

CHAPTER 36

CADET VERSION

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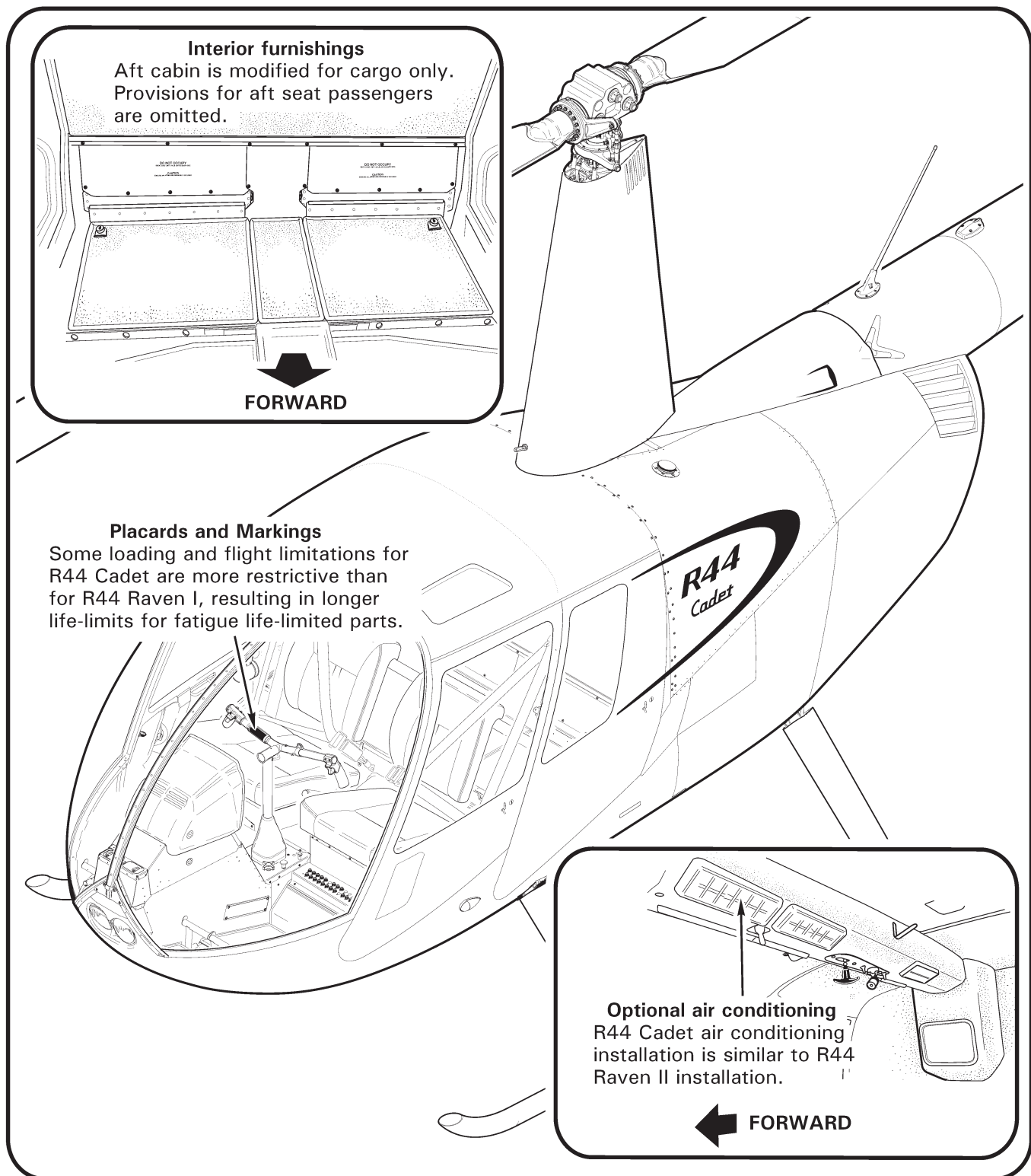


FIGURE 36-1 CADET CONFIGURATION

CHAPTER 36**CADET VERSION****36-00 Dimensions and Descriptions****A. Dimensions**

Refer to § 16-40 for external dimensions.

