



SCHWEIZER SERVICE NOTICE

NOTICE NO. N-210.1*

DATE: 30 May 1991

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MANDATORY

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SUBJECT: IDENTIFICATION OF THROTTLE CABLE ASSEMBLIES; INSPECTION OF 269A4683 (BSC) OR -3 THROTTLE CABLE ASSEMBLIES HAVING THREADED END FITTINGS; REPLACEMENT OF 269A4683 (BSC) AND -3 THROTTLE CABLE ASSEMBLIES HAVING THREADED AND/OR ALUMINUM END FITTINGS.

MODELS AFFECTED: PART I:

- All Model 269A/TH-55A, 269A-1, and 269B Helicopters.
- Model 269C Helicopters with Serial Numbers of 0004 through 0819.
- Model 269C Helicopters with Serial Numbers subsequent to 0819 whose throttle cable has been replaced in the field.

PART II:

- All 269 Series Helicopters equipped with subject throttle cable assemblies which incorporate threaded end fittings (as identified by Part I).

PART III:

- All 269 Series Helicopters equipped with subject throttle cable assemblies (as identified by Part I).

TIME OF COMPLIANCE: PART I - Shall be accomplished within next 25 hours of operation or within 30 days of issue date of this notice, whichever occurs first.
PART II - Shall be accomplished at each daily inspection (after compliance with Part I) until Part III is accomplished.
PART III - Shall be accomplished within the next 400 hours of helicopter operation, or by 25 May 1989, whichever occurs first. ■

Shall be accomplished immediately after compliance with Part I of this notice on throttle cables which incorporate aluminum end fittings.

REFERENCES: 269 Series - Basic HMI (Reissued: 15 March 1982; Revision 1: 24 Aug 1990) ■
269 Series - HMI Appendix B, Reissued 15 August 1982
269 Series - HMI Configuration Supplement C, Reissued 15 September 1982
Service Information Notice N-202, dated 23 Feb. 1987

*Supersedes Service Information Notice N-210, dated 25 May 1988

(■) Denotes portion of text added or revised.

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PREFACE:Field reports indicate that the end fittings used on the subject throttle cable assemblies may become loose during service (possibly due to excessive vibration when coupled with improper maintenance practices). These fittings were originally secured to the cable with locking compound (loctite) and were not intended to be removed (or loosened) after initial installation. If the fitting becomes loose during service, the relative motion between the end fitting and its associated pushrod could cause the joining threads to wear. If allowed to continue in service, the threads could wear to a point that would allow the end fitting to disconnect from the cable assembly.

PART I of this Service Information Notice lists instructions to identify the type of the throttle cable installed on the affected helicopters. Throttle cable assemblies which incorporate aluminum end fittings must be immediately removed and replaced in accordance with Part III of this notice. Throttle cable assemblies which incorporate threaded end fittings must be inspected in accordance with Part II of this notice, until the cable is replaced in accordance with Part III. Throttle cables which incorporate steel swaged end fittings are NOT affected by either Parts II or III of this notice and may be continued in service under normal inspection and maintenance requirements.

PART II of the notice requires a repetitive visual inspection of throttle cable assemblies which incorporate threaded end fittings. This inspection must be accomplished at each daily inspection until the cable is replaced in accordance with Part III of this notice.

PART III of this Service Information Notice provides instructions for the mandatory replacement of the subject cable assemblies with upgraded 269A4683-7 or -9 cable assemblies which incorporate swaged end fittings. It should be noted that compliance with Part III of this notice cancels the repetitive daily inspection required by Part II. Failure to comply with this notice (at time specified under TIME OF COMPLIANCE) may lead to a loss of throttle control.

PART I - IDENTIFICATION OF THROTTLE CABLE ASSEMBLY.

TOOLS AND EQUIPMENT

Magnet
Hardness tester

PROCEDURE

- a. Determine if aluminum fittings are installed as follows:
- (1) Check end fittings with a magnet to determine whether they are magnetic.

NOTE

Cables which incorporate magnetic fittings (magnet adheres to fitting) do not require the hardness test specified by step (2), below. For these cable assemblies, omit steps a(2) and a(3) and continue inspection with step b (below).

