SURGICAL TECHNIQUE GUIDE

FALCON™

Anterior Cervical Plate System

ChoiceSpine™

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Table of Contents

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Anterior Cervical Plate System

Introduction

The Falcon™ Cervical Plate System is designed to simplify anterior cervical spinal fusion with a no step locking mechanism. The Falcon cervical plate features a sleek design for easy insertion and large graft windows for enhanced visual confirmation.

System Features

- Large window for optimal visualization
- Simple no -step locking clip for fast screw insertion and locking
- Self-drilling and self-tapping, fixed and variable angle screws for maximum purchase
- Large assortment of plate lengths to accommodate a variety of patient anatomies (1-4 level Plates)
- Screw lengths: 10-16mm Variable and Fixed Angle screws, self-drilling and self-tapping

Exposure

A 2-4 centimeter transverse incision is made in the neck, just off the midline. The cervical fascia is gently divided in a natural plane. Small retractors are used to allow the surgeon to visualize the anterior body and discs. An X-ray confirms that the appropriate spine level has been reached.

The decompression is performed. A rongeur is used to remove any arthritic, hypertrophic bone spurs from the endplates to create a smooth surface for the cervical plate to fit flush on the spinal column. The surrounding area is also checked for any loose disc fragments.

The size of the empty space is measured and the appropriate interbody is selected and filled with graft material **(Figure 1)**.

Figure 1 Exposure

Positioning the Plate

Select the appropriate sized Falcon Anterior Cervical Plate (available in lengths 10-84mm, for one level through four level procedures) and affix it to the spinal column to ensure that the plate fits on the spinal column. After the plate is properly positioned, a temporary **Fixation Pin (A070-0028)** may be inserted into the center fixation hole to facilitate alignment **(Figure 2)**.

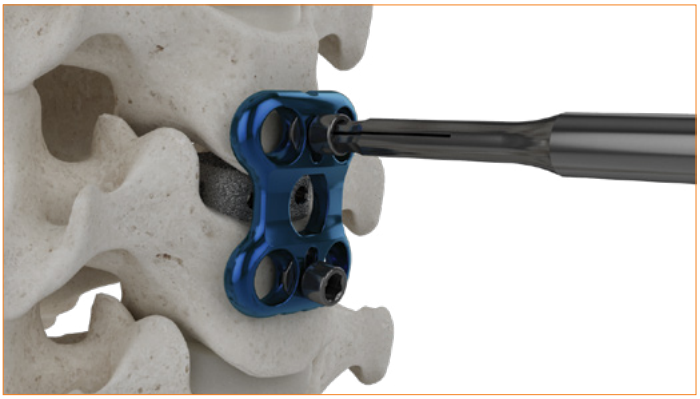


Figure 2
Temporary Fixation Securing Pins

The Falcon Cervical Plate is pre-contoured but can be bent so that the plate fits appropriately on the spine. To contour the plate: insert the plate into the **Plate Bender (A070-0006)** and align the "bend zones" on the plate with the bending template. Use caution when bending and straightening the plate as too much bending will weaken the cervical plate **(Figure 3)**.

Figure 3
Plate Bender

Screw Hole Preparation

The **Awl (A070-0012)** tip can be locked out of the sleeve so that it works like a fixed **Awl.** The **Awl** tip at the top is in the unlocked position **(Figure 4).** The bottom **Awl** tip is in the locked position **(Figure 5).** Gently push down on this instrument to penetrate the cortex of the vertebral body to create a pilot hole for the screw **(Figure 6).**

