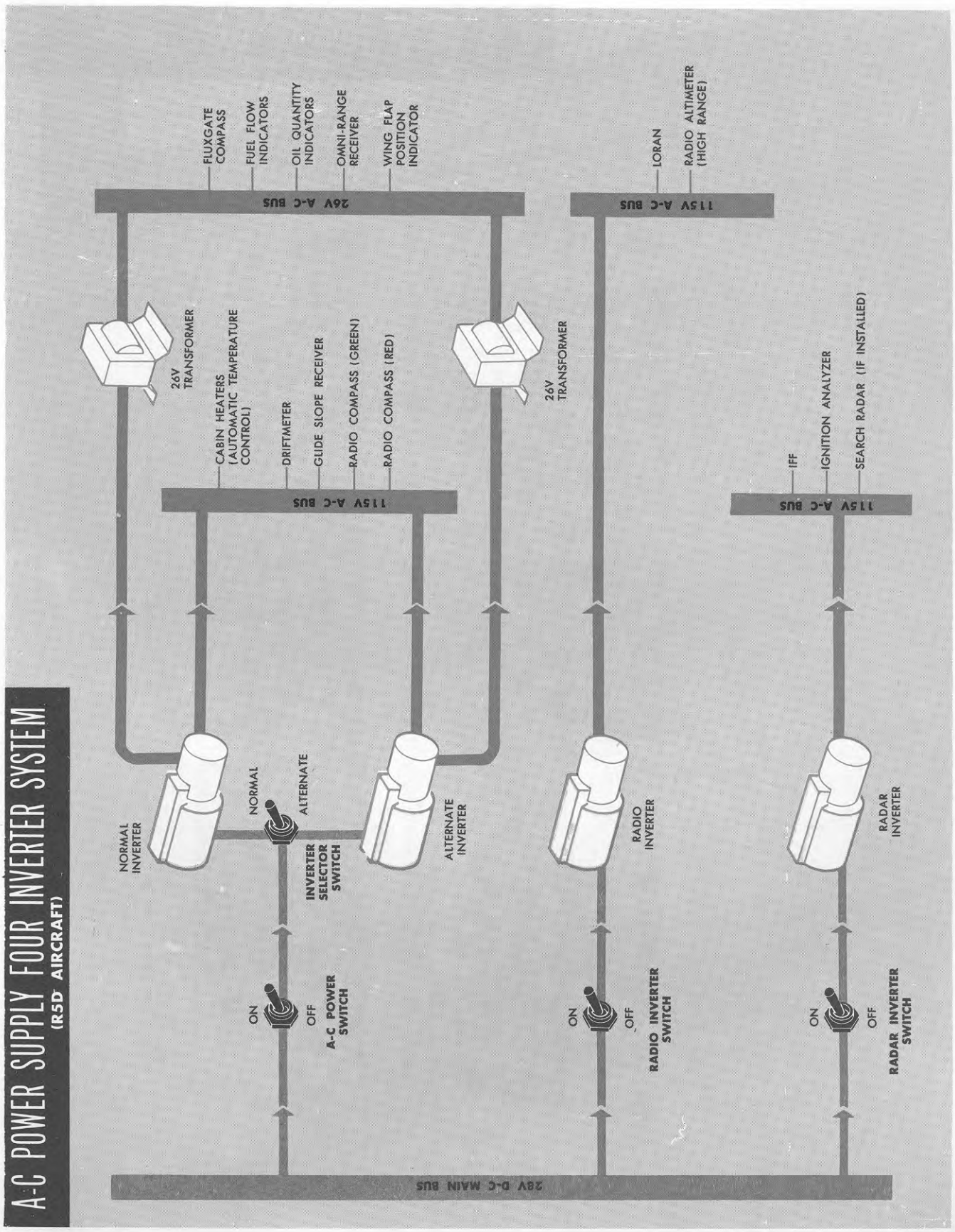

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Figure 1-28

CIRCUIT PROTECTOR PANEL — Typical

(C-54 AIRCRAFT)

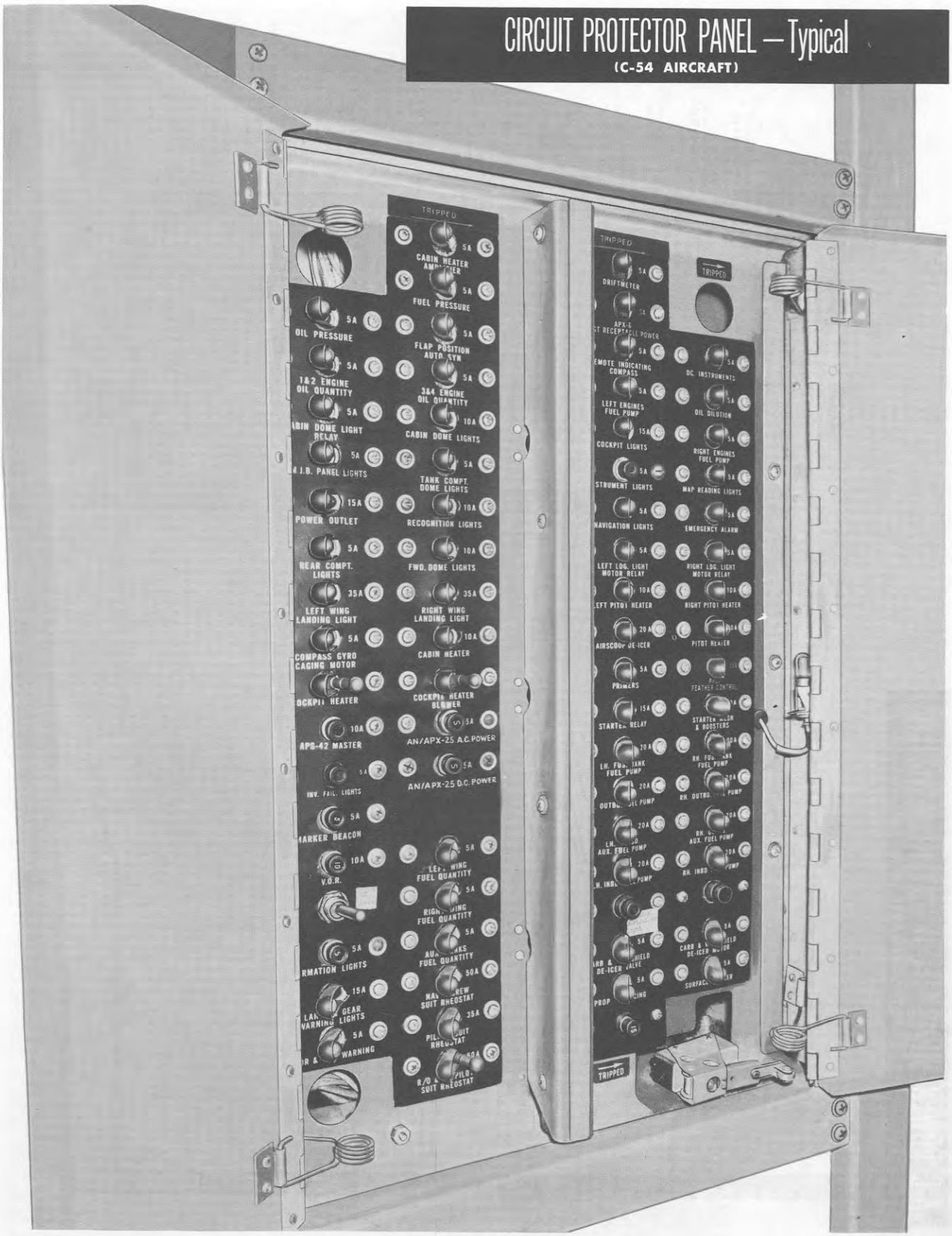


Figure 1-29

CIRCUIT PROTECTOR PANEL —Typical
(R5D AIRCRAFT)

20.992

Figure 1-30

RADIO CIRCUIT PROTECTOR PANEL—Typical
(C-54 AIRCRAFT)

