



Air Plains Services Corporation
P.O Box 541
Wellington, KS 67152
Tel. 620-326-8904
www.airplains.com

MANDATORY

SERVICE BULLETIN

Service Bulletin: APS-050601

August 18, 2005

TITLE

Addition of fuel shut off valve to STC SA00785AT and STC SA01345AT.

EFFECTIVITY

STC: SA00785AT (IO-550)

Make: Cessna

Model: 180 Series

STC: SA01345AT (IO-520)

Make: Cessna

Model: 180 Series

REASON

In the event the fuel selector handle is inadvertently placed in the "OFF" position, the aircraft's engine will run until the available fuel in the reservoir tank is depleted. This may occur during taxi sequence, during or soon after takeoff. This can result in personal injury or death. The installation of the shut off valve and other components under this service bulletin will alleviate this potentially dangerous condition by permitting the free flow of fuel from the header tanks while still allowing the pilot to exercise the option of affirmatively shut off the fuel flow.

DESCRIPTION

Aircraft will be equipped with a fuel shut off valve between header tank and firewall. A fuel shut off control will be installed in the center console, in front of the fuel selector valve, and secured with a 26 gauge break away safety wire. The fuel selector will be installed with a tab that will not allow the fuel selector to be placed in the OFF position.

COMPLIANCE

Air Plains considers this service bulletin to be MANDATORY. Accomplish this service bulletin at the earliest possible opportunity, but no later than six (6) months from the date this service bulletin is issued.

APPROVAL

FAA approval has been obtained on the technical data in this publication that affects airplane type design.

MATERIAL AVAILABILITY

Parts are available from Air Plains Services, Corp. If the installation is conducted at our facility in Wellington, KS, there will be no additional cost on the installation. Please call 1-800-752-8481 for the latest information and to schedule the service.

