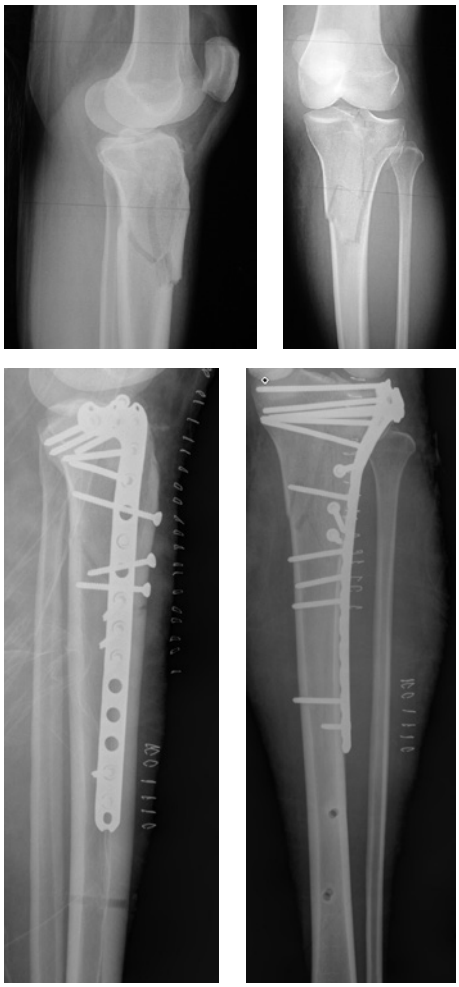


3.5mm Lateral Proximal Tibia Locking Plate

- Beveled tip assists with submuscular insertion
- Radiolucent targeter available for percutaneous technique
- Plate head has a 5° posterior tilt and is contoured to match the lateral proximal tibia
- Plate shaft has a 3° bend to match the diaphysis of the tibia
- Proximal periarticular recesses allow for easy placement of independent lag screws for reduction of the articular surface
- Proximal suture holes for meniscal repair or K-wire placement for positioning
- Left/right specific
- Available in 4, 6, 8, 10 and 13 hole configurations (73-187mm)

Specification overview

Plate dimensions	
Profile thickness of head	2.9mm
Width of head	31.8mm
Profile thickness of shaft	3.4mm
Width of shaft	11.0mm
Shaft hole spacing	12.7mm



3.5mm Medial Distal Tibia Locking Plate

- Beveled tip assists with submuscular insertion
- Radiolucent targeter available for percutaneous technique
- Anatomically contoured to match the distal tibia
- Distal K-wire holes for provisional fixation and to assist with joint surface reduction
- Left/right specific
- Available in 4, 6, 8, 10, 13 and 16 hole configurations (109-262mm)

Specification overview

Plate dimensions	
Profile thickness of head	2.7mm
Width of head	19.2mm
Profile thickness of shaft	3.7mm
Width of shaft	11.0mm
Shaft hole spacing	12.7mm

3.5mm Anterolateral Distal Tibia Locking Plate

- Helical twist of the plate shaft contours to the lateral tibia
- Beveled tip assists with submuscular insertion
- Distal periarticular recesses allow for easy placement of independent lag screws for reduction of articular surface
- Left/right specific
- Available in 4, 6, 8, 10 and 13 hole configurations (72-186mm)

Specification overview

Plate dimensions	
Profile thickness of head	2.9mm
Width of head	31.8mm
Profile thickness of shaft	3.4mm
Width of shaft	11.0mm
Shaft hole spacing	12.7mm

3.5mm Calcaneal Locking Plate

- Anatomically designed to match the lateral aspect of the calcaneus
- Low implant profile (1.1mm)
- Thicker locking screw holes (2.3mm) buttress) the sustentaculum tali, posterior facet and lateral process for maximum stability
- Left/right specific
- Available in small (60mm) and large (68mm) sizes

Large Calcaneal Locking Plate

Small Calcaneal Locking Plate

Specification overview

Plate dimensions	
Profile thickness of head	NA
Width of head	NA
Profile thickness of holes	2.3mm & 1.1mm
Width of shaft	NA
Shaft hole spacing	NA

Utility plates

In addition to anatomically contoured locking plates, the PERI-LOC◇ Small Fragment Set contains a variety of locking and non-locking utility plates that can be used in many applications at the surgeon's discretion.

Locking utility plates

- 2.7mm Locking Reconstruction Plate
- 3.5mm Locking Reconstruction Plate
- 3.5mm Locking Compression Plate
- 3.5mm Locking One-third Tubular Plate

2.7mm Locking Reconstruction Plate

Specification overview

Plate dimensions	
Profile thickness of head	NA
Width of head	NA
Profile thickness of shaft	2.8mm
Width of shaft	8.8mm
Shaft hole spacing	8.1mm

3.5mm Locking Reconstruction Plate

Specification overview

Plate dimensions	
Profile thickness of head	NA
Width of head	NA
Profile thickness of shaft	3.1mm
Width of shaft	11.0mm
Shaft hole spacing	12.0mm

3.5mm Locking Compression Plate

Specification overview

Plate dimensions	
Profile thickness of head	NA
Width of head	NA
Profile thickness of shaft	3.4mm
Width of shaft	11.0mm
Shaft hole spacing	14.5mm

3.5mm Locking One-third Tubular Plate

Specification overview

Plate dimensions	
Profile thickness of head	NA
Width of head	NA
Profile thickness of shaft	2.0mm
Width of shaft	9.0mm
Shaft hole spacing	12.7mm

Non-locking utility plates

- 3.5mm Compression Plate
- 3.5mm Reconstruction Plate
- 3.5mm T Plate
- 3.5mm Oblique T Plate
- 3.5mm One-third Tubular Plate

3.5mm Compression Plate

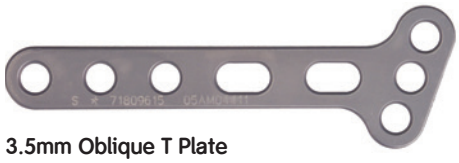
Specification overview

Plate dimensions	
Profile thickness of head	NA
Width of head	NA
Profile thickness of shaft	3.4mm
Width of shaft	10.2mm
Shaft hole spacing	13.0mm

3.5mm Reconstruction Plate

Specification overview

Plate dimensions	
Profile thickness of head	NA
Width of head	NA
Profile thickness of shaft	2.8mm
Width of shaft	9.9mm
Shaft hole spacing	12.0mm



3.5mm Oblique T Plate

Specification overview

Plate dimensions	
Profile thickness of head	1.5mm
Width of head	23.5mm
Profile thickness of shaft	1.5mm
Width of shaft	10.5mm
Shaft hole spacing	10.5mm

3.5mm One-third Tubular Plate

Specification overview

Plate dimensions	
Profile thickness of head	NA
Width of head	NA
Profile thickness of shaft	1.0mm
Width of shaft	9.0mm
Shaft hole spacing	12.0mm

Screws

2.7mm T15 Cortex Screws

- Aggressive self-tapping cutting flutes for ease of insertion in dense cortical bone
- T15 recess accepts self-retaining T15 driver

Specification overview

Screw dimensions	
Head height	2.4mm
Head outer diameter	5.0mm
Drive size	T15
Thread outer diameter	2.7mm
Core diameter	2.0mm
Thread pitch	1.0mm
Number of Self-tapping flutes	3

2.7mm T15 Locking Screws

- Aggressive self-tapping cutting flutes for ease of insertion in dense cortical bone
- Head of locking screw has a triple-lead thread to facilitate ease of insertion
- T15 recess accepts self-retaining T15 driver

Specification overview

Screw dimensions	
Head height	2.9mm
Head outer diameter	4.7mm
Drive size	T15
Thread outer diameter	2.7mm
Core diameter	2.0mm
Thread pitch	1.0mm
Number of Self-tapping flutes	3

3.5mm T20 Cortex Screws

- Aggressive self-tapping cutting flutes for ease of insertion in dense cortical bone
- T20 recess accepts self-retaining T20 driver

Specification overview

Screw dimensions	
Head height	3.0mm
Head outer diameter	6.8mm
Hex size	T20
Thread outer diameter	3.5mm
Core diameter	2.7mm
Thread pitch	1.25mm
Number of Self-tapping flutes	3

3.5mm T20 Locking Screws

- Aggressive self-tapping cutting flutes for ease of insertion in dense cortical bone
- Head of locking screw has a triple-lead thread to facilitate ease of insertion
- T20 recess accepts self-retaining T20 driver

Specification overview

Screw dimensions	
Head height	3.2mm
Head outer diameter	6.8mm
Hex size	T20
Thread outer diameter	3.5mm
Core diameter	2.7mm
Thread pitch	1.25mm
Number of Self-tapping flutes	3

4.0mm T20 Cancellous Screws

- Available fully threaded or partially threaded
- Designed to be used inside or outside of the plate at the surgeon's discretion
- T20 recess accepts self-retaining T20 driver

Specification overview

Screw dimensions	
Head height	3.3mm
Head outer diameter	6.8mm
Drive size	T20
Thread outer diameter	4.0mm
Core diameter	1.9mm
Thread pitch	1.75mm
Number of Self-tapping flutes	NA

