

N649DA
LH
E4-000454

AIRCRAFT TECHNICAL RECORD

Section 3. ENGINE LOG

DESCRIPTION OF WORK PERFORMED

DATE	TIME	INITIALS	REMARKS

ENGINE DATA

- 1. Make Austro Engine
- 2. Model E4-C
- 3. Specification E00081EN
- 4. Manufacturer's Serial Number ~~42-N334~~ E4-C-00454
- 5. Date of Manufacture March 2018
- 6. Aircraft Inspection Cycle FAR 43 Appx. D / 100hr



Section 3A: Engine Service and Maintenance Log

DATE / /	TIME RUN		TIME SINCE OVERHAUL		CYCLES		DESCRIPTION OF WORK PERFORMED: (INSPECTION, REPAIRS, REPLACEMENT)
	HOURS	min	HOURS	min	Sub Total	TOTAL	
			31	08			



DIAMOND AIRCRAFT IND.
D.O.T. APPROVED MAINTENANCE
ORGANIZATION 161-93

Registration:	N649DA	AC Serial Number:	42.N334
Airframe Total Time:	31.08	Work Order:	SO 071857
Engine LH SN:	E4-C-00454	Engine LH TT:	31.08

- Engine E4-C, S/N: E4-C-00454, installed on Aircraft DA 42 S/N: 42.N334, LEFT
- Total Time Engine brought forward: 31.08 hrs
- EECU software installed: VC33_2_05_21
- Engine and documentation inspected for Major Mod's and/or STC's incorporated, none found.
- All applicable Airworthiness Directives, Service Bulletins complied with.
- AWD Bi-weekly checked thru 2018-13
- Refer to Austro MM E4.08.04, latest revision for component inspection/exchange intervals
- Next inspection due: 100 hr inspection

The Maintenance Done has been performed IAW the Applicable Standard of Airworthiness

ACA



Date: JUL 03 2018



EMBRY-RIDDLE
AERONAUTICAL UNIVERSITY

I certify that this **LEFT ENGINE-DA 42NG (N649DA)** has been inspected in accordance with an **Annual Inspection** and was found to be in an airworthy condition.
Time in Service: **97.8**

Took engine oil sample. Cut & inspected old oil filter. Changed oil & filter, serviced engine with AeroShell Aviation Diesel 5W-30 oil. Inspected gear box oil and filter. Replaced fuel filter. Performed post maint engine run-up for leak check, no leaks noted. Operational check good.

The aircraft, airframe, aircraft engine or appliance identified above was inspected and repaired in accordance with current regulations of the Federal Aviation Administration and is approved for return to service. Pertinent details of the repair/inspection are on file at the Repair Station under this work order: WO # **RMS 2018 04689** Date: **18 SEPT 2018**

Signed: *Steve Johnson* Repair Station N3XR816N.

A/C TOTAL TIME :	97.8
ENG TOTAL TIME :	97.8
ENG T.S.M.O.H. :	N/A
TACH TIME :	97.8
PROP T.S.M.O.H. :	N/A
PROP TOTAL TIME :	97.8

Steve Johnson	ERAU 9
N3XR816N	7601

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Section 3A: Engine Service and Maintenance Log

DATE / /	TIME RUN		TIME SINCE OVERHAUL		CYCLES		DESCRIPTION OF WORK PERFORMED: (INSPECTION, REPAIRS, REPLACEMENT)
	HOURS	min	HOURS	min	Sub Total	TOTAL	
BROUGHT FORWARD							



DIAMOND AIRCRAFT IND.
D.O.T. APPROVED MAINTENANCE
ORGANIZATION 161-93

Registration:	N649DA	AC Serial Number:	42 N334
Airframe Total Time:	171.5	Work Order:	SO 072010
Engine LH SN:	E4-C-00454	Engine RH SN:	E4-C-00455
Engine LH TT:	171.5	Engine RH TT:	171.5
Prop LH SN:	180211	Prop RH SN:	180214
Prop LH TT:	171.5	Prop RH TT:	171.5

LH Engine Routine Maintenance:

- o 200 hr Engine Inspection Carried out IAW DA 42NG AMM Ch 05, and Austro Engine MM E4.08.04
- o LH Air filter replaced with new
- o LH Engine, FWD / LH shock mount replaced with new

