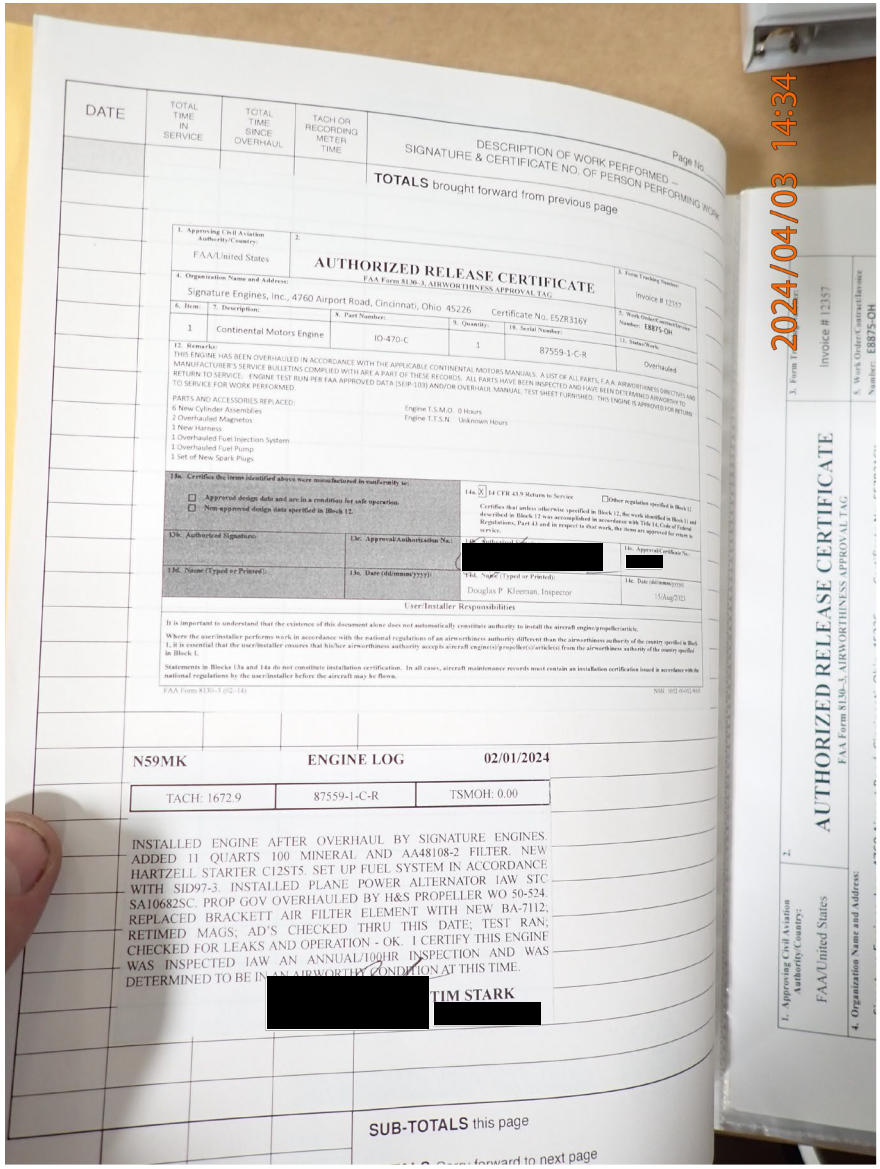
NTSB | National Transportation Safety Board

ERA24LA139

MAINTENANCE LOG EXCERPTS



DATE | TOTAL TIME IN SERVICE | TOTAL TIME SINCE OVERHAUL | TACH OR RECORDING METER TIME | DESCRIPTION OF WORK PERFORMED — SIGNATURE & CERTIFICATE NO. OF PERSON PERFORMING WORK | Page No.

