



Continental Motors

ENGINE FIELD INSPECTION REPORT

ENGINE MODEL	O-470-S(1B)
ENGINE SERIAL NUMBER	269415
AIRCRAFT MAKE & MODEL	Cessna 182P
AIRCRAFT SERIAL NUMBER	18265143
AIRCRAFT REGISTRATION	N7352S
FILE NUMBER	16-604

NAME	SIGNATURE	DATE
Mike Council		6-22-2017

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GENERAL INFORMATION

EXAMINATION		ACCIDENT DATA	
DATE	6-15-2017	NTSB ACCIDENT #	WPR17LAL106
FACILITY	Plain Parts	NTSB INVESTIGATOR	Tealeye Cornejo-NTSB IIC (Non-Traveling)
ADDRESS	[REDACTED] Pleasant Grove, CA 95668	FAA INVESTIGATOR	Joe Mitchell, FAA Inspector, Sacramento FSDO
		ACCIDENT DATE	5-19-2017
		ACCIDENT LOCATION	Redding, CA

ENGINE INFORMATION

ENGINE POSITION	Single
TOTAL TIME	Undermined as of this date. No maintenance logs were available
TIME SOH	300+ according to the FAA FSDO Inspector
TYPE & TIME SLI	Undetermined as of this date. No maintenance logs were available
BUILD DATE	1-16-1997
IN SERVICE DATE	Undetermined

Significant logbook information:

No maintenance logbooks were available at the recovery examination.

Report Summary:

Search Code(s):

The inspection of this engine did not reveal any pre-impact anomalies which would have prevented its ability to produce rated horsepower.

Disposition of engine following exam: The engine will remain in the care, custody and control of Plain Parts until released by the NTSB IIC.

INSPECTION WITNESSES

NAME	Mike Council	NAME	Joe Mitchell
ADDRESS	[REDACTED], Mobile, Alabama	ADDRESS	[REDACTED] Sacramento, CA 95831
ORGANIZATION	Continental Motors	ORGANIZATION	FAA Inspector, Sacramento FSDO
PHONE	[REDACTED]	PHONE	[REDACTED]

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EXTERNAL INSPECTION OF ENGINE

The engine cowling was removed to allow access to the engine and accessory components. All engine components were accounted for and only minor impact damage was noted.

The right and left exhaust collectors were impact damaged. The right exhaust collector was semi-separated at the muffler attachment clamp. The muffler heat outer heat shield exhibited minor impact damage.

The induction forward balance tube assembly exhibited minor impact damage. The carburetor separated due to impact forces at the rear manifold riser assembly (wye induction pipe). The carburetor remained attached to the carburetor attachment flange and control cables. The carburetor assembly exhibited only minor impact damage.

The outboard lower corner of the engine oil cooler exhibited impact damage. The oil filler cap remained attached but received impact damage. The spin on type oil filter exhibited impact damage.

The engine starting motor separated from the starter adapter. The starter adapter was impact damage at the starter attachment flange.

The crankshaft propeller flange separated due to impact forces. The propeller separated and retained the crankshaft propeller flange.



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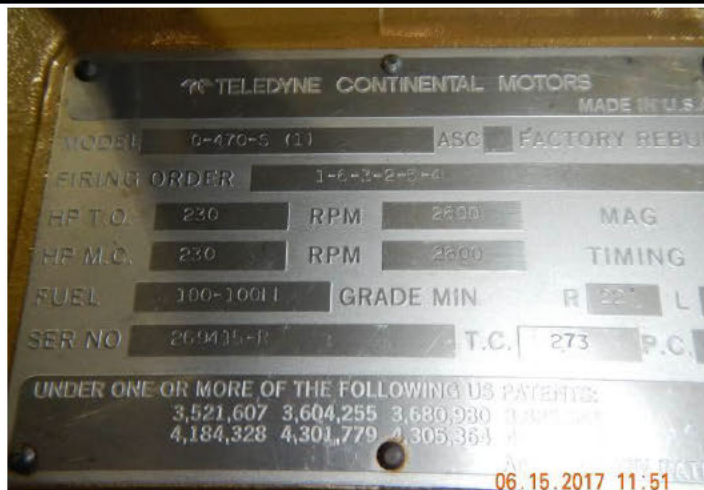
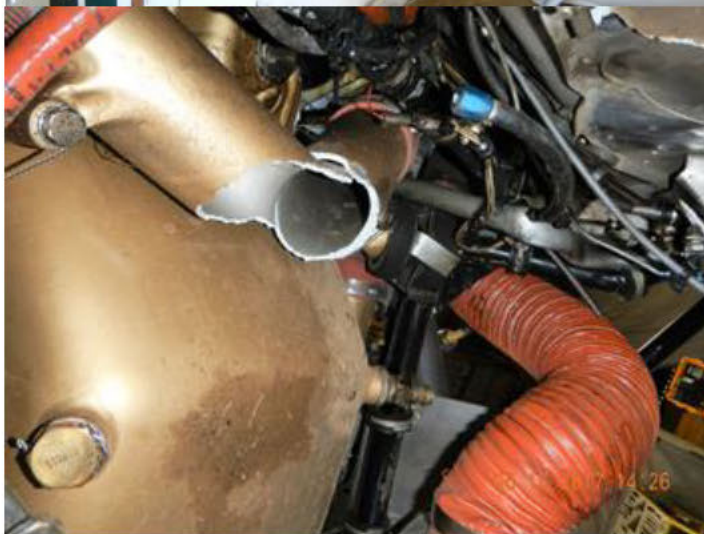
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ENGINE AND COMPONENT EXAMINATION