- o FAA Bi-Weekly AD Review, 2018-23 complied with
- o 2018-07-16 - Waste Gate - found CW
- o 2017-01-12 - NA due to engine installation
- o 2018-09-02 - AFM TR is incorporated into the current rev of AFM Timing Chain replacement, if required, due at 945Hrs ETT

I have carried out an independent inspection of the Flight controls/power plant controls affected by the work accomplished

ACA Date: **NOV 20 2018**

The Maintenance Described has been performed IAW the Applicable Standard of Airworthiness

ACA Date: **NOV 20 2018**



Date: 03/07/2019

Tach: 215.0

LH Engine S/N: E4P-C-00454

De-cowled engine and added about 4oz. Spirax S6 GXME 75W gearbox oil per Austro service manual instructions. Re-cowled engine and returned to service only for work performed.

A&P 3168048 JD Casteel



A/C Reg.#: N649DA

Left Engine TT: 215.0

N649AD S/N 42.N334 Left Engine S/N E4-C-454

Parkway Grand Prairie, TX 75052 (972)988-8609

Date: Nov 12, 2019 Tach: 267.4 Engine TT: 267.4 Performed a 300hr inspection in reference to FAR Part 43 appendix (d) and Austro E4C engine maintenance manual E4.08.04 Changed the oil and filter, obtained oil sample for analysis. Cut open the filter for inspection, no metal noted. Added 6 ltrs. of Shell Diesel Ultra. Researched for new A.D.'s through Biweekly 2019-23. Drained gear box strained oil, inspected for particles, inspected magnetic plug for metal and inspected filter and replaced with new filter, next due 567.4 TT Added 2 liters of Spirax S6 GXME 75W gear oil. Timing chain inspection due @ 1000hr TT. I certify that this engine has been inspected in accordance with a 300 hour inspection and was determined airworthy.

Steve O'Brien A&P3397718 IA

TOTALS

TOTALS
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ENGINE MODEL: AE300
ENGINE S/N (L): E4-C-00454
REG. NO: N649DA
WORK ORDER: 0128



Premier Aircraft Sales, Inc.

3804 Falcon Way W
Hangar 18S
Fort Worth, TX 76106
Phone: 562.881.5345

DATE: 7/23/2020
A/C TSN: 312.7
ENG TT (L): 312.7
HOBS: 0

Left Engine Entries

- Performed 300hr Injector Cover Zonal Inspection.
- Performed 300hr Alternator Inspection.

DATE: 7/23/2020

SIGNED:

Chad Cox, License: AP3782800

Work Order: 0128

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ENGINE MODEL: AE300
ENGINE S/N (L): E4-C-00454
REG. NO: N649DA
WORK ORDER: 0165



Premier Aircraft Service, Inc.

3804 Falcon Way W
Hangar 18S
Fort Worth, TX 76106
Phone: 562.881.5345

DATE: 9/4/2020
A/C TSN: 362.3
ENG TT (L): 362.3
HOBS: 77.5

Left Engine Entries

- Performed 100 Hour Inspection using DA42NG AMM as a guide.
- Changed oil and filter. Serviced engine with Aeroshell Diesel Ultra.

DATE: 9/4/2020

SIGNED:

Chad Cox, License: AP3782800

Work Order: 0165

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ENGINE MODEL: AE300
ENGINE S/N (L): E4-C-00454
REG. NO: N649DA
WORK ORDER: 0152



Premier Aircraft Service, Inc.

3804 Falcon Way W
Hangar 18S
Fort Worth, TX 76106
Phone: 562.881.5345

DATE: 12/3/2020
A/C TSN: 434.1
ENG TT (L): 434.1
FLIGHTTIME: 434.1

Left Engine Entries

- Replaced injector cover with new E4A-53-000-101
- MSB-E4-026 Inspected engine harness

DATE: 12/3/2020

SIGNED:

Chad Cox, License: AP3782800

Work Order: 0152

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ENGINE MODEL: AE300
ENGINE S/N (L): E4-C-00454
REG. NO: N649DA
WORK ORDER: 0223



Premier Aircraft Service, Inc.

