



CLASS I SERVICE INSTRUCTIONS

19, 23

No. 0608-159, Rev. I
ATA Code 73-20

Kit No. 23-9013-1 S
Kit No. 23-9013-3 S
Kit No. 23-9013-5 S

SUBJECT: FLIGHT CONTROLS - ENGINE CONTROLS - INSPECTION AND/OR REPLACEMENT OF FUEL MIXTURE CONTROL AND CARBURETOR HEAT CONTROL

SYNOPSIS OF CHANGES: Serial effectivity of Part II is reduced and Part III is increased; warranty period is extended; man-hours for inspection is added and Part II inspection is clarified.

EFFECTIVITY:

NOTE

These Service Instructions supersede and cancel Service Communique No. 17, dated 4-9-74 which was issued on the same subject as these Service Instructions.

PART I

BEECHCRAFT B19 Sport 150, serials MB-558 through MB-575, unless previously accomplished.

PART II

C23 Sundowner 180, serials M-1413, M-1417, M-1421, M-1430, M-1431 and M-1432.

PART III

C23 Sundowner 180, serials M-1414, M-1416, M-1418, M-1420, M-1422, M-1424 through M-1429, M-1433 through M-1436, M-1438, M-1440 through M-1446, M-1448 through M-1451, M-1455, M-1459, M-1460, M-1462, M-1463, M-1465 through M-1491 and M-1523 through M-1537, unless previously accomplished.

REASON: To provide an improved mixture and carburetor heat control.

COMPLIANCE: As soon as practical after receipt of these Service Instructions, but no later than the next 25 service hours. FAA AD-74-14-02 has been issued on the subject of these Service Instructions.

AW-832, AW-866, AW-865, AW-972
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R1174

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

BEECHCRAFT 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 BEECHCRAFT 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.

98-34239L

CLASS I

Service Instructions No. 0608-159, Rev. I

DESCRIPTION: PART I

The carburetor heat control in the B19 serials indicated is to be inspected and replaced as necessary with an improved control.

PART II

The mixture control and the carburetor heat control in C23 serials indicated are to be inspected and replaced as necessary with improved controls, and the mixture control is to be rerouted.

PART III

The mixture control in C23 serials indicated is to be rerouted.

APPROVAL: FAA Approved - DOA CE-2.

MANPOWER: The following information is for planning purposes only:

Estimated man-hours for inspection: 1 hour.

Estimated man-hours for Part I control replacement: 2 hours.

Estimated man-hours for Part II control replacement: 3 hours.

Estimated man-hours for Part III control reroute: 3 hours.

Suggested number of men for inspection, Part I, Part II or Part III: 1 man.

NOTE

Inspection of the control to determine if replacement is required should be accomplished before any modification is started.

MATERIAL: Parts required for this modification are contained in Kit No. 23-9013-1 S for Part I, in Kit No. 23-9013-3 S for Part II and in Kit No. 23-9013-5 S for Part III. The kits are available through your BEEHCRAFT Parts and Service Outlet.

WARRANTY: Warranty credit will be allowed for parts and labor not to exceed 1 man-hour for inspection, 2 man-hours for Part I or 3 man-hours for Part II or Part III on claims received prior to December 1, 1974. Submit all warranty claims to Parts and Service Operations, Beech Aircraft Corporation, Wichita, Kansas 67201. All orders for kits must be noted as being on warranty request.

SPECIAL TOOLS: None.

WEIGHT AND BALANCE: None.

REFERENCES: Marvel-Schebler Service Bulletin No. 1-71.
BEEHCRAFT 19, 23 and 24 series Shop Manual, P/N 169-590015F or subsequent.

PUBLICATIONS AFFECTED: It is recommended that a note to "See Service Instructions No. 0608-159, Rev. I" be made on the following:

19, 23 and 24 series Parts Catalog copies, P/N 169-590012G or subsequent, Figure 159;
19, 23 and 24 series Shop Manual copies, P/N 169-590015F or subsequent, Section 3, Page 3-54.

