Minimally Invasive Reduction and Plate Insertion Instruments.
For minimally invasive osteosynthesis.

Technique Guide
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Minimally Invasive Reduction and Plate Insertion Instruments

Minimally invasive surgery supports the principles of biological internal fixation by avoiding long incisions and extensive soft tissue stripping associated with conventional techniques. Devascularization of the fragments can be minimized by indirect reduction and an improved healing process can be expected.

The Minimally Invasive Reduction and Plate Insertion Instrument Set includes:
- Reduction handles to gain and maintain stable intraoperative fixation of a fracture
- Soft tissue retractors to subcutaneously prepare a plate pathway over long distances through a small incision
- Plate holder with clamping feet for easy, percutaneous manipulation of a plate along the bone

**Reduction handles**
Toothed reduction handles provide rotational stability during manipulation of bone fragments. Rounded reduction handles can be used during reduction with application of low force.

**Soft tissue retractors**
Offset blade allows easy preparation of a cavity for percutaneous plate insertion. Asymmetric tip allows a choice of insertion angle. The blade length can be adjusted using a combination wrench. The blade can be completely removed for easy cleaning of the cannulated handle.

**Plate holder**
Plate holder is for percutaneous insertion of most LCP and LC-DCP plates. A simple clamping mechanism provides guidance and easy handling of a plate under soft tissue. Nine interchangeable clamping feet are available for use with the plate holder.
Indications

The Minimally Invasive Reduction Instruments are indicated for obtaining intraoperative fixation using minimally invasive, indirect reduction techniques. The Minimally Invasive Plate Insertion Instruments are indicated for plate insertion through minimal incision(s) after temporary reduction has been achieved.
1

Insert threaded rod

**Instruments**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>328.100</td>
<td>11.0 mm Protection Sleeve, slotted</td>
</tr>
<tr>
<td>328.130</td>
<td>11.0 mm/5.0 mm Drill Sleeve</td>
</tr>
<tr>
<td>328.160</td>
<td>5.0 mm Threaded Rod, self-drilling tip</td>
</tr>
</tbody>
</table>

Insert a self-drilling 5.0 mm threaded rod through the drill sleeve system (drill sleeve and protection sleeve) and into the bone so that the self-drilling tip is embedded in the far cortex.

Remove the 11.0 mm/5.0 mm drill sleeve.
2
Attach reduction handle

Instruments

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>328.020</td>
<td>Reduction Handle, toothed, for 5.0 mm Threaded Rod</td>
</tr>
<tr>
<td>328.100</td>
<td>11.0 mm Protection Sleeve, slotted</td>
</tr>
<tr>
<td>328.150</td>
<td>Adjusting Nut, for 5.0 mm Threaded Rod</td>
</tr>
<tr>
<td>328.160</td>
<td>5.0 mm Threaded Rod, self-drilling tip</td>
</tr>
</tbody>
</table>

Slide the toothed reduction handle over the threaded rod and through the 11.0 mm slotted protection sleeve to the bone.

Slide the adjusting nut over the threaded rod and tighten it onto the reduction handle.

**Note:** Tightening the adjusting nut excessively may cause the threaded rod to strip out of the bone.

Remove the protection sleeve by sliding back the release. A second toothed reduction handle can be attached using the same technique.
Toothed Reduction Handles (Bicortical) for Enhanced Rotational Stability

3
Reduce fracture

Instruments

| **390.005** | Large Combination Clamp |
| **394.84** | 11.0 mm Carbon Fiber Rod, or 250 mm or 350 mm |
| **394.86** | |

If needed, apply large combination clamps and an 11.0 mm carbon fiber rod without tightening the construct.

Reduce the fragments.

4
Temporary fixation

Instrument

| **321.16** | Combination Wrench, 11 mm width across flats |

Using the combination wrench, firmly tighten the combination clamps to temporarily hold the reduction. After definitive treatment of the fracture, remove the reduction instruments.

The large reduction instruments are shown in these illustrations. Use the same technique for the small reduction instruments.

