

SERVICE KIT

SK152-24A

TITLE RUDDER STOP MODIFICATION - SHEET METAL BULKHEAD

EFFECTIVITY

NOTE: Some airplanes in this serial range may have a forged bulkhead installed after leaving the factory. Service Kit SK152-25A or later revision must be used to modify these airplanes.

MODEL SERIES

SERIAL NUMBERS

150	15061533 thru 15079405
150	649
A150	A1500001 thru A1500734
152	15279406 thru 15284541
A152	A1520735 thru A1520943
F150	F150-0001 thru F150-0529
F150	F15000530 thru F15001428
FA150	FA1500001 thru FA1500336
F152	F15201429 thru F15201828
FA152	FA1520337 thru FA1520372
A-150	A-1501001 thru A-1501039
A-A150	A-A1500001 thru A-A1500009

DESCRIPTION

This kit provides parts and instructions to replace rudder stops, rudder stop bumpers and nutplates; also adds doublers and replaces safety wire with jamnuts.

APPROVAL

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

For Reims Aviation airplanes: DGAC approval has been obtained on technical data in this publication that affects airplane type design.

REFERENCE

SEB01-1

CHANGE IN WEIGHT AND BALANCE

Negligible

NOTE: The accomplishment of this service bulletin will have a negligible effect on the control surface balance.

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Revision A - March 9, 2001

Page 1 of 6

To obtain satisfactory results, procedures specified in this publication must be accomplished in accordance with accepted methods and prevailing government regulations. Cessna Aircraft Company cannot be responsible for the quality of work performed in accomplishing the requirements of this publication.

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SERVICE KIT

SK152-24A

MATERIAL INFORMATION

PART NUMBER	QUANTITY	DESCRIPTION
SK152-24A	1	Kit, Consisting of the following parts:
0433142-1	2	Stop Bolt
0433142-2	2	Bumper
0433142-3	2	Doubler
MS20426AD3-4.5A	4	Rivet
MS20470AD4-5A	6	Rivet
MS20470AD3-6A	4	Rivet
MS21069L3K	2	Nutplate
MS21042-3	2	Nut
NAS1149F0332P	2	Washer
	1	Instructions

ACCOMPLISHMENT INSTRUCTIONS

NOTE: Instructions and illustrations are shown for left rudder stop. Right rudder stop is opposite. Rudder removal is not required, but is optional for improved access.

1. (Refer to Service Manual.) Remove rudder from vertical stabilizer (recommended for improved access to rudder stop).
2. (Refer to Figure 1.) Remove rivets attaching rudder stop bumper to rudder horn assembly. Remove rudder stop bumper.
3. Locate new 0433142-2 Bumper on horn by matching pre-drilled Number 30 (0.128 inch diameter) hole in bumper with aft bumper attach hole in horn assembly. Secure with temporary fastener. Align middle pilot hole in bumper with existing hole in horn assembly. Clamp bumper in place.
4. Drill out middle Number 40 pilot hole to final size using Number 30 (0.128 inch diameter) drill bit.
NOTE: Middle hole location is already drilled to Number 30 through horn assembly. Ensure that enlarging the pilot hole in new bumper matches hole in horn assembly.
5. Match drill forward pre-piloted Number 40 (0.098 inch diameter) hole in bumper to horn assembly. Drill to final size using Number 30 (0.128 inch diameter) drill bit.
6. Remove rudder stop bumper and deburr holes in bumper and horn assembly.
7. Install 0433142-2 Bumper using three MS20470AD4-5A Rivets.
8. Remove and discard existing rudder stop bolt or screw, nutplate and safety wire.
9. (Refer to Figures 1 and 2.) Test fit replacement MS21069L3K Nutplate and 0433142-3 Doubler. Clamp in place with temporary fastener.

NOTE: Ensure that aft edge of 0433142-3 Doubler is nearly flush with aft flange of bulkhead and doubler cutout clears the nutplate. Cutout opens forward.

