# TKS ANTI-ICE SYSTEM - MAINTENANCE PRACTICES
## (Fairing Installation)

## 1. General

A. This section contains the removal and installation procedures for the TKS fluid tank, fluid tank components, filters assembly, and the accessory bracket.

B. The equipment pack includes the Drain Shut Off Valve, Timer Box, Windshield Pump, Check valves, the Solenoid Valve, a Pressure Switch and a Strainer.

C. The filter assembly is installed in the right side of the fairing, aft of the fluid tank assembly.

D. When you remove and install or replace a TKS fluid tank, it is necessary to do the porous panel purge and test procedure. Refer to TKS Leading Edge Porous Panel - Adjustment/Test.

E. When you remove and install, or replace a TKS fluid tank, you can calibrate the fluid level sender, if necessary. Refer to TKS Anti-Ice System - Adjustment/Test TKS Level Sender Calibration.

F. For the removal and installation and test procedures for the tail bracket assembly (low pressure switches), refer to TKS Anti-Ice Fluid Distribution System - Maintenance Practices.

G. Recommended maintenance to make sure that the TKS system operates correctly is as follows:

- Operate the metering pumps each month, or when necessary, in the HIGH mode to remove the air from the fluid system.
- When you remove and install, or replace a TKS fluid tank, do the porous panel purge and test procedures.

## 2. Tools and Equipment

A. For a list of tools and equipment, (Refer to Ice and Rain Protection - General).

B. For the torque values for aluminum alloy and stainless steel fittings on nylon tubing refer to Table 201.

**CAUTION: Do not use the coupling nut to clench the olive to the fluid tubing. Use only specified clenching tools to do the clenching operation. Also, do not torque the couplings too much during the repair or replacement procedure. If the couplings leak, install new seals as necessary.**

**CAUTION: Clench the olive to the tubing without a sealing ring in position. If you clench the olive with the sealing ring in position, you will prevent correct clench and the sealing ring will be unserviceable.**

***Table 201. Aluminum Alloy / Stainless Steel Fittings Torque Values***

| Aluminum Alloy / Stainless Steel Fittings on Nylon Tubing | |
|---|---|
| **Tube Outside Diameter (OD) in inches** | **Tightening Torque (Reference) (+10% or -10%) (lbf-in)** |
| 3/16 | 28 |
| 5/16 | 48 |
| 1/2 | 63 |

## 3. TKS Fairing Assembly Removal/Installation

**WARNING: For health and environmental data, review the applicable Safety Data Sheet (SDS).**

**WARNING: Slowly loosen the coupling that is connected to the component of the TKS system before you remove components. It is possible that the system continues to have pressure.**

**WARNING: If TKS fluid is spilled, immediately remove (clean) or contain all the TKS fluid. TKS fluid on the floor causes a dangerous condition.**

**WARNING: Before you operate the TKS system, put plastic sheets or absorbent cloths below the porous panels. This keeps the TKS fluid off the floor which helps prevent injury to personnel.**

**WARNING: TKS fluid is a hazardous material. You must discard all unwanted TKS fluid and/or dirty cloths in accordance with approved procedures.**

A. Remove the Aft Fairing (Refer to Figure 201).

(1) Remove external electrical power from the airplane.

(2) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.

(3) Disengage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(4) Put a support below the aft fairing before you remove the screws.

(5) Remove the screws that attach the aft fairing to the fore fairing.

(6) Remove the screws that attach the aft fairing to the airplane structure.

(7) Remove the aft fairing from the airplane.

B. Install the Aft Fairing

(1) Put the aft fairing in its position.

(2) Install the screws that attach the aft fairing to the airplane structure.

(3) Install the screws that attach the aft fairing to the forward faring.

(4) Engage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

C. Remove the Forward Fairing (Refer to Figure 201 and Figure 204).

(1) Remove the aft fairing. Refer to Remove the Aft Fairing in this section.

(2) Drain the fluid from the fluid tank. Refer to TKS Tank Fluid Removal in this section.

(3) If necessary, remove the filter assembly. Refer to Filter Assembly Removal/Installationin this section.

(4) If necessary, remove the accessory bracket. Refer to Accessory Bracket Assembly Removal/Installation in this section.

(5) If the accessory bracket and filter assembly are not removed do the steps that follow:

(a) Disconnect the accessory bracket wire harness from the tank wire harness.

(b) Loosen the clamp that attaches the fluid tank drain tube to the fluid tank.

(c) Remove the tube from the tank coupling.

(d) Slowly loosen the nuts that attaches a fluid tank supply tube to each of the two check valves.

(e) Remove the supply tubes from the check valves.

(f) Slowly loosen the nut that attaches the windshield pump discharge tube to the bulkhead coupling.

(g) Remove the windshield pump discharge tube from the bulkhead coupling.

(h) Slowly loosen the nut that attaches the filter assembly discharge tube to the bulkhead unequal tee coupling.

(i) Remove the filter assembly discharge tube from the bulkhead unequal tee coupling.

(j) Put caps on all openings and tube ends to keep FOD out of the fluid system.

(6) Disconnect the coaxial connectors from the transponder antenna(s).

(7) Remove the sump control cable from the fairing

(8) Remove the sump tube from the fairing.

(9) Remove the shroud drain tube from the fairing.

(10) Remove the fairing and cover from around the nose gear.

(11) Put a support below the forward fairing before you remove the screws.

(12) Remove the screws that attach the forward fairing to the airplane structure.

(13) Using a thin nonmetallic scrapper, select a location at the left forward edge and a location at the right forward edge of the cargo pod where a fuselage internal structural member exists, and perforate the seal between the fuselage and pod.

(14) Using two 6 to 8 foot lengths of 0.032 stainless steel safety wire, fabricate a seal cutting tool by twisting the two pieces of wire together using safety wire pliers.

(15) Feed one end of the seal cutting tool through the two existing perforations on each side of the fairing.

(16) With one person inside the pod and a second on the other side of the forward fairing, wrap the cutter wire at both ends around a block of wood or similar tool to serve as handles and begin sawing through the seal.
  (a) Insert wooden tongue depressors, or similar tool, between fuselage and forward fairing at 1 to 2 foot increments to prevent the seal from reattaching.

(17) Remove fairing from the fuselage.

(18) Carefully remove unwanted sealant from the fairing and fuselage.

D. Install the Forward Fairing (Refer to Figure 201 and Figure 204).

(1) Put the forward fairing in its position.

(2) Apply sealant tape to the fairing flange.

(3) Install the screws that attach the forward fairing to the airplane structure.

(4) Seal fairing flange edge to fuselage with Type I Class B sealant.

(5) Install the nose gear cover.
  (a) Seal cover to fuselage, nose gear spring, and fairing with Type VIII, Class B sealant.

(6) Install the nose gear fairing.

(7) Install the sump control cable in the fairing

(8) Install the sump tube in the fairing.

(9) Install the fuel shroud drain tube.
  (a) Seal the drain tube with Type I Class B sealant inside and outside the fairing.

(10) If necessary, install the accessory bracket. Refer to Accessory bracket Removal/Installation in this section.

(11) If necessary, install the filter assembly. Refer to Filter Assembly - Removal/Installation in this section.

(12) If the accessory bracket and filter assembly were not removed do the steps that follow:
  (a) Connect the accessory bracket wire harness to the tank electrical connector.
    1 Attach the wire harness to appropriate locations with tie wraps.
  (b) Remove the caps on all the openings and tube ends of the fluid system.
  (c) Put the drain tube in its position on the tank coupling.
  (d) Tighten the clamp that attaches the fluid tank drain tube to the fluid tank.
  (e) Put the supply tubes in their position on the check valves with new seals.
  (f) Slowly tighten the nuts that attaches a fluid tank supply tube to each of the two check valves.
    1 For the torque values for aluminum alloy and stainless steel fittings on nylon tubing refer to Table 201.
  (g) Put the windshield discharge tube in its position on the bulkhead coupling with a new seal.
  (h) Slowly tighten the nut that attaches the windshield pump discharge tube to the bulkhead coupling.
  (i) Put the filter assembly discharge tube in its position on the bulkhead unequal tee coupling with a new seal.
  (j) Slowly tighten the nut that attaches the filter assembly discharge tube to the bulkhead unequal tee coupling.

(13) Connect the coaxial connectors to the two Transponder antennas.

(14) Do the fluid tank servicing if necessary. Refer to Chapter 12, TKS Anti-Ice System - Servicing.

(15) Do a test of the TKS system. Refer to TKS Anti-Ice System - Adjustment/Test.

(16) Install the aft fairing. Refer to Install the Aft Fairing in this section.

**4. TKS Fluid Removal**

**WARNING: For health and environmental data, review the applicable Safety Data Sheet (SDS).**

**WARNING: Slowly loosen the coupling that is connected to the component of the TKS system before you remove components. It is possible that the system continues to have pressure.**

**WARNING: If TKS fluid is spilled, immediately remove (clean) or contain all the TKS fluid. TKS fluid on the floor causes a dangerous condition.**

**WARNING: Before you operate the TKS system, put plastic sheets or absorbent cloths below the porous panels. This keeps the TKS fluid off the floor which helps prevent injury to personnel.**

**WARNING: TKS fluid is a hazardous material. You must discard all unwanted TKS fluid and/or dirty cloths. Refer to approved procedures.**

**CAUTION: Use only approved TKS fluids in accordance with specification DTD 406B. Fluid density is approximately 9.2 lbs/gal.**

**CAUTION: Use only clean, filtered fluid in the TKS system. Contamination will cause fluid blockage and/or damage to the porous panel.**

**CAUTION: Do not use the seals again after you loosen or disconnect a tube coupling. Replace the 3/16-inch and 5/16-inch sealing ring and/or 1/2-inch O-ring, if necessary, when you assemble a tube coupling. Examine the seal for damage and make sure that it is in the correct position in the coupling as shown in Figure 202. This will help to prevent fluid leakage from the coupling.**

**CAUTION: Do not use the coupling nut to clench the olive to the fluid tubing. Use only specified clenching tools to do the clenching operation. Also, do not torque the couplings too much during the repair or replacement procedure. If the couplings leak, install new seals as necessary.**

**CAUTION: Clench the olive to the tubing without a sealing ring in position. If you clench the olive with the sealing ring in position, you will prevent correct clench and the sealing ring will be unserviceable.**

A. Remove the Fluid (Refer to Figure 201 and Figure 202).

(1) Remove the aft fairing to get access to the fluid tank assembly. Refer to Remove the Aft Fairing in this section.

(2) Put a container with a capacity of approximately 3 to 5 gallons below the drain tube outlet.

**NOTE: If necessary, a longer drain tube can be temporarily connected to the drain outlet to prevent fluid spill. The longer drain tube causes the fluid to drain more quickly.**

(3) Remove the safety wire from the drain valve

(4) Push the lever to the open position on the drain valve to release the fluid.

(5) Pull the valve closed to stop the drain procedure.

(6) Safety the drain valve with wire.

(7) Refer to Chapter 12, TKS Anti-Ice System - Servicing for the servicing procedures.

**NOTE: You must calibrate the fluid level sender if the primary flight display (G1000) does not read zero when the TKS fluid tank is empty. Refer to TKS Anti-Ice System - Adjustment/Test, TKS Level Sender Calibration.**

(8) Install the aft fairing. Refer to Install the Aft Fairing in this section.

**5. Filter Assembly Removal/Installation**

**WARNING: For health and environmental data, review the applicable Safety Data Sheet (SDS).**

**WARNING: Slowly loosen the coupling that is connected to the component of the TKS system before you remove components. It is possible that the system continues to have pressure.**

**WARNING: If TKS fluid is spilled, immediately remove (clean) or contain all the TKS fluid. TKS fluid on the floor causes a dangerous condition.**

**WARNING: Before you operate the TKS system, put plastic sheets or absorbent cloths below the porous panels. This keeps the TKS fluid off the floor which helps prevent injury to personnel.**

**WARNING: TKS fluid is a hazardous material. You must discard all unwanted TKS fluid and/or dirty cloths. Refer to approved procedures.**

**CAUTION: Use only approved TKS fluids in accordance with specification DTD 406B. Fluid density is approximately 9.2 lbs/gal.**

**CAUTION: Use only clean, filtered fluid in the TKS system. Contamination will cause fluid blockage and/or damage to the porous panel.**

**CAUTION: Do not use the seals again after you loosen or disconnect a tube coupling. Replace the 3/16-inch and 5/16-inch sealing ring and/or 1/2-inch O-ring, as applicable, when you assemble a tube coupling. Examine the seal for damage and make sure that it is in the correct position in the coupling as shown in Figure 202. This will help to prevent fluid leakage from the coupling.**

**CAUTION: Do not use the coupling nut to clench the olive to the fluid tubing. Use only specified clenching tools to do the clenching operation. Also, do not torque the couplings too much during the repair or**

**replacement procedure. If the couplings leak, install new seals as necessary.**

**CAUTION: Clench the olive to the tubing without a sealing ring in position. If you clench the olive with the sealing ring in position, you will prevent correct clench and the sealing ring will be unserviceable.**

A. Remove the Filter Assembly (Refer to Figure 201 and Figure 202).
   (1) Remove external electrical power form the airplane.
   (2) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.
   (3) Disengage the circuit breakers on the left circuit breaker panel that follow:
      - PRIMARY ANTI-ICE
      - W/S ANTI-ICE
      - BACKUP ANTI-ICE.
   (4) Remove the aft fairing. Refer to Remove the Aft Fairing in this section.
   (5) Loosen the nut on filter input tube at the tee on the accessory bracket.
   (6) Drain fluid in bucket.
   (7) Slowly loosen the nut that attaches input manifold elbow to the filter assembly.
   (8) Remove the elbow from the filter assembly.
      **NOTE: Use the removed elbow if new filter assembly is installed.**
   (9) Slowly loosen the nut that attaches the output manifold elbow to the filter assembly.
   (10) Remove elbow from the filter assembly.
      **NOTE: Use the removed elbow if new filter assembly is installed.**
   (11) Put caps on all openings and tube ends to keep FOD out of the fluid system.
   (12) Remove the screws that attach the filter assembly to the inner wall of the fairing.
   (13) Remove the filter assembly from the fairing.
   (14) If you are to install a new filter, remove the filter from the bracket.

