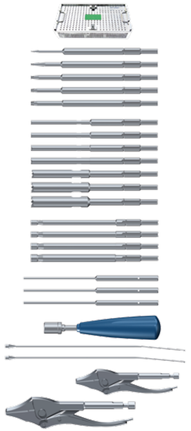
Ordering Information - Instruments



REF	Description
Universal Emergency Screw Extraction Devices	
1806-6153	Module 2 Fully Loaded
1806-6151	Tray Module 2 (Generic Sterilization and Storage Tray)
1806-6169	Conical Extractor, male, small
1806-6170	Conical Extractor, male, Ø 2.5mm
1806-6171	Conical Extractor, male, Ø 3.5mm
1806-6172	Conical Extractor, male, Ø 4.0mm
1806-6173	Conical Extractor, male, Ø 5.0mm
1806-6165	Crowndrill (Trephine), Ø 3.0mm
1806-6166	Crowndrill (Trephine), Ø 4.0mm
1806-6167	Crowndrill (Trephine), Ø 5.0mm
1806-6168	Crowndrill (Trephine), Ø 6.5mm
1806-6180	Crowndrill (Trephine), Ø 8.0mm
1806-6181	Crowndrill (Trephine), Ø 10.0mm
1806-6182	Crowndrill (Trephine), Ø 12.0mm
1806-6183	Conical Extractor, female, Ø 3.0mm
1806-6184	Conical Extractor, female, Ø 4.0mm
1806-6185	Conical Extractor, female, Ø 5.0mm
1806-6186	Conical Extractor, female, Ø 6.3mm
1806-6175	Drift Punch, Ø 2.7mm
1806-6176	Drift Punch, Ø 3.7mm
1806-6177	Drift Punch, Ø 5.0mm
1806-6102	Handle solid
1806-6160	Extraction Hook (can also be stored in Module 1), small
1806-6162	Extraction Hook (can also be stored in Module 1), large
1806-6178	Forceps for Screw Removal, small
1806-6179	Forceps for Screw Removal, large

Optional Instruments Module 1 & 2

700151	Sharp Hook, Removal from bone material
700225	Osteotome, Removal from bone material
702811	Countersink Ø 6mm, Preparing the cortex
702812	Countersink Ø 8mm, Preparing the cortex
704515	Outer Introducer, Hansson Pin
704516	Inner Introducer, Hansson Pin
704518	Extractor, Hansson Pin
704540	Emergency Inner Extractor, Hansson Pin
704607	Extractor Handle, Hansson Twin Hook
704608	Outer Extractor, Hansson Twin Hook
704609	Inner Extractor, Hansson Twin Hook
702628	T-Handle, AO-medium, for AO medium bits: screwdriver - screw removal, conical - crowndrill - screw extraction, conical
0106-3043	Screwdriver 2.5, Seidel Humerus Spreading Screw
1806-6206	Gamma3 U-Blade Extractor

This publication sets forth detailed recommended procedures for using Extraction Devices for Stryker Trauma implants and instruments.

It offers guidance that you should heed, but, as with any such technical guide, each surgeon must consider the particular needs of each patient and make appropriate adjustments when and as required.

A workshop training is required prior to first surgery.

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www.osteosynthesis.stryker.com

Literature Number: **B1000055**
LOT **B2208**

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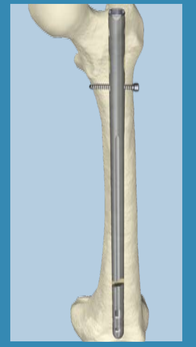
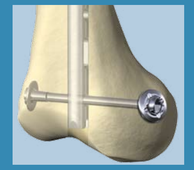
Implant Extraction Set
Quick Reference Guide

Module 1 & 2





Ordering Information - Instruments

REF	Description
1806-6152	Module 1 Fully loaded
1806-6150	Tray Module 1 (Generic Sterilization and Storage Tray)
Universal Screw Extraction Devices	
1806-6106	Screwdriver Bits conical, hex. Ø 2.5mm
1806-6108	Screwdriver Bits conical, hex. Ø 3.5mm
1806-6110	Screwdriver Bits conical, hex. Ø 4.0mm
1806-6112	Screwdriver Bits, hex. Ø 5.0mm
1806-6114	Screwdriver Bits, hex. Ø 6.3mm
1806-6116	Screwdriver Bits, hex. Ø 8.0mm
1806-6118	Screwdriver Bits, Torx T 8.0mm
1806-6119	Screwdriver Bits, Torx T 15.0mm
1806-6120	Screwdriver Bits, Torx T 20.0mm
1806-6121	Screwdriver Bits, Torx T 25.0mm
1806-6113	Spreading Screwdriver Bit, hex. Ø 5.0mm
1806-6115	Spreading Screwdriver Bit, hex. Ø 6.3mm
1806-6117	Spreading Screwdriver Bit, hex. Ø 8.0mm
1806-6102	Handle solid
1806-6104	Handle cannulated with Rotation Rod
Universal Nail Extraction Device	
1806-0353	Conical Extraction Rod, standard Ø 6mm
1806-0350	Conical Extraction Rod, standard Ø 7/ 8mm
1806-6125	Conical Extraction Rod, Ø 10mm
1806-6130	Conical Extraction Rod, male, Ø 13mm
1806-0130	Wrench 8/ 10mm, standard
1806-0150	Strike Plate, standard
1806-6100	Sliding Hammer
1806-0110	Universal Rod
1806-0170	Slotted Hammer, standard
Universal Lag Screw Extraction Device	
1806-6140	Connector Gamma
1806-6141	Connector Gamma U-Blade
1806-6142	Connector Gamma3 U-Blade
1806-6144	Connector Gamma3
1806-6143	Connector Dyax-Asiatic
1806-6146	Connector Omega
1806-6148	Connector OHS/ OCS
1806-6136	Threaded Rod Gamma etc.
1806-6137	Threaded Rod Omega
1806-6138	Threaded Rod OHS/ OCS
1114-5002	Spanner 17mm standard
1806-6135	Extraction Instrument Lag Screw
1806-6139	Nut

