Diamond Aircraft Industries

SERVICE INFORMATION LETTER



SERVICE INFORMATION LETTER NO. SI62-030

NOTE: Service information letters (SILs) are used only:

- To distribute information from Diamond Aircraft Industries Inc. to our customers.
- 2. To distribute applicable information/documents from our suppliers to our customers with additional information.

NOTE: Typically there is no revision service for SILs. Each new information or change will be sent along with a new SIL.

1. TECHNICAL DETAILS

1.1 Aircraft Affected

For replacement: DA 62 aircraft with component serial numbers indicated in Austro Engine MSB-E4-034/2 or subsequent approved revisions.

For inspection: DA 62 aircraft with component serial numbers indicated in Austro Engine MSB-E4-035 or subsequent approved revisions.

1.2 Subject

Austro Engine Mandatory Service Bulletin MSB-E4-034/2 - high pressure pump driving gear replacement, MSB-E4-035 - high pressure pump driving gear inspection, and EASA AD 2021-0203-E.

ATA-Code: 72-00

1.3 Reason

For MSB-E4-034/2: It has been discovered that certain engines have been equipped with high pressure fuel pump assemblies whose driving gears may be subject to premature failure. It was determined that excess use of tool P/N AE300T012-1 has caused damage to the driving gears during production. If left uncorrected, this may result in rail pressure loss and uncommanded engine shutdown.

For MSB-E4-035: It has been discovered that certain engines may be subject to premature failure of the high pressure fuel pump driving gear due to the stack-up of tolerances between the cylinder head, the cylinder head cover, the camshaft gear, and the high pressure pump gear. If left uncorrected, this may result in rail pressure loss and uncommanded engine shutdown.

EASA has issued AD 2021-0203-E mandating the execution of both MSBs.

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1.4 Information

For detailed technical information, refer to Austro Engine MSB-E4-034/2, MSB-E4-035, and EASA AD 2021-0203-E, which are applicable without any further additions or restrictions.

Austro Engine MSB-E4-034/2, MSB-E4-035, and EASA AD 2021-0203-E are attached to this SIL. In case of doubt, contact Austro Engine GmbH.

2. OTHER DETAILS

To obtain satisfactory results, procedures specified in this service information letter must be accomplished in accordance with accepted methods and current government regulations. Diamond Aircraft Industries Inc. cannot be responsible for the quality of work performed in accomplishing the requirements of this service information letter. Diamond Aircraft reserves the right to void continued warranty coverage in the area affected by this service information letter if it is not incorporated. If you no longer own the aircraft to which this service information letter applies, please forward it to the current owner and send the name of the current owner to Diamond Aircraft Industries Inc. at the address below.

Diamond Aircraft Industries Inc. 1560 Crumlin Sideroad, London, Ontario, Canada N5V 1S2

Customer Support
Phone: (519) 457-4041, Fax: (519) 457-4045
Email: support-canada@diamondaircraft.com

Technical Publications
Email: Techpubs@diamondaircraft.com



Emergency Airworthiness Directive

AD No.: 2021-0203-E

Issued: 10 September 2021

Note: This Emergency Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

Design Approval Holder's Name: Type/Model designation(s):

AUSTRO ENGINE GmbH E4 and E4P engines

Effective Date: 14 September 2021

TCDS Number(s): EASA.E.200

Foreign AD: Not applicable

Supersedure: None

ATA 72 - Engine - High Pressure Pump Driving Gear - Inspection / Replacement

Manufacturer(s):

Austro Engine GmbH

Applicability:

Model E4 and E4P engines, all serial numbers (s/n).

These engines are known to be installed on, but not limited to, Diamond Aircraft Industries DA 40 NG, DA 42 NG, DA 42 M-NG and DA 62 aeroplanes.

Definitions:

For the purpose of this AD, the following definitions apply:

The inspection SB: Austro Engine Service Bulletin (SB) MSB-E4-035.

The replacement SB: Austro Engine SB MSB-E4-034/1.

Affected cylinder head: Cylinder heads, having Part Number (P/N) E4A-12-500-000.

Affected HPP gear: High pressure pump (HPP) driving gears, having P/N E4A-30-000-201 and having a s/n as listed in Chapter 1.3 of the replacement SB, as defined in this AD.



Serviceable part: Any HPP driving gear, eligible for installation, which is not an affected part.

Groups: Group 1 are Model E4 engines in configuration "-A", installed on single engine aeroplanes. Group 2 are Model E4 engines in configuration "-B" or "-C" and Model E4P engines, installed on twin-engine aeroplanes.

Reason:

Occurrences were reported of HPP driving gear failure. Subsequent investigation determined that a certain batch of HPP driving gears was produced with a worn out assembly tool P/N AE300T012-1. Those HPP driving gears may have been damaged during assembly. Concurrently, it was determined that, for engines equipped with a certain cylinder head, a stack up of tolerances exists between the cylinder head, cylinder head cover, camshaft gear and HPP gear. Both scenarios could result in premature HPP gear failure.

This condition, if not corrected, could lead to engine in-flight shut-down with consequent forced landing, possibly resulting in damage to the aeroplane and injury to occupants.

To address this potential unsafe condition, Austro Engine published the inspection SB, as defined in this AD, to provide instructions for HPP gear inspection on engines equipped with an affected cylinder head, as defined in this AD. Austro Engine also published the replacement SB, as defined in this AD, to provide instructions for replacement of affected HPP gears, as defined in this AD.

For the reason described above, this AD requires inspection and/or replacement of HPP gears and prohibits re-installation of affected HPP gears.

Required Action(s) and Compliance Time(s):

Required as indicated, unless accomplished previously:

Inspection:

(1) For engines equipped with an affected cylinder head: Before next flight after the effective date of this AD, inspect the HPP driving gear in accordance with the instructions of the inspection SB.

Corrective Action(s):

- (2) If, during the inspection as required by paragraph (1) of this AD, the HPP driving gear does not meet the acceptable criteria, as defined in the inspection SB, before next flight, contact Austro Engine for approved instructions and accomplish those instructions accordingly.
- (3) Replacement of the HPP driving gear on an engine in accordance with the instructions of the replacement SB is an acceptable method to comply with the requirements of paragraphs (1) and (2) of this AD for that engine.

Replacement:

(4) For engines equipped with an affected HPP gear: Within the compliance times specified in Table 1 of this AD, as applicable, replace each affected HPP gear with a serviceable part in accordance with the instructions of the replacement SB.



Table 1 – HPP Driving Gear Replacement

	ngine Group / Flight Hours l) accumulated (see Note 1)	Compliance Time
1	40 FH or more	Before next flight after the effective date of this AD
1	less than 40 FH	Before exceeding 40 FH
2	80 FH or more	Before next flight after the effective date of this AD
	less than 80 FH	Before exceeding 80 FH

Note 1: Unless specified otherwise, the FH in Table 1 of this AD are those accumulated by the affected HPP gear since first installation on the HPP.

Ferry Flight:

(5) For a twin-engine aeroplane that has one or two Group 2 engine(s) installed, a single ferry flight is allowed to position that aeroplane to a location where the actions required by this AD can be accomplished on the affected engine(s).

Part(s) Installation:

(6) From the effective date of this AD, do not install an affected part on any engine.

Ref. Publications:

Austro Engine SB MSB-E4-034 Revision 1 dated 10 September 2021.

Austro Engine SB MSB-E4-035 original issue dated 10 September 2021.

The use of later approved revisions of the above-mentioned documents is acceptable for compliance with the requirements of this AD.

Remarks:

- 1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.
- 2. The results of the safety assessment have indicated the need for immediate publication and notification, without the full consultation process.
- 3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
- 4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the <u>EU aviation safety reporting system</u>. This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.



5. For any question concerning the technical content of the requirements in this AD, please contact: Austro Engine GmbH, Rudolf-Diesel-Str. 11, 2700 Wiener Neustadt, Austria, Telephone +43-2622-23000-2525, E-mail service@austroengine.at.



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MANDATORY

SERVICE BULLETIN

No. MSB-E4-034/2 Supersedes MSB-E4-034/1

1. BASIC INFORMATION

1.1. SUBJECT

High Pressure Pump (HPP) driving gear replacement

Note: This revision explicitly clarifies the Time of Compliance of this MSB and includes further check post new gear installation. In addition, the table of the affected serial numbers is now sorted by HPP serial numbers to improve readability.

