

**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

|                                                                                                                                 |
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| E00010LA<br>Revision 7<br><br>HONEYWELL<br><br>AS907-1-1A<br>AS907-2-1A<br>AS907-2-1G<br>AS907-3-1E<br><br>DATE: March 22, 2016 |
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**TYPE CERTIFICATE DATA SHEET NO. E00010LA**

The engine models described herein conforming to this data sheet (which is part of Type Certificate No. E00010LA) and other approved data on file with the Federal Aviation Administration (FAA), meet pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

TYPE CERTIFICATE (TC) HOLDER:     Honeywell International Inc.  
                                                   111 South 34<sup>th</sup> Street  
                                                   Phoenix, AZ 85034

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Models:                                     AS907-1-1A, AS907-2-1A, AS907-2-1G, AS907-3-1E

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Type:                                     Turbofan: One stage fan, four stage axial flow high pressure compressor, one stage centrifugal high pressure compressor, annular combustor, two stage high pressure turbine, and three stage low pressure turbine.

Static Thrust Ratings:  
 (see NOTE 4 and NOTE 12)

| <u>Model</u> | Max Continuous,<br>at Ambient Temperature,<br>at Sea Level, lbs. | Takeoff, at Ambient<br>Temperature, at Sea Level, lbs.<br>(see NOTE 10) |
|--------------|------------------------------------------------------------------|-------------------------------------------------------------------------|
| AS907-1-1A   | 6,929 at ISA + 15°C                                              | 6,944 at ISA + 20°C                                                     |
| AS907-2-1A   | 7,530 at ISA + 14°C                                              | 7,530 at ISA + 20°C                                                     |
| AS907-2-1G   | 7,337 at ISA + 17°C                                              | 7,765 at ISA + 17°C                                                     |
| AS907-3-1E   | 7,335 at ISA + 22.5°C                                            | 7,638 at ISA + 18°C                                                     |

Controls: Fuel control and power management are controlled by a Full Authority Digital Electronic Control (FADEC) system which features a dual-channel electronic control in the form of two electronic control units (ECUs). The hardware and software configurations of this system and the associated engine hydromechanical unit with integral fuel pump are controlled by the approved Engine Equipment List (see NOTE 13).

Principal Dimensions: Refer to the engine installation drawing for dimensions and center of gravity location.

|          |   |   |   |   |   |   |
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Weight, Dry, Pounds (maximum):

| <u>Model</u> | <u>Lbs.</u> |
|--------------|-------------|
| AS907-1-1A   | 1,534       |
| AS907-2-1A   | 1,534       |
| AS907-2-1G   | 1,534       |
| AS907-3-1E   | 1,514       |

The engine weight includes all components of the basic engine as defined by the approved Engine Equipment List. Components that are certified as part of the aircraft under Title 14 CFR part 25, which are mounted on the engine, are not included in the basic weight.

Fuel: Fuels conforming to Honeywell International Inc. Specifications EMS53111 (Jet A Type), EMS53112 (Jet A-1 and JP-8 Types), EMS53113 (Jet B and JP-4 Types), and EMS53116 (JP-5 Type).

No fuel control adjustment is required when changing from primary to alternate fuels.

Refer to engine installation manual for approved fuel types and fuel additives (see NOTE 12).

Oil: Oil conforming to Honeywell International Inc. Specification EMS53110, Type II. Refer to engine installation manual for approved engine oils (see NOTE 12).

Certification Basis:

## AS907-1-1A and AS907-2-1G

- 14 CFR part 33, effective February 1, 1965, as amended by 33-1 through 33-20, effective December 13, 2000.
- 14 CFR part 34, effective September 10, 1990 as amended by 34-1 through 34-5A, effective October 23, 2013. Fuel Venting and Exhaust Emissions Standards; See NOTE 15.

## AS907-2-1A

- 14 CFR part 33, effective February 1, 1965, as amended by 33-1 through 33-33, effective September 20, 2012, excluding Amendments 33-22 and 33-31.
- 14 CFR part 34, effective September 10, 1990 as amended by 34-1 through 34-5A, effective October 23, 2013. Fuel Venting and Exhaust Emissions Standards; See NOTE 15.

## AS907-3-1E

- 14 CFR part 33, effective February 1, 1965, as amended by 33-1 through 33-33, effective September 20, 2012, excluding Amendment 33-22.
- 14 CFR part 34, effective September 10, 1990 as amended by 34-1 through 34-5A, effective October 23, 2013. Fuel Venting and Exhaust Emissions Standards; See NOTE 15.

