Airworthiness Directive Schedule

Engines

Safran Helicopter Engines – Arriel 1A, 1B, 1C, 1D and 1D Series

31 October 2024

Notes: 1. This AD schedule is applicable to Safran Helicopter Engines (formerly Turbomeca) Arriel 1 series engines manufactured under the following Type Certificate Numbers:

Engine Model:	EASA Type Certificate Number:
Arriel 1A	E.073
Arriel 1A1	E.073
Arriel 1A2	E.073
Arriel 1B	E.073
Arriel 1C	E.073
Arriel 1C1	E.073
Arriel 1C2	E.073
Arriel 1D	E.073
Arriel 1D1	E.073
Arriel 1E2	E.073

2. The European Union Aviation Safety Agency (EASA) is the National Airworthiness Authority (NAA) responsible for the issue of State of Design Airworthiness Directives (ADs) for these engines. State of Design ADs can be obtained directly from the EASA website at: http://ad.easa.europa.eu/
3. The date above indicates the amendment date of this schedule.
4. New or amended ADs are shown with an asterisk *

Contents

DCA/TUR/1 Condition Monitoring System - Modification

Applicability: All Arriel 1B engines not incorporating Mod. TU49.

Requirement: Modify per Arriel Turbomeca SB 72-292-0021.

(BV AD 79-254-12(B) refers)

Compliance: By 31 March 1980

Effective Date: 22 February 1980

DCA/TUR/3 Turbine Case - Identification Plate Removal and Modification

Applicability: All Arriel 1A, 1A1, 1A2, 1B, 1C, 1C1, 1D, 1K and 1M.

Requirement: Remove identification plate and inspect turbine casing per Turbomeca SB Arriel 72.292.0093.

(BV AD 86-29(B) refers)

Compliance: Turbine cases with more than 2000 hours TTIS or 5 years from new, unless already accomplished:

1. Arriel 1B - within next 100 hours TIS or two months, whichever is the sooner.
2. All other variants - within next four months.

Effective Date: 29 July 1988

DCA/TUR/4 Gas Generator Rear Bearing Oil Pipe - Modification

Applicability: All Arriel 1A, 1A1, 1A2, 1B, 1C, 1C1 and 1M not incorporating Mod. TU144.

Requirement: To prevent a failure which could result in an oil fire, modify per Turbomeca SB Arriel 72.292.0088.

(BV AD 86-147(B) refers)

Compliance: By 31 October 1988

Effective Date: 29 July 1988

DCA/TUR/6A Cancelled - DGAC AD 92-078R2 refers

Effective Date: 25 January 2018

DCA/TUR/7 Free Wheel Assembly - Modification

Applicability: All Arriel 1B, 1D and 1D1.

Requirement: To prevent premature wear of the free wheel during desynchronized operation, incorporate modification TU 221 per Turbomeca SB 292 72 0146.

(BV AD 91-156(B)R1 refers)

Compliance: By 30 June 1992

Effective Date: 16 May 1992

DCA/TUR/8C Second Stage Nozzle Guide Vanes - Inspection

Applicability: Arriel 1 all variants

Requirement: To detect deterioration of the gas generator second stage turbine nozzle guide vane, accomplish the following:-

1. For engine models Arriel 1A, 1A1, 1A2 and 1B post-mod TU 76 and pre-mod TU 197 or TU 202. Arriel 1C, 1C1, 1C2, 1D, 1D1, 1S, 1K, and 1K1 pre-mod TU 197 or TU 202. Check for unusual noise during gas generator run-down per Turbomeca SB 292 72 0181 Rev 3. If a rubbing noise is detected in the M03 module, remove the M03 from service before further flight. Any module from Arriel 1B, 1D, 1D1 which have TU 76 and which have not TU 197 or TU 202 must not be used.

2. For all Arriel 1 variants post-mod TU 197 pPerform inspections and actions per Turbomeca SB 292 72 0212 Rev 4.
(DGAC AD 98-311(A) R1 refers)

Compliance: 1. Inspect as detailed per Turbomeca SB 292 72 0181 Rev 3.
2. As detailed per Turbomeca SB 292 72 0212 Rev 4.

Note: Daily inspections may be accomplished by pilot subject to:

(a) Adequate instruction by the engineer responsible for the maintenance of the aircraft.
(b) Certificate of Release to Service endorsed to refer to inspection requirement.
(c) Copy of Turbomeca SB is attached to the Certificate of Release to Service.

