Stud Welder

User Guide

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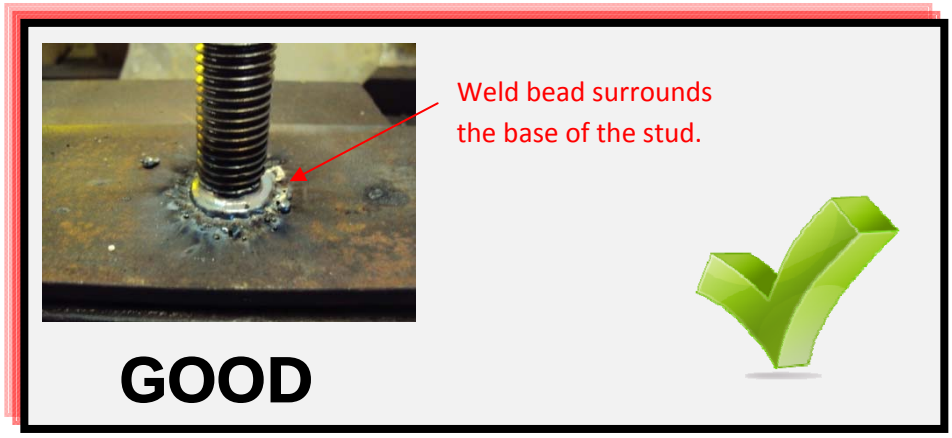
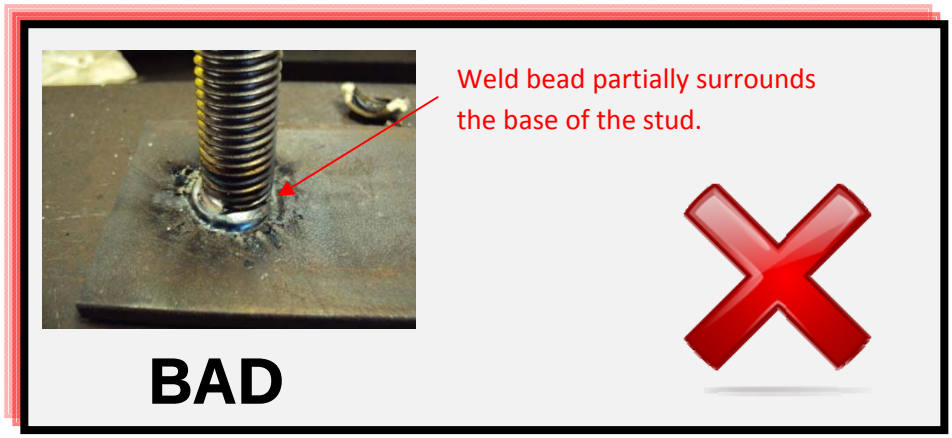


Weld Bead



Procedures for stud Welding

In order to achieve a good weld, it is imperative that the following procedures are followed.

1. **Surface of stud placement**

   The area in which the stud is going to be welded should be free of paint, excessive rust or mill scale, dirt, moisture and all other foreign materials. These materials are contaminants to any welding process, especially stud welding due to the short duration of the weld cycle.

2. **Grounding**

   It is recommended that the welding ground be attached to a spot on the surface that is clean. Poor or inadequate ground connection can result in a loss of weld current and, therefore, could result in a bad stud weld.

3. Power Requirements

Consult either the manufacturer or manual for the recommended fusing, primary wire size and primary wire length for the power source to be used. Inadequate primary power or incorrect wire size or length can contribute to a reduction in weld current when some rectifier type power sources are used. Inadequate power or fusing can also hamper the starting, and output for a motor generator.

4. Welding Current

It is essential to have the correct weld current for any application. When excessive cable lengths are used, the result will be a reduction in weld current. This can contribute to weld inconsistency or even weld failure. Always use 4/0 Cables in the welding circuit when excessive length is required.

5. Weld Settings

Exact weld settings cannot be given because no two jobs are the same. Actual settings will depend upon job site conditions. Listed below are approximate settings, minimum and maximum. Most jobs will fall within these settings.

Plate	Weld Time	Amps	Lift	Plunge	Polarity	Cable
1/4''	.20 - .40	410 – 550	.063	1/8'' – 1/4''	Straight	65' of 4/0
3/8''	.30 - .45	620 – 830	.063	1/8'' – 1/4''	Straight	65' of 4/0
1/2''	.45 - .60	855 – 1045	.093	1/8'' – 1/4''	Straight	50' of 4/0
5/8''	.60 - .80	1120 – 1420	.093	1/8'' – 1/4''	Straight	50' of 4/0
3/4''	.80 – 1.6	1400 – 1700	.093	1/4'' – 3/8''	Straight	50' of 4/0
1''	1.0 – 1.2	1648 – 2020	.093	1/4'' – 3/8''	Straight	50' of 4/0

Gun lift should be measured with a stud and ferrule in place and the gun compressed as to weld, but on an insulated piece of material, such as a piece of wood. Weld current should also be checked by using an ammeter and should be checked periodically due to cable heating which can cause a reduction in weld current.