1.2. DEFINITIONS AND ACRONYMS

For the purpose of this Service Bulletin, the following definitions and acronyms apply:

Affected part: High Pressure Pump driving gear p/n E4A-30-000-201 having s/n listed

in chapter 1.3

Fh: flight hours

HPP: High Pressure pump

p/n or **p/ns**: Part number or Part Numbers

SB: Service Bulletin

s/n or **s/ns**: Serial Number or Serial Numbers

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1.3. ENGINES AFFECTED

Engine affected: E4 Series

Serial numbers affected: All E4/E4P engines having an affected part installed High Pressure Pump driving gear p/n E4A-30-000-201

s/ns as per following table

<u>Caution:</u> For engines where the MSB-E4-034 rev. 0 was already performed, the new installed gear must be inspected in accordance with the requirements of chapter 2.1, points 10 and 11 of the MSB-E4-034 at rev. 1 before the next flight.

- **Note:** The following table provides affected driving gear s/ns installed on certain batches of E4A-30-000-000 and E4A-30-000-BHY HPP. To determine if an affected part is installed, s/ns of the HPP on which an affected part is installed and the engine s/n on which such HPP is installed are provided. Where the engine s/n is not indicated, the HPP was provided as spare part.
- **Note:** with the revision 1 the serial numbers listed below are sort by HPP s/ns to improve readability. No changes on serial numbers, nor addition of new serial number is part of this revision 1.
- **Note:** with the revision 2 the possibility for a ferry flight is added for twin engine airplanes, and a typo in the process summarisation chart is corrected

High Pressure	Gear	Engine	High Pressure	Gear	Engine		High Pressure	Gear	Engine
Pump S/N	S/N	S/N	Pump S/N	S/N	S/N		Pump S/N	S/N	S/N
19-09-11-02-01162	0246		20-06-18-02-00889	1049			20-10-26-02-00628	1950	
19-09-11-02-01167	0414	E4-C-05107	20-06-18-02-00890	1051			20-10-26-02-00629	1968	
19-09-11-02-01168	0270	E4P-C-05003	20-06-18-02-00891	1001			20-10-26-02-00630	1775	
19-09-11-02-01169	0240		20-06-18-02-00893	1028	E4-A-00198		20-10-26-02-00631	1773	
19-09-11-02-01170	0410	E4P-C-05005	20-06-18-02-00894	0550			20-10-26-02-00632	1903	
19-09-11-02-01171	0412	E4-A-00232	20-06-18-02-00895	1041	E4-C-06042		20-10-26-02-00633	1211	
19-09-11-02-01172	0415	E4-C-05109	20-06-18-02-00896	1048	E4-C-06031		20-10-26-02-00634	1233	
19-09-11-02-01189	0382		20-06-18-02-00897	1030			20-10-26-02-00635	1363	E4-A-06082
19-09-11-02-01190	0267		20-06-18-02-00898	1027			20-10-26-02-00637	1785	
19-09-11-02-01191	0258		20-06-18-02-00899	1056	E4P-C-06027		20-10-26-02-00638	1958	
19-09-11-02-01192	0256		20-06-18-02-00900	0664	E4-A-06021		20-10-26-02-00639	1887	
19-09-11-02-01193	0261		20-06-18-02-00901	1114			20-10-26-02-00640	1982	
19-09-11-02-01194	0257		20-06-18-02-00902	0979			20-10-26-02-00641	1953	
19-09-11-02-01195	0264		20-06-18-02-00903	1061			20-10-26-02-00642	1811	
19-09-11-02-01196	0255		20-06-18-02-00904	0762			20-10-26-02-00643	1818	
19-09-11-02-01197	0274		20-06-18-02-00905	0756			20-10-26-02-00644	1890	
19-09-11-02-01198	0408		20-06-18-02-00906	1060	E4-A-00475		20-10-26-02-00645	1781	
19-09-11-02-01199	0272		20-06-18-02-00907	1023	E4-A-00408		20-12-14-02-00002	1955	
19-09-11-02-01200	0333		20-06-18-02-00908	1073			20-12-14-02-00003	1449	E4-A-06088
19-09-11-02-01201	0332		20-06-18-02-00909	1042			20-12-14-02-00004	1976	
19-09-11-02-01202	0244		20-06-18-02-00910	1066	E4-C-06043		20-12-14-02-00005	1938	
19-09-11-02-01203	0330		20-06-18-02-00911	0766			20-12-14-02-00006	1816	
19-09-11-02-01204	0383		20-06-18-02-00912	1046			20-12-14-02-00007	1947	
19-09-11-02-01205	0254		20-06-18-02-00913	1044			20-12-14-02-00009	1929	
19-09-11-02-01206	0324		20-06-18-02-00914	1103	E4-C-06032		20-12-14-02-00010	1988	
19-09-11-02-01207	0262		20-06-18-02-00915	1128	E4-B-00112		20-12-14-02-00011	1799	
19-09-11-02-01208	0237		20-06-18-02-00916	0699			20-12-14-02-00012	1986	
19-09-11-02-01209	0329		20-06-18-02-00917	1026	E4-A-00214		20-12-14-02-00013	1936	
19-09-11-02-01210	0386		20-06-18-02-00918	1100			20-12-14-02-00014	1368	
19-09-11-02-01211	0265		20-06-18-02-00919	1069			20-12-14-02-00017	1940	
19-10-01-02-00755	0233		20-06-18-02-00920	0723	E4-A-06025		20-12-14-02-00020	1422	E4-A-06080
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First Issue Date

