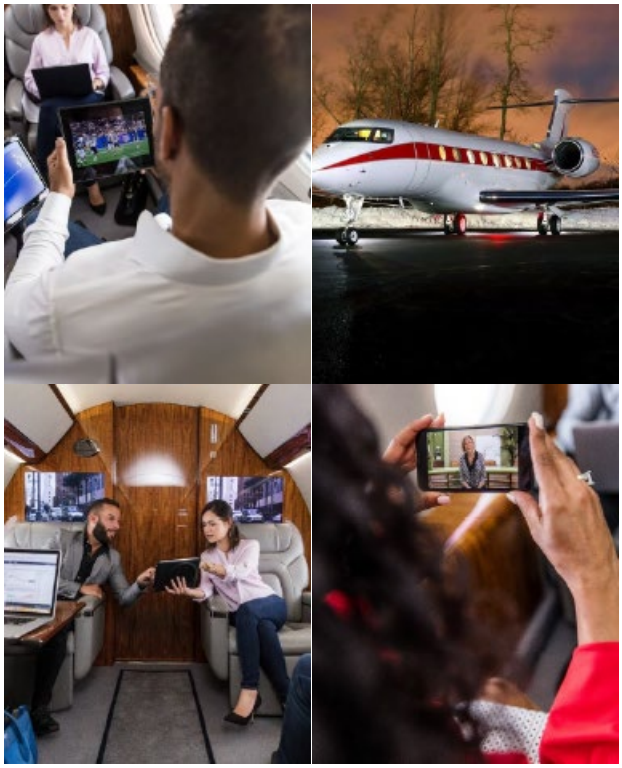
Laseref IV Retrofit Program

This bulletin provides operators detailed information on the Honeywell Laseref IV designed to replace the Laseref II and Laseref III which is expected to be unrepairable beginning in 2020.



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Effective Dates:	1/1/2020 through 12/31/2020

Laseref IV Retrofit Program

1. Introduction

This Honeywell bulletin provides information on the Laseref IV IRS for replacement of the aging Laseref II & III. The Laseref II & III will become obsolete and Honeywell is halting support of these legacy products starting on Jan 1, 2020. Honeywell has a Laseref IV configuration that provides a simple unit replacement that brings benefits to the end user for many years to come.

2. Product Description

The Laseref IV IRU is a Ring Laser Gyro (RLG) based inertial reference unit (IRU), providing Honeywell's proven laser inertial technology in the lightest 4 MCU rack mountable package. The Laseref IV IRU is a derivative product based on the highly successful 4 MCU inertial reference unit technologies used in a variety of high volume applications including the Boeing 737, Airbus A319/320/321/330/340 and Bombardier Global Express. Reliability of the fleet of Digital RLG IRS systems has consistently exceeded 30,000 MTBF and 20,000 MTBUR since entry into service in 1997. This system has been instrumental in helping operators achieve low maintenance costs and high dispatch reliability. To date there are no critical obsolescence of the Laseref IV parts, and Honeywell intends to support the Laseref IV for the foreseeable future.

The Laseref IV IRU contains three force-rebalance accelerometers and three laser gyros, which it uses to measure inertial motion. The inertial reference (IR) component requires system initialization (entry of latitude and longitude). Position reference for initialization may come from another system such as a Flight Management System (FMS), Inertial Systems Display Unit (ISDU) or from a LaserTrak Navigation Display Unit. Once the IR component is properly aligned and initialized the Laseref transitions into its normal navigation operating mode. It relies on inputs from an Air Data System (ADS) in order to calculate wind, flight path and altitude.

The Laseref IV can be installed as intermixable with the Laseref II and Laseref III to allow for both complete shipset and individual LRU replacement. The installation of a Laseref IV to replace a Laseref III requires only replacement of Laseref III and minor wiring updates to the connector per Honeywell SIL D201009000035. The installation of a Laseref II requires replacement of the Laseref II plus a 10MCU to 4MCU adapter tray (Honeywell P/N WG2000AA03) and minor wiring updates to the connector per Honeywell SIL D20109000035.