**Note:** Reduction instruments, including threaded rods, are not indicated for postoperative use.

*Also available
Toothed Reduction Handles Before Intramedullary Nailing (Monocortical) for Enhanced Rotational Stability

1

Insert guide wire

Instruments

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>292.655</td>
<td>1.6 mm Guide Wire</td>
</tr>
<tr>
<td>328.100</td>
<td>11.0 mm Protection Sleeve, slotted</td>
</tr>
<tr>
<td>328.120</td>
<td>5.0 mm/1.6 mm Wire Guide</td>
</tr>
<tr>
<td>328.130</td>
<td>11.0 mm/5.0 mm Drill Sleeve</td>
</tr>
<tr>
<td>328.170</td>
<td>5.0 mm Cannulated Threaded Rod, blunt tip</td>
</tr>
</tbody>
</table>

Note: Monocortical technique applies only to the 5.0 mm cannulated threaded rod, blunt tip.

Insert a 1.6 mm guide wire through the drill sleeve system (drill sleeve, wire guide and protection sleeve) and into the bone.

Remove the 5.0 mm/1.6 mm wire guide.

2

Tap

Instrument

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>328.140</td>
<td>Cannulated Tap for 5.0 mm Threaded Rod</td>
</tr>
</tbody>
</table>

Slide the cannulated tap over the guide wire.

Tap the near cortex. Remove the tap.
Toothed Reduction Handles Before Intramedullary Nailing (Monocortical) for Enhanced Rotational Stability

3
Insert blunt threaded rod

Instruments

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>292.655</td>
<td>1.6 mm Guide Wire</td>
</tr>
<tr>
<td>328.130</td>
<td>11.0 mm/5.0 mm Drill Sleeve</td>
</tr>
<tr>
<td>328.170</td>
<td>5.0 mm Cannulated Threaded Rod, blunt tip</td>
</tr>
</tbody>
</table>

Insert the blunt 5.0 mm cannulated threaded rod over the guide wire, through the drill sleeve system and into the near cortex.

Remove the 11.0 mm/5.0 mm drill sleeve.

Remove the guide wire.
4

Attach reduction handle

**Instruments**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>328.020</td>
<td>Reduction Handle, toothed, for 5.0 mm Threaded Rod</td>
</tr>
<tr>
<td>328.100</td>
<td>11.0 mm Protection Sleeve, slotted</td>
</tr>
<tr>
<td>328.150</td>
<td>Adjusting Nut, for 5.0 mm Threaded Rod</td>
</tr>
</tbody>
</table>

Slide the toothed reduction handle over the threaded rod and through the 11.0 mm slotted protection sleeve to the bone.

Slide the adjusting nut over the threaded rod and tighten it onto the reduction handle.

**Note:** Tightening the adjusting nut excessively may cause the threaded rod to strip out of the bone.

Remove the protection sleeve by sliding back the release. A second toothed reduction handle can be attached using the same technique.
Toothed Reduction Handles Before Intramedullary Nailing (Monocortical) for Enhanced Rotational Stability

5

Reduce fracture

Instruments

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>390.005*</td>
<td>Large Combination Clamp</td>
</tr>
<tr>
<td>394.84*</td>
<td>11.0 mm Carbon Fiber Rod,</td>
</tr>
<tr>
<td></td>
<td>or</td>
</tr>
<tr>
<td></td>
<td>250 mm or 350 mm</td>
</tr>
<tr>
<td>394.86*</td>
<td></td>
</tr>
</tbody>
</table>

If needed, apply large combination clamps and an 11.0 mm carbon fiber rod without tightening the construct.

Reduce the fragments.

6

Temporary fixation

Instrument

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>321.16</td>
<td>Combination Wrench, 11 mm width</td>
</tr>
<tr>
<td></td>
<td>across flats</td>
</tr>
</tbody>
</table>

Using the combination wrench, firmly tighten the combination clamps to temporarily hold the reduction.

After definitive treatment of the fracture, remove the reduction instruments.

**Note:** Reduction instruments, including threaded rods, are not indicated for postoperative use.
1
Insert guide wire

**Instruments**

- **292.68** 2.8 mm Threaded Guide Wire, trocar point
- **328.100** 11.0 mm Protection Sleeve, slotted
- **328.110** 11.0 mm/2.8 mm Drill Sleeve

Insert a 2.8 mm threaded guide wire through the drill sleeve system (drill sleeve and protection sleeve) and into the far cortex.

Remove the 11.0 mm/2.8 mm drill sleeve.

