



7 Service and Maintenance

This section describes maintenance procedures that need to be carried out by the user. For any replaced parts, always verify contact surfaces dimensions using spotting paste, or by comparing the measurement with the part being replaced.

7.1 Maintenance of Valve Gate Systems

To provide for the continuous optimum operation of the Hot Runner System with valve gates, it is necessary to perform periodic visual inspections after every 6 months of operation or after each 150,000 shots (whichever is reached first).

7.1.1 Checklist for Valve Gate System Maintenance

- 1) Check of pneumatic and hydraulic distribution systems
 - Are the connections and lines properly installed?
 - Are the connections and lines intact (pipe / hose bends and fittings, damaged or worn hoses, uncontaminated distribution etc.)?
 - Is there a noticeable loss of oil?
 - Are the warranty seals intact?
- 2) Check of actuator cooling (only for manifold mounted actuator)
 - Are the connections and lines properly installed?
 - Is the condition of the closing plug of the cooling circuit good?
 - Are the connections and lines intact (pipe/ hose bends and fittings, damaged or worn hoses, uncontaminated)?
 - Is there a visible coolant leakage?
- 3) Check of valve pin guide bushing
 - Is there any plastic leakage visible (leaking melt)?
 - Do the valve pins or guide bushings show any signs of wearing?
 - This inspection should be done more frequently when using materials with fillers such as glass-fiber, ceramics, minerals, talc, or metals.
- 4) Check of tightness between valve pin and nozzle tip
 - Is there any leakage visible (is a large circular residue created when demolding)?
 - Does the valve pin or nozzle tip show any signs of wear?
- 5) Test of temperature sensors (thermocouples)
 - Are all temperature sensor cables properly installed?
 - Are all cables intact (insulation, contacts)?
 - Using a surface pyrometer, verify that the controlled temperature is correct.
- 6) Check of cables
 - Are all heating circuit and temperature sensor cables properly installed?
 - Are all cables intact (insulation, contacts)?
 - Are any of the coolant lines clogged?
 - Are any parts of the system corroded or otherwise showing signs of wear?
- 7) Check of manifold – nozzle connection
 - Is there any leaking melt visible?



7.1.2 Cleaning out the Hot Runner System

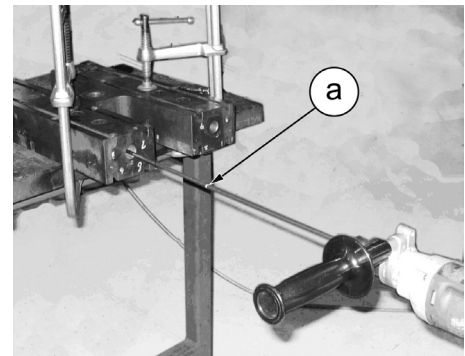
If your Hot Runner System is highly contaminated you may drill it out if it is provided with replaceable runner plugs.

To drill out the hot runner you need the following tools:

- Drilling machine
- An extended drill bit. The diameter of the drill bit has to be 2,5 mm (0,1") smaller than the diameter of the hot runner. The drill bit end has to be rounded off. The brazed extension has to be concentric.
- An extended reamer. The diameter of the reamer has to be 0,05 mm (0.02") smaller than the diameter of the hot runner. The brazed extension has to be concentric.
- A spiral wire brush. The diameter of the brush has to be a little bigger than the diameter of the hot runner. The spiral wire brush can be extended through a conduit and it has to be concentric to the extension.

- 1) Prior to drilling, mark the maximum depth (a) at the drill bit extension, the drill bit is allowed to go into the hot runner.

(a) = Depth labeling



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- 2) Do not drill deeper than about 13 mm (1/2") at once, then remove the material from the drill bit.

NOTICE

This is done to avoid the drill sticking inside the material or getting damaged.

- 3) Repeat this process until it reaches the end of the bore.

- 4) Ream the bore carefully with the reamer.

- 5) Brush the bore out with the spiral wire brush.