

Section 3 – Emergency Procedures

IMPORTANT NOTE

The Pilot's Operating Handbook for SE-MMJ has several supplements that add to or modify the basic emergency procedures. In order to help the pilot to find the correct and complete procedures, the aircraft owner has compiled this consolidated list of procedures using the basic POH and the POH supplements.

Only the original POH text is approved.

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3.1 Introduction

Section 3 describes operations and procedures for emergency situation solutions that could possibly occur during airplane operation.

3.2 Speeds for Performing Emergency Procedures

Airspeed for the best gliding ratio (flaps retracted)	59 KIAS (110 km/h IAS)
Airspeed for the best gliding ratio (flaps in TAKE-OFF position – 15°)	57 KIAS (106 km/h IAS)
Precautionary landing (engine running, flaps in LANDING I position – 30°)	57 KIAS (105 km/h IAS)
Precautionary landing (engine running, flaps in LANDING II position – 50°)	54 KIAS (100 km/h IAS)
Emergency landing (engine stopped, flaps in LANDING I position – 30°)	56 KIAS (105 km/h IAS)
Emergency landing (engine stopped, flaps in LANDING II position – 50°)	54 KIAS (100 km/h IAS)

3.3 Engine Failure

3.3.1 Engine Failure at Take-off Run

1. **THROTTLE** lever idle
2. Brakes as necessary
3. **FUEL** selector **OFF**
4. Ignition **OFF**
5. **MASTER SWITCH** **OFF**

3.3.2 Engine Failure at Take-off

1. Push the control stick to get the airplane to gliding.
2. Gliding speed:
 - Flaps in **TAKE-OFF** position (15°) min. 57 KIAS (106 km/h IAS)
 - Flaps retracted (0°) min. 59 KIAS (110 km/h IAS)
3. **THROTTLE** lever idle
4. Flaps..... as needed
5. **FUEL** selector **OFF**
6. Ignition..... **OFF**
7. **MASTER SWITCH** **OFF**
8. After touch down brake as needed

3.3.3 Engine Failure in Flight

1. Gliding speed 59 KIAS (110 km/h IAS)
2. Altitude take a decision and carry out:
 - Engine starting in flight – see para 3.4
 - Emergency landing – see para 3.9.1

3.4 Engine Starting in Flight

NOTE

It is possible to start the engine by means of the starter within the whole range of operation speeds as well as flight altitudes. The engine is started up after switching the ignition to **START** position.

If the engine is shut down, the altitude loss during engine starting can reach up to 1000 ft.

1. Gliding speed 59 KIAS (110 km/h IAS)
2. Altitude check
3. **MASTER SWITCH** **ON**
4. **GEN** switch **ON**
5. **AUX. GEN** switch **ON**
6. Unnecessary electrical equipment **OFF**
7. **FUEL** selector **LEFT** or **RIGHT**
8. **CHOKE** as needed
9. **THROTTLE** lever idle (choke open)
increased idle (choke closed)

The propeller is rotating:

10. Ignition switch **BOTH**

The propeller is not rotating:

11. Ignition switch **START**
12. If engine starting does not occur, increase gliding speed up to 108 KIAS (200 km/h IAS), so that air-flow turns the propeller and engine will start.
13. Ignition switch **BOTH**
14. If engine starting is unsuccessful, then continue according to para 3.9.1
Emergency Landing – with Non-operating Engine.

3.5 Engine Fire

3.5.1 Fire on the Ground

1. **FUEL** selector **OFF**
2. Brakes brake
3. **THROTTLE** lever full
4. **HOT AIR** knob close
5. **COLD AIR** knob close

After the engine stops:

6. Ignition **OFF**
7. **MASTER SWITCH** **OFF**
8. Airplane leave
9. Portable extinguisher use

If fire extinguisher not installed:

10. Fire try to extinguish by best available means or call for fire brigade

3.5.2 Fire at Take-off

1. **FUEL** selector **OFF**
2. **THROTTLE** lever full
3. **HOT AIR** knob close
4. **COLD AIR** knob close
5. Gliding speed 57 KIAS (106 km/h IAS)
6. Ignition switch **OFF**
7. **GEN** switch **OFF**
8. **AUX. GEN** switch **OFF**
9. Land
10. **MASTER SWITCH** **OFF** after touch down
11. Airplane leave
12. Portable extinguisher use

If fire extinguisher not installed:

13. Fire try to extinguish by best available means or call for fire brigade

3.5.3 Fire in Flight

1. **FUEL** selector **OFF**
2. **THROTTLE** lever full
3. **HOT AIR** knob close
4. **COLD AIR** knob close
5. Gliding speed 57 KIAS (106 km/h IAS)
6. Ignition switch **OFF**
7. **GEN** switch **OFF**
8. **AUX. GEN** switch **OFF**
9. Land
10. **MASTER SWITCH** **OFF** after touch down

NOTE

For extinguishing the engine fire, you can perform slip under assumption that you have sufficient altitude and time.

