

**NATIONAL TRANSPORTATION SAFETY BOARD
PILOT/OPERATOR AIRCRAFT ACCIDENT/INCIDENT REPORT**

This form to be used for reporting civil and public aircraft accidents and incidents

BASIC INFORMATION

Accident/Incident Location
 Nearest City/Place: Reno (KRTS) State: NV
 ZIP: 89506 Country: USA
 Latitude: 3940.785N Longitude: 11952.755W
(Enter in decimal degrees or degrees:minutes:seconds)

Accident/Incident Date/Time
 Date: 08/24/2020 Local Time: 1003
mm/dd/yyyy Time Zone: PDT
Collision with Other Aircraft: Midair On-ground None

AIRCRAFT INFORMATION

Registration Number: N926TA
Manufacturer: Northrop
Model: F-5EM
Serial Number: 75-0493
Year of Manufacture: 1975
Amateur-Built: Yes No *If Yes:* Kit/Plans Original Design *Make:* _____

IFR-Equipped and Certified
 Commercial Space Flight
 Unmanned Aircraft
Maximum Gross Weight: 15,320 lbs
Weight at Time of Accident/Incident: 13,064 lbs
Number of Seats: 1 Flight Crew Seats: 1
 Cabin Crew Seats: 0 Passenger Seats: 0
Number of Engines: 2

Category of Aircraft
 Airplane
 Balloon
 Blimp/Dirigible
 Glider
 Gyroplane
 Helicopter
 Powered Lift
 Rocket
 Ultralight
 Unknown

Type of Airworthiness Certificate
(Check all that apply)
Standard **Special**
 Normal Restricted
 Aerobatic Limited
 Balloon Provisional
 Commuter Special Flight
 Transport Experimental
 Utility Special Light-Sport
 Experimental Light-Sport
 Certificate of Authorization or Waiver (COA)
 None Unknown

Landing Gear
(Check all that apply)
 Retractable
 Tricycle Tailwheel
 Amphibian High Skid
 Emergency Float Skid
 Float Ski
 Hull Ski/Wheel
 Other Launch/Recovery System
 None Unknown

Engine Type *(Select one)*
 Reciprocating Liquid Rocket
 Turbo Shaft Solid Rocket
 Turbo Prop Hybrid Rocket
 Turbo Jet None
 Turbo Fan Unknown
 Electric
Fuel System Type *(Reciprocating)*
 Carburetor Fuel-Injected

Engine	Engine Manufacturer	Engine Model/Series	Manufacturer's Serial Number	Date of Mfg. <i>mm/dd/yyyy</i>	Rated Power <input type="radio"/> Horsepower or <input checked="" type="radio"/> lbs of Thrust	Total Time (hours)	Time Since Inspection (hours)	Time Since Overhaul (hours)
Eng. 1	General Electric	J85-21C	227743	10/31/1980	5000	1715.1	164.1	164.1
Eng. 2	General Electric	J85-21C	227807	05/31/1981	5000	2257.2	101.5	1000.6
Eng. 3								
Eng. 4								

Last Inspection Type
 100-Hour Continuous Airworthiness
 AAIP Conditional Inspection
 Annual Unknown
Date Last Inspection: 08/13/2020
mm/dd/yyyy
Airframe Total Time: 2335.1 hrs
 hours measured at *(Select one)*
 Last Inspection Time of Accident/Incident

Propeller 1 Fixed Pitch
 Controllable Pitch
 Ground Adjustable
 Manufacturer: _____
 Model: _____

Propeller 2 Fixed Pitch
 Controllable Pitch
 Ground Adjustable
 Manufacturer: _____
 Model: _____

Type of Maintenance Program *(Select one)*
 Annual
 Conditional (Amateur-built only)
 Manufacturer's Inspection Program
 Other Approved Inspection Program (AAIP)
 Continuous Airworthiness
 Other, specify: _____

ELT Installed: Yes No
If Yes:
ELT Manufacturer: ARC
Model or Part No.: PLB-425, PN:2922
TSO No.: C91 (121.5 MHz) C91a (121.5 MHz)
 C126 (406 MHz)
Was ELT still mounted in aircraft? Yes No
Was ELT still connected to antenna? Yes No
Did ELT Activate? Yes No
If activated:
Did ELT Aid in Locating Aircraft? Yes No
If not activated:
Indicate Reason: Impact Damage
 Fire Damage
 Battery Expired/Damaged
 Unknown

Additional Equipment *(Check all that apply)*
 ADS-B
 Airframe Parachute
 Angle of Attack Indicator
 Autopilot
 Data Recorder
 Electronic Flight Bag or Handheld Device
 Electronic Multifunction Display
 Electronic Primary Flight Display
 Handheld GPS
 Heads Up Display
 Onboard Weather
 Satellite Tracking Device
 Stall Warning System
 Video Recording Device
 Other, Specify: _____

