Customer Services

Advisory Wire

REFERENCE NO:	AW300-28-0269, Rev 02	INFORMATION TYPE:	Maintenance
ATA:	28-41	EFFECTIVITY:	Challenger 300 (20003 – 20500) Challenger 350 (20501 – 20999)

SUBJECT: **Fuel Tank High Level Sensor**

1. REFERENCES:

   1.1. IPC 28-41-17-01 item 5 – Sensor, High Level

2. INTRODUCTION:

This Advisory Wire (AW) revision provides an update on the level sensor return campaign and the investigation results of the returned level sensors 722707-1-0 by Operators and Maintenance personnel on the CL 300/350 Challenger fleet.

3. DESCRIPTION:

The removal of fuel tank high level sensors was for a steady “ON” high level light on the refuel/defuel panel, no matter the fuel quantity present in the tank. The return campaign investigation launched in April 2017 was launched because the part being not repairable and without any core value, it was not being returned to BA but disposed of at repair stations making impossible any investigation.

By collecting failed parts, we were able to investigate the root cause of the failures.

The investigation results from the returned units confirmed faults found inside the sensors. Further analysis of the internal components showed failure of the solder weld of various electrical internal components to the electrical board in the sensor. The cause is most probably related to the thermal expansion of the compound used inside the sensor to seal the unit. Since the current compound became banned due to its environment effect, a new compound was selected with a better environmental effect, a better dielectric strength and a lower thermal expansion coefficient which consequently lower the stress on the internal components.
The level sensor electronic board and the mechanical components are not changed and has no impact on the electrical input and output signal characteristics of the Fuel Level Sensor.

The modified sensor production serial number (s/n) with the new compound starts at s/n 2400. The part number of the sensor will not be modified but the letter A will be added on the identification plate of the sensor indicating the upgrade. The current level sensors already manufactured cannot be returned to be upgraded

The introduction of the new level sensor will be done via attrition and will become available once the stock of the actual sensor is depleted

4. ACTION:

The requirement to return the failed level sensor is no longer necessary