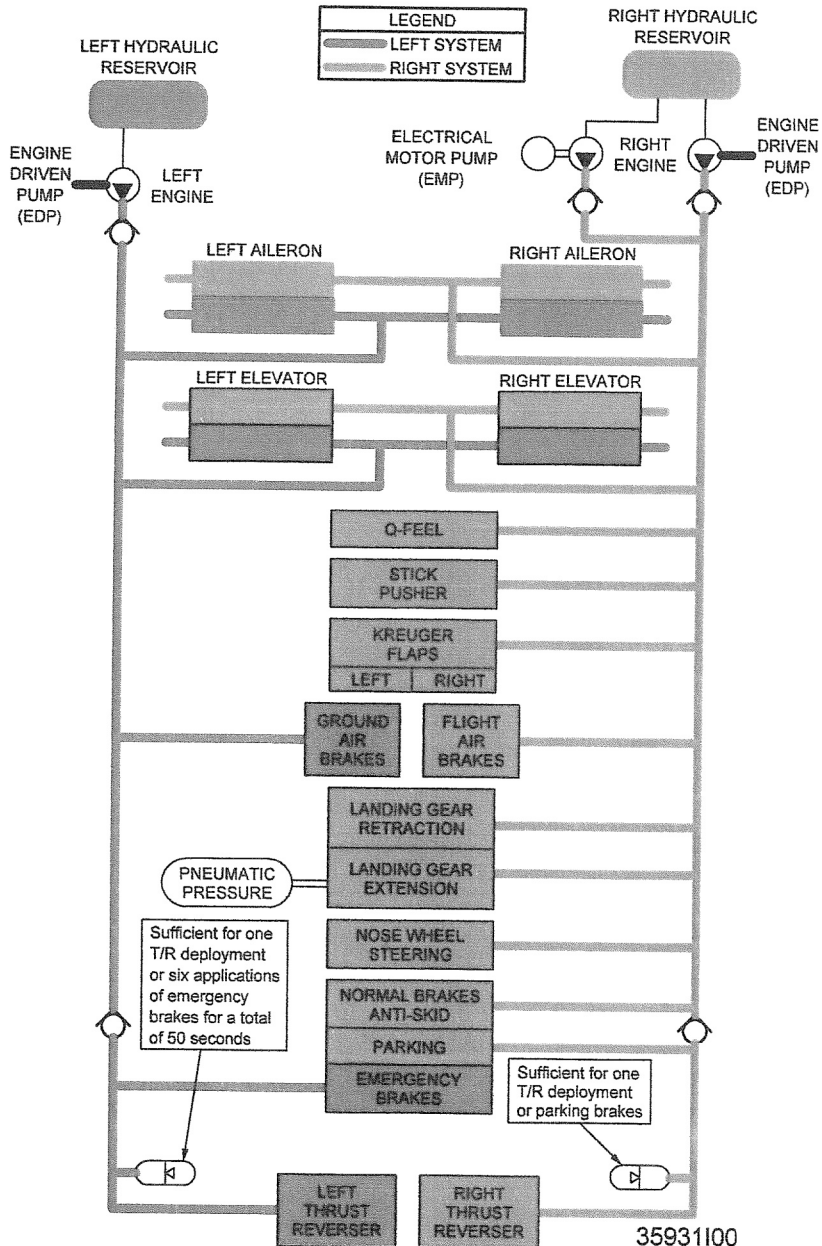


# GULFSTREAM 200 Quick Reference Handbook

## Hydraulic System Diagram



## **Quick Reference Handbook** **GULFSTREAM 200**

### **Left Main Hydraulic System Failure**

GAC

If **L HYD PUMP PRESS LOW** message is illuminated and pressure is below 1200 psi, the left hydraulic system has failed. Inoperative systems are as follows:

- Left Thrust Reverser
- Emergency Brakes
- Ground (Outboard) Airbrakes

**NOTE:** If both left and right main hydraulic systems fail, see **Both Left and Right Main Hydraulic System Failures**, page EF-13.

**NOTE:** At touchdown, only **FLIGHT AIRBRAKES** (inboard) message illuminates.

**NOTE:** Do not use emergency brakes.

**NOTE:** The left thrust reverser is available for deployment by accumulator pressure only if desired, however, it may not fully stow if deployed.

**NOTE:** Use right thrust reverser as necessary; correct asymmetry using ground steering and reverse thrust setting.

**END**

### **Right Main Hydraulic System Failure**

GAC

If **R HYD PUMP PRESS LOW** and **AUX HYD PRESS LOW** messages are illuminated and pressure is below 1200 psi, the right hydraulic system has failed. Inoperative systems are as follows:

- Right Thrust Reverser
- Normal Brakes / Anti-Skid
- Parking Brakes
- Normal Landing Gear Extension
- Flight (Inboard) Airbrakes
- Nosewheel Steering
- Krueger Flaps
- Stick Pusher
- Elevator Feel

**NOTE:** Maintain below 250 / 0.75 KIAS / Mi for the loss of elevator feel.

**NOTE:** If both left and right main hydraulic systems fail, see **Both Left and Right Main Hydraulic System Failures**, page EF-13.

