



# CLASS I SERVICE INSTRUCTIONS

76

No. 1054  
ATA Code 28-20

**SUBJECT:** FUEL - PART I, INSTALLATION OF A CHECK VALVE ON THE FUEL TANK OUTLET;  
PART II, INSTALLATION OF AN IMPROVED FUEL SELECTOR VALVE

**EFFECTIVITY:** PART I

BEEHCRAFT Duchess 76, serials ME-2 through ME-6 and ME-8 through ME-133.

PART II

BEEHCRAFT Duchess 76, serials ME-1 through ME-6, ME-9 through ME-85, ME-87 through ME-90 and ME-92 through ME-99.

**REASON:** To reduce the possibility of fuel transferring from one wing to the other by installing check valves on the fuel tank outlets and installing improved fuel selector valves.

Part II of these Service Instructions are issued to submit the information contained in Liberal Service Letter No. 78-8 dated November 3, 1978 in the format of regular BEEHCRAFT Service Instructions. Liberal Service Letter No. 78-8 was issued to replace the fuel selector valves with improved fuel selector valves.

If compliance was made with the Liberal Service Letter, no further action is required for Part II except to enter a compliance statement for both documents in the airplane maintenance records.

**COMPLIANCE:** Beech Aircraft Corporation considers this to be a mandatory modification and it should be accomplished as soon as possible after receipt of these Service Instructions, but no later than the next 50 service hours.

**APPROVAL:** FAA Approved - DOA CE-2.

**MANPOWER:** The following information is for planning purposes only:

PART I

Estimated man-hours: 10 hours.  
Suggested number of men: 1 man.

PART II

Estimated man-hours: 8 hours.  
Suggested number of men: 1 man.

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CLASS I

Beech Aircraft Corporation issues service information for the benefit of owners and fixed base operators in the form of three classes of Service Instructions. CLASS I (Red Border) are changes, inspections, and modifications that could affect safety. The factory considers compliance mandatory. CLASS II (Green Border) covers changes, modifications, improvements or inspections the factory feels will benefit the owner and although highly recommended, they are not considered mandatory compliance, unless specified at the time of issuance. Class I and II are mailed to:

- (a) BEEHCRAFT Aero or Aviation Centers and International Distributors and Dealers.
- (b) Owners of record on the FAA Registration list and the

BEEHCRAFT International Owner Notification Service List.  
(c) Those having a publications subscription.

CLASS III (No Border) covers changes which are optional, maintenance aids, product improvement kits and miscellaneous service information. Compliance is at the owner or operator's prerogative. Copies of Class III are distributed per a and c above. Information on Owner Notification Service or Subscriptions can be obtained through any BEEHCRAFT Aero or Aviation Center, International Distributor and Dealer, or the Factory. As Service Instructions are issued, temporary notation in the index should be made until the index is revised. Warranty will be allowed only when specifically defined in the Service Instructions and in accordance with Beech Warranty Policy.

98-34239D



Member of GAMA  
General Aviation  
Manufacturers Association

**Service Instructions No. 1054**

**MATERIAL:**

The following parts required for this modification may be ordered through BEEHCRAFT Aero or Aviation Centers and International Distributors and Dealers.

**PART I**

PART NUMBER	DESCRIPTION	QUANTITY PER AIRPLANE
367-00	Check Valve	2
105-920000-45	Tube Assembly	2
105-920000-111	Tube Assembly	1
105-920000-113	Tube Assembly	1
105-920000-115	Tube Assembly	1
105-920000-117	Tube Assembly	1

**PART II**

PART NUMBER	DESCRIPTION	QUANTITY PER AIRPLANE
105-389010-1	Fuel Selector Valve	2

**WARRANTY:**

Warranty credit for parts and labor to the extent noted under MATERIAL and MANPOWER will be allowed for all claims submitted prior to December 31, 1979 for Part I and June 30, 1979 for Part II.

All warranty reimbursements are handled through franchised BEEHCRAFT outlets. Owners and operators may arrange with these outlets to perform the work and submit the standard Beech Aircraft Corporation warranty claim form to the Commercial Service Department, Beech Aircraft Corporation, Wichita, Kansas 67201.

**SPECIAL TOOLS:**

None.

