



# *Service Bulletin* SB 2X-34-22 R2

Issued: 11 Aug 2006  
Revised: 18Nov 2008

Models SR20 and SR22

## ATA 34-10: Flight Environmental Data/Pitot-Static Systems Static Line Sump

### COMPLIANCE

Optional: Accomplishment of this Service Bulletin is at the owner's option.

This Service Bulletin has been revised to incorporate a change in length for the tee to bulkhead static tube. Operators who have successfully complied with the original release of this Service Bulletin, dated 11 Aug 2006, need take no further action.

### EFFECTIVITY

Cirrus Design SR20 serial numbers 1005 thru 1705.

Cirrus Design SR22 serial numbers 0002 thru 2036, 2038 thru 2042.

### APPROVAL

FAA approval has been obtained on all technical data in this Service Bulletin that affects type design.

### PURPOSE

To improve system performance when subjected to water intrusion, this Service Bulletin provides instructions to add a static line sump and replace the aft static lines.

### DESCRIPTION

This Service Bulletin contains instructions for the installation of a static line sump and replacement of aft static line.

### WARRANTY INFORMATION

Part and labor costs for this Service Bulletin are at the owner's expense.

### MANPOWER REQUIREMENTS

*Kit 70164-001*: 3.0 manhours.

*Kit 70164-002*: 3.2 manhours.

### OTHER PUBLICATIONS AFFECTED

SR20 Illustrated Parts Catalog (p/n 12138-001)

SR22 Illustrated Parts Catalog (p/n 13774-001)

SR20 Airplane Maintenance Manual (p/n 12137-001)

SR22 Airplane Maintenance Manual (p/n 13773-001)

### Cirrus Design Corporation

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**WEIGHT AND BALANCE**

N/A

**MATERIAL INFORMATION**

The following parts are required to comply with this Service Bulletin. Parts can be obtained from an Authorized Cirrus Design Service Center or Parts Distributor.

*Serials SR20-1005 thru 1422, Serials SR22-0002 thru 0794, 0796 thru 0819:* Order kit 70164-001 to obtain the following parts.

Item No.	Description	P/N or Spec.	Supplier	Quantity
1	Tube Coupling, Quick-Disconnect Insert, 1/8" NPT	51228-003	Cirrus Design	2
2	Fitting, Nylon, 1/8" x 1/4" Male Connector	50387-001	Cirrus Design	2
3	Fitting, Nylon, Male Branch Tee	50390-001	Cirrus Design	1
4	Tie Down, Tube Restraint	50132-001	Cirrus Design	12
5	Strap, Tiedown, Adjustable, Self-Clinching	MS3367-1-9	Cirrus Design	12
6	Spiral Wrap, Clear, 4"	50428-001	Cirrus Design	2
7	Nylon Insert, 1/4" O.D.	50928-025	Cirrus Design	4
8	Reducer Bushing	51815-001	Cirrus Design	2
9	Static Line Sump	18059-002	Cirrus Design	2
10	Elbow	AN916-1D	Cirrus Design	2
11	Tube Coupling, Quick-Disconnect, 1/8" NPT	51228-002	Cirrus Design	2
12	Static Tube, Port-to-Tee, 48"	70164-101	Cirrus Design	2

*Serials SR20-1423 thru 1705, Serials SR22-0795, 0820 thru 2036, 2038 thru 2042:* Order kit 70164-002 to obtain the following parts.

Item No.	Description	P/N or Spec.	Supplier	Quantity
1	Tube Coupling, Quick-Disconnect Insert, 1/8" NPT	51228-003	Cirrus Design	2
4	Tie Down, Tube Restraint	50132-001	Cirrus Design	12
5	Strap, Tiedown, Adjustable, Self-Clinching	MS3367-1-9	Cirrus Design	12
7	Nylon Insert, 1/4" O.D.	50928-025	Cirrus Design	2
9	Static Line Sump	18059-002	Cirrus Design	2
10	Elbow	AN916-1D	Cirrus Design	2
11	Tube Coupling, Quick-Disconnect, 1/8" NPT	51228-002	Cirrus Design	2
13	Fitting, Nylon, 3/8" To 1/4" Reducing Union	51837-001	Cirrus Design	1