If you manage to extinguish the engine fire, then it is possible to switch on the MASTER SWITCH again. You will switch all the section switches and after switching on the MASTER SWITCH the electrical system is switched on which is necessary to complete the flight.

WARNING**NEVER START THE ENGINE AGAIN!**

11. ATC report, if possible
 12. Emergency landing carry out according to para 3.9.1
 13. Airplane leave
 14. Portable extinguisher use
- If fire extinguisher not installed:
15. Fire try to extinguish by best available means or call for fire brigade

3.6 Fire in the Cockpit

1. Fire source identify
 2. **MASTER SWITCH** in case that the source of fire is electrical equipment **OFF**
 3. Portable extinguisher use
 4. After extinguishing the fire aerate the cockpit
 5. Precautionary landing carry out according to para 3.9.2
- If fire extinguisher not installed:
6. Precautionary landing carry out as soon as possible according to para 3.9.2

WARNING**NEVER SWITCH ON THE DEFECTIVE SYSTEM AGAIN.****NOTE**

If a defective electrical system circuit was detected as the fire source, then switch off appropriate circuit breaker and switch over **MASTER SWITCH** to **ON** position.

3.7 Emergency descent

1. **THROTTLE** lever idle
2. Flaps **RETRACTED** position (0°)
3. Airspeed max. V_{NE}
146 KIAS (270 km/h IAS)

3.8 Gliding Flight

NOTE

Gliding flight can be used for example in case of engine failure.

Wing flaps position	Retracted (0°)	Take-off (15°)
Airspeed	59 KIAS (110 km/ IAS)	57 KIAS (106 km/h IAS)

3.9 Emergency Landing

3.9.1 Emergency Landing – with Non-operating Engine

1. Airspeed 59 KIAS (110 km/h IAS)
2. Landing area choose,
determine wind direction
3. Safety harness tighten up
4. Flaps:
 - **LANDING I** position (30°) 57 KIAS (105 km/h IAS)
 - **LANDING II** position (50°) 54 KIAS (100 km/h IAS)
5. ATC notify situation, if possible
6. **FUEL** selector **OFF**
7. **LDG LIGHT** switch as required
8. **TAXI LIGHT** switch as required
9. Ignition switch **OFF**
10. **GEN** switch **OFF**
11. **AUX. GEN** switch **OFF**
12. **MASTER SWITCH** **OFF** before touch down

3.9.2 Precautionary Landing – with Engine Operating

1. Area for landing choose, determine wind
direction, carry out passage
flight with speed of
57 KIAS (106 km/h IAS)
flaps in take-off position (15°)
2. ATC notify situation, if possible
3. Safety harness tighten up
4. Flaps:
 - **LANDING I** position (30°) 57 KIAS (105 km/h IAS)
 - **LANDING II** position (50°) 54 KIAS (100 km/h IAS)
5. **LDG LIGHT** switch as required
6. **TAXI LIGHT** switch as required
7. Landing carry out

3.9.3 Landing with Burst Tire

CAUTION

WHEN LANDING AT HOLDING, KEEP THE WHEEL WITH BURST TIRE ABOVE THE GROUND AS LONG AS POSSIBLE BY MEANS OF AILERONS. IN CASE OF NOSE WHEEL BY MEANS OF ELEVATOR.

1. At running hold airplane direction by means of foot control and elevator.

3.9.4 Landing with Damaged Landing Gear

1. In case of nose landing gear damage touch down at the lowest possible speed and try to keep the airplane on main landing gear wheels as long as possible.
2. In case of main landing gear damage touch down at his lowest possible speed and if possible keep direction at running

3.9.5 After Emergency Landing

NOTE

Carry out the following procedure in case of necessity.