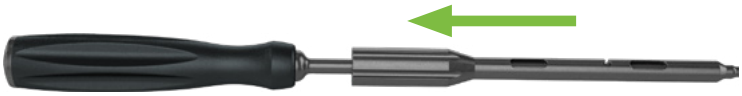


Figure 4
Unlocked Awl

Figure 5
Locked Awl

Determine the screw to be used and select the appropriate drill and guide to prepare a pathway for the screw. Drills are available in Ø2.1mm and 10, 12, 14, 16mm lengths **(A070-0D10 thru A070- 0D16).** Select the appropriate drill according to the length of the screw selected. Attach the **Drill** to the **Quick Connect Handle (A070- 0008) (Figure 7).** Select the **Fixed Drill Guide (A070-0002)** or the **Variable Angle Drill Guide (A070-0016)** according to the screw selected (fixed or variable angle) and place into the desired screw hole, making sure it is properly seated. Rotate the **Drill** clockwise to drill to the desired length. The **Drill** will stop at the labeled length **(Figure 8).**

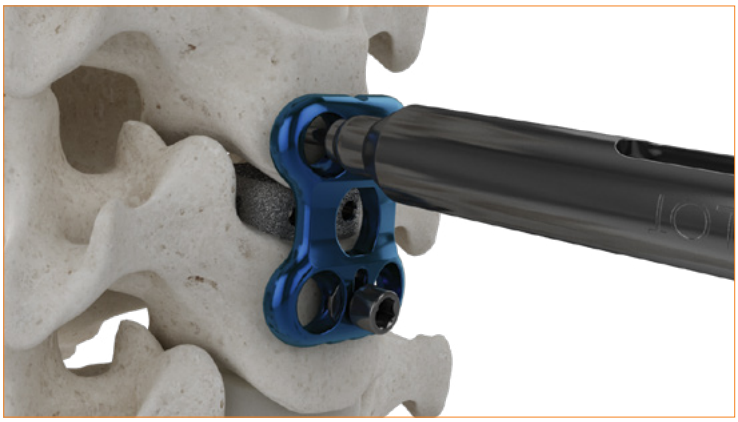


Figure 6
Awl - Screw Prep

Figure 7
Drill

*NOTE: If desired, the **Tap (A070-0T10)** is attached to the Quick Connect handle and can be used to prepare a pathway for the screw*

Figure 8
Drill - Screw Prep

Screw Placement

Select the appropriate diameter and length screw and attach it to the **Screwdriver (A070-0026) (Figure 9)**. The **Drill Guide** will allow the surgeon to angulate the screws in the proper orientation when used properly. Make sure to stay under the limits of screw angulation **(Figures 10 & 11)** so that the locking mechanism can be engaged to cover a portion of the screw. Advance the screw until it is fully seated in the plate and covered by the locking mechanism. The locking mechanism is engaged when it covers a portion of the screw head (Figure 12). Insert the remaining screws to secure the plate **(Figure 13)**. With multi-level procedures, the central screws are placed first. This anchors the plate and establishes the location for the upper and lower screws. After the second middle screw is fully seated, tighten both screws completely and observe the locking mechanism.

WARNING: CARE MUST BE TAKEN NOT TO ANGLE THE SCREW BEYOND THE PRESCRIBED INSERTION ANGLES.

Figure 9

Variable Screw

Cranial-Caudal Screw Angulation

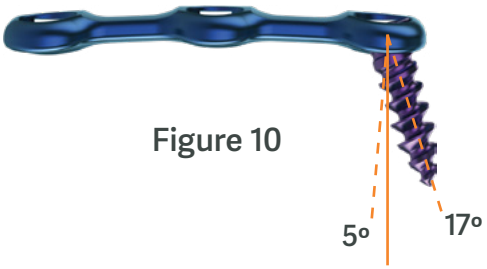
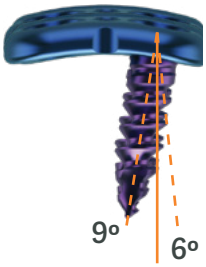


