



NTSB MEMORANDUM FOR RECORD

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Air Safety Investigator
Eastern Region, Office of Aviation Safety (ERA)
National Transportation Safety Board

Date: April 13, 2020
Person Contacted: Phillip Grice (Continental Motors)
NTSB Accident Number: ERA20LA064

Narrative:

Phillip Grice, manager of the Continental Motors engine analytical division examined the accident engine under supervision via FaceTime by the NTSB investigator-in-charge. The FaceTime call began with the engine still in the evidence tamper sealed Continental shipping box. The engine was removed from the container. The starter and propeller governor were removed, and the camshaft gears were examined, as referenced in Figure 1 below. The below are findings from the examination and the item numbers are associated to the table in Figure 1:

- The engine was rotated manually by hand and in doing so, the camshaft gear (item #4) rotated through a complete 360° rotation. The camshaft gear was not missing any gear teeth and there were no abnormalities observed with its condition.
- When the engine was again rotated by hand, the camshafts governor drives (item #7 and #8) would not rotate as expected.

The engine was returned to its box and will be examined further at a later date. Photographs 1 and 2 below were taken via FaceTime during the examination of the camshaft.



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Illustrated Parts Catalog

Select Engine / Select Assembly

I0550N43B
Parts List
[Alternative view, click here.](#)

Item #	Part #	Description
1	654084A1	CAMSHAFT ASM-SERVICE
1	654084A1P020	CAMSHAFT ASM-SERVICE
2	524818	PLUG-.25-18 X .44 #401751
3	MS35338-45	WASHER-LOCK-SPRING .3125
4	656818	GEAR - CAM
5	654587-.44	BOLT-.3125-24 UNF3A
6	AN315-5R	NUT-PLAIN .31-24
7	654085	GEAR-BEVEL-GOV DRIVE
8	629747	GEAR-BEVEL GOV DRIVEN
9	653415	GASKET-CAM-HOLE COVER
10	629201	COVER-CAM HOLE
11	MS35338-44	WASHER LOCK .25 DIA.
12	AN960-416L	WASHER-PL .25 X .032
13	AN315-4R	NUT-PLAIN

Part Number	654084A1
Item #:	1
Description:	CAMSHAFT ASM-SERVICE
Quantity Used:	1
Footnote:	THIS PART MUST BE USED WITH P/N 654085 (SPLINED TYPE GOVERNOR DRIVE GEAR) CAMSHAFT GEAR. REFERENCE LATEST REVISION

Continental Motors® Diesel engines Illustrated Parts Catalog and Titan™ engines Illustrated Parts Catalog coming soon.

Figure 1: Illustrated parts catalog part list for the camshaft



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Photo 1: View of the camshaft gear (item #4)



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Photo 2: Closer view of the camshaft gear (item #4). The condition of the gear was unremarkable.