

Arc welding

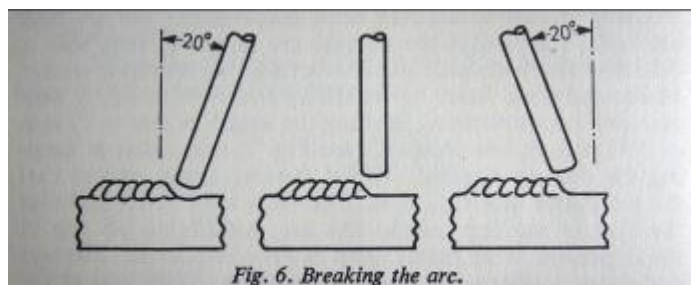
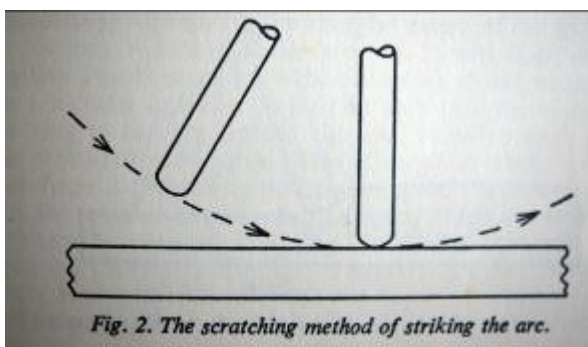
Arc welding is a little more than just dragging a welding rod across a couple of pieces of steel and fastening them together. When an arc is struck between the electrode and the work a bead of metal forms at the electrode and the metal base at about 4000°C. This bead is the electrode melting together with the metal base. The shape of the weld is changed by weaving the arc back and forth across the work piece by either a zigzagging or figure of eight motion so that the molten metal is distributed evenly across both metal surfaces and so joining them.

Before the welding process begins however the material to be welded must be first of all secured with clamping and depending on the type of weld both sides on thicker material beveled so that the world can penetrate.

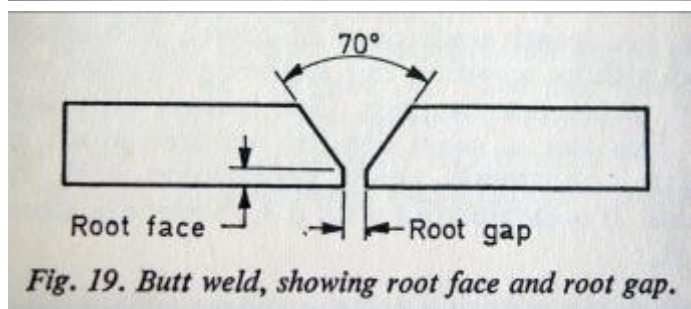
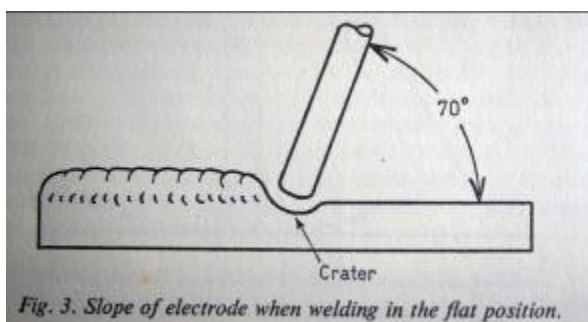
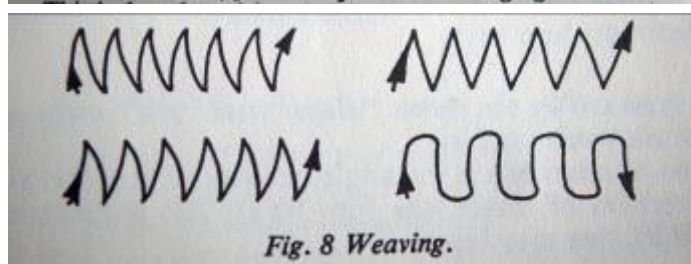
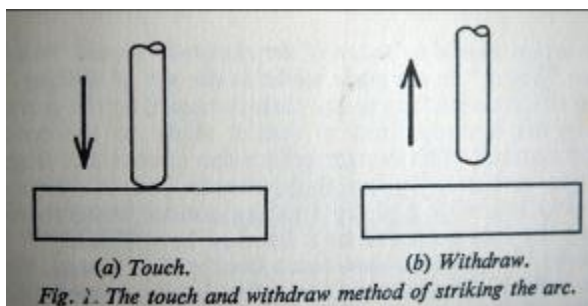
When the weld run is finished the slag and melted flux must be chipped and then cleaned up with a wire brush so that if another weld is needed it can go on top of alongside the initial run with no inclusion of slag.

Setting the welding range on the world is easy just look on the rod box. It gives you the amperage needed to get a good and penetrating weld. Most backyard is go flat out and wonder why the electrode is bright red and melting before completing the weld. As an example for welding quarter inch thick plate you use between 80 and 100 amps.

Generally mild steel rods should be marked E6011. If you wish to do vertical welds or use other metals you will require other types of electrodes.



How should the arc be broken when it is intended to continue the weld bead, for example when changing electrodes?



Next time I will deal with setting up and using MIG and TIG welders.

The Fitter Dude, Andrew Manning