Figure 10

22° Total

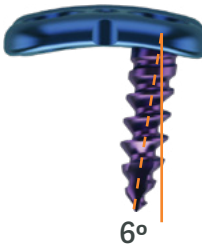
Medial-Lateral Screw Angulation



15° Total

Fixed Screw

Figure 11



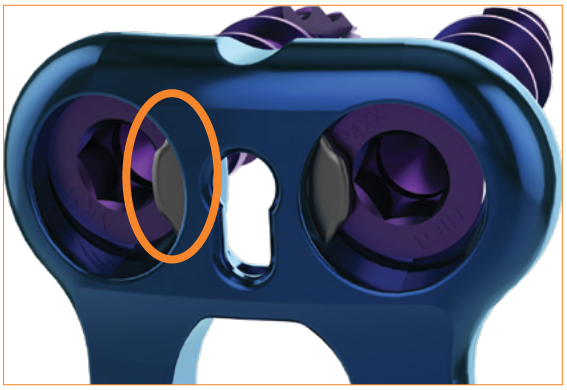


Figure 12
Locking Mechanism

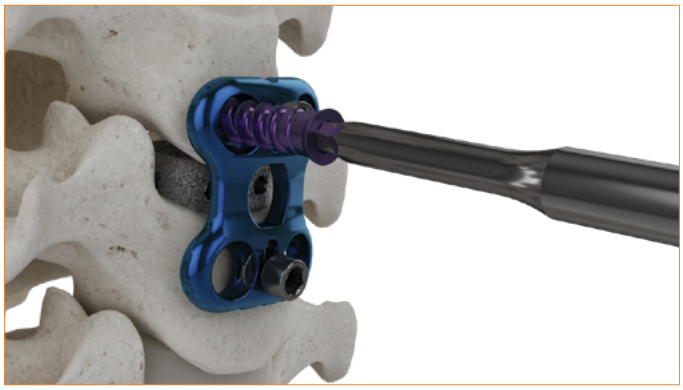


Figure 13
Screw Placement

Adjusting the Locking Mechanism to Secure Screw Placement

Visually confirm screw the retention clip partially covers the screw head. If the retention mechanism does not expand to cover a portion of the screw head, then insert the **Clip Expansion Tool (A070-0009) (Figure 14)** into the central fixation pin holes. Rotate it to assist the clip in moving lateral to cover over the screw head **(Figures 15 and16).**