Description of Fire Extinguishing System
 None
 Specify: _____

OWNER/OPERATOR INFORMATION**Registered Aircraft Owner**Name: Tactical Air Support, Inc.City: RenoFractional Ownership Aircraft: Yes NoState: NV ZIP: 89506Country: USA**Operator of Aircraft** Same As Registered Owner Same Address as Registered Owner

Name: _____

City: _____

Doing Business As: _____

State: _____ ZIP: _____

Air Carrier/Operator Designator (4 Character Code): _____

Country: _____

Operating Certificates Held*(Check all that apply)*

- None
- Flag Carrier Operating Certificate (FAR 121)
- Supplemental
- Air Cargo
- Foreign Air Carriers (FAR 129)
- Rotorcraft External Load (FAR 133)
- Commuter Air Carrier (FAR 135)
- On-Demand Air Taxi (FAR 135)
- Commercial Air Tour (FAR 136)
- Agricultural Aircraft (FAR 137)
- Pilot School (FAR 141)
- Certificate of Authorization or Waiver (COA)
- Commercial Space Transportation Experimental Permit
- Commercial Space Transportation License
- Other Operator of Large Aircraft

Regulation Flight Conducted Under

- FAR 91 FAR 129 FAR 415
- FAR 103 FAR 133 FAR 431
- FAR 121 FAR 135 FAR 435
- FAR 125 FAR 137 FAR 437
- FAR 91 Special Flight
- Non-US, Commercial
- Non-US, Non-commercial
- Public Aircraft *(Select one)*
- Armed Forces
- Federal
- State
- Local
- Unknown

Revenue Operation for FAR 121, 125, 129, 135*(Select one for each group)*

- Scheduled or Commuter Domestic
- Non-Scheduled or Air Taxi International
- Passenger
- Cargo
- Mail Contract Only

Purpose of Flight for FAR 91, 103, 133, 137*(Select one)*

- Aerial Application Firefighting Unknown
- Aerial Observation Flight Test
- Air Drop Glider Tow
- Air Race/Show Instructional
- Banner Tow Other Work Use
- Business Personal
- Executive/Corporate Positioning
- External Load Skydiving
- Ferry

Revenue Sightseeing Flight Yes No**Air Medical Flight** Yes No**AIRPORT INFORMATION (Fill in if accident/incident occurred on approach, landing, takeoff, departure, or within 3 miles of an airport)**Airport Name: Reno/SteadDistance From Airport Center: 0.42 smAirport Identifier: KRTSDirection From Airport: 111.5 degrees trueProximity to Airport: Off Airport/Airstrip On Airport/Airstrip N/AAirport Elevation: 5,050 ft. msl**Runway Information**Runway ID: 14 (L/R/C) Length: 9,000 ft Width: 150 ft**Runway/Landing Surface (Check all that apply)**

- Asphalt Grass/Turf Macadam Water
- Concrete Gravel Metal/Wood
- Dirt Ice Snow Unknown

Condition of Runway/Landing Surface (Check all that apply)

- Dry Snow-Compacted Water-Calm
- Holes Snow-Crusted Water-Choppy
- Ice Covered Snow-Dry Water-Glassy
- Rough Snow-Wet Wet
- Rubber Deposits Soft
- Slush-Covered Vegetation Unknown

Approach/Departure Segment (Select one)

- Taxi VFR Departure On Instrument Approach Downwind Low Approach
- Takeoff IFR Departure Procedure/Clearance Landing Base Go Around
- Initial Climb Final Aborted Landing (after touchdown)
- Crosswind Unknown

IFR Approach (Check all that apply)

- None
- ADF/NDB PAR MLS Practice
- SDF Sidestep LDA GPS
- VOR/TVOR ILS ASR
- VOR/DME Localizer Only Visual
- TACAN LOC-back course Contact
- RNAV Circling
- Unknown

VFR Approach (Check all that apply)

- None
- Traffic Pattern Stop and Go
- Straight-In Touch and Go
- Valley/Terrain Following Simulated Forced Landing
- Go Around Forced Landing
- Full Stop Precautionary Landing
- Unknown

“FLIGHT CREWMEMBER 2” INFORMATION

“Flight Crewmember 2” Responsibilities at the Time of Accident/Incident

Pilot Co-Pilot Student Pilot Flight Instructor Check Pilot Flight Engineer Other Flight Crew

“Flight Crewmember 2” was pilot flying Yes No

“Flight Crewmember 2” Identification

First Name: _____ City of Residence: _____
 Middle Initial: _____ State: _____ ZIP: _____
 Last Name: _____ Country: _____
 Age at time of Accident/Incident: _____ Date of Birth: _____ mm/dd/yyyy
 Certificate Number: _____