NOTE

If the cable end fittings are visually identified as aluminum, the cable is rejected and no further testing is required. In this event, replace cable in accordance with Part III.

- (2) If magnet does not adhere to fitting, perform a hardness test on fitting. Rockwell hardness should be greater than B-85.
- (3) If Rockwell hardness is less than B-85, remove and replace the cable assembly in accordance with Part III of this notice.

NOTE

As shown in Figure 1, throttle cables which incorporates swaged end fittings may be identified by six evenly spaced flat spots around the barrel of the fitting. Threaded end fittings incorporate a cylindrical barrel (no flat spots).

- b. Visually check both ends of cable to determine whether cable incorporates swaged or threaded end fittings. (Refer to Figure 1.)
- c. If cable incorporates swaged end fittings, compliance with Parts II and III of this notice is not required. For these cable assemblies, record compliance in Helicopter Log Book as "CABLE WITH SWAGED END FITTINGS INSTALLED".
- d. If cable incorporates threaded end fittings, perform repetitive inspections in accordance with Part II of this notice until cable is replaced in accordance with Part III of this notice.
- e. Record compliance with Part I of this Service Information Notice in Compliance Record of Helicopter Log Book.

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Part II - DAILY INSPECTION OF THROTTLE CABLE ASSEMBLY.

TOOLS AND EQUIPMENT

Flashlight

PROCEDURE

- a. Inspect cable end fittings (shown in Figure 2) for general condition and security of attachment. If any damage is noted, replace cable assembly in accordance with Part III of this notice.
- b. Using a flashlight, visually inspect cable push rod for exposed threads or black fretting products adjacent to end fitting (both ends of cable assembly). (Refer to Figure 2).
- c. If threads are visible or there is evidence of fretting, replace cable assembly in accordance with Part III of this notice.
- d. Record compliance with Part II of this Service Information Notice in Compliance Record of Helicopter Log Book.

Part III- REPLACEMENT OF THROTTLE CABLE ASSEMBLIES HAVING THREADED AND/OR ALUMINUM END FITTINGS.

PARTS LIST

<u>NOMENCLATURE</u>	<u>SAC PART NO.</u>	<u>QUANTITY</u>	<u>SOURCE</u>
Cable Assembly, Throttle Control	*269A4683-7 OR *269A4683-9	1	SAC

*269A4683-7 and 269A4683-9 are two-way interchangeable.

PROCEDURE

NOTE

Use information provided in Section 4 of Conf. Supp. C in conjunction with Basic HMI, Section 4 when replacing throttle cable on Model 269C Helicopters.

- a. Remove throttle control cable in accordance with Basic HMI, Paragraph 4-11.

CAUTION

DO NOT BEND THROTTLE CABLE SUPPORT TUBES (SHOWN IN FIGURE 2) MORE THAN 8 DEGREES FROM CENTERLINE OF CABLE. DOING SO COULD CAUSE DEFORMATION OF THE SUPPORT TUBES, PREMATURE FAILURE OF THE CABLE, AND LOSS OF THROTTLE CONTROL.

- b. Install 269A4683-7 or -9 throttle control cable assembly in accordance with Basic HMI, Paragraph 4-11.
- c. Rig throttle control in accordance with Basic HMI, paragraph 4-4 (and Configuration Supplement C, paragraph 4-3, as applicable).
- d. Check idle speed and idle mixture in accordance with Service Information Notice N-202. (Adjust as required.)

NOTE

Installation of the upgraded cable assembly (269A4683-7 or -9) cancels the repetitive inspection required by Part II of this notice. ■

- e. Record compliance with Part III of this Service Information Notice in Compliance Record and in Maintenance Record of Helicopter Log Book.

WEIGHT AND BALANCE DATA

Weight and balance not affected.