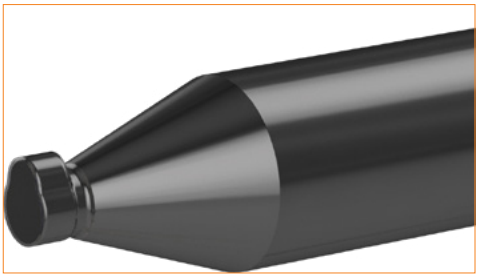


Figure 14
Clip Expansion Tool

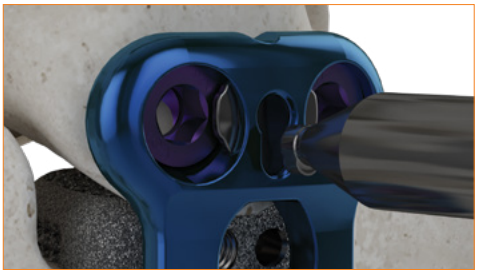


Figure 15

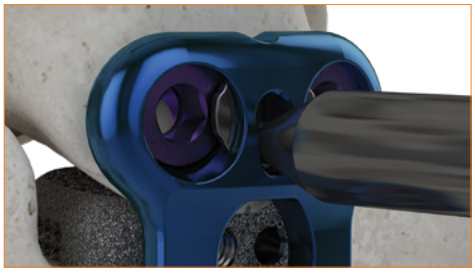


Figure 16

Figure 17a

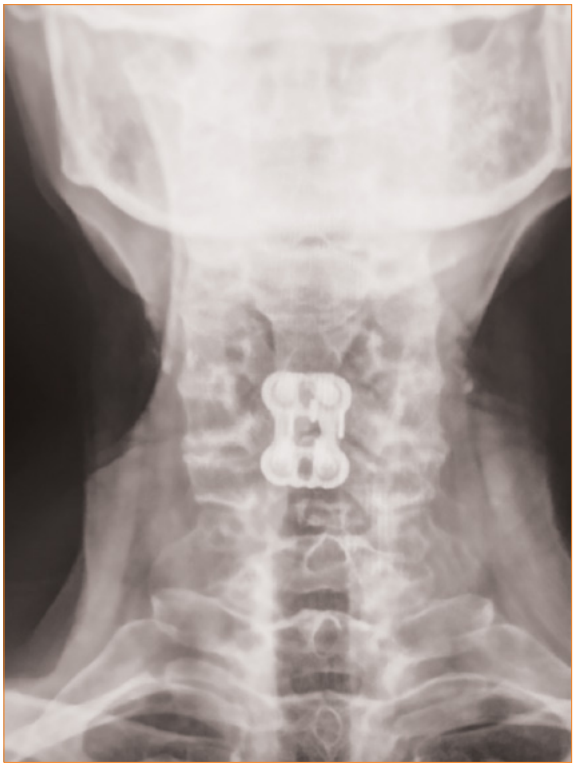


Figure 17b

NOTE: Confirm proper placement and alignment with lateral and A/P X-ray (Figures 17a and 17b).

Implant Removal

It may be necessary to reposition the screws in the Falcon Cervical Plate during the surgery. It can be removed and repositioned in the proper orientation. The **Screw Removal Instrument (A070-0024)** is necessary to accomplish this.

- Disassemble the **Screw Removal Instrument** into its inner and outer shaft components: **(Figures 18a and 18b)**
- Make sure the flat face on the distal tip of the outer shaft faces medial so that the distal tip does not impinge the retention clip in the plate.

Outer Shaft

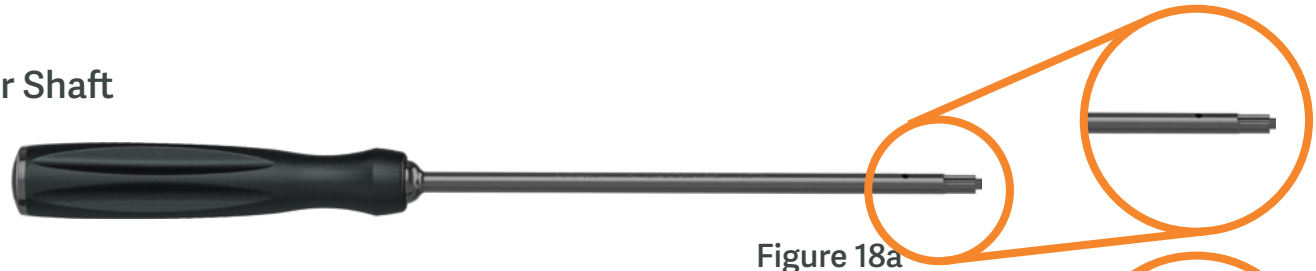


Figure 18a
Distal Tip

Inner Shaft

Figure 18b
Center Pin

Insert the outer shaft with distal tip into the head of the screw. Orient the instrument so it mimics the trajectory of the screw for a precise fit **(Figure 19)**.

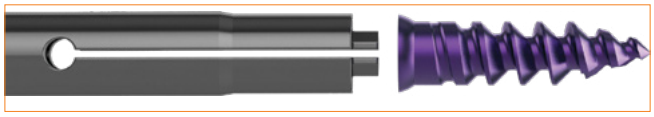


Figure 19

Apply constant downward pressure on the outer shaft while pushing into the screw **(Figure 20)**. Insert the inner shaft through the handle **(Figure 21)** and rotate the inner shaft clockwise **(Figure 22)** until it bottoms out. This action will advance the inner shaft and expand the distal tip, locking the instrument into the screw. Rotate the screw counterclockwise to remove it **(Figure 23)**.