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High Pressure	Gear	Engine	High Pressure	Gear	Engine	I	High Pressure	Gear	Engine
Pump S/N	S/N	S/N	Pump S/N	S/N	S/N		Pump S/N	S/N	S/N
19-10-01-02-00756	0224	E4-B-05006	20-06-18-02-00921	1127	3/10		20-12-14-02-00021	1941	3,11
19-10-01-02-00760	0226	E4-B-05004	20-06-18-02-00922	1034	E4-A-00367		20-12-14-02-00024	1779	
19-10-01-02-00763	0241	E4-B-05001	20-06-18-02-00923	1032			20-12-14-02-00025	1946	
19-10-01-02-00764	0416		20-06-18-02-00924	1036			20-12-14-02-00026	1974	
19-10-01-02-00768	0260		20-06-18-02-00925	1094			20-12-14-02-00028	1969	
19-10-01-02-00772	0268	E4-A-05086	20-06-18-02-00926	1011	E4-A-06061		20-12-14-02-00035	1921	
19-10-01-02-00775	0248		20-06-18-02-00927	1038			20-12-14-02-00036	1817	
19-10-01-02-00779	0370		20-06-18-02-00928	1031	E4-C-00041		20-12-14-02-00038	1881	
19-10-01-02-00784	0231		20-06-18-02-00929	1037			20-12-14-02-00039	1346	
19-10-01-02-00786	0242		20-06-18-02-00930	1015	E4-A-00604		20-12-14-02-00043	1830	
19-10-01-02-00788	0235		20-06-18-02-00931	0632	E4-A-06024	İ	20-12-14-02-00048	1178	
19-10-01-02-00790	0266		20-06-18-02-00932	1082			20-12-14-02-00052	1350	E4-C-00604
19-10-01-02-00796	0131	E4-C-05106	20-06-18-02-00933	1024	E4-A-06060		20-12-14-02-00053	1437	
19-10-01-02-00804	0228	E4-B-05002	20-06-18-02-00934	0833	E4-A-00456		20-12-14-02-00059	1167	
19-10-01-02-00809	0227	E4-A-05085	20-06-18-02-00935	1012			20-12-14-02-00064	1405	
19-10-14-02-00404	0222		20-06-18-02-00936	1006			20-12-14-02-00065	1331	E4-A-06076
19-10-14-02-00405	0247	E4-C-05110	20-06-18-02-00937	1021			20-12-14-02-00069	1434	E4-A-06087
19-10-14-02-00409	0364	E4-A-05084	20-06-18-02-00938	1004			20-12-14-02-00073	1375	
19-10-14-02-00410	0253		20-06-18-02-00939	0622			20-12-14-02-00074	1389	E4-A-06092
19-10-14-02-00415	0365	E4-C-05105	20-06-18-02-00940	0729			20-12-14-02-00075	1403	E4-C-06057
19-10-14-02-00416	0232		20-06-18-02-00941	0585			20-12-14-02-00079	1342	
19-10-14-02-00420	0236		20-06-18-02-00942	0769			20-12-14-02-00080	1380	
19-10-14-02-00432	0229	E4-B-05008	20-06-18-02-00943	0830			20-12-14-02-00081	1343	E4-A-06068
19-10-14-02-00437	0411	E4-A-05075	20-06-18-02-00944	0849			20-12-14-02-00086	1400	E4P-C-06049
19-10-14-02-00438	0239	E4-B-05005	20-06-18-02-00945	0820			21-02-08-02-00002	1349	
19-10-14-02-00446	0374	E4-A-05087	20-06-18-02-00946	0571			21-02-08-02-00003	1446	
19-10-14-02-00454	0193	E4P-B-05004	20-06-18-02-00947	0825	E4-A-06030		21-02-08-02-00004	1319	E4-A-00115
19-10-14-02-00457	0251	E4-C-05108	20-06-18-02-00948	0683	E4-A-06013		21-02-08-02-00005	1340	E4-B-00541
19-12-12-02-00002	0195	E4-A-05081	20-06-18-02-00949	0734			21-02-08-02-00006	1439	E4P-C-06056
19-12-12-02-00004	0366		20-06-18-02-00950	0738			21-02-08-02-00007	1402	
19-12-12-02-00005	0169		20-06-18-02-00951	1081			21-02-08-02-00008	1384	
19-12-12-02-00009	0363		20-06-18-02-00952	0690			21-02-08-02-00009	1412	
19-12-12-02-00011	0358		20-06-18-02-00953	0827			21-02-08-02-00010	1372	
19-12-12-02-00015	0190		20-06-18-02-00954	0641			21-02-08-02-00011	1355	E4-A-06095
19-12-12-02-00016	0376		20-06-18-02-00955	0805			21-02-08-02-00013	1163	E4-C-06055
19-12-12-02-00017	0369	E4-A-05079	20-06-18-02-00956	0625			21-02-08-02-00015	1479	
19-12-12-02-00020	0146		20-06-18-02-00957	0792			21-02-08-02-00016	1432	
19-12-12-02-00023	0225	E4D C 05004	20-06-18-02-00958	0815			21-02-08-02-00017	1360	
19-12-12-02-00029	0361	E4P-C-05001	20-06-18-02-00959	0840			21-02-08-02-00018	1383	
19-12-12-02-00031	0372	E4P-C-05004	20-06-18-02-00960	0839	E4D C 00000		21-02-08-02-00019	1329	E4 A 0000E
19-12-12-02-00032 19-12-12-02-00033	0127 0177		20-06-18-02-00961	0644 0802	E4P-C-06008		21-02-08-02-00020 21-02-08-02-00021	1330 1435	E4-A-06085
19-12-12-02-00034	0177		20-06-18-02-00962 20-06-18-02-00963	0810	E4-A-00323 E4-C-00091		21-02-08-02-00021	1410	
19-12-12-02-00034	0179		20-06-18-02-00964	0793	F4-C-00031		21-02-08-02-00022	1373	E4-C-00344
19-12-12-02-00039	0223		20-06-18-02-00965	0966			21-02-08-02-00023	1395	L4-C-00344
19-12-12-02-00046	0367	E4-C-05111	20-06-18-02-00966	0783			21-02-08-02-00024	1367	E4-C-06068
19-12-12-02-00047	0120	E4P-B-05003	20-06-18-02-00967	0848			21-02-08-02-00025	1320	L4-C-00000
19-12-12-02-00047	0362	E41 B 03003	20-06-18-02-00968	0974			21-02-08-02-00027	1414	
19-12-12-02-00049	0197		20-06-18-02-00970	0736			21-02-08-02-00028	1392	
19-12-12-02-00057	0122		20-06-18-02-00971	0856			21-02-08-02-00029	1431	
19-12-12-02-00058	0155		20-06-18-02-00972	1079	E4-A-00507		21-02-08-02-00030	1333	E4-A-00504
19-12-12-02-00064	0205		20-06-18-02-00973	0732	217100307		21-02-08-02-00031	1493	217100301
19-12-12-02-00065	0119	E4P-C-05002	20-06-18-02-00974	0674			21-02-08-02-00032	1376	
19-12-12-02-00066	0407	E4-C-05112	20-06-18-02-00975	1050			21-02-08-02-00033	1317	
19-12-12-02-00068	0263	E4-B-05012	20-06-18-02-00976	0671			21-02-08-02-00034	1409	E4-A-06079
19-12-12-02-00070	0371	E4-A-05083	20-06-18-02-00977	0647			21-02-08-02-00035	1377	
19-12-12-02-00071	0238	E4-C-05117	20-06-18-02-00978	1101	E4-B-00061		21-02-08-02-00036	1394	
19-12-12-02-00072	0413	E4-B-05007	20-06-18-02-00979	1105	E4-C-06036		21-02-08-02-00037	1345	E4-A-06093
19-12-12-02-00076	0117		20-06-18-02-00980	0844			21-02-08-02-00038	1454	
19-12-12-02-00077	0249		20-06-18-02-00981	0743			21-02-08-02-00040	1335	E4P-C-06048
19-12-12-02-00079	0245	E4-C-05116	20-06-18-02-00982	0841			21-02-08-02-00041	1406	

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High Pressure		Engine	High Pressure		Engine	High Pressure		Engine
Pump S/N	S/N	S/N	Pump S/N	S/N	S/N	Pump S/N	S/N	S/N
19-12-12-02-00080	0409	E4-B-05010	20-06-18-02-00983	1043	E4P-C-06019	21-02-08-02-00042	1420	
20-01-15-02-00861	0271	E4P-C-05008	20-06-18-02-00984	1116		21-02-08-02-00043	1404	
20-01-15-02-00864	0348		20-06-18-02-00985	1047		21-02-08-02-00044	1387	
20-01-15-02-00888	0425		20-06-18-02-00986	0752		21-02-08-02-00045	1452	E4P-C-06050
20-01-15-02-00912	0288	E4-C-00001	20-06-18-02-00987	0789		21-02-08-02-00047	1353	
20-01-15-02-00926	0315	E4P-C-005011	20-06-18-02-00988	0661		21-02-08-02-00048	1322	E4-C-06067
20-01-15-02-00929	0385		20-06-18-02-00989	1045	E4-A-06047	21-02-08-02-00049	1430	E4-C-06058
20-01-15-02-00933	0375		20-06-18-02-00990	1093	E4-C-06033	21-02-08-02-00050	1397	
20-01-15-02-00934	0180	E4-C-05093	20-06-18-02-00991	1059		21-02-08-02-00051	1448	E4P-C-00067
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20-01-15-02-00939	0143		20-06-18-02-00993	0895		21-02-08-02-00053	1464	
20-01-15-02-00940	0250	E4-B-05003	20-06-18-02-00994	1065		21-02-08-02-00054	1433	E4-C-06064
20-01-15-02-00941	0147		20-06-18-02-00995	1022		21-02-08-02-00055	1341	E4-A-00270
20-01-15-02-00942	0230	E4-A-05082	20-06-18-02-00997	1039		21-02-08-02-00056	1374	
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20-01-15-02-00944	0252		20-06-18-02-01000	1089	E4-B-00050	21-02-08-02-00059	1166	
20-01-15-02-00945	0359	E4-C-05094	20-06-18-02-01001	1064		21-02-08-02-00060	1407	E4-B-00382
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20-02-13-02-01379	0399	E4P-C-05007	20-06-18-02-01004	1070		21-02-08-02-00062	1445	E4-A-06090
20-02-13-02-01380	0297	E4-C-05119	20-06-18-02-01005	1017	E4-A-06046	21-02-08-02-00063	1165	E4-B-00143
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20-02-13-02-01388	0273		20-06-18-02-01013	1072		21-02-08-02-00071	1324	
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20-02-13-02-01395	0314		20-07-10-02-00004	0861	E4P-C-06011	21-02-08-02-00078	1337	
20-02-13-02-01396	0280		20-07-10-02-00005	0898		21-02-08-02-00079	1371	
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20-02-13-02-01400	0259		20-07-10-02-00009	0867	E4-A-00207	21-02-08-02-00083	1459	
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20-02-13-02-01402	0377		20-07-10-02-00011	0748		21-02-08-02-00085	1327	E4-B-06002
20-02-13-02-01403	0331		20-07-10-02-00012	0711		21-02-08-02-00086	1393	E4-A-06094
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20-02-13-02-01405	0276		20-07-10-02-00015	0912	E4P-C-06010	21-02-08-02-00088	1416	
20-02-13-02-01406	0275		20-07-10-02-00016	0864	E4-C-06018	21-02-08-02-00089	1495	
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20-02-13-02-01408	0355	E4-C-05113	20-07-10-02-00018	0946	E4-B-00039	21-02-08-02-00092	1455	E4-C-06072
20-02-13-02-01409	0279	E4-B-05011	20-07-10-02-00019	0750		21-02-08-02-00093	1465	
20-02-13-02-01410	0341		20-07-10-02-00020	0704		21-02-08-02-00095	1425	
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20-02-13-02-01413	0306	E4-C-05126	20-07-10-02-00023	0885	E4-A-06031	21-02-08-02-00099	1332	
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20-02-13-02-01415	0356		20-07-10-02-00025	0910	E4P-Z-06002	21-02-08-02-00101	1378	
20-02-13-02-01416	0269	E4P-C-05009	20-07-10-02-00026	0836		21-02-08-02-00102	1370	
20-02-13-02-01417	0298		20-07-10-02-00027	0852	E4-A-05092	21-02-08-02-00103	1500	
	0426	E4-C-05125	20-07-10-02-00028	0724		21-02-08-02-00104	1338	E4-A-06086
20-02-13-02-01418								
	0405		20-07-10-02-00029	0/33		21-02-08-02-00105	1398	E4-A-06083
20-02-13-02-01418 20-02-13-02-01419 20-02-13-02-01420	0405 0310		20-07-10-02-00029 20-07-10-02-00030	0733 0873	E4P-C-00224	21-02-08-02-00105 21-02-08-02-00106	1398	E4-A-06083