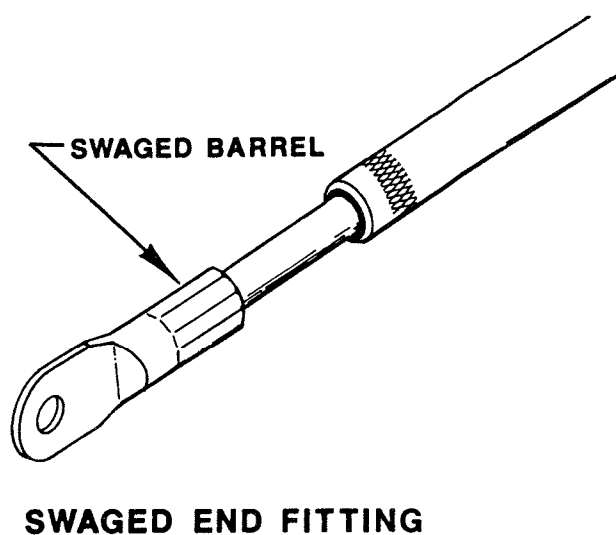
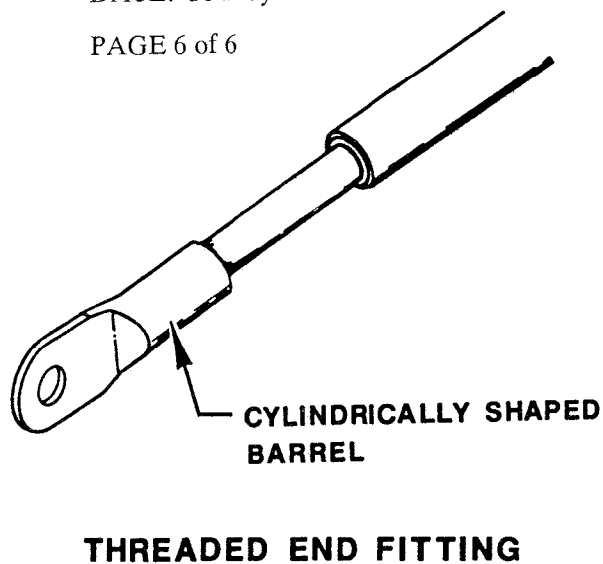


FIGURE 1. IDENTIFICATION OF THROTTLE CABLE ASSEMBLY

NOTES:

1. PERFORM INSPECTIONS IN ACCORDANCE WITH PART II OF THIS NOTICE.
2. REPLACE CABLE IN ACCORDANCE WITH PART III OF THIS NOTICE.
3. INSPECT THIS AREA FOR EXPOSED THREADS OR BLACK FRETTING PRODUCTS.

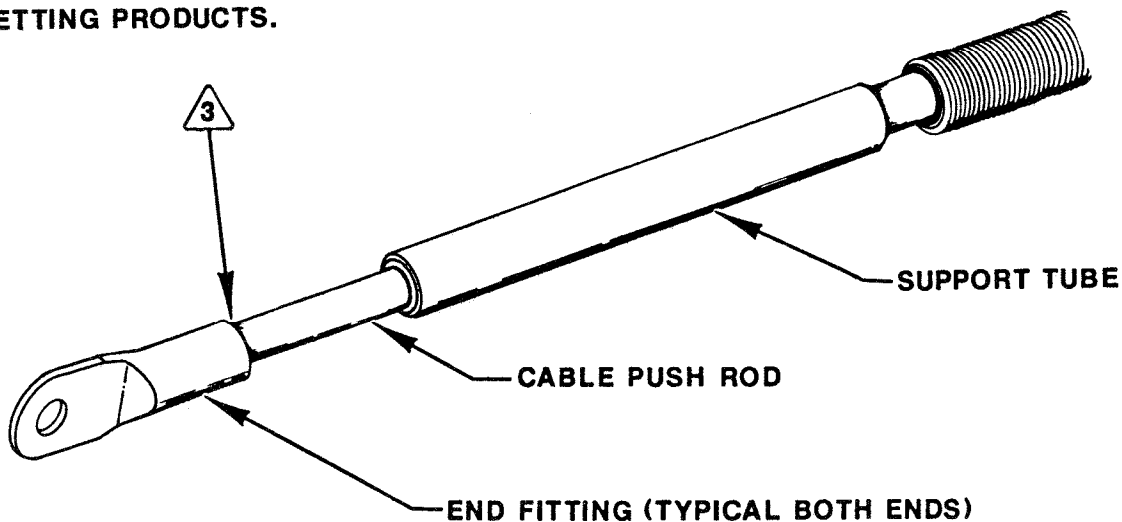


FIGURE 2. INSPECTION OF THROTTLE CABLE ASSEMBLY