

- SCOPE: Detailed description on how to replace 30/45 degree clamp assembly.

In order to correctly setup 30/45 degree wire clamps to the factory standard please follow the procedures below carefully.

Clamp Solenoid Assembly Replacement

Follow the cables from the clamp solenoid to inside the machine. Open the left door to find a connector, which connects the clamp solenoid to a harness cable which is plugged into the logic board, found at the rear of the machine.

Disconnect the solenoid from the connector and remove the harness from all metal clamps holding it to the bonding head.

Using a 1/4" open wrench, unscrew the solenoid nut (see figure 1). Remove the clamp assembly.

To install a new solenoid assembly, perform the opposite action in step 2.

Reconnect the solenoid to the connector.



Figure 1:

Solenoid Nut

Clamp Position Adjustment

Once the new clamp assembly is fitted to the machine, if the angle of the clamp face does not look like the image below (parallel to the bonding wedge) or similar, adjustments need to be made.

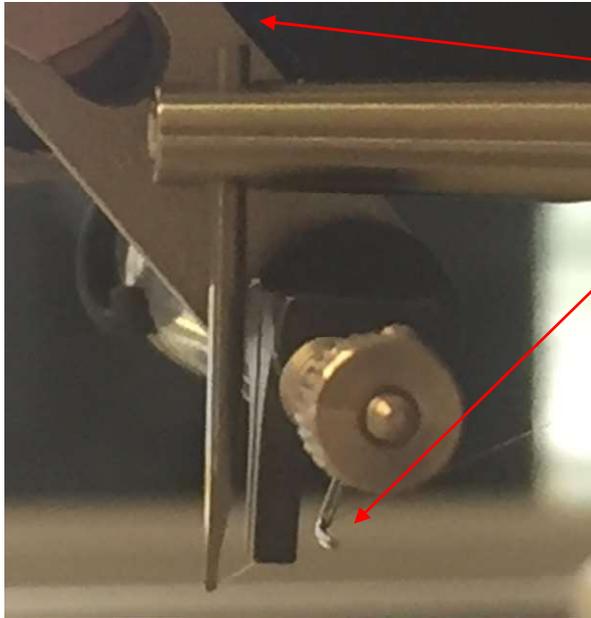


Figure 2:

Clamp Arm

Clamp Bar

If adjustments are required:

Remove the solenoid nut (see figure 1).

The clamp assembly can now be unscrewed, do this by holding the clamp arm and rotating the solenoid in an anti-clockwise rotation.

Position the clamp to the correct angle; keep checking against the tool until the desired position is met.

The gap between the back of the wedge and the front of the clamps should be approx. 1mm. The gap between the bottom of the wedge and the bottom of the clamps should also be approx. 1mm.

Once the correct position is achieved, tighten the solenoid against the clamp arm (see figure 2), place the assembly into position and tighten the solenoid nut.

Place the wire through the clamps and push the clamp bar close to the clamps, so it is almost touching. This will prevent the wire from slipping out of the clamps during bonding.

Clamp Force

To setup the correct clamping force for the new clamps:

Open the clamp using the **CLAMP** switch/button.

Feed some wire between the two clamp faces.

Close the clamp using the **CLAMP** switch/button.

Pull the wire carefully using tweezers; if the wire breaks cleanly then the clamp force is setup correctly. Otherwise follow the next few steps.

Loosen both clamp tension nuts from the side of the clamp until they are at the end of travel (see figure 3). The right-most nut is for locking the position of the left-most nut, which presses against the spring and provides tension to the clamp.

