

## SECTION 3

### EMERGENCY PROCEDURES

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### 3.1 AIRSPEEDS FOR EMERGENCY OPERATION

**Operating Maneuvering Speed (V<sub>0</sub>):**

All weights ..... 170 KIAS

**Best Glide (Propeller Feathered):**

All weights ..... 129 KIAS

**Landing without Engine Power:**

Flaps UP ..... 110 KIAS

Flaps T/O ..... 105 KIAS

Flaps FULL ..... 95 KIAS

**Landing in Pusher Ice Mode:**

Flaps UP, (5,700 lb) ..... 122 KIAS

Flaps UP, (6,000 lb) ..... 124 KIAS

Flaps UP, (6,600 lb) ..... 127 KIAS

Flaps UP, (7,000 lb) ..... 129 KIAS

Flaps UP, (7,600 lb) ..... 133 KIAS

### 3.2 GENERAL

This section contains recommended procedures for different failures or emergency situations. Refer to Section 9 “Supplements” for additional emergency procedures associated with optional or particular equipment.

Many emergency procedures require immediate action by the pilot, leaving little time to consult the emergency procedures. Prior knowledge of these procedures and a thorough understanding of the airplane systems are prerequisites for safe airplane handling.

Memory Items are in bold text and outlined in a box and must be committed to memory so they may be executed without delay in response to an emergency.

The emergency procedures use the terms “Land as soon as possible” and “Land as soon as practical.” For the purposes of these procedures, these terms are defined as follows:

- Land as soon as possible – Land without delay at the nearest suitable airport where a safe approach and landing is reasonably assured.
- Land as soon as practical – Landing airport and duration of flight are at the discretion of the pilot. Extended flight beyond the nearest suitable airport where a safe approach and landing is reasonably assured is not recommended.

Emergency procedures alone cannot protect against all situations. Good airmanship must be used in conjunction with the emergency procedures to manage the emergency.

### 3.2.1 CREW ALERTING SYSTEM

The Crew Alerting System (CAS) provides:

**RED** Warning messages, which require immediate pilot awareness and immediate corrective action by the pilot.

**AMBER** Caution messages, which require immediate pilot awareness and subsequent pilot action.

**WHITE** Advisory messages, which increase pilot awareness.



Whenever a red or amber message illuminates, an additional WARNING or CAUTION indication will also illuminate in the pilot and copilot Wedge displays.

More information on the display of CAS messages can be found in Section 7 DESCRIPTION and the Garmin G1000 NXi Pilot's Guide.

### 3.2.2 CIRCUIT BREAKERS

Unless otherwise specified in a procedure, circuit breakers which trip in flight should not be reset. If the pilot in command determines that the system or equipment is required for safe completion of that flight, one attempt only is allowed to reset circuit breakers on the Essential Bus. Refer to Section 7.9.2.2 CIRCUIT BREAKERS.

An open Essential Bus circuit breaker may be reset only after at least one minute has elapsed since the circuit breaker tripped and if there is no smoke or burning smell.

If an emergency procedure requires a circuit breaker to be reset, this means to open (pull out) the circuit breaker, wait for approximately two (2) seconds, and then close (push in) the circuit breaker. If a circuit breaker is found already open, reset means to close (push in) the circuit breaker.

Circuit breaker locations are described as follows:

- Left (Pilot) or Right (Copilot) side (**L** or **R**)
- Top or Bottom row (**T** or **B**)
- Number of breakers in from Left or Right (**||**► or ◀**||**)

Left-Side (Pilot) Circuit Breakers



#### CAUTION

ALWAYS VISUALLY VERIFY THE CIRCUIT BREAKER LABEL BEFORE MAKING ANY CHANGES TO A CIRCUIT BREAKER.

3.3 REJECTED TAKEOFF

- |                      |                             |
|----------------------|-----------------------------|
| 1. POWER Lever ..... | IDLE<br>REVERSE AS REQUIRED |
| 2. Brakes .....      | AS REQUIRED                 |

3. *If the airplane cannot be stopped on the remaining runway or otherwise necessary:*
- a. PROP Lever..... FEATHER
  - b. COND Lever ..... FUEL CUTOFF
  - c. FUEL TANK SELECTOR Knob ..... OFF
  - d. BATT 1 & BATT 2 Switches ..... OFF
  - e. Airplane..... EVACUATE AS REQUIRED

3.4 ENGINE

3.4.1 DISCONTINUE ENGINE START

- |                             |             |
|-----------------------------|-------------|
| 1. COND Lever .....         | FUEL CUTOFF |
| 2. ITT .....                | BELOW 750°C |
| 3. STARTER GEN Switch ..... | OFF         |
- 4. IGNITER SWITCH..... AUTO
  - 5. Wait at least 60 seconds before dry motoring (see 3A.2) to allow for fuel draining and to avoid engine damage.

3.4.2 ENGINE FAILURE AFTER TAKEOFF – LOW ALTITUDE

- |  |             |
|--|-------------|
| 1. Best Glide Airspeed .....             | 129 KIAS    |
| 2. POWER Lever.....                      | IDLE        |
| 3. PROP Lever.....                       | FEATHER     |
| 4. Flaps .....                           | AS REQUIRED |
| 5. Emergency Gear Extension System ..... | AS REQUIRED |
| 6. Land straight ahead.                  |             |

7. Landing Airspeed ..... Flaps UP: 110 KIAS  
Flaps T/O: 105 KIAS  
Flaps FULL: 95 KIAS

8. *If time permits:*
- a. COND Lever..... FUEL CUTOFF
  - b. FUEL TANK SELECTOR Knob..... OFF
  - c. DUMP VALVE Switch..... ON
  - d. BATT 1 & BATT 2 Switches ..... OFF

*After airplane has stopped:*

9. Airplane.....EVACUATE AS REQUIRED

**Amplification**

Feather propeller to extend glide range. Propeller may feather on its own due to loss of oil pressure.

Glide range to landing site permitting, flaps should be deployed incrementally to FULL before touchdown to minimize airspeed on landing. Flap extension from UP to FULL takes approximately 12 seconds.

If landing site is suitable, land with gear DOWN. If landing site is not suitable for gear down landing, land with gear UP. Emergency gear extension takes approximately five seconds.



### 3.4.3 ENGINE FAILURE IN FLIGHT

- |  |                |
|--|----------------|
| 1. <b>POWER Lever .....</b>                        | <b>IDLE</b>    |
| 2. <b>PROP Lever .....</b>                         | <b>FEATHER</b> |
| 3. <b>Turn towards nearest landing area.</b>       |                |
| 4. <b>Crew Oxygen Masks (above 14,000 ft).....</b> | <b>DON</b>     |
5. MASK MICS Switch..... AS REQUIRED
  6. Flaps..... UP
  7. Best Glide Airspeed..... 129 KIAS
  8. All Occupants ..... SEATED WITH SEATBELTS SECURE
  9. *If in range of landing site:*
    - a. Expedite descent to FL230.
  10. *If cabin altitude exceeds 14,000 ft and passenger masks do not automatically deploy:*
    - a. EMERG OXYGEN Switch ..... ON

❖ **IF TIME PERMITS**

11. Perform AIR START (3.6.2).

❖ **IF TIME DOES NOT PERMIT**

11. Perform FORCED LANDING (3.8.1).

#### **Amplification**

A total loss of combustion is indicated by a loss of fuel flow, low ITT, and/or  $N_G$  below 40%. If fuel flow positive, ITT above 400°C, and  $N_G$  above 40%, perform PARTIAL OR ERRATIC POWER LOSS (3.4.4).

If above FL230 and within gliding distance of landing area, consider expediting descent to FL230, below which an air start can be attempted.

### 3.4.4 PARTIAL OR ERRATIC POWER LOSS

- |                        |                          |
|------------------------|--------------------------|
| 1. IGNITER Switch..... | ON                       |
| 2. POWER Lever.....    | IDLE                     |
| 3. MAN OVRD Lever..... | DEPLOY AND ENGAGE SLOWLY |

4. Land as soon as possible.

*After touchdown:*

5. MAN OVRD Lever ..... FULL DOWN  
6. Brakes..... AS REQUIRED

#### WARNING

DEPENDING ON AIRFIELD CONDITIONS, AND AIRPLANE WEIGHT AND CONFIGURATION, THE AVAILABLE POWER MAY NOT BE SUFFICIENT TO ENSURE A GO-AROUND.