Degree of Injury <input type="radio"/> None <input type="radio"/> Fatal <input type="radio"/> Minor <input type="radio"/> Unknown <input type="radio"/> Serious	Seat Occupied <input type="radio"/> Left <input type="radio"/> Front <input type="radio"/> Unknown <input type="radio"/> Right <input type="radio"/> Rear <input type="radio"/> Center <input type="radio"/> Single	Restraint Type <table style="width:100%;"> <tr> <th style="text-align: left;">Available</th> <th style="text-align: left;">Used</th> </tr> <tr> <td><input type="radio"/> None</td> <td><input type="radio"/> None</td> </tr> <tr> <td><input type="radio"/> Lap only</td> <td><input type="radio"/> Lap only</td> </tr> <tr> <td><input type="radio"/> 3-point</td> <td><input type="radio"/> 3-point</td> </tr> <tr> <td><input type="radio"/> 4-point</td> <td><input type="radio"/> 4-point</td> </tr> <tr> <td><input type="radio"/> 5-point</td> <td><input type="radio"/> 5-point</td> </tr> <tr> <td><input type="radio"/> Unknown</td> <td><input type="radio"/> Unknown</td> </tr> </table>	Available	Used	<input type="radio"/> None	<input type="radio"/> None	<input type="radio"/> Lap only	<input type="radio"/> Lap only	<input type="radio"/> 3-point	<input type="radio"/> 3-point	<input type="radio"/> 4-point	<input type="radio"/> 4-point	<input type="radio"/> 5-point	<input type="radio"/> 5-point	<input type="radio"/> Unknown	<input type="radio"/> Unknown	Inflatable Restraints <input type="checkbox"/> Not Installed <input type="checkbox"/> Installed <input type="checkbox"/> Not Deployed <input type="checkbox"/> Deployed <input type="checkbox"/> Unknown
Available	Used																
<input type="radio"/> None	<input type="radio"/> None																
<input type="radio"/> Lap only	<input type="radio"/> Lap only																
<input type="radio"/> 3-point	<input type="radio"/> 3-point																
<input type="radio"/> 4-point	<input type="radio"/> 4-point																
<input type="radio"/> 5-point	<input type="radio"/> 5-point																
<input type="radio"/> Unknown	<input type="radio"/> Unknown																

Pilot Certificate(s) *(Check all that apply)*

<input type="checkbox"/> None	<input type="checkbox"/> Flight Instructor	<input type="checkbox"/> Commercial	<input type="checkbox"/> US Military
<input type="checkbox"/> Private	<input type="checkbox"/> Recreational	<input type="checkbox"/> Airline Transport	<input type="checkbox"/> Foreign
<input type="checkbox"/> Student	<input type="checkbox"/> Sport	<input type="checkbox"/> Flight Engineer	

Principal Occupation <input type="radio"/> Pilot <input type="radio"/> Other <input type="radio"/> Unknown	Medical Certificate <input type="radio"/> None <input type="radio"/> Class 3 <input type="radio"/> Class 1 <input type="radio"/> Driver’s License (Sport Pilot only) <input type="radio"/> Class 2 <input type="radio"/> Unknown	Medical Certificate Validity <input type="radio"/> Without limitations/waivers <input type="radio"/> Unknown <input type="radio"/> With limitations/waivers <input type="radio"/> N/A <input type="radio"/> Special Issuance	Date of Last Medical _____ mm/dd/yyyy
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Medical Certificate Limitations

Medical Certificate Special Issuance

Date of Last Flight Review or Equivalent, Including FAR 121/135 Checks: _____ mm/dd/yyyy	Flight Review Aircraft Make: _____ Model: _____
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Airplane Rating(s) <i>(Check all that apply)</i> <input type="checkbox"/> None <input type="checkbox"/> Single-Engine Land <input type="checkbox"/> Single-Engine Sea <input type="checkbox"/> Multiengine Land <input type="checkbox"/> Multiengine Sea	Other Aircraft Rating(s) <i>(Check all that apply)</i> <input type="checkbox"/> None <input type="checkbox"/> Airship <input type="checkbox"/> Balloon <input type="checkbox"/> Glider <input type="checkbox"/> Gyroplane <input type="checkbox"/> Helicopter <input type="checkbox"/> Powered Lift	Instrument Rating(s) <i>(Check all that apply)</i> <input type="checkbox"/> None <input type="checkbox"/> Airplane <input type="checkbox"/> Helicopter <input type="checkbox"/> Powered Lift	Instructor Rating(s) <i>(Check all that apply)</i> <input type="checkbox"/> None <input type="checkbox"/> Airplane Single-Engine <input type="checkbox"/> Airplane Multi-Engine <input type="checkbox"/> Gyroplane <input type="checkbox"/> Powered Lift <input type="checkbox"/> Instrument Airplane <input type="checkbox"/> Instrument Helicopter <input type="checkbox"/> Helicopter <input type="checkbox"/> Glider <input type="checkbox"/> Sport
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Type Ratings	Student Endorsements <i>(Include dates)</i>
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Flight Time <i>(Enter appropriate number of hours in each box)</i>	All Aircraft	This Make & Model	Airplane Single Engine	Airplane Multiengine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time										
Pilot in Command (PIC)										
Time as Instructor										
This Make/Model										
Last 90 Days										
Last 30 Days										
Last 24 Hours										

ADDITIONAL FLIGHT CREWMEMBERS (Exclusive of cabin crew, complete the following information)