3804 Falcon Way W
Hangar 18S
Fort Worth, TX 76106
Phone: 562.881.5345

DATE: 12/3/2020
A/C TSN: 434.1
ENG TT (L): 434.1
HOBS: 183.9

Left Engine Entries

- Performed 100 Hour Inspection using DA42NG AMM as a guide.
- Changed oil and filter. Serviced engine with Aeroshell Diesel Ultra.

I certify this engine has been inspected IAW an Annual Inspection and was determined to be in airworthy condition.

DATE: 12/3/2020

SIGNED:

David Seastead, License: AP3492477 IA

Work Order: 0223

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Section 3A: Engine Service and Maintenance Log

ENGINE MODEL: AE300
ENGINE S/N (L): E4-C-00454
REG. NO: N649DA
WORK ORDER: 0267



Premier Aircraft Service, Inc.

3804 Falcon Way W
Hangar 18S
Fort Worth, TX 76106
Phone: 562.881.5345

DATE: 2/12/2021
A/C TSN: 529.7
ENG TT (L): 529.7
HOBBBS: 324.5

Left Engine Entries

- Performed 100 Hour Inspection using DA42NG AMM as a guide
- Changed oil and filter. Serviced engine with Aeroshell Diesel Ultra
- Inspected gearbox chip collector
- Replaced turbo oil supply banjo bolt crush gaskets

I certify this engine has been inspected IAW a 100 Hour Inspection and was determined to be in airworthy condition.

DATE: 2/12/2021

SIGNED:

David Seastead, License: AP3492477 IA

Work Order: 0267

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ENGINE MODEL: AE300
ENGINE S/N (L): E4-C-00454
REG. NO: N649DA
WORK ORDER: 0300



Premier Aircraft Service, Inc.

3804 Falcon Way W
Hangar 18S
Fort Worth, TX 76106
Phone: 562.881.5345

DATE: 4/2/2021
A/C TSN: 619.4
ENG TT (L): 619.4
HOBBBS: 461.9

Left Engine Entries

- Performed 100 Hour Inspection using DA42NG AMM as a guide
- Changed oil and filter. Serviced engine with Aeroshell Diesel Ultra
- Inspected gearbox chip collector

DATE: 4/2/2021

SIGNED:

David Seastead, License: AP3492477 IA

Work Order: 0300

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ENGINE MODEL: AE300
ENGINE S/N (L): E4-C-00454
REG. NO: N649DA
WORK ORDER: 0346



Premier Aircraft Service, Inc.

3804 Falcon Way W
Hangar 18S
Fort Worth, TX 76106
Phone: 562.881.5345

DATE: 6/7/2021
A/C TSN: 715.8
ENG TT (L): 715.8
HOBBBS: 598.5

Left Engine Entries

- Performed 100 Hour Inspection using DA42 AMM as a guide
- Changed oil and filter. Serviced engine with Aeroshell Diesel Ultra
- Performed 300hr gearbox oil and filter replacement
- Performed 300hr injector cover zonal inspection
- Performed 300hr alternator inspection
- Performed 600hr TVD inspection
- Performed 600hr coolant change
- Replaced crank seal
- Replaced gearbox input shaft seal

I certify this engine has been inspected IAW a 100 Hour Inspection and was determined to be in airworthy condition.

DATE: 6/7/2021

SIGNED:

Chad Cox, License: AP3782800 IA

Work Order: 0346

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ENGINE MODEL: AE300
ENGINE S/N (L): E4-C-00454
REG. NO: N649DA
WORK ORDER: 0353



Premier Aircraft Service, Inc.

3804 Falcon Way W
Hangar 18S
Fort Worth, TX 76106
Phone: 562.881.5345

DATE: 6/17/2021
A/C TSN: 742.4
ENG TT (L): 742.4
HOBBBS: 635.5

Left Engine Entries

- Replaced HPP with new E4A-30-000-BHY S/N 21-02-08-02-00017

DATE: 6/17/2021

SIGNED:

Chad Cox, License: AP3782800 IA

Work Order: 0353

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ENGINE MODEL: AE300
ENGINE S/N (L): E4-C-00454
REG. NO: N649DA
WORK ORDER: 0392



Premier Aircraft Service, Inc.