#### WARNING

TOTAL LANDING DISTANCE WILL BE INCREASED WITHOUT THE USE OF GROUND-FINE.

#### CAUTION

WHEN MAN OVRD LEVER IS IN OPERATION, DO NOT PERMIT  $N_G$  TO FALL BELOW 75%, AVOID RAPID CONTROL MOVEMENTS, AND OBSERVE ENGINE LIMITATIONS.

#### ***Amplification***

A partial loss of power or rollback is indicated by positive fuel flow, ITT above 400°C, and  $N_G$  remaining at or above 40%. If loss of fuel flow, low ITT, and/or  $N_G$  below 40%, perform ENGINE FAILURE IN FLIGHT (3.4.3).

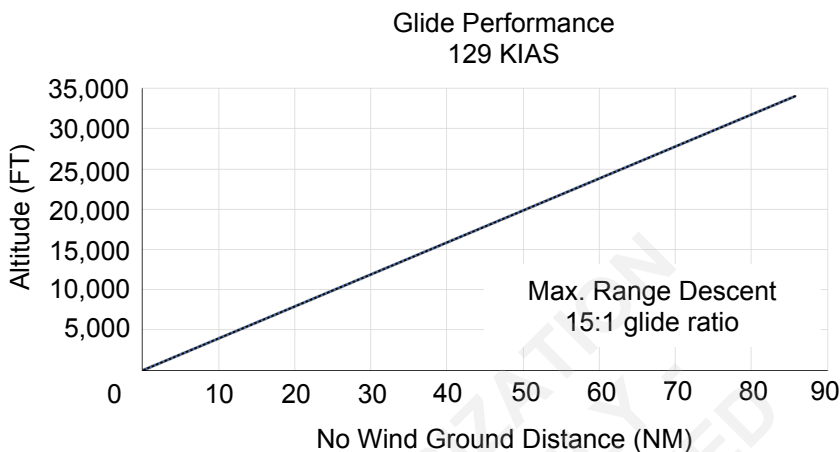
Switch control of the engine from the POWER lever to the manual override (MOR) lever referencing this checklist.

### 3.5 EMERGENCY DESCENT

#### 3.5.1 EMERGENCY DESCENT PROFILES

Conditions:

- Airplane Weight – 8,000 lb
- Landing gear up
- Propeller feathered



Two defined emergency descent procedures are:

1. Maximum Range—a descent that will cover the greatest distance over the ground.
2. Maximum Rate—a descent that will lose altitude in the shortest amount of time.

The choice of the type of descent to perform will depend on the kind of failure and the current situation. Other factors to consider when selecting which descent to use are:

- Cabin altitude and oxygen duration
- Electrical power endurance
- Distance to a suitable landing area
- Flight conditions (IMC, VMC, ICING, etc.)
- Minimum safe altitude
- Fuel reserves.

The pilot must consider the entire situation and adjust his or her priorities accordingly.

3.5.2 MAXIMUM RATE EMERGENCY DESCENT

1. Autopilot .....	DISENGAGE
2. POWER Lever .....	IDLE
3. PROP Lever .....	MAX RPM
4. Pitch .....	10° TO 20° NOSE DOWN
5. Airspeed .....	M <sub>MO</sub> /V <sub>MO</sub>

**CAUTION**

IF SIGNIFICANT TURBULENCE IS EXPECTED, OR IF SUSPECTED STRUCTURAL PROBLEM, DO NOT DESCEND AT INDICATED AIRSPEEDS GREATER THAN V<sub>0</sub>.

***Amplification***

The pilot may roll into a 45-degree bank while pitching down to establish the descent more quickly. Once the airspeed is established in the descent, roll wings level.

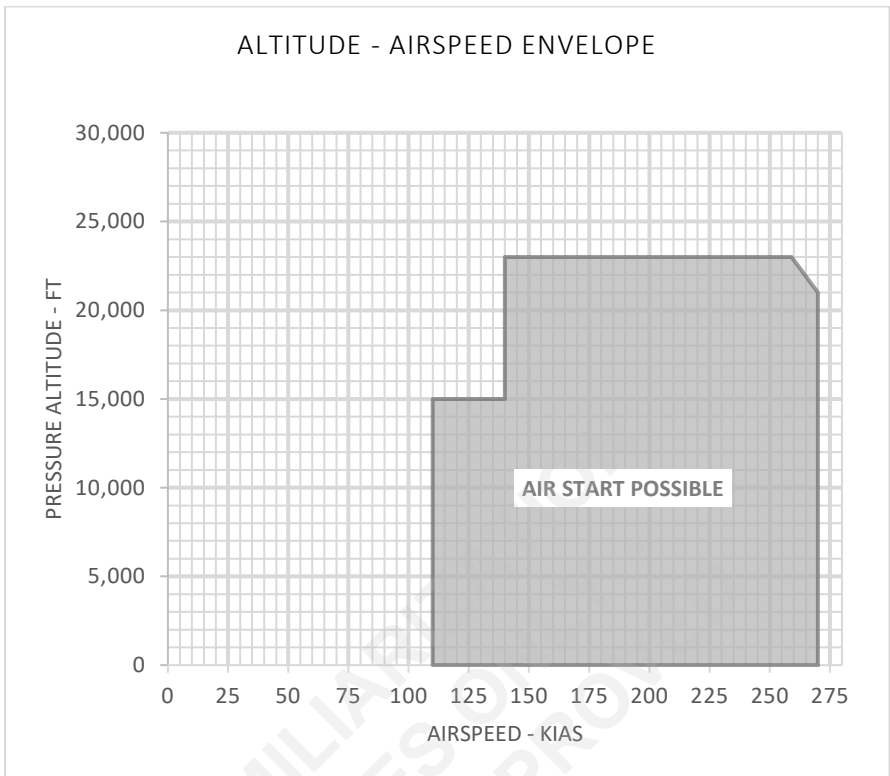
When levelling off after the descent, initiate level-off approximately 1000 above target altitude and pitch up slowly so as not to exceed airplane load limits.

3.5.3 MAXIMUM RANGE EMERGENCY DESCENT

1. POWER Lever ..... IDLE
2. PROP Lever ..... FEATHER
3. Flaps ..... UP
4. Landing Gear ..... UP
5. Best Glide Airspeed ..... 129 KIAS

### 3.6 AIR START

#### 3.6.1 AIR START ENVELOPE



#### 3.6.2 AIR START

1. Verify within Air Start Envelope.
2. POWER Lever ..... IDLE
3. PROP Lever ..... FEATHER
4. COND Lever ..... FUEL CUTOFF
5. DE-ICE BOOTS Switch ..... OFF
6. PROP HEAT Switch ..... OFF
7. PITOT STALL HT Switch ..... OFF UNLESS REQUIRED
8. PRESS AIR Switch ..... OFF
9. FUEL AUTO SEL Switch ..... OFF
10. STBY ALTN Switch ..... OFF
11. BATT 1 & BATT 2 Switches ..... ON
12. L & R FUEL PUMP Switches ..... ON
13. FUEL TANK SELECTOR Knob ..... TANK WITH POSITIVE FUEL PRESSURE
14. IGNITER Switch ..... ON
15. STARTER GEN Switch ..... ON
16. START Switch ..... PRESS & RELEASE
  - a. Oil Pressure ..... RISING
  - b. NG ..... 12% MINIMUM
17. COND Lever ..... LOW
18. ITT and  $N_G$  ..... MONITOR

— PROCEDURE CONTINUES ON NEXT PAGE —

❖ *IF AIR START FAILS*

- 19. COND Lever ..... FUEL CUTOFF
- 20. STARTER GEN Switch ..... OFF
- 21. IGNITER Switch..... AUTO
- 22. L & R FUEL PUMP Switches..... OFF
- 23. Best Glide Airspeed ..... 129 KIAS
- 24. Proceed to nearest landing area.
- 25. Perform FORCED LANDING (3.8.1).

❖ *IF ENGINE RELIGHTS AND AFTER N<sub>G</sub> GREATER THAN 51%*

- 26. GEN AMP Indicator ..... VERIFY POSITIVE
- 27. Engine Instruments.....CHECK
- 28. COND Lever ..... HIGH
- 29. PROP Lever..... MAX RPM
- 30. POWER Lever ..... AS REQUIRED
- 31. IGNITER Switch..... AUTO
- 32. STBY ALTN Switch..... ON
- 33. PRESS AIR Switch ..... ON
- 34. PITOT STALL HT Switch..... ON
- 35. PROP HEAT Switch ..... AS REQUIRED
- 36. DE-ICE BOOTS Switch ..... AS REQUIRED
- 37. Cabin Altitude ..... MONITOR
- 38. Land as soon as practical.