## Engine Table of Models

| Model      | Date of Application | Type Certificate Issued | 1st Production Date |
|------------|---------------------|-------------------------|---------------------|
| AS907-1-1A | November 4, 1998    | June 25, 2002           | May 29, 2003        |
| AS907-2-1G | April 20, 2006      | March 18, 2011          | March 25, 2011      |
| AS907-2-1A | August 31, 2012     | May 13, 2014            | May 14, 2014        |
| AS907-3-1E | February 26, 2009   | July 7, 2014            | July 12, 2014       |

Production Basis: Production Certificate No. 413, issued March 4, 1965. Reissued Production Certificate No. 413NM to Honeywell International Inc. on January 25, 2000.

NOTE 1. Maximum permissible operating speeds for the low- and high-pressure rotors of the engine are as follows:

| Model      | Low-Pressure Rotor Speed (N <sub>1</sub> ), RPM |                       |                                        | High-Pressure Rotor Speed (N <sub>2</sub> ), RPM |                       |                                        |
|------------|-------------------------------------------------|-----------------------|----------------------------------------|--------------------------------------------------|-----------------------|----------------------------------------|
|            | Maximum Continuous                              | Takeoff (see NOTE 10) | Maximum Transient (20 Seconds Maximum) | Maximum Continuous                               | Takeoff (see NOTE 10) | Maximum Transient (20 Seconds Maximum) |
| AS907-1-1A | 9,723                                           | 9,812                 | 9,957                                  | 27,319                                           | 27,568                | 28,075                                 |
| AS907-2-1A | 9,800                                           | 9,830                 | 9,957                                  | 27,530                                           | 27,714                | 28,075                                 |
| AS907-2-1G | 9,800                                           | 9,830                 | 9,957                                  | 27,599                                           | 27,714                | 28,075                                 |
| AS907-3-1E | 9,830                                           | 9,830                 | 9,957                                  | 27,530                                           | 27,686                | 28,075                                 |

NOTE 2. Temperature Limits:  
Maximum indicated Interturbine Temperature (ITT) Limits: °F (°C)

| <u>Model</u> | <u>Max. Continuous</u> | <u>Takeoff (See NOTE 10)</u> | <u>Starting (Ground/Air)</u> | <u>Transient</u> |
|--------------|------------------------|------------------------------|------------------------------|------------------|
| AS907-1-1A   | 1,702 (928)            | 1,735 (946)                  | *                            | 1,764 (962)**    |
| AS907-2-1A   | 1,742 (950)            | 1,751 (955)                  | *                            | 1,778 (970)**    |
| AS907-2-1G   | 1,742 (950)            | 1,751 (955)                  | *                            | 1,778 (970)**    |
| AS907-3-1E   | 1,742 (950)            | 1,751 (955)                  | *                            | 1,778 (970)***   |

\* Varies with N<sub>2</sub>, refer to engine installation manual (see NOTE 12).  
\*\* 20 seconds maximum  
\*\*\* 2 minutes maximum

Maximum Oil Inlet Temperature Limits:

| <u>Continuous,</u> | <u>Transient</u>                 |
|--------------------|----------------------------------|
| <u>°F (°C)</u>     | <u>(2 Minutes Max.), °F (°C)</u> |
| 280 (138)          | 310 (154)                        |

External engine components maximum temperature (limiting temperature of specific components) is approved as specified in the engine installation manual (see NOTE 12).

Operation at an engine fuel inlet temperature as high as 185°F (85°C) for the AS907-1-1A, AS907-2-1A and AS907-2-1G engines and 131°F (55°C) for the AS907-3-1E engine with a vapor volume to liquid volume ratio (V/L) equal to 0.45, and as low as -65°F (-54°C) with fuel at a viscosity of 12.0 centistokes or less during starting is approved as specified in the engine installation manual (see NOTE 12).

NOTE 3: Fuel and Oil Pressure Limits:

- Fuel pump inlet pressure:  
Minimum - Whichever is highest of the following:
- (a) 5 psi above the true vapor pressure of the fuel;
  - (b) Pressure corresponding to a V/L ratio of 0.45;
  - (c) 35% of atmospheric pressure;

- (d) 2 psia.  
Maximum:  
(a) 35 psig.

## Oil Pressure:

Oil pressure is not regulated and pressure limits vary with N<sub>2</sub>.  
Refer to engine installation manual (see NOTE 12).

