TKS ANTI-ICE WINDSHIELD SPRAY BAR - MAINTENANCE PRACTICES

1. General

A. This section contains the removal and installation procedures for the TKS anti-ice windshield spray bar.

B. Recommended maintenance to keep the TKS fluid at its correct viscosity is as follows:

- Operate the pumps monthly, or as necessary, in the HIGH mode until the air is removed from the fluid system.
- Keep the TKS system operational at all times to keep air pockets out of the system.
- If the fluid tank is removed and installed or replaced, do the porous panel purge and test procedures.

NOTE: If the fluid is too thick, the porous panels can become blocked or clogged.

2. Tools and Equipment

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

3. TKS Anti-Ice Windshield Spray Bar Removal/Installation

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

WARNING: Before you disconnect components of the TKS anti-ice system, slowly loosen the coupling that is connected to the component to be removed because it is possible that pressure is still in the system.

WARNING: Immediately remove (clean) or contain all the TKS fluid that is spilled. TKS fluid on the floor will cause a slip hazard.

WARNING: Before you operate the TKS system during this procedure put plastic sheets or absorbent cloths under the porous panels to keep the TKS fluid off the floor. This will help to prevent injury to personnel.

WARNING: Correctly discard all unwanted TKS fluid and dirty cloths. TKS fluid is a hazardous waste and must be discarded in accordance with 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 Windshield Spray Bar (Refer to Figure 201 and Figure 202).

(1) Remove external electrical power from the airplane.

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

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

(3) On airplanes that have the G1000 system installed, disengage the ENG INTFC circuit breaker on the left circuit breaker panel.

(4) On airplanes that do not have the G1000 system installed, disengage the ANTI-ICE GAUGE circuit breaker on the left circuit breaker panel.

(5) Open the engine cowl doors.

(6) Disconnect the hose fitting from the spray bar assembly.

(7) Loosen the spray bar backnut that attaches the spray bar fitting to the bracket.

(8) Install caps on all tube ends to keep FOD out of the TKS system.

(9) Remove the screws that attach the deflector, P-clips, and spray bar to the cowl deck.

(10) Remove the deflector, P-clips, and spray bar from the airplane.

B. Install the Windshield Spray Bar (Refer to Figure 201 and Figure 202).

(1) Put the deflector, P-clips, and spray bar in position on the cowl deck.

(a) Make sure that the P-clips are not on the spray bar holes.

(2) Install the screws that attach the deflector, P-clips, and spray bar to the cowl deck.

(3) Remove the caps from the tube ends.

(4) Connect the hose fitting to the spray bar assembly.

(5) Tighten the spray bar backnut that attaches the spray bar fitting to the bracket.

(6) Use Type I, Class B sealant to apply a fillet seal along the forward edge of the deflector.

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

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

(8) On airplanes that have the G1000 system installed, engage the ENG INTFC circuit breaker on the left circuit breaker panel.

(9) On airplanes that do not have the G1000 system installed, engage the ANTI-ICE GAUGE circuit breaker on the left circuit breaker panel.

(10) Supply external electrical power to the airplane.

(11) Put the EXTERNAL POWER switch on the pilot's switch panel in the BUS position.

(12) Put the MAX FLOW switch on the ANTI-ICE FLUID CONTROL switch panel in the WINDSHIELD position, then release the switch.

NOTE: The windshield pump will start when you put the spring-loaded MAX FLOW switch in the WINDSHIELD position and it will continue for four seconds after you release it.

(a) Make sure that fluid flows from the spray bar.

(b) Make sure that there is no fluid leakage from the fitting.

(13) Remove external electrical power from the airplane.

(14) Clean the floor and the airplane surfaces as necessary.

(15) Close the engine cowl doors.