B. Description

Refer to § 16-10 for version description.

Refer to Figure 36-1. The R44 Cadet is a two-place R44 Raven I helicopter with the aft cabin modified for cargo only. Standard equipment includes a Lycoming O-540 six-cylinder, carbureted engine and a 28-volt DC electrical system.

Some loading and flight limitations for R44 Cadet are more restrictive than for R44 Raven I, resulting in improved performance margins as well as extended TBO times for overhaul parts, and longer life-limits for fatigue life-limited parts (refer to Chapter 3 for Airworthiness Limitations).

Air conditioning is optional equipment for R44 Cadet.

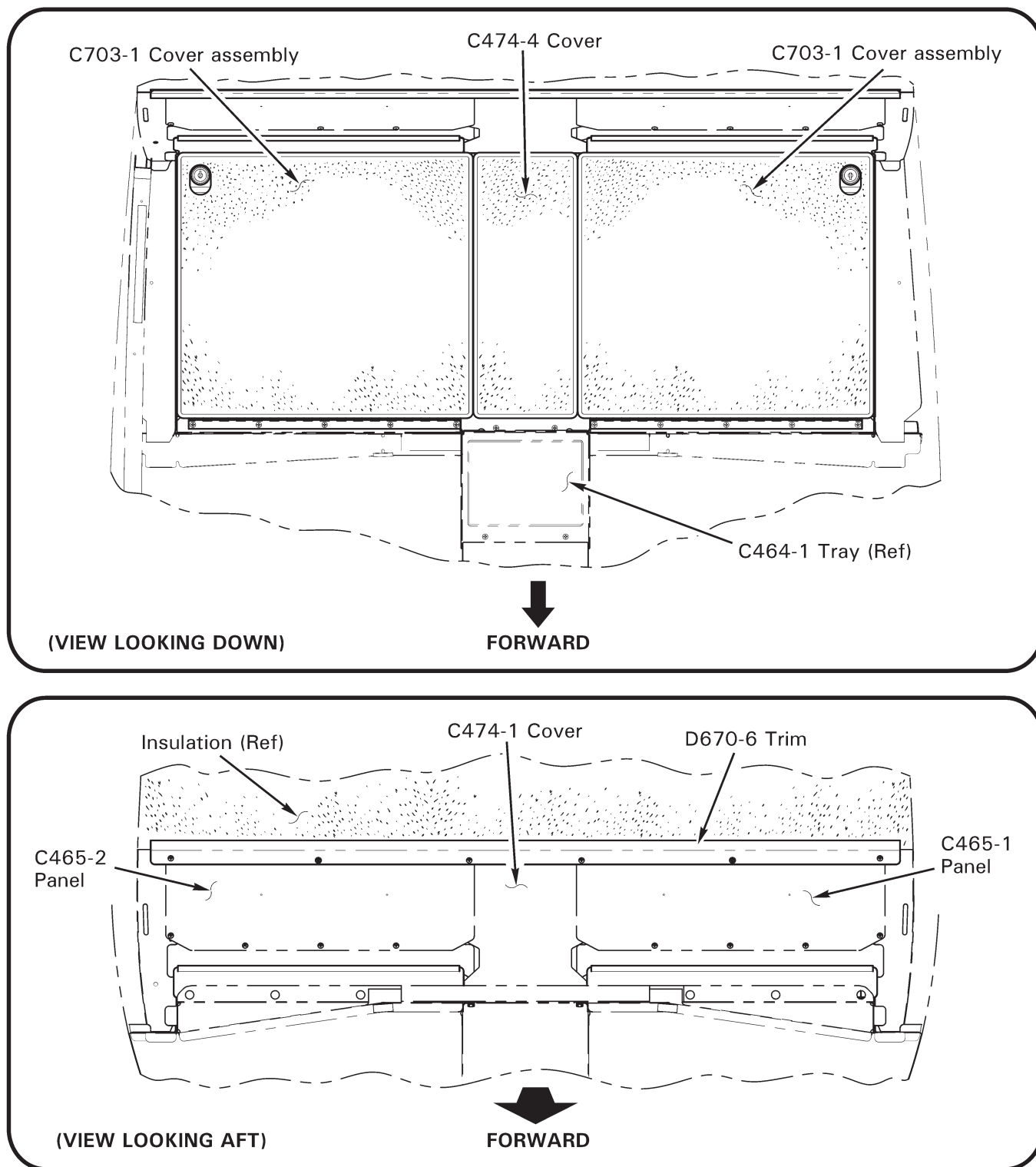


FIGURE 36-2 AFT CABIN ACCESS PANELS

36-10 Access Panels

A. Dimensions

R44 Cadet access panels are similar to R44 Raven I installation. Refer to R44 Illustrated Parts Catalog (IPC) Figure 94-1 for R44 Cadet configuration.

B. Control Tunnel Access

1. Refer to Figure 36-2. Open C703-1 cover assemblies, remove screws securing C474-4 (horizontal) cover to cabin, and remove cover.
