



CLASS I

# SERVICE INSTRUCTIONS

76, 77

No. 1116  
ATA Code 55-40

**SUBJECT:** STABILIZERS - INSTALLATION OF DRAIN HOLES IN THE RUDDER AND RUDDER TRIM TAB

**EFFECTIVITY:** BEECHCRAFT Duchess 76, serials ME-1 through ME-252, ME-254, ME-256 through ME-261, ME-263 through ME-267, ME-269 through ME-274, ME-279, ME-283, ME-284, ME-286, ME-288 through ME-295, ME-297, ME-299, ME-300, ME-302 through ME-307, ME-309, ME-311 through ME-313, ME-315 and ME-316; Skipper 77, serials WA-1 through WA-76.

**REASON:** To reduce the possibility of water accumulating in the rudder and/or rudder trim tab by drilling additional drain holes.

**COMPLIANCE:** Beech Aircraft Corporation considers this to be a mandatory inspection/modification and it should be accomplished within the next 25 service hours, but no later than 15 calendar days after receipt of these Service Instructions.

NOTE

The airplane may not be flown as indicated in COMPLIANCE above unless the check for water in the rudder and/or rudder trim tab is accomplished immediately prior to each flight as specified in step 1 of the ACCOMPLISHMENT INSTRUCTIONS.

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

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

Estimated man-hours: 2 hours.  
Suggested number of men: 1 man.

**MATERIAL:** The P/N 608 Epoxi-Patch kit (P/N of the Dexter Corporation, Hysol Division, Olean, NY) or any two part epoxy (fast setting types preferred) that can be obtained locally, may be used if required to accomplish these Service Instructions. The P/N 608 Epoxi-Patch kit may also be ordered through BEECHCRAFT Aero or Aviation Centers and International Distributors and Dealers.

**WARRANTY:** Warranty credit for parts and labor to the extent noted under MATERIAL and MANPOWER will be allowed on all claims submitted prior to August 30, 1980.

All warranty reimbursements are handled through franchised BEECHCRAFT 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.

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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.

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CLASS I

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**SPECIAL TOOLS:** None.

**WEIGHT AND BALANCE:** None.

**REFERENCES:** BEECHCRAFT Duchess 76 Maintenance Manual, P/N 105-590000-7 or subsequent, Chapter 55-40;  
Skipper 77 Maintenance Manual, P/N 108-590000-7 or subsequent, Chapter 55-40.

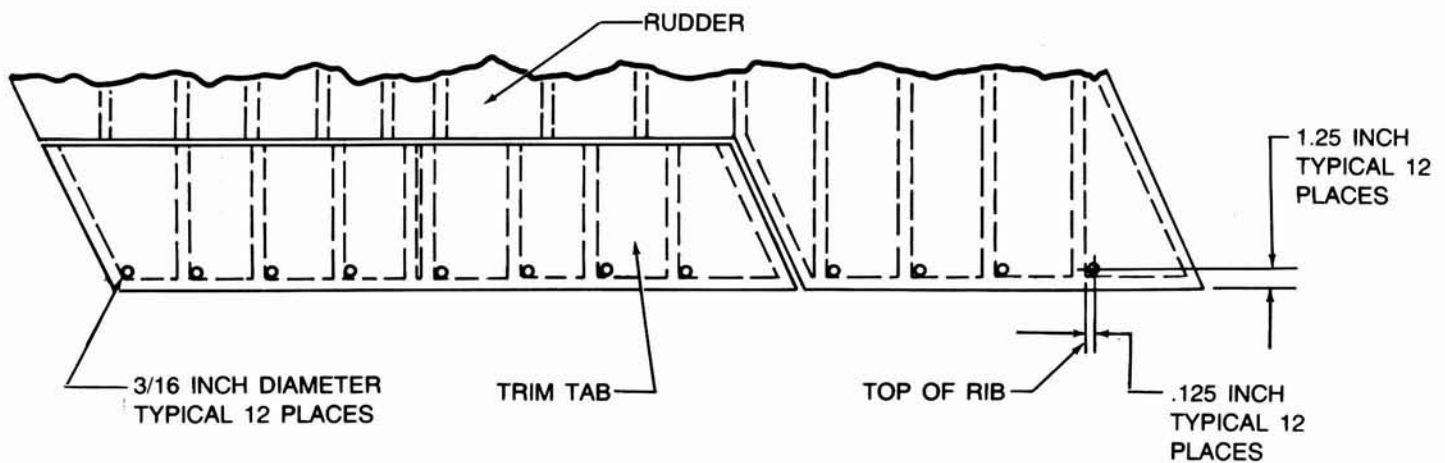
**PUBLICATIONS AFFECTED:** None.