TOTALS brought forward from previous page

1. Approving Civil Aviation Authority/Country: FAA/United States

2. AUTHORIZED RELEASE CERTIFICATE
FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG

3. Form Tracking Number: Invoice # 12357

4. Organization Name and Address: Signature Engines, Inc., 4760 Airport Road, Cincinnati, Ohio 45226 Certificate No.: E5ZR316Y

5. Work Order/Contract/Invoice Number: E8875-OH

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:
1	Continental Motors Engine	IO-470-C	1	87559-1-C-R	Overhauled

12. Remarks:
THIS ENGINE HAS BEEN OVERHAULED IN ACCORDANCE WITH THE APPLICABLE CONTINENTAL MOTORS MANUALS. A LIST OF ALL PARTS, F.A.A. AIRWORTHINESS DIRECTIVES AND MANUFACTURER'S SERVICE BULLETINS COMPLIED WITH ARE A PART OF THESE RECORDS. ALL PARTS HAVE BEEN INSPECTED AND HAVE BEEN DETERMINED AIRWORTHY TO RETURN TO SERVICE. ENGINE TEST RUN PER FAA APPROVED DATA (SEIP-103) AND/OR OVERHAUL MANUAL. TEST SHEET FURNISHED. THIS ENGINE IS APPROVED FOR RETURN TO SERVICE FOR WORK PERFORMED.

PARTS AND ACCESSORIES REPLACED:
6 New Cylinder Assemblies
2 Overhauled Magnetos
1 New Harness
1 Overhauled Fuel Injection System
1 Overhauled Fuel Pump
1 Set of New Spark Plugs

Engine T.S.M.O: 0 Hours
Engine T.T.S.N: Unknown Hours

13a. Certifies the items identified above were manufactured in conformity to:
☐ Approved design data and are in a condition for safe operation.
☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12
Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, Part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:
13c. Approval/Authorization No.:
[redacted]
14b. Authorized Signature:
14c. Approval/Authorization No.: [redacted]
13d. Name (Typed or Printed):
13e. Date (dd/mmm/yyyy):
14d. Name (Typed or Printed): Douglas P. Kleeman, Inspector
14e. Date (dd/mmm/yyyy): 15/Aug/2023

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1.

Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

FAA Form 8130-3 (02-14) NSN: 0052-00-052-4011

N59MK ENGINE LOG 02/01/2024

TACH: 1672.9	87559-1-C-R	TSMOH: 0.00

INSTALLED ENGINE AFTER OVERHAUL BY SIGNATURE ENGINES. ADDED 11 QUARTS 100 MINERAL AND AA48108-2 FILTER. NEW HARTZELL STARTER C12ST5. SET UP FUEL SYSTEM IN ACCORDANCE WITH SID97-3. INSTALLED PLANE POWER ALTERNATOR IAW STC SA10682SC. PROP GOV OVERHAULED BY H&S PROPELLER WO 50-524. REPLACED BRACKETT AIR FILTER ELEMENT WITH NEW BA-7112; RETIMED MAGS; AD'S CHECKED THRU THIS DATE; TEST RAN; CHECKED FOR LEAKS AND OPERATION - OK. I CERTIFY THIS ENGINE WAS INSPECTED IAW AN ANNUAL/100HR INSPECTION AND WAS DETERMINED TO BE IN AN AIRWORTHY CONDITION AT THIS TIME.

[redacted] TIM STARK [redacted]