2
Attach reduction handle

**Instruments**

- **314.14** Large Hexagonal Key, for large screws
- **328.030** Reduction Handle, rounded, for 2.8 mm Guide Wire
- **328.100** 11.0 mm Protection Sleeve, slotted

Slide the rounded reduction handle over the guide wire and through the 11.0 mm slotted protection sleeve to the bone.

Firmly tighten the clamping screw on the reduction handle using the large hexagonal key.

Remove the protection sleeve by sliding back the release.

A second rounded reduction handle can be attached using the same technique.
3

Reduce fracture

Instruments

| 390.005* | Large Combination Clamp |
| 394.84* | 11.0 mm Carbon Fiber Rod, or 250 mm or 350 mm |
| 394.86* |

If needed, apply large combination clamps and an 11.0 mm carbon fiber rod without tightening the construct.

Reduce the fragments.

Note: Excessive force can strip the guide wire out of the bone.

4

Temporary fixation

Instrument

| 321.16 | Combination Wrench, 11 mm width across flats |

Using the combination wrench, firmly tighten the combination clamps to temporarily hold the reduction.

After definitive treatment of the fracture, remove the reduction instruments.

The large reduction instruments are shown in these illustrations. Use the same technique for the small reduction instruments.

Note: Reduction instruments, including guide wires, are not indicated for postoperative use.

*Also available
1

Insert soft tissue retractors

Instruments

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>321.158</td>
<td>Combination Wrench, 8 mm width across flats</td>
</tr>
<tr>
<td>321.16</td>
<td>Combination Wrench, 11 mm width across flats</td>
</tr>
<tr>
<td>325.010</td>
<td>Soft Tissue Retractor, small, extendible</td>
</tr>
<tr>
<td>328.010</td>
<td>Soft Tissue Retractor, large, extendible</td>
</tr>
</tbody>
</table>

Optional instruments

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>328.011</td>
<td>Small Soft Tissue Retractor Blade, long</td>
</tr>
<tr>
<td>328.012</td>
<td>Large Soft Tissue Retractor Blade, long</td>
</tr>
</tbody>
</table>

To adjust the length of the soft tissue retractors, loosen the clamping sleeve with a combination wrench. Use the 11 mm combination wrench for the large retractor or the 8 mm combination wrench for the small retractor. Slide the blade within the handle to an appropriate length and tighten the clamping sleeve.

**Warning:** Do not over tighten the clamping sleeve as this could lead to breakage.

Do not extend the blade beyond the line marked “max”.

Insert the soft tissue retractor through an incision to prepare a cavity for percutaneous plate insertion.
Plate Insertion Technique

2

Assemble plate holder

Option 1: For straight plates

Instruments

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>314.14</td>
<td>Large Hexagonal Key, for large screws</td>
</tr>
<tr>
<td>328.040</td>
<td>Plate Holder, for Minimally Invasive Plating</td>
</tr>
<tr>
<td>325.041</td>
<td>Clamping Foot, for 328.040, for 3.5 mm LCP</td>
</tr>
<tr>
<td>or</td>
<td>for 3.5 mm LC-DCP</td>
</tr>
<tr>
<td>328.041</td>
<td>Clamping Foot, for 328.040, for 4.5 mm/5.0 mm</td>
</tr>
<tr>
<td>or</td>
<td>Narrow LCP and 4.5 mm Narrow LC-DCP</td>
</tr>
<tr>
<td>328.042</td>
<td>Clamping Foot, for 328.040, for 4.5 mm/5.0 mm</td>
</tr>
<tr>
<td>or</td>
<td>Broad LCP and 4.5 mm Broad LC-DCP</td>
</tr>
<tr>
<td>328.044</td>
<td>Connecting Screw, for 328.040</td>
</tr>
</tbody>
</table>

Push the connecting screw through the plate holder until it clicks into place (1).

Insert a clamping foot into the plate holder (2).

Engage the connecting screw into the clamping foot, but do not fully tighten it (3).

Slide the selected plate into the clamping foot (4).

