

SECTION I - THE AIRCRAFT

TABLE OF CONTENTS

PART 1 - GENERAL DESCRIPTION . . . 1-3	Lighting Equipment 1-110
PART 2 - SYSTEMS 1-14	Oxygen System 1-114
Engines 1-14	Automatic Pilot 1-116
Propellers 1-22	Automatic Approach Equipment . . 1-121
Oil System 1-26	Navigation Equipment 1-122
Fuel System 1-28	Cargo and Passenger
Electrical Power Supply	Equipment 1-122
Systems 1-31	Miscellaneous Equipment 1-124
Hydraulic Power Supply	
System 1-44	PART 3 - AIRCRAFT SERVICING . . . 1-126
Flight Control System 1-49	Line Operations 1-126
Wing Flap System 1-51	Ground Handling Procedures. . . 1-127
Landing Gear System 1-52	
Steering System 1-55	PART 4 - OPERATING LIMITATIONS . 1-130
Brake System 1-55	Introduction. 1-130
Emergency Air System 1-56	Instrument Markings 1-130
Instruments 1-57	Engine Limitations 1-131
Emergency Equipment 1-60	Propeller Limitations 1-136
Entrance Door and Stair	Airspeed Limitations. 1-136
System 1-64	Acceleration Limitations 1-138
Flight Compartment Seats 1-66	Structural Weight Limitations . . 1-138
Air-Conditioning System 1-66	Prohibited Maneuvers 1-138
Defrosting Systems 1-78	Center of Gravity Limitations . . 1-138
Anti-Icing and Deicing	Cargo Loading Limitations . . . 1-138
Systems 1-78	Nose Tiedown 1-139
Communication and Associated	Equipment Limitations 1-140
Electronic Equipment 1-88	

**THE
C-131
AIRCRAFT**

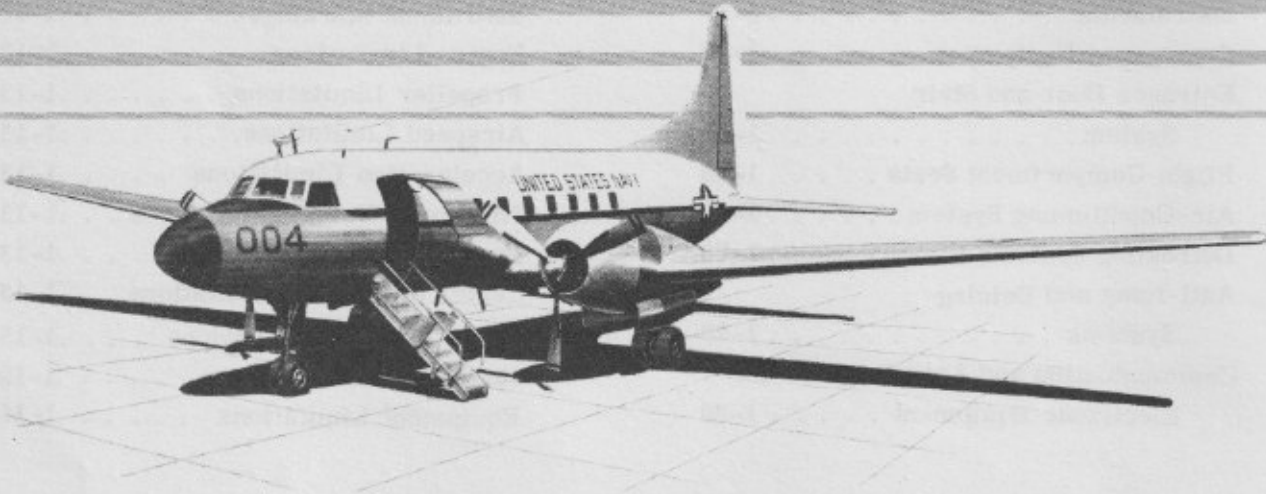
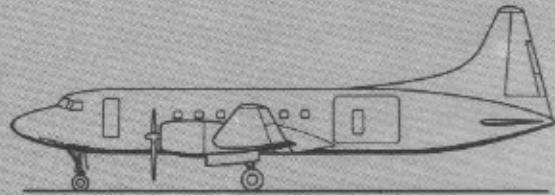
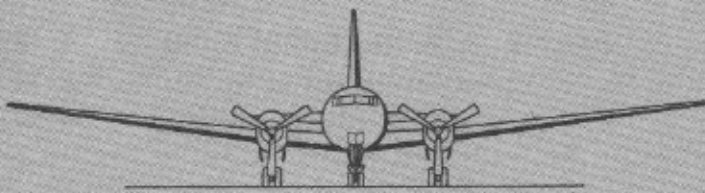
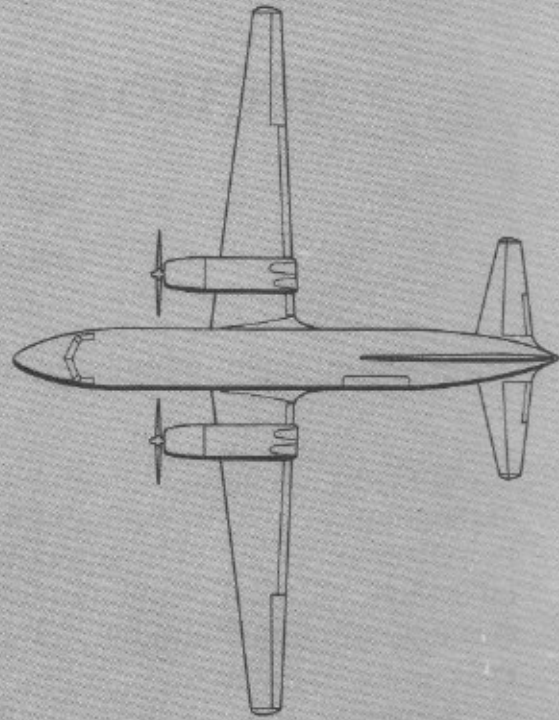


Figure 1-1. C-131 Aircraft

PART I - GENERAL DESCRIPTION

The C-131F and C-131G aircraft manufactured by Convair, A Division of General Dynamics Corporation, San Diego, California, are two-engine, low-wing monoplanes used for "cargo-personnel" and "executive" transport, respectively. The cargo-personnel type aircraft can be configured for carrying up to 44 passengers or 21 litter patients in the pressurized cabin. The aircraft are powered by two reciprocating engines with full feathering hydromatic propellers. Reverse thrust is

available for aerodynamic braking on the ground. A hydraulically operated entrance door, on the left side of the fuselage forward of the wing, encloses an integral stairway that unfolds into loading position as the door opens, and folds up into the fuselage as the door closes. Each unit of the retractable tricycle landing gear has dual wheels. The nosewheel is steerable. The basic flight crew consists of a pilot, a copilot, and a flight mechanic.