- NOTE 4: The ratings are based on static test stand operation and under the following conditions:
- (a) No loading of aircraft accessory drives;
  - (b) No aircraft bleed air extraction;
  - (c) Fan exhaust and turbine exhaust nozzles conforming to Honeywell International Inc. Drawings N10780-1 and N10781-1;
  - (d) Bellmouth inlet conforming to Honeywell International Inc. Drawing 5837800-1;
  - (e) Dry inlet air;
  - (f) No exhaust nozzle back pressure;
  - (g) Static Thrust Ratings ambient temperature at breakpoint.

NOTE 5: Accessory Drive Provisions:

| Accessory Drive                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Drive Type<br>(One Each)                                                                            | Internal<br>Spline<br>Configuration | RPM and<br>Rotation<br>Facing<br>Drive End | Note (b)<br>Accessory Maximum<br>Torque (lb-in) |     |       | Maximum<br>Weight<br>(Pounds) | Maximum<br>Overhung<br>Moment<br>(lb-in)** |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------|-------------------------------------------------|-----|-------|-------------------------------|--------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                     |                                     |                                            | Tc                                              | To  | Ts    |                               |                                            |
| Generator/<br>Alternator D30*<br>(AS907-1-1A,<br>AS907-2-1A, and<br>AS907-2-1G)                                                                                                                                                                                                                                                                                                                                                                                                  | AS468B-AV1<br>modified as<br>follows: RPM,<br>torques, accessory<br>weight, and<br>moment as shown. | AS468B                              | 13,665<br>Note (a)<br>CW                   | 242                                             | 363 | 1,600 | 34.7                          | 128.5                                      |
| Generator/Alternator D30* (AS907-3-1E)                                                                                                                                                                                                                                                                                                                                                                                                                                           | AS468B-AV1<br>modified as<br>follows: RPM,<br>torques, accessory<br>weight, and<br>moment as shown. | AS468B                              | 13,665<br>Note (a)<br>CW                   | 242                                             | 363 | 1,600 | 40.7                          | 190                                        |
| Hydraulic Pump D10*<br>(AS907-1-1A,<br>AS907-2-1A, and<br>AS907-2-1G)                                                                                                                                                                                                                                                                                                                                                                                                            | AS468B-AV1<br>modified as<br>follows: RPM,<br>torques, accessory<br>weight, and<br>moment as shown. | AS468B                              | 5,974<br>Note (a)<br>CW                    | 250                                             | 375 | 1,544 | 22.3                          | 103.9                                      |
| Hydraulic Pump D10* (AS907-3-1E)                                                                                                                                                                                                                                                                                                                                                                                                                                                 | AS468B-AV1<br>modified as<br>follows: RPM,<br>torques, accessory<br>weight, and<br>moment as shown. | AS468B                              | 5,974<br>Note (a)<br>CW                    | 250                                             | 388 | 1,544 | 22.3                          | 103.9                                      |
| CW = Clockwise<br>Tc = Continuous Torque<br>To = Torque Overload (5 minutes per 4 hour period)<br>Ts = Static Torque<br>* Accessory pads are identified by these symbols on the engine installation drawing.<br>** At quick attach/detach (QAD) interface.<br>Notes:<br>(a) Drive speeds are based on a 100% design N <sub>2</sub> of 28,100 rpm.<br>(b) Total combined accessory power extraction limits are specified in the engine installation manual (see <u>NOTE 12</u> ). |                                                                                                     |                                     |                                            |                                                 |     |       |                               |                                            |

- NOTE 6. For aircraft bleed airflow limits, refer to the engine installation manual (see NOTE 12).
- NOTE 7. For the AS907-1-1A, AS907-2-1A, and AS907-2-1G engine aircraft installations, fuel from the engine pump is extracted to drive jet or turbine pumps in the aircraft fuel system (motive flow). Refer to the engine installation manual (see NOTE 12). The AS907-3-1E engine fuel pump does not drive aircraft system motive flow.
- NOTE 8. The engine meets FAA requirements for operation in icing conditions within the envelope defined in Title 14 CFR part 25, Appendix C.
- NOTE 9. Certain engine parts are life-limited. These limits are included in the engine Light Maintenance Manual, Airworthiness Limitations Section.
- NOTE 10. The normal 5-minute takeoff time limit may be extended to 10 minutes for engine out contingency.
- NOTE 11. Power setting, power checks, and control of engine thrust output in all operations are based on  $N_1$ . Speed sensors are included in the engine assembly for this purpose.
- NOTE 12. For additional performance, authorized operation, and installation detailed information, refer to FAA-approved sections of the engine installation manual as follows:

Model AS907-1-1A: 24-IM-8014  
Model AS907-2-1A: 24-IM-8014  
Model AS907-2-1G: 24-IM-8029  
Model AS907-3-1E: 24-IM-8030