SERVICE KIT

SK152-24A

10. Mark location of existing nutplate rivet holes onto outboard face of 0433142-3 Doubler. Remove doubler.
11. Install replacement MS21069L3K Nutplate using two MS20426AD3-4.5A Rivets in existing holes through the tailcone skin and bulkhead only.
NOTE: Installing new nutplate provides improved rudder stop system integrity.
12. (Refer to Figures 1 and 2.) Counterbore approximately half the thickness of the 0433142-3 Doubler in the two locations marked in step 10. using a Number 21 (0.159 inch diameter) drill bit. The counterbored holes allow the doubler to nest over the nutplate rivet butts and to seat flush with the inboard flange of the tailcone bulkhead. Do not drill through doubler.
NOTE: The 0433142-3 Doubler is 0.10 inch thick.
13. (Refer to Figure 3.) Layout two additional rivet locations on tailcone skin, 0.47 inch above and below the nutplate's horizontal centerline (bolt hole) and approximately 0.28 inch forward of the tailcone skin aft edge.
14. Verify additional rivet locations will not interfere with any other structure, and drill rivet holes through tailcone skin and bulkhead using a Number 40 (0.098 inch diameter) drill bit.
15. (Refer to Figures 1, 2, and 3.) Test fit 0433142-3 Doubler by placing counterbores over nutplate rivet butts. Pencil mark new rivet hole locations onto doubler. Remove doubler and verify 0.15 inch minimum edge distance for new holes.
16. (Refer to Figures 1 and 2.) Clamp 0433142-3 Doubler in place and match drill rivet holes into doubler using a Number 40 (0.098 inch diameter) drill bit. Remove doubler and deburr all holes.
17. (Refer to Figures 1 and 2.) Install 0433142-3 Doubler using two MS20470AD3-6A Rivets.
18. (Refer to Figure 1 and 2.) Install 0433142-1 Stop Bolt in nutplate. Install NAS1149F0332P Washer and MS21042-3 Nut onto inboard end of stop bolt.
NOTE: Safety wire as called out in Service Manual is not used with this installation.
19. Repeat steps 2 through 18 for opposite side.
20. (Refer to Service Manual.) If the rudder was removed in Step 1., install rudder to vertical stabilizer. Rig rudder control system and safety wire clevises.
21. (Refer to Service Manual.) Check rudder for proper deflection and direction of travel when operated by the rudder pedals. Adjust 0433142-1 Stop Bolt as required. Tighten MS21042-3 Nut to secure adjustment of stop bolt.
22. Check rudder stop operation by applying approximately 150 to 200 pounds of force to pilot's outboard rudder pedal. Position an observer near the rudder to ensure good stop bolt/bumper contact. Repeat stop check for pilot's inboard rudder pedal.
23. Make an entry in the airplane logbook stating that this service kit has been installed.