Figure 20
Push

Figure 21
Insert

Figure 22
Rotate to Expand

Figure 23
Rotate to Remove

To remove the screw from the instrument, rotate the inner shaft counterclockwise until it can be extracted. The screw can then be removed from the distal tip, after removing the inner shaft of the **Screw Removal Instrument** (Fig. 24).

Figure 24

If the screw does not back out, reattach the Screw Removal Instrument into the screw, paying close attention to the orientation of the instrument. Always keep pressure on the instrument while advancing the inner shaft.

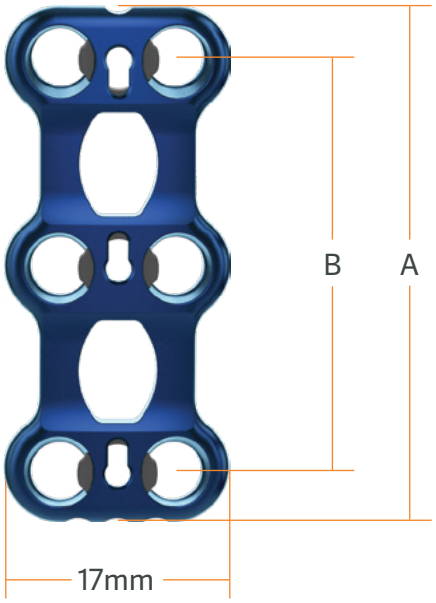
Implant (Screw) Listing

Part Number	Description	Lengths
FT10-BR410	4.0mm Fixed Angle Self Drilling Screws	10mm
FT10-BR412	4.0mm Fixed Angle Self Drilling Screws	12mm
FT10-BR414	4.0mm Fixed Angle Self Drilling Screws	14mm
FT10-BR416	4.0mm Fixed Angle Self Drilling Screws	16mm
FT10-BP410	4.0mm Variable Angle Self Drilling Screws	10mm
FT10-BP412	4.0mm Variable Angle Self Drilling Screws	12mm
FT10-BP414	4.0mm Variable Angle Self Drilling Screws	14mm
FT10-BP416	4.0mm Variable Angle Self Drilling Screws	16mm
FT10-BN410	4.5mm Fixed Angle Self Tapping Screws	10mm
FT10-BN412	4.5mm Fixed Angle Self Tapping Screws	12mm
FT10-BN414	4.5mm Fixed Angle Self Tapping Screws	14mm
FT10-BN416	4.5mm Fixed Angle Self Tapping Screws	16mm
FT10-BL410	4.5mm Variable Angle Self Tapping Screws	10mm
FT10-BL412	4.5mm Variable Angle Self Tapping Screws	12mm
FT10-BL414	4.5mm Variable Angle Self Tapping Screws	14mm
FT10-BL416	4.5mm Variable Angle Self Tapping Screws	16mm
FT10-BH410	4.0mm Fixed Angle Self Tapping Screws	10mm
FT10-BH412	4.0mm Fixed Angle Self Tapping Screws	12mm
FT10-BH414	4.0mm Fixed Angle Self Tapping Screws	14mm
FT10-BH416	4.0mm Fixed Angle Self Tapping Screws	16mm
FT10-BF410	4.0mm Variable Angle Self Tapping Screws	10mm
FT10-BF412	4.0mm Variable Angle Self Tapping Screws	12mm
FT10-BF414	4.0mm Variable Angle Self Tapping Screws	14mm
FT10-BF416	4.0mm Variable Angle Self Tapping Screws	16mm
FT10-BE412	3.75mm Variable Angle Self Drilling Screws	12mm
FT10-BE414	3.75mm Variable Angle Self Drilling Screws	14mm
FT10-BE416	3.75mm Variable Angle Self Drilling Screws	16mm

NOTE: 3.75 mm screws are optional.