**WEIGHT AND BALANCE:**

None.

**REFERENCES:**

BEEHCRAFT Duchess 76 Maintenance Manual, P/N 105-590000-7 or subsequent, Chapters 28-20, 71-00 and 91-00.

**PUBLICATIONS AFFECTED:**

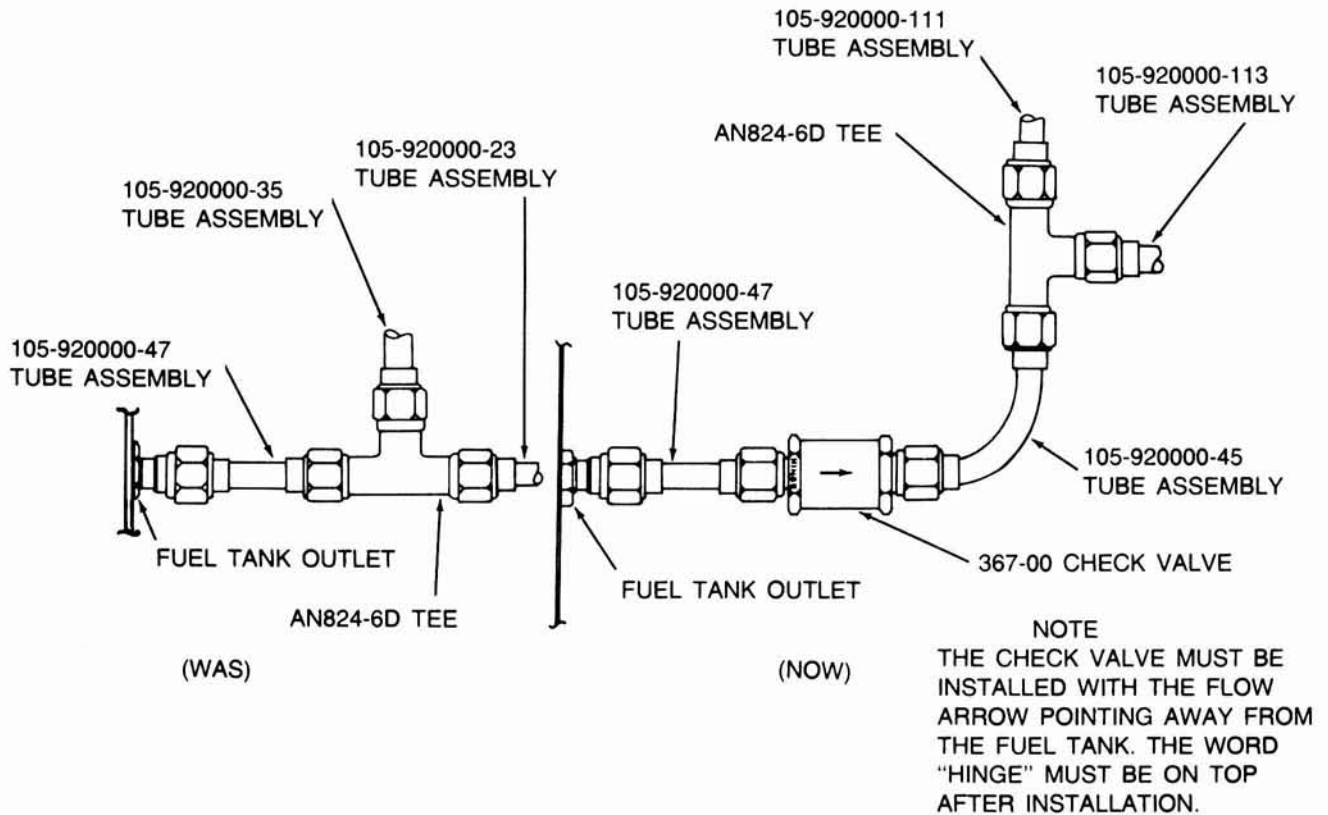
It is recommended that a note to "See Service Instructions No. 1054" be made in all BEEHCRAFT Duchess 76 Parts Catalog copies, P/N 105-590000-9 or subsequent, Chapter 28-20.

