

CASE STUDY CUP-OH2 BACK PULL OUT REDUCES FAILURES



Back Pull Out reduces failures

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egion:	Americas
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PI Type:	OH2

ClydeUnion Pumps Aftermarket Technical Services team has experience across a range of services on critical rotating and reciprocating equipment to improve operational safety, reliability and efficiency. The repair of the United 4 x 6 x 8.5 OH2 and Back Pull Out assembly for the oil and gas market is one of our success stories documented in our library of case studies. These case studies highlight the requirement from the customer, how we achieved the goal and the process we followed to deliver the improvements.

Image left: Existing casing

Situation

Repair existing United $4 \times 6 \times 8.5$ OH2 pump casing and install an API 610 10th edition Back Pull Out assembly and new mechanical seals.

Challenge

Reliability issues with the existing pump prompted the customer to request pricing for a 10th edition Back Pull Out assembly. In addition, the performance of the pump had deteriorated over the years due to wash-out in the volute areas of the casing.



Existing bearing housing and cast cover

>ClydeUnion Pumps

Solution

In addition to repair of the casing, an API 610 10th edition Back Pull Out assembly was fitted to the existing casing and impeller. A new bill of material was generated, such that all future spare parts can be provided to the customer. The pump was provided with a complete data package, and was installed on the existing baseplate without modification.

The following work was undertaken:

- Damage to volute tips was undercut, weld repaired and hand dressed.
- The suction and discharge flange faces were weld repaired, along with the case ring and register fits.
- The casing was stress relieved after welding, and the casing was finish machined and hydrostatically tested.

- Upon completion of the casing repair work, the Back Pull Out assembly was fitted. The completed pump was painted and prepared for shipment back to the customer's site.
- Since initial installation and start-up, the pump has operated well with no failures to date.

Financial illustration

- The total cost of the repair and Back Pull Out upgrade was approximately US\$30,000. Lead time was approximately 3 weeks.
- The cost of a replacement pump including foundation and piping work was estimated at approximately US\$40,000 with a 26 week lead time.



Completed pump



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