**WARNING**

**DO NOT ATTEMPT MORE THAN ONE AIR START. REPEATED ATTEMPTS COULD DISCHARGE THE BATTERIES TO LEVELS THAT WOULD NOT SUPPORT ESSENTIAL ELECTRICAL SERVICES.**

**CAUTION**

**AFTER AN AIR START, THE AUTOMATIC FUEL SELECTOR HAS BEEN DISABLED, AND THE FUEL SELECTOR MUST BE MANAGED MANUALLY.**

### 3.7 FIRE, SMOKE, OR FUMES

#### 3.7.1 ENGINE OR COCKPIT/CABIN FIRE DURING START OR ON THE GROUND

- |   |                    |
|---|--------------------|
| 1. <b>Airplane</b> .....                | <b>STOP</b>        |
| 2. <b>COND Lever</b> .....              | <b>FUEL CUTOFF</b> |
| 3. <b>FUEL TANK SELECTOR Knob</b> ..... | <b>OFF</b>         |
4. BATT 1 & BATT 2 Switches ..... OFF
  5. Airplane ..... EVACUATE
  6. Fire ..... EXTINGUISH

#### 3.7.2 ENGINE FIRE IN FLIGHT

- |   |                    |
|---|--------------------|
| 1. <b>COND Lever</b> .....                          | <b>FUEL CUTOFF</b> |
| 2. <b>PROP Lever</b> .....                          | <b>FEATHER</b>     |
| 3. <b>POWER Lever</b> .....                         | <b>IDLE</b>        |
| 4. <b>FUEL TANK SELECTOR Knob</b> .....             | <b>OFF</b>         |
| 5. <b>Crew Oxygen Masks (above 14,000 ft)</b> ..... | <b>DON</b>         |
6. MASK MICS Switch ..... AS REQUIRED
  7. Initiate MAXIMUM RATE EMERGENCY DESCENT (3.5.2)
  8. PRESS AIR Switch ..... OFF
  9. L & R FUEL PUMP Switches ..... OFF
  10. *If fire is extinguished:*
    - a. Best Glide Airspeed ..... 129 KIAS

#### WARNING

**AFTER AN ENGINE FIRE IN FLIGHT, DO NOT ATTEMPT AN AIR START.**

11. *If smoke evacuation is required:*
  - a. Oxygen Mask Regulator ..... EMGCY
  - b. EMERG OXYGEN Switch ..... ON
  - c. DUMP VALVE Switch ..... ON
  - d. DOOR SEAL Switch ..... OFF
  - e. GROUND FRESH AIR Switch ..... ON
12. *If cabin altitude exceeds 14,000 ft and passenger masks do not automatically deploy:*
  - a. EMERG OXYGEN Switch ..... ON
13. Perform FORCED LANDING (3.8.1)


3.7.3 COCKPIT/CABIN ELECTRICAL FIRE IN FLIGHT

1. Crew Oxygen Masks.....	DON
2. Oxygen Mask Regulator.....	EMGKY
3. MASK MICS Switch.....	ON
4. EMERG OXYGEN Switch.....	ON
5. DUMP VALVE Switch.....	ON
6. STBY ALTN Switch.....	OFF
7. STARTER GEN Switch.....	OFF
8. BATT 1 & BATT 2 Switches.....	OFF
9. Fly by reference to Standby Instrument.	
10. Fire Extinguisher.....	USE AS REQUIRED

❖ IF FIRE NOT EXTINGUISHED

11. Initiate MAXIMUM RATE EMERGENCY DESCENT (3.5.2).
12. Perform FORCED LANDING (3.8.1).

❖ IF FIRE IS EXTINGUISHED

11. Initiate descent to 10,000 ft or minimum safe altitude (if higher).
12. *If smoke or fumes are present or essential electrical equipment is required:*
  - a. X-TIE Circuit Breaker (L T ) ..... PULL
  - b. BATT 1 Switch ..... ON
13. *If smoke and/or fumes are present:*
  - a. HI PRESS AIR Switch..... ON
  - b. DOOR SEAL Switch..... OFF
14. *If smokes/fumes return:*
  - a. BATT 1 Switch ..... OFF
15. Land as soon as possible.
  - a. Landing Gear will not extend normally, plan for extending landing gear using Emergency Landing Gear Extension.
    - i. Airspeed..... BELOW 150 KIAS
    - ii. Emergency Gear Extension Handle.....ACTIVATE
  - b. Flaps will not extend, plan on landing with flaps UP.
    - i. Approach Speed (Normal Mode) ..... 115 KIAS

**CAUTION**

ALLOW FOR LANDING DISTANCE INCREASE OF  
UP TO 65% MORE THAN FLAPS FULL.



### 3.7.4 COCKPIT/CABIN NON-ELECTRICAL FIRE IN FLIGHT

- |                                |              |
|--------------------------------|--------------|
| 1. Crew Oxygen Masks .....     | <b>DON</b>   |
| 2. Oxygen Mask Regulator ..... | <b>EMGCY</b> |
3. MASK MICS Switch ..... ON
  4. EMERG OXYGEN Switch ..... ON (if oxygen available)
  5. Fire Extinguisher ..... USE AS REQUIRED

❖ *IF FIRE NOT EXTINGUISHED:*

6. Initiate MAXIMUM RATE EMERGENCY DESCENT (3.5.2).
7. Perform FORCED LANDING (3.8.1).

❖ *IF FIRE IS EXTINGUISHED:*

6. Initiate descent to 10,000 ft or minimum safe altitude (if higher).
7. Climate Fan Control ..... OFF (counterclockwise)
8. DUMP VALVE Switch ..... ON
9. HI PRESS AIR Switch ..... ON
10. DOOR SEAL Switch ..... OFF
11. *If smoke/fumes are coming from pressurization air:*
  - a. PRESS AIR Switch ..... OFF
  - b. GROUND FRESH AIR Switch ..... ON
12. Land as soon as possible.

### 3.7.5 COCKPIT/CABIN SMOKE EVACUATION

- |                                |              |
|--------------------------------|--------------|
| 1. Crew Oxygen Masks .....     | <b>DON</b>   |
| 2. Oxygen Mask Regulator ..... | <b>EMGCY</b> |
3. MASK MICS Switch ..... ON
  4. EMERG OXYGEN Switch ..... ON (if oxygen available)
  5. DEFROST Switch ..... OFF
  6. Climate Fan Control ..... OFF (counterclockwise)
  7. DUMP VALVE Switch ..... ON
  8. HI PRESS AIR Switch ..... ON
  9. DOOR SEAL Switch ..... OFF
  10. *If smoke/fumes are coming from pressurization air:*
    - a. PRESS AIR Switch ..... OFF
    - b. GROUND FRESH AIR Switch ..... ON

#### **Amplification**

Normally, HI PRESS AIR provides the maximum flow of pressurization air. However, with certain system malfunctions, EMERG PRESS may produce a higher rate of smoke evacuation.

#### **CAUTION**

USE OF DEFROST TOGETHER WITH EMERG PRESS  
IS PROHIBITED.

#### **NOTE**

Once cabin pressure has been dumped, the pressurization system may be unable to regain the pressurization schedule.

### 3.8 EMERGENCY LANDINGS

#### 3.8.1 FORCED LANDING

1. Seat Backs..... UPRIGHT
2. Seat Belts ..... SECURE
3. Passengers..... BRIEF
4. ELT ..... ON

*Before touchdown:*

5. COND Lever ..... FUEL CUTOFF
6. FUEL TANK SELECTOR Knob ..... OFF
7. DUMP VALVE Switch ..... ON
8. Flaps ..... AS REQUIRED
9. Emergency Gear Extension System..... AS REQUIRED
10. Landing Airspeed ..... FLAPS UP: 110 KIAS  
(Normal Mode) FLAPS T/O: 105 KIAS  
FLAPS FULL: 95 KIAS
11. BATT 1 & BATT 2 Switches ..... OFF

*After the airplane has stopped:*

12. Airplane..... EVACUATE AS REQUIRED

#### **Amplification**

Glide range to landing site permitting, flaps should be deployed incrementally to FULL before touchdown to minimize airspeed on landing. Flap extension from UP to FULL takes approximately 12 seconds.

