

AIRCRAFT TECHNICAL RECORD

Section 3. ENGINE LOG

DATE / /	TIME RUN		TIME SINCE OVERHAUL		CYCLES	
	HOURS	min	HOURS	min	Sub Total	TOTAL
BROUGHT FORWARD →						

DESCRIPTION OF WORK PERFORMED:
(INSPECTION, REPAIRS, REPLACEMENT)



DIAMOND AIRCRAFT INDUSTRIES INC.
D.O.T. APPROVED MANUFACTURER #161-93

Registration: N251LA
AC Serial Number: 40 NC191
Engine Serial Number: E4-A-06283
Prop Serial Number: 220124
Airframe Total Time: 3.8 HRS

- Total Time **Engine** Brought forward from Flight Test Journey Log (DAI - Form Q-157): 3.8 HRS
- Engine installed new on Aircraft DA 40 NG, S/N. 40.NC191
- Bi-weekly AWD check carried out to current revision 2022-13 all applicable AD's complied with, see attached.
- The work described above was carried out IAW the applicable Standard of Airworthiness.

DA
Q 8
Inspector

JUN 23 2022
Date

(Intentionally left blank below this point)



ABSOLUTE AERO

MAINTENANCE
21889 Skywest Drive, Hayward, CA 94541 · 510 782-6591

ENGINE ENTRY

WORK ORDER: 3844 AIRCRAFT: N251LA TACH: 98.6 TSOH: N/A TTE: 98.6
MODEL: Austro E4-A S/N: E4-A-06283

DATE: 11/02/2022

C/W Austro MSB-E4-003/27 "ECU software" by ECU software update. C/W Austro MSB-E4-039 "Oil analysis and piston replacement" and verified engine is GROUP 1. Obtained initial oil sample and sent to Spectro Jet-Care for analysis. Aluminum result: 5ppm. In accordance with MSB-E4-039, this sample is inside the 8ppm limit. Next sample due Tach: 148.6. Complied with Austro E4 MM 05-20-00 100-hour inspection items and servicing using service kit (P/N: E4A-52-000-KIT) and additional parts Drained and sampled oil Removed and replaced oil filter with new. Examined old oil filter element, no contaminants found. Serviced engine with 7 liters of Aeroshell Diesel Ultra oil. Drained and sampled gearbox oil. Found non-ferrous contamination in the gearbox filter. **Austro suspects debris is from manufacture and requested follow-up filter check at Tach: 118.6.** Installed new gearbox oil filter (P/N: E4A-70-000-806) using new cap gasket (P/N: DIN3771-26X2-FPM75). Serviced gearbox to fill using new Shell Spirax S6 GXME 75W80 oil. Forward induction was not removed to service gearbox. Pressure tested coolant system. Verified waste gate actuator rigging. Ground ran engine, leak and ops check good. No defects noted at this time. Downloaded ECU engine log file and event recorder. All work completed in accordance with the Diamond DA 40 NG and Austro E4 Maintenance Manuals. -END

This engine is approved for return to service, for only the work performed.
Jesse Case A&P 3772878

THIS PAGE TOTALS						
PREVIOUS TOTALS						
TOTALS SINCE NEW						

CARRY FORWARD to Top of Next Page

**ABSOLUTE AERO**

MAINTENANCE

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ENGINE ENTRYWORK ORDER: 3887 AIRCRAFT: N251LA TACH: 116.0 TSOH: N/A TTE: 116.0
MODEL: Austro E4-A S/N: E4-A-06283

DATE: 12/02/2022

Removed and inspected the gearbox oil filter, no contaminants found. Reinstalled filter using new cap seal (P/N: DIN3771-26X2-FPM75). Ground ran engine, leak check good. All work completed in accordance with the Diamond DA 40 NG and Austro E4 Maintenance Manuals. -END

This engine is approved for return to service, for only the work performed.

Brandon Thompson A&P 3212565

**ABSOLUTE AERO**

MAINTENANCE

21889 Skywest Drive, Hayward, CA 94541 · 510 782-6591

ENGINE ENTRYWORK ORDER: 3932 AIRCRAFT: N251LA TACH: 147.0 TSOH: N/A TTE: 147.0
MODEL: Austro E4-A S/N: E4-A-06283

DATE: 01/02/2023

C/W Austro MSB-E4-039 "Oil analysis and piston replacement" and verified engine is GROUP 3. Piston or engine core replacement is due at TTE: 900.0. Obtained oil sample and sent to Spectro Jet-Care for analysis. Aluminum result: 2ppm. In accordance with MSB-E4-039, this sample is inside the 8ppm limit. Next sample due tach: 197.0. All work completed in accordance with the Diamond DA 40 NG and Austro E4 Maintenance Manuals. -END

This engine is approved for return to service, for only the work performed.

