

# Safety Alert for Schat-Harding Winch W80(W Series)

# **W80 SAFETY ALERT KNOWLEDGE**

Following a visual inspection of the Schat-Harding winch on another installation by SSI Technicians and subsequent investigations, SSI became aware of a Safety Alert from the Bermuda Flag Administration, issued in 2018 in relation to the Brevini Gearbox.

In briefest terms it relates to the failure of the Brevini gear inside the winch drum which is completely inaccessible for oil change or assessment.

These units have failed in operation and led to the immediate and uncontrolled descent of the TEMPSC as indicated by the Safety alert. Our American Brevini trained colleagues have performed a number of rebuilds to date as a result of this alert.

There is conflicting information between manufacturer of the winch (Palfinger, formerly Schat Harding) vs the manufacturer of gear (Brevini) which causes us to exercise extreme caution and present all that we know on the subject.

Schat-Harding/Palfinger state that the unit is sealed for life and requires no maintenance contrary to information presented in the Bermuda Safety Alert and from the Gear Manufacturer, Brevini.



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Safety Bulletin 2018 – 04

## BERMUDA SAFETY BULLETIN

### Failure of Large Planetary / Reduction Gear Components of LSA Winch Equipment

Notice to all Ship and Vessel Owners, Ship Operators and Managers, Masters and Officers of Bermuda Registered Ships Incorporating Davit Launched Lifeboats and Rescue Boats

This Bermuda Safety Bulletin is issued to raise awareness of failed fill plugs and seals on the large Planetary Gears incorporated into the W-Winch series of lifeboat winches produced by UMOE Schat-Harding (now Palfinger Marine), Inc.

The following W-Winches manufactured between 1997-2000 may be affected.

W50 L	W 50RS	W80R2	W120RLD	W 120 OLLD	W120LLDG20
W50LLD	W50OL	W80R2LD	W120R2	W120TM	W120TLDG20
W 50 R	W 80L	W 80OL	W120R2LD	W 120LM	W120MLDG20
W 50 R LD	W80LLD	W120L	W 120T	W120LM	W150 L
W 50 R2	W 80R	W120LLD	W 120 T LD	LD W120	W150O
W 50 R2 LD	W 80 R LD	W 120R	W 120 OL	LF LD	W150H
				W120TFLD	

### THE DANGERS OF LARGE PLANETARY GEAR / REDUCTION GEAR FAILURE

Failure of the Planetary Gear/Reduction Gear will result in the winch losing the capability to control the descent of the lifeboat/rescue boat causing the boat to descend rapidly and uncontrollably. If this happens it will cause the Planetary Gear/Reduction gear in the winch drum to operate at speeds far higher than it was designed for, subjecting the parts to tremendous friction which may cause the gear box to rupture. Such failure may occur within seconds of overspeed operation.

The reason for this is understood to be due to the planetary gear fill plug either falling out or leaking, leading to the gears running in a dry condition. These large Planetary/ Reduction gears are located in an inaccessible area and oil levels can only be monitored by either fully dismantling the winch or performing an internal video inspection of the drum.

# Millom West and Calder



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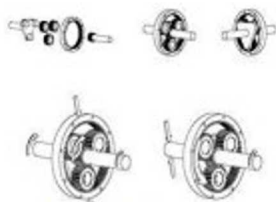


Fig. 1: Planetary Gear Schematic



Fig. 2: Planetary Gear after excessive running speed



Figs. 3 and 4: Interior of winch drum showing ordinarily inaccessible planetary gear and filling plugs that have fallen out. Note that there was no external indication of an oil leak.

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Figs. 5 and 6: Interior of above reduction gears after running in a dry condition leading to overspeed damage

BSMA is aware of an instance where this failure occurred on a Bermuda flagged vessel, resulting in the rapid descent of one of the rescue boats. It is also understood that this has occurred on many other vessels around the world over the last few years.

Ship Owners/Operators whose ships are fitted with the above listed winch model numbers should ensure that the winches are inspected and maintenance carried out in accordance with OEM's instructions.

For more information please contact: [survey@bermudashipping.bm](mailto:survey@bermudashipping.bm)

Chief Surveyor  
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## Millom West and Calder

The winch type is detailed in the Safety Alert, specifically between the years 1997 to 2000.