Item No.	Description	P/N or Spec.	Supplier	Quantity
14	Fitting, Nylon, 3/8" x 1/4" Male Connector	51838-001	Cirrus Design	2
15	Nylon Insert, 3/8" O.D.	51836-001	Cirrus Design	6
16	Reducer Bushing	51815-002	Cirrus Design	2
17	Static Tube, Port-to-Tee, 27"	70164-102	Cirrus Design	2
18	Fitting, Nylon, 3/8" Union Tee	51839-001	Cirrus Design	1
19	Static Tube, Tee-to-Reducer, 2.5"	70164-103	Cirrus Design	1
20	Static Tube, Tee-to-Bulkhead, 130"	70164-104	Cirrus Design	1

### ACCOMPLISHMENT INSTRUCTIONS

- A. Remove key from ignition.
- B. Set BAT 1, BAT 2, and AVIONICS switches to OFF positions.
- C. Acquire necessary tools, equipment, and supplies.

Description	P/N or Spec.	Supplier	Purpose
Drill Bit	0.040 inch	Any Source	Drill
Static Port Template (optional)	T7409	Cirrus Design	Drill
Dry Compressed Air	-	Any Source	Clean
Loctite® No More Leaks White Pipe Sealant	80724	Henkel Surface Technologies Madison Heights, MI 48071 248-583-9300	Adhesion
Isopropyl Alcohol	TT-I-735 Grade A or B	Any Source	Clean
Cotton Cloth (clean, white, lint free)	-	Any Source	Clean
Epoxy Adhesive	5-Minute Epoxy	Devcon Danvers, MA 01923 800-933-8266	Bond

- D. *For kit 70164-001:* Remove the aft bulkhead lower carpeting. (Refer to AMM 25-10)
- E. *For kit 70164-001:* Remove CB6 access panel. (Refer to AMM 53-20)
- F. *For kit 70164-002:* Remove RE3 access panel. (Refer to AMM 6-00)
- G. *For kit 70164-002:* Remove passenger seats. (Refer to AMM 25-10)
- H. *For kit 70164-002:* Remove baggage floor and rear seat carpeting. (Refer to AMM 25-10)
- I. *For kit 70164-002:* Remove access panels CF5, CF4L, and CF3L. (Refer to AMM 6-00)
- J. Remove aft static line. (Refer to AMM 34-10)
  1. At LH and RH static ports, remove pipe-to-flare fittings securing static line to static ports.

2. *For kit 70164-001:* Disconnect tee from elbow fitting at base of bulkhead 222.
  3. *For kit 70164-002:* At access panels CF5, CF4L, and CF3L, locate existing tube beneath baggage floor extending forward from bulkhead 222 pass-through hole. Remove tie-downs securing tube to baggage floor.
  4. *For kit 70164-002:* At access panel CF3L, disconnect static tube from tee union. Remove nylon insert from static line to slide off connector. Retain tee union connector.
  5. *For kit 70164-002:* At aft bulkhead 222, pull tube section aft.
  6. At aft section of bulkhead 222, remove tie-downs securing static line to bulkhead. Remove disconnected portion of static line assembly from airplane.
- K. Modify static ports. (See Figure 01), (See Figure 02)
1. If using static port template:
    - a. At static port, position static port template flush to center hole on static port.  
**CAUTION:** To prevent damage to static port threads, do not drill deeper than 1/8 inch.
    - b. Using 0.040 inch drill bit, drill at upper and lower template holes.
  2. If not using static port template:
    - a. At static port, measure 0.146 inch (0.371 mm) vertically down from center hole, then mark.
    - b. Measure 0.146 inch (0.371 mm) vertically up from center hole, then mark.  
**CAUTION:** To prevent damage to static port threads, do not drill deeper than 1/8 inch.  
  