AIRCRAFT DIMENSIONS

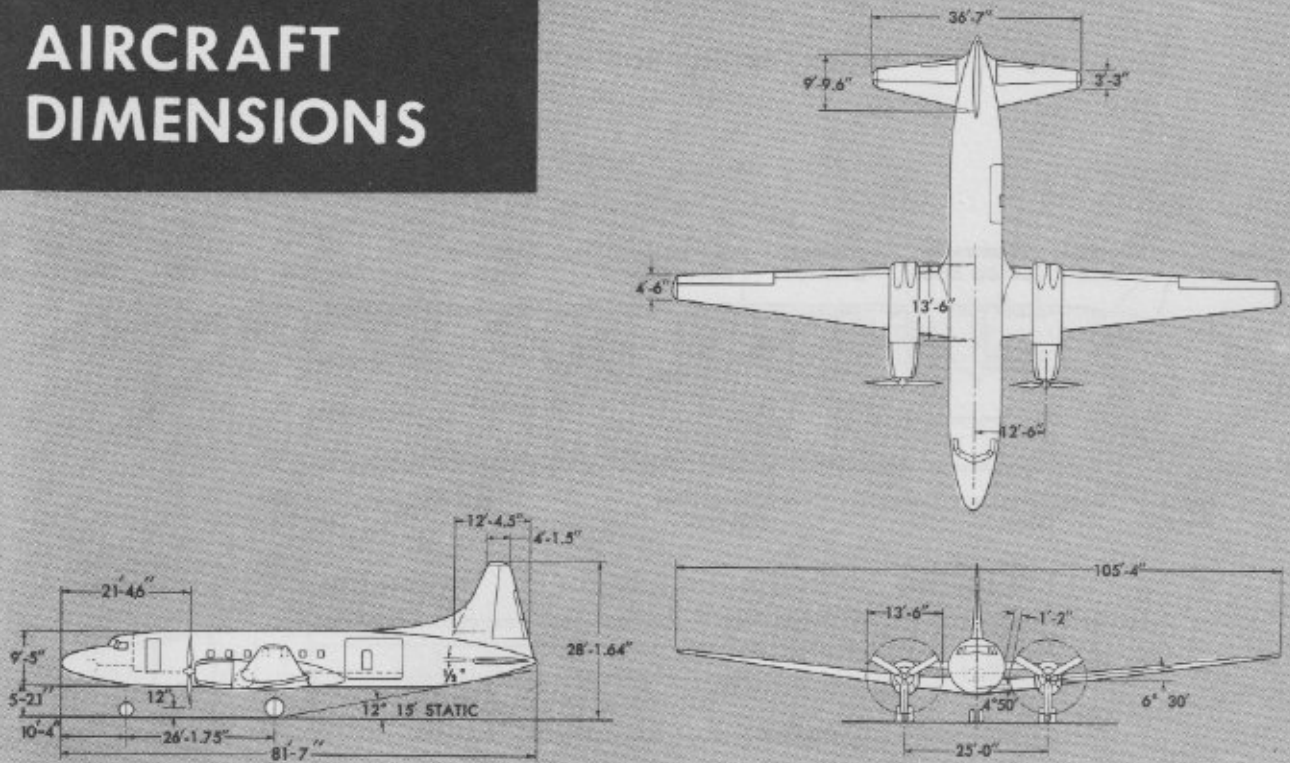


Figure 1-2. Dimensions

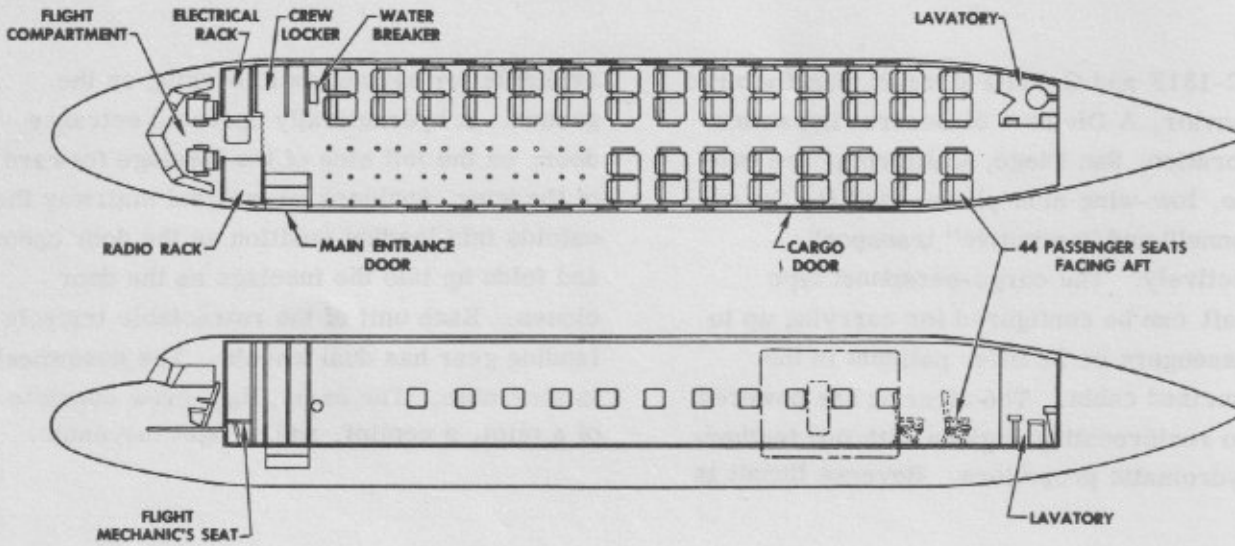


Figure 1-3. General Arrangement - Cargo and Passenger

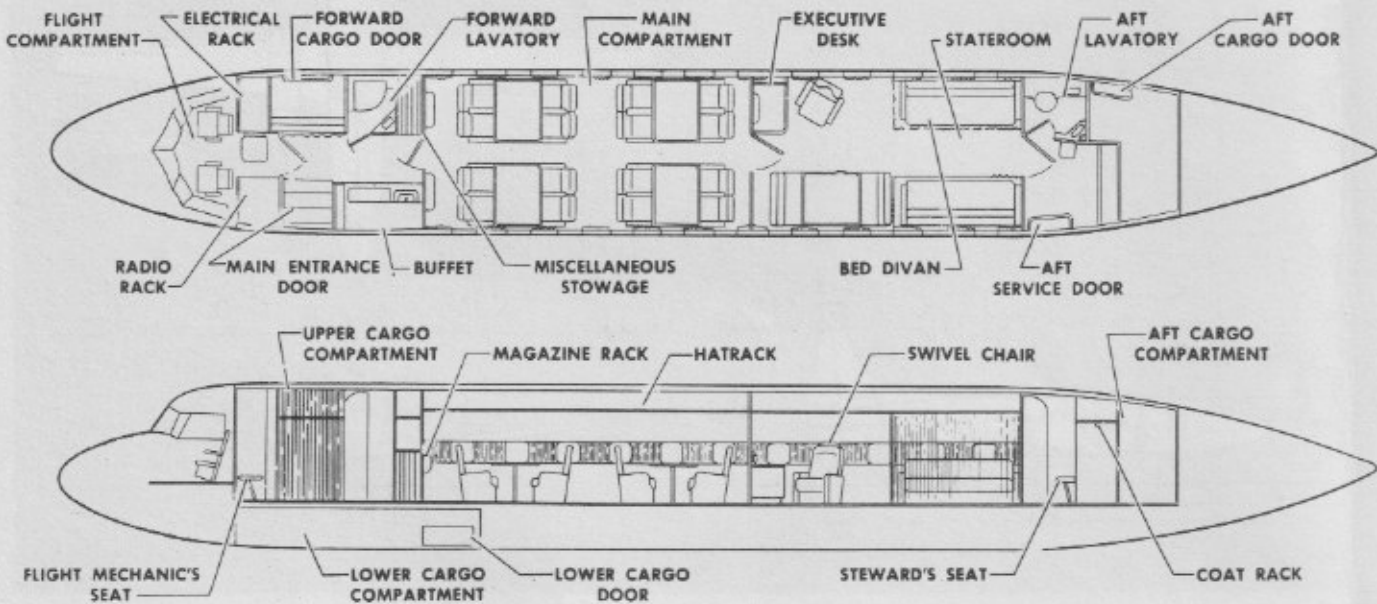


Figure 1-4. VIP Configuration

ITEM	C-131F	C-131G
MISSION	CARGO AND PERSONNEL TRANSPORT	CARGO AND PERSONNEL TRANSPORT