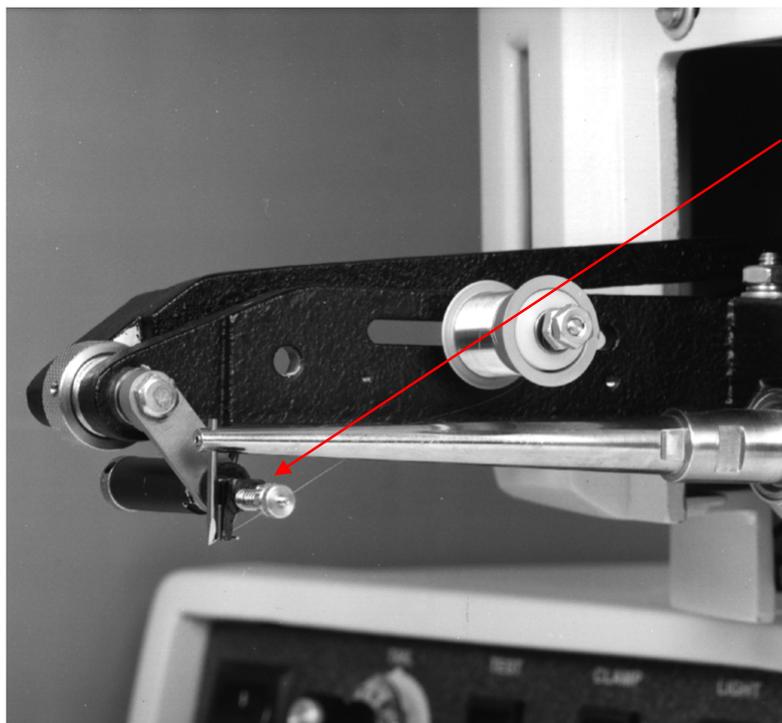


Figure 3:

Clamp Tension Nuts

Repeat steps 1 - 4, however, turn the nuts clockwise (towards the solenoid) until the wire breaks cleanly.

Clamp Lateral Position Adjustment

The wire path must be a straight line from the transducer hole to the wedge feed hole. The wire clamp leads the wire from the wedge feed hole to the wedge foot. If the clamp and the wedge feed hole are not aligned along the same axis, the wire will not be centered under the foot of wedge. This results in bonding inconsistencies.

To adjust the clamp lateral position:

Feed the wire through the clamp jaws and the wedge feed hole. Focus the microscope on the tip of the wedge and check if the wire is in the center of the wedge. If it is, exit the procedure at this point.

Loosen the set screw that faces you (see Figure 4). Adjust the clamp's lateral position by turning the knurled adjusting nut so that the wire is centered under the wedge foot.

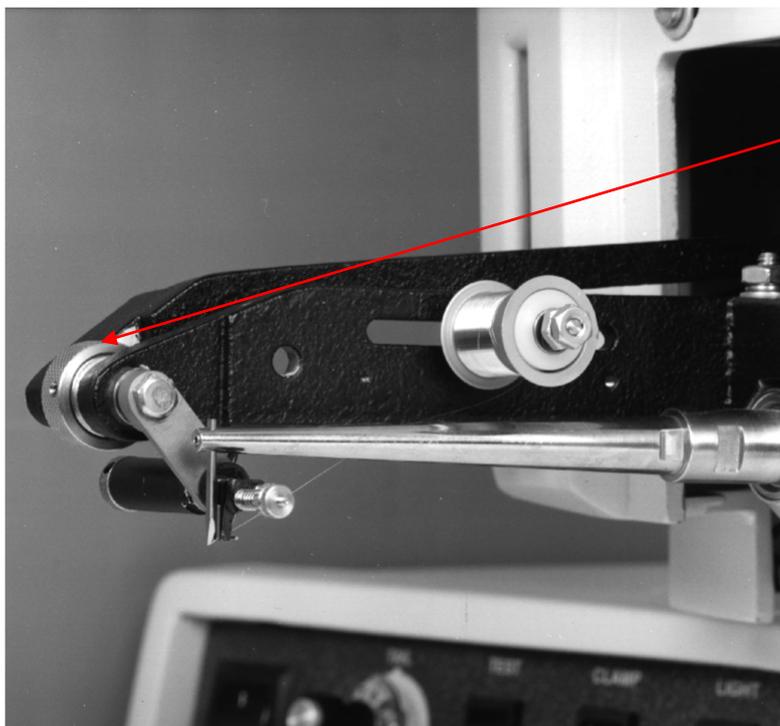


Figure 4:

Knurled Nut

Grub screw is located at a point around this knurled nut.

Perform a few bonds and check that the wire is still centred. If necessary, adjust the clamp's lateral position more.

Secure the knurled adjusting nut by tightening the set screw.