

VACUUM DISTRIBUTION - MAINTENANCE PRACTICES

1. General

- A. This section provides information on removal and installation of components used in the vacuum distribution system, as well as procedures used to connect the vacuum system to shop air and adjustment of the vacuum relief valve.

NOTE: When replacing a vacuum system component, ensure all connections are made correctly to avoid damage to gyro system. When a component is removed, cap off and identify all open lines, hoses, and fittings to prevent dirt from entering system, and to ensure proper reinstallation. Upon component replacement, check all hoses carefully to be sure they are clean and free of debris, oil, solvent, collapsed inner liners, and external damage. Replace old, hard, cracked, or brittle hoses.

CAUTION: Do not use teflon tape, pipe dope, or thread lubricants of any type on fitting threads, and avoid over tightening connections

- B. For replacement of the vacuum system air filter, refer to Chapter 12, Vacuum System Central Air Filter - Servicing.

2. Vacuum Ejector Removal/Installation

- A. Remove Vacuum Ejector (Refer to Figure 201).

- (1) Open left engine cowling door.
- (2) Detach line (1) from regulator (6) and union (7) or deice line tee if installed (20800001 Thru 20800143 and 208B0001 Thru 208B0143); detach line (1) from regulator (6) and cross fitting (13A) (20800144 and On and 208B0001 Thru 208B0143 incorporating CAB90-14); or detach line (1) from regulator (6) and cross fitting (13D) (20800222 and On and 20800001 Thru 20800121 incorporating CAB93-2; and 208B0317 and On; 208B0001 Thru 208B0316 incorporating CAB93-2).
- (3) Disconnect exhaust fitting (9) from ejector (8).
- (4) Disconnect tube nut (13) from fitting (10).
- (5) Unscrew nut (12) securing ejector to firewall and retain washers (11) for reinstallation.
- (6) Remove ejector (8) from firewall.

- B. Install Vacuum Ejector (Refer to Figure 201).

- (1) Assemble washer (11) and insert fitting (10) through firewall.
- (2) Assemble washer (11) and nut (12) securing ejector to firewall.
- (3) Connect tube nut (13) to fitting (10) and tighten.
- (4) Connect exhaust fitting (9) to ejector (8).
- (5) Connect line (1) from regulator (6) and union (7) or deice line tee if installed (20800001 Thru 20800143 and 208B0001 Thru 208B0143); connect line (1) from regulator (6) and cross fitting (13A) (20800144 and On and 208B0001 Thru 208B0143 incorporating CAB90-14); or connect line (1) from regulator (6) and cross fitting (13D) (20800222 and On and 20800001 Thru 20800121 incorporating CAB93-2; and 208B0317 and On; 208B0001 Thru 208B0316 incorporating CAB93-2).
- (6) Close and secure left engine cowling door.

3. Vacuum Relief Valve Removal/Installation

- A. Remove Vacuum Relief Valve (Refer to Figure 201).

- (1) Loosen two clamps (16) and slide hoses (15) from relief valve (14).
- (2) Detach tube nut (13) and remove relief valve.

- B. Install Vacuum Relief Valve (Refer to Figure 201).

- (1) Replace relief valve (14) attach and tighten tube nut (13).
- (2) Slip hoses (15) onto relief valve and tighten two clamps (16).

4. Connecting Shop Air to Vacuum System

NOTE: Refer to Chapter 36, Pneumatic Distribution - Maintenance Practices, for procedures on connecting shop air to pneumatic system.

5. Vacuum Relief Valve Adjustment

- A. Adjustment Procedures (Refer to Figure 201).

- (1) Start engine according to procedures outlined in the Pilot's Operating Handbook and FAA Approved Flight Manual.
- (2) With engine operating at 68% N_G , the suction gage should read 5.0 inches of mercury.
- (3) If not, adjust valve by straightening tabs on knurled lock nut (17) and making necessary adjustment to obtain desired reading. Clockwise rotation will increase vacuum, and counterclockwise rotation will decrease vacuum.
- (4) After adjusting, bend knurled locknut tabs up.
- (5) Shut down engine according to procedures outlined in the Pilot's Operating Handbook and FAA Approved Flight Manual.