PASSENGER ACCOMMODATIONS	44 SEATS 23 SEATS (EXECUTIVE)	44
LITTERS	21	21
GALLEY	NO	NO
FLOOR LOADING PER SQ. FT.	300	300
EXHAUST SILENCERS	YES	YES (RECTANGULAR)
CARGO DOOR	YES	YES
HYDRAULIC PUMPS	1 FIXED AND 1 VARI- ABLE DISPLACEMENT	DUAL VARIABLE

Figure 1-5. Main Differences Table

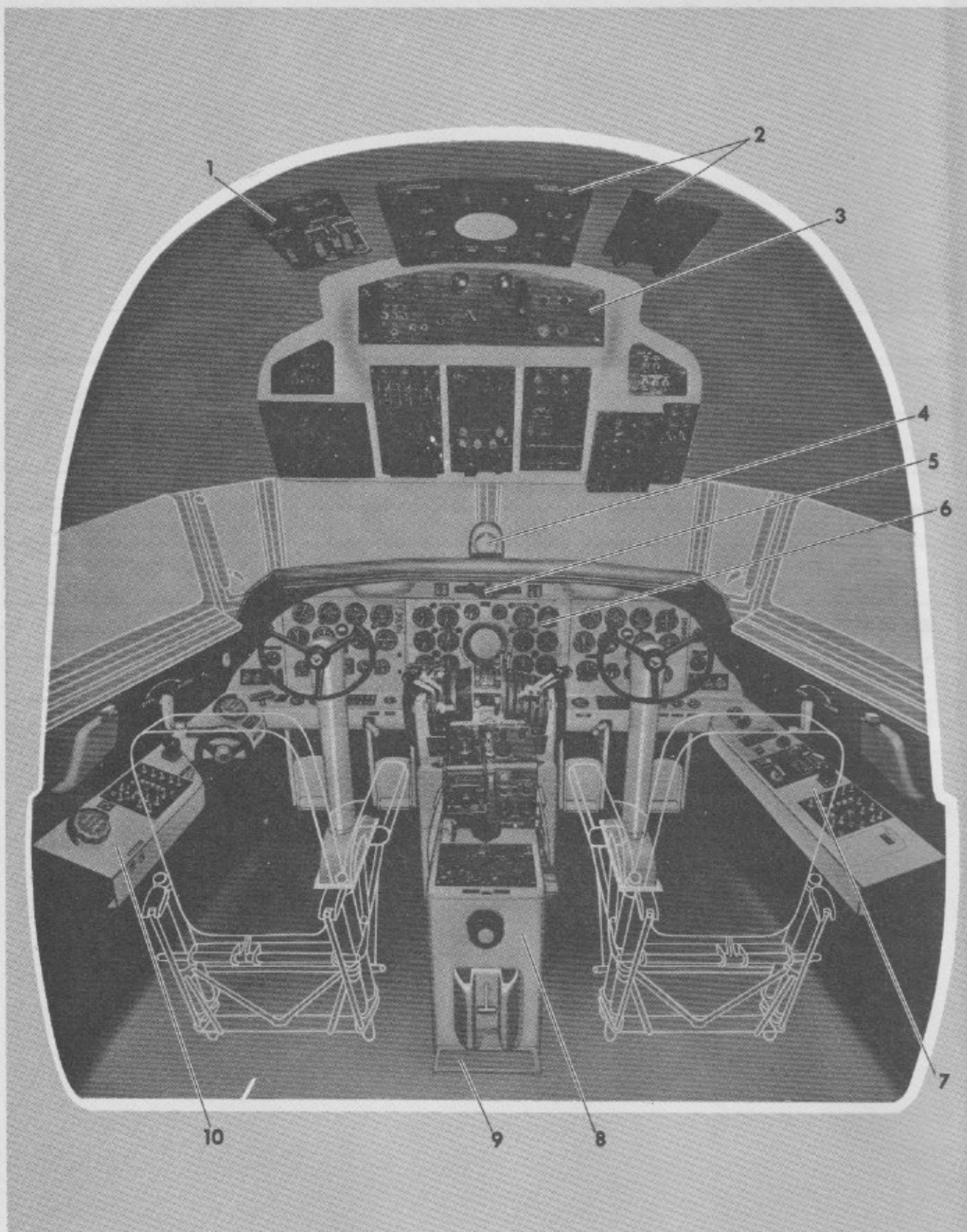
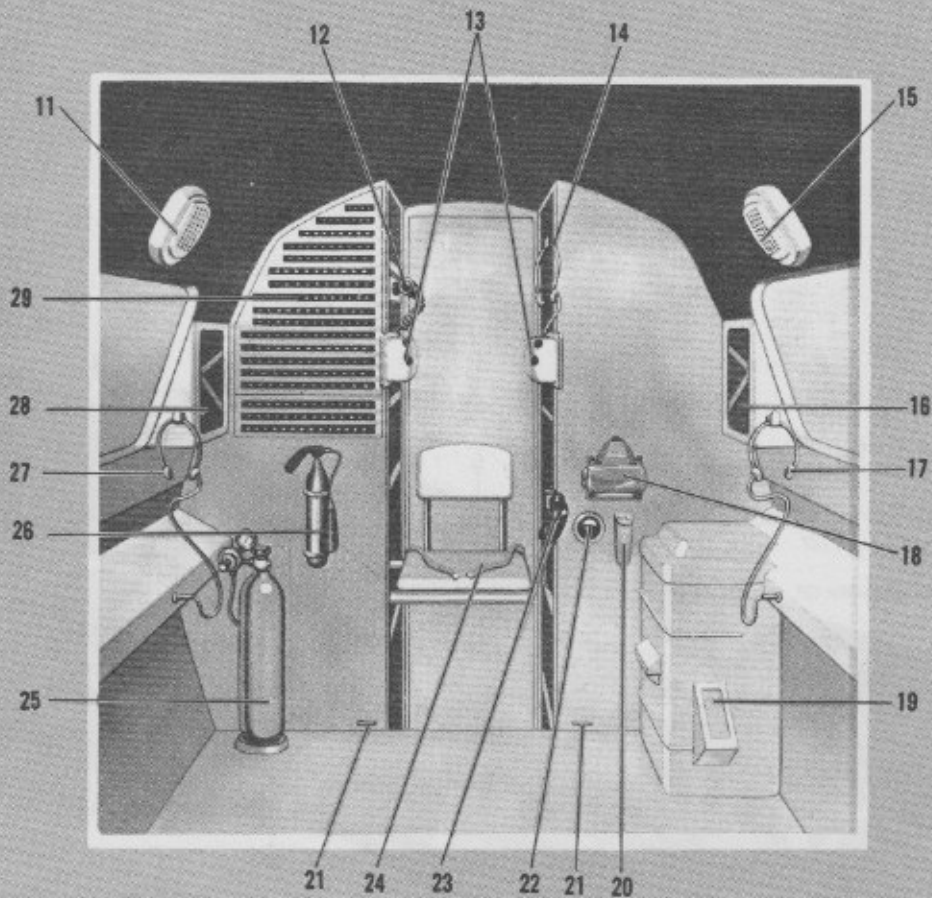


