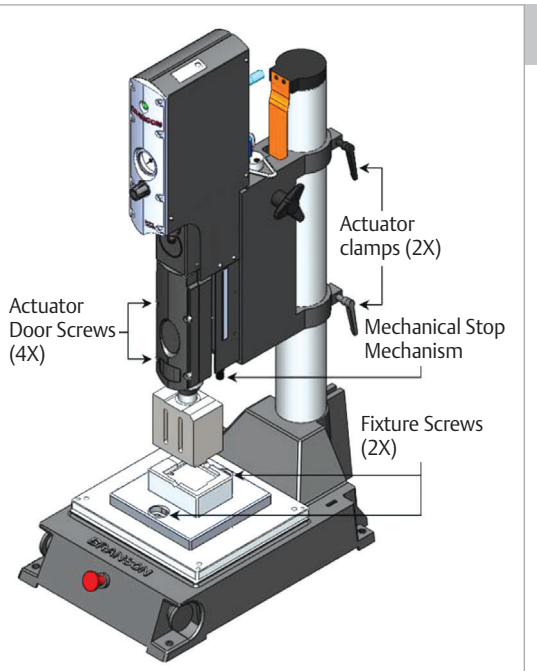
BRANSON

Ultrasonic Welding



Ultrasonic Horn/Part/Fixture Alignment and Leveling

Alignment and leveling of the horn, part, and fixture are critical for successful ultrasonic welding. If an application is not properly aligned and leveled, over-welding may occur on one side of the part while under-welding may occur on the other. The following procedure is recommended to align and level the horn, part, and fixture for uniform welding.

ALIGNMENT:

- Adjust the actuator height by loosening the two actuator clamps on the column. Be sure to allow enough clearance to remove the part from the fixture, but without exceeding the stroke length of the actuator.
- Tighten the actuator clamps, locking the actuator in place.
- Slightly loosen the actuator door screws to allow the horn to rotate freely. Loosen the fixture screws to allow the fixture to move freely.
- Insert a welded part into the fixture (it is recommended to use a 'golden sample' for this part, as this can expedite setup).
- Remove air pressure from the actuator by setting the pressure equal to zero.
- Manually lower the horn onto the part by pulling down on the horn itself. Adjust the horn and fixture as necessary.
- Tighten the actuator door screws, locking the horn in position.
- Lower the horn back down onto the part and perform any final adjustments to the fixture position. Tighten the fixture screws.
- Finally, adjust the mechanical stop mechanism until the horn is not able to contact the fixture. Be sure to allow the horn to travel far enough to complete the weld. Tighten the locking nut on the mechanical stop mechanism to lock it in place.

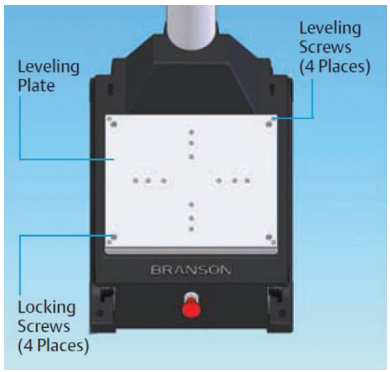
EMERSON
Industrial Automation

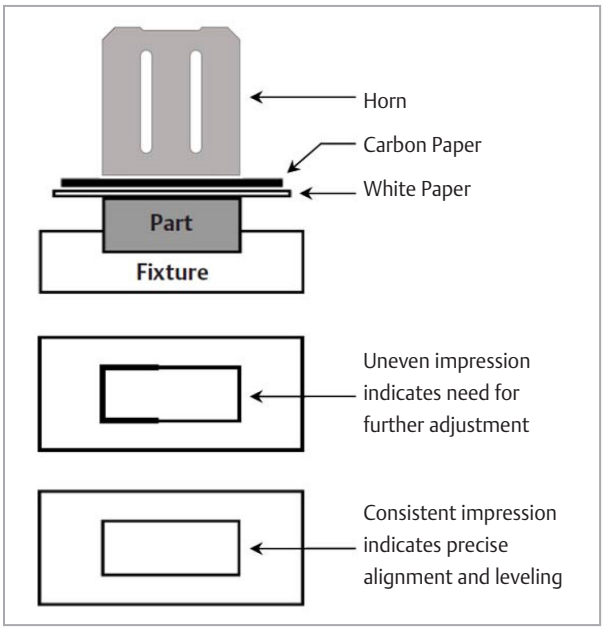
Ultrasonic Welding

LEVELING:

The following procedure is recommended for leveling with the use of a Branson Leveling Plate. Without a Branson Leveling Plate, it may be necessary to use shims to properly align the horn and fixture.

- Bring the horn back to its home position by restoring air pressure to the actuator.
- Using the Horn Down function (MAIN MENU → HORN DOWN), press the palm buttons to bring the horn in contact with the part.
- With the horn down, loosen the four locking screws as well as the four leveling screws on the leveling plate. This allows the leveling plate to 'self-level' under the load from the horn.
- Slowly tighten the four leveling screws just until they contact the baseplate. Tighten the four locking screws on the leveling plate. Press the 'Retract Horn' icon to return the horn to its home position.
- Insert a piece of white paper and a piece of carbon paper between the horn and part. Use the Horn Down function again to create a carbon impression on the white paper. **If a visible impression is not produced using the Horn Down function, it may be necessary to run a short, 0.050 – 0.100 second weld on the paper.*
- Adjust the leveling plate until a uniform carbon impression is attained.





LEVELING PLATE ORDERING INFORMATION:

	Branson EDP No.
Inch Model	101-063-358
*(for use with inch model Ergo base **only**)*	
Metric Model	100-063-444
*(for use with metric model Ergo base **only**)*	
Pivot – Metric M10 bolt	100-298-085

BRANSON

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