Figure 201 : Sheet 1 : Vacuum System Installation

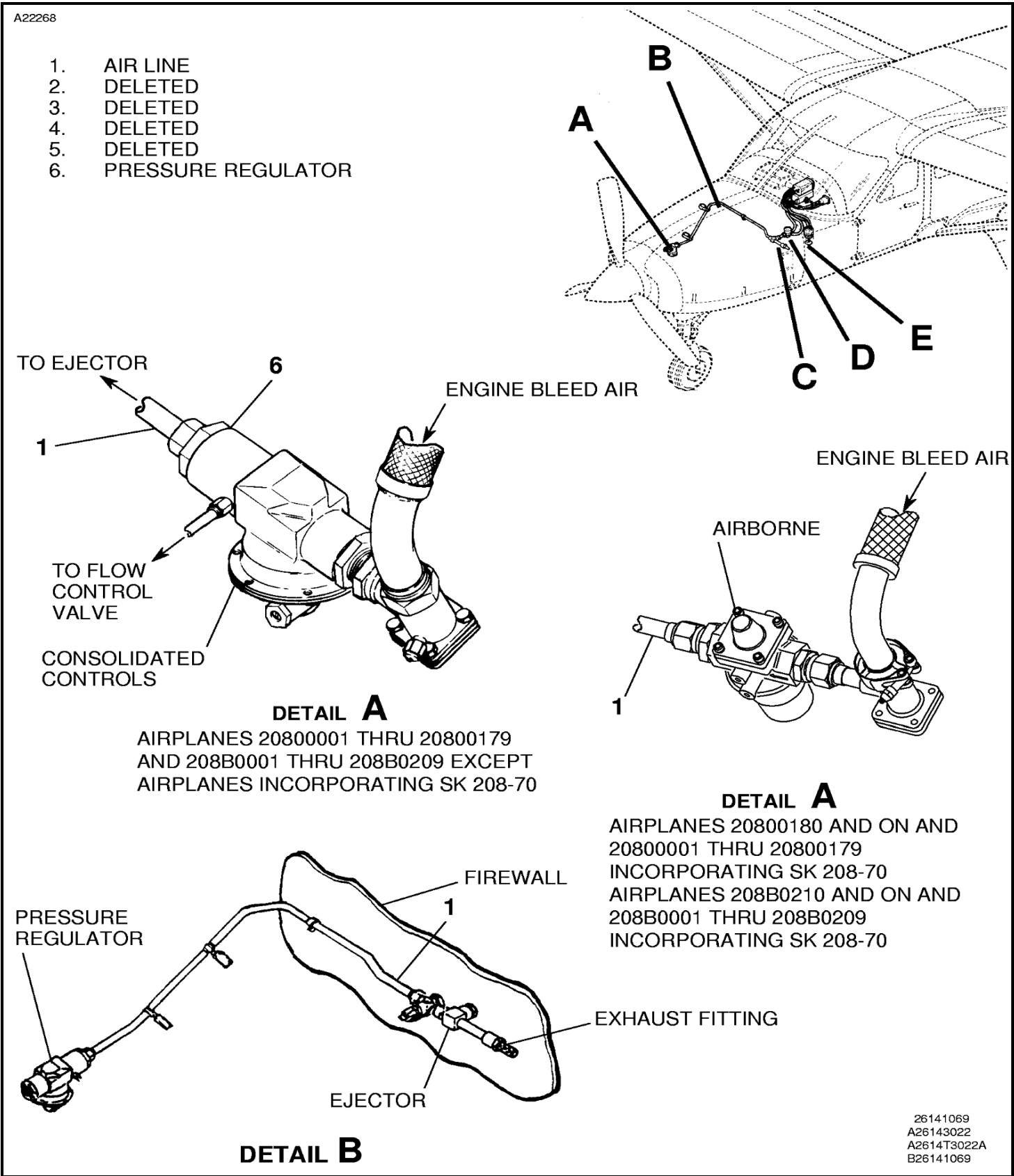
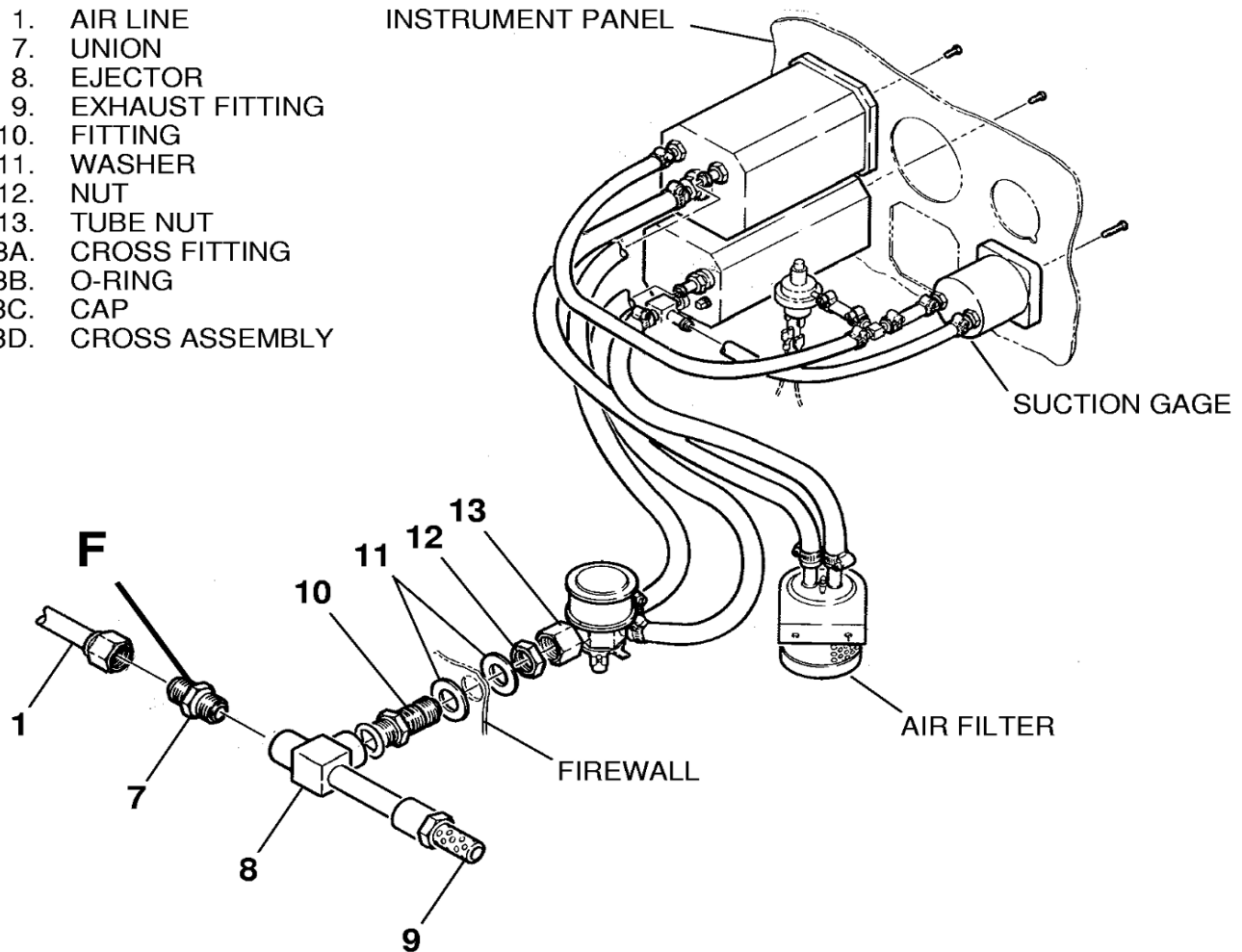


