

ENGINE COWLING AND NOSE CAP - MAINTENANCE PRACTICES

1. General

- A. Engine cowling and nose cap maintenance practices consist of upper cowling door removal/installation, cowling center panel removal/installation and lower cowl panel removal/installation.

2. Upper Cowling Door Removal/Installation

- A. Remove Upper Cowling Door (Refer to Figure 201).
- (1) Depress latch handle (8) and raise cowling door.
 - (2) Support cowling door section and depress lock button of hinge pin (7). Remove hinge pin (7) at forward and aft locations.
 - (3) Remove cowling door.
 - (4) Do a primary and secondary exhaust duct general visual inspection (alignment check). Refer to Primary and Secondary Exhaust Duct General Visual Inspection (Alignment Check).
- B. Install Upper Cowling Door (Refer to Figure 201).
- (1) Support cowling door and align hinge pin hole in hinge bearing (5) with hinge pin hole in center engine mount truss (6). Insert hinge pin (7) at both forward and aft hinge locations.
 - (2) Ensure hinge pins (7) are locked in place.

3. Upper Cowling Door Lock Assembly Removal/Installation

- A. Remove the Upper Cowling Door Lock Assembly.
- (1) Remove the Upper Cowling Door (Refer to Figure 201).
 - (2) Remove the nut, spacer, bolt and pin from the back of the lock assembly.
 - (3) Remove the key lock assembly from the upper cowling.
- B. Install the Upper Cowling Door Lock Assembly.
- (1) Position lock assembly through opening outside of upper cowling.
 - (2) Assemble the lock as follows:

CAUTION: Do not use too much Loctite 242 adhesive or it could get into the lock and ruin it.

 - (a) Put one drop of Loctite 242 on nut threads.
 - (b) Install spacer and nut on the lock assembly; tighten nut.
 - (c) Put one drop of Loctite 242 on bolt threads.
 - (d) Install pin and bolt on the lock assembly; tighten bolt.
 - (3) Install the Upper Cowling Door (Refer to Figure 201).
 - (4) Turn the key and lock to make sure that the pin engages and locks the cowling correctly.

4. Rub Strip Removal/Installation

NOTE: This procedure is intended for Airplanes 20800130 and On and 20800001 thru 20800129 incorporating SK208-47 and Airplanes 208B0068 and On and 208B0001 thru 208B0067 incorporating SK208-47.

NOTE: Removal and installation procedures are typical for all rub strips.

- A. Remove Rub Strip (Refer to Figure 201).
- (1) Remove existing rivets. Refer to Model 208 Series Structural Repair Manual, Chapter 51, Standard Practices and Structures - General.
 - (2) Remove rub strip.
- B. Install Rub Strip (Refer to Figure 201).
- (1) Clean existing adhesive from upper cowling door. Refer to Chapter 20, General Solvents/Cleaners - Maintenance Practices.
 - (2) Secure new rub strip to upper cowling door using temporary sheet metal fasteners.
 - (3) Match drill Number 30 (0.125 inch diameter) holes through rub strip.
 - (4) Countersink rub strip hole locations to 0.125 inch diameter X 100 degrees.
 - (5) Remove rub strip and debur holes.

- (6) Apply EA9309.3NA Adhesive to rub strip.
- (7) Install rub strip using MS20426AD4 rivets as required.
- (8) Clean excess adhesive from parts. Refer to Model 208 Series Structural Repair Manual, Chapter 51, Standard Practices and Structures - General.

5. Cowling Center Panel Removal/Installation

- A. Remove Cowling Center Panel (Refer to Figure 201).
 - (1) Remove cowling center panel (2) by disengaging quarter-turn fasteners (32) at forward and aft ends of panel. Disengage quarter-turn fasteners (32) by rotating counterclockwise.
- B. Install Cowling Center Panel. (Refer to Figure 201).
 - (1) Position cowl center panel to airplane and secure fasteners (32) at forward and aft ends of panel.

