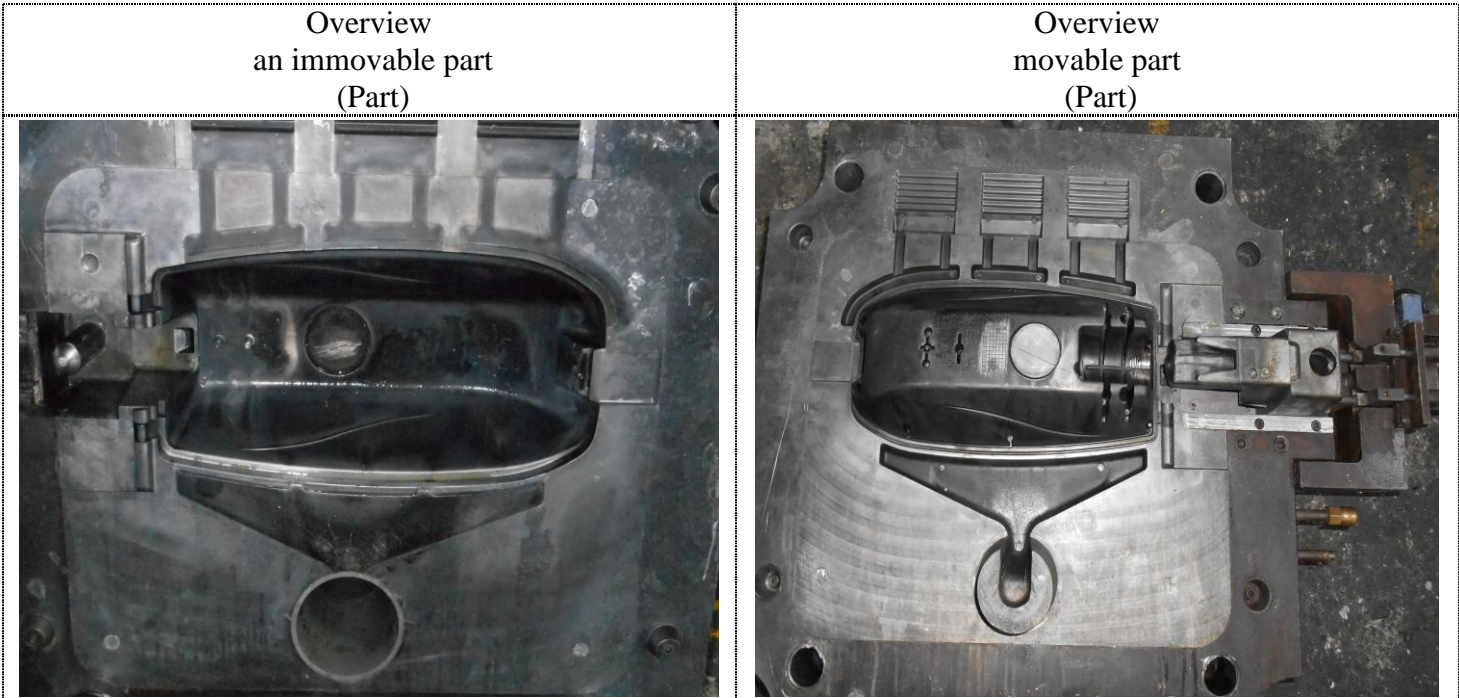