4.0mm Cannulated Screws

- Available partially threaded
- Self-drilling, self-tapping design
- Can be used through a locking hole with the 4.0mm Cannulated Screw Adapter
- 1.3mm cannulation

Specification overview

Screw dimensions	
Head height	2.9mm
Head outer diameter	6.0mm
Hex size	2.5mm
Thread outer diameter	4.0mm
Core diameter	2.7mm
Thread pitch	1.8mm

3.5mm Locking Hole Insert

- Designed to fill unused holes in a plate, increasing plate fatigue and reducing areas of peak stress[1]
- Increases plate fatigue life
- Can be used in all 3.5mm PERI-LOC screw holes
- T20 recess accepts T20 driver

Specification overview

Screw dimensions	
Head height	3.2mm
Head outer diameter	6.0mm
Drive size	T20

Surgical technique

Fracture reduction

Articular fracture components must be anatomically reduced prior to plate application and screw insertion. Reduction aids should be placed so as not to interfere with final plate placement. Reduce and provisionally secure fragments using:

K-wires

1.25mm x 150mm	7116-1012
1.6mm x 150mm	7116-1016
2.0mm x 150mm	7116-1020

Note If K-wires are to be inserted through the K-wire holes on a PERI-LOC◇ plate for the purpose of provisional fixation, it is recommended that 1.6mm wires be used. K-wires can also be placed through the locking drill guides.

Provisional Fixation Pins

2.7mm x 14mm	7117-3582
2.7mm x 25mm	7117-3583
2.7mm x 40mm	7117-0812

Note These Provisional Fixation Pins are designed to be used with the 2.7mm Locking Drill Guide. This allows the provisional fixation pin to be place in the center of the locking screw hole. Once the provisional fixation pin is removed, either a 3.5mm Cortex or a 3.5mm Locking Screw can be used in the same hole. Provisional fixation pins may be inserted on power, but final seating should be performed by hand to avoid stripping of the threads and loss of purchase.

Reduction Forceps

Reduction Forceps with Points, Broad	7117-3377
Reduction Forceps with Serrated Jaw	7117-3378

Clavicle Locking Plates

Plate selection

Following fracture reduction, select the Clavicle Locking Plate that best accommodates patient anatomy and fracture pattern.

Note The PERI-LOC® Clavicle Locking Plate Preoperative Templates (7118-0987, 7118-0988, 7118-0989, 7118-0990) are available to assist with preoperative radiographic planning.

Superior medial

Superior distal

Inferior medial

Inferior distal

Plate contouring

Occasionally, minor plate contouring is required prior to implantation. If necessary, this may be accomplished with the Universal Plate Bending Irons (7117-3636 or 7117-3587).

Plate positioning

Superior medial

The plate lies along the superior aspect of the clavicle providing full coverage of the length of the bone.

Superior distal

The plate lies along the superior aspect of the clavicle with the 2.7mm screw section covering the distal edge.

Inferior medial

The plate lies along the anterior-inferior aspect of the clavicle providing full coverage of the length of the bone.

Inferior distal

The plate lies along the anterior-inferior aspect of the clavicle with the 2.7mm screw section contouring to the distal edge.

Plate application

Provisionally fix the plate to the bone using one 2.7mm x 14mm Provisional Fixation Pin (7117-2504) through a 2.7mm Locking Drill Guide (7117-3450).

3.5mm Proximal Humerus Plate

Plate selection

Following fracture reduction, select the 3.5mm Proximal Humerus Locking Plate that best accommodates patient anatomy and fracture pattern.

Note The PERI-LOC® 3.5mm Proximal Humerus Locking Plate Preoperative Template (7118-0976) is available to assist with preoperative radiographic planning.

Plate positioning

Position the plate approximately 1cm distal to the rotator cuff attachment on the superior aspect of the greater tuberosity. The plate should sit posterolateral to the bicipital groove. Avoid placement too far up on the humerus as this increases the risk of subacromial impingement. Similarly, placement too low may compromise distal screw purchase in the humeral head.

The 3.5mm Proximal Humerus Plate may be implanted using either the “proximal-first” or “shaft-first” screw insertion method.

Proximal-first method

This technique allows for initial fixation of the plate to the humeral head followed by its reduction to the shaft.

Shaft-first method

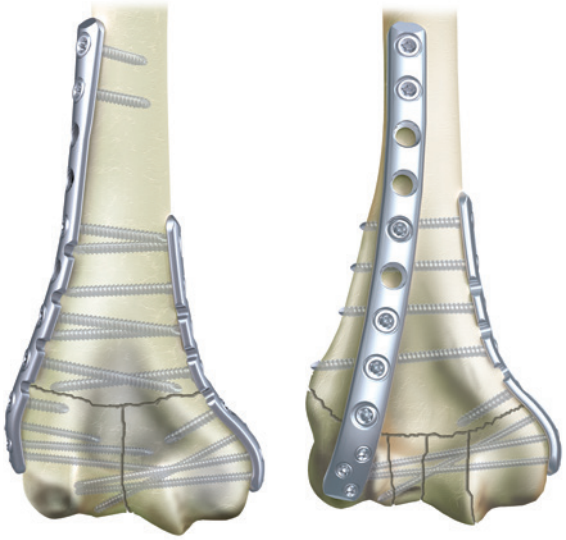
This technique allows for initial fixation of the plate to the shaft followed by plate fixation to the humeral head. This method should be employed if plate positioning is an issue.

Distal Humerus Plates

Plate selection

Following fracture reduction, select the Distal Humerus Locking Plates that best accommodate patient anatomy and fracture pattern. It is recommended that plates of different length are selected in order to reduce the risk of a diaphyseal stress riser.

Note The PERI-LOC® Distal Humerus Locking Plate Preoperative Templates (7118-0977, 7118-0978, 7118-0979) are available to assist with preoperative radiographic planning.



180° (Parallel) Technique

90°–90° Technique

90°–90° Technique

This construct involves application of the medial distal humerus plate to the medial column and the posterolateral plate to the lateral.

180° (Parallel) Technique

This construct involves the application of the medial distal humerus plate to the medial column and the lateral distal plate to the lateral.

Plate positioning

Medial plate

The plate rests along the medial ridge of the distal humerus extending distally to the insertion point of the medial collateral ligament. Medial plate application needs to take into account the ulnar nerve.

Posterolateral plate

The plate rests along the posterolateral aspect of the distal humerus with its most distal part covering the edge of the capitulum just lateral to the insertion point of the lateral collateral ligament.

Lateral plate

The plate rests along the lateral ridge of the distal humerus extending distally around the lateral epicondyle to the insertion point of the lateral collateral ligament.

Plate application

Reduce the fracture beginning with the least comminuted column. Confirm coronal and sagittal alignment along with plate position on the shaft. Provisionally fix the plate to the bone using one 2.7mm x 14mm Provisional Fixation Pin (7117-3582) through a 2.7mm Locking Drill Guide (7117-3450). Alternatively, Fracture Reduction Forceps may be used. Proceed with application of the second plate to the other column. Reconfirm alignment and plate placement. Distal 2.7mm screw trajectory may be confirmed by threading a 2.0mm Locking Drill Guide into a distal screw hole and inserting a 2.0mm K-wire (7116-1012, 7116-1016 or 7116-1020) to the desired depth.

Olecranon Locking Plate

Plate selection

Following fracture reduction, select the Olecranon Locking Plate that best accommodates patient anatomy and fracture pattern.

Note The PERI-LOC® Olecranon Locking Plate Preoperative Template (7118-0980) is available to assist with preoperative radiographic planning.

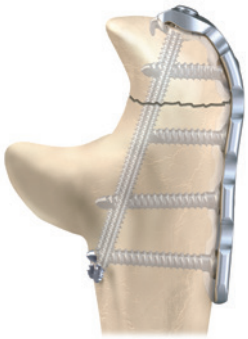


Plate positioning

Apply the selected plate to the dorsal aspect of the proximal ulna with the curved tip contouring around the olecranon. The articular tines should penetrate the triceps tendon providing provisional proximal fixation.

Provisionally fix the plate to the shaft of the olecranon using one 2.7mm x 14mm Provisional Fixation Pin (7117-3582) through a 2.7mm Locking Drill Guide (7117-3450).

Plate contouring

Occasionally, minor plate contouring is required prior to implantation. If necessary, this may be accomplished with the Small Fragment Bending Irons (7117-3636).

3.5mm Lateral Proximal Tibia Locking Plate

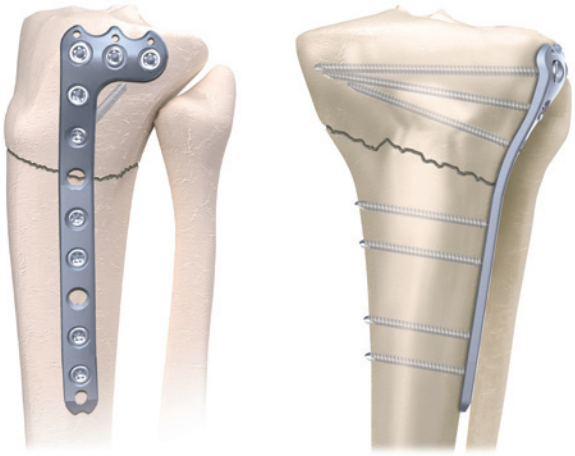


Plate selection

Following fracture reduction, select the Lateral Proximal Tibia Locking Plate that best accommodates patient anatomy and fracture pattern. In general, a longer plate allows for better mechanical advantage over a shorter plate. An allowance for five screw holes below the most distal aspect of the fracture is recommended when selecting a plate length.

