

## X-TRACT ALL SPINE SYSTEM

CERVICAL – THORACIC – LUMBAR

### SURGICAL TECHNICAL GUIDE

*The Xtract-All Spine system is designed to remove cervical and thoracolumbar spinal implants.*

#### THORACOLUMBAR SPINE

*For thoracolumbar spine, typically, extractors 1 through 63 will be used.*

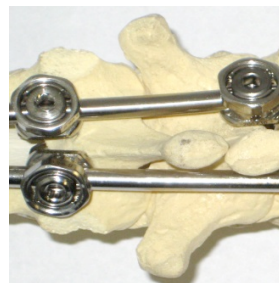
Step 1: Identify the propriety spinal implant system from surgical notes and/or x-rays. Find the manufacturer (MFR) and system name on the implant-extractor Interface Matrix on page 3, select the recommended extractor(s) for use. If a range of extractors are recommended, visually inspect the locking nut(s) and screw(s), and select the extractors from the given range that are appropriate.

Alternatively, if the proprietary spinal implant cannot be identified, determine the correct size/configuration (e.g., 2mm Hex Driver, T-30 Torx, etc.) of the locking nut(s) and/or screw(s).

Step 2: Insert the selected extractor into the one the shaft extensions provided (MDS1034, MDS1035, or MDS1036). Insert the shaft extensions into the ratcheting screwdriver handle (HD233 or MRH0311). Rotate the cap to switch between a clockwise and counter-clockwise driving mode.

Step 3: Remove the locking nut(s) and/or set screw(s) with the above assembled screwdriver.

Step 4: Stabilize and remove the spinal rods with the locking pliers (WR121) and counter-torque shaft (MDS1037 or MDS1038) and/or needle-nose pliers (WR141).



#### Step 1



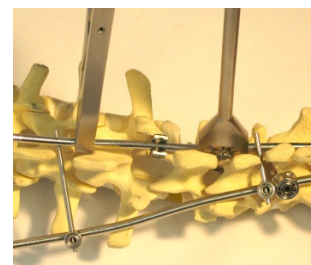
#### Step 2



#### Step 3



#### Step 4



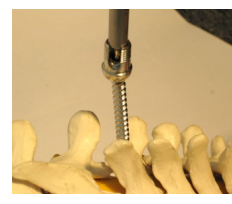
Step 5: Select the appropriate pedicle screw extractor. (Refer to Step 1). Repeat Step 2. For manufacturers that do not have an internal configuration at the bottom of their uni-axial pedicle screw(s), use either the 5mm (MBT161) or 6mm (MBT162) saddle extractors

Step 6: Remove the pedicle screw using the selected extractor. Use the needle-nose pliers (WR141) to aid with extraction.

**Step 5**



**Step 6**



Note: For broken and stripped screws, please contact Shukla Medical Customer Service for information on the Universal Broken, Stripped and Seized Screw Extraction System, product code MKS1022.

**CERVICAL SPINE**

For cervical spine, extractors 67 through 90 will be used, typically, but extractors 1 through 63 can also be used.

Step 1: Identify the propriety spinal implant system from surgical notes and/or x-rays. Find the manufacturer (MFR) and system name on the implant-extractor Interface Matrix on page 3, select the recommended extractor(s) for use. If a range of extractors are recommended, visually inspect the locking nut(s) and screw(s), and select the extractors from the given range that are appropriate.

Alternatively, if the proprietary spinal implant cannot be identified, determine the correct size/configuration (e.g., 2.0mm Cruciform, Hex driver, T-15 Torx, etc.) of the locking nut(s) and/or screw(s).

Step 2: Insert the selected extractor into the ratcheting screwdriver handle (HD233 or MRH0311) . Rotate the cap to switch between a clockwise and counter-clockwise driving mode. If necessary, use one the shaft extensions provided (MDS1034, MDS1035, or MDS1036).

Step 3: Remove the locking nut(s) and/or set screw(s) from the pedicle-screw, rod implant system or plate implant with the above assembled screwdriver. If the system does not work with locking nuts or screws, proceed to Step 4.

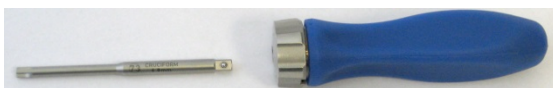
Step 4: Select the appropriate pedicle/bone screw extractor (Refer to Step 1). Repeat Step 2.

Step 5: Remove the bone screw(s) using the selected extractor. Use the needle-nose pliers (WR141) to aid with extraction.