B. Install the Filter Assembly (Refer to Figure 201 and Figure 202).
   (1) If you are to install a new filter, install the filter on the bracket.
   (2) Put the filter assembly in its position on the inner wall of the fairing.
   (3) Install the screws that attach the filter assembly to the fairing.
   (4) Remove the caps from the tube ends.
   (5) Install new seals on the tubes and manifold elbows as shown in Figure 202.
   (6) Install the input manifold elbow if removed.
   (7) Put the input tube in its position on the input manifold elbow.
   (8) Slowly tighten the nut that attaches the tube to the input manifold elbow.
      (a) For the torque values for aluminum alloy and stainless steel fittings on nylon tubing refer to Table 201.
   (9) Install the output manifold elbow if removed.
   (10) Put the discharge tube in its position on the output manifold elbow.
   (11) Slowly tighten the nut that attaches the discharge tube to the output manifold elbow.
   (12) Engage the circuit breakers on the left circuit breaker panel that follow:
      - PRIMARY ANTI-ICE
      - W/S ANTI-ICE
      - BACKUP ANTI-ICE.
   (13) Do the fluid tank servicing if necessary. Refer to Chapter 12, TKS Anti-Ice System - Servicing.
   (14) Supply external electrical power to the airplane.
   (15) Put the EXTERNAL POWER switch (S17) on the circuit breaker switch panel to the BUS position.
   (16) Put the ANTI-ICE-FLUID CONTROL, PRIMARY switch (SI022) on the left switch panel to the HIGH position.
      (a) Make sure that there is no fluid leakage from the couplings.

(17) Purge air from the TKS system. Refer to TKS Anti-Ice Leading Edge Porous Panel - Adjustment/Test.

(18) Put the ANTI-ICE-FLUID CONTROL, PRIMARY switch on the left switch panel to the OFF position.

(19) Put the EXTERNAL POWER switch on the circuit breaker switch panel to the OFF position.

(20) Remove external electrical power from the airplane.

(21) Install the aft fairing. Refer to Install the Aft Fairing in this section.

**6. TKS Accessory Bracket Removal/Installation**

**WARNING: For health and environmental data, review the applicable Safety Data Sheet (SDS).**

**WARNING: Slowly loosen the coupling that is connected to the component of the TKS system before you remove components. It is possible that the system continues to have pressure.**

**WARNING: If TKS fluid is spilled, immediately remove (clean) or contain all the TKS fluid. TKS fluid on the floor causes a dangerous condition.**

**WARNING: Before you operate the TKS system, put plastic sheets or absorbent cloths below the porous panels. This keeps the TKS fluid off the floor which helps prevent injury to personnel.**

**WARNING: TKS fluid is a hazardous material. You must discard all unwanted TKS fluid and/or dirty cloths. Refer to approved procedures.**

**CAUTION: Use only approved TKS fluids in accordance with specification DTD 406B. Fluid density is approximately 9.2 lbs/gal.**

**CAUTION: Use only clean, filtered fluid in the TKS system. Contamination will cause fluid blockage and/or damage to the porous panel.**

**CAUTION: Do not use the seals again after you loosen or disconnect a tube coupling. Replace the 3/16-inch and 5/16-inch sealing ring and/or 1/2-inch O-ring, as applicable, when you assemble a tube coupling. Examine the seal for damage and make sure that it is in the correct position in the coupling as shown in Figure 202. This will help to prevent fluid leakage from the coupling.**

**CAUTION: Do not use the coupling nut to clench the olive to the fluid tubing. Use only specified clenching tools to do the clenching operation. Also, do not torque the couplings too much during the repair or replacement procedure. If the couplings leak, install new seals as necessary.**

**CAUTION: Clench the olive to the tubing without a sealing ring in position. If you clench the olive with the sealing ring in position, you will prevent correct clench and the sealing ring will be unserviceable.**

A. Remove the Accessory Bracket (Refer to Figure 201 and Figure 202).

(1) Remove the aft fairing. Refer to Remove the Aft Fairing in this section.

(2) Remove external electrical power from the airplane.

(3) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.

(4) Disengage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(5) Make sure that the fluid is drained from the fluid tank . Refer to TKS Fluid Removal in this section.

(6) Disconnect the electrical connector from the tank electrical harness.

(7) Slowly loosen the nut that attaches the outlet tube to the bulkhead unequal tee.

(8) Remove the tube from the T-fitting.

(9) Loosen the clamp that attaches the fluid tank drain tube to the strainer assembly.

(10) Remove the tube from the strainer.

(11) Slowly loosen the nuts that attach the fluid tank supply tubes to each of the two check valves.

(12) Remove the tube from each of the two check valves.

(13) Slowly loosen the nut that attaches the discharge tube to the windshield pump coupling.

(14) Remove the discharge tube from the windshield pump.

(15) Put caps on all openings and tube ends to keep FOD out of the fluid system.

(16) Remove the screws and washers that attach the accessory bracket to the bottom of the fairing.

(17) Remove the accessory bracket from the fairing.

B. Install the Accessory Bracket (Refer to Figure 201 and Figure 202).

(1) Put the accessory bracket in its position on the bottom of the fairing.

(2) Install the screws and washers that attach the accessory bracket to the fairing.

(3) Remove the caps from the tube ends.

(4) Install new seals in the couplings as shown in Figure 202.

(5) Put the tube in its position on the bulkhead unequal tee.

(6) Slowly tighten the nut that attaches the tube to the unequal tee.

(7) Put the drain tube in its position on the strainer.

(8) Slowly tighten the clamp that attaches the drain tube to the strainer.

(9) Put the tubes in their position on each of the two check valves.

(10) Slowly tighten the nut that attach the fluid tank supply tubes to each of the two check valves.

(11) Put the discharge tube in its position the windshield pump.

(12) Slowly tighten the nut that attaches the discharge tube to the windshield pump coupling.

(a) For the torque values for aluminum alloy and stainless steel fittings on nylon tubing refer to Table 201.

(13) Connect the electrical connector to the tank electrical harness.

(14) Engage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(15) Do the fluid tank servicing. Refer to Chapter 12, TKS Anti-Ice System - Servicing.

(16) Do a test of the TKS system. Refer to TKS Anti-Ice System - Adjustment/Test.

(17) Install the aft fairing. Refer to Install the Aft Fairing in this section.

## 7. TKS Fluid Tank Removal/Installation

**WARNING: For health and environmental data, review the applicable Safety Data Sheet (SDS).**

**WARNING: Slowly loosen the coupling that is connected to the component of the TKS system before you remove components. It is possible that the system continues to have pressure.**

**WARNING: If TKS fluid is spilled, immediately remove (clean) or contain all the TKS fluid. TKS fluid on the floor causes a dangerous condition.**

**WARNING: Before you operate the TKS system, put plastic sheets or absorbent cloths below the porous panels. This keeps the TKS fluid off the floor which helps prevent injury to personnel.**

**WARNING: TKS fluid is a hazardous material. You must discard all unwanted TKS fluid and/or dirty cloths. Refer to approved procedures.**

**CAUTION: Use only approved TKS fluids in accordance with specification DTD 406B. Fluid density is approximately 9.2 lbs/gal.**

**CAUTION: Use only clean, filtered fluid in the TKS system. Contamination will cause fluid blockage and/or damage to the porous panel.**

**CAUTION: Do not use the seals again after you loosen or disconnect a tube coupling. Replace the 3/16-inch and 5/16-inch sealing ring and/or 1/2-inch O-ring, as applicable, when you assemble a tube coupling. Examine the seal for damage and make sure that it is in the correct position in the coupling as shown in Figure 202. This will help to prevent fluid leakage from the coupling.**

**CAUTION: Do not use the coupling nut to clench the olive to the fluid tubing. Use only specified clenching tools to do the clenching operation. Also, do not torque the couplings too much during the repair or replacement procedure. If the couplings leak, install new seals as necessary.**

**CAUTION: Clench the olive to the tubing without a sealing ring in position. If you clench the olive with the sealing ring in position, you will prevent correct clench and the sealing ring will be unserviceable.**

A. Remove the Fluid Tank (Refer to Figure 201 and Figure 202).
   (1) Remove external electrical power from the airplane.
   (2) Put the BATTERY switch (SC005) on the circuit breaker switch panel, in the OFF position.
   (3) Disengage the circuit breakers on the left circuit breaker panel that follow:
      - PRIMARY ANTI-ICE
      - W/S ANTI-ICE
      - BACKUP ANTI-ICE.
   (4) Remove the forward and aft TKS fairings. Refer to TKS Fairing Assembly Removal/Installation in this section.
   (5) Make sure that the fluid is drained from the fluid tank . Refer to TKS Fluid Removal in this section.
   (6) Identify and disconnect the fluid tank electrical connectors from the airplane fuselage connector.
   (7) Remove floor covering. Refer to FLOOR COVERING/CONTROL COLUMN COVER - Maintenance Practices.
   (8) Remove floor panels, (232BC), (231DL), and (232BR). Refer to Chapter 6, Access Plates and Panels Identification - Description and Operation.
   (9) Loosen, but do not remove the filler tube clamp at the filler neck on the fluid tank.
      (a) Remove the filler tube from the filler neck.
   (10) Loosen, but do not remove the vent hose clamps at the necks on the fluid tank.
      (a) Remove the vent tubes from the vent necks.
   (11) Put caps on all openings and tube ends to keep FOD out of the fluid system.
   (12) Slowly loosen the nut that attaches the fluid tank supply tube to each of the two pump outlet tees.
      (a) Remove the tubes from each of the two pump outlet tees.
   (13) Put caps on all openings and tube ends to keep FOD out of the fluid system.
   (14) Put a support below the fluid tank before you remove the screws.
   (15) Remove the bottom screws from the fore, aft, left and right shear plates that attach the fluid tank to the fuselage structure.
   (16) Loosen the strap T-bolt on the forward strap assembly of the fluid tank.
   (17) Loosen the strap T-bolt on the aft strap assembly of the fluid tank.
   (18) Disconnect the forward and aft strap assemblies.
   (19) Carefully lower the fluid tank assembly.
   (20) Make sure that all openings and tube ends have caps installed.

B. Install the Fluid Tank (Refer to Figure 201 and Figure 202).
   (1) Remove the caps from the components that follow:
      - Pump outs
      - Drain tube
      - Filler neck
      - Vent neck.
   (2) Remove the caps from the vent tubes.
   (3) Carefully lift the fluid tank assembly.
      (a) Align the shear plates to the attach points.
   (4) Install the bottom screws that attach the fluid tanks fore, aft, left, and right shear plates to the airplane structure.
   (5) Put each of the two straps together with its related T-bolt.
   (6) Torque the T-bolt in each of the two tank straps to 20 inch-pounds (2.25 N-m).
   (7) Put the filler tube in its position on the filler neck of the fluid tank.
   (8) Wrap tape around the tube end.
   (9) Tighten the tube clamp that attaches the filler tube to the filler neck.
      (a) Make sure that the clamp is positioned on the filler tube tape before you tighten the clamp.

(10) Put the vent tubes in position on the vent necks of the fluid tank.

(11) Tighten the tube clamps that attach the vent tubes to the vent necks.

(12) Put the drain tube in its position on the strainer.

(13) Tighten the clamp that attaches the fluid tank drain tube to the strainer assembly.

(14) Put the supply tubes on each of the two pump outlet tees with new seals in their positions. Refer to Figure 202.

(15) Tighten the nuts that attach the supply tubes to each of the two pump outlet tees on the fluid tank.

(a) For the torque values for aluminum alloy and stainless steel fittings on nylon tubing refer to Table 201.

(16) Connect all the electrical connectors to the airplane fuselage connector.

(17) Install the forward fairing. Refer to Install the Forward Fairing in this section.

(18) Do the fluid tank servicing. Refer to Chapter 12, TKS Anti-Ice System - Servicing.

**NOTE: You must calibrate the fluid level sender if the primary flight display (G1000) does not read zero when the TKS fluid tank is empty. Refer to TKS Anti-Ice System- Adjustment/Test, TKS Level Sender Calibration.**

(19) Do a test of the fluid tank components. Refer to TKS Anti-Ice System - Adjustment/Test.

(20) Install the aft fairing. Refer to Install the Aft Fairing in this section.

(21) Install the access panels (232BC), (231DL), and (232BR). Refer to Chapter 6, Access Plates and Panels Identification - Description and Operation.

(22) Install the floor covering.

## 8. Metering Pump Assembly Removal/Installation

**WARNING: For health and environmental data, review the applicable Safety Data Sheet (SDS).**

**WARNING: Slowly loosen the coupling that is connected to the component of the TKS system before you remove components. It is possible that the system continues to have pressure.**

**WARNING: If TKS fluid is spilled, immediately remove (clean) or contain all the TKS fluid. TKS fluid on the floor causes a dangerous condition.**

**WARNING: Before you operate the TKS system, put plastic sheets or absorbent cloths below the porous panels. This keeps the TKS fluid off the floor which helps prevent injury to personnel.**

**WARNING: TKS fluid is a hazardous material. You must discard all unwanted TKS fluid and/or dirty cloths. Refer to approved procedures.**

**CAUTION: Use only approved TKS fluids in accordance with specification DTD 406B. Fluid density is approximately 9.2 lbs/gal.**

**CAUTION: Use only clean, filtered fluid in the TKS system. Contamination will cause fluid blockage and/or damage to the porous panel.**

**CAUTION: Do not use the seals again after you loosen or disconnect a tube coupling. Replace the 3/16-inch and 5/16-inch sealing ring and/or 1/2-inch O-ring, if necessary, when you assemble a tube coupling. Examine the seal for damage and make sure that it is in the correct position in the coupling as shown in Figure 202. This will help to prevent fluid leakage from the coupling.**

**CAUTION: Do not use the coupling nut to clench the olive to the fluid tubing. Use only specified clenching tools to do the clenching operation. Also, do not torque the couplings too much during the repair or replacement procedure. If the couplings leak, install new seals as necessary.**

**CAUTION: Clench the olive to the tubing without a sealing ring in position. If you clench the olive with the sealing ring in position, you will prevent correct clench and the sealing ring will be unserviceable.**

**NOTE: The removal and installation of metering pump 1 and metering pump 2 are typical.**

A. Remove the Metering Pump (Refer to Figure 201 and Figure 202).

(1) Remove external electrical power from the airplane.

(2) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.