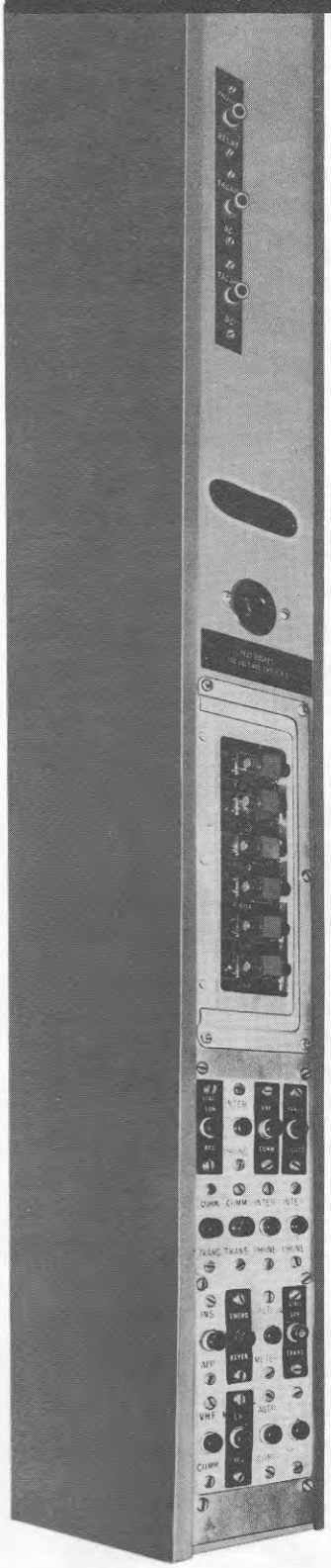


Figure 1-31

(Continued from Page 1-39)

Rudder Trim Tab Wheel.

The rudder trim tab is controlled by a handwheel *(6, figure 1-6 and 4, figure 1-12)* mounted on the glareshield above the pilot's main instrument panel. The actuation is mechanical, using cables and pulleys.

Rudder Trim Tab Position Indicator.

A mechanically actuated rudder trim tab position indicator, marked in degrees of travel from the neutral position of 0 to 15 degrees left, and 15 degrees right, is mounted in the center of the fire extinguisher system control panel below the rudder trim tab wheel *(6, figure 1-6 and 4, figure 1-12)*.

CONTROL COLUMNS.

Dual control columns *(10, figure 1-7 and 2, figure 1-8)*, mounted forward of the pilot's and copilot's seats, provide mechanical control of the ailerons and elevators.

Aileron Trim Tab Wheels.

The aileron trim tab is mechanically controlled by dual interconnected wheels *(8, figure 1-9 and 8, figure 1-17)* located on the control pedestal and are accessible to the pilot and copilot. The tab is actuated by cables and pulleys.

Aileron Trim Tab Position Indicator.

A mechanically actuated aileron trim tab position indicator, marked in degrees of travel from the neutral position of 0 to 12 degrees wing up and 12 degrees wing down, is located on each aileron trim tab wheel *(8, figure 1-9 and 8, figure 1-17)*.

Elevator Trim Tab Wheels.

The elevator trim tabs are mechanically controlled by dual interconnected wheels *(3, figure 1-9 and 5, figure 1-17)* located on the control pedestal and are accessible to the pilot and copilot. The tabs are actuated by cables and pulleys.

Elevator Trim Tab Position Indicator.

A mechanically actuated elevator trim tab position indicator, marked in degrees of travel from the 0 position to 15 degrees nose up and 15 degrees nose down, is installed on the control pedestal above and inboard of each elevator trim tab wheel *(3, figure 1-9 and 5, figure 1-17)*.

CONTROL SURFACE LOCK LEVER (GUST LOCK).

While on the ground, control surfaces can be locked in the neutral position as a protection against damage from high wind velocities, by a closed cable-operated, spring-loaded overcenter linkage on each flight control system. A 2- or a 3-position control surface lock lever, located in the floor to the right of the pilot's seat, operates the control surface lock system and secures the controls in the neutral position. The lever is held in the locked position by the insertion of a pin *(figure 1-35)* which is attached to a red warning tape wound on a reel installed in the ceiling to the left of the upper instrument panel. On R5D aircraft, the pin and tape are stowed on the glareshield.

Note

On aircraft with a 3-position control lock, care must be exercised to avoid the partially locked position.

WING FLAPS.

The hydraulically actuated metal wing flaps are in two sections, hinged to the trailing edge of the inner wing panels at two hinge points on each flap. The flaps extend from the inboard end of each aileron to the junction of the wing and fuselage. The flaps are lowered or raised as a unit, being interconnected in most installations through mechanical linkage to insure positive synchronization. The wing flaps are extended to approximately 40 degrees in the full down position.

WING FLAP LEVER.

The wing flap lever *(12, figure 1-9 and 15, figure 1-17)* is located on the control pedestal and has UP, OFF, DOWN positions. The lever is mechanically linked to a flap selector valve which directs hydraulic fluid pressure to the four flap actuating cylinders. When the lever is placed in the DOWN position, hydraulic pressure is directed to each flap actuating cylinder downline to lower the flaps. When the lever is placed in the UP position, the flow is reversed to raise the wing flaps. In the OFF position, the wing flap system is isolated and hydraulic fluid is trapped in the system to maintain the flaps at the selected setting.

WING FLAP POSITION INDICATOR.

A single-indicating, remote-type wing flap position indicator, calibrated in degrees of travel, is mounted on the main instrument panel *(22, figure 1-10 and 21, figure 1-18)*. On some aircraft, dual indicator pointers placarded (L) left and (R) right are installed, indicating whether the flaps are synchronized. Power for the wing flap position indicator is supplied from the 26-volt a-c circuit.

LANDING GEAR SYSTEM.

The landing gear, consisting of a single-wheel nose gear and dual-wheel main gear, is retracted and extended hydraulically. Both the nose gear and main gear extend down and in the direction of the airstream. The three sets of landing gear doors are opened and closed by mechanical linkage actuated by the movement of the gear. The landing gear is maintained in the retracted position by mechanical latches. Landing gear safety pins should be installed *(figure 1-36)* in the landing gear retracting links to prevent inadvertent retraction of the gear while the aircraft is on the ground.

LANDING GEAR LEVER.

A landing gear lever *(15, figure 1-9 and 13, figure 1-17)* with UP, NEUTRAL, and DN positions is located on the control pedestal. The lever is mechanically linked to a hydraulic selector valve that controls landing gear operation by directing hydraulic pressure to the nose gear and the two main gear actuating cylinders.

When the lever is placed in the DN position, the landing gear uplatches are released mechanically through a system of cables and pulleys, and hydraulic pressure is directed to the downside of the landing gear actuating cylinder to lower the gear. When the lever is placed in the UP position, the landing gear downlatches are released hydraulically and hydraulic pressure is reversed to raise the landing gear. Placing the lever in the NEUTRAL position traps hydraulic fluid in the landing gear system and aids the uplatches in holding the landing gear in the UP position. Protection against inadvertent retraction of the landing gear on the ground is provided by a safety switch located on the right landing gear strut. The safety switch actuates a solenoid, which prevents the landing gear lever from being moved from the DN to the NEUTRAL position while any load remains on the landing gear. Should the solenoid pin fail to release when the aircraft has left the ground, it may be manually released through a fingerhole in the pedestal cover plate to the right of the landing gear lever. A metal spring safety latch is installed below the landing gear lever quadrant and is designed to retain the lever in the DN position until the latch is manually moved aside.