If landing site is suitable, land with gear DOWN. If landing site is not suitable for gear down landing, land with gear UP. Emergency gear extension takes approximately five seconds.

#### 3.8.2 LANDING WITH GEAR UP

1. If able, have ground personnel visually verify gear position.
2. Passengers ..... BRIEF
3. Flaps ..... FULL
4. Approach Speed (Normal Mode) ..... 95 KIAS

*When runway is assured:*

5. POWER Lever ..... IDLE
6. PROP Lever..... FEATHER
7. COND Lever ..... FUEL CUTOFF
8. FUEL TANK SELECTOR Knob ..... OFF
9. BATT 1 & BATT 2 Switches ..... OFF

*After the airplane has stopped:*

10. Airplane..... EVACUATE AS REQUIRED

3.8.3 LANDING WITHOUT ELEVATOR CONTROL

- 1. Passengers ..... BRIEF
- 2. Landing Gear ..... DOWN
- 3. Flaps..... T/O
- 4. Airspeed ..... 120 KIAS
- 5. Power ..... AS REQUIRED  
TO MAINTAIN SPEED AND  
300 TO 500 FPM DESCENT
- 6. Elevator ..... ADJUST USING PITCH TRIM
- 7. Land in nose-high attitude.

NOTE

If able, burn fuel to reduce weight and select longest suitable runway.

3.8.4 DITCHING

- 1. Passengers ..... BRIEF
- 2. Landing Gear ..... UP
- 3. Flaps..... FULL
- 4. Approach Speed (Normal Mode)..... 95 KIAS
- 5. DUMP VALVE Switch ..... ON
- 6. PRESS AIR Switch ..... OFF
- 7. POWER Lever..... IDLE
- 8. PROP Lever ..... FEATHER
- 9. COND Lever..... FUEL CUTOFF
- 10. FUEL TANK SELECTOR Knob ..... OFF
- 11. BATT 1 & BATT 2 Switches ..... OFF
- 12. Ditch with low rate of descent.

CAUTION

IN HEAVY SWELL WITH LIGHT WIND, LAND PARALLEL TO THE SWELL.

CAUTION

IN HEAVY WIND, LAND INTO THE WIND, TOUCHING DOWN AT THE TOP OF OR ON THE BACKSIDE OF A SWELL, IF POSSIBLE.

*After ditching:*

- 13. Airplane ..... EVACUATE  
VIA EMERGENCY EXIT

3.9 STALL PREVENTION SYSTEM

3.9.1 ERRONEOUS PUSHER/SHAKER OPERATION

Conditions:

- Erroneous pusher or shaker operation.
- Rapid nose-down pitch motion.

- |                              |                                   |
|------------------------------|-----------------------------------|
| 1. Control Yoke .....        | <b>GRASP AND MAINTAIN CONTROL</b> |
| 2. AP/TRIM DISC Switch ..... | <b>PRESS &amp; HOLD</b>           |
| 3. Pitch .....               | <b>SMOOTHLY TO LEVEL FLIGHT</b>   |

4. PUSHER Circuit Breaker (L B ◀1|) ..... PULL
5. AP/TRIM DISC Switch ..... RELEASE
6. TRIM RESET Switch ..... PRESS & RELEASE

7. *If the shaker is active and the AoA indicator is in the red arc (greater than 0.8):*

- a. SPS CMP 1A Circuit Breaker (L T ◀6|) ..... PULL
- b. SPS CMP 1B Circuit Breaker (L B ◀10|) ..... PULL
- c. *If the shaker is still active:*
- i. SPS CMP 2A Circuit Breaker (L T ◀5|) ..... PULL
- ii. SPS CMP 2B Circuit Breaker (L B ◀9|) ..... PULL

*If the shaker is active and the AoA indicator is NOT in the red arc (less than 0.8):*

- a. SPS CMP 2A Circuit Breaker (L T ◀5|) ..... PULL
- b. SPS CMP 2B Circuit Breaker (L B ◀9|) ..... PULL
- c. *If the shaker is still active:*
- i. SPS CMP 1A Circuit Breaker (L T ◀6|) ..... PULL
- ii. SPS CMP 1B Circuit Breaker (L B ◀10|) ..... PULL

8. Minimum Speeds:

		SPS/PUSHER	
		NORMAL MODE	ICE MODE
Flaps	UP	100 KIAS	115 KIAS
	T/O	95 KIAS	110 KIAS
	FULL	80 KIAS	-

**WARNING**

**WITH THE STALL PREVENTION SYSTEM INOPERATIVE, DO NOT DECELERATE BELOW THE AIRSPEEDS IN THE MINIMUM SPEEDS TABLE.**

**CAUTION**

DISABLING BOTH SPS COMPUTERS WILL CAUSE PUSHER ICE MODE TO BE DISPLAYED, AND WHEN ICE PROTECTION SYSTEMS ARE OFF, AN ADDITIONAL ICE MODE FAIL CAUTION WILL BE DISPLAYED.

### 3.9.2 ERRONEOUS PUSHER/SHAKER DURING LANDING FLARE

- |                              |                       |
|------------------------------|-----------------------|
| 1. AP/TRIM DISC Switch ..... | <b>PRESS AND HOLD</b> |
| 2. Land or go-around.        |                       |

3. *If going around, and after shaker deactivates:*
- AP/TRIM DISC Switch..... RELEASE
  - TRIM RESET ..... PRESS AND RELEASE
  - PUSHER ICE MODE Alert ..... CHECK

**NOTE**

Pressing and holding the AP/TRIM DISC switch manually disables the pusher.

### 3.9.3 PUSHER SERVO BINDING

Conditions:

- Pusher servo clutch remains engaged, and
- Elevator movement restricted

- |                              |                                   |
|------------------------------|-----------------------------------|
| 1. Control Yoke .....        | <b>GRASP AND MAINTAIN CONTROL</b> |
| 2. AP/TRIM DISC Switch ..... | <b>PRESS AND HOLD</b>             |
- PUSHER Circuit Breaker (L B ◀1||) ..... PULL
  - AP/TRIM DISC Switch ..... RELEASE
  - TRIM RESET Switch ..... PRESS AND RELEASE
  - Trim ..... AS REQUIRED
  - Minimum Speeds:

		SPS/PUSHER	
		NORMAL MODE	ICE MODE
Flaps	UP	100 KIAS	115 KIAS
	T/O	95 KIAS	110 KIAS
	FULL	80 KIAS	-

**WARNING**

**WITH THE STALL PREVENTION SYSTEM INOPERATIVE,  
DO NOT DECELERATE BELOW THE AIRSPEEDS IN THE  
MINIMUM SPEEDS TABLE.**

3.10 AUTOPILOT AND ELECTRIC TRIM

3.10.1 AUTOPILOT MALFUNCTION


Conditions:

- Autopilot maneuvers the airplane in unexpected manner, or
- Autopilot fails to hold commanded flight path, or
- Inadvertent activation of Electronic Stability & Protection (ESP)

- |  |
|--|
| <b>1. Control Yoke .....GRASP AND MAINTAIN CONTROL</b> |
| <b>2. AP/TRIM DISC Switch.....PRESS &amp; HOLD</b>     |

**CAUTION**

HOLD THE CONTROL YOKE FIRMLY. UP TO 50 POUNDS OF FORCE ON THE CONTROL YOKE MAY BE REQUIRED TO MAINTAIN LEVEL FLIGHT.

3. Airspeed..... ADJUST TO RELIEVE FORCES
4. AUTOPILOT Circuit Breaker (L B )..... PULL
5. AP/TRIM DISC Switch .....RELEASE
6. TRIM RESET Switch..... PRESS & RELEASE
7. Trim..... ADJUST AS NECESSARY
8. Notify ATC of loss of RVSM capability.


**NOTE**

A complete failure of the autopilot will necessitate manual control of the airplane to maintain cruise flight level. If approved by ATC, flight in RVSM airspace may be continued after implementing this procedure.

3.10.2 YAW DAMPER MALFUNCTION

Conditions:

- Uncommanded rudder inputs, or
- Lack of yaw damping.

1. Yaw Damper ..... OFF
2. *If yaw damper is still controlling the airplane:*
  - a. AUTOPILOT Circuit Breaker (L B ) ..... PULL
3. Rudder Trim ..... ADJUST AS NECESSARY

**NOTE**

With the yaw damper disabled, changes in airspeed and power will require manual adjustment of rudder trim.

3.10.3 TRIM MALFUNCTION

Conditions:

- Trim runs without command in any axis, or
- Trim does not respond to trim input in any axis.

