

ShockLog® Cellular GL – Airplane Auxiliary Power Unit



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Industry

Aviation

Application

Auxiliary Power Unit

Challenge

An airline's airplanes were being damaged in-flight, but no one knew why. The auxiliary power unit (APU), which is an additional power source for the plane's ignition, was destroyed sometime between every take-off and touch-down, but the cause and timing of the impact was unknown. The APU's design spec stated it could withstand a 9G impact and the airline was concerned the design of the APU enclosure was defective.

Solution

The airline solved the mystery using a The ShockLog® Cellular GL impact monitor. They set the unacceptable threshold level to 9G's of impact, and mounted it to the APU's enclosure on their plane before it took off. The instant the plane landed, their questions were answered when a red dot appeared on the map in their SpotSee Cloud. The airline company was easily able to pinpoint the exact time, location and magnitude of the damage. It was determined that a 13G impact commonly occurred in the z-axis (under the aircraft) upon landing, which was 4G's beyond the specified impact threshold of the APU's enclosure. This discovery enabled the airline to write a more robust product specification and create an improved mounting solution for their APU's.



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ShockLog® Cellular GL Overview

Real-Time Impact Monitoring and Tracking Solution

The ShockLog® Cellular GL Impact Recording and Tracking System combines an advanced shock and vibration data logger (the ShockLog 298) with real-time tracking. When a programmed impact level is exceeded, a detailed event curve will be recorded, and the ShockLog Cellular GL module will send a real-time alert letting you know when and where a potentially damaging impact has occurred during the journey. This allows you to act before the shipment is received or plan repairs before final installation of the asset in the field.



Protect Your High Value Assets

Benefits of the ShockLog Cellular GL

- **Real-Time Alerts:** Immediate notifications when impacts occur.
- **GPS Accuracy:** Track asset location with precision.
- **Global Connectivity:** With 4G LTE, 3G, & 2G integrations, stay connected wherever your assets travel.
- **Data Insights:** Access detailed impact and environmental data through SpotSee Cloud.

Benefits of the ShockLog 298

- **Condition Monitoring:** Record up to 870 events: impact; max peak X,Y, and Z; gRMS; and internal temperature. Direction, amplitude, and duration of impact.
- **Customization:** User-definable warning and alarm levels.
- **Cloud Based Interface:** Monitor journey conditions in real time with ShockLog Cellular GL.

SpotSee Cloud

The SpotSee Cloud is where trip data is aggregated in real-time. The graphs are easy to read and include data impact with locations, impacts over time, histogram, temperature, and location of events.

SpotSee Cloud Features

- Access to your data from anywhere with a secure web portal.
- Real-time reporting and tracking of incidents.
- Alarms with location, time, impact g-level, and direction of impact.
- Impacts-over-time visualization of each asset.
- Histogram of the total impacts to an asset
- Immediate notifications when impacts occur.