Firmly tighten the connecting screw with a large hexagonal key (5).
Option 2: For contoured plates

**Instruments**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>328.335</td>
<td>Connecting Screw, for 3.5 mm LCP plates</td>
</tr>
<tr>
<td>328.345</td>
<td>Connecting Screw, for 4.5 mm/5.0 mm LCP plates</td>
</tr>
<tr>
<td>328.040</td>
<td>Plate Holder, for Minimally Invasive Plating</td>
</tr>
<tr>
<td>328.310, 328.311</td>
<td>Clamping Foot, for 328.040, for 2.7 mm/3.5 mm LCP Medial Distal Tibia, right</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>328.330, 328.331</td>
<td>Clamping Foot, for 328.040, for 3.5 mm LCP Lateral Proximal Tibia, left</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>328.340, 328.341</td>
<td>Clamping Foot, for 328.040, for 4.5 mm/5.0 mm Lateral Proximal Tibia, left</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>328.344</td>
<td>Adjusting Nut, for 328.335 and 328.345</td>
</tr>
</tbody>
</table>

Thread the appropriate connecting screw into the plate (1).

Slide the appropriate clamping foot over the connecting screw (2).

Slide the plate holder over the connecting screw and clamping foot (3).

Screw the adjusting nut to the connecting screw and firmly tighten to the plate holder (4).
3  
**Insert plate**

4  
**Remove plate holder**

**Instrument**

| 314.14 | Large Hexagonal Key, for large screws |

**To remove plate holder from straight plates:**
Use the large hexagonal key to remove the connecting screw from the plate holder. Remove the plate holder from the clamping foot. Slide the clamping foot from the plate.

**To remove plate holder from contoured plates:**
Unscrew the adjusting nut from the connecting screw. Slide the plate holder and clamping foot from the connecting screw. Remove the connecting screw from the plate.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>292.655</td>
<td>1.6 mm Guide Wire, 410 mm</td>
</tr>
<tr>
<td>292.68</td>
<td>2.8 mm Threaded Guide Wire, trocar point, 300 mm</td>
</tr>
<tr>
<td>292.72</td>
<td>1.6 mm Threaded Guide Wire, 150 mm</td>
</tr>
<tr>
<td>325.020</td>
<td>Reduction Handle, toothed, for 3.0 mm Threaded Rod</td>
</tr>
<tr>
<td>325.030</td>
<td>Reduction Handle, rounded, for 1.6 mm Guide Wire</td>
</tr>
<tr>
<td>325.070</td>
<td>8.0 mm Protection Sleeve, slotted</td>
</tr>
<tr>
<td>325.080</td>
<td>8.0 mm/1.6 mm Drill Sleeve</td>
</tr>
</tbody>
</table>
## Reduction Instruments

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>325.100</td>
<td>8.0 mm/3.0 mm Drill Sleeve</td>
</tr>
<tr>
<td>325.150</td>
<td>Adjusting Nut, for 3.0 mm Threaded Rod</td>
</tr>
<tr>
<td>325.160</td>
<td>3.0 mm Threaded Rod, self-drilling tip, 270 mm</td>
</tr>
<tr>
<td>328.020</td>
<td>Reduction Handle, toothed, for 5.0 mm Threaded Rod</td>
</tr>
<tr>
<td>328.030</td>
<td>Reduction Handle, rounded, for 2.8 mm Guide Wire</td>
</tr>
<tr>
<td>328.100</td>
<td>11.0 mm Protection Sleeve, slotted</td>
</tr>
</tbody>
</table>
328.110 11.0 mm/2.8 mm Drill Sleeve

328.120 5.0 mm/1.6 mm Wire Guide

328.130 11.0 mm/5.0 mm Drill Sleeve

328.140 Cannulated Tap for 5.0 mm Threaded Rod, 195 mm

328.150 Adjusting Nut, for 5.0 mm Threaded Rod

328.160 5.0 mm Threaded Rod, self-drilling tip, 380 mm

328.170 5.0 mm Cannulated Threaded Rod, blunt tip, 1.6 mm cannulation, 335 mm
# Plate Insertion Instruments