6. Lower Cowl Panel Removal/Installation

- A. Remove Lower Cowl Panel (Refer to Figure 201).
 - (1) Remove left (1) and right (3) upper cowling doors. Refer to Upper Cowling Door Removal/Installation.
 - (2) Remove quick-release pin (21), washer (20), and clevis pin (18) to release lower cowl support (19) and remove lower left cowl panel (16).
 - (3) Disconnect the starter/generator oil drain line at the secondary exhaust stack connection on the lower right cowl panel (15). Refer to Chapter 78, Primary and secondary Exhaust Duct - Maintenance Practices.
 - (4) Disconnect the oil breather vent hose from the secondary exhaust stack on the lower right cowl panel (15) . Refer to Chapter 71, Engine Oil Breather Vent Line Assembly - Maintenance Practices.
 - (5) Remove drag link spring fairing right removable panel. Refer to Chapter 32, Nose Landing Gear - Maintenance Practices.

NOTE: Drag link spring fairing removable panel is integral with lower left cowl panel (16) and removed as a unit.

- (6) Ensure lower left cowl panel is supported, then disengage by rotating fasteners (32) counterclockwise at forward and aft ends of lower left cowl panel (16). Remove lower left cowl panel (16) from airplane.

NOTE: Secondary exhaust stack is attached to the lower right cowl panel (15) with screws (forward) and attach brackets (aft). Exhaust stack can remain attached to lower right cowl panel during removal.

- (7) Ensure lower right cowl panel (15) is supported. Disengage quarter- turn fasteners (32) at forward and aft ends of lower right cowl panel (15). Remove lower right cowl (15) from airplane.

- B. Install Lower Cowl Panels.

NOTE: Lower right cowl panel (15) must be installed prior to installing lower left cowl panel (16).

- (1) Support lower right cowl panel (15) and install by rotating quarter-turn fasteners (32) clockwise on forward and aft ends of panel.
- (2) Support lower left cowl panel (16) and install by rotating quarter-turn fasteners (32) clockwise on forward and aft ends of panel.
- (3) Align lower cowl support (19) holes with mounting bracket (28) and secure using clevis pin (18), washer (20), and quick-release pin (21).
- (4) Connect oil breather hose and starter/generator oil drain line at exhaust stack connections on lower right cowl panel (15). Tighten retaining clamps.
- (5) Install drag link spring fairing right removable panel. Refer to Chapter 32, Nose Landing Gear - Maintenance Practices.
- (6) Install left (1) and right (3) upper cowling doors. Refer to Upper Cowling Door Removal/Installation.

7. Nose Cap Removal/Installation

- A. Remove Nose cap. (Refer to Figure 201).

NOTE: Right nose cap half (30) can be removed from airplane without further equipment removal; however, left nose cap half (29), induction air duct (26) and inertial separator (25) are assembled as a single unit. Removal of this assembly requires removal of left lower cowl section (16) and left

cowl bulkhead (23).

- (1) Disengage right nose cap half (30) quarter-turn fasteners (32) on upper and lower centerline of nose cap. Remove right nose cap half (30) from airplane.
- (2) Remove left (1) and right (3) upper cowling doors. Refer to Upper Cowling Door Removal/Installation.
- (3) Remove cowling center panel (2). Refer to Cowling Center Panel Removal/Installation.
- (4) Remove lower left (16) and lower right (15) cowl panels. (Refer to Figure 201).
- (5) Disengage quarter-turn fasteners (32) securing right cowl bulkhead (22) to left cowl bulkhead (23). Remove bulkheads from airplane.
- (6) Remove bolt (33), washers (34) and (35), and nut (36) to detach actuator tube (37) from actuating link (38).
- (7) Remove bolts (39) and (41), washers (40) and (42), and nut (44) to detach actuator plate (43) from induction air plenum.
- (8) Secure actuator plate (43) to inertial separator (25) using tape or other suitable method.

CAUTION: Ensure actuator plate (43) is secured to inertial separator (25) to avoid the possibility of damage during removal.