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High Pressure		Engine	High Pressure		Engine	High Pressure	Gear	Engine
Pump S/N	S/N	S/N	Pump S/N	S/N	S/N	Pump S/N	S/N	S/N
20-02-13-02-01422	0292		20-07-10-02-00032	0942		21-02-08-02-00108	1411	
20-02-13-02-01423	0325		20-07-10-02-00033	1153		21-02-08-02-00109	1463	E4-A-06077
20-02-13-02-01424	0511	E4 4 00207	20-07-10-02-00034	0832		21-02-08-02-00110	1426	E4-A-06077
20-02-13-02-01425	0307	E4-A-00397	20-07-10-02-00035	0929		21-02-08-02-00111	1399	
20-02-13-02-01426	0527	E4 C 0E422	20-07-10-02-00036	0703	F4 4 05005	21-02-08-02-00112	1328	
20-02-13-02-01427	0302	E4-C-05122	20-07-10-02-00037	0948	E4-A-06036	21-02-08-02-00113	1427	
20-02-13-02-01428	0316		20-07-10-02-00038	0860	E4-C-00122	21-02-08-02-00114	1523	E4-C-00473
20-02-13-02-01429	0401	E4-C-06001	20-07-10-02-00039	0821		21-02-08-02-00115	1191	
20-02-13-02-01430	0347	E4-C-00218	20-07-10-02-00040	1310		21-02-08-02-00116	1352	
20-02-13-02-01431	0394		20-07-10-02-00041	1158	E4-A-00066	21-02-08-02-00117	1417	
20-02-13-02-01432	0352	E4-A-00037	20-07-10-02-00042	0930		21-02-08-02-00118	1429	
20-02-13-02-01433	0285		20-07-10-02-00043	0877		21-02-08-02-00119	1424	
20-02-13-02-01434	0289		20-07-10-02-00044	1151		21-02-08-02-00120	1192	
20-02-13-02-01435	0301	E4P-C-05010	20-07-10-02-00045	0917	E4-A-00116	21-02-08-02-00121	1469	E4-C-06070
20-02-13-02-01436	0388		20-07-10-02-00046	0878	E4P-C-05013	21-02-08-02-00122	1447	
20-02-13-02-01437	0295		20-07-10-02-00047	0788		21-02-08-02-00123	1484	
20-02-13-02-01438	0397	E4-C-05114	20-07-10-02-00048	1132		21-02-08-02-00124	1177	
20-02-13-02-01439	0234		20-07-10-02-00049	1141		21-02-08-02-00125	1364	
20-02-13-02-01440	0303	E4P-C-05006	20-07-10-02-00050	1170		21-02-08-02-00126	1396	E4-A-00455
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20-02-13-02-01442	0373		20-07-10-02-00052	1122	E4-C-06044	21-02-08-02-00128	1348	
20-02-13-02-01443	0353	E4-A-05090	20-07-10-02-00053	1109		21-02-08-02-00129	1321	
20-02-13-02-01444	0320	E4-C-05120	20-07-10-02-00054	1155		21-02-08-02-00130	1451	E4-A-00532
20-02-13-02-01445	0354		20-07-10-02-00055	1058		21-02-08-02-01548	1179	
20-02-13-02-01446	0502		20-07-10-02-00056	1147		21-02-08-02-01549	1477	
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20-02-13-02-01448	0300	E4-A-00266	20-07-10-02-00058	1121		21-02-08-08-00014	1476	E4-C-06073
20-02-13-02-01449	0337		20-07-10-02-00059	1126	E4-A-00485	21-02-08-08-00090	1496	
20-02-13-02-01450	0281		20-07-10-02-00060	1133		21-03-03-02-02275	1533	
20-02-13-02-01451	0396	E4-A-05076	20-07-10-02-00061	1095		21-03-03-02-02276	1478	
20-02-13-02-01452	0392	E4-C-05121	20-07-10-02-00062	1098		21-03-03-02-02277	1837	
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20-02-13-02-01459	0339		20-07-10-02-00069	1096	E4-A-06059	21-03-03-02-02284	1543	
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20-02-13-02-01478	0444		20-07-10-02-00090	1183	E4-A-06052	21-03-03-02-02303	1699	
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20-02-13-02-01480	0439		20-08-21-02-00583	1162		21-03-03-02-02306	1489	
20-02-13-02-01481	0439	E4-A-06008	20-08-21-02-00584	1102		21-03-03-02-02307	1466	
20-02-13-02-01482	0497	E4-A-00000	20-08-21-02-00585	1150		21-03-03-02-02307	1482	
50-02-13-02-01 4 03	U -11 3		20-00-21-02-00303	1130		21-03-03-02-02300	1402	

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rei:	+45 4	2022 4	23000
FAX:	+43	2622	23000-2711

High Pressure	Gear	Engine	High Pressure	Gear	Engine	High Pressure	Gear	Engine
Pump S/N	S/N	S/N	Pump S/N	S/N	S/N	Pump S/N	S/N	S/N
20-02-13-02-01484	0542		20-08-21-02-00586	1104		21-03-03-02-02309	1505	
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20-02-13-02-01487	0462		20-08-21-02-00589	1117		21-03-03-02-02312	1539	
20-02-13-02-01488	0536		20-08-21-02-00590	1107		21-03-03-02-02313	1725	
20-02-13-02-01489	0454		20-08-21-02-00591	1176		21-03-03-02-02314	1492	
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20-02-13-02-01495	0504		20-08-21-02-00598	1124		21-03-03-02-02320	1475	
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20-02-13-02-01498	0455	E4-A-06010	20-08-21-02-00601	1142		21-03-03-02-02323	1512	E4-C-00119
20-02-13-02-01499	0487		20-08-21-02-00602	1185		21-03-03-02-02325	1538	E4-A-00660
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11	Aug	2021	2	10	09	2021	



Austro Engine GmbH Rudolf-Diesel-Strasse 11 A-2700 Wiener Neustadt Tel: +43 2622 23000

High Pressure	Gear	Engine	High Pressure	Gear	Engine	High Pressure	Gear	Engine
Pump S/N	S/N	S/N	Pump S/N	S/N	S/N	Pump S/N	S/N	S/N
20-03-04-02-00034	0313		20-08-21-02-00648	1231		21-03-03-02-02374	1692	
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20-03-04-02-00041	0437	E41 C 00000	20-08-21-02-00655	1385	E4-C-00243	21-03-03-02-02382	1574	E4 A 00005
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	0508		20-08-21-02-00700	1284		21-04-08-02-00600	1602	
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20-03-31-02-00190	0609		20-08-21-02-00706	1276		21-04-08-02-00606	1599	
20-03-31-02-00191	0605		20-08-21-02-00707	1247		21-04-08-02-00607	1694	
20-03-31-02-00192	0618		20-08-21-02-00708	1240		21-04-08-02-00608	1595	
20-03-31-02-00193	0679	E4P-C-06007	20-08-21-02-00709	1275		21-04-08-02-00609	1617	

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High Pressure	Gear	Engine	High Pressure	Gear	Engine	High Pressure	Gear	Engine
Pump S/N	S/N	S/N	Pump S/N	S/N	S/N	Pump S/N	S/N	S/N
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Fir	st Issue Da	ate	Rev. No.	R	evision Dat	te
11	Aug	2021	2	10	09	2021



