

Brutus® Stud Extraction

A Simple Solution to a Recurring Problem

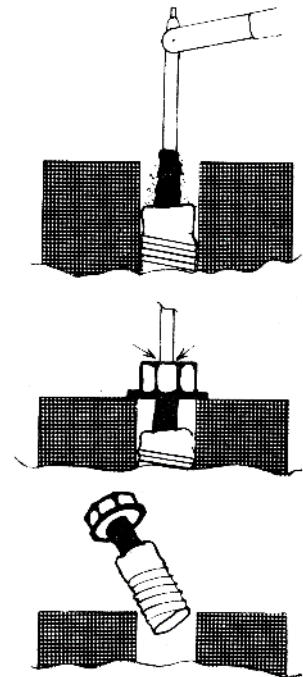
Remove broken bolts, drill bits, and studs without special equipment. All you need is **Brutus AAA or A Arc Rod**, a nut and a washer for a quick, easy repair.

Features

- Non-conductive coating avoids side arcing.
- Slag flows to the side during build-up, protecting threaded stud hole walls with a ceramic type coating.
- Produces a machinable deposit.
- High strength and elongation withstand the torque forces applied during bolt extraction.

Process

1. After selecting appropriate electrode size, check amperage by striking arc on scrap metal. Arc should strike easily, with the lowest amperage.
2. With the rod centered in the hole, strike the arc on the broken stud. Maintain a very close arc with the rod contacting the center of the weld puddle. For horizontal situations stroke and hold arc slightly above center. Do Not use a circular or weave technique. Allow the weld deposit to build-up slowly to form a "nub" just below the housing surface. The slag will flow to the sides, protecting the side walls.
3. Allow build-up deposit to cool. Chip the slag off the top "nub" of the weldment. Select a flat washer that is smaller than the stud hole and place it over the hole. Place a nut on the washer and continue build-up into the nut. After weldment is built-up above the hole surface, angle the electrode slightly to weld the nut and washer to the weldment.
4. Allow whole assembly to air cool. Using hand wrench, back out nut and broken stud.



Hole Size	Electrode Size	Recommended Amperage
Less than 3/8"	3/32"	50 – 80 amps
3/8" – 1/2"	1/8"	75 – 120 amps
Over 1/2"	5/32"	90 – 135 amps

Brutus[®] AAA

Shielded Metal Arc Welding (SMAW – Stick)

For dissimilar and all categories of steel–tool, high alloy, nickel alloy, stainless, manganese and cast steels.

Features

- 35% Elongation
- Strength 127,000 psi
- Easy Strike and Restrike
- No Spatter / Easy Slag Release
- Exceptionally Smooth Bead
- Spray-Type Arc With Low Heat
- Excellent Undercoating For Hardfacing
- Wear and Shock Resistant
- Ideal For Dissimilar Steels
- Ductile, Crack Resistant Deposit
- Use for Broken Stud Extraction (See Broken Stud Extraction)

Characteristics

Brutus AAA has superior wear, shock and corrosion resistance and it can be used for joining dissimilar steels. In addition, **Brutus AAA** has a special flux coating that gives it superior operating characteristics, allowing the welder to produce an unusually strong, smooth weld deposit with minimum effort.

Brutus AAA's ease of application makes it especially suitable where precise weld control and appearance are important. Thin sections and delicate parts can be repaired easily. It gives excellent results on dies, tools, molds, gears and exposed food handling equipment. Its high strength and ductility make it useful in almost all repairs of similar or dissimilar steels.

Technical

Size and Amps AC/DC $\pm 30\%$

Inches	3/32	1/8	5/32
(mm)	(2.4)	(3.2)	(4.0)
Amps	65	95	120

With DC use reverse polarity. (DCEP)

Application

- Clean weld area.
- Bevel heavy sections.
- Preheat high alloys and heavy sections to 400°F (240°C).
- Use short arc.
- Tilt electrode 15° in direction of travel.
- For rapid filleting, increase amps and drag electrode at 45°.
- Remove slag between passes.

Brutus[®] A

Shielded Metal Arc Welding (SMAW – Stick)

For dissimilar and all categories of steel–tool, high alloy, nickel alloy, stainless, manganese and cast steels.

Features

- Superior Strength 125,000 psi
- Easy To Use In All Positions
- Wear and Shock Resistant
- Prevents Undercutting
- 35% Elongation (Ductile)
- Low Heat Requirements
- Excellent Corrosion Resistance
- No Spatter
- Ideal For Dissimilar Steels
- Use For Broken Stud Extraction (See Broken Stud Extraction)

Characteristics

Brutus A is for the maintenance welder who often does not know the type of steel he is welding or must weld dissimilar steels. **Brutus A** is easy to weld in all positions and produces sound super–strength yet ductile welds. These fully machinable deposits have no hard spots.

In many cases the maintenance welder is unable to weld on both sides of the joint. In these circumstances the use of **Brutus A** with its superior strength and ductility is essential.

Excellent for use on tools, dies, pressure vessels, springs, stainless steels and dissimilar combinations. Ideal to build up shafting, agitator blades and for use on construction and mining equipment.

Technical

Size and Amps AC/DC ±30%

Inches	1/16	3/32	1/8	5/32
(mm)	(1.6)	(2.4)	(3.2)	(4.0)
Amps	35	70	100	120

With DC use reverse polarity. (DCEP)

Application

- Bevel heavy sections.
- Hold a short arc or drag.
- Use stringer beads.
- For high alloys and heavy sections preheat to 400°F (240°C), skip weld, and peen to avoid internal stress.