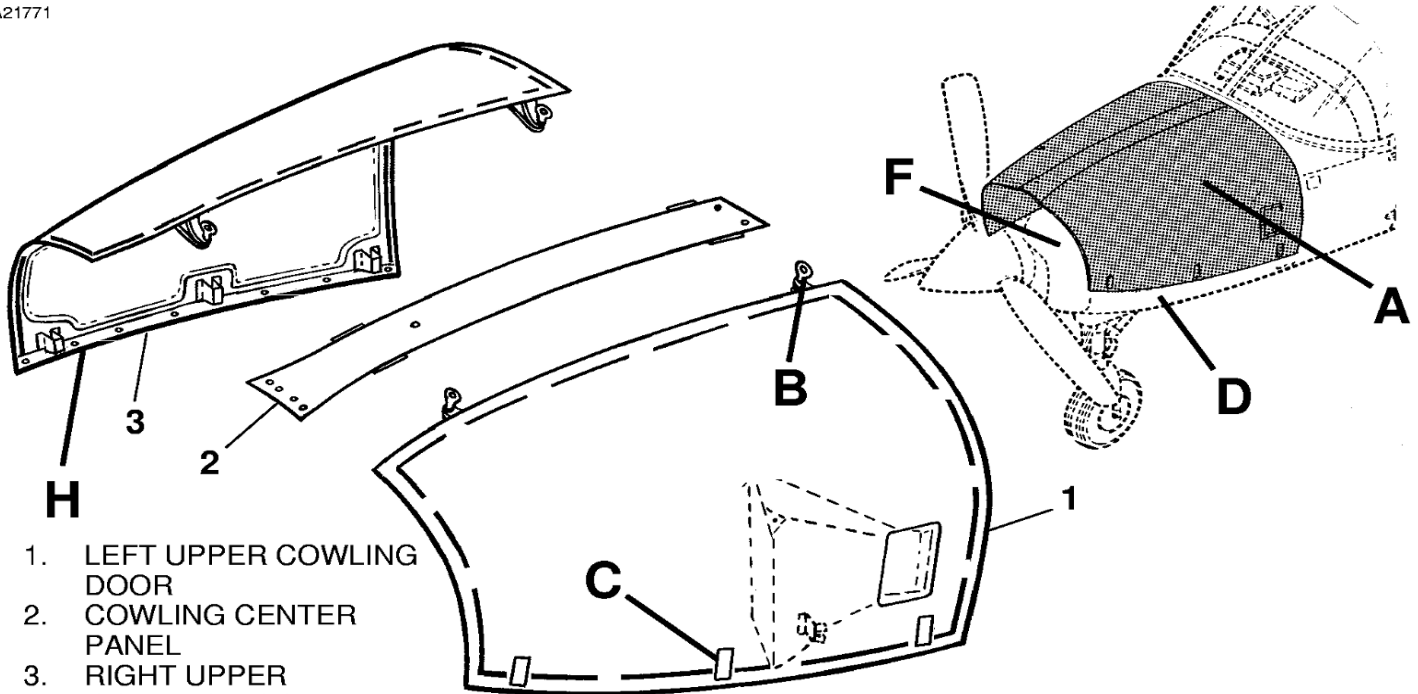
- (9) Remove nuts and bolts (27) securing forward section of left nose cap half (29) to mounting bracket (28). With assembly supported, remove hinge pins (24) from forward, aft, and top surfaces of inertial separator (25). Remove assembly from airplane.

B. Install Nose cap (Refer to Figure 201).

- (1) With induction air duct and inertial separator (25) installed, support left nose cap half (20) in position. Align nose cap bracket mounting holes with bracket (28) and hinge halves of inertial separator (25). Align with hinge halves of induction air duct (26) and insert hinge pins (24).
- (2) For Airplanes 208B5000 and On, install the bolts, nuts, and between 3 and 6 washers between the nose cap assembly bracket and the mounting bracket as necessary for correct alignment of the nose cap.
- (3) Install bolts and nuts (27) and safety nuts.
- (4) Attach actuator plate (43) to induction air duct (26) using bolts (39) and (41), washers (40) and (42), and nuts (44).
- (5) Attach actuator tube (37) to actuator link (38) using bolt (33), washers (34) and (35), and nut (36).

