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National Transportation Safety Board

Washington, D.C. 20594 Safety Recommendation

Date: July 11, 1986 In reply refer to: A-86-54 through A-86-60

Honorable Donald D. Engen Administrator Federal Aviation Administration Washington, D.C. 20591

In 1985 the National Transportation Safety Board investigated the nine reported accidents involving the loss of engine power in Viking Model 17-30 and 17-31 series airplanes manufactured by the Bellanca Aircraft Corporation (Bellanca). Three of the accidents resulted from fuel mismanagement, three occurred when heat or fire from cracked or broken mufflers damaged the engines' magneto electrical wiring, one stemmed from water in the fuel, one was caused by a broken piston connecting rod, and one was precipitated by a malfunctioning engine-driven fuel pump. (See attachment for dates and locations of the accidents and brief reports of eight of the accidents).

A review of the Safety Board's aviation accident data base indicated that from 1967 through 1985 these airplanes (including the Super Viking 17-30 A and 17-31 A), which are all powered by fuel-injected engines, were involved in 127 accidents in which there was a loss of engine power; these accidents comprised about 38 percent of the airplanes' total accidents during that period. By way of comparison, during the same period, only 21 percent of the accidents involving airplanes manufactured by the Beech Aircraft Corporation, the Piper Aircraft Corporation, and the Cessna Aircraft Company resulted from loss of engine power. Additionally, the Federal Aviation Administration's (FAA) incident data base indicates that from January 1, 1980, to October 1, 1985, there were 22 incidents in which Bellanca Viking or Super Viking airplanes experienced loss of engine power, some of which resulted from fuel mismanagement, cracked or broken mufflers, and water in the fuel.

Fuel Mismanagement

Fuel mismanagement was the prevalent single causal factor in accidents in which Bellanca Viking/Super Viking airplanes experienced a loss of engine power. From 1967 through 1985, fuel mismanagement was involved in 63 such accidents and accounted for 50 percent of all loss-of-engine-power accidents involving Bellanca Viking/Super Viking airplanes during that period. Moreover, it is possible that the number of these accidents may be understated because the cause of 22 of the engine failure accidents involving these airplanes during this period was "undetermined."

There is reason to believe that fuel mismanagement in these airplanes may, in some cases, be a result of the airplane's fuel system design. For example, approximately 75 percent of the Bellanca Viking/Super Viking airplanes involved in accidents resulting from loss of engine power were 1967 through 1972 models. (The number of these models manufactured is approximately 47 percent of the total Bellanca Viking/Super Viking production.) Many of these early models are configured with relatively small main and auxiliary fuel tanks in the wings and a fuel control system that requires the manipulation of two separate fuel selectors. Moreover, the auxiliary tanks are usable in level flight only, and the fuel gauge indicates fuel quantity only for the particular tank selected. Such fuel system features complicate the management of fuel resources, particularly during extended, long-range flight operations.

Subsequently, Bellanca discontinued the use of wing auxiliary tanks, and all Bellanca Viking/Super Viking airplanes manufactured after the 1972 model are equipped with larger main fuel tanks in the wings. The usable fuel capacity of each of the new main tanks is 30 gallons (compared to the former main fuel tank capacity of 15.5 gallons), approximately the combined fuel capacity of the older wing main and auxiliary fuel tanks. More importantly, this improved fuel system incorporates only one fuel selector, and the usable quantity of fuel remaining in each individual tank is displayed continuously. Illumination of a green status light below the respective fuel quantity gauge indicates the selected fuel tank. The relative simplicity of the improved fuel system is reflected in the following excerpt taken from a Bellanca Super Viking Operations Manual:

FUEL SYSTEM

Fuel is contained in two main tanks, one in each wing, with each containing 30 gal. of usable fuel. A 15 gal. auxiliary tank [optional] is located in the fuselage, aft of the rear seat. Fuel selection is determined by positioning the selector valve to the desired tank. Usable fuel quantity remaining in the tank is registered by a float gauging system for the mains and the auxiliary tank.

An excerpt from the fuel controls section of an earlier Super Viking 17-30A Owners Manual outlines, in part, the operation of the older, more complicated fuel system with wing auxiliary tanks:

FUEL CONTROLS

1. One tank selector valve controls the flow of fuel from the two wing tanks and from the auxiliary tank. The auxiliary tank is to be used in level flight only. This valve also controls the flow of the fuel return lines to the fuel tank that is being used.

Note: In the event a fuel tank has been run dry and is refueled with fuel selector valve OFF, or set on other than noted tank, it is possible to have air in the lines. This should be eliminated by running up engine on noted tank or tanks before TAKE-OFF.

- 2. On Standard Vikings with extra wing aux tanks an additional value is on the floor. On these models the fuel selector value between the seats is set to Aux position. Then on value on floor either wing Aux or Fuselage Aux is selected.
- 3. On Super Viking models the floor valve controls fuel from either right or left wing Aux tanks. There is no fuselage Aux tank on the Super Viking.

In addition to the added complexity of this older fuel system and the accompanying potential for design-induced pilot error, the owners manuals for the older airplanes do not provide specific information regarding management of available fuel, procedures for proper fuel tank sequencing, or precautionary information that could help to avoid fuel mismanagement, particularly fuel starvation. Moreover, description of the fuel system and its operation is fragmented throughout the manuals.

The majority of fuel mismangement accidents in Bellanca Viking and Super Viking airplanes result from fuel starvation; that is, the lack of fuel flow to the engine because one fuel tank is dry despite the existence of ample fuel in other fuel tanks aboard the airplane. For example, on March 30, 1985, Bellanca Super Viking 17-30A, N8233R (a 1972 model), crashed at Roanoke, Virginia, after fuel in the left main fuel tank was exhausted. More often than not, the pilots involved in these accidents have reported, as did the pilot of N8233R, that they had selected another fuel tank with ample fuel and attempted in vain to restart the engine in flight. The Safety Board believes that some of these abortive attempts to restart the engine may have resulted from, among other things, improper use of the auxiliary fuel pump.

The owners manuals for the airplanes with the older fuel systems (pre-1973 models) contain neither a separate emergency procedures section nor any specific information on how to restart the engine in flight, as is available in Bellanca Viking/Super Viking Owners/Operations Manuals for newer airplanes. Engine air restart procedures are outlined in other documents, such as an older Bellanca publication entitled "Pilots Check List" and in FAA-approved flight manuals. However, the Bellanca publication may no longer be accessible or available, and the details of the restart procedure differ among the revisions of the FAA manuals and from those provided in both the "Pilots Check List" and the current Bellanca Viking/Super Viking Operations Manuals.

The Safety Board believes that the frequency of accidents involving the loss of engine power in Bellanca Viking/Super Viking airplanes warrants review by the FAA of the engineering design of the fuel system (wing auxiliary tanks) installed in 1967 through 1972 Bellanca Viking/Super Viking Model airplanes and a revision of the Bellanca flight manuals applicable to these models. The flight manual revision should include a unified, improved description of the operation of the fuel system, specific operating information regarding management of available fuel resources, and the most effective emergency procedures to restart the engine in flight. Bellanca also should issue to all owners and operators of 1967 through 1972 Bellanca Viking/Super Viking Models a Safety Advisory that provides information on the fuel system in these airplanes and warns of the high potential for loss of engine power from fuel mismanagement. The advisory also should present techniques that may be used to avoid power loss and operational procedures to restart the engine in flight in the event of inadvertent fuel starvation.

