

Service Difficulty Report

1. Submitter Information

(a) Unique Control #: DUFA2016001	(b) Difficulty Date: 05/27/2016
(c) Registration #: 76MD	(d) Submitter Type: E - CARRIER PART 135
(e) Submitter Designator: DUFA	(f) Submission Date: 5/27/2016 1:27:04 PM

2. Codes

(a) Operator Designator : DUFA	(b) Operator Type : Air Carrier
(c) JASC/ATA Code : 7800	
(d) Stage of Operation : DE - DESCENT	
(e) How Discovered : V - Visual	
(f) Nature of Condition : A - FLAME/FIRE	
(g) Precautionary Procedures: E - ENGINE SHUTDOWN	
(h) FAA Region : GL	(i) District Office : 27
(j) Flight Number : Training	

3. Major Equipment Identity

	Manufacturer	Model	Serial Number	Total Time	Total Cycles
(a) Aircraft	CESSNA	402B	402B-1055	13478.1	
(b) Engine	CONT	TSIO520E	1004088	1342.4	
(c) Propeller					

4. Problem Description

While on a local training flight, the pilot was setting up for her initial approach when the left engine began to run a little rough. The instructor noticed the fuel flow begin to drop a little so the auxiliary boost fuel pump was selected to high. The engine began to smooth out when they noticed the tachometer suddenly drop off to zero. At that point the pilot noticed flames streaming out the upper cowl louvers and relayed to the instructor that they had an engine fire. The engine was immediately secured and an emergency declared to the tower. They continued on their approach and made an uneventful landing. Fire personnel followed the aircraft to parking and monitored the engine for any reignition or flare up. Upon investigation it appears the number 4 cylinder experienced burn through of the cylinder head on the forward side of the exhaust chamber. This then melted the valve cover of the number 6 cylinder, spraying oil aft which then ignited. Since it was on the outboard side of the left engine, it wasn't seen by the pilot until significant damage had been done.

5. Specific Part or Structure Causing Difficulty

(a) Part Name : CYLINDER HEAD	(b) Manufacturer's Name : CONT
(c) Part Number : 654651	(d) Serial Number : 104668-2
(e) Part Condition: MELTED	(f) Part/Defect Location: Zone 500
(g) Total Time :	(h) Total Cycles :
(i) Time Since : 178.3 OVERHAUL	

6. Component/Assembly That Includes Defective Part

(a) Component Name: Engine	(b) Manufacturer's Name : CONT
(c) Part Number : TSIO-520-E	(d) Serial Number : 1004088
(e) Model Number : TSIO-520E	(f) Location : Left Wing
(g) Total Time : 1342.4	(h) Total Cycles :
(i) Time Since : 1342.4 OVERHAUL	

7. Structure Causing Difficulty

(a) Body or Fuselage Station - From/At:	To:
(b) Water Line - From/At:	To:
(c) Crack Length :	(d) Number of Cracks:
(e) Stringer - From/At:	To:
(f) Butt Line - From/At:	To:
(g) Wing Station - From/At:	To:
(h) Structural Other:	(i) Corrosion Level :

----- End Of Report -----