

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

ANNOUNCEMENT OF APPROVAL AND RELEASE OF NONDESTRUCTIVE TEST EQUIPMENT INSPECTION PROCEDURE MANUAL

TM 1-1520-254-23, TECHNICAL MANUAL AVIATION UNIT MAINTENANCE
(AVUM) AND AVIATION INTERMEDIATE MAINTENANCE (AVIM) MANUAL
NONDESTRUCTIVE INSPECTION PROCEDURES FOR
OH-58 HELICOPTER SERIES

Headquarters, Department of the Army, Washington, D. C.
1 May 1997

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

NOTE

THIS PUBLICATION IS EFFECTIVE UNTIL REFERENCES TO TM 1-1520-254-23, TECHNICAL MANUAL AVIATION UNIT MAINTENANCE (AVUM) AND AVIATION INTERMEDIATE MAINTENANCE (AVIM) MANUAL NONDESTRUCTIVE INSPECTION PROCEDURES FOR OH-58 HELICOPTER SERIES, HAVE BEEN INCORPORATED INTO THE TM 55-1520-248-23 (SERIES), AVIATION UNIT AND INTERMEDIATE MAINTENANCE MANUAL ARMY MODEL OH-58D HELICOPTER.

1. Priority Classification. Routine

2. Purpose. The purpose of this technical bulletin (TB) is to announce the approval and release of the nondestructive test equipment inspection procedure manual, TM 1-1520-254-23, Technical Manual Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual Nondestructive Inspection Procedures for OH-58 Helicopter Series. This manual shall be referred to when performing inspections on the OH-58D aircraft.

3. Description. Approved nondestructive test inspection procedures are referenced in Table 1. Refer to TM 1-1520-254-23, Technical Manual Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual Nondestructive Inspection Procedures for OH-58 Helicopter Series, for safety information, part locations, inspection method descriptions, and complete procedures. Do *not* attempt to perform any nondestructive test inspection without first referring to TM 1-1520-254-23 as this TB does not provide adequate information to properly perform the inspections.

4. How to Use. The column in Table 1. Approved Nondestructive Test Inspection Components/Assemblies, are defined as follows:

(1) Procedure Number: references the procedure number in TM 1-1520-254-23, Technical Manual Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual Nondestructive Inspection Procedures for OH-58 Helicopter Series.

(2) Component/Assembly: provides the list of parts approved for nondestructive test inspections on the OH-58D aircraft. Parts not listed have not been approved for nondestructive test inspection and shall be inspected as referenced in TM 55-1520-248-23 (Series), Aviation Unit and Intermediate Maintenance Manual Army Model OH-58D Helicopter.

(3) Inspect For: provides the approved manner of inspection. All other types of inspection shall be performed as referenced in TM 55-1520-248-23 (Series), Aviation Unit and Intermediate Maintenance Manual Army Model OH-58D Helicopter.

(4) Maintenance Category: details the approved maintenance level for each nondestructive test inspection.

(5) Inspection Equipment Requirements: provides the approved nondestructive inspection method/equipment to perform the inspection. Refer to Notes for the legend.

(6) Remarks: provides the approved backup method/equipment to perform the inspection. Refer to Notes for the legend.

NOTE

Legend for the nondestructive inspection methods/equipment referenced in columns (5) and (6):

- | | | | |
|-----|------------------------------|-----|---------------------|
| 001 | Fluorescent Penetrant Method | 004 | Ultrasonic Method |
| 002 | Magnetic Particle Method | 005 | Bond Testing Method |
| 003 | Eddy Current Method | 006 | Radiographic Method |

Table 1. Approved Nondestructive Test Inspection Components/Assemblies.