Note The PERI-LOC® 3.5mm Lateral Proximal Tibia Locking Plate Preoperative Template (7118-0916) is available to assist with preoperative radiographic planning.

Plate positioning

Insert the plate and position it to the lateral proximal tibia. Reduce the fracture manually and confirm coronal and sagittal alignment as well as plate position on the shaft.

Note The Lateral Proximal Tibia plate features periarticular recesses for placement of independent lag screws to assist with joint surface reduction.

Provisionally fix the plate to the diaphysis with two 2.7mm x 25mm Provisional Fixation Pins (7117-3583) through 2.7mm Locking Drill Guides (7117-3450) with adequate spread between them. Place one 2.7mm x 40mm Provisional Fixation Pin (7117-0812) through a 2.7mm Locking Drill Guide (7117-3450) in one of the proximal holes under the joint. Proceed with definitive fixation.

3.5mm Medial Distal Tibia Locking Plate

Plate selection

Following fracture reduction, select the Medial Distal Tibia Locking Plate that best accommodates patient anatomy and fracture pattern. In general, a longer plate allows for better mechanical advantage over a shorter plate. An allowance for five screw holes above the most proximal aspect of the fracture is recommended when selecting a plate length. The plate should be balanced well with the proximal and distal holes over cortical bone.

Note The PERI-LOC® 3.5mm Medial Distal Tibia Locking Plate Preoperative Template (7118-0918) is available to assist with preoperative radiographic planning.

Plate positioning

Insert the plate and position it to the medial distal tibia. Reduce the fracture manually and confirm coronal and sagittal alignment as well as plate position on the shaft. Provisionally fix the plate to the diaphysis with two 2.7mm x 25mm Provisional Fixation Pins (7117-3583) through 2.7mm Locking Drill Guides (7117-3450) with adequate spread between them. Place one 2.7mm x 40mm Provisional Fixation Pin (7117-0812) through a 2.7mm Locking Drill Guide (7117-3450) in one of the distal holes above the joint. Proceed with definitive fixation.

3.5mm Anterolateral Distal Tibia Locking Plate

Plate selection

Following fracture reduction, select the Anterolateral Distal Tibia Locking Plate that best accommodates patient anatomy and fracture pattern. In general, a longer plate allows for better mechanical advantage over a shorter plate. An allowance for five screw holes above the most proximal aspect of the fracture is recommended when selecting a plate length.

Note The PERI-LOC® 3.5mm Anterolateral Distal Tibia Locking Plate Preoperative Template (7118-0919) is available to assist with preoperative radiographic planning.

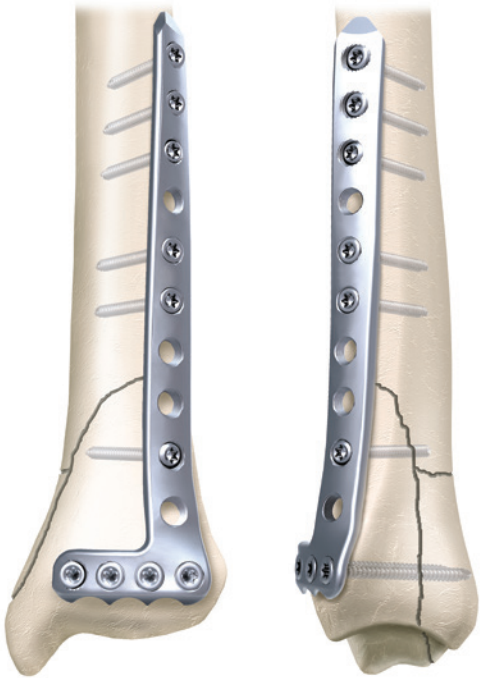


Plate positioning

Insert the plate and position it to the anterolateral distal tibia. Reduce the fracture manually and confirm coronal and sagittal alignment as well as plate position on the shaft.

Note The Anterolateral Distal Tibia Plate features periarticular recesses for placement of independent lag screws to assist with joint surface reduction.

Provisionally fix the plate to the diaphysis with two 2.7mm x 25mm Provisional Fixation Pins (7117-3583) through 2.7mm Locking Drill Guides (7117-3450) with adequate spread between them. Place one 2.7mm x 40mm Provisional Fixation Pin (7117-0812) through a 2.7mm Locking Drill Guide (7117-3450) in one of the distal holes above the joint. Proceed with definitive fixation.

3.5mm Calcaneal Locking Plate

Plate selection

Following fracture reduction, select the Calcaneal Locking Plate that best accommodates patient anatomy and fracture pattern.

Note The PERI-LOC® Calcaneal Locking Plate Preoperative Template (7118-0920) is available to assist with preoperative radiographic planning.

Plate contouring

Occasionally, minor plate contouring is required prior to implantation. If necessary, thread two 2.7mm Locking Drill Guides (7117-3450) into adjacent plate holes as desired. Apply minimal incremental force until the desired contour is achieved.

Plate positioning

Provisionally fix the plate to the bone using two 2.7mm x 14mm Provisional Fixation Pins (7117-3582) through 2.7mm Locking Drill Guides (7117-3450). Avoid over-insertion due to the lack of medial soft tissue coverage. Confirm plate placement under fluoroscopy. Proceed with definitive fixation.

Screw insertion

The choice of screws, and the order and configuration, is a decision to be made by the individual surgeon depending on the patient's circumstances and needs. Smith & Nephew does not recommend any particular screw insertion order or configuration of the various types of screws available in the system.

2.7mm Cortex Screws

2.7mm Self-Tapping Cortex Screws are available in the small fragment system and may be used outside the plate to assist with articular reduction. In addition, the distal clavicle plates, distal humerus plates and olecranon plates feature specific 2.7mm screw holes.

Drill (inserting through a plate)
Position the 2.0mm side of the 2.0mm x 2.7mm Drill Guide (7117-3571) into the desired screw hole. Drill to the desired depth using the 2.0mm Drill Bit (7117-3501).

Measure
Measure for screw length using the 2.7mm Screw Depth Gauge (7117-3525).

Screw insertion
Insert the appropriate length 2.7mm Cortex Screw using the T15 Self Retaining Screwdriver (7117-3614). This should be done manually using the Tear Drop Screwdriver Handle (7117-3543).

Note In the event that a 2.7mm Cortex screw needs to be used outside the plate for interfragmentary compression, the Small Fragment instrumentation set includes a 2.0mm Drill Guide Insert (7117-3589) to assist with lag screw technique. This 2.0mm Drill Guide Insert is used in conjunction with the 2.7mm side of the 2.7mm x 3.5mm Drill Guide (7117-3572).

2.7mm Locking Screws

There are two techniques that can be used to insert 2.7mm Locking Screws. If using a percutaneous technique, the 2.7mm Locking Screw Guide (7117-3452) with the 2.0mm Locking Drill Guide Insert (7117-3449) will provide a channel through the soft tissue to insert screws. This option also ensures correct screw trajectory in osteopenic bone. However, this two-piece assembly drill guide may be substituted with the one-piece 2.0mm Locking Drill Guide (7117-3448). This is a one-piece drill guide and may be found easier to thread into the locking holes located on highly contoured areas of the plate.

Using the 2.7mm Locking Screw Guide with the 2.0mm Locking Drill Guide Insert

Note This option may only be used with screws longer than 24mm. If the screw is 24mm or shorter, use the 2.0mm Locking Drill Guide.

Drill

Thread the 2.7mm Locking Screw Guide (7117-3452) with the 2.0mm Locking Drill Guide Insert (7117-3449) into the threaded hole. Drill to the desired depth using the 2.0mm Drill Bit (7117-3501).

Measure

Measure for screw length by reading the exposed calibrations off the drill bit. If the measurement is longer than 24mm proceed with the described technique. If the measurement is 24mm or shorter, remove the 2.7mm Locking Screw Guide and insert the screw without the guide.

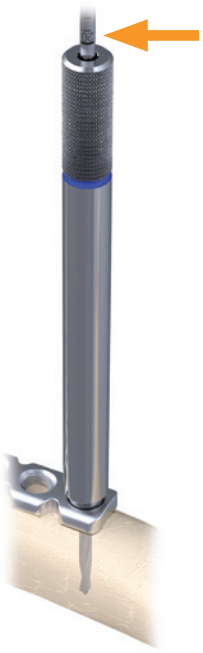
Screw insertion

Remove the 2.0mm Locking Drill Guide Insert. Insert the appropriate length 2.7mm Locking Screw through the 2.7mm Locking Screw Guide using the T15 Self Retaining Screwdriver (7117-3614) to a depth where the top of the screw guide is in between the two black lines on the screwdriver shaft. Remove the 2.7mm Locking Screw Guide and proceed with final seating of the screw. This should be performed manually using the Tear Drop Screwdriver Handle (7117-3543).