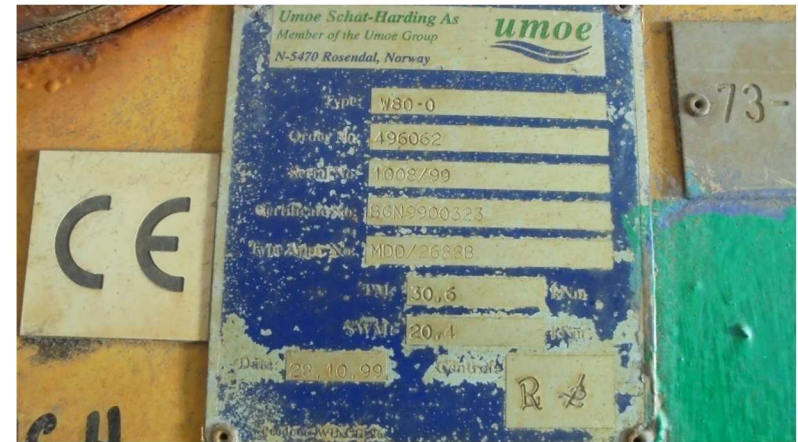
The plate on Millom West winch is dated 28.10.1999

The plate on Calder winch is dated 29.04.2002

Concerns however remain in that Brevini, the manufacturers of the internal planetary reduction gearbox dispute the 'sealed for life' statement presented by Schat-Harding/Palfinger.

The only known difference post 2000 is an access port, not the resolution of the safety concern. This has been mentioned but we are yet to find winches in service with this access port.

## SAFETY ALERT

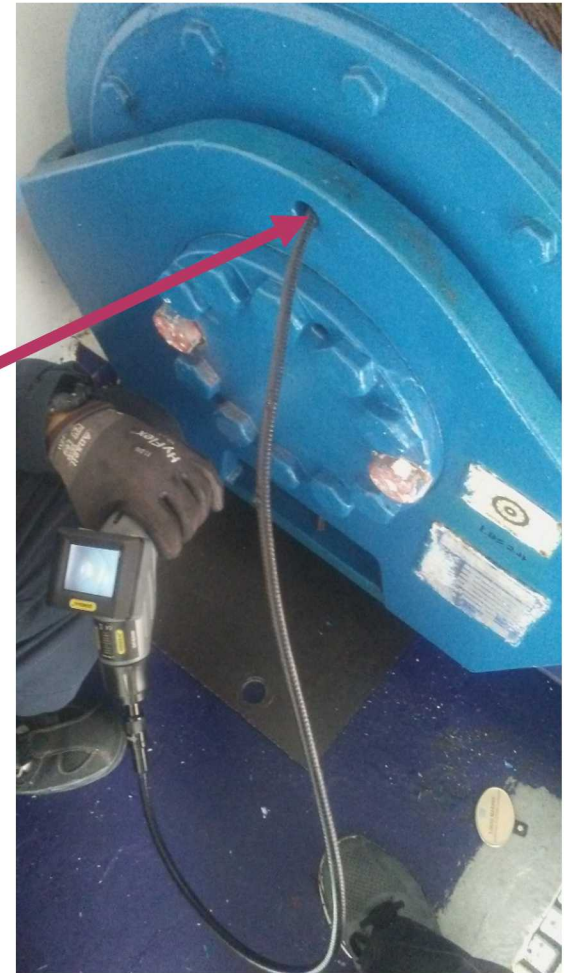


## Millom West and Calder

If no access port exists (MW to be checked), a mag drill would need to be used to open an access port through the case lifting point. A Borescope can then be used to see whether the oil bung of the brevine gear is in place and give comfort that no oil has leaked.