Exhaust System Failures

In 1976 the FAA issued Airworthiness Directive (AD) 76-23-03, applicable to Bellanca Viking Models 17-30 and 17-31, and Super Viking Models 17-30A and 17-31A, to prevent exhaust system failures, which could allow heat or flames to enter the engine compartment of these airplanes. The AD requires the muffler and tailpipe assemblies to be inspected for cracks and for freedom of movement at the ball joints at intervals of 100 flight hours. (If the tailpipe assemblies are not free to move at the ball joints, the bending stress created by the tailpipe and resonator can break the welded muffler outlet.) However, some of these Bellanca airplanes are flown infrequently, and the interval between such inspections may span several years. For example, on September 24, 1985, a Bellanca Model 17-30A Super Viking, N6627V, crashed at Burlington, Washington, following a loss of engine power after the left exhaust muffler failed at the outlet. The failure permitted heat and flames to burn the engine's magneto wiring (electrical P leads). AD 76-23-03 had been complied with on August 18, 1982, but the airplane had been operated for only 50 flight hours since that date, and no subsequent, comparable inspection of the exhaust system had been accomplished. This accident might have been prevented if compliance with AD 76-23-03 had been required at each annual inspection of the airplane.

Recent Service Difficulty Reports (SDR) and incident reports reflect similar problems of broken tailpipe-muffler outlets in the exhaust systems of the Bellanca Viking/Super Viking airplanes. For example, between July 1981 and March 1984, seven such occurrences were noted (four SDRs and three incidents). Remarks from reports of these occurrences typically include: "Exhaust pipe broke, exhaust burned magneto leads, engine stopped;" "Smoke in cockpit, engine quit, forced landing, exhaust tail pipe broken, heat scorched wires, vapor locked fuel line;" "Smoke in cockpit due to both tailpipes broken at muffler;" "Inflight fire due to muffler breaking at the tail pipe segment;" and "Found muffler outlet broken off, tailpipe hanging loose, burned engine mount."

As a result of the foregoing, the Safety Board believes that compliance with AD 76-23-03 should be required at each 100 hours time in service or at each annual inspection, whichever occurs first. It also would be beneficial to publish in FAA Advisory Circular (AC) No. 43-16, General Aviation Airworthiness Alerts, pertinent maintenance aspects relating to recent accidents and incidents in which Bellanca Viking/Super Viking Airplanes experienced a loss of engine power as a result of broken exhaust tailpipe assemblies.

Water in Fuel

Since 1967, Bellanca Viking airplanes have been involved in four accidents and several incidents in which their engines lost power because of water in the fuel. Water in the fuel also may have been responsible for some of the 22 previously mentioned accidents involving loss of engine power for undetermined reasons. The most recent accident involving water in the fuel of these airplanes occurred on June 21, 1985, when the engine of a Bellanca Viking Model 17-30, N93533, stopped during takeoff at College Park, Maryland. Although a substantial quantity of water was found in the airplane's fuel system during the investigation of the accident, the pilot stated that he found no evidence of water in samples taken from the gascolator during his preflight inspection. Although the interconnected wing fuel tank design of the Bellanca Viking/Super Viking airplanes affords the potential for entrapping a considerable amount of water in the wing tanks, the pilot was unable to take fuel samples directly from the wing fuel tanks of his airplane since they were not equipped with drain valves. Such valves are easily installed, and service kits were made available by Bellanca on July 31, 1979, when it issued Service Letter B-102A in which it provided instructions for their installation on this and other Bellanca Airplanes. Compliance with the service letter, of course, was at the owner's discretion. The accident at College Park demonstrates that there is not uniform compliance with the service letter. Compliance with this service letter should be required by the FAA so that fuel samples may be obtained easily from the wing fuel tanks during preflight inspection of the airplane.

Additionally, the fuel in the wing tanks of Bellanca Viking/Super Viking airplanes can, under certain conditions, become contaminated with water because of the design of the recessed wing fuel tank filler well and the adjustable fuel filler caps (easily loosened or tightened). If the small drain tube in the fuel filler well becomes plugged, a substantial amount of water may accumulate in the well and leak around defective or loose-fitting fuel caps into the fuel tanks. To prevent this means of water contamination of the fuel, an inspection should be performed at each annual inspection to ensure that the fuel filler well drain is open and that the fuel filler caps are sealing properly.

Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Conduct an engineering design review of the fuel system (wing auxiliary tank design) installed in 1967 through 1972 Bellanca Viking (Models 17-30 and -31) and Super Viking (Models 17-30A and -31A) airplanes and require retrofit or modification of these airplanes and/or the incorporation of new or revised fuel system markings, placards, or operating limitations to correct any deficiencies. (Class II, Priority Action) (A-86-54)

Require the Bellanca Aircraft Corporation to revise the airplane flight manuals of 1967 through 1972 Bellanca Viking (Models 17-30 and -31) and Super Viking (Models 17-30A and -31A) airplanes to include a unified, improved description of the operation of the fuel system, specific operating information about management of available fuel resources, and the most effective emergency procedures to restart the engine in flight. (Class II, Priority Action) (A-86-55)

Require the Bellanca Aircraft Corporation to prepare and disseminate to all owners and operators of 1967 through 1972 Bellanca Viking (Models 17-30 and -31) and Super Viking (Models 17-30A and -31A) models a Safety Advisory that provides information on the fuel system in these airplanes, warns of the high potential for loss of engine power due to fuel mismanagement, emphasizes fuel resource management techniques to avoid power loss, and lists operational procedures to restart the engine in flight in the event of inadvertent fuel starvation. (Class II, Priority Action) (A-86-56)

Revise Airworthiness Directive 76-23-03, applicable to the Bellanca Viking (Models 17-30 and -31) and Super Viking (Models 17-30A and -31A) airplanes, to require inspection of the exhaust system on these airplanes for cracks and for freedom of movement at the ball joints at each 100 hours time in service or annual inspection, whichever occurs first. (Class II, Priority Action) (A-86-57)

Publish in Federal Aviation Administration Advisory Circular No. 43-16, General Aviation Airworthiness Alerts, details of recent accidents and incidents in which Bellanca Viking (Models 17-30 and -31) and Super Viking (Models 17-30A and -31A) airplanes have experienced engine power loss as a result of broken exhaust tailpipe assemblies, and emphasize the importance of proper maintenance and inspection of the exhaust system of these airplanes. (Class II, Priority Action) (A-86-58)

Issue an Airworthiness Directive to require, at the next annual inspection, the installation of fuel quick-drain valves in the wing fuel tanks of Bellanca Viking (Models 17-30 and -31) and Super Viking (Models 17-30A and -31A) airplanes in accordance with Bellanca Service Letter No. B-102A. (Class II, Priority Action) (A-86-59)

Issue an Airworthiness Directive to require, at each annual inspection of Bellanca Viking (Models 17-30 and -31) and Super Viking (Models 17-30A and 31A) airplanes, an inspection of the wing fuel filler well drain to ascertain that it is open and an inspection of the fuel filler caps to ascertain that they are sealing properly. (Class II, Priority Action) (A-86-60)

GOLDMAN, Acting Chairman, and BURNETT, LAUBER, and NALL, Members, concurred in these recommendations.