Effective Date: DCA/TUR/8B - 9 May 1997
DCA/TUR/8C - 28 August 1998

DCA/TUR/9B Free Power Turbine - Modification

Applicability Arriel 1A, 1A1, 1B, 1D, 1D1 which incorporate the following modifications:
Arriel 1A, 1A1 with TU 13 and without TU 215 or TU 254 or TU 255.
Arriel 1B, 1D, 1D1 without TU 215 or TU 254 or TU 255.

Requirement: To prevent uncontained failure as the result of power turbine overspeed, incorporate the SBs listed in the following table.

ARRIEL VERSION and CONFIGURATION		**SB TO BE INCORPORATED**
1A 1A1	modified TU 13 and not modified TU 99 and not modified TU 215	292-72-0206 (TU 254) and 292-72-0208 (TU 259)
1B 1D	not modified TU 99 and not modified TU 215	
1A 1A1	modified TU 13 and modified TU 99 and not modified TU 215	292-72-0207 (TU 255) and 292-72-0208 (TU 259)
1B 1D 1D1	modified TU 99 and not modified TU 215	

(BV AD 95-069(A)R3 refers)

Compliance: By 30 April 2001.

Effective Date: DCA/TUR/9A - 1 September 1995
DCA/TUR/9B - 29 March 2001

DCA/TUR/10 Overspeed Sensor - Inspection

Applicability: Arriel 1A and 1A1 not modified to TU13 standard.
Arriel 1A2, 1C, 1C1, 1C2, 1E, 1E2, 1K, 1K1, 1S and 1S1.

Requirement: To ensure correct operation of the free power turbine overspeed sensor, inspect per Turbomeca SB 292 77 0194 Rev 1. Correct any defects found before further flight.

(DGAC AD 94-218(B) refers)

Compliance: By 9 June 1997, unless already accomplished.

Effective Date: 9 May 1997

DCA/TUR/11 Gas Generator Rear Bearing Chip Detector - Installation

Applicability: Arriel 1 all variants

Requirement: To provide a means of warning the pilot of gas generator rear bearing deterioration, embody modification TU208 per Turbomeca SB 292.72.0163 Rev 1.

(DGAC AD 98-394(A) refers)

Compliance: By 12 June 1999

Effective Date: 12 March 1999

DCA/TUR/13 Power Turbine Nozzle Assembly - Inspection

Applicability: Arriel 1 variants 1A, 1A1, 1A2, and 1B fitted with a non mod TU 38 power turbine nozzle assembly.

Requirement: To detect cracks on the rear bearing support which could lead to an in-flight engine shut down, inspect per Turbomeca SB 292 72 0213. If a crack is detected replace the nozzle guide vane per SB 292 72 0213.

(DGAC AD 98-493(A) refers)

Compliance: By 30 April 1999

Effective Date: 12 March 1999

DCA/TUR/20 Centrifugal Impeller - Modification

Applicability: All Arriel 1 series turboshaft engines

Requirement: To prevent excitation of the impellor vanes leading to release of a vane and possible engine failure, accomplish the following:-

1. Modify Arriel 1S, 1S1, 1D, 1D1 engines by installation of a of a sleeve in the bleed valve boss, per Turbomeca SB 292 72 0261.

2. For other Arriel engine variants, on which TU 300 modification is embodied, ensure the bonding of the sleeve in the bleed valve boss, per Turbomeca SB A 292 72 0275 (Modification TU 316A).

(DGAC AD 2002-126(A) refers)

Compliance: Before 31 May 2002

Effective Date: 28 March 2002

DCA/TUR/22 Second Stage Turbine Blade - Replacement

Applicability: All Arriel 1B, 1D and 1D1 with modification TU204 embodied and installed in single engine helicopters.

Requirement: To prevent failure of the gas generator 2nd stage turbine blades leading to possible power loss, replace turbine blades that have been modified by TU 204 in accordance with Turbomeca SB 292 72 0258 (Arriel 1B) or SB 292 72 0265 (Arriel 1D, 1D1). (DGAC AD 2002-258(A) refers)

Compliance: Before 31 May 2004 unless already accomplished

Effective Date: 31 July 2003

DCA/TUR/26B Arriel 2nd Stage NGV - Inspection

Applicability: Arriel 1B, 1D and 1D1 turboshaft engines with modification TU202 embodied and installed in single engine helicopters, except those with S/N or marks as detailed in Turbomeca SB 292 72 0231 revision 5.