Using the 2.0mm Locking Drill Guide

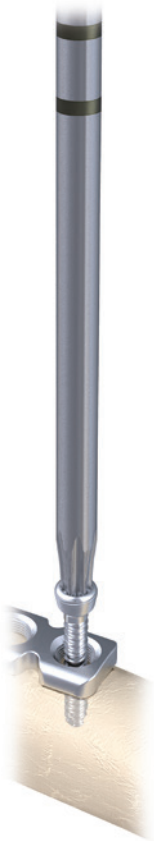
Drill

Thread the 2.0mm Locking Drill Guide (7117-3448) into the desired 2.7mm locking screw hole. Drill through the guide to the desired depth using the 2.0mm Drill Bit (7117-3501).



Measure

Measure for screw length by reading the exposed calibrations off the drill bit or by removing the locking drill guide and using the 2.7mm Depth Gauge (7117-3525).



Screw Insertion

Remove the 2.0mm Locking Drill Guide and insert the appropriate length 2.7mm Locking Screw using the T15 Self Retaining Screwdriver (7117-3614). This should be performed manually using the Tear Drop Screwdriver Handle (7117-3543).

3.5mm Cortex Screws

3.5mm Cortex Screws may be used in either Neutral or Compression mode. Neutral mode will place the screw directly in the center of the screw hole and is ideal when axial compression is not desired. Compression mode will place the screw eccentrically in the screw hole and allow the screw head to travel down the ramped hole so that axial compression is achieved during final seating. Each screw hole allows for 1mm of axial compression. If desired, distraction or translation can also be achieved using this technique.

Drill (neutral mode)
Position the neutral side (green) of the 2.7mm Neutral x 2.7mm Compression Drill Guide (7117-3570) into the desired screw hole. Drill to the desired depth using the 2.7mm Drill Bit (7117-3502).

Drill (compression mode)
Insert the compression side (yellow) of the 2.7mm Neutral x 2.7mm Compression Drill Guide (7117-3570) into the desired screw hole. To gain axial compression, position the drill guide in the desired screw hole so that it is against the wall of the hole furthest away from the fracture. Drill to the desired depth using the 2.7mm Drill Bit (7117-3502).

Measure
Measure for screw length by using the 3.5mm Screw Depth Gauge (7117-3534).

Screw insertion
Insert the appropriate length 3.5mm Cortex Screw using the T20 Self Retaining Screwdriver (7117-3592). This should be done manually using the Large Screwdriver Handle (7117-3547).

Note In the event that a 3.5mm Cortex screw needs to be used outside the plate for inter-fragmentary compression, the Small Fragment instrumentation set includes a 2.7mm Drill Guide Insert (7117-3590) to assist with lag screw technique. This 2.7mm Drill Guide Insert is used in conjunction with the 3.5mm side of the 2.7mm x 3.5mm Drill Guide (7117-3572).

3.5mm Locking Screws

There are two techniques that can be used to insert 3.5mm Locking Screws. If using a percutaneous technique, the 3.5mm Locking Screw Guide (7117-3538) with the 2.7mm Locking Drill Guide Insert (7117-3529) will provide a channel through the soft tissue to insert screws. This option also ensures correct screw trajectory in osteopenic bone. However, this two-piece assembly drill guide may be substituted with the one-piece 2.7mm Locking Drill Guide (7117-3450). This is a one-piece drill guide and may be found easier to thread into the locking holes located on highly contoured areas of the plate.

Using the 3.5mm Locking Screw Guide with the 2.7mm Locking Drill Guide Insert

Note This option may only be used with screws longer than 24mm. If the screw is 24mm or shorter, use the 2.7mm Locking Drill Guide.

Drill

Thread the 3.5mm Locking Screw Guide (7117-3538) with the 2.7mm Locking Drill Guide Insert (7117-3529) into the threaded hole. Drill to the desired depth using the 2.7mm Drill Bit (7117-3503).

Measure

Measure for screw length by reading the exposed calibrations off the drill bit. If the measurement is longer than 24mm proceed with the described technique. If the measurement is 24mm or shorter, remove the 3.5mm Locking Screw Guide and insert the screw without the guide.

Screw insertion

Remove the 2.7mm Locking Drill Guide Insert. Insert the appropriate length 3.5mm Locking Screw through the 3.5mm Locking Screw Guide using the T20 Self Retaining Screwdriver (7117-3592) to a depth where the top of the screw guide is in between the two black lines on the Screwdriver shaft. Remove the 3.5mm Locking Screw Guide and proceed with final seating of the screw. This may be done manually using the Large Screwdriver Handle (7117-3547) or on power using the 2.0Nm Torque Limiter Power Adapter (7117-3622).

Using the 2.7mm Locking Drill Guide

Drill

Thread the 2.7mm Locking Drill Guide (7117-3450) into the desired 3.5mm locking screw hole. Drill through the guide to the desired depth using the 2.7mm Drill Bit (7117-3503).

Measure

Measure for screw length by reading the exposed calibrations off the drill bit or by removing the locking drill guide and using the 3.5mm Screw Depth Gauge (7117-3534).

Screw insertion

Remove the 2.7mm Locking Drill Guide and insert the appropriate length 3.5mm Locking Screw using the T20 Self Retaining Screwdriver (7117-3592). This may be done manually using the Large Screwdriver Handle (7117-3547) or on power using the 2.0Nm Torque Limiter Power Adapter (7117-3622).

4.0mm Cancellous Screws

The PERI-LOC® Small Fragment Instrument and Implant Set features an optional 4.0mm Cancellous Screw Caddy. This may be replaced with the 4.0mm Cannulated Screw Caddy depending on the individual surgeon preference. The 4.0mm Cancellous Screws may be used through the plate or outside of the plate for joint surface reduction.

Drill (through the plate)

Position the neutral side of the 2.7mm Neutral x 2.7mm Compression Drill Guide (7117-3570) into the desired screw hole. Drill to the desired depth using the 2.7mm Drill Bit (7117-3502).

Drill (outside the plate)

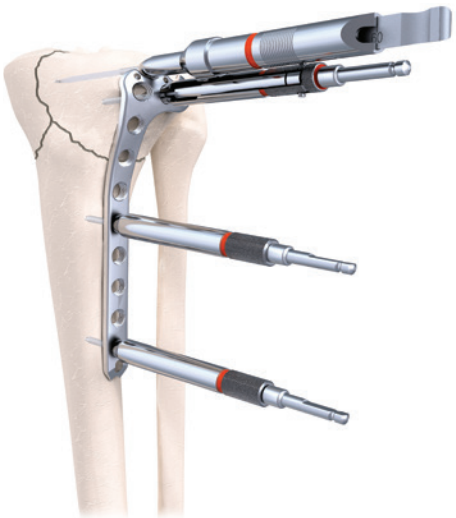
Position the 2.7mm side of the 2.0mm x 2.7mm Drill Guide (7117-3571) against the bone. Drill to the desired depth using the 2.7mm Drill Bit (7117-3502).

Countersink (if outside the plate)

Countersinking the head will reduce implant profile. Prepare the bone surface by placing the Small Fragment Countersink (7117-3344) into the predrilled hole and turn to the right. Do not countersink on power. This should be performed manually using the Small T-handle (7117-3542).

Measure

Measure for screw length by using the 3.5mm Depth Gauge (7117-3534).



Tap (optional)

In areas of increased bone density, it may be beneficial to tap prior to screw insertion. Tap by using the 4.0mm Cancellous Tap (7117-3386). This should be performed manually using the Small T-handle (7117-3542).

Screw insertion

Insert the appropriate length 4.0mm Cortex Screw using the T20 Self Retaining Screwdriver (7117-3592). This should be done manually using the Large Screwdriver Handle (7117-3547).

4.0mm Cannulated Screws

The PERI-LOC® Small Fragment Instrument and Implant Set features an optional 4.0mm Cannulated Screw Caddy. This may be replaced with the 4.0mm Cancellous Screw Caddy depending on the individual surgeon preference. The 4.0mm Cannulated Screws may be used either through the plate, or outside the plate depending on the surgeon's preferences.

(Outside the plate)
Guide pin insertion

Position the 1.3mm side of the 1.3mm x 2.7mm Drill Guide (7117-3576) against the bone. Insert a 1.3mm Guide Pin (12-8047) through the drill guide to the desired depth.

Countersink

Countersinking the head will reduce implant profile. Prepare the bone surface by placing the 1.3mm Cannulated Countersink* (7117-7188) over the guide pin and against the bone and turn to the right. Do not countersink on power. This should be performed manually using the Small T-handle (7117-3542).

Measure

Place the K-wire Direct Measuring Gauge over the wire and against the bone. Measure for screw length by reading the exposed calibrations on the gauge.