- NOTE 13. The engine control systems has been approved for Time Limited Dispatch (TLD) operations, and the airworthiness limitations pertaining to the maximum approved dispatch intervals and maintenance requirements of the engine control system are specified in the engine Light Maintenance Manual, Airworthiness Limitations Section.
- NOTE 14. Recommended engine inspection intervals are included in the engine Light Maintenance Manual, Chapter 5.
- NOTE 15. The following emissions standards promulgated in 14 CFR part 34, Amendment 34-5A, effective October 23, 2013, and 40 CFR part 87, effective July 18, 2012, have been complied with for all models listed in Engine Table of Models.

- Fuel Venting Emission Standards: 14 CFR §§ 34.10(b) and 34.11; in addition, 40 CFR §§ 87.10(b) and 87.11 as amended.
- Smoke Number (SN) Emission Standards: 14 CFR § 34.21(e)(2); addition, 40 CFR § 87.23(c)(1).
- Carbon Monoxide (CO) Emission Standards: 14 CFR § 34.21(d)(1)(ii); in addition, 40 CFR § 87.23(c)(1).
- Hydrocarbons (HC) Emission Standards: 14 CFR § 34.21(d)(1)(i); in addition, 40 CFR § 87.23(c)(1).
- Oxides of Nitrogen (NO<sub>x</sub>) Emission Standards: 14 CFR § 34.23(a)(2) and (b)(1); in addition, 40 CFR § 87.23(c)(2) and (c)(3).

In addition to the FAA's finding of compliance based on the certification requirements defined in this TCDS, the engine manufacturer has declared that the ICAO emissions standards identified in Annex 16, Volume II, Third Edition, Part III, Chapter 2, Section 2.2.2 for SN, Section 2.3.2 for CO and HC, Section 2.3.2.d.2.ii for NO<sub>x</sub> (also known as CAEP/6) and Section 2.3.2.e for NO<sub>x</sub> (also known as CAEP/8) and Part II Chapter 2 for fuel venting have also been demonstrated.

NOTE 16. Model description – similarities, differences, and special characteristics:

| Model      | Model Description                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AS907-1-1A | One stage fan, four stage axial flow high-pressure compressor, one stage centrifugal high-pressure compressor, annular combustor, two stage high-pressure turbine, and three stage low-pressure turbine.                                                                                                                                                                                                               |
| AS907-2-1G | Same as AS907-1-1A except increased thrust ratings and ITT and rotor speed limits, modified centrifugal compressor and high- and low-pressure turbine nozzles, improved combustion system, provisions for customer fan bleed, a new exhaust mixer nozzle system, and modified FADEC system software.                                                                                                                   |
| AS907-2-1A | Same as AS907-2-1G except increased maximum continuous thrust rating and takeoff N <sub>2</sub> rotor speed limit, select installation interface parts, and updated ECUs and software.                                                                                                                                                                                                                                 |
| AS907-3-1E | Same as AS907-2-1A except modified thrust ratings and ITT transient time and rotor speed limits, modified fan inlet housing, modified fan outer bypass duct and aft mounting system, non-variable stage 1 compressor vanes, modified compressor and combustor cases, increased accessory drive limits, modified generator quick attach-detach (QAD), modified air turbine starter, and modified FADEC system software. |

NOTE 17. The engine type design does not include a thrust reverser (T/R). Considerations for the installation of a thrust reverser are contained in the engine installation manual (see NOTE 12). The engines have demonstrated compatibility with the following thrust reversers:

| Model      | T/R Manufacturer                  | T/R Part Numbers                          |                                           |
|------------|-----------------------------------|-------------------------------------------|-------------------------------------------|
|            |                                   | Left Hand                                 | Right Hand                                |
| AS907-1-1A | Aircelle (formerly Hurel-Hispano) | Per T/R installation drawing 13A025-03-0G | Per T/R installation drawing 13A026-02-0G |
|            |                                   | Per T/R installation drawing 13A016-00-0G | Per T/R installation drawing 13A017-00-0G |
| AS907-2-1G | Aircelle                          | Per T/R installation drawing 31A516-01-0G | Per T/R installation drawing 31A517-01-0G |
| AS907-2-1A | Aircelle                          | Per T/R installation drawing 33A016-01-0G | Per T/R installation drawing 33A017-01-0G |
| AS907-3-1E | Aircelle                          | Per T/R installation drawing 32A716-02-0G | Per T/R installation drawing 32A717-02-0G |

NOTE 18. DELETED

...END...