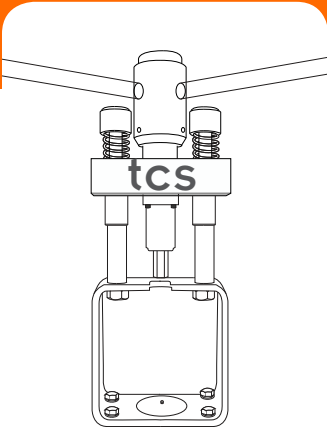


Manual Injector

Operating Instructions



The TCS Manual Injector is used to inject molten thermoplastic material into the injection flask. This injector is the most economical of the TCS injection units. The main benefit of having a manual injector is the easy maintenance, and longevity of the unit.

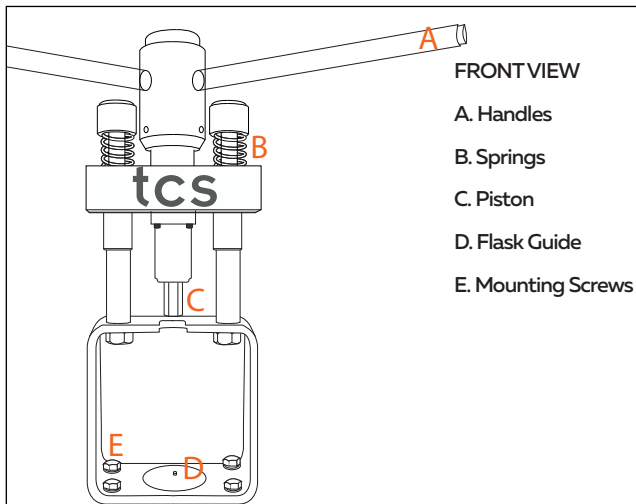
The injector is used in conjunction with the TCS Digital Furnace. With one furnace the injector yields approximately 30 cases per day, but with additional furnaces and melting cylinders, it can yield up to 120 cases per day.



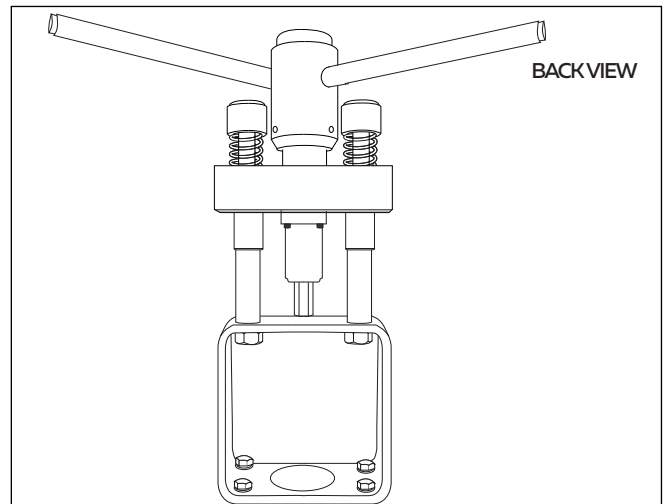
Item #3506-01

PLEASE READ MANUAL PRIOR TO USE

1. Get to Know Your Machine

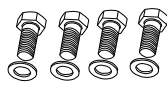


- FRONT VIEW
- A. Handles
 - B. Springs
 - C. Piston
 - D. Flask Guide
 - E. Mounting Screws

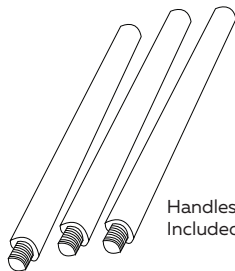


BACK VIEW

PARTS



Mounting screws
not included



Handles
Included in package

SPECIFICATIONS

Yields: Approx. 30 cases per day (up to 120 with additional furnaces)

Weight: 42 lbs

Dimensions: Width 22" | Height 22" | Depth 17"

2. Unpacking and Safety

Your safety and the safety of others are very important. We have provided many important safety messages in this manual. Please read these messages carefully. A safety message alerts you to potential hazards that could hurt you or others. Each safety message is associated with a safety alert symbol. The definition of these symbols are described below:



General Safety Hazard: Refer to the instructions for details on the specific hazard.