(1) PROCEDURE NUMBER	(2) COMPONENT/ASSEMBLY	(3) INSPECT FOR	(4) MAINTENANCE CATEGORY			(5) INSPECTION EQUIPMENT REQUIREMENT	(6) REMARKS
			AVUM	AVIM	DEPOT		
2-33	Main Rotor Hub Lower Cone	Cracks		√		002	
2-34	Upper Cone Plate Assembly	Cracks				002	
2-35	Blade Bolt	Cracks		√		002	
2-36	Droop Stop Stud	Cracks		√		002	
2-37	Hub Upper Plate	Cracks		√		003	
2-38	Pitch Horn Assembly	Cracks		√		003	
2-39	Yoke Adapter Assembly	Cracks		√		003	
2-40	Main Rotor Grip Assembly	Cracks		√		003	
2-41	Hub Lower Plate	Cracks		√		003	
2-42	Main Rotor Blade Cover	Cracks		√		001	
2-43	Main Rotor Blade	Voids		√		005	
2-44	Main Rotor Pitch Link Tube	Cracks		√		003	
2-45	Pitch Link Rod End	Cracks		√		002	
2-46	Main Rotor Drive Link	Cracks		√		003	
2-47	Main Rotor Drive Lever	Cracks		√		003	
2-48	Main Rotor Drive Hub Set	Cracks		√		003	
2-49	Main Rotor Gimbal Ring	Cracks		√		003	
2-50	Main Rotor Collective Lever	Cracks		√		003	Backup 001

Table 1. Approved Nondestructive Test Inspection Components/Assemblies.

(1) PROCEDURE NUMBER	(2) COMPONENT/ASSEMBLY	(3) INSPECT FOR	(4) MAINTENANCE CATEGORY			(5) INSPECTION EQUIPMENT REQUIREMENT	(6) REMARKS
			AVUM	AVIM	DEPOT		
2-51	Main Rotor Collective Link	Cracks		√		003	Backup 001
2-52	Main Rotor Controls Spacer	Cracks		√		002	
2-53	Main Rotor Antidrive Lever	Cracks		√		003	Backup 001
2-54	Main Rotor Antidrive Link	Cracks		√		003	Backup 001
2-55	Upper Bearing Race	Cracks		√		002	
2-56	Inner and Outer Cap	Cracks		√		003	Backup 001
2-57	Drive Link Bearing and Retainer	Cracks		√		002	Backup 001
2-58	Main Rotor Pivot Sleeve	Cracks		√		003	Backup 001
2-59	Support Assembly	Cracks		√		003	Backup 001
2-60	Inner Ring	Cracks		√		003	Backup 001
2-61	Outer Ring	Cracks		√		003	Backup 001
2-62	Tail Rotor Pitch Link	Cracks		√		003	
2-63	Tail Rotor Control Tube Driver Plate	Cracks		√		002	
2-64	Tail Rotor Crosshead	Cracks				002	
2-65	Tail Rotor Hub Support	Cracks				003	
2-66	Tail Rotor Hub Clamp Ring	Cracks		√		002	Backup 001
2-67	Tail Rotor Hub Yoke	Cracks		√		002	Backup 001
2-68	Flapping Bearing	Cracks				001	
2-69	Tail Rotor Blades	Cracks		√		003	
2-70	Tail Rotor Blades	Voids		√		005	
2-71	Tail Rotor Pitch Change Lever	Cracks		√		003	
2-72	Tail Rotor Pitch Change Idler	Cracks		√		003	
2-73	Tail Rotor Pitch Change Trunnion Cap	Cracks		√		003	

Table 1. Approved Nondestructive Test Inspection Components/Assemblies.

(1) PROCEDURE NUMBER	(2) COMPONENT/ASSEMBLY	(3) INSPECT FOR	(4) MAINTENANCE CATEGORY			(5) INSPECTION EQUIPMENT REQUIREMENT	(6) REMARKS
			AVUM	AVIM	DEPOT		
3-27	Engine to Transmission Driveshaft	Cracks		√		002	
3-28	Pylon Spring Fitting	Cracks		√		003	Backup 001
3-29	Pylon Stop Fitting	Cracks		√		003	Backup 001
3-30	Torquemeter Support Assembly	Cracks		√		003	Backup 001
3-31	Bearing Assembly Retainer	Cracks		√		003	Backup 001
3-32	Bearing Sleeve	Cracks		√		003	Backup 001
3-33	Retaining Plate	Cracks		√		003	Backup 001
3-34	Spring Sleeve	Cracks		√		003	Backup 001
3-35	Antibacklash Spring	Cracks		√		001	
3-36	Antibacklash Adapter	Cracks		√		003	Backup 001
3-37	Rotor Mast	Cracks		√		002	
3-38	Bearing Nut Lock Plate	Cracks		√		003	Backup 001
3-39	Mast Bearing Nut	Cracks		√		002	Backup 001
3-40	Seal and Bearing Retaining Plate	Cracks		√		002	Backup 001
3-41	Upper Mast Bearing Liner	Cracks		√		002	
3-42	Duplex Bearing Nut	Cracks		√		003	
3-43	Shaft Plug Assembly	Cracks		√		003	Backup 001
3-44	Adapter Bolt	Cracks		√		002	
3-45	Main Driveshaft Adapter	Cracks		√		002	
3-46	Forward Seal Cap	Cracks		√		003	
3-47	Forward Shaft	Cracks		√		002	
3-48	Pilot Ring	Cracks		√		003	Backup 001
3-49	Housing Assembly	Cracks		√		003	Backup 001
3-50	Cone Set	Cracks		√		002	
3-51	Cone Set Spacer	Cracks		√		002	

