LOW PROFILE, VARIABLE ANGLE AND NARROW PLATE WIDTH DESIGNED FOR FLEXIBILITY AND ADAPTION TO THE PATIENT'S ANATOMY

G SURGICAL PLATE SYSTEM

G SURGICAL

ANTERIOR CERVICAL PLATE SYSTEM

T LOK SURGICAL TECHNIQUE



G P S

T Lok

LOW PROFILE

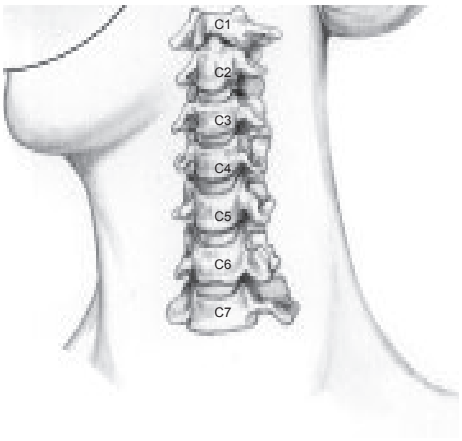
ONE STEP INSERTION

ONE STEP LOCKING

G SURGICAL

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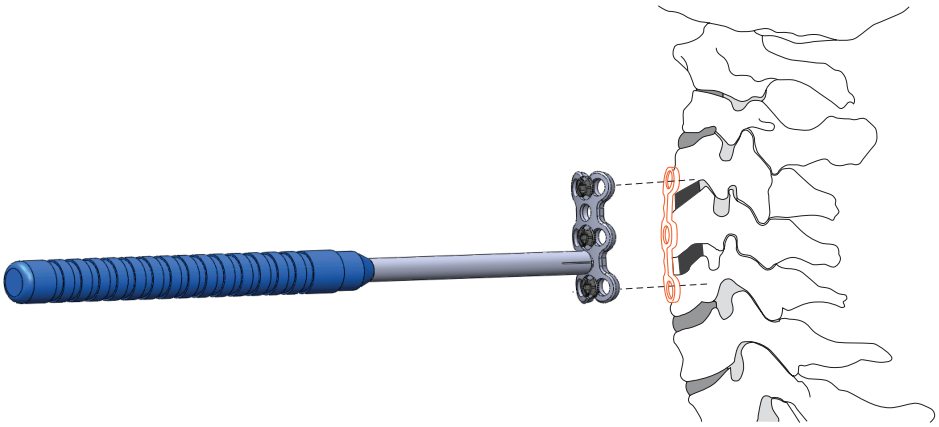
Surgical Approach and Preparation



The surgical approach should utilize anterior exposure for preparation for anterior interbody fusion. A diskectomy and resection of osteophytes is performed. The appropriate graft is inserted and impacted into place. The anterior surface of the spine should be smoothed so the plate fits stable on the bone surface. Distraction should be removed after the graft is positioned and each subsequent disk space is completed. Remove any soft tissue to prevent entrapment when inserting the plate and screws

Plate Selection, T Lok 1, 2, 3 and 4 Level

The appropriate plate size can be determined by using the Cervical Plate Holeder MS6010067 and placing the plate over the vertebral bodies to visually verify the cephalad and caudal holes are in the correct location on the vertebral bodies. Alternatively, accessory instrument CSP0013 may be used to grasp the plate along the perimeter edge.