3. Laseref IV Features

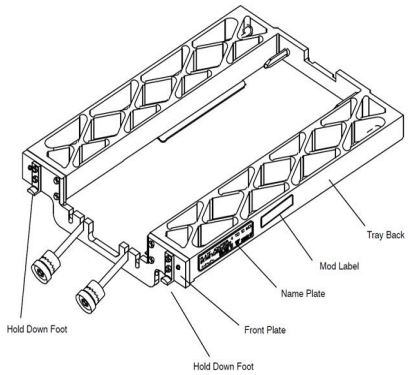
- Summary Laseref IV Benefits:
  - The Laseref IV is 25 lbs. lighter than Laseref II and 10 lbs. lighter than Laseref III
  - > 30% improvement in reliability with demonstrated >30,000 FH MTBF
  - Capable of being updated to the latest magnetic variation tables to maintain IFR precision approach
  - Automatic mode control Logic and automatic initialization for reduced crew workload
  - Long term product roadmap and support capability plan

- The HG2001GD40 has minor software updates to the HG2001GD03 for the following:
  - The embedded magnetic variation map is updated to be based on 2010 Magnetic survey data projected to 2015 with a second Epoch projected to 2025 (connector pin selectable) and an enlarged Northern Magnetic Keyhole. Formerly, 1995 Magnetic survey data projected to 2000.
  - Operation without a MSU is possible
  - Alternately, allows reception of initialization parameters via ASCB from a fault warning computer
  - Power supply switchover test change to eliminate nuisance alignment issues with certain power-up sequences.

- HG2001GD15 Laseref IV features:
  - Identical to the HG2001GD40 except it is designed to interface via ASCB Versions A and B (instead of ASCB version C) to support retrofits of Laseref II and Laseref III IRUs on early EFIS integrated cockpits such as SPZ-6000 and SPZ-8000.
  - Suitable for Bombardier CL-601-3A, F-900, Hawker 800 and 1000, and Cessna Citation X
  - The HG2001GD15 has a magnetic variation map projected to the year 2000 to allow intermixability with Laseref II and Laseref III along with the pin selectable option to select a newer 2025 magnetic map.

4. Product Configuration

HG2001GD15



10MCU to 4MCU adapter tray

Laseref IV Equipment List

HG2001GD03, or	Laseref IV with ASCB-C interface
HG2001GD15, or	Laseref IV with ASCB-A/B interface
HG2001GD40	Laseref IV with ASCB-C interface - *Note: The differences from HG2001GD03 are highlighted above.*
WG2000AA03	10MCU to 4MCU tray adapter – *NOTE: the tray adapter is only required when swapping out a Laseref II (HG1075xxxx). The tray adapter is not required for Laseref III conversions.*

5. STC Availability

Model	STC Owner	STC No.	Part Number	Completion Date	Fleet Size
Dassault -F900 EX -F900 C -F900 A/B -F2000 -F2000 EX Bombardier -CL 600 -CL 601 - BD 700 Hawker -800 -800 XP -1000 Cessna -Citation X	Dassault Aircraft Services Wilmington*	FAA STC ST03595NY (AML STC) EASA STC 10067083	HG2001GD03 HG2001GD15 HG2001GD40	**COMPLETE**	177 Acft 425 Units
Gulfstream GIV GIV-SP GV	Gulfstream Aerospace Corp **	FAA STC ST04314AT-D EASA STC 10069621	HG2001GD03 HG2001GD15 HG2001GD40	**COMPLETE**	

* STC is held by Dassault Aircraft Services. Information about STC and price for use can be found by contacting Dassault at aftermarket@falconjet.com

** STC is held by Gulfstream Aerospace. Information about STC and price for use can be found by contacting Gulfstream at techops.ds@gulfstream.com

6. Trade in Information

For each Laseref IV ordered, Honeywell will provide the Trade-In Credit at a value of $52,500.00 for each AHRS P/N HG1076AA01, Laseref II P/N HG1075AExx, HG1075GExx or Laseref III P/N HG2001ABxx, HG2001AC20, or HG2001GCxx, once removed and returned. The intent of this trade-in credit is that it be passed on in full to the operator as an added pricing incentive to purchase the Laseref IV upgrade.

7. Honeywell Maintenance Service Plan (MSP Avionics)

The Honeywell Maintenance Service Plan (MSP Avionics) is a service that offers coverage for your Honeywell Avionics. Choose the plan that best meets your needs. Specially priced plans are also available for fleet operators. Take the uncertainty out of repair and maintenance costs. A fixed-price MSP Avionics contract guarantees that your repair bills will not exceed your budget. For more information about MSP, please contact Honeywell at MSPAvionicsSales@Honeywell.com

8. Contact Information

Find your nearest Sales contact by visiting our Direct Access Directory for Business Aviation. Click on **Area Sales Managers** and use your current location or the Manual Search option.

You may also download our **Honeywell Direct Access app**:

The Direct Access mobile app launched last year provides business aviation customers quick access to Honeywell Aerospace's technical, business, parts and sales support; the closest dealers and service centers, the Aircraft on Ground (AOG) desk and other valuable resources.

The Direct Access app is free and can be downloaded at the Apple iTunes and Google Play stores.

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