*Optional instrument, not included in the Small Fragment Set

Ream (optional)
Due to the self-drilling tip of the 4.0mm Cannulated Screws, it is not necessary to ream prior to screw insertion. However, in areas of increased bone density, reaming prior to screw insertion may be beneficial. Using the 2.7mm side of the 1.3mm x 2.7mm Drill Guide (7117-3576) as a soft tissue protector, insert the 2.7mm Cannulated Drill Bit (7117-3581) over the guide pin. Ream to the desired depth.

Tip
Reaming 5mm short of the screw measurement prevents the reamer from engaging the threaded tip of the pin, avoiding inadvertent guide pin removal.

Tap (optional)
In areas of increased bone density, it may be beneficial to tap prior to screw insertion. Tap by using the 4.0mm Cannulated Tap (7117-3584). This should be performed manually using the Small T-handle (7117-3542).

Screw Insertion
Load the appropriate length 4.0mm Cannulated Screw onto the 2.5mm Cannulated Hexdriver (7117-3580) with Holding Sleeve (7117-0031) and insert over the guide pin into the bone. This should be performed manually with the Large Screwdriver Handle (7117-3547).

4.0mm Cannulated Screws (through the plate)

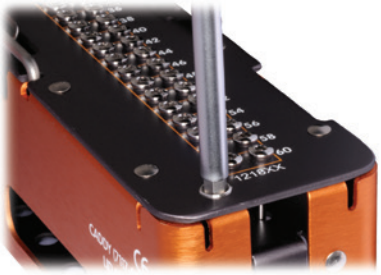
In the event that a 4.0mm Cannulated Screw is required to be placed through a locking plate, a 4.0mm Cannulated Screw Adapter (7380-1012) is required.

Adapter insertion

Using the 4.7mm Cannulated Hexdriver (7117-3579), remove a Cannulated Screw Adapter from the 4.0mm Cannulated Screw Caddy. Hand tighten the adapter into the appropriate locking plate hole.

Follow the same technique for inserting a 4.0mm Cannulated Screw outside of the plate, described within this document.

Note When using a 4.0mm Cannulated Screw through a locking plate hole, the head of the screw will not make contact with the plate. To account for this, add 1mm to the measurement displayed on the K-wire Direct Measuring Gauge.



3.5mm Locking Hole Insert

The 3.5mm Locking Hole Inserts (7480-0604) may be added to any 3.5mm screw hole in PERI-LOC Periarticular locking plates to increase plate fatigue and reduce reduce areas of peak stress.

Insert the 3.5mm Locking Hole Insert (7480-0604) into unused holes in the 3.5mm plates using the T20 Driver Shaft and a minimum 35 in-lb. Torque Limiter (7117-3623) (4.7NM)*.

The choice of Locking Hole Insert use and the configuration is a decision to be made by the individual surgeon depending on patient circumstances and needs. Smith & Nephew does not recommend any particular Locking Hole Insert quantity or configuration.

* The PERI-LOC 4.7NM Torque Limiter must be calibrated every six months. Item currently not available in a set. Item must be ordered separately.

Catalog information – Instruments

Hohmann Rectractor, 8mm
Cat. No. 7117-0057

Hohmann Retractor, 15mm
Cat. No. 7117-0095

Hohmann Rectractor, 8mm, Bent
Cat. No. 7117-3369

Reduction Forceps with Points, Broad
Cat. No. 7117-3377

Reduction Forceps with Serrated Jaw
Cat. No. 7117-3378

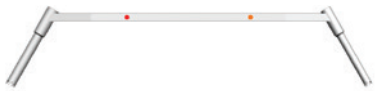
1.3mm x 2.7mm Drill Guide
Cat. No. 7117-3576

2.0mm x 2.7mm Drill Guide
Cat. No. 7117-3571

2.7mm Neutral/2.7mm Compression Drill Guide
Cat. No. 7117-3570

2.7mm Neutral Slot Drill Guide
Cat. No. 7117-3594

2.7mm x 3.5mm Drill Guide
Cat. No. 7117-3572



Drill Guide Inserts

Cat. No.	Description
7117-3589	2.0mm
7117-3590	2.7mm

2.0mm K-wire Locking Guide, One Piece
Cat. No. 7117-3491

Locking Drill Guides

Cat. No.	Description
7117-3448	2.0mm
7117-3450	2.7mm

Catalog information – Instruments

Locking Screw Guides

Cat. No.	Description
7117-3452	2.7mm
7117-3538	3.5mm

Locking Drill Guide Inserts

Cat. No.	Description
7117-3449	2.0mm
7117-3529	2.7mm

Screw Depth Gauges

Cat. No.	Description
7117-3523	3.5mm Short
7117-3525	2.7mm
7117-3534	3.5mm

4.0mm Cannulated Direct Measuring Device

Cat. No. 7111-7083

T15 Self-retaining Screwdriver Shafts

Cat. No.	Description
7117-3614	120mm
7117-3585	178mm

T20 Self-retaining Screwdriver Shafts

Cat. No.	Description
7117-3592	120mm
7117-3593	178mm

T20 Self-retaining Screwdriver

Cat. No. 7117-3637

Cannulated Hexdriver Shafts

Cat. No.	Description
7117-3579	4.7mm x 127mm
7117-3580	2.5mm x 120mm

Hexdriver Shafts w/ Quick Connect

Cat. No.	Description
7117-3535	2.5mm
7117-3537	3.5mm

T20 Removal Screwdriver Shaft, 178mm

Cat. No. 7117-3612

T15 Removal Screwdriver Shaft, 178mm

Cat. No. 7117-3613

Small T-handle, Quick Coupling
Cat. No. 7117-3542

Tear Drop Screwdriver Handle
Cat. No. 7117-3543

Large Screwdriver Handle
Cat. No. 7117-3547

Holding Sleeve
Cat. No. 7117-0031

Sharp Hook
Cat. No. 7117-0043

Screw Forceps
Cat. No. 7117-0045

Wire Bending Pliers
Cat. No. 7117-0063

Reverse Verbrugge, 190mm
Cat. No. 7117-3544

Curved Periosteal Elevator, 6mm
Cat. No. 7117-0097

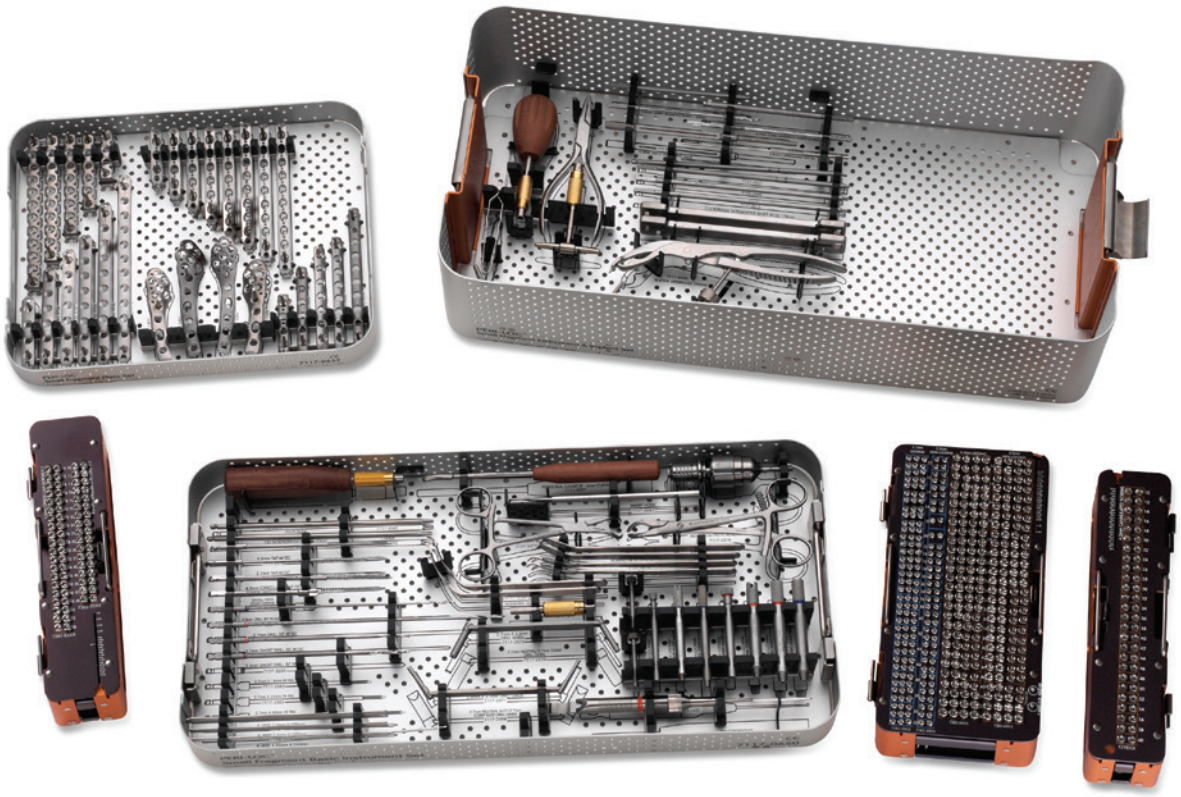
Small Fragment Countersink
Cat. No. 7117-3344

