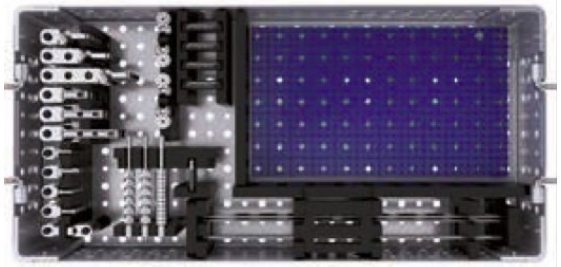
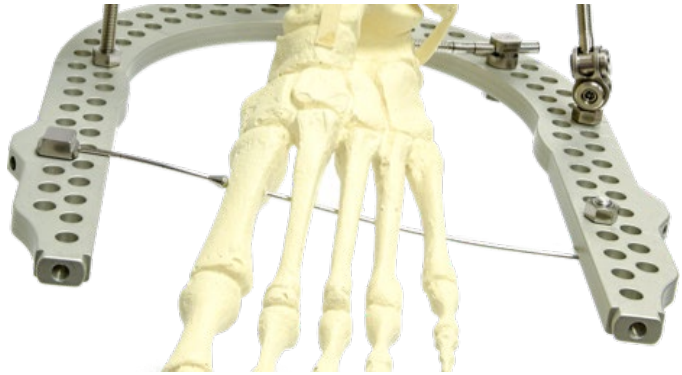
TrueLok™

Ring Fixation System

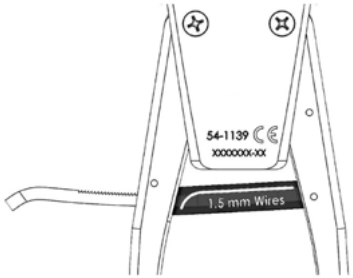
TL+ FOOT & ANKLE KIT

Product Description	Images	Typical Application
TL+ Foot & Ankle Elements Kit		▪ Provides increased functionality when framing foot and ankle deformities ▪ Allows customized assembly of hinges and angular distractors ▪ Permits use of included 1.5mm wires with existing TL wire tensioners ▪ Provides ample tray space to hold additional components or instruments
TL Plus Bayonet Wire with olive **Part Number** 54-1217 **Size** Ø 1.5mm x 300mm		Additional 1.5mm wires are provided on the tray which can be useful when fixing small bones of the foot and ankle. Standard 1.8mm wires with and without olive are provided on the standard TL+ Fixation Elements tray. 
TL Plus Bayonet Wire without olive **Part Number** 54-1218 **Size** Ø 1.5mm x 300mm		

TL Plus Tension Limiter

Part Number
54-1141

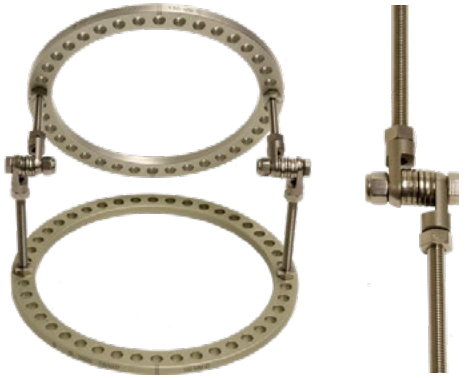
The TL Plus Tension Limiter can be used with the TL Wire Tensioner to limit tension to 90kg when using 1.5mm diameter wires.



TL Plus Washer 4mm Thick

Part Number
54-1143

The **TL Plus Washer 4mm Thick** can be chosen as a thicker alternative to the 2mm thick TL Washer 54-1142 which is already available on the TL+ Fixation Elements tray. The 4mm option can be used in many of the same applications such as building up to wires or for creating offset hinges between two rings of different diameters as shown below.

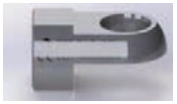


TL Plus Hinge Female High Profile

Part Number
56-24050

TL Plus Hinge Female Low Profile

Part Number
56-24051



Both Low and High profile TL Plus Female Hinges are available to create uni-planar hinges. The female option allows connection to a threaded rod and is secured with a 10mm nut (shown in the hinge below).

The axis of the hinge is created with a 16mm bolt (54-1010 available on TL+ Fixation Elements tray) and nylon insert nut (50-1010). The nut is left slightly loose to allow motion or alternatively tightened to lock the hinge.

TL Plus 90° Hinge High Profile

Part Number
56-24060

TL Plus 90° Hinge Low Profile

Part Number
56-24061

The high and low profile 90 degrees hinges can be used to create a multi-planar hinge. They can also be used in the same way as TL Plus Twisted Plates and TL Plus 90° Plates (see below) to connect elements in different planes.

TL Plus Hinge Male High Profile

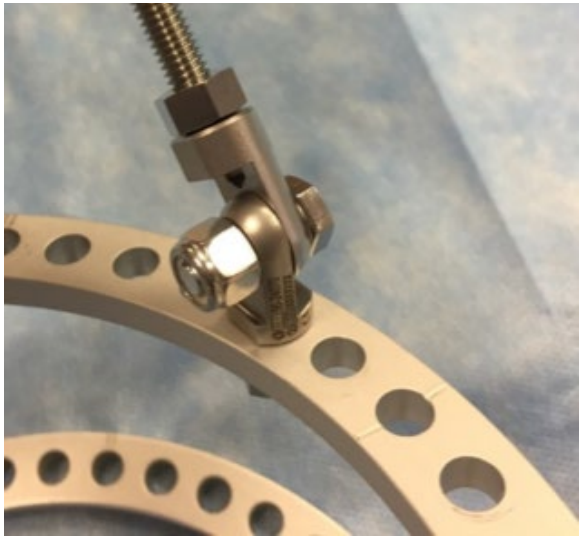
Part Number
56-24070

Both Low and High profile TL Plus Male Hinges are also available to create uni-planar hinges. The Male option allows direct connection to any component with a hole such as a ring (shown in lower part of hinge below).

