



VW Tech Tip

How to Use a Screw Extractor

Did your bolt or screw break off when you tried to remove it? When a bolt or screw breaks off below the surface of the material it is threaded into, you can use a screw extractor to extract the remaining portion. A screw extractor is similar to a screw, but with a tapered, reversed thread. Once you know how to use an extractor properly, removing those broken screws will be a breeze. All you need are a few simple tool and you'll have the screw out in no time!

1. Assemble your tools:

- A screw extractor about 2/3 the diameter of the screw you are extracting. You can buy screw extractors individually at a hardware store as needed, or you can buy a set of screw extractors at a hardware store or home improvement centre.
- Drill bits suitable for drilling into hard metal (e.g., high speed steel, titanium coated, or tungsten carbide), to drill into the embedded screw. You will need a 1/8" bit to drill a pilot hole, and additional bits in 1/16" or 1/8" increments up to the size hole recommended in the instructions that come with the screw extractor—typically 1/8" smaller than the screw you are extracting.
- A sharp, pointed centre punch made for punching into metal.
- A hammer.
- A T-shaped tap handle from a tap and die set.
- A padded work glove (optional).
- Cutting oil (optional).
- Locking (preferably) or slip joint pliers (optional).



Item # 112-122

1.

Screw Extractor Set, 10 Piece

Unique Extractor Kit features Left Handed Cobalt Drill Bits and Straight-Fluted Extractors to make screw and bolt extraction faster, easier and safer. Left Handed Cobalt Drill Bits create a pilot hole for the extractor and also loosen, or even remove, corroded, stripped-out, or headless threaded fasteners with the momentum of the left-turning bit. Hollow-Ground, Straight-Fluted Extractors provided extra bite in the pilot hole and can be torqued in either direction to loosen a frozen screw or bolt. For use with fastener diameters of 1/4" (M3) to 5/8" (M15), this 10-piece kit contains: 5) Hollow-Ground, Straight-Fluted, Extra-Bite Hardened Alloy Steel Extractors and 5) Matched Left Handed Cobalt Drill Bits.



2. Centre punch the screw before drilling, to avoid having the bit wander.

3. Drill a 1/8" pilot hole in the centre of the broken screw. Using larger drill bits, in 1/16" or 1/8" increments, enlarge the hole until you reach the diameter recommended to accommodate the extractor. Be careful to keep your drill centred in the screw, drilling straight down the center line toward the screw's point (see Warnings below). Drill to the depth recommended in the screw extractor's instructions, typically about 3 times the diameter of the largest bit used to make the finished hole. When using the extractor, you do not want the extractor's point to bottom out before the lands (threads) engage the sides of the hole securely.

4. Insert the extractor: Put the tip of the extractor into the hole you drilled and tap it in with a hammer. Then, using a tap handle (the T-shaped handle that comes with a tap and die set), twist the extractor counter-clockwise into the pilot hole. As the screw extractor tightens itself into the broken screw, the screw will slowly start to turn. Using a padded work glove will enable you to get a firmer grip on the tap handle. If you use a tool to turn the extractor, take care to turn the extractor exactly around its axis; avoid any lateral pressure on the tool, as this may unseat the extractor.

5. Continue turning the screw extractor counter-clockwise until the broken screw is free. Or, once enough of screw emerges from the surface, you may switch to locking (preferably) or slip joint pliers to continue turning the screw to complete the removal; the pliers may give you more leverage.