**ACCOMPLISHMENT INSTRUCTIONS:**

These Service Instructions may be accomplished on both sides of the airplane as follows:

**PART I**

1. Turn off and/or disconnect all electrical power and disconnect the battery.
2. Refer to the Duchess 76 Maintenance Manual, Chapter 28-00 and defuel and purge the fuel system.
3. Remove the upper nacelle access panel and the access panel on the bottom of the wing just inboard of the fuel tank to gain access to the fuel lines.
4. Disconnect the three tube assemblies from the P/N AN824-6D tee and remove the tee from the nacelle (see Figure 1 LH or Figure 2 RH).
5. Disconnect the P/N 105-920000-23 LH or 105-920000-13 RH tube assembly from the union in the wheel well. Push the wheel well bulkhead grommet out of the bulkhead. Disconnect the grounding clamps and remove the tube assembly through the wheel well.



**Figure 1**  
**LH Fuel Line Installation**  
**(Top View)**

6. Disconnect the P/N 105-920000-35 LH or 105-920000-25 RH tube assembly from the union at the aft nacelle bulkhead. Disconnect the grounding clamps and remove the tube assembly from the nacelle.

7. Install a P/N 367-00 check valve on the fuel tank outlet line as shown in Figure 1 or Figure 2. The check valve must be installed with the flow arrow pointing inboard (away from the fuel tank) and the word "HINGE" (stamped in one flat of the hex) must be on the top after installation.

**NOTE**

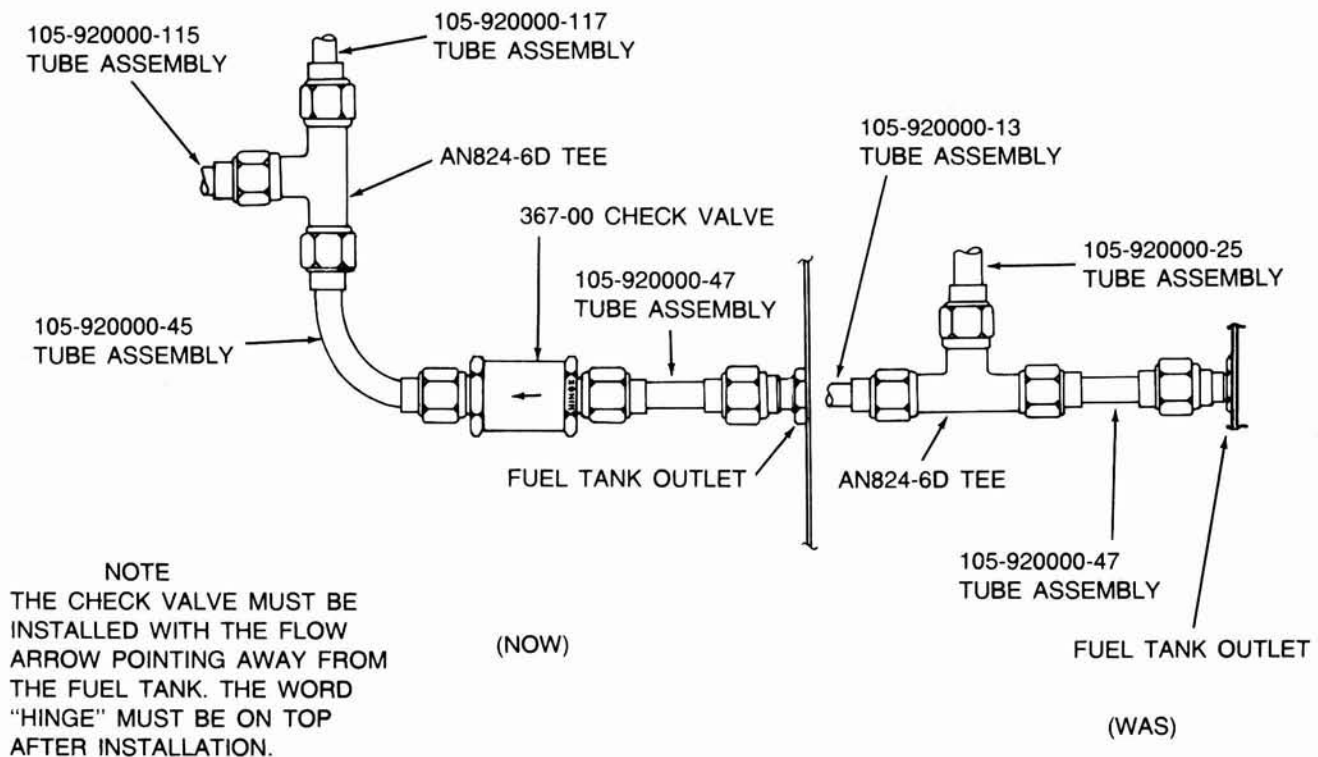
Lubricate and torque all flared fuel fittings as specified in the Duchess 76 Maintenance Manual, Chapter 91-00, Charts 2 and 3.

