TYPE-CERTIFICATE DATA SHEET

No. IM.E.058

for Engine
AS907 series engines

Type Certificate Holder
Honeywell International Inc.
111 South 34th Street
Phoenix
AZ 85034
USA

For Models:

AS907-1-1A
AS907-2-1G
AS907-2-1A
AS907-3-1E
AS907-2-1S
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TABLE OF CONTENTS

I. General ............................................................................................................................................. 4
   1. Type / Models ................................................................................................................................. 4
   2. Type Certificate Holder .................................................................................................................... 4
   3. Manufacturer .................................................................................................................................. 4
   4. Date of Application ......................................................................................................................... 4
   5. EASA Type Certification Date ......................................................................................................... 4
II. Certification Basis ............................................................................................................................... 4
   1. State of Design Authority Certification Basis .................................................................................. 4
   2. EASA Certification Basis ............................................................................................................... 5
      2.1. Airworthiness Standards ......................................................................................................... 5
      2.2. Special Conditions (SC) ......................................................................................................... 5
      2.3. Equivalent Safety Findings (ESF) ............................................................................................ 5
      2.4. Deviations ............................................................................................................................... 5
      2.5. Environmental Protection ...................................................................................................... 6
III. Technical Characteristics .................................................................................................................... 6
   1. Type Design Definition ................................................................................................................... 6
   2. Description ..................................................................................................................................... 6
   3. Equipment ....................................................................................................................................... 6
   4. Dimensions ..................................................................................................................................... 6
   5. Dry Weight ..................................................................................................................................... 7
   6. Ratings .......................................................................................................................................... 7
   7. Control System ............................................................................................................................... 7
   8. Fluids (Fuel, Oil, Coolant, Additives) ............................................................................................ 7
   9. Aircraft Accessory Drives ............................................................................................................. 8
   10. Maximum Permissible Air Bleed Extraction ................................................................................. 8
IV. Operating Limitation ............................................................................................................................ 9
   1. Temperature Limits ....................................................................................................................... 9
      1.1 Interstage Turbine Temperature (ITT) Limits: ......................................................................... 9
      1.2 Oil Inlet Temperature Limits: ................................................................................................ 9
      1.3 Fuel Inlet Temperature Limits: ............................................................................................... 9
   2. Speed Limits ................................................................................................................................... 10
   3. Pressure Limits ............................................................................................................................. 10
      3.1 Fuel Pump Inlet Pressure ......................................................................................................... 10
      3.2 Oil Pressure Limits .................................................................................................................. 10
   4. Installation Assumptions: ............................................................................................................. 10
   5. Time Limited Dispatch (TLD) ....................................................................................................... 10
   6. ETOPS Capability ............................................................................................................................ 10
V. Operating and Service Instructions .................................................................................................... 11
VI. Notes ............................................................................................................................................... 11

SECTION: ADMINISTRATIVE ................................................................................................................. 12
   I. Acronyms and Abbreviations ......................................................................................................... 12
   II. Type Certificate Holder Record .................................................................................................... 12
   III. Change Record .............................................................................................................................. 12
I. General

1. Type / Models

AS907-1-1A, AS907-2-1G, AS907-2-1A, AS907-3-1E, AS907-2-1S

2. Type Certificate Holder

Honeywell International Inc.
111 South 34th Street
Phoenix
AZ 85034
USA
Design Organisation Approval No.: Not Applicable

3. Manufacturer

Honeywell International Inc.

