

MWO effective date 1 October 1980 and completion date 30 September 1990.

**NORMAL**

**MWO 55-1520-241-30-4**  
**\*CHANGE NO. 3**

**DEPARTMENT OF THE ARMY MODIFICATION WORK ORDER**

REMOVAL OF TWO INLET HOUSING COVER CAPSCREWS

T55 SERIES ENGINES

CH-47A, CH-47B AND CH-47C HELICOPTERS

**Headquarters, Department of the Army, Washington, D. C.**  
11 July 1988

MWO 55-1520-241-30-4, 5 March 1982, is changed as follows:

Page 1. Reporting of Errors, lines 4 and 5, change "US Army Troop Support and Aviation Materiel Readiness Command, ATTN: DRSTS-MTT" to "US Army Aviation Systems Command. ATTN: AMSAV-MMD. " Last line, change "63120" to "63120-1798. "

Page 2. Paragraph 3, the column "Serial Number" - Add:

CH-47C            85-24734 thru 85-24744

Page 2. Paragraph 6a, extend MWO completion date to "30 September 1990."

**By Order of the Secretary of the Army:**

**Official:**

**R. L. DILWORTH**  
**Brigadier General, United States Army**  
**The Adjutant General**

**CARL E. VUONO**  
**General, United States Army**  
**Chief of Staff**

**DISTRIBUTION:**

To be distributed in accordance with DA Form 12-31, MWO requirements for CH-47A, CH-47B and CH-47C Helicopter Cargo Transport.

\*U.S. GOVERNMENT PRINTING OFFICE: 1989 - 654-30/00031

\*This change supersedes change 2, dated 17 November 1986.

NORMAL

MWO 55-1520-241-30-4  
Change No. 1

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DEPARTMENT OF THE ARMY MODIFICATION WORK ORDER

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REMOVAL OF TWO INLET HOUSING COVER CAPSCREWS

T55 SERIES ENGINES

(CH-47A, CH-47B and CH-47C HELICOPTERS)

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Headquarters, Department of the Army, Washington, D. C.  
9 August 1983

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MWO 55-1520-241-30-4, 5 March 1982, is changed as follows:

Page 1. Top of page. Completion date "29 September 1982" is changed to read completion date "30 September 1983."

Page 2. Paragraph 6a is superseded as follows:

- a. Time Compliance Schedule. MWO effective date 1 October 1980 and completion date 30 September 1983.

**By Order of the Secretary of the Army:**

**Official:**

**ROBERT M. JOYCE**  
*Major General, United States Army*  
*The Adjutant General*

**JOHN A. WICKHAM, JR.**  
*General, United States Army,*  
*Chief of Staff*

DISTRIBUTION:

To be distributed in accordance with DA Form 12-31 MWO requirements for CH-47A and CH-47B/C & D aircraft.

\* U.S. Government Printing Office: 1983 - 664-028/2220

MWO effective date 1 October 1980 and completion date 29 September 1982.

NORMAL

\*MWO 55-1520-241-30-4

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DEPARTMENT OF THE ARMY MODIFICATION WORK ORDER

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REMOVAL OF TWO INLET HOUSING COVER CAPSCREWS

T55 SERIES ENGINES

(CH-47A, CH-47B and CH-47C HELICOPTERS)

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Headquarters, Department of the Army, Washington, D. C.

5 March 1982

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REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail you letter, DA Form 2028-2 located in the back of this manual, direct to Commander, US Army Troop Support and Aviation Materiel Readiness Command, ATTN: DRSTS-MPSD, 4300 Goodfellow Boulevard, St. Louis, Missouri 63120. A reply will be furnished directly to you.

1. **Purpose of Modification.** Two inlet housing cover capscrews must be removed to accommodate installation of left or right Engine to Transmission. If the proper capscrews are not removed, the engine transmission to engine will mount misaligned to the centerline of the engine. This will result in cyclic loading of the engine output shaft splines, causing possible fatigue failure of the shaft, loss of power turbine speed signal to fuel control and resulting catastrophic failure of the power turbine as a result of overspeed.

2. **Priority Classification.** This modification is classified as NORMAL.

**a. Equipment in Use (Including Equipment in Supply or Maintenance Activities Below Depot Level and Equipment in Administrative Storage).** Equipment in use will be modified as soon as practicable but no later than the scheduled completion date. Equipment not modified after expiration of MWO completion date will be reported as Non-Mission Capable Maintenance (NMCM).

**b. Equipment in Wholesale Depot Supply or Maintenance Activities.** All MWOs, to include MWO which have been incorporated into DMWR, will be accomplished on serviceable material prior to issue and/or subsequent to scheduled completion date. Operational project stock stored at the depots will be modified concurrently with depot stock. Issue of unmodified material is prohibited. The MWO will be applied to unserviceable material during scheduled depot maintenance.

**c. Prepositioned Stock.** Equipment which is prepositioned will be modified during cyclic maintenance and will be consistent with TM 38-450.