2. Remove screws securing D670-6 trim to C465 panels and remove trim.
3. Remove screws securing C474-1 (vertical) cover to cabin and remove cover.

C. Bulkhead Access

1. Refer to Figure 36-2. Remove screws securing D670-6 trim to C465 panels and remove trim.
2. Lift up insulation as required, remove screws securing C465 panels to cabin, and remove panels.

36-20 Placards and Markings

A. Description

R44 Cadet paint, marking, and decal installation is similar to R44 Raven I installation. Refer to R44 Illustrated Parts Catalog (IPC) Figure 94-1 for R44 Cadet configuration.

B. Removal

Start at corners and slowly peel off decal by hand or using a plastic wedge. Avoid damaging or removing paint or primer from surfaces. Remove decal entirely.

C. Installation

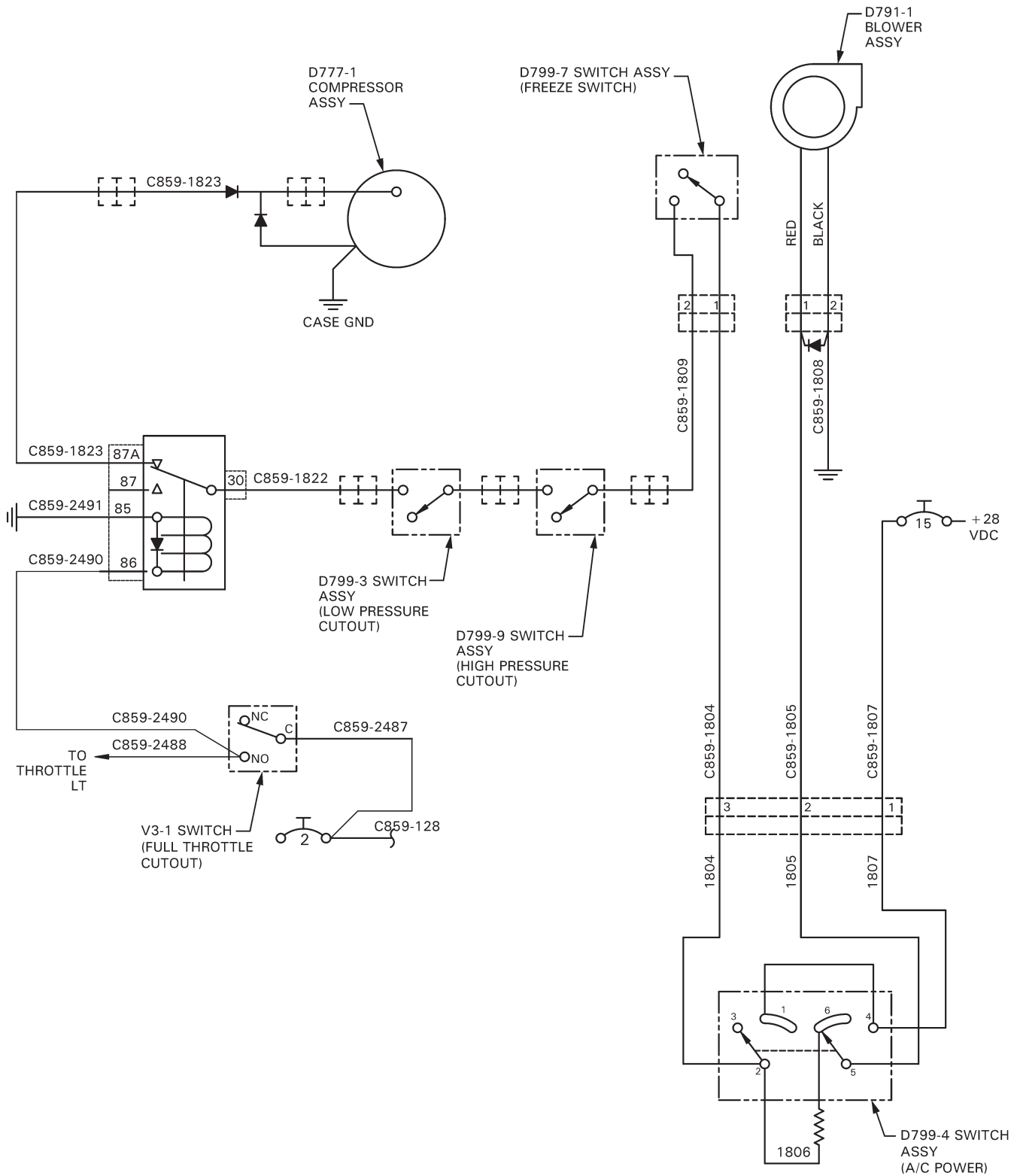
Verify surfaces are clean and dry before attaching decals. Use a clean cloth wet with acetone or mild soapy water to clean surfaces. Press decal to surface and verify security.