4. Date of Application

<table>
<thead>
<tr>
<th>Engine Model</th>
<th>Date</th>
</tr>
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<tbody>
<tr>
<td>AS907-1-1A</td>
<td>09 November 1998</td>
</tr>
<tr>
<td>AS907-2-1G</td>
<td>30 May 2006</td>
</tr>
<tr>
<td>AS907-2-1A</td>
<td>01 April 2013</td>
</tr>
<tr>
<td>AS907-3-1E</td>
<td>26 November 2013</td>
</tr>
<tr>
<td>AS907-2-1S</td>
<td>01 March 2016</td>
</tr>
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5. EASA Type Certification Date

<table>
<thead>
<tr>
<th>Engine Model</th>
<th>Date</th>
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<tbody>
<tr>
<td>AS907-1-1A</td>
<td>22 October 2002</td>
</tr>
<tr>
<td>AS907-2-1G</td>
<td>22 July 2011</td>
</tr>
<tr>
<td>AS907-2-1A</td>
<td>02 September 2014</td>
</tr>
<tr>
<td>AS907-3-1E</td>
<td>05 December 2014</td>
</tr>
<tr>
<td>AS907-2-1S</td>
<td>20 February 2019</td>
</tr>
</tbody>
</table>

EASA Type Certification for the AS907-1-1A engine model is granted, in accordance with article 2 paragraph 3 (a) (i) of EU Commission Regulation EC 1702/2003, based on the JAA Validation Recommendation.

II. Certification Basis

1. State of Design Authority Certification Basis

See FAA TCDS E00010LA
2. EASA Certification Basis

2.1. Airworthiness Standards

| AS907-2-1G | JAR-E Amendment 11, dated 01 November 2001, plus CS-E, Original Issue, dated 24 October 2003, paragraphs CS-E 50(f), CS-E 850 and CS-E 890 |
| AS907-3-1E | CS-E Amendment 3, dated 23 December 2010, except paragraph CS-E 515, plus JAR-E Amendment 11, dated 01 November 2001, paragraph JAR-E 515 |

2.2. Special Conditions (SC)

| AS907-1-1A | Certification of PLDs |
| AS907-2-1G | None |
| AS907-2-1A | 20 seconds Transient Over-temperature |
| AS907-3-1E | 20 seconds Transient Over-speed |
| AS907-2-1S | Transient Over-temperature and Over-speed limit approval for up to 20 seconds |

2.3. Equivalent Safety Findings (ESF)

| AS907-1-1A | JAR-E890(b)1 – Thrust Reverser Endurance Tests |
| AS907-2-1G | None |
| AS907-2-1A | None |
| AS907-3-1E | None |
| AS907-2-1S | CS-E 40, CS-E 60 and CS-E 740-Approval for a single flight use of transient Over-temperature periods of up to 2 minutes |

2.4. Deviations

None
2.5. Environmental Protection

| AS907-1-1A    | CS-34 Issue dated 23.10.2003 in accordance with ICAO Annex 16 Volume II, Amendment 6, dated 20 November 2008. The NOx Standard is in accordance with Part III, Chapter 2, § 2.3.2, d) (CAEP/6) |
| AS907-2-1G    | CS-34 Amendment 3 as implemented by ED Decision 2019/014/R (29th July 2019); ICAO Annex 16 Volume II, Amendment 9 (1st January 2018) as implemented into EU legislation 11/09/2018; NOx levels in compliance with Part III, Chapter 2, paragraph 2.3.2d) (CAEP/6) of the above mentioned Annex. Maximum nvPM mass concentration levels in compliance with Part III, Chapter 4, paragraph 4.2.2 (CAEP/10) of the above mentioned Annex. |
| AS907-2-1A    | CS-34 Amendment 3 as implemented by ED Decision 2019/014/R (29th July 2019); ICAO Annex 16 Volume II, Amendment 9 (1st January 2018) as implemented into EU legislation 11/09/2018; NOx levels in compliance with Part III, Chapter 2, paragraph 2.3.2e) (CAEP/8) of the above mentioned Annex. Maximum nvPM mass concentration levels in compliance with Part III, Chapter 4, paragraph 4.2.2 (CAEP/10) of the above mentioned Annex. |
| AS907-3-1E    | CS-34 Amendment 3 as implemented by ED Decision 2019/014/R (29th July 2019); ICAO Annex 16 Volume II, Amendment 9 (1st January 2018) as implemented into EU legislation 11/09/2018; NOx levels in compliance with Part III, Chapter 2, paragraph 2.3.2e) (CAEP/8) of the above mentioned Annex. Maximum nvPM mass concentration levels in compliance with Part III, Chapter 4, paragraph 4.2.2 (CAEP/10) of the above mentioned Annex. |
| AS907-2-1S    | CS-34 Amendment 3 as implemented by ED Decision 2019/014/R (29th July 2019); ICAO Annex 16 Volume II, Amendment 9 (1st January 2018) as implemented into EU legislation 11/09/2018; NOx levels in compliance with Part III, Chapter 2, paragraph 2.3.2e) (CAEP/8) of the above mentioned Annex. Maximum nvPM mass concentration levels in compliance with Part III, Chapter 4, paragraph 4.2.2 (CAEP/10) of the above mentioned Annex. |