INSTALLATION INSTRUCTIONS

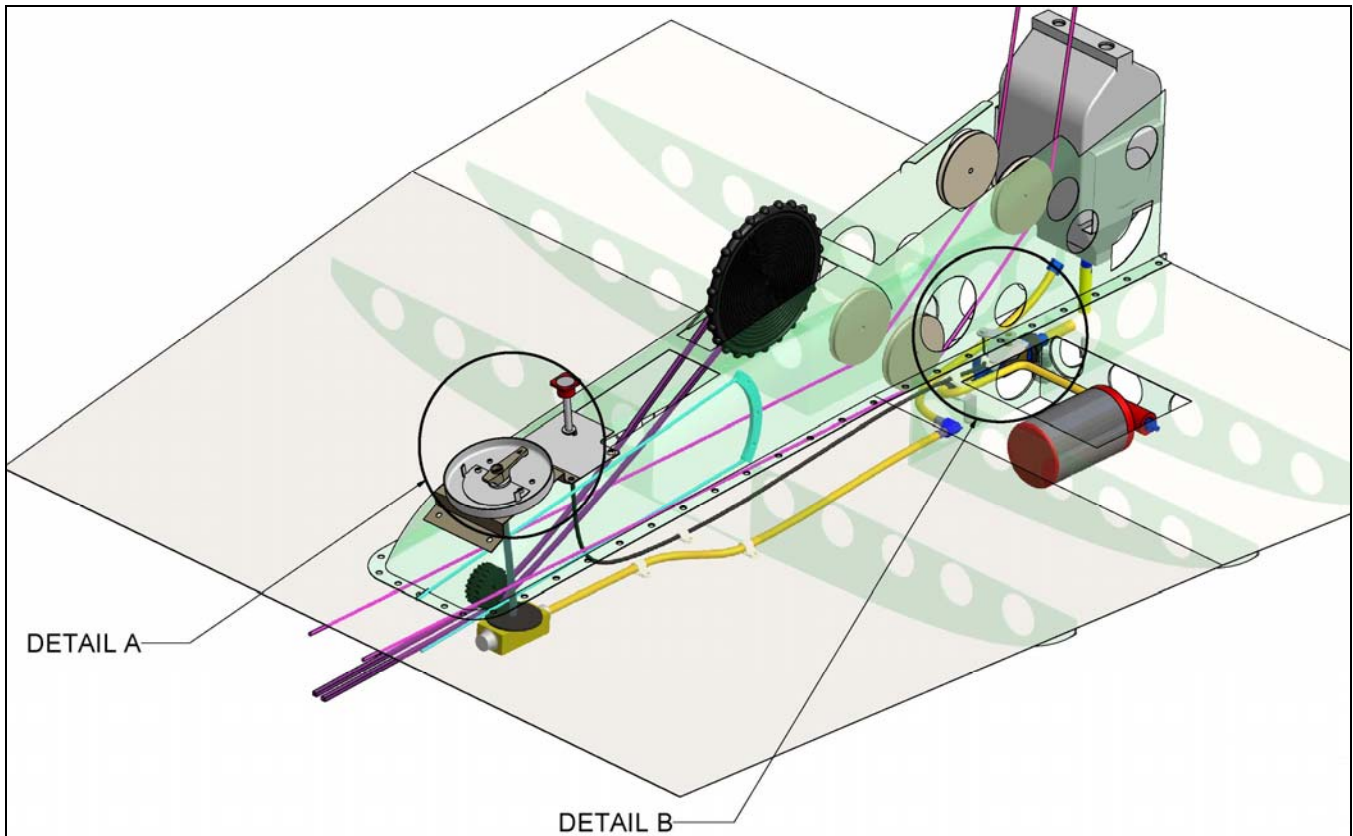


Figure 1 - Fuel Shut Off Installation Perspective View

Detail A shows the position of the fuel shut off control in the “OFF” position (full out), and the location of the fuel selector stop. **Detail B** shows the location of the fuel shut off valve. Detail on the installation can be found on the drawing included with this service bulletin (BN180-301 Sheet 2).

MANPOWER

A total of 12.0 hours of manpower per installation approximately.

MATERIAL INFORMATION

Parts required for this installation:

Table 1 - Required parts

QTY	PART NUMBER	DESCRIPTION
1	BN180-320	FUEL VALVE ASSEMBLY
3	MS28778-8	O-RING PACK – PREFORMED
2	AN894-D8-6	FITTING EXPANDER
1	MS21919-WDG18	ADEL CLAMP
1	MS21045-3	SELF-LOCK NUT
1	AN960-10	WASHER
1	BN-HDW-9	ALUMINUM SPACER
2	AN970-3	WASHER WIDE AREA
1	AN3-11A	BOLT
1	AN3-5A	BOLT
1	APS2323-5	CABLE BOLT

3	AN960-10	WASHER
1	AN960-10L	WASHER
2	MS21045-3	LOCK NUT
3	AN742-D3	CABLE CLAMP
4	8RX1/2THA	SHEET METAL SCREW
1	MS21919-WDG6	ADDEL CLAMP
1	BN180-333	STANDOFF
2	TINNERMAN	A1788-8Z-1
1	S1230-17	CONTROL CABLE
1	BN-LN-115	FUEL LINE FROM FUEL SHUT OFF VALVE TO ELECTRIC PUMP
1	BN-LN-114	FUEL LINE FROM RESERVOIR TANK TO FUEL SHUT OFF VALVE
1	BN180-331	BRACKET
1	BN180-332	SAFETY TAB
1	182024-201	FUEL SELECTOR STOP
2	AN525-832R7	MACHINE SCREW
2	MS21069-L08	NUT PLATE
2	A1789-8Z-1	U TYPE TINNERMAN
4	-	6 INCH 26 GAUGE BREAK AWAY COPPER WIRE

INSTRUCTIONS

For this installation you will need the following drawing:

- Installation Drawing: **Drawing BN180-301 SHT 2 – Fuel Shut Off Valve**

- Prepare the airplane for maintenance.
- Place fuel selector valve in the off position.
- Remove existing fuel line between header tank and fuel pump.
- (Ref. PN: BN180-301 Sht2 Detail B) Install (-3) fitting onto (-1) Fuel Valve Assy. using (-2) O-Rings.
- Install (-22) fuel line (P/N BN-LN-114) to the inlet side of the fuel valve Assy. (Note: Direction of the fuel flow is aft from header tank) Fuel line (-22) should be approximately 2.25 inches long.
- Temporarily install Fuel Shut Off valve / fuel line Assy. onto outlet fitting, bend and fit (-21) (P/N BN-LN-115) fuel line from fuel valve Assy. to the inlet side of fuel pump. If possible route the line through an existing lighting hole in center tunnel
- The control cable can be installed with the Fuel Shut Off valve / fuel line Assy. temporarily in place. (Ref. PN: BN180-301 Sht2 Detail A) Assemble (-20) cable Assy. and (-24) safety tab onto (-23) bracket. Install Assy. forward of existing fuel selector bracket using the two forward holes of fuel selector bracket. Permanently install cable bracket Assy. using (-16) screws and (-28) tinnermans in forward holes through existing holes in console. Route cable forward through center tunnel and secure to airframe as necessary to clear all flight control cables, lines, and other assemblies.
- Pull cable out of cable housing. With housing held in position on fuel Shut Off valve Assy. establish the required length to rig it properly, and cut housing.
- If necessary, remove the Fuel Shut Off valve and the cable through aft access hole in order to make the cable installation easier. Reinstall cable into housing and install onto Fuel Shut Off valve Assy. using (-15) clamp and indicated fasteners. Upon rigging cable be certain that there is at least 1/8 inch cushion at the cable knob in the full in position.