8. Install a P/N 105-920000-111 LH or 105-920000-117 RH tube assembly in the nacelle. Connect the P/N 105-920000-111 LH or 105-920000-117 RH tube assembly to the union where the P/N 105-920000-35 LH or 105-920000-25 RH tube assembly was removed. Do not tighten the fitting at this time.

9. Install the wheel well bulkhead grommet on a P/N 105-920000-113 LH or 105-920000-115 RH tube assembly and install the tube assembly through the wheel well. Connect the P/N 105-920000-113 LH or 105-920000-115 RH tube assembly to the union in the wheel well where the P/N 105-920000-23 LH or 105-920000-13 RH tube assembly was removed. Do not tighten the fitting at this time.

10. Connect a P/N 105-920000-45 tube assembly to the P/N 367-00 check valve as shown in Figure 1 or Figure 2. Do not tighten the fitting at this time.

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**Figure 2**  
**RH Fuel Line Installation**  
**(Top View)**

11. Connect the P/N AN824-6D tee (removed in step 3) between the three tube assemblies as shown in Figure 1 or Figure 2. Torque the fittings on both ends of the three tube assemblies.
12. Reinstall any grounding clamps which were removed and reinstall the wheel well bulkhead grommet in the bulkhead.
13. Fill both fuel tanks with the appropriate grade fuel and check all fittings for leaks.
14. Reconnect the battery.
15. Refer to the Duchess 76 Maintenance Manual, Chapter 71-00 and ground run the engines. Check for proper operation with the fuel selector valve in ON, CROSSFEED and OFF positions.

### NOTE

With the engine at idle and the fuel selector valve in the OFF position the engine should shut down. Five to eight minutes may be required to burn off residual fuel after the selector valve is turned off.

16. Reinstall any access panels or equipment removed to accomplish these Service Instructions.

### PART II

1. Turn off and/or disconnect all electrical power and disconnect the battery.
2. Refer to the Duchess 76 Maintenance Manual, Chapter 28-20 and remove the fuel selector valve.

3. Inspect the new P/N 105-389010-1 fuel selector valve to ensure that it has the proper date code stamped in the data plate. The date code is stamped under the model number on the data plate and consists of a number and a letter. The number should be a "5" or higher and the letter should be a "D". In addition the new fuel selector valve should have the letter "A" etched in the body of the strainer bowl.
4. If the new fuel selector valve has the proper markings, refer to the Duchess 76 Maintenance Manual, Chapter 28-20 and install the fuel selector valve.
5. Refer to the Duchess 76 Maintenance Manual, Chapter 28-20 and check the fuel selector control adjustment.

**NOTE**

If the fuel selector control handle does not have sufficient travel to ensure that the fuel selector valve will go fully into the detent in both the ON and OFF positions, it may be necessary to lengthen the slot in the center floor console. The slot may be lengthened by carefully filing with a small flat file.

6. Fill both fuel tanks with the appropriate grade fuel and check all fittings for leaks.
7. Reconnect the battery.
8. Refer to the Duchess 76 Maintenance Manual, Chapter 71-00 and ground run the engine. Check for proper operation with the fuel selector valve in ON, CROSSFEED and OFF positions.

**NOTE**

With the engine at idle and the fuel selector valve in the OFF position the engine should shut down. Five to eight minutes may be required to burn off residual fuel after the selector valve is turned off.

9. Reinstall any access panels or equipment removed to accomplish these Service Instructions.

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**RECORD COMPLIANCE:**

Upon completion of these Service Instructions, make an appropriate maintenance record entry.