(3) Disengage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE

- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(4) Remove the aft fairing. Refer to Remove the Aft Fairing in this section.

(5) Make sure that the fluid is drained from the fluid tank . Refer to TKS Fluid Removal in this section.

(6) If necessary, remove the accessory bracket to get access to the pump. Refer to TKS Accessory Bracket Removal/Installation in this section.

(7) Identify and disconnect the electrical connectors from the pump.

(8) Slowly loosen the nut that attaches the output tube to the pump outlet tee.

(9) Remove the tube from the pump.

(10) Put caps on all openings and tube ends to keep FOD out of the fluid system.

(11) Remove the screws that attach the pump to the fluid tank bracket.

(12) Remove the pump from the bracket.

B. Install the Metering Pump (Refer to Figure 201 and Figure 202).

(1) If installing the same pump that was removed, install new seals on the pump.

(2) Apply a light layer of TKS fluid on the seals between the fluid tank and the pump hose adapter.

(3) Put the pump in its position in the pump bracket.

(4) Install the screws that attach the pump to the fluid tank bracket.

(a) Make sure that the ground terminal is installed under one of the screws.

(5) Install the electrical connectors to the pump.

(6) Remove the caps from the tube ends.

(7) Install new seals in the couplings as shown in Figure 202.

(8) Put the output tube in its position on the pump.

(9) Tighten the nut that attaches the output tube to the pump.

(a) For the torque values for aluminum alloy and stainless steel fittings on nylon tubing refer to Table 201.

(10) If removed, install the accessory bracket. Refer to TKS Accessory Bracket Removal/Installation in this section.

(11) Engage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(12) Do the fluid tank servicing. Refer to Chapter 12, TKS Anti-Ice System - Servicing.

(13) Do a test of the pump. Refer to TKS Anti-Ice System - TKS Anti-Ice System, Do a Test of Metering Pump 1 and Do a Test of Metering Pump 2

(14) Install the aft fairing. Refer to Install the Aft Fairing in this section.

## 9. Windshield Pump Removal/Installation

**WARNING: For health and environmental data, review the applicable Safety Data Sheet (SDS).**

**WARNING: Slowly loosen the coupling that is connected to the component of the TKS system before you remove components. It is possible that the system continues to have pressure.**

**WARNING: If TKS fluid is spilled, immediately remove (clean) or contain all the TKS fluid. TKS fluid on the floor causes a dangerous condition.**

**WARNING: Before you operate the TKS system, put plastic sheets or absorbent cloths below the porous panels. This keeps the TKS fluid off the floor which helps prevent injury to personnel.**

**WARNING: TKS fluid is a hazardous material. You must discard all unwanted TKS fluid and/or dirty cloths. Refer to approved procedures.**

**CAUTION: Use only approved TKS fluids in accordance with specification DTD 406B. Fluid density is approximately 9.2 lbs/gal.**

**CAUTION: Use only clean, filtered fluid in the TKS system. Contamination will cause fluid blockage and/or damage**

**to the porous panel.**

**CAUTION: Do not use the seals again after you loosen or disconnect a tube coupling. Replace the 3/16-inch and 5/16-inch sealing ring and/or 1/2-inch O-ring, as applicable, when you assemble a tube coupling. Examine the seal for damage and make sure that it is in the correct position in the coupling as shown in Figure 202. This will help to prevent fluid leakage from the coupling.**

**CAUTION: Do not use the coupling nut to clench the olive to the fluid tubing. Use only specified clenching tools to do the clenching operation. Also, do not torque the couplings too much during the repair or replacement procedure. If the couplings leak, install new seals as necessary.**

**CAUTION: Clench the olive to the tubing without a sealing ring in position. If you clench the olive with the sealing ring in position, you will prevent correct clench and the sealing ring will be unserviceable.**

A. Remove the Windshield Pump (Refer to Figure 201 and Figure 202).
   (1) Remove external electrical power from the airplane.
   (2) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.
   (3) Disengage the circuit breakers on the left circuit breaker panel that follow:
      - PRIMARY ANTI-ICE
      - W/S ANTI-ICE
      - BACKUP ANTI-ICE.
   (4) Make sure that the fluid is drained from the fluid tank . Refer to TKS Fluid Removal in this section.
   (5) Remove the aft fairing. Refer to Remove the Aft Fairing in this section.
   (6) Identify and disconnect the electrical connector from the pump.
   (7) Slowly loosen the nut that attaches the supply tube to the pump.
   (8) Remove the supply tube from the pump.
   (9) Slowly loosen the nut that attaches the discharge tube to the pump coupling.
   (10) Remove the discharge tube from the pump.
   (11) Put caps on all openings and tube ends to keep FOD out of the fluid system.
   (12) Remove the screws and washers that attach the pump to the accessory bracket.
   (13) Remove the pump from the accessory bracket.

B. Install the Windshield Pump (Refer to Figure 201 and Figure 202).
   (1) Put the pump in its position on the accessory bracket.
   (2) Install the screws, washers, and spacers that attach the pump to the accessory bracket.
   (3) Connect the electrical connector to the pump.
   (4) Remove the caps from the tube ends.
   (5) Install new seals in the couplings as shown in Figure 202.
   (6) Put the supply hose in its position on the pump.
   (7) Tighten the pump coupling nut to attach the supply tube to the pump.
      (a) For the torque values for aluminum alloy and stainless steel fittings on nylon tubing refer to Table 201.
   (8) Put the discharge hose in its position on the pump.
   (9) Tighten the pump coupling nut to attach the discharge tube to the pump.
      (a) For the torque values for aluminum alloy and stainless steel fittings on nylon tubing refer to Table 201.
   (10) Engage the circuit breakers on the left circuit breaker panel that follow:
      - PRIMARY ANTI-ICE
      - W/S ANTI-ICE
      - BACKUP ANTI-ICE.
   (11) Do the fluid tank servicing. Refer to Chapter 12, TKS Anti-Ice System - Servicing.
   (12) Do a test of the windshield pump. Refer to TKS Anti-Ice System - Adjustment/Test, Do a Test of the Windshield Pump.

(13) Install the aft fairing. Refer to Install the Aft Fairing in this section.

**10. Fluid Level Sender Removal/Installation**

**WARNING: For health and environmental data, review the applicable Safety Data Sheet (SDS).**

**WARNING: Slowly loosen the coupling that is connected to the component of the TKS system before you remove components. It is possible that the system continues to have pressure.**

**WARNING: If TKS fluid is spilled, immediately remove (clean) or contain all the TKS fluid. TKS fluid on the floor causes a dangerous condition.**

**WARNING: Before you operate the TKS system, put plastic sheets or absorbent cloths below the porous panels. This keeps the TKS fluid off the floor which helps prevent injury to personnel.**

**WARNING: TKS fluid is a hazardous material. You must discard all unwanted TKS fluid and/or dirty cloths. Refer to approved procedures.**

**CAUTION: Use only approved TKS fluids in accordance with specification DTD 406B. Fluid density is approximately 9.2 lbs/gal.**

**CAUTION: Use only clean, filtered fluid in the TKS system. Contamination will cause fluid blockage and/or damage to the porous panel.**

A. Remove the Fluid Level Sender (Refer to Figure 201 and Figure 202).

(1) Remove external electrical power from the airplane.

(2) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.

(3) Disengage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(4) Remove the cockpit floor covering. Refer to FLOOR COVERING/CONTROL COLUMN COVER - Maintenance Practices.

(5) Remove the cockpit floor access panel 232BC.

**WARNING: Do not remove hoses under pressure. This procedure will result in release of refrigerant into the atmosphere. Removing hoses under pressure may also result in personal injury if hose ends are not restrained.**

(6) If necessary, disconnect and move the air conditioning lines to get access to the level sender. Refer to Chapter 21, R134A Air Conditioning - Maintenance Practices, Air Conditioning Plumping Removal/Installation.

(7) Identify and disconnect the electrical wiring leads from the sender electrical posts.

(8) Remove the screws that attach the sender to the fluid tank access panel.

(9) Carefully remove the sender from the access panel.

**NOTE: Do not damage the sender sensor.**

(10) Install a temporary cover on the opening to keep FOD out of the fluid system.

(11) Discard the gasket.

B. Install the Fluid Level Sender (Refer to Figure 201 and Figure 202).

(1) Remove the temporary cover from the access panel opening.

(2) Put the sender and a new gasket in their position on the access panel.

**NOTE: Be careful not to damage the sensor.**

**NOTE: Be careful to not push the three wires down through the hole.**

(3) Install the screws that attach the sender to the access panel.

(4) Connect the electrical wiring leads to the sender negative, positive, and send posts.

(5) If necessary, connect the air conditioning lines. Refer to Chapter 21, R134A Air Conditioning - Maintenance Practices, Air Conditioning Plumping Removal/Installation.

(6) Install the cockpit floor access panel, 232BC.

(7) Install the cockpit floor covering. Refer to Chapter 25, FLOOR COVERING/CONTROL COLUMN COVER -

Maintenance Practices.

(8) Engage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(9) Do the fluid tank servicing if necessary. Refer to Chapter 12, TKS Anti-Ice System - Servicing.

**NOTE: You must calibrate the fluid level sender if it does not read zero when it is empty. Refer to TKS Anti-Ice System - Adjustment/Test.**

(10) Do a test of the sender. Refer to TKS Anti-Ice System - Adjustment/Test.

**11. Low Level Switch Removal/Installation**

**WARNING: For health and environmental data, review the applicable Safety Data Sheet (SDS).**

**WARNING: Slowly loosen the coupling that is connected to the component of the TKS system before you remove components. It is possible that the system continues to have pressure.**

**WARNING: If TKS fluid is spilled, immediately remove (clean) or contain all the TKS fluid. TKS fluid on the floor causes a dangerous condition.**

**WARNING: Before you operate the TKS system, put plastic sheets or absorbent cloths below the porous panels. This keeps the TKS fluid off the floor which helps prevent injury to personnel.**

**WARNING: TKS fluid is a hazardous material. You must discard all unwanted TKS fluid and/or dirty cloths. Refer to approved procedures.**

**CAUTION: Use only approved TKS fluids in accordance with specification DTD 406B. Fluid density is approximately 9.2 lbs/gal.**

**CAUTION: Use only clean, filtered fluid in the TKS system. Contamination will cause fluid blockage and/or damage to the porous panel.**

**CAUTION: Do not use the seals again after you loosen or disconnect a tube coupling. Replace the 3/16-inch and 5/16-inch sealing ring and/or 1/2-inch O-ring, as applicable, when you assemble a tube coupling. Examine the seal for damage and make sure that it is in the correct position in the coupling as shown in Figure 202. This will help to prevent fluid leakage from the coupling.**

**CAUTION: Do not use the coupling nut to clench the olive to the fluid tubing. Use only specified clenching tools to do the clenching operation. Also, do not torque the couplings too much during the repair or replacement procedure. If the couplings leak, install new seals as necessary.**

**CAUTION: Clench the olive to the tubing without a sealing ring in position. If you clench the olive with the sealing ring in position, you will prevent correct clench and the sealing ring will be unserviceable.**

A. Remove the Low Level Switch (Refer to Figure 201 and Figure 202).

(1) Remove external electrical power from the airplane.

(2) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.

(3) Disengage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(4) Remove the aft TKS fairing. Refer to TKS Fairing Assembly - Removal/Installation in this section.

(5) If necessary, remove the accessory bracket. Refer to Accessory Bracket Assembly Removal/Installation in this section.

(6) Identify and disconnect the electrical connector from the switch.

(7) Remove the low level switch from the fluid tank. Refer to Figure 201.

**NOTE: A deep socket modified to accommodate the switch wiring is necessary.**

(8) Put a cover on the switch opening to keep FOD out of the fluid system.

B. Install the Low Level Switch (Refer to Figure 201 and Figure 202).

(1) Remove the cover from the low level switch opening.

(2) Mark the switch where the wires exit to identify the top of the switch.

(3) Put Type I Class B sealer on the switch threads.

(4) Install the switch in the fluid tank. Refer to Figure 201.

**NOTE: Make sure that you install the switch correctly so the mark you made on the switch is on top. If you install the float correctly, it moves vertically.**

(5) Connect the electrical connector to the switch.

(6) If removed, install the accessory bracket. Refer to Accessory Bracket Assembly Removal/Installation in this section.

(7) Engage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(8) Do the fluid tank servicing. Refer to Chapter 12, TKS Anti-Ice System - Servicing.

**NOTE: You must calibrate the fluid level sender if the primary flight display (G1000) does not read zero when the TKS fluid tank is empty. Refer to TKS Anti-Ice System - Adjustment/Test, TKS Level Sender Calibration.**

(9) Do a test of the level switch. Refer to TKS Anti-Ice System - Adjustment/Test, Do a Test of the Low Level Switch.

(10) Install the aft fairing. Refer to Install the Aft Fairing in this section.

**12. Pressure Switch Removal/Installation**

**WARNING: For health and environmental data, review the applicable Safety Data Sheet (SDS).**

**WARNING: Slowly loosen the coupling that is connected to the component of the TKS system before you remove components. It is possible that the system continues to have pressure.**

**WARNING: If TKS fluid is spilled, immediately remove (clean) or contain all the TKS fluid. TKS fluid on the floor causes a dangerous condition.**

**WARNING: Before you operate the TKS system, put plastic sheets or absorbent cloths below the porous panels. This keeps the TKS fluid off the floor which helps prevent injury to personnel.**

**WARNING: TKS fluid is a hazardous material. You must discard all unwanted TKS fluid and/or dirty cloths. Refer to approved procedures.**

**CAUTION: Use only approved TKS fluids in accordance with specification DTD 406B. Fluid density is approximately 9.2 lbs/gal.**

**CAUTION: Use only clean, filtered fluid in the TKS system. Contamination will cause fluid blockage and/or damage to the porous panel.**

**CAUTION: Do not use the seals again after you loosen or disconnect a tube coupling. Replace the 3/16-inch and 5/16-inch sealing ring and/or 1/2-inch O-ring, as applicable, when you assemble a tube coupling. Examine the seal for damage and make sure that it is in the correct position in the coupling as shown in Figure 202. This will help to prevent fluid leakage from the coupling.**

**CAUTION: Do not use the coupling nut to clench the olive to the fluid tubing. Use only specified clenching tools to do the clenching operation. Also, do not torque the couplings too much during the repair or replacement procedure. If the couplings leak, install new seals as necessary.**

**CAUTION: Clench the olive to the tubing without a sealing ring in position. If you clench the olive with the sealing ring in position, you will prevent correct clench and the sealing ring will be unserviceable.**

A. Remove the Pressure Switch (Refer to Figure 201 and Figure 202).

(1) Remove the aft fairing. Refer to Remove the Aft Fairing in this section.

