

GULFSTREAM AEROSPACE

G650 AIRPLANE FLIGHT MANUAL

SUPPLEMENT NO. G650-2019-03

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Supplement No. G650-2019-03

FAA APPROVED
AIRPLANE FLIGHT MANUAL
SUPPLEMENT FOR
GULFSTREAM MODEL G650

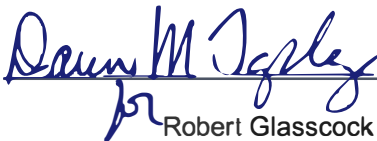
REGISTRATION NUMBER: _____

SERIAL NUMBER: _____

This Supplement must be attached to the FAA Approved GVI (G650) Airplane Flight Manual, dated September 7, 2012, for G650 airplanes Serial Number (SN) 6001 and subsequent not having ASC 134.

The information contained herein supplements or supersedes the information of the basic Airplane Flight Manual. For Limitations, Normal Procedures, Abnormal Procedures, Emergency Procedures and Performance information not contained in this supplement, consult the basic Airplane Flight Manual.

FAA APPROVED:



Robert Glasscock

ODA Lead Administrator

Gulfstream Aerospace Corporation

ODA-511131-CE

DATE:

November 4, 2019

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LOG OF REVISIONS

Revision Number	Affected Pages	Description of Revision

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SECTION 0 PREFACE

Introduction / General

This Airplane Flight Manual Supplement applies only to G650 airplanes Serial Number (SN) 6001 and subsequent not having ASC 134 incorporated.

This supplement limits the Operating Envelope of these aircraft below 250 KCAS / 0.925M unless responding to an emergency procedure where a higher airspeed is required for continued safe flight, such as loss of pressurization or high engine vibrations. Revised abnormal procedures are provided for loss of rudder or yaw damper.

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SECTION 1 LIMITATIONS

01-03-30: Maximum Operating Altitudes

Add Item 6:

6. Rudder and/or Yaw Damper Inoperative Altitude:

The maximum altitude when operating with a failed rudder (as indicated by **Rudder Fail** (caution) CAS message) and/or yaw damper inoperative is 20,000 ft.

01-03-40: Airspeed Limitations

Revise Items 6 and 7:

6. Maximum Operating Limit Speed (V_{MO} / M_{MO}):

Maximum operating limit speed shall not be deliberately exceeded in any regime of flight (climb, cruise, or descent). The maximum operating envelope is limited to 250 KCAS / 0.925M, unless higher speed (340 KCAS / 0.925M) is necessary to comply with emergency procedures requiring rapid descents. See Figure 2: Altitude / Mach Flight Envelope on the next page.

7. Rudder and/or Yaw Damper Inoperative Speed:

The maximum speed when operating with a failed rudder (as indicated by **Rudder Fail** (caution) CAS message) and/or yaw damper inoperative is 250 KCAS / 0.9M.

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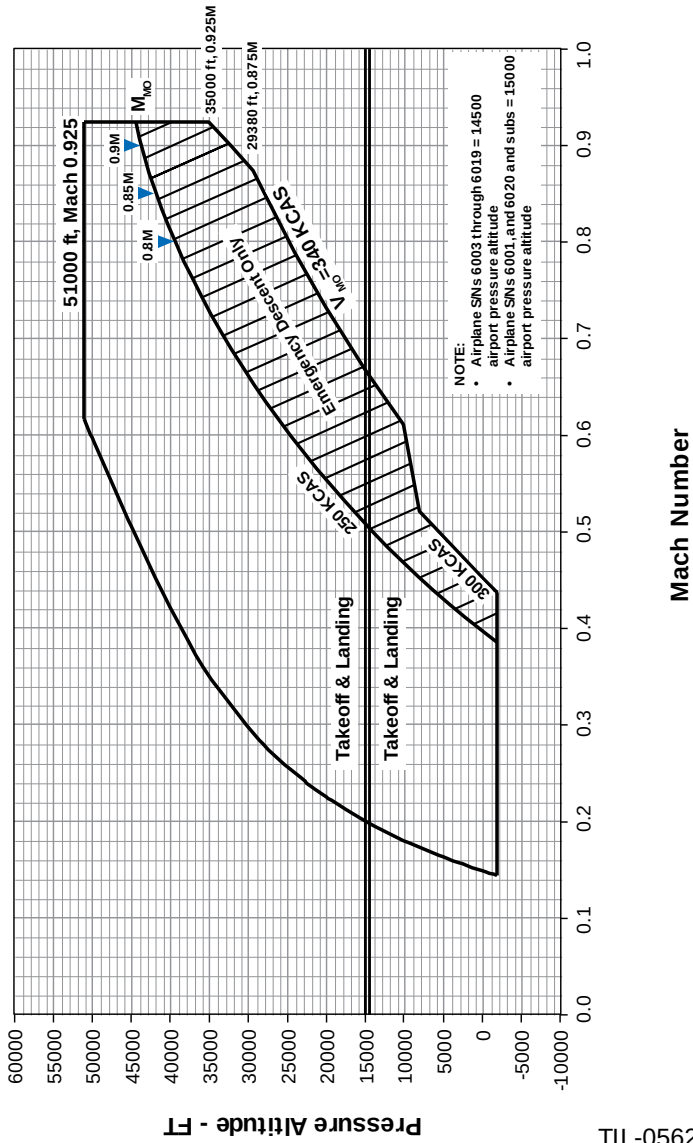


Figure 2. Altitude / Mach Flight Envelope

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SECTION 2 NORMAL PROCEDURES

No change to the Airplane Flight Manual.