Patricía A. Goldman

Acting Chairman

ATTACHMENT

BELLANCA VIKING/SUPER VIKING AIRPLANE ACCIDENTS IN 1985 INVOLVING LOSS OF ENGINE POWER

Date	Location	Registration No.	Model
March 30	Roanoke, VA	8233R	17-30A
June 2	El Paso, TX	39854	17-30A
June 21	College Park, MD	93533	17-30A
July 20	San Andreas, CA	7305V	17-30
July 21	Sheboygan, WI	7315V	17-30
July 28	Cozad, NE	6598V	17-31A
July 30	Camden, SC	6707V	17-30A
August 21	Coushatta, LA*	4026B	17-30A
September 24	Burlington, WA	6627V	17-30A

*Brief of Accident not available.

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National Transportation Safuty Board Washinaton, D.C. 20594

Brief of Accident

Hrief of Accident		
Á∕C Ře⊴. No. N8233Ŕ Time (Lcl) -		
Basic Information TsPe Operating Certificate-NONE (GENERAL AVIATION) Aircraft Damage		1
Operation onducted Under Occurred During	us Minor None 0 0 0 3	
-Aircraft Information Make/Model - BELLANCA 17-30A Landing Gear - TRICYCLE-KETRACTAB Max Gross Wt - 3325 No. of Seats - 4	ed/Activated - YES-UNK/NR rning System - YES	
erations Information Itinerary - FSS = FSS	1	1
 Ade - 55 Medical Certificate - VALID MEDICAL-WAI Biennial Flight Review Flight Time (Hours) Current - UNK/NR Total - 1018 Last 24 Months Since - UNK/NR Make/Model- 180 Last 30 Aircraft Type - UNK/NR Instrument- 247 Last 90 Multi-End - UNK/NR Multi-End - UNK/NR Rotorcra	WAIVERS/LIMIT WAIVERS/LIMIT 24 Hrs - 1 254 Hrs - 1 250 Days- UNK/NR 270 Days- UNK/NR	ļ ,
Instrument Rating(s) - AIRFLANE		
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PAG. 15

2002 EST Time (Lcl) - IMPROPER USE OF EQUIFMENT/AIRCRAFT,INFORMATION INSUFFICIENT - MANUFACTURER
 EMERGENCY FROCFDURE - ATTEMPTED - FILOT IN COMMAND
 FUEL SYSTEM - INADEQUATE
 FUEL SYSTEM - INADEQUATE
 AIRCRAFT/EQUIFMENT,INADEQUATE
 AIRCRAFT/EQUIFMENT,INADEQUATE
 BIRCRAFT/EQUIFMENT,INADEQUATE
 TARTING FROCEDURE - IMPROFER - FILOT IN COMMAND
 STARTING FROCEDURE - IMPROFER - FILOT IN COMMAND
 THPROPER USE OF FROCEDURE,INFORMATION UNCLEAR - MANUFACTURER The National Transportation Safety Board determines that the Frobable Cause(s) of this accident A/C Kes. No. N8233K Brief of Accident (Continued) Factor(s) relating to this accident is/are finding(s) 3,5,6,7,9,10,11,12,13 COMMAND LOSS OF POWER(TOTAL) - NON-MECHANICAL FUEL TANK SELECTOR FOSITION - IMPROPER - FILOT IN ON GROUND COLLISION WITH TERRAIN Landing IN FLIGHT COLLISION WITH OBJECT LANDING - FLARE/TOUCHDOWN 6 13. MISC EQPT/FURNISHINGS,SHOULDER HARNESS - LACK **ROANOKE, VA** FORCED LANDING Descent - Uncontrolled - NORMAL 3/30/85 12, TERRAIN CONDITION - DIRT BANK 10, LIGHT CONDITION - DARK NIGHT CRUISE 1, FLUID, FUEL - STARVATION is/are finding(s) 1,2,8 2417 11. OBJECT - VEHICLE ---Probable Cause--Fhase of Operation Phase of Operation Phase of Operation Phase of Operation ı File No. 1) # Occurrence ‡4 Occurrence ‡2 Occurrence #1 Occurrence Finding(s) Finding(s) Findins(s)

FAGE 15

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Brief of Accident

File No 1714 6/02/85 E	EL FAGD,TX	A/C Kes. No.	• N39854	Tine	([c]) -	1100 MDT
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FAGE 7

Time (Lc1) - 1100 MDT The National Transportation Safety Board determines that the Frobable Cause(s) of this accident A/C Reg. No. N39854 Brief of Accident (Continued) LOSS OF POWER(TOTAL) - MECH FAILURE/MALFUNCTION TAKEOFF - INITIAL CLIMB Factor(s) relating to this accident is/are finding(s) 2,7 ł LE EXHAUST SYSTEM, MUFFLER - DETERIORATED EXHAUST SYSTEM, MUFFLER - DETERIORATED EXHAUST SYSTEM, MUFFLER - FAILURE, TOTAL EXHAUST SYSTEM - LEAK ELECTRICAL SYSTEM, ELECTRIC WIRING - BURNED JGNITION SYSTEM, MAGNETO - INOFERATIVE DN ØRØUND COLLIBION WITH TERRAIN Landing – roll EL FASO,TX COMPLETE GEAR COLLAPSED Landing - Roll - INITIAL CLIMB FORCED LANDING DESCENT - EMERGENCY 6/02/85 7. TERRAIN CONDITION - DIRT BANK FIRE TANEOFF - OVERLOAD is/are finding(s) 1,3,4,5,6 - 1714 ----Probable Cause---Fhase of Operation Phase of Operation Occurrence #3 Phase of Operation Phase of Operation 8. LANDING GEAR Phase of Operation File No. Occurrence #5 Ocentrence \$4 Occurrence #2 Occurrence #1 Finding(s) Finding(s) Finding(s)

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National Transportation	Washington E.C.

Brief of Accident

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۱۱۱۱ ۱ ب	. AVIATION) Aircraft Damage DESTROYED Fire NONE	lianase ED Crew Fass	Injuri Fatal Serious 0 0 0	IrJuries Dus Minor Nore 0 1 0 0 1 0
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FAGL 3

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сть No 2416	6/21/85		A/C Res. No. N93533	Time (Lc1) - 2048 EDT
101	LOSS OF PO TAKEOFF -	JWER(TOTAL) - NON-MECHANICAL INITIAL CLIMB		
Findins(s) 1. FUEL SYSTEM,CAF - 1 2. FLUID,FUEL - CONTA 3. FLUID,FUEL - WATER 4. FUEL SYSTEM,DRAIN 5. AIRCRAFT PREFLIG 6. AIRCRAFT/EQUIP	(s) EL SYSTEM,CAF - LOOSE UID,FUEL - CONTAMINATION UID,FUEL - WATER L SYSTEM,DRAIN - INADEQUATE AIRCRAFT PREFLIGHT - PERFORMED AIRCRAFT/EQUIPMENT,INADEQUATE) SYSTEM,CAF - LOOSE D.FUEL - CONTAMINATION D.FUEL - WATER SYSTEM,DRAIN - INADEQUATE SYSTEM,DRAIN - INADEQUATE - FILOT IN COMMAND RCRAFT PREFLIGHT - FERFORMED - FILOT IN COMMAND AIRCRAFT/EQUIPMENT,INADEQUATE DESIGN(STANDARD/REQUIREMENT)	T),AIRCRAFT COMFONENT - MANUFACTURER	URER
2 Fration	FORCED LANDING Descent – Emergency	ENCY		
Finding(s) 7. EMERGENCY FROCEDURE	- FERFORMED	- FILDT IN COMMAND		
Occurrence #3 Phase of Operation	IN FLIGHT COLLISION Descent - Emergency	SION WITH OBJECT ENCY		
rding(s) 8. LIGHT CONDITION 9. DBJECT - WIRE,TF	ONDITION - DARK NIGHT - WIRE,TRANSMISSION			
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Finding(s) 11, OBJECT - FENCE				
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The National Transportation is/are finding(s) 1,2,3,4	rtation Safety Board 2,3,4	determines that the	1 + -	
Factor(s) relating to this	o this accident is/are	is/are finding(s) 6,8,9,11		

