GROUND CONTROL

Direct linkage from the rudder pedals allows for nose wheel steering or optional hydraulic actuated power steering may be installed.

The minimum wing-tip turning radius, using partial braking action and differential engine power, is 39 feet 4 inches.

FLAPS

Power is delivered from an electric motor to a gearbox, and then through four flexible driveshafts to jackscrews, one of which operates each flap. A safety mechanism is provided to disconnect power to the electric flap motor in the event of a malfunction which would cause any flap to be three to six degrees out of phase with the other flaps.

The flaps are operated by a sliding switch handle on the pedestal just below the condition levers. Flap travel is registered on an electric indicator on top of the pedestal. Four detents provide for quick selection of UP, TAKEOFF, APPROACH, and LANDING position. The flaps cannot be stopped in an intermediate position.

The flap motor power circuit is protected by a 20-ampere flap motor circuit breaker placarded FLAP MOTOR, located on the right circuit breaker panel. A 5-ampere circuit breaker for the control circuit (placarded FLAP IND & CONTROL) is also located on this panel.

Lowering the flaps will produce these results:

ATTITUDE -	Nose Up	STALL SPEED -	Lowered
AIRSPEED -	Reduced	TRIM -	Nose-Down Adjustment Required to Maintain Altitude

LANDING GEAR

The nose and main landing gear assemblies are retracted and extended hydraulically.

The hydraulic landing gear is actuated by a switch, placarded LDG GR CONTROL - UP - DN, located on the pilot's right subpanel. The control handle must be pulled out of the detent before it can be moved from either the UP or the DN position. An overload protection circuit protects the system from electrical overload.

A safety switch on the right main gear opens the control circuit when the strut is compressed. This prevents the landing gear handle from being raised when the airplane is on the ground. The hook automatically disengages when the airplane leaves the ground and can be manually overridden by pressing down on the red downlock release button just left of the landing gear control handle in the event of a malfunction of the down-lock solenoid. The landing gear control handle should never be moved out of the DN detent while the airplane is on the ground. If it is, the landing gear warning horn will sound intermittently and the red gear-in-transit

lights in the landing gear control handle will illuminate (provided the MASTER SWITCH is ON), warning the pilot to return the handle to the DN position.

In flight, as the landing gear moves to the full down position, the downlock switches are actuated and interrupt current to the pump motor. When the red in-transit light in the landing gear control handle extinguishes, the landing gear are in the fully retracted or extended position. Hydraulic system pressure performs the uplock function.

A caution light, placarded HYD FLUID LOW, in the caution/advisory annunciator panel will illuminate whenever the hydraulic fluid is low in the power pack.

Visual indication of landing gear position is provided by individual green GEAR DOWN indicator lights NOSE - L - R on the pilot's right subpanel. The green lights may be checked by pressing the indicator light caps.

LANDING GEAR WARNING SYSTEM

The landing gear warning system is provided to warn the pilot that the landing gear is not down and locked during specific flight regimes.

With the flap control handle positioned up or down, to and including APPROACH and either or both power levers retarded, the warning horn will sound intermittently and the landing gear control handle lights will illuminate. The horn can be silenced by pressing the WARN HORN SILENCE button adjacent to the landing gear control handle; the lights in the landing gear control handle cannot be canceled. The landing gear warning system will be rearmed if the power lever(s) are advanced sufficiently.

With the flaps beyond APPROACH position, the warning horn and landing gear control handle lights will be activated regardless of the power settings, and neither can be canceled.

MANUAL LANDING GEAR EXTENSION

An alternate extension handle, placarded LANDING GEAR ALTERNATE EXTENSION, is located on the floor on the pilot's side of the pedestal. To engage the system, pull the LANDING GEAR RELAY circuit breaker, located to the right of the landing gear control and adjacent to the WARN HORN silence button on the pilot's right subpanel, and ensure that the landing gear control is in the DN position. Remove the alternate extension handle from the securing clip and pump up and down. While pumping, do not lower the handle below the level of the securing clip during the down stroke as this will allow accumulated hydraulic pressure to bleed off. Continue the pumping action until the three green gear-down annunciators are illuminated, then stow the handle in the securing clip. If one or more gear down annunciators do not illuminate, the alternate handle must not be stowed. Instead, leave it at the top of the up stroke. Continue to pump the handle when conditions permit until the gear is mechanically secured after landing. Refer to LANDING GEAR MANUAL EXTENSION in Section 3A, ABNORMAL PROCEDURES. If any of the following conditions exist, it is likely

that an unsafe gear indication is due to an unsafe gear and is not a false indication.

1. The inoperative gear down annunciator illuminates when tested.
2. The red light in the handle is illuminated.
3. The gear warning horn sounds when one or both power levers are retarded below a preset N_1.

After a practice manual extension of the landing gear, the gear may be retracted hydraulically. Refer to LANDING GEAR RETRACTION AFTER PRACTICE MANUAL EXTENSION in Section 4, NORMAL PROCEDURES.

BRAKE SYSTEM

The parking brake control is located on the lower pedestal. After the pilot's brakes have been depressed to build up pressure in the brake lines, both valves can be closed simultaneously by pulling out the brake handle. This retains the pressure in the brake lines. The parking brake is released by depressing the pedals briefly to equalize the pressure on both sides of the valve, then pushing in the parking brake handle to open the valves.

TIRES

The airplane is equipped with dual 22x6.75-10, 10-ply-rated, tubelass tires on each main gear.

The nose gear is equipped with a single 19.5x6.75-8, 10-ply-rated, tubeless or tube-type tire.

BAGGAGE COMPARTMENT

WARNING

Unless authorized by applicable Department of Transportation Regulations, do not carry HAZARDOUS MATERIAL anywhere in the airplane.

NOSE BAGGAGE COMPARTMENT

An unpressurized, 13-cubic-foot baggage compartment, accommodating 150 pounds of baggage, is located in the nose of the airplane. Access is through an upward opening door on the forward left side of the fuselage.