Figure 1-6 (Sheet 1 of 2). Flight Compartment (Typical) - Forward



1. Fuel Control Panel
2. Overhead Light Control Panel
3. Overhead Switch Panels
4. Magnetic (Standby) Compass
5. Fire Control Panel
6. Flight and Engine Instrument Panels
7. Copilot's Console
8. Pilots' Pedestal
9. Nose Gear Downlatch Checking Window
10. Pilot's Console
11. Copilot's Loudspeaker
12. Utility Light
13. Overhead Switch Panel Flood Lights
14. Flight Mechanic's Headset
15. Pilot's Loudspeaker

16. Pilot's Smoke Mask
17. Pilot's Headset
18. First Aid Kit
19. Hydraulic Reservoir and Sight Gage
20. Landing Gear Lockpin Stowage
21. Pilots' Side Windshield Defrost "T" Handles (2)
22. Flight Mechanic's Ash Tray
23. Pilot's Service Interphone and PA Handset
24. Flight Mechanic's Seat
25. Oxygen Bottle
26. CO₂ Fire Extinguisher
27. Copilot's Headset
28. Copilot's Smoke Mask
29. Main Circuit Breaker Panel

Figure 1-6 (Sheet 2 of 2). Flight Compartment (Typical) - Aft

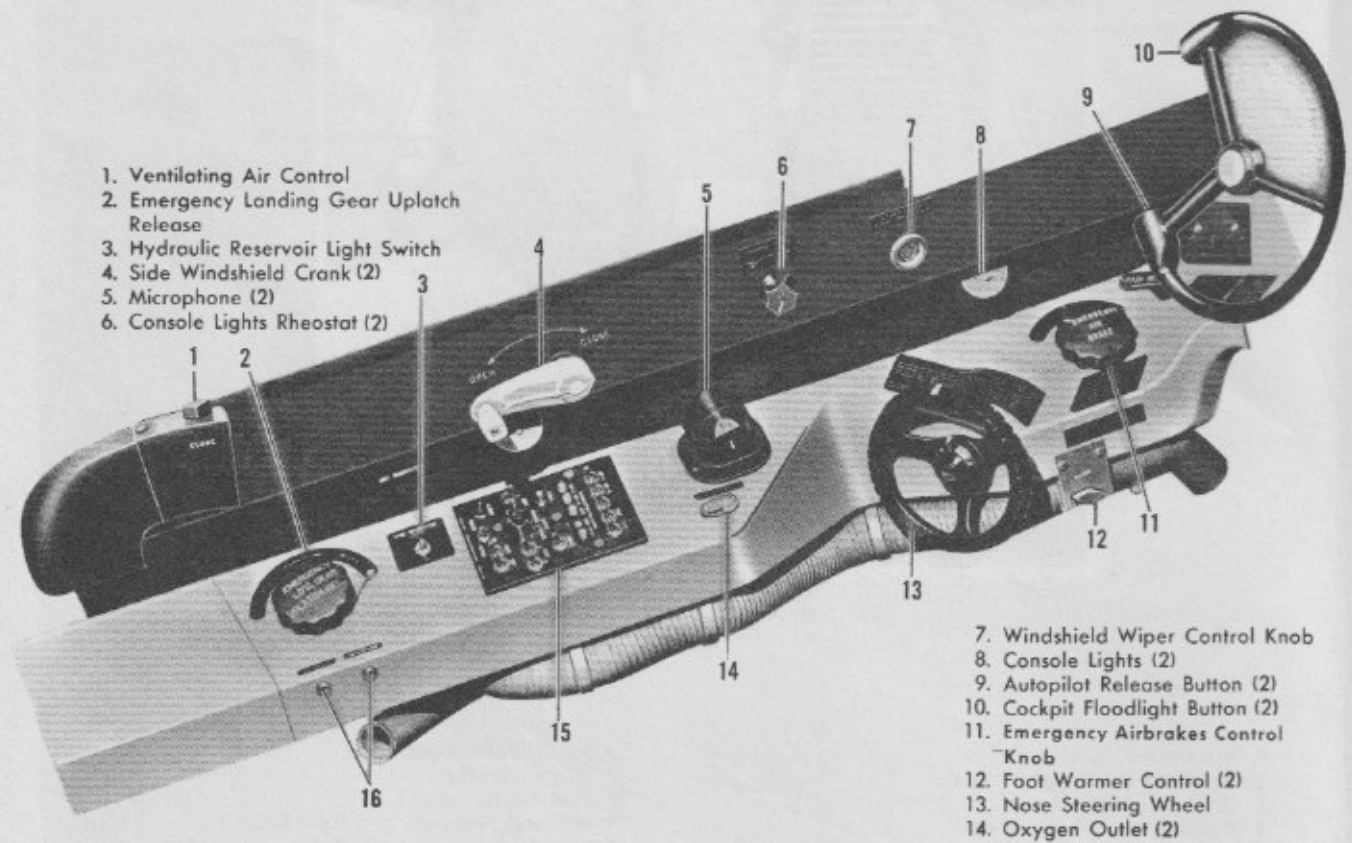


Figure 1-7 (Sheet 1 of 2). Pilot's Console (Typical)

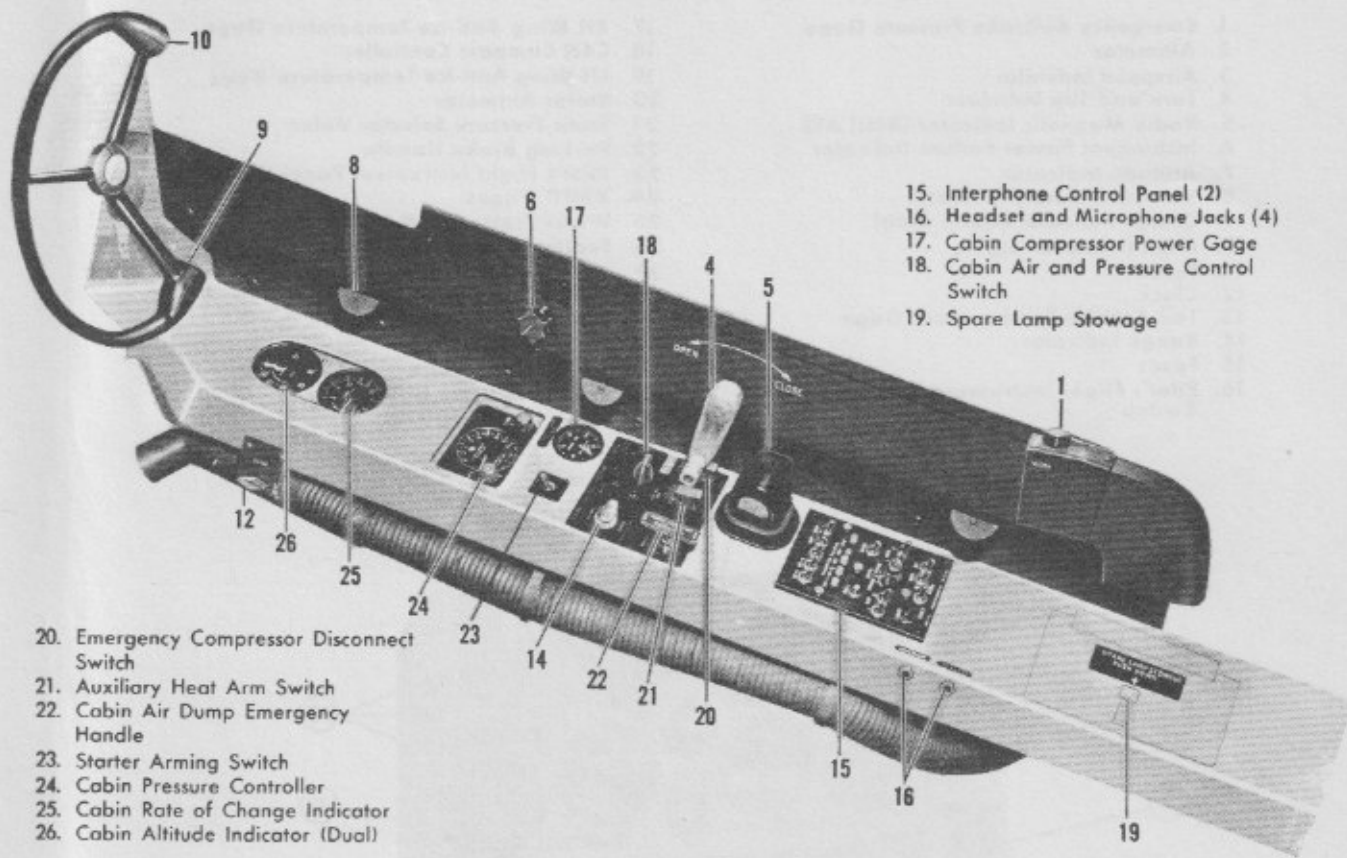
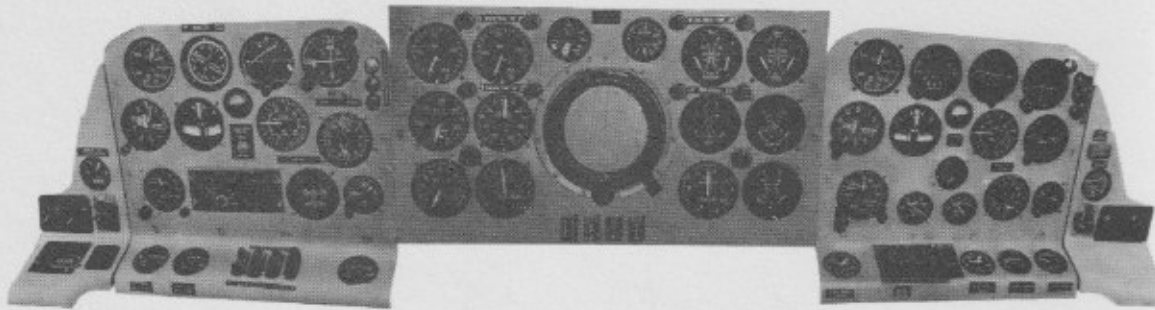


Figure 1-7 (Sheet 2 of 2). Copilot's Console (Typical)



- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Emergency Airbrake Pressure Gage 2. Altimeter 3. Airspeed Indicator 4. Turn and Slip Indicator 5. Radio Magnetic Indicator (RMI) A12 6. Instrument Power Failure Indicator 7. Attitude Indicator 8. Vertical Velocity Indicator 9. Course Indicator (Omni Mag) 10. Marker Beacon Lights 11. Tacan 12. Clock 13. Tail Anti-Ice Temperature Gage 14. Range Indicator 15. Fuses 16. Pilot's Flight Instrument Power Selector Switch | <ol style="list-style-type: none"> 17. RH Wing Anti-Ice Temperature Gage 18. C4N Compass Controller 19. LH Wing Anti-Ice Temperature Gage 20. Radar Altimeter 21. Static Pressure Selector Valve 22. Parking Brake Handle 23. Pilot's Flight Instrument Panel Lights Rheostat 24. BMEP Gages 25. Water Pressure ON Lights 26. Feather Pumps ON Lights 27. Wing Flap Position Indicator 28. Water Quantity Gage 29. Fuel Pressure Low Lights 30. Fuel Pressure Gage 31. Oil Pressure Gage 32. Prop in Reverse Lights |
|--|---|

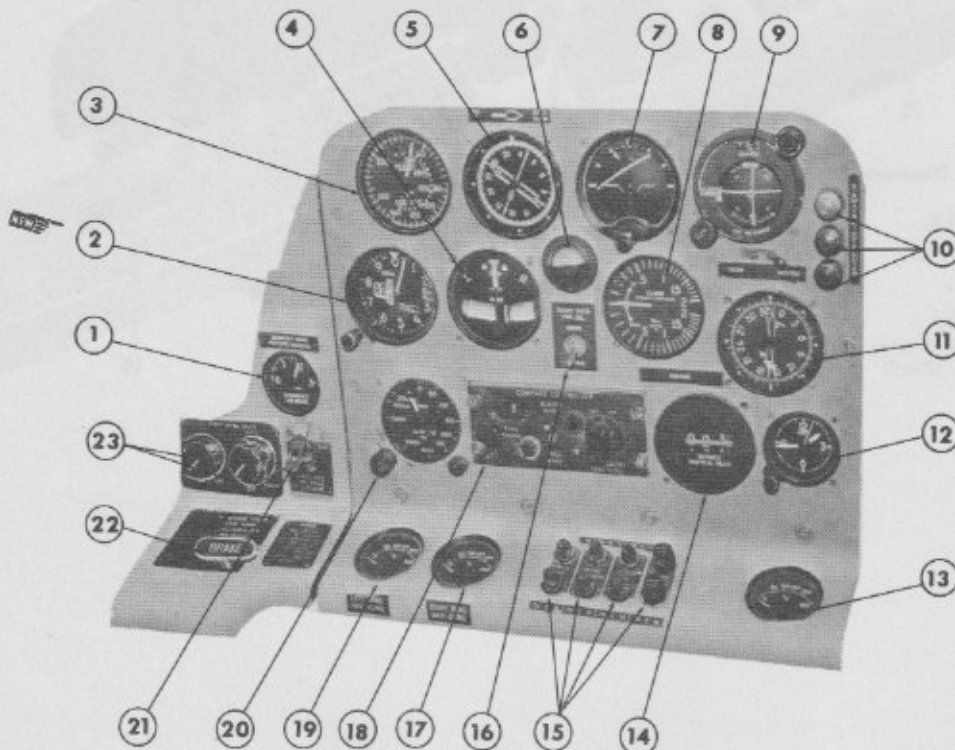
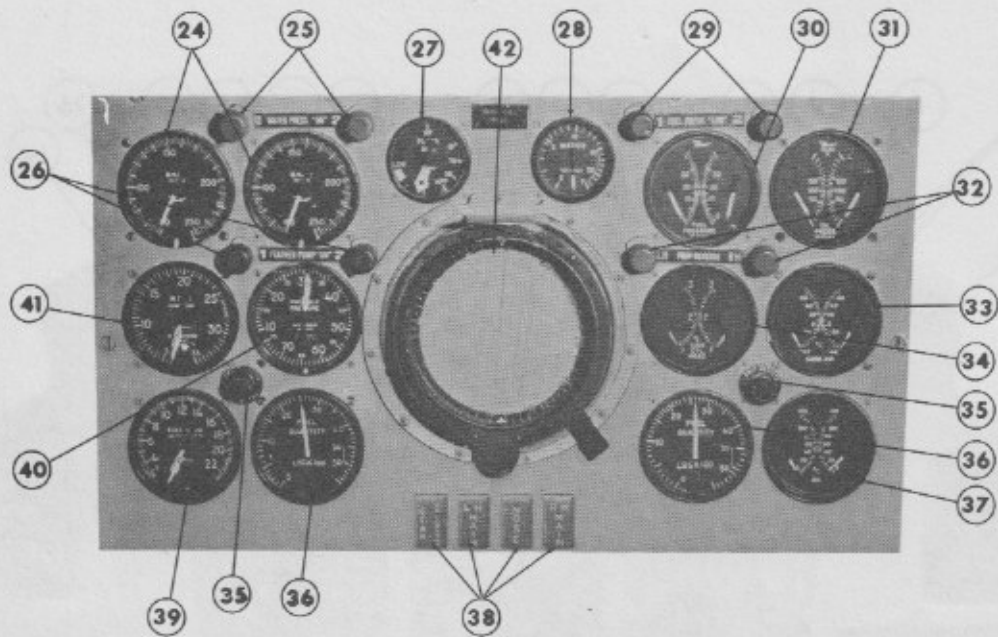


Figure 1-8 (Sheet 1 of 2). Flight and Engine Instrument Panels (Typical)



- | | |
|--|---|
| 33. Carburetor Air Temperature Gage | 50. Course Indicator (Omni Mag) |
| 34. Cylinder Head Temperature Gage | 51. Marker Beacon Lights |
| 35. Engine Chip Detector Lights | 52. Radio Compass Indicator |
| 36. Fuel Quantity Gages | 53. Cabin Doors Unlocked Warning Lights |
| 37. Oil Temperature Gage | 54. Oxygen Flow Indicator |
| 38. Landing Gear Position Indicator | 55. Copilot's Instrument Panel Lights Rheostats |
| 39. Fuel Flowmeter | 56. Static Pressure Selector Valve |
| 40. Manifold Pressure Gage | 57. Clock |
| 41. Tachometer | 58. Cabin Compressor Lube Oil Pressure Gage |
| 42. Radarscope | 59. Cabin Compressor Hydraulic Fluid Temperature Gage |
| 43. Altimeter | 60. Radio Magnetic Indicator (C4N) |
| 44. Airspeed Indicator | 61. Brake Hydraulic Pressure Gage |
| 45. Turn and Slip Indicator | 62. Fuses |
| 46. Directional Indicator (A-12) | 63. Oil Quantity Gages |
| 47. Instrument Power Failure Indicator | 64. Outside Air Temperature Gage |
| 48. Attitude Indicator | 65. Main Hydraulic Pressure Gage |
| 49. Vertical Velocity Indicator | 66. Radar Altimeter |