Cannulated AO to Trinkle Adapter
Cat. No. 7117-3528

2.0Nm Torque Limiter Adapter
Cat. No. 7117-3622

Small Fragment Bending Irons
Cat. No. 7117-3636

Catalog information – Instrument Set



Small Fragment Implant and Instrument Set

Set No. 7181-0500

Cat No.	Description	Qty
7117-0057	Hohmann Retractor, 8mm	2
7117-3369	Hohmann Rectractor, 8mm, Bent	2
7117-0095	Hohmann Retractor, 15mm	2
7117-3377	Reduction Forceps with Points, Broad	2
7117-3378	Reduction Forceps with Serrated Jaw	2
7117-3576	1.3mm x 2.7mm Drill Guide	1
7117-3571	2.0mm x 2.7mm Drill Guide	1
7117-3570	2.7mm Neutral/2.7mm Compression Drill Guide	1
7117-3594	2.7mm Neutral Slot Drill Guide	1
7117-3572	2.7mm x 3.5mm Drill Guide	1
7117-3589	2.0mm Drill Guide Insert	1
7117-3590	2.7mm Drill Guide Insert	1
7117-3491	2.0mm K-wire Locking Guide, One Piece	1
7117-3448	2.0mm Locking Drill Guide	1
7117-3450	2.7mm Locking Drill Guide	1
7117-3452	2.7mm Locking Screw Guide	1
7117-3538	3.5mm Locking Screw Guide	1
7117-3449	2.0mm Locking Drill Guide Insert	1
7117-3529	2.7mm Locking Drill Guide Insert	1

Cat No.	Description	Qty
7117-3525	2.7mm Screw Depth Gauge	1
7117-3523	3.5mm Short Screw Depth Gauge	1
7117-3534	3.5mm Screw Depth Gauge	1
7111-7083	4.0mm Cannulated Direct Measuring Device	1
7117-3614	T15 Self-retaining Screwdriver Shaft, 120mm	1
7117-3585	T15 Self-retaining Screwdriver Shaft, 178mm	1
7117-3592	T20 Self-retaining Screwdriver Shaft, 120mm	1
7117-3593	T20 Self-retaining Screwdriver Shaft, 178mm	1
7117-3637	T20 Self Retaining Screwdriver	1
7117-3580	2.5mm Cannulated Hexdriver Shaft, 120mm	1
7117-3535	2.5mm Hexdriver Shaft w/ Quick Connect	1
7117-3537	3.5mm Hexdriver Shaft w/ Quick Connect	1
7117-3579	4.7mm Cannulated Hexdriver Shaft, 127mm	1
7117-3612	T20 Removal Screwdriver Shaft, 178mm	1

Small Fragment Implant and Instrument Set *(continued)*

Cat No.	Description	Qty
7117-3613	T15 Removal Screwdriver Shaft, 178mm	1
7117-3542	Small T-handle, Quick Coupling	1
7117-3543	Tear Drop Screwdriver Handle	1
7117-3547	Large Screwdriver Handle	1
7117-0031	Holding Sleeve	1
7117-0043	Sharp Hook	1
7117-0045	Screw Forceps	1

Cat No.	Description	Qty
7117-0063	Wire Bending Pliers	1
7117-3544	Reverse Verbrugge, 190mm	1
7117-0097	Curved Periosteal Elevator, 6mm	1
7117-3344	Small Fragment Countersink	1
7117-3528	Cannulated AO to Trinkle Adapter	1
7117-3622	2.0Nm Torque Limiter Adapter	1
7117-3636	Small Fragment Bending Irons	2

Trays and Caddies

Cat. No.	Description	Qty
7117-0650	Basic Instrument Tray	1
7117-0654	Screw Caddy	1
7117-0655	Screw Caddy Lid	1

Cat No.	Description	Qty
7117-0657	Plate Caddy	1
7117-0659	Instrument and Implant Set Tray	1
7117-0660	Instrument and Implant Set Tray Lid	1

Small Fragment Disposables Set

Set No. 7181-0417

K-wires and Guide Pins

Cat. No.	Description	Qty
128047	1.3 x 140mm Guide Pin	1
7116-1012	1.25mm K-wire	1
7116-1016	1.6mm K-wire	1
7116-1020	2.0mm K-wire	1

Drill Guide Provisional Fixation Pins

Cat. No.	Description	Qty
7117-3582	2.7mm Drill Guide PF Pin, 14mm	2
7117-3583	2.7mm Drill Guide PF Pin, 25mm	2
7117-0812	2.7mm Drill Guide PF Pin, 40mm	2

Taps with Quick Connect

Cat. No.	Description	Qty
7117-3366	2.7mm Tap	1
7117-3318	3.5mm Tap	1
7117-3386	4.0mm Cancellous Tap	1
7117-3584	4.0mm Cannulated Tap	1

Calibrated Drills with Quick Connect

Cat. No.	Description	Qty
7117-3501	2.0mm Drill	1
7117-3502	2.7mm Short Drill	2
7117-3503	2.7mm Drill	2
7117-3581	3.5mm Short Drill	1
7117-3504	2.7mm Cannulated Drill, 155mm	1

Small Fragment Screw Set

Set No. 7181-0420

2.7mm T15 Cortex Screws, Self-tapping

Cat No.	Description	Qty	Cat No.	Description	Qty
7382-3010	10mm	4	7382-3036	36mm	2
7382-3012	12mm	4	7382-3038	38mm	2
7382-3014	14mm	4	7382-3040	40mm	4
7382-3016	16mm	4	7382-3042	42mm	4
7382-3018	18mm	2	7382-3044	44mm	4
7382-3020	20mm	2	7382-3046	46mm	4
7382-3022	22mm	2	7382-3048	48mm	4
7382-3024	24mm	2	7382-3050	50mm	4
7382-3026	26mm	2	7382-3055	55mm	4
7382-3028	28mm	2	7382-3060	60mm	2
7382-3030	30mm	2	7380--3065	65mm	0
7382-3032	32mm	2	7380--3070	70mm	0
7382-3034	34mm	2			

2.7mm T15 Locking Screws, Self-tapping

Cat No.	Description	Qty	Cat No.	Description	Qty
7382-2310	10mm	6	7382-2334	34mm	3
7382-2312	12mm	6	7382-2336	36mm	3
7382-2314	14mm	6	7382-2338	38mm	3
7382-2316	16mm	6	7382-2340	40mm	6
7382-2318	18mm	6	7382-2342	42mm	6
7382-2320	20mm	6	7382-2344	44mm	6
7382-2322	22mm	3	7382-2346	46mm	6
7382-2324	24mm	3	7382-2348	48mm	6
7382-2326	26mm	3	7382-2350	50mm	6
7382-2328	28mm	3	7382-2355	55mm	6
7382-2330	30mm	3	7382-2360	60mm	3
7382-2332	32mm	3			

3.5mm T20 Cortex Screws, Self-tapping

Cat No.	Description	Qty	Cat No.	Description	Qty
7382-4010	10mm	8	7382-4044	44mm	4
7382-4012	12mm	8	7382-4046	46mm	4
7382-4014	14mm	8	7382-4048	48mm	4
7382-4016	16mm	8	7382-4050	50mm	4
7382-4018	18mm	8	7382-4055	55mm	4
7382-4020	20mm	4	7382-4060	60mm	4
7382-4022	22mm	4	7380-4065	65mm	0
7382-4024	24mm	4	7380-4070	70mm	0
7382-4026	26mm	4	7380-4075	75mm	0
7382-4028	28mm	4	7380-4080	80mm	0
7382-4030	30mm	4	7380-4085	85mm	0
7382-4032	32mm	4	7380-4090	90mm	0
7382-4034	34mm	4	7380-4095	95mm	0
7382-4036	36mm	4	7380-4100	100mm	0
7382-4038	38mm	4	7380-4105	105mm	0
7382-4040	40mm	4	7380-4110	110mm	0
7382-4042	42mm	4			

3.5mm T20 Locking Screws, Self-tapping

Cat No.	Description	Qty	Cat No.	Description	Qty
7382-5010	10mm	8	7382-5044	44mm	4
7382-5012	12mm	8	7382-5046	46mm	4
7382-5014	14mm	8	7382-5048	48mm	4
7382-5016	16mm	8	7382-5050	50mm	4
7382-5018	18mm	8	7382-5055	55mm	4
7382-5020	20mm	4	7382-5060	60mm	4
7382-5022	22mm	4	7380-5065	65mm	0
7382-5024	24mm	4	7380-5070	70mm	0
7382-5026	26mm	4	7380-5075	75mm	0
7382-5028	28mm	4	7380-5080	80mm	0
7382-5030	30mm	4	7380-5085	85mm	0
7382-5032	32mm	4	7380-5090	90mm	0
7382-5034	34mm	4	7380-5095	95mm	0
7382-5036	36mm	4	7380-5100	100mm	0
7382-5038	38mm	4	7380-5105	105mm	0
7382-5040	40mm	4	7380-5110	110mm	0
7382-5042	42mm	4			