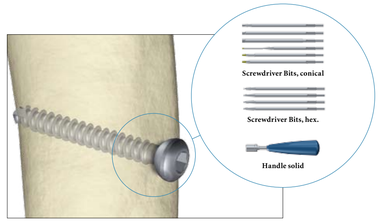
Screw Extraction

Screws

After identifying screw type and diameter, extract the screws with the appropriate screwdriver bit and handle by turning the screwdriver counterclockwise.
To avoid damaging the screw, make sure the screwdriver is in line with the screw axis.

Partially threaded screw removal (e.g. Asnis III screws, T2 Recon Lag Screws) is facilitated by using the spreading screwdriver bits and cannulated handle. For spreading screwdriver instruction see Condyle Screw removal on page 4.

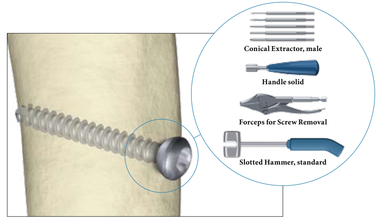
Stryker offers a wide variety of hex (standard, conical, spreading) and torx screwdrivers. Check the available type and size on the Ordering Information page.



Damaged screw head

Firmly insert the appropriate sized conical extractor (based on the size of the screw head hex/ torx) counter clockwise into the screw head. Lightly tap the extractor with a hammer if purchase is not initially obtained with manual pressure.

Assemble the selected conical extractor with the handle and turn counter clockwise while applying pressure in line with the screw axis, extracting the screw at the same time. In case the screw does not come out completely, use the forceps to complete the extraction.

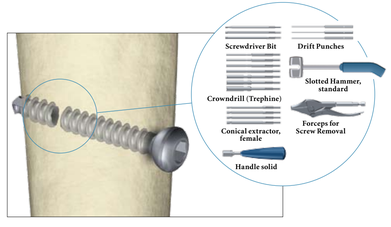


Broken screws

Remove the screw head portion first in order to get access to the remaining part of the screw shaft.
The screw head can be removed with the adequate screwdriver as described above.

Remove the remaining part of the screw shaft:
- directly with the female conical extractor, if the remaining part of the screw shaft is proud enough on the cortex or,
- using the appropriate crowndrill first in order to create enough space for the female conical extractor/ drift punch.

It may be necessary to start out with light pressure on the crowndrill in order to avoid that the drill walks on the cortex surface before applying the necessary force to penetrate the bone. Light tapping with the hammer might be required but it remains at the surgeons' own discretion if and how hard he uses the hammer.



Alternatively, the optional countersink (Ø 6 or Ø 8mm) can be used to create a path for the crowndrill.

Screw, Plate & Lag Screw Extraction

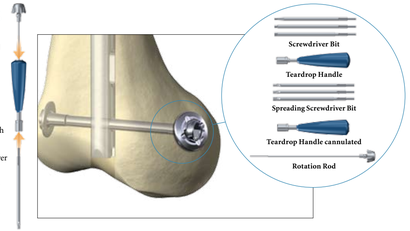
Condyle Screws

Assemble the necessary screwdrivers:
- one 6.3Hex screwdriver bit with the solid teardrop handle (for the T2/S2 nut)
- one 6.3Hex spreading screwdriver bit with the cannulated teardrop handle (in combination with the rotation rod). Make sure to tighten the rotation rod until the tip of the screwdriver spreads apart and fits into the screw head.

A screwdriver needs to be inserted from each side of the condyle screw in order to avoid gyration. Use the standard screwdriver to stabilize the nut and the spreading screwdriver to loosen and extract the condyle screw.

If necessary, use the spreading screwdriver to remove the nut in a second step.

The condyle screw is extracted by counter-clockwise turning of the screwdriver.