Ensure drill bit paths remain aligned with existing hole throughout drilling modification.
    - c. Using 0.040 inch drill bit, drill at each marked location at a depth of 1/8 inch.
  3. Repeat static port modification on opposite side of airplane.
  4. Use dry compressed air to remove debris from static ports.
- L. *For kit 70164-001:* Replace aft static line. (See Figure 01)
- CAUTION:** Apply thread sealant to all male pipe thread fittings prior to assembly. It is not necessary to apply sealant to compression fittings.
- Note:** To facilitate installation aft of bulkhead, pre-assemble static line sump.
1. Preassemble static line sump.
    - a. Install tube coupling (item 11) to elbow (item 10).
    - b. Install elbow to static line sump (item 9).
    - c. Install static line sump to reducer bushing (item 8).
    - d. Install reducer bushing to male connector fitting (item 2).
    - e. Remove 1/4" connector from male connector fitting.
    - f. Slide back-side of connector over port-to-tee static tube (item 12).
    - g. Install nylon insert (item 7) into port-to-tee static tube end.
    - h. Connect port-to-tee static tube connector to male connector fitting (item 2).
    - i. Repeat for opposite static line sump.
  2. Install static line sump.
    - a. Aft of bulkhead 222, install tube coupling insert (item 1) to static port.

- b. Position tube coupling-end of static line sump assembly to static port. Connect tube coupling (item 11) to tube coupling insert.
- c. Repeat for opposite static port.
3. Route port-to-tee static tubes curved up and inboard, then down along LH and RH side of bulkhead 222.

**Note:** If necessary, trim length of port-to-tee static tubes to facilitate installation.

4. To prevent chafing, install spiral wrap (item 6) at end of port-to-tee static tubes where contact with pass-through hole edges will occur.
  5. Install branch tee (item 3) to existing static line elbow fitting.
  6. Remove side connectors from branch tee.
  7. Slide back-side of connectors over both port-to-tee static tubes (item 12).
  8. Install nylon inserts (item 7) into both port-to-tee static tube ends.
  9. Connect port-to-tee static tube connectors to both branch tee side fittings.
- M. For kit 70164-002: Replace aft static line. (See Figure 02), (See Figure 03)

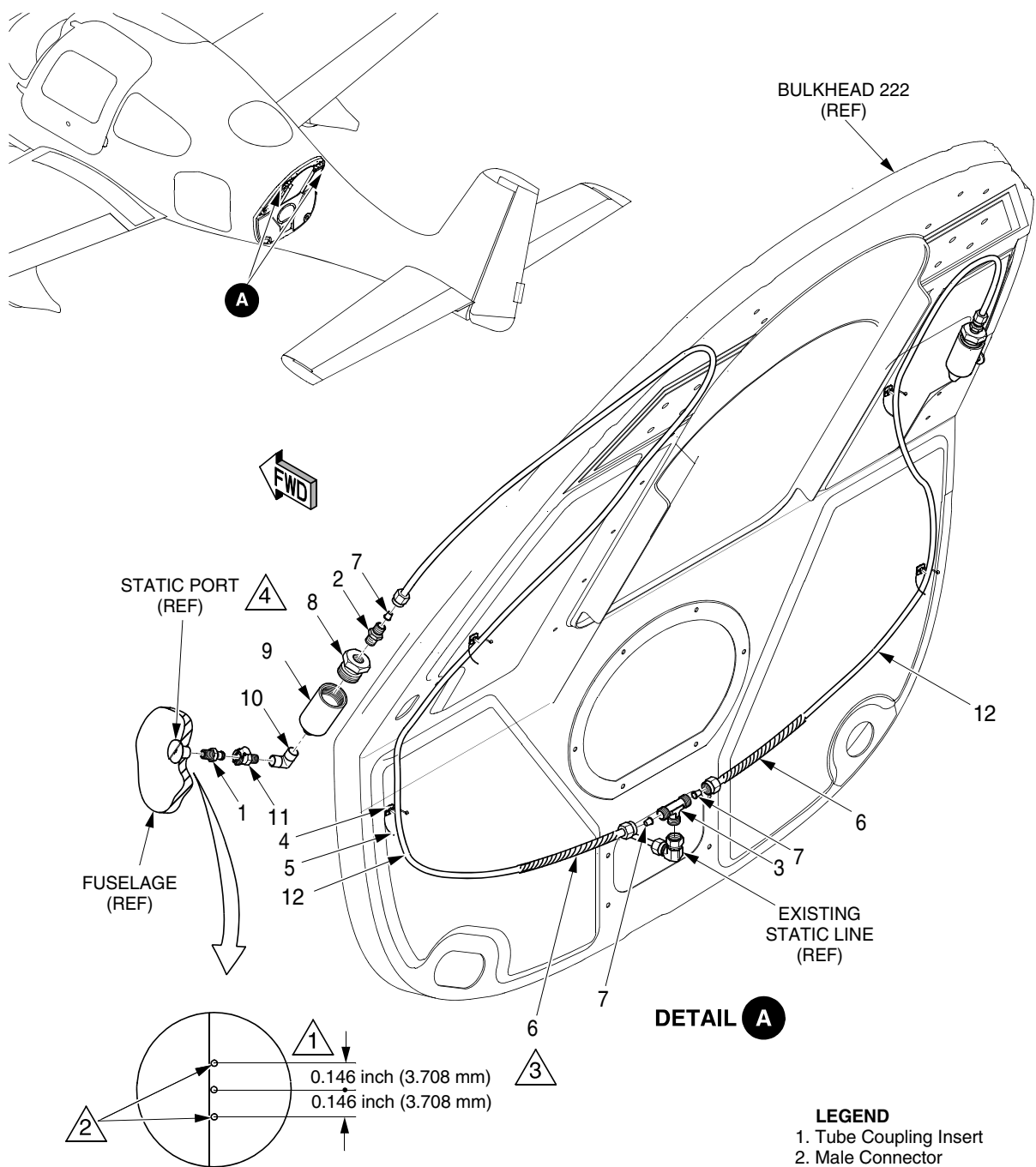
**CAUTION:** Apply thread sealant to all male pipe thread fittings prior to assembly. It is not necessary to apply sealant to compression fittings.