Requirement: To detect and prevent deformation of the 2nd Stage NGV that may produce a wake that leads to damage and failure of the 2nd stage turbine blades and possibly cause an uncommanded in-flight shutdown, inspect the 2nd stage NGV per Turbomeca SB 292 72 0231 revision 5.
(EASA AD 2007-0002 refers and supersedes DGAC AD 2004-088 R1)

Compliance: At next exposure of the 2nd stage NGV during deep level maintenance or at the next visit of the engine module to a repair center, or before 31 May 2007 whichever occurs sooner.

Effective Date: DCA/TUR/26 - 30 Sept 2004
DCA/TUR/26A - 27 July 2006
DCA/TUR/26B - 25 January 2007

DCA/TUR/37 Start Electro Fuel Valve Leaks – Inspection

Applicability: All Arriel 1 series engines.

Requirement: To detect fuel leaks at the start electro fuel valve coupling, which could cause reduced engine power, or an uncommanded in-flight engine shutdown, inspect the start electro fuel valve for correct assembly and security of the tee coupling, per Turbomeca Service Bulletin No. A292 73 0251, revision 2 or later approved revisions. (EASA AD 2006-0068 refers)

Compliance: By 1 October 2006, unless already accomplished.

Effective Date: 1 June 2006

DCA/TUR/47 Cancelled – EASA AD Cancellation Notice 2007-0045-CN refers

Note: The requirements in superseded DCA/TUR/47 (EASA AD 2007-0045 refers) have been introduced in a Note in EASA TCDS E.073.

The Note in TCDS E.073 is applicable to Arriel 1A,1A1,1A2,1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K, 1K1, 1S, 1S1 turboshaft engines, which have previously been used by an operator (such as the military, customs, police or similar services), which have not been operated under the control of a National Civil Authority.

Before installing an affected engine in a civil registered aircraft, the engine must comply with the applicable Safran Helicopter Engines requirements specified in EASA TCDS No. E.073.

Effective Date: 22 February 2018

DCA/TUR/61 Reduction Gearbox Intermediate Pinion – Modification

Applicability: Model Arriel 1B, 1D and 1D1 turboshaft engines, all S/N.

Requirement: To prevent failure of the reduction gearbox intermediate pinion due to possible stress cracks caused by vibration which could result in loss of engine power, replace the reduction gearbox intermediate pinion P/N 0 292 70 779 0 with a pinion embodied with Turboméca modification TU 232 per Turboméca MSBulletin No. 292 72 0276 version B dated 06 November 2008 or later EASA approved revisions.
(EASA AD 2009-0002 refers)

Compliance: By 28 February 2011.

Effective Date: 29 January 2009

DCA/TUR/65A Module 04 Power Turbine – Life Limitation

Applicability: Model Arriel 1B, 1D and 1D1 turboshaft engines, fitted with Modules M04 (Power Turbine) listed in figure 1 of Turboméca MSB A292 72 0827 version C.

Model Arriel 2B, 2B1 and 2B1A turboshaft engines, fitted with Modules M04 listed in figure 1 of Turboméca MSB A292 72 2833 version C.

Affected engines are installed on single engine helicopters.

Note 1: This AD revised to extend the life limit of the Module 04 power turbine blades from 2000 hours to 5000 hours TTIS and introduce later Turboméca MSB revisions which do not list any additional nonconforming turbine wheels.

Requirement: To prevent failure of the power turbine due to possible blade fatigue which could result in loss of engine power, accomplish the following:

1. <u>For engines with 5000 or more cycles on the Module M04 Power Turbine (PT)</u>:

Replace the module M04, or the PT wheel assembly, or the PT blades per paragraph 2.B.(1)(b) of Turboméca MSB A292 72 0827 version C dated 15 July 2009 or later approved revisions for Arriel 1 engines and MSB A292 72 2833 version C dated 15 July 2009 or later approved revisions for Arriel 2 engines.

2. <u>For engines with less than 5000 cycles on the Module M04 PT</u>:

2.1 Change the cycle life limit of the PT blades in the engine log book to 5000 cycles per paragraph 2.B.(1)(a) of MSB A292 72 0827 for Arriel 1 engines and MSB A292 72 2833 for Arriel 2 engines.
2.2 Replace the module M04, or PT wheel assembly, or PT blades per paragraph 2.B.(1)(b) of MSB A292 72 0827 for Arriel 1 engines and A292 72 2833 for Arriel 2 engines.