(See Note on page 1-52)

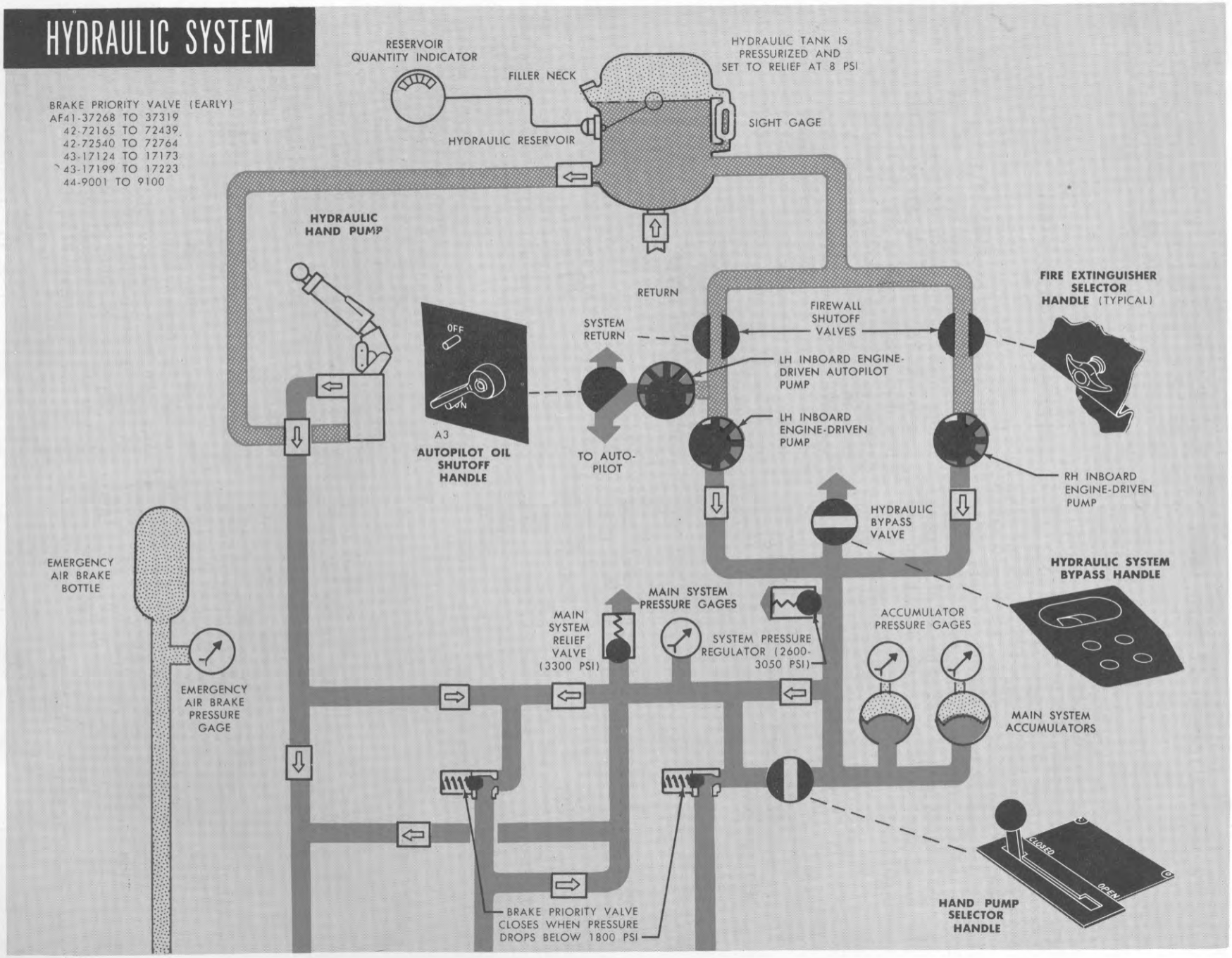


Figure 1-32 (Sheet 1 of 2)

X1-113

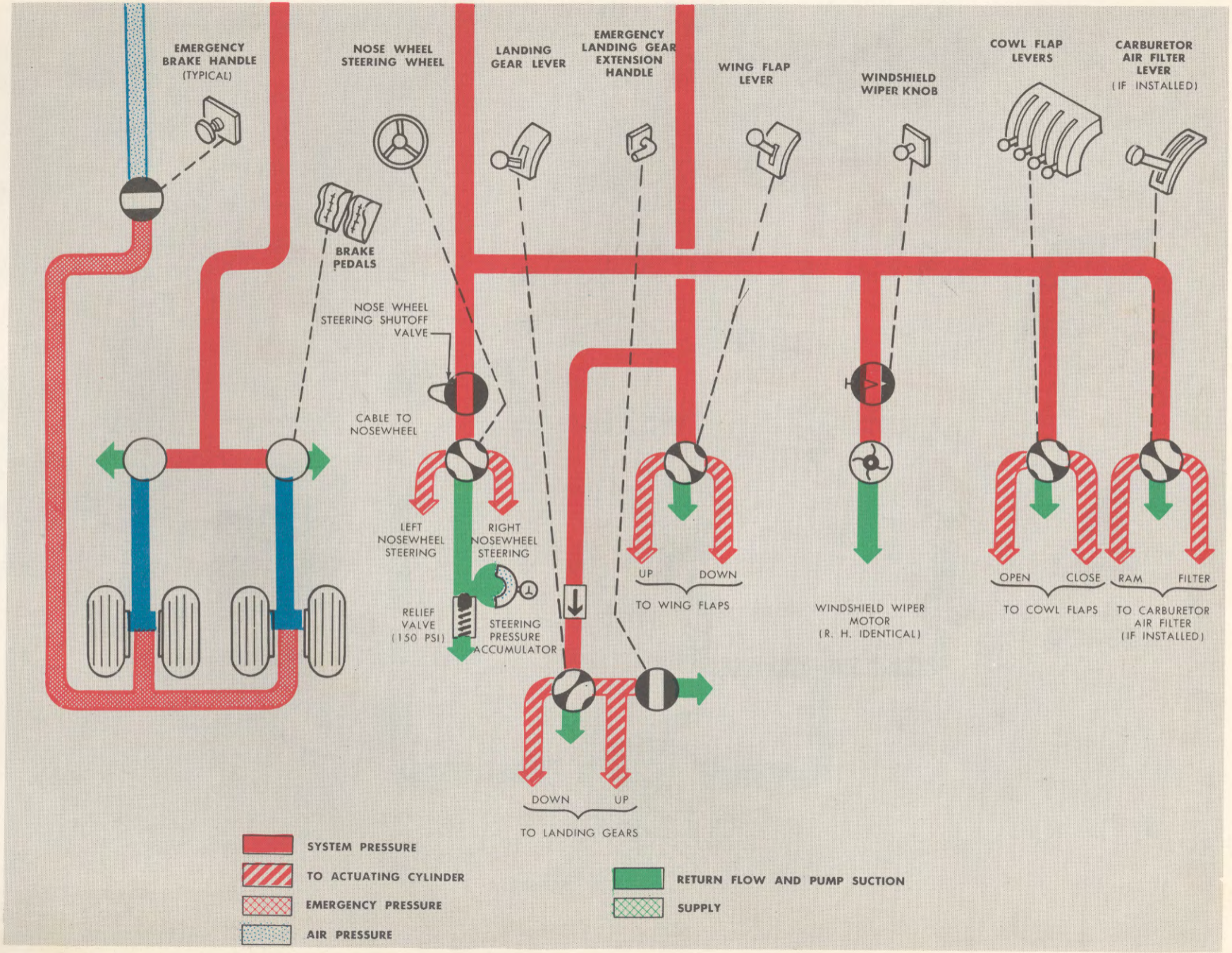


Figure 1-32 (Sheet 2 of 2)

