

Piper PA32R-300

Pilot's Operating Handbook Excerpts

Emergency Procedures

3.27 EMERGENCY LANDING GEAR EXTENSION

Prior to proceeding with an emergency gear extension check to ensure that the master switch is ON and that the circuit breakers have not opened. If it is daytime, the radio lights should be turned off. Check the landing gear indicators for faulty bulbs.

NOTE

Refer to paragraph 4.41 for differences when emergency extension procedure is performed for training purposes.

If the landing gear does not check down and locked, reduce the airspeed to below 87 KIAS. Move the landing gear selector to the DOWN position. On aircraft equipped with the backup gear extender, place the emergency gear lever in the OVERRIDE ENGAGED position and fishtail the airplane.

If the landing gear still does not check down and locked move the emergency gear lever to the EMERGENCY DOWN position while fishtailing the airplane.

If all electrical power has been lost, the landing gear must be extended using the above procedures. The gear position indicator lights will not illuminate.

*Approximately 81 KIAS at sea level to approximately 100 KIAS at 10,000 ft with a straight line variation between.

Normal Procedures, Section 4

4.41 LANDING GEAR

Some aircraft are equipped with an airspeed - power sensing system (backup gear extender) which extends the landing gear under low airspeed - power conditions* even though the pilot may not have selected gear down. This system will also prevent retraction of the landing gear by normal means when the airspeed - power values are below a predetermined minimum. To override this system or to hold the emergency gear lever in the OVERRIDE ENGAGED position without maintaining manual pressure on the emergency gear lever, pull the lever full up and push the latch down. To release the override, pull lever up to disengage the latch, then release lever. For normal operation, the pilot should extend and retract the gear with the gear selector switch located on the instrument panel, just as he would if the backup gear extender system were not installed.

The pilot should become familiar with the function and significance of the landing gear position indicators and warning lights.

The red gear warning light on the instrument panel and the horn operate simultaneously in flight when the throttle is reduced to where the manifold pressure is approximately 14 inches of mercury or below, and the gear selector is not in the DOWN position. On aircraft equipped with the backup gear extender, this warning will also occur during flight when the system has lowered the landing gear and the gear selector switch is not in the DOWN position and the throttle is not full OPEN.

The red gear warning light on the instrument panel and the horn will also operate simultaneously on the ground when the master switch is ON and the gear selector switch is in the UP position.

WARNING

Radio lights' dimmer switch must be off to obtain gear lights full intensity during daytime flying. When aircraft is operated at night and radio lights' dimmer switch is turned on, gear lights will automatically dim.

The three green lights on the instrument panel operate individually as each associated gear is locked in the extended position.

On aircraft equipped with the backup gear extender, the yellow AUTO EXT OFF light immediately below the gear selector switch flashes whenever the emergency gear lever is in the OVERRIDE ENGAGED position.

When the Emergency Landing Gear Extension Procedure (Paragraph 3.27) is performed for training purposes, the following changes must be made to the procedure in order to prevent the hydraulic pump from activating during the procedure. On aircraft equipped with the backup gear extender, the landing gear selector must be left in the UP position until all gear position indicators are green. On aircraft which do NOT have the backup gear extender, a pull type LANDING GEAR PUMP circuit breaker is installed and must be pulled prior to executing the emergency extension procedure. The circuit breaker must be reset after the completion of the procedure to allow normal gear system operation.

Description of and Operation, Section 7

Some aircraft also incorporate a pressure sensing device in the system which lowers the gear regardless of gear selector position, depending upon airspeed and engine power (propeller slipstream). The gear is designed to extend at airspeeds below approximately 103 KIAS with power off even if the selector is in the up position. The extension speeds will vary from approximately 81 KTS to approximately 103 KIAS depending on power settings and altitude. The device also prevents the gear from retracting at airspeeds below approximately 81 KTS with full power, though the selector switch may be in the up position. This speed increases with reduced power and/or increased altitude. Manual override of the device is provided by an emergency gear lever located between the front seats to the right of the flap handle (refer to Figure 7-9). The sensing device operation is controlled by differential air pressure across a flexible diaphragm which is mechanically linked to a hydraulic valve and an electrical switch which actuates the pump motor. A high pressure and static air source for actuating the diaphragm is provided in a mast mounted on the left side of the fuselage above the wing. Any obstruction of the holes in this mast will cause the gear to extend. An optional heated mast is available to alleviate obstruction in icing conditions. The optional heated mast is turned on whenever the PITOT HEAT is turned on.