3804 Falcon Way W
Hangar 18S
Fort Worth, TX 76106
Phone: 562.881.5345

DATE: 7/29/2021
A/C TSN: 794.9
ENG TT (L): 794.9
HOBBS: 708.1

Left Engine Entries

- Performed 100 Hour Inspection using DA42NG AMM as a guide
- Changed oil and filter. Serviced engine with Aeroshell Diesel Ultra
- Inspected gearbox chip collector

I certify this engine has been inspected IAW a 100 Hour Inspection and was determined to be in airworthy condition.

DATE: 7/29/2021

SIGNED:

Chad Cox, License: AP3782800 IA

Work Order: 0392

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ENGINE MODEL: AE300
ENGINE S/N (L): E4-C-00454
REG. NO: N649DA
WORK ORDER: 0410



Premier Aircraft Service, Inc.

3804 Falcon Way W
Hangar 18S
Fort Worth, TX 76106
Phone: 562.881.5345

DATE: 9/15/2021
A/C TSN: 892.2
ENG TT (L): 892.2
FLIGHTTIME: 892.2

Left Engine Entries

- MSB-E4-034 Replaced HPP spur gear with new E4A-30-000-201 S/N 2576
- MSB-E4-034/2 - Ran engine and reinspected new HPP gear
- MSB-E4-035 N/A by P/N

DATE: 9/15/2021

SIGNED:

Chad Cox, License: AP3782800 IA

Work Order: 0410

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ENGINE MODEL: AE300
ENGINE S/N (L): E4-C-00454
REG. NO: N649DA
WORK ORDER: 0418



Premier Aircraft Service, Inc.

3804 Falcon Way W
Hangar 18S
Fort Worth, TX 76106
Phone: 562.881.5345

DATE: 9/15/2021
A/C TSN: 892.2
ENG TT (L): 892.2
HOBBS: 847.8

Left Engine Entries

- Performed 100 Hour Inspection using DA42NG AMM as a guide
- Changed oil and filter. Serviced engine with Aeroshell Diesel Ultra
- Inspected gearbox chip collector
- Replaced injectors
- Serviced coolant
- MSB-E4-029/1 - installed BPA restrictor
- Replaced combisensor o-ring
- Replaced turbo supply line gaskets

I certify this engine has been inspected IAW a 100 Hour Inspection and was determined to be in airworthy condition.

DATE: 9/15/2021

SIGNED:

Chad Cox, License: AP3782800 IA

Work Order: 0418

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Make: Diamond
Model: DA42NG
S/N: 42.N334
REG NO: N649DA



Diamond Fleet & Aviation services LLC
5070 S. Collins suite 205,
Arlington, TX 76018
Phone: 817-575-7828

Date: 12/3/2021
Hobbs: 998.7
A/C TSN: 992.0
left engine TT: 992.0

Left engine

- Performed 100 hour inspection using DA42NG AMM as a guide
- Changed oil (serviced with aeroshell Diesel Ultra) and changed oil filter
- Inspected gearbox chip collector. No metal particles found
- Changed gearbox oil (serviced with shell Spirax S6 GXME 75W-80)
- Need alternator inspection at 1015.8hr
- Need timing chain inspection at 1000hr
- All AD's complied with current BI-week

I certify this engine has been inspected IAW a 100 hour inspection and was determined to be in an airworthy condition.

Date: 12/3/2021

SIGNED:
Austin Paden, A&P:4494928

Section 3A: Engine Service and Maintenance Log

ENGINE MODEL: AE300
ENGINE S/N (L): E4-C-00454
REG NO: N649DA
WORK ORDER: 0491



Premier Aircraft Service, Inc.

