

CAUTION

Do not operate slats with wings folded as structural damage will occur to the slats and outer wing.

LANDING GEAR SYSTEM

The aircraft is equipped with fully retractable, tricycle landing gear. The gear is electrically controlled and hydraulically actuated by the utility hydraulic system. Accidental retraction of the landing gear when the aircraft is on the ground is prevented by safety switches on the main gear. Ground safety locks may also be installed to further secure the gear against inadvertent retraction. The following systems have circuits that are wired through the landing gear control handle or landing gear scissors switches: landing gear control, landing gear position indicator, auxiliary air door, anti-skid, landing gear warning light, landing lights, angle of attack system, fuel pressurization and vent system, nose gear steering system, and the external stores emergency release.

CAUTION

A malfunction of the landing gear scissors switch may disable the nose gear steering and also cause the anti-skid system to cut out without warning. This will result in loss of brakes and, ultimately, directional control. The primary method of regaining brakes and, therefore, directional control is by disengaging the anti-skid system. See Wheel Brake Failure, section III.

MAIN GEAR

Each main gear is hydraulically retracted and extended. When the gear handle is UP and the weight is off the gear, the gear will retract. As the main gear retracts, the wheels are automatically braked to a stop by the anti-spin system and the struts are mechanically compressed. When the gear is up and locked, pressure is automatically released from the anti-spin system. The struts automatically return to their normally extended position during gear extension. The gear is locked down by an internal finger type latch in each side brace actuator. The main gear retracts inboard and is enclosed by fairing doors that protrude slightly from the underside of the wing. The gear is locked up by a hydraulically actuated overcenter uplatch mechanism. All main gear doors remain open when the gear is extended.

NOSE GEAR

The nose gear is hydraulically retracted and extended. The gear is locked in the down position by an internal finger latch within the gear actuating cylinder. A hydraulically actuated overcenter mechanism locks the gear in the up position. The nose gear retracts aft into the fuselage and is covered by mechanically operated doors that close flush with the underside of the fuselage. The

forward door is attached to the nose gear strut, and closes with strut retraction; the aft door is operated and latched closed by the gear uplatch mechanism. The nose gear is equipped with twin nose wheels and a combination shimmy damper steering actuator. A self-centering cam is incorporated in the nose gear strut to position it for retraction. The aircraft can be steered by differential braking of the main gear wheels in the event nose gear steering is not utilized. In this event, the steering-damper unit acts as a shimmy damper.

LANDING GEAR CONTROL HANDLE

Operation of the landing gear is controlled by a handle at the left side of the front cockpit instrument panel. The handle has a wheel shaped knob for ease of identification. Placing the handle in the UP or DOWN position energizes a solenoid valve to connect utility system hydraulic pressure to properly position the landing gear. A red warning light is in the landing gear control handle. This light illuminates whenever the control handle is positioned to retract or extend and remains illuminated until the gear is locked in place.

Landing Gear Emergency Extension Handles

Two 100 cubic inch air bottles, charged to 3000 psi, provide sufficient compressed air to extend the landing gear in the event of a utility hydraulic system failure. The front cockpit control is incorporated into the landing gear control handle. Pulling the landing gear control handle full aft, when it is in any position, operates an air valve which directs 3000 psi compressed air to open all gear doors, release the gear up-locks and extend the gear. The rear cockpit control is on the rear cockpit left subpanel and is labeled EMERG LDG GEAR. A spring loaded locking plunger locks the rear handle in the emergency position when it is pulled full aft. The front and rear cockpit emergency landing gear control handles are connected to the same air source.

Landing Gear Warning Light

The landing gear warning light, marked WHEELS, is on the upper left corner of the front cockpit instrument panel. The WHEELS light will flash when the airspeed drops below flap blow-up (approximately 230 knots), and the landing gear has not been lowered. The landing gear handle light illuminates when the gear is unlocked or when the gear is out of phase with the gear handle.

Landing Gear Position Indicators

The landing gear position indicators are on the left subpanel front cockpit and the left subpanel rear cockpit. The position of the landing gear wheels is indicated by drum dials viewed through cutouts in the panel. With gear up, the word UP will appear on the three indicators; gear in transient will be indicated by a barber pole; and with gear down, a picture of a wheel will be seen in each indicator.