

AIRBUS BLOCK II OPERATIONAL SOFTWARE UPGRADE

Honeywell is the undisputed leader in providing Air Data Inertial Reference Units (ADIRU) to the aviation industry. Honeywell and Airbus are pleased to announce the availability of a software upgrade to a number of the Airbus Block II ADIRU part numbers used on the Airbus A320 Series and A330/A340 aircraft.

This update to the operational software introduces the Gyro Life Monitor function that continuously monitors the three Ring Laser Gyros (RLG) on-board the Airbus Block II ADIRU for signs of impending failure, with a proactive warning through the Aircraft Central Maintenance Computer that reduces or eliminates unplanned ADIRU removals due to gyro failure. In addition the Magnetic Variation Tables are updated to the latest available MagVar 2015 optimized to 2020. This is a shop upgrade resulting in the ADIRU PN rolling to HG2030AE25/45.

GYRO LIFE MONITOR (GLM)

The latest Operational Software for the Airbus Block II ADIRUs, the installation of which results in the roll of the unit PNs to HG2030AE25 or HG2030AE45 dependent on RLG configuration, includes a high value-added software functionality known as the Gyro Life Monitor, or GLM. GLM uses advanced software-only functionality to monitor the three RLGs on an ADIRU, determine and alert through the aircraft maintenance computer when an RLG on-board the ADIRU is likely to fail due to normal wear. ADIRUs with the GLM function enabled proactively warn when an RLG has an estimated 300-500 operating (not flight) hours of life remaining prior to gyro wear-out. Preemptive indication is intended to prevent interruptions to revenue service and allow airlines to schedule, at their convenience, performance

of the necessary maintenance action (removal and repair of the affected ADIRU) with impending RLG failure, reducing or eliminating entirely unplanned maintenance actions resulting from ADIRU RLG wear-out.

A class II non-critical fault will be generated when the GLM triggers on an installed AE25/45 ADIRU on an aircraft.

The message in the post flight report notifies the flight and maintenance crew of the detected fault along with reference to the associated maintenance action.

Airbus aircraft equipped with Block II ADIRUs approaching 20K accumulated flight hours are susceptible to ADIRU RLG failures and are very good immediate candidates for this modification adding the GLM function as well as the latest Magnetic Variation Table.

PART NUMBERS

The following Airbus Block II ADIRU PNs are candidates for this valuable upgrade:

- HG2030AD09/AD10/AD11/AD12/AD13/AD33,
- HG2030AE20/AE21/AE23/AE24/AE43/AE44

AIRCRAFT

Airbus Service Bulletins available today for installation of the AE25 and AE45 on the following Airbus types:

- A318/A319/A320/A321
- A330-200, A330-300
- A340-200, A340-300
- A340-500/600

Note:

The Block II ADIRU was replaced in A320 Series and A330 new aircraft production by the Block III in approximately 2012 and 2013 respectively. A320s delivered prior to 2012, and A330s delivered prior to 2013 are the main benefactors from this upgrade, as well as all A340s that have not been retrofitted with Block III.

PRICING

Cost per ADIRU for applying this update in the shop varies and is dependent on the current PN of the ADIRUs being updated. Current or "from" PN dictates the number of Honeywell SBs required to update from the current PN to HG2030AE25/45.

Contact your Honeywell or Partner representative for a quote & proposal.

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UPDATE MAGNET VARIATION TABLES

In addition to the GLM feature, the operational software upgrade to AE25/45 also updates the embedded Magnetic Variation Table on the ADIRU. Magnetic Variation Tables on an ADIRU are used to convert the true heading determined by the IRU to magnetic heading (relative to the north pole) used by the flight crew and aircraft systems for position and navigation. Since the earth's magnetic poles shift over time, the magnetic variation at locations around the world continually change. Periodic updates to the magnetic variation lookup tables may need to be performed to keep deviations from the lookup table and current actual variation at airports across the globe below the minimum allowable threshold to avoid operational limitations that can be imposed when the deviation at a given airport exceeds that threshold. The allowable threshold is plus or minus three degrees of difference between the table lookup value, and the actual magnetic variation at a point on the globe. On the Airbus Block II ADIRU, the magnetic variation table year is determined by the ADIRU part number. For example, immediately prior to the HG2030AE25/45 with MagVar 2015, the HG2030 AE24/44, was certified with MagVar 2010.

Honeywell publishes Service Information Letter M23-3341-029 (revision 7 current) which is available on the Honeywell Aerospace Portal. Table 1 of that SIL provides the Magnetic Variation Table year of each PN, and provides a global map for each Magnetic Variation Table that clearly indicates regions

of the globe where each Magnetic Variation Table is at or approaching the three degree limit. Operation of aircraft equipped with ADIRUs in regions where the three degree MagVar limit is exceeded may result in operational limitations. Updating MagVar removes those potential limitations.

UPDATING AIRBUS BLOCK II ADIRUs TO AE25/45, AND AIRCRAFT INSTALLATION

Upgrading the Operational software of the Block II ADIRU requires a shop visit to load the new software and verify operation post-upgrade. This modification is done via the application of one or more Honeywell Service Bulletins, depending on the current PN of the ADIRU. See the list of upgradeable PNs in the summary in the right margin of the previous page.

Block II ADIRUs that are at the HG2030AE24/44 require only a single Honeywell Service Bulletin, HG2030AE-34-0021 for AE24 and HG2030AE-34-0022 for AE44. ADIRUs at earlier versions require multiple Service Bulletins to get to the AE25/45 revision. Additional repairs and modifications a specific ADIRU is found to require upon induction for the upgrade are performed in conjunction with it, subject to current charges for the additional repairs/mods. Operators are advised to survey their fleet for currently-installed Block II PNs and work with their Honeywell or Authorized Partner representative to develop a plan for upgrading to the latest version with the Gyro Life Monitor and latest Magnetic Variation Table.

Installation of the HG2030AE25/45 is via Airbus Service Bulletin. Airbus has issued a number of covering Service Bulletins authorizing the installation of the AE25/45 onto the A320 Series, A330

and A340 aircraft types/variants, see the list of types covered by Airbus SBs in the summary as well.

When evaluating Airbus ADIRU MagVar upgrades, ADIRU mixability, review Airbus In-Service Information (ISI) Reference 34.12.00003, ADIRU MIXABILITY MATRICES that provides comprehensive guidance regarding ADIRU installation on Airbus aircraft.

For more information

Please log onto MyAerospace.com.

Contact your Honeywell representative for a proposal.

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