Figure 201 : Sheet 1 : Cowling and Nose Cap Installation

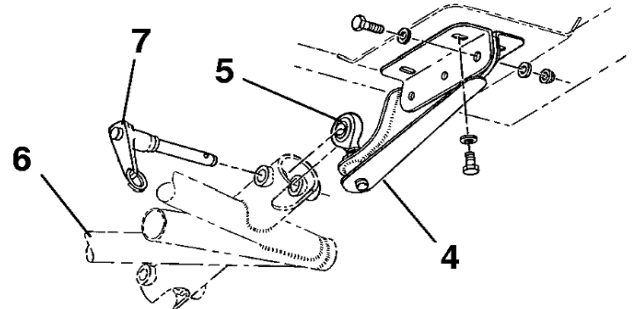
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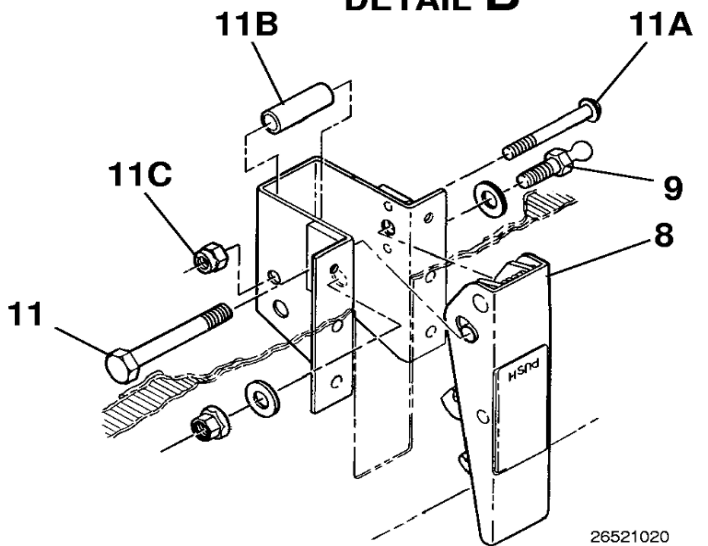
- 1. LEFT UPPER COWLING DOOR
- 2. COWLING CENTER PANEL
- 3. RIGHT UPPER COWLING DOOR
- 4. HINGE BRACKET
- 5. HINGE BEARING
- 6. CENTER ENGINE MOUNT TRUSS
- 7. HINGE PIN
- 8. LATCH HANDLE
- 9. BALL-STUD

