

ONBOARD SYSTEMS
INTERNATIONAL

13915 NW 3rd Court
Vancouver, WA 98685
USA

Phone: 360-546-3072
Fax: 360-546-3073
Toll Free: 800-275-0883

www.OnboardSystems.com

SERVICE BULLETIN

Document No. 159-018-00 Rev. 1

Date: February 29, 2008

Subject: Cargo Hook Knob

Helicopters Affected: All aircraft with Onboard Systems Big Mouth[®] Cargo Hook, 528-017-00, 528-017-01, & 528-017-02.

Compliance: Recommended within 6 months of the issue date of this Service Bulletin.

Description: Onboard Systems has received reports of uncommanded load release with the Eurocopter AS350B2 aircraft using the Big Mouth[®] Cargo Hook, 528-017-00.

Cause: Investigation has determined that the uncommanded load releases were a result of the Cargo Hook's knob making contact with the pyramid frame as shown in figure 1. When the Cargo Hook's knob contacts the suspension frame under load, the shape of the knob causes it to be rotated. If the contact is abrupt enough, the Cargo Hook releases.

Figure 1. Failure Mode



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11212 NW St. Helens Road
Portland, Oregon 97231
USA

Phone: 503-286-4956
Fax: 503-286-0370
Toll Free: 800-275-0883

www.OnboardSystems.com

Action: Replacement of pentagon-shape knob, 290-471-01, with round knob, 290-471-02.

NOTE

The uncommanded load release described above occurred on a Eurocopter AS350B2. To prevent similar uncommanded release occurrences on other aircraft, knob replacement is recommended for all Big Mouth[®] Cargo Hook installations.

Approval: The engineering design aspects of this bulletin are FAA/DER approved.

Manpower: Approximately 0.5 man-hours will be required.

Required Material: The following material is required for accomplishment of this bulletin and may be obtained from Onboard Systems:

- 290-471-02, Manual Release Knob
- 510-271-00, tab washer
- 510-246-00, esna nut

Special Tools: None

Weight and Balance: Not affected

Electrical Load Data: Not affected

References: None

Publications Affected: Cargo Hook Service Manual 122-002-00
Cargo Hook Service Manual 122-003-00



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Accomplishment Instructions:

1. Visually check the appearance of the knob on Cargo Hook 528-017-00, -01 or -02. If the knob is pentagon shaped, proceed with removal and replacement. If the knob is round, this service bulletin has been previously complied with.
2. Figure 2 gives an illustrated parts list of the removal and replacement. For convenience, the replacement may be performed with the Cargo Hook attached to the aircraft.
3. Remove the Manual Release Cover, 290-473-01, by removing the two bolts, 510-253-00, and two washers, 510-095-00.
4. Removing the esna nut, 510-246-00 and the tab washer, 510-271-00.
5. Remove the knob, 290-471-01, use caution as the knob is spring-loaded.
6. Place replacement knob, 290-471-02, over the spring, capturing the upper leg inside the machined feature on its underside (see Figure 3). Pre-load the spring by rotating the knob 360° and then fit the knob over the oval boss on the shaft. Press down on the knob to seat it on the shaft.
7. Install new tab washer and esna nut. Torque nut to 30-35 in-lbs. Secure the nut by bending a leg of the tab washer against the esna nut.
8. Route the manual release cable through the fork fitting of the knob and re-install the Manual Release Cover with the two bolts, 510-253-00, and washers, 510-095-00. Torque the bolts to 30-35 in-lbs.
9. Check the action of the knob by rotating it clockwise. It should have a firm feel and spring back to the locked position when released. The indicator line should line up with the indication of locked on the Cargo Hook.
10. Safety-wire the two bolts, 510-253-00, together.
11. Make logbook entry.



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Figure 2. Knob Replacement

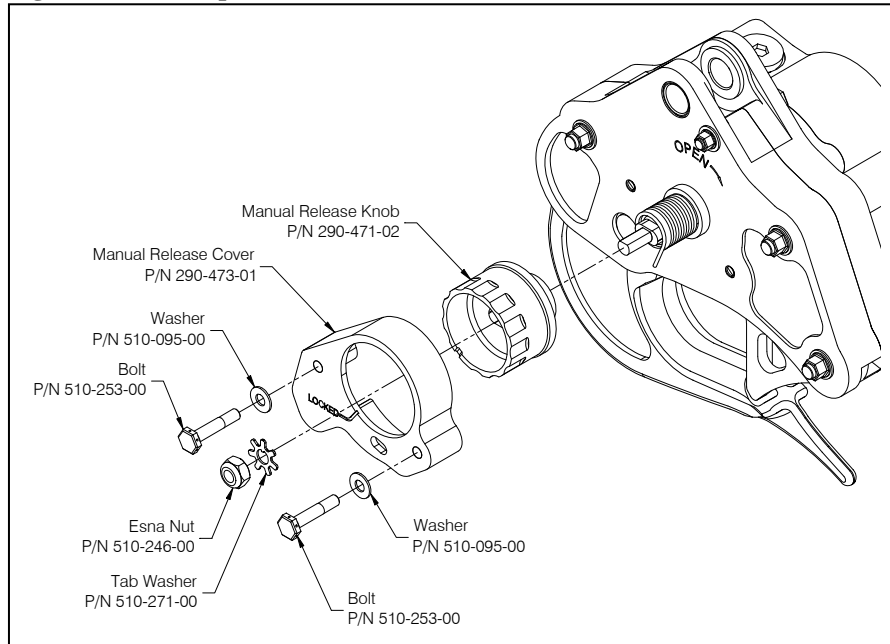


Figure 3. Spring Installation

