




# Continental Motors

## ENGINE FIELD INSPECTION REPORT RIGHT ENGINE

|                        |             |
|------------------------|-------------|
| ENGINE MODEL           | IO470D (19) |
| ENGINE SERIAL NUMBER   | 79315-0-D   |
| AIRCRAFT MAKE & MODEL  | Cessna 310F |
| AIRCRAFT SERIAL NUMBER | 310-0070    |
| AIRCRAFT REGISTRATION  | N6770X      |
| CMI FILE NUMBER        | 15-562      |

| NAME         | SIGNATURE  | DATE      |
|--------------|--|-----------|
| Mike Council |  | 10-7-2016 |

**ENGINE FIELD INSPECTION REPORT****FILE NUMBER:**

15-562

**ENGINE S/N:**

79315

**PAGE 2 of 38****GENERAL INFORMATION**

| <b>EXAMINATION</b> |  | <b>ACCIDENT DATA</b>     |                                   |
|--------------------|--|--------------------------|-----------------------------------|
| <b>DATE</b>        | 5-7-2016   | <b>NTSB ACCIDENT #</b>   | CEN16FA172                        |
| <b>FACILITY</b>    | Pulaski Technical College-A&P School                                       | <b>NTSB INVESTIGATOR</b> | Todd Fox                          |
| <b>ADDRESS</b>     | [REDACTED]<br>North Little Rock Municipal Airport<br>North Little Rock, AR | <b>FAA INVESTIGATOR</b>  | Brian Love                        |
|                    |  | <b>ACCIDENT DATE</b>     | 5-5-2016                          |
|                    |  | <b>ACCIDENT LOCATION</b> | North Little Rock Municipal (ORK) |

**ENGINE INFORMATION**

|                               |   |
|-------------------------------|---|
| <b>ENGINE POSITION</b>        | Right   |
| <b>TOTAL TIME</b>             | 5836.6 according to logbook entry dated 5-1-2016 at last annual inspection. |
| <b>TIME SOH</b>               | 1634.6 according to logbook entry dated 5-1-2016 at last annual inspection. |
| <b>TYPE &amp; TIME SLI</b>    | Annual Inspection dated 5-1-2016  |
| <b>ORIGINAL SHIPPING DATE</b> | 11-28-1960  |
| <b>IN SERVICE DATE</b>        | 5-28-1961 (assumed)   |

**ENGINE FIELD INSPECTION REPORT**

|                     |        |                    |       |                     |
|---------------------|--------|--------------------|-------|---------------------|
| <b>FILE NUMBER:</b> | 15-562 | <b>ENGINE S/N:</b> | 79315 | <b>PAGE 3 of 38</b> |
|---------------------|--------|--------------------|-------|---------------------|

**Significant logbook information:**

|        |        |        |        |   |
|--------|--------|--------|--------|---|
| 1MAY16 | 5836.6 | 1634.6 | 1039.0 | Drained oil, removed and inspected oil filter<br>Installed new AA 48110-2 filter and 12 quarts Aeroshell 100. Removed<br>cleaned, gapped, inspected and tested all spark plugs all ok re-installed.<br>Serviced fuel strainer Replaced air filter IAW Brackett STL with BA2305<br>Test run engine no leaks noted at this time and performs normally → |
|        |        |        |        | SUB-TOTALS this page  |
|        |        |        |        | TOTALS—Carry forward to next page   |

I certify this engine has been  
 Complied with AD 72-14-08R1 by pressurizing system no leak  
 Complied with AD 96-12-22 by observing torque putty seal un brok  
 Both ADs due at next Annual or 100hour inspection (1139 hours)  
 All work was performed IAW Manufacturer's Maintenance Manual  
 I certify this engine has been inspected IAW 14CFR 43 appendix  
 D, and is in a safe condition for continued flight. [REDACTED]  
 AIF [REDACTED]

**Report Summary:**

Search Code(s):

This engine was disassembled and inspected under the supervision of the NTSB IIC. 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:**

Disposition of engine following exam:

The engine will be stored at AMF Aircraft Recovery until released by the NTSB IIC

