FAA
Aviation Safety

SPECIAL AIRWORTHINESS INFORMATION BULLETIN

SAIB: 2025-05
SUBJ: Aircraft Fuel Indicating Systems **Date:** June 10, 2025

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) advises rotorcraft design approval holders (DAH), rotorcraft external-load operators, and Flight Standards District Offices of information regarding **fuel starvation risks** while conducting Title 14 of the Code of Federal Regulations (14 CFR) part 133 Class C Rotorcraft Load Combination (RLC) operations.

At this time, the airworthiness concern is not an unsafe condition that would warrant airworthiness directive (AD) action under 14 CFR part 39.

Background

The National Transportation Safety Board (NTSB) reviewed five accidents involving helicopters that were conducting sideward-pulling Class C RLC operations. The NTSB investigation determined that helicopters are particularly susceptible to unporting fuel tank pick-up ports when at high bank attitudes while dragging their loads. The NTSB investigation also determined that fuel unporting leading to fuel starvation and engine shutdown can occur at usable fuel quantity indications. These fuel levels are higher than those determined under §§ 27.959 and 29.959. The five accidents in the NTSB report involved MD Helicopters Model 369-series helicopters performing sideward-pulling Class C RLC operations. In four of the accidents, the helicopters experienced fuel starvation at fuel loads between 94-146 pounds which is above the minimum level of 78 pounds used to meet the requirements of § 91.151. Additional information can be found in NTSB Safety Recommendation Report NTSB/ASR-21-02.

Sections 27.865 and 29.865 are the airworthiness standards for designs used for external load operations. Advisory Circulars 27-1B and 29-2C provide further guidance on this subject. Note that the FAA plans to update fuel starvation guidance in these advisory circulars for Class C RLC operations.

Unporting fuel while at high bank angles for an extended period was not envisioned during the certification of external load equipment in accordance with §§ 27.865 and 29.865. Therefore, the usable fuel quantity and cockpit indications may not necessarily reflect the amount of fuel required for safe operation.

Recommendations

The FAA recommends that all owners and operators of helicopters installed with external load equipment that perform part 133 sideward-pulling Class C RLC operations verify the associated flight manual supplement specifies minimum useful fuel for such operations. The FAA recommends that the flight manual should contain for these operations:

1. Maximum demonstrated bank angle held for an extended time,
2. Minimum useful fuel for these angles. This fuel level is at the maximum demonstrated bank angle that unporting occurs plus an additional percentage for safety (recommendation around 20%) to account for aircraft maneuvering and turbulence, and

3. Procedures for safe operation.

If the flight manual does not contain this information, the FAA recommends that operators contact the DAH to verify low fuel at the flight attitudes for sideward-pulling Class C RLC operations were considered (items 1 through 3 above). If they were not, the FAA recommends that the DAH contact their certificate management office to amend their design approval to add the above-recommended information.

For Further Information Contact

Matt Bryant, Aviation Safety Engineer, FAA, 26805 E 68th Avenue, Denver, CO 11590; phone: (303) 342-1092; email: matthew.bryant@faa.gov.