Washer

Cat. No.	Description	Qty
7114-3107	7.0mm Outer Diameter	6

4.0mm Cancellous Screw Set

Set No. 7181-5200

4.0mm T20 Cancellous Screws, Fully Threaded

Cat No.	Description	Qty	Cat No.	Description	Qty
7382-5210	10mm	2	7382-5238	38mm	2
7382-5212	12mm	2	7382-5240	40mm	2
7382-5214	14mm	2	7382-5245	45mm	2
7382-5216	16mm	2	7382-5250	50mm	2
7382-5218	18mm	2	7382-5255	55mm	2
7382-5220	20mm	2	7382-5260	60mm	2
7382-5222	22mm	2	7380--5265	65mm	0
7382-5224	24mm	2	7380--5270	70mm	0
7382-5226	26mm	2	7380--5275	75mm	0
7382-5228	28mm	2	7380--5280	80mm	0
7382-5230	30mm	2	7380--5285	85mm	0
7382-5232	32mm	2	7380--5290	90mm	0
7382-5234	34mm	2	7380--5295	95mm	0
7382-5236	36mm	2	7380--5300	100mm	0

4.0mm T20 Cancellous Screws, Partially Threaded

Cat No.	Description	Qty	Cat No.	Description	Qty
7382-5310	10mm	2	7382-5345	45mm	2
7382-5312	12mm	2	7382-5350	50mm	2
7382-5314	14mm	2	7382-5355	55mm	2
7382-5316	16mm	2	7382-5360	60mm	2
7382-5318	18mm	2	7380-5365	65mm	0
7382-5320	20mm	2	7380-5370	70mm	0
7382-5322	22mm	2	7380-5375	75mm	0
7382-5324	24mm	2	7380-5380	80mm	0
7382-5326	26mm	2	7380-5385	85mm	0
7382-5328	28mm	2	7380-5390	90mm	0
7382-5330	30mm	2	7380-5395	95mm	0
7382-5335	35mm	2	7380-5400	100mm	0
7382-5340	40mm	2			

4.0mm Cancellous Screw Caddies

Cat. No.	Description	Qty
7117-0680	4.0mm Cancellous Screw Caddy	1
7117-0681	4.0mm Cancellous Screw Caddy Lid	1

4.0mm Cannulated Screw Set, Partially Threaded

Set No. 7181-1800

4.0mm Cannulated Screws, Partially Threaded

Cat No.	Description	Qty	Cat No.	Description	Qty
121810	10mm	2	121836	36mm	2
121812	12mm	2	121838	38mm	2
121814	14mm	2	121840	40mm	2
121816	16mm	2	121842	42mm	2
121818	18mm	2	121844	44mm	2
121820	20mm	2	121846	46mm	2
121822	22mm	2	121848	48mm	2
121824	24mm	2	121850	50mm	2
121826	26mm	2	121852	52mm	2
121828	28mm	2	121854	54mm	2
121830	30mm	2	121856	56mm	2
121832	32mm	2	121858	58mm	2
121834	34mm	2	121860	60mm	2

Caddies

Cat. No.	Description	Qty
7117-0686	4.0mm Partially Threaded Cannulated Screw Caddy	1
7117-0687	4.0mm Partially Threaded Cannulated Screw Caddy Lid	1

3.5mm Locking Hole Insert

Cat. No.	Description	Qty
7480-0604	3.5mm Locking Hole Insert	0
7117-3623	4.7NM Torque Limiter	0

Small Fragment Plate Set

Set No. 7181-0419

3.5mm Locking One-third Tubular Plates

Cat No.	Description	Qty	Cat No.	Description	Qty
7182-9004	4 Hole, 57mm	1	7182-9008	8 Hole, 107mm	1
7180-9005	5 Hole, 70mm	0	7180-9009	9 Hole, 120mm	0
7182-9006	6 Hole, 82mm	1	7182-9010	10 Hole, 133mm	1
7182-9007	7 Hole, 95mm	1	7180-9012	12 Hole, 158mm	0

3.5mm Locking Compression Plates

Cat No.	Description	Qty	Cat No.	Description	Qty
7182-9704	4 Hole, 67mm	1	7182-9712	12 Hole, 183mm	1
7180-9705	5 Hole, 82mm	0	7180-9714	14 Hole, 214mm	0
7182-9706	6 Hole, 96mm	1	7180-9716	16 Hole, 243mm	0
7182-9707	7 Hole, 111mm	1	7180-9718	18 Hole, 272mm	0
7182-9708	8 Hole, 125mm	1	7180-9720	20 Hole, 301mm	0
7180-9709	9 Hole, 140mm	0	7180-9722	22 Hole, 330mm	0
7182-9710	10 Hole, 154mm	1			

3.5mm Compression Plates, Non-locking

Cat No.	Description	Qty	Cat No.	Description	Qty
7180-9402	2 Hole, 41mm	0	7182-9410	10 Hole, 145mm	1
7182-9403	3 Hole, 54mm	1	7180-9411	11 Hole, 158mm	0
7182-9404	4 Hole, 67mm	1	7180-9412	12 Hole, 171mm	0
7182-9405	5 Hole, 80mm	1	7180-9414	14 Hole, 197mm	0
7182-9406	6 Hole, 93mm	1	7180-9416	16 Hole, 223mm	0
7182-9407	7 Hole, 106mm	1	7180-9418	18 Hole, 249mm	0
7182-9408	8 Hole, 119mm	1	7180-9420	20 Hole, 275mm	0
7182-9409	9 Hole, 132mm	1			

3.5mm Locking Reconstruction Plates

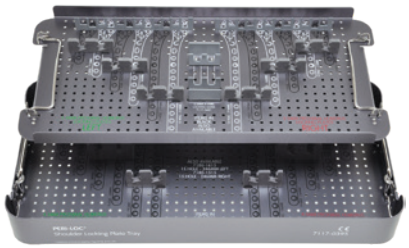
Cat No.	Description	Qty	Cat No.	Description	Qty
7182-2604	4 Hole, 46mm	1	7182-2610	10 Hole, 118mm	1
7182-2606	6 Hole, 70mm	1	7182-2612	12 Hole, 142mm	1
7182-2608	8 Hole, 94mm	1	7180-2614	14 Hole, 166mm	0

3.5mm Proximal Humerus Locking Plates

Cat No.	Description	Qty	Cat No.	Description	Qty
7182-1303	3 Hole, Right, 89mm	1	7182-1403	3 Hole, Left, 89mm	1
7182-1305	5 Hole, Right, 115mm	1	7182-1405	5 Hole, Left, 115mm	1
7180-1307	7 Hole, Right, 140mm	0	7180-1407	7 Hole, Left, 140mm	0
7180-1309	9 Hole, Right, 165mm	0	7180-1409	9 Hole, Left, 165mm	0
7180-1311	11 Hole, Right, 191mm	0	7180-1411	11 Hole, Left, 191mm	0
7180-1313	13 Hole, Right, 216mm	0	7180-1413	13 Hole, Left, 216mm	0

Optional Case/Tray for Proximal Humerus Plates

Cat. No.	Description	Qty
7112-9401	Small Outer Case, 2.4"	1
7112-9402	Lid for Outer Case	1
7117-0395	Locking Shoulder Plate Tray	1



Clavicle Locking Plate Set

(stored within the original Locking Elbow Set)

Set No. 7181-1007

3.5mm Superior Medial Clavicle Locking Plates

Cat No.	Description	Qty	Cat No.	Description	Qty
7180-3411	6 Hole, Left, 73mm	0	7180-3413	6 Hole, Right, 73mm	0
7180-3412	7 Hole, Left, 85mm	0	7180-3414	7 Hole, Right, 85mm	0
7182-3401	8 Hole, Left, 97mm	1	7182-3409	8 Hole, Right, 97mm	1
7182-3402	10 Hole, Left, 121mm	1	7182-3410	10 Hole, Right, 121mm	1

3.5mm Superior Distal Clavicle Locking Plates

Cat No.	Description	Qty
7180-3415	4 Hole, Left, 84mm	0
7182-3403	6 Hole, Left, 109mm	1

Cat No.	Description	Qty
7180-3416	4 Hole, Right, 84mm	0
7182-3404	6 Hole, Right, 109mm	1

3.5mm Inferior Medial Clavicle Locking Plates

Cat No.	Description	Qty
7180-3417	6 Hole, 73mm	0
7180-3418	7 Hole, 85mm	0

Cat No.	Description	Qty
7182-3405	8 Hole, 96mm	1
7182-3406	10 Hole, 117mm	1

2.7mm/3.5mm Inferior Distal Clavicle Locking Plates

Cat No.	Description	Qty
7182-3407	4 Hole, 81mm	1

Clavicle Plate Caddy

Cat No.	Description	Qty
7117-0398	Clavicle Plate Caddy	1

Elbow Locking Plate Set

Set No. 7181-1007

2.7mm/3.5mm Medial Distal Humerus Locking Plates

Cat No.	Description	Qty	Cat No.	Description	Qty
7182-1805	5 Hole, Right, 79mm	1	7182-1905	5 Hole, Left, 79mm	1
7182-1807	7 Hole, Right, 103mm	1	7182-1907	7 Hole, Left, 103mm	1
7180-1809	9 Hole, Right, 127mm	0	7180-1909	9 Hole, Left, 127mm	0
7180-1811	11 Hole, Right, 151mm	0	7180-1911	11 Hole, Left, 151mm	0
7180-1813	13 Hole, Right, 174mm	0	7180-1913	13 Hole, Left, 174mm	0