SUB-TOTALS this page

forward to next page

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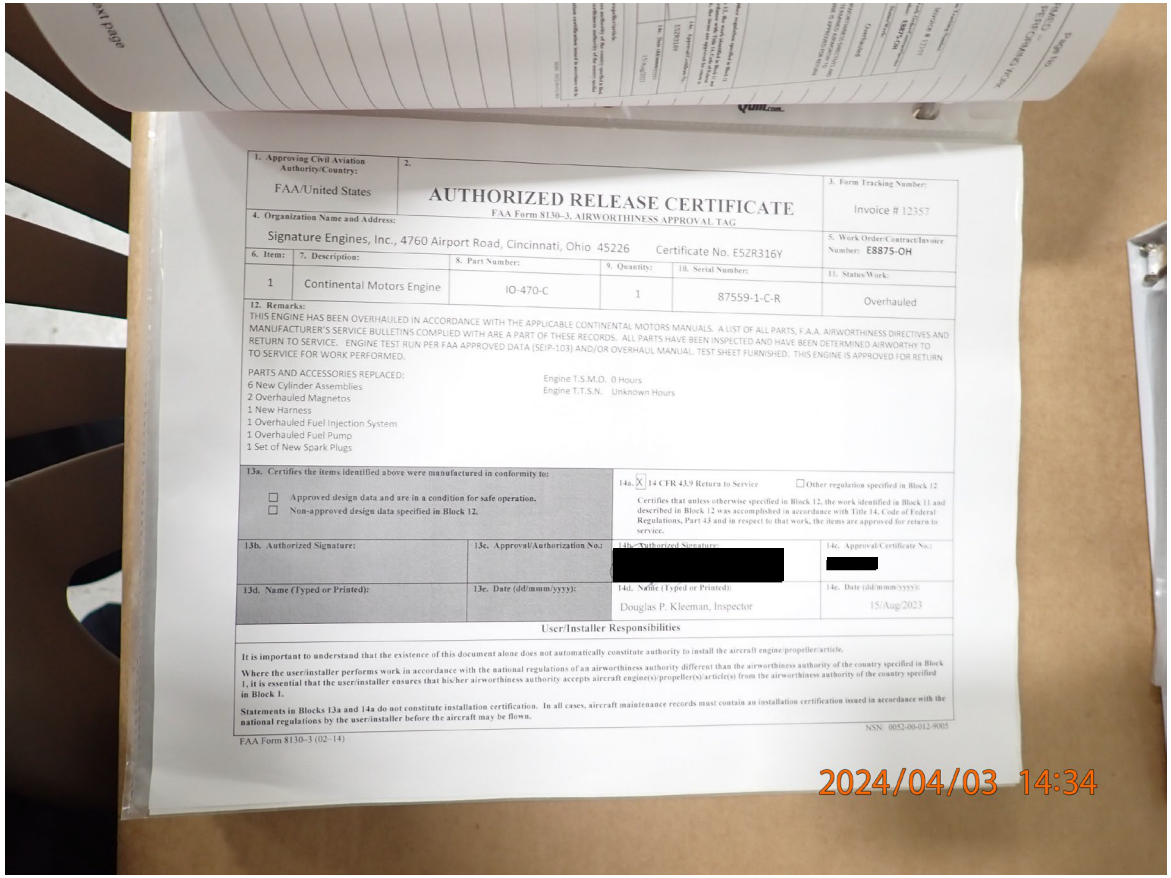
Photograph 1 – Engine Installation Logbook Entry



1. Approving Civil Aviation Authority/Country: FAA/United States

2. **AUTHORIZED RELEASE CERTIFICATE**
FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG

3. Form Tracking Number: Invoice # 12357

4. Organization Name and Address: Signature Engines, Inc., 4760 Airport Road, Cincinnati, Ohio 45226 Certificate No. E5ZR316Y

5. Work Order/Contract/Invoice Number: E8875-OH

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:
1	Continental Motors Engine	IO-470-C	1	87559-1-C-R	Overhauled

12. Remarks:
THIS ENGINE HAS BEEN OVERHAULED IN ACCORDANCE WITH THE APPLICABLE CONTINENTAL MOTORS MANUALS. A LIST OF ALL PARTS, F.A.A. AIRWORTHINESS DIRECTIVES AND MANUFACTURER'S SERVICE BULLETINS COMPLIED WITH ARE A PART OF THESE RECORDS. ALL PARTS HAVE BEEN INSPECTED AND HAVE BEEN DETERMINED AIRWORTHY TO RETURN TO SERVICE. ENGINE TEST RUN PER FAA APPROVED DATA (SEIP-103) AND/OR OVERHAUL MANUAL. TEST SHEET FURNISHED. THIS ENGINE IS APPROVED FOR RETURN TO SERVICE FOR WORK PERFORMED.