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National Transportation Safety Board Washington, D.C. 20594

Brief of Accident

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File No 1999	9 7/20/85		SAN ANDREAS,CA	A/C Red. No. N7	N7305V	Tine	([c]) -	1233 PDT	
Type of Operation			AVIATION)	Aırcraft Damage SubstANTIAL Fire NONE	5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Fatal O O	Iruuries Serious M 1 0	es Minor O	9 0 M 0 X X
reraft Inform Make/Model Landing Gear Max Gross Wt No. of Seats	100 100 RELLANCA 17-30 TRICYCLE-RETRACTABLE 3025 4	CTABLE	Eng Make/Model Eng Make/Model Number Engines Engine Type Kated Fower		10-520-D INJECTED		Installed/Activated	t	YES/NO UNK/NR
<pre>Environment/Orerations Information Weather Data - NO RECORD OF BRIEF Wx Briefing - N/A Method - N/A Completeness - N/A Basic Weather - VMC Wind Dir/Speed- CALM Visibility - 30.0 SM Usibility - 30.0 SM Lowest Sky/Clouds - 6500 FT Lowest Ceiling - 6500 FT D Dbstructions to Vision- NDME Frecipitation - DAYLIGHT</pre>	rations Informa - NO RECORD - N/A - N/A - VHC eed- CALM eed- CALM - 0,0 S Clouds - 6 int to Visian- ND on - DA	ns Information ND RECDRD DF BRIEFING N/A N/A N/A W/A SO M/A SO SO SO SO SO SO M/A SO M/A SO M/A SO SO SO SO SO M/A SO M/A SO SO SO SO SO SO SO SO SO SO SO SO SO	Itineraru Last Der Last Der Destincol Destincol Tare Tare of Tare of Tare of	ture Foint CA CA CA SCA SCA SCA SCA Flan Flan F NONE Force Force Force	A LANDING	Airport Fro Airport Fro Airport Data Runway Id Runway Id Runway Lt Runway Su	xımıty RT/STRIF ent h/Wid atus	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
Personnel Information Pilot-In-Command Certificate(s)/Rating(s) PRIVATE SE LAND	tion /Rating(s)		Ase - 42 Biennial Flight Ko Current Months Since Aircraft Tyre	Review Medical Keview Tota - YES Tota - 11 Make e - VIKING Inst	ertıficate Flısht Model- ument-	1 1 2 2 2 2	CAL-NO ast 24 ast 30 ast 90	WAIVERS/LIMIT Hrs - 2 Days- 15 Days- 27 Days- 27	HIT 22 27
	1	NONE							
THE PLT TOOK OFF ON A 2 HR FLT WITH ABOUT & HRS OF FUEL DN BOARD. THE PLT TOOK OFF ON A 2 HR FLT WITH ABOUT & HRS OF FUEL DN BOARD. REFOSITIONED THE FUEL SELECTOR HANDLE. HE STATED THAT WHEN HE MADE RESTINATION. THE ENG SUDDENLY LOST POWER. HE ATTEMPTED TO RESTART FOSITIONS, BUT FOWER WAS NOT RESTORED. THE PLT ATTEMPTED TO GLIDE SUBSEQUENTLY. HE LANDED THE ACFT IN A FIELD WITH THE GEAR RETRACTE FAILURE OR MALFUNCTION THAT WGULD HAVE PREVENTED NORMAL OFERATION FOUR FUEL TANKS. THE LEFT MAIN FUEL TANK WAS FOUND TO BE EMPTY. BU FOUR FUEL TANKS. THE LEFT MAIN FUEL TANK WAS FOUND TO BE EMPTY. BU	2 HR FLT WITH ABOUT SELECTOR HANDLE. HE SUDDENLY LOST POWER. WAS NOT RESTORED. THE UN THAT WOULD HAVE PRE LET HAIN FUEL TANK W LET HAIN FUEL TANK W	TH ABOUT 6 HI ADLE. HE STA T POWER. HE F SRED. THE PL IN A FIELD W HAVE PREVEN EL TANK WAS F FULL! THE 0	A 2 HR FLT WITH ABOUT & HRS OF FUEL DN BOARD. DN 8 SELECTOR HANDLE. HE STATED THAT WHEN HE MADE A V SUDDENLY LOST POWER. HE ATTEMPTED TO RESTART THE WAS NOT RESTORED. THE PLT ATTEMPTED TO GLIDE TO D DED THE ACFT IN A FIELD WITH THE GEAR RETRACTED. A DN THAT WGULD HAVE PREVENTED NORMAL OFERATION OF LEFT MAIN FUEL TANK WAS FOUND TO BE EMPTY. BUT FL VAS ABOUT 1/2 FULL! THE OTHER WAS ABOUT 10% FULL.	DN SEVERAL E A VERY SHA THE ENG BY TO THE NEAR TO THE NEAR OF THE ENG. JL FUEL WAS	OCCASIONS DURING TH LLLOW TURN TO THE RI SWITCHING THE FUEL EEST ARPT, BUT HAD OF THE ACFT REVEALE AFKX 37 GAL OF FUE FOUND IN THE OTHER	DURING THE FLT, TO THE RIGHT, N THE FUEL SELECT BUT HAD INSUFFI I REVEALED NO PI AL OF FUEL WAS HE OTHER TANKS,	THE FLT, HE RIGHT, NEAR HIS EL SELECTOR TO VARIOUS D INSUFFICIENT ALT. ALED NO FREIMPACT PART ALEL NO FREIMPACT PART TUEL WAS FOUND IN THE CR TANKS. ONE TANK WAS	OU S HE T HE C	

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Brief of Accident (Continued)