Crew Name and Address	Seat Occupied	Injury
First Name: _____ City of Residence: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____	<input type="radio"/> Left <input type="radio"/> Front <input type="radio"/> Center <input type="radio"/> Rear <input type="radio"/> Right <input type="radio"/> Single <input type="radio"/> Unknown	<input type="radio"/> None <input type="radio"/> Minor <input type="radio"/> Serious <input type="radio"/> Fatal <input type="radio"/> Unknown
Pilot Certificate(s) (Check all that apply) <input type="checkbox"/> None <input type="checkbox"/> Flight Instructor <input type="checkbox"/> Commercial <input type="checkbox"/> US Military <input type="checkbox"/> Private <input type="checkbox"/> Recreational <input type="checkbox"/> Airline Transport <input type="checkbox"/> Foreign <input type="checkbox"/> Student <input type="checkbox"/> Sport <input type="checkbox"/> Flight Engineer	Restraint Type: Available Used <input type="radio"/> None <input type="radio"/> None <input type="radio"/> Lap Only <input type="radio"/> Lap Only <input type="radio"/> 3-point <input type="radio"/> 3-point <input type="radio"/> 4-point <input type="radio"/> 4-point <input type="radio"/> 5-point <input type="radio"/> 5-point <input type="radio"/> Unknown <input type="radio"/> Unknown	Inflatable Restraints <input type="checkbox"/> Not Installed <input type="checkbox"/> Installed <input type="checkbox"/> Not Deployed <input type="checkbox"/> Deployed <input type="checkbox"/> Unknown
Type Rating/Endorsement for Accident/Incident Aircraft? <input type="checkbox"/> Yes <input type="checkbox"/> No	Total Flight Time at the Time of this Accident/Incident: _____ hrs	

Crew Name and Address	Seat Occupied	Injury
First Name: _____ City of Residence: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____	<input type="radio"/> Left <input type="radio"/> Front <input type="radio"/> Center <input type="radio"/> Rear <input type="radio"/> Right <input type="radio"/> Single <input type="radio"/> Unknown	<input type="radio"/> None <input type="radio"/> Minor <input type="radio"/> Serious <input type="radio"/> Fatal <input type="radio"/> Unknown
Pilot Certificate(s) (Check all that apply) <input type="checkbox"/> None <input type="checkbox"/> Flight Instructor <input type="checkbox"/> Commercial <input type="checkbox"/> US Military <input type="checkbox"/> Private <input type="checkbox"/> Recreational <input type="checkbox"/> Airline Transport <input type="checkbox"/> Foreign <input type="checkbox"/> Student <input type="checkbox"/> Sport <input type="checkbox"/> Flight Engineer	Restraint Type: Available Used <input type="radio"/> None <input type="radio"/> None <input type="radio"/> Lap Only <input type="radio"/> Lap Only <input type="radio"/> 3-point <input type="radio"/> 3-point <input type="radio"/> 4-point <input type="radio"/> 4-point <input type="radio"/> 5-point <input type="radio"/> 5-point <input type="radio"/> Unknown <input type="radio"/> Unknown	Inflatable Restraints <input type="checkbox"/> Not Installed <input type="checkbox"/> Installed <input type="checkbox"/> Not Deployed <input type="checkbox"/> Deployed <input type="checkbox"/> Unknown
Type Rating/Endorsement for Accident/Incident Aircraft? <input type="checkbox"/> Yes <input type="checkbox"/> No	Total Flight Time at the Time of this Accident/Incident: _____ hrs	

PASSENGER(S) / OTHER PERSONNEL (Include cabin crew; continue on separate sheet if necessary)