Austro Engine GmbH Rudolf-Diesel-Strasse 11 A-2700 Wiener Neustadt Tel: +43 2622 23000

Pump 5/N	High Pressure	Gear	Engine	High Pressure	Gear	Engine	High Pressure	Gear	Engine
19-03-11-02-002-90 0.998 64-0-60214 0.999-02-02-0071 0.997 0.999-02-02-0071 0.999 0.999-02-02-0071 0.999 0.999-02-02-0071 0.999 0.999-02-02-0071 0.999 0.999-02-02-0072 0.999 0.999-02-02-0073 0.999 0.999-02-02-0073 0.999-02	_	S/N			S/N			S/N	
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20-03-31-02-00308 0780 20-10-19-02-00463 0919 21-04-08-02-00725 1684 20-03-31-02-00309 0781 20-10-19-02-00464 0940 E4-A-00038 21-04-08-02-00726 1633 20-03-31-02-00310 0796 20-10-19-02-00465 1805 21-04-08-02-00727 1784 20-03-31-02-00311 0801 20-10-19-02-00466 1981 21-04-08-02-00728 1883 20-03-31-02-00312 0708 20-10-19-02-00467 1975 21-04-08-02-00729 1871 20-03-31-02-00313 0826 20-10-19-02-00468 1786 21-04-08-02-00730 1804 20-03-31-02-00314 0726 20-10-19-02-00469 1819 21-04-08-02-00731 1783 20-03-31-02-00315 0700 20-10-19-02-00470 1869 21-04-08-02-00733 1682 20-03-31-02-00316 0749 20-10-19-02-00471 1866 21-04-08-02-00733 1682			E4-B-00173	+					
20-03-31-02-00310 0796 20-10-19-02-00465 1805 21-04-08-02-00727 1784 20-03-31-02-00311 0801 20-10-19-02-00466 1981 21-04-08-02-00728 1883 20-03-31-02-00312 0708 20-10-19-02-00467 1975 21-04-08-02-00729 1871 20-03-31-02-00313 0826 20-10-19-02-00468 1786 21-04-08-02-00730 1804 20-03-31-02-00314 0726 20-10-19-02-00469 1819 21-04-08-02-00731 1783 20-03-31-02-00315 0700 20-10-19-02-00470 1869 21-04-08-02-00732 1768 20-03-31-02-00316 0749 20-10-19-02-00471 1866 21-04-08-02-00733 1682	20-03-31-02-00308	0780		20-10-19-02-00463	0919		21-04-08-02-00725	1684	
20-03-31-02-00311 0801 20-10-19-02-00466 1981 21-04-08-02-00728 1883 20-03-31-02-00312 0708 20-10-19-02-00467 1975 21-04-08-02-00729 1871 20-03-31-02-00313 0826 20-10-19-02-00468 1786 21-04-08-02-00730 1804 20-03-31-02-00314 0726 20-10-19-02-00469 1819 21-04-08-02-00731 1783 20-03-31-02-00315 0700 20-10-19-02-00470 1869 21-04-08-02-00732 1768 20-03-31-02-00316 0749 20-10-19-02-00471 1866 21-04-08-02-00733 1682	20-03-31-02-00309	0781		20-10-19-02-00464	0940	E4-A-00038	21-04-08-02-00726	1633	
20-03-31-02-00312 0708 20-10-19-02-00467 1975 21-04-08-02-00729 1871 20-03-31-02-00313 0826 20-10-19-02-00468 1786 21-04-08-02-00730 1804 20-03-31-02-00314 0726 20-10-19-02-00469 1819 21-04-08-02-00731 1783 20-03-31-02-00315 0700 20-10-19-02-00470 1869 21-04-08-02-00732 1768 20-03-31-02-00316 0749 20-10-19-02-00471 1866 21-04-08-02-00733 1682	20-03-31-02-00310	0796		20-10-19-02-00465	1805		21-04-08-02-00727	1784	
20-03-31-02-00313 0826 20-10-19-02-00468 1786 21-04-08-02-00730 1804 20-03-31-02-00314 0726 20-10-19-02-00469 1819 21-04-08-02-00731 1783 20-03-31-02-00315 0700 20-10-19-02-00470 1869 21-04-08-02-00732 1768 20-03-31-02-00316 0749 20-10-19-02-00471 1866 21-04-08-02-00733 1682	20-03-31-02-00311	0801		20-10-19-02-00466	1981		21-04-08-02-00728	1883	
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20-03-31-02-00316 0749 20-10-19-02-00471 1866 21-04-08-02-00733 1682	20-03-31-02-00314	0726		20-10-19-02-00469	1819		21-04-08-02-00731	1783	
	20-03-31-02-00315	0700		20-10-19-02-00470	1869		21-04-08-02-00732	1768	
20-05-14-02-00002 0922 20-10-19-02-00472 1293 E4P-C-06032 21-04-08-02-00734 1776	20-03-31-02-00316	0749		20-10-19-02-00471	1866		21-04-08-02-00733	1682	
	20-05-14-02-00002	0922		20-10-19-02-00472	1293	E4P-C-06032	21-04-08-02-00734	1776	

Fir	st Issue Da	ate	Rev. No.	R	evision Da [.]	te	
11	Aug	2021	2	10	09	2021	



Austro Engine GmbH Rudolf-Diesel-Strasse 11 A-2700 Wiener Neustadt Tel: +43 2622 23000