EXHAUST SYSTEM

Condition:

The muffler received minor impact damage. The right and left exhaust collectors were impact damaged. The right exhaust collector was semi-separated at the muffler attachment clamp. The damaged right exhaust collector was cut away to facilitate examination of the muffler. The muffler internal flame cone/exhaust tube was intact and there was no obstruction inside the muffler.



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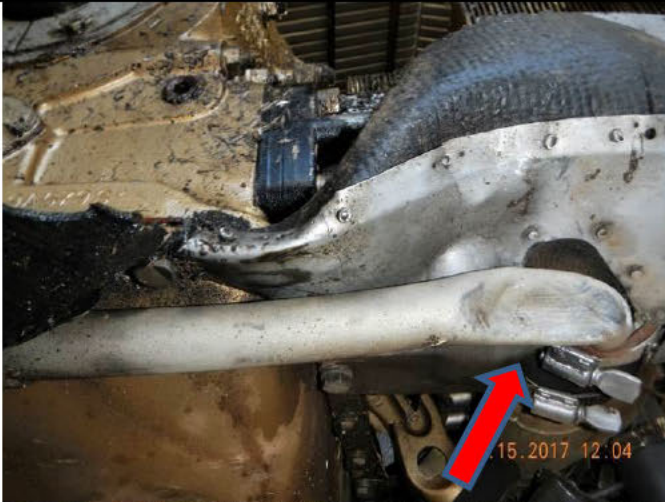
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INDUCTION SYSTEM

Condition:

The induction system was intact except for minor impact damage to the forward balance tube assembly (see red arrow) and a separation of the carburetor due to impact damage at the rear manifold riser assembly (wye induction pipe). The outboard portion of the induction filter was contaminated with dirt. The filter element was removed and inspected.



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IGNITION SYSTEM

LEFT MAGNETO

Manufacturer: TCM
Overhauled by: Unknown

P/N: 10-349350-4

S/N:1039628ER

Condition:

The magneto did not exhibit any physical damage. The magneto produced spark when the crankshaft was manually rotated and the impulse coupling produced an audible snap.



RIGHT MAGNETO

Manufacturer: TCM
Overhauled by: Unknown

P/N: 10-349350-5

S/N: 139826FR

Condition:

The magneto did not exhibit any physical damage. The magneto produced spark when the crankshaft was manually rotated and the impulse coupling produced an audible snap.



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IGNITION HARNESS

Manufacturer: CMI

P/N: 10-423684-1

S/N:
Undetermined

Condition:

The ignition harness did not exhibit damage and operated normally when the crankshaft was manually rotated and the ignition system continuity was confirmed.



SPARK PLUGS

Manufacturer:

Champion/Tempest *

NOTE: All sparkplugs were Champion brand except upper # 3 which was a Tempest brand.

P/N: RHM32E/*URHM32E

Condition:

When compared to a Champion Check-A-Plug chart, the condition of the sparkplugs was worn-out to worn-out normal. Coloration and combustion deposits were normal.