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>325.010</td>
<td>Soft Tissue Retractor, small, extendible</td>
</tr>
<tr>
<td>325.041</td>
<td>Clamping Foot, for 328.040, for 3.5 mm LCP and 3.5 mm LC-DCP</td>
</tr>
<tr>
<td>328.010</td>
<td>Soft Tissue Retractor, large, extendible</td>
</tr>
<tr>
<td>328.011</td>
<td>Small Soft Tissue Retractor Blade, long</td>
</tr>
<tr>
<td>328.012</td>
<td>Large Soft Tissue Retractor Blade, long</td>
</tr>
<tr>
<td>328.040</td>
<td>Plate Holder, for Minimally Invasive Plating</td>
</tr>
<tr>
<td>328.041</td>
<td>Clamping Foot, for 328.040, for 4.5 mm/5.0 mm Narrow LCP and 4.5 mm Narrow LC-DCP</td>
</tr>
</tbody>
</table>
328.042  Clamping Foot, for 328.040, for 4.5 mm/5.0 mm Broad LCP and 4.5 mm Broad LC-DCP

328.044  Connecting Screw, for 328.040

328.310  Clamping Foot, for 328.040, for 2.7 mm/3.5 mm LCP Medial Distal Tibia, right

328.311  Clamping Foot, for 328.040, for 2.7 mm/3.5 mm LCP Medial Distal Tibia, left

328.330  Clamping Foot, for 328.040, for 3.5 mm LCP Lateral Proximal Tibia, right

328.331  Clamping Foot, for 328.040, for 3.5 mm LCP Lateral Proximal Tibia, left
## Plate Insertion Instruments

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>328.335</td>
<td>Connecting Screw, for 3.5 mm LCP plates</td>
<td><img src="image" alt="Image" /></td>
</tr>
<tr>
<td>328.340</td>
<td>Clamping Foot, for 328.040, for 4.5 mm/5.0 mm Lateral Proximal Tibia, right</td>
<td><img src="image" alt="Image" /></td>
</tr>
<tr>
<td>328.341</td>
<td>Clamping Foot, for 328.040, for 4.5 mm/5.0 mm Lateral Proximal Tibia, left</td>
<td><img src="image" alt="Image" /></td>
</tr>
<tr>
<td>328.344</td>
<td>Adjusting Nut, for 328.355 and 328.345</td>
<td><img src="image" alt="Image" /></td>
</tr>
<tr>
<td>328.345</td>
<td>Connecting Screw, for 4.5 mm/5.0 mm LCP plates</td>
<td><img src="image" alt="Image" /></td>
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</tbody>
</table>
Minimally Invasive Reduction and Plate Insertion Instrument Set (135.292)

Graphic Case Components
690.487 Lid for Minimally Invasive Reduction and Plate Insertion Instrument Set
690.488 Tray for Minimally Invasive Reduction Handles, large
690.913 Three Level Graphic Case Base, 510 mm x 250 mm
690.918 Tray for Minimally Invasive Reduction Handles, small
690.919 Tray for Minimally Invasive Plate Insertion

Instruments
292.655 1.6 mm Guide Wire, 410 mm, 4 ea.
292.68 2.8 mm Threaded Guide Wire, trocar point, 300 mm, 4 ea.
292.72 1.6 mm Threaded Guide Wire, 150 mm, 4 ea.
314.14 Large Hexagonal Key, for large screws, 2 ea.
314.16 Small Hexagonal Key, for 2.7 mm and small screws
321.158 Combination Wrench, 8 mm width across flats
321.16 Combination Wrench, 11 mm width across flats, 2 ea.
325.010 Soft Tissue Retractor, small, extendible
325.020 Reduction Handle, toothed, for 3.0 mm Threaded Rod, 2 ea.
325.030 Reduction Handle, rounded, for 1.6 mm Guide Wire, 2 ea.
325.041 Clamping Foot, for 328.040, for 3.5 mm LCP and 3.5 mm LC-DCP
325.070 8.0 mm Protection Sleeve, slotted
325.080 8.0 mm/1.6 mm Drill Sleeve
325.100 8.0 mm/3.0 mm Drill Sleeve
325.150 Adjusting Nut, for 3.0 mm Threaded Rod, 2 ea.
325.160 3.0 mm Threaded Rod, self-drilling tip, 270 mm, 4 ea.
328.010 Soft Tissue Retractor Large, extendible
328.011 Small Soft Tissue Retractor Blade, long
328.012 Large Soft Tissue Retractor Blade, long
328.020 Reduction Handle, toothed, for 5.0 mm Threaded Rod, 2 ea.

Note: For additional information, please refer to package insert.