TL Spine Extractors (#1- #63)

**Step 1, Step 4**



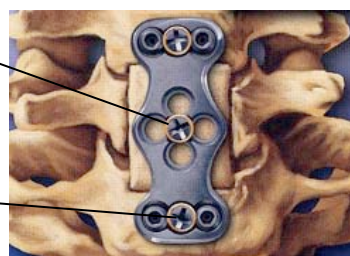
OR



**Step 2**

**Step 3**

Bone Screw



**Step 5**

Locking Screw

## Anterior Cervical Systems

MFR	System	CTL Extractor #
Abbott Spine	SC-AcuFix	1-14*
Aesculap	ABC	2
Aesculap	ABC2	2 & 77
Aesculap	Spectrum	2
Alphatec	Deltaloc Reveal	2 & 78
Biomet	C-Tek	2
Biomet	Cyclops	1-14
Biomet	Solitaire	2
Biomet	Spinelink	86
Blackstone	3 degree ACP	79 & 80, 29-32, 60-61, or 74-76
Blackstone	Hallmark	2, 80
Blackstone	NewBridge	1-14
Codman	ACP slimlock	2, 67
Corin	Cervive	1-14 & 81
DePuy Acropmed	DOC	69-73 &/or 67-68
Depuy	Aegis	2 & 80
Depuy	Skyline	2 & 80
Depuy	Slim Loc	2*
EBI	Spinelink	86
Globus	Assure/Assure T	2
Globus	Providence	1 or 2
Interpore Cross	C-Tek	2
Interpore Cross		83
Life Spine	Neo	30-31, 60-61, or 74-76
Life Spine	Neo SL	30-31, 60-61, or 74-76
Life Spine	Kinetic	30-31, 60-61, or 74-76
Medtronic	Atlantis	2 & 69-73
Medtronic	Orion	2
Medtronic	Zephyr	33 or 69-73**
Medtronic		84
NuVasive	Gradient	
Orthotec	Zenith	2*
Seaspine	Sonoma	MM11223**
Stryker	Reflex Hybrid ACP Implant	69-73 or 67-68
Stryker		85
Synthes	CSLP	33 or 69-73**
Ulrich	ADD/ ADD-DDD Plus	1, 2
Ulrich	Osium	1-14 & 69-73
Zimmer	Ceri-Lok	87
Zimmer	Trinica	2

## Posterior Cervical Systems

MFR	System	CTL Extractor #
Aesculap	S4	2
Depuy	Mountaineer	2, 6

\* Driver Only

\*\* Set Screw Only

## Posterior Cervical Systems

MFR	System	CTL Extractor #
Synthes	Cervifix	2
Synthes	Axon	2 & 76
Synthes	Arch Fix System	30-31, 60-61, or 74-76
Synthes	Starlock	30-31, 60-61, or 74-76*

## Thoracolumbar Spine Systems

MFR	System	CTL Extractor #
Aesculap	S4	1-14
Alphatec	Zodiac ROC	24 & 27
Alphatec	Zodiac	4 & 13
Alphatec	Solanus	12, 4, &/or 14
Alphatec	Tamarack	4 & 26
Biomet	Array	13, 16, &/or 48
Biomet	Omega 21	5 & 27
Biomet	Omega 21 LP	5, 27, &/or 4
Biomet	Polaris	13 & 15
Biomet	Synergy	45, 3, & 15
Blackstone	SFS	7, 3, & 37
Depuy	Discovery Facet Bolt	5
Depuy	Expedian 6.35mm	7
Depuy	Monarch 5.5mm	3, 5, & 13
Depuy	Moss-Miami SI	6
Depuy	Denesys Dynamic Device	3
Globus	Revere	3 & 5
Globus	H-Link	3 & 5
Globus	ProTex	4
Life Spine	Conquest	25
Life Spine	Pilot	5 & 15-29
Life Spine	Pilot P	5 & 27
Life Spine	Lynx Crosslink	26
Medtronic	3D TSRH	48 &/or WR119
Medtronic	TSRH	48 &/or WR120
Medtronic	Sextant	1-14 &/or 84
Medtronic	Legacy CD Horizon	31
Nuvasive	SpheRx	1-14 (and/or star?)
Orthotec	Claris	15-29, 30-31, 60-61, & 71-73
Synthes	Click X	1-14
Synthes	Pangea	1-14
Synthes	Universal	1-14
US Spine	Preference	1-14
US Spine	Preference Classic	1-14
Zimmer	Sequoia	1-14
Zimmer	ST360	1-14 & 15-29
Zimmer	InCompass	1-14 & 15-29
Zimmer	TiTile2/Northstar	1-14 & 15-29