**ACCOMPLISHMENT INSTRUCTIONS:** These Service Instructions may be accomplished as follows:

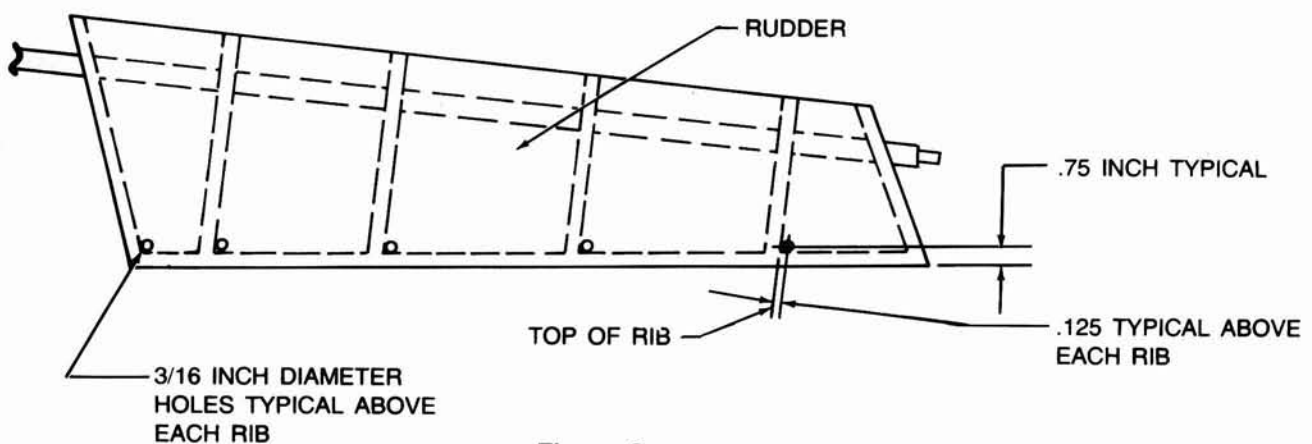
1. If the airplane is flown prior to the accomplishment of these Service Instructions, the following check (steps a. through c.) must be accomplished prior to each flight:

### NOTE

The airplane must have been in an ambient temperature above 0°C (+ 32°F) or a heated hangar for several hours prior to accomplishing this check for water.