SECTION 3 ABNORMAL PROCEDURES

03-25-10: Crew Alerting System (CAS) Caution Messages and Procedures

Revise Corrective Action column for amber **Rudder Fail** CAS message to read:

CAS MESSAGE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Rudder Fail	Both REUs and/or actuators on rudder flight control surface are inoperative.	(1) Autopilot – IMMEDIATELY OFF (2) Airspeed – WITHOUT USING SPEED BRAKES, SLOW IMMEDIATELY BELOW 200 KCAS AND MAINTAIN BELOW PITCH LIMIT INDICATOR.

03-13-200: Rudder Failure

Replace the procedure in its entirety to read:

An inoperative rudder will result in the loss of the FCS yaw damper function; therefore, encountering turbulence and gusting wind conditions may cause lateral-directional oscillations. Use smooth roll inputs during all phases of flight to the maximum extent practicable to minimize sideslip buildup.

CAUTION

DO NOT DELAY DISCONNECT OF AUTOPILOT TO PREVENT THE POSSIBLE ONSET OF UNDESIRABLE ROLL/YAW OSCILLATIONS.

NOTE:

If EBHA actuator is still operative, the FCC may control rudder directly through use of the MCE and message may be caused by both REUs being failed. Rudder trim indication may respond to trim inputs without corresponding rudder surface motion. Apply small rudder pedal inputs and observe airplane response to verify surface operational status.

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- 1. Autopilot IMMEDIATELY OFF**
- 2. Airspeed WITHOUT USING SPEED BRAKES,
SLOW IMMEDIATELY BELOW 200 KCAS AND
MAINTAIN BELOW PITCH LIMIT INDICATOR**
- 3. FLT CTRL RESET Switch PRESS**

**IF CAS MESSAGE CLEARS, AND RUDDER CONTROL RESPONSE
RETURNS, CONTINUE NORMAL FLIGHT.**

IF SIGNIFICANT, REPEATED ROLL OSCILLATIONS ARE PRESENT:

- 4. Wheel Inputs USE SUFFICIENTLY LARGE WHEEL INPUTS
TO MAINTAIN BANK ANGLE OF APPROXIMATELY ± 10 DEG**

NOTE:

Roll oscillations are significantly reduced if airspeed can be slowed below 200 KCAS and oscillations may cease below 20,000 ft. Maintain below Pitch Limit indicator while slowing. When roll oscillations cease, cruise flight below 250 KCAS and 20,000 ft can be performed.

- 5. AltitudeDESCEND WHILE REMAINING BELOW 200 KCAS
.....UNTIL REPEATED ROLL OSCILLATIONS CEASE**
- 6. Altitude / AirspeedREMAIN BELOW 250 KCAS AND 20,000 FT
FOR REMAINDER OF FLIGHT**
- 7. Autopilot AS DESIRED**
- 8. AirportLAND AS SOON AS PRACTICABLE**

NOTE:

Select longest and widest runway available, based on minimum crosswind less than 10 knots; use asymmetric thrust to facilitate runway alignment on approach to landing, if required.

- 9. Landing Controllability Check PERFORM**
See 03-13-10: Landing Controllability Check.

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10. Approach / LandingAUTOPILOT OFF

NOTE:

Plan for long, shallow final approach; use smooth roll inputs to minimize roll/yaw oscillations, maximum extent practicable.

11. Yaw USE DIFFERENTIAL THRUST IF REQUIRED

12. Airspeed..... $V_{REF} + 10$ KTS

13. Landing Flare MAINTAIN ASYMMETRIC THRUST DIFFERENTIAL DURING THROTTLE REDUCTION UNTIL AFTER NOSEWHEEL TOUCHDOWN TO MINIMIZE YAW EXCURSIONS

LANDING:

14. Speed Brakes EXTEND

NOTE:

Ground spoilers will not extend until both throttles are at idle position.

15. Nose Wheels..... LOWER TO GROUND IMMEDIATELY

16. Differential Braking and Nosewheel SteeringCOORDINATE USE FOR DIRECTIONAL CONTROL

17. Throttle..... RETARD REMAINING THROTTLE TO IDLE

END

SECTION 4 EMERGENCY PROCEDURES

No change to the Airplane Flight Manual.

SECTION 5 PERFORMANCE

No change to the Airplane Flight Manual.