



SERVICE INFORMATION LETTER

SERVICE INFORMATION LETTER NO. 0094

Page 1 of 3

Date: February 25, 1980

Subject: Preflight Control System Check

Models: F-28A, F-28C, 280, 280C

Effectivity: As Noted Below

Whenever a helicopter has had work accomplished to the flight controls, especially the removal of the main rotor hub, it is recommended that a flight test be conducted before returning the helicopter to service. The following checks will be accomplished during the preflight inspection:

1. Remove panel below right-hand fuel tank. Position any main rotor blade at the 97° azimuth (ref. Figure 1, page 4). Observe that dogleg rod end (P/N28-16143) corresponding to that blade is directly over the fore and aft push-pull control tube (P/N 28-16198) located between cabin bellcrank and swash plate. This check will indicate whether the main rotor controls are in proper phase. Ref. Enstrom 280 Maintenance Manual, page MM 11-19, or Service Information Letter No. 0033 for correct dogleg rod end installation.
2. Engine Off - Battery Switch On
 - a. Remove boot from pilot's cyclic stick.
 - b. Adjust cyclic trim to full left and full aft (neutral). Move the cyclic stick around the cyclic stop in floor. The cyclic stick fitting must remain against the stop through 360°. If binding or interference is detected, there is a problem with the basic rigging of the controls and this must be corrected. Refer to Enstrom Maintenance Manual, Section 11, for rigging instructions.
 - c. Adjust cyclic trim full right and full forward. Move cyclic stick aft and observe the cyclic fitting contacts stop in floor. Move cyclic stick left and observe the cyclic fitting contacts stop in floor. If contact cannot be made with stop, check installation and proper operation of the respective trim motor.

- d. Adjust cyclic trim to neutral (full left and full aft).
- 3. Loosen collective friction. Hold throttle in idle position as collective is raised to full pitch. There should be no control feedback, throttle must remain on the idle stop through full collective travel.
- 4. Place collective control in the one-third up position and secure with collective friction. Roll throttle to full open and visually check, through left-hand engine door, that the throttle is on the open stop.

Rigging of the throttle control will be necessary if the above condition cannot be met. Refer to the Enstrom Maintenance Manual, Section 5, for throttle rigging instructions.

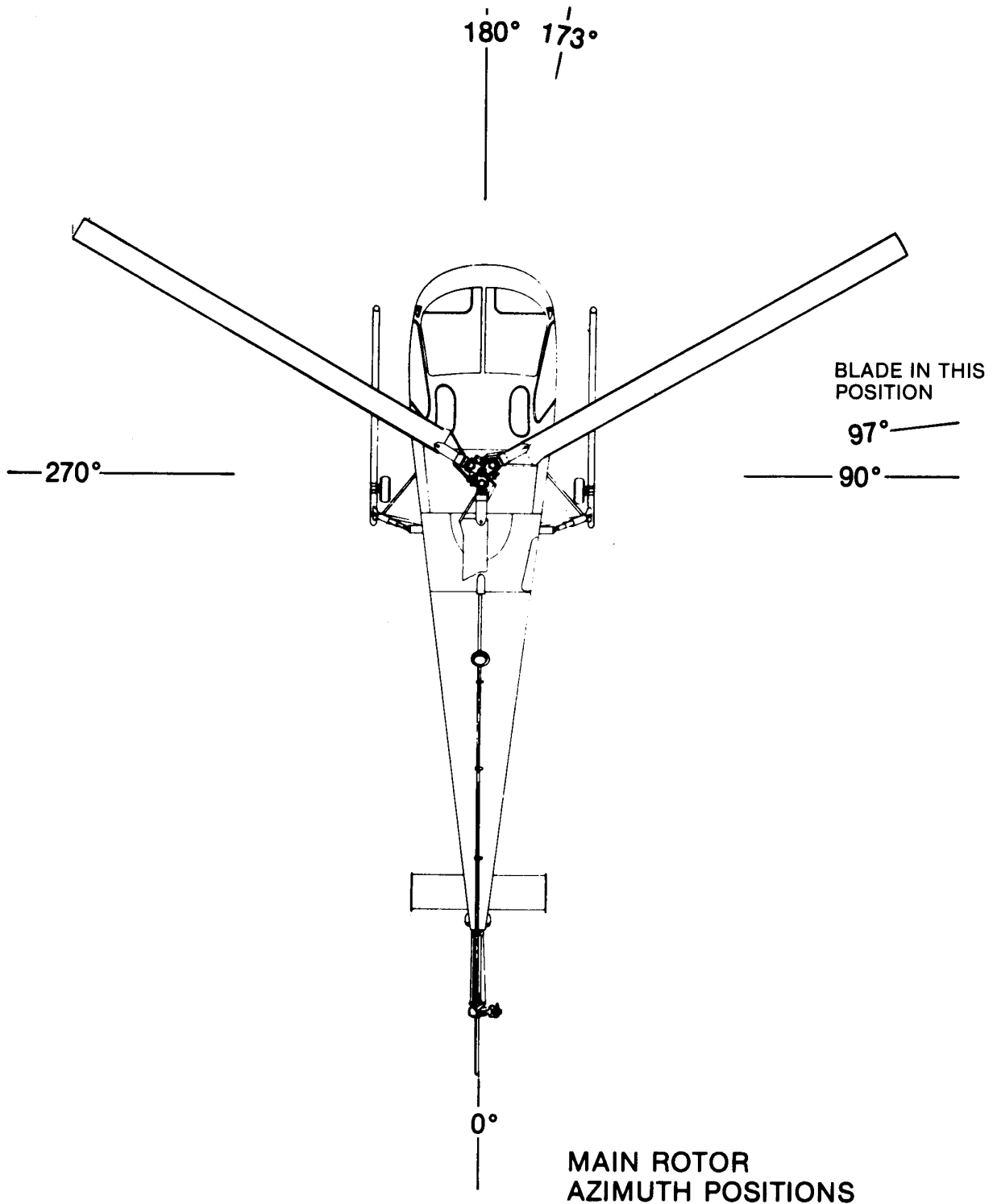
- 5. Tail rotor control in full left pedal position. Observe tail rotor blades for maximum pitch.
- 6. Tail rotor control in full right pedal position. Observe tail rotor blades for nearly zero pitch.