DETAIL A

- 10. PIN
- 11. BOLT
- 11A. SCREW
- 11B. WASHER
- 11C. NUT



DETAIL B



AIRPLANES 20800001 THRU 20800081
EXCEPT AIRPLANES INCORPORATING SK208-19

DETAIL C

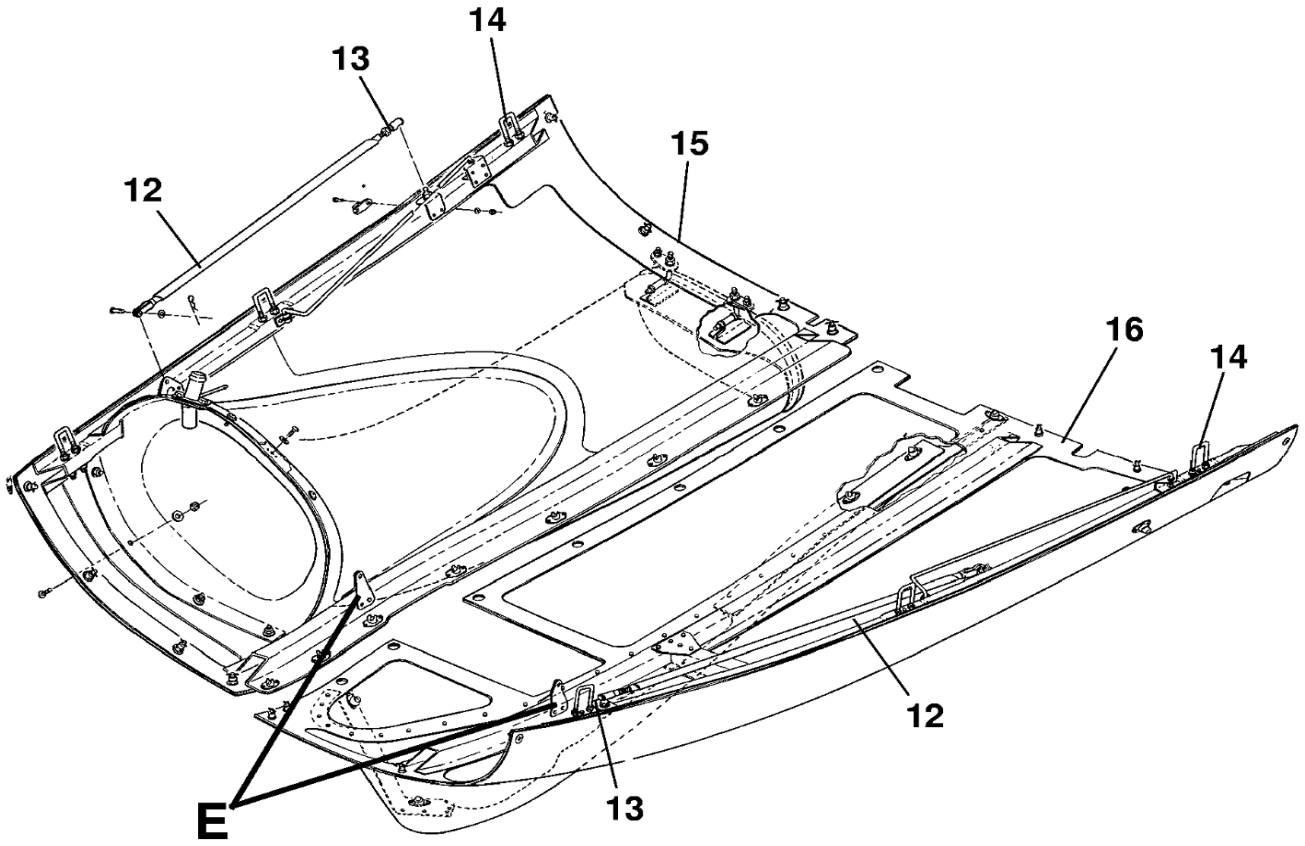
AIRPLANES 208B0001 AND ON,
20800082 AND ON AND
20800001 THRU 20800081 INCORPORATING SK208-19

DETAIL C

26521020
A26521001
B26521004
C26521002A
C26521002

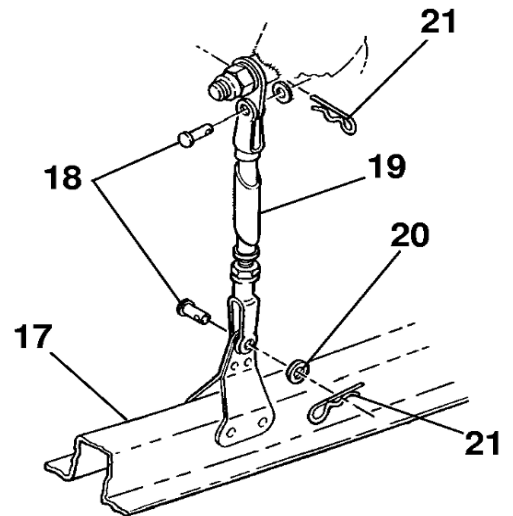
Figure 201 : Sheet 2 : Cowling and Nose Cap Installation