ACCOMPLISHMENT INSTRUCTIONS: Inspection and/or replacement of the fuel mixture and carburetor heat controls is accomplished as follows:

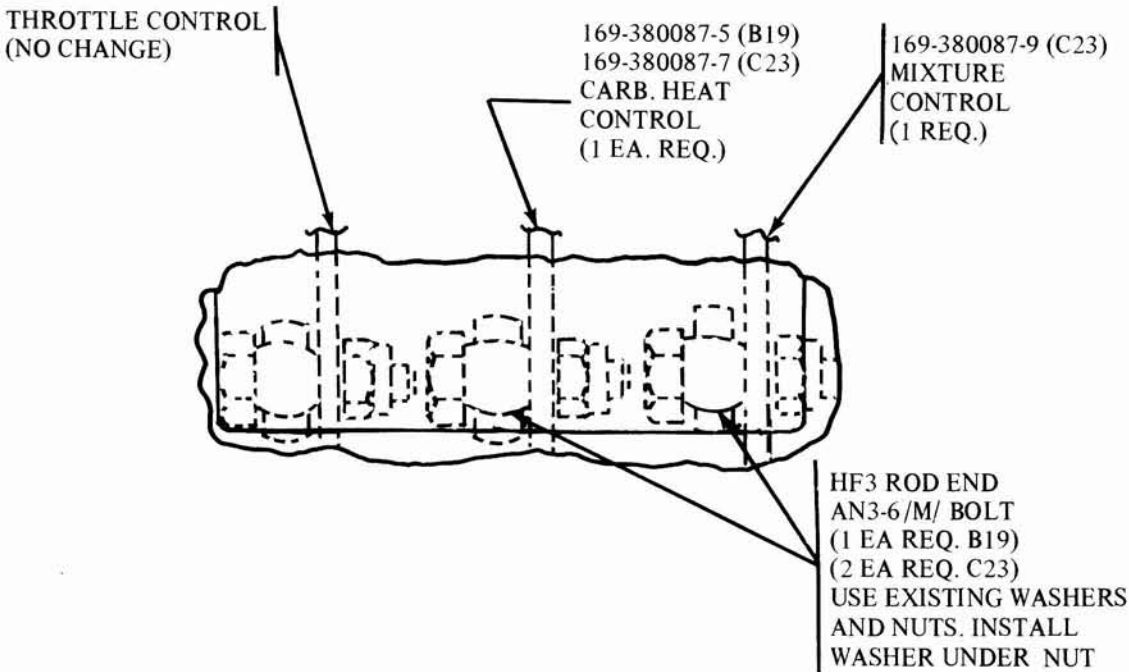


Figure 1. Control Quadrant Installation

PART I

1. Visually inspect the end of the carburetor heat control by looking through the slots in the cover over the control quadrant. If the control is attached to the lever by a rod end, no further action is necessary. If the control is not attached with a rod end, proceed with the following steps.
2. Disconnect the carburetor heat control assembly from the quadrant lever. Discard the attaching bolt, but retain

- the washer and nut.
3. Remove and discard the fairlead forward of the control levers, but retain the attaching hardware.
4. Disconnect the carburetor heat control from the carburetor air box valve and loosen the clamp at the air box bracket. Note the routing of the control so that the new control can be installed in the same position. Remove and discard the old control.
5. Route the new P/N 169-380087-5 carburetor heat