3804 Falcon Way W
Hangar 18S
Fort Worth, TX 76106
Phone: 562.881.5345

DATE: 12/8/2021
A/C TSN: 992.1
ENG TT (L): 992.1
HOBBS: 1000

Left Engine Entries

- Performed 1000hr timing chain inspection
- Changed coolant G48
- Changed gearbox oil and filter
- Performed injector cover 300hr zonal inspection
- Performed alternator 300hr inspection. Replaced brush pack
- ADs current to biweekly revision 2021-25

DATE: 12/8/2021

SIGNED:
David Seastead, License: AP3492477 IA

Work Order: 0491

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wo: N649DA - 2022.01.17 Unscheduled

Engine - page 1 of 1



Diamond Fleet & Aviation Service - 5070 S. Collins S. Suite 205 - Arlington, TX 76018 - 9012474808

N649DA
TACH: 1046.2

January 17, 2022

- LH Engine Starter Intermittently Engages** - Removed starter (P/N E4A-93-000-000; BN UNK) and replaced with new-serviceable starter (P/N E4A-93-000-000; BN RC2105852(1)) IAW AE-E4-EMM current revision Installed P/N E4A-93-000-000 - Starter, Austro Engine , S/N: RC2105852 (1).

With respect to the work performed, this engine is approved for return to service. Details of work performed are on file with Diamond Fleet & Aviation Service under work order: N649DA - 2022.01.17 Unscheduled.

Austin Paden A/P 4494928

wo: N649DA 2022.02.28 Scheduled

Engine L - page 1 of 1



Diamond Fleet & Aviation Service - 5070 S. Collins S. Suite 205 - Arlington, TX 76018 - 9012474808

N649DA
TACH: 1083.4

AUSTRO, E4-C, S/N: E4-C-00454
TTSN: 1083.4 SMOH: 1083.4

March 04, 2022

- 100 Hour Progressive Inspection - L Engine** - Performed 100hr Inspection using DA42NG AMM as a guide. Removed oil filter E4A-52-000-KIT and replaced with new-serviceable oil filter P/N: E4A-52-000-KIT. Changed engine oil used (Aeroshell Diesel Ultra 5W30). Inspected gearbox oil magnetic drain plug and gearbox oil filter.

With respect to the work performed, this engine has been found in an airworthy condition and is approved for return to service. Details of work performed are on file with Diamond Fleet & Aviation Service under work order: N649DA 2022.02.28 Scheduled.

Austin Paden A/P 4494928

Complies with all current Bi-week AD's AP

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Diamond Fleet & Aviation Service - 5070 S. Collins S. Suite 205 - Arlington, TX 76018 - 9012474808

ENCE:
AE or
D/ACA

N649DA
TACH: 1160.6

AUSTRO, E4-C, S/N: E4-C-00454
TTSN: 1160.6 SMOH: 1160.6

June 01, 2022

1. **L/H Engine Overspeed and Gearbox Freewheeling during takeoff.** – Inspection determined Two-Mass Flywheel and Gearbox failure. Removed L/H Engine Gearbox (p/n E4A-70-000-000 s/n 2647) and installed overhauled-serviceable gearbox (p/n E4A-700-000-000-OCX s/n 2812). Removed two-mass flywheel (p/n E4A-73-000-000-KIT s/n 02255) and installed new-serviceable kit (p/n E4B-73-000-000-KIT s/n 06026). Replacement TBO of two-mass flywheel & gearbox due at 2960.6 ACTT. Inspection and follow-on maintenance performed IAW DA42NG AMM & AE300 EMM current revisions. Ops/leak check ok.
2. **L/H 900 Hour Water Pump Inspection** – Completed IAW AE300 EMM Current Revision. Next due @ 2060.6 ACTT.
3. **L/H 1200 Hour Flywheel & Hub Inspection** – Completed In Conjunction with Overspeed Inspection. Next Hub Inspection due @ 1760.6 ACTT
4. **L/H 300 Hour Engine Inspection** – Inspection completed using AE300 EMM as a guide. Next due @ 1460.6 ACTT
5. **100 Hour Inspection** – 100 Hour Inspection Completed IAW AE300 EMM current revision. Drained and serviced engine oil with 7qts Aeroshell Diesel Ultra 5w30, removed, inspected, and replaced engine oil filter (p/n E4A-52-000-KIT), no defects noted. Replacement gearbox serviced with 3qts Shell Spirax 75w-90 gear oil. Ground run/ops check ok. Next due @ 1260.6 ACTT

With respect to the work performed, this engine has been found in an airworthy condition and is approved for return to service. Details of work performed are on file with Diamond Fleet & Aviation Service under work order: N649DA 2022.05.09 Scheduled.

Michael Smith A/P 3906663