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DETAIL D

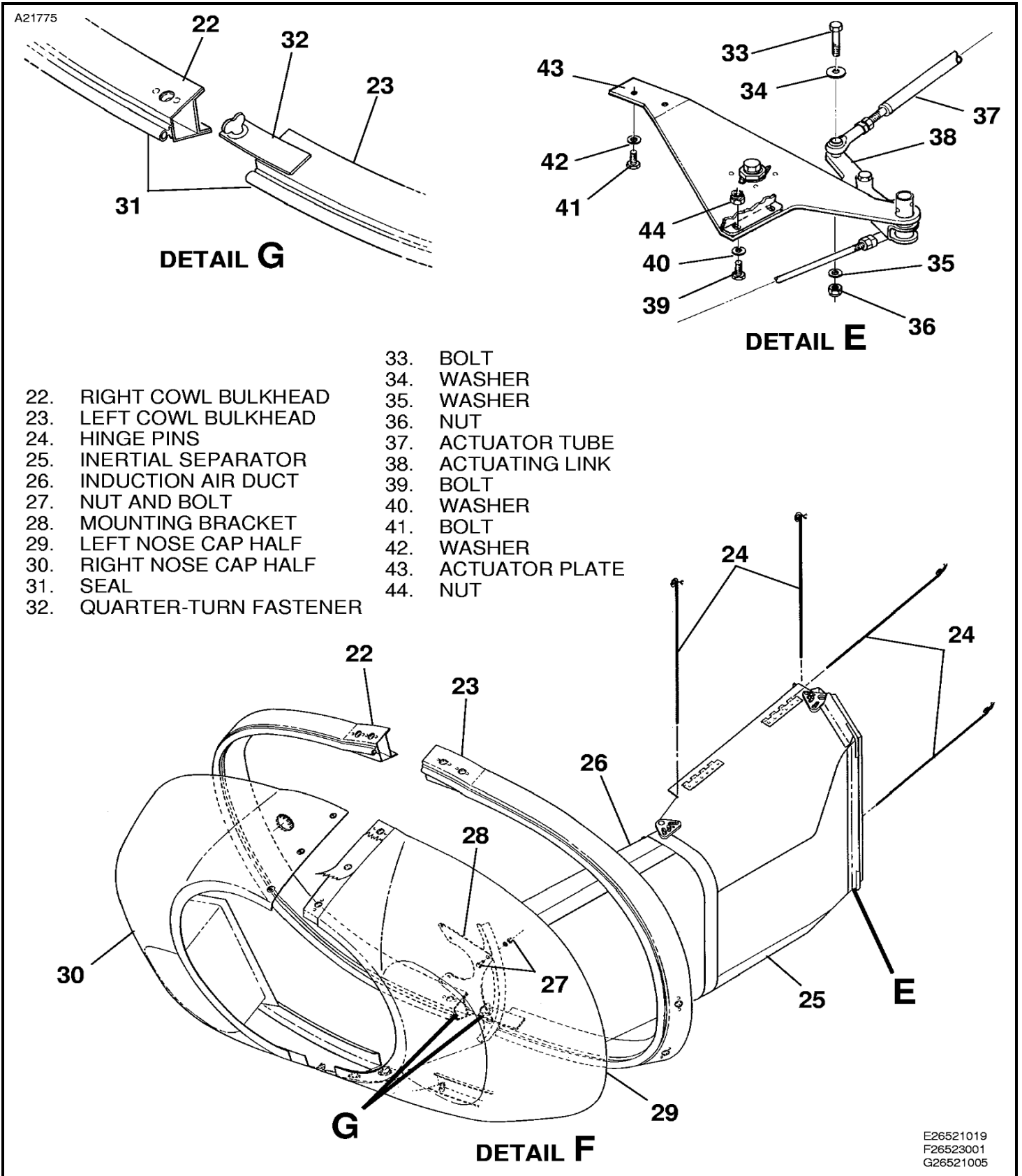
- 12. UPPER COWL DOOR SUPPORT
- 13. BALL JOINT QUICK DISCONNECT
- 14. LATCH U-BOLT
- 15. LOWER RIGHT COWL PANEL
- 16. LOWER LEFT COWL PANEL
- 17. CHANNEL
- 18. CLEVIS PIN
- 19. LOWER COWL SUPPORT
- 20. WASHER
- 21. QUICK-RELEASE PIN