For detailed cleaning and sterilization instructions, please refer to http://us.synthes.com/Medical+Community/Cleaning+and+Sterilization.htm or to the below listed inserts, which will be included in the shipping container:
—Processing Synthes Reusable Medical Devices—Instruments, Instrument Trays and Graphic Cases—DJ1305
—Processing Non-sterile Synthes Implants—DJ1304
### Minimally Invasive Reduction and Plate Insertion
**Instrument Set (135.292)**

<table>
<thead>
<tr>
<th>Item Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>328.030</td>
<td>Reduction Handle, rounded, for 2.8 mm Guide Wire, 2 ea.</td>
</tr>
<tr>
<td>328.040</td>
<td>Plate Holder, for Minimally Invasive Plating</td>
</tr>
<tr>
<td>328.041</td>
<td>Clamping Foot, for 328.040, for 4.5 mm/5.0 mm Narrow LCP and 4.5 mm Narrow LC-DCP</td>
</tr>
<tr>
<td>328.042</td>
<td>Clamping Foot, for 328.040, for 4.5 mm/5.0 mm Broad LCP and 4.5 mm Broad LC-DCP</td>
</tr>
<tr>
<td>328.044</td>
<td>Connecting Screw, for 328.040</td>
</tr>
<tr>
<td>328.100</td>
<td>11.0 mm Protection Sleeve, slotted</td>
</tr>
<tr>
<td>328.110</td>
<td>11.0 mm/2.8 mm Drill Sleeve</td>
</tr>
<tr>
<td>328.120</td>
<td>5.0 mm/1.6 mm Wire Guide</td>
</tr>
<tr>
<td>328.130</td>
<td>11.0 mm/5.0 mm Drill Sleeve</td>
</tr>
<tr>
<td>328.140</td>
<td>Cannulated Tap for 5.0 mm Threaded Rod, 195 mm</td>
</tr>
<tr>
<td>328.150</td>
<td>Adjusting Nut, for 5.0 mm Threaded Rod, 2 ea.</td>
</tr>
<tr>
<td>328.160</td>
<td>5.0 mm Threaded Rod, self-drilling tip, 380 mm, 4 ea.</td>
</tr>
<tr>
<td>328.170</td>
<td>5.0 mm Cannulated Threaded Rod, blunt tip, 335 mm, 2 ea.</td>
</tr>
<tr>
<td>328.310</td>
<td>Clamping Foot, for 328.040, for 2.7 mm/3.5 mm LCP Medial Distal Tibia, right</td>
</tr>
<tr>
<td>328.311</td>
<td>Clamping Foot, for 328.040, for 2.7 mm/3.5 mm LCP Medial Distal Tibia, left</td>
</tr>
<tr>
<td>328.330</td>
<td>Clamping Foot, for 328.040, for 3.5 mm LCP Lateral Proximal Tibia, right</td>
</tr>
<tr>
<td>328.331</td>
<td>Clamping Foot, for 328.040, for 3.5 mm LCP Lateral Proximal Tibia, left</td>
</tr>
<tr>
<td>328.335</td>
<td>Connecting Screw, for 3.5 mm LCP plates</td>
</tr>
<tr>
<td>328.340</td>
<td>Clamping Foot, for 328.040, for 4.5 mm/5.0 mm Lateral Proximal Tibia, right</td>
</tr>
<tr>
<td>328.341</td>
<td>Clamping Foot, for 328.040, for 4.5 mm/5.0 mm Lateral Proximal Tibia, left</td>
</tr>
<tr>
<td>328.344</td>
<td>Adjusting Nut, for 328.335 and 328.345</td>
</tr>
<tr>
<td>328.345</td>
<td>Connecting Screw, for 4.5 mm/5.0 mm LCP plates</td>
</tr>
</tbody>
</table>

**Note:** For additional information, please refer to package insert.

For detailed cleaning and sterilization instructions, please refer to http://us.synthes.com/Medical+Community/Cleaning+and+Sterilization.htm or to the below listed inserts, which will be included in the shipping container:

— **Processing Synthes Reusable Medical Devices—Instruments, Instrument Trays and Graphic Cases—DJ1305**
— **Processing Non-sterile Synthes Implants—DJ1304**
### Graphic Case Components