1. Check if the emergency locator transmitter was switched on – red light on the remote control panel flashing periodically during 121.5 MHz transmission or long flash during 406 MHz transmission, buzzer is buzzing (1 beep per 0.7 second during 121.5 MHz transmission and silence during 406 MHz transmission) and radio station is receiving an audio signal on frequency of 121.5 MHz.
2. If the ELT was not switched on automatically – set the switch on the remote control panel or on ELT to **ON** position.
3. If the main antenna was damaged or if there is a danger of ELT damage, then:
 - Remove the ELT from the airplane and place it in a safe distance from the airplane.
 - Set the **ARM-OFF-ON** switch to **ON** position

3.10 Unintentional Spin Recovery

NOTE

The airplane has not, when using normal techniques of pilotage, tendency to go over to spin spontaneously.

Standard procedure of recovery from spin:

1. Flaps retract – 0°
2. **THROTTLE** lever idle
3. Control stick ailerons - neutral position
4. Pedals kick the rudder pedal push against spin rotation direction
5. Control stick push forward at least to middle position as minimum and hold it there until rotation stops
6. Pedals immediately after rotation stopping, set the rudder to neutral position
7. Control stick by gradual pulling recover the diving

CAUTION

ALTITUDE LOSS PER ONE TURN AND RECOVERING FROM THE SPIN IS 500 UP TO 1000 FT.

3.11 Low Oil Pressure

1. Oil pressure indicator check
2. **THROTTLE** lever min. necessary power
3. Perform Precautionary landing – see para 3.9.2

3.12 Generator Failure

3.12.1 Loss of Both Generators

Failure of generator is signaled by switching on the red signaling lights **CHARGING** and **AUX. CHARG.** on the left side of the instrument panel. Battery **powers** all the electrical system.

In addition backup battery for G3X system **powers** the following units: PFD, MFD, ADAHRS 1, EIS.

1. **BATTERY G3X** switch **CHECK ON**

Decrease consumption of electric energy by switching off the following electrical appliances:

2. **SEAT HEATING** switch **OFF** (if installed)
3. **SOCKET** switch **OFF**
4. Land within 30 min. as practicable.

3.12.2 Main Generator Failure

Failure of main generator is signaled by switching on the red signaling light **CHARGING** on the left side of the instrument panel.

1. **GEN** switch **OFF** and then **ON**

If the red signaling light **CHARGING** is still on:

2. **GEN** switch **OFF**

Decrease consumption of electric energy by switching off the following electrical appliances:

3. **SEAT HEATING** switch **OFF** (if installed)
4. **SOCKET** switch **OFF**

3.12.3 External Alternator Failure

Failure of main generator is signaled by switching on the red signaling light **AUX. CHARGING** on the left side of the instrument panel.

1. **AUX. GEN** switch **OFF** and then **ON**

If the red signaling light **AUX. CHARGING** is still on:

2. **AUX. GEN** switch **OFF**

Decrease consumption of electric energy by switching off the following electrical appliances:

3. **SEAT HEATING** switch **OFF** (if installed)
4. **SOCKET** switch **OFF**

3.13 Unintentional Flight in Icing Conditions

CAUTION

THE STALL SPEED INCREASES WITH ICE ACCUMULATION ON THE WING LEADING EDGE.

AIRSPEED INDICATOR, ALTIMETER AND VERTICAL SPEED INDICATION MAY BE INACCURATE WITH ICE ACCUMULATION ON THE PITOT-STATIC TUBE. ADDITIONALLY, THE STALL WARNING SYSTEM MAY BE INOPERATIVE OR MAY NOT WORK CORRECTLY.

1. **CARBURET. PREHEAT.** knob **ON**
2. **PITOT HEATING** switch **ON**
3. Heating direct the hot air toward canopy glazing
4. Icing area leave immediately

3.14 Other Emergency Procedures

3.14.1 Failure of Lateral Control

1. Control the airplane in lateral direction by means of the rudder.
2. **THRITTLE** lever adjust power as needed
3. Land on the nearest suitable airport or in case of need carry out Precautionary landing - see para 3.9.2

3.14.2 Failure of Longitudinal Control

1. Control the airplane in longitudinal direction by means of elevator trim tab and by changing the engine power.
2. Land on the nearest suitable airport or in the case of need carry out Precautionary landing - see para 3.9.2

3.14.3 Failure of Trim Tab Control

1. **THROTTLE** lever adjust power as needed
2. Land on the nearest suitable airport or in the case of need carry out Precautionary landing - see para 3.9.2

3.14.4 Vibrations

If abnormal vibrations occur on the airplane then:

1. **THROTTLE** lever Set engine RPM to the mode in which the vibrations are the lowest.
2. Land on the nearest possible airport, possibly perform safety landing according to para 3.9.2

3.14.5 Carburetor Icing

Carburetor icing happens when air temperature drop in the carburetor occurs due to its acceleration in the carburetor and further cooling by evaporating fuel.

