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ARMY AVIATION TEST BOARD FORT RUCKER ALA
PRODUCT IMPROVEMENT TEST OF TAIL-ROTOR DRIVE-SHAFT HANGER BEARI--ETC(U)
JUN 68

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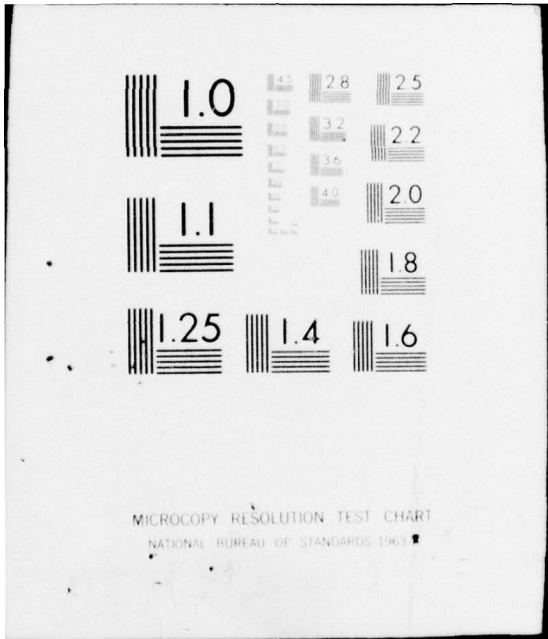
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DEPARTMENT OF THE ARMY
UNITED STATES ARMY AVIATION TEST BOARD
Fort Rucker, Alabama 36360

STEBG-TD

JUN 14 1968

SUBJECT: Report of Test, 'Product Improvement Test of Tail-Rotor Drive-Shaft Hanger Bearings (Part No. P9107NPP),' USATECOM Project No. 4-5-0151-19

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Number

Commanding General
US Army Aviation Materiel Command
ATTN: AMSAV-EAA
P.O. Box 209, Main Office
St. Louis, Missouri 63166

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1. REFERENCES.

16 USATECOM-4-5-0151-19

a. Letter, STEBG-TD, US Army Aviation Test Board, 19 December 1967, subject: "Final Report, 'Product Improvement Test of UH-1 Tail-Rotor Drive-Shaft Hanger Bearings (Part No. 9107PP),' USATECOM Project No. 4-5-0101-11."

b. Letter, AMSAV-EAA, Headquarters, US Army Aviation Materiel Command, 10 April 1967, subject: "Product Improvement Test of Fafnir Bearings, P/N P9107NPP, FSN 5110-911-8384," with 1st Indorsement, AMSTE-BG, Headquarters, US Army Test and Evaluation Command, 5 June 1967.

2. BACKGROUND.

a. In CY 1967, the US Army Aviation Test Board (USAAVNTBD) tested a product-improvement tail-rotor drive-shaft hanger bearing (Bell P/N 204-040-623, Fafnir P/N 9107PP). This bearing was found suitable (reference a) and is presently in use on production UH-1() helicopters.

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b. The Army has obtained 2,400 bearings, P/N P9107NPP, which are similar to both the old hanger bearing, P/N 204-040-615, and the product-improvement bearing, P/N 204-040-623. Because of the large number of bearings involved, the US Army Aviation Materiel Command requested a test of four P9107NPP bearings on a UH-1H Helicopter. US Army Test and Evaluation Command directed the USAAVNTBD to conduct the test, (reference b).

3. DESCRIPTION OF MATERIEL. The test bearing, P9107NPP, is a 9107PP with greater internal clearances and a non-removable seal.

4. TEST OBJECTIVE. To determine operational suitability of the tail-rotor-drive hanger bearings, P/N P9107NPP.

5. SCOPE. The USAAVNTBD conducted the product improvement test of the P9107NPP bearings at Fort Rucker, Alabama, during the period 26 June 1967 to 18 March 1968. Four test bearings were installed on one UH-1H Helicopter. Accumulated time on bearings and difficulties were recorded.

6. SUMMARY OF RESULTS. Hours obtained and reason for removal of each test bearing were:

<u>Bearing No.</u>	<u>Hours Obtained</u>	<u>Reason for Removal</u>
1	1,100.0	Inspection (serviceable)
2	396.3	Bearing rough
3	396.3	Bearing rough
4	1,011.1	Popping noise; suspected seal drag.

7. CONCLUSION. The tail-rotor drive-shaft hanger bearings, P/N P9107NPP, are suitable for operation in UH-1 helicopters.

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USATECOM Project No. 4-5-0151-19

8. RECOMMENDATION. It is recommended that the P9107NPP bearing
be used as an alternate for the old bearing, P/N 204-040-615.

David M. Kyle, Col
DAVID M. KYLE
Colonel, Artillery
President

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Aberdeen Proving Ground, Maryland 21005 (2 copies)

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