2.7mm/3.5mm Lateral Distal Humerus Locking Plates

Cat No.	Description	Qty	Cat No.	Description	Qty
7182-2405	5 Hole, Left, 77mm	1	7182-2505	5 Hole, Right, 77mm	1
7182-2407	7 Hole, Left, 102mm	1	7182-2507	7 Hole, Right, 102mm	1
7180-2409	9 Hole, Left, 128mm	0	7180-2509	9 Hole, Right, 128mm	0
7180-2411	11 Hole, Left, 153mm	0	7180-2511	11 Hole, Right, 153mm	0

2.7mm/3.5mm Posterolateral Distal Humerus Locking Plates

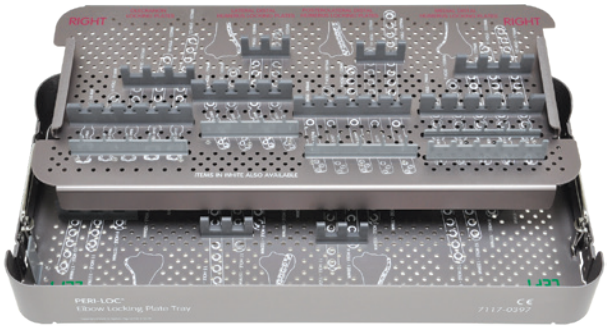
Cat No.	Description	Qty	Cat No.	Description	Qty
7182-2605	5 Hole, Left, 80mm	1	7182-2705	5 Hole, Right, 80mm	1
7182-2607	7 Hole, Left, 107mm	1	7182-2707	7 Hole, Right, 107mm	1
7180-2609	9 Hole, Left, 132mm	0	7180-2709	9 Hole, Right, 132mm	0
7180-2611	11 Hole, Left, 157mm	0	7180-2711	11 Hole, Right, 157mm	0
7180-2615	15 Hole, Left, 207mm	0	7180-2715	15 Hole, Right, 207mm	0

2.7mm/3.5mm Olecranon Locking Plates

Cat No.	Description	Qty	Cat No.	Description	Qty
7180-2904	4 Hole, Left, 56mm	0	7180-3904	4 Hole, Right, 56mm	0
7182-2906	6 Hole, Left, 81mm	1	7182-3906	6 Hole, Right, 81mm	1
7182-2908	8 Hole, Left, 107mm	1	7182-3908	8 Hole, Right, 107mm	1
7180-2910	10 Hole, Left, 132mm	0	7180-3910	10 Hole, Right, 132mm	0
7180-2912	12 Hole, Left, 157mm	0	7180-3912	12 Hole, Right, 157mm	0

Elbow Cases and Trays

Cat No.	Description	Qty
7112-9401	Small Outer Case, 2.4"	1
7112-9402	Lid for Outer Case	1
7117-0397	Locking Elbow Plate Tray	1



3.5mm Lateral Proximal Tibia Plate Set

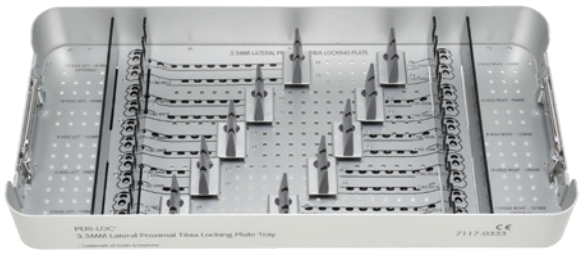
Set No. 7181-0030

3.5mm Lateral Proximal Tibia Locking Plates

Cat No.	Description	Qty	Cat No.	Description	Qty
7180-0404	4 Hole, Left, 73mm	1	7180-0504	4 Hole, Right, 73mm	1
7180-0406	6 Hole, Left, 98mm	1	7180-0506	6 Hole, Right, 98mm	1
7180-0408	8 Hole, Left, 123mm	1	7180-0508	8 Hole, Right, 123mm	1
7180-0410	10 Hole, Left, 149mm	1	7180-0510	10 Hole, Right, 149mm	1
7180-0413	13 Hole, Left, 187mm	0	7180-0513	13 Hole, Right, 187mm	0

Lateral Proximal Tibia Cases and Trays

Cat No.	Description	Qty
7112-9401	Small Outer Case, 2.4"	1
7112-9402	Lid for Outer Case	1
7117-0333	3.5mm Lateral Proximal Tibia Plate Tray	1



Distal Tibia and Calcaneal Plate Set

Set No. 7181-0040

3.5mm Medial Distal Tibia Locking Plates

Cat No.	Description	Qty	Cat No.	Description	Qty
7180-1004	4 Hole, Left, 108mm	0	7180-1104	4 Hole, Right, 108mm	0
7180-1006	6 Hole, Left, 134mm	1	7180-1106	6 Hole, Right, 134mm	1
7180-1008	8 Hole, Left, 160mm	1	7180-1108	8 Hole, Right, 160mm	1
7180-1010	10 Hole, Left, 185mm	1	7180-1110	10 Hole, Right, 185mm	1
7180-1013	13 Hole, Left, 223mm	0	7180-1113	13 Hole, Right, 223mm	0
7180-1016	16 Hole, Left, 262mm	0	7180-1116	16 Hole, Right, 262mm	0

3.5mm Anterolateral Distal Tibia Locking Plates

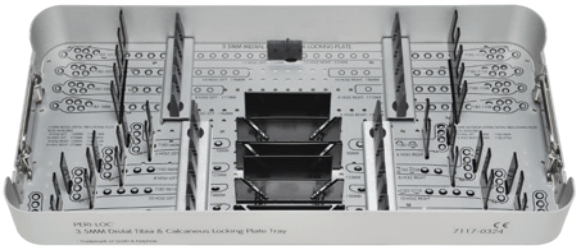
Cat No.	Description	Qty	Cat No.	Description	Qty
7180-0604	4 Hole, Left, 72mm	0	7180-0704	4 Hole, Right, 72mm	0
7182-0606	6 Hole, Left, 98mm	1	7182-0706	6 Hole, Right, 98mm	1
7182-0608	8 Hole Left, 123mm	1	7182-0708	8 Hole Right, 123mm	1
7182-0610	10 Hole, Left, 148mm	1	7182-0710	10 Hole, Right, 148mm	1
7180-0613	13 Hole, Left, 186mm	0	7180-0713	13 Hole, Right, 186mm	0

3.5mm Calcaneal Locking Plates

Cat No.	Description	Qty	Cat No.	Description	Qty
7180-1200	Large, Left, 68mm	0	7180-1202	Small, Left, 60mm	0
7180-1201	Large, Right, 68mm	0	7180-1203	Small, Right, 60mm	0

Distal Tibia and Calcaneal Plate Trays

Cat No.	Description	Qty
7112-9401	Small Outer Case, 2.4"	1
7112-9402	Lid for Outer Case	1
7117-0324	Distal Tibia and Calcaneal Plate Tray	1



Catalog information – Additional plates

Additional Locking Plates

2.7mm Reconstruction Locking Plates, Sterile

Cat. No.	Description	Length	Cat. No.	Description	Length
7180-2254	4 Hole	32mm	7180-2260	10 Hole	81
7180-2256	6 Hole	48	7180-2262	12 Hole	97
7180-2258	8 Hole	65	7180-2264	14 Hole	113

Additional Non-locking Plates

1/3 Tubular Plate, Sterile*

Cat. No.	Description	Length	Cat. No.	Description	Length
7180-9433	3 Hole	38mm	7180-9437	7 Hole	86
7180-9434	4 Hole	50	7180-9438	8 Hole	98
7180-9435	5 Hole	62	7180-9440	10 Hole	122
7180-9436	6 Hole	74			

3.5mm Reconstruction Plate, Sterile*

Cat. No.	Description	Length	Cat. No.	Description	Length
7180-9514	4 Hole	46mm	7180-9520	10 Hole	118
7180-9516	6 Hole	70	7180-9522	12 Hole	142
7180-9518	8 Hole	94	7180-9524	14 Hole	166

Small Right Angle T Plate, Sterile*

Cat. No.	Description	Length
7180-9604	4 Hole	56mm
7180-9605	5 Hole	67

Small Oblique T Plate, Sterile*

Cat. No.	Description	Length
7180-9613	3 Hole	52mm
7180-9614	4 Hole	63
7180-9615	5 Hole	73

*For non-sterile option, use 7182 prefix

Notes

Notes

Reference

1. Cartner J., Messina A., Baker C., Russell T., Tornetta P., Ricci W: Does Insertion Torque Affect the Mechanics of Locking Hole Inserts and Fatigue Performance of Bridge Plate Constructs? Bone & Joint Science, Vol 02, No 03, April 2011. 1-3.

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