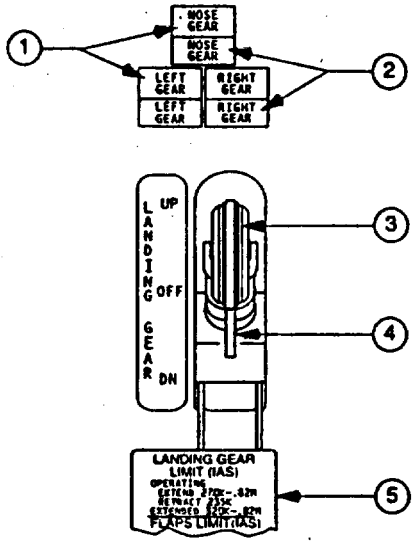
Attachment VI

Operational Information Related to the Southwest Airlines B737-300

Landing Gear
Controls and Indicators

Chapter 14
Section 1

Landing Gear Panel



Center Instrument Panel

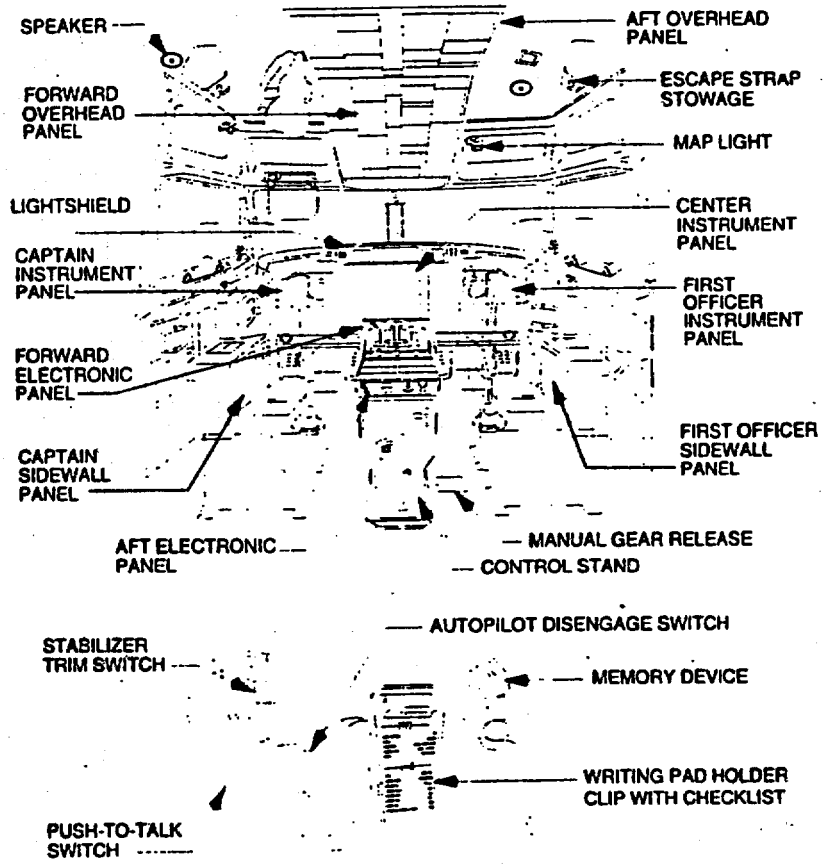
1. Landing Gear Indicator Lights (top)

   Illuminated (red)—

   - landing gear is not down and either thrust lever is retarded to IDLE.
   - related landing gear is in disagreement with landing gear lever position (in transit or unsafe).

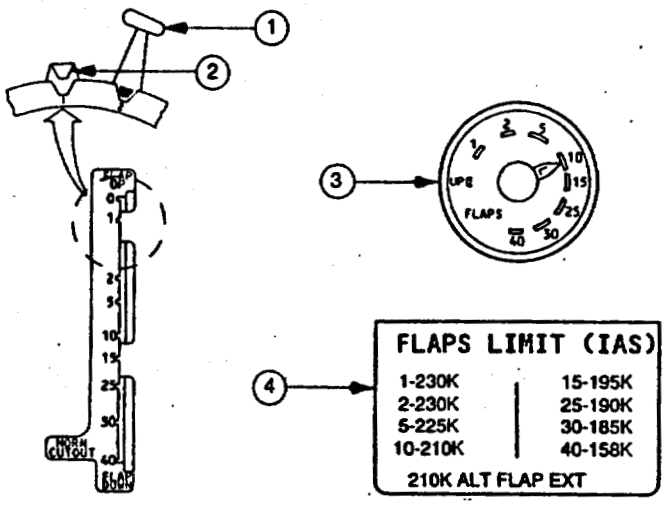
   Extinguished—landing gear is up and locked with landing gear lever UP or OFF.