(2) Remove external electrical power from the airplane.

(3) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.

(4) Disengage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(5) Identify and disconnect the electrical connector from the switch.
(6) Disconnect the pallet output tube.
(7) Put the pallet output tube in bucket to drain tubing.
(8) Slowly loosen and disconnect the coupling nut that attaches the input tube to the switch.
(9) Remove the tube from the switch.
(10) Slowly loosen and disconnect the coupling nut that attaches the output tube to the switch.
(11) Remove the tube from the switch.
(12) Put caps on all openings and tube ends to keep FOD out of the fluid system.
(13) Remove the screws that attach the switch bracket to the equipment pack.
(14) Remove the switch and bracket.
(15) Remove the bracket from the switch.

B. Install the Pressure Switch (Refer to Figure 201 and Figure 202).
(1) Put the switch in its position in the switch bracket.
(2) Install the screws and spacers that attach the switch to the bracket.
(3) Put the switch and bracket in its position on the equipment pack.
(4) Install the screws that attach the switch and bracket to the equipment pack.
(5) Remove the caps from the tube ends.
(6) Install new seals for the input tube.
(7) Put the input tube in its position on the couplings.
(8) Tighten the coupling nut that attaches the input tube to the switch.
(a) For the torque values for aluminum alloy and stainless steel fittings on nylon tubing refer to Table 201.
(9) Install new seals for the output tube.
(10) Put the output tube in its position on the couplings.
(11) Tighten the coupling nut that attaches the output tube to the switch.
(a) For the torque values for aluminum alloy and stainless steel fittings on nylon tubing refer to Table 201.
(12) Connect the electrical connector to the switch.
(13) Engage the circuit breakers on the left circuit breaker panel that follow:
- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(14) Do the fluid tank servicing if necessary. Refer to Chapter 12, TKS Anti-Ice System - Servicing.
(15) Do a test of the switch. Refer to TKS Anti-Ice System - Adjustment/Test, Do a Test of the Pressure Switch.
(16) Install the aft fairing. Refer to Install the Aft Fairing in this section.

**13. Timer Box Removal/Installation**

A. Remove the Timer Box (Refer to Figure 201 and Figure 202).
(1) Remove external electrical power from the airplane.
(2) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.
(3) Disengage the circuit breakers on the left circuit breaker panel that follow:
- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(4) Remove the aft fairing. Refer to Remove the Aft Fairing in this section.
(5) Identify and disconnect the electrical connector from the timer box.
(6) Remove the screws that attach the timer box to the accessory bracket.

(7) Remove the timer box.

B. Install the Timer Box and/or Wire Bundle (Refer to Figure 201 and Figure 202).

(1) Put the timer box in its position on the accessory bracket.

(2) Install the screws that attach the timer box to the accessory bracket.

(a) Make sure that you install the grounding terminal under one of the screws.

(3) Connect the electrical connector to the timer box.

(4) Engage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(5) Do the fluid tank servicing if necessary. Refer to Chapter 12, TKS Anti-Ice System - Servicing.

(6) Do a test of the fluid tank components. Refer to TKS Anti-Ice System - Adjustment/Test.

(7) Install the aft fairing. Refer to Install the Aft Fairing in this section.

**14. Solenoid Valve Removal/Installation**

**WARNING: For health and environmental data, review the applicable Safety Data Sheet (SDS).**

**WARNING: Slowly loosen the coupling that is connected to the component of the TKS system before you remove components. It is possible that the system continues to have pressure.**

**WARNING: If TKS fluid is spilled, immediately remove (clean) or contain all the TKS fluid. TKS fluid on the floor causes a dangerous condition.**

**WARNING: Before you operate the TKS system, put plastic sheets or absorbent cloths below the porous panels. This keeps the TKS fluid off the floor which helps prevent injury to personnel.**

**WARNING: TKS fluid is a hazardous material. You must discard all unwanted TKS fluid and/or dirty cloths. Refer to approved procedures.**

**CAUTION: Use only approved TKS fluids in accordance with specification DTD 406B. Fluid density is approximately 9.2 lbs/gal.**

**CAUTION: Use only clean, filtered fluid in the TKS system. Contamination will cause fluid blockage and/or damage to the porous panel.**

**CAUTION: Do not use the seals again after you loosen or disconnect a tube coupling. Replace the 3/16-inch and 5/16-inch sealing ring and/or 1/2-inch O-ring, as applicable, when you assemble a tube coupling. Examine the seal for damage and make sure that it is in the correct position in the coupling as shown in Figure 202. This will help to prevent fluid leakage from the coupling.**

**CAUTION: Do not use the coupling nut to clench the olive to the fluid tubing. Use only specified clenching tools to do the clenching operation. Also, do not torque the couplings too much during the repair or replacement procedure. If the couplings leak, install new seals as necessary.**

**CAUTION: Clench the olive to the tubing without a sealing ring in position. If you clench the olive with the sealing ring in position, you will prevent correct clench and the sealing ring will be unserviceable.**

A. Remove the Solenoid Valve (Refer to Figure 201 and Figure 202).

(1) Remove external electrical power from the airplane.

(2) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.

(3) Disengage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(4) Remove the aft fairing. Refer to Remove the Aft Fairing in this section.

(5) Remove the fluid from the fluid tank. Refer to TKS Fluid Removal in this section.

(6) Identify and disconnect the electrical connector from the valve.

(7) Slowly loosen and disconnect the solenoid valve coupling nut that attaches the input tube to the valve.

(8) Remove the tube from the valve.
(9) Slowly loosen and disconnect the valve coupling nut that attaches the output tube to the valve.
(10) Remove the tube from the valve.
(11) Put caps on all openings and tube ends to keep FOD out of the fluid system.
(12) Remove the screws that attach the solenoid valve to the accessory bracket.
(13) Remove the solenoid valve.

B. Install the Solenoid Valve (Refer to Figure 201 and Figure 202).
(1) Put the solenoid valve in its position in the valve bracket.
(2) Install the screws that attach the valve to the fluid tank bracket.
(3) Remove the caps from the tube ends.
(4) Install new seals in the couplings as shown in Figure 202.
(5) Put the input tube in its position on the coupling.
(6) Tighten the coupling nut that attaches the input tube to the valve.
(7) Put the output tube in its position on the coupling.
(8) Tighten the coupling nut that attaches the output tube to the valve.
(a) For the torque values for aluminum alloy and stainless steel fittings on nylon tubing refer to Table 201.
(9) Connect the electrical connector to the valve.
(10) Engage the circuit breakers on the left circuit breaker panel that follow:
- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(11) Do the fluid tank servicing if necessary. Refer to Chapter 12, TKS Anti-Ice System - Servicing.
(12) Put external electrical power on the airplane.
(13) Put the EXTERNAL POWER switch (S17) on the circuit breaker switch panel to the BUS position.
(14) Put the MAX FLOW switch to the WINDSHIELD position.
(a) Make sure that there is no fluid leakage from the couplings.
(b) Make sure that fluid comes out of the windshield spray bar.
(15) Put the EXTERNAL POWER switch on the circuit breaker switch panel to the OFF position.
(16) Remove external electrical power from the airplane.
(17) Install the aft fairing. Refer to Install the Aft Fairing in this section.

**15. Check Valve Removal/Installation**

**WARNING: For health and environmental data, review the applicable Safety Data Sheet (SDS).**

**WARNING: Slowly loosen the coupling that is connected to the component of the TKS system before you remove components. It is possible that the system continues to have pressure.**

**WARNING: If TKS fluid is spilled, immediately remove (clean) or contain all the TKS fluid. TKS fluid on the floor causes a dangerous condition.**

**WARNING: Before you operate the TKS system, put plastic sheets or absorbent cloths below the porous panels. This keeps the TKS fluid off the floor which helps prevent injury to personnel.**

**WARNING: TKS fluid is a hazardous material. You must discard all unwanted TKS fluid and/or dirty cloths. Refer to approved procedures.**

**CAUTION: Use only approved TKS fluids in accordance with specification DTD 406B. Fluid density is approximately 9.2 lbs/gal.**

**CAUTION: Use only clean, filtered fluid in the TKS system. Contamination will cause fluid blockage and/or damage to the porous panel.**

**CAUTION: Do not use the seals again after you loosen or disconnect a tube coupling. Replace the 3/16-inch and 5/16-inch sealing ring and/or 1/2-inch O-ring, as applicable, when you assemble a tube coupling.**

**Examine the seal for damage and make sure that it is in the correct position in the coupling as shown in Figure 202. This will help to prevent fluid leakage from the coupling.**

**CAUTION: Do not use the coupling nut to clench the olive to the fluid tubing. Use only specified clenching tools to do the clenching operation. Also, do not torque the couplings too much during the repair or replacement procedure. If the couplings leak, install new seals as necessary.**

**CAUTION: Clench the olive to the tubing without a sealing ring in position. If you clench the olive with the sealing ring in position, you will prevent correct clench and the sealing ring will be unserviceable.**

A. Remove the Check Valve (Refer to Figure 201 and Figure 202).
   (1) Remove external electrical power from the airplane.
   (2) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.
   (3) Disengage the circuit breakers on the left circuit breaker panel that follow:
      - PRIMARY ANTI-ICE
      - W/S ANTI-ICE
      - BACKUP ANTI-ICE.
   (4) Remove the aft fairing. Refer to Remove the Aft Fairing in this section.
   (5) Remove fluid from the TKS tubing.
      (a) Disconnect the pallet output tube.
      (b) Put the pallet output tube in bucket to drain tubing.
   (6) Slowly loosen the coupling nut that attaches the output tube to the check valve.
   (7) Remove the output tube from the check valve.
   (8) Slowly loosen the coupling nut that attaches the supply tube to the check valve.
   (9) Remove the supply tube from the check valve.
   (10) Put caps on all openings and tube ends to keep FOD out of the fluid system.
   (11) Remove the screw that attaches the check valve clamp to the accessory bracket.
   (12) Remove the check valve from the equipment pack.

B. Install the Check Valve (Refer to Figure 201 and Figure 202).
   (1) Put the valve and its clamp in their position on the accessory bracket.
      (a) Make sure that the fluid flow direction is correct.
   (2) Install the screw and spacer that attaches the valve clamp to the accessory bracket.
   (3) Remove the caps from the tube ends.
   (4) Install new seals on the tube ends as shown in Figure 202.
   (5) Put the input tube in its position on the coupling.
   (6) Tighten the coupling nut that attaches the input tube to the valve.
      (a) For the torque values for aluminum alloy and stainless steel fittings on nylon tubing refer to Table 201.
   (7) Put the output tube in its position on the couplings.
   (8) Tighten the coupling nut that attaches the output tube to the valve.
      (a) For the torque values for aluminum alloy and stainless steel fittings on nylon tubing refer to Table 201.
   (9) Safety all the tube couplings. Refer to Chapter 20, Safetying - Maintenance Practices.
   (10) Engage the circuit breakers on the left circuit breaker panel that follow:
      - PRIMARY ANTI-ICE
      - W/S ANTI-ICE
      - BACKUP ANTI-ICE.
   (11) If necessary, do the fluid tank servicing. Refer to Chapter 12, TKS Anti-Ice System - Servicing.
   (12) Put external electrical power on the airplane.
   (13) Put the EXTERNAL POWER switch (S17) on the circuit breaker switch panel to the BUS position.

(14) Put the ANTI-ICE-FLUID CONTROL, PRIMARY switch (SI022) on the left switch panel to the HIGH position.

(15) Put the BACKUP switch in the ON position.

(a) Make sure that there is no fluid leakage from the check valve couplings.

(b) Make sure that fluid flows from the outlet tube.

(16) Put the ANTI-ICE-FLUID CONTROL, PRIMARY switch (SI022) on the left switch panel to the OFF position.

(17) Put the BACKUP switch in the OFF position.

(18) Connect the output tube.

(19) Put the EXTERNAL POWER switch on the circuit breaker switch panel to the OFF position.

(20) Remove external electrical power from the airplane.

(21) Install the aft fairing. Refer to Install the Aft Fairing in this section.

**16. Sight Glass Removal/Installation**

**WARNING: For health and environmental data, review the applicable Safety Data Sheet (SDS).**

**WARNING: Slowly loosen the coupling that is connected to the component of the TKS system before you remove components. It is possible that the system continues to have pressure.**

**WARNING: If TKS fluid is spilled, immediately remove (clean) or contain all the TKS fluid. TKS fluid on the floor causes a dangerous condition.**

**WARNING: Before you operate the TKS system, put plastic sheets or absorbent cloths below the porous panels. This keeps the TKS fluid off the floor which helps prevent injury to personnel.**

**WARNING: TKS fluid is a hazardous material. You must discard all unwanted TKS fluid and/or dirty cloths. Refer to approved procedures.**

**CAUTION: Use only approved TKS fluids in accordance with specification DTD 406B. Fluid density is approximately 9.2 lbs/gal.**

**CAUTION: Use only clean, filtered fluid in the TKS system. Contamination will cause fluid blockage and/or damage to the porous panel.**

A. Remove the Sight Glass (Refer to Figure 201 and Figure 202).

(1) Remove external electrical power from the airplane.

(2) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.

(3) Disengage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(4) Remove the forward and aft fairings. Refer to TKS Fairing Assembly Removal/Installation in this section.

(5) Make sure that the fluid is drained from the fluid tank . Refer to TKS Fluid Removal in this section.

(6) Slowly open the tube clamps that are connected to the sight glass.

(7) Remove the sight glass (and ball) from the fluid tank.

(8) Put caps on all openings and tube ends to keep FOD out of the fluid system.

B. Install the Sight Glass (Refer to Figure 201 and Figure 202).

(1) Remove the caps from the tube ends.

(2) Put the sight glass (and ball) in its position in the sight glass brackets.

(3) Crimp the tube clamps.

(4) Engage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(5) Install the forward fairing. Refer to Install the Forward Fairing in this section.

(6) Do the fluid tank servicing. Refer to Chapter 12, TKS Anti-Ice System - Servicing.