High Pressure	Gear	Engine	High Pressure	Gear	Engine	High Pressure	Gear	Engine
Pump S/N	S/N	S/N	Pump S/N	S/N	S/N	Pump S/N	S/N	S/N
20-05-14-02-00003	0875		20-10-19-02-00473	1308	E4-A-06054	21-04-08-02-00735	1788	
20-05-14-02-00004	0935		20-10-19-02-00474	1199		21-04-08-02-00736	1655	
20-05-14-02-00005	0879	E4-A-06043	20-10-19-02-00475	1800		21-05-10-02-00002	1711	
20-05-14-02-00006	0905	E4P-C-06016	20-10-19-02-00477	1915		21-05-10-02-00003	1876	
20-05-14-02-00007	0934		20-10-19-02-00478	1906		21-05-10-02-00004	1712	
20-05-14-02-00008	0933		20-10-19-02-00479	1863		21-05-10-02-00006	1719	
20-05-14-02-00009	0965		20-10-19-02-00480	1782		21-05-10-02-00008	1761	
20-05-14-02-00010	0884	E4-A-06045	20-10-19-02-00481	1860		21-05-10-02-00012	1663	
20-05-14-02-00011	0908	E4-A-00239	20-10-19-02-00482	1939		21-05-10-02-00013	1893	
20-05-14-02-00012	0949	E4-C-06022	20-10-19-02-00485	1808		21-05-10-02-00016	1833	
20-05-14-02-00013	0954	E4-A-06037	20-10-19-02-00486	1798		21-05-10-02-00018	1900	
20-05-14-02-00014	0928	E4P-C-06015	20-10-19-02-00487	0881		21-05-10-02-00019	1662	
20-05-14-02-00015	0962		20-10-19-02-00488	1774		21-05-10-02-00020	1894	
20-05-14-02-00016	0955		20-10-19-02-00489	1943		21-05-10-02-00021	1842	
20-05-14-02-00017	0959		20-10-19-02-00490	1995		21-05-10-02-00023	1836	
20-05-14-02-00018	0932		20-10-19-02-00491	1884		21-05-10-02-00024	1896	
20-05-14-02-00019	0906	E4-C-06025	20-10-19-02-00492	0883	E4-A-00019	21-05-10-02-00025	1905	
20-05-14-02-00020	0972		20-10-19-02-00493	0886	E4-A-06032	21-05-10-02-00026	1897	
20-05-14-02-00021	0874	E4-B-00434	20-10-19-02-00494	0888		21-05-10-02-00031	1892	
20-05-14-02-00022	0920	E4-A-06040	20-10-19-02-00495	0865	E4-A-05096	21-05-10-02-00034	1795	
20-05-14-02-00023	0938	E4P-C-06021	20-10-19-02-00496	0926		21-05-10-02-00038	1912	
20-05-14-02-00024	0899		20-10-19-02-00497	0702	E4-A-05095	21-05-10-02-00043	1763	
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20-05-14-02-00026	0903		20-10-19-02-00499	0916	E4-A-06034	21-05-10-02-00048	1733	
20-05-14-02-00027	0957		20-10-19-02-00500	0915	E4-A-00434	21-05-10-02-00050	1744	
20-05-14-02-00028	0876		20-10-19-02-00501	0880	E4P-C-06009	21-05-10-02-00052	1635	
20-05-14-02-00029	0978	E4-A-06042	20-10-19-02-00502	0701		21-05-10-02-00053	1910	
20-05-14-02-00030	1005		20-10-19-02-00503	0872		21-05-10-02-00054	1891	
20-05-14-02-00031	0951		20-10-19-02-00504	0896	E4-C-06017	21-05-10-02-00056	1709	
20-05-14-02-00032	0969	E4-C-06023	20-10-19-02-00505	1789		21-05-10-02-00057	1824	
20-05-14-02-00033	0961	E4-C-06028	20-10-19-02-00506	0894	E4P-C-06014	21-05-10-02-00058	1770	
20-05-14-02-00034	0950		20-10-19-02-00507	0925	E4P-C-06013	21-05-10-02-00059	1755	
20-05-14-02-00035	0909	E4-C-00312	20-10-19-02-00508	0907	E4-C-06016	21-05-10-02-00060	1681	
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20-05-14-02-00037	0897		20-10-19-02-00511	1933		21-05-10-02-00063	1843	
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20-05-14-02-00039	0882	E4-C-06020	20-10-19-02-00513	0866	E4-A-06033	21-05-10-02-00065	1844	
20-05-14-02-00040	0902	E4-A-06044	20-10-19-02-00514	0945		21-05-10-02-00067	1771	
20-05-14-02-00041	0870	E4-C-06026	20-10-19-02-00515	0901	E4-A-06035	21-05-10-02-00068	1812	
20-05-14-02-00042	0982		20-10-19-02-00516	0857	E4-A-00429	21-05-10-02-00069	1902	
20-05-14-02-00043	0953	E4-A-06038	20-10-19-02-00517	0937		21-05-10-02-00072	1821	
20-05-14-02-00044	0996		20-10-19-02-00518	0871	E4-C-00087	21-05-10-02-00073	1839	
20-05-14-02-00045	0924		20-10-19-02-00519	0859		21-05-10-02-00074	1870	
20-05-14-02-00046	0936	E4-A-00350	20-10-19-02-00521	0944	E4P-C-05014	21-05-10-02-00075	1895	
20-05-14-02-00047	0923		20-10-19-02-00522	0913		21-05-10-02-00076	1882	
20-05-14-02-00048	0958	E4P-C-06022	20-10-19-02-00523	0893		21-05-10-02-00077	1879	
20-05-14-02-00049	0892	E4-A-00200	20-10-19-02-00524	0869	E4-C-06019	21-05-10-02-00078	1848	
20-05-14-02-00050	0887	E4-A-06039	20-10-19-02-00525	0890		21-05-10-02-00079	1717	
20-05-14-02-00051	0973		20-10-19-02-00526	0806		21-05-10-02-00080	1874	
20-05-14-02-00052	1009		20-10-19-02-00527	0850		21-05-10-02-00081	1790	
20-05-14-02-00053	0956	E4-B-00049	20-10-19-02-00528	1315	E4-C-06053	21-05-10-02-00082	1835	
20-05-14-02-00054	0976		20-10-19-02-00529	0863		21-05-10-02-00083	1909	
20-05-14-02-00055	0964	E4-C-06027	20-10-19-02-00530	0914		21-05-10-02-00084	1765	
20-05-14-02-00056	1068		20-10-19-02-00531	1301	E4-A-06075	21-05-10-02-00085	1834	
20-05-14-02-00057	0992		20-10-19-02-00532	0931	E4-A-00215	21-05-10-02-00086	1847	
20-05-14-02-00058	0900	E4-B-00196	20-10-19-02-00533	0758	E4P-Z-06001	21-05-10-02-00087	1626	
20-05-14-02-00059	0991		20-10-19-02-00534	0858	E4-C-00125	21-05-10-02-00088	1913	
20-05-14-02-00060	1025		20-10-19-02-00535	0730	E4-A-05093	21-05-10-02-00090	1888	
20-05-14-02-00061	1063		20-10-19-02-00536	0941		21-05-10-02-00091	1691	
20-05-14-02-00062	0987		20-10-19-02-00537	0843		21-05-10-02-00092	1917	
20-05-14-02-00063	0994		20-10-19-02-00538	0837		21-05-10-02-00093	1690	

Fir	st Issue Da	ate	Rev. No.	R	evision Dat	te
11	Aug	2021	2	10	09	2021



Austro Engine GmbH Rudolf-Diesel-Strasse 11 A-2700 Wiener Neustadt Tel: +43 2622 23000 FAX: +43 2622 23000-2711

High Pressure	Gear	Engine
Pump S/N	S/N	S/N
20-05-14-02-00064	0947	
20-05-14-02-00065	1054	
20-05-14-02-00066	1111	
20-05-14-02-00067	0997	
20-05-14-02-00068	1057	E4-A-06048
20-05-14-02-00069	0984	
20-05-14-02-00070	1055	
20-05-14-02-00071	0981	
20-05-14-02-00072	0980	
20-05-14-02-00073	0977	E4-A-06049
20-05-14-02-00074	0993	
20-05-14-02-00075	0986	
20-05-14-02-00076	1007	
20-05-14-02-00077	0963	
20-05-14-02-00078	0983	
20-05-14-02-00079	1003	
20-05-14-02-00080	1000	
20-05-14-02-00081	0989	
20-05-14-02-00082	0998	
20-05-14-02-00083	1002	
20-05-14-02-00084	0995	
20-05-14-02-00085	0960	
20-05-15-02-00420	0548	
20-05-15-02-00421	1010	
20-05-15-02-00422	0975	
20-05-15-02-00423	0990	
20-05-15-02-00424	0999	
20-05-15-02-00425	0970	
20-05-15-02-00426	1008	
20-05-15-02-00430	0967	
20-05-15-02-00432	0968	
20-06-18-02-00879	1076	
20-06-18-02-00880	0813	
20-06-18-02-00881	1014	E4P-C-06023
20-06-18-02-00882	1078	E4P-C-06024
20-06-18-02-00883	1092	E4P-C-06025
20-06-18-02-00884	1090	
20-06-18-02-00885	1019	E4-C-06034
20-06-18-02-00886	1091	E4-B-00383
20-06-18-02-00887	1077	2 00000
20 00 10 02 00007	10//	

High Pressure	Gear	Engine
Pump S/N	S/N	S/N
20-10-19-02-00539	1274	E4-C-00199
20-10-19-02-00540	1236	E4-A-00075
20-10-19-02-00541	1278	E4P-C-06033
20-10-19-02-00542	0798	
20-10-19-02-00544	1292	E4P-C-06040
20-10-19-02-00545	1260	E4-A-00279
20-10-19-02-00546	1269	
20-10-19-02-00547	1273	
20-10-19-02-00548	1214	
20-10-19-02-00549	1288	E4-A-06067
20-10-19-02-00550	1270	E4-A-06073
20-10-19-02-00551	1243	E4-C-06049
20-10-19-02-00552	1217	
20-10-19-02-00553	1229	E4-C-06062
20-10-19-02-00554	1256	
20-10-19-02-00555	1282	
20-10-19-02-00556	1246	
20-10-19-02-00558	1220	
20-10-19-02-00559	1207	E4-A-00513
20-10-19-02-00560	1286	E4-C-06050
20-10-19-02-00561	1228	
20-10-19-02-00562	1401	
20-10-19-02-00563	1298	E4-A-06055
20-10-19-02-00564	1334	E4P-C-06046
20-10-19-02-00565	1201	E4-C-06061
20-10-19-02-00566	1237	E4P-C-06030
20-10-19-02-00567	1234	
20-10-19-02-00568	1190	
20-10-19-02-00569	1285	E4-A-06051
20-10-19-02-00570	1230	
20-10-19-02-00571	1202	
20-10-19-02-00572	1205	E4P-C-06042
20-10-19-02-00573	1204	E4-A-00441
20-10-19-02-00574	1194	
20-10-19-02-00575	1206	
20-10-26-02-00622	1791	
20-10-26-02-00623	1959	
20-10-26-02-00624	1806	
20-10-26-02-00625	1797	
20-10-26-02-00626	1934	
20-10-26-02-00627	1210	