Carburetor icing mostly happens during descending and approaching for landing (low engine RPM).

Carburetor icing shows itself by engine power decreasing, by engine temperature increasing and by irregular engine running.

CAUTION

CARBURETOR ICING MAY OCCUR AT AMBIENT TEMPERATURE HIGHER THAN 32 °F (0 °C).

1. **CARBURET. PREHEAT.** knob **OPEN**
2. **THROTTLE** lever set idle and cruising power again
3. **PITOT HEATING** switch **ON**

NOTE

Ice coating in the carburetor should be removed by decrease and reincrease of engine power.

4. If the engine power is not successfully increased, then carry out landing at the nearest suitable airport or, if it is not possible, carry out safety landing according to para 3.9.2.

3.14.6 Clogging of Air Inlet to Engine Intake

Clogging of the air inlet to the engine intake results in engine power reduction, increase of engine temperatures and irregular engine running. The recommended procedure for engine power recovery is as follows:

1. **CARBURET. PREHEAT.** knob **OPEN**

3.14.7 G3X System Failure

NOTE

In the event of a display failure, the G3X Touch System automatically switches to reversionary (backup) mode. In reversionary mode, the information is presented on the remaining display in the split-screen configuration.

When a LRU or a LRU function fails, a large red 'X' is typically displayed on the display field associated with the failed data.

NOTE

In most of cases, the red "X" annunciation is accompanied by an Alert Message. Refer to G3X Touch Pilot's Guide – Doc. No. 190-01754-00 Rev. H, dated December 2016 or latest valid issue., Section 10, Annunciations & Alerts.

3.14.8 Pulled Circuit Breaker

1. Appropriate circuit breaker CHECK
2. If circuit breaker is pulled PUSH again
3. If display will not start: circuit breaker PULL
4. Land as soon as practicable

3.14.9 Loss of Airspeed Information

If the display system is not receiving airspeed input from the Air Data Computer, a red X is displayed on the field.

1. Data from the remaining display USE
2. Data from the backup airspeed indicator USE (if installed)

3.14.10 Loss of Altitude Information

If the display system is not receiving airspeed input from the Air Data Computer, a red X is displayed on the field.

1. Data from the remaining display USE
2. Data from the backup altimeter USE (if installed)

3.14.11 Loss of Attitude Reference

WARNING

THE PILOT SHOULD ALWAYS MAINTAIN EXTERNAL VISUAL ATTITUDE REFERENCE!

THE PILOT SHOULD NOT RELY ON THE ATTITUDE INDICATOR FOR ATTITUDE EVALUATION!

CAREFULLY CHECK THE WEATHER FORECAST ALONG THE ROUTE PRIOR TO TAKE-OFF.

GOOD VISIBILITY IS REASONABLY EXPECTED TO BE MAINTAINED FOR THE ENTIRE DURATION OF THE FLIGHT.

Although the airplane is equipped with dual ADAHRS sensors and a digital attitude indicator, the pilot must always maintain visual reference...

1. Carry out landing at the nearest suitable airport or, if it is not possible, carry out safety landing according to para 3.9.2.

3.14.12 Pitot-static tube heating failure

Pitot-static tube heating is signaled by illuminating of the **PITOT HEAT.** marking on MFD of the G3X system.

If the **PITOT HEAT.** marking on MFD of the G3X system is off:

1. **PITOT HEATING** switch **OFF**
2. **PITOT HEATING** circuit breaker **OFF** and then **ON**
3. **PITOT HEATING** switch **ON**

If the **PITOT HEAT.** marking on MFD of the G3X system is still off assume Pitot-static tube heating malfunction:

4. Flight in visible moisture conditions Avoid

3.14.13 Loss of instrument or cabin lighting

1. Flashlight use to illuminate area where lighting has been lost
2. Continue flight towards a safe landing

3.14.14 Emergency Channel

The standard emergency channel (121.50 MHz) is stored in the Com memory of the GTR 225A COMM.

1. Flip/Flop key Press and hold for approx. 2 sec.
2. Listen to or send a message.

3.14.15 To Transmit an Emergency Signal

1. **ALT** key on XPDR press
2. Numeric keys **0 - 7** on XPDR squawk 7700

3.14.16 To Transmit a Signal Loss of all Communication

1. **ALT** key on XPDR press
2. Numeric keys **0 - 7** on XPDR squawk 7600

3.15 Canopy Opening in Flight

WARNING

ALWAYS MAKE SURE BEFORE A TAKEOFF, THAT COCKPIT CANOPY IS FULLY CLOSED – THE RED WARNING LIGHT ON THE DASHBOARD MUST GO OFF.