**Figure 1  
Duchess 76**

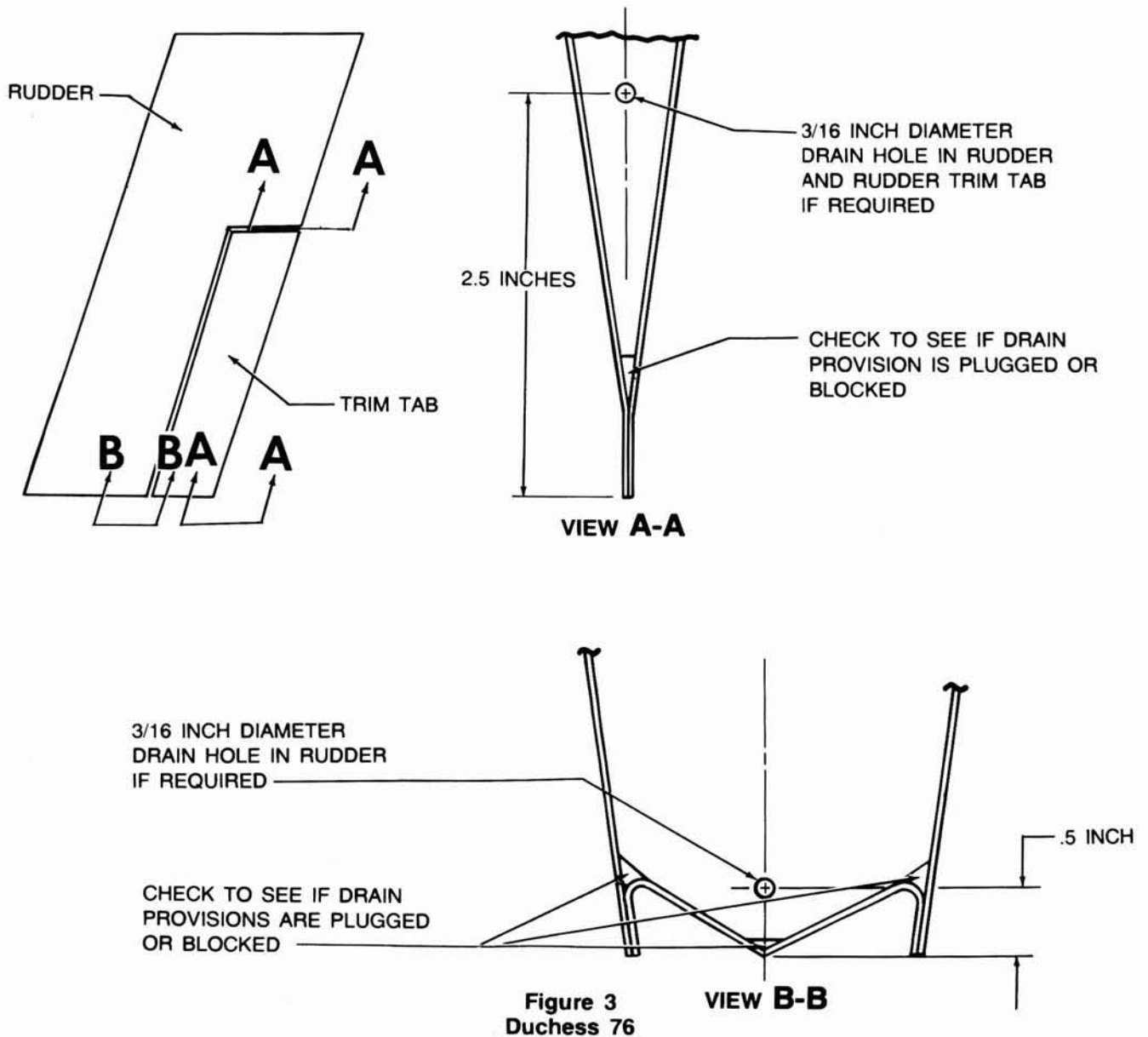


**Figure 2  
Skipper 77**

- a. Move the rudder pedals rapidly back and forth while another person listens at the rudder for the sound of water inside the rudder and/or rudder trim tab.
  - b. If water is detected in the rudder and/or rudder trim tab, the airplane should not be flown until the water is purged from the rudder and/or rudder trim tab.
  - c. If no water is detected in the rudder and/or rudder trim tab, the airplane may be flown as specified in the COMPLIANCE section.
2. Using a towbar, move the nose wheel to the full right position (do not exceed the steering limits). On Duchess 76 airplanes also turn the rudder trim tab control full counterclockwise. This will deflect the rudder and rudder trim tab to the full right position.
  3. Inspect the top of the rudder and/or rudder trim tab for tooling holes through the rib and gaps or cracks in the bonding material between the top rib and the rudder and/or rudder trim tab skins.
  4. If any holes, gaps or cracks are found, lightly sand the areas and seal with epoxy (mix per manufacturers instructions).

