



## **NATIONAL TRANSPORTATION SAFETY BOARD**

Office of Aviation Safety  
Western Pacific Region

February 11, 2021

### **ENGINE EXAMINATION SUMMARY**

**WPR19LA215**

This document contains 5 embedded photos.

## **A. ACCIDENT**

|                              |                             |
|------------------------------|-----------------------------|
| Location:                    | Ontario, Oregon             |
| Date:                        | August 9, 2019              |
| Aircraft:                    | North American T28A, N9862C |
| NTSB Investigator-in-Charge: | Joshua Cawthra              |

## **B. Participants**

Joshua Cawthra  
Senior Aviation Accident Investigator  
National Transportation Safety Board  
Federal Way, Washington

Eric M. Gutierrez  
Air Safety Investigator  
National Transportation Safety Board  
Federal Way, Washington

## **C. ENGINE EXAMINATION**

Engine Manufacturer: Kaiser  
Engine Model Number: R1300 – 1B  
Engine Serial Number: K.F. 475354

Examination of the recovered engine revealed that it was shipped in a secure wooden crate. All cylinders, with the exception of the number 1 cylinder remained attached to the engine. The engine starter, generator, oil pump, fuel pump, and hydraulic pump remained attached to the accessories case. Both magnetos and the carburetor had been previously removed. The nose case assembly exhibited impact damage, which included separation of the propeller assembly. The rocker box covers on the number 3 and 4 cylinders exhibited impact damage.



Figure 1. View of engine shipment create.



Figure 2. Overview of the engine.

The rocker box covers were removed. All intake and exhaust rocker arms were in place and oil coated. All intake and exhaust push rod tubes were intact. The cylinders were examined internally using a lighted boroscope. All intake and exhaust valves were intact and undamaged. All pistons and internal cylinder areas exhibited normal operational signatures and no evidence of any mechanical failure.

Damage sustained to the nose case and reduction bowl gear precluded the ability to obtain movement of the internal engine components and valve train, despite an attempt to rotate the internal components via the master rod assembly. The internal areas of the engine were examined internally using a lighted boroscope, and mechanical continuity was established throughout the engine and valve train.



Figure 3. View of nose case gear assumably damage.

The engine starter, generator, oil pump, fuel pump, and hydraulic pump were removed from the accessories case. The accessories case cover was removed, and all internal components, which included all of the accessory gears, were intact and oil coated. The main scavenge pump oil screen was removed and contained a slight amount of metallic debris.



Figure 4. View of accessories case internal components.



Figure 5. View of carburetor.

Submitted by: Joshua Cawthra