Note 2: The S/N of affected PT wheel assemblies and Modules M04 (PT) are listed in figure 1 of the referenced MSB. These PT are known to be fitted with affected blades. The engine S/N are also provided where this information is available. If there is a conflict with S/N contact Turboméca for clarity.
(EASA AD 2009-0112R1 refers)

Compliance: 1. Before further flight unless previously accomplished.
2.1 By 3 September 2009 unless previously accomplished.
2.2 Before accumulating 5000 cycles unless previously accomplished.

Effective Date: DCA/TUR/65 - 25 June 2009
DCA/TUR/65A - 27 August 2009

DCA/TUR/67 Module M05 Reduction Gearbox – Inspection

Applicability: Model Arriel 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K, 1K1, 1S and 1S1 turboshaft engines, all S/N embodied with modification TU332, and

Fitted with a Module M05 (Reduction Gear Box) as identified in figure 1 of Turboméca MSB A292 72 0825 Turboméca MSB A292 72 0825, version B dated 6 October 2009.

These engines are known to be installed on, but not limited to Eurocopter AS350B/BA/BB/B1/B2 helicopters, EC145/MBB-BK117-C1 helicopters, AS365N helicopters, Agusta A109K2 helicopters, Sikorsky S-76A+ helicopters and S-76A++ helicopters.

Note 1: This AD supersedes DCA/TUR/63 to introduce Turboméca MSB A292 72 0825 version B dated 6 October 2009 which includes six additional affected Modules M05. Affected modules are listed by S/N in figure 1 of MSB A292 72 0825. The engine S/Ns are also provided, where available. If there is a conflict between the module S/N and the engine S/N contact Turboméca.

Requirement: To prevent loss of the reduction gearbox oil due to the possible loss of the duct plug which could result in an engine fire and loss of engine power, accomplish the following:

1. Inspect the M05 lubrication duct for oil leaks per paragraphs 1.C.(1)(a), 2.A and figure 2 of Turboméca MSB A292 72 0825, version B dated 6 October 2009 or later EASA approved revisions.

If an oil leak is found accomplish the repair with elastomer per paragraph 2.B.(1)(a) and figures 3 and 4 of MSB A292 72 0825, or

Install a steel plug per paragraph 2.B.(1)(b) and figure 5 of Turboméca MSB A292 72 0825.

2. Accomplish the repair with elastomer per paragraph 2.B.(1)(a) and figures 3 and 4 of MSB A292 72 0825, or

Install a steel plug per paragraph 2.B.(1)(b) and figure 5 of Turboméca MSB A292 72 0825.

Note 2: The accomplishment of requirement 2 is a termination action to this AD.

(EASA AD 2009-0245-E refers)

Compliance: 1. Accomplish the initial inspection before further flight unless previously accomplished.

If no oil leaks are found continue to inspect at intervals not to exceed 4 hours TIS or after the last flight of the day whichever occurs sooner, until a further 75 hours TIS has accrued.

After 75 hours TIS if no oil leaks are found continue the regular oil leak inspections after the last flight of the day per chapter 05-20 of the applicable Arriel 1 Engine Maintenance Manual, paying particular attention to the M05 lubrication duct per figure 2 of MSB A292 72 0825. If an oil leak is found with any of these inspections accomplish the corrective actions per requirement 1 of this AD.

2. By 13 February 2010.

Effective Date: 13 November 2009

DCA/TUR/70D Gas Generator 2nd Stage Turbine – Reduced Life Limit

Applicability: Model Arriel 1A, 1A1, 1B, 1C, 1C1, 1C2, 1D, 1D1 and 1S1 turbo-shaft engines, all S/N embodied with Turboméca TU347, except those engines fitted with Gas Generator 2nd stage Turbine Discs embodied with Turboméca Modification TU365 in production, or embodied with Turboméca SB 292 72 0365 in-service.

These engines are known to be installed on, but not limited to, Eurocopter AS350 series helicopters, AS365 and SA365 series helicopters, and Sikorsky S-76A and S-76C series helicopters.

Note 1: DCA/TUR/70D revised to reduce the AD applicability to exclude those engines fitted with 2nd stage Turbine Discs embodied with Turboméca Modification TU365 or embodied with SB 292 72 0365. To reflect this situation, this AD introduces Turboméca MSB A292 72 0831 revision D. In addition, some editorial changes have been made to EASA AD 2010-0101R3 to improve the clarity.

Requirement: To prevent uncontained failure of the gas generator 2nd stage turbine disc which could result in an in-flight engine shutdown, accomplish the requirements in EASA AD 2010-0101R3.