Cervical Plate Configurations

Part #	Description	A	B
AT10-1010	10mm 1-Level Anterior Cervical Plate	18	10
AT10-1012	12mm 1-Level Anterior Cervical Plate	20	12
AT10-1014	14mm 1-Level Anterior Cervical Plate	22	14
AT10-1016	16mm 1-Level Anterior Cervical Plate	24	16
AT10-1018	18mm 1-Level Anterior Cervical Plate	26	18
AT10-1020	20mm 1-Level Anterior Cervical Plate	28	20
AT10-1022	22mm 1-Level Anterior Cervical Plate	30	22
AT10-1024	24mm 1-Level Anterior Cervical Plate	32	24
AT10-1026	26mm 1-Level Anterior Cervical Plate	34	26
AT10-2020	20mm 2-Level Anterior Cervical Plate	28	20
AT10-2022	22mm 2-Level Anterior Cervical Plate	30	22
AT10-2024	24mm 2-Level Anterior Cervical Plate	32	24
AT10-2026	26mm 2-Level Anterior Cervical Plate	34	26
AT10-2028	28mm 2-Level Anterior Cervical Plate	36	28
AT10-2030	30mm 2-Level Anterior Cervical Plate	38	30
AT10-2032	32mm 2-Level Anterior Cervical Plate	40	32
AT10-2034	34mm 2-Level Anterior Cervical Plate	42	34
AT10-2036	36mm 2-Level Anterior Cervical Plate	44	36
AT10-2040	40mm 2-Level Anterior Cervical Plate	48	40
AT10-2044	44mm 2-Level Anterior Cervical Plate	52	44
AT10-3040	40mm 3-Level Anterior Cervical Plate	48	40
AT10-3044	44mm 3-Level Anterior Cervical Plate	52	44
AT10-3048	48mm 3-Level Anterior Cervical Plate	56	48
AT10-3050	50mm 3-Level Anterior Cervical Plate	58	50
AT10-3054	54mm 3-Level Anterior Cervical Plate	62	54
AT10-3058	58mm 3-Level Anterior Cervical Plate	66	58
AT10-3062	62mm 3-Level Anterior Cervical Plate	70	62
AT10-4060	60mm 4-Level Anterior Cervical Plate	68	60
AT10-4064	64mm 4-Level Anterior Cervical Plate	72	64
AT10-4068	68mm 4-Level Anterior Cervical Plate	76	68
AT10-4072	72mm 4-Level Anterior Cervical Plate	80	72
AT10-4076	76mm 4-Level Anterior Cervical Plate	84	76
AT10-4080	80mm 4-Level Anterior Cervical Plate	88	80
AT10-4084	84mm 4-Level Anterior Cervical Plate	92	84