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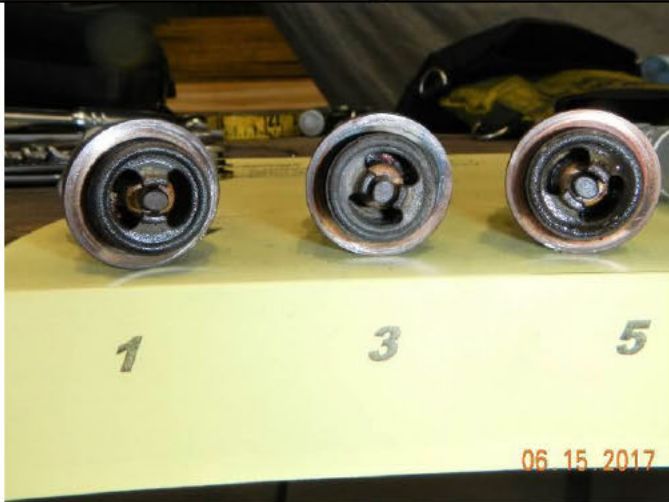
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FUEL SYSTEM

FUEL PUMP

Manufacturer: NA

P/N: NA

S/N: NA

Condition:

No engine driven fuel pump is utilized with this engine/airframe combination.

CARBURETOR

Manufacturer:

Precision/Marvel-Schebler
Aircraft Carburetors, LLC

P/N: 10-4893-1

M/N: MA-4-5

S/N: MS651705

Condition:

All control cables were secured properly and continuity of cockpit control cables was confirmed. The accelerator pump did not expel fuel when the throttle arm was articulated. No fuel or contamination was present in the carburetor bowl. The float assembly was intact and functioned properly when moved manually; however the bracket that holds the floats was twisted. It is not clear if the twist resulted in float/bowl contact.



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LUBRICATION SYSTEM

OIL SUMP

Condition:

The oil sump received only minor impact damage. The quick drain valve was intact. The oil rod indicated only a small amount of oil was contained in the oil sump.



OIL FILTER

Manufacturer: Champion

P/N: CH48110-1

Condition:

The oil filter received impact damaged. The filter was cut and the paper filter pleats exhibited a small amount of ferrous metal when a magnet was used to check for contaminants.



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OIL COOLER

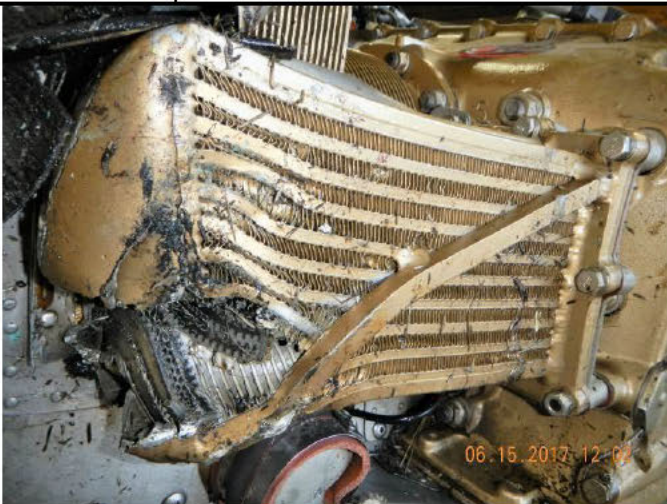
Manufacturer: Niagara
Development & Mfg. Co.

P/N: 20442A

S/N: K96-1964-201

Condition:

The oil cooler received impact damage.



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CYLINDERS

CYLINDER #1



CYLINDER #3



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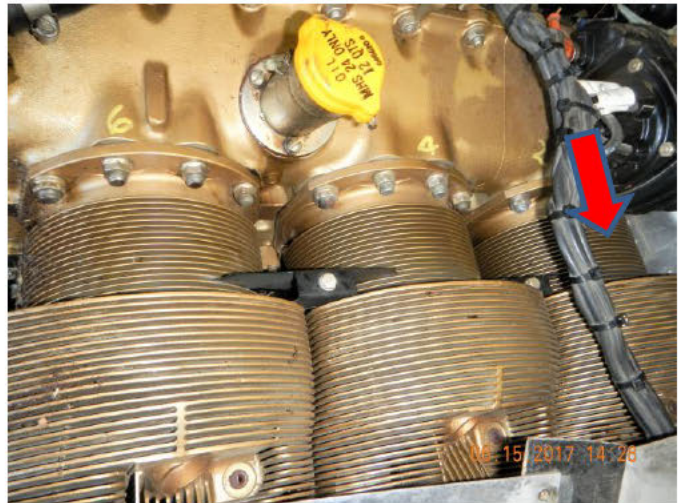
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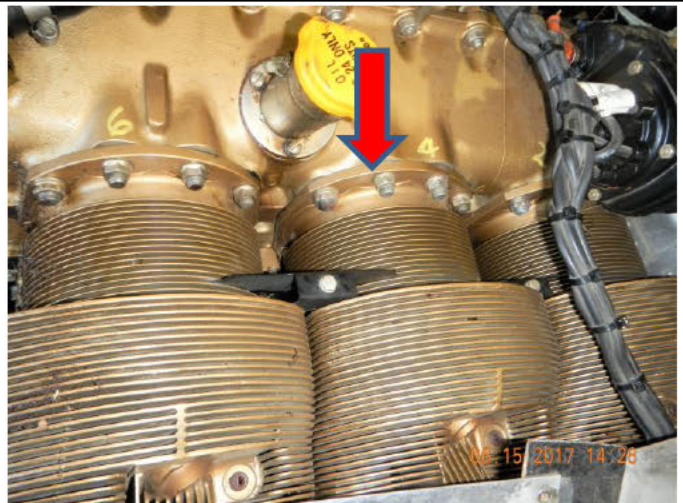
CYLINDER #5