The axis of the hinge is created with a 16mm bolt (54-1010 available on TL+ Fixation Elements tray) and nylon insert nut (50-1010). The nut is left slightly loose to allow motion or tightened to lock the hinge.

TL Plus Hinge Male Low Profile

Part Number
56-24071

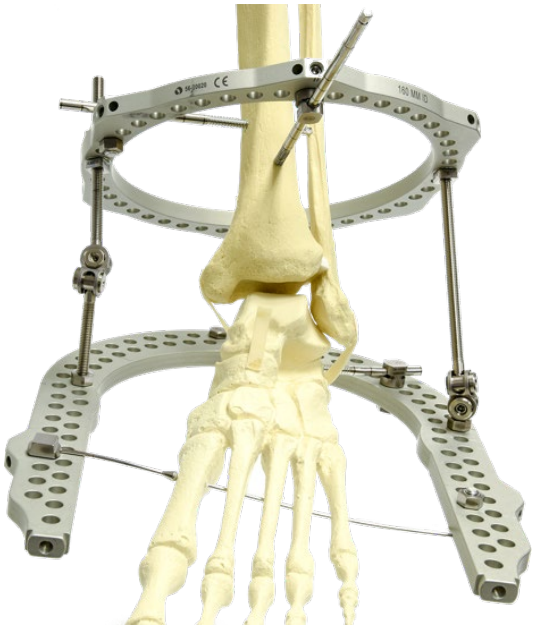


TL Plus Non-Lockable Universal Joint

Part Number
51-10420

The Non-Lockable Universal Joint is provided on the F&A elements kit as an addition to the existing Universal Hinge 55-1176.

Whereas the Universal Hinge has one normal threaded insert and one cam-insert, the non-lockable joint has two cam-inserts.
The benefits of the non-lockable version are not only speed of threaded rod attachment but more importantly the ability to leave the hinge free to move in both planes. This is compared to the Universal Hinge which in order to be secure must have a nut tightened against the hinge body restricting the movement.



TL Plus Threaded Hinge Rod

Part Number
51-10290
Length
30mm

30mm threaded hinge rods are provided on the F&A Elements Kit tray to be used in conjunction with the Non-Lockable Universal Joint.

Further to 30mm, 60mm, 100mm and 150mm Threaded Hinge Rods can be found on TL+ Hinges and Distractors Tray.

These threaded rods are inserted into each rotating end of the Universal Joint and cam-locked with a 1/8" allen wrench.

TL Plus Nylon Insert Nut

Part Number
50-1010

The Nylon Insert Nut can be used in applications such as building hinges. The nut can be left tight to lock movement or left loose (without falling off) to allow movement.
The nylon portion of the nut grips the thread even if it has not been tightened which stops the construct coming undone. A normal 10mm nut cannot achieve this.

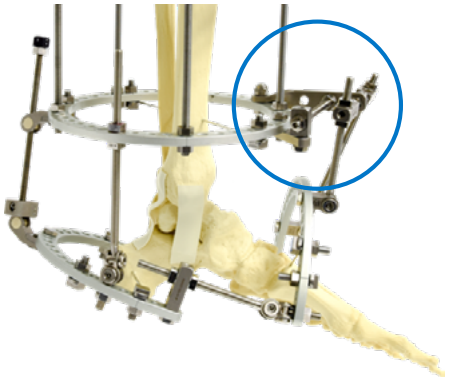
TL Plus Twisted Plate

54-11670 2 Holes

54-11680 3 Holes

54-11690 4 Holes

The Twisted Plate is used to connect elements from one plane to another such as in the T-Module of a club-foot frame. There are 2, 3, and 4 hole options and the twisted plate in this instance facilitates lateral movement of the forefoot shown below.



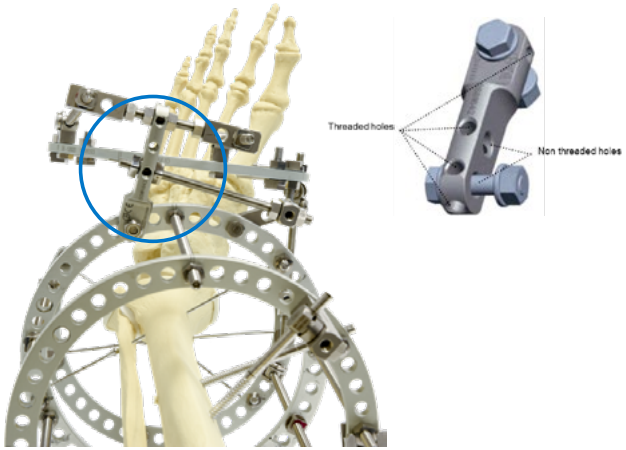
TL Plus 90° Plate

81641 1 Holes

81642 2 Holes

81643 3 Holes

The 90° Plate is used in similar applications to the Twisted plate as shown below. The 1, 2 and 3 hole 90° Plates are slightly thicker due to its additional threaded holes available on the edges.



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