Note 2: Turboméca MSB A292 72 0831 version D dated 11 June 2012 or later approved revisions are acceptable to comply with the requirements of this AD.

(EASA AD 2010-0101R3 refers)

Compliance: At the compliance times specified in EASA AD 2010-0101R3.

Effective Date: DCA/TUR/70A - 11 June 2010
DCA/TUR/70B - 26 August 2010
DCA/TUR/70C - 21 April 2011
DCA/TUR/70D - 27 September 2012

DCA/TUR/74 Fuel Ejector Assembly – Inspection

Applicability: Model Arriel 1E2, 1S and 1S1 turboshaft engines, all S/N embodied with Turbomeca Internal Consign (IC) No. 298468 or Turbomeca SB No. 292 73 0826 version A.

These engines are known to be installed on, but not limited to, Eurocopter Deutschland MBB BK117-C2 and BK117-C1 aircraft, and Sikorsky S-76A and C series aircraft.

Requirement: To prevent fuel flow fluctuation or disruption due to a possible incorrectly assembled fuel ejector in the body of the fuel ejector assembly which could result in an in-flight loss of engine power, accomplish the following:

1. Inspect the fuel ejector in the body of the fuel ejector assembly for correct installation per the instructions in paragraph 2.B of Turboméca MSB No. A292 73 0834 version B within the compliance times specified in the compliance table of this AD.

If the fuel ejector is found incorrectly assembled, replace the ejector assembly with a serviceable unit before further flight.

As an alternative to the above mentioned actions, the instructions in Turbomeca SB No. 292 73 0826 version B are acceptable to comply with all the requirements of this AD provided that the actions are accomplished within the same compliance times specified in the compliance table of this AD.

2. An engine embodied with Turbomeca IC No. 298468 or Turbomeca SB No. 292 73 0826 version A shall not be fitted to any aircraft unless in compliance with the requirements of this AD.

Note 1: Ejector assembly inspections and replacements accomplished before the effective date of this AD per the instructions in Turbomeca SB No. A292 73 0834 version A are acceptable to comply with the requirements of this AD.

Note 2: Turbomeca MSB No. A292 73 0834 version B, dated 08 February 2011, and Turbomeca SB A292 73 0826 version B, dated 4 February 2011 and later EASA approved revisions of these documents are acceptable to comply with the requirements of this AD.

(EASA AD 2011-0023-E refers)

Compliance: 1. Compliance Table:

Engine and aircraft configuration:	Compliance time:
SB No. 292 73 0826 version A (*) or IC No. 298468 has been accomplished on both engines fitted to the aircraft, and Starting difficulties (**) have been encountered with at least one of the engines.	Within the next 5 hours TIS or 3 days, whichever occurs sooner.
SB No. 292 73 0826 version A (*) or IC No. 298468 has been accomplished on only one engine on a twin-engine aircraft, and Starting difficulties (**) have been encountered on the related engine.	Within 20 hours TIS or 30 days, whichever occurs sooner.
SB No. 292 73 0826 version A (*) or IC No. 298468 has been accomplished on one or both engines fitted to the aircraft, and Starting difficulties (**) have not been encountered.	Within the next 100 hours TIS or 90 days, whichever occurs sooner.

Note 3: Text marked thus (*) in the compliance table of this AD denotes: In the engine log book, the SB may be recorded as “SB No. 292 73 0826” or “SB No. 292 73 0826 version A”, and text marked thus (**) in the compliance table of this AD denotes: Starting difficulties are considered to be when N1 stagnation or variation has been encountered. Applicable guidance can be found in paragraph 1.A.(1) of Turboméca MSB No. A292 73 0834 version B.

2. From 17 February 2011.

Effective Date: 17 February 2011

DCA/TUR/75 Module M03 2nd Stage NGVs – Inspection

Applicability: Model Arriel 1B turboshaft engines embodied with TU76 or TU202, and not embodied with TU148 and fitted with a repaired 2nd Stage Nozzle Guide Vane.

These engines are known to be installed on, but not limited to Eurocopter AS350 series helicopters.

Note 1: DCA/TUR/75 supersedes DCA/TUR/71 to extend the applicability to include Arriel 1B turboshaft engines embodied with TU-202.