**ENGINE FIELD INSPECTION REPORT****FILE NUMBER:**

15-562

**ENGINE S/N:**

79315

**PAGE 4 of 38****INSPECTION WITNESSES**

|                     |                                      |                     |                                     |
|---------------------|--------------------------------------|---------------------|-------------------------------------|
| <b>NAME</b>         | Mike Council                         | <b>NAME</b>         | Todd Fox                            |
| <b>ADDRESS</b>      | ██████████<br>Mobile, Alabama 36615  | <b>ADDRESS</b>      | Central Region                      |
| <b>ORGANIZATION</b> | Continental Motors                   | <b>ORGANIZATION</b> | NTSB                                |
| <b>PHONE</b>        | ██████████                           | <b>PHONE</b>        | ██████████                          |
| <b>NAME</b>         | Ricardo Asensio                      | <b>NAME</b>         | Brian Love                          |
| <b>ADDRESS</b>      | ██████████<br>Wichita, KS 67215      | <b>ADDRESS</b>      | ██████████<br>Little Rock, AR 72202 |
| <b>ORGANIZATION</b> | Textron Aviation                     | <b>ORGANIZATION</b> | FAA Little Rock FSDO                |
| <b>PHONE</b>        | ██████████                           | <b>PHONE</b>        | ██████████                          |
| <b>NAME</b>         | R.J. Loomis, Jr.                     | <b>NAME</b>         |                                     |
| <b>ADDRESS</b>      | Southwest Region Little<br>Rock FSDO | <b>ADDRESS</b>      |                                     |
| <b>ORGANIZATION</b> | FAA                                  | <b>ORGANIZATION</b> |                                     |
| <b>PHONE</b>        | ██████████                           | <b>PHONE</b>        |                                     |

**EXTERNAL INSPECTION OF ENGINE**

The damaged engine cowling was removed to gain access to the engine and components.

Both left and right exhaust components exhibited impact damage. Both right and left induction tubes and elbows remained intact with the exception of the left and right rear wye pipes which separated. The forward induction balance tube was impact damaged.

The engine oil sump exhibited damage consistent with impact damage. The spin on type oil filter received impact damage but remained attached. The oil filter security safety wire was incorrectly installed to pull toward a loosening position.

The rear of the engine exhibited thermal damage due to a post impact fire. The engine driven fuel pump remained attached but the fuel inlet nipple separated due to impact forces.

The pulley extending from the starter adapter which drives the belt driven generator was broken and the belt separated.

A cold differential cylinder compression test was performed with the following results:

#1 66/80      #2 50/80      #3 55/80      #4 60/80      #5 40/80      #6 70/80



# ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

15-562

ENGINE S/N:

79315

PAGE 5 of 38





**ENGINE FIELD INSPECTION REPORT**

**FILE NUMBER:**

15-562

**ENGINE S/N:**

79315

**PAGE 6 of 38**



# ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

15-562

ENGINE S/N:

79315

PAGE 7 of 38

## ENGINE TEARDOWN AND COMPONENT EXAMINATION

### EXHAUST SYSTEM

Condition: The exhaust collector was crushed and the rear collector pipe was twisted and bent due to impact forces. Red arrows point to damage.



### INDUCTION SYSTEM

Condition: The induction system was intact with the exception of the rear wye pipes and connectors which separated. The front balance tube exhibited impact damage.





**ENGINE FIELD INSPECTION REPORT**

|                     |        |                    |       |                     |
|---------------------|--------|--------------------|-------|---------------------|
| <b>FILE NUMBER:</b> | 15-562 | <b>ENGINE S/N:</b> | 79315 | <b>PAGE 8 of 38</b> |
|---------------------|--------|--------------------|-------|---------------------|

**IGNITION SYSTEM**

|                     |   |                  |               |
|---------------------|---|------------------|---------------|
| <b>LEFT MAGNETO</b> | Manufacturer: Bendix  | P/N: 10-163020-3 | S/N: 83004156 |
| Condition:          | The left magneto remained attached and intact. The magneto was removed from the engine, bench tested and found to be functional |                  |               |



|                      |   |                  |             |
|----------------------|---|------------------|-------------|
| <b>RIGHT MAGNETO</b> | Manufacturer: Bendix  | P/N: 10-163060-1 | S/N: 007357 |
| Condition:           | The right magneto remained attached and intact. The magneto was removed from the engine, bench tested and found to be functional with the exception of one ignition lead which was stretched and damaged. The damaged lead was removed and the magneto tested using a metal clip. The magneto produced spark between the metal clip and the magneto housing when rotated, |                  |             |





## ENGINE FIELD INSPECTION REPORT

|                     |        |                    |       |                     |
|---------------------|--------|--------------------|-------|---------------------|
| <b>FILE NUMBER:</b> | 15-562 | <b>ENGINE S/N:</b> | 79315 | <b>PAGE 9 of 38</b> |
|---------------------|--------|--------------------|-------|---------------------|

|                         |  |                   |                   |
|-------------------------|--|-------------------|-------------------|
| <b>IGNITION HARNESS</b> | Manufacturer: Undetermined   | P/N: Undetermined | S/N: Undetermined |
| Condition:              | The ignition harness appeared undamaged with the exception of the right magneto lead for cylinder # 2 which was stretched and shorted inside the harness cap. When the magneto was bench tested, the lead caused a misfire. When the lead was removed and a jumper wire was used, the magneto operated normally. |                   |                   |

|                    |  |   |  |
|--------------------|--|---|--|
| <b>SPARK PLUGS</b> | Manufacturer: Mix of Champion and Tempest  | P/N: RHB32E - Champion<br>P/N URHB32E - Tempest |  |
| Condition:         | Normal to worn out normal, according to a Champion Check A Plug chart. Sparkplugs removed from the top of cylinders 2,4&6 were oily which could be due to the engine being upside down at the accident site. |   |  |



# ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

15-562

ENGINE S/N:

79315

PAGE 10 of 38





# ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

15-562

ENGINE S/N:

79315

PAGE 11 of 38

## FUEL SYSTEM

**FUEL PUMP**

Manufacturer: TCM

P/N: 646212-9

S/N: J178905BR

Condition:

The engine driven fuel pump exhibited thermal damage. Once removed, the fuel pump rotated smoothly when manually rotated. Fuel was present in the fuel hoses and the drive pin was intact





# ENGINE FIELD INSPECTION REPORT

|              |        |             |       |               |
|--------------|--------|-------------|-------|---------------|
| FILE NUMBER: | 15-562 | ENGINE S/N: | 79315 | PAGE 12 of 38 |
|--------------|--------|-------------|-------|---------------|

|                                    |  |               |                |
|------------------------------------|--|---------------|----------------|
| <b>THROTTLE BODY METERING UNIT</b> | Manufacturer: TCM  | P/N: 625219-2 | S/N: J178931AR |
| Condition:                         | The fuel hose nipples separated. The fuel screen was removed. No contaminate was present. The throttle plate was found in the wide open position but could be manually opened and closed by moving the throttle arm. |               |                |



**ENGINE FIELD INSPECTION REPORT**

|                     |        |                    |       |                      |
|---------------------|--------|--------------------|-------|----------------------|
| <b>FILE NUMBER:</b> | 15-562 | <b>ENGINE S/N:</b> | 79315 | <b>PAGE 13 of 38</b> |
|---------------------|--------|--------------------|-------|----------------------|

|                            |                   |                |                |
|----------------------------|-------------------|----------------|----------------|
| <b>FUEL MANIFOLD VALVE</b> | Manufacturer: TCM | P/N: 631427422 | S/N: J175902CR |
|----------------------------|-------------------|----------------|----------------|

Condition: The manifold contained uncontaminated fuel. All components were intact and the fuel screen was uncontaminated.





## ENGINE FIELD INSPECTION REPORT

|                     |        |                    |       |                      |
|---------------------|--------|--------------------|-------|----------------------|
| <b>FILE NUMBER:</b> | 15-562 | <b>ENGINE S/N:</b> | 79315 | <b>PAGE 14 of 38</b> |
|---------------------|--------|--------------------|-------|----------------------|

|                               |   |     |     |    |      |     |
|-------------------------------|---|-----|-----|----|------|-----|
| <b>FUEL NOZZLES AND LINES</b> | Manufacturer: TCM   |     |     |    |      |     |
| Position                      | #1  | #3  | #5  | #2 | #4   | #6  |
| Size                          | D12D  | 12A | 12D | 2D | D12A | 12A |
| Condition:                    | All fuel injectors were open and clear of debris. All injectors appeared dark in color with an oily film present. |     |     |    |      |     |





**ENGINE FIELD INSPECTION REPORT**

**FILE NUMBER:**

15-562

**ENGINE S/N:**

79315

**PAGE 15 of 38**

**LUBRICATION SYSTEM**

**OIL SUMP**

**Condition:**

The oil sump was impact damaged but remained intact.



**OIL PICK-UP  
TUBE &  
SCREEN**

**Condition:**

The screen was intact and contained only a small amount of contaminant





**ENGINE FIELD INSPECTION REPORT**

**FILE NUMBER:**

15-562

**ENGINE S/N:**

79315

**PAGE 16 of 38**

**OIL PUMP**

**Condition:**

The oil pump was disassembled and showed no evidence of hard particle passage





# ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

15-562

ENGINE S/N:

79315

PAGE 17 of 38

## OIL FILTER

Manufacturer: Tempest

P/N: AA48110-2

Condition:

The outer shell was impact damaged. The filter was opened and inspected for contaminants. Only a small amount of contaminants resembling carbon was noted. No metal was found. Red arrow points to incorrectly installed safety wire.