(a) Make sure that the sight glass tubes do not leak.

(b) Make sure that the ball moves freely in the tube.

(7) Install the aft fairing. Refer to Install the Aft Fairing in this section.

**17. Drain Valve Removal/Installation**

**WARNING: For health and environmental data, review the applicable Safety Data Sheet (SDS).**

**WARNING: If TKS fluid is spilled, immediately remove (clean) or contain all the TKS fluid. TKS fluid on the floor causes a dangerous condition.**

**WARNING: Before you operate the TKS system, put plastic sheets or absorbent cloths below the porous panels. This keeps the TKS fluid off the floor which helps prevent injury to personnel.**

**WARNING: TKS fluid is a hazardous material. You must discard all unwanted TKS fluid and/or dirty cloths. Refer to approved procedures.**

**CAUTION: Use only approved TKS fluids in accordance with specification DTD 406B. Fluid density is approximately 9.2 lbs/gal.**

**CAUTION: Use only clean, filtered fluid in the TKS system. Contamination will cause fluid blockage and/or damage to the porous panel.**

A. Remove the Drain Valve (Refer to Figure 201 and Figure 202).

(1) Remove external electrical power from the airplane.

(2) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.

(3) Disengage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(4) Remove the aft fairing. Refer to Remove the Aft Fairing in this section.

(5) Remove the safety wire from the valve.

(6) Remove the fluid from the fluid tank. Refer to TKS Fluid Removal in this section.

(7) Loosen the drain tube nut.

(8) Remove drain tube from the drain valve.

(9) Remove the nut and washer that attach the drain valve to the accessory bracket.

(10) Remove the valve from the accessory bracket.

B. Install the Shutoff Valve (Refer to Figure 201 and Figure 202).

(1) Put the drain valve in its correct position on the accessory bracket.

(2) Install the valve with the nut and washer.

(3) Put the drain tube in its position on the valve.

(4) Tighten the nut that attaches the drain tube to the valve.

(a) For the torque values for aluminum alloy and stainless steel fittings on nylon tubing refer to Table 201.

(5) Engage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(6) Safety wire the valve in the closed position.

(7) Do the fluid tank servicing. Refer to Chapter 12, TKS Anti-Ice System - Servicing.

(a) Make sure that there is no fluid leakage from the valve.

(8) Install the aft fairing. Refer to Install the Aft Fairing in this section.

**18. Fluid Filler Tube Removal/Installation**

**WARNING: For health and environmental data, review the applicable Safety Data Sheet (SDS).**

**WARNING: Slowly loosen the coupling that is connected to the component of the TKS system before you remove**

**components. It is possible that the system continues to have pressure.**

**WARNING: If TKS fluid is spilled, immediately remove (clean) or contain all the TKS fluid. TKS fluid on the floor causes a dangerous condition.**

**WARNING: Before you operate the TKS system, put plastic sheets or absorbent cloths below the porous panels. This keeps the TKS fluid off the floor which helps prevent injury to personnel.**

**WARNING: TKS fluid is a hazardous material. You must discard all unwanted TKS fluid and/or dirty cloths. Refer to approved procedures.**

**CAUTION: Use only approved TKS fluids in accordance with specification DTD 406B. Fluid density is approximately 9.2 lbs/gal.**

**CAUTION: Use only clean, filtered fluid in the TKS system. Contamination will cause fluid blockage and/or damage to the porous panel.**

**CAUTION: Do not use the seals again after you loosen or disconnect a tube coupling. Replace the 3/16-inch and 5/16-inch sealing ring and/or 1/2-inch O-ring, if necessary, when you assemble a tube coupling. Examine the seal for damage and make sure that it is in the correct position in the coupling as shown in Figure 202. This will help to prevent fluid leakage from the coupling.**

**CAUTION: Do not use the coupling nut to clench the olive to the fluid tubing. Use only specified clenching tools to do the clenching operation. Also, do not torque the couplings too much during the repair or replacement procedure. If the couplings leak, install new seals as necessary.**

**CAUTION: Clench the olive to the tubing without a sealing ring in position. If you clench the olive with the sealing ring in position, you will prevent correct clench and the sealing ring will be unserviceable.**

A. Remove the Filler Tube (Refer to Figure 201, and Figure 203).

(1) Remove external electrical power from the airplane.

(2) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.

(3) Disengage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(4) Remove the floor coverings necessary to get access to the filler tube. Refer to Floor Covering/Column Cover - Maintenance Practices.

(5) For the Model 208 airplanes remove the floor panels (251AL), (251BL), (251CL), (251HL), and (232BC) to get access to the filler tube. Refer to Chapter 6, Access Plates and Panels Identification - Description and Operation.

(6) For the Model 208B airplanes remove the floor panels (251AL), (251BL), (251EL), (251FL), (251HL), (251JL), and (232BC) to get access to the filler tube. Refer to Chapter 6, Access Plates and Panels Identification - Description and Operation.

(7) For the Model 208 airplanes at the left side of the cabin interior at FS 176.00, WL 94.73 remove the airplane side wall.

(8) For the Model 208B airplanes at the left side of the cabin interior at FS 196.18, WL 94.73 remove the airplane side wall.

(9) Loosen, but do not remove the hose clamp at the fluid tank filler neck.

(10) Remove the filler tube from the filler neck.

(11) For the Model 208 airplanes at the left side of the cabin interior at FS 176.00, WL 94.73 loosen the filler tube clamp on the filler port sleeve.

(12) For the Model 208B airplanes at the left side of the cabin interior at FS 196.18, WL 94.73 loosen the filler tube clamp on the filler port sleeve.

(13) Remove the filler tube from the filler port sleeve.

(14) Cut the tie wraps at the tube mounts and remove the tie wraps from the airplane.

(a) Make sure that you remove the cut tie wraps from the airplane.

(15) Carefully remove the filler tube from the airplane floor structure.

(16) Put caps on all openings to keep FOD out of the fluid system.

B. Install the Filler Tube (Refer to Figure 201, and Figure 203).

(1) Remove the caps from the openings.

(2) Prepare the end of the hose to fit on the filler port sleeve:

(a) Unwrap the string from the hose that will go over the filler port sleeve.

(b) Use pliers to pull the wire so that on the part of the hose that will go over the filler port sleeve, the wire is straight.

1 Make sure that you do not make a tight bend in the wire.

2 Make sure that you do not damage the tube wall.

(c) Cut off the part of the string and wire that go past the end of the tube.

(3) Prepare the end of the hose to fit on the filler neck:

(a) Unwrap the string from the hose that will go over the filler neck.

(b) Use pliers to pull the wire so that on the part of the hose that will go over the filler neck, the wire is straight.

1 Make sure that you do not make a tight bend in the wire.

2 Make sure that you do not damage the tube wall.

(c) Cut off the part of the string and wire that go past the end of the tube.

(4) Install the filler tube through the correct openings in the floor structure.

**NOTE: The correct routing of the filler tube has openings with grommets or mounts installed to prevent damage to the tube.**

(5) For the Model 208B airplanes, install convoluted tubing on the filler tube between the TKS fluid tank and FS 158.00 and from the filler port to FS 186.45. Refer to Figure 203.

(6) Put the filler tube in its position on the filler port sleeve.

(7) Wrap silicone tape around tube where clamp is installed.

(8) Put the tube clamp in its correct position on the tube where the tape is wrapped.

(9) Tighten the tube clamp at the filler port sleeve.

(a) Make sure that the clamp is positioned on the filler tube tape before you tighten the clamp.

(b) Make sure that the clamp tightening screw is not positioned over the wire.

(10) Put the filler tube in its position on the fluid tank filler neck.

(11) Wrap silicone tape around tube where clamp is installed.

(12) Put the tube clamp in its correct position on the tube where the tape is wrapped.

(13) Tighten the hose clamp on the fluid tank filler neck.

(a) Make sure that the clamp is positioned on the filler tube tape before you tighten the clamp.

(b) Make sure that the clamp tightening screw is not positioned over the wire.

(14) Install tie wraps at the tube mounts.

(15) Engage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(16) Do the fluid tank servicing if necessary. Refer to Chapter 12, TKS Anti-Ice System - Servicing.

(17) For the Model 208 airplanes install the floor panels (251AL), (251BL), (251CL), (232BC), and (251HL). Refer to Chapter 6, Access Plates and Panels Identification - Description and Operation.

(18) For the Model 208B airplanes install the floor panels (251AL), (251BL), (251EL), (251FL), (251HL), (251JL), and (232BC). Refer to Chapter 6, Access Plates and Panels Identification - Description and Operation.

(19) For the Model 208 airplanes at FS 176.00, WL 94.73 install the left side of the cabin interior side wall.

(20) For the Model 208B airplanes at FS 196.18, WL 94.73 install the left side of the cabin interior side wall.

(21) Install the floor coverings. Refer to Floor Covering/Column Cover - Maintenance Practices.

(22) Install the aft fairing. Refer to Install the Aft Fairing in this section.

**19. Fluid Filler Port Assembly Removal/Installation**

**WARNING: For health and environmental data, review the applicable Safety Data Sheet (SDS).**

**WARNING: Slowly loosen the coupling that is connected to the component of the TKS system before you remove components. It is possible that the system continues to have pressure.**

**WARNING: If TKS fluid is spilled, immediately remove (clean) or contain all the TKS fluid. TKS fluid on the floor causes a dangerous condition.**

**WARNING: Before you operate the TKS system, put plastic sheets or absorbent cloths below the porous panels. This keeps the TKS fluid off the floor which helps prevent injury to personnel.**

**WARNING: TKS fluid is a hazardous material. You must discard all unwanted TKS fluid and/or dirty cloths. refer to approved procedures.**

**CAUTION: Use only approved TKS fluids in accordance with specification DTD 406B. Fluid density is approximately 9.2 lbs/gal.**

**CAUTION: Use only clean, filtered fluid in the TKS system. Contamination will cause fluid blockage and/or damage to the porous panel.**

**CAUTION: Do not use the seals again after you loosen or disconnect a tube coupling. Replace the 3/16-inch and 5/16-inch sealing ring and/or 1/2-inch O-ring, if necessary, when you assemble a tube coupling. Examine the seal for damage and make sure that it is in the correct position in the coupling as shown in Figure 202. This will help to prevent fluid leakage from the coupling.**

**CAUTION: Do not use the coupling nut to clench the olive to the fluid tubing. Use only specified clenching tools to do the clenching operation. Also, do not torque the couplings too much during the repair or replacement procedure. If the couplings leak, install new seals as necessary.**

**CAUTION: Clench the olive to the tubing without a sealing ring in position. If you clench the olive with the sealing ring in position, you will prevent correct clench and the sealing ring will be unserviceable.**

A. Remove the Filler Port Assembly (Refer to Figure 201, and Figure 202).

(1) Remove external electrical power from the airplane.

(2) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.

(3) Disengage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(4) Open the filler cap.

(5) At the left side of the cabin interior loosen the filler tube clamp on the filler port sleeve.

**NOTE: For the Model 208 airplanes the filler port is found at FS 176.00, WL 94.73. For the Model 208B airplanes the filler port is found at FS 196.18, WL 94.73.**

(6) Remove the filler tube from the filler port sleeve.

(7) Remove the screws, nuts, and washers that attach the filler port plate, filler port sleeve, and gaskets to the airplane skin.

(8) Put caps on all openings to keep FOD out of the fluid system.

B. Install the Filler Port Assembly (Refer to Figure 201, and Figure 202).

(1) Remove the caps from the openings.

(2) Put the filler port sleeve gasket in its position at the cabin interior.

(3) Hold the filler port sleeve, filler port plate gasket and filler port plate in their position.

**NOTE: Make sure that the filler port plate is positioned with the slots at the top and bottom so the cap will fit correctly.**

(4) Install the screws, nuts, and washers that attach the filler port sleeve, filler port plate gasket and filler port plate to the airplane skin.

(5) Put the filler tube in its position on the filler port sleeve.

(6) Wrap silicone tape around tube where clamp is installed.

(7) Put the tube clamp in its correct position on the tube where the tape is wrapped.

(8) Tighten the tube clamp at the filler port sleeve.

(9) Close the filler cap.

(10) Engage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(11) Do the fluid tank servicing if necessary. Refer to Chapter 12, TKS Anti-Ice System - Servicing.

**20. Vent Tube Removal/Installation**

A. Remove the Vent Tube (Refer to Figure 201, and Figure 203).

(1) Remove external electrical power from the airplane.

(2) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.

(3) Disengage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(4) Remove the floor covering. Refer to Chapter 25, Floor Covering/Column Cover - Maintenance Practices.

(5) For the Model 208 airplanes remove the floor panels (251BL), (251CL), (251HL), (231DL), (232BC), (232DR), AND (232BR). Refer to Chapter 6, Access Plates and Panels Identification - Description and Operation.

(6) For the Model 208B airplanes remove the floor panels (251AL), (251BL), (251EL), (251FL), (251HL), (251JL), (232BC), (232AC), (231DL), AND (232BR). Refer to Chapter 6, Access Plates and Panels Identification - Description and Operation.

(7) At the left side of the cabin interior at FS 176.00, WL 94.73 remove airplane side wall.

(8) Cut the tie wraps at the tube mounts.

(9) Loosen the clamps at the fluid tank, vent weldment, and at the vent tube tee.

(10) Remove the vent tube from the airplane.

B. Install the Vent Tube (Refer to Figure 201, and Figure 203).

(1) Remove the caps from the openings.

(2) Install the vent tube through the correct openings in the floor structure.

**NOTE: The correct routing of the filler tube has openings with grommets installed to prevent damage to the tube.**

(3) Put the vent tube in its position on the vent weldment.

(4) Tighten the tube clamp at the vent weldment.

(5) Put the vent tube in its correct position on the fluid tank vent port.

(6) Tighten the hose clamp at the fluid tank vent port.

(7) Put the vent tubes in their correct position on the vent tube tee.

(8) Tighten the tube clamps at the vent tube tee.

(9) Install tie wraps at the tube mounts.

(10) Engage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(11) For the Model 208 airplanes install the floor panels (251CL), (251BL), (251HL), (231DL), (232BC), (232DR), AND (232BR). Refer to Chapter 6, Access Plates and Panels Identification - Description and Operation.