Figure 201 : Sheet 2 : Vacuum System Installation

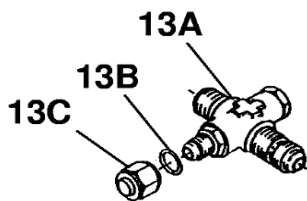
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- 1. AIR LINE
- 7. UNION
- 8. EJECTOR
- 9. EXHAUST FITTING
- 10. FITTING
- 11. WASHER
- 12. NUT
- 13. TUBE NUT
- 13A. CROSS FITTING
- 13B. O-RING
- 13C. CAP
- 13D. CROSS ASSEMBLY



DETAIL C

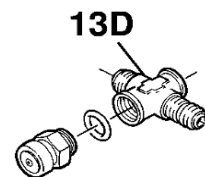
AIRPLANES 20800001 THRU 20800143
AND 208B0001 THRU 208B0143



DETAIL F

AIRPLANES 20800144 AND ON AND
20800001 THRU 20800143
INCORPORATING CAB90-14

AIRPLANES 208B0144 AND ON AND
208B0001 THRU 208B0143
INCORPORATING CAB90-14



DETAIL F

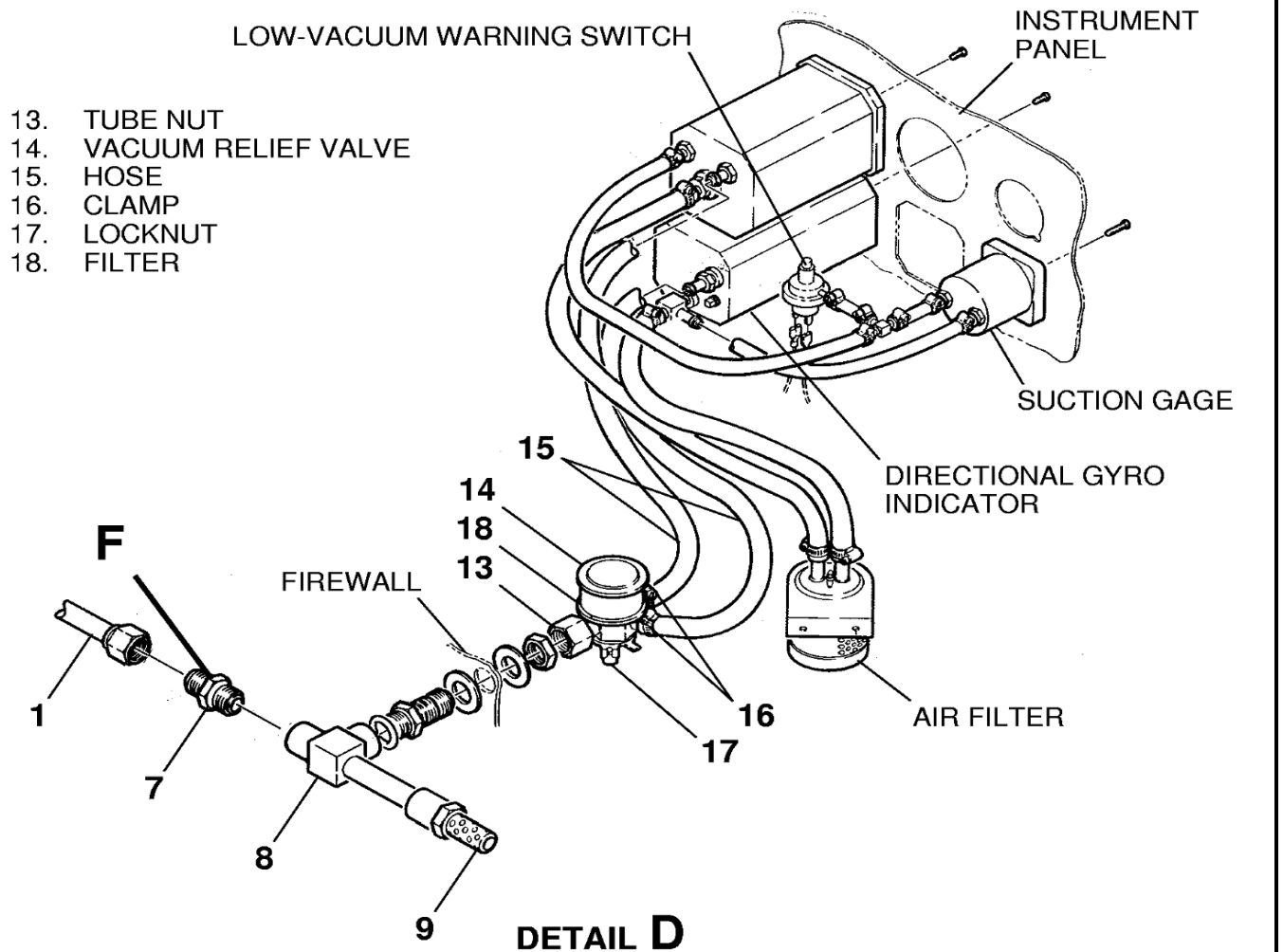
AIRPLANES 20800222 AND ON
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INCORPORATING CAB93-2

AIRPLANES 208B0317 AND ON
AND 208B0001 THRU 208B0316
INCORPORATING CAB93-2

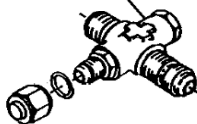
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Figure 201 : Sheet 3 : Vacuum System Installation