X1-114

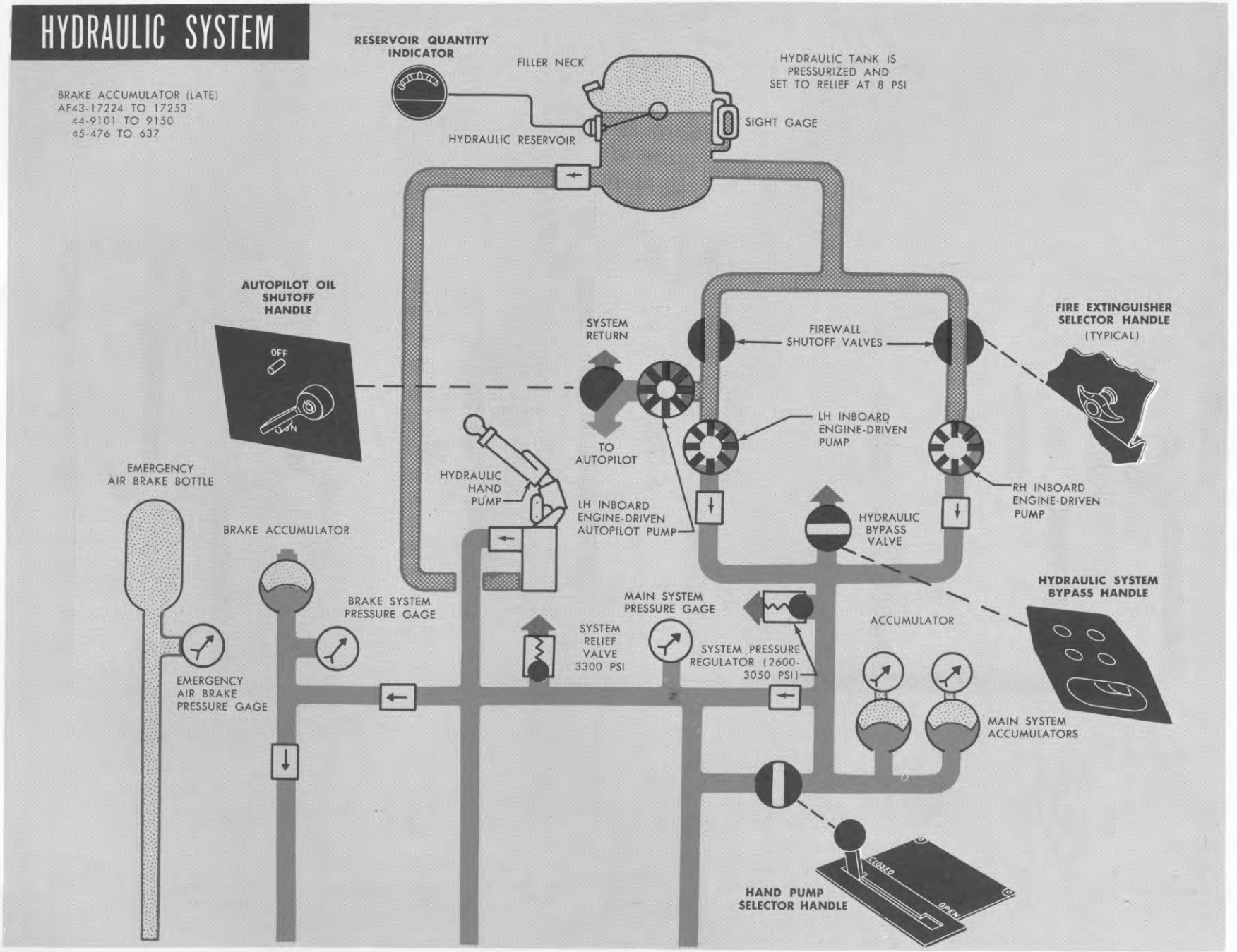
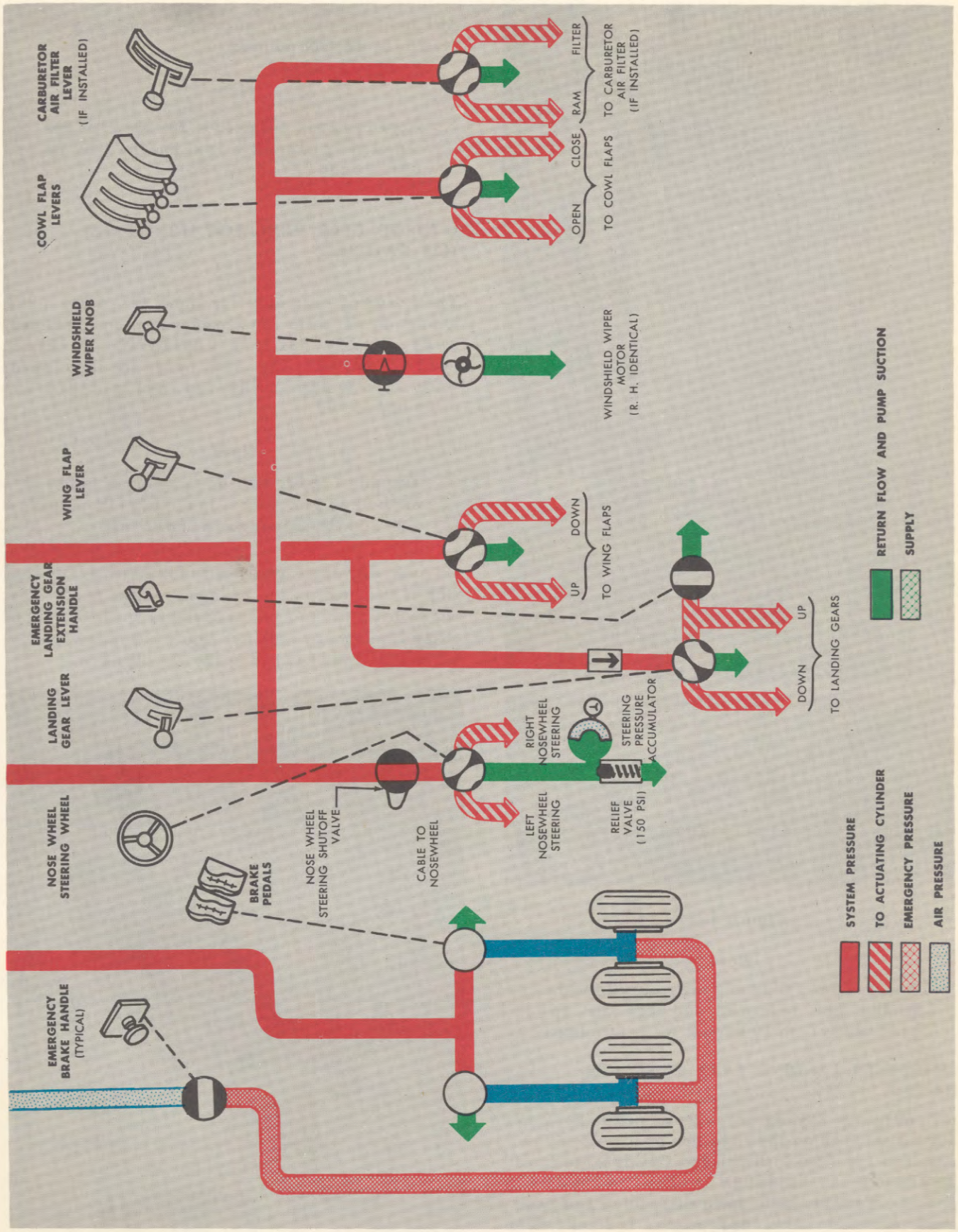


Figure 1-33 (Sheet 1 of 2)

X1-115



X1-116

Figure 1-33 (Sheet 2 of 2)

Figure 1-34

Note

Approximately 8 seconds are required for the landing gear to extend and lock, and approximately 7 to 10 seconds for it to retract.

EMERGENCY LANDING GEAR EXTENSION HANDLE.

An emergency landing gear extension handle *(figure 1-37)* is installed on the right side of the control pedestal and has OPEN (back) and CLOSED (forward) positions. When the handle is placed in the OPEN position, it mechanically opens the landing gear emergency extension valve, and permits hydraulic fluid trapped in the landing gear upline to return to the reservoir, permitting the landing gear to extend and lock by its own weight when the landing gear control lever is in the DN position.

Note

Approximately 13 seconds are required for the landing gear to extend and lock by its own weight.

LANDING GEAR INDICATOR LIGHTS AND TEST SWITCH.

Three landing gear indicator lights *(21, figure 1-10)* located on the main instrument panel, are placarded LEFT, NOSE, RIGHT, LANDING WHEELS LOCKED DOWN. The green lights are illuminated when the nose gear and left and right main gear are down and locked.

Note

The green lights will not illuminate unless the landing gear lever is in the full DN position, and the gear is down and locked.

On some aircraft test switch with the positions ON and OFF is mounted on the main instrument panel. The test switch provides a means of checking the operation of the landing gear indicator lights. The power source for the lights and switch is the 28-volt d-c bus.