(12) For the Model 208B airplanes install the floor panels (251AL), (251BL), (251EL), (251FL), (251HL), (251JL),

(232BC), (232AC), (231DL), AND (232BR). Refer to Chapter 6, Access Plates and Panels Identification - Description and Operation.

(13) Install the floor coverings. Refer to Floor Covering/Column Cover - Maintenance Practices.

(14) Install the aft fairing. Refer to Install the Aft Fairing in this section.

**21. Pump Strainer Removal/Installation**

A. Remove the Pump Strainer (Refer to Figure 201).

(1) Remove external electrical power from the airplane.

(2) Set the BATTERY switch (SC005) on the circuit breaker switch panel, to the OFF position.

(3) Disengage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

(4) Drain the fluid tank.

(5) Remove the clamp from the weld assembly.

(6) Cut and remove the safety wire.

(7) Unscrew strainer from weld assembly.

(8) Check and make sure that there is not any foreign objects in the weld assembly.

B. Install the Pump Strainer (Refer to Figure 201).

(1) With a new O-ring and seal, screw the strainer on the weld assembly.

**NOTE: Make sure that the seal is next to the hex head on the strainer.**

(2) Put the clamp in its correct position on the weld assembly.

(3) Tighten the clamp on the weld assembly.

(4) Safety wire the clamp.

(5) Service the tank

(6) Engage the circuit breakers on the left circuit breaker panel that follow:

- PRIMARY ANTI-ICE
- W/S ANTI-ICE
- BACKUP ANTI-ICE.

