Hooked on enhancements: helicopter load sensor keeps getting smarter

HeliNav LoadMaster, the intelligent wireless helicopter load sensor has been upgraded with a string of new capabilities.

Inclinometers have been added so that it can be used with three-point fixing for large loads; a new receiver wirelessly collects live load data for analysis, interpretation and reporting, and a new display gives real-time information on operational variables to aid calculation of flight and operational profiles.

Looking at the first new feature, Mark Ingham of manufacturer Sensor Technology Ltd in Banbury, UK explains: "Heavy lift helicopters have a number of load points on their underside and it is usual to carry larger loads by using three of them. This spreads the weight across the aircraft, avoiding a single point of high stress and stabilises both load and helicopter in flight."

"With the new HeliNav LoadMaster, pilots can monitor the strain in each individual cable in case the load is not distributed evenly, or if flight movements create asymmetric stresses."

The HeliNav LoadMaster sensor is autonomous, using a wireless communications' link to its own display and computer in the cockpit. This means it does not require additional certification of the electrical systems and can be swapped from one aircraft to another in seconds.

used in conjunction with other electronic systems, such as navigation and tracking, so will automatically produce comprehensive operational performance reports.

"Put simply HeliNav LoadMaster takes the guesswork out of commercial operations. You get an accurate record, against which you can charge exactly," says Mark.

The new receiver is rugged and robust while compact (133mm x 67mm x 43.5mm), so is suitable for the confined and demanding conditions often encountered in commercial helicopter operations. It requires only a DC power connection, while an SMA connector allows the fitment of an external antenna.

In operation, the receiver works on the licence-free 2.4GHz band and outputs a stream of data from the load sensor including serial number, full scale, load, temperature, RSSI (received signal strength indicator) and battery voltage. This data is updated 10 times every second. Advanced features within the receiver which ensure ease of use include data whitening and forward error correction. The output can be provided as RS232, RS422 or USB, and can be displayed on-screen or fed to a datalogger.

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