III. Technical Characteristics

1. Type Design Definition

| AS907-1-1A    | Equipment List 3030001-4 |
| AS907-2-1G    | Equipment List 3030002-1/-2 |
| AS907-2-1A    | Equipment List 70040702-1/-2 |
| AS907-3-1E    | Equipment List 70040119-1 |
| AS907-2-1S    | Equipment List 70041011-1 |

2. Description

Turbofan, one stage fan directly driven by a three-stage low pressure turbine, four-stage axial and single stage centrifugal compressor, driven by a two-stage high pressure turbine, annular combustor, bypass duct and exhaust mixer.

3. Equipment

Engine equipment is specified by the Engine Equipment List part number as referenced in the Type Design Definition.

4. Dimensions

<table>
<thead>
<tr>
<th></th>
<th>Overall Length mm</th>
<th>Overall Width mm</th>
<th>Overall Height mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS907-1-1A</td>
<td>2460</td>
<td>1156</td>
<td>1340</td>
</tr>
<tr>
<td>AS907-2-1G</td>
<td>2281</td>
<td>1156</td>
<td>1340</td>
</tr>
<tr>
<td>AS907-2-1A</td>
<td>2281</td>
<td>1156</td>
<td>1340</td>
</tr>
<tr>
<td>AS907-3-1E</td>
<td>2282</td>
<td>1116</td>
<td>1329</td>
</tr>
<tr>
<td>AS907-2-1S</td>
<td>2282</td>
<td>1156</td>
<td>1340</td>
</tr>
</tbody>
</table>
5. Dry Weight

<table>
<thead>
<tr>
<th>Weight[^1]</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS907-1-1A</td>
<td>696</td>
</tr>
<tr>
<td>AS907-2-1G</td>
<td>696</td>
</tr>
<tr>
<td>AS907-2-1A</td>
<td>696</td>
</tr>
<tr>
<td>AS907-3-1E</td>
<td>687</td>
</tr>
<tr>
<td>AS907-2-1S</td>
<td>696</td>
</tr>
</tbody>
</table>

[^1]: 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, but mounted on the engine, are not included in the weight.

6. Ratings

<table>
<thead>
<tr>
<th>Static Thrust[^1][^3]</th>
<th>Static Thrust[^1][^4]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kN</td>
</tr>
<tr>
<td>Maximum Continuous</td>
<td>Take off (5 minutes)</td>
</tr>
<tr>
<td>AS907-1-1A</td>
<td>30.63</td>
</tr>
<tr>
<td>AS907-2-1G</td>
<td>32.49</td>
</tr>
<tr>
<td>AS907-2-1A</td>
<td>33.39</td>
</tr>
<tr>
<td>AS907-3-1E</td>
<td>32.60</td>
</tr>
<tr>
<td>AS907-2-1S</td>
<td>32.90</td>
</tr>
</tbody>
</table>

[^1]: The ratings are based on static test stand operation under the following conditions;
(a) No loading of aircraft accessory drives.
(b) No aircraft compressor 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.
(2) The normal 5 minutes take-off time may be extended to 10 minutes for engine out contingency.
(3) Sea level standard day (ISA) conditions.
(4) Sea level conditions at breakpoint ambient temperature.