## SAFETY ALERT

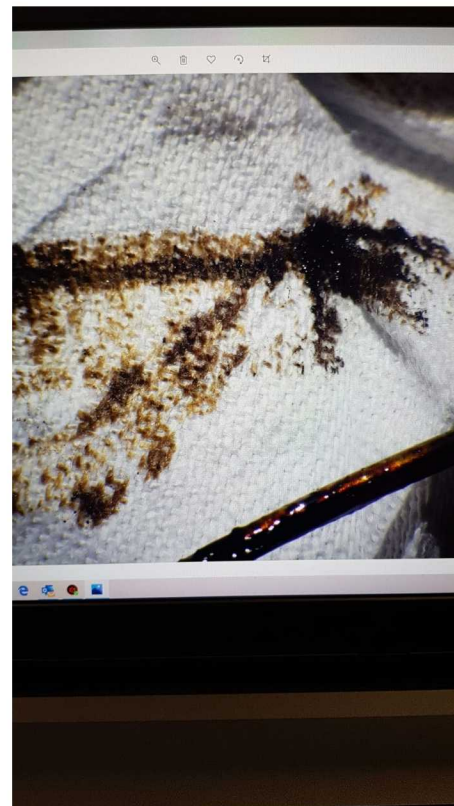
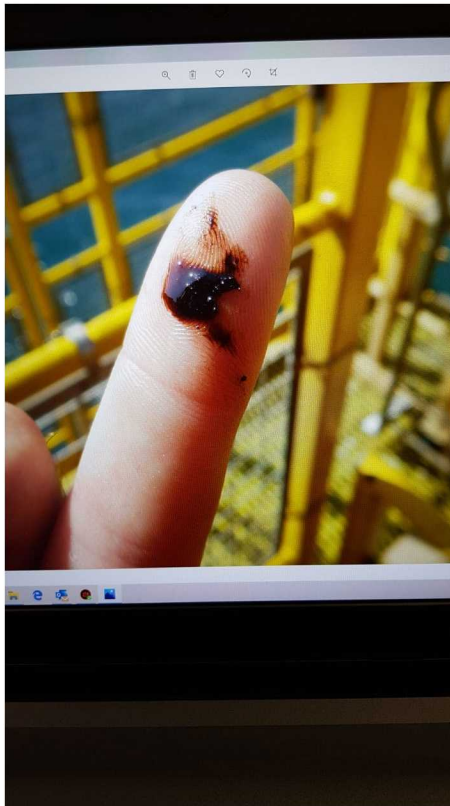
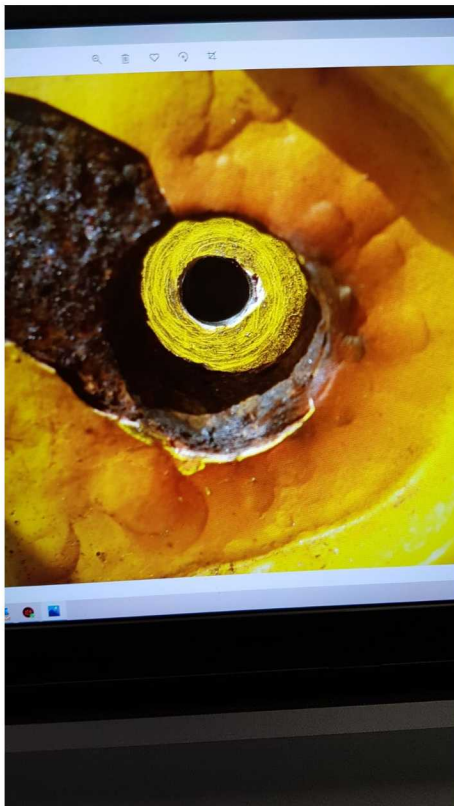




## Example of Leaking Brevini Gear Unit

## SAFETY ALERT

Photos taken on another customer's asset on a larger model winch (W120) 02 June 2020, indicating oil bung compromised and oil leaking from the planetary gearbox. Winch subsequently taken out of service



## Summary

Given the impact of a Brevini gear failure SSI recommend an inspection and offer the following plan of action:

- 1) Undertake an inspection of the gear using the above method at the earliest available opportunity
- 2) Inspection can be undertaken offshore but recommend return to workshop for overhaul
- 3) Load tests in the interim period to be undertaken with caution with maintenance pendants attached from the outside of the TEMSPC before accessing to fill with load test bags.

Should any investigation discover oil has leaked, discussions to be undertaken on the safety of an overload test, with the activity being fully risk assessed.

Even if oil is not present, it does not offer definitive proof of condition.

In any case due to the conflicting information received, the winch will require a full strip down and Brevini inspection.