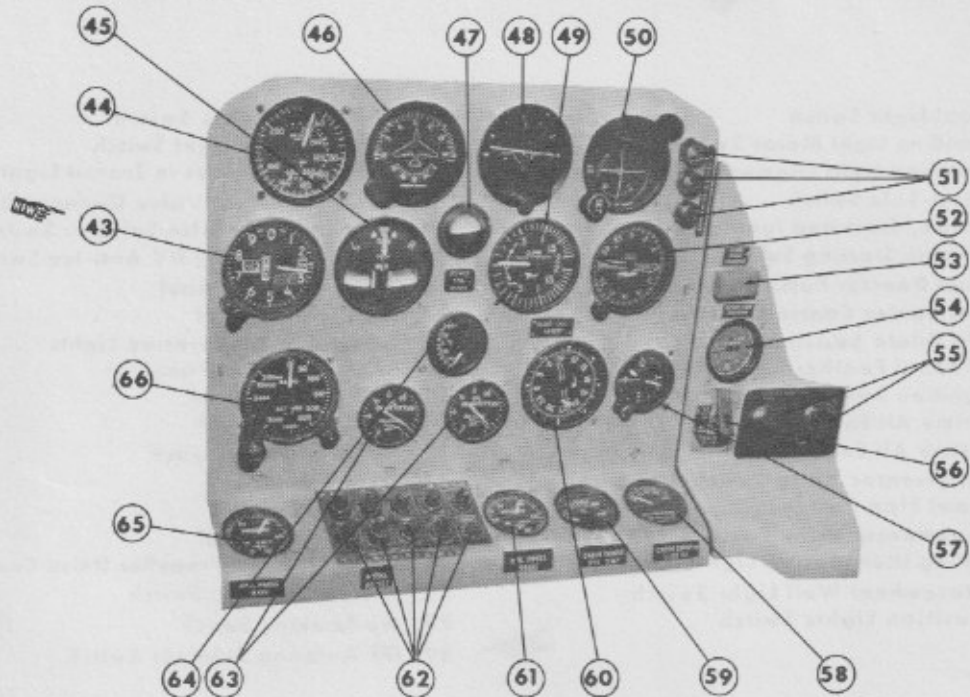
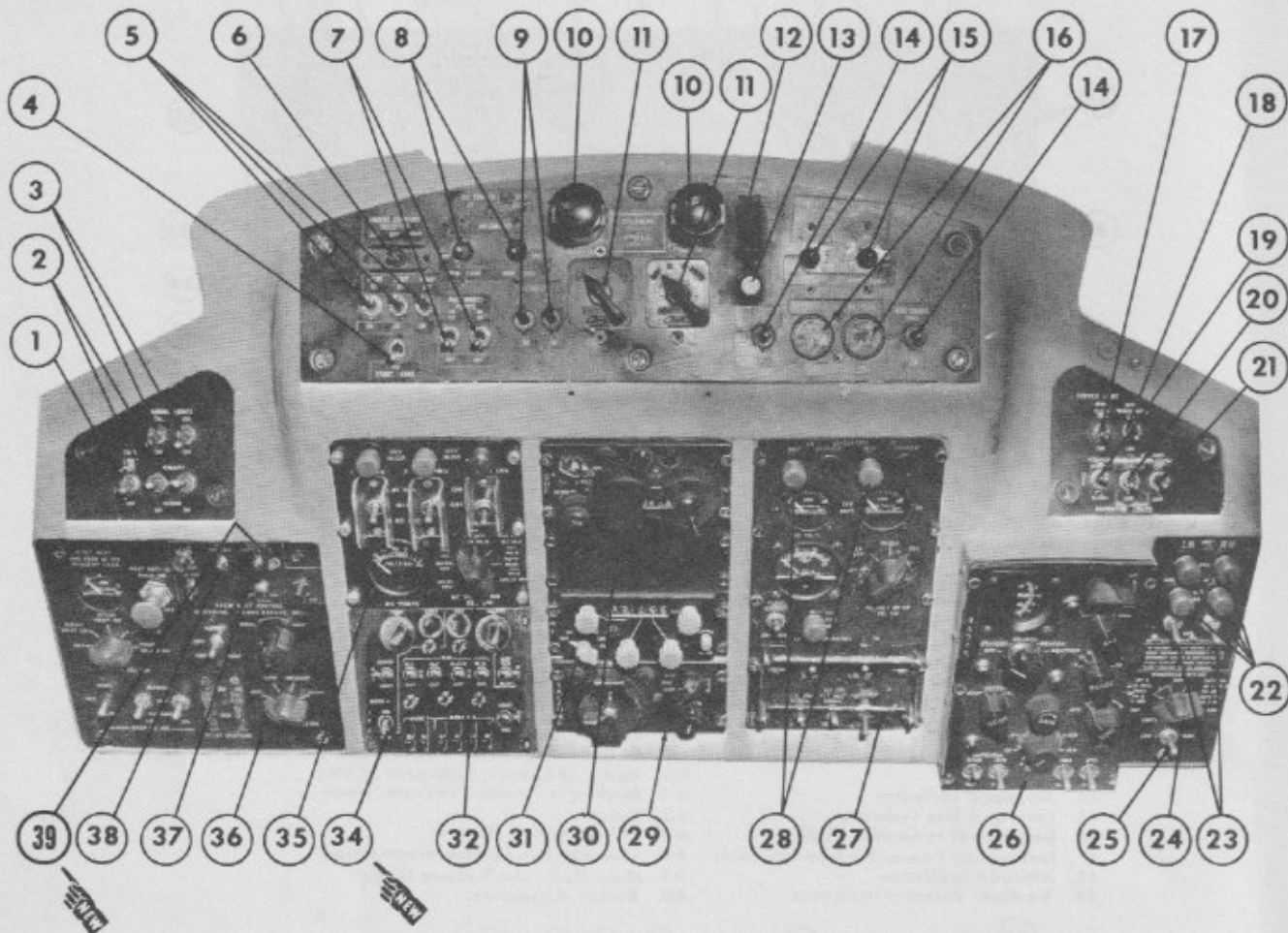
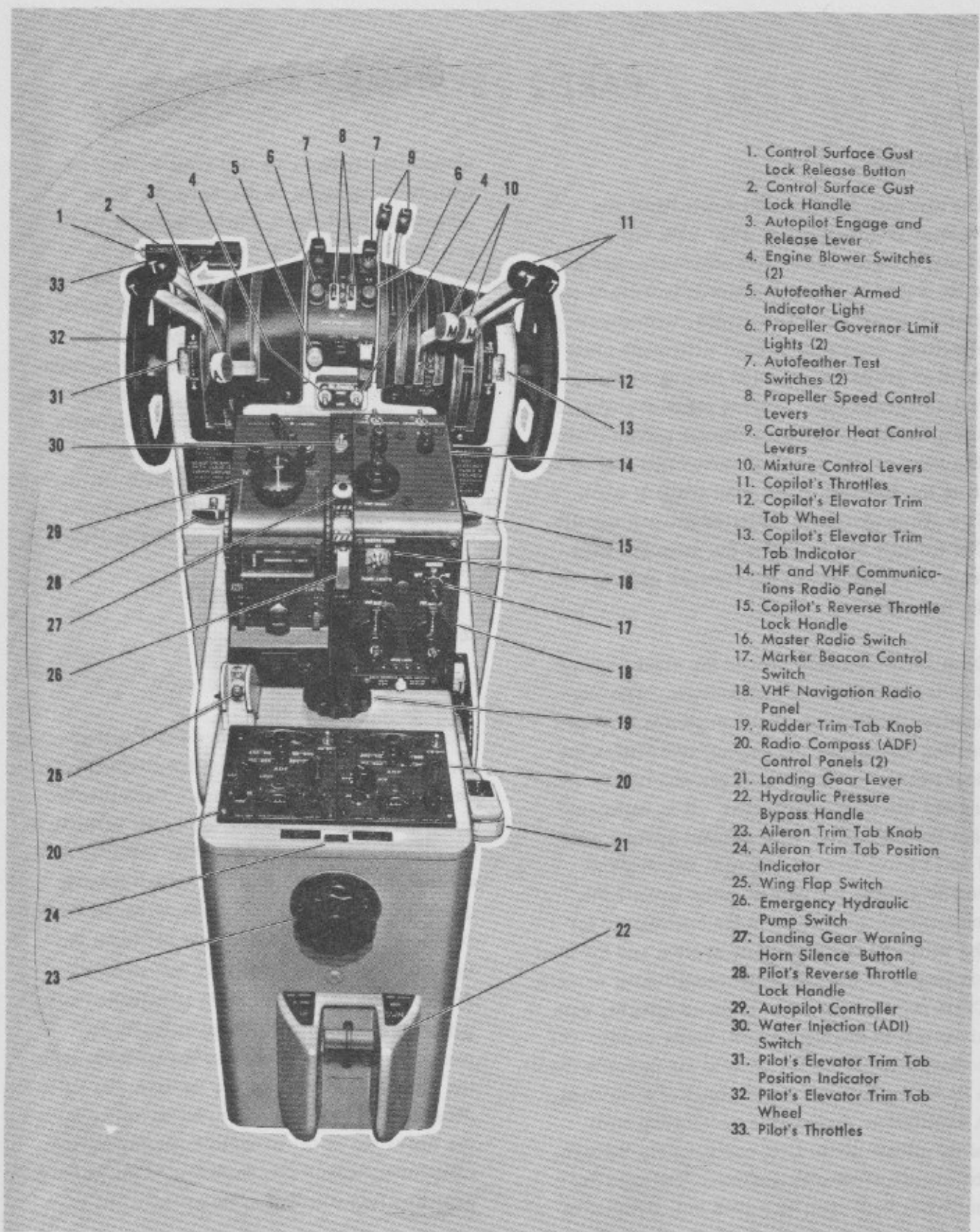