CYLINDER #2



CYLINDER #4



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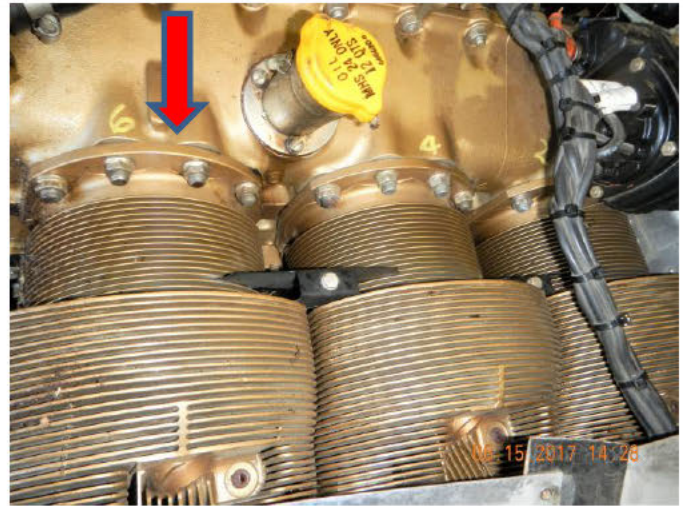
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CYLINDER #6



VALVES

Condition:

Each cylinder was inspected with a lighted electronic borescope. All intake and exhaust valves were intact and exhibited normal coloration and combustion signatures.

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CRANKCASE ASSEMBLY

CRANKCASE

W/O
Number:

1-3-5: WDC58727

2-4-6: WDC58727

S/N: 9A579S

Condition:

No visible damage was exhibited



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CRANKSHAFT ASSEMBLY

CRANKSHAFT

Condition:

The crankshaft propeller flange separated due to impact forces. The propeller separated and retained the crankshaft propeller flange. Crankshaft/camshaft continuity was confirmed by manually rotating the crankshaft and witnessing magneto and valve function.



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ACCESSORIES

STARTER

Manufacturer: Hartzell

P/N: 646238-2R

S/N: H-M051581

Condition:

The starter motor exhibited impact damage at the cable terminal lug. See red arrow.



STARTER ADAPTER

P/N: Undetermined

Condition:

The starter adapter exhibited impact damage at the starter motor mount.



ALTERNATOR

Manufacturer: Ford
Overhauled by: Aerotech

P/N: DOFF10300J

S/N: A216063

Condition:

No damage was noted

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**VACUUM
PUMP**

Manufacturer: Rapco

P/N: RA216CW

S/N: 820893

Condition:

The pump case exhibited impact damage.



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PROPELLER

PROPELLER GOVERNOR	Manufacturer: McCauley	M/N: C290D3-J/T1	S/N: 762500
Condition:	The propeller governor was contaminated with dirt from the accident site but did not exhibit physical damage.		



PROPELLER	Manufacturer: McCauley	P/N: 2A34C203C	S/N:160546
Blade 1 S/N:	Undetermined		
Blade 2 S/N:	Undetermined		
Condition:	The propeller spinner was impact damaged but did not exhibit rotation crushing. The spinner was removed and the propeller was examined. Red dye was present on the propeller hub. The propeller blades were marked using the letter "A" or "B" for photo identification. Blade A exhibited only minor impact damage to the painted surfaces and leading edges. Otherwise, blade A appeared to be undamaged. Blade B exhibited a smooth rearward orientation possibly due to damage inside the propeller hub allowing movement of the blade inside the hub. The blade seal was displaced where blade B enters the propeller hub. Beginning at approximately 8" outboard of the propeller hub, blade B begins a smooth forward bend ending approximately 22" outboard of the blade root. Light diagonal cordwise scratches appeared in the paint on the cambered surface of blade B.		

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