

only the minimum power required to reach the desired touchdown spot.

LANDING GEAR MALFUNCTION PROCEDURES

In the event of possible landing gear retraction or extension malfunctions, there are several general checks that should be made prior to initiating the steps outlined in the following paragraphs.

In analyzing a landing gear malfunction, first check that the master switch is ON and the LDG GEAR and GEAR PUMP circuit breakers are in; reset if necessary. Also, check both landing gear position indicator lights for operation by "pressing-to-test" the light units and rotating them at the same time to check for open dimming shutters. A burned-out bulb can be replaced in flight by using the bulb from the remaining gear position indicator light.

RETRACTION MALFUNCTIONS

Normal landing gear retraction time is approximately 8 seconds. If the landing gear fails to retract normally or an intermittent GEAR UP indicator light is present, check the indicator light for proper operation and attempt to recycle the landing gear. Place the landing gear lever in the GEAR DOWN position. When the GEAR DOWN light illuminates, reposition the gear lever in the GEAR UP position for another retraction attempt. If the GEAR UP light still fails to illuminate, the flight may be continued to an airport having maintenance facilities, if practical. If gear motor operation is audible after a period of one minute following gear lever retraction actuation, pull the GEAR PUMP circuit breaker switch to prevent the electric motor from overheating. In this event, remember to re-engage the circuit breaker switch just prior to landing. Intermittent gear motor operation may also be detected by momentary fluctuations of the ammeter needle.

EXTENSION MALFUNCTIONS

Normal landing gear extension time is approximately 6 seconds. If the landing gear will not extend normally, perform the general checks of circuit breakers and master switch and repeat the normal extension procedures at a reduced airspeed of 100 KIAS. The landing gear lever must be in the down position with the detent engaged. If efforts to extend and lock the gear through the normal landing gear system fail, the gear can be manually extended (as long as hydraulic system fluid has not been completely lost) by use of the emergency hand pump. The hand pump is located between the front seats.

LANDING GEAR SYSTEM

The landing gear is a retractable, tricycle type with a steerable nose wheel and two main wheels. Shock absorption is provided by the tubular spring-steel main landing gear struts and the air/oil nose gear shock strut. Each main wheel is equipped with a hydraulically actuated disc-type brake on the inboard side of the wheel.

Landing gear extension, retraction, and down lock operation is accomplished by hydraulic actuators powered by an electrically-driven hydraulic power pack (see figure 7-8). The power pack assembly is housed within the control pedestal. Hydraulic system fluid level may be checked by utilizing the dipstick/filler cap, on the power pack, behind a snap-out cover panel on the right side of the control pedestal. The system should be checked at 25-hour intervals. If the fluid level is at or below the ADD line on the dipstick, hydraulic fluid (MIL-H-5606) should be added. Nose gear wheel and strut door operation is accomplished mechanically.

Power pack operation is initiated by a landing gear lever, and is turned off by a pressure switch. Two position indicator lights are provided to show landing gear position. The landing gear system is also equipped with a nose gear safety switch, an emergency extension hand pump, and a gear-up warning system.

LANDING GEAR LEVER

The landing gear lever, mounted to the left of the engine controls, has two positions (up labeled GEAR UP and down labeled GEAR DOWN) which give a mechanical indication of the gear position selected. From either position, the lever must be pulled out to clear a detent before it can be repositioned. Moving the lever out of the GEAR DOWN detent will start the hydraulic power pack. Positioning the lever in the GEAR UP position will direct hydraulic pressure to retract the landing gear. Operation of the landing gear system to extend the gear will not begin until the landing gear lever is repositioned in the GEAR DOWN detent.

LANDING GEAR POSITION INDICATOR LIGHTS

Two position indicator lights, mounted adjacent to the landing gear lever, indicate that the gear is either up or down and locked. The lights are the press-to-test type. The gear-down indicator light (green) has two positions; with the light pushed in half way (throttle retarded and master switch on) the gear warning system should be heard intermittently on the airplane speaker, and with the light pushed full in, it should illuminate. The gear-up indicator light (amber) has only one test position; with the light pushed full in, it should illuminate. The indicator lights contain dimming shutters for night operation.

EMERGENCY HAND PUMP

A hand-operated hydraulic pump, located between the two front seats, is provided for manual extension of the landing gear in the event of a hydraulic or electrical system failure. The landing gear cannot be retracted with the hand pump. To utilize the pump, extend the handle forward and pump vertically. For complete emergency procedures, refer to Section 3.

For practice manual gear extensions, pull out the GEAR PUMP circuit breaker before placing the landing gear lever in the GEAR DOWN position. After the practice manual extension is completed, push the circuit breaker in to restore normal gear operation.

LANDING GEAR WARNING SYSTEM

The airplane is equipped with a landing gear warning system designed to help prevent the pilot from inadvertently making a wheels-up landing. The system consists of a throttle-actuated switch which is electrically connected to a dual warning unit. The warning unit is connected to the airplane speaker.

When the throttle is retarded below approximately 15 inches of manifold pressure (master switch on), the throttle linkage will actuate a switch which is electrically connected to the gear warning portion of a dual warning unit. If the landing gear is retracted (or not down and locked), an intermittent tone will be heard on the airplane speaker. The system may be checked for correct operation before flight by retarding the throttle to idle and depressing the green gear-down position indicator light half way in. With the indicator light depressed as described, an intermittent tone should be heard on the airplane speaker.

BAGGAGE COMPARTMENT

The baggage compartment consists of the area immediately behind the aft cabin pressure bulkhead and extends rearward to a removable baggage compartment wall in the tailcone. Access to the baggage compartment is gained through a lockable baggage door on the left side of the airplane. When loading the airplane, no material which might be hazardous to the airplane or occupants should be placed in the baggage compartment. For baggage area and door dimensions, refer to Section 6.

SEATS

The seating arrangement consists of four separate adjustable seats and a one-piece fixed seat. The pilot's seat is a six-way adjustable seat, and