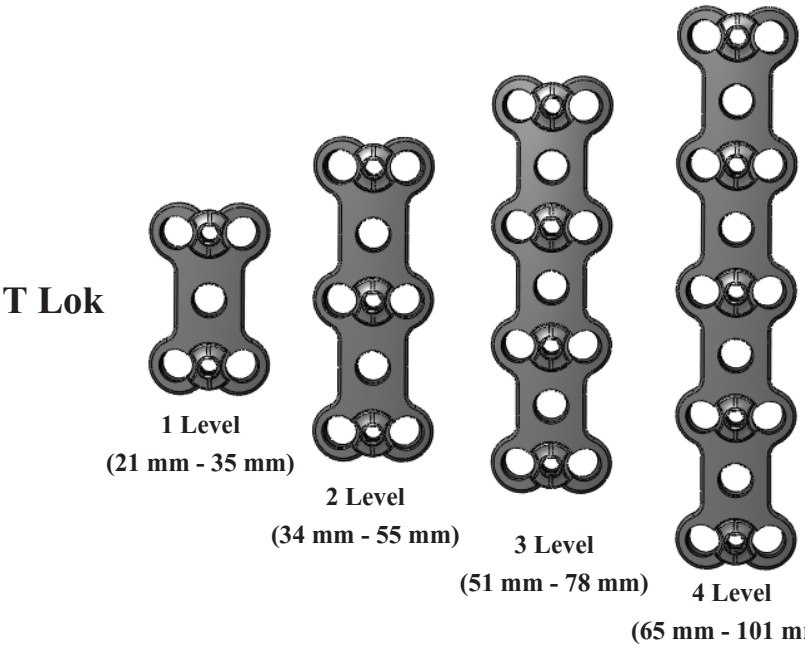
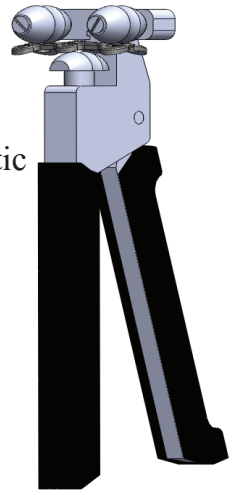
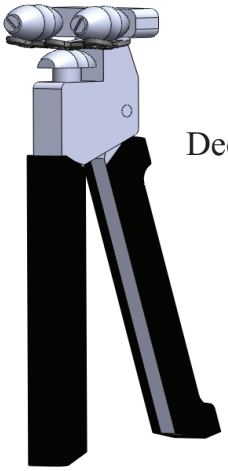


Plate Contouring

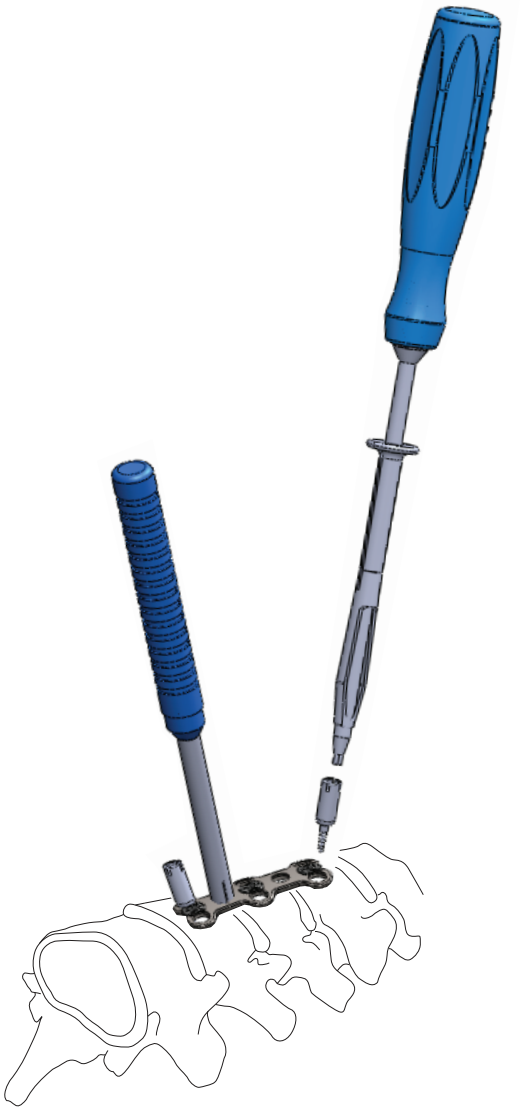
The lordotic plate bender CSP00016, can be use to anatomicaly contour the plate. The T Lok plate is supplied prelordosed. The contour can be adjusted as needed. Do not bend the plate more than once or bend near the holes to prevent distortion of the holes. A slightly longer plate may be required if additional lordotic bending is planned.



Add Lordotic



Decrease Lordotic



Temporary fixation screw insertion

After the appropriate plate has been selected medially/laterally using landmarks, pickup the fixation pin using the T Lok Driver CSP0029. Insert 2 Fixation Pins CSP0004, diagonally into the most cephalad and caudal screw holes. Verify the plate is at the desired midline location visually.

