



Continental Motors

ENGINE FIELD INSPECTION REPORT

ENGINE MODEL	O470R
ENGINE SERIAL NUMBER	900508-OH (NOTE: This serial # is not in CMI's serial database)
AIRCRAFT MAKE & MODEL	Cessna 182E
AIRCRAFT SERIAL NUMBER	18253762
AIRCRAFT REGISTRATION	N9362X
FILE NUMBER	16-551

NAME	SIGNATURE	DATE
Mike Council		5-12-2017

ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 2 of 23

GENERAL INFORMATION

EXAMINATION		ACCIDENT DATA	
DATE	4-26-2017	NTSB ACCIDENT #	ANC17LA020
FACILITY	Above Alaska Aviation, LLC	NTSB INVESTIGATOR	Noreen Price, NTSB IIC, Alaska Region
ADDRESS	[REDACTED] Talkeetna, AK 99676	FAA INVESTIGATOR	James Grogan, FAA Inspector, Anchorage FSDO
		ACCIDENT DATE	4-15-201
		ACCIDENT LOCATION	Willow, Alaska

ENGINE INFORMATION

ENGINE POSITION	Single
TOTAL TIME	Undetermined. Logbook entry excerpts available did not reference total time in service
TIME SOH	388.75 calculated from logbook entry excerpts
TYPE & TIME SLI--	Annual (100 hour inspection) 82.35 hours prior to accident
BUILD DATE	Undetermined. Serial number on engine data plate is not in CMI's database
IN SERVICE DATE	Undetermined

Significant logbook information:

N9362X S/N:53762
DATE: 04.23.16
TACH: 1748.3

- REMOVED, INSPECTED, REPLACED OIL FILTER
- DRAINED OIL AND FILLED WITH 12 QT AEROSHELL 100.
- REPLACED VACUUM FILTER WITH NEW.
- REPLACED LEFT EXHAUST COLLECTOR WITH REPAIRED UNIT FA DODGE W/O 88512
- REPAIRED CARB HEAT BOX BY REPLACING TOP SKIN CPN: 0750144-28
- REPLACED AIR FILTER ELEMENT WITH NEW BA8103
- REPLACED GASCOLATOR QD WITH NEW CAV-110
- ELT GROUND TESTED-OK. ELT BATTERY EXPIRES: APRIL 2017
- ALL AD LISTED AND COMPLIED WITH.

I CERTIFY THAT THIS AIRFRAME, ENGINE, AND PROP HAS BEEN INSPECTED IN ACCORDANCE WITH AN ANNUAL INSPECTION AND WAS DETERMINED TO BE IN AIR WORTHY CONDITION.

[REDACTED] IA [REDACTED] A&P

SIGNATURE & LICENSE #

15.16 - C/W 50 hours, oil change and filter inspection
1798.3 [REDACTED] A&P

ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 3 of 23

Report Summary:

Search Code(s):

Examination of the engine was performed by the CMI Investigator under supervision of the NTSB Investigator and FAA Inspector. The inspection of this engine did not reveal any pre-impact anomalies that would have prevented its ability to produce rated horsepower.

Disposition of engine following exam:

The engine and airframe wreckage remains at *ABOVE ALASKA, LLC*. Talkeetna, Alaska until released by the NTSB IIC.

INSPECTION WITNESSES

NAME	Mike Council	NAME	Noreen Price, IIC
ADDRESS	[REDACTED] Mobile, Alabama	ADDRESS	Alaska Region
ORGANIZATION	Continental Motors	ORGANIZATION	NTSB
PHO-N-E	[REDACTED]	PHONE	[REDACTED]
NAME	James Grogan	NAME	
ADDRESS	Anchorage FSDO (Wasilla Branch Office)	ADDRESS	
ORGANIZATION	FAA	ORGANIZATION	
PHONE	[REDACTED]	PHONE	

ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

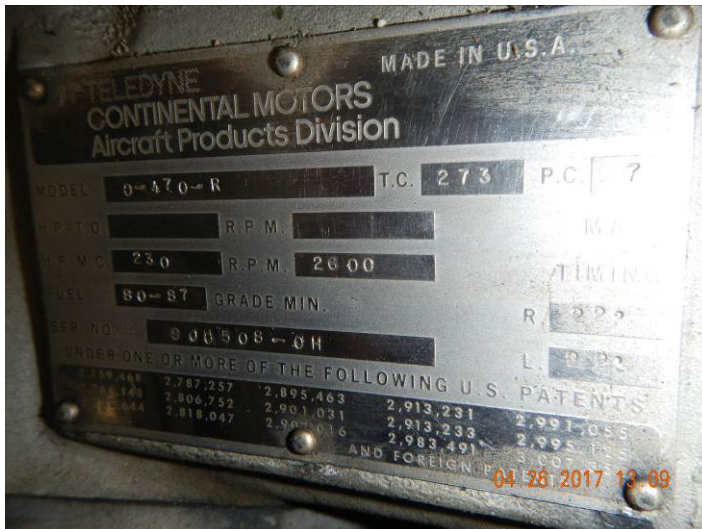
ENGINE S/N:

900508-OH

PAGE 4 of 23

EXTERNAL INSPECTION OF ENGINE

An examination of the engine indicated that the engine, engine accessories and individual components were intact except for the right forward and right rear engine mounts which were impact damaged. Red arrow depicts broken right-forward engine mount.



ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 5 of 23



ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 6 of 23

ENGINE AND COMPONENT EXAMINATION

EXHAUST SYSTEM

Condition:

The exhaust collectors exhibited upward bending damage due to impact forces which forced the muffler upward. The muffler was disassembled and no internal failure was evident. Red arrows point to collector outlet area where bending was evident. The muffler heat shield was removed and the muffler inspected. No defects were found. The flame cone was intact and the exhaust path was open. The tail pipe was impact damaged.



ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 7 of 23



ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 8 of 23

INDUCTION SYSTEM

Condition:

All intake tube elbows were intact and the forward balance tube assembly exhibited minor impact damages. See red arrows. The forward balance tube was pushed rearward into the intake hose on the right, forward side due to impact forces. All intake hose clamps exhibited a small amount of silicone at the screw head.



ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 9 of 23

IGNITION SYSTEM

LEFT MAGNETO

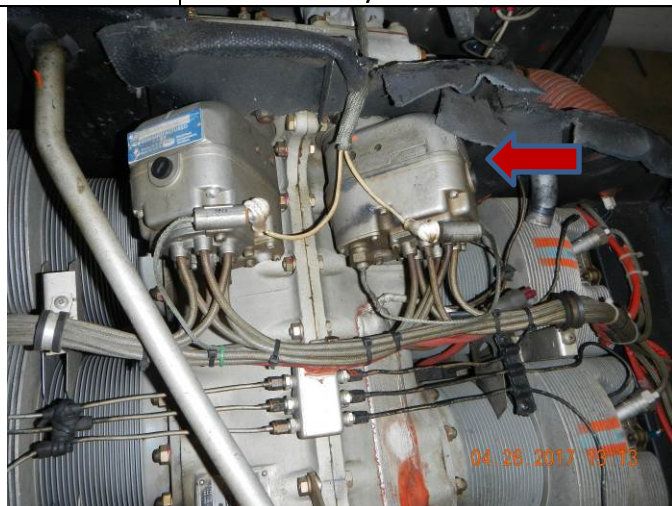
Manufacturer: Bendix

P/N: 10-79020-10

S/N: 898254

Condition:

The magneto was intact and produced spark at appropriate ignition lead when the engine was manually rotated.



RIGHT MAGNETO

Manufacturer: Bendix

P/N: 10-79020-10

S/N: 8141018

Condition:

The magneto was intact and produced spark at appropriate ignition lead when the engine was manually rotated.



IGNITION HARNESS

Manufacturer: Undetermined

P/N: Undetermined

S/N: Undetermined

Condition:

The ignition harness was not damaged and functioned properly when the engine was manually rotated.

ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 10 of 23

SPARK PLUGS

Manufacturer: (top) Champion
(bottom) Autolite

P/N: Champion: RHM40E
Autolite: URHM40E

Condition:

The top sparkplugs were removed and examined. When compared to a Champion Aviation "Check A Plug" chart, each sparkplug condition resembled "normal worn out" with normal coloration. The bottom sparkplugs were removed and examined. All bottom sparkplugs appeared "normal" in wear and coloration except for the sparkplugs removed from cylinders 5 and 6 which were oil contaminated.



ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 11 of 23



ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 12 of 23

FUEL SYSTEM

FUEL PUMP	Manufacturer: NA	P/N: NA	S/N: NA
Condition:	No engine driven fuel pump is installed or required on this engine installation.		
CARBURETOR	Manufacturer: Marvel Schebler-Borg Warner Corp.	P/N: 10-4893-1	S/N: 8D-23-7576
Condition:	The carburetor exhibited no damage. All engine controls operated normally and control attachments for throttle and mixture were secured correctly. The fuel inlet finger screen was uncontaminated. The accelerator pump operated normally when the throttle arm was manually actuated. The carburetor was disassembled and examined. The plastic float assembly appeared normal and operated the needle correctly. No contamination was discovered inside the float chamber. The main jet and master orifice was removed and found to be uncontaminated.		



ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 13 of 23



ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

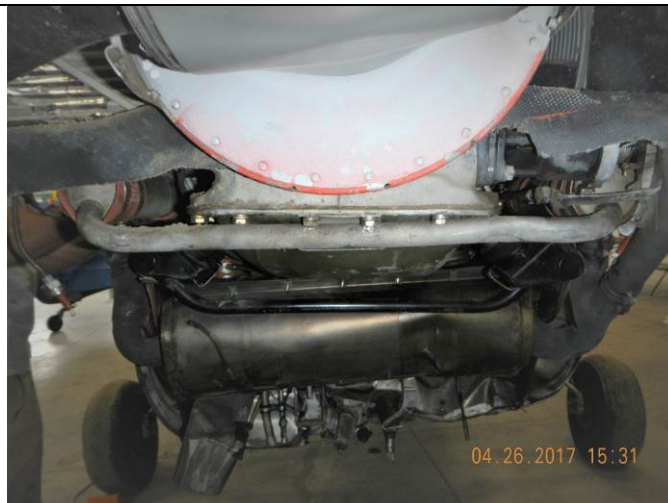
PAGE 14 of 23

LUBRICATION SYSTEM

OIL SUMP

Condition:

The oil sump was undamaged. The oil sump drain plug and quick-drain valve were intact and secured properly.



OIL FILTER

Manufacturer: Tempest

P/N: AA48110-2

Condition:

The oil filter was installed and secured correctly. The filter was removed and opened to inspect for contamination. The oil was dark in color but did not contain visible metal particles. The paper filter medium had traces of carbon but no metal contamination.



ENGINE FIELD INSPECTION REPORT

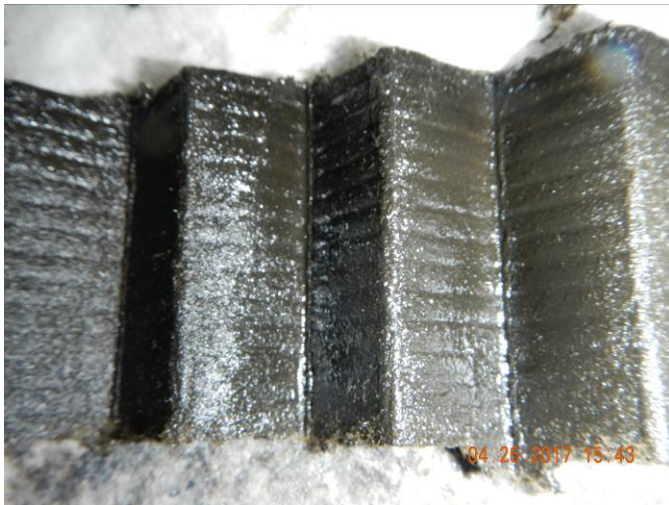
FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 15 of 23



OIL COOLER

Manufacturer: Undetermined
Serviced by Pacific Oil Cooler Service.

P/N: Undetermined

S/N: Undetermined

Condition:

The exterior of the oil cooler was contaminated with dirt but undamaged. A strip of foil tape was installed at a 45 degree angle under the brace on the front radiator coils.



ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 16 of 23

CYLINDERS

NOTE: All cylinders were ECI-Brand aftermarket cylinders

CYLINDER #1	P/N: AEC65385	S/N: G845G	Head Date: Undetermined
Work Orders:	Undetermined		
Condition:	Thumb compression was achieved by manually rotating engine. A lighted borescope inspection revealed normal combustion signatures on valve faces. All rocker arms moved correctly and valve springs were intact.		



CYLINDER #3	P/N: AEC65385	S/N: G835H	Head Date: Undetermined
Work Orders:	Undetermined		
Condition:	Thumb compression was achieved by manually rotating engine. A lighted borescope inspection revealed normal combustion signatures on valve faces. All rocker arms moved correctly and valve springs were intact.		



ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 17 of 23

CYLINDER #5

P/N: AEC65385

S/N: H6599H

Head Date: Undetermined

Work Orders:

Undetermined

Condition:

Thumb compression was achieved by manually rotating engine. A lighted borescope inspection revealed normal combustion signatures on valve faces. All rocker arms moved correctly and valve springs were intact.



CYLINDER #2

P/N: AEC65385

S/N: 844G

Head Date: Undetermined

Work Orders:

Undetermined

Condition:

Thumb compression was achieved by manually rotating engine. A lighted borescope inspection revealed normal combustion signatures on valve faces. All rocker arms moved correctly and valve springs were intact.



ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 18 of 23

CYLINDER #4

P/N: AEC65385

S/N: H6583H

Head Date: Undetermined

Work Orders:

Undetermined

Condition:

Thumb compression was achieved by manually rotating engine. A lighted borescope inspection revealed normal combustion signatures on valve faces. All rocker arms moved correctly and valve springs were intact.



CYLINDER #6

P/N: AEC65385

S/N: G845G

Head Date: Undetermined

Work Orders:

Undetermined

Condition:

Thumb compression was achieved by manually rotating engine. A lighted borescope inspection revealed normal combustion signatures on valve faces. All rocker arms moved correctly and valve springs were intact.



ENGINE FIELD INSPECTION REPORT**FILE NUMBER:**

16-551

ENGINE S/N:

900508-OH

PAGE 19 of 23**CRANKCASE ASSEMBLY**

CRANKCASE	Casting Number:	1-3-5: Undetermined	2-4-6: Undetermined	S/N: Undetermined
Condition:	The crankcase did not exhibit damage.			

**CRANKSHAFT ASSEMBLY**

CRANKSHAFT	Forging Number: Undetermined	S/N: Undetermined	Heat code: Undetermined
Condition:	Crankshaft continuity was established by manually rotating the damaged propeller. Magneto impulse couplings audibly snapped and valve action was confirmed.		

ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 20 of 23

ACCESSORIES

STARTER

Manufacturer: Delco-Remy

P/N: 629176

S/N: I7269

Condition:

The starter motor was missing a dust cap but otherwise did not exhibit any damage.



ALT/GEN #1

Manufacturer: Delco-Remy

M/N: 1101915

S/N: 50A5199

Condition:

The generator did not exhibit damage.



VACUUM PUMP	Manufacturer: Edo-Aire	P/N: G455	S/N: 48582
Condition:	The “wet type” vacuum pump did not exhibit damage. The pump was not tested for operation.		



ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 22 of 23

PROPELLER

PROPELLER GOVERNOR

Manufacturer: Undetermined

P/N: Undetermined

S/N: Undetermined

Condition:

The propeller governor did not exhibit damage. The propeller control cable was intact and the propeller control arm articulated properly.



PROPELLER

Manufacturer: McCauley

M/N: 2A36C29AEG

S/N: 611500

Blade 1 S/N:

Undetermined

Blade 2 S/N:

Undetermined

Description
-Condition:

The propeller was a McCauley two blade, constant speed propeller controlled by an engine driven propeller governor. The propeller spinner was impact damaged and exhibited rotational damage. Each blade was marked with a letter "A" or "B" for photo identification. Blade "A" exhibited torsional twisting along its blade length beginning approximately 10 inches outboard of the blade root with scoring and scratching of the cambered face and leading edge at the blade tip. Blade "B" exhibited torsional twisting along its blade length beginning approximately 8 inches outboard of the blade root with scoring and scratching of the cambered face and leading edge at the blade tip. Blade "B" was loose and could be rotated within the hub.

ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

16-551

ENGINE S/N:

900508-OH

PAGE 23 of 23