File No 1999	99 7/20/85	SAN ANDREAS, CA	A/C Kes. No. N7305V	Time (Lc1) - 1233 FDT
Occurrence #1 Phase of Operation	LOSS OF POWER(T CRUISE - NORMAL	DTAL) - NON-MECHANICAL		
Fındina(s) l. FUEL SYSTEM - INADEQUATE 2, AIRCRAFT/EQUIFMENT,I	NADEQUATE UIFMENT,INADEQUA) SYSTEH - INADEQUATE AIRCRAFT/EQUIFMENT,INADEQUATE DESIGN - MANUFACTURER		
3. FLUID,FUEL - ST 4. EMERGENCY PROCE 5. REMEDIAL ACTION	ARVATION DURE - FERFORMEI - NOT ATTAINED	3. FLUID.FUEL - STARVATION 4. EMERGENCY PROCEDURE - PERFORMED - FILOT IN COMMAND 5. REMEDIAL ACTION - NOT ATTAINED -		
Decurrence #2 Phase of Operation	FORCED LANDING DESCENT - EMERGENCY	5666 N C Y		
Occurrence #3 Phase of Operation	IN FLIGHT COLLISION WITH LANDING - FLARE/TOUCHDOWN	IN FLIGHT COLLISION WITH TERRAIN LANDING - FLARE/TOUCHDOWN		
Finding(s) 6. TERRAIN CONDITION - OPEN FIELD 7. WHEELS UP LANDING - PERFORMED	ON - OPEN FIELD DING - PERFORMEI	(s) Rrain Condition - Open Field Wheels Up Landing - Performed - Pilot in Command		
Frobable Cause				
The National Transportation Safety Board determines	ırtatıon Safety l	Board determines that the Frobable	bable Couse(s) of this accident	

is/are finding(s) 3

Factor(s) relating to this accident 1\$/are finding(s) 1,2,6

National Transportation Safety Roard Washington, D.C. 20594

Brief of Accident

	1	1 1 1	l I I			
	1	None 3	UNK/NR UNK/NR		S/LIMIT UNK/NR UNK/NR UNK/NR UNK/NR	
	- 1420 CDT	Injuries aus Minor 0 0 0 0	Activated - na System -	4		ORTED HE MAS WER LDSS, A POST INED ITY).
	Time (Lcl)	Serious 0 0	Installed/Activated Stall Warning System	<pre>t Froximits AIRFORT/STRIP AIRFORT/STRIP Data Data av Ident av Ident av Surface avas Surface avas Status avas Status avas Status</pre>	ID MEDICAL-NO WA (Hours) Last 24 Hr Last 30 Da Last 90 Da Kotorcraft	PLT REP POWER W C THE FO CATION.
		Fatal 0		Aireort OFF AI Aireort D Runuay Runuay Runuay	· · · · · ·	CRUISE FLT. THE FI A TOTAL LOSS OF P NOTED THAT AFTER L PRESSURE INDICA HT MAIN FUEL TANK FLACARDED 19 GAL
	N7315V	י ה מ מ מ נ נ נ נ נ נ נ נ נ נ נ נ נ נ נ נ נ	CONTINENTAL IO-520-D 1 Recip-fuel injected 300 HP) LANDING	Certific Certific Il Fli Addel- Crument- Ci-Eng -	IN CRU S: A HE NOT FLEL I NNKS PU
د 	Res. No.	t Damage NTIAL	CONTINENTA 1 Récip-fuel 300 HP	- FORCED		DSS OF POWER IN C AFRX 3 MINUTES, A WERE FUTILE, HE N THERE WAS NO FUEL UNCTION, THE RIGH FUEL (MAIN TANKS
DI HECTORIC	A/C F	Aırcrəft Dam SUBSTANTIAL Fire NONE		arture Foint GTDN IS,WI on GAN,WI CAN,WI Flight Flan Clearance h/Lnds	Review - UNK/NR - UNK/NR - UNK/NR	WING A LDSS C & AFTER AFRX ENGINE WERE L FUMP, THERE URE/MALFUNCTJ CHES OF FUEL
IAT.I4		(ND	Ens Make/Model Number Ensines Rated Power	ierary ast Der WASHIN Stinati Stinati SHEBOY Alısra dre of ure of ure Arc	Ase - 43 Biennial Flight Ro Current Months Since Aircraft Type	NG FOLLOWING A L T TANK, 2 AFTER TART THE ENGINE AUX FUEL FUMP, CAL FAILURE/MALF 1 1/4 INCHES OF
	SHE ROYGAN, WI	al Auiati		ш <i>с</i> т	Bienni Bienni Cu Ao	ED LANDI THE RIGH S TO RES D ON THE MECHANI NTAINED
	SHER	-NDNE {GENER/ -Personal -14 CFR 91 -Landing	CTABLE	Mation KTS SM 15000 FT SCATTERED NONE NONE NONE NONE		- NUNE URING A FORCED LANDIN THE LEFT TO THE RIGHT ATED ATTEMPTS TO REST HEN HE TURNED ON THE DISCLOSED NO MECHANIC HAIN TANN CONTAINED 1 WERE EMPTY.
	7/21/85	cate-NONE (G -PERSONA -14 CFR -13 CFR		AR AR AR AR AR OIS KTS OIS KTS OIS KTS OIS CA A A A A A A A A A A A A A A A A A A	(5)	CH DURING CH DURING ROM THE L RROM THE L RROM THE L F. WHEN NKS WERE
		Thertific Certific and Under red Duri	tion	/OPERATIONS INFO A - UNK/NR ENS - UNK/NR ENS - UNK/NR Ther - UNC/NR Ther - UNC/NR Ther - 290/015 149 - 20.0 Sky/Clouds Ceiling Ceiling tation of Light	aation id s)/Rating	Trument Kating(s) - NUNE IDED WITH A DITCH DURING A FORCED LANDING FOLLOW FUEL SELECTOR FROM THE LEFT TO THE RIGHT TANK, 8 FUEL SELECTOR FROM THE LEFT TO THE RIGHT TANK, 8 HE STATED THAT REFEATED ATTEMPTS TO RESTART THE SSURE DROPPED OFF. WHEN HE TURNED ON THE AUX FUEL PECTION OF THE ACFT DISCLOSED NO MECHANICAL FAILL OF FUEL 8 THE LEFT MAIN TANK CONTAINED 1 1/4 INC DF FUEL 1 AUX TANKS WERE EMPTY.
	File No 1581	Basic Information Type Operating Certificate-NONE (GENERAL AVIATI Type of Operation Flight Conducted Under14 CFR 91 Accident Occurred During -LANDING	reraft Information hake/Model BELLANCA Landing Gear - TRICYCLE Max Gross Wt - 3325 No. of Seats - 4	vironment/Operations Info ather Data - UNK/NR W. Briefins - UNK/NR Method - UNK/NR Completeness - UNK/NR Basic Weather - VMC Basic Weather - VMC Wind Dir/Speed- 290/015 Visibility - 20.0 Lowest Sky/Clouds - Lowest Sky/Clouds - Condition of Light -	ersonnel Information Filot-In-Command Faliticate(s)/Rating(s) FRIVATE SE LAND	Instrument Kating(s) - NUNE arrative
			1 V	<pre></pre>	Fersonnel Information Filot-In-Command Certificate(s)/Rating SE LAND	Instrument Kating(s) - NUNE Narrative HE ACT COLLIDED WITH A DITCH DURING A FORCED LANDING FOLLOWING A LDSS OF FOWER SWITCHED THE FUEL SELECTOR FROM THE LEFT TO THE RIGHT TANK, 2 AFTER AFRX 3 MINUTE SWITCHED THE FUEL SELECTOR FROM THE LEFT TO THE RIGHT TANK, 2 AFTER AFRX 3 MINUTE STRENCED. HE STATED THAT REFEATED ATTEMPTS TO THE RIGHT TANK, 2 AFTER AFRX 3 MINUTE THE FUEL FRESSURE DROPPED OFF. WHEN HE TURNED ON THE AUX FUEL FUMP, THERE WAS NO ACCIDENT INSFECTION OF THE ACTT DISCLOSED NO MECHANICAL FAILURE/MALFUNCTION. THE A 1/2 INCHES OF FUEL 2 THE AUX TANKS WERE EMPTY.

