OAS-25A
(4/18)

Interagency Aviation
SAFETY ALERT

No. IASA 21- 06 **Date: September 24, 2021** **Page 1of 3**

Subject: "Klump Pump" or "Smart Pump" External Load

Area of Concern: Helicopter External Load Operations

Distribution: All Aviation Operations

Discussion: Recently, a Type 1 Helicopter was assigned a mission to deliver a "Smart Pump" hose and appliances to the fireline via external load. As the aircraft approached 50 knots, the pilots noticed vibration in the cyclic. The helicopter slowed to 30 knots to minimize the vibration. When the pilots felt the cargo shift, they looked out the window and noticed that one of the straps had disconnected from the load. The pilots notified the helibase, selected a flight route over unpopulated areas, and returned to the helibase without further incident. The total flight time was less than 10 minutes.

Picture Credit: Smart Fire Solutions, LLC

A "Smart Pump" is a 300 to 1700-gal IA/Mop-up tank that can be transported via helicopter external load to the fireline. The total weight of the Smart Pump and equipment is around 3,000 lbs. The Smart Pump is equipped with four contractor-provided nylon straps, each capable of supporting 3200 lbs. The straps are attached to a Gunnebo Swivel Shackle (see pictures below). Each strap is attached to the tank frame with a screw pin anchor shackle secured in place by a zip tie.

Liftex Strap Specifications

Gunnebo Swivel Shackle w/ Liftex Straps

Anchor Shackle w/zip tie

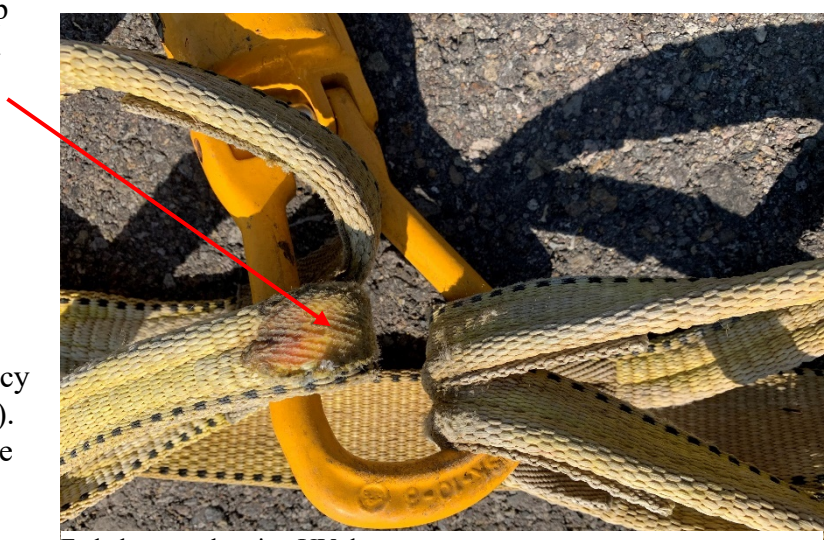
The load had been inspected prior to flight with no anomalies noted. Once the aircraft returned to the helibase, an additional inspection revealed that one of the lift straps had separated and some areas of the nylon appeared to be melted along with signs of friction and chaffing damage.

Broken Liftex Strap

Melted Liftex Strap near Gunnebo Shackle

Post incident observations:

- The company has five units in service. All units are configured with the same tow strap rigging system.
- The straps have been installed on all of the units since 2015 and have no UV protection. There were obvious signs of fading and UV damage on the two units that were inspected.
- The second unit showed notable strap melting. The straps appeared to bond together at the point where they travel through the swivel.
- All the rigging equipment is provided and installed by the vendor with no oversight required by the agency.
- The company providing the Smart Pumps were hired under an Emergency Equipment Rental Agrement (EERA). No prior evaluation or approval of the equipment was completed by the agency.



Faded areas, showing UV damage to straps

Recommendations

- Any external load rigging for Smart Pumps should involve disconnecting all contractor provided rigging equipment and using approved lead lines and swivels to rig the load. This would consist of four lead lines and three swivels (see picture to the right).
- Prior to each use, helicopter personnel should thoroughly inspect all straps and equipment for signs of UV damage, burns, frays, or tears. This is especially important for backhaul after the Smart Pump has been exposed to heat and environmental factors on the fireline.

Recommended Rigging for Smart Pumps

- Incident Business Advisors (INBA) should seek aviation subject matter expert (SME) input when issuing EERA's for aviation services.
- By operating under an EERA, it is imperative for Incident Management Teams (IMTs) and Helibases to ensure equipment is in acceptable operating condition. Always notify a Forest Service Regional Helicopter Operations Specialist or Bureau Helicopter Program Manager when transporting non-standard equipment.
- Vendors should consider using a round cable or rope as opposed to a flat strap to minimize the vibrations and friction.
- EERA's, in conjunction with aviation SMEs, should develop external load equipment standards for contractor provided rigging.

For further questions contact a Forest Service Regional Helicopter Operations Specialist or National Bureau Helicopter Program Manager.

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