Brandon Thompson A&P 3212565

**ABSOLUTE AERO**

MAINTENANCE

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ENGINE ENTRYWORK ORDER: 3984 AIRCRAFT: N251LA TACH: 182.3 TSOH: N/A TTE: 182.3
MODEL: Austro E4-A S/N: E4-A-06283

DATE: 03/22/2023

C/W Austro MSB-E4-039 "Oil analysis and piston replacement", engine is GROUP 3. Piston or engine core replacement is due at TTE: 900.0. Obtained oil sample and sent to Spectro Jet-Care for analysis. Aluminum result: 4ppm. In accordance with MSB-E4-039, this sample is inside the 8ppm limit. Next sample due Tach: 232.3. Complied with Austro E4 MM 05-20-00 100-hour inspection items and servicing using service kit (P/N: E4A-52-000-KIT) and additional parts. Drained and sampled oil. Removed and replaced oil filter with new. Examined old oil filter element, some small ferrous metal contaminants found. Communicated with Austro Engine (Case 00124505); no action taken at this time based on oil analysis results. Serviced engine with 7 liters of Aeroshell Diesel Ultra oil. Drained and sampled gearbox oil. Examined gearbox oil filter and magnetic drain plug, no defects noted. Reinstalled gearbox filter using new cap gasket (P/N: DIN3771-26X2-FPM75). Serviced gearbox to fill using new Shell Spirax S6 GXME 75W80 oil. Forward induction was not removed to service gearbox. Verified waste gate actuator rigging. Ground ran engine, leak and ops check good. No defects noted at this time. Downloaded ECU engine log file and event recorder. All work completed in accordance with the Diamond DA 40 NG and Austro E4 Maintenance Manuals. -END

This engine is approved for return to service, for only the work performed.

Salvador Jimenez A&P 4273987

BROUGHT FORWARD



ABSOLUTE AERO

MAINTENANCE

21889 Skywest Drive, Hayward, CA 94541 · 510 782-6591

ENGINE ENTRY

WORK ORDER: 4111 AIRCRAFT: N251LA TACH: 264.9 TSOH: N/A TTE: 264.9

DATE: 07/17/2023

MODEL: Austro E4-A S/N: E4-A-06283

C/W Austro MSB-E4-039 "Oil analysis and piston replacement", engine is GROUP 3. Piston or engine core replacement is due at TTE: 900.0. Obtained oil sample and sent to Spectro Jet-Care for analysis. Aluminum results pending. Next sample due Tach: 314.9. Replaced the water pump bearing housing with new (P/N: E4A-60-100-000) using new base gasket (P/N: E4A-60-000-101) Pressure tested coolant system. Completed 300-hour inspection and servicing referencing Austro E4 MM Chapter 05-20-00 using service kit (P/N: DA42-AE-100KIT). C/W 05-10-01 300-hour alternator inspection. C/W 05-20-00 300-hour gearbox filter replacement with new (P/N: E4A-70-000-806). C/W 85-00-10 300-hour fuel injector cover area inspection. Drained and sampled oil. Removed and replaced oil filter with new. Examined old oil filter element, no contaminants found. Serviced engine with 7 liters of Aeroshell Diesel Ultra oil. Drained and sampled gearbox oil. Examined gearbox oil filter and magnetic drain plug, no defects noted. Serviced gearbox to fill using new Shell Spirax S6 GXME 75W80 oil. Forward induction was not removed to service gearbox. Verified waste gate actuator rigging. Ground ran engine, leak and ops check good. No defects noted at this time. Downloaded ECU engine log file and event recorder. Verified AD's current through FAA AD biweekly 2023-15. All work completed in accordance with the Diamond DA 40 NG and Austro E4 Maintenance Manuals. -END

I certify that this engine has been inspected in accordance with FAR 43 Appendix D (100 Hour Inspection) and has been determined to be in an airworthy condition.

Jesse Case A&P / IA 3772878



ABSOLUTE AERO

MAINTENANCE

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ENGINE ENTRY

WORK ORDER: 4203 AIRCRAFT: N251LA TACH: 322.9 TSOH: N/A TTE: 322.9

DATE: 09/20/2023

MODEL: Austro E4-A S/N: E4-A-06283

C/W Austro MSB-E4-039 "Oil analysis and piston replacement". Obtained recurring oil sample and sent to Spectro Jet-Care for analysis. Next sample due Tach: 372.9. All work completed in accordance with the Diamond DA 40 NG and Austro E4 Maintenance Manuals. -END

This engine is approved for return to service, for only the work performed.

