

7.15.1 LANDING GEAR

The airplane is equipped with hydraulically actuated, fully retractable tricycle landing gear: the double-wheel nose gear retracting forward into the nose section and the main gear retracting rearward into the fuselage. Doors completely cover the retracted gear. The rear door of the nose gear well and the forward doors of the main gear strut wells are mechanically operated by the gear through connecting linkages and remain open when the gear is extended. The wheel well doors of the nose gear (side hinged doors) and of the main gear (aft doors), that are mechanically operated, open during gear extension and close when the gears are fully extended. All the three landing gear shock absorbers are of the air-oil type.

The nose gear is steerable through 50 degrees left and right when on taxiing and 20 degrees left and right when on takeoff.

To guard against the retraction of the landing gear when the airplane is on the ground or when the nose wheel is not centered, two squat switches (one on the nose gear and one on the right main gear shock absorber) are provided: they inhibit the hydraulic power package from supplying pressure fluid to the "up section" of the gear actuators.

All the nose and main gear actuators are fully extended when the landing gear is down and retracted when the landing gear is up. Each actuating cylinder is provided with internal up and down locks. Each lock directly actuates the switches controlling the landing gear position indicating lights. The locks are normally closed type and can be opened only by applying positive pressure. An internal shuttle valve in each actuating cylinder allows operating the landing gear extension either on the main or on the emergency hydraulic lines.

The landing gear controls and indicators are located on the LANDING GEAR panel in the center of instrument subpanel. The two position (UP and DN) landing gear control lever is just to the right of the indicator lights assemblies:

- three UNSAFE red warning lights (NOSE, LH and RH)
- three LOCKED DN green advisory lights (NOSE, LH and RH)

Each red word readout type light indicates that the corresponding gear is in motion between the "up locked" and the "down locked" position. Each green word readout type light indicates that the corresponding gear is down and locked. When the gear is up and locked, there is no light illuminated.

CAUTION

A red LH or RH light illuminated after gear extension or retraction may indicate that the corresponding side main gear rear door is not positively closed and locked. In this event the positive lock of the landing gear leg can be checked through the hydraulic pressure indication.

A 326 Hz GEAR WARNING acoustic tone will be generated when:

- the power on one or both of the engines is reduced below a setting sufficient to maintain flight while the landing gear is not locked down. The GEAR WARNING can be silenced by means of the GEAR MUTE switch on the right power lever (left on the airplanes S.N. 1004 to 1021 without S.B. 80-0040).

Airplanes without S.L. 80-0020.

- the flaps are lowered to the DN position and the landing gear is not locked down. The GEAR WARNING cannot be silenced and will continue until either the landing gear is extended or the flaps are retracted to the clean (UP) setting.

- the flaps are in MID position, the landing gear is not locked down and the left power lever is retarded approximately below the half travel position. The GEAR WARNING cannot be silenced and will continue until either the landing gear is extended or the flaps are retracted to the clean (UP) setting.

Airplanes incorporating S.L. 80-0020.

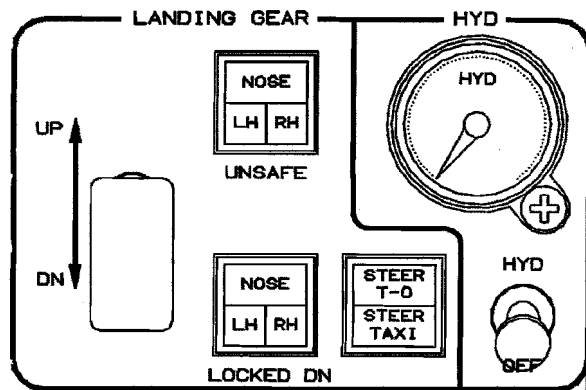
- the flaps are lowered to the MID or DN position and the landing gear is not locked down. The GEAR WARNING cannot be silenced and will continue until either the landing gear is extended or the flaps are retracted to the clean (UP) setting.
- the flaps are in MID position and the landing gear is retracted at the takeoff. The GEAR WARNING will be activated after approximately 25 seconds the landing gear is retracted and will continue until the flaps are retracted to the clean (UP) setting. No GEAR WARNING sound will be generated if the flaps are retracted within the 25 seconds delay.

The correct operation of the landing gear indicating system can be checked selecting on the SYS TEST panel the LND GR position and pressing the central button: the UNSAFE red and the LOCKED DN green lights should illuminate while the GEAR WARNING tone should be generated.

For the emergency extension of the landing gear, in the event of an hydraulic system failure due to a line breakage or a power package malfunction, a hydraulic hand pump and an emergency selector valve are provided with independent emergency lines from the fluid reservoir to the gear actuators. The emergency extension of the landing gear requires that hydraulic system control switch is set to OFF, the landing control lever is set to the DN position and the emergency selector is pulled up: the "UP section" of the gear actuators will be connected to a separated return line while the "DOWN section" will be connected to the hand pump emergency line. About 60 hand pump strokes are required for a positive lock of the gear (the three LOCKED DN green lights on).

The electrical power for the landing gear control and indication is supplied from the essential bus through the 3-ampere LDG GEAR CONT circuit breaker on the pilot circuit breaker panel.

The main gear wheels are 6.50 x 10 units fitted with 6.50 x 10 tubeless type, 12 ply rating tires. The nose gear is equipped with two 5.00 x 5 wheels fitted with 5.00 x 5 tubeless type, 8 ply rating tires.



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Figure 7-14. LANDING GEAR CONTROLS AND INDICATION