- |  |
|--|
| <ol style="list-style-type: none"><li>1. Control Yoke ..... GRASP AND MAINTAIN CONTROL</li><li>2. AP/TRIM DISC Switch ..... PRESS AND HOLD</li></ol> |
|--|

CAUTION

HOLD THE CONTROL YOKE FIRMLY. SIGNIFICANT FORCE ON THE CONTROL YOKE MAY BE REQUIRED.

3. TRIM DISC Caution.....DISPLAYED
4. AP/TRIM DISC Switch..... RELEASE
5. *If elevator trim malfunction or still in motion:*
  - a. ELEV TRIM Circuit Breaker (R T |3▶) .....PULL
6. *If rudder trim malfunction or still in motion:*
  - a. RUD TRIM Circuit Breaker (R T |5▶) .....PULL
7. *If aileron trim malfunction or still in motion:*
  - a. AIL TRIM Circuit Breaker (R T |4▶) .....PULL
8. TRIM RESET Switch ..... PRESS AND RELEASE
9. Airspeed .....ADJUST TO RELIEVE FORCES

3.11 ELECTRICAL

3.11.1 TOTAL LOSS OF ELECTRICAL POWER

- |  |  |
|--|--|
| 1. Crew Oxygen Masks (above 14,000 ft) ..... | DON  |
| 2. Standby Instrument.....                   | REFERENCE                                    |
| 3. POWER Lever .....                         | SET BY REFERENCE TO<br>ATTITUDE AND AIRSPEED |

**CAUTION**

WHEN FULLY CHARGED, THE INTERNAL BATTERY IN THE STANDBY INSTRUMENT WILL PROVIDE POWER FOR AT LEAST 60 MINUTES IF AIRPLANE POWER IS LOST.

- 4. Land as soon as possible.
  - a. Landing Gear will not extend normally, plan for extending landing gear using Emergency Landing Gear Extension.
    - i. Airspeed..... BELOW 150 KIAS
    - ii. Emergency Gear Extension Handle.....ACTIVATE
  - b. Flaps will not extend or retract, plan on landing with flaps in current position.
    - i. Approach Speeds ..... FLAPS UP: 115 KIAS  
(Normal Mode) FLAPS T/O: 110 KIAS  
FLAPS FULL: 95 KIAS

**CAUTION**

IF LANDING WITH ICE ACCRETIONS ON THE AIRPLANE FINAL APPROACH AIRSPEEDS ARE 122 - 133 KIAS FLAPS UP AND 119 - 130 KIAS FLAPS T/O.

**CAUTION**

IF LANDING WITH FLAPS UP, ALLOW FOR LANDING DISTANCE INCREASE OF UP TO 65% MORE THAN FLAPS FULL.

***Amplification***

If VMC is encountered, attempt a descent and landing under VMC and avoid IFR conditions.



## 3.12 AVIONICS

### 3.12.1 PFD/MFD FAILURE

#### 3.12.1.1 LEFT PFD FAILURE

Conditions:

- Dark screen, or
- Lack of response to control input (buttons, knobs, softkeys).

1. Standby Instrument or Copilot's PFD .....REFERENCE
2. DISPLAY BACKUP Switch.....PRESS AS DESIRED
3. Land as soon as practical.

NOTE

The use of reversionary mode (display backup) displays the left PFD information on the MFD and disables access to supplementary information such as weather data, etc.

NOTE

Primary altimetry data for RVSM operations will be displayed on the MFD while in reversionary (display backup) mode after a left PFD (PFD1) failure.

#### 3.12.1.2 RIGHT PFD FAILURE

Conditions:

- Dark screen, or
- Lack of response to control input (buttons, knobs, softkeys).

1. Standby Instrument or Pilot's PFD .....REFERENCE
2. DISPLAY BACKUP Switch.....PRESS AS DESIRED
3. Land as soon as practical.

NOTE

The use of reversionary mode (display backup) displays the right PFD information on the MFD and disables access to supplementary information such as weather data, etc.

NOTE

Independent altimetry data for RVSM operations will be displayed on the MFD while in reversionary (display backup) mode after a right PFD (PFD2) failure.

### 3.12.1.3 MFD FAILURE

Conditions:

- Dark screen, or
- Lack of response to control input (buttons, knobs, softkeys).

1. DISPLAY BACKUP Switch ..... PRESS
2. Land as soon as practical.

NOTE

The use of reversionary mode (display backup) displays EIS information on the PFDs. Other information and functions normally provided on the MFD will not be available.

### 3.12.2 AIR DATA AND ATTITUDE HEADING REFERENCE SYSTEM (ADAHRS) FAILURE

Conditions:

- Red Xs on over affected data on respective PFD.

1. PFD SENSOR Softkey..... SELECT WORKING ADC or AHRS
2. Standby Instrument..... CROSS-CHECK AND MONITOR
3. Notify ATC of loss of RVSM capability.

NOTE

The airplane is no longer RVSM capable with a single ADC or AHRS.

#### **Amplification**

A complete failure of the Pilot's or Copilot's ADAHRS would result in the loss of the independent measuring system. A red X will cover the affected data on the respective PFD. a "BOTH ON ADC1/ADC2" caution will appear, and/or a "BOTH ON AHRS1/AHRS2" caution will appear. If approved by ATC, flight in RVSM airspace may be continued upon the Pilot's or Copilot's ADAHRS failure by implementing this procedure.

### 3.12.3 AIRSPEED INDICATING SYSTEM FAILURE

Conditions:

- Erroneous or erratic airspeed indication in flight due to partial or complete blockage or failure of the pitot system(s).
1. PITOT STALL HT Switch .....CHECK ON
  2. Refer to working airspeed indicating system (other PFD and/or standby instrument).
  3. PFD SENSOR Softkey ..... SELECT WORKING ADC
  4. Notify ATC of loss of RVSM capability.
  5. *If all airspeed indicating systems have failed and symptoms persist:*
    - a. Perform a precautionary landing, flying by reference to attitude, altitude, and power instruments.

NOTE

Immediately exit and remain clear of icing conditions.

NOTE

The airplane is no longer RVSM capable without both ADCs.

**Amplification**

The left pitot system is connected to ADAHRS #1 (pilot's PFD) and Standby Instrument. Failure of the left pitot system will be observed on both the pilot's PFD and standby instrument.

The right pitot system is connected to ADAHRS #2 (copilot PFD). Failure of the right pitot system will be observed on the copilot's PFD only.

### 3.12.4 ALTITUDE INDICATING SYSTEM FAILURE

Conditions:

- Erroneous or erratic altitude and/or vertical speed indications in flight due to partial or complete blockage or failure of the static system(s).
1. Refer to working altitude indicating system (other PFD and/or standby instrument).
  2. PFD SENSOR Softkey .....SELECT WORKING ADC
  3. Notify ATC of loss of RVSM capability.
  4. *If all altitude indicating systems have failed and symptoms persist:*
    - a. Refer to GNSS altitude (MFD Map TAWS-B Page).
    - b. Land as soon as practical.

#### **Amplification**

Static system 1 is connected to ADAHRS #1 (pilot's PFD) and the Standby Instrument. Failure of static system 1 will be observed on both the pilot's PFD and standby instrument.

Static system 2 system is connected to ADAHRS #2 (copilot's PFD). Failure of static system 2 will be observed on the copilot's PFD only.

#### **NOTE**

The airplane is no longer RVSM capable without both ADCs.

### 3.12.5 AUTOPILOT UNABLE TO MAINTAIN ASSIGNED FLIGHT LEVEL $\pm 65$ FEET DURING RVSM OPERATIONS

1. Disengage the autopilot.
2. Ascend/descend to assigned flight level.
3. Re-engage the autopilot.
4. *If autopilot is unable to maintain assigned flight level  $\pm 65$  feet:*
  - a. Evaluate the ability to maintain altitude through manual control.
  - b. Notify ATC of the failure and await ATC instructions.

