



U.S. Department
of Transportation
**Federal Aviation
Administration**

SAFO

Safety Alert for Operators

SAFO 16006
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Flight Standards Service
Washington, DC

http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo

A SAFO contains important safety information and may include recommended action. SAFO content should be especially valuable to air carriers in meeting their statutory duty to provide service with the highest possible degree of safety in the public interest. Besides the specific action recommended in a SAFO, an alternative action may be as effective in addressing the safety issue named in the SAFO.

Subject: Restricted Category, Bell Helicopter UH-1 Series, Helicopter Hydraulic Switch

Purpose: This SAFO alerts operators of UH-1 series restricted category helicopters, modified to be flown from the left seat during external load and long line operations, of the hazards associated with intermittent loss or total loss of hydraulic pressure.

Background: The model UH-1 series helicopter is frequently operated in the restricted category. Many restricted category UH-1 series helicopters have been modified by the installation of a left-hand bubble window and a fabricated shelf to hold engine instruments like N1 percent RPM, EGT, torque meter, load meter, and master caution light. These instruments are duplicates of existing instruments and enhance the pilot's ability to monitor critical engine instrumentation during external load operations.

These modifications were intended to provide the pilot instant indication of system malfunctions while maintaining situational awareness during performance of external load operations at low level. The controls the pilot needs to react to engine, rotor, and flight control malfunctions are readily accessible in the left seat except the hydraulic switch.

These installations and modifications have been approved by the Federal Aviation Administration (FAA) under the Field Approval Process. Some of the later modified helicopters also included a Rotorcraft Flight Manual Supplement and some were coordinated with the Aircraft Certification Office.

Discussion: A recent accident investigation involving a restricted category UH-1H revealed that a possible hydraulic leak may have resulted in an intermittent loss or total loss of hydraulic pressure. This may have resulted in the pilot not being able to control the helicopter at a low altitude. The pilot was operating the helicopter from the left seat. Due to the aircraft configuration, the pilot would have been forced to remove his hand from the collective, place it on the cyclic so he could reach across with his right hand to shut off the hydraulic switch. This action might have created a situation where control of the helicopter was compromised.

Recommended Action: All operators should be aware of the potential danger imposed by a hydraulic failure and the inability of the pilot to easily access the hydraulic switch. The Aircraft Maintenance Division (AFS-300) recommends that a duplicate secondary hydraulic switch be installed in the left bubble door instrument panel on all UH-1 series aircraft modified to perform external load operations from the left seat. This would improve the pilot's ability to react and quickly shut off the hydraulics without removing his hand from the collective.

Contact: Questions or comments regarding this SAFO should be directed to the Aircraft Maintenance Division, General Aviation Branch, AFS-350, at (202) 267-1675.