Figure 201 : Sheet 1 : TKS System Installation

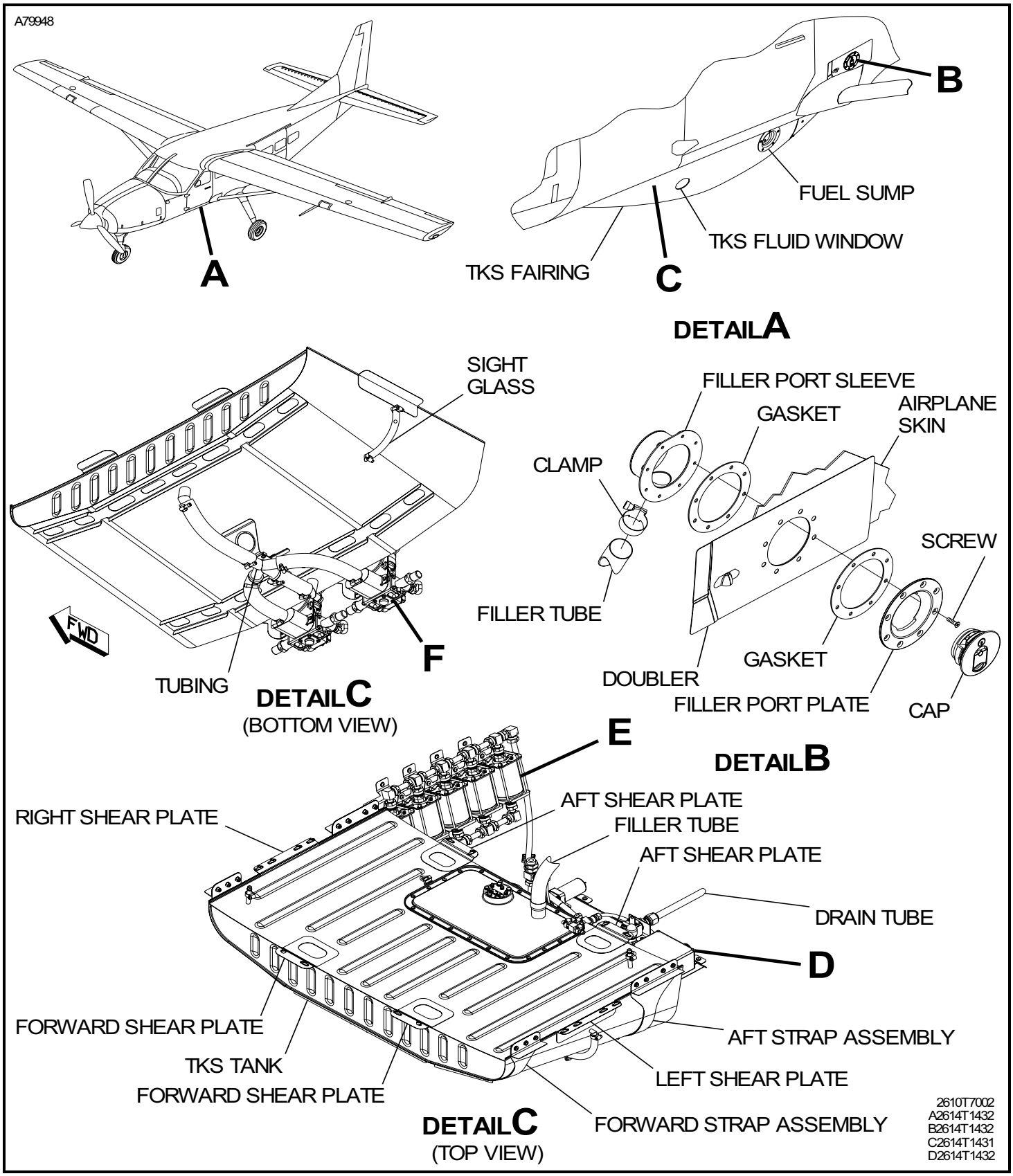

Figure 201 : Sheet 2 : TKS System Installation

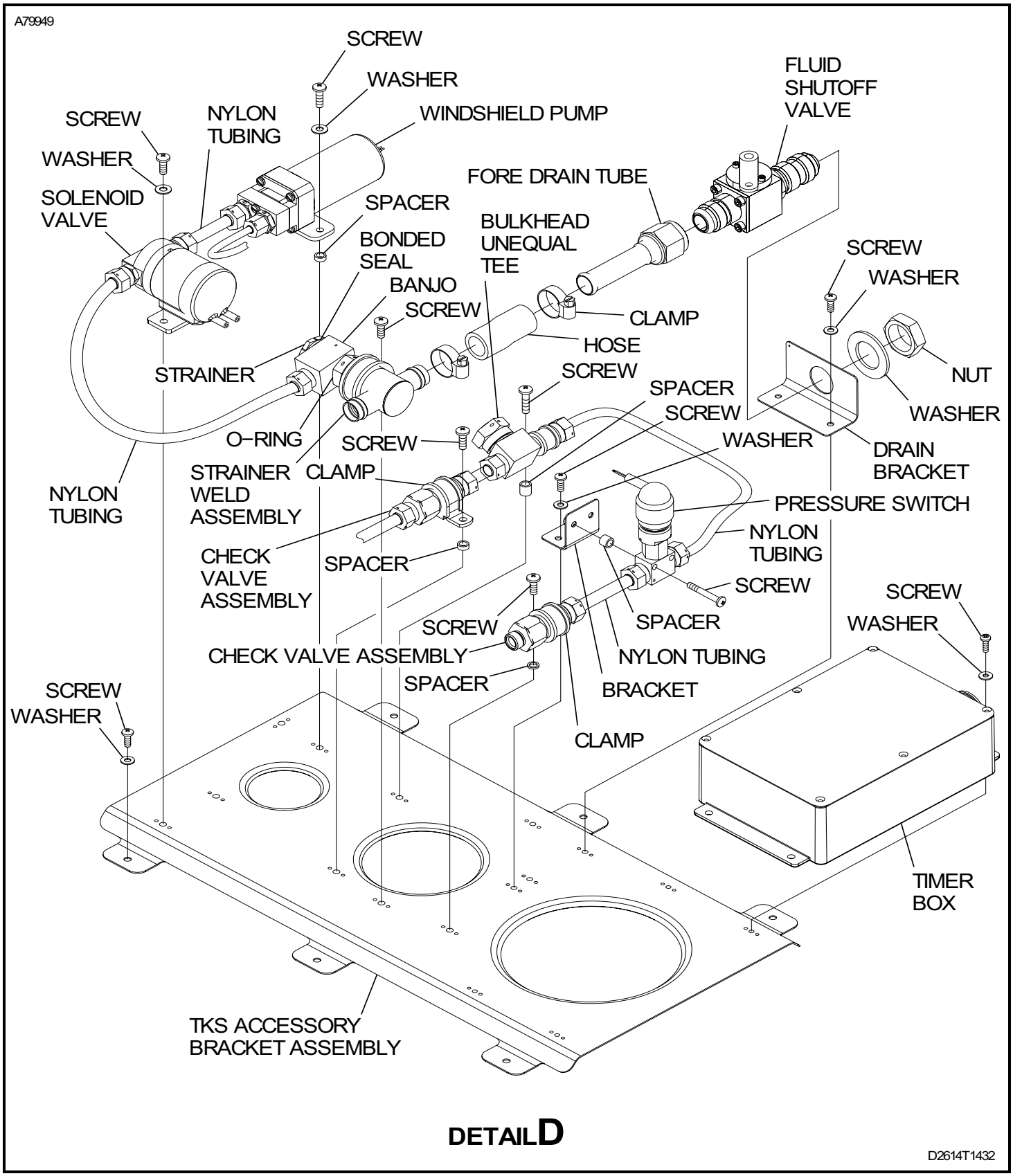

Figure 201 : Sheet 3 : TKS System Installation

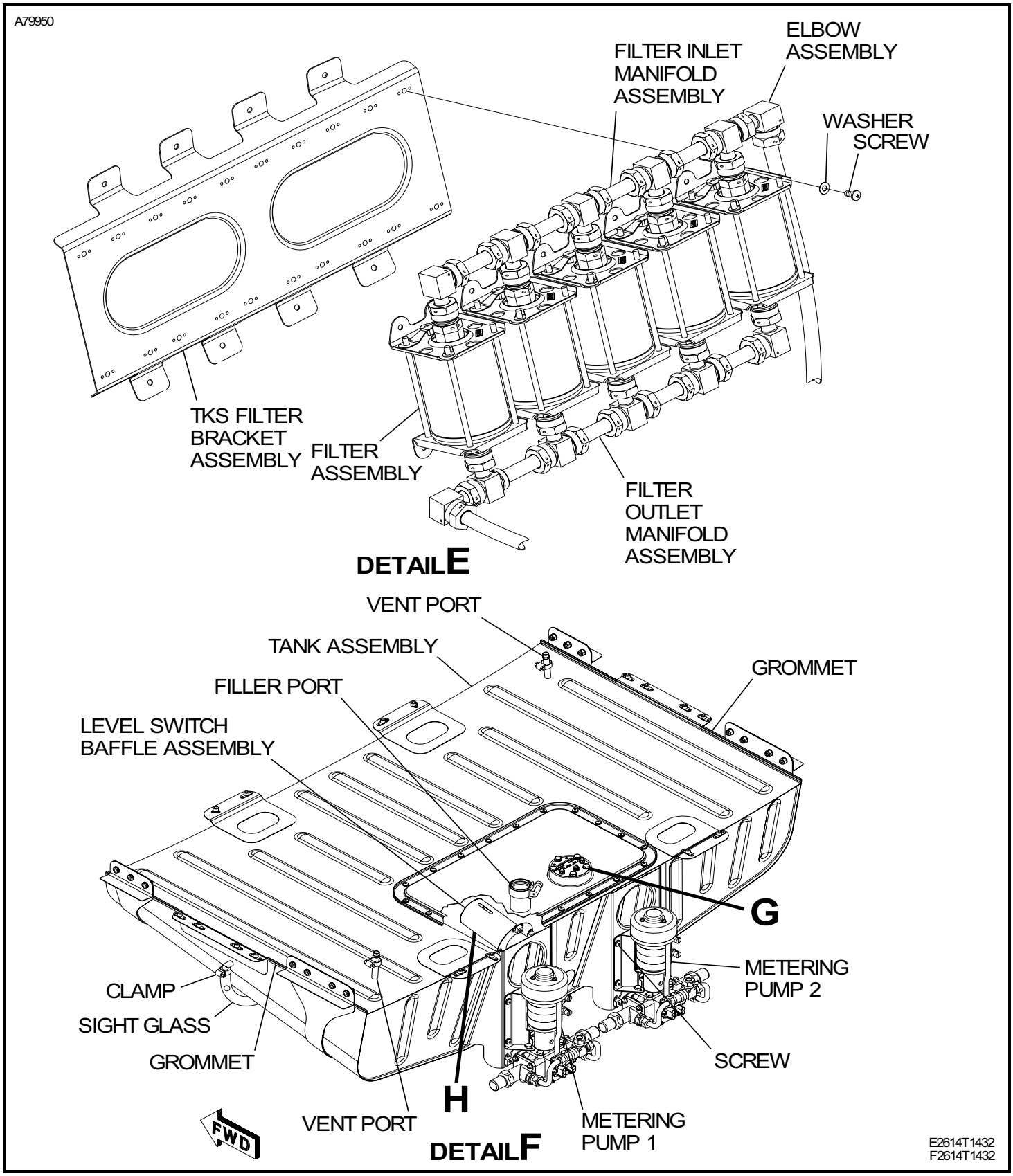

Figure 201 : Sheet 4 : TKS System Installation

A79968

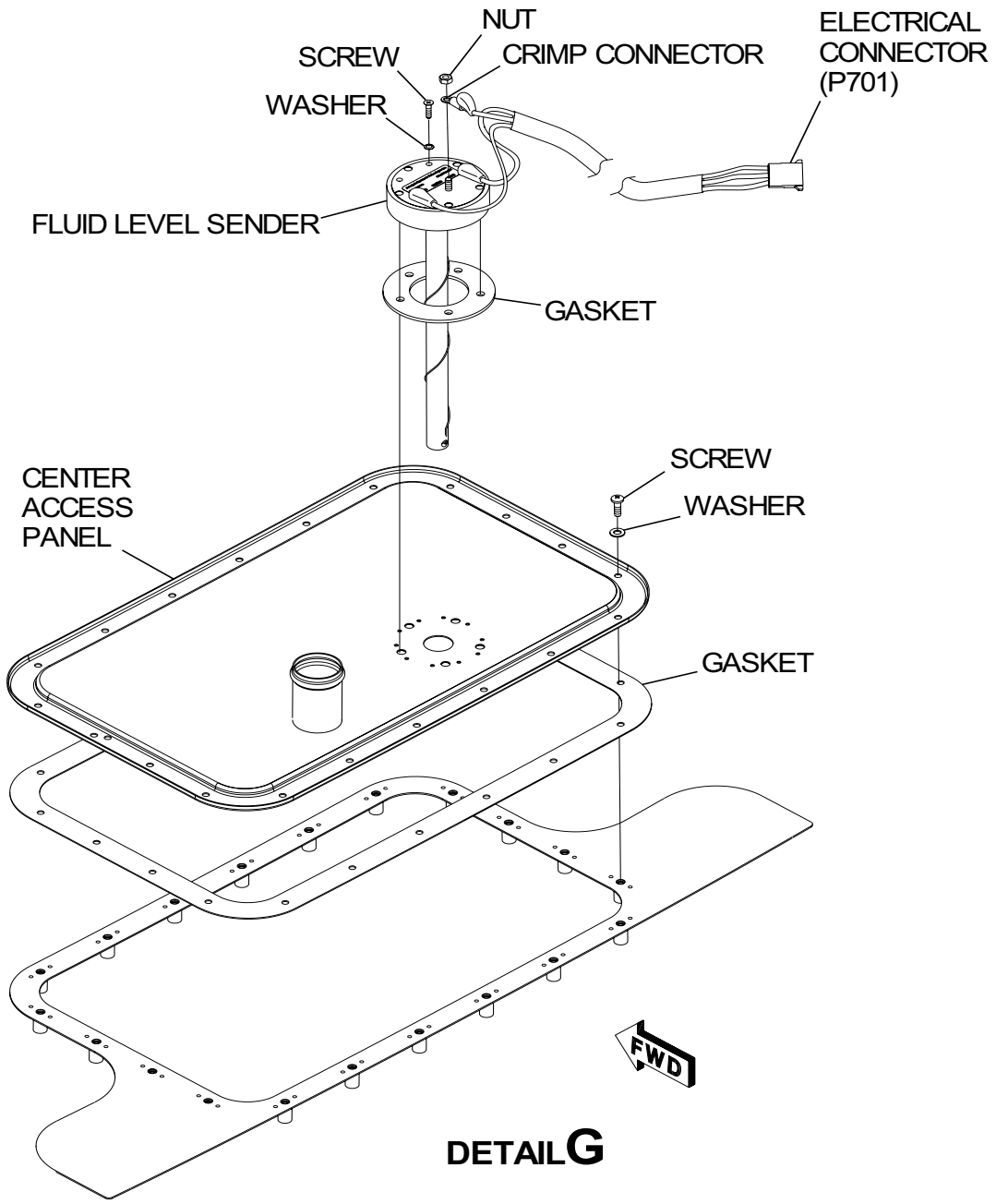


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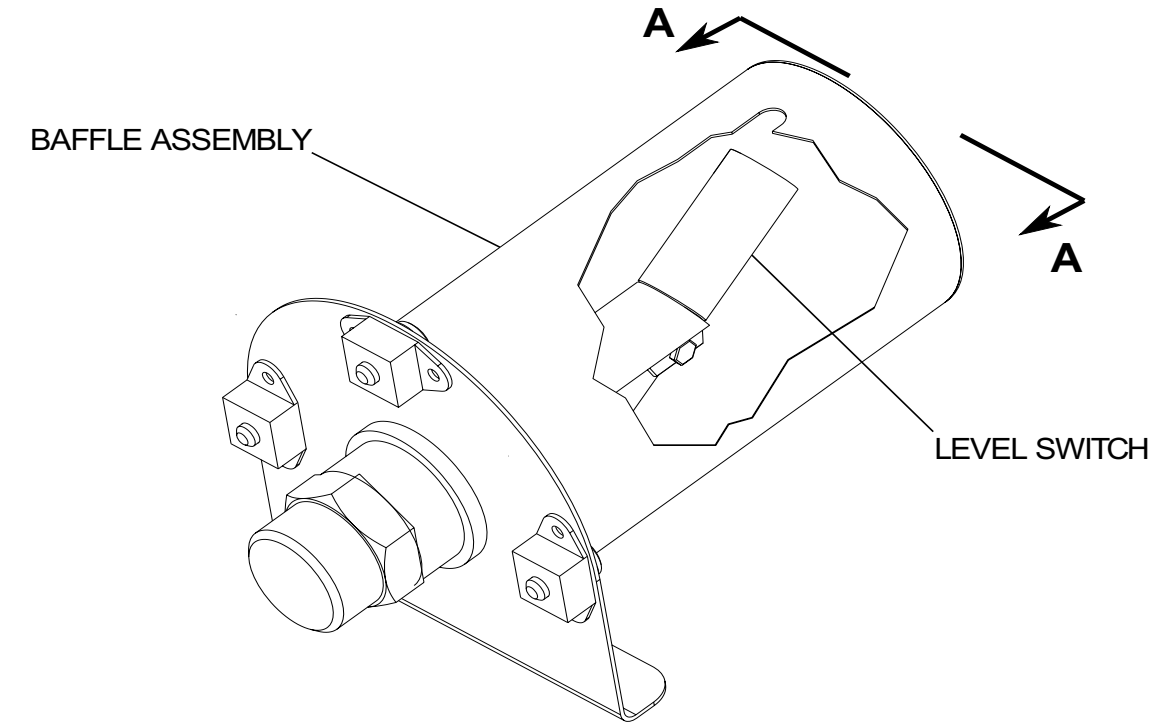
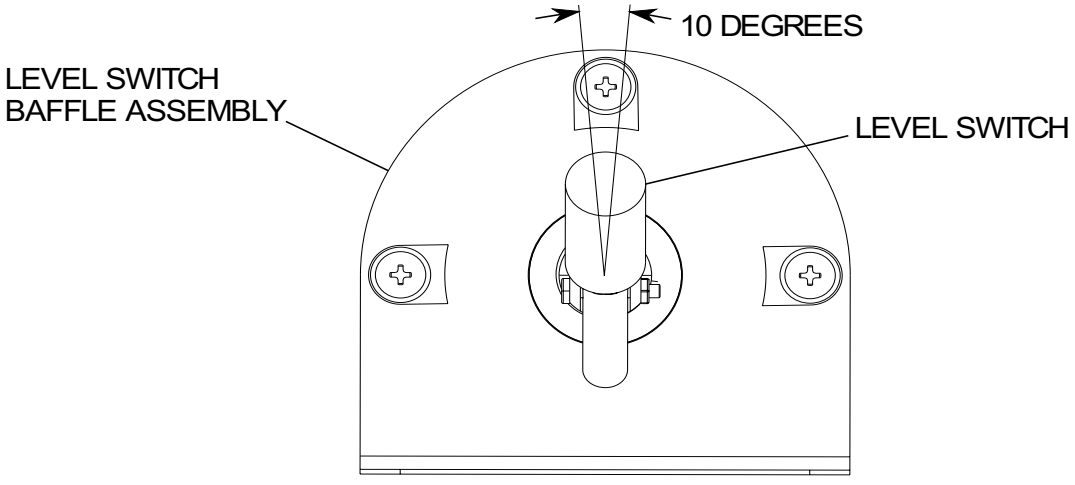
Figure 201 : Sheet 5 : TKS System Installation