### 3.13 MISCELLANEOUS

#### 3.13.1 OXYGEN USE — FRONT SEATS

##### WARNING

**IF TIME PERMITS, BEFORE USING OXYGEN, REMOVE ANY POTENTIALLY FLAMMABLE SUBSTANCES FROM YOUR FACE (OILS, GREASE, SOAP, LIPSTICK, MAKEUP, ETC.).**

1. Oxygen Mask .....DON
  - a. Grasp regulator by red tabs and pull mask out of the cup.
  - b. While swinging the mask forward, inflate the harness by pressing and holding down the two red tabs.
  - c. Put the mask on the head.
  - d. Release the red tabs to secure the mask onto the face.
2. MASK MICS Switch ..... ON
3. Oxygen Flow ..... CHECK

❖ *IF SMOKE IN COCKPIT:*

4. Oxygen Mask Regulator ..... EMGCV

❖ *IF NO SMOKE IN COCKPIT*

4. Oxygen Mask Regulator ..... NORMAL (100% if required)

#### 3.13.2 CRACKED OR DELAMINATED WINDSHIELD OR WINDOW IN FLIGHT

- |   |     |
|---|-----|
| 1. Crew Oxygen Masks (above 14,000 ft)..... | DON |
|---|-----|
2. MASK MICS Switch .....AS REQUIRED
  3. WINDSH HEAT ..... OFF (if not required)
  4. All Occupants ..... SEATED WITH SEATBELTS SECURE
  5. Airspeed .....REDUCE TO MINIMUM PRACTICAL
  6. Landing Field Elevation.....SET TO 10,000 ft
  7. Descend to 10,000 ft or minimum safe altitude (if higher).
  8. Land as soon as practical.

##### NOTE

Flight at lower altitudes significantly decreases  
fuel efficiency and range.

##### **Amplification**

Setting the landing field elevation and descending to 10,000 ft will reduce cabin differential pressure to reduce stress on the window.

### 3.14 EXITING SEVERE ICING OR SLD CONDITIONS

#### NOTE

Severe icing conditions may be identified by the following:

- Unusually extensive ice accumulation on the airframe or windshield in areas not normally observed to collect ice.
- Accumulation of ice on the upper and lower wing or horizontal stabilizer surfaces aft of the deice boots.

The following conditions may be conducive to severe icing:

- Visible rain at temperatures colder than 5°C (41°F) outside air temperature.
  - Drops that splash or splatter at temperatures colder than 5° C (41° F) outside air temperature.
1. Exit the area immediately by changing altitude and/or course.
  2. If autopilot is engaged:
    - a. Control Yoke ..... GRASP AND  
MAINTAIN CONTROL
    - b. AP/TRIM DISC Switch ..... PRESS & HOLD
    - c. Do not re-engage the autopilot until the airframe is clear of ice.
  3. Avoid abrupt and excessive maneuvering.
  4. If an unusual roll response or uncommanded control movement is observed, reduce angle of attack by increasing airspeed and/or rolling wings level (if in a turn), and apply additional power, if needed.
  5. Avoid extending flaps during extended operations in icing conditions to reduce the possibility of ice forming on the upper surface of the wing further aft than normal.
  6. If flaps are extended, do not retract them until the airframe is clear of ice.
  7. Report these weather conditions to Air Traffic Control.

### 3.15 WARNING (RED) CAS MESSAGES — IN FLIGHT

#### 3.15.1 AUTO DESCENT

#### **AUTO DESCENT**

Conditions:

- Autopilot engaged,
- Cabin altitude above 15,000',
- Pressure altitude above 14,900',
- CABIN ALT HIGH Warning active, and
- CABIN DUMP Switch off.

1. *To acknowledge and silence EDM alert:*

- a. PFD ALERT Softkey ..... PRESS AND RELEASE

2. *To cancel auto-descent:*

- a. AP/TRIM DISC Switch ..... PRESS AND RELEASE

#### **Amplification**

When EDM is active, disconnecting the autopilot will cancel the auto-descent, allowing the pilot to manually fly a desired descent profile. The AUTO DESCENT warning must be acknowledged to cancel the aural alert.

If the pilot re-engages the autopilot with the conditions stated above still true, EDM will re-activate.

3.15.2 CABIN ALT HIGH

**CABIN ALT HIGH**

Conditions:

- Cabin altitude above 10,000 ft.

- |   |
|---|
| <b>1. Crew Oxygen Masks (above 14,000 ft) ..... DON</b> |
|---|
2. MASK MICS Switch ..... AS REQUIRED
  3. Reduce power and immediately begin a descent to 10,000 ft or minimum safe altitude (if higher).
  4. If cabin altitude is rising rapidly accelerate to  $V_{MO}/M_{MO}$  to maximize descent rate.

**CAUTION**

IF SIGNIFICANT TURBULENCE IS EXPECTED, OR IF SUSPECTED STRUCTURAL PROBLEM, DO NOT DESCEND AT INDICATED AIRSPEEDS GREATER THAN  $V_o$ .

5. *If cabin altitude exceeds 14,000 ft:*
  - a. EMERG OXYGEN Switch ..... ON
6. DOOR SEAL Switch ..... CHECK ON
7. PRESS AIR Switch ..... CHECK ON
8. DUMP VALVE Switch ..... CHECK OFF
9. HI PRESS AIR Switch ..... ON
10. CABIN Indicator ..... CHECK
11. *If cabin altitude remains at or above 10,000 ft:*
  - a. PRESS CTRL 1 Circuit Breaker (**L B ◀3▶**) ..... CHECK, RESET ONE TIME IF OPEN
  - b. PRESS CTRL 2 Circuit Breaker (**R T ◀1▶**) ..... CHECK, RESET ONE TIME IF OPEN
  - c. MASS FLOW Circuit Breaker (**R T ◀5▶**) ..... CHECK, RESET ONE TIME IF OPEN
12. *If cabin altitude remains at or above 10,000 ft:*
  - a. DEFROST Switch ..... OFF
  - b. EMERG PRESS Switch ..... ON
  - c. HI PRESS AIR Switch ..... OFF
  - d. PRESS AIR Switch ..... OFF
  - e. EMERG PRESS Circuit Breaker (**R T ◀2▶**) ..... CHECK, RESET ONE TIME IF OPEN

**CAUTION**

USE OF DEFROST TOGETHER WITH EMERG PRESS IS PROHIBITED



### 3.15.3 CHECK GEAR

#### **CHECK GEAR** **"CHECK GEAR"**

Conditions:

- Landing gear is not in the down and locked position, and:
  - Flaps FULL selected, or
  - GNSS AGL altitude is less than 500 ft and airplane is descending more than 100 fpm, or
  - GNSS AGL altitude is less than 200 ft and airplane is descending.

❖ **IF UNDER 500 FT AGL:**

1. **Airplane** ..... **GO AROUND**

❖ **IF OVER 500 FT AGL:**

1. LANDING GEAR Control ..... DOWN
2. If **CHECK GEAR** Warning persists:
  - a. Airplane ..... GO AROUND
  - b. Perform LANDING GEAR FAILS TO EXTEND (3A.4.2).

### 3.15.4 DE-ICE FAIL

#### **DE-ICE FAIL**

Conditions:

- Insufficient engine power; or
- De-ice boot system failure.

1. POWER.....VERIFY POWER IS ABOVE DE-ICE BOOTS  
TORQUE LIMITATION:  
UP TO 10,000 ft: 15% TRQ  
ABOVE 10,000 ft: 35% TRQ
2. DE-ICE BOOTS Switch ..... OFF THEN ON
3. If **DE-ICE FAIL** Warning persists or returns:
  - a. DE-ICE BOOTS Switch.....OFF
  - b. PROP HEAT Switch..... VERIFY ON

#### **CAUTION**

A LEAKING DE-ICE BOOTS SYSTEM MAY COMPROMISE THE LEADING EDGE OF THE WINGS OR HORIZONTAL STABILIZER. LEAVE THE PROP HEAT SWITCH ON TO REMAIN IN PUSHER ICE MODE AND LAND WITH THE FLAPS IN THE T/O POSITION.

4. Exit/avoid icing conditions.
5. Monitor oil temperature.

— PROCEDURE CONTINUES ON NEXT PAGE —

6. *If oil temperature exceeds 90°C and is rising:*
- a. Airspeed ..... 140 KIAS
  - b. LANDING GEAR Control.....DOWN
7. Approach Speeds ..... Flaps UP: 122 – 133 KIAS  
(Pusher Ice Mode) Flaps T/O: 119 – 130 KIAS

**Amplification**

With PROP HEAT off disabling the de-ice boots system also disables Pusher Ice Mode, which reduces the stall protection margin normally available with the ice-protection systems on. Use the Pusher Ice Mode reference speeds to provide additional stall protection in case of residual ice on the leading edge or in case of a leading edge compromised by boot failure.

3.15.5 DOOR UNLOCKED

**DOOR UNLOCKED**

Condition:

- Door pin position switches not all closed.