PARTS AND ACCESSORIES REPLACED:
6 New Cylinder Assemblies
2 Overhauled Magnetos
1 New Harness
1 Overhauled Fuel Injection System
1 Overhauled Fuel Pump
1 Set of New Spark Plugs

Engine T.S.M.O. 0 Hours
Engine T.T.S.N. Unknown Hours

13a. Certifies the items identified above were manufactured in conformity to:
☐ Approved design data and are in a condition for safe operation.
☐ Non-approved design data specified in Block 12.

14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12
Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, Part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature: 13c. Approval/Authorization No.: 14b. Authorized Signature: [redacted] 14c. Approval/Certificate No.: [redacted]

13d. Name (Typed or Printed): 13e. Date (dd/mmm/yyyy): 14d. Name (Typed or Printed): Douglas P. Kleeman, Inspector 14e. Date (dd/mmm/yyyy): 15/Aug/2023

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.

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FAA Form 8130-3 (02-14) NSN: 0052-00-012-9005

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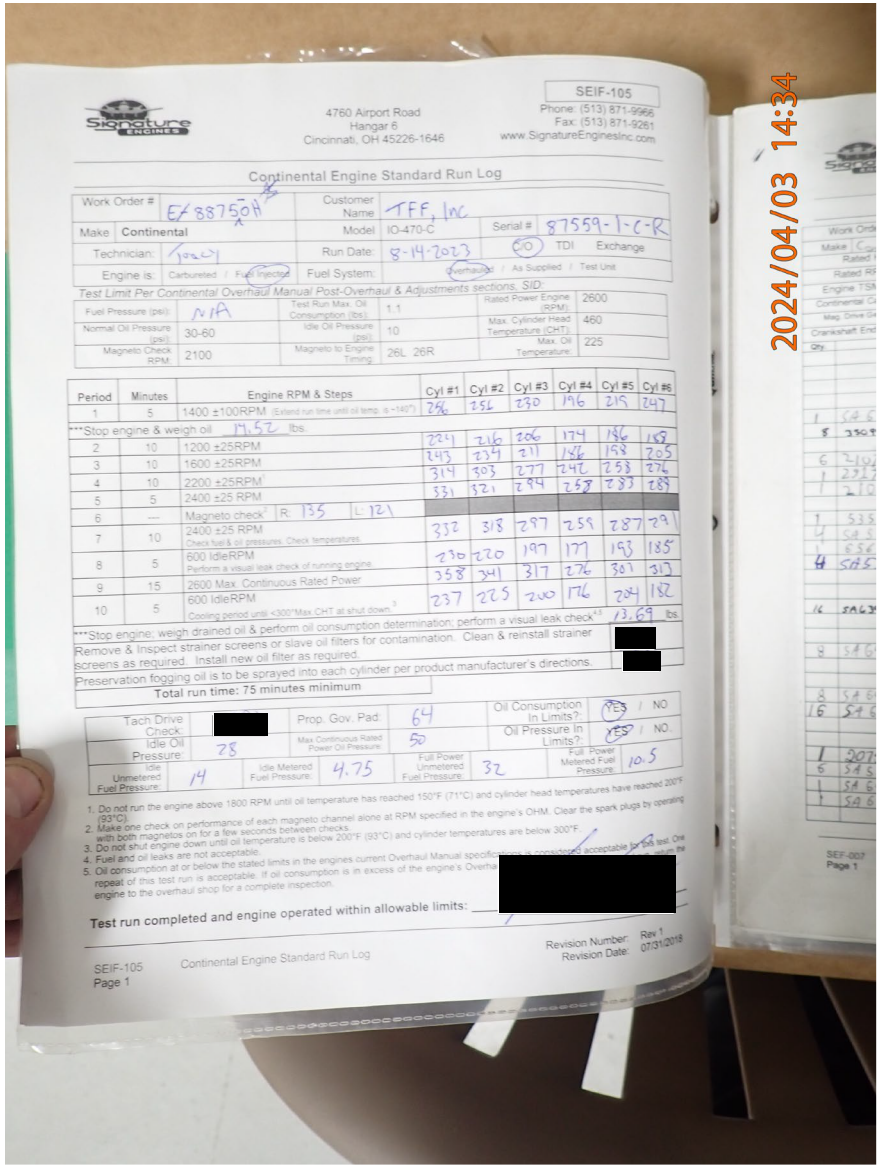
Photograph 2 – Overhaul FAA Form 8130