6. Testing of welded studs

At least two studs should be bent in any direction to a 30º angle from weld position using a hammer. If a failure occurs, re-adjust settings and repeat test. Once the set-up has been approved, stud welding may start. It is a good idea to test two or three studs every half hour to assure that the set-up has not changed until the job is complete.

7. Visual Inspections

Visual inspection should show a full 360º weld fillet, not necessarily the same fillet height around the circumference of the stud. If there is not a 360º weld fillet does not mean that the stud will not hold, however the stud will need to be tested, to do this try bending the stud at a 15º angle with a hammer. If a failure does not occur, the weld should be considered good. If the weld fails, the stud should be replaced.

8. General Information

A) Keep ferrules dry; wet ferrules cannot be used

B) Keep studs dry; rusty studs cause welding problems and cause premature chuck failure.

C) Do not weld when base material is below 0º Fahrenheit

D) Do not weld when water is present

E) Do not weld through dirt, sand or other foreign materials

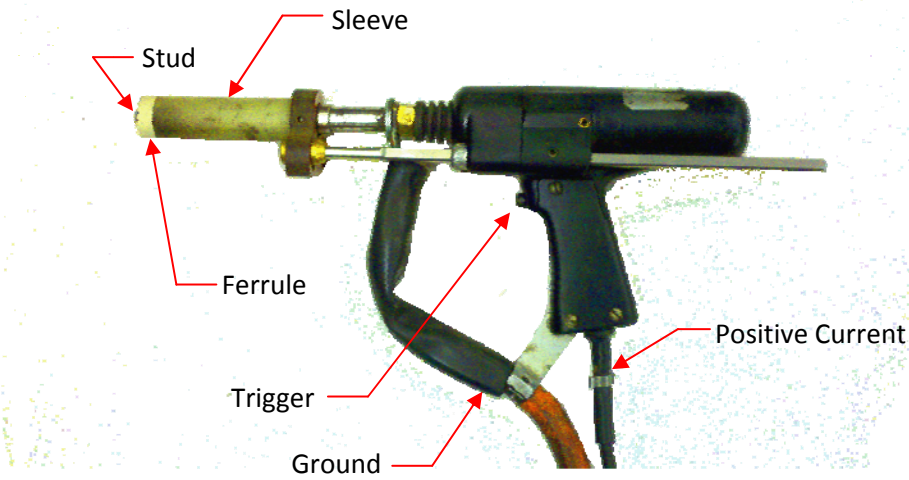
F) Surface must be free of paint, rust, and foreign materials

G) Hold gun perpendicular to base material.

H) Test weld set-up at the start of the job

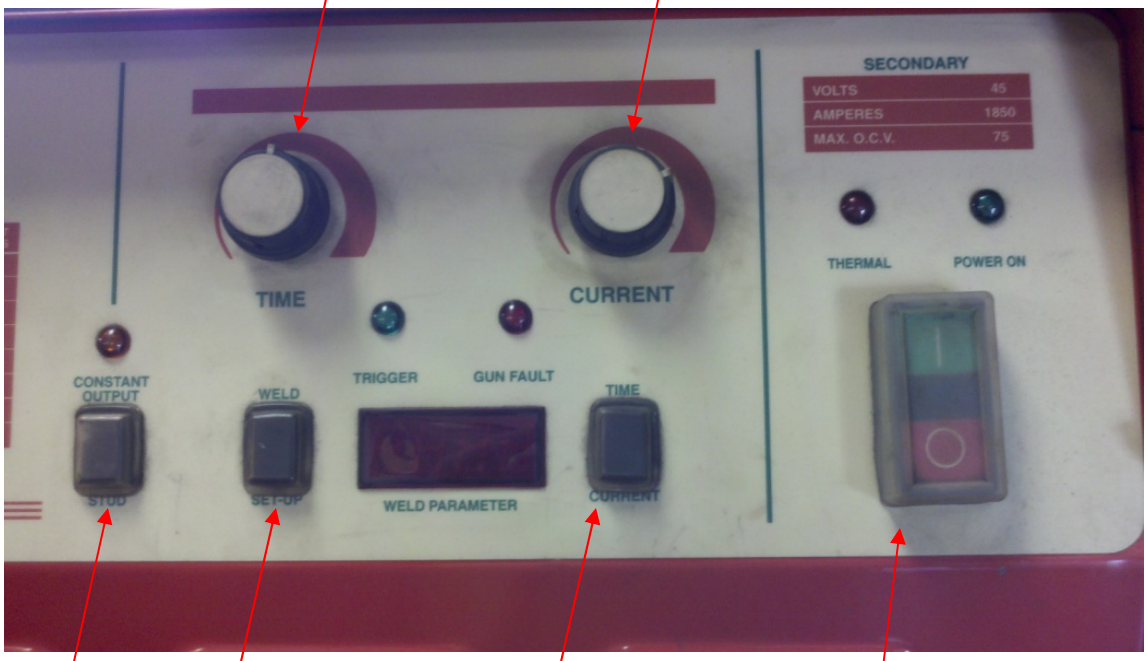
I) For help concerning stud welding call Valley Rubber at 1.800.622.5667

STUD GUN



Ferrules

STUD WELDER



All machines are not like the one shown above, please see your machines manual on how to setup your machine. If there is a need for a stud welder Valley Rubber can provide one for the job. Please call 1.800.622.5667