Refer to Enstrom Maintenance Manual, Section 15 or 22, for tail rotor rigging instructions.

- 7. With engine running, rotor disengaged and throttle held at idle, release collective friction and slowly raise collective to the full up position. Maintain idle 1450 to 1500 rpm.
- 8. Slowly engage the rotor until approximately 15 to 20 rpm has been reached. Work the clutch handle to maintain this rpm.
- 9. Slowly move the cyclic stick around with the cyclic fitting against the stop 360°. Slowly move the collective to the full down position maintaining idle and rotor rpm (15 to 20). Continue to rotate cyclic against stop. There should be no cyclic control feedback. If feedback is noticed, the control system must be checked for proper phasing, rigging or binding.

10. The following check must be made with no wind or very low wind condition:
 - a. Engage rotor, establish 2300 engine rpm (275 rotor rpm).
 - b. Slowly move the cyclic stick forward until there is a slight bumping of the rotor stops. At the position where the bumping just begins, observe the position of the cyclic fitting in relation to the cyclic stop in floor. Repeat this check by bringing the cyclic stick aft, then right and left. The distance that the cyclic fitting is from the stop should be equal.
 - c. If a noticeable difference exists, adjustment may be made to the push-pull tubes located between upper cabin bellcranks and the swash plate. For fore and aft adjustment, lengthen or shorten the control rod on the right. Make adjustment to the left control rod for lateral corrections. Repeat after each adjustment.
11. Run engine at 2900 rpm. Observe manifold pressure. At or near sea level, with collective at flat pitch, tail rotor controls neutral, manifold pressure should be from 16 to 18 inches on turbo models and from 13 to 15 inches on non-turbo models. Adjust length of main rotor pitch change links as in adjusting autorotation rpm (Ref. Maintenance Manual, page 11-21). Manifold pressures within these limits assure adequate autorotational rpm for test flight.
12. Engine 2900 rpm, collective flat pitch, move left tail rotor control and observe for proper movement of helicopter and a decrease in rpm.
13. At 2900 rpm, move cyclic stick slightly fore and aft and observe tip path plane for proper response. Check the same for left and right cyclic movement.
14. Increase power until helicopter is beginning to become light on skids. Apply left and right tail rotor control and observe for proper response and displacement.
15. Observe position of cyclic fitting in relation to cyclic stop as helicopter becomes light on skids. Within proper CG range cyclic fitting will be nearly centered within the stop and displaced slightly forward.

Although some of these checks are overlapping, the purpose is to eliminate the possibility of leaving the ground with an uncontrollable helicopter.





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SERVICE INFORMATION LETTER

SERVICE INFORMATION LETTER NO. 0094
ADDENDUM

Date: December 31, 1980

Subject: Preflight Control System Check (Correction)

Models: F-28A, F-28C, 280, 280C

The purpose of this addendum is to correct the last sentence in step 1 on page 1 of Service Information Letter No. 0094.

The reference to Service Information Letter No. 0033 should read "Service Information Letter No. 0032".