SEIF-105

Signature Engines

4760 Airport Road
Hangar 6
Cincinnati, OH 45226-1646

Phone: (513) 871-9966
Fax: (513) 871-9261
www.SignatureEnginesInc.com

Continental Engine Standard Run Log

Work Order #	E/88750H	Customer Name	TFF, Inc		
Make	Continental	Model	IO-470-C	Serial #	87559-1-C-R
Technician:	Joacy	Run Date:	8-14-2023	S/O TDI	Exchange
Engine is:	Carbureted / Fuel Injected	Fuel System:	Overhauled / As Supplied / Test Unit		

Test Limit Per Continental Overhaul Manual Post-Overhaul & Adjustments sections, SID:

Fuel Pressure (psi):	N/A	Test Run Max. Oil Consumption (lbs):	1.1	Rated Power Engine (RPM):	2600
Normal Oil Pressure (psi):	30-60	Idle Oil Pressure (psi):	10	Max. Cylinder Head Temperature (CHT):	460
Magneto Check RPM:	2100	Magneto to Engine Timing:	26L 26R	Max. Oil Temperature:	225

Period	Minutes	Engine RPM & Steps	Cyl #1	Cyl #2	Cyl #3	Cyl #4	Cyl #5	Cyl #6
1	5	1400 ±100RPM (Extend run time until oil temp. is ~140°)	256	256	230	196	219	247
***Stop engine & weigh oil 14.52 lbs.								
2	10	1200 ±25RPM	224	216	206	174	186	188
3	10	1600 ±25RPM	243	234	211	186	198	205
4	10	2200 ±25RPM	314	303	277	242	258	276
5	5	2400 ±25 RPM	331	321	294	258	283	289
6	---	Magneto check[2] R: 135 L: 121						
7	10	2400 ±25 RPM Check fuel & oil pressures. Check temperatures.	332	318	297	259	287	291
8	5	600 IdleRPM Perform a visual leak check of running engine.	230	220	197	177	193	185
9	15	2600 Max. Continuous Rated Power	358	341	317	276	301	313
10	5	600 IdleRPM Cooling period until <300°Max.CHT at shut down.[3]	237	225	200	176	204	182

***Stop engine; weigh drained oil & perform oil consumption determination; perform a visual leak check[4,5] 13.69 lbs.

Remove & Inspect strainer screens or slave oil filters for contamination. Clean & reinstall strainer screens as required. Install new oil filter as required. [redacted]

Preservation fogging oil is to be sprayed into each cylinder per product manufacturer's directions. [redacted]

Total run time: 75 minutes minimum

Tach Drive Check:	[redacted]	Prop. Gov. Pad:	64	Oil Consumption In Limits?:	YES / NO
Idle Oil Pressure:	28	Max Continuous Rated Power Oil Pressure:	50	Oil Pressure In Limits?:	YES / NO.
Idle Unmetered Fuel Pressure:	14	Idle Metered Fuel Pressure:	4.75	Full Power Unmetered Fuel Pressure:	32
Full Power Metered Fuel Pressure:	10.5				

1. Do not run the engine above 1800 RPM until oil temperature has reached 150°F (71°C) and cylinder head temperatures have reached 200°F (93°C).
2. Make one check on performance of each magneto channel alone at RPM specified in the engine's OHM. Clear the spark plugs by operating with both magnetos on for a few seconds between checks.
3. Do not shut engine down until oil temperature is below 200°F (93°C) and cylinder temperatures are below 300°F.
4. Fuel and oil leaks are not acceptable.
5. Oil consumption at or below the stated limits in the engines current Overhaul Manual specifications is considered acceptable for this test. One repeat of this test run is acceptable. If oil consumption is in excess of the engine's Overhaul [redacted] engine to the overhaul shop for a complete inspection.