Brandon Thompson A&P 3212565



ABSOLUTE AERO

MAINTENANCE

21889 Skywest Drive, Hayward, CA 94541 · 510 782-6591

ENGINE ENTRY

WORK ORDER: 4203 AIRCRAFT: N251LA TACH: 322.9 TSOH: N/A TTE: 322.9

DATE: 09/20/2023

MODEL: Austro E4-A S/N: E4-A-06283

C/W Austro MSB-E4-039 "Oil analysis and piston replacement". Obtained recurring oil sample and sent to Spectro Jet-Care for analysis. Aluminum result: 3ppm. In accordance with MSB-E4-039, this sample is inside the 8ppm limit. Next sample due Tach: 372.9. All work completed in accordance with the Diamond DA 40 NG and Austro E4 Maintenance Manuals. -END

This engine is approved for return to service, for only the work performed.

Brandon Thompson A&P 3212565

THIS PA TOTAL

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TOTALS SINCE NEW



ABSOLUTE AERO

MAINTENANCE

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ENGINE ENTRY

WORK ORDER: 4267 AIRCRAFT: N251LA TACH: 357.0 TSOH: N/A TTE: 357.0

DATE: 11/09/2023

MODEL: Austro E4-A S/N: E4-A-06283

C/W Austro MSB-E4-003/30 "ECU software" by software update. C/W Austro MSB-E4-039 "Oil analysis and piston replacement", engine is GROUP 3. Piston or engine core replacement is due at TTE: 900.0. Obtained oil sample and sent to Spectro Jet-Care for analysis, results pending. Next sample due Tach: 407.0. Complied with Austro E4 MM 05-20-00 100-hour inspection items and servicing using service kit (P/N: E4A-52-000-KIT) and additional parts. Drained and sampled oil. Removed and replaced oil filter with new. Examined old oil filter element, no contaminants found. Serviced engine with 7 liters of Aeroshell Diesel Ultra oil. Drained and sampled gearbox oil. Examined gearbox oil filter and magnetic drain plug, no defects noted. Reinstalled gearbox filter using new cap gasket (P/N: DIN3771-26X2-FPM75). Serviced gearbox to fill using new Shell Spirax S6 GXME 75W80 oil. Forward induction was not removed to service gearbox. Verified waste gate actuator rigging. Ground ran engine, leak and ops check good. No defects noted at this time. Downloaded ECU engine log file and event recorder. All work completed in accordance with the Diamond DA 40 NG and Austro E4 Maintenance Manuals. -END

This engine is approved for return to service, for only the work performed.

Jose Ruiz P 4696534



ABSOLUTE AERO

MAINTENANCE

21889 Skywest Drive, Hayward, CA 94541 · 510 782-6591

ENGINE ENTRY

WORK ORDER: 4365 AIRCRAFT: N251LA TACH: 395.4 TSOH: N/A TTE: 395.4

DATE: 03/14/2024

MODEL: Austro E4-A S/N: E4-A-06283

C/W AD 2023-20-03 (Austro MSB-E4-039/1) "Oil analysis and piston replacement", engine is GROUP 1. Obtained oil sample and sent to Spectro Jet-Care for analysis, results pending. Next sample due Tach: 445.4.

C/W AD 2024-05-01 "crankshaft bearing cap screws replacement" (Austro MSB-E4-042/1) in accordance with Austro Work Instruction WI-MSB-E4-042/0. Submitted pre and post maintenance EECU live view data recordings to Diamond Aircraft Canada, reference Salesforce Case 00159941. Ground ran engine, leak and operational checks good. No defects noted at this time. All work completed in accordance with the Diamond DA 40 NG and Austro E4 Maintenance Manuals. -END

This engine is approved for return to service, for only the work performed.

Jesse Case A&P 3772878

Section 3A: Engine Service and Maintenance Log

Registration N251LA
 Make Austro
 Model E4-A
 Serial No. E4-A-06283
 Invoice No. 24-3136
 CRS# XGKR718T



Date June 24, 2024
 Hobbs 42.7
 TIS 428.6
 TT Engine 428.6

Description of Inspections, Tests, Repairs, and Alterations.

- 1 Performed Annual Inspection IAW Diamond DA40NG 100 hour Scheduled Maintenance Checklist.
- 2 Serviced Engine IAW Austro E4 Series Maintenance Manual Document No. E4.08.04 Rev 31, Oct 2022.
- 3 C/W Austro 100 hour inspection items.
- 4 Changed Engine Oil w/ 7 L Aeroshell Diesel Ultra 5W-30 engine oil.
- 5 Replaced Engine Oil Filter w/ new p/n E4A-52-100-802. Old filter insp. for contaminants- none found.
- 6 Performed EECU Fault Code and Read Out. Next due 528.6 TIS.
- 7 C/W Austro Gearbox Oil & Filter Inspection. Next due 528.6 TIS.
- 8 C/W AD 2023-20-03 Oil Analysis and Piston Replacement (Group 1) by Oil Analysis IAW Austro MSB-E4-039/3. Aluminum content within tolerance. Next due 478.6 TIS.
- 9 Performed an Engine Ground Test and Leak Check- OK.