High Pressure	Gear	Engine
Pump S/N	S/N	S/N
21-05-10-02-00094	1849	3,11
21-05-10-02-00095	1914	
21-05-10-02-00096	1756	
21-05-10-02-00097	1820	
21-05-10-02-00098	1838	
21-05-10-02-00099	1743	
21-05-10-02-00100	1801	
21-05-10-02-00101	1851	
21-05-10-02-00102	1688	
21-05-10-02-00103	1735	
21-05-10-02-00104	1885	
21-05-10-02-00105	1899	
21-05-10-02-00106	1858	
21-05-10-02-00107	1736	
21-05-10-02-00108	1772	
21-05-10-02-00109	1764	
21-05-10-02-00110	1867	
21-05-10-02-00111	1855	
21-05-10-02-00112	1734	
21-05-10-02-00113	1762	
21-05-10-02-00114	1852	
21-05-10-02-00115	1832	
21-05-10-02-00116	1898	
21-05-10-02-00117	1901	
21-05-10-02-00118	1659	
21-05-10-02-00119	1864	
21-05-10-02-00120	1919	
21-05-10-02-00121	1730	
21-05-10-02-00122	1732	
21-05-10-02-00123	1741	
21-05-10-02-00124	1861	
21-05-10-02-00125	1916	
21-05-10-02-00126	1845	
21-05-10-02-00127	1766	
21-05-10-02-00129	1738	
21-05-10-02-00130	1714	
21-05-10-02-00131	1737	
21-05-10-02-00132	1904	
21-05-10-02-00133	1745	
21-05-10-02-00134	1920	
21-05-10-02-00135	1873	

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1.4. REASON

Excessive use of an assembly tool p/n AE300T012-1 which could lead to gear pre-damage during assembly. This condition, if not corrected, could result in premature failure of the pump drive gear resulting in rail pressure loss and engine shutdown.

1.5. TIME OF COMPLIANCE

For E4A engines

- Before the total time in service of the affected driving gear reaches 40 FH⁽¹⁾, or
- during the next scheduled maintenance, whichever occurs first.

For E4B/C/P engines

- Before the total time in service of the affected driving gear reaches 80 FH ⁽¹⁾, or
- during the next scheduled maintenance, whichever occurs first.
- (1) Note: Total time in service of the affected driving gear must be counted from the installation of an affected part (driving gear) on an engine. E.g. an affected part is installed on an E4A Engine having 480FH, the driving gear must be replaced before reaching 520FH; an affected part is installed on an E4B/C/P engine having 480FH, the driving gear must be replaced before reaching 560FH.
- **Note:** For a twin-engine aeroplane that has one or two E4B/C/P engine(s) installed, a single ferry flight is allowed to position that aeroplane to a location where the actions required by this Service Bulletin can be accomplished on the affected engine(s).

1.6. CONCURRENT DOCUMENTS / REFERENCES

If not specified, the latest revision of the concurrent/referenced documents applies

Maintenance Manual E4.08.04

1.7. OTHER PUBLICATIONS AFFECTED

None

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2. TECHNICAL DETAILS

2.1. ACCOMPLISHMENT / INSTRUCTIONS

- 1. Remove the HPP in accordance with the instruction provided in the Maintenance Manual, chapter 73-10-03 paragraph A
- 2. Remove the drive gear from the HPP in accordance with the Maintenance Manual, chapter 73-10-03 paragraph C.

CAUTION: To block the gear use only the tool p/n AE300T012-1 provided in the kit of this Service Bulletin.

- 3. To remove the gear from the shaft, use a bearing extractor shown in chapter 3.2
- 4. Clean the driving gear with Non-chlorinated brake cleaner (recommended product Manufacturer: Förch, Product ID.: R510)
- 5. Visually inspect the driving gear against colour criteria provided in the table 1. If acceptable criteria are not met, remove the camshafts according to the Engine Maintenance Manual chapter 85-30-00 subchapter 4A (a) 4A (h), inspect the bushing of the inlet and outlet camshaft, take pictures and provide them to the Austro Engine support team before proceeding with the gear replacement, which is in any case needed.
- 6. Install the new drive gear in accordance with the instruction provided in the Maintenance Manual, chapter 73-10-03 paragraph D (replacing the nut, if required).
- **Note:** Oil the gear and the O-ring with engine oil before installing the HPP

<u>CAUTION:</u> To block the gear use only the tool p/n AE300T012-1 provided in the kit of this Service Bulletin.

- 7. Install the HPP in accordance with the instruction provided in the Maintenance Manual, chapter 73-10-03 paragraph B, referring to the table 2 for the tightening sequence of the screws
- 8. Mark one tool cycle on the tool cycles recording sheet (provided as appendix in this service bulletin) and fill the execution report.
- **Note:** One cycle is equal to one old gear deinstallation and one new gear installation.
- **Note:** When the assembly wrench reaches 100 cycles, discard the tool
- 9. Conduct an engine ground run of 15 mins, of which 5 mins are MTOP (maximum take-off power).
- 10. After the ground run, remove the HPP and clean the gear with Non-chlorinated brake cleaner then inspect the new gear against colour criteria provided in the table 1. If acceptable criteria are not met, remove the camshafts according to the Engine Maintenance Manual chapter 85-30-00 subchapter 4A (a) 4A (h), inspect the bushing of the inlet camshaft on the HPP side, take pictures and provide it to Austro Engine support team
- 11. Install again the HPP in accordance with the instruction provided in the Maintenance Manual, chapter 73-10-03 paragraph B, referring to the table 2 for the tightening sequence of the screws

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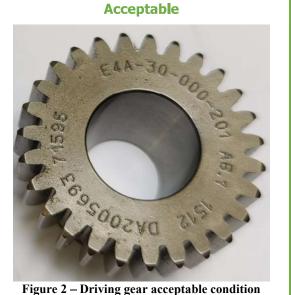
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Note: Oil the gear and the O-ring with engine oil before installing the HPP

Note: For engines where the MSB-E4-034 rev. 0 was already performed, the new installed gear must be inspected in accordance with the requirements of chapter 2.1, points 10 and 11 of the MSB-E4-034 at rev. 1

Table 1 - Driving gear colour check chart

Not acceptable Figure 1 – Driving gear not acceptable condition



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Table 2 - High Pressure Pump Tightening Sequence

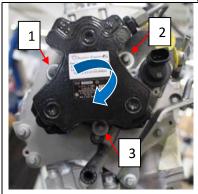


Figure 3

Install the HPP tightening the screws according to the figure 3 sequence with 12 Nm.

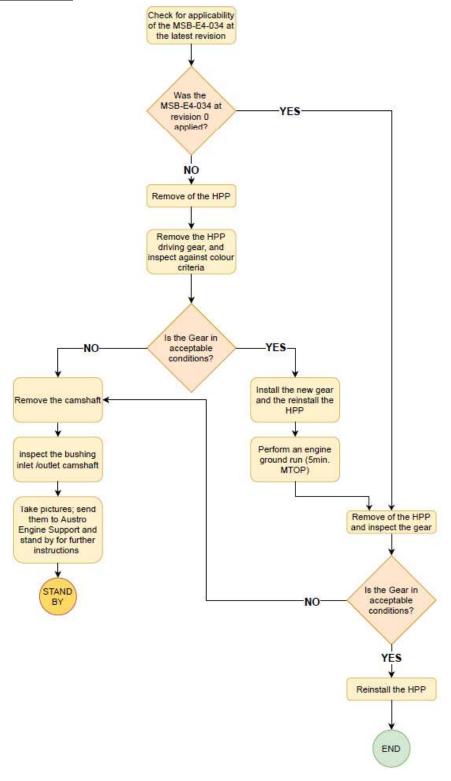
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Process summarised



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2.2. ILLUSTRATIONS

None.

2.3. MASS (WEIGHT)

Not affected.

2.4. APPROVAL STATEMENT

The technical content of this document is approved under the authority of the DOA ref. EASA.21J.399.

3. PLANNING INFORMATION

3.1. MATERIAL & AVAILABILITY

Quantity	Part Description	Part Number
1	HPP Drive Gear	E4A-30-000-201 or
	Till Blive Gedi	E4A-30-000-601
2	Gasket	DIN7603-12x16x2.0
2	Gasket	DIN7603-A12×16-AL
1	holder wrench HPP	AE300T012-1

Note: The assembly wrench can be used for 100 cycles, after that the tool is not serviceable and must be scraped.