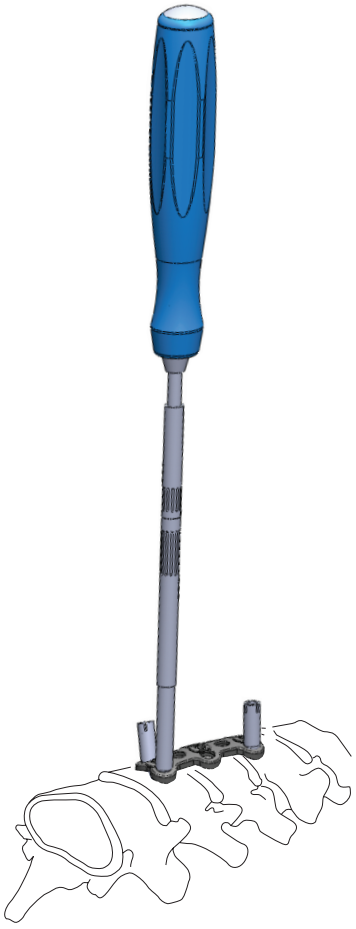


CSP0004 Fixation Pin

Prepare the Holes for Screw Insertion

A. Self Drilling Screws

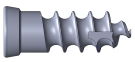
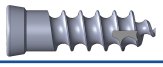
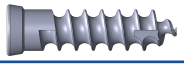
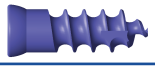
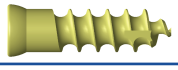
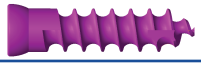
The Awl CSP0003, can be used to perforate the cortex as an alternative to drilling. Insert the awl into one of the available holes. The spring loaded sleeve of the awl limits the depth of penetration determined by seating the awl onto the face of the plate. The sugeon may orientate the awl to the desired position. The convergence angle can vary 0° to 26° if using the variable head screws.



Load the appropriate length screw onto the T Lok Driver CSP0029, and slide the self retaining collar onto the screw head to hold in place. The self drilling screw will follow the preformed path of the awl and form threads in the vertebral body. Continine turning the screw until desired purchase is obtained and the screw head profile is below the plate surface to clear the locking washer.