**Note:** To facilitate installation aft of bulkhead, pre-assemble static line sump.

1. Preassemble static line sump.
  - a. Install tube coupling (item 11) to elbow (item 10).
  - b. Install elbow to static line sump (item 9).
  - c. Install static line sump to reducer bushing (item 16).
  - d. Install reducer bushing to male connector fitting (item 14).
  - e. Remove 1/4" connector from male connector fitting.
  - f. Slide back-side of connector over port-to-tee static tube (item 17).
  - g. Install nylon insert (item 7) into port-to-tee static tube end.
  - h. Connect port-to-tee static tube connector to male connector fitting (item 14).
  - i. Remove side connector from union tee (item 18).
  - j. Slide back-side of connector over port-to-tee static tube (item 17).
  - k. Install nylon insert (item 15) into port-to-tee static tube end.
  - l. Connect port-to-tee static tube connector to union tee side fitting.
  - m. Repeat for opposite static line sump.
2. Preassemble static lines.
  - a. Remove upper connector from union tee (item 18).
  - b. Slide back-side of connector over tee-to-reducer static tube (item 19).
  - c. Install nylon insert (item 15) into tee-to-reducer static tube end.
  - d. Connect tee-to-reducer static tube connector to union tee upper fitting.
  - e. Remove 3/8" connector from reducing union fitting (item 13).
  - f. Slide back-side of connector over tee-to-reducer static tube (item 19).
  - g. Install nylon insert (item 15) into tee-to-reducer static tube end.
  - h. Connect tee-to-reducer static tube connector to reducing union fitting (item 13).
  - i. Remove 1/4" connector from reducing union fitting (item 13).
  - j. Slide back-side of connector over tee-to-bulkhead static tube (item 20).

- k. Install nylon insert (item 7) into tee-to-bulkhead static tube end.
- l. Connect tee-to-bulkhead static tube connector to reducing union fitting (item 13).
3. Install static line sump.
  - a. Aft of bulkhead 222, install tube coupling insert (item 1) to static port.
  - b. Position tube coupling-end of static line sump assembly to static port. Connect tube coupling (item 11) to tube coupling insert.
  - c. Repeat for opposite static port.
4. Route tee-to-bulkhead static tube curved down along LH side of bulkhead 222, then forward through lower LH grommet pass-through hole.