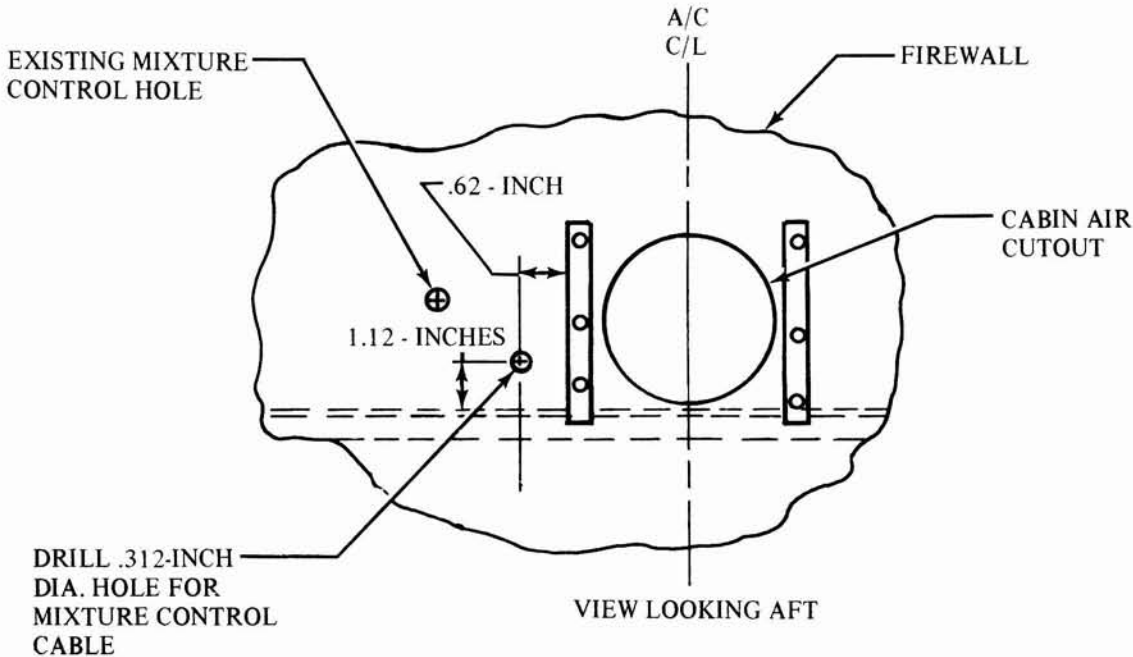


Figure 2. Mixture Control Routing

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control through the firewall and attach the HF3 rod end to the quadrant end of the control.

6. Install the new P/N 169-940017-47 and P/N 169-940017-49 fairleads using existing hardware.

7. Attach the control to the quadrant lever using the new AN3-6/M/ bolt and the existing nut and washer as shown in Figure 1.

8. Attach the carburetor heat control to the air box valve being certain that full travel of the air box valve is obtained. Tighten all attaching points.

PART II

1. Visually inspect both ends of the mixture and carburetor heat controls. If the controls are attached and routed as shown in Figures 1 and 3, no further action is necessary. If the controls are not attached and routed as shown, proceed with the following steps.

2. Disconnect the fuel mixture and/or carburetor heat control assemblies from the quadrant levers. Discard the

attaching bolts, but retain the washers and nuts.

3. Remove and discard the fairlead forward of the control levers, but retain the attaching hardware.

4. Disconnect the carburetor heat control from the carburetor air box valve and loosen the clamp at the air box bracket. Note the routing of the control so that the new control can be installed in the same position. Remove and discard the old control.

5. Disconnect the mixture control from the carburetor idle cutoff arm and retain the attaching hardware.

6. Loosen the clamps on the mixture control air box bracket and the firewall. Remove and discard the old control.

7. Remove the P/N 169-910019-9 arm from the carburetor idle cutoff cam and discard the arm, two screws and two nuts. Retain the two washers.

8. Route the new P/N 169-380087-7 carburetor heat control through the firewall and attach the HF3 rod end to the quadrant end of the control.