IF THE AIRPLANE IS EQUIPPED WITH DIGITAL INTEGRATED INSTRUMENTS, THE APPROPRIATE LIGHT ON THE DISPLAY MUST INDICATE CLOSED CANOPY!!!

If the canopy would open in flight due to improper closing, wake behind opened canopy would cause vibrations of the horizontal tail unit and consequently vibrations of the control sticks and airplane controllability would be affected.

Proceed as follows to solve such situation:

1. Grasp shaking control stick(s). This will reduce control sticks and horizontal tail unit vibrations caused by wake behind opened canopy.
2. Pull the throttle lever to reduce airspeed to approximately 65 KIAS (120 km/h IAS).
3. Pull opened canopy down by holding the canopy frame on either side (solo flight) or on both sides (dual flight) and keep holding the canopy pulled down. This will reduce wake acting on the horizontal tail unit and improve airplane controllability.

WARNING

PRIORITY IS TO MAINTAIN AIRPLANE CONTROLLABILITY!

ATTEMPTS TO CLOSE THE CANOPY ARE SECONDARY!

4. Try to close the canopy; this could be possible in dual flight. If not, keep holding the canopy down by either hand.
5. Perform Safety landing according to para 3.9.2.
6. It is required after landing to check conditions of the canopy and lock system. Horizontal tail unit must be inspected, as well.
7. Found faults must be fixed before next flight.

3.16 G5 Failure

3.16.1 Power Supply Failure

In case of aircraft power loss, the optional battery backup sustains the G5 flight display with up to 4 hours of emergency power.

BATTERY FAULT INDICATOR



Battery charger hardware fault, or temperature too high or low to safely charge the battery
Porucha hardwaru nabíječky nebo nevhodná (vysoká / nízká) teplota pro správné nabití baterie.



Porucha baterie.
Battery fault



Baterie chybí
(objeví se pouze v případě, když je pole stavu baterie nakonfigurováno pro takové zobrazení).
Battery is not present (appears only when the battery status field has been configured to always appear

3.16.2 Functions Failure

When a G5 function fails, a large red 'X' is typically displayed over the instrument(s) or data experiencing the failure (Fig. 1). Upon G5 power-up, certain instruments remain invalid as equipment starts to initialize. All instruments should be operational within one minute of power-up. If any instrument remains flagged, and it is not likely an installation-related problem, the G5 should be serviced by a Garmin-authorized repair facility.

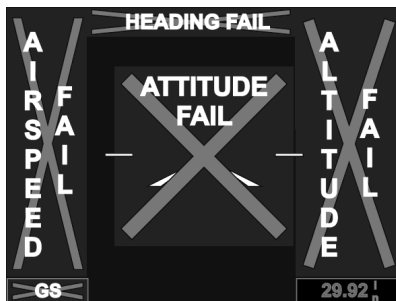


Figure 1 G5 Failure Annunciations

3.16.3 Attitude Failure

The G5 calculates aircraft attitude using information from its built-in sensors. Any failure of the inertial sensors result in loss of attitude and information (indicated by red 'X' flags over the PFD attitude display). Attitude failure is indicated on by red 'X' flags, a yellow annunciator ATTITUDE FAIL, and disappearance of artificial horizon on the display. Information about slip/skid and turn rate will not be available.

Use the remaining flight instruments to continue the flight.

CAUTION

THE FAULT MUST BE CLEARED BEFORE THE FURTHER OPERATION OF THE AIRCRAFT.

If annunciator **ALIGNING** appears during the flight and display of the attitude remains unchanged, then the indication is acceptable for the flight. The message will disappear when the system senses that attitude is within the internal accuracy limits. Maintain the flight levelled to allow the system align itself faster.

3.16.4 Magnetometer Failure

A magnetometer malfunction may constitute loss of course, loss of magnetometer reading, or magnetic field error. If a magnetometer failure occurs, digital heading is not displayed and red 'X' and a yellow message HDG appears on the display. If the HSI unit receives a valid GPS signal, the GPS route will be displayed in magenta.

Use the magnetic compass to continue the flight.

CAUTION

THE FAULT MUST BE CLEARED BEFORE THE FURTHER OPERATION OF THE AIRCRAFT.