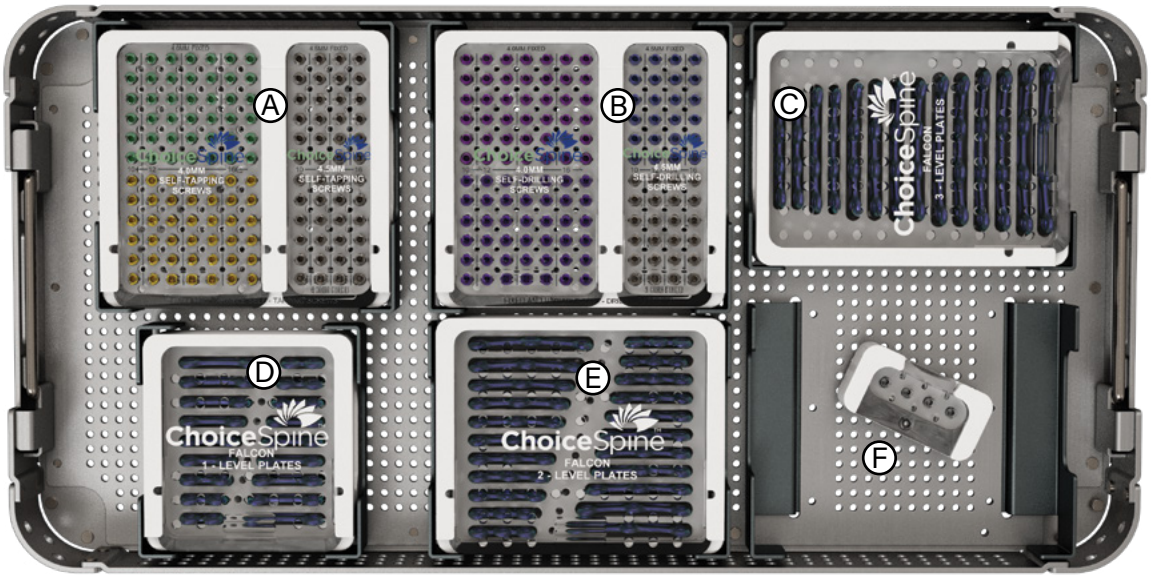


NOTE: 4-Level Plates are optional.

Instrument Listing

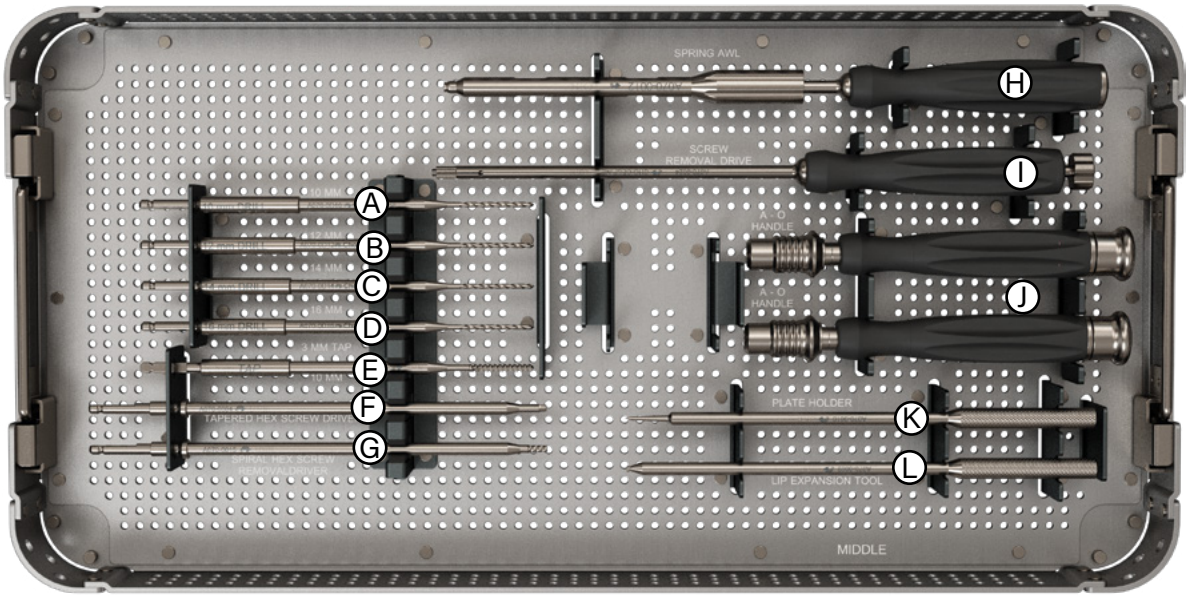
Part Number	Description	Quantity	
A070-0002	Fixed Angle Drill Guide	1	
A070-0028	Temporary Fixation Pin	4	
A070-0006	Plate Bender	1	
A070-0008	Short W/Spin Cap Handle	2	
A070-0009	Clip Expansion Tool	1	
A070-0010	Plate Holder	1	
A070-0012	Awl	1	
A070-0015	Spiral Hex Removal Driver	1	
A070-0016	Variable Angle Drill Guide	1	
A070-0024	Driver, Screw Removal	1	
A070-0026	Driver, Split Tip	2	
A070-0D10	2.1 X 10mm Drill	2	
A070-0D12	2.1 X 12mm Drill	2	
A070-0D14	2.1 X 14mm Drill	2	
A070-0D16	2.1 X 16mm Drill	2	
A070-0T10	3.0 X 10mm Tap	1	