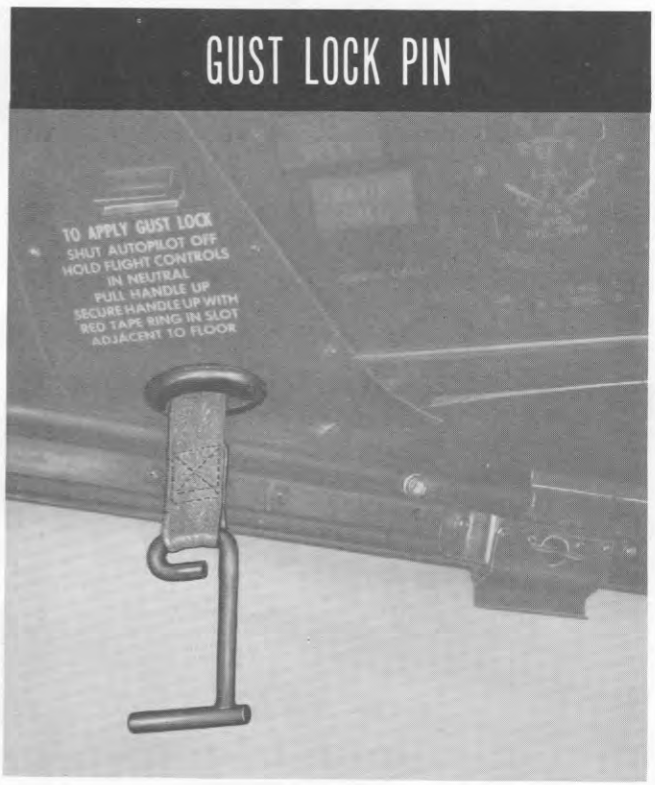


Figure 1-35

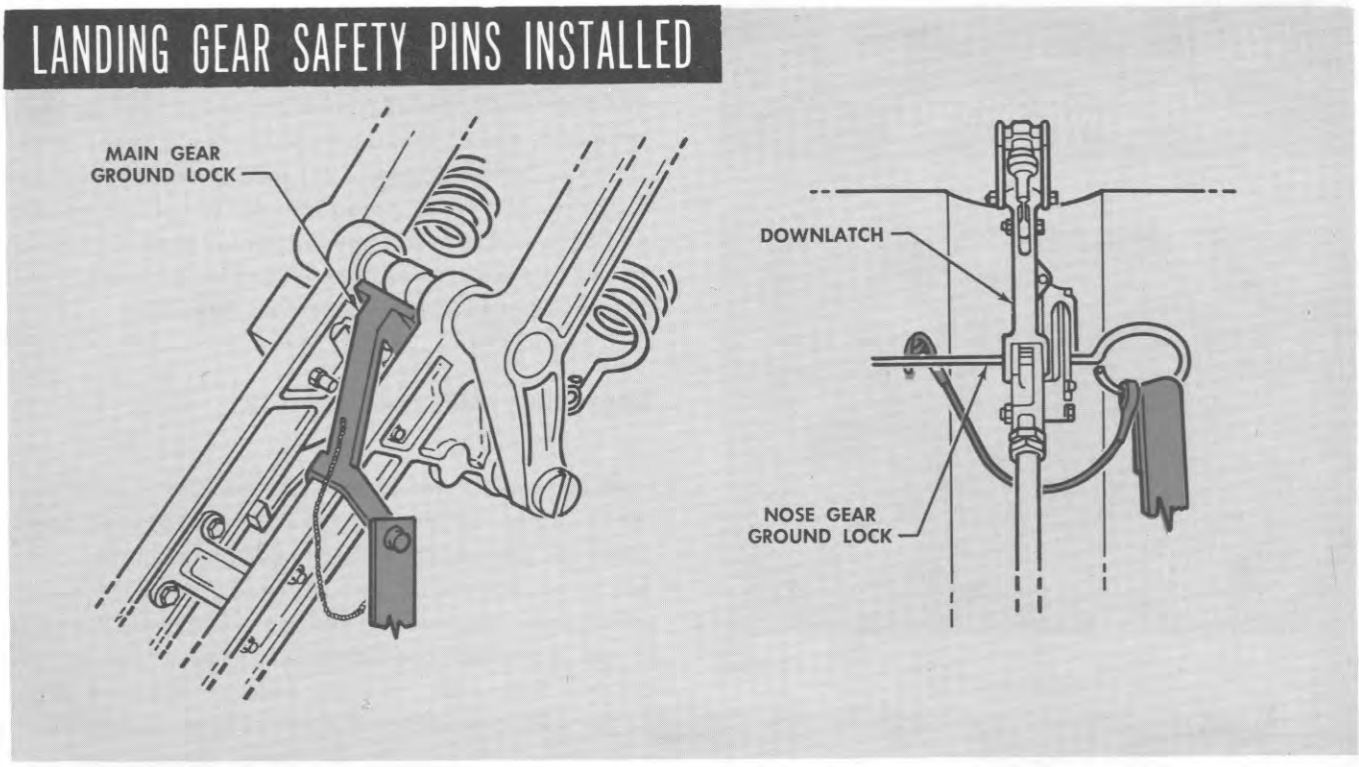


Figure 1-36

LANDING GEAR WARNING LIGHT AND TEST SWITCH.

A landing gear red warning light *(24, figure 1-9)* is located on the main instrument panel to the left of the landing gear position indicator lights and is placarded LAND-WHEELS UNSAFE. It is illuminated when the landing gear is in any position other than locked up or down or when any throttle is retarded past the approximately $^1/_4$ open position if the gear is not fully down and locked, and the landing gear control lever is not in the DN and locked position. On some aircraft a 28-volt d-c test switch with the positions ON and OFF, is mounted on the main instrument panel. The test switch provides a means of checking the landing gear warning light. The switch also tests the landing gear warning horn. The power source is the 28-volt d-c bus.

LANDING GEAR WARNING HORN AND TEST SWITCH.

A landing gear warning horn mounted above the electrical control panel and upper instrument panel is connected to the throttle switches and the landing gear UP and DN switches. The horn automatically sounds when one or more throttles are retarded past approximately $^1/_4$ open position if the gear is not fully down and locked, and the landing gear control lever is not in the DN and locked position. No provision is made to silence the landing gear warning horn other than advancing all four throttles beyond the approximately $^1/_4$ open position. On some aircraft a test switch with ON and OFF positions is mounted on the main instrument panel. The test switch provides a means of checking the operation of the landing gear warning horn when any throttle lever is retarded. This switch also tests the landing gear warning light. The power source is the 28-volt d-c bus.

LANDING GEAR SAFETY PINS.

The safety pins for the nose and main gear *(figure 1-36)* are stowed in the aircraft.

NOSEWHEEL STEERING SYSTEM.

The steerable single nosewheel is hydraulically operated and controlled by a nosewheel steering wheel *(4, figure 1-7 and 2, figure 1-13)* located to the left of the pilot seat. The nosewheel can be turned 45 degrees to either side of center. A centering cam device automatically locks the wheel in the straight forward position before retraction occurs. A steering pressure accumulator prevents nosewheel shimmy by maintaining constant pressure in the system.

Note

The aircraft should always be parked with the nosewheel straight.

21,001

Figure 1-37

BRAKE SYSTEM.

Both normal and emergency hydraulic systems and the emergency airbrake system can be used to operate the disc-type brakes installed in each main gear wheel. Normally, hydraulic pressure for brake operation is supplied from the main hydraulic system. If hydraulic system pressure is low, the hydraulic hand pump can be used to supply an auxiliary source of power to operate the brakes. On early aircraft, brake priority valves are installed in the main hydraulic system to provide up to 1800-psi pressure priority to the brakes. On late aircraft, a brake accumulator is installed to hold a reserve supply of fluid under pressure for brake operation. A brake pressure gage is installed to show the pressure in the brake accumulator. In case of complete hydraulic system failure, the brakes can be applied using the emergency airbrake system.

NORMAL HYDRAULIC BRAKE CONTROLS.