Requirement: To prevent engine over temperature due to possible incorrectly drilled holes in the flange of the 2nd Stage Nozzle Guide Vane (NGV) which could result in engine damage and loss of engine power, accomplish the following:

1. Inspect the gas generator per the instructions in paragraph 2.B(1)(a)3 of Turboméca MSB A292 72 0829 version B and the applicable Arriel 1B Maintenance Manual tasks 71-02-09-760-801 and 05-20-01-200-801 or later approved revisions of these documents.

If any defects are found per the instructions in paragraph 2.B(1)(a)3 of MSB A292 72 0829, no further flight is permitted. Accomplish corrective actions before further flight.

2. Complete a M03 log card and engine identification sheet per the instructions in MSB A292 72 0829 version B and determine whether the requirements in the MSB are applicable to the aircraft engine.

If the engine manufacturer confirms that MSB A292 72 0829 is not applicable to the engine, no further AD action is required.

If the engine manufacturer confirms that MSB A292 72 0829 is applicable to the engine, then accomplish requirement 3 of this AD.

3. For engines affected by MSB A292 72 0829 version B:

Inspect the 2nd Stage Turbine NGVs per the instructions in MSB A292 72 0829.

If the 2nd Stage Turbine NGVs are found non-compliant, replace the affected Module M03 with a serviceable part per the instructions in paragraph 2.B of MSB A292 72 0829 before further flight.

4. A Module M03 gas generator embodied with TU76 and not embodied with TU148 shall not be fitted to any engine unless the requirements of this AD are accomplished, and

A Module M03 gas generator embodied with TU202 and not embodied with TU148 shall not be fitted to any engine unless the requirements of this AD are accomplished

Note 2: The replacement of the Module M03 with a serviceable part is a terminating action to the requirements of this AD.

Note 3: The life limit of “monobloc” Gas Generator 2nd Stage Turbine Wheels affected by this AD is 3000 cycles.

Note 4: Turboméca MSB A292 72 0829 version B, dated 13 December 2010 and Arriel 1B Maintenance Manual X 292 65 452 1 / X 292 65 452 2 (French Version / English Version) and later approved revisions of these documents are acceptable to comply with the requirements of this AD.

(EASA AD 2010-0273R1 refers)

Compliance:

1. At every last flight of the day.
2. By 26 March 2011 unless previously accomplished.
3. Compliance required per the following table:

Total cycles on the 1st and/or 2nd Stage Turbine:	**Compliance time: (1st or 2nd Stage Turbine accumulated cycles)**
For affected turbines with up to 1199 cycles.	Before accumulating 1500 total cycles.
For affected turbines with 1200 cycles and up to 1799 cycles.	Within the next 300 cycles, or within the next 6 months, whichever occurs sooner.
For affected turbines with 1800 cycles and up to 2399 cycles.	Within the next 200 cycles, or within the next 4 months, whichever occurs sooner.
For affected turbines with 2400 cycles and up to 2999 cycles.	Within the next 100 cycles, or before accumulating 3000 total cycles, or within the next 2 months, whichever occurs sooner.
For affected turbines with more than 3000 cycles.	Before further flight.

4. From 19 March 2011.

Effective Date: 19 March 2011

DCA/TUR/81 FCU 3-Way Union Plug – Inspection

Applicability: Arriel 1E2, 1S and 1S1 turboshaft engines, all S/N.

These engines are installed on, but not limited to, Eurocopter Deutschland MBB-BK 117 and Sikorsky S-76A aircraft.

Note: This AD supersedes DCA/TUR/53 to introduce Turboméca, S.A. MSB No. 292 73 0817 version D, dated 29 February 2012. This AD retains the requirements of superseded DCA/TUR/53, reduces the applicability and prevents the installation of affected FCU on any engine unless the actions of this AD have been accomplished.

Requirement: To prevent a high pressure fuel leak at the fuel pump outlet possibly causing an in-flight flame-out and/or a fire, accomplish the inspections and corrective actions specified in EASA AD 2012-0063.

(EASA AD 2012-0063 refers)

Compliance: As specified in EASA AD 2012-0063.

Effective Date: 26 April 2012

DCA/TUR/82 Gas Generator Rotating Assembly - Inspection

Applicability: Model Arriel 1A, 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K, 1K1, 1S and 1S1 turbo-shaft engines, all S/N not embodied with Turboméca modification TU360.

Note 1: DCA/TUR/82 supersedes DCA/TUR/5B to introduce the requirement to determine the engine history and operating conditions of the engine. The AD also introduces a repetitive cleaning of the shaft. The embodiment of Turboméca modification TU360 (which can be done during overhaul) is a terminating action for the AD requirements.

