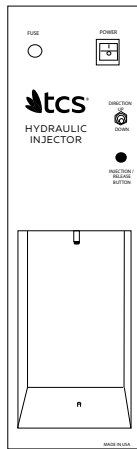


Hydraulic Injector

Operating Instructions



The TCS Hydraulic Injector is used to inject molten thermoplastics into a flask. It is used in combination with the TCS Digital Furnace and its accessories. This instruction manual will cover the TCS Hydraulic Injector only. Refer to "Operating Instructions for TCS Digital Furnace" for instruction on the furnace.

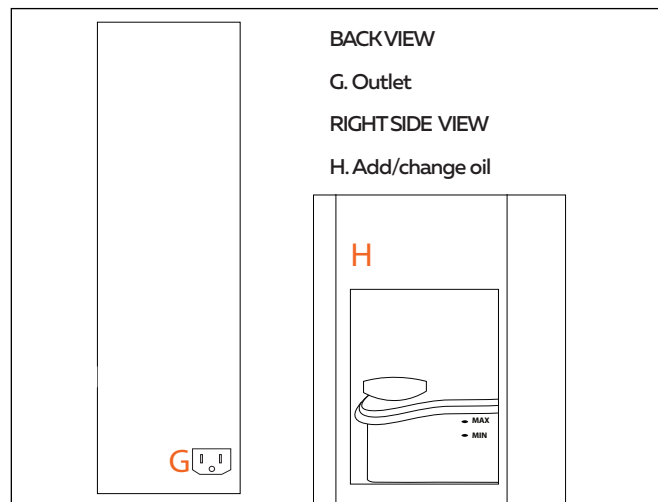
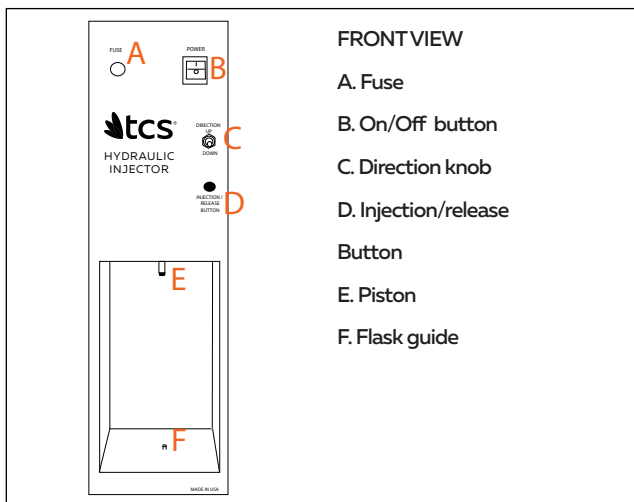
Item #3504-01 (110V)

Item #3504-02 (220V)



PLEASE READ MANUAL PRIOR TO USE

1. Get to Know Your Machine



SPECIFICATIONS

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

Weight: 50 lbs | 23 kilos

Dimensions: Width 11" | Height 22" | Depth 6.5"

Available voltage: 110V & 220V

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 instrument	10 cm / 4 inches
Sides of the instrument	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. Pour 24 fl oz. of Hydraulic & Jack Oil (included) into the oil receptacle found on the right side of the machine marked Add/Change Oil. **FIG 1 & 2**
3. Cover the opening with the plate (found in the plastic bag along with 2 screws). **FIG 3**
4. Plug the unit into a grounded outlet.
5. Select a place near the Hydraulic Injector to place the TCS Digital Furnace. **FIG 4**

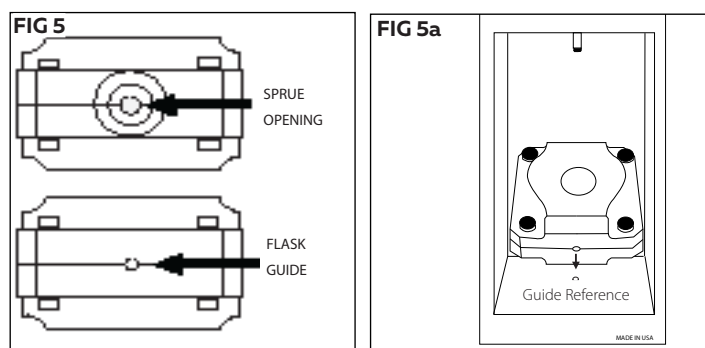
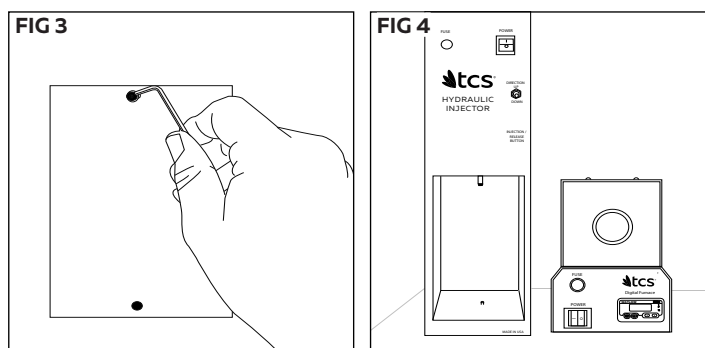
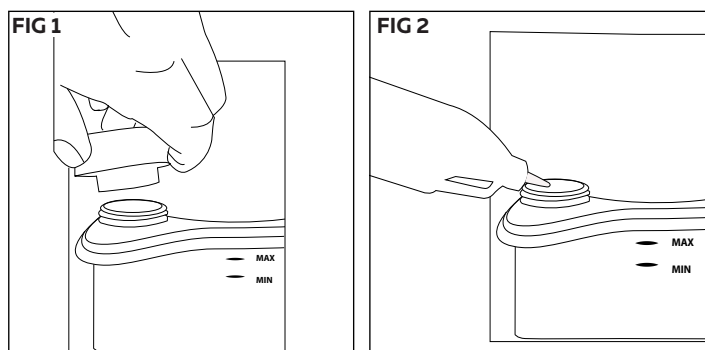
Note: The furnace should be close enough to the injector to allow for easy transfer of the molten resin to be transferred from furnace to press. **FIG 4**

Note: View TCS Digital Furnace for instructions.