**Note:** If necessary, trim length of bulkhead static tube to facilitate installation.
5. Route tee-to-bulkhead static tube to access panel CF3L.
6. Slide back-side of connector retained during removal of static line over tee-to-bulkhead static tube.
7. Install nylon insert (item 7) into tee-to-bulkhead static tube end.
8. Install tee-to-bulkhead static tube connector to existing static line tee union.
- N. Secure replacement static lines.
  1. Verify static lines are routed such that all other systems operate free and clear of the static lines.
  2. Verify there are no sharp bends or kinks in the static lines.
  3. Solvent clean tie-down installation areas with isopropyl alcohol. (Refer to AMM 20-30)
  4. Position tie-downs (item 4) where required and secure with epoxy adhesive.
  5. Install straps (item 5) securing replacement static lines to tie-downs.
- O. Perform Functional Test - Static System Leak Test. (Refer to AMM 34-10)
- P. *For kit 70164-002:* Install access panels CF5, CF4L, and CF3L. (Refer to AMM 6-00)
- Q. *For kit 70164-002:* Install baggage floor and rear seat carpeting. (Refer to AMM 25-10)
- R. *For kit 70164-002:* Install passenger seats. (Refer to AMM 25-10)
- S. *For kit 70164-002:* Install RE3 access panel. (Refer to AMM 6-00)
- T. *For kit 70164-001:* Install CB6 access panel. (Refer to AMM 53-20)
- U. *For kit 70164-001:* Install the aft bulkhead lower carpeting. (Refer to AMM 25-10)
- V. Complete airplane records by noting compliance with SB 2X-34-22 R2 in Aircraft Logbook.



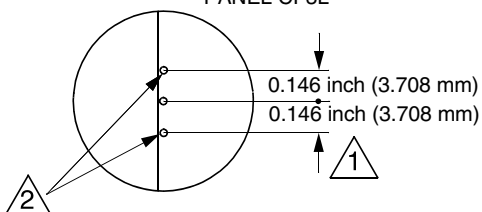
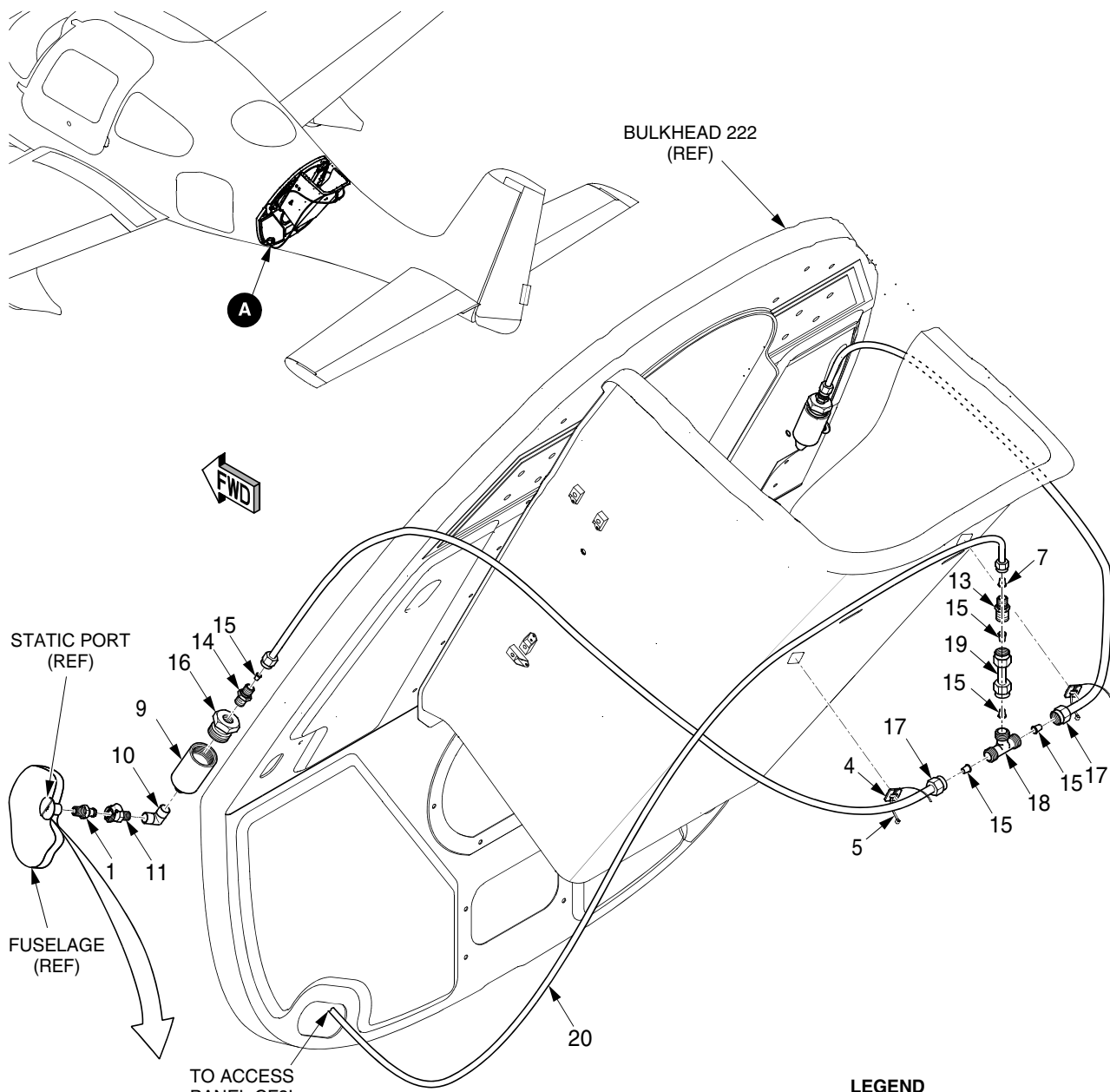
**NOTE**

