



# Interagency Aviation Accident Prevention Bulletin



No. IA APB 26-02

November 7, 2025

Page 1 of 2

**Subject:** Pilatus Nose Landing Gear Drag Link Fatigue Cracking Risk

**Area of Concern:** Flight Safety

**Distribution:** All Aviation Operations

**Discussion:** The purpose of this bulletin is to increase awareness of nose landing gear (NLG) drag link fatigue cracking on Pilatus PC-12 aircraft and to reinforce the importance of compliance with manufacturer inspection intervals and component life limits. This information is provided due to a recent mishap involving a PC-12/45, where the right hand (RH) drag link fractured in flight, resulting in a nose gear collapse upon landing. The pilot landed the aircraft safely and no injuries occurred, but the event highlights a growing concern with fatigue related failures on aging NLG assemblies.

The RH upper drag link of the PC-12, PC-12/45, PC-12/47, and PC-12/47E have been identified by Pilatus as a fatigue critical component. Over time, cyclic loading from takeoffs, landings, and turbulence contributes to microscopic cracking that can lead to failure. While fatigue cracking develops gradually, external stresses such as higher operating weights, and frequent turbulence can accelerate it.

Pilatus has addressed this issue through component life limits and mandatory inspection intervals defined in the Airworthiness Limitations Section (ALS 12-A-04-00-00-00A-000A-A) and associated Master Maintenance Plan (MMP) tasks. These controls are designed to detect early crack formation before structural integrity is compromised.

|           |                                                               |                                   |
|-----------|---------------------------------------------------------------|-----------------------------------|
| 32-20/335 | NLG torque tube (P/N 532.50.12.047)                           | 11,000 FH / 15,000 LDG / 10 Years |
| 32-20/416 | NLG upper right hand drag link (except for P/N 532.20.12.140) | 25,000 FH / 30,000 LDG            |
| 32-20/532 | NLG drag link right part (P/N 532.20.12.140, Pre SB 32-014)   | 4,000 LDG                         |

**Figure 1:** Pilatus Component Life Limitations

|            |                                                                     |                  |                                                                       |                          |
|------------|---------------------------------------------------------------------|------------------|-----------------------------------------------------------------------|--------------------------|
| *32-20/335 | NLG torque tube (P/N 532.50.12.047)                                 | Life limit       | 11,000 FH / 15,000 LDG / 10 Years                                     | -                        |
| *32-20/336 | NLG upper drag link right part (P/N 532.20.12.289 or 532.20.12.140) | Inspection/check | Initially 2000 FH or 2500 landings, then every 300 FH or 400 landings | 12-A-32-20-06-00A-313A-A |

**Figure 2:** Master Maintenance Plan Task List

In addition, Service Letter (SL) 228 (issued in 2022) warns operators of potential part number confusion between similar drag link assemblies:

- P/N 532.20.12.289: Original component, subject to recurring inspection requirements.
- P/N 532.20.12.296: Redesigned component with improved fatigue resistance, not requiring repetitive inspections.

The following excerpt from SL-228 highlights the critical maintenance concern:

*“There are no obvious visual differences to the two drag links and it is possible that a maintenance facility may believe the improved RH drag link is installed when it may be the old RH drag link. This could lead to the inspections not being carried out, the life limit not being adhered to and could lead to failures of an old RH drag link.”*

SL-228 applies to Pilatus PC-12, PC-12/45, PC-12/47, and PC-12/47E aircraft, covering Manufacturer Serial Numbers (MSN) 101 through 1450.

Operators are strongly encouraged to verify installed part numbers across their fleets to ensure correct inspection tracking and replacement planning. Use of the older P/N 532.20.12.289 requires continued adherence to the specified repetitive inspection cycle, while upgrading to the improved PN 532.20.12.296 provides long term mitigation of fatigue related risk.

Fatigue cracking is a known and manageable engineering condition, not an isolated event. However, lapses in inspection tracking, data verification, or component identification increase the likelihood of failure. Ensuring that inspection intervals are met, parts are correctly identified, and fatigue critical components are replaced within their defined service lives is key to preventing landing gear collapse events.

#### **Recommended actions:**

- 1. Verify Component Part Numbers:** Confirm that all fleet aircraft have verified RH drag link part numbers and are tracked according to their applicable inspection and replacement schedules.
- 2. Reference SL-228:** Review and incorporate SL-228 guidance, which includes measurement details for the RH drag link to eliminate risk of part number misidentification.
- 3. Consider Upgrading Components:** Where feasible, replace legacy PN 532.20.12.289 assemblies with the improved PN 532.20.12.296. Recommend continuing with previously stated interval inspections.
- 4. Continue Periodic Oversight:** Supervisors and maintenance leads should periodically review inspection compliance for fatigue critical structures as part of safety assurance activities.

/s/ Keith C. Raley

Keith C. Raley  
Chief, Aviation Safety, Training, Program  
Evaluation, and Quality Management  
DOI, Office of Aviation Services

/s/ Lori Clark

Lori Clark  
Branch Chief - Aviation Safety Management  
Systems  
USDA, Forest Service