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CROSS FITTING

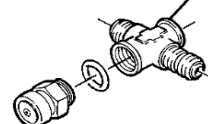


DETAIL F

AIRPLANES 20800144 AND ON
AND 20800001 THRU 20800143
INCORPORATING CAB90-14

AIRPLANES 208B0144 AND ON
AND 208B0001 THRU 208B0143
INCORPORATING CAB90-14

CROSS ASSEMBLY



DETAIL F

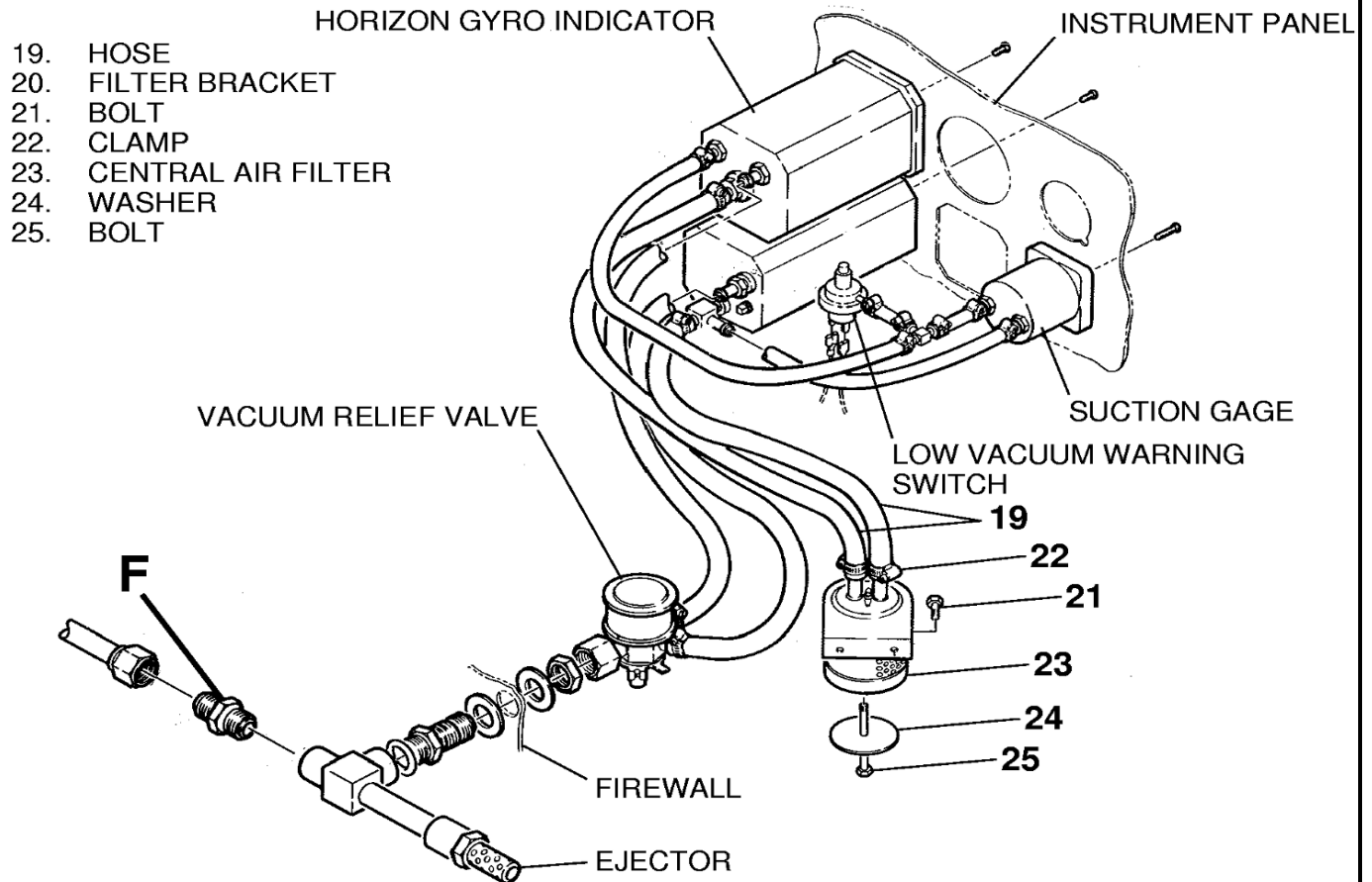
AIRPLANES 20800222 AND ON
AND 20800001 THRU 20800221
INCORPORATING CAB93-2

AIRPLANES 208B0317 AND ON
AND 208B0001 THRU 208B0316
INCORPORATING CAB93-2

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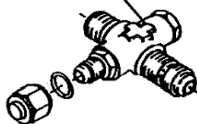
Figure 201 : Sheet 4 : Vacuum System Installation

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DETAIL E

CROSS FITTING

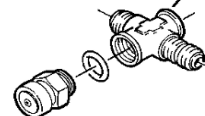


DETAIL F

AIRPLANES 20800144 AND ON
AND 20800001 THRU 20800143
INCORPORATING CAB90-14

AIRPLANES 208B0144 AND ON
AND 208B0001 THRU 208B0143
INCORPORATING CAB90-14

CROSS ASSEMBLY



DETAIL F

AIRPLANES 20800222 AND ON
AND 20800001 THRU 20800221
INCORPORATING CAB93-2

AIRPLANES 208B0317 AND ON
AND 208B0001 THRU 208B0316
INCORPORATING CAB93-2

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