**ENGINE FIELD INSPECTION REPORT**

**FILE NUMBER:**

15-562

**ENGINE S/N:**

79315

**PAGE 18 of 38**

**OIL COOLER**

Manufacturer: Undetermined

P/N: Undetermined

S/N: Undetermined

Condition:

The oil cooler did not display any impact damage



## ENGINE FIELD INSPECTION REPORT

|                     |        |                    |       |                      |
|---------------------|--------|--------------------|-------|----------------------|
| <b>FILE NUMBER:</b> | 15-562 | <b>ENGINE S/N:</b> | 79315 | <b>PAGE 19 of 38</b> |
|---------------------|--------|--------------------|-------|----------------------|

### CYLINDERS

|                    |   |                   |                  |
|--------------------|---|-------------------|------------------|
| <b>CYLINDER #1</b> | P/N: 354781   | S/N: Undetermined | Head Date: 12/84 |
| Work Orders:       | Undetermined  |                   |                  |
| Condition:         | Cylinder assembly was undamaged. Red arrow indicates cylinder # 1 |                   |                  |



|                    |   |                   |                         |
|--------------------|---|-------------------|-------------------------|
| <b>CYLINDER #3</b> | P/N: 35478  | S/N: Undetermined | Head Date: Undetermined |
| Work Orders:       | Undetermined  |                   |                         |
| Condition:         | Cylinder assembly was undamaged. Red arrow indicates cylinder # 3 |                   |                         |





## ENGINE FIELD INSPECTION REPORT

|                     |        |                    |       |                      |
|---------------------|--------|--------------------|-------|----------------------|
| <b>FILE NUMBER:</b> | 15-562 | <b>ENGINE S/N:</b> | 79315 | <b>PAGE 20 of 38</b> |
|---------------------|--------|--------------------|-------|----------------------|

|                    |   |                   |                         |
|--------------------|---|-------------------|-------------------------|
| <b>CYLINDER #5</b> | P/N: 186073   | S/N: Undetermined | Head Date: Undetermined |
| Work Orders:       |   | Undetermined      |                         |
| Condition:         | Cylinder assembly was undamaged. Red arrow indicates cylinder # 5 |                   |                         |



|                    |   |                   |                         |
|--------------------|---|-------------------|-------------------------|
| <b>CYLINDER #2</b> | P/N: 354782   | S/N: Undetermined | Head Date: Undetermined |
| Work Orders:       |   | Undetermined      |                         |
| Condition:         | Cylinder assembly was undamaged. Red arrow indicates cylinder # 2 |                   |                         |



## ENGINE FIELD INSPECTION REPORT

|                     |        |                    |       |                      |
|---------------------|--------|--------------------|-------|----------------------|
| <b>FILE NUMBER:</b> | 15-562 | <b>ENGINE S/N:</b> | 79315 | <b>PAGE 21 of 38</b> |
|---------------------|--------|--------------------|-------|----------------------|

|                    |   |            |                            |
|--------------------|---|------------|----------------------------|
| <b>CYLINDER #4</b> | P/N: 035124   | S/N:186072 | Head Date:<br>Undetermined |
| Work Orders:       | Undetermined  |            |                            |
| Condition:         | Cylinder assembly was undamaged. Red arrow indicates cylinder # 4 |            |                            |



|                    |   |              |            |
|--------------------|---|--------------|------------|
| <b>CYLINDER #6</b> | P/N:812376  | S/N: J8963-2 | Head Date: |
| Work Orders:       |   |              |            |
| Condition:         | Cylinder assembly was undamaged. Red arrow indicates cylinder # 6 |              |            |





ENGINE FIELD INSPECTION REPORT

FILE NUMBER:

15-562

ENGINE S/N:

79315

PAGE 22 of 38

VALVES

Condition:

All valves were intact and exhibited normal combustion signatures





**ENGINE FIELD INSPECTION REPORT**

**FILE NUMBER:**

15-562

**ENGINE S/N:**

79315

**PAGE 23 of 38**

**ROCKER ARMS AND SHAFTS**

**Condition:**

All rocker arms moved normally when the engine was manually rotated



**#1 PISTON, RINGS AND PIN**

Piston P/N: Undetermined

**Condition:**

Pistons and rings appeared normal with normal wear and combustion deposits



**#3 PISTON, RINGS AND PIN**

Piston P/N: Undetermined

**Condition:**

Pistons and rings appeared normal with normal wear and combustion deposits





**ENGINE FIELD INSPECTION REPORT**

**FILE NUMBER:**

15-562

**ENGINE S/N:**

79315

**PAGE 24 of 38**

**#5 PISTON,  
RINGS AND PIN**

Piston P/N: Undetermined

**Condition:**

Pistons and rings appeared normal with normal wear and combustion deposits



**#2 PISTON,  
RINGS AND PIN**

Piston P/N: Undetermined

**Condition:**

Pistons and rings appeared normal with normal wear and combustion deposits



**ENGINE FIELD INSPECTION REPORT**

**FILE NUMBER:**

15-562

**ENGINE S/N:**

79315

**PAGE 25 of 38**

**#4 PISTON,  
RINGS AND PIN**

Piston P/N: Undetermined

**Condition:**

Pistons and rings appeared normal with normal wear and combustion deposits



**#6 PISTON,  
RINGS AND PIN**

Piston P/N: Undetermined

**Condition:**

Pistons and rings appeared normal with normal wear and combustion deposits





**ENGINE FIELD INSPECTION REPORT**

|                     |        |                    |       |                      |
|---------------------|--------|--------------------|-------|----------------------|
| <b>FILE NUMBER:</b> | 15-562 | <b>ENGINE S/N:</b> | 79315 | <b>PAGE 26 of 38</b> |
|---------------------|--------|--------------------|-------|----------------------|

**CRANKCASE ASSEMBLY**

|                  |  |  |  |  |
|------------------|--|--|--|--|
| <b>CRANKCASE</b> |  |  |  |  |
|------------------|--|--|--|--|

|                   |                                      |
|-------------------|--------------------------------------|
| <b>Condition:</b> | The crankcase exhibited no anomalies |
|-------------------|--------------------------------------|



|                         |               |                        |
|-------------------------|---------------|------------------------|
| <b>#1 MAIN BEARINGS</b> | P/N: SA630464 | Date Code: Not legible |
|-------------------------|---------------|------------------------|

|                   |  |
|-------------------|--|
| <b>Condition:</b> | Bearings appear to exhibit normal wear |
|-------------------|--|



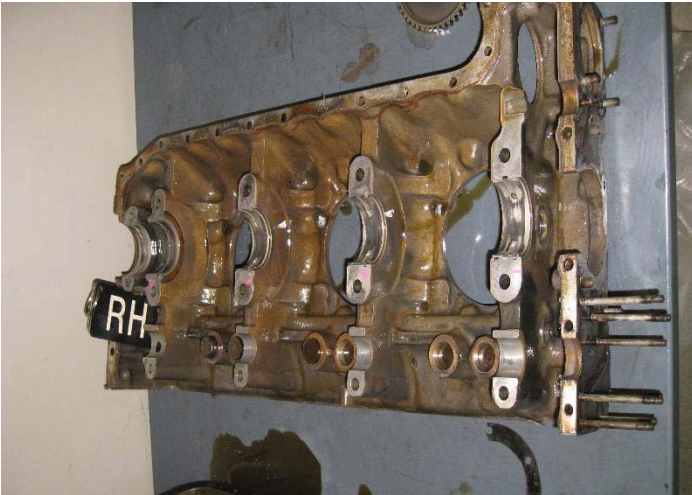
ENGINE FIELD INSPECTION REPORT

|              |        |             |       |               |
|--------------|--------|-------------|-------|---------------|
| FILE NUMBER: | 15-562 | ENGINE S/N: | 79315 | PAGE 27 of 38 |
|--------------|--------|-------------|-------|---------------|

|                         |  |                        |
|-------------------------|--|------------------------|
| <b>#2 MAIN BEARINGS</b> | P/N: SA630464                          | Date Code: Not legible |
| Condition:              | Bearings appear to exhibit normal wear |                        |



|                         |  |                        |
|-------------------------|--|------------------------|
| <b>#3 MAIN BEARINGS</b> | P/N: SA630464                          | Date Code: Not legible |
| Condition:              | Bearings appear to exhibit normal wear |                        |





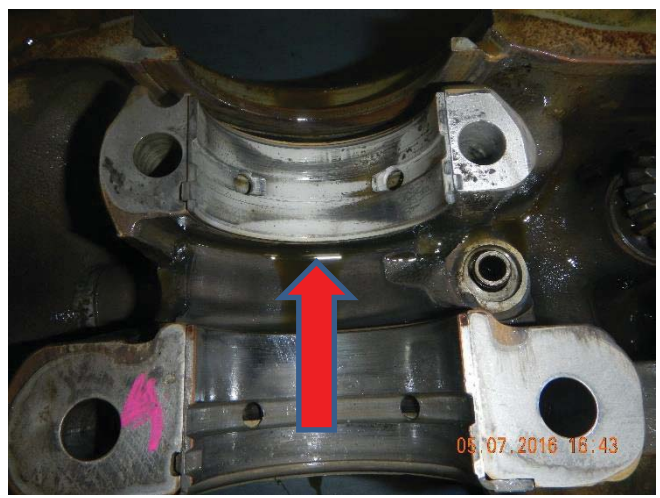
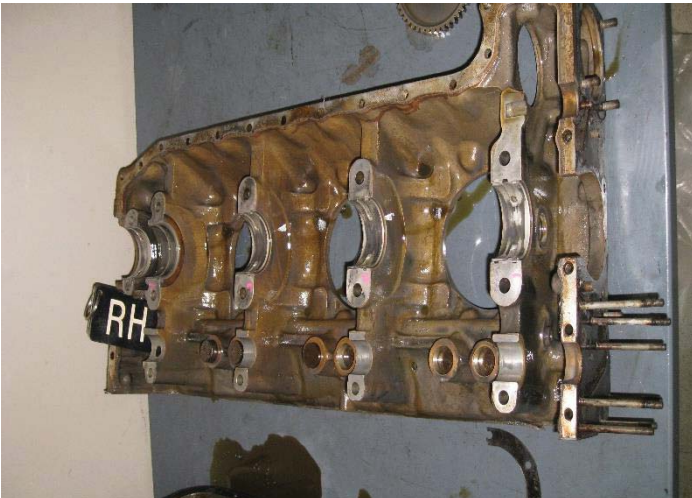
ENGINE FIELD INSPECTION REPORT