16

SERVICE KIT

SK152-24A

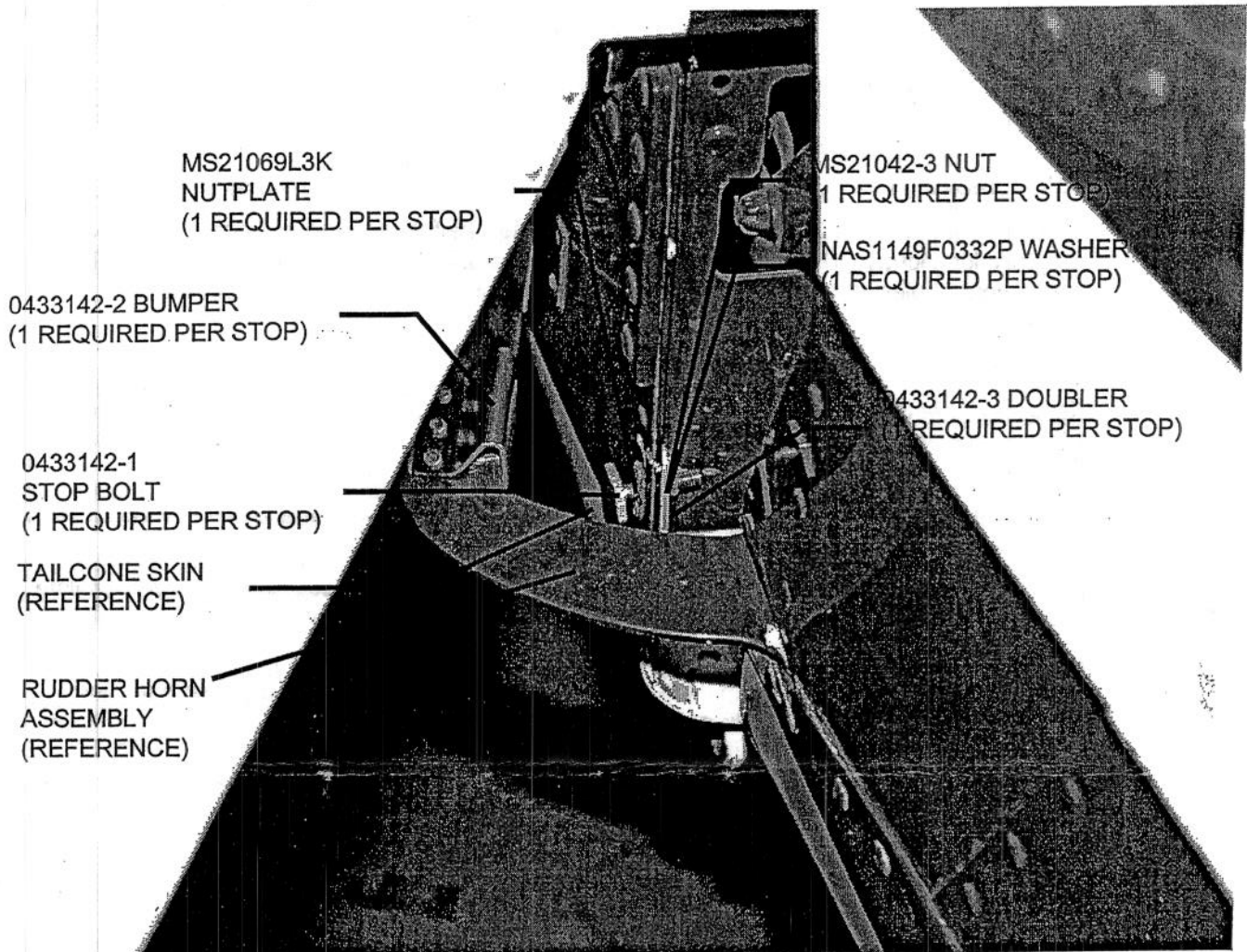


FIGURE 1.

VIEW LOOKING FORWARD AT RUDDER AND AFT
TAILCONE BULKHEAD AFTER MODIFICATION

NOTE: INSTRUCTIONS AND ILLUSTRATIONS ARE
SHOWN FOR LEFT RUDDER STOP. RIGHT
RUDDER STOP IS OPPOSITE.

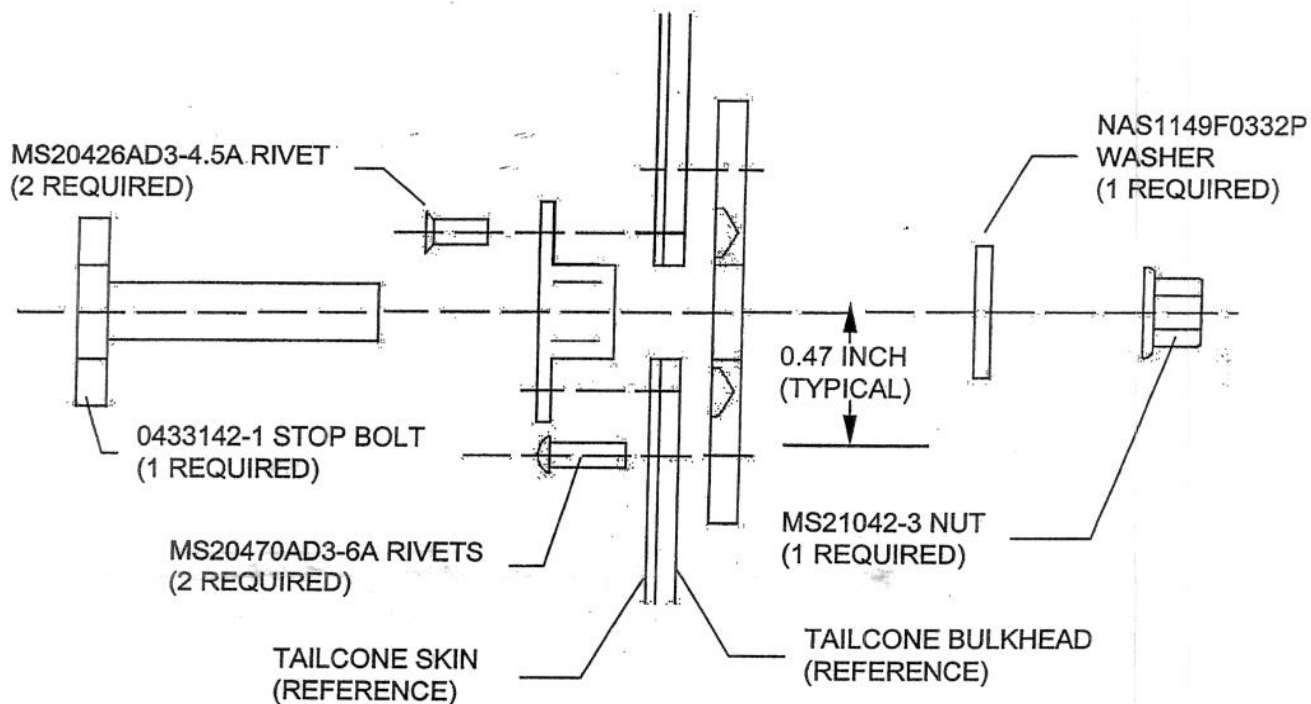


FIGURE 2.
VIEW LOOKING FORWARD AT LEFT RUDDER STOP.