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>690.487</td>
<td>Lid for Minimally Invasive Reduction and Plate Insertion Instrument Set</td>
</tr>
<tr>
<td>690.488</td>
<td>Tray for Minimally Invasive Reduction Handles, large</td>
</tr>
<tr>
<td>690.911</td>
<td>Single Level Graphic Case Base, 510 mm x 250 mm</td>
</tr>
</tbody>
</table>

### Instruments

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>292.655</td>
<td>1.6 mm Guide Wire, 410 mm, 4 ea.</td>
</tr>
<tr>
<td>292.68</td>
<td>2.8 mm Threaded Guide Wire, trocar point, 300 mm, 4 ea.</td>
</tr>
<tr>
<td>314.14</td>
<td>Large Hexagonal Key, for large screws</td>
</tr>
<tr>
<td>321.16</td>
<td>Combination Wrench, 11 mm width across flats</td>
</tr>
<tr>
<td>328.020</td>
<td>Reduction Handle, toothed, for 5.0 mm Threaded Rod, 2 ea.</td>
</tr>
<tr>
<td>328.030</td>
<td>Reduction Handle, rounded, for 2.8 mm Guide Wire, 2 ea.</td>
</tr>
<tr>
<td>328.100</td>
<td>11.0 mm Protection Sleeve, slotted</td>
</tr>
<tr>
<td>328.110</td>
<td>11.0 mm/2.8 mm Drill Sleeve</td>
</tr>
<tr>
<td>328.120</td>
<td>5.0 mm/1.6 mm Wire Guide</td>
</tr>
<tr>
<td>328.130</td>
<td>11.0 mm/5.0 mm Drill Sleeve</td>
</tr>
<tr>
<td>328.140</td>
<td>Cannulated Tap for 5.0 mm Threaded Rod, 195 mm</td>
</tr>
<tr>
<td>328.150</td>
<td>Adjusting Nut, for 5.0 mm Threaded Rod, 2 ea.</td>
</tr>
<tr>
<td>328.160</td>
<td>5.0 mm Threaded Rod, self-drilling tip, 380 mm, 4 ea.</td>
</tr>
<tr>
<td>328.170</td>
<td>5.0 mm Cannulated Threaded Rod, blunt tip, 335 mm, 2 ea.</td>
</tr>
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</table>
### Graphic Case Components

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<th>Description</th>
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<tbody>
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<td>690.487</td>
<td>Lid for Minimally Invasive Reduction and Plate Insertion Instrument Set</td>
</tr>
<tr>
<td>690.911</td>
<td>Single Level Graphic Case Base, 510 mm x 250 mm</td>
</tr>
<tr>
<td>690.918</td>
<td>Tray for Minimally Invasive Reduction Handles, small</td>
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</table>

### Instruments

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>292.72</td>
<td>1.6 mm Threaded Guide Wire, 150 mm, 4 ea.</td>
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<tr>
<td>314.16</td>
<td>Small Hexagonal Key, for 2.7 mm and small screws</td>
</tr>
<tr>
<td>325.020</td>
<td>Reduction Handle, toothed, for 3.0 mm Threaded Rod, 2 ea.</td>
</tr>
<tr>
<td>325.030</td>
<td>Reduction Handle, rounded, for 1.6 mm Guide Wire, 2 ea.</td>
</tr>
<tr>
<td>325.070</td>
<td>8.0 mm Protection Sleeve, slotted</td>
</tr>
<tr>
<td>325.080</td>
<td>8.0 mm/1.6 mm Drill Sleeve</td>
</tr>
<tr>
<td>325.100</td>
<td>8.0 mm/3.0 mm Drill Sleeve</td>
</tr>
<tr>
<td>325.150</td>
<td>Adjusting Nut, for 3.0 mm Threaded Rod, 2 ea.</td>
</tr>
<tr>
<td>325.160</td>
<td>3.0 mm Threaded Rod, self-drilling tip, 270 mm, 4 ea.</td>
</tr>
</tbody>
</table>
Minimally Invasive Plate Insertion Set (135.294)

**Graphic Case Components**

- 690.487 Lid for Minimally Invasive Reduction and Plate Insertion Instrument Set
- 690.911 Single Level Graphic Case Base, 510 mm x 250 mm
- 690.919 Tray for Minimally Invasive Plate Insertion