Figure 201 : Sheet 1 : TKS Anti-Ice System Flow Diagram

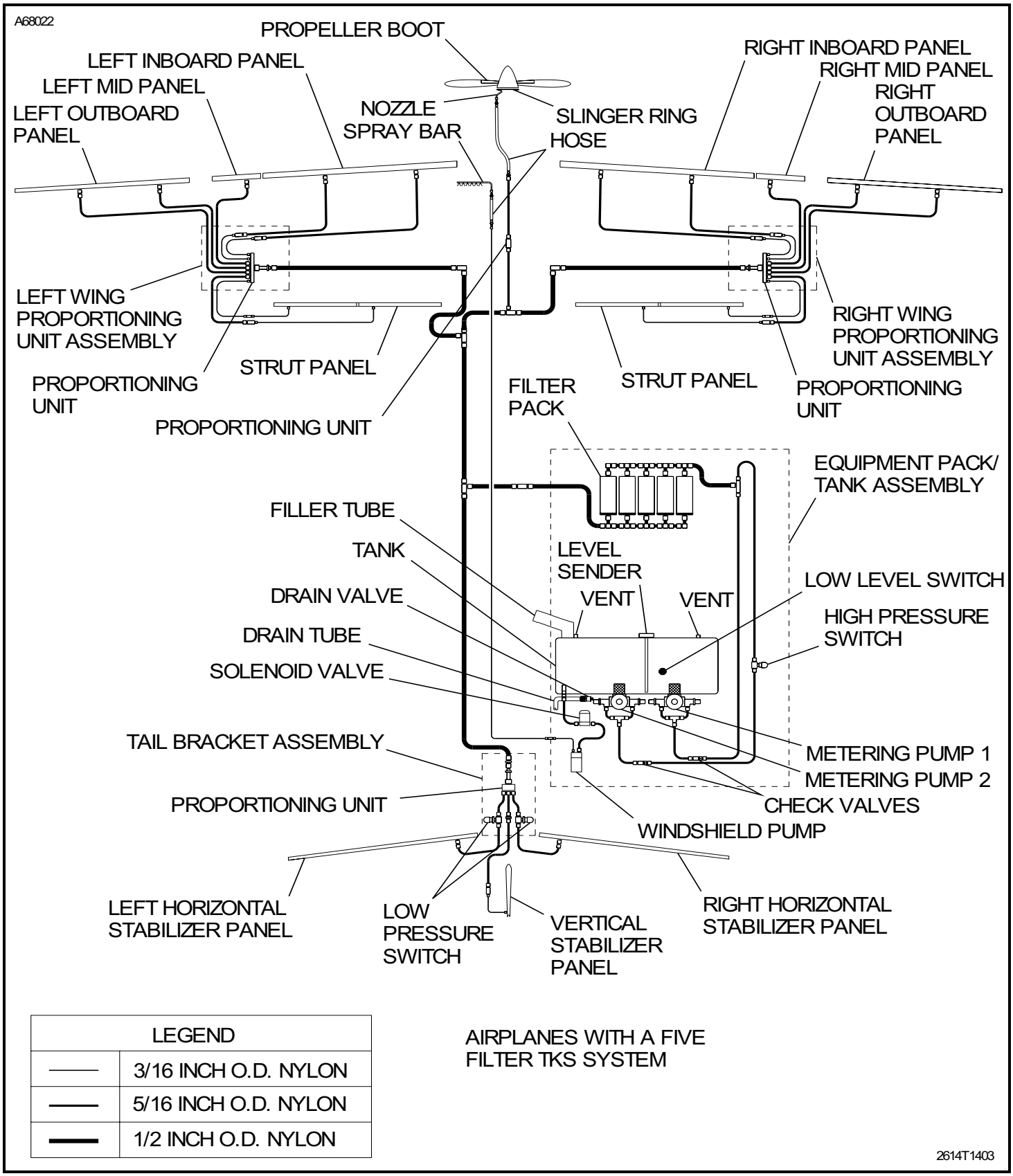

Figure 201 : Sheet 2 : TKS