7. Control System
Fuel controls and power management are provided by a dual channel full authority digital electronic control (FADEC) in conjunction with a hydro-mechanical unit (HMU) incorporating an integral fuel pump. The configuration of this system, including hardware and software, is controlled by the approved engine equipment list for each specific engine model and aircraft application.

8. Fluids (Fuel, Oil, Coolant, Additives)
See applicable Installation Manual.
### 9. Aircraft Accessory Drives

<table>
<thead>
<tr>
<th>Accessory Drive</th>
<th>Drive Type</th>
<th>Internal Spline Config.</th>
<th>RPM and Rotation Facing Drive End</th>
<th>Accessory Maximum Torque$^{(2)}$ Nm</th>
<th>Maximum Weight kg</th>
<th>Maximum Overhung Moment Nm$^{(5)}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generator/Alternator D30$^{(1)}$</td>
<td>AS468B-AV1 modified as follows: rpm, torques, accessory weight and moment as shown</td>
<td>AS468B</td>
<td>13665$^{(3)}$ CW</td>
<td>27.34</td>
<td>41.02$^{(4)}$</td>
<td>180.79</td>
</tr>
<tr>
<td>Hydraulic Pump D10$^{(1)}$</td>
<td>AS468B-AV1 modified as follows: rpm, torques, accessory weight and moment as shown</td>
<td>AS468B</td>
<td>5974$^{(3)}$ CW</td>
<td>28.25</td>
<td>42.37$^{(4)}$</td>
<td>43.84$^{(4)}$$^{(6)}$</td>
</tr>
</tbody>
</table>

CW = clockwise  
$T_c$ = torque overload (5 minutes per 4 hour period)  
$T_s$ = static torque

(1) Accessory pads are identified by these symbols on the installation drawing  
(2) Total combined accessory power extraction limits are specified in the installation manual  
(3) Drive speeds are based on 100% design HP rotor speed of 28100 rpm  
(4) 5 minutes per 4 hour period  
(5) At quick attach/detach (QAD) interface  
(6) AS907-3-1E model only  
(7) AS907-3-1E and AS907-2-1S models only

### 10. Maximum Permissible Air Bleed Extraction

For all engine models, the bleed extraction limits are specified in the applicable Installation Manual.
### IV. Operating Limitation

#### 1. Temperature Limits

**1.1 Interstage Turbine Temperature (ITT) Limits:**

<table>
<thead>
<tr>
<th>Model</th>
<th>Continuous</th>
<th>Take-off</th>
<th>Transient</th>
<th>Starting</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS907-1-1A</td>
<td>928</td>
<td>946</td>
<td>962(^{(1)})</td>
<td>See Installation Manual</td>
</tr>
<tr>
<td>AS907-2-1G</td>
<td>950</td>
<td>955</td>
<td>970(^{(1)})</td>
<td>See Installation Manual</td>
</tr>
<tr>
<td>AS907-2-1A</td>
<td>950</td>
<td>955</td>
<td>970(^{(1)})</td>
<td>See Installation Manual</td>
</tr>
<tr>
<td>AS907-3-1E</td>
<td>950</td>
<td>955</td>
<td>970(^{(2)})</td>
<td>See Installation Manual</td>
</tr>
<tr>
<td>AS907-2-1S</td>
<td>950</td>
<td>955</td>
<td>970(^{(1)})</td>
<td>See Installation Manual</td>
</tr>
</tbody>
</table>

