



SERVICE BULLETIN

DATE: 28 MAY 1993

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PILOT PREFLIGHT CHECK OF YSAS ACTUATOR AND REPLACEMENT OF S.A.S. ACTUATOR

1. PLANNING INFORMATION:

A. Summary:

Recent reported failures of Stability Augmentation System (S.A.S.) actuators in the field have been investigated by McDonnell Douglas Helicopter Company (MDHC) and the actuator supplier, Astronautics. We have confirmed that a specific number of actuators may contain defective capacitors.

B. Purpose:

This Service Information Notice provides a pilot's preflight check for proper operation of the S.A.S. actuator, explains the procedure that operators must follow to have affected S.A.S. actuators replaced in the field and ensures the proper operation of all MDHC 500N helicopters.

C. Models Affected:

All Model 500N Series helicopters, Serial Number LN-001 through LN-045.

D. Time of Compliance:

PART I shall be accomplished by operators immediately upon receipt of this Notice.

PART II shall be accomplished by operators before the next flight and continued at each subsequent flight until the preflight check requirements of this Notice are incorporated into the Pilot Flight Manual.

PART III shall be accomplished by all affected operators within seven (7) days after receipt of replacement actuators.

E. Assembly/Components Affected by this Notice:

The S.A.S. actuator (P/N 500N7304-1), Serial No. 008983-0004 thru 008983-0104, that do not contain a blue dot on the part number data plate.

F. FAA Approval:

FAA Approval: The design engineering aspects of this notice have been shown to comply with the applicable Federal Aviation Regulations, and are FAA approved.

G. Weight and Balance:

Not affected.

H. Reference Publications:

369D/E/F/FF/500N HMI (CSP-HMI-2) Revised 21 December 1992
500N Pilot Flight Manual (CSP-520N-1) Revised 17 September 1992

I. Warranty Information:

MDHC Commercial Warranty and Repair Department will provide acceptable replacement S.A.S. actuators at no cost to the operator. The replacement parts will be covered by MDHC's new part warranty. MDHC will also credit those affected operators with three hours of labor warranty (spares credit). Return affected S.A.S. actuators to Commercial Warranty and Repair within five days of removal.

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REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
YSAS Actuator	500N7304-1	1	MDHC Commercial Warranty and Repair Department, Mesa, Arizona.

2. PART I – VERIFICATION

- (1). Review helicopter records, or using the instructions contained Handbook of Maintenance Instructions remove and visually inspect the YSAS actuator to determine if it is within the above range of affected actuators and does not contain a blue dot on the part number data plate.
- (2). If it is determined that the YSAS actuator is within the affected serial number range and does not have a blue dot on the part number data plate, place an order for a replacement actuator through an Approved MDHC Service Center or Distributor or Commercial Warranty and Repair, Mesa, Arizona.

3. PART II – PILOT PREFLIGHT CHECK OF YSAS ACTUATOR

- (1). With aircraft electrical power **ON**, confirm YSAS circuit breaker **IN** and listen for sounds of the YSAS gyro spinning up underneath the right front seat.
- (2). Turn YSAS switch **ON** and confirm that the trailing edge of the right vertical stabilator is at its nominal position (approximately 2 inches inboard of the 5 degree mark on the degree plate located on the upper surface of the horizontal stabilizer).

NOTE: This position will vary somewhat depending on how level the helicopter is in the roll attitude, however it is not considered critical for this ground check. Also, when the YSAS switch is turned **ON**, movement of the right stabilator may or may not take place based upon a recent change in the helicopter’s roll attitude and/or the length of time the YSAS gyro has had to power up.

- (3). Hold the trailing edge of the horizontal stabilizer so the fingers of your right hand rest on both sides of the trailing edge of the right vertical stabilator. With your left hand, shake the helicopter laterally using either the tail skid or the horizontal stabilizer mounting bracket. Vertical stabilator movement should be detected if the actuator is functioning.
- (4). If the YSAS actuator does not appear to be functioning properly, then the aircraft may be flown, however the YSAS switch should be **OFF** and YSAS circuit breaker **IN** until the S.A.S. actuator is replaced. If there is any concern about the YSAS system operation, the YSAS ground test procedure should be performed per the instructions contained in the HMI.

4. PART III – REPLACEMENT OF AFFECTED YSAS ACTUATORS

- (1). Remove S.A.S. actuators per the instructions contained in the Handbook of Maintenance Instructions (HMI).

NOTE: Affected S.A.S. actuators are P/N 500N7304-1, serial number 008983-0004 thru 008983-0104 without a blue dot on the part number data plate. The serial number is located on the part number data plate of the actuator.

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- (2). Return removed S.A.S. actuators to MDHC Commercial Warranty and Repair Department within five (5) days of removal.