The hydraulic brakes are actuated by toe pressure applied to the hinged rudder pedals *(12, figure 1-6 and 9, figure 1-12)*, which are linked to the hydraulic brake control valves. When the pedals are depressed, the control valves are actuated to apply pressure to the brake discs.

Hydraulic Brake Pressure Gage.

On some late aircraft, a hydraulic brake pressure gage is installed outboard of the copilot's seat and indicates the amount of pressure in the brake pressure accumulator.

EMERGENCY HYDRAULIC BRAKE CONTROLS.

If the normal hydraulic system has insufficient pressure to operate the brakes, the hydraulic hand pump selector valve handle *(figure 1-34)* located on the floor adjacent to the hand pump should be placed in the CLOSED position and the hydraulic hand pump actuated to supply emergency hydraulic pressure to the brakes when the brake pedals are depressed.

EMERGENCY AIRBRAKE HANDLE.

Two mechanical emergency brake handles *(figure 1-39)* are mounted on the fire extinguisher control panel under the glareshield. Either handle, when pulled, will release compressed air into the brake system for emergency brake operation in the event hydraulic pressure is not available. The brake pedals need not be depressed. Emergency airbrake pressure is either completely ON or completely OFF with no intermediate braking action possible. On some aircraft, the airbrake control valve is a metering valve which permits gradual application of the brakes. The hydraulic brake system must be bled after operation of the airbrake system to eliminate air from the system which would cause erratic braking action.

Emergency Airbrake Pressure Gage.

A direct-reading emergency airbrake pressure gage, mounted outboard of the copilot's seat, indicates the pressure in the airbrake supply bottle.

PARKING BRAKE LEVER.

The parking brake lever *(figure 1-38)*, located on the left side of the control pedestal, mechanically locks the main brakes for parking. The parking brakes are set by depressing the brake pedals, placing the parking brake lever in the ON position, and then releasing the brake pedals. The parking brakes are released by depressing the brake pedals.

INSTRUMENTS.

The flight instruments are vacuum and electrically operated. On some aircraft, the copilot's instruments have been replaced by electrical instruments.

FREE-AIR TEMPERATURE INDICATORS.

Two free-air temperature indicators, calibrated in degrees centigrade, are located as follows: one electrically operated temperature indicator on the upper instrument panel *(figures 1-11 and 1-16)*, and one direct-reading temperature indicator aft of the instrument panel at the navigator's station. The temperature indicator on the upper instrument panel is connected through a 28-volt d-c circuit to a temperature resistance bulb in the fuselage skin above the left nose gear door and registers changes of the outside air temperature by means of changes in the electrical current between the bulb and the indicator.

VACUUM SYSTEM.

The vacuum system provides pressure for the attitude indicators, the directional indicators, the turn-and-slip indicators and the gyro units of the autopilot. The system consists of two engine-driven vacuum pumps, two relief valves, two check valves, a vacuum manifold, two air filters with distributing manifolds, two vacuum restrictors for the turn-and-slip indicators, two regulating valves, connecting lines, a vacuum pump selector valve and two vacuum gages. Two direct-reading suction indicators, mounted on the main instrument panel *(2, figure 1-10 and 12, figure 1-18)*, indicate system pressure in inches-Hg.

VACUUM PUMP SELECTOR HANDLE (2-POSITION).

A 2-position vacuum pump selector handle *(32, figure 1-10 and 7, figure 1-18)*, mounted below the main instrument panel in front of the copilot's seat, mechanically selects either the left or the right inboard engine-driven vacuum pump to operate the gyro instruments. The selector handle has ALL INST. R. PUMP and ALL INST. L. PUMP positions.

VACUUM PUMP SELECTOR HANDLE (6-POSITION).

On some aircraft a 6-position vacuum pump selector handle, mounted below the main instrument panel in front of the copilot's seat, mechanically selects either the left or the right inboard engine-driven vacuum pump to operate the gyro instruments. The selector valve handle has L. INST. L. PUMP, ALL INST. L. PUMP, R. INST. L. PUMP, R. INST. R. PUMP, ALL INST. R. PUMP, and L. INST. R. PUMP positions.

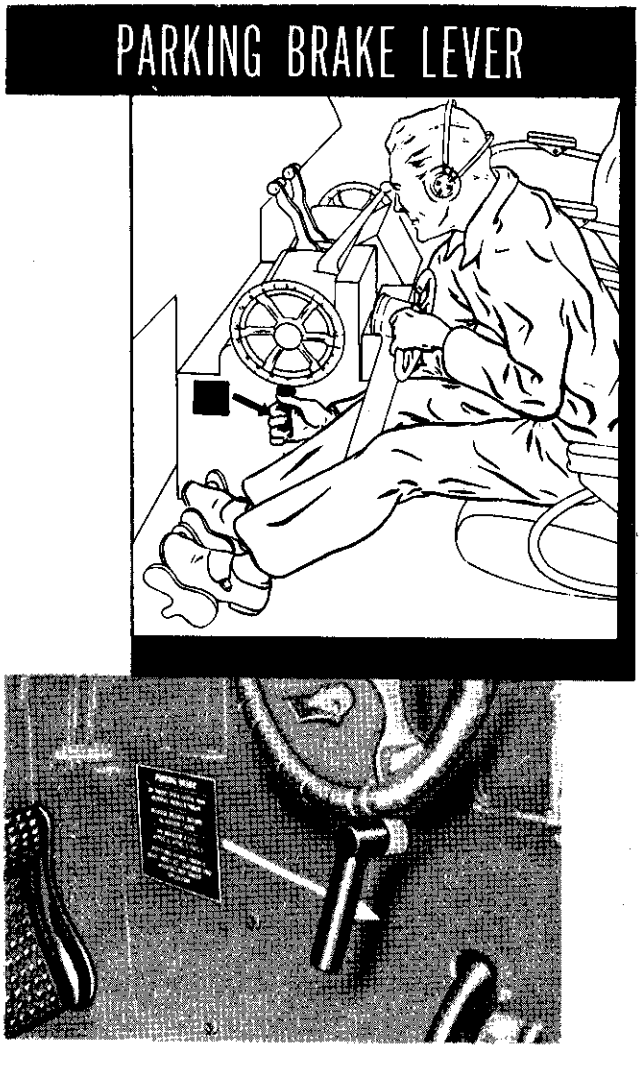


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Figure 1-38

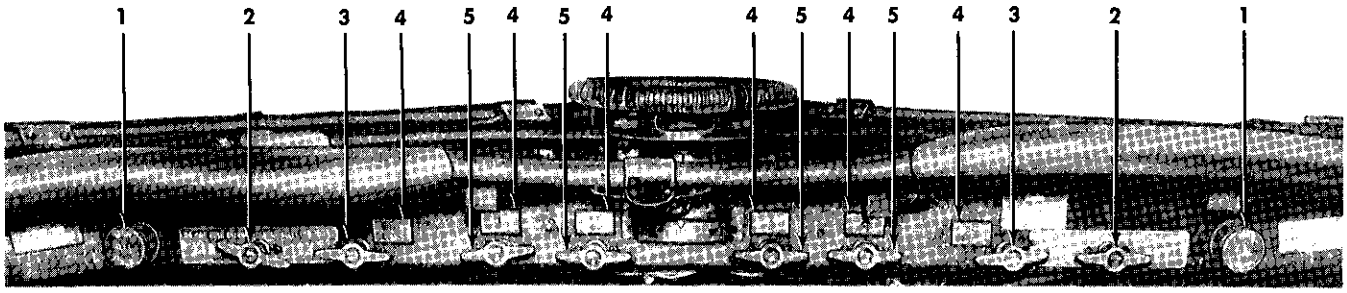
Note

On some aircraft the vacuum inlet port is not guarded and should be frequently checked to insure it is clear of foreign matter.

PITOT STATIC SYSTEM.