3.2. SPECIAL TOOLS

No.	Description	Note
1	holder wrench	This special tool is provided as part of this SB and it is limited to 100 cycles
2	Bearing Extractor	Ref. to the figure 3, not part of the service bulletin kit

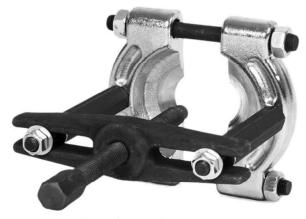


Figure 4 – Bearing Extractor

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3.3. LABOR EFFORT

2 hours

4. REMARKS

■ NOTE:

- All measures must be carried out by a certified engine station and certified engine mechanics.
- The accomplishment of the instructions shown under Section 2.1 must be confirmed in the respective engine log book.
- The accomplishment of the instructions must be carried out within the time of compliance according chapter 1.
- o In case of doubt please contact the Austro Engine GmbH After Sales Support (e-mail: service@austroengine.at; Tel: +43 2622 23000 2525).
- For credit information contact Austro Engine GmbH After Sales Support (e-mail: service@austroengine.at; Tel: +43 2622 23000 2525)

5. EXPLANATORY NOTES

5.1. SYMBOL EXPLANATION



CAUTION: Disregarding these special instructions and safety measures can cause

damage to the engine or other components.

NOTE: Additional note or instruction for better understanding of an instruction

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6. APPENDIX

TAU	stro Engl	ine		Н	PP Wren	ch Cycle	s recordi	ng sheet	t
				No	te:				
For	each cyc	le, mark	a cross (on the co	rrespon	ding box.	When 1	00 cycle	s are
			reach	ed, disca	rd the w	rench.			
	1	Gear rep	olaceme	nt (remo	val & ins	tallation) = 1 cyc	le	
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
		HPP Driv	e gear wi	rench p/n			ı	1	1

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Austro Engine	Service Bulletin Execution Report	Note:
Aircraft owner:		
Aircraft Operator:		If different from the owner
Aircraft:		
Aircraft Serial Number:		
Aircraft Marks:		
Engine (RH) s/n:		For single engine a/c, fill only one row
Engine (LH) s/n:		
Flight Hours:		
Service center:		Company Name or reference of the person(s) performing the oil pump replacement
Removed HPP Gear s/n:		Refer to the figure below to identify the serial number

NOTE: A scanned version of this form must be provided to service@austroengine.at

NOTE: The original filled version of this form, must be packed with the removed gear, and provided to Austro Engine



Figure 5 – Gear s/n location

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MANDATORY

SERVICE BULLETIN No. MSB-E4-035

1. BASIC INFORMATION

1.1. SUBJECT

High Pressure Pump driving gear inspection

1.2. DEFINITIONS AND ACRONYMS

For the purpose of this Service Bulletin, the following definitions and acronyms apply:

Affected part: High Pressure Pump driving gear

Fh: flight hours

HPP: High Pressure pump

p/n or **p/ns**: Part number or Part Numbers

SB: Service Bulletin

s/n or **s/ns**: Serial Number or Serial Numbers

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1,3. ENGINES AFFECTED

Engine affected:	E4 Series
Serial numbers affected (2):	All E4/E4P engine s/ns having a Cylinder Head part number
	E4A-12-500-000 installed (1)
Part Affected:	High Pressure Pump driving gear

(1) **Note:** To identify the cylinder head installed, refer to the maintenance manual E4.08.04 chapter 85. Additional Cylinder Head identification methods are provided in the Service Instruction no. SI-E4-016

(2) **Note:** Replacement of a High-Pressure Pump driving gear accomplished in accordance with the instruction of the Mandatory Service Bulletin no. MSB-E4-034 at revision 1 (or subsequent approved revision), is acceptable to comply with the requirements of paragraph 2.1 of this Service Bulletin for that engine.

1.4. REASON

Stack up of tolerances between the Cylinder Head (CH), CH cover, Camshaft Gear and High-Pressure Pump (HPP) gear is found for those engines having a Cylinder Head part number E4A-12-500-000 installed. This condition, if not detected, could result in premature failure of the HPP drive gear resulting in rail pressure loss and engine shutdown.

1.5. TIME OF COMPLIANCE

Before the next flight

1.6. CONCURRENT DOCUMENTS / REFERENCES

If not specified, the latest revision of the concurrent/referenced documents applies

- Maintenance Manual E4.08.04
- Service Instruction SI-E4-016
- Mandatory Service Bulletin MSB-E4-034 rev. 1 or subsequent approved revisions

1.7. OTHER PUBLICATIONS AFFECTED

None

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2. **TECHNICAL DETAILS**

2.1. ACCOMPLISHMENT / INSTRUCTIONS

- 1. Remove the HPP in accordance with the instruction provided in the Maintenance Manual, chapter 73-10-03 paragraph A
- 2. Clean the driving gear with Non-chlorinated brake cleaner (recommended product Manufacturer: Förch, Product ID.: R510)
- 3. Visually inspect the driving gear against colour criteria provided in the table 1. If acceptable criteria are not met, remove the camshafts according to the Engine Maintenance Manual chapter 85-30-00 subchapter 4A (a) - 4A (h), inspect the bushing of the inlet and outlet camshaft, take pictures and provide them to the Austro Engine support team. If the gear is in acceptable conditions, then proceed to step 5

Note: In case of doubt, contact Austro Engine providing pictures of the driving gear

- 4. Reinstall the HPP in accordance with the instruction provided in the Maintenance Manual, chapter 73-10-03 paragraph B referring to the table 2 for the tightening sequence of the screws
- 5. Fill the execution report and send it back to service@austroengine.at

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Table 1 - Driving gear colour check chart





Figure 2 – Driving gear acceptable condition

Table 2 – High Pressure Pump Tightening Sequence

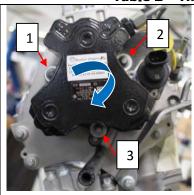


Figure 3

Install the HPP tightening the screws according to the figure 3 sequence with 12 Nm.

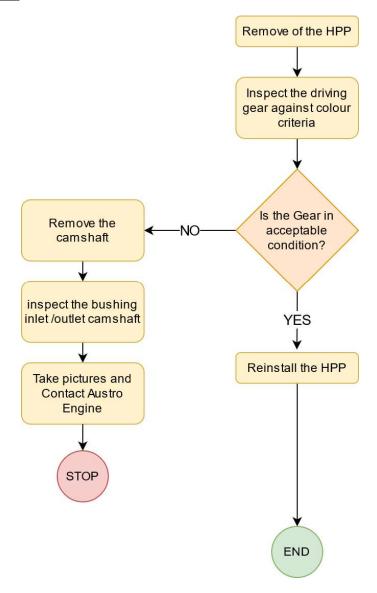
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Process summarised



2.2. CREDIT/COMPLIANCE

Replacement of a High-Pressure Pump driving gear accomplished in accordance with the instruction of the Mandatory Service Bulletin no. MSB-E4-034 at revision 1 (or subsequent approved revision), is acceptable to comply with the requirements of paragraph 2.1 of this Service Bulletin for that engine.

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2.3. ILLUSTRATIONS

None.

2.4. MASS (WEIGHT)

Not affected.

2.5. APPROVAL STATEMENT

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3. PLANNING INFORMATION

3.1. MATERIAL & AVAILABILITY

None

3.2. SPECIAL TOOLS

None

3.3. LABOR EFFORT

0.5 Hours

4. REMARKS

NOTE:

- All measures must be carried out by a certified engine station and certified engine mechanics.
- The accomplishment of the instructions shown under Section 2.1 must be confirmed in the respective engine log book.
- The accomplishment of the instructions must be carried out within the time of compliance according chapter 1.
- o In case of doubt please contact the Austro Engine GmbH After Sales Support (e-mail: service@austroengine.at; Tel: +43 2622 23000 2525).
- For credit information contact Austro Engine GmbH After Sales Support (e-mail: service@austroengine.at; Tel: +43 2622 23000 2525)

5. EXPLANATORY NOTES

5.1. SYMBOL EXPLANATION

CAUTION

CAUTION: Disregarding these special instructions and safety measures can cause

damage to the engine or other components.

NOTE: Additional note or instruction for better understanding of an instruction

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	Service Bulletin Execution Report	
Austro Engine		Note:
Aircraft owner:		
Aircraft Operator:		If different from the owner
Aircraft:		
Aircraft Serial Number:		
Aircraft Marks:		
Engine (RH) s/n:		For single engine a/c, fill only one row
Engine (LH) s/n:		
Flight Hours:		
Service center:		Company Name or reference of the person(s) performing the oil pump replacement
Inspected HPP s/n:		Refer to the figure 4 below to identify the serial number

NOTE: A scanned version of this form must be provided to service@austroengine.at

NOTE: The original filled version of this form, must be packed with the removed gear, and provided to Austro Engine



Figure 4 – HPP p/n and s/n location

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