- |  |
|--|
| 1. Crew Oxygen Masks (above 14,000 ft) ..... DON |
| 2. MASK MICS Switch ..... AS REQUIRED            |

**WARNING**

**DO NOT ADJUST THE POSITION OF DOOR HANDLES IN FLIGHT.**

- 3. All Occupants.....SEATED WITH SEATBELTS SECURE
- 4. Airspeed.....REDUCE TO MINIMUM PRACTICAL
- 5. Descend to 10,000 ft or minimum safe altitude (if higher).
- 6. Landing Field Elevation..... SET TO 10,000 ft
- 7. Land as soon as possible.

**NOTE**

Flight at lower altitudes significantly decreases  
fuel efficiency and range.

**Amplification**

Setting the landing field elevation and descending to 10,000 ft reduces cabin differential pressure to reduce stress on the door.

### 3.15.6 ENGINE CHIP

#### ENGINE CHIP

Condition:

- Engine chip detector has activated.
1. Engine Instruments ..... CHECK & MONITOR
  2. POWER Lever ..... REDUCE TO MINIMUM  
REQUIRED FOR SAFE FLIGHT
  3. Land as soon as possible.
  4. Maintenance required.

#### CAUTION

CHIPS OF METAL IN THE ENGINE MAY BE AN EARLY INDICATION OF IMPENDING ENGINE FAILURE.

#### CAUTION

MAKE BEST EFFORT TO RETAIN GLIDE CAPABILITY TO A SELECTED LANDING AIRFIELD WHILE MANEUVERING TO LAND.

### 3.15.7 GEN FAIL

#### GEN FAIL


Conditions:

- Generator amps less than 5, and
  - N<sub>G</sub> is greater than 75%
1. STARTER GEN Switch ..... VERIFY ON
  2. GEN AMP Indicator ..... CHECK
  3. *If generator amperage is zero or less:*
    - a. GEN RESET Switch ..... PRESS & RELEASE
  4. *If **GEN FAIL** Warning does not extinguish:*
    - a. STARTER GEN Switch ..... OFF
    - b. ALTN AMP Indicator ..... VERIFY POSITIVE
    - c. Electrical Load ..... MONITOR, MAXIMUM 41 AMPS  
(per 2.4.3, alternator limitations)
    - d. Descend to FL190 or below.

#### NOTE

Alternator output is internally limited to 41 Amps (per 2.4.3, alternator limitations). Additional load will deplete battery voltage. Alternator operation is limited to one hour.

— PROCEDURE CONTINUES ON NEXT PAGE —

5. Exit icing conditions as soon as possible.
6. *If in icing conditions:*
  - a. PROP HEAT Switch ..... OFF
  - b. R PITOT HEAT Circuit Breaker (**R B** ) ..... PULL
  - c. If copilot requires airspeed indication:
    - i. Copilot's (Right) PFD SENSOR Softkey .....  
..... SELECT ADC1
    - ii. Notify ATC of loss of RVSM capability.

*When not in icing conditions and protected surfaces are clear of residual ice:*

7. PROP HEAT Switch ..... OFF
8. PITOT STALL HT Switch ..... OFF
9. DE-ICE BOOTS Switch ..... OFF
10. WINDSH HEAT Switch ..... OFF
11. Non-Essential Electrical Equipment ..... OFF
12. ICE Light Switch ..... OFF
13. INERT SEP Switch ..... AS REQUIRED
14. IGNITERS Switch ..... AS REQUIRED
15. Electrical Load ..... MONITOR, MAXIMUM 41 AMPS
16. Land as soon as practical.

### **Amplification**

The maximum duration of reserve power with an operating standby alternator is approximately 75 minutes if icing protection equipment (pneumatic boots, stall heat, pitot heat) is off and 60 minutes if ice protection equipment is required.

The ALTERNATOR ON Caution should display.

### 3.15.8 ITT HIGH

#### ITT HIGH

Condition:

- ITT is above 850°C.
1. POWER Lever..... REDUCE BELOW 850°C AND ITT  
HIGH WARNING EXTINGUISHES OR  
MINIMUM POWER FOR SAFE FLIGHT
  2. If **ITT HIGH** Warning remains:
    - a. Land as soon as possible, using minimum power.

#### CAUTION

HIGH ITT AT INTERMEDIATE POWER SETTINGS MAY BE  
AN EARLY INDICATION OF IMPENDING ENGINE FAILURE.

#### CAUTION

MAKE BEST EFFORT TO RETAIN GLIDE CAPABILITY TO A  
SELECTED LANDING AIRFIELD WHILE MANEUVERING  
TO LAND.

#### **Amplification**

Cross-check engine indications. If ambient conditions, fuel flow, and torque output do not correlate with the indicated ITT, the failure may be in the indication system.

3.15.9 NG HIGH

**NG HIGH**

Condition:

- $N_G$  is above 104%.
1. POWER Lever ..... REDUCE BELOW 104% AND NG HIGH WARNING EXTINGUISHES OR MINIMUM POWER FOR SAFE FLIGHT
  2. If **NG HIGH** Warning remains:
    - a. Land as soon as possible, using minimum power.

**CAUTION**

HIGH  $N_G$  AT INTERMEDIATE POWER SETTINGS MAY BE AN EARLY INDICATION OF IMPENDING ENGINE FAILURE.

**CAUTION**

MAKE BEST EFFORT TO RETAIN GLIDE CAPABILITY TO A SELECTED LANDING AIRFIELD WHILE MANEUVERING TO LAND.

**Amplification**

Cross-check engine indications. If ambient conditions, fuel flow, and torque output do not correlate with the indicated  $N_G$ , the failure may be in the indication system.

3.15.10 NP HIGH

**NP HIGH**

Condition:

- $N_P$  is above 1730 RPM.

1. PROP Lever .....REDUCE TO 1700 RPM OR LESS
2. *If  $N_P$  not under control of PROP Lever:*
  - a. POWER Lever ..... REDUCE (to idle if necessary)

❖ *IF  $N_P$  REMAINS BETWEEN 1730 AND 1802 RPM:*

3. Airspeed ..... 150 KIAS
4. POWER Lever..... AS REQUIRED TO SUSTAIN FLIGHT
5. Land as soon as practical.

❖ *IF  $N_P$  IS ABOVE 1802 RPM:*

3. Airspeed ..... 120 KIAS OR LESS
4. POWER Lever..... AS REQUIRED TO SUSTAIN FLIGHT
5. Land as soon as possible.

NOTE

Overspeed operation up to 106% (1802 RPM) is allowed with no time limit. Operation from 106% (1802 RPM) to 110% (1870 RPM) is limited to 6 minutes. Beyond 6 minutes, engine overhaul is required.

3.15.11 OIL PRESS LOW

**OIL PRESS LOW**

Conditions:

- $N_G$  is greater than 51%, and
- Oil pressure is less than 60 psi.

1. POWER Lever..... REDUCE TO  
MINIMUM NECESSARY
2. Land as soon as possible.

**CAUTION**

OIL PRESSURES UNDER 60 PSI MAY BE AN EARLY INDICATION OF IMPENDING ENGINE FAILURE.

**CAUTION**

MAKE BEST EFFORT TO RETAIN GLIDE CAPABILITY TO A SELECTED LANDING AIRFIELD WHILE MANEUVERING TO LAND.

3.15.12 OIL TEMP HIGH

**OIL TEMP HIGH**

Condition:

- Oil temperature is greater than 110°C.

1. POWER Lever .....REDUCE
2. Airspeed..... 140 KIAS
3. LANDING GEAR Control.....DOWN

4. If **OIL TEMP HIGH** Warning remains:
  - a. Land as soon as possible.
  - b. Maintenance required.

**CAUTION**

OIL TEMPERATURES ABOVE 110°C ARE UNSAFE AND MAY LEAD TO A LOSS OF OIL PRESSURE AND/OR ENGINE FAILURE.

**CAUTION**

MAKE BEST EFFORT TO RETAIN GLIDE CAPABILITY TO A SELECTED LANDING AIRFIELD WHILE MANEUVERING TO LAND.

**CAUTION**

CLIMB RATE WILL BE DETRIMENTALLY AFFECTED WHILE SIGNIFICANT ICE ACCRETIONS REMAIN ON THE AIRFRAME AND/OR WITH LANDING GEAR EXTENDED.

**NOTE**

Oil temperature between 105 to 110°C is limited to 10 minutes.