CAUTION

Use caution when using acetone near silk-screened lettering. Acetone can smudge or remove silk-screened letters.

D. Scheduled Maintenance

Inspect placards every 100-hour/annual inspection per § 2.400.



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FIGURE 36-3 AIR CONDITIONING SCHEMATIC

36-30 Environment Control**A. Description**

R44 Cadet air conditioning installation is similar to R44 Raven II installation. Refer to R44 Illustrated Parts Catalog Figure (IPC) 94-1 for R44 Cadet configuration.

B. Maintenance

Refer to § 11.300 for maintenance procedures.

C. Schematic

Refer to Figure 36-3 for air conditioning schematic.

D. Scheduled Maintenance

Inspect air conditioning components every 100-hour/annual inspection per § 2.400.

E. Special Maintenance

Refer to § 11.310 for air conditioning system troubleshooting.

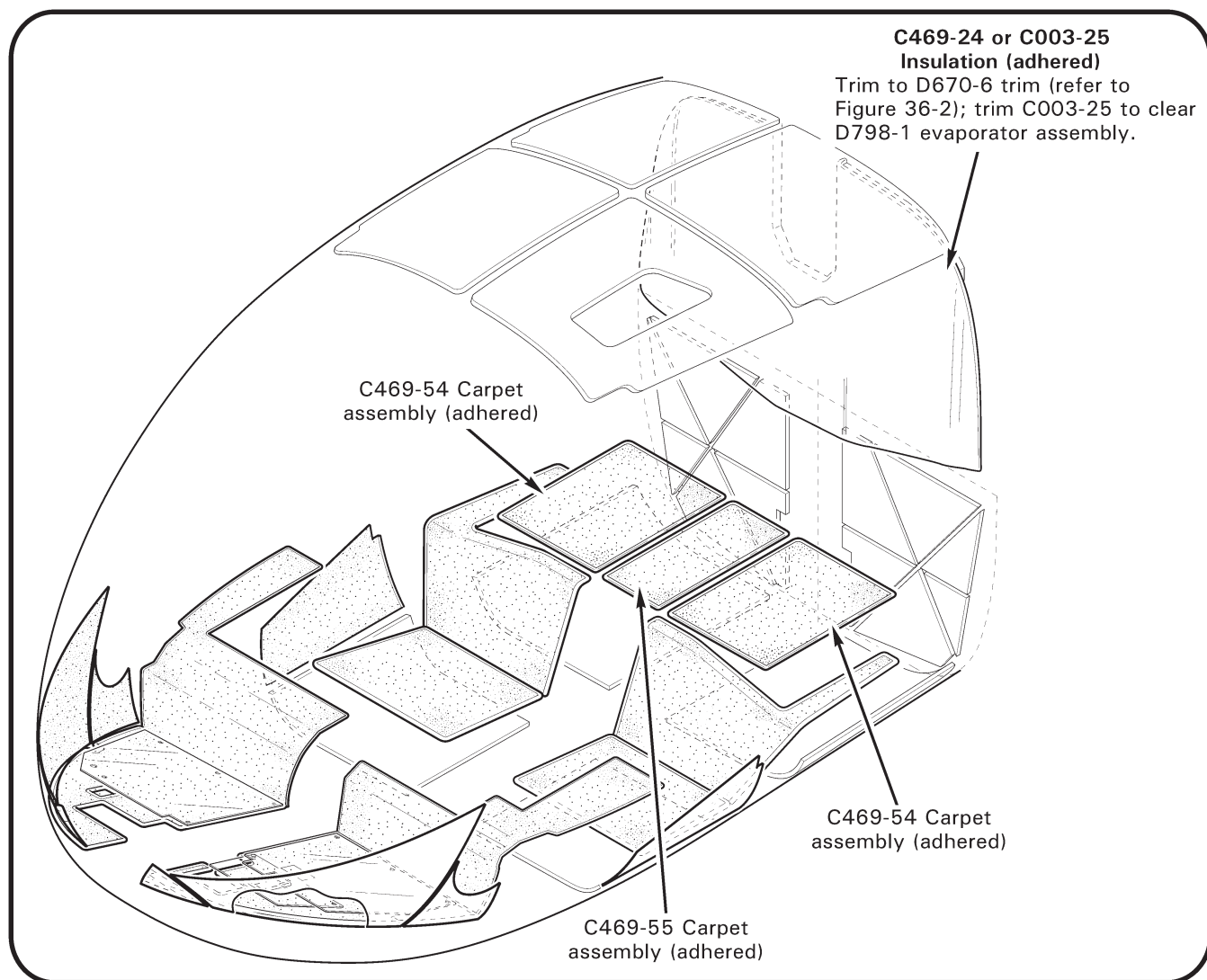


FIGURE 36-4 CARPET AND INSULATION

36-40 Furnishings

A. Description

R44 Cadet aft cabin is similar to R44 Raven I installation but provisions for aft seat passengers are omitted. Refer to R44 Illustrated Parts Catalog Figure (IPC) 94-1 for R44 Cadet configuration.

B. Maintenance

Refer to § 16-60 for access panels.

36-41 Carpet

A. Description

R44 Cadet carpet installation is similar to R44 Raven I installation; carpet is also installed on C703-1 cover assemblies. Refer to R44 Illustrated Parts Catalog Figure (IPC) 94-1 for R44 Cadet configuration.

B. Maintenance

Refer to Figure 36-4 and § 15.320 for adhered carpet removal and installation.

36-42 Insulation (Foam and Headliner)

A. Description

R44 Cadet insulation installation is similar to R44 Raven II installation; insulation at aft bulkhead is modified for omitted backrests. Refer to R44 Illustrated Parts Catalog Figure (IPC) 94-1 for R44 Cadet configuration.

B. Maintenance

Refer to Figure 36-4 (observe notes for specific parts) and § 15.400 for insulation | and headliner replacement.

36-50 Doors and Windows

A. Description

R44 Cadet cabin door installation is identical to R44 Raven I and II installations; aft doors have been modified for cargo-only aft cabin. Refer to R44 Illustrated Parts Catalog Figure (IPC) 94-1 for R44 Cadet configuration.