9. Drill a .312-inch diameter hole through the firewall as

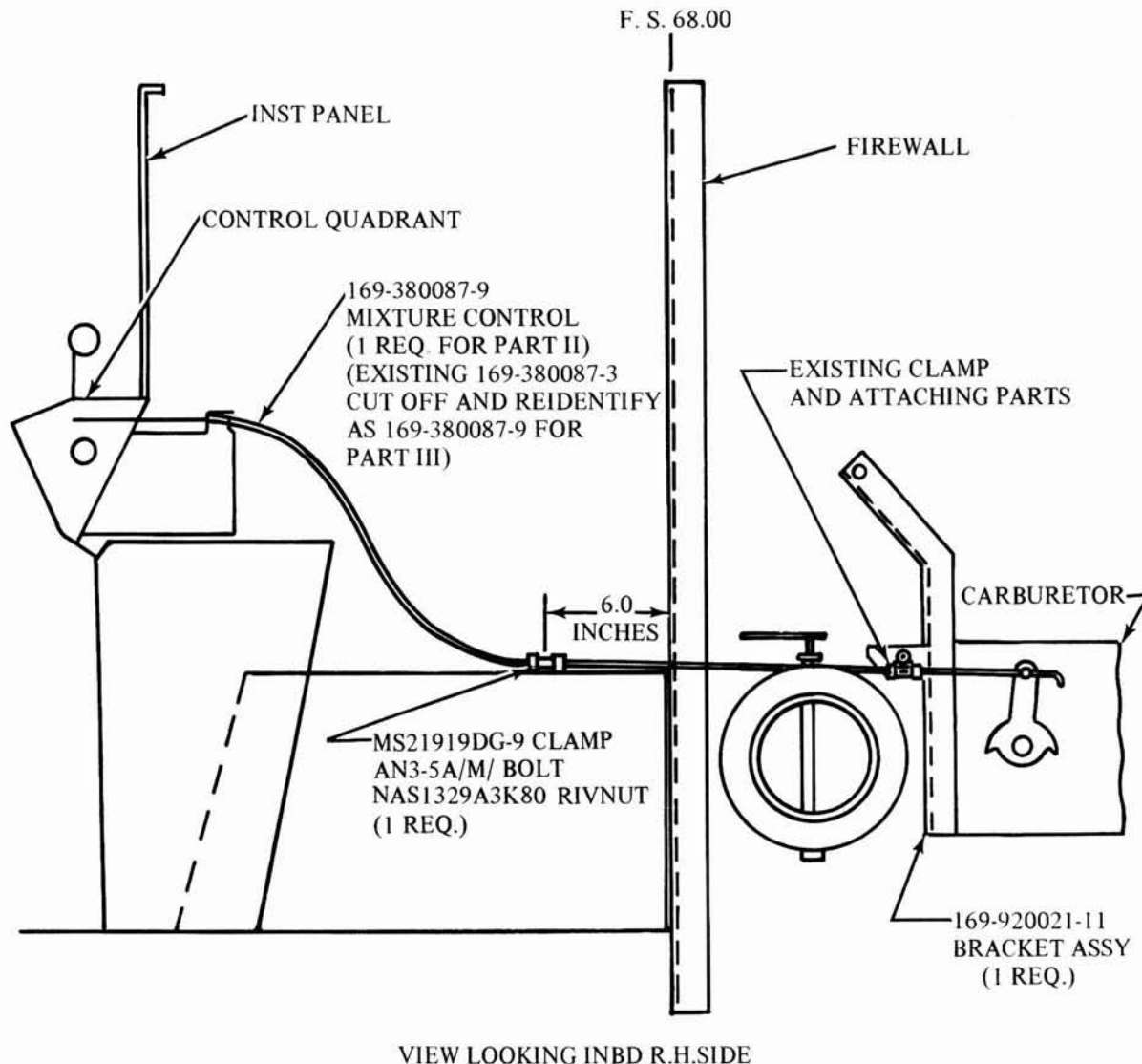


Figure 3. Mixture Control Installation

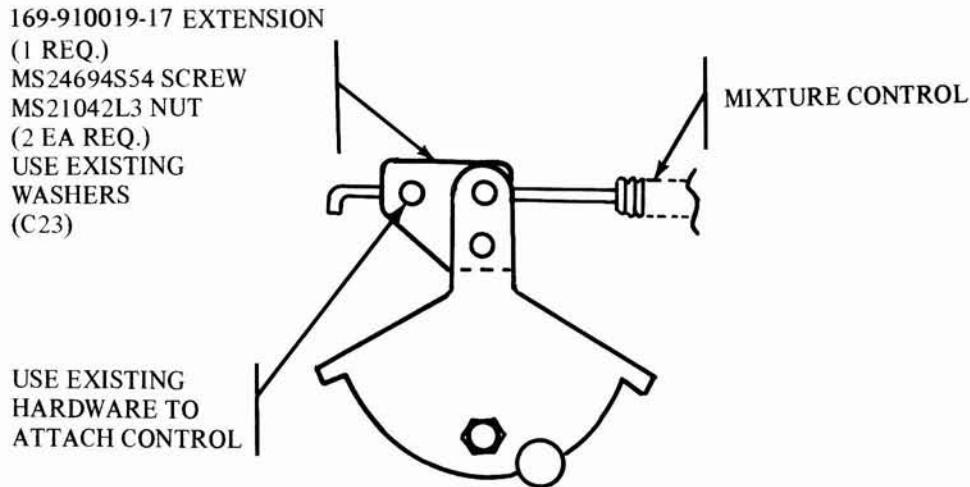


Figure 4. Fuel Mixture Control Extension Illustration

shown in Figure 2.

10. Attach the HF3 rod end to the quadrant end of the new P/N 169-380087-9 mixture control cable and route the cable through the hole which was drilled in the firewall in step 9. (See Figure 3.)

11. Secure the P/N 169-380087-9 control cable to the top of the control cover box with one each MS21919DG9 clamp, AN3-5A/M/ bolt and NAS1329A3K80 rivnut at a point six inches aft of the firewall. (See Figure 3.)

12. Remove the P/N 169-920021-1 bracket assembly from the carburetor and replace it with a new P/N 169-920021-11 bracket assembly. (Figure 3.)

13. Install the new P/N 169-940017-47 and P/N 169-940017-49 fairleads using existing hardware.

14. Attach the controls to the quadrant levers using the new AN3-6/M/ bolts and the existing nut and washer as shown in Figure 1.

15. Secure the mixture control cable assembly to the P/N 169-920021-11 bracket assembly with the existing clamp and attaching hardware.

16. Install the new P/N 169-910019-17 extension on the carburetor idle cutoff cam using the new MS24694S54 screws, MS21042L3 nuts, and existing washers as shown in Figure 4.

17. Attach the mixture control cable to the extension and rig the idle cutoff and mixture as directed in Section 3 of the Shop Manual. Tighten all attaching points. Lubricate the carburetor cam surface and cutoff valve with LPS aerosol spray lubricant or equivalent per Marvel-Schebler Service Bulletin No. 1-71.

PART III

1. Disconnect the mixture control from the carburetor idle cutoff arm and retain the attaching hardware.

2. Loosen the clamps on the mixture control air box bracket and the firewall.