Caution: Hot surface Warning



Caution: Electrical Shock Hazard



Technical Symbol: All operations marked with this symbol are to be performed by qualified maintenance personnel only.

Ventilation Clearance:

AREA	MINIMUM REQUIRED CLEARANCE
Back of the unit	10 cm / 4 inches
Sides of the unit	20 cm / 8 inches
Above	30 cm / 12 inches
Below	N/A

3. Getting Started

1. Select a workbench that is firm and very sturdy.
2. Use 4 screws to secure the press to the workbench. **FIG 1**
3. Screw the three handles tightly on the press, do not leave loose as this may damage the handles. **FIG 2**
4. Select a place near the injector to place a furnace. **FIG 3**

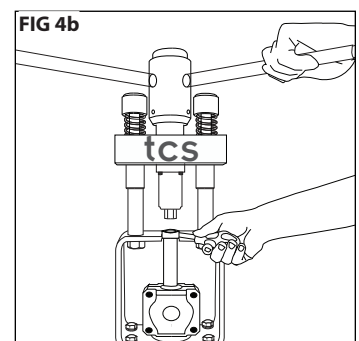
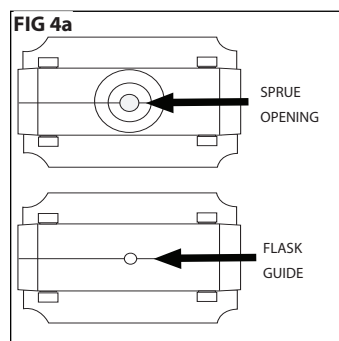
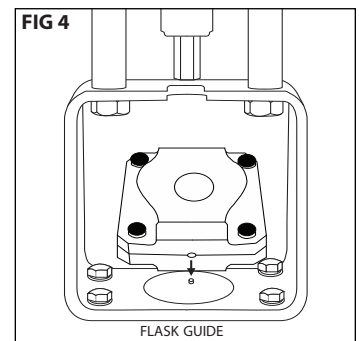
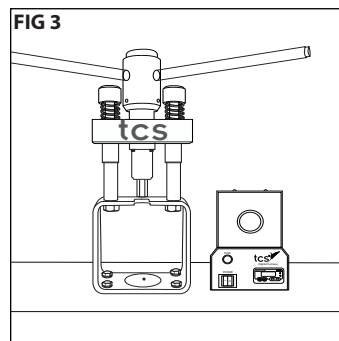
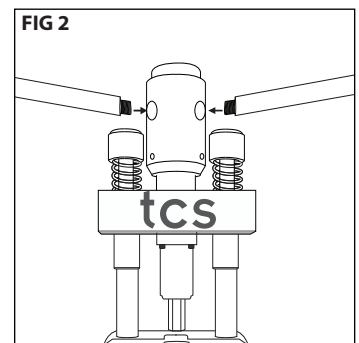
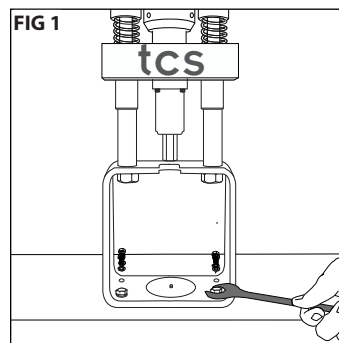
Note: The furnace should be close enough to the press to allow for easy transfer of the molten resin from furnace to press. **FIG 3**

Note: Refer to TCS Digital Furnace Operating Manual for instructions on how to use the furnace in conjunction with this injector.