|              |        |             |       |               |
|--------------|--------|-------------|-------|---------------|
| FILE NUMBER: | 15-562 | ENGINE S/N: | 79315 | PAGE 28 of 38 |
|--------------|--------|-------------|-------|---------------|

|                         |  |                        |
|-------------------------|--|------------------------|
| <b>#4 MAIN BEARINGS</b> | P/N: Undetermined-not legible          | Date Code: Not legible |
| Condition:              | Bearings appear to exhibit normal wear |                        |



|                         |   |                        |
|-------------------------|---|------------------------|
| <b>#5 MAIN BEARINGS</b> | P/N: SA63464  | Date Code: Not legible |
| Condition:              | Red arrow points to # 5 bearing. Bearings appear to exhibit normal wear |                        |



**ENGINE FIELD INSPECTION REPORT**

|                     |        |                    |       |                      |
|---------------------|--------|--------------------|-------|----------------------|
| <b>FILE NUMBER:</b> | 15-562 | <b>ENGINE S/N:</b> | 79315 | <b>PAGE 29 of 38</b> |
|---------------------|--------|--------------------|-------|----------------------|

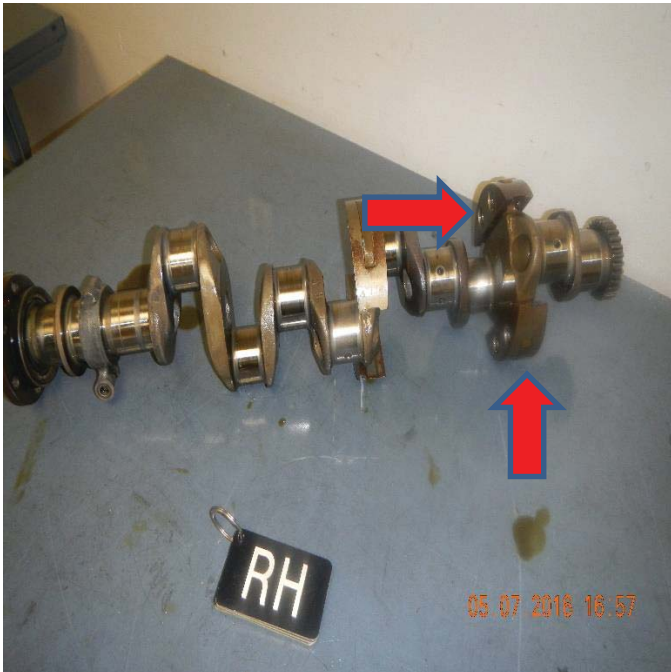
**CRANKSHAFT ASSEMBLY**

|                   |                                      |                   |                |
|-------------------|--------------------------------------|-------------------|----------------|
| <b>CRANKSHAFT</b> | Forging Number: 639664               | S/N: Undetermined | Heat code: M95 |
| Condition:        | The crankshaft exhibited normal wear |                   |                |



|                        |   |
|------------------------|---|
| <b>TRANSFER COLLAR</b> |   |
| Condition:             | The transfer collar exhibited normal wear |

|                        |  |
|------------------------|--|
| <b>COUNTER WEIGHTS</b> |  |
| Condition:             | Counter weights were intact and moved freely on pins. Red arrows point to counterweights |





**ENGINE FIELD INSPECTION REPORT**

**FILE NUMBER:**

15-562

**ENGINE S/N:**

79315

**PAGE 30 of 38**

**INTERNAL  
TIMING**

**Condition:**

Timing marks on the crankshaft gear aligned with the cam gear when cylinder # 1 was at TDC