3.15.13 OVERSPEED

**OVERSPEED**

**“OVERSPEED-OVERSPEED-OVERSPEED”**

Condition:

- Airspeed is greater than  $V_{MO}$  or  $M_{MO}$ .

1. Power Lever.....REDUCE
2. Pitch..... UP AS REQUIRED

NOTE

Unless disabled, Electronic Stability Protection (ESP) will engage to automatically pitch the aircraft up to reduce airspeed.



### 3.15.14 PUSHER ICE MODE

#### **PUSHER ICE MODE**

Condition:

- Pusher Ice Mode is enabled, and
- Flaps are set to FULL.

❖ *IF IN ICING CONDITIONS OR IF RESIDUAL ICE REMAINS ON THE AIRFRAME:*

1. Flaps.....T/O
2. Approach Speeds..... Flaps T/O: 119 – 130 KIAS  
(Pusher Ice Mode)

*IF NOT IN ICING CONDITIONS AND NO RESIDUAL ICE ON THE AIRFRAME:*

1. PROP HEAT Switch..... OFF
2. DE-ICE BOOTS Switch..... OFF

#### **CAUTION**


LANDING WITH NORMAL APPROACH AIRSPEEDS WHILE IN PUSHER ICE MODE MAY CAUSE AN ERRONEOUS PUSH DURING THE LANDING FLARE.

### 3.15.15 RUD LIM FAIL

#### **RUD LIM FAIL**

Conditions:

- Rudder limiter failed to disengage and torque is below 20%, or
- Rudder limiter failed to engage and torque is above 20%.

1. RUDDER LIMITER Circuit Breaker (**R T** ) .....PULL
2. Rudder Travel ..... DETERMINE

❖ *IF RUDDER TRAVEL IS NOT LIMITED:*

3. Do not apply large left rudder input with torque above 20%.

❖ *IF RUDDER TRAVEL IS LIMITED:*

3. Select a runway with minimum crosswind.

#### **CAUTION**

MAXIMUM RIGHT CROSSWIND IS 10 KNOTS. STEERING DURING LANDING ROLLOUT WILL BE REDUCED.

4. Flaps.....T/O
5. Approach Speed (Normal Mode)..... 110 KIAS

3.15.16 STICK PUSH

**STICK PUSH**  
**“PUSH-PUSH-PUSH”**

Condition:

- Stick pusher is activated.

- |                       |                            |
|-----------------------|----------------------------|
| 1. Control Yoke ..... | GRASP AND MAINTAIN CONTROL |
| 2. Pitch .....        | REDUCE ANGLE-OF-ATTACK     |
| 3. POWER Lever .....  | INCREASE AS REQUIRED       |
| 4. Airplane .....     | RECOVER TO LEVEL FLIGHT    |

NOTE

Activation of the stick pusher will disconnect the autopilot.

3.15.17 STICK SHAKER

**STICK SHAKER**  
**“STALL-STALL-STALL”**

Condition:

- Stick shaker is activated.

- |                       |                            |
|-----------------------|----------------------------|
| 1. Control Yoke ..... | GRASP AND MAINTAIN CONTROL |
| 2. Pitch .....        | REDUCE ANGLE-OF-ATTACK     |
| 3. POWER Lever .....  | INCREASE AS REQUIRED       |
| 4. Airplane .....     | RECOVER TO LEVEL FLIGHT    |

3.15.18 TORQUE HIGH

**TORQUE HIGH**

Condition:

- Torque is greater than 100%.

1. PROP Lever..... MAX RPM
2. POWER Lever ..... REDUCE UNTIL TORQUE  
BELOW 100% OR  
MINIMUM SAFE POWER
3. If **TORQUE HIGH** Warning remains:
  - a. Land as soon as possible, using minimum power.

**Amplification**

Cross-check engine indications and airplane performance. If ambient conditions, fuel flow, and airplane performance do not correlate with the indicated torque, the failure may be in the indication system.

3.15.19     UNDERSPEED PROTECT ACTIVE

**UNDERSPEED PROTECT ACTIVE**

Conditions:

- Autopilot engaged, and
- Airspeed below minimum threshold.

Recovery may be initiated in one of three ways:

1. POWER Lever.....SMOOTHLY INCREASE  
AS REQUIRED TO CORRECT  
UNDERSPEED CONDITION

**CAUTION**

RAPID POWER APPLICATION TO A HIGH POWER SETTING  
MAY RESULT IN PITCH ATTITUDES UP TO 20 DEGREES  
NOSE UP DURING RECOVERY FROM UNDERSPEED  
PROTECTION.

*or*

1. AP/TRIM DISC Switch ..... PRESS AND RELEASE
2. Manually fly the airplane.

*or*

1. Autopilot .....CHANGE MODES  
TO INCREASE AIRSPEED

3.15.20 WSH HEAT ON

**WSH HEAT ON**

Conditions:

- WINDSH HEAT switch is ON, and
- OAT is greater than 5°C, the maximum temperature approved for use of the WSH HEAT system and has been on for more than 30 seconds

1. WINDSH HEAT Switch ..... OFF
2. If **WSH HEAT ON** Warning persists:
  - a. POWER Lever .....REDUCE TO MINIMUM  
NECESSARY FOR FLIGHT
3. Pilot Windshield .....CHECK

❖ IF BUBBLING, ABNORMALITIES, OR VISUAL DISTORTION IS OBSERVED:

1. Crew Oxygen Masks (above 14,000 ft) ..... DON
2. MASK MICS Switch ..... AS REQUIRED
3. Reduce power and descend to 10,000 ft or minimum safe altitude (if higher).
4. Land as soon as possible using side-slip maneuver, if necessary, to maintain visual contact with the runway.

❖ IF NO BUBBLING, ABNORMALITIES, OR VISUAL DISTORTION IS OBSERVED:

1. Avoid icing conditions.
2. Land as soon as practical.

### 3.16 WARNING (RED) CAS MESSAGES — ON GROUND

#### 3.16.1 CHECK GEAR — ON GROUND

##### **CHECK GEAR** **“CHECK GEAR”**

1. LANDING GEAR Control ..... VERIFY DOWN
2. If taxiing, stop immediately and do not turn.
3. If the engine is running, shut down engine.
4. Maintenance required before flight.

#### 3.16.2 DE-ICE FAIL — ON GROUND

##### **DE-ICE FAIL**

1. DE-ICE BOOTS Switch ..... OFF
2. Maintenance required before flight into known icing.

#### 3.16.3 DOOR UNLOCKED — ON GROUND

##### **DOOR UNLOCKED**

Conditions:

- Door pin position switches not all closed
1. If taxiing, stop airplane in a safe location.
  2. Cabin Door ..... CHECK HANDLE AND LOCK
  3. *If cabin door secure and* **DOOR UNLOCKED** *Warning persists:*
    - a. Shut down engine.
    - b. Maintenance required before flight.

#### 3.16.4 ENGINE CHIP — ON GROUND

##### **ENGINE CHIP**

Condition:

- Engine chip detector has activated

##### ❖ *BEFORE ENGINE START*

1. Do not start engine.
2. Maintenance required before flight.

##### ❖ *AFTER ENGINE START AND BEFORE TAKEOFF*

3. Return to parking.
4. Shut down engine.
5. Maintenance required before flight.

3.16.5 ITT HIGH — ON GROUND

**ITT HIGH**

Condition:

- ITT is above 850°C

- |                        |             |
|------------------------|-------------|
| 1. COND Lever.....     | FUEL CUTOFF |
| 2. IGNITER Switch..... | AUTO        |

*After  $N_G$  below 30%:*

- |                      |                 |
|----------------------|-----------------|
| 3. START Switch..... | PRESS & RELEASE |
|----------------------|-----------------|

*After 30 seconds or ITT below 750°C whichever occurs first:*

- |                            |     |
|----------------------------|-----|
| 4. STARTER GEN Switch..... | OFF |
|----------------------------|-----|

3.16.6 OIL TEMP HIGH — ON GROUND

**OIL TEMP HIGH**

Condition:

- Oil temperature is greater than 110°C

- |                      |                        |
|----------------------|------------------------|
| 1. Airplane.....     | POSITION INTO THE WIND |
| 2. COND Lever .....  | HIGH                   |
| 3. PROP Lever.....   | MAX RPM                |
| 4. POWER Lever ..... | INCREASE               |

5. If **OIL TEMP HIGH** Warning remains:

- a. Shut down engine
- b. Maintenance required before flight.