SELF DRILLING SCREWS

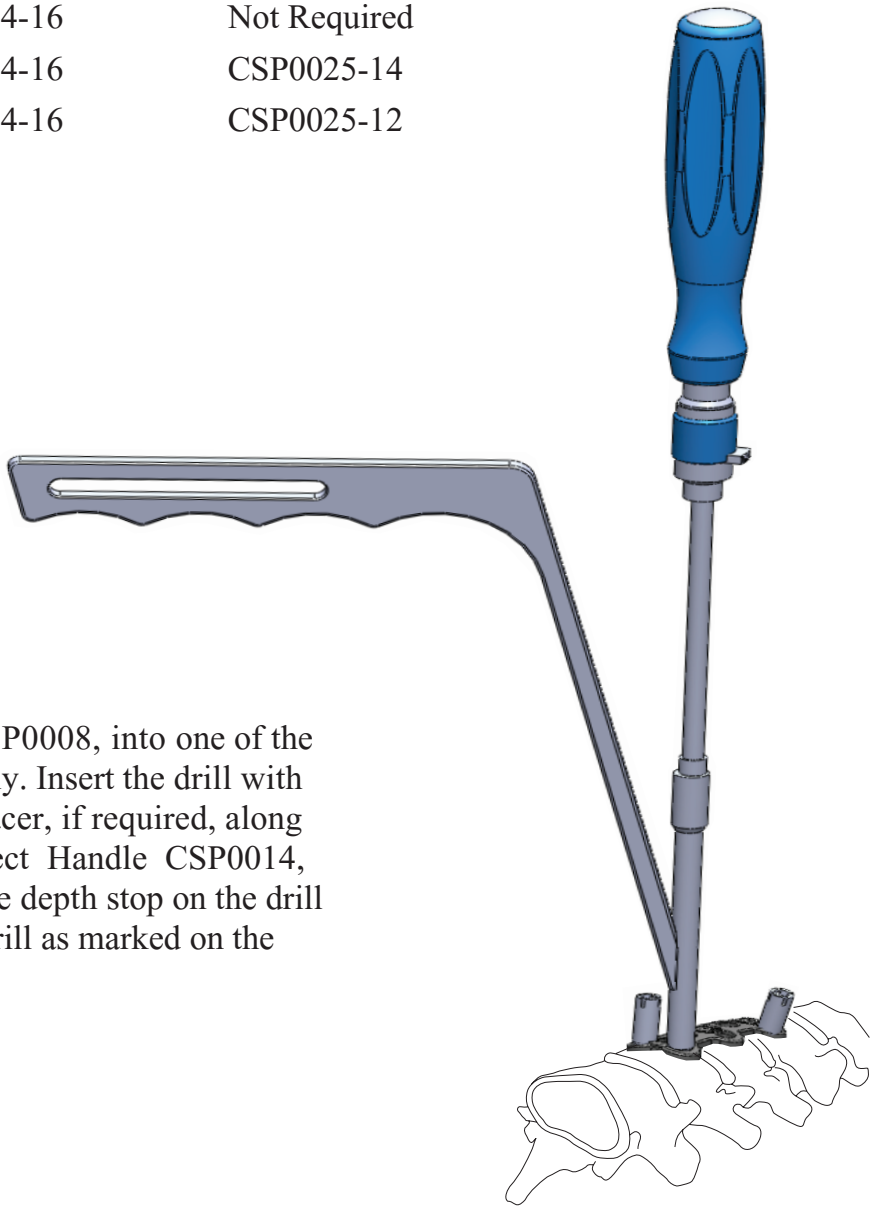
	4 MM		4.5 MM	
FIXED	Part No.	Size	Part No.	Size
	CSD-04012TF	4 x 12 mm	CSD-04512TF	4.5 x 12 mm
	CSD-04014TF	4 x 14 mm	CSD-04514TF	4.5 x 14 mm
	CSD-04016TF	4 x 16 mm	CSD-04516TF	4.5 x 16 mm
VARIABLE	Part No.	Size	Part No.	Size
	CSD-04012TV	4 x 12 mm	CSD-04512TV	4.5 x 12 mm
	CSD-04014TV	4 x 14 mm	CSD-04514TV	4.5 x 14 mm
	CSD-04016TV	4 x 16 mm	CSD-04516TV	4.5 x 16 mm

B. Self Tapping Screws

Drill

The 2.4 mm drill comes standard preset to 16 mm depth. Appropriate spacers, 14 mm and 12 mm can be inserted to allow for hole depths of 14 mm and 12 mm respectively.

Drill Depth	*Drill*	*Depth Stop Spacer*
16 mm	CSP0024-16	Not Required
14 mm	CSP0024-16	CSP0025-14
12 mm	CSP0024-16	CSP0025-12



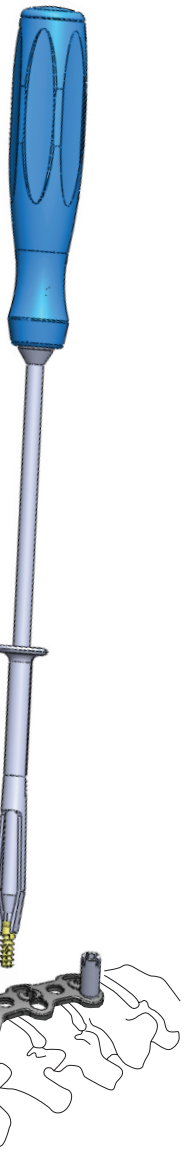
Insert the Drill Guide CSP0008, into one of the plate holes and seat firmly. Insert the drill with assembled depth stop spacer, if required, along with the Quick Disconnect Handle CSP0014, into the Drill Guide. The depth stop on the drill presets the depth of the drill as marked on the depth stop spacer.

TAP (Optional)

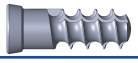
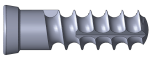
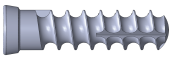
Insert the Cancellous Tap CSP0010, in one of the predrilled plate holes. The tap can be inserted to the appropriate depth corresponding to the laser lines 12, 14, 16 on the tap when the laser marking is flush with the top of the plate surface.

