



# H S E

HEALTH SAFETY ENVIRONMENTAL



Alert #: SA 36-23

Date: October 23, 2023

## *Air Spider Near Miss*

On the morning of October 15th, 2023, a Blaster/Painter working beneath the sub-cellar deck of an offshore platform encountered mechanical problems while operating an air Spider. The operator reported the Spider's unresponsiveness when attempting to raise it vertically into position. He made several attempts to cycle the actuator up and down in an effort to resolve the issue. The supervisor instructed him to lower the unit to the Plus 10 deck for troubleshooting. However, when the operator stepped out of the basket onto the Plus 10 deck and tried to secure the unit, it unexpectedly descended freely into the water below.

An incident investigation revealed that all the teeth on the bronze gear in the worm drive transmission had sheared off. It is believed that as the operator encountered mechanical issues, the steel worm gear lacked the required tolerances to engage the bronze gear teeth, leading to their shearing off. While the operator was cycling the actuator, the gears intermittently re-engaged until they reached the damaged teeth, ultimately causing a catastrophic failure as the unit was no longer under load, and the remaining teeth on the bronze gear began to slip across the surface of the steel worm gear, shearing them off as the fall momentum increased.

The manufacturer recommends inspecting this drive every 30 days (sooner if there are oil leaks) from the filler hole when checking the oil level. The width of the gear teeth is approximately 1/16" (page 15 of the Spider Operator's Manual, Transmission). Moving forward, a visual inspection of the bronze gear will be conducted weekly and documented on the daily inspection checklist. If the edge of a tooth appears to be getting sharp, it will be documented, and the unit will be taken out of service for further inspection by a certified Spider technician.

For additional information regarding this alert, please contact the Corporate HSE department.



*Image of bronze gear in good condition*



*Image of bronze gear referenced in summary*

**Report all incidents immediately to the GIS Hotline**

**1-855-543-5163**

Following your initial phone call, an incident report **must** be completed and e-mailed to:

[incident@gisy.com](mailto:incident@gisy.com)

**SAFETY ALERT**