DETAIL E

D26522003
E26521009

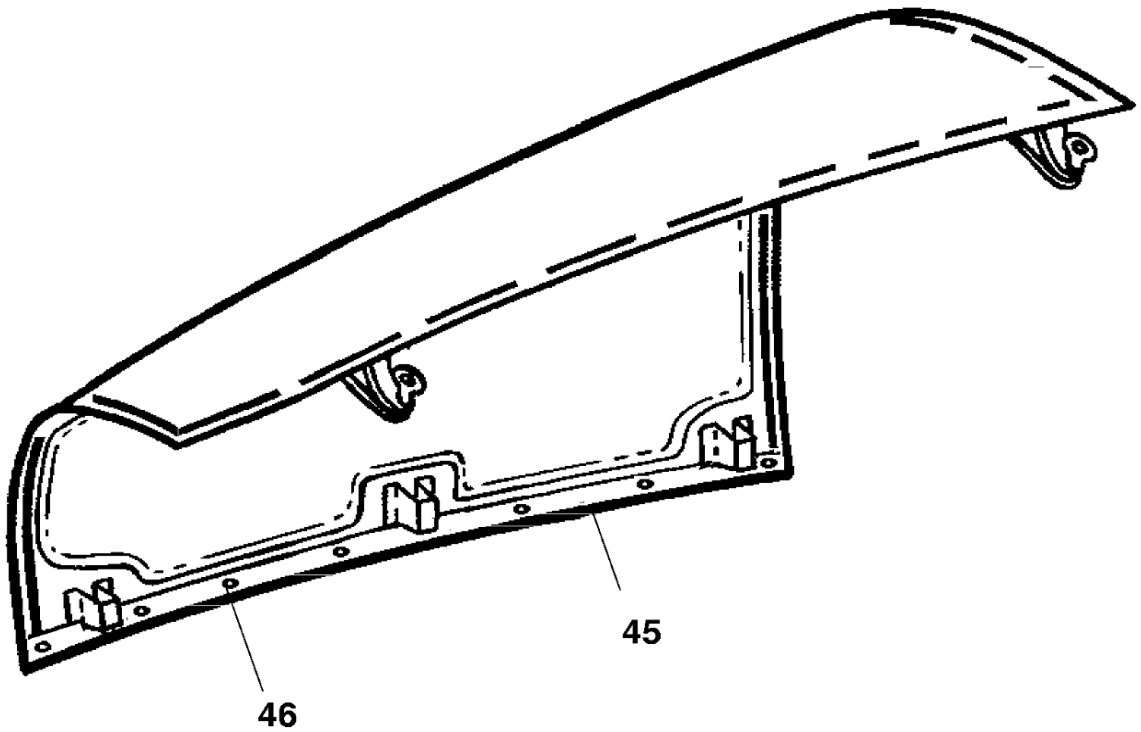
Figure 201 : Sheet 3 : Cowling and Nose Cap Installation



E26521019
F26523001
G26521005

Figure 201 : Sheet 4 : Cowling and Nose Cap Installation

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DETAIL H
TYPICAL RUB STRIP INSTALLATION

AIRPLANES 20800130 AND ON AND
20800001 THRU 20800129 INCORPORATING SK208-47 AND
AIRPLANES 208B0068 AND ON AND
208B0001 THRU 208B0067 INCORPORATING SK208-47

- 45. RUB STRIP
- 46. MS20426AD4 RIVET

NOTE: INSTALL RUB STRIP USING
EA9309.3NA ADHESIVE

26521001