opening when the dies are closed before being removed from the machine

By means of the slot in the carrier arm fastened to the front fixed platen, the entire block and bell crank assembly can be pushed to either side of the machine

It is a prerequisite of safe die casting operation that no operator be allowed to place his hands or arms between the dies Long handled pliers or tongs should be used Mechanical ejectors are even safer

Written job safety instructions should be given to each operator Items that he is to check before operation and to watch during operation should be posted on his machine, preferably under glass (See Fig 26-23)

To reduce the possibility of fire from flammable hydraulic fluid sprayed on the molten metal, a sheet metal guard should cover the fire pot This guard should have a "lookout" hole with a hinged cover so that the operator can determine the amount of metal in the pot (Fig 26-24). Also see the next chapter for more details

Rear screen guards will help prevent employees from being caught by the ram action of the machines (Fig 26-25)

The high fire hazard on a die-cast machine is at the metal pot end A break in the hydraulic system which uses flammable fluids may spray vapor into the metal chamber, with consequent ignition and fire

This problem may be met by use of a closed system at the shot end in which the piping and cylinder operate with water and a small percentage of oil This system is actuated by a slave intensifier cylinder The die close operation and the big end of the slave cylinder and accumulator, all of which are oil driven, are at the end of the machine opposite the hazardous metal pot

Maintenance Maintenance of die cast machines is especially important because of the high pressure The piston rod, cylinder, rings, and packing should be kept in perfect condition Defects should be repaired at once The cams and toggles used for closing the die must be correctly adjusted and lubricated Piping should be checked periodically for leaking joints, and leaks should be repaired immediately.

Operation Die-casting dies of seemingly identical cavities often do not operate alike, and each die may have certain operating

DIE-CASTING MACHINE

Safe Operation

1 Wear eye and face protection at all times in the department

2 Wear heat-insulated gloves

3 Keep sleeves rolled down, shirt closed at the neck

4 Step back of the die when making the shot

5 Never clean or lubricate the die by hand Use the air hose or a brush

6 Don't neglect burns, not even small ones

7 If your machine is out of order, report it at once

8 When you can, use tongs to remove castings

Fig 26-23. Safety check list for die-casting machine

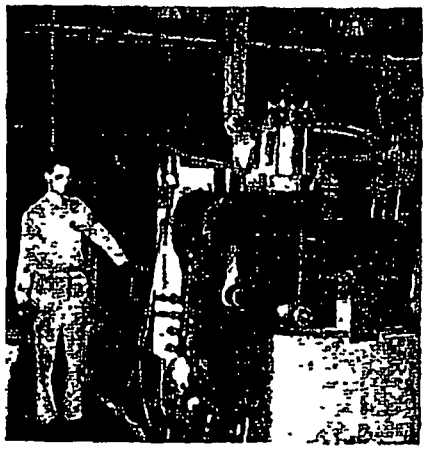

Fig 26-24. Melting pot with sheet-metal enclosure and metal chute so that molten metal can easily be poured from a bull ladle into the pot.

Courtesy Guide Lamp Div., General Motors Corporation