I certify that this Engine has been inspected in accordance with an Annual inspection and found to be in airworthy condition.

Signature

CRS# XGKR718T

ENGINE MODEL EA-4
 ENGINE S/N
 REG NO N251LA
 WORK ORDER 10061-04-2025



Repair Station No 5TCR105B
 8891 North Airport Road
 2155 Missouri Avenue
 Blaine, MN 55449
 Phone 763-784-9165

DATE 4/11/2025
 A/C TSN 473 4
 ENG TT
 FLIGHTTIME 473 4

Engine Entries

Drained engine oil and remove engine oil filter
 Replaced oil filter and o-rings with new P/N HU615/3X (sold customer E4A-5200-KIT)
 Serviced engine with 7 quarts Aeroshell Diesel Ultra 5W30 Performed engine run and no leaks noted.

The aircraft, airframe engine, propeller, or appliance above was repaired and / or inspected in accordance with current regulations of the Federal Aviation Administration and is approved for return to service

DATE 4/11/2025

SIGNED

Randy Borgerding
 Certified Repair Station No 5TCR105B

Work Order: 10061-04-2025

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MODEL: Austro E4-A
S/N: E4-A-06283
REG. NO: N251LA
WORK ORDER: 10108-08-2025



Twin Cities Aviation, Inc.
8801 North Airport Road
Bangor: 2165 Missouri Avenue
Blaine, MN 55449

DATE: 03/18/2026
ENG TT: 494.00
ENG TSMOH: 494.00
Flight: 494.00

Engine Entries

Complied with a 100 hour/annual engine inspection and service referencing Diamond AMM chapter 5-28-00 and Austro E4 Series MM doc #E4.08.04, rev 31 chapter 5 Inspection Guides. AD's researched through 2026-5. AD and SB compliance as noted below. Inspection includes, but is not limited to: cleaned engine. Oil sample taken. Filter media examined. No discrepancies noted. Serviced with E4A-52-000 kit. Removed and replaced fuel filter w/ new p/n WK724_3 referencing AMM 28-20-00. Leak check satisfactory. Strained gearbox oil and inspected magnetic drain plug. No discrepancies noted. Inspected, then cleaned gearbox filter. No discrepancies noted. Reinstalled components and serviced the gearbox with Shell Spirax GSX 75W-80 referencing E4 MM - 85 Maintenance Procedures. Conducted coolant tank pressure relief valve test after cleaning it referencing AMM 75-00. CRV opened at 2.3 bar. Serviced and bled system with G48. Leak check satisfactory. Verified Wastegate Controller pressure setting referencing MM 81-2000 pp 5C. Actuation occurred at 2 bar within specification. Post ground run, ops and leak check satisfactory. Verified final fluid levels and installed engine cowling. I certify that I have inspected this aircraft IAW a 100 hr/annual inspection and it was determined to be airworthy with respect to work performed at this date and time. The following maintenance and/or discrepancies were addressed:

- C/W **AD 2023-09-09** (FAILURES OF SPOT-WELDED, MULTI-SEGMENT V-BAND COUPLINGS) by installation of new v-band clamp p/n D44-9081-26-03 IAW Diamond AMM 81-00-00 PG 204-208, next due at 973 FH.
- C/W **AD 2016-23-03** (TURBOCHARGER V-CLAMP MANUFACTURING DEFICIENCY) by replacement of v-band clamp with new p/n D44-9081-26-03. Next due @ 573.4 FH.
- C/W **AD 2023-20-03** (ENGINE OIL ANALYSIS). No discrepancies noted. Aluminum content 2 PPM. Next due at 544 hours TT.
- MSB-E4-044/0 - Flywheel Replacement does not apply to this aircraft (flywheel s/n 05889 installed).
- Removed gearbox P/N E4A-70-000-000 S/N 4630 and installed overhauled gearbox P/N E4A-70-000-000-APX S/N 3715. Filled gearbox with 2.3L SHELL Spirax S6 GXME 75W-80. Installed new gearbox oil filter P/N E4A-70-000-806. Work Performed IAW Austro Engines E4 series MM 85-10-00. No leaks noted.

The aircraft, airframe, engine, propeller, or appliance above was repaired and / or inspected in accordance with current regulations of the Federal Aviation Administration and is approved for return to service.

DATE: 03/18/2026

SIGNED:

Christian Klus
Repair Station No. STCR105B

WORK ORDER: 10108-08-2025

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ENC
ME or
O/ACA