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Brief of Accident (Continued)

File No 1581	B1 7/21/85 SHEROYGAN,WI	A/C Res. No. N7315V	Time (Lc1) - 1420 CDT
Ucurrence #1 Phase of Operation	LOSS OF FOWER(TOTAL) - NON-MECHANICAL CRUISE - NORMAL		
<pre>Finding(s) I, FUEL SYSTEM - INADEQUATE I, FUEL SYSTEM - INADEQUATE 2, AIRCRAFT/EQUIFMENT.IN 3, FLUID.FUEL - STARVATION 4, EMERGENCY FROCEDURE - AT</pre>	HADEQUATE DESIGN - 1 Tempted - Filot IN		
Occurrence #2 Phase of Operation	FORCED LANDING DESCENT - EMERGENCY		
Occurrence #3 Phase of Operation	ON GROUND COLLISION WITH TERRAIN Landing - Roll		
Finding(s) 5. TERRAIN CONDITION - DITCH	ION - DITCH		
Frobahle Cause			
The National Transe is/are finding(s) 3	The National Transportation Safety Board determines that the Fr is/are finding(s) 3	that the Frobable Cause(s) of this accident	a t

Factor(s) relating to this accident is/are finding(s) 1,2,5

Hallendi Trucerorletton Sefeto Buerd Washington, D.C. 20294

Brief of Accident

File No 1058	7/28/85 COZAD+NE	A/C	Ƙe⊴. No. N6598V	μm	Time (Lcl) -	1006 CDT	
Basic Information Type Operating Certificate-NONE (GENERAL AVIATI	CENERAL A	AVIATION) ALTCRAFT DEM SUBSTANTIAL	t Demage	ا ا د د د ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا	I I I I I I I I I I I I I I I I I I I	Les : Miror	 a: a: a: a: a: a: a:
Tyre of Flisht C Accident	-FERSONAL -14 CFR 91 -LANDING	Fire NONE		Creu Fass O	00	10	0 (1
Alteraft Informati Alke/Model - Landing Gear - Max Gross Wt - No. of Seats -	on BELLANCA 17-31A TRICYCLE-RETRACTABLE 3000 4	Make/Model - ber Ensines - ine Type - ed Power -	LYCOMING IO-540 1 Recif-fuel injected 290 HF	ELT Stal	istalled/ Warning	Activated " System - YES	YES/YES
<pre>vironment/Operatio esther Data Wirlefing - Completeness - Basic Weather - Wind Dir/Speed- Visibility - Lowest Ceiling Obstructions to Frecipitation of Lig Condition of Lig</pre>	The second of BRIEFING N/A N/A N/A UMC 050/018 KTS 15.0 SM 15.0 SM 15.	Itinerary Last Departure Point SFEARFISH,SD Destination KEARNEY,NE ATC/Airspace Type of Flight Flan Type of Clearance Type Arch/Lndd	- VFR - NONE - FORCED LANDING	Алтео Алтео Алтео Клаг Клаг Клаг	t Froximity AIRPORT/STRIP Data Data ay Ident ay Lth/Wid ay Status lay Status	4 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
rePersonnel Information Pilot-In-Command Certificate(s)/Rating(s) COMMERCIAL SE LAND Instrument Rating(s)	- AIRPLANE	Ade - 43 Biennial Flight Review Current - YES Months Since - 5 Aircraft Type - 17-31A	Medical Certı Total Make/Mode Instrumen Multi-Eng	cate UNK/ UNK/ UNK/ UNK/	- VALID HEDICAL-ND WAIVERS/LIMIT Time (Hours) 24 Hrs - 2 NR Last 24 Hrs - 2 NR Last 30 Days- UNK/NR NR Last 90 Days- 30 NR Rotorcraft - UNK/NR	WAIVERS/LIMI Hrs - 2 Days- UNK/NR Days- 30 Bft - UNK/NR	MIT NR 30 Nr
THE PLT REPORTED THAT DURING A DESCENT TO LAND AT KEARNEY, NE, COVERED MOST OF THE WINDSHIELD, DURING A FORCED LANDING AFCH, SMALL SECTION OF THE WINDSHIELD, AT ABOUT 100 FT AGL, THE PLT TO AVOID THE POWER LINES, THE ACFT TOUCHED DOWN HARD, BOUNCED THE INITIAL IMPACT FOINT, AN EXAM OF THE ENG REVEALED THAT A # FAILED, THE #2 FOD MAN THEN PUNCTURED THE FNG CASE WHICH ALLOW	DESCENT TO LAND DESCENT TO LAND DURING A FORCEI O AT ABOUT 100 F ACFT TOUCHED DOW FOR OF THE ENG RE	RNEY, NE NG APCH, THE PLT BOUNCED THAT A A	FOWER & DIL S SEAT BELT NES DIRECTLN IN A SOYBEA IN A SOYBEA	DOZED DUT DF THE COMU SO HE COULD SEE THRU A AHEAD. HE DOVE THE F AN FIELD ABOUT 200 FT HE RESPECTIVE ROD CAP	IT OF THE COWLING & NULD SEE THRU A HE DOVE THE ACFT ABOUT 200 FT BEYOND TIVE ROD CAF HAD	8 N.	

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Brief of Accident (Continued)

File No 10	1058	7728/85	COZAD,NE	- - - - - - - - - - - - - - - - - - -	A/C Res	A/C Res. No. N6598V	Time (Lcl) - 1006 CDT	
Occurrence #1 Phase of Operation	LOSS OF DESCENT	LOSS OF POWER(TOTAL) - MECH FA	#EC	CH FAILURE/MA				
<pre>FindIng(s) I. ENGINE ASSEMBLY,CONNECTING KOD - FAILUKE,TOTAL 2. ENGINE ASSEMBLY,CRANKCASE - OVERLOAD 3. FLUID,OIL - LEAR 4. WINDOW,FLIGHT COMFARTMENT WINDOW/WINBSHIELD</pre>	, CONNECTING , CRANKCASE ir omfartment	NG KOD - FAILU SE - OVERLOAD IT WINDOW/WINDS	FAILURE, TC JAD JINDSHIELI	0TAL 1 - 0THER				
Uccurrence ‡2 Fhase of Operation	FORCED	FORCED LANDING DESCENT - EMERGENCY	4CY					
Ocurrence # 3 Phase of Operation	IN FLIG Landing	IN FLIGHT COLLISION WITH TERRAIN Landing - Flare/Touchdown	ION WITH FOUCHDOWN	TERRAIN				
Finding(s) 5. OBJECT - WIRE,TRANSMISSION 6. MANEUVER - FERFORMED - FILOT IN COMMAND	RANSMISSI Rformed -	CON FILOT IN	СОММАИD		1 			
Gadable Causer								
The National Transportation Safety Board determines is/are finding(s) 1	ortetion S	3afety Boa	rd determ	ines that the	e Frobable Cau	Frobable Cause(s) of this accident		

