



SERVICE BULLETIN

No. 527

Piper Aircraft Corporation

Lock Haven, Pennsylvania, U.S.A.

"Modification DOA EA-1 Approved"

November 5, 1976

S/M

Subject:

Electric Trim Switch Modification

Models Affected:

PA-23-250 (6 place) Aztec
PA-24-260 Comanche
PA-30 Twin Comanche
PA-31 and PA-31-300 Navajo
PA-31-350 Navajo Chieftain
PA-31P Pressurized Navajo
PA-39 Twin Comanche

Serial Numbers Affected:

27-3837, 27-3944 to 27-4796 Inclusive*
24-4783, 24-4804 to 24-5047 Inclusive*
30-1717, 30-1745 to 30-2000 Inclusive*
31-2 to 31-797 Inclusive*
31-5001 to 31-5004 Inclusive*
31P-1 to 31P-109 Inclusive*
39-1 to 39-155 Inclusive*

* NOTE: Aircraft listed above are affected in two separate categories:

1. Above listed aircraft that have complied with Piper Service Bulletin No. 331, dated February 5, 1971 involving installation of Piper Kit No. 760 505 Electric Trim Switch Modification; or
2. Aircraft listed above not affected by Piper Service Bulletin No. 331 but delivered from the factory between February 5, 1971 and September 1, 1971.

Compliance Time: Within the next 100 hours of operation or sooner, if Electric Trim Switch exhibits malfunction described in Purpose, below.

Purpose: Field reports describe a condition wherein the pilot's control wheel mounted "rocker" type electric trim switch tends to "hang up" in the "FWD"/"NOSE UP" or "AFT"/"NOSE DOWN" mode; i.e., fails to return to the "neutral" position following removal of thumb pressure. This condition occurred on some aircraft modified in accordance with Service Bulletin No. 331. Subsequent investigation revealed that the switch return coil springs supplied with Piper Kit No. 760 505 (Electric Trim Switch Modification), per Service Bulletin No. 331 and subsequent production modified models--for a period of time--had an excessive number of coils, which may cause the end of the coil spring to become caught between the switch "rocker" actuator and the micro switch body, thus preventing spring assisted return of the switch to "neutral".

To remedy--and prevent--this condition, this service release provides instructions to modify the electric trim switch return spring by reducing the number of coils (from 2 1/2 turns to 2 1/4 turns--reference attached sketch/instruction sheet for an illustrated view of this condition).

NOTE: It will be necessary to replace the switch knob retaining rivet, as the rivet head is removed to enable switch knob removal.