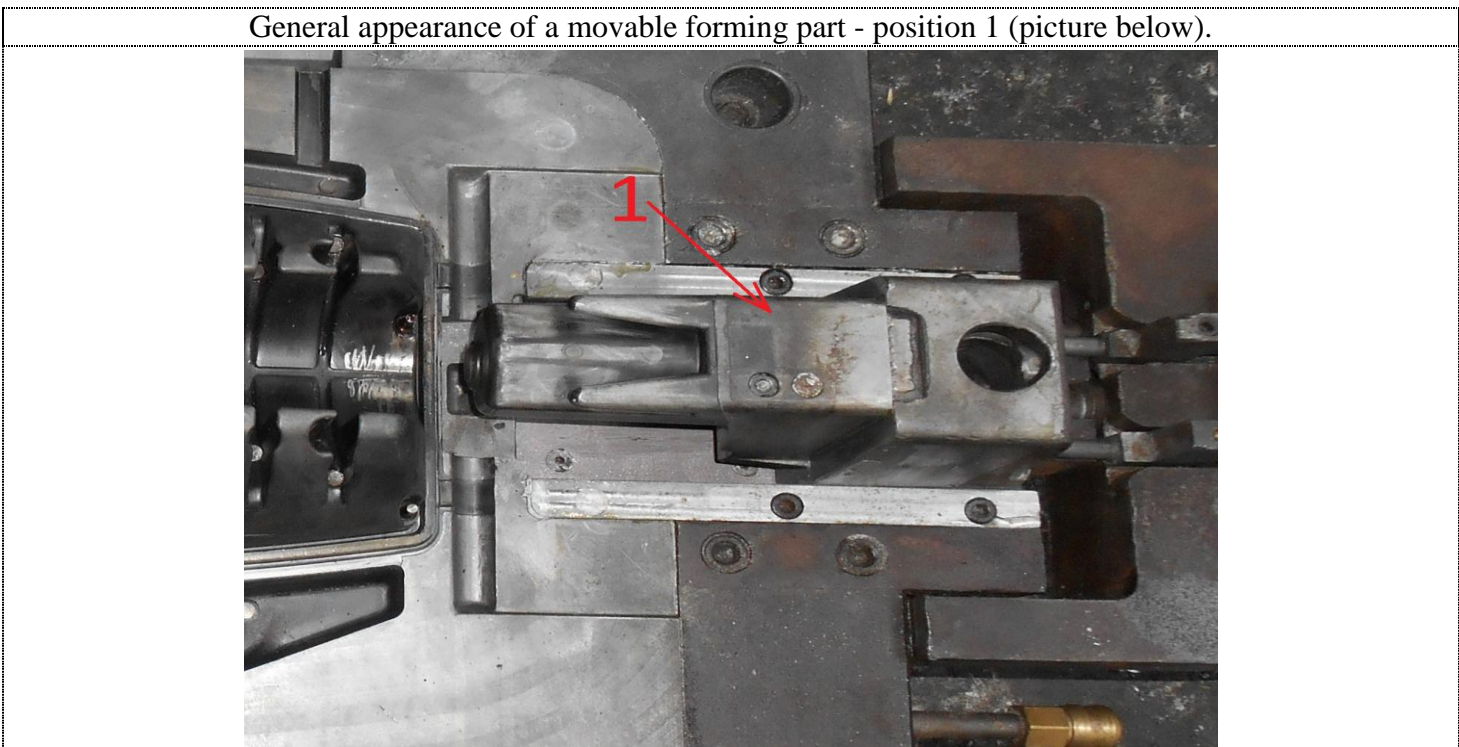