**Instruments**

- 314.14 Large Hexagonal Key, for large screws
- 321.158 Combination Wrench, 8 mm width across flats
- 321.16 Combination Wrench, 11 mm width across flats
- 325.010 Soft Tissue Retractor, small, extendible
- 325.041 Clamping Foot, for 328.040, for 3.5 mm LCP and 3.5 mm LC-DCP
- 328.010 Soft Tissue Retractor, large, extendible
- 328.011 Small Soft Tissue Retractor Blade, long
- 328.012 Large Soft Tissue Retractor Blade, long
- 328.040 Plate Holder, for Minimally Invasive Plating
- 328.041 Clamping Foot, for 328.040, for 4.5 mm/5.0 mm Narrow LCP and 4.5 mm Narrow LC-DCP
- 328.042 Clamping Foot, for 328.040, for 4.5 mm/5.0 mm Broad LCP and 4.5 mm Broad LC-DCP
- 328.044 Connecting Screw, for 328.040
- 328.310 Clamping Foot, for 328.040, for 2.7 mm/3.5 mm LCP Medial Distal Tibia, right
- 328.311 Clamping Foot, for 328.040, for 2.7 mm/3.5 mm LCP Medial Distal Tibia, left
- 328.330 Clamping Foot, for 328.040, for 3.5 mm LCP Lateral Proximal Tibia, right
- 328.331 Clamping Foot, for 328.040, for 3.5 mm LCP Lateral Proximal Tibia, left
- 328.335 Connecting Screw, for 3.5 mm LCP plates
- 328.340 Clamping Foot, for 328.040, for 4.5 mm/5.0 mm Lateral Proximal Tibia, right
- 328.341 Clamping Foot, for 328.040, for 4.5 mm/5.0 mm Lateral Proximal Tibia, left
- 328.344 Adjusting Nut, for 328.335 and 328.345
- 328.345 Connecting Screw, for 4.5 mm/5.0 mm LCP plates
Also Available

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>390.005</td>
<td>Large Combination Clamp</td>
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<tr>
<td>390.031</td>
<td>Medium Combination Clamp</td>
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<tr>
<td>394.84</td>
<td>11.0 mm Carbon Fiber Rod, 250 mm</td>
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<tr>
<td>394.86</td>
<td>11.0 mm Carbon Fiber Rod, 350 mm</td>
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<tr>
<td>395.779</td>
<td>8.0 mm Carbon Fiber Rod, 160 mm</td>
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<tr>
<td>395.786</td>
<td>8.0 mm Carbon Fiber Rod, 240 mm</td>
</tr>
</tbody>
</table>

MRI Conditions

Synthes MR Conditional devices have been tested for safety in an MR environment. The MR environment is described as the general environment present in the vicinity of an MR scanner and/or anywhere in the procedure room, including the center of the bore of the MR scanner. Testing was performed to determine displacement force, torque and RF heating induced in Synthes devices by the magnetic field of the MR scanner.

Testing was performed in compliance with ASTM F2052, ASTM F2213 and ASTM F2182. Induced displacement force was measured in 3.0 T active shielded MR scanners at a maximum spatial gradient of 45 mT/cm. The measured value was found to be lower than the acceptable limit established by ASTM F2052. Induced torque was measured in a 3.0 T active shielded MR scanner, and the measured value was found to be lower than the acceptable limit established by ASTM F2213. Testing for RF heating per ASTM F2182 was performed, and the measured value was found to be lower than the acceptable limit when normalized to an SAR of 2.0 W/kg.

<table>
<thead>
<tr>
<th>Field conditions</th>
<th>1.5 T Scanner</th>
<th>3 T Scanner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field strength (T)</td>
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<td>3</td>
</tr>
<tr>
<td>SAR value (W/kg)</td>
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<td>2.0</td>
</tr>
<tr>
<td>dB/dt (T/sec)</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

Note: The above field conditions should be compared with those of the user’s MR system in order to determine if the item can safely be brought into the user’s MR environment. If placed in the bore of the MR scanner during scanning, Synthes MR Conditional External Fixation devices may have the potential to cause artifact in the diagnostic imaging.

WARNINGS

All components of Synthes External Fixation frames must be identified as MR Conditional prior to being placed in or near an MR environment.

Note: Synthes Medium External Fixation devices are considered MR Safe per ASTM F2503-05, approved in 2005. Synthes Large External Fixation devices are considered MR Conditional per ASTM F2503-08, approved in 2008.