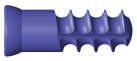
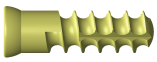
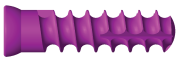
Insert Screws, Self Tapping Screws

Use the T Lok Driver CSP0029, to attach the desired screw from the screw caddy and slide the self retaining collar onto the screw head. The screw should be rotated into the plate until it is countersunk below the plate face to allow clearance for the locking washer. Once all the available holes have screws inserted, the fixation pins can be removed and the procedure repeated for the remaining screw holes.



SELF-TAPPING SCREWS

	4 MM		4.5 MM	
FIXED HEAD	**Part No.**	**Size**	**Part No.**	**Size**
	CST-04012TF	4 x 12 mm	CST-04512TF	4.5 x 12 mm
	CST-04014TF	4 x 14 mm	CST-04514TF	4.5 x 14 mm
	CST-04016TF	4 x 16 mm	CST-04516TF	4.5 x 16 mm

	4 MM		4.5 MM	
VARIABLE HEAD	**Part No.**	**Size**	**Part No.**	**Size**
	CST-04012TV	4 x 12 mm	CST-04512TV	4.5 x 12 mm
	CST-04014TV	4 x 14 mm	CST-04514TV	4.5 x 14 mm
	CST-04016TV	4 x 16 mm	CST-04516TV	4.5 x 16 mm

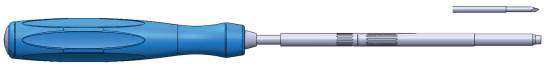
Locking Washer

Insert the T Lok Driver CSP0029, into the locking washer and rotate 90° so that the locking washer covers the pair of screws. If the screw head protrudes preventing rotation of the locking washer, the screw can be inserted slightly deeper into the plate. Note that when the screw is inserted at an acute angle to the plate, it will require insertion into the plate slightly deeper due to the screw head protruding higher. Do not force rotation of the washer if the screw is causing interference with the screw. Proceed to complete rotation of the remaining locking washers.

G Surgical Anterior Cervical Plate System instruments are manufactured from surgical grade stainless steel with laser engrave markings for easy identification and silkscreened graphics for easy placement of instruments into the autoclavable case.

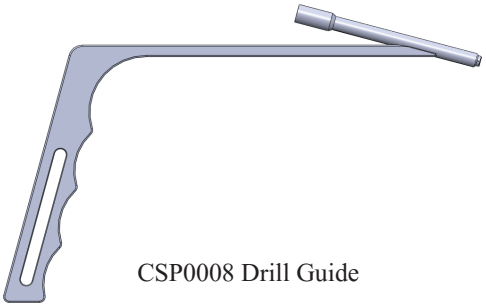


CSP0029 Insertion Screw Driver, Self Retaining, 2.5 mm Hex



CSP0003Awl 2.4 Diameter

CSP0010 Tap with laser lines for 16 mm , 14 mm and 12 mm



CSP0008 Drill Guide



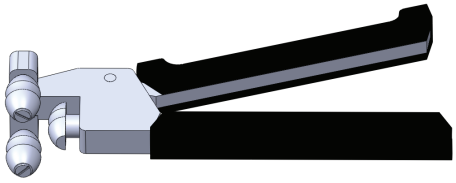
CSP0004 Fixation Pin



CSP0025-14 Spacer 14 mm Depth

CSP0025-12 Spacer 12 mm Depth

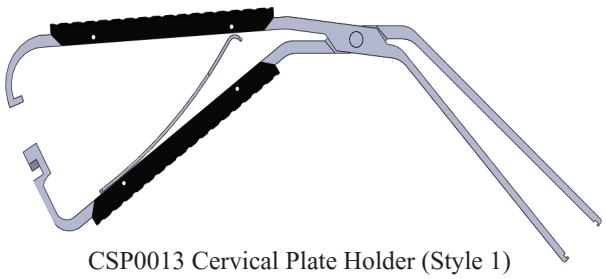
CSP00274-16 2.4 mm Drill 16 mm Depth



CSP0016 Lordotic Plate Bender



CSP0014 Handle Quick Connect



CSP0013 Cervical Plate Holder (Style 1)



MS6010067 Cervical Plate Holder (Style 2)