D1. Team: Deputy Production Manager V. Malysh, Worker V.Oleinik.

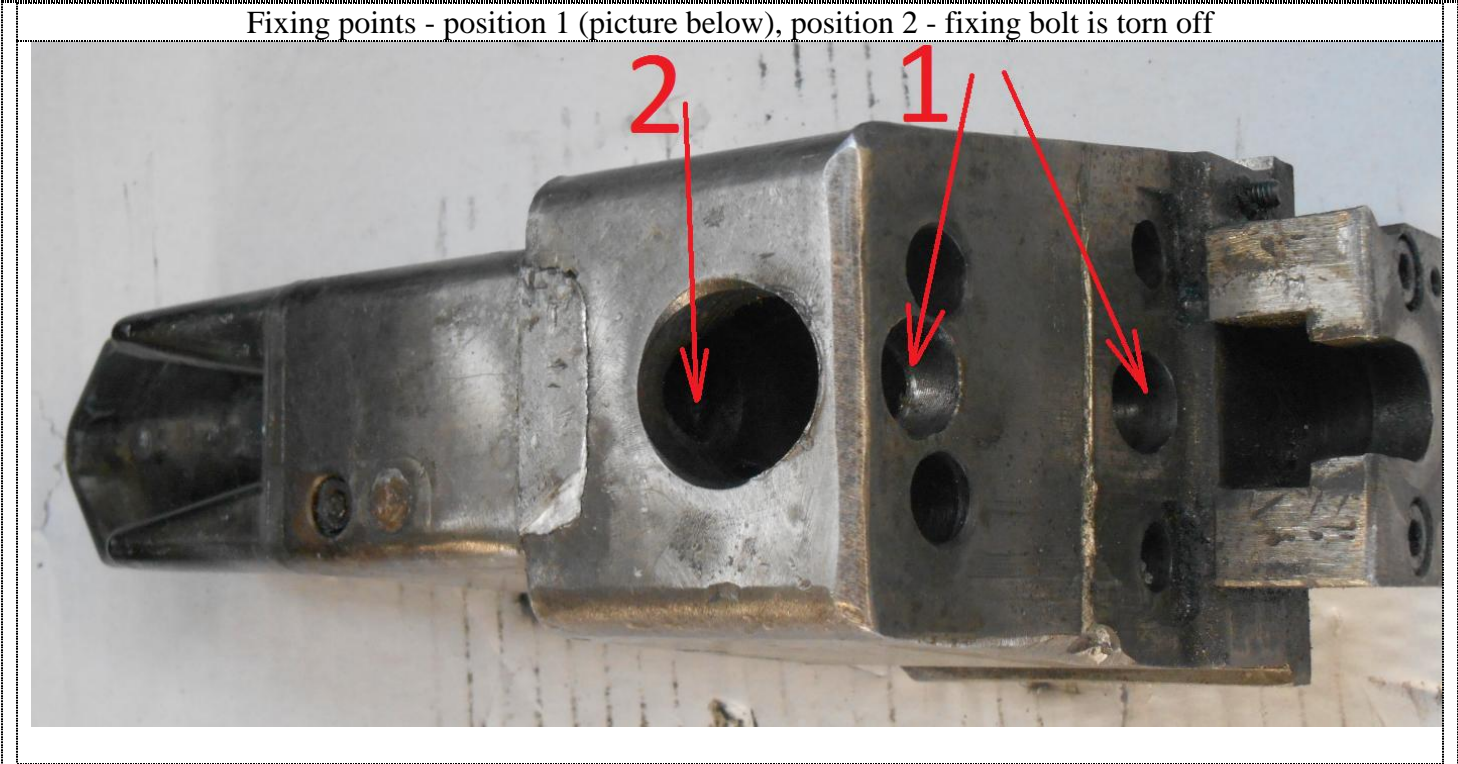
D2. Problem Description:
Operation: Casting (Equipment: Mold)



Fixing bolts of forming periodically tears off during manufacturing of castings. Therefore it is necessary to make stops and to make routine repairs of the given unit of the mold.



Fixing points - position 1 (picture below), position 2 - fixing bolt is torn off



In this condition trimming tool is usable, but it is necessary to make stops at regular intervals and to make repair of a movable element of the mold. As a result productivity falls and **there is a danger of breakdown of thin parts of the given movable element** (picture below - position 1). The photo shows that this part 2 has been repaired (bolts from above are established) before shipment at SI Castings premises.



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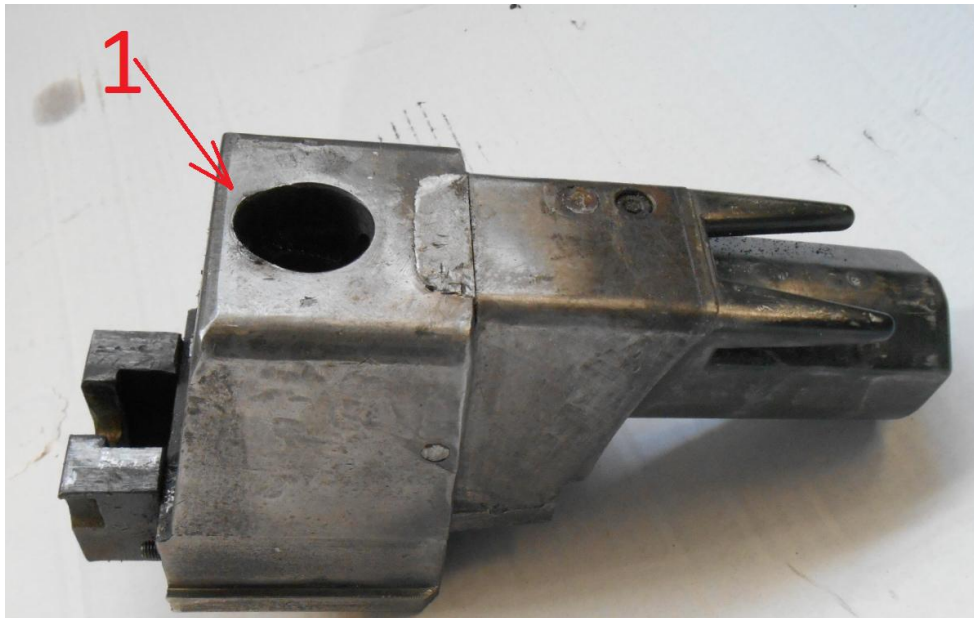
D3. Interim Containment Actions:

