

## General Welding Guidelines

Build-up and hard-surfacing are welding procedures that protect the parent material of the jaws and keep the blades in good adjustment. Build-up is the welding procedure that restores the jaws to their original shape. Building up the jaws helps protect the blades and increases the life of the attachment. Hard-surfacing is the welding material added over the parent material (or build-up material) to create a wear-resistant surface.

Welding should not be performed until the jaws are work-hardened. Work-hardening can take up to 80 hours. However, jaws must not wear lower than the height of a new blade. If either jaw wears down lower than blade height, immediately stop operating the attachment and perform build-up and hard-surfacing.

When welding around blade seats or the piercing tip tang area, maintain the factory-machined seat radius. If the rounded grooves are welded up, use a die grinder with a carbide tool to recut these areas to their original profile. Leaving a squared edge will eventually cause structural cracking. The radius provides a broader area to absorb structural stress.

### Welding Ground Clamp

Disconnect all battery ground cables or shut off master battery switch, if equipped. Failure to do so may cause excavator electrical problems, including permanent damage to on-board computer systems.

Connect the ground clamp as close as possible to the area being welded without allowing current to pass through the pivot group, cylinder pin, cylinder, swivel, motor, gearbox or slewing ring.

If you are welding on the lower jaw, connect the weld clamp to the lower. If you are welding on the upper jaw, connect to the upper but not to the cylinder clevis. If needed, weld a piece of steel to the area for the grounding clamp and cut the piece off when welding is completed.

### Welding Rules

Before you begin:

- ❑ Remove adjacent blades, as preheating and welding may cause blade damage.
- ❑ Do not remove teeth, as weld spatter on tooth holder would cause fitment problems.
- ❑ Wearing an approved respirator, grind the area to clean it, removing all existing hard-surfacing.
- ❑ Preheat area to 350° F (177° C). Maintain this temperature throughout the procedure. Do not exceed 450° F (232° C) interpass temperature.

During welding:

- ❑ Always grind and weld with the grain of the material.
- ❑ Peen each weld pass to relieve stress and harden the welds.
- ❑ Do not undercut the ends of the welds.
- ❑ Do not start or stop welds directly above a bolt hole or in the apex of the jaw.

After welding maintenance is complete:

- ❑ Cover the area with a heat blanket and allow it to cool slowly, approximately eight hours.
- ❑ Do not put the attachment into operation until the welds have been allowed to cool.

This document is a quick reference only. It does not replace the product safety and operator's manuals, which must be followed by all operators and maintenance personnel.