**CAUTION**

If more than one ounce of epoxy is used the rudder should be checked for balance as specified in the appropriate Maintenance Manual, Chapter 55-40.



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5. On Duchess 76 airplanes, Drill twelve 3/16 inch diameter holes on the left side of the rudder as shown in Figure 1. The holes should be located as near to the upper surface of the ribs as possible. Do not drill into the ribs. The ribs may be located by gently squeezing the rudder and rudder trim tab with the thumb and forefinger at the trailing edge.

**CAUTION**

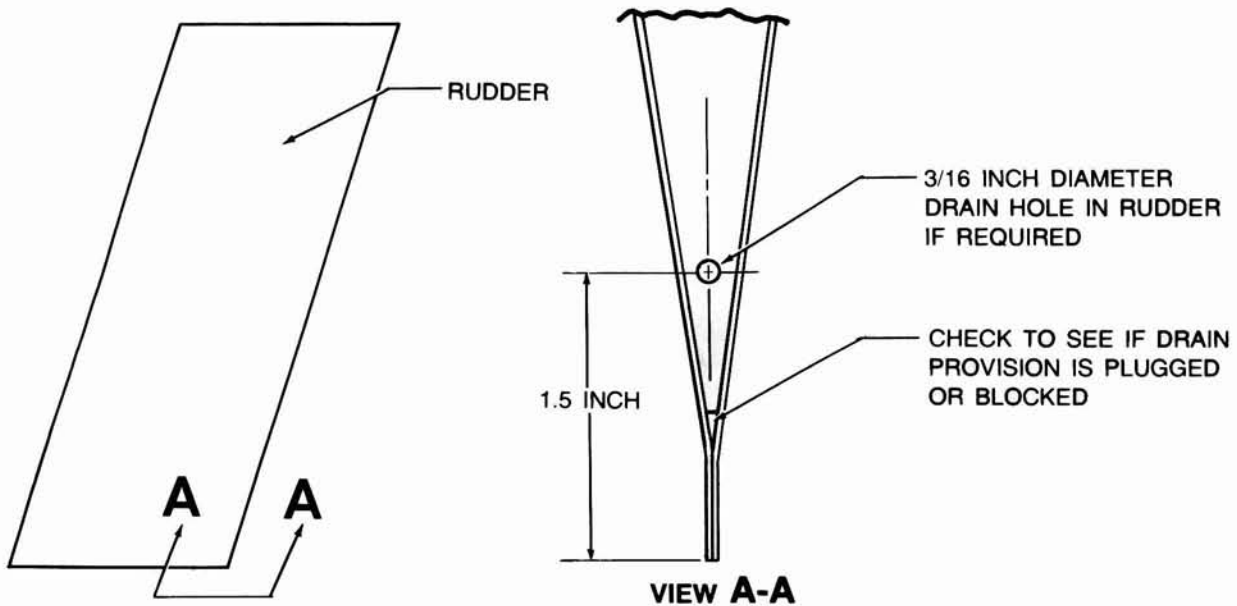
Use a drill stop set to a maximum depth of .100 inch (measured from the tip of the drill) when drilling all holes to prevent damage to the RH skin.

6. On Skipper 77 airplanes, drill 3/16 inch diameter holes on the left side of the rudder above each rib as shown in Figure 2. The holes should be located as near to the upper surface of the ribs as possible. Do not drill into the ribs. The ribs may be located by gently squeezing the rudder with the thumb and forefinger at the trailing edge.

**CAUTION**

Use a drill stop set to a maximum depth of .100 inch (measured from the tip of the drill) when drilling all holes to prevent damage to the RH skin.

7. Inspect the bottom of the rudder and/or rudder trim tab for drain provisions between the bottom rib and skins as shown in Figure 3 (Duchess 76) or Figure 4 (Skipper 77). If drain provisions do not exist or are blocked, drill 3/16 inch diameter drain holes as shown in Figure 3 or Figure 4.



**Figure 4  
Skipper 77**

8. Touch up paint as required around all holes.

**RECORD COMPLIANCE:**

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