Falcon™ Set - Top Tray



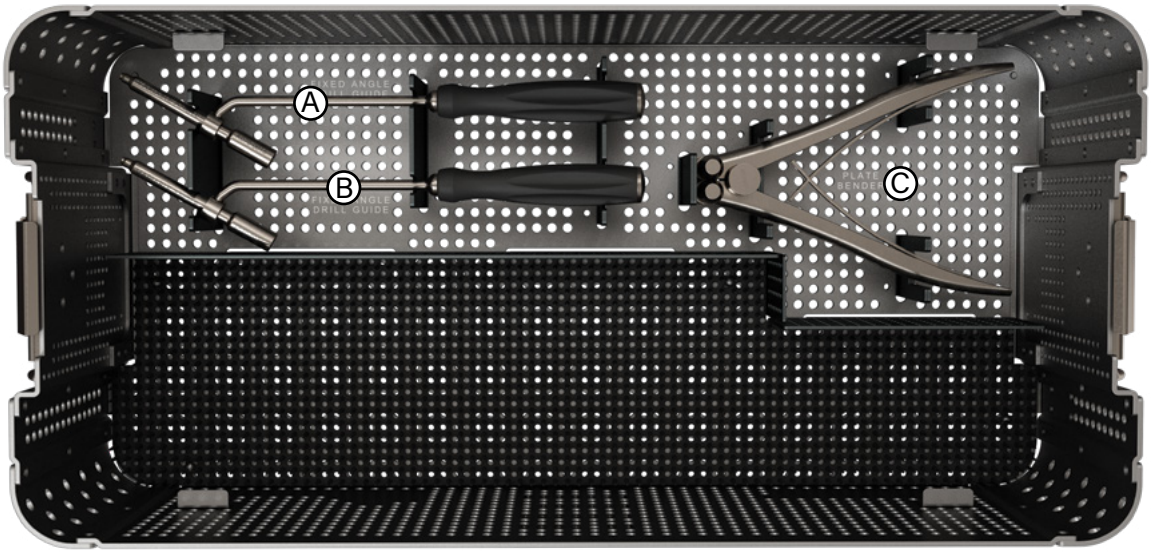
Ⓐ Self-Tapping Screw Caddy
Ⓑ Self-Drilling Screw Caddy
Ⓒ 3-Level Plate Caddy
Ⓓ 1-Level Plate Caddy
Ⓔ 2-Level Plate Caddy
Ⓕ Fixation Pin Caddy (A070-0T10)

Falcon™ Set - Middle Tray



Ⓐ 10 Drill (x2) (A070-0D10)
Ⓑ 12 Drill (x2) (A070-0D12)
Ⓒ 14 Drill (x2) (A070-0D14)
Ⓓ 16 Drill (x2) (A070-0D16)
Ⓔ 10 Tap (A070-0T10)
Ⓕ Split Tip Driver (x2) (A070-0026)
Ⓖ Spiral Hex Screw Remover (A070-0015)
Ⓗ Awl (A070-0012)
Ⓘ Screw Removal Tool (A070-0024)
Ⓙ Short Spin AO Handle (x2) (A070-0008)
Ⓚ Plate Holder(A070-0010)
Ⓛ Clip Expansion Tool (A070-0009)

Falcon™ Set - Bottom Tray



Ⓐ **Variable Angle Drill Guide (A070-0016)**

Ⓑ **Fixed Angle Drill Guide (A070-0002)**

Ⓒ **Plate Bender (A070-0006)**

Notes:

For Instructions for Use please visit https://choicespine-eifu.com/

FALCON™

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Spine the Right Way.™

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400 Erin Drive, Knoxville, TN 37919 | O: 865.246.3333 | F: 865.246.3334 | choicespine.com

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