Factor(s) relating to this accident is/are finding(s) 3,4,5

National Transportation Safety Buard Washington, D.C. 20594

Brief of Accident

File No 2016	7/30/85 CAM	CAMDEN,SC	A/C Res	. No. N6707V	F	Time (Lcl) -	- 1910 EDT	
Basic Information Type Operating Certificate-NONE (GENERAL AVIATI Type of OperationINSTRUCTIONAL Flight Conducted Under -14 CFR 91 Accident Occurred DuringLANDING	ricate-NONE (GENERAL 		Aircraft Dam Bingtantlat Fire IN FLIGHT	Damade DAL Creu T Fass		3871001000	7165	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
に (つ) に (つ)) (つ) () (Ens Mak Ens Mak Number Rated F	.e/Model - Ensines - Tyre - Yower -	CDNTINENTAL ID-520-K1A t recip-fuel injected 300 HF	KiA ELT	Installed/Activated Stall Warning System	Activated - Activated - 1g System -	тез/ND YES YES
<pre>Environment/Operations Information Weather Data - NO RECORD OF BRIEF Wx Briefins - N/A Completeness - N/A Completeness - N/A Basic Weather - VMC Wind Dir/Speed- VARIABLE Visibility - 10.0 SM Lowest Cellins - 10.0 SM Lowest Cellins - 10.0 SM Completeness to Vision- NONE Precipitation of Light - DAYLIGHT</pre>	ns Information NO RECORD OF BRIEFING N/A UAC UARIABLE UARIABLE 10.0 SM s - CLEAR Uision- NONE Vision- NONE bt - DAYLIGHT		inerary Last Derarture Foint CAMDEN'SC estimation LOCAL LOCAL C/Airspace C/Airspace Type of Flisht Flan Type of Clearance Type Arch/Lnds	NDNE FORCED LANDING	A177074 A177074 A177074 A177074 A1 RUTRWAY RUTWAY RUTWAY	Froximity RFORT/STRI ata ata Ident Lth/Wid Status	⊄⊄⊄⊄ >>>>>>> 2ZZZZ	
	(() ()	Ase - 42 Biennial Flis Current Months Si Aircraft	2 ight Review Since - 23 t Type - UNK/NR	Medical Certificate Flight Total - Make/Model- Instrument- Multi-Eng -	では ででは での で で し に し で し し し し し し し し し し し し し	VALID MEDICAL-NO me (Hours) Last 24 Last 30 Last 90	J WAIVERS/LIMIT 4 Hrs - 0 0 Days- Unk/nr 0 Days- 6	HIT NR 6
Instrument rating(s) - HIRTCHAE Narrative HHILE THE ACFT WAS FLYING OVER WODDED TERRAIN, THE ENG LC WHILE THE ACFT WAS FLYING OVER WODDED TERRAIN, THE ENG LC BEGAN AN EMERG AFCH TO THE FIELD. THE ACFT STRUCK THE TOF BEGAN AN EMERG AFCH TO THE FIELD. THE ACFT STRUCK THE TOF PLT MADE A GEAR UF LANDING. AN EXAM REVEALED THAT THE EXP CONNECTED. THIS ALLOWED HOT EXHAUST GASES TO ENTER THE EV INOPFRATIVE. AN AIRWORTHINESS DIRECTIVE, AD 76-23-03, WHJ HAD BEEN COMPLIED WITH ON 10/7/83, BUT HAD NOT BEEN FERF ACFT HAD ACCUMULATED & HRS OF FLT TIME SINCE COMPLIANCE	DVER WODDED TERRA FIELD. THE ACFT AN EXAM REVEALE AN EXAM REVEALE ES DIRECTIVE, AD 10/7/83, BUT HAD 10/7/83, BUT HAD	IN, THE ENG LOST STRUCK THE TOFS D THAT THE EXHAU D ENTER THE EXHAU 1 76-23-03, WHICH NOT BEEN PERFORM	PDWER. TH PDWER. TH OF TREES C ST MUFFLER COMFARTMEN I REQUIRED I REQUIRED TH AD 76-2	IE FLT SAW A FLOWED FIELD AF IN FINAL AFCH, BUT CONTINUED HAD FAILED AT A WELD WHERE THE RACH, BUT CONTINUED HAD FAILED AT A WELD WHERE AN INSFECTION OF THE EXHAUS THE LAST ANNUAL INSFECTION 35-03.	LOWED FIELD AFKX 3 MI BUT CONTINUED FLYING A WELD WHERE A BALL AGNETO WIRES & RENDER OF THE EXHAUST SYS E AL INSFECTION ON 12/7	PFX 3 MI AWAY 8 PFX 3 MI AWAY 8 D FLYING UNTIL THE A BALL JOINT WAS 8 RENDER THE MAGNETOS BT SYS EACH 100 HRS, 0N 12/7/84, THE	THE THE WAS JGNETOS JGNETOS	

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111 1 Time (Lc1) - 1910 EDT The National Transportation Safety Board determines that the Frobable Cause(s) of this accident A/C Reg. No. N6707V Hrief of Accident (Continued) LOSS DF POWER(TOTAL) - MECH FAILURE/MALFUNCTION CRUISE - NORMAL Factor(s) relating to this accident is/are finding(s) 5,7,8 IN FLIGHT COLLISION WITH TERRAIN LANDING - FLARE/TOUCHDOWN Finding(s) 6. WHEELS UP LANDING - PERFORMED - PILOT IN COMMAND 7. TERRAIN CONDITION - OPEN FIELD 8. TERRAIN CONDITION - SOFT IN FLIGHT COLLISION WITH OBJECT APPROACH CAMDEN, SC Finding(s) I. EXHAUST SYSTEM.MUFFLER - FAILURE.TOTAL I. EXHAUST SYSTEM.MUFFLER - FAILURE.TOTAL C. EXHAUST SYSTEM.ELECTRIC WIRING - BURNED 3. ELECTRICAL SYSTEM.MAGNETO - INOPERATIVE 4. IGNITION SYSTEM.MAGNETO - INOPERATIVE FORCED LANDING DESCENT - EMERGENCY FIRE CRUISE - NORMAL 7/30/85 is/are finding(s) 1,2,3,4 ---Frobable Cause----- 2016 Finding(s) 5. OBJECT - TREE(S) Occurrence #5 Phase of Operation Phase of Operation Phase of Operation Phase of Operation Jecurrence #4 Phase of Operation File No. Occurrence #3 Occurrence #2 Occurrence #1 ******

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Nutional Transportation Sufety Roard Washington, D.C. 20594