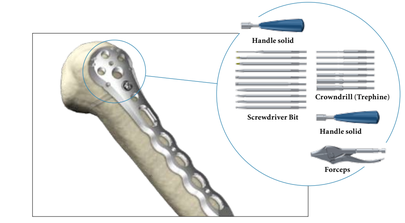


Plates

To remove any plate, first take out the screws by using the adequate screwdriver bits. Remove the plate.

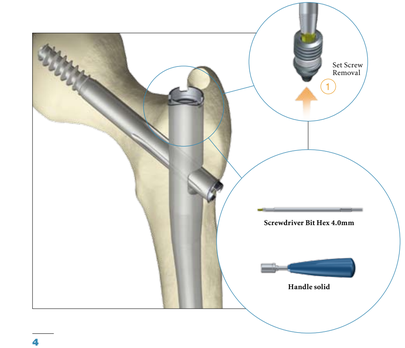
When damaged screws are encountered, the procedures on the previous page can be applied.

Please make sure to first remove any screw head then remove the plate before applying the aforementioned procedures for broken screw shaft removal.



Lag Screw Extraction

The End Cap, if used, is removed using the adequate Screwdriver Bit before taking out the Set Screw as shown in the picture ①.



Lag Screw Extraction continued

Lag Screw Extraction

Check that ingrowth does not hinder secure engagement of the Extraction Device, otherwise the implant or the instrument may be damaged and extraction will be much more difficult.

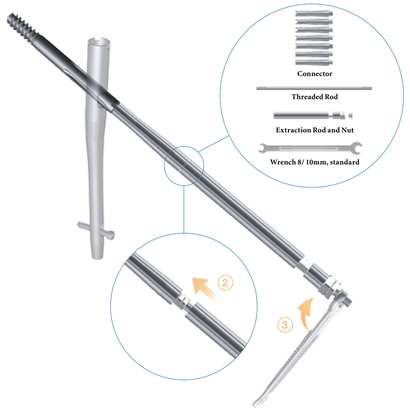
Only for Gamma implants: postion the K-Wire through the Lag Screw.

The Threaded Rod is inserted over the K-Wire (when used for Gamma) and tightened into the end of the Lag Screw.

Remove the K-Wire, if used.

Slide the appropriate Connector over the Threaded Rod before adding the Extraction Rod as shown in the picture ②.

Note:
The Gamma3 Lag Screw is chosen as an example to demonstrate the Lag Screw removal. However, different Connectors are available for other implants including a Lag Screw. See details on the ordering information page.

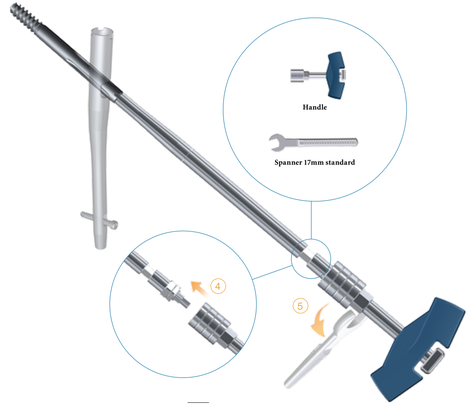


Finish the assembly of the Lag Screw Extraction Device by tightening the nut ③ and attaching the T-Handle in a final step ④.

The Lag Screw is extracted by turning counter-clockwise direction.

Use the 17mm Spanner if higher forces are required for the removal of the Lag Screw ⑤.

Note:
After screw removal, HydroSet HA injectible cement can be used to fill the remaining bone voids. Carefully read the IFU, the specific indications and the contraindications.



Nail Extraction

IM Nails

The end cap, if used, is removed using a screwdriver. In case that ingrowth obstructs the access to the nail using the crowndrill might help to remove it.

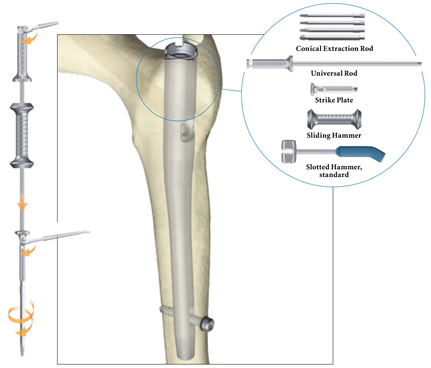
Remove the distal/proximal screw with the adequate screwdriver bit. Do not take out the screws of the driving end until you have attached the conical extraction rod to the top of the nail in order to avoid gyration.

Insert the conical extraction rod into the driving end of the nail.

Surgeon may need to hammer conical extractor lightly in order to get full thread cutting.

Connect the strike plate and the universal rod either adding the sliding or the slotted hammer as shown in the picture.

Remove now the remaining locking screws before using either hammer to slap out the nail.



Broken Nails

To remove the driving end part of the broken nail, proceed as described above. Make sure to leave a locking screw inside the nail until assembly and insertion of the Extraction Device in order to avoid rotation of the nail at the driving end.

After removal of the driving end nail part exchange the conical extraction rod for the extraction hook. Insert this into the cannulation of the nail fragment.

Under image intensification verify that the hook has passed through. Make sure that the hook takes a hold at the end of the nail before pulling to remove it.