Requirement: The accumulation of mineral or chemical particles in the turbine shaft could occur when the engine is operated in a dusty environment. This may result in an unbalance gas generator rotating assembly which could damage the rear bearing, and result in an in-flight loss of engine power. To prevent this, accomplish the inspections and corrective actions specified in EASA AD 2012-0071.

Note 2: Turboméca MSB A292 72 0230 Version C, dated 29 February 2012 or later approved revisions are acceptable to comply with the requirements of this AD.

(EASA AD 2012-0071 refers)

Compliance: At the compliance times specified in EASA AD 2012-0071.

Effective Date: 31 May 2012

DCA/TUR/83 Gas Generator Rotating Assembly – Inspection

Applicability: Model Arriel 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K, 1K1, 1S and 1S1 turbo-shaft engines, all S/N.

Requirement: To prevent failure of the gas generator (GG) rear bearing due to an unbalanced GG rotating assembly which could result in loss of engine power, accomplish the inspections and corrective actions specified in EASA AD 2012-0117.

Note: The Turboméca Arriel 1 maintenance manuals listed in the appendix of EASA AD 2012-0117 or later approved revisions are acceptable to comply with the requirements of this AD.

(EASA AD 2012-0117 refers)

Compliance: From 17 July 2012.

Effective Date: 17 July 2012

DCA/TUR/87 Gas Generator 2nd Stage Turbine – Inspection

Applicability: All ARRIEL 1B embodied with mod TU 148, ARRIEL 1D, 1D1 and 1S1 turboshaft engines, all S/N except those engines fitted with Gas Generator 2nd stage turbine wheels embodied with Turbomeca modification TU347 at manufacture, or those engines embodied with the modification per Turbomeca SB 292 72 0347.

These engines are known to be installed on, but not limited to Eurocopter AS 350 B/BA/BB/B1/B2 and Sikorsky S-76A+/A++/C.

Note 1: This AD retains the requirements in superseded DCA/TUR/68A and introduces repetitive inspections of the 2nd stage turbine wheels fitted in engines not embodied with Turboméca modification TU347. This AD also introduces life limits for affected 2nd stage turbine blades.

Requirement: To prevent failure of gas generator 2nd stage turbine blades which could result in an in-flight engine shutdown, accomplish the inspections and corrective actions specified in EASA AD 2012-0143.

Note 2: Turboméca MSB A292 72 0807 Version E, dated 29 October 2009, urboméca MSB A292 72 0810 Version C, dated 24 July 2009 and Turboméca SB 292 72 0347 (any revision) or later approved revisions of these documents are acceptable to comply with the requirements of this AD.

(EASA AD 2012-0143 refers)

Compliance: At the compliance times specified in EASA AD 2012-0143.

Effective Date: 30 August 2012

The State of Design ADs listed below are available directly from the National Airworthiness Authority (NAA) websites. Links to NAA websites are available on the CAA website at https://www.aviation.govt.nz/aircraft/airworthiness/airworthiness-directives/links-to-state-of-design-airworthiness-directives/
If additional NZ ADs need to be issued when an unsafe condition is found to exist in an aircraft or aeronautical product in NZ, they will be added to the list below.

2012-0187R2 Engine Cycle Counting Aid System – Modification

Applicability: ARRIEL 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K, 1K1, 1S and 1S1 turbo-shaft engines, all S/N.

These engines are known to be installed on, but not limited to, Eurocopter (formerly Eurocopter France, Aerospatiale) AS 350 B, BA, BB, B1 and B2, and AS 365 N, Eurocopter Deutschland (formerly Messerschmitt-Bölkow-Blohm) MBB-BK117-C1 and -C2, AgustaWestland (formerly Agusta) A 109K2, and Sikorsky S-76A

Effective Date: 2012-0187R1 - 25 October 2012
2012-0187R2 - 13 December 2012

2013-0120 Free Turbine Bearing Plug – Inspection

Applicability: ARRIEL 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K, 1K1, 1S and 1S1 turbo-shaft engines, all S/N.

These engines are known to be installed on, but not limited to, Eurocopter (formerly Eurocopter France, Aerospatiale) AS 350 B, BA, BB, B1 and B2, and AS 365 N, Eurocopter Deutschland (formerly Messerschmitt-Bölkow-Blohm) MBB-BK117-C1 and -C2, AgustaWestland (formerly Agusta) A 109 K2, and Sikorsky S-76A helicopters.