Anti-Ice System Flow Diagram

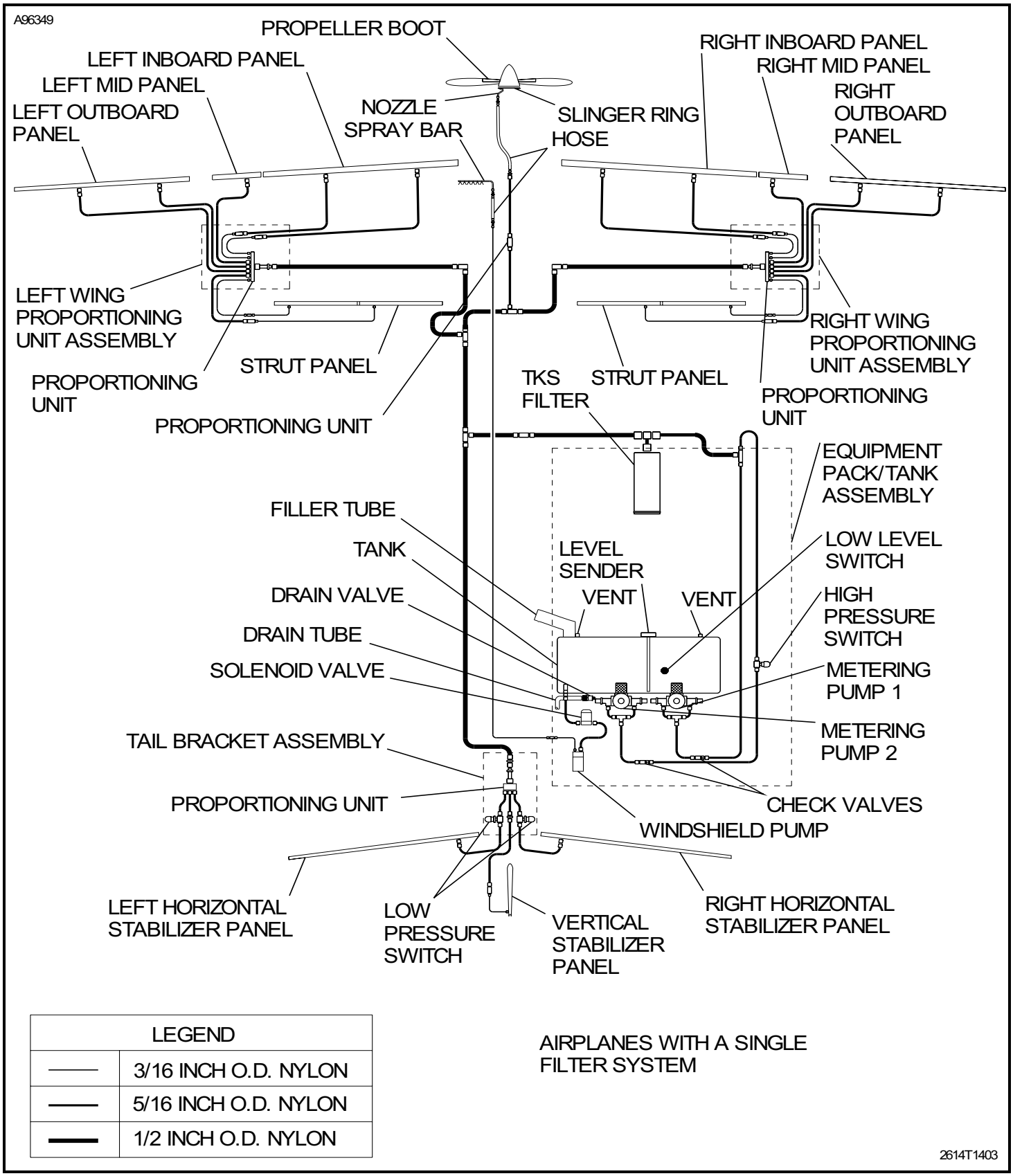

Figure 202 : Sheet 1 : TKS Anti-Ice System Windshield Spray Bar