Test run completed and engine operated within allowable limits: [redacted]

SEIF-105 Page 1 Continental Engine Standard Run Log Revision Number: Rev 1 Revision Date: 07/31/2018

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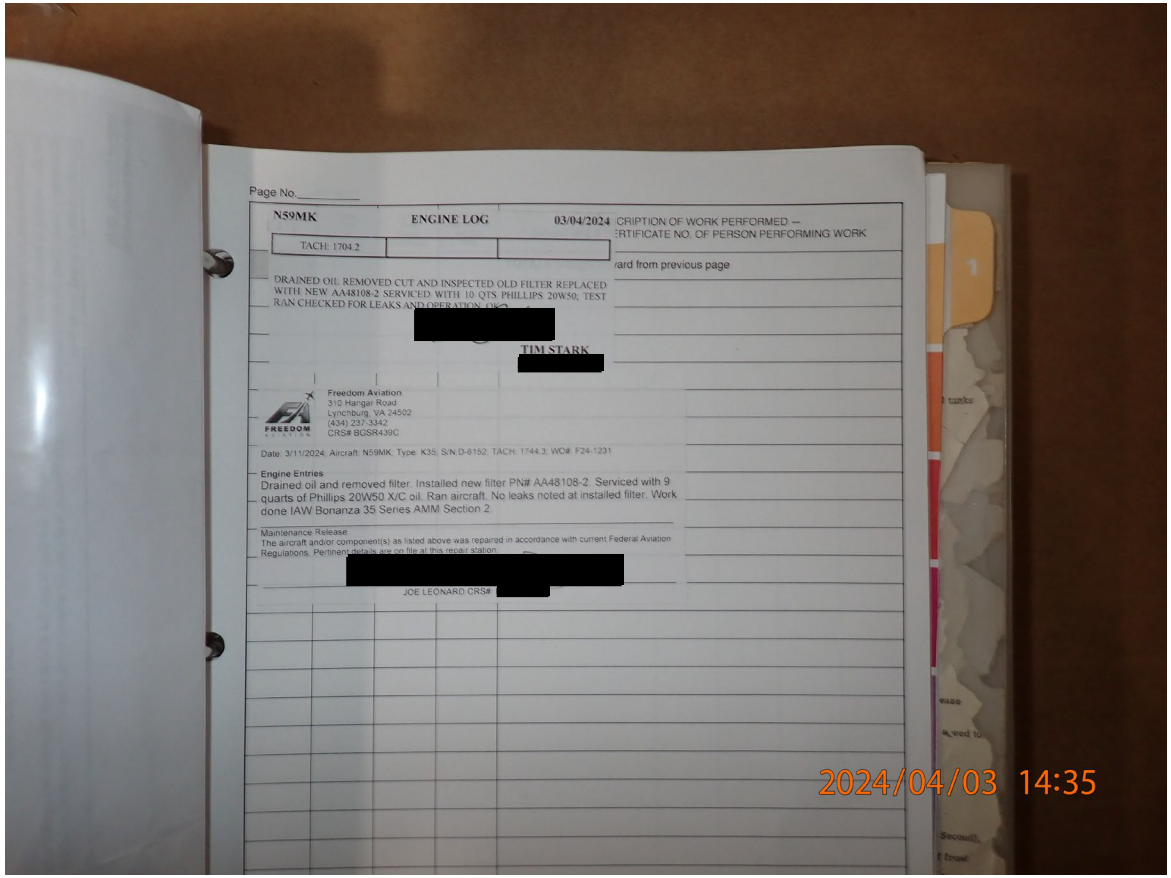
Photograph 3 – Engine Test Run at Overhaul



Photograph 4 – Last Engine Logbook Entries