Figure 1-8 (Sheet 2 of 2). Flight and Engine Instrument Panels (Typical)



- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Taxi Light Switch 2. Landing Light Motor Switches 3. Landing Light Filament Switches 4. Start-Safe Switch 5. Prime, Start and Ignition Boost Switches 6. Engine Starting Selector Switch 7. Fuel Booster Pump Switches 8. Oil Cooler Control Switches 9. Oil Dilute Switches 10. Manual Feathering Buttons (2) 11. Ignition Switches 12. Prime All Engines Switch 13. Prime All Engines Light 14. Augmentor Vane Switches (2) 15. Cowl Flap Switches 16. Augmentor Vane Position Indicators 17. Wing Illumination Lights Switch 18. Nosewheel Well Light Switch 19. Position Lights Switch | <ol style="list-style-type: none"> 20. Fuselage Lights Switch 21. Anti-Collision Light Switch 22. Heat Source Valves in Transit Lights 23. Emergency Heat Valve Disconnect Switches 24. Windshield Anti-Ice Selector Switch 25. Pilot's (Captain's) DV Anti-Ice Switch 26. Radar Control Panel 27. DC Control Panel 28. Generator Inoperative Lights 29. TACAN Control Panel 30. UHF Control Panel 31. HF Control Panel 32. Radar Inverter Switch 33. Deleted 34. C-6280 Control 35. AC Control Panel 36. Pitot Heat and Propeller Deice Control Panel 37. Fasten Seat Belt Switch 38. No Smoking Switch 39. IFF Antenna Selector Switch |
|---|--|

Figure 1-9. Overhead Switch Panel



1. Control Surface Gust Lock Release Button
2. Control Surface Gust Lock Handle
3. Autopilot Engage and Release Lever
4. Engine Blower Switches (2)
5. Autofeather Armed Indicator Light
6. Propeller Governor Limit Lights (2)
7. Autofeather Test Switches (2)
8. Propeller Speed Control Levers
9. Carburetor Heat Control Levers
10. Mixture Control Levers
11. Copilot's Throttles
12. Copilot's Elevator Trim Tab Wheel
13. Copilot's Elevator Trim Tab Indicator
14. HF and VHF Communications Radio Panel
15. Copilot's Reverse Throttle Lock Handle
16. Master Radio Switch
17. Marker Beacon Control Switch
18. VHF Navigation Radio Panel
19. Rudder Trim Tab Knob
20. Radio Compass (ADF) Control Panels (2)
21. Landing Gear Lever
22. Hydraulic Pressure Bypass Handle
23. Aileron Trim Tab Knob
24. Aileron Trim Tab Position Indicator
25. Wing Flap Switch
26. Emergency Hydraulic Pump Switch
27. Landing Gear Warning Horn Silence Button
28. Pilot's Reverse Throttle Lock Handle
29. Autopilot Controller
30. Water Injection (ADI) Switch
31. Pilot's Elevator Trim Tab Position Indicator
32. Pilot's Elevator Trim Tab Wheel
33. Pilot's Throttles

Figure 1-10. Pilot's Pedestal