

SECTION 4
NORMAL PROCEDURES

PA-46-500TP



4.5o BEFORE LANDING (4.35)

APPROACH CHECK (4.35a)

Altimeter & Standby Altimeter.....	SET
Pressurization	SET
Fuel Pump	MANUAL
Ignition	MANUAL
Fuel Quantity.....	CHECK
Seats	ADJUSTED & LOCKED IN POSITION
Armrests	STOWED
Belts/Harness.....	FASTEN & ADJUSTED
Landing Gear.....	DOWN (below 168 KIAS)
Flaps	SET (10° @ 168 KIAS max.)
Aircraft Heading	CROSS CHECK WITH CORRECTION CARD (If Installed)

NOTE

During landing gear operation it is normal for the
HYDRAULIC PUMP annunciator light to illuminate until
full system pressure is restored.

LANDING CHECK (4.35b)

Landing Gear.....	3 GREEN LIGHTS
Brakes.....	CHECK

WARNING

After pumping several times, if one or both toe brakes are
inoperative, DO NOT attempt landing on a short field.

Flaps	SET (36° @ 118 KIAS max.)
Airspeed	85 KIAS

NOTE

Landing distance performance was established by
maintaining a power on (280 ft. lb. torque), stabilized 3°
approach at 85 KIAS, and reducing power to idle during the
flare.

Autopilot	DISENGAGE
Yaw Damper (prior to landing)	DISENGAGE

SECTION 4

PA-46-500TP

NORMAL PROCEDURES



4.35 BEFORE LANDING (4.5o)

4.35a Approach Check (4.5o)

Set the altimeter and standby altimeter. Verify that the cabin pressurization is set. Select the fuel pump and ignition switches to MANUAL. Verify fuel quantity and balance. Make sure seat backs are erect and seats are adjusted and locked in position. Armrests should be stowed and seat belts and harnesses should be fastened and adjusted. The landing gear may be extended and the flaps may be set to 10° at airspeeds up to 168 KIAS maximum. Verify aircraft heading against the correction card.

NOTE

During landing gear operation it is normal for the HYDRAULIC PUMP annunciator light to illuminate until full system pressure is restored.

4.35b Landing Check (4.5o)

Verify 3 green lights indicating that the landing gear are down and locked. Pump the toe brakes to ensure that the system is capable of uniform braking during landing rollout.

WARNING

After pumping several times, if one or both toe brakes are inoperative. DO NOT attempt landing on a short field.

As the airspeed is reduced to 118 KIAS or lower, the flaps can be set to 36°. Set power (approximately 280 ft. lb. torque for a 3° approach) to maintain an airspeed of 85 KIAS.

NOTE

Landing distance performance was established by maintaining a power on (280 ft. lb. torque), stabilized 3° approach at 85 KIAS, and reducing power to idle during the flare.

The autopilot and the yaw damper must be disengaged for landing.

7.11 LANDING GEAR

The aircraft is equipped with hydraulically operated, fully retractable, tricycle landing gear.

Locking-type actuators are used for main and nose gears. The actuator assembly provides mechanical gear-down locking at the fully extended position and is hydraulically unlocked. The actuator also acts as the gear brace in the extended position.

The main gear retracts inboard into the wing root area. A mechanically linked door covers the strut assembly.

Hydraulic pressure for gear operation is furnished by an electrically driven hydraulic pump. Landing gear operation is controlled by a two position landing gear selector switch with a wheel shaped knob located to the left of the engine power control quadrant. Three green lights, which are individually activated as each gear mechanically locks into the DOWN position, are located above the landing gear selector.

NOTE

Day/night dimmer switch must be in the DAY position to obtain full intensity of the landing gear position indicator lights. When the aircraft is operated at night, the switch should be in the NIGHT position to dim the gear lights.

The landing gear selector switch must be pulled outward to release it from a detent in the DOWN position prior to moving it to the UP position. In addition, there is a squat switch on the left main gear which prevents operation of the gear UP electrical circuit when the aircraft weight is on the gear. If the landing gear selector is placed in the UP position with the aircraft weight on the gear, the gear warning horn will sound, and the red **GEAR WARN** annunciator will illuminate.

The landing gear is held in the UP position by hydraulic pressure which is trapped in the system UP lines by a check valve in the pump assembly. When normal pump operation is stopped by the pressure switch, a check valve in the pump assembly closes to trap fluid pressure in the UP side of the system. Emergency gear extension is accomplished by a manually actuated valve which relieves the pressure in the UP side and bypasses fluid to the DOWN side of the system. The additional fluid required for DOWN operation comes directly from the reservoir.

7.11 LANDING GEAR (continued)

The landing gear is held in the DOWN position by spring loaded mechanical locking mechanisms built into each of the three actuating cylinders. The individual gear safe light switches are also mechanically operated when each mechanism is in the LOCKED position. With the hydraulic pump and system operating normally, hydraulic pressure is also trapped in the DOWN side of the system. This DOWN pressure is not required to mechanically lock the cylinders and is not available if the hydraulic pump is inoperative.

The EMERGENCY GEAR extension system allows the landing gear to free fall, with spring assist on the nose gear, into the extended position where the mechanical locks engage. If a gear system malfunction has been indicated and the EMERGENCY GEAR extension system used, it is recommended that the EMERGENCY GEAR extension control and the HYD PUMP circuit breaker be left in the pulled position until the aircraft is safely on jacks. See the Maintenance Manual for proper landing gear system check-out procedures. If the airplane is being used for training purposes, the EMERGENCY GEAR EXTENSION control must be returned to its normal position prior to resetting the HYDRAULIC PUMP POWER circuit breaker or damage to the emergency landing gear extension valve may occur.

CAUTION

When flying in extreme cold where the aircraft has been cold soaked for an extended period of time, the gear may not indicate down and locked for 10 to 15 seconds after normal gear extension.

CAUTION

When flying in extreme cold where the aircraft has been cold soaked, it may take several minutes for all three gear to indicate down and locked following an EMERGENCY EXTENSION "FREE FALL".

**7.11 LANDING GEAR (continued)**

The annunciator panel contains two lights pertaining to landing gear operation. A red **GEAR WARN** annunciator is activated whenever all three gears are not fully down and locked, or not fully up with the gear doors closed. This annunciator will illuminate during normal gear operation to indicate that the gear is in transit. If it does not go out within approximately 10 seconds during normal gear operation or illuminates steadily during flight with the landing gear selector in the UP position, a system malfunction is indicated. There is also an amber **HYDRAULIC PUMP** annunciator which indicates that the hydraulic pump motor is being supplied with electrical power. The annunciator is illuminated during normal landing gear operation for approximately the same duration as the **GEAR WARN** annunciator. If the light remains on or begins cycling intermittently after gear operation, a system malfunction is indicated.

The red **GEAR WARN** annunciator and gear warning horn will operate simultaneously under the following conditions:

- (a) In flight when the throttle is reduced to low power settings and the landing gear is not in the DOWN position.
- (b) In flight when the flaps are extended beyond 10° and the landing gear is not in the DOWN position.
- (c) On the ground when the landing gear selector is in the UP position. The landing gear squat switch activates to prevent operation of the retract side of the hydraulic pump on the ground.

A landing gear warning horn mute switch, if installed, is located directly below the standby airspeed indicator. Activating the landing gear warning horn mute switch temporarily silences the landing gear warning horn only if the horn is triggered. When activated, the landing gear warning horn mute switch will illuminate. The horn can be cancelled by extending the landing gear or advancing the power lever.