A dual pitot static system supplies the ram and static air pressures necessary for the operation of the airspeed, altimeter, and vertical velocity indicators. Two pitot heads *(2, figure 1-3)*, located on the nose of the aircraft, provide ram air pressure for operation of the pilot's, copilot's, and navigator's airspeed indicators. If search radar equipment is installed, the pitot beads are located on each side of the fuselage above the nose gear door. Two normal source static vents, one located above each nose gear door, provide static air pressure through a selector valve for operation of the pilot's and copilot's airspeed, altimeter, and vertical velocity indicators and

FIRE EXTINGUISHER SYSTEM CONTROL PANEL



1. EMERGENCY BRAKE HANDLES
2. CO_2 CYLINDER DISCHARGE HANDLES
3. FIRE EXTINGUISHER SELECTOR HANDLES (LOWER CARGO COMPARTMENTS)
4. FIRE WARNING LIGHTS
5. FIRE EXTINGUISHER SELECTOR HANDLES

Figure 1-39

the navigator's airspeed and altimeter indicators. An ice-free alternate source static vent, located in the tail section of the fuselage, provides static air pressure through both selector valves to the instruments. A static system drain valve located in the nose gear well provides a means of draining the lines of water. The two pitot heads are protected from ice accretion by integral electrical heating elements.

STATIC SOURCE SELECTOR SWITCHES.

Two static source selector mechanical switches are installed in the cockpit, one outboard of each pilot's seat. Each selector switch has STATIC SOURCE and ALTERNATE SOURCE positions. In the STATIC SOURCE position of each switch, static air pressure is provided for the system by the normal static source. In the ALTERNATE SOURCE position, the static system is supplied from an alternate source located in the tail section of the fuselage.

EMERGENCY EQUIPMENT.

FIRE DETECTOR SYSTEM FOR ENGINES AND AUXILIARY POWER PLANT.

Fire detectors are located on the cowling inner ring, mount, and upper firewalls of each engine. Excessive heat in any of these areas closes the contact in the detectors, completing a 28-volt d-c circuit to illuminate the respective engine fire warning light. Fire detectors, located in each lower baggage compartment, are connected through a 28-volt d-c circuit to the forward and aft baggage compartment fire warning lights on the main instrument panel. On aircraft with AN/APS-42 installed, a detector system is provided in the nose section with a nose section fire warning light on the instrument panel; a single baggage compartment fire warning light is connected to detectors in both lower baggage compartments. On some aircraft, detectors are provided for auxiliary power plant protection, and are interconnected with the existing fire detection system for the forward baggage compartment.

FIRE EXTINGUISHER SYSTEM.

A mechanically controlled carbon dioxide fire extinguishing system provides fire protection to each engine section and both lower cargo compartments. On C-54 aircraft, the supply of CO_2 for the system is contained in two cylinders, each mounted vertically on the right side of the nosewheel well. On R5D aircraft, the supply of CO_2 is contained in four cylinders, two located on each side of the nosewheel well. Two red plastic CO_2 discharge indicators *(1, figure 1-3)* are recessed into the skin of the aircraft, one above each nose gear door. If AN/APS-42 is installed, the indicators are on the right side. CO_2 escaping through either CO_2 cylinder safety valve blows the red plastic cap and the clear celluloid disc out of the unit, indicating that the CO_2 has been discharged and the cylinder must be recharged (on R5D aircraft, red indicators for thermal expansion and yellow for discharge). The combustion heaters are not protected by the fire extinguishing system.

Portable Fire Extinguishers.

Hand-operated CB and CO_2 portable fire extinguishers are installed in the flight compartment and cabin for use on interior fires.

WARNING

Repeated or prolonged exposure to high concentrations of bromochloromethane (CB) or decomposition products should be avoided. CB is a narcotic agent of moderate intensity but of prolonged duration. It is considered to be less toxic than carbon tetrachloride, methyl bromide, or the usual products of combustion. In other words, it is safer to use than previous fire extinguishing agents. However, normal precautions should be taken, including the use of oxygen when available.

Fire Extinguisher Selector Handles.

Six fire extinguisher selector handles *(3 and 5, figure 1-39)* are located on the fire extinguisher system control panel above the main instrument panel under the glareshield. Four handles are engine fire extinguisher selector handles and are placarded ENG 1, ENG 2, ENG 3, and ENG 4. Pulling any of these handles mechanically positions a valve that directs the flow of CO_2 to the selected engine accessory section and also closes the individual firewall shutoff valves for that engine. The other two fire extinguisher selector handles are nose section and lower cargo compartment selectors: one for the nose section area placarded NOSE SECT., the other for both lower cargo compartments placarded BAG. COMPT. Pulling either of these handles mechanically positions a valve to direct the flow of CO_2 to the nose section or both lower cargo compartments as required. The fire extinguisher selector handles for the engines must be pushed forward to open the firewall shutoff valves.

CO_2 Cylinder Discharge Handles.

Two CO_2 cylinder discharge handles, one for each cylinder, are located at each end of the row of selector handles under the glareshield *(2, figure 1-39)*. Each handle, when pulled, mechanically releases the flow of CO_2 through lines to the discharge points in the engine accessory section and the lower cargo compartment.

Note

It is recommended that each CO_2 cylinder be discharged separately in the case of engine fire. If the contents of one cylinder are insufficient to extinguish the fire, the other CO_2 cylinder should be discharged. In case of fire in either lower cargo compartment, both cylinders should be discharged simultaneously.

Fire Warning Lights.

Six red fire warning lights *(4, figure 1-39)* are mounted above the fire extinguisher selector handles. The lights illuminate when the fire detectors in the engine accessory sections, nose section, or the lower cargo compartments (or APP section) are actuated. Power source for the warning light system is the 28-volt d-c bus.

Engine Fire Detector Test Switch.

On some aircraft, an engine fire detector test switch spring-loaded to the OFF position, is located on the fire extinguisher system control panel. When the switch is depressed, a 28-volt d-c circuit is completed to the fire detectors in each engine, and the fire warning lights will illuminate. In case any fire detector is inoperative, the fire warning light for that engine will not illuminate.

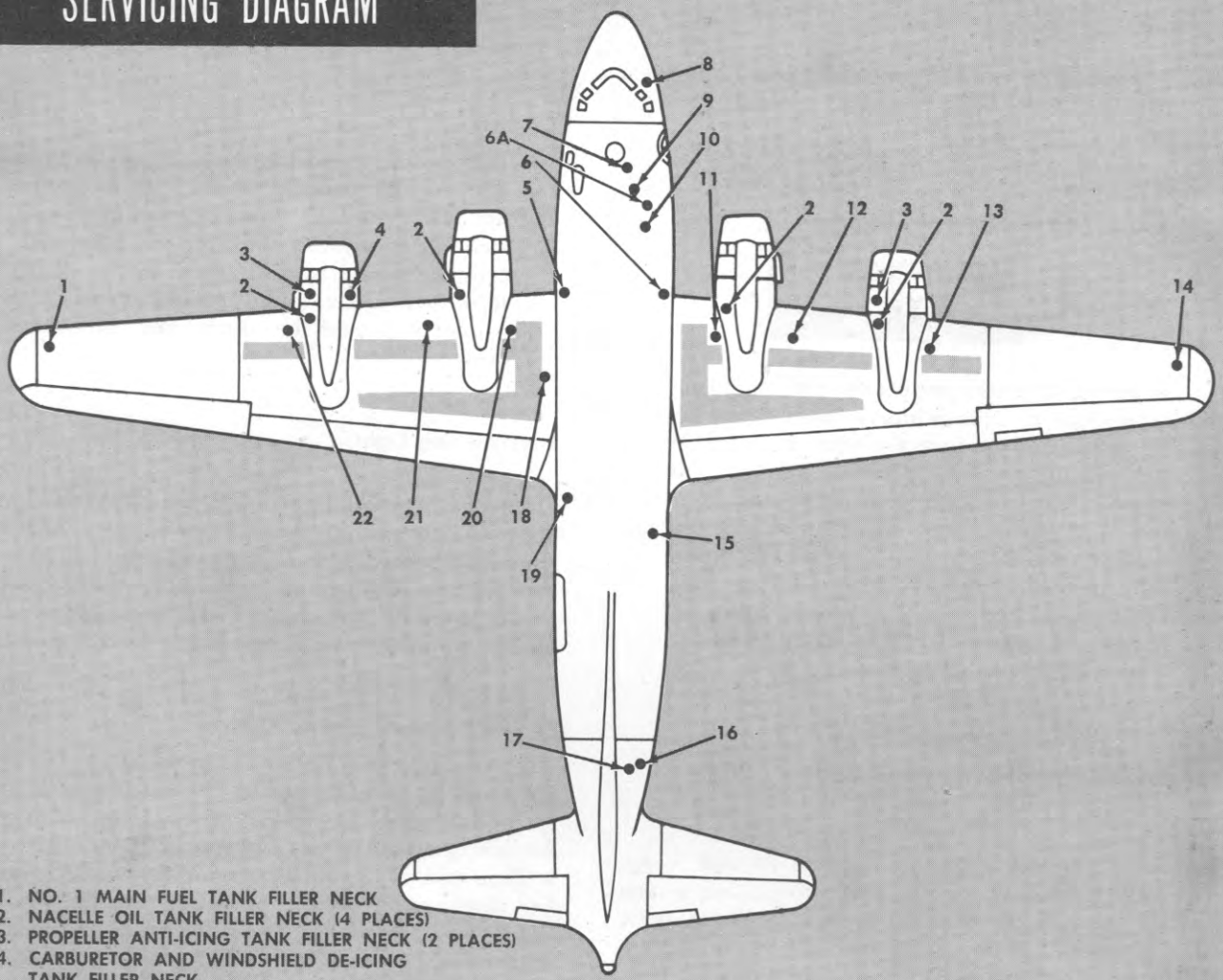
EMERGENCY ALARM SYSTEM.