Table 1. Approved Nondestructive Test Inspection Components/Assemblies.

(1) PROCEDURE NUMBER	(2) COMPONENT/ASSEMBLY	(3) INSPECT FOR	(4) MAINTENANCE CATEGORY			(5) INSPECTION EQUIPMENT REQUIREMENT	(6) REMARKS
			AVUM	AVIM	DEPOT		
3-52	Aft Bearing and Seal Cap	Cracks				003	
3-53	Output Adapter	Cracks		√			
3-54	Forward Shaft Assembly	Cracks		√		003	Backup 001
3-55	Aft Shaft Assembly	Cracks		√		003	Backup 001
3-56	Coupling Disc Packs	Cracks		√		001	
3-57	Shaft Assembly Washer	Cracks		√		003	Backup 001
3-58	Coupling Adapter	Cracks		√		003	Backup 001
3-59	Bearing Hanger Brackets and Links	Cracks		√		003	Backup 001
3-60	Segmented Shaft Assembly	Cracks		√		003	Backup 001
3-61	Steel Impeller	Cracks		√		002	
3-62	Aluminum Alloy Impeller Housing	Cracks		√		003	Backup 001
3-63	Fan Shaft	Cracks		√		002	
3-64	Tail Rotor Gearbox	Cracks		√		003	
3-65	Input Adapter Nut	Cracks		√		002	
3-66	Input Duplex Bearing Nut	Cracks		√		003	Backup 001
3-67	Cap Assembly	Cracks		√		003	Backup 001
4-16	Honeycomb and Bonded Panels	Voids		√		005	
4-17	Armament Hard Points	Cracks		√		002	
4-18	Universal Weapons Pylon Mount Fitting	Cracks		√		003	Backup 001
4-19	External Fuselage Fittings	Cracks		√		003	
4-20	Landing Gear Support Fitting Assemblies	Cracks		√		002	

Table 1. Approved Nondestructive Test Inspection Components/Assemblies.

(1) PROCEDURE NUMBER	COMPONENT/ASSEMBLY	(3) INSPECT FOR	(4) MAINTENANCE CATEGORY			(5) INSPECTION EQUIPMENT REQUIREMENT	(6) REMARKS
			AVUM	AVIM	DEPOT		
4-21	Tailboom	Cracks		√		003	Backup 001
4-22	Tailboom Attach Bolts	Cracks		√		002	
4-23	Tail Rotor Gearbox Support Assembly	Cracks		√		003	
4-24	Tail Rotor Driveshaft Covers	Cracks		√		003	Backup 001
4-25	Vertical Fin Assembly	Voids		√		005	
4-26	Horizontal Stabilizer	Cracks		√		003	
4-27	Stop-down Assembly	Cracks		√		002	
4-28	Forward Transverse Beam	Cracks		√		003	Backup 001
4-29	Aft Transverse Beam	Cracks		√		003	Backup 001
4-30	Skid Saddles/Shoes	Cracks		√		003	
4-31	Tow Ring Mounting Holes	Cracks		√		003	Backup 001
4-32	Tow Fittings	Cracks		√		002	
4-33	Vertical Fin	Water		√		006	
4-34	Fore and Aft Cross Tube Assemblies	Cracks		√		004	
5-4	T703AD-700 Engine Accessories	Cracks		√		001	
5-5	Combustion Outer Case	Cracks		√		001	
5-6	Combustion Liner	Cracks		√		001	
5-7	Compressor Discharge Tubes	Cracks		√		001	
5-8	T703-AD-700 Engine Systems and Compo- nents	Cracks		√		001	
6-7	Hydraulic Pump	Cracks		√		003	
6-8	Servoactuators	Cracks		√		003	
6-9	Clevis Adapter	Cracks		√		002	
6-10	Trunnion Bearing Assembly	Cracks		√		002	
6-11	Pilot/Copilot Collective Stick Assemblies	Cracks		√		001	

Table 1. Approved Nondestructive Test Inspection Components/Assemblies.

