## **Serious Solutions for Stuck Fasteners**

Professionals all say the same thing. It's tough to get a good grip on a stuck fastener, a rounded or broken head, a snapped stud, or a stripped screw or fitting. IRWIN<sup>®</sup> Industrial Tools has the solution to deal with any of them. Five different styles of extractors give you extra gripping power to remove problem fasteners without damaging workpieces. For example, our innovative IRWIN BOLT-GRIP™ extractors make quick work of nightmare bolt and nut removal, whatever their condition.

## Remove the Guesswork in Fastener Extraction

Fasteners vary widely in composition and hardness. That's why IRWIN has many different products for removing damaged fasteners and parts. Each extraction tool is specifically designed to take into account the material involved and make removal easier. The guidelines below will help you choose the tool that will deliver the optimal results for your particular situation.

## **Guide for Using Screw Extractors**

Drill a hole in the threaded part or fastener to be removed. Drill deep enough for the extractor to grip without bottoming out. For best results, use a left-handed drill bit. Insert the extractor and turn with a wrench or drive tool.

Extactor Type	Benefits	Fastener Size Range	Drive Tool
Straight Screw	<ul> <li>Extracts without expanding material</li> <li>Ideal for pipes and fittings</li> <li>Works on Left-hand or Right-hand threads</li> </ul>	3/16" - 7/8"	Tap Wrench Wrench Socket Wrench VISE-GRIP® Locking Pliers IRWIN Tap Adaptors
Spiral Screw	<ul> <li>Spiral bites into harder materials with increasing torque</li> <li>Flutes embed deeper with each turn</li> </ul>	3/32" - 2-1/2"	Tap Wrench Wrench Socket Wrench VISE-GRIP Locking Pliers IRWIN Tap Adaptors
Multi-Spline Screw	<ul> <li>Low profile enables use in confined areas</li> <li>Provides most torque of internal extractors</li> <li>Engages fastener without a deep hole</li> </ul>	1/8" - 7/8"	Flat Wrench Socket Wrench VISE-GRIP Locking Pliers
Bolt Extractor	<ul> <li>Engages rusted-over, painted-on, and stripped-out bolts</li> <li>Grips broken, worn, or stubborn fasteners</li> <li>Drive with a variety of tools</li> </ul>	1/4" - 1"	Socket Wrench Wrench VISE-GRIP Locking Pliers
Power-Grip Screw & Bolt Extractors	<ul> <li>Grips rusted, painted, stripped, and even round-head fasteners and screws</li> <li>Easily fits into drill or power driver with Quick Change Shank</li> </ul>	3/16" - 1/2"	Power Drill VISE-GRIP Locking Pliers