Panel Arrangement



CAPTAIN CONTROL WHEEL DETAIL

Trailing Edge Flaps

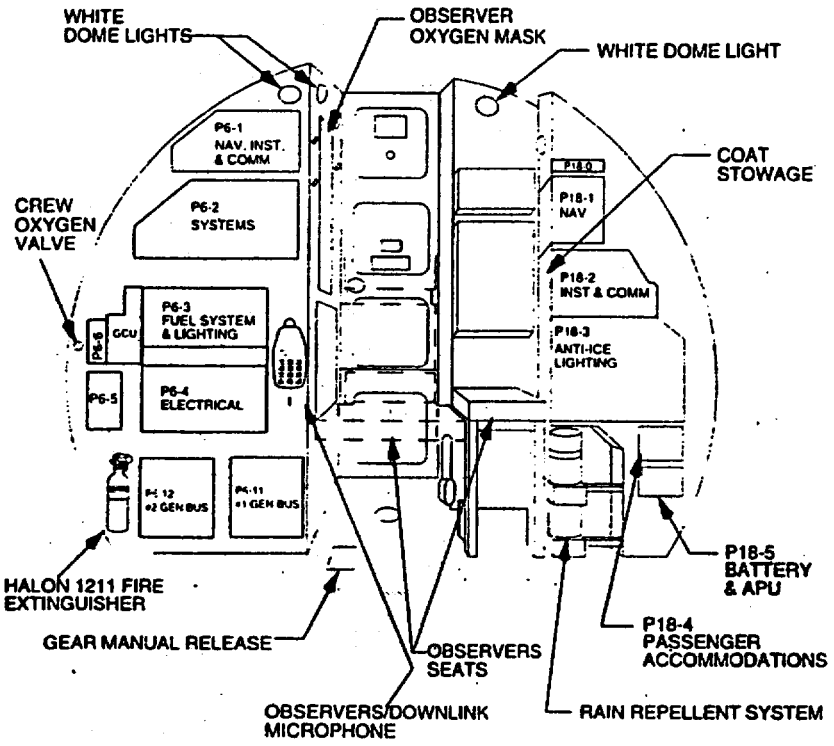


Control Stand | Center Instrument Panel

1. Flap Lever (FLAP)
   - selects position of flap control valve, directing hydraulic pressure for flap drive unit.
   - position of the leading edge devices is determined by selecting trailing edge flap position.
   - flap position 40 arms the flap load relief system.
2. Flap Gates

   Prevents inadvertent flap lever movement beyond:
   - position 1—to check flap position for one engine inoperative go-around.
   - position 15—to check flap position for normal go-around.
3. Flap Position Indicator (FLAPS)
   - indicates position of left and right trailing edge flaps.
   - provides trailing edge flaps asymmetry protection.
4. Flaps Limit Placard (FLAPS LIMIT)
   - lists limit airspeed for each flap setting.

Aft Flightdeck Overview



AFT FLIGHT DECK OVERVIEW

Excessive Descent Rates (Mode 1)

If the aircraft barometric descent rate is excessive, the "SINK RATE" aural alert sounds twice. If descent rate becomes severe, the "WHOOP, WHOOP, PULL UP" aural sounds. A red PULL UP alert is displayed on both attitude indicators.

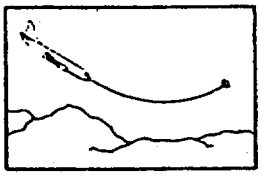
Flight Path Profile ---------- Excessive Descent Rate Envelope

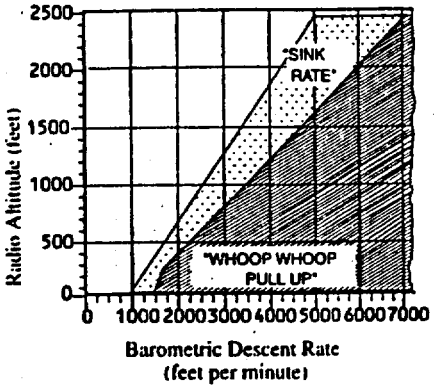
Aural Alert
"SINK RATE"

Aural Warning
"WHOOP WHOOP PULL UP"

Visual—

PULL UP





Wind Considerations

R Maximum recommended wind for airstair operation is 40 knots.

R Maximum recommended wind velocity for takeoff and landing is 50 knots steady and 70 knots peak gusts.

Gust velocities and directions are advisory; however, operations with steady wind components at or near 35 knots accompanied by higher gusts require careful evaluation of runway surface conditions and width to ensure the safety of the operation.

Use steady state wind velocity for crosswind computations.

Use peak gust wind velocity for tailwind computations.