If **R HYD LEVEL LOW** message is illuminated perform step 1 and proceed to step 10:

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**Right Main Hydraulic System Failure, ctd...** GAC

**If R HYD LEVEL LOW message is not illuminated continue as follows:**

1. AUX HYD PUMP ..... OFF
2. AUX PUMP CB ..... CHECK IN
3. AUX HYD PUMP Switch ..... OVRRD

**NOTE:** If pressure stays below 1200 psi turn the AUX HYD PUMP OFF and proceed to Step 10.

**If pressure rises to normal, aux pump motor thermal protection may have been previously activated:**

4. AUX HYD PUMP Switch ..... AUTO

**Before extension of Krueger flaps and Landing Gear:**

5. AUX HYD PUMP Switch ..... OVRRD

**After Extension of Krueger Flaps and Landing Gear:**

6. AUX HYD PUMP Switch ..... AUTO

**Final Approach:**

7. AUX HYD PUMP Switch ..... OVRRD

**After Aircraft Has Stopped (Clear of runway):**

8. AUX HYD PUMP Switch ..... AUTO
9. EMERG BRAKE Lever ..... EMERG

**If pressure stays below 1200 psi:**

10. Emergency Landing Gear Extension ... PERFORM AS REQUIRED
  - A. SLATS / KRUGR / FLAPS Lever ..... 20°
  - B. Airspeed .....  
REDUCE TO MINIMUM FOR AIRCRAFT CONFIGURATION  
(VREF + 5)
  - C. Landing Gear Lever ..... DOWN
  - D. EMERGENCY GEAR DOWN Handle .....  
..... RELEASE, TURN AND LIFT
  - E. Landing Gear ..... DOWN AND LOCKED (3 DN INDICATION)

**CAUTION:** LANDING GEAR LEVER MUST STAY IN DOWN POSITION.

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## Right Main Hydraulic System Failure, ctd...

GAC

**CAUTION:** ONCE EXTENDED, LANDING GEAR CANNOT BE RETRACTED AGAIN.

11. PARK / EMERG BRAKE Lever (On Final) .....EMERG

**Emergency Brake Operation Procedure:**

Failure of right hydraulic system or normal brake system requires emergency brake operation by placing PARK / EMERG BRAKE lever in EMERG position and using brake pedals.

Emergency braking is performed with half of normal brake power and achieves at least half the normal braking performance.

A. PARK / EMERG BRAKE Lever .....EMERG

B. Wheel Brakes..... APPLY CAUTIOUSLY  
(Consider runway distance and condition.)

**CAUTION:** ANTI-SKID SYSTEM IS INOPERATIVE WHEN RIGHT HYDRAULIC SYSTEM FAILS. IN THIS CONDITION, ANTI-SKID OFF LIGHT WILL NOT ILLUMINATE.

**NOTE:** To calculate landing distance using emergency system, increase distance shown in the **Unfactored Landing Distance From 50 Feet** tables in the AFM by **100%**.

12. No Krueger Flaps Landing ..... PLAN AS REQUIRED BELOW

**NOTE:** At touchdown, only GROUND AIRBRAKES (outboard) message illuminates.

**NOTE:** Use caution when applying brakes. Anti-skid is not available with emergency brakes.

**NOTE:** Avoid use of thrust reversers.

**NOTE:** Anticipate approximately 115% increase in normal landing distance due to use of emergency brakes, loss of anti-skid and loss of Krueger flaps.

No Krueger Landing (25° / 0° / 40°):

A. SLATS / KRUGR / FLAPS Lever ..... 40°

B. Landing Distance.....INCREASE BY 15%

C. Approach Speed..... MAINTAIN VREF

Landing Weight (1000 lb)	30	29	28	27	26	25	24	23	22
VREF	148	146	142	140	138	134	132	130	126

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## **Right Main Hydraulic System Failure, ctd...**

GAC

### **Before Landing With Right Hydraulic System Failure:**

1. SLATS / KRUGR / FLAPS Lever ..... SET
2. T / R ARM Pushbuttons ..... DO NOT ARM
3. ENGINE SYNC Switch ..... OFF
4. Flight A / B Switch ..... RETRACT
5. Ground A / B Switch ..... ON
6. Landing Gear ..... DOWN AND LOCKED (3 DN INDICATIONS)
7. Hydraulic Pressure ..... CHECK
8. PARK / EMERG BRAKE Lever ..... EMERG (ON FINAL)
9. Landing Flaps ..... SET
10. Autopilot / Yaw Damper ..... DISENGAGE / OFF (YD LIGHT- ON)

**END**

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**Hydraulic System Overheat**

AFM Section III

**HYD OVERHEAT (L/R)** message indicates that hydraulic fluid temperature, respectively, is above limits.

**NOTE:** If excessive temperature is caused by a malfunction of an engine driven pump, reduction in the thrust lever on the affected side, descent to a lower altitude, or engine shut-down may bring temperature within limits. Since cooling of the fluid is partially dependent on heat exchange between the service area mounted system components and ambient air, the denser air at lower altitudes may assist in lowering fluid temperature. Power reductions, altitude changes and engine shutdown must be performed as limited by in-flight conditions.