Name and Address	Seat	Injury	Restraint Type	Inflatable Restraints	Age
First Name: _____ City : _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ <input type="radio"/> Crew <input type="radio"/> Passenger <input type="radio"/> Other	<input type="radio"/> Left <input type="radio"/> Center <input type="radio"/> Right <input type="radio"/> Unknown Row: _____	<input type="radio"/> None <input type="radio"/> Minor <input type="radio"/> Serious <input type="radio"/> Fatal <input type="radio"/> Unknown	Available Used <input type="radio"/> None <input type="radio"/> None <input type="radio"/> Lap Only <input type="radio"/> Lap Only <input type="radio"/> 3-point <input type="radio"/> 3-point <input type="radio"/> 4-point <input type="radio"/> 4-point <input type="radio"/> 5-point <input type="radio"/> 5-point <input type="radio"/> Unknown <input type="radio"/> Unknown	<input type="checkbox"/> Not Installed <input type="checkbox"/> Installed <input type="checkbox"/> Not Deployed <input type="checkbox"/> Deployed <input type="checkbox"/> Unknown	<input type="checkbox"/> Under 5 years If Under 5, <input type="radio"/> Child Restraint <input type="radio"/> Lap-Held <input type="radio"/> Unknown
First Name: _____ City : _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ <input type="radio"/> Crew <input type="radio"/> Passenger <input type="radio"/> Other	<input type="radio"/> Left <input type="radio"/> Center <input type="radio"/> Right <input type="radio"/> Unknown Row: _____	<input type="radio"/> None <input type="radio"/> Minor <input type="radio"/> Serious <input type="radio"/> Fatal <input type="radio"/> Unknown	Available Used <input type="radio"/> None <input type="radio"/> None <input type="radio"/> Lap Only <input type="radio"/> Lap Only <input type="radio"/> 3-point <input type="radio"/> 3-point <input type="radio"/> 4-point <input type="radio"/> 4-point <input type="radio"/> 5-point <input type="radio"/> 5-point <input type="radio"/> Unknown <input type="radio"/> Unknown	<input type="checkbox"/> Not Installed <input type="checkbox"/> Installed <input type="checkbox"/> Not Deployed <input type="checkbox"/> Deployed <input type="checkbox"/> Unknown	<input type="checkbox"/> Under 5 years If Under 5, <input type="radio"/> Child Restraint <input type="radio"/> Lap-Held <input type="radio"/> Unknown
First Name: _____ City : _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ <input type="radio"/> Crew <input type="radio"/> Passenger <input type="radio"/> Other	<input type="radio"/> Left <input type="radio"/> Center <input type="radio"/> Right <input type="radio"/> Unknown Row: _____	<input type="radio"/> None <input type="radio"/> Minor <input type="radio"/> Serious <input type="radio"/> Fatal <input type="radio"/> Unknown	Available Used <input type="radio"/> None <input type="radio"/> None <input type="radio"/> Lap Only <input type="radio"/> Lap Only <input type="radio"/> 3-point <input type="radio"/> 3-point <input type="radio"/> 4-point <input type="radio"/> 4-point <input type="radio"/> 5-point <input type="radio"/> 5-point <input type="radio"/> Unknown <input type="radio"/> Unknown	<input type="checkbox"/> Not Installed <input type="checkbox"/> Installed <input type="checkbox"/> Not Deployed <input type="checkbox"/> Deployed <input type="checkbox"/> Unknown	<input type="checkbox"/> Under 5 years If Under 5, <input type="radio"/> Child Restraint <input type="radio"/> Lap-Held <input type="radio"/> Unknown
First Name: _____ City : _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ <input type="radio"/> Crew <input type="radio"/> Passenger <input type="radio"/> Other	<input type="radio"/> Left <input type="radio"/> Center <input type="radio"/> Right <input type="radio"/> Unknown Row: _____	<input type="radio"/> None <input type="radio"/> Minor <input type="radio"/> Serious <input type="radio"/> Fatal <input type="radio"/> Unknown	Available Used <input type="radio"/> None <input type="radio"/> None <input type="radio"/> Lap Only <input type="radio"/> Lap Only <input type="radio"/> 3-point <input type="radio"/> 3-point <input type="radio"/> 4-point <input type="radio"/> 4-point <input type="radio"/> 5-point <input type="radio"/> 5-point <input type="radio"/> Unknown <input type="radio"/> Unknown	<input type="checkbox"/> Not Installed <input type="checkbox"/> Installed <input type="checkbox"/> Not Deployed <input type="checkbox"/> Deployed <input type="checkbox"/> Unknown	<input type="checkbox"/> Under 5 years If Under 5, <input type="radio"/> Child Restraint <input type="radio"/> Lap-Held <input type="radio"/> Unknown

FLIGHT ITINERARY INFORMATION

Last Departure Point Airport ID: <u>KRTS</u> City: <u>Reno</u> State: <u>NV</u> Country: <u>USA</u>	Time of Departure Time: <u>0900</u> Time Zone: <u>PDT</u>	Destination Airport ID: <u>KRTS</u> City: <u>Reno</u> State: <u>NV</u> Country: <u>USA</u>	Type Flight Plan Filed <input checked="" type="radio"/> None <input type="radio"/> Company VFR <input type="radio"/> Military VFR <input type="radio"/> VFR <input type="radio"/> VFR/IFR <input type="radio"/> IFR <input type="radio"/> Unknown Activated? <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown
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Type of ATC Clearance/Service (Check all that apply)

<input checked="" type="checkbox"/> None	<input type="checkbox"/> Special VFR	<input type="checkbox"/> Special IFR	<input type="checkbox"/> VFR Flight Following	<input type="checkbox"/> Cruise
<input type="checkbox"/> VFR	<input type="checkbox"/> IFR	<input type="checkbox"/> VFR On Top	<input type="checkbox"/> Traffic Advisory	<input type="checkbox"/> Unknown / NA

Airspace where the accident/incident occurred (Check all that apply)

<input type="checkbox"/> Class A	<input type="checkbox"/> Class G	<input type="checkbox"/> Military Operations Area (MOA)	<input type="checkbox"/> Special
<input type="checkbox"/> Class B	<input type="checkbox"/> Demo Area	<input type="checkbox"/> Airport Advisory Area	<input type="checkbox"/> Air Traffic Control Area
<input type="checkbox"/> Class C	<input type="checkbox"/> Warning Area	<input type="checkbox"/> Jet Training Area	<input type="checkbox"/> Unknown
<input type="checkbox"/> Class D	<input type="checkbox"/> Prohibited Area	<input type="checkbox"/> TRSA	
<input checked="" type="checkbox"/> Class E	<input type="checkbox"/> Restricted Area	<input type="checkbox"/> FAR 93	