- 1 At static port, measure 0.146 inch (3.708 mm) vertically down from center hole, then mark. Repeat vertically up from center hole.
- 2 Using 0.040 drill bit, drill at each marked location at a depth of 1/8 inch.
- 3 To prevent chafing, install spiral wrap at end of port-to-tee static tubes where contact with pass-through hole edges will occur.
- 4 Apply thread sealant to all male pipe thread fittings prior to assembly. It is not necessary to apply sealant to compression fittings.

- LEGEND**
- 1. Tube Coupling Insert
  - 2. Male Connector
  - 3. Branch Tee
  - 4. Tie Down
  - 5. Strap
  - 6. Spiral Wrap
  - 7. Nylon Insert, 1/4"
  - 8. Reducer Bushing
  - 9. Static Line Sump
  - 10. Elbow
  - 11. Tube Coupling
  - 12. Static Tube, Port-to-Tee

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**Figure 01 - Aft Static Line Upgrade (Kit 70164-001)**



**NOTE**

1 At static port, measure 0.146 inch (3.708 mm) vertically down from center hole, then mark. Repeat vertically up from center hole.

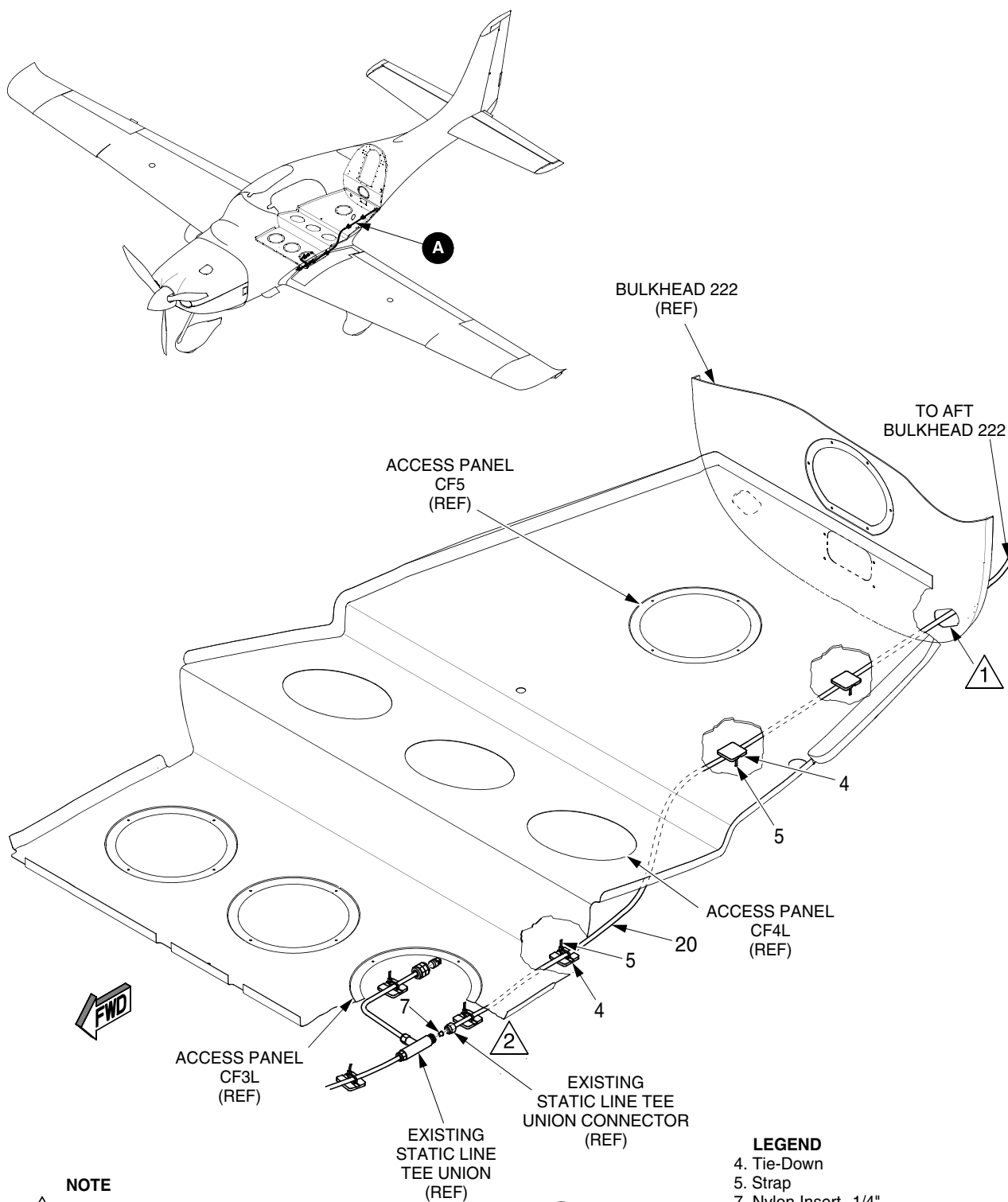
2 Using 0.040 inch drill bit, drill at each marked location at a depth of 1/8 inch.

**LEGEND**

- 1. Tube Coupling Insert
- 4. Tie Down
- 5. Strap
- 7. Nylon Insert, 1/4"
- 9. Static Line Sump
- 10. Elbow
- 11. Tube Coupling
- 13. Reducing Union
- 14. Male Connector
- 15. Nylon Insert, 3/8"
- 16. Reducer Bushing
- 17. Static Tube, Port-to-Tee
- 18. Union Tee
- 19. Static Tube, Tee-to-Reducer
- 20. Static Tube, Tee-to-Bulkhead

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**Figure 02 - Aft Static Line Upgrade (Kit 70164-002)**



**NOTE**

1 Route tee-to-bulkhead static tube down along RH side of bulkhead 222, then forward through lower LH grommet pass-through hole.

2 If necessary, trim length of tee-to-bulkhead static tube to facilitate installation.

**DETAIL A**

**LEGEND**

4. Tie-Down  
5. Strap  
7. Nylon Insert, 1/4"  
20. Static Tube, Tee-to-Bulkhead

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**Figure 03 - Aft Static Line Routing (Kit 70164-002)**