1. Thrust Lever (Affected Engine) ..... IDLE
2. Hydraulic Fluid Temperature ..... MONITOR

**If temperature is rising:**

3. Descend to 10,000 feet or below.

**If descent is impracticable:**

4. Shut down engine.
5. Restart engine after descent to 10,000 feet.

**END**

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**Emergency Landing Gear Extension**

AFM Section III

1. SLATS / KRUGR / FLAPS Lever ..... 20°
2. Airspeed .....  
REDUCE TO MINIMUM FOR AIRCRAFT CONFIGURATION  
(VREF +5)
3. Landing Gear Lever ..... DOWN
4. EMERGENCY GEAR DOWN Handle .....  
..... RELEASE, TURN AND LIFT
5. Landing Gear ..... DOWN AND LOCKED (3 DN INDICATION)  
**CAUTION:** LANDING GEAR LEVER MUST STAY IN DOWN  
POSITION  
**CAUTION:** ONCE EXTENDED, LANDING GEAR CANNOT BE  
RETRACTED AGAIN.

**END**

**Landing Gear Does Not Lock Up**

AFM Section III

1. R MAIN HYD PRESS ..... CHECK

**If pressure is low and HYD PUMP PRESS LOW message is on, see the Right Main Hydraulic System Failure, page EF-9.**

**If pressure is normal and any one of the three DN indicators stays on:**

2. Landing Gear Lever ..... CYCLE DOWN AND UP  
(Wait for all 3 DN indicators before recycling to UP.)

**If any one of the three transit symbols stays on:**

3. Landing Gear Lever ..... DOWN

**After all landing gear indicate DN:**

4. SPEED .....  
REDUCE (WITH SLATS EXTENDED) TO 175 KIAS, BUT NOT  
LOWER THAN 1.3 Vs
5. Landing Gear Lever ..... UP

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## Landing Gear Does Not Lock Up, ctd...

AFM Section III

If one of the three in transit indications stays on:

6. Landing Gear Lever .....  
..... DOWN; MONITOR IN TRANSIT INDICATION CHANGES
7. LAND AS SOON AS PRACTICABLE

END

## Landing Gear Lock Down Indication Failure AFM Section III

**NOTE:** Extension times vary with temperature. Expect longer extension times after flying in cold soaking conditions.

If during landing gear extension, normal IN TRANSIT symbol or DN indication does not appear:

1. SLATS / KRUGR / FLAPS Lever .....20°
2. Airspeed .....  
REDUCE TO MINIMUM FOR AIRCRAFT CONFIGURATION  
(VREF +5)
3. Right Hydraulic Pressure ..... CHECK

If pressure indication is normal:

4. Landing Gear Lever ..... UP; MONITOR INDICATION CHANGES

After 30 seconds minimum:

5. Landing Gear Lever .... DOWN; MONITOR INDICATION CHANGES

**NOTE:** It may take up to 22 seconds for green DN indication to appear.

**NOTE:** If one or more DN indications are still off (in transit or red indication), it may indicate landing gear failure to lock down.

**NOTE:** After flying in cold soaking conditions, wait at least 30 seconds after illumination of red LANDING GEAR annunciator. Then, if hydraulic pressure is normal, cycle landing gear UP and DOWN several times as required.

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**Landing Gear Lock Down Indication Failure, ctd... AFM Section III**

**If R HYD pressure is normal:**

6. REPEAT STEPS 4 AND 5 AS NECESSARY.

**NOTE:** If Step 6 is required, maintenance action is recommended.

**If R HYD and AUX HYD pressures are low:**

7. Emergency Landing Gear Extension .....PERFORM  
(See Emergency Landing Gear Extension, page EG-3.)

**END**

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## Landing With Gear Up

AFM Section III

1. Passengers ..... BRIEFED AND PREPARED
  2. Cabin Baggage ..... SECURED
  3. CABIN LIGHTS Switch ..... BELTS / NO SMOKE
  4. FUEL JETTISON Pushbuttons .....  
.....REDUCE WEIGHT TO MINIMUM PRACTICAL
  5. A and B Aural Warning ..... DISABLE  
Press IND TEST (A then B) switch for 15 seconds. Confirm  
messages on).
  6. Pressurization FIELD ELEV Knob .....  
.....SET 2000 FEET ABOVE FIELD ELEVATION
  7. Approach at 3000 feet AGL or below.
  8. ECS Selector ..... RAM
  9. Airspeed Bug ..... SET FOR VREF
  10. SLATS / KRUGR / FLAPS Lever .....40°
  11. Plan for zero crosswind correction, wings level at touchdown.
  12. GROUND A / B Switch.....OFF
  13. FUEL CUT OFF Pushbuttons (On Touchdown) .....  
.....PRESS (LIGHTS – ON)
  14. FIRE / OVERHT Pushbuttons..... PRESS
- AFTER complete stop:**
15. BATT MASTER & EMERGENCY BATT Switches .....OFF
  16. Passenger Evacuation .....INITIATE AFTER FULL STOP

END