

## Failure of chamber door hydraulic actuator

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A Member has reported the failure of a transfer under pressure (TUP) door hydraulic actuator.

### What happened?

After divers had transferred from the chamber into the bell, an attempt was made to close the upper door using the hydraulic hand pump. The hydraulic actuator failed, causing the door to drop. Safety procedures in place prevented any injury to the divers.



### What were the causes?

Upon further investigation it transpired that the heliox gas mix had managed to migrate past the seals inside the rotary actuator and had pushed the hydraulic fluid out of the hydraulic lines, losing hydraulic control of opening and closing the door.

The actuator was removed from the chamber and stripped down completely. All the seals inside the actuator were found to be completely perished inside.

This particular actuator had never been removed, stripped and seals checked for over ten years due to the inaccessibility of the unit and being hidden under deck plating.

## Lessons learnt

Members are reminded of the importance of identifying critical components and the subsequent inclusion of these components into the planned maintenance systems.

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