It is possible to correct breakages of bolts, but there are fears that breakdown could be more complex.

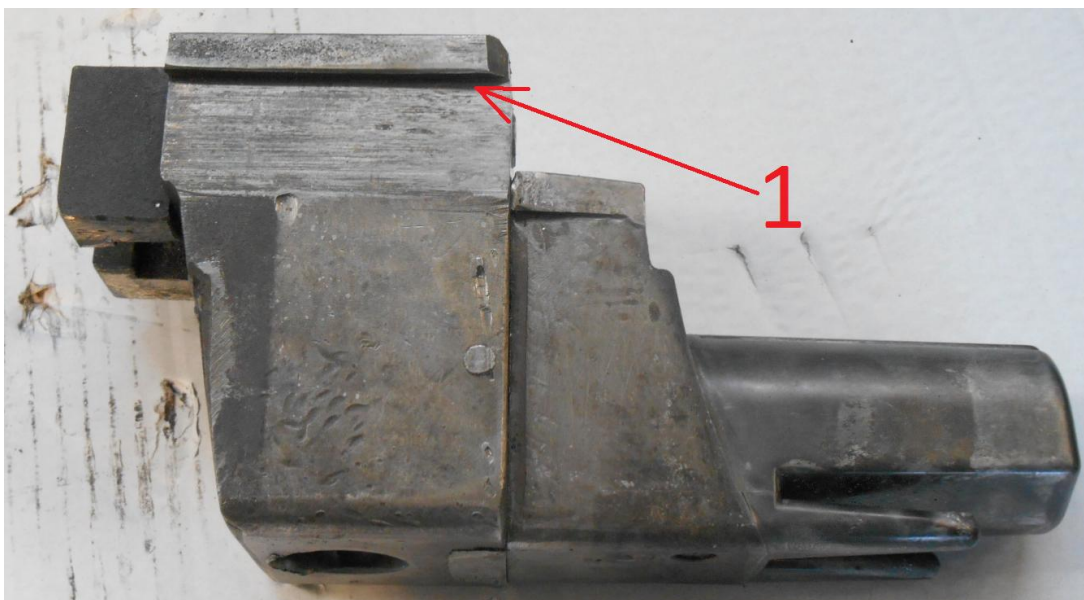
D4. Root Cause Analysis:

After detailed studying of the reasons of a problem, it had been established, that the movable element of the mold is in bad condition and repeatedly has been repaired. After repair, the basic body has been made from a material which has not passed thermal processing (hardness 30 HRC). Due to the fact that the body of the movable element is not sufficiently hard, it has the large wear of an inclined aperture by means of which the inclined column of an immovable part of mold outputs forming of castings at opening the mold.

Picture below, position 1 - wear of a body it is visible.



The guides of a movable element could be exposed to wear because of absence of thermal processing. It can lead to occurrence of gaps and can become jammed at movement (a photo at the bottom, a position 1).



D5. Corrective actions:

- **in case of breakage of fixing bolts to make their replacement.**

D6. Elimination of a problem, confirming of a positive effect:

- the torn off bolt has been replaced, the mold is efficient. **The positive effect has been achieved.**

D7. Actions necessary to prevent problems:

- **to request permission from the owner of the mold to order a new movable element.**

D8. To announce the report on the planning meeting, to thank officially to participants.