NOTE: S.A.S. actuators that fall within the serial number range of affected actuators will be reworked by the manufacturer. Actuators that have been reworked to a serviceable condition will be identified with a blue dot located on the part number data plate.

- (3). Install replacement S.A.S. actuator per the instructions contained in the HMI.
- (4). Perform ground test procedure of the YSAS system per the instructions contained in the HMI.
- (5). Record compliance to **PART III** of this Service Information Notice in the aircraft Log Book.

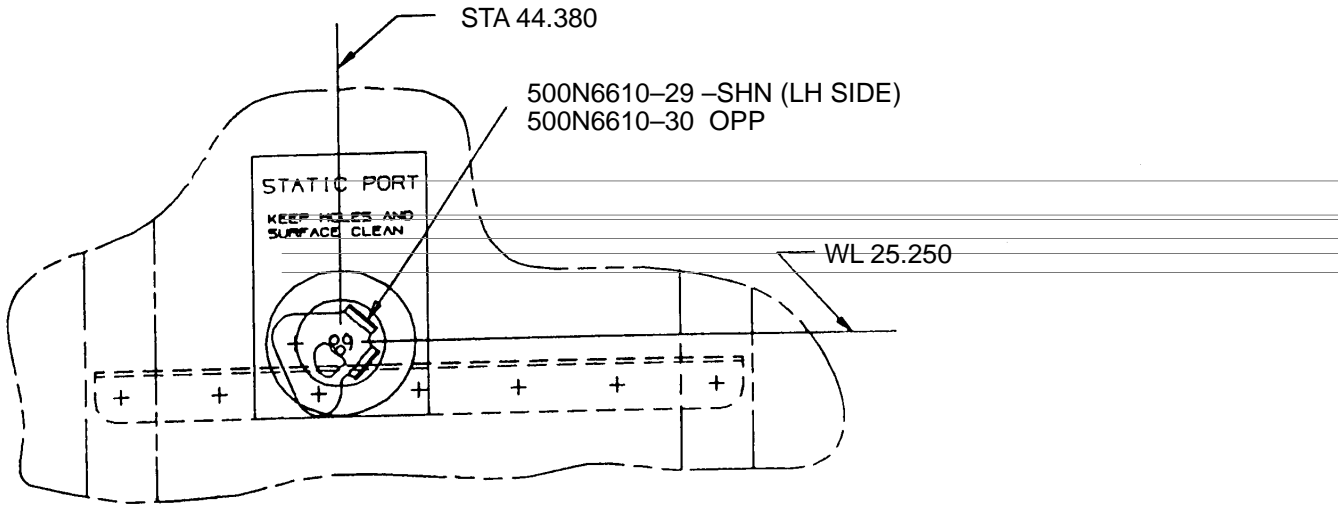
5. POINTS OF CONTACT:

For further assistance, contact your local MDHC Field Service Representative (refer to the latest revision of the Business Development and Customer Support handbook for address and telephone numbers) or contact the Field Service Department at MDHC, Mesa Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602)891-6782.

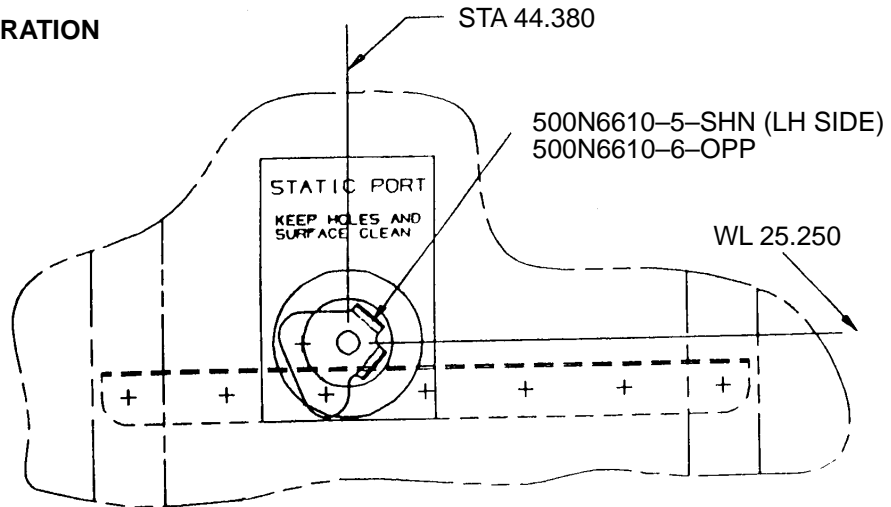
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NEW CONFIGURATION



OLD CONFIGURATION

88-674

Figure 1. Rework of Static Port Intake.

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