

TROUBLESHOOTING THREADED INSERT INSTALLATION IN PLASTICS

Insufficient pull-out or torque strength

- Decrease pressure
- Increase weld time
- Increase amplitude (change booster)
- Decrease down speed
- Increase insert interference
- Insert is too small or hole is too large
- Increase hole depth
- Decrease screw length

Horn heats up

- Decrease amplitude (change booster)
- Air cool the horn
- If possible, contact plastic rather than insert
- Check coupling between horn, booster and converter

Damage to insert

- Decrease weld time
- Decrease amplitude (change booster)
- Increase pressure
- Increase down speed

Inserting time is excessive

- Decrease weld time
- Decrease hold time
- Decrease amplitude (change booster)
- Increase pressure
- Increase down speed
- Insert is too large, or hole is too small
- Improper fixturing
- Power required exceeds capability of power supply

Application is noisy

- Use sound enclosure or hearing protectors
- Start the ultrasonics just prior to the horn contacting the insert
- Decrease amplitude (change booster)
- Increase pressure
- Increase down speed
- If possible, contact plastic rather than insert

Threaded Insert Troubleshooting Guide

Horn wears prematurely

- Use hardened steel or carbide faced horn
- Decrease amplitude (change booster)
- Insert is too large, or hole is too small
- Plastic is too abrasive

Plastic cracks

- Ensure that ultrasonics is turned on
- Decrease pressure
- Walls surrounding hole are too thin
- Increase weld time
- Decrease amplitude (change booster)
- Decrease down speed
- Enlarge hole diameter

Plastic fills the threaded bore of the insert

- Increase hole depth
- Insert is too large or hole is too small
- Insert is too long

Plastic flows over the top of the insert

- Adjust positive stop to limit depth of insertion
- Decrease weld time
- Insert is too large or hole is too small

Partial insertion

- Increase pressure
- Decrease down speed
- Decrease amplitude (change booster)
- Increase weld time
- Increase hole depth
- Adjust positive stop
- Check fixturing
- Horn is at the end of its stroke

Insert does not remain inserted

- Increase hold time

System overloads

- Decrease pressure
- Decrease down speed
- Decrease amplitude (change booster)
- Tune power supply
- Check for loose studs
- Check coupling between horn and booster
- Power required exceeds capability of power supply