(1) PROCEDURE NUMBER	(2) COMPONENT/ASSEMBLY	(3) INSPECT FOR	(4) MAINTENANCE CATEGORY			(5) INSPECTION EQUIPMENT REQUIREMENT	(6) REMARKS
			AVUM	AVIM	DEPOT		
6-12	Collective Jackshaft	Cracks		4		002	
6-13	Collective Jackshaft Spacer	Cracks		4		002	
6-14	Collective Friction Clamp	Cracks		4		002	
6-15	Jackshaft Bearing Support Assembly	Cracks		d		002	
6-16	Collective Boosted Bellcrank Assembly	Cracks		4		003	Backup 001
6-17	Control Support Assem- bly	Cracks		4		003	
6-18	Actuator Support Assembly	Cracks		d		003	
6-19	pilot/copilot Cyclic Stick Assemblies	Cracks		4		001	
6-20	Flight Control Tube Assemblies	Cracks		4		003	

5. Points of Contact.

a. Technical point of contact for this TB is Mr. Wayne Suchman, AGSE-PM, AMSAT-D-WAG, DSN 693-1924 or commercial (314)263-1924, e-mail: wsuchman@emh4.wsmd.stl.army.mil.

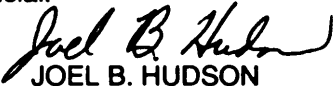
b. Nondestructive Test Inspection technical point of contact for this TB is Mr. Scott Huddleston, DSN 693-1923 or commercial (314)263-1923, e-mail: shuddles.

6. Reporting of Errors and Recommending Improvements. You can help improve this TB. If you find any mistakes or if you know of a way to improve these procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: Commander, US Army Aviation and Troop Command, ATTN: AMSAT-I-MP, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished to you. You may also submit your recommended changes by E-mail directly to <mpmt%avma28@st-louis-emh7.army.mil>. A reply will be furnished directly to you. Instructions for sending an electronic 2028 may be found at the back of this manual.



By Order of the Secretary of the Army.

Official:


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*Administrative Assistant to the
Secretary of the Army*
03529

DENNIS J. REIMER
*General, United States Army
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15. **Submitter LName:** Smith
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17. **Problem:** 1
18. **Page:** 2
19. **Paragraph:** 3
20. **Line:** 4
21. **NSN:** 5
22. **Reference:** 6
23. **Figure:** 7
24. **Table:** 8
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PUBLICATION DATE
 15 June 1992

PUBLICATION TITLE
 Operator's manual MH60K Helicopter

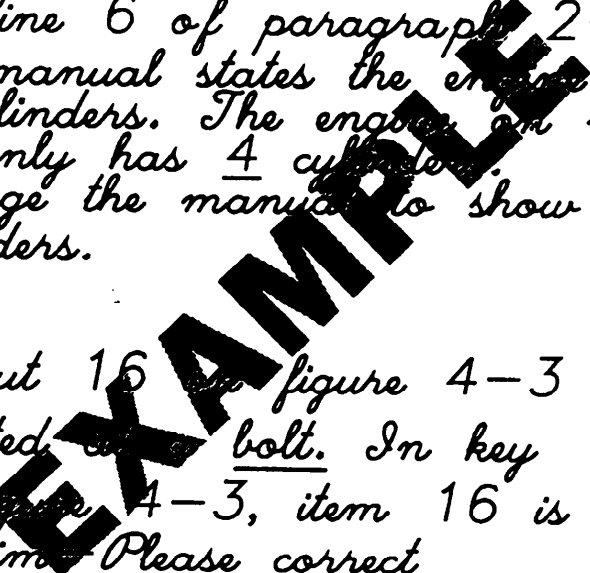
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IN THIS SPACE, TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO
6	2-1 a		
B1		4-3	

In line 6 of paragraph 2-1a the manual states the engine has 6 cylinders. The engine on my set only has 4 cylinders. Change the manual to show 4 cylinders.

Callout 16 in figure 4-3 is pointed to a bolt. In key to figure 4-3, item 16 is called a shim. Please correct one or the other



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