10. After rigging cable, place Fuel Shut Off valve Assy. through hole and permanently install onto header tank and fuel pump.

11. (Ref. PN: [BN180-301 Sht2 Detail B](#)) With the Fuel Shut Off Valve permanently installed, fit and install (-18) stand-off aft of the Fuel Shut Off Valve, in such a manner as to clear all control cables, lines and Assemblies. An Adel clamp (-4) is also required to be installed forward of the Fuel Shut Off valve with (-7) spacer and indicated hardware around (-3) bushing expander.

12. Now install (P/N 182024-201 Fuel Tank Selector Valve Stop). With the Fuel Tank Selector Valve handle removed, position selector stop onto selector plate assembly and mark holes. Drill through plate and bracket with #10 drill bit. Disassemble plate/bracket assembly and install two nut plates (-27) P/N MS21069-L08 with # 3 flush rivets on the bracket. Reassemble Selector Valve Plate assembly and install Fuel Tank Selector Valve Stop with two screws P/N AN525-832R7. Reinstall fuel selector handle.

INCLUDED DOCUMENTS

The following documents included with this service bulletin are:

1. Installation Drawing: **Drawing BN180-301 SHT 2 – Fuel Shut Off Valve**
2. Master Drawing List: **1016-DL-APS MDL IO-550 Rev D or 1018 DL-APS MDL IO-520 REV A**
3. Installation Instructions: **APS1016 Install. Inst. IO-550 REV A or APS1016 Install. Inst. IO-520 REV A**
4. Revised Supplemental Airplane Flight Manual listed for each STC below:
(This document or a copy must be present in the aircraft during operation)

<u>STC SA01345AT:</u>	<u>STC SA00785AT:</u>
<p>C180-520-APSFM1 180, Serial No. 30000 through 32661 180A, Serial No. 32662 through 50355</p>	<p>C180-550-APSFM1 180, Serial No. 30000 through 32150 180A, Serial No. 32151 through 50355</p>
<p>C180-520-APSFM2 180B, Serial #50356 through 50661 180C, Serial #50662 through 50911 180D, Serial #18050912 through 18051063 180E, Serial #18051064 through 18051183 180F, Serial #18051184 through 18051312 180G, Serial #18051313 through 18051445</p>	<p>C180-550-APSFM2 180B, Serial #50356 through 50661 180C, Serial #50662 through 50911 180D, Serial #18050912 through 18051063 180E, Serial #18051064 through 18051183 180F, Serial #18051184 through 18051312 180G, Serial #18051313 through 18051445</p>
<p>C180-520-APSFM3 180H, Serial No. 18051446 through 18052103</p>	<p>C180-550-APSFM3 180H, Serial No. 18051446 through 18052103</p>
<p>C180-520-APSFM4 180H, Serial #18052104 through 18052284 180J, Serial #18052285 through 18052489 180J, Serial #18052491 through 18052620</p>	<p>C180-550-APSFM4 180H, Serial #18052104 through 18052284 180J, Serial #18052285 through 18052489 180J, Serial #18052491 through 18052620</p>
<p>C180-520-APSFM5 180J, Serial No. 18052621 through 18052770 180K, Serial No. 18052771 through 18053000</p>	<p>C180-550-APSFM5 180J, Serial No. 18052621 through 18052770 180K, Serial No. 18052771 through 18053000</p>
<p>C180-520-APSFM6 180J, Serial Number 18052490 180K, Serial Number 18053001 through 18053203</p>	<p>C180-550-APSFM6 180J, Serial Number 18052490 180K, Serial Number 18053001 through 18053203</p>