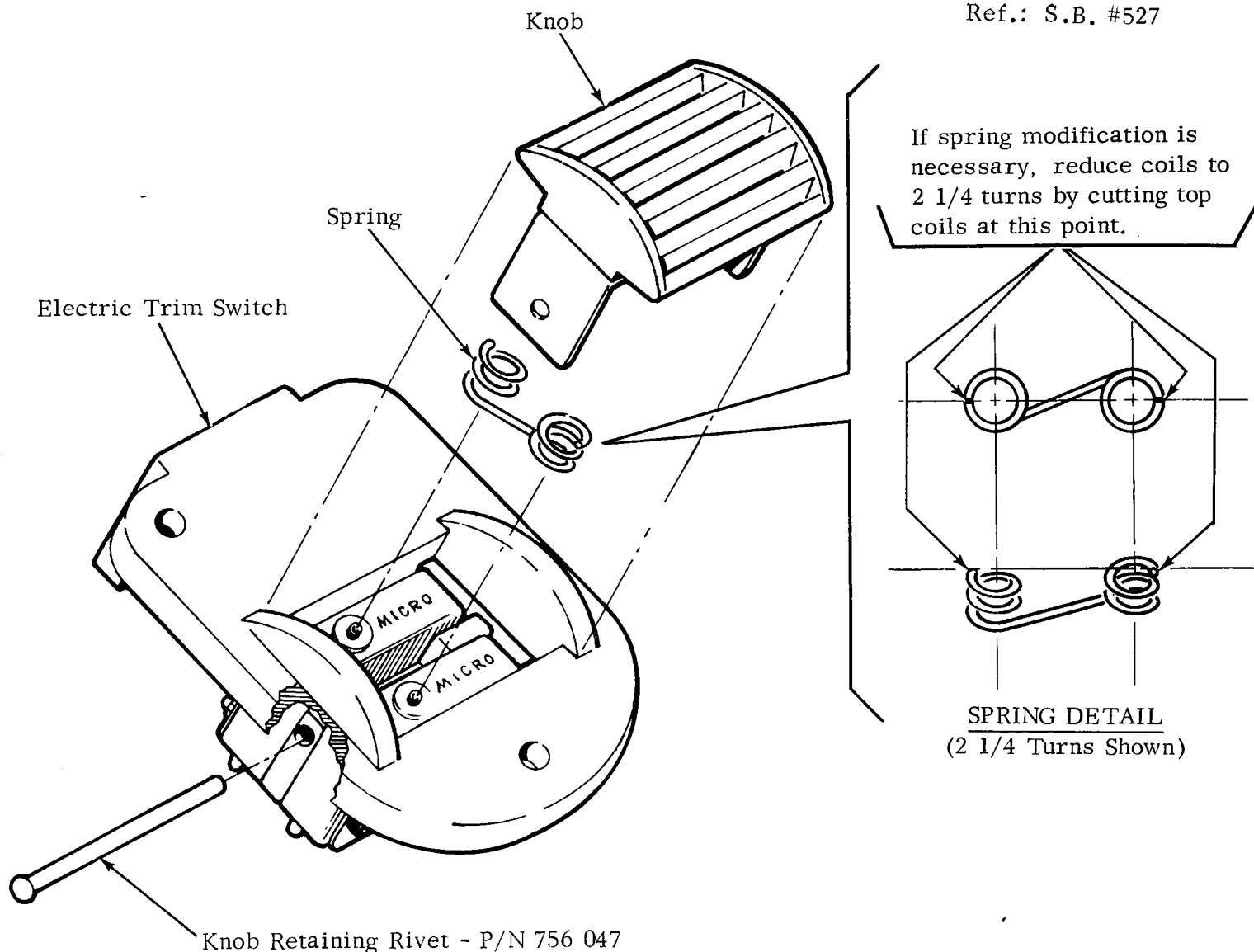
Instructions: Refer to attached sketch/instruction data for switch disassembly, spring modification and knob retaining rivet installation information.

Material Required: One (1) each per aircraft Electric Trim Switch Knob Retaining Rivet, Piper part number 756 047.

Availability of Parts: Your Piper Field Service Facility.

Effectivity Date: This service release is effective upon receipt.

Summary: Please contact your Piper Field Service Facility to make arrangements for compliance with the provisions of this service release in accordance with Compliance Time, above. Material specified in Material Required, above is provided on a no charge basis through your Piper Field Service Facility for a period of time not to exceed twelve (12) months from the issue date of this service release.



INSTRUCTIONS

1. Carefully remove placards from electric trim switch.
2. Remove two screws which secure the switch to the control wheel and remove switch.
3. Remove knob retaining rivet by filing peened or crimped head and carefully knocking out.
4. Remove knob and spring from switch.
5. Inspect spring to determine if coils consist of $2 \frac{1}{4}$ turns as shown in above detail or $2 \frac{1}{2}$ turns.
 - a. If coils consist of $2 \frac{1}{4}$ turns, proceed to Step 6.
 - b. If coils consist of $2 \frac{1}{2}$ turns, modify spring by cutting $\frac{1}{4}$ turn from top of coils before proceeding to Step 6. Refer to spring detail above.
6. Place spring (P/N 757 685 - Scott #10004324) over micro-switch buttons with open ends of spring facing up. Spring coils must be concentric with micro-switch buttons and shoulders, and must not rest upon them.
7. Place knob in position and depress slightly so that the new retaining rivet (P/N 756 047 - Scott # 36270) can be installed. Take care not to dislodge spring from position.
8. Test switch action.
9. Crimp or peen end of retaining rivet to retain.
10. Reinstall switch on control wheel with existing screws and cement placards to switch.
11. Make proper logbook entry of Service Bulletin Compliance.