5. Use the flask guide to center the flask for injection. **FIG 4** Place the flask vertically with the injection sprue opening facing up directly under the piston. **FIG 4a**

How to position the flask if the flask does not have a guide:

1. Unscrew the flask guide reference from the injector unit. Keep the screw in case you want to use it at a later date.
2. Visually center the flask with the injection sprue opening facing up directly under the piston.
3. Position the cylinder vertically over flask, hold in place with one hand and turn handles of press so the piston goes into the cylinder. This will be your guide to ensure the flask is centered. Be extra careful to center the flask when not using the guide. **FIG 4b**



4. Inject



Caution: Some of the components get very hot!
Always use protective gloves, clothing and eye protection.

WARNING: Use heat protective gloves from this point forward.

Note: View TCS Digital Furnace for instructions.

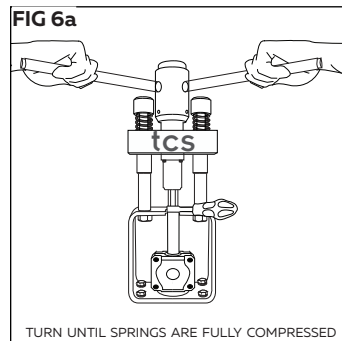
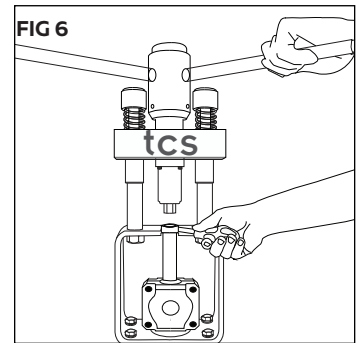
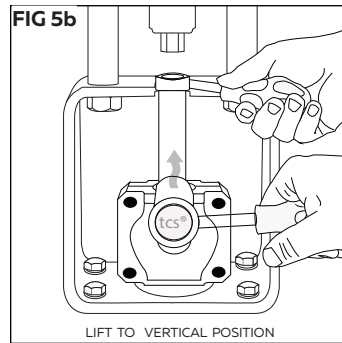
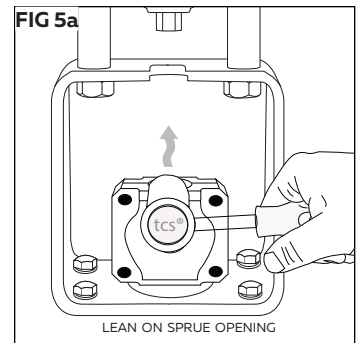
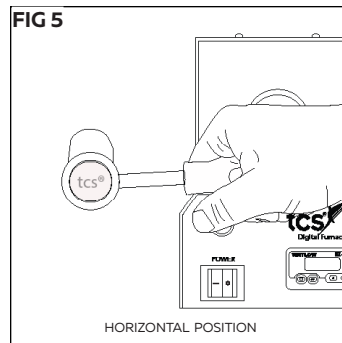
Proceed to melt the resin using the TCS Digital Furnace. Once the resin is melted and ready for injection, immediately:

The following steps need to be done carefully yet quickly as the material is molten and needs to be injected before it begins to cool.

1. Carefully remove the cylinder from the furnace, keeping the cylinder in a horizontal position **FIG 5** until you lean it over the sprue opening of the flask **FIG 5a & 5b**, you can then bring it to the vertical position. Making sure that it fits centered on the flask.
2. With one hand holding the cylinder in place, immediately, turn the handles of the press to begin injecting. Use both hands to turn handles once the piston is in the cylinder. You will notice when the cartridge bursts. Keep turning the handles with both hands until the springs have fully compressed. **FIG 6 & 6a**
3. Allow the injection to compress for at least 3 minutes prior to removal.
4. Turn handles to release the pressure and remove the flask. Remove the cylinder from the flask and allow the flask to cool for at least 25 minutes.

5. Maintenance

1. Be sure all screws are tight.
2. Be sure arm handles remain tightly screwed in.



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