

Section 3 Safety

Introduction

High injection pressures and high temperatures are used in the operation of hot runners. To protect the operator in the work place, ensure that all safety devices are installed on the machine.

- Be aware of all warning labels attached to the mold and machine.
- Refer to the machine user manual for safety procedures and checks not included here.

Safety and Handling

The equipment supplied is subjected to high injection pressures and high temperatures.

- Ensure that extreme caution is observed in the operation and maintenance of the hot runner system and the injection molding machines.
- Never disable or bypass a safety device.
- It is highly recommended that all operators wear face shields and use heat resistant gloves when working around the feed throat, purging the machine or cleaning the gates of the mold.
- Check frequently for possible oil leaks/water leaks. Stop the machine and make repairs.
- Remove purgings from the machine immediately.

Operating the Mold

Check that all coolant, hydraulic and air lines as well as electrical cables will not interfere with the moving parts of the mold, machine or robot. The lines must be of sufficient length so that they will not strain or pinch when the mold halves separate.

Notices

Notices throughout this manual indicate additional information that must be performed or observed.

**DANGER:**

Danger indicates an immediate hazardous situation, which, if not avoided, will result in a serious injury or death.

**WARNING:**

Warning indicates a potentially hazardous situation, which if not avoided, could result in a serious injury or death.

**CAUTION:**

Caution indicates that damage to equipment is possible.

**NOTE:**

Notes are added to give more information, usually in a procedure.

**IMPORTANT:**

Important indicates additional information to be used as a reminder.

Cautions

For water-cooled gate inserts, coolant must be maintained with the proper mixture to prevent corrosion and circuit blockage.

Hoses fitted to the mold will contain high or low temperature fluids or air under high pressure. The operator must shut down and lockout these systems as well as relieving any pressure before performing any work with these hoses.

Never perform any work on the mold unless the hydraulic pump has been stopped. Care must be taken to ensure the nozzle terminal ends do not come in contact with the hydraulic fluid. The nozzles may short out or become damaged.



CAUTION!

Do not mix electrical power cables with thermocouple extension cables. They are not designed to carry the power load or list accurate temperature readings in each other's application.



CAUTION!

High voltage and amperage cables are connected to the mold. Electric power must be shut off prior to installing or removing any cables.



NOTE: All Mold-Masters systems are 220VAC.



CAUTION!

Water and or hydraulics on the mold may be in close proximity to electrical connections and equipment. Water leakage may cause an electrical short circuit. Hydraulic fluid leakage may cause a fire hazard. Always keep water and /or hydraulic hoses and fittings in good condition to avoid leaks.

Heater Element Caution

To maximize heater element and component life, the temperature must be controlled and maintained within safe operating limits. Mold-Masters strongly recommends individual control of each heated component, including heater plates, with a reliable temperature controller that includes soft-start protection.

All Mold-Masters heated components are manufactured to standards that ensure safe and reliable operation provided that the following precautions are met:

- Always operate the system using correctly installed "J" type thermocouples connected to a reliable temperature controller with "soft-start" protection.
- Avoid running the system for long periods on "manual" control.
- Use caution when applying power in "manual" mode. Use minimum heat required for the process to avoid overheating and possible damage to components.
- Always replace pinched or damaged thermocouples.
- When "grouping" heated components together and controlling more than one load from a single thermocouple, make sure that the components are of similar material, wattage, size and are exposed to the same thermal conditions.
- When replacing heater plates or other heated components always replace with genuine Mold-Masters components of the same type and install as originally specified on Mold-Masters general assembly drawings.