3. Remove the P/N 169-910019-9 arm from the carburetor idle cutoff and discard the arm, two screws and two nuts. Retain the two washers.

4. Drill a .312-inch diameter hole through the firewall as shown in Figure 2.

5. Reroute the existing P/N 169-380087-3 mixture control cable through the hole which was drilled in the firewall in step 4. (See Figure 3.)

NOTE

It will be necessary to shorten the 169-380087-3 control cable to adapt it to the new routing. After cutting off the cable, reidentify it as P/N 169-380087-9.

6. Secure the mixture control cable to the top of the control cover box with one each MS21919DG9 clamp, AN3-5A/M/ bolt and NAS1329A3K80 rivnut at a point six inches aft of the firewall. (See Figure 3.)

7. Remove the P/N 169-920021-1 bracket assembly from the carburetor and replace it with a new P/N 169-920021-11 bracket assembly. (See Figure 3.)

8. Secure the mixture control cable assembly to the P/N 169-920021-11 bracket assembly with the existing clamp and hardware.

9. Install the new P/N 169-910019-17 extension on the carburetor idle cut-off cam using the new MS24694S54 screws, MS21042L3 nuts and existing washers as shown in Figure 4.

10. Attach the mixture control cable to the extension and rig the idle cutoff and mixture as directed in Section 3 of the Shop Manual. Tighten all attaching points. Lubricate the carburetor cam surface and cutoff valve with LPS aerosol spray lubricant or equivalent per Marvel-Schebler Service Bulletin No. 1-71.

RECORD COMPLIANCE:

Upon completion of these Service Instructions, make an appropriate maintenance record entry specifying the kit identification number and the kit serial number. It is recommended that the parts list contained in the kit be filed for future reference until the listing of parts has been incorporated into the parts catalog.