A80248




DETAIL H

FWD




VIEW A–A

**NOTE:** INSTALL THE SWITCH VERTICAL WITHIN THE DIMENSION SHOWN.

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AA2614T1436

Figure 202 : Sheet 1 : TKS Nylon Tubing Assembly

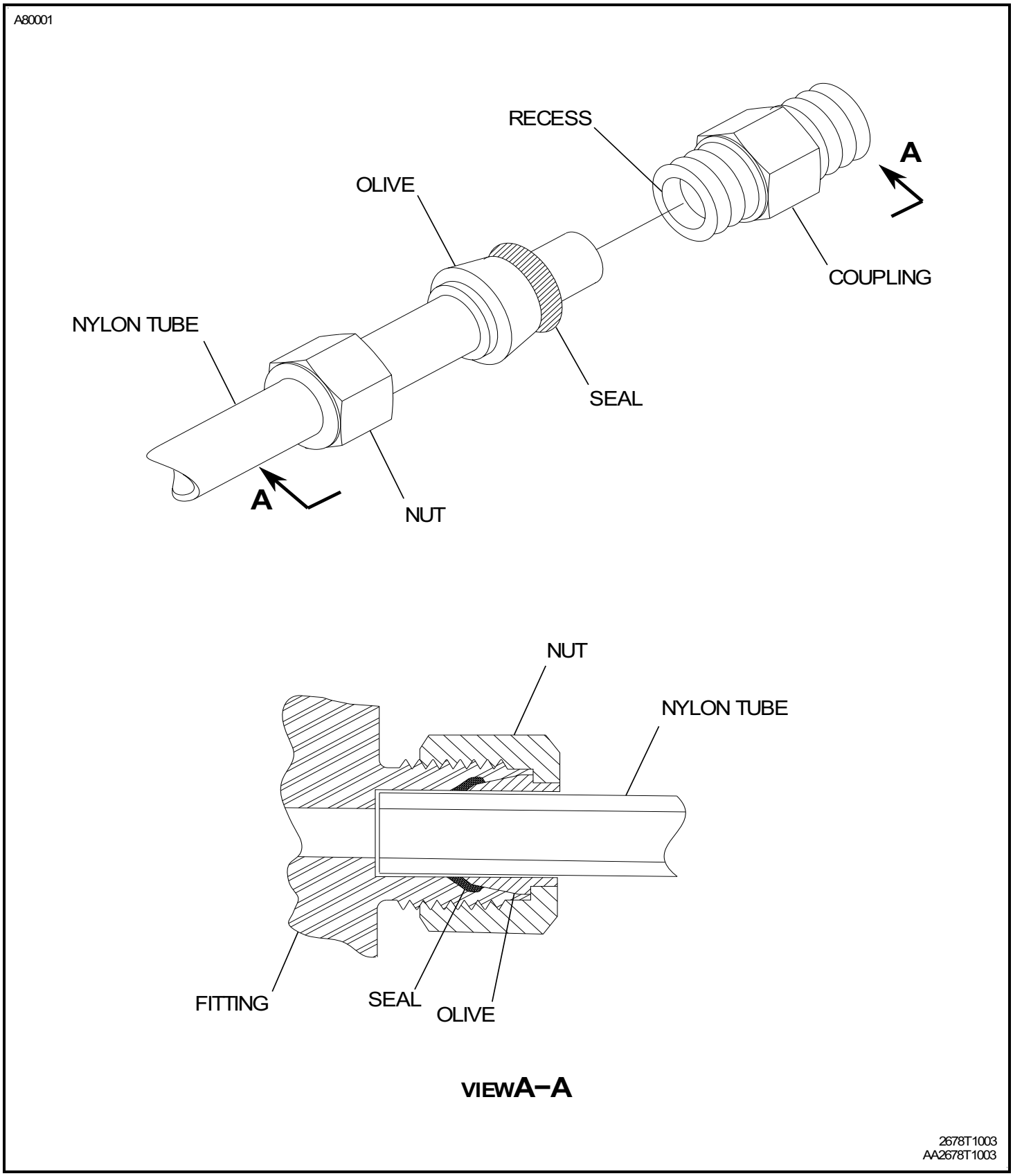


Figure 203 : Sheet 1 : TKS Filler and Vent Tube Installation

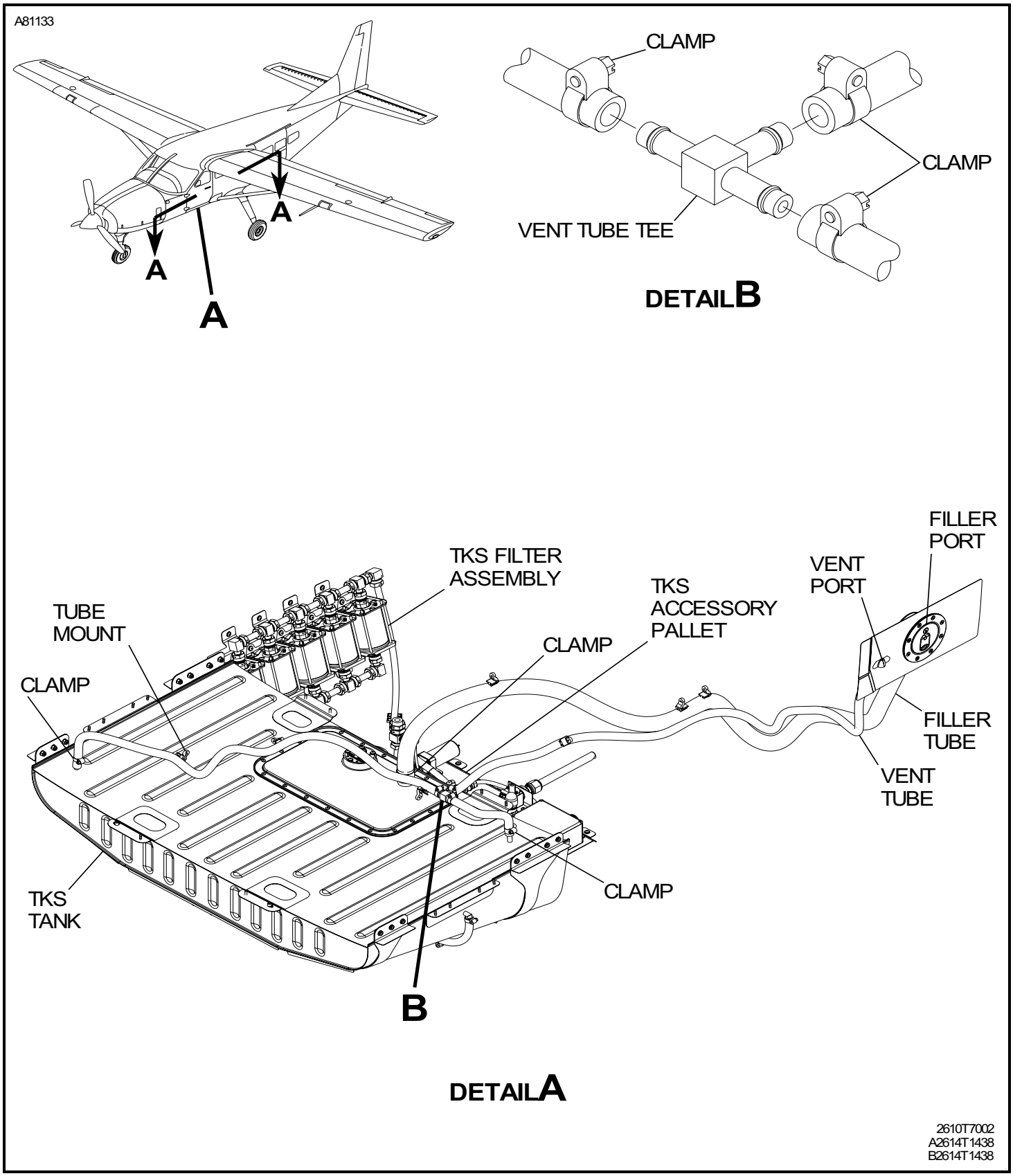
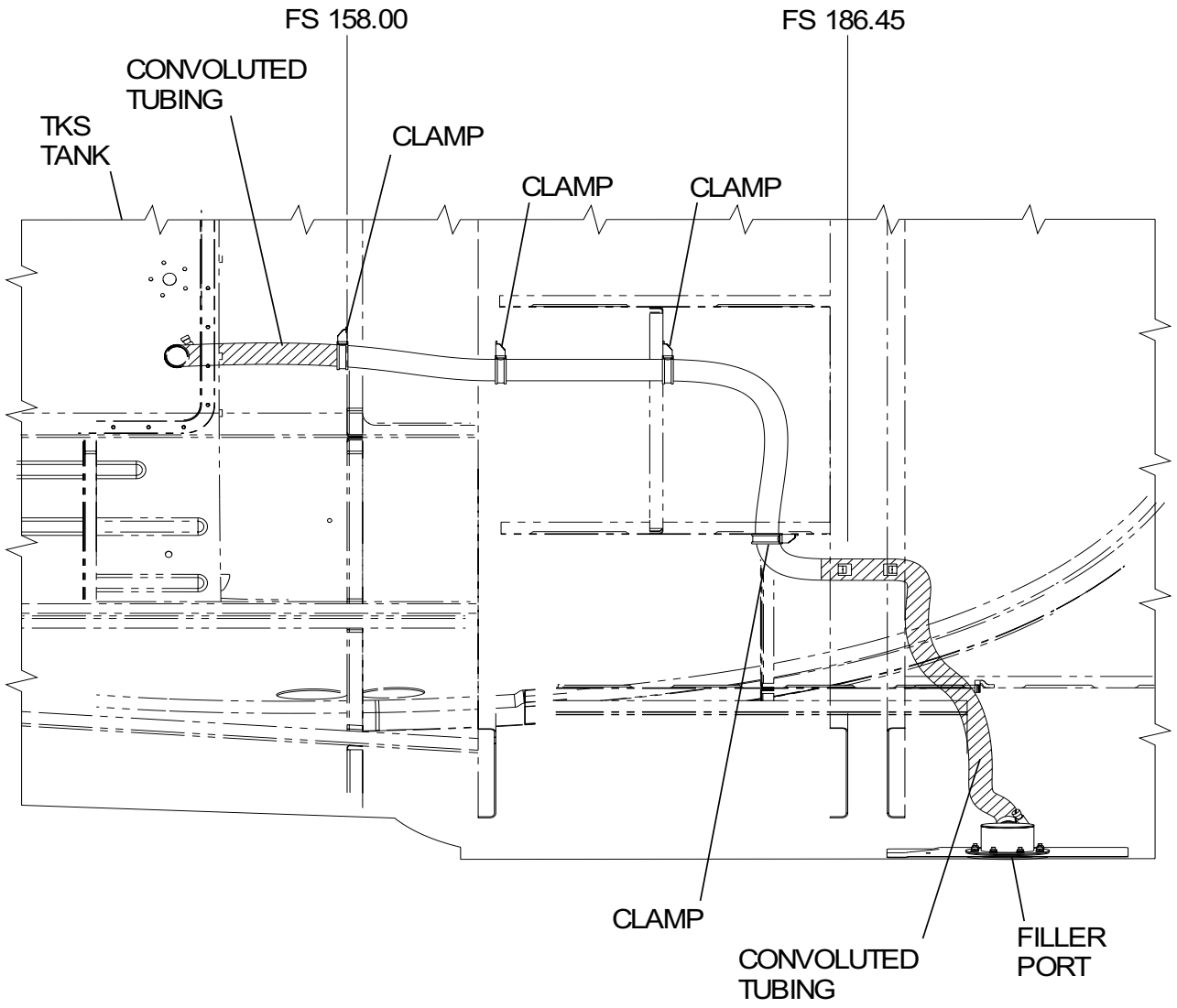


Figure 203 : Sheet 2 : TKS Filler and Vent Tube Installation

A85844




**VIEW A–A**

Model 208B TKS Fairing Installation Filler Tube Installation

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Figure 204 : Sheet 1 : Fuel Sump Assembly Installation

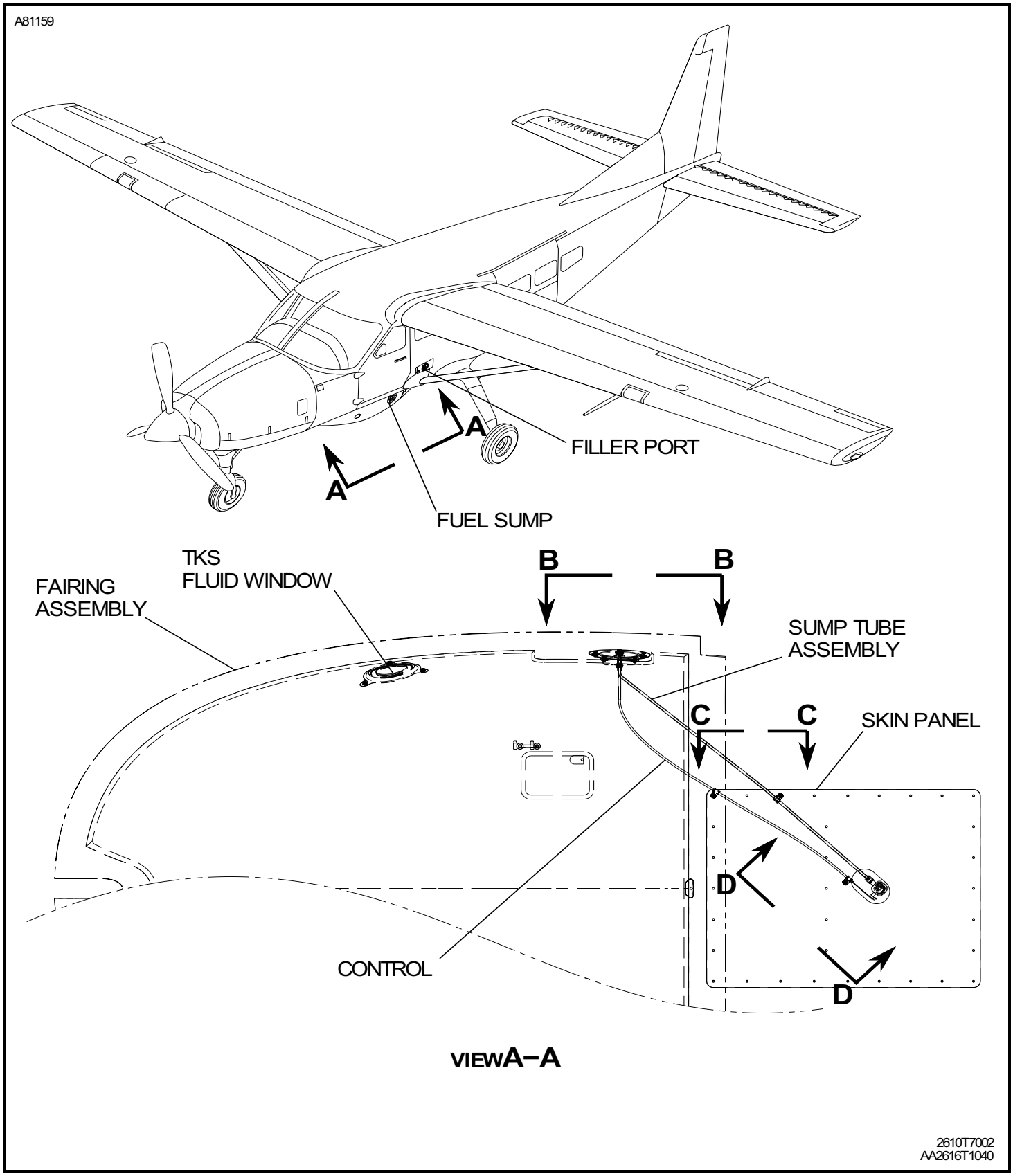


Figure 204 : Sheet 2 : Fuel Sump Assembly Installation

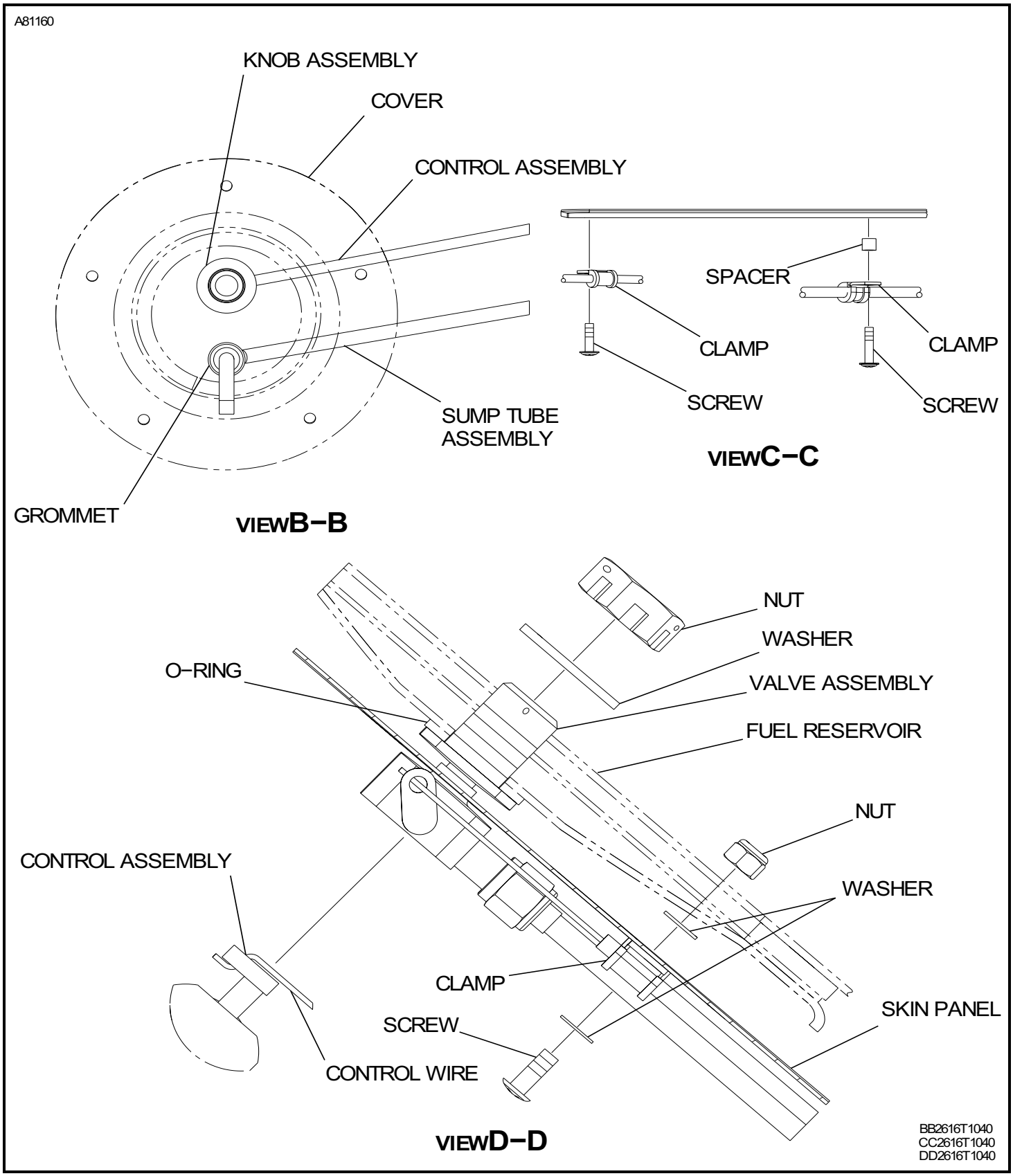
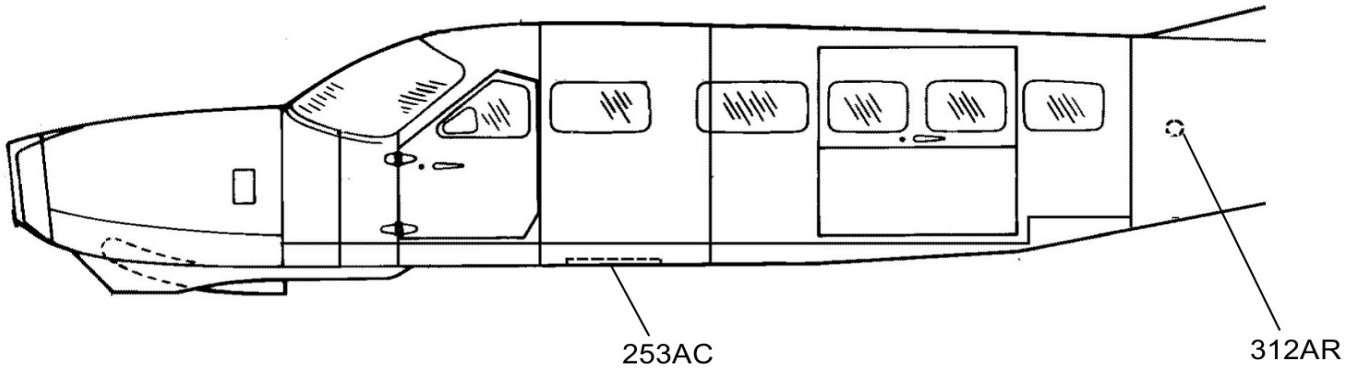


Figure 1 : Sheet 1 : Fuselage Access Plates/Panels Identification

A22944




VIEW LOOKING AT LEFT SIDE OF FUSELAGE

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