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

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. Place the flask vertically with the injection sprue opening facing up directly under the piston.
3. Be extra careful to center the flask when not using the guide.



4. Practice Injection First

Get to know the injector. Practice before you inject a case for the first time in order to better understand the unit and become familiar with it.

1. Turn on unit.
2. Push the direction knob down. Push the injection/release button and keep pressed as the piston goes down. You must keep the button pressed or the piston stops automatically. You will hear a sharp change in the sound once it reaches its limit.
3. Push the direction knob up. Push the injection/release button and keep pressed as the piston goes up. You must keep the button pressed or the piston automatically stops. Again, you will hear a sharp change in the sound once it reaches its limit.
4. Repeat this practice step with a cylinder in place, so that you get accustomed to properly placing it.

5. 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.

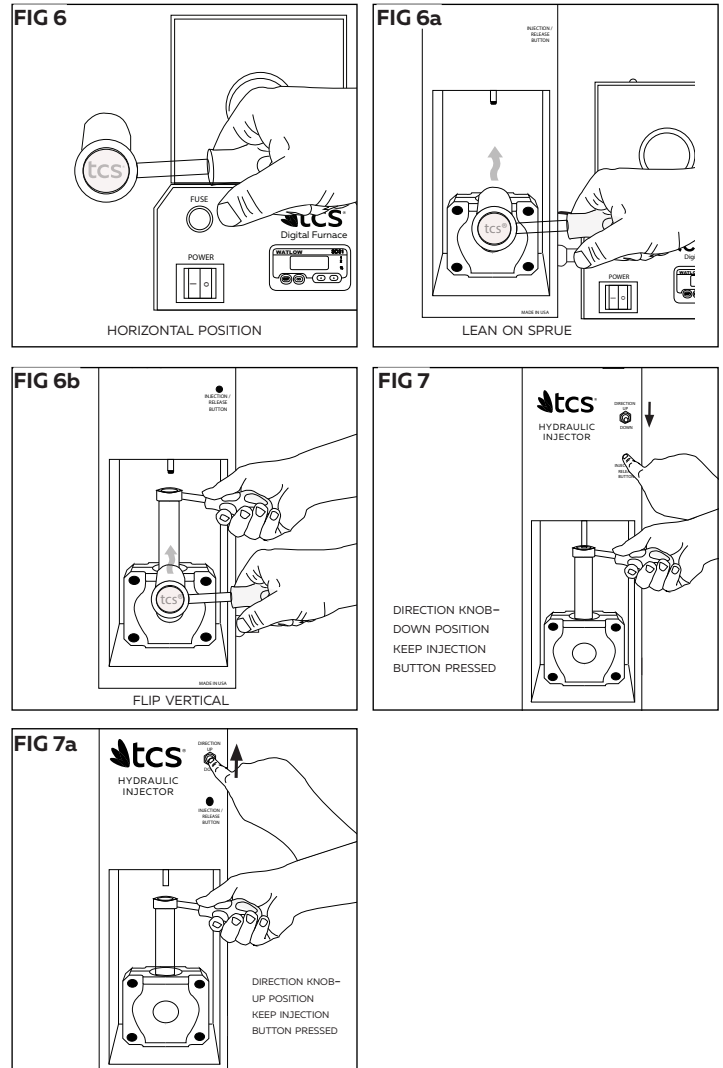
Note: View TCS Digital Furnace for instructions.

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

1. Carefully remove the cylinder from the furnace, keeping the cylinder in a horizontal position **FIG 6** until you lean it over the sprue opening of the flask **FIG 6a & 6b**, you can then bring it to vertical position. Making sure that it fits centered on the flask.
2. With one hand holding the cylinder in place, immediately, push the direction knob to the DOWN position and push the Inject/Release button and keep pressed until the cartridge bursts and the piston has reached its limit. You will notice a sharp change in the sound of the unit. **FIG 7**
3. Allow the injection to compress for at least 3 minutes prior to removal.
4. To remove, hold the cylinder in place with one hand and with the other hand push the direction knob to the UP position and push the Inject/Release button and keep pressed until the piston reaches its limit at the top. Again you will notice a sharp change in the sound of the unit. Release the button. **FIG 7a**
5. Remove the flask and cylinder, twist off the cylinder from the flask and purge the cylinder of the bronze disk and the cartridge remnants.
6. Allow the flask to cool for approximately 25 min.

5. Maintenance

1. Every 6 months check the oil and be sure that it does not go below "minimum". Please do not attempt to do repairs. Call your dealer for information about manufacturer's policy.



TCS, Inc.

2619 Lime Ave. Signal Hill, CA 90755

866-426-2970 | 562-426-2970

info@tcsdentalinc.com

www.tcsdentalinc.com