Takeoff and Landing Wind Components MAX 50 G 70

Wind Components Limitations AFM (L)

Conditions	Steady X-Wind		Peak Gust Tailwind	
	Takeoff	Landing	Takeoff	Landing
Dry	35	35	10 15 ❶	10 15 ❷
Wet	35	35	10	10
✔ <4000 RVR or 3/4	35	10	10	10
✔ <1600 RVR or 1/4	20	10	10	10
✔ <600 RVR	10	—	10	—
Clutter ❸	20	20	10	10
Braking Fair	15	15	10	10
Braking Poor	10	10	5	5
Braking Poor to Nil	5	5	0	0

L 25 knot maximum headwind for HGS:
- takeoffs below 600 RVR
- approaches below 1800 RVR

Notes:

❶ (-200) 15 knots if:
- Dry runway and
- Operative anti-skid system
- Operative thrust reverser systems

❷ (-200) Requires:
- Flaps 40
- Dry and clear runway
- Operative anti-skid system
- Operative auto-speedbrake
- 3/4 mile or RVR 4000 visibility or greater

R ❸ Clutter reductions and recommendations apply only when clutter covers 25 percent or more of the runway surface.

Flight Controls

✔ L Maximum speed with any leading edge device fully extended—210 knots.

✔ AFM L Maximum speed with any leading edge device not fully retracted—230 knots (-700: 250 knots).

✔ L Minimum speedbrake use altitude is 1000 feet AGL.

✔ L In-flight, do not move the speedbrake lever aft of the flight detent.

✔ L In-flight, do not use speedbrakes with flaps greater than 5.

✔ L Alternate flap duty cycle in-flight is one complete cycle, then 25 minutes off. A complete cycle is movement from position 0 to 40 and back to 0. The alternate flaps switch must be in the OFF position for 6 seconds before reversing the direction of flap movement.

✔ L Leading edge flaps transit light ON—max speed 300 knots.

✔ L Do not extend flaps above 20,000 feet pressure altitude.

Fuel System

	Fuel AFM		
	-200	-300/-500	-700
✔ Max Fuel Tank Temperature	+49°C		
✔ Min Fuel Tank Temperature	-37°C ❶		
Max Fuel Quantity Each Wing	10,120 lbs	10,643 lbs	8,967 lbs
Center	16,351 lbs ❺	16,422 lbs ❺	29,585 lbs
Max Fuel Imbalance Taxi, T.O., Flight, and Landing	1000 pounds		
Fuel Types ❹	JET A, A1, B, JP4, JP5, JP8	JET A, A1, JP5, JP8	
✔ Fuel Distribution	Main tanks should be scheduled to be full if the center tank quantity is greater than 1000 pounds. Use center tank to depletion followed by wing tank fuel. ❷❸		

✔ AFM L (-700) Fuel crossfeed valve must be closed for takeoff and landing.

✔ AFM L (-700) Holding in icing conditions with flaps extended is prohibited.

AFM L Window heat inoperative maximum speed is 250 knots below 10,000 feet.

AFM L Pitot heat, (-700: probe heat), must be on for all phases of flight.

L For operations in known or forecast rain, hail, or sleet, notwithstanding the minimum equipment list (MEL), the weather radar must be operable for dispatch.

R Wait 1 minute prior to turning engine and APU bleeds ON after deicing.

Landing Gear

AFM L 270 knots/0.82 Mach for extension.

AFM L 235 knots for retraction.

AFM L 320 knots/0.82 Mach extended.

AFM L Do not apply brakes until after touchdown.

AFM L When towing, depressurize the hydraulic system A.

AFM L Autobrakes will remain in the OFF position. The autobrake system is disabled on Southwest Airlines aircraft.

AFM L Maximum brake temperature for ground turnaround is 425 degree Fahrenheit. Temperature must be measured between 10 and 15 minutes after arrival parking. Refer to Performance Chapter for added information.

C or FO N_1 (-200: EPR) and Airspeed Bugs.....Check and Set

- The pilot flying may set the airspeed cursor to the approach target speed. Target speed should be V_{REF} + 5 knots minimum, not to exceed V_{REF} + 20 knots for wind correction.
- An airspeed reference marker (bug) should be set to indicate V_{REF} (-700: N/A).
- If an HGS approach is anticipated, setting the approach target speed may be delayed until final flaps are commanded at the Captain's discretion.
- The Onboard Performance Computer must be put in the "suspend" mode and stowed in its cradle before landing.

C&FO Altimeters.....Set

Approaching Flight Level 180, both pilots will call out, **Flight Level 180 "_____" (current altimeter setting) Set,** while setting the current altimeter setting.

The pilot flying will normally state the final flap setting, V_{REF} and target airspeeds, the planned approach, and call for the Approach Descent Checklist.

C&FO Radio Altimeter.....Set

- Set 200 feet for all approaches except Special CAT I, CAT II, and CAT III approaches.

C&FO Anti-ice.....As Required

C or FO Packs.....AUTO (-200: ON)

C&FO Seatbelt/Shoulder Harness..... Fastened

During descent and approach, it is recommended that the following be accomplished:

- Number 1 and number 2 tank fuel pumps ON
- Crossfeed valve closed
- Hydraulics: Check pressure and quantity. Observe hydraulic brake system pressure gauges to ensure A and B systems are operating normally.

If an HGS approach will be flown, the pilot not flying will silently complete the HGS Approach Checklist prior to glideslope intercept.

Visual

Visual Approach and Landing Configuration Profile