B. Removal

Refer to R44 Illustrated Parts Catalog (IPC) Chapter 52.

1. To disconnect door from gas spring mechanism:
 - a. Forward Doors: Pull rod up and off of arm assembly ball joint.
 - b. Aft Doors: Insert flat-tip screwdriver and pry up spring clip locking gas spring to channel ball joint. Pull gas spring up and off of ball joint.
2. Remove rings from door hinge pins, lift pins up from door frame hinge assemblies, and remove door.

C. Installation

WARNING

Failure to install a ring in each door's two hinge pins may allow door to depart aircraft in flight.

1. Align and insert door hinge pins in door frame hinge assemblies.
2. Align forward door rod with arm assembly ball joint, or aft door gas spring with channel ball joint, and push down to lock.
3. Install rings in door hinge pins.

D. Scheduled Maintenance

Inspect doors and door installation every 100-hour/annual inspection per § 2.400.

36-60 Instruments

A. Description

R44 Cadet instrument installation is identical to R44 Raven I installation but the manifold gage and airspeed indicator have different range markings. Refer to R44 Illustrated Parts Catalog Figure (IPC) 94-1 for R44 Cadet configuration.

B. Removal

CAUTION

Protect instrumentation using foam padding or equivalent. Handle instruments like eggs.

1. Remove perimeter screws securing instrument face to console and pull face aft.
2. As applicable, disconnect pitot and static lines from instrument; temporarily cap fittings at instrument and in aircraft to prevent contamination.
3. Supporting instrument, remove screws (use a non-magnetic tool) securing instrument to face, and remove instrument (place on foam padding).

C. Installation

CAUTION

Protect instrumentation using foam padding or equivalent. Handle instruments like eggs.

1. Pull instrument face aft. Position instrument in face and install screws (use a non-magnetic tool). Verify security.
2. As applicable, remove temporary fitting caps and connect pitot and static lines to instruments. Verify security. Perform pitot & static line leak check per § 13-10.
3. Install perimeter screws securing face to console.

D. Scheduled Maintenance

Inspect instruments every 100-hour/annual inspection per § 2.400.

E. Special Maintenance

Troubleshoot as required per Chapter 13.

36-70 Avionics

A. Description

R44 Cadet audio system is similar to R44 Raven I installation but provisions for aft seat passengers are omitted. Refer to R44 Illustrated Parts Catalog Figure (IPC) 94-1 for R44 Cadet configuration.

B. Removal

1. Turn battery switch off and pull out AUDIO PANEL circuit breaker (2 amp) at panel.
2. Open instrument console. Loosen screws and disconnect instrument console connector from B338-2 ICS control.
3. Loosen set screws securing volume and squelch knobs to ICS control and remove knobs.
4. Supporting control, remove screws securing face plate to lower panel and ICS control. Remove ICS control and plate.

C. Installation

1. Turn battery switch off and pull out AUDIO PANEL circuit breaker (2 amp) at panel.
2. Open instrument console. Position B338-2 ICS control inside console on lower panel. Install screws securing face plate to panel and ICS control. Verify security.
3. Connect instrument console connector to ICS control and tighten connector screws. Verify security. Close and secure instrument console.
4. Index volume and squelch knobs on ICS control and tighten set screws. Verify security.
5. Push in AUDIO PANEL circuit breaker (2 amp) at panel. Turn battery switch on. Test each headset jack and transmit triggers for proper function. Turn battery switch off.

D. Schematic

Refer to Figure 14-29 or 14-30 for audio system electrical schematic.

E. Scheduled Maintenance

On condition.

F. Special Maintenance

1. Turn battery switch off. Open circuit breaker panel and instrument console.
2. Inspect condition of and verify no obvious damage to audio control, circuit breaker, and wiring. Verify no loose, chafed, or broken wires or terminals. Verify no evidence of arcing. Verify equipment security.
3. Secure circuit breaker panel and instrument console. Perform ground check per Part C step 5.