**#1 CONNECTING  
ROD**

P/N: Undetermined

**Condition:**

Normal wear was exhibited

**#1 CONNECTING  
ROD BEARING**

P/N: SA631826

**Condition:**

Normal wear was exhibited



**ENGINE FIELD INSPECTION REPORT**

|                     |        |                    |       |                      |
|---------------------|--------|--------------------|-------|----------------------|
| <b>FILE NUMBER:</b> | 15-562 | <b>ENGINE S/N:</b> | 79315 | <b>PAGE 31 of 38</b> |
|---------------------|--------|--------------------|-------|----------------------|

|                                  |                           |  |
|----------------------------------|---------------------------|--|
| <b>#3 CONNECTING ROD</b>         | P/N: Undetermined         |  |
| Condition:                       | Normal wear was exhibited |  |
| <b>#3 CONNECTING ROD BEARING</b> | P/N: SA631826             |  |
| Condition:                       | Normal wear was exhibited |  |



|                                  |                           |  |
|----------------------------------|---------------------------|--|
| <b>#5 CONNECTING ROD</b>         | P/N: Undetermined         |  |
| Condition:                       | Normal wear was exhibited |  |
| <b>#5 CONNECTING ROD BEARING</b> | P/N: SA631826             |  |
| Condition:                       | Normal wear was exhibited |  |





ENGINE FIELD INSPECTION REPORT

|              |        |             |       |               |
|--------------|--------|-------------|-------|---------------|
| FILE NUMBER: | 15-562 | ENGINE S/N: | 79315 | PAGE 32 of 38 |
|--------------|--------|-------------|-------|---------------|

|                                  |                           |  |
|----------------------------------|---------------------------|--|
| <b>#2 CONNECTING ROD</b>         | P/N: Undetermined         |  |
| Condition:                       | Normal wear was exhibited |  |
| <b>#2 CONNECTING ROD BEARING</b> | P/N: SA631826             |  |
| Condition:                       | Normal wear was exhibited |  |



|                                  |                           |  |
|----------------------------------|---------------------------|--|
| <b>#4 CONNECTING ROD</b>         | P/N: Undetermined         |  |
| Condition:                       | Normal wear was exhibited |  |
| <b>#4 CONNECTING ROD BEARING</b> | P/N: SA631826             |  |
| Condition:                       | Normal wear was exhibited |  |



**ENGINE FIELD INSPECTION REPORT**

**FILE NUMBER:**

15-562

**ENGINE S/N:**

79315

**PAGE 33 of 38**

**#6 CONNECTING  
ROD**

P/N: Undetermined

Condition:

Normal wear was exhibited

**#6 CONNECTING  
ROD BEARING**

P/N: SA631826

Condition:

Normal wear was exhibited





## ENGINE FIELD INSPECTION REPORT

|                     |        |                    |       |                      |
|---------------------|--------|--------------------|-------|----------------------|
| <b>FILE NUMBER:</b> | 15-562 | <b>ENGINE S/N:</b> | 79315 | <b>PAGE 34 of 38</b> |
|---------------------|--------|--------------------|-------|----------------------|

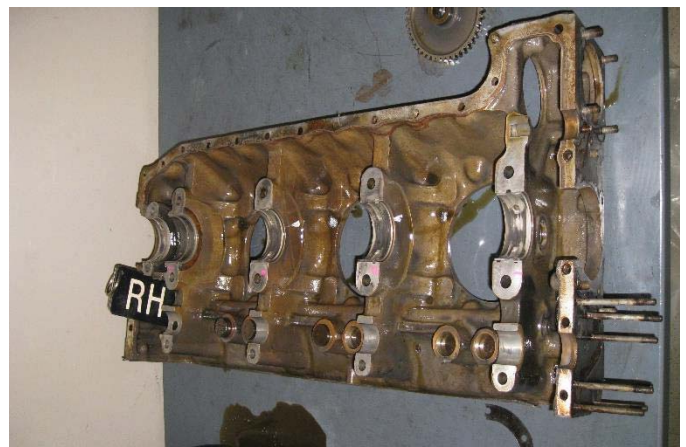
### CAMSHAFT

|                 |  |                   |
|-----------------|--|-------------------|
| <b>CAMSHAFT</b> | P/N: 535661  | S/N: Undetermined |
| Condition:      | The camshaft was intact but exhibited spalling and abnormal wear on the # 5 & 6 intake lobe. |                   |



| LIFTERS | #1 | #3 | #5 | #2 | #4 | #6 |
|---------|----|----|----|----|----|----|
| INTAKE  |    |    |    |    |    |    |
| EXHAUST |    |    |    |    |    |    |

|            |  |
|------------|--|
| Condition: | All lifters exhibited light pitting and spalling consistent with corrosion. The intake lifter associated with cylinder 6 exhibited severe spalling. Red arrow points to # 6 intake lifter. |
|------------|--|