(1) 20 seconds maximum  
(2) 2 minutes maximum

**1.2 Oil Inlet Temperature Limits:**

<table>
<thead>
<tr>
<th>Model</th>
<th>Maximum Temperature</th>
<th>Minimum Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS907-1-1A</td>
<td>138 / 154</td>
<td>5 / -40</td>
</tr>
<tr>
<td>AS907-2-1G</td>
<td>138 / 154</td>
<td>5 / -40</td>
</tr>
<tr>
<td>AS907-2-1A</td>
<td>138 / 154</td>
<td>5 / -40</td>
</tr>
<tr>
<td>AS907-3-1E</td>
<td>138 / 154</td>
<td>5 / -40</td>
</tr>
<tr>
<td>AS907-2-1S</td>
<td>138 / 154</td>
<td>5 / -40</td>
</tr>
</tbody>
</table>

**1.3 Fuel Inlet Temperature Limits:**

<table>
<thead>
<tr>
<th>Model</th>
<th>Maximum(^{(1)})</th>
<th>Minimum(^{(2)})</th>
</tr>
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<tbody>
<tr>
<td>AS907-1-1A</td>
<td>85</td>
<td>-54</td>
</tr>
<tr>
<td>AS907-2-1G</td>
<td>85</td>
<td>-54</td>
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<tr>
<td>AS907-2-1A</td>
<td>85</td>
<td>-54</td>
</tr>
<tr>
<td>AS907-3-1E</td>
<td>55</td>
<td>-54</td>
</tr>
<tr>
<td>AS907-2-1S</td>
<td>85</td>
<td>-54</td>
</tr>
</tbody>
</table>

(1) With a vapour volume to liquid volume ratio (V/L) equal to 0.45  
(2) With fuel at a viscosity of 12 centistokes or less during starting
2. Speed Limits

<table>
<thead>
<tr>
<th></th>
<th>Low Pressure Rotor (N1)</th>
<th>High Pressure Rotor (N2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum Continuous rpm (%)</td>
<td>Take-off Transient (20 seconds)</td>
</tr>
<tr>
<td>AS907-1-1A[1]</td>
<td>9723 (95.7)</td>
<td>9812 (96.6)</td>
</tr>
<tr>
<td>AS907-2-1G[1]</td>
<td>9800 (96.5)</td>
<td>9830 (96.8)</td>
</tr>
<tr>
<td>AS907-2-1A[1]</td>
<td>9800 (96.5)</td>
<td>9830 (96.8)</td>
</tr>
<tr>
<td>AS907-3-1E[1]</td>
<td>9830 (96.8)</td>
<td>9830 (96.8)</td>
</tr>
<tr>
<td>AS907-2-1S[1]</td>
<td>9800 (96.5)</td>
<td>9830 (96.8)</td>
</tr>
</tbody>
</table>

(1) 100% N1 = 10156 rpm, 100% N2 = 28100 rpm

3. Pressure Limits

3.1 Fuel Pump Inlet Pressure
Minimum pressure: whichever is highest of the following:
(a) 34.5 kPa above the true vapour pressure of the fuel
(b) Pressure corresponding to a vapour-to-liquid ratio of 0.45
(c) 35% of atmospheric pressure
(d) 13.8 KPa (absolute)

Maximum pressure: 241 kPa (gauge)

3.2 Oil Pressure Limits

Oil pressure is not regulated and varies with N2 speed. Refer to the applicable Installation Manual.

4. Installation Assumptions:
The installation assumptions are quoted in the applicable Installation Manual.

5. Time Limited Dispatch (TLD)
AS907-1-1A, AS907-2-1G, AS907-2-1A, AS907-3-1E and AS907-2-1S engines have been approved for Time Limited Dispatch. The maximum rectification period for each dispatchable state is specified in the Airworthiness Limitations Section of the applicable Light Maintenance Manual.