Altitude of In-Flight Occurrence: _____ ft msl

WEATHER INFORMATION AT THE ACCIDENT/INCIDENT SITE

Source of Pilot Weather Information (Check all that apply) <input type="checkbox"/> National Weather Service <input type="checkbox"/> Flight Service Station <input type="checkbox"/> TV/Radio <input checked="" type="checkbox"/> Automated Report <input type="checkbox"/> Commercial Weather Service (DUATS) <input type="checkbox"/> On-Board Weather <input type="checkbox"/> Company <input type="checkbox"/> Military <input checked="" type="checkbox"/> Internet <input type="checkbox"/> None <input type="checkbox"/> Unknown	Weather Observation Facility Facility ID: <u>KRTS</u> Observation Time: <u>1015</u> Time Zone: <u>PDT</u> Distance from Accident Site: <u>0</u> nm Direction from Accident Site: <u>0</u> degrees true
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Basic Conditions <input checked="" type="radio"/> VMC <input type="radio"/> IMC <input type="radio"/> Unknown	Light Condition <input type="radio"/> Dawn <input checked="" type="radio"/> Day <input type="radio"/> Dusk <input type="radio"/> Night <input type="radio"/> Dark Night <input type="radio"/> Bright Night <input type="radio"/> Unknown
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Sky/Lowest Cloud Condition <input checked="" type="radio"/> Clear <input type="radio"/> Few <input type="radio"/> Partial Obscuration <input type="radio"/> Scattered <input type="radio"/> Thin Broken <input type="radio"/> Thin Overcast <input type="radio"/> Unknown Lowest Cloud Condition Height _____ ft agl	Ceiling <input checked="" type="radio"/> None (Clear) <input type="radio"/> Broken <input type="radio"/> Overcast <input type="radio"/> Obscured <input type="radio"/> Indefinite <input type="radio"/> Unknown Ceiling Height _____ ft agl	Temperature: <u>21</u> (C) or _____ (F) Dew Point: <u>12</u> (C) or _____ (F) Altimeter Setting: <u>30.15</u> in. Hg or _____ MB
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Wind Direction <input checked="" type="checkbox"/> Variable -or- Direction: _____ degrees true	Wind Speed <input checked="" type="checkbox"/> Calm <input type="checkbox"/> Light and Variable -or- Speed: _____ kts	Wind Gusts <input checked="" type="checkbox"/> Not Gusting -or- Speed: _____ kts	Visibility <u>10</u> miles RVR: _____ feet RVV: _____ miles Density Altitude: _____ ft
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Intensity of Precipitation <input type="radio"/> Light <input type="radio"/> Moderate <input type="radio"/> Heavy <input type="radio"/> N/A <input type="radio"/> Unknown	Type of Precipitation (Check all that apply) <input checked="" type="checkbox"/> None <input type="checkbox"/> Rain <input type="checkbox"/> Snow <input type="checkbox"/> Hail <input type="checkbox"/> Rain Showers <input type="checkbox"/> Drizzle <input type="checkbox"/> Ice Pellets <input type="checkbox"/> Snow Pellets <input type="checkbox"/> Snow Grains <input type="checkbox"/> Ice Crystals <input type="checkbox"/> Freezing Rain <input type="checkbox"/> Snow Shower <input type="checkbox"/> Ice Pellets Shower <input type="checkbox"/> Freezing Drizzle	Restriction to Visibility (Check all that apply) <input type="checkbox"/> None <input type="checkbox"/> Blowing Dust <input type="checkbox"/> Blowing Sand <input type="checkbox"/> Blowing Snow <input type="checkbox"/> Blowing Spray <input type="checkbox"/> Dust <input type="checkbox"/> Fog <input type="checkbox"/> Ground Fog <input type="checkbox"/> Haze <input type="checkbox"/> Ice Fog <input checked="" type="checkbox"/> Smoke <input type="checkbox"/> Unknown
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Icing Forecast <table style="width: 100%;"> <tr> <th>Amount</th> <th>Type</th> </tr> <tr> <td><input checked="" type="radio"/> None</td> <td><input type="radio"/> N/A</td> </tr> <tr> <td><input type="radio"/> Trace</td> <td><input type="radio"/> Rime</td> </tr> <tr> <td><input type="radio"/> Light</td> <td><input type="radio"/> Clear</td> </tr> <tr> <td><input type="radio"/> Moderate</td> <td><input type="radio"/> Mixed</td> </tr> <tr> <td><input type="radio"/> Severe</td> <td><input type="radio"/> Unknown</td> </tr> <tr> <td><input type="radio"/> Unknown</td> <td></td> </tr> </table>	Amount	Type	<input checked="" type="radio"/> None	<input type="radio"/> N/A	<input type="radio"/> Trace	<input type="radio"/> Rime	<input type="radio"/> Light	<input type="radio"/> Clear	<input type="radio"/> Moderate	<input type="radio"/> Mixed	<input type="radio"/> Severe	<input type="radio"/> Unknown	<input type="radio"/> Unknown		Icing Actual <table style="width: 100%;"> <tr> <th>Amount</th> <th>Type</th> </tr> <tr> <td><input checked="" type="radio"/> None</td> <td><input type="radio"/> N/A</td> </tr> <tr> <td><input type="radio"/> Trace</td> <td><input type="radio"/> Rime</td> </tr> <tr> <td><input type="radio"/> Light</td> <td><input type="radio"/> Clear</td> </tr> <tr> <td><input type="radio"/> Moderate</td> <td><input type="radio"/> Mixed</td> </tr> <tr> <td><input type="radio"/> Severe</td> <td><input type="radio"/> Unknown</td> </tr> <tr> <td><input type="radio"/> Unknown</td> <td></td> </tr> </table>	Amount	Type	<input checked="" type="radio"/> None	<input type="radio"/> N/A	<input type="radio"/> Trace	<input type="radio"/> Rime	<input type="radio"/> Light	<input type="radio"/> Clear	<input type="radio"/> Moderate	<input type="radio"/> Mixed	<input type="radio"/> Severe	<input type="radio"/> Unknown	<input type="radio"/> Unknown		Turbulence Type (Check all that apply) <input checked="" type="checkbox"/> None <input type="checkbox"/> Clear Air <input type="checkbox"/> Terrain-Induced <input type="checkbox"/> Convective Turbulence Severity <input type="checkbox"/> Light <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Extreme
Amount	Type																													
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NOTAMs (D and FDC), AIRMETs, SIGMETs, PIREPs in effect at the time of the accident/incident:

IFDC 8/8255 RTS ODP RENO/STEAD, Reno, NV.
 TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES AMDT 3A...
 TAKEOFF MINIMUMS: RWYS 8, 14, STANDARD WITH A MINIMUM CLIMB OF 410 FT PER NM TO 6500. RWY 32, STANDARD WITH A MINIMUM CLIMB OF 420 PER NM TO 7200.
 NOTE: RWY 8, BUSH, BEGINNING 138 FT FROM DER, 358 FT LEFT OF CENTERLINE, UP TO 5058 FT MSL. NOTE: RWY 26, BUSH

DAMAGE TO AIRCRAFT AND OTHER PROPERTY

Aircraft Damage

- None Substantial
 Minor Destroyed
 Unknown

Aircraft Fire

- None Both Ground and In-Flight
 In-Flight Fire at Unknown Time
 On-Ground Unknown

Aircraft Explosion

- None Both Ground and In-Flight
 In-Flight Explosion at Unknown Time
 On-Ground Unknown

Description of Damage to Aircraft and Other Property *(Use additional sheet if necessary)*

Damage to centerline tank pylon, tail hook assembly, speed brakes, left & right stabilators, avionics antennas, and miscellaneous lower fuselage panels. All items damaged are non-structural components and will be repaired or replaced.

Airport management indicated that there was only minor cosmetic damage to the runway.

NARRATIVE HISTORY OF FLIGHT *(Please type or print in ink)*

Describe what occurred in chronological order, including circumstances leading to and nature of accident/incident. Describe terrain and include wreckage distribution sketch if pertinent. Attach extra sheets if needed. State departure time and location, services obtained, and intended destination. Provide as much detail as possible.

The flight was scheduled as a two-ship radar test flight with the mishap pilot (MP) in an F-5AT, a modified F-5EM, as the test aircraft. This was the MP sixth flight in an F-5AT aircraft and second radar test flight as the test/data collecting aircraft.

The mishap aircraft (MA) departed KRTS at 0900 in N926TA as call sign VILAN 51 and proceeded to the Reno MOA. Approximately five minutes later, the wingman and radar target departed KRTS in N699TA as call sign VILAN 52. Completing the test in the MOA, after reaching a bingo fuel state, VILAN 52 returned to KRTS. Approximately ten minutes later, the MA reached a bingo fuel state and returned to KRTS.

Approaching the field, the MP made a 2 min out call on the CTAF. At 5 miles, the MP made an initial call for Runway 14. The MP heard an Extra 300 call a left base for runway 08. The MP looked to his right to see if he could gain a visual on the traffic in the intersecting runways pattern, but he could not. The MP executed a normal turn to downwind within the first third of runway 14 by rolling left to downwind and bringing the throttles to idle, selecting flaps full, and extending the speed brakes. In the first 45 degrees of the turn, the Extra 300 made a call to the MA which was unreadable. Completing the turn and rolling on the downwind, the MP became distracted by the Extra 300 radio call perceiving a possible traffic conflict since the MP did not understand the call. Normally, the MP would be scanning airspeed while slowing to gear speed and preparing to lower the gear. Still thinking about the unintelligible Extra 300 call and possible conflict, the MP slowed through gear speed but did not lower the landing gear. The MA continued to slow to normal pattern speed.