**ENGINE FIELD INSPECTION REPORT**

|                     |        |                    |       |                      |
|---------------------|--------|--------------------|-------|----------------------|
| <b>FILE NUMBER:</b> | 15-562 | <b>ENGINE S/N:</b> | 79315 | <b>PAGE 35 of 38</b> |
|---------------------|--------|--------------------|-------|----------------------|

**ACCESSORIES**

|                |   |              |           |
|----------------|---|--------------|-----------|
| <b>STARTER</b> | Manufacturer: Delco-Remy  | P/N: 1108234 | S/N: 1711 |
| Condition:     | The starter motor was removed and visually inspected. No damage was noted other than thermal damage. The red arrow points to the starter motor. |              |           |



|                        |   |
|------------------------|---|
| <b>STARTER ADAPTER</b> | P/N: Undetermined   |
| Condition:             | The starter adapter was removed and visually inspected. The shaft rotated easily when the gear was rotated manually. The accessory drive pulley was impact damaged. |





# ENGINE FIELD INSPECTION REPORT

|                     |        |                    |       |                      |
|---------------------|--------|--------------------|-------|----------------------|
| <b>FILE NUMBER:</b> | 15-562 | <b>ENGINE S/N:</b> | 79315 | <b>PAGE 36 of 38</b> |
|---------------------|--------|--------------------|-------|----------------------|

|                  |  |             |                   |
|------------------|--|-------------|-------------------|
| <b>GENERATOR</b> | Manufacturer: Undetermined   | P/N: R17198 | S/N: Undetermined |
| Condition:       | The red arrow points to the generator. The generator exhibited thermal damage and the drive pulley received impact damage. The data plate was thermally damaged. |             |                   |



|                    |  |           |           |
|--------------------|--|-----------|-----------|
| <b>VACUUM PUMP</b> | Manufacturer: Edo Aire   | P/N: G450 | S/N: 8800 |
| Condition:         | The vacuum pump was removed and inspected. The pump produced suction on the inlet fitting when the pump was rotated manually |           |           |



**ENGINE FIELD INSPECTION REPORT**

**FILE NUMBER:**

15-562

**ENGINE S/N:**

79315

**PAGE 37 of 38**

**PROPELLER**

**PROPELLER GOVERNOR**

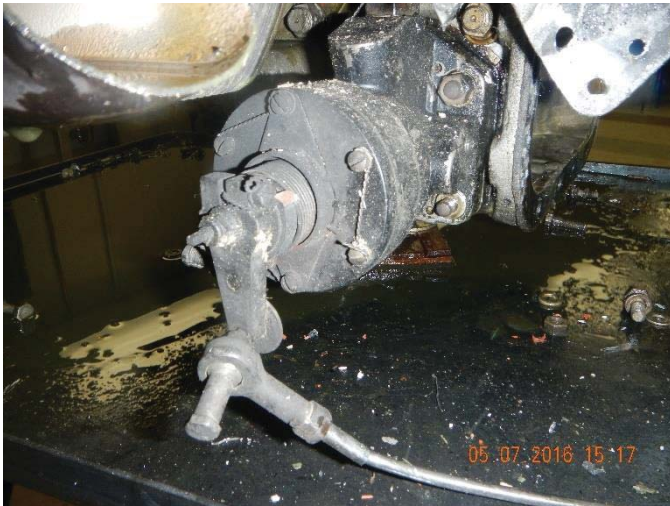
Manufacturer: Woodward

TYPE: 210280 K

S/N:570370

**Condition:**

The governor was removed and inspected. No pre-impact damage was noted





# ENGINE FIELD INSPECTION REPORT

|                     |        |                    |       |                      |
|---------------------|--------|--------------------|-------|----------------------|
| <b>FILE NUMBER:</b> | 15-562 | <b>ENGINE S/N:</b> | 79315 | <b>PAGE 38 of 38</b> |
|---------------------|--------|--------------------|-------|----------------------|

|                  |   |                           |               |
|------------------|---|---------------------------|---------------|
| <b>PROPELLER</b> | Manufacturer: Hartzell  | P/N: HC-C2YF-2CUFC 8468-3 | S/N: AN 7312B |
| Blade 1 S/N:     | Undetermined  |                           |               |
| Blade 2 S/N:     | Undetermined  |                           |               |
| Condition:       | Blade A exhibited twisting rearward bending beginning approximately 4" outboard of the propeller blade root. A forward bending motion began at approximately 24" outboard of the blade root. Propeller blade B exhibits a slight rearward bending motion approximately 12" inboard from the propeller tip. The propeller spinner received crushing due to impact with the ground. Neither blade appeared to be in a feathered position. |                           |               |