Product No.	Description	Part No.	Product No.	Description	Part No.
System	Xtract-All SPINE SYSTEM	MKS1031	48	Saddle, 6mm Driver	MBT162
Case	Extractor Spine Case	CA183	49	Depuy, Moss-Miami Socket	MBT163
Case	Attachment Case	CA184	50	Depuy, Moss-Miami Interrupted Socket	MBT166
Case Lid	Attachment Case Lid	CA184	51	Synthes, Click'X Driver	MBT167
1	2.0mm Hex Driver	MBT128	52	Harrington Rod, Straight	MBT168
2	2.5mm Hex Driver	MBT129	53	Harrington Rod, Bent	MBT169
3	3.0mm Hex Driver	MBT130	54	Harrington Rod, Hex Wrench	MBT170
4	3.5mm Hex Driver	MBT131	55	Harrington Rod, Round Wrench	MBT171
5	4.0mm Hex Driver	MBT132	56	EBI, Square Driver	MBT172
6	4.5mm Hex Driver	MBT133	57	EBI, Spinelink II Socket	MBT173
7	5.0mm Hex Driver	MBT134	58	EBI, Spinelink II Driver	MBT174
8	7.0mm Hex Driver	MBT135	59	Stryker, Xia Driver	MBT191
9	7/64 Hex Driver	MBT136	60	T-30 Torx	MBT198
10	1/8 Hex Driver	MBT137	61	T-40 Torx	MBT199
11	5/32 Hex Driver	MBT138	67	Blade Driver, Small	MBT185
12	3/16 Hex Driver	MBT139	68	Blade Driver, Medium	MBT186
13	7/32 Hex Driver	MBT140	69	2.0mm Cruciform Driver	MBT194
14	1/4 Hex Driver	MBT141	70	2.5mm Cruciform Driver	MBT195
15	5mm Hex Socket	MBT113	71	3.0mm Cruciform Driver	MBT181
16	6mm Hex Socket	MBT114	72	4.5 Cruciform Driver	MBT182
17	7mm Hex Socket	MBT115	73	6.0 Cruciform Driver	MBT183
18	8mm Hex Socket	MBT116	74	T-8 Torx Driver	MBT192
19	9mm Hex Socket	MBT117	75	T-10 Torx Driver	MBT193
20	10mm Hex Socket	MBT118	76	T-15 Torx Driver	MBT177
21	1/8 Hex Socket	MBT119	77	Aesculap, 5 Star Driver	MBT175
22	5/32 Hex Socket	MBT120	78	Alphatec, Unlock Tool	MBT190
23	3/16 Hex Socket	MBT121	79	Blackstone, 2-Prong	MBT187
24	7/32 Hex Socket	MBT122	80	Blackstone, Tri-Lob Driver	MBT188
25	1/4 Hex Socket	MBT123	81	Corin Cervive, 3-Prong Driver	MBT184
26	5/16 Hex Socket	MBT124	82	Depuy Spine, Outer Nut Socket	MBT180
27	3/8 Hex Socket	MBT125	83	Interpore Cross Unlocking Tool	MBT196
28	7/16 Hex Socket	MBT126	84	Medtronic Quad Driver	MBT179
29	1/2 Hex Socket	MBT127	85	Stryker Spine 4-Prong	MBT189
30	T-20 Torx Driver	MBT142	86	Spinelink ACS, EBI	MBT178
31	T-25 Torx Driver	MBT143	87	Zimmer Spine Cervi-LOK Driver	MBT176
32	Flat Driver, Medium	MBT146		Seaspine Unlocking Tool Assy	MMI1223
33	Phillips Driver, Medium	MBT147		Ratcheting In-Line Handle	MHRS0311
37	Adanced Spine, Sleeve Nut	MBT151		Ratcheting T- Handle	HD233
38	Adancved Spine, Anchor	MBT152		8" Extension	MDS1034
39	Synthes, 11mm 12 pt.	MBT153		6" Extension	MDS1035
40	Spine Tech, Octagon	MBT154		4" Extension	MDS1036
41	Aesculap 4-Prong	MBT155		CTR Torq, Single Claw	MDS1037
42	Cross, 13.8 Hex	MBT156		CTR Torq, Double Claw	MDS1038
43	Cross, Cap Nut Bit	MBT157		Double Open-End Wrench 7/32 x 9/32	WR119
44	Cross, Pentalobe Driver	MBT158		Double Open-End Wrench 1/4 x 3/8	WR120
45	Cross, 2 Prong	MBT159		Rod Grippers	WR121
46	Corin, 3 Lok Driver	MBT160		Needle Nose Pliers	WR141
47	Saddle, 5mm Driver	MBT161			