Approaching the abeam position on downwind, the MP made a call on CTAF. "Reno-Stead Traffic, Villain 51, left downwind runway 14, full stop, Stead." By this time, the MP had determined there was no traffic conflict and turned his focus to flying the approach turn. The MA gear was still up and the MP had not completed his landing checklist. In the MP's 20 years of military flying at controlled fields, he had developed a habit between the abeam position and the start of the approach turn to make a radio call to the controlling tower similar to this, "Tower, call sign, abeam, 3 down and locked, full stop." In the past, this had been a cue for the MP to check his gear position lights and serve to trigger his landing checklist had he not executed it up to that point. In the last three months, while operating at an uncontrolled field and transitioning to civilian CTAF traffic pattern calls, the MP had removed the gear position check and report from his traffic position calls.

The MP began his approach turn with the gear up and having not completed the landing checklist. Approximately halfway through the final turn, the MP received an unexpected, and never heard on previous flights, a Garmin alert "Terrain, Terrain". As a result of the alert, the MP looked at the ground and looked at the approach end of the runway, perceived he was only slightly low, added a little power, and rolled out on final with a normal sight picture and energy state. The MP made a typical civilian CTAF call on final. The MP did not receive any other aircraft system audio alerts. The MP did not receive any external calls on CTAF. In close, the MP flared for the landing and thought based on the sight picture that the MA should have touched down. The MA landed and based upon the flare and attitude the MP thought it was odd that the landing felt harder than normal. Very quickly thereafter, based on the sound and proximity to the ground, the MP realized he had failed to lower the gear. The MA skidded to a stop before the intersection of 8/26, and the MP immediately shut off both engines with the throttle cutoff. He made a call to base on the UHF radio upper antenna that there was a mishap. The VHF radio was inoperative due to the lower antenna being impacted by the mishap. The MP then turned off the battery, opened the canopy, safed the ejection seat, released his harness, and parachute and egressed the aircraft normally.

Upon receiving notification that there was a mishap, the SOF made a radio call on CTAF that runway 14/32 was closed due to a disabled aircraft on the runway, called 911, notified airfield management, and activated the company mishap response plan.

RECOMMENDATION (How could this accident/incident have been prevented?)

Operator/Owner Safety Recommendation

- Emphasize to all company pilots the requirement to utilize approved checklists for aircraft operations.
- Install a higher power VHF radio with outside antenna to ensure the the supervisor of flying (SOF) communications are received. As the SOF recognized the MA was landing gear up and made three "check gear" radio calls that were not received/perceived by the MP.
- While the visual warning system was operational, ensure the audible aircraft gear warning system is also operational before each flight. Post mishap investigation revealed the audible system was inoperative.

MECHANICAL MALFUNCTION/FAILURE (If more space is needed, continue on separate sheet)

Was there Mechanical Malfunction/Failure? Yes No
 (If yes, list the name of the part, manufacturer, part no., serial no., and describe the failure.)

Total Time/Cycles On Part

_____ Hours

_____ Cycles

Time Since This Part Inspected/Overhauled

_____ Hours

FUEL & SERVICES INFORMATION**Fuel on Board at Last Takeoff**

(Convert from pounds, as necessary)

784 Gallons**Fuel Type** 80/87 115/145 Jet B Other, specify _____ 100 Low Lead Jet A JP8 100/130 Jet A-1 Automotive**Other Services, if Any, Prior to Departure**

None

EVACUATION OF AIRCRAFTWas an emergency evacuation of the aircraft performed? Yes No**Method of Exit** – Describe how the occupants exited and how many occupants evacuated each location

The MP turned off the battery, opened the canopy normally, safed the ejection seat, released his harness and parachute, and egressed the aircraft normally.

OTHER AIRCRAFT – COLLISION (If air or ground collision occurred, complete this section for other aircraft)**Aircraft Registration Number****Manufacturer:** _____**Model:** _____**Damage to Other Aircraft** Destroyed Minor Substantial None**Registered Owner of Other Aircraft**

Name: _____

City: _____

State: _____ ZIP: _____

Country: _____

Pilot of Other Aircraft

Name: _____

City: _____

State: _____ ZIP: _____

Country: _____

ADDITIONAL INFORMATION (Please type or print in ink)

Use this space if additional space is needed for any answers.

I HEREBY CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Date of this Report _____ <i>mm/dd/yyyy</i>	Name of Pilot/Operator: _____ Signature: _____ <i>-- or --</i> <input type="checkbox"/> Check here to electronically sign this document
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If a Person Other than Pilot/Operator is Filing Report

Name: Michael G. Cosby **Title:** Director of Safety

Signature: _____

-- or -- Check here to electronically sign this document

FOR NTSB USE ONLY

NTSB Accident/Incident No. WPR20CA286	Reviewed by NTSB Regional Office Western Pacific Region	Name of Investigator Scott Epler	Date Report Received 09/01/2020
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