Emergency alarm bells are installed in strategic locations throughout the aircraft. The emergency alarm bells are controlled by a guarded switch, spring-loaded to the OFF position, which is located on the electrical control panel *(figure 1-11)*. When the switch is in the ON position, the alarm bells ring. On most aircraft, the alarm bells are operated directly from the batteries. On the remainder of aircraft, the 28-volt d-c bus must be energized before the alarm system is operative.

EMERGENCY EXITS.

Five emergency exits *(figure 3-8)* are provided in the main cabin. Each exit can be used as an emergency exit in flight. Four emergency exits *(figure 3-6)* are provided in the flight compartment and can be used as emergency exits when the aircraft is on the ground or after ditching.

SERVICING DIAGRAM



1. NO. 1 MAIN FUEL TANK FILLER NECK
2. NACELLE OIL TANK FILLER NECK (4 PLACES)
†3. PROPELLER ANTI-ICING TANK FILLER NECK (2 PLACES)
†4. CARBURETOR AND WINDSHIELD DE-ICING TANK FILLER NECK
5. LEFT FUSELAGE FUEL TANK FILLER NECK (6-WING TANK SYSTEM)
6. RIGHT FUSELAGE FUEL TANK FILLER NECK (6-WING TANK SYSTEM)
6A. AUXILIARY OIL TANK FILLER NECK
7. RELIEF CREW COMPARTMENT WATER TANK AUXILIARY FILLER NECK
8. RELIEF CREW COMPARTMENT WATER TANK FILLER NECK (NOSE WHEEL WELL)
9. OXYGEN FILLER VALVE (BOTTOM OF FUSELAGE)
10. HYDRAULIC RESERVOIR FILLER NECK — ACCESSORIES COMPARTMENT
11. NO. 3 AUXILIARY FUEL TANK FILLER NECK (8-WING TANK SYSTEM)
12. NO. 3 MAIN FUEL TANK FILLER NECK
13. NO. 4 AUXILIARY TANK FILLER NECK
14. NO. 4 MAIN FUEL TANK FILLER NECK
*15. OXYGEN FILLER VALVE
*16. WATER TANK FILLER NECK (BOTTOM OF FUSELAGE)
*17. WATER TANK AUXILIARY FILLER NECK
18. WING ANTI-ICING TANK FILLER NECK (SOME AIRCRAFT)
19. INTERIOR ANTI-ICING TANK FILLER NECK (SOME AIRCRAFT)
20. NO. 2 AUXILIARY FUEL TANK FILLER NECK (8-WING TANK SYSTEM)
21. NO. 2 MAIN FUEL TANK FILLER NECK
22. NO. 1 AUXILIARY FUEL TANK FILLER NECK

Notes:
1. Shaded areas on wing indicate walkways
*2. Late aircraft
†3. Early aircraft

TANK	NO. OF TANKS	FLUID SPECIFICATIONS
ENGINE OIL	5	MIL-L-6082 GRADE 1100
HYDRAULIC FLUID	1	MIL-O-5606
TROOP'S WATER	1	
ANTI-ICING ALCOHOL	3 1	MIL-A-6091
AUXILIARY POWER PLANT OIL	1	MIL-L-8383
FUEL	6 8	MIL-F-5572 GRADE 100/130
CREW WATER	1	
OXYGEN		BB-0-925

Figure 1-40

EMERGENCY FLARES.

Two emergency pyrotechnic flares are installed in two flare chutes located in the left wing fillet. The flares are mechanically released by means of two release handles located near the floor, aft and left of the pilot's seat.

MISCELLANEOUS EMERGENCY EQUIPMENT (TYPICAL).

Miscellaneous emergency equipment is listed below and is shown in figure 3-4.

First aid kits.

Emergency radio transmitter.

Emergency radio transceivers.

Escape slide.

Escape ropes.

Liferafts.

Hand axe.

Parachutes.

MAIN CARGO DOORS.

For description and dimensions of the main cargo doors, see Section IV.

CREW ENTRANCE DOOR.

The crew entrance door is located on the right side of the flight compartment. The door is hinged on the forward side and opens inward. The latches and locking mechanism are manually operated by a door handle.

PILOTS' SEATS.

The pilots' seats are installed on tracks and have forward, aft, and vertical adjustment provisions. Each seat is equipped with seat and backrest cushions, safety belt, and shoulder harness (if installed).

Shoulder Harness (Some Aircraft).

On some aircraft, an inertia-reel type shoulder harness is installed on the pilots' seats. Inertia-reel lock levers located on the outboard side of the lower seat frames provide a means of locking or unlocking the shoulder harness.

Shoulder Harness Lock Lever.

A 2-position shoulder harness inertia-reel lock lever is located on the inboard side of the pilot's and copilot's seats *(figure 1-12)*. A latch is provided for positive retention of the control handle at either position of the quadrant. By pressing down on the top of the control handle, the latch is released and the control handle may then be moved freely from one position to another. When the control handle is in the UNLOCKED position, the reel harness cable will extend to allow the pilot to lean forward in the flight compartment; however, the reel cable will automatically lock when an impact force of two to three G's is encountered. When the reel is locked in this manner, it will remain locked until the control handle is moved to the LOCKED position and then returned to the UNLOCKED position. When the control handle is in the LOCKED position, the reel harness cable is manually locked so that the pilot is prevented from bending forward. The LOCKED position is used only when a crash landing is anticipated. This position provides an added safety precaution over and above that of the automatic safety lock.

Pilots' Seats Forward and Aft Lever.

Each seat can be adjusted forward and aft on two horizontal tracks by pulling upward on the seat forward and aft lever. The lever is installed on the lower seat frame on the outboard side of the seat. Adjustment is accomplished by shifting body weight forward or aft to move the seat as desired. The seat may be locked in any position by releasing the lever.

Pilots' Seats Vertical Lever.

Either seat is spring-loaded and can be adjusted for height by pulling upward on the vertical control lever and increasing or decreasing body weight on the seat for desired adjustment. The lever is located directly above the forward and aft lever on the outboard side of the seat.

CREW ENGINEER'S SEAT (C-54 AIRCRAFT).

A crew engineer's seat is installed aft of the control pedestal between the pilot's and copilot's seats. It can be folded back against the radio operator's table when not in use. The seat is provided with a safety belt.

AUXILIARY EQUIPMENT.

The following auxiliary equipment is described in Section IV:

Heating, ventilating, and anti-icing systems.

Communication and associated electronic equipment.

Lighting system.

Oxygen system.

Autopilot.

Navigation equipment.

Auxiliary power plant.

Disinsection system.

Cargo loading equipment.

Troop carrying equipment.

Miscellaneous equipment.