6. ETOPS Capability
AS907-1-1A, AS907-2-1G, AS907-2-1A, AS907-3-1E and AS907-2-1S engines are not approved for ETOPS capability in accordance with CS-E 1040.
V. Operating and Service Instructions

<table>
<thead>
<tr>
<th>Engine model</th>
<th>T/R Manufacturer</th>
<th>T/R Part Numbers</th>
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</thead>
<tbody>
<tr>
<td>AS907-1-1A</td>
<td>Safran Nacelles (formerly Aircelle and Hurel-Hispano)</td>
<td>13A025-03-0G</td>
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<tr>
<td></td>
<td></td>
<td>13A026-02-0G</td>
</tr>
<tr>
<td>AS907-2-1G</td>
<td>Safran Nacelles (formerly Aircelle and Hurel-Hispano)</td>
<td>13A016-00-0G</td>
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<tr>
<td></td>
<td></td>
<td>13A017-00-0G</td>
</tr>
<tr>
<td>AS907-2-1A</td>
<td>Safran Nacelles (formerly Aircelle)</td>
<td>31A516-01-0G</td>
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<td>31A517-01-0G</td>
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<tr>
<td>AS907-3-1E</td>
<td>Safran Nacelles (formerly Aircelle)</td>
<td>33A016-01-0G</td>
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<td>Safran Nacelles</td>
<td>32A716-02-0G</td>
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<td>32A717-02-0G</td>
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<td>35L0016-00-0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>35L0017-00-0</td>
</tr>
</tbody>
</table>

VI. Notes

Note 1: For additional authorised operation and installation detailed information, refer to FAA approved sections of the applicable engine Installation Manual.

Note 2: The EASA approved Airworthiness Limitations Section of the Instructions for Continued Airworthiness is published in chapter 5 of the applicable Light Maintenance Manual.

Note 3: Power setting, power checks and control of engine thrust output in all operations is based on low pressure rotor speed (N1). Speed sensors are included in the engine assembly for this purpose.

Note 4: The engine is approved for use with the thrust reversers (T/R) listed below. These thrust reversers are not part of the engine type design.
Note 5: The engine Type Design includes an air turbine starter (ATS) and starter control valve (ATSCV).

Note 6: The software contained in the FADEC has been designed and developed in accordance with RTCA/DO178B, criticality Level A.

Note 7: For the AS907-1-1A, AS907-2-1G, AS907-2-1A and AS907-2-1S engines aircraft installations fuel from the engine pump is used to drive jet or turbine pumps in the aircraft fuel system (motive flow). The AS907-3-1E engine fuel pump does not drive aircraft system motive flow. Refer to the applicable Installation Manual.

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

Not Applicable

II. Type Certificate Holder Record

Not Applicable

III. Change Record

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Changes</th>
<th>TC issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue 01</td>
<td>22 July 2011</td>
<td>Initial Issue.</td>
<td>22 July 2011</td>
</tr>
<tr>
<td>Issue 02</td>
<td>8 January 2013</td>
<td>To include the compliance in accordance with NOx regulation of ICAO Annex 16, Volume II, Part III, Chapter 2, § 2.3.2 (d) (CAEP/6).</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Issue 03</td>
<td>2 September 2014</td>
<td>To add the AS907-2-1A Engine model.</td>
<td>2 September 2014</td>
</tr>
<tr>
<td>Issue 04</td>
<td>5 December 2014</td>
<td>To add the AS907-3-1E Engine model.</td>
<td>5 December 2014</td>
</tr>
<tr>
<td>Issue 05</td>
<td>22 February 2017</td>
<td>To introduce the latest EASA TCDS template. To introduce changes associated to Engine Control Unit Upgrade (EASA project 0010032318-001): N2 speed limits modification and alternative equipment list for AS907-2-1G Engine.</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Issue 06</td>
<td>20 February 2019</td>
<td>To add the AS907-2-1S Engine model. To introduce alternative equipment list for the AS907-2-1A model (EASA Major Change Approval 10066003). To correct the application date of some engine models.</td>
<td>20 February 2019</td>
</tr>
<tr>
<td>Issue 07</td>
<td></td>
<td>Introduction of CAEP/10 for nvPM compliance (EASA Major Change approval 10071924)</td>
<td>Not Applicable</td>
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-END-