Effective Date: 18 June 2013

2014-0036 Accessory Gearbox (M01) – 41/23 Tooth Bevel Gear Assembly – Inspection

Applicability: ARRIEL 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K, 1K1, 1S and 1S1 turbo-shaft engines, all S/N.

These engines are known to be installed on, but not limited to, Airbus Helicopters (formerly Eurocopter, Eurocopter France, Aerospatiale) AS 350 B, BA, BB, B1and B2, AS 365 and SA 365, Airbus Helicopters Deutschland (formerly Eurocopter Deutschland, Messerschmidt-Bölkow-Blohm) MBB-BK117-C1 and -C2, AgustaWestland (formerly Agusta) A 109 K2, and Sikorsky S-76A helicopters.

ARRIEL 2B, 2B1, 2B1A, 2B1B, 2C, 2C1, 2C2, 2S1 and 2S2 turbo-shaft engines, all S/N.

These engines are known to be installed on, but not limited to, Eurocopter AS 350 B3, EC 130 B4, AS 365 N3 and EC 155 B1, Changhe Z11 and Sikorsky S-76C helicopters.

Effective Date: 25 February 2014

2015-0064R1 Cancelled – EASA AD 2017-0061 refers

Effective Date: 29 June 2017

2015-0175 Tachometer Boxes – Inspection

Applicability: ARRIEL 1E2 engines, all S/N.

These engines are known to be installed on, but not limited to, Airbus Helicopters Deutschland (formerly Eurocopter Deutschland) MBB-BK117-C1 and MBB-BK117-C2 helicopters.

Effective Date: 7 September 2015

2016-0009 Gas Generator Module 03 – Modification

Applicability: ARRIEL 1D and 1D1 engines, all S/N.

These engines are known to be installed on, but not limited to, Airbus Helicopters (formerly Eurocopter) AS 350 BB, B1 and B2 helicopters.

Effective Date: 27 January 2016

2016-0090 Centrifugal Impeller – Life Limitation

Applicability: ARRIEL 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K1, 1S and 1S1 engines, all S/N.

These engines are known to be installed on, but not limited to, Airbus Helicopters (formerly Eurocopter, Eurocopter France, Aerospatiale, Sud Aviation) AS 350 B, B1 and B2, and SA 365 N helicopters, Airbus Helicopters Deutschland (formerly Eurocopter Deutschland) MBB-BK 117 C2 helicopters, Sikorsky S-76C helicopters, and Finmeccanica (formerly AgustaWestland, Agusta S.p.A) A109K2 helicopters.

Effective Date: 24 May 2016

2017-0019R1 Cancelled - EASA AD 2017-0064-E refers

Effective Date: 14 April 2017

2017-0064R2 Drain Valve Assembly – Inspection

Applicability: ARRIEL 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K, 1K1, 1S and 1S1 engines, all S/N.

Effective Date: 2017-0064-E - 14 April 2017
2017-0064R1 - 29 June 2017
2017-0064R2 - 26 April 2018

2017-0061 Cancelled – EASA AD 2018-0003 refers

Effective Date: 25 January 2018

2018-0003 Airworthiness Limitations – Amendment

Applicability: ARRIEL 1E2 engines, all S/N.

Note: These engines are known to be installed on, but not limited to, Airbus Helicopters Deutschland (formerly Eurocopter Deutschland) MBB-BK117-C1 and MBB-BK117-C2 helicopters.

Effective Date: 25 January 2018

DGAC AD F-1992-078R2 Reduction Gearbox Module (MO5) – Inspection

Applicability: ARRIEL 1A, 1A1, 1B, 1D and 1D1 engines, all S/N.

Compliance: For the initial and repetitive compliance refer to DGAC 92-078R2.

Effective Date: 25 January 2018

2020-0151-E Module 03 / Stage 2 High Pressure Turbine Disc – Replacement

Applicability: ARRIEL 1B, 1C, 1C2 and 1D1 engines, all S/N.

Effective Date: 11 July 2020

2022-0256 Cancelled – EASA AD 2023-0110 refers

Effective Date: 29 June 2023

2023-0110 Fire Detectors – Replacement

Applicability: Arriel 1C, 1C1, 1C2, 1K and 1K1 engines, all S/N.

Effective Date: 29 June 2023

*** 2024-0207 Gas Generator 1st Stage HP Turbine Blades – Replacement**

Applicability: Arriel 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K, 1K1, 1S and 1S1 engines, all S/N.

Effective Date: 31 October 2024