NOTE: INSTRUCTIONS AND ILLUSTRATIONS ARE SHOWN FOR LEFT RUDDER STOP. RIGHT RUDDER STOP IS OPPOSITE.

SERVICE KIT

SK152-24A

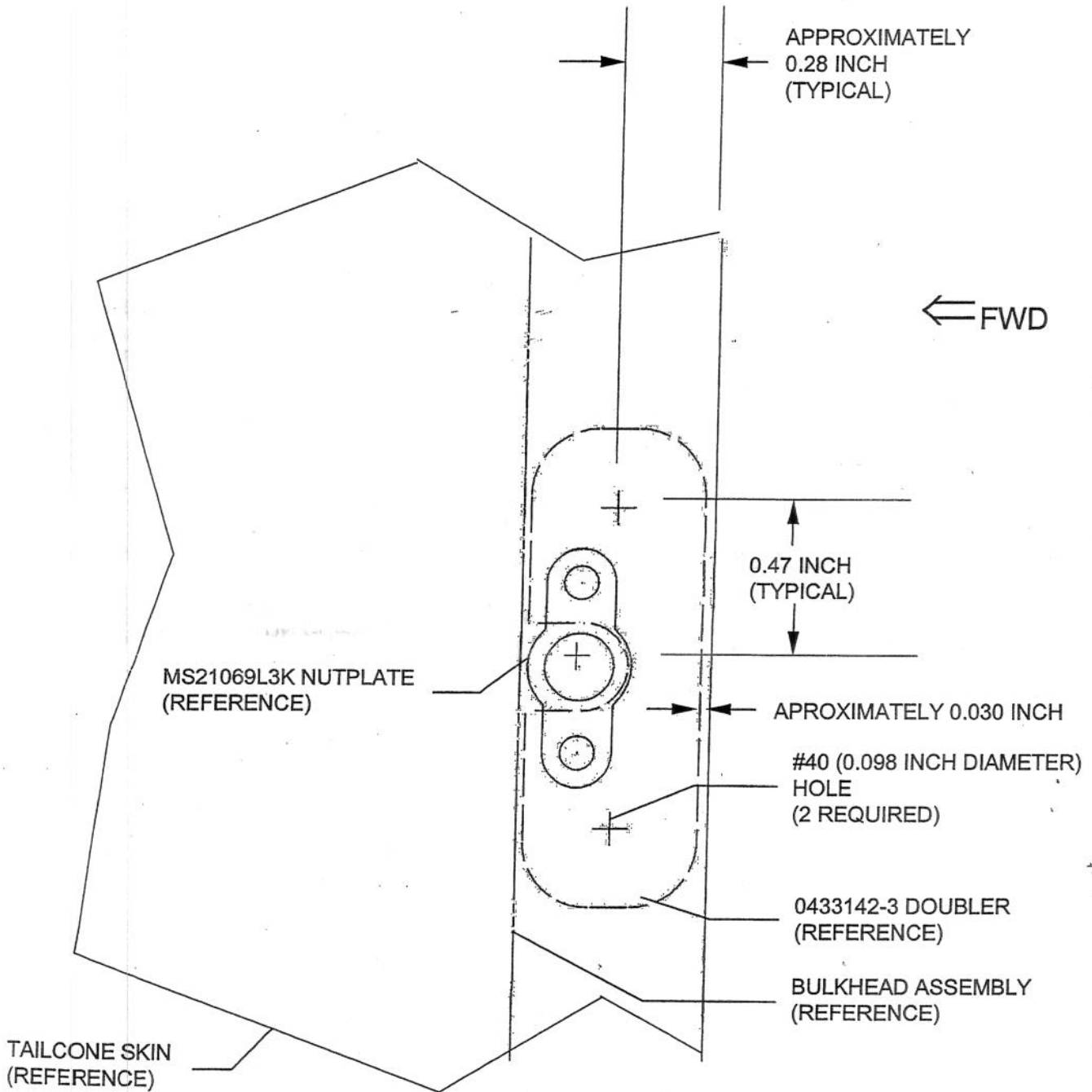


FIGURE 3.

VIEW LOOKING INBOARD AT RUDDER
STOP ATTACH BOLT LOCATION

NOTE: INSTRUCTIONS AND ILLUSTRATIONS ARE
SHOWN FOR LEFT RUDDER STOP. RIGHT
RUDDER STOP IS OPPOSITE.