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Brief of Accident

Information Orerating Certificate-NONE (GENERAL AVIATION of Orerating Certificate-NONE (GENERAL AVIATION of Orerating Conducted Under -14 CFR 91 dent Occurred Under -14 CFR 91 dent Occurred Under -14 CFR 91 tinformation ft Information ft Information ft Seats - 3325 of Seats - 4 and Dir/Sreations Information riefind - N/A sissimation riefind - N/A ment/OFerations Information riefind - N/A anticede 270/008 KTS anticede - N/A anticede 270/008 KTS anticede 270/008 KTS anticede - N/A anticede - N/A anticed	File No		9/24/85 BURL		if of Accident A∕C ƙe⊴. No. N6627V	70	Time (Lcl)	- 1635 PDT	
Fire Crew 0 1 0 Make/Model - CONTINENTAL IO-520-K ELT Installed/Activated - The Tyse - RECFFFUEL INJECTED Stall Warning System - The Tyse - Stall Warning System - The Sacvinc Airport Froximity - The Sacvinc Airport Data - Total - Stall Warning System - Total - Stall Warning System - Total - NONE Runway Stalus Srece - Stall - Stringtor - Stall - Stringtor - VALIN - Stall Stringtor - Stall - Stall Strice - 2	Rasic Informat Type Operati	iorent fica	ste-NONE (GENER	ERAL AVIATION)	TIAL	\$ } ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	atal Seri	Ser 1 N I I I N I I I I N I I I I N I I I I N I I I I	NO 15
Make/Model - CONTINENTAL IO-520-K ELT Installed/Activated - Der Fust - RECIP-FUEL INJECTED Stall Warning System - Der Fust - RECIP-FUEL INJECTED Stall Warning System - Der Fust - RECIP-FUEL INJECTED Stall Warning System - Der Fust - RECIP-FUEL INJECTED Stall Warning System - Der Fust - 300 HP Direct Data Der Sound - Stall Warnung System - - 28 Statue - 28 Runway Lth/Wid - - 5364/ Status - Status - Status - NKY Def Clearance - NONE Runway Status - NKY Arch/Lnds - FORCED LANDING - 13325 Last 20 Days- 2 Arch/Lnds - YES - 13325 Last 20 Days- 2 2 Arch/Lnds - YES - 13325 Last 20 Days- 2 2 Arch/Lnds - YES - 13325 Last 20 Days- 2 2 Arch/Lnds - YES - 13325 Last 20 Days- 2 2 Arch/Lnds - YES - YES - 2267 Rouras Surface - ASFHALT	Type of Oper Flight Condu Accident Occ	ation Icted Under Wirred Durins	-FERSONAL -14 CFR 9 -LANDING		Fire IN FLIGHT	Creu Fass			0 (1
Bry Airport Froximity Departure Foint DF AIRFORT/STRIP IE AS ACC/INC DF AIRFORT/STRIP IE AS ACC/INC Airport Data SYAGIT REGIONAL/BAY VIEW SKAGIT REGIONAL/BAY VIEW ST SOUND.WA SKAGIT REGIONAL/BAY VIEW ST SOUND.WA Airport Data ST SOUND.WA SKAGIT REGIONAL/BAY VIEW ST SOUND.WA Status Status - DRF Runwas Status - S5364/ Arch/Lnds - FORCED LANDING Arch/Lnds - FORCED LANDING Arch/Lnds - VALID MEDICAL-WAIVERS/L Arch/Lnds - FORCED LANDING Arch/Lnds - Total Lisht Review Flamt Time (Hours) Lisht Review - Total	Altrcraft Infor Make/Model Landing Gear Max Gross Wt No. of Seats	mation	A 17-30A E-RETRACTABLE	R R R R R R R R R R R R R R R R R R R	- CONTINENTAL - 1 - recip-fuel 1 - 300 HP	-520-K Ecteb	ELT Installed. Stall Warn		YES/ND YES
AITPORT BATA SKAGIT REGIONAL/BAY VIEW KURWEY Ident - 28 RURWEY Ident - 28 RURWEY SUTFACE - 5364/ RURWEY SUTFACE - 5364/ FILANT PIAN - NONE FILANT RURWEY SUTFACE - ASFHAL APCh/Lnda - FORCED LANDING APCh/Lnda - FORCED LANDING APCh/Lnda - FORCED LANDING APCh/Lnda - 14325 Last 24 Hrs - 113ht Teat - VALID MEDICAL-WAIVERS/L FILSHT Time (Hours) L - YES Since - 2 Since - 2 ALART FILANT - 110 Last 20 Days- Multi-Eng - UNK/NR APCHORCED LANDING WAS MADE IN CKTIRE, THE THE ENG LOST FOWER, A FORCED LANDING WAS MADE IN OUTLET. THIS ALLOWED HOT EXHAUST GASES TO ENTER THE ENG MAGNETO WITH F-LEAD FOR THE ENG MAGNETO WITH F-LEAD FOR THE ENG MAGNETO WITH REEN OPERATED FOR UNLY SO FLT HKS SINCE	Environment/OP Weather Data Wx Briefing	erations Inf - NO REC - NO	formation JORD OF BRIEFIN		arture Foint s Arring	< <b< td=""><td>irport Proximity OFF AIRPORT/STR</td><td>άI</td><td></td></b<>	irport Proximity OFF AIRPORT/STR	άI	
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46Medical Certificate - VALID MEDICAL-WAIVERS/LLisht ReviewFiisht Time (Hours)LYESTotalL- YESLast 24 HrsSince- 2Make/Model-Since- 2Last 30 Daysft Type- UNK/NRLast 90 Daysft Type- UNK/NRRotorcraftrt The ACFT STRUCK A DITCH & WAS DAMAGED, A VISUAL INSFECTIONrt The ACFT STRUCK A DITCH & WAS DAMAGED, A VISUAL INSFECTIONrt AdoRETOWITH F-LEAD FAILURE, THE MAGNETOSAD 74-23-03, WHICH REQUIRED AN INSFECTION OF THE EXHAUST SYSAEVER THE ACFT HAD BEEN OPERATED FOR ONLY 50 FLT HRS SINCE	Visibility Lowest Sky Lowest Cei Dostructio Frecipitat Condition	//Clouds - 10.0 //Clouds - ling ns to Visior lof Lisht		α α τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ	1sht Flan - NONE earance - NONE Lnds - FORCED	ÐING	1	5364/ ASFHALT DRY DRY	0
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	Narrative DURING INITIAL CLU A FIELD ON ROUGH/U REVEALED THAT THE COMFARTMENT & DAMA UOULD HAVE BEEN IN EACH 100 HKS, HAD THAT DATE.	THE FLT INEVEN THE FLT INEVEN TERRAL LEFT EXHAUST ICET EXHAUST ICFE THE VOLT	SHELLED SMOKE SHELLED SMOKE IN. DURING THE T MUFFLER HAD F AGE REGULATOR.	1 (1 🖌 🚟 🖓	TRE, THEN THE ENG LOST FO IE ACFT STRUCK A DITCH & LET, THIS ALLOWED HOT EX SNETO WIRING (F-LEADS), W 3 ST2-03, WHICH REQUIRED FR THE ACFT HOD BEEN OPER	WER. A FO WAS DAMAG WAS DAMAG NAUST GAS IAN FT GAS AN INSPEA ATED FOR	RCED LANDING WAS ED, A VISUAL INS ED, A VISUAL INS ES TO ENTER THE ES TO LURE, THE CTION OF THE EXH ONLY 50 FLT HRS	HADE IN SPECTION Eng Andnet SYS SINCE SYS SINCE	

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Time (Lc1) - 1635 FDT The National Transportation Safety Board determines that the Frobable Cause(s) of this accident is/are finding(s) 1/2/3/4 A/C Res. No. N6627V LOSS OF POWER(TOTAL) - MECH FAILURE/MALFUNCTION TAKEOFF - INITIAL CLIMB ON GROUND COLLISION WITH TERRAIN LANDING - ROLL **BURLINGTON, WA** EXHAUST SYSTEM, MUFFLER - FAILURE, TOTAL EXHAUST SYSTEM - LEAK ELECTRICAL SYSTEM, ELECTRIC WIRING - BURNED IGNITION SYSTEM, MAGNETO - INOPERATIVE FJRE TAKEOFF - INITIAL CLIMB FORCED LANDING DESCENT - EMERGENCY 5. TERRAIN CONDITION - NONE SUITABLE 6. TERRAIN CONDITION - DITCH 9/24/85 File No. - 1359 ----Probable Cause----Phase of Operation Occurrence #4 Fhase of Operation Occurrence #2 Phase of Operation Fhase of Operation 111111111111111111 Occurrence #3 Occurrence #1 Findins(s) (s)Ending(s) **** 1111

Brief of Accident (Continued)

Factor(s) relating to this accident is/are finding(s) 5.6