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\*This publication supersedes MWO 55-1520-241-30-4, 6 April 1981.

**3. End Item or System to be Modified.** The following aircraft will be modified:

Nomenclature	National Stock Number	Model	Serial Number
Helicopter, Cargo Transport	1520-00-633-6836	CH-47A	60-3451, 61-2408 thru 66-19097
Helicopter, Cargo Transport	1520-00-990-2941	CH-47B	66-19098 thru 67-18493
Helicopter, Cargo Transport	1520-00-871-7308	CH-47C	67-18494 thru 79-23401

**4. Assemblies or Components.** The following items whether installed or in stock will be modified. This modification affects all T55 series Engines.

NATIONAL STOCK NUMBER	ENGINE MODEL DESIGNATION
2840-00-987-9717	T55-L-7
2840-00-950-6875	T55-L-7B
2840-00-937-0480	T55-L-7C
2840-00-398-9671	T55-L-11ASA
2840-00-000-0048	T55-L-11D
2840-01-030-4890	T55-L-712

**5. Parts to be Modified.** Not applicable.

**6. Application.**

**a. Time Compliance Schedule.** MWO effective date 1 October 1980 and completion date 29 September 1982.

**b. Level of Maintenance.** AVIM.

**c. Applied By The Following Personnel.**

<u>MOS's</u>	<u>Number Required</u>
67U20 CH-47 Repairman	2 persons
68B20 Turbine Eng Repairman	1 person
68G20 Structural Repairman	1 person
67U30 Technical Inspector	1 person

**d. Time required.**

**(1) For MWO application to one aircraft.**

**(a)** Total of 7.5 manhours (3.75 manhours per engine using 5 persons).

**(b)** Total of 8.5 hours downtime for one aircraft.

**(2) For uninstalled engines:** 1.0 hours per engine.

e. **MWO's to be applied prior to or concurrent with this MWO:** None.

**7. Technical Publications Changed as a Result of this MWO.**

TM 55-1520-227-23  
 TM 55-1520-209-23  
 TM 55-2840-249-23  
 TM 55-2840-234-24/2  
 TM 55-2840-234-23P

**8. Supply Kits, Parts and Disposition.**

a. **Parts required to accomplish MWO.** Two special plugs made from bolts P/N MS9566-12 required for each engine or use two setscrews, P/N NAS1081C4A14L. Four required per aircraft. (See figure 1 for special bolt description.

b. **Requisitioning and issue Instructions.** TM 55-2840-234-23P, Fig 22, Item 6A, NSN 5306-00-143-1647, P/N MS9566-12. TM 55-2840-234-23P, Fig 55, Item 42A, NSN 5305-00-904-0899, P/N NAS1081C4A14L.

c. **Parts Disposition:** Bolts, P/N AN101110, P/N MS9519-10 and Key washers, P/N STD3018K11 discard .

d. **Bulk and Consumable Materials.** Retaining compound (Loc-tite Grade AA) MIL-S-22473, NSN 803000-081-2330.

9. **Special Tools, Jigs and Fixtures.** None required.

10. **Modification Procedures (Authority ECP A-P0001).**

**NOTE**

If setscrew P/N NAS1081C4A14L is to be used disregard the following steps, a thru d.

**NOTE**

To prevent damage to threads of bolt (P/N MS9566-12) in step a, install two nuts (P/N STD3064-4) on to bolt and tighten together.

a. Clamp bolt P/N MS9566-12 in bench vise and using a hacksaw, cut head of bolt off at the point where remaining shank length is 0. 750 IN. See figure 1.

b. Using a hacksaw, cut a common screwdriver slot in shank end of bolt to a depth of 0.087 to 0.102 IN. See figure 1.

c. Remove all burrs with suitable file.

d. Remove previously installed nuts.

e. Prepare aircraft for safe ground maintenance.

- f.* Remove either left or right engine transmission (ref TM55-1520-227-23-2, Para 6-120 or TM55-1520-20923-2, Para 6-118 as required). Remove engine transmission only to the extent necessary to accomplish this MWO.
- g.* Remove two bolts (P/N MS9519-10 or AN101110) from cover assembly (See figure 2).

**CAUTION**

**If the proper bolts are not removed, engine to transmission will mount misaligned to the centerline of the engine and cyclic loading of the engine output shaft splines will occur, causing fatigue failure of the shaft, loss of power turbine speed signal to fuel control and catastrophic failure of the power turbine as a result of overspeed.**

- h.* Apply retaining compound (Loc-tite Grade AA, MIL-S-22473, NSN 8030-00-081-2330) to the threads of either two special plugs or setscrews. Install special plugs or setscrews in place of the bolts removed in previous step *g* and tighten as required. (See figure 2. )
- i.* Insure special plugs or setscrews are installed flush or below surface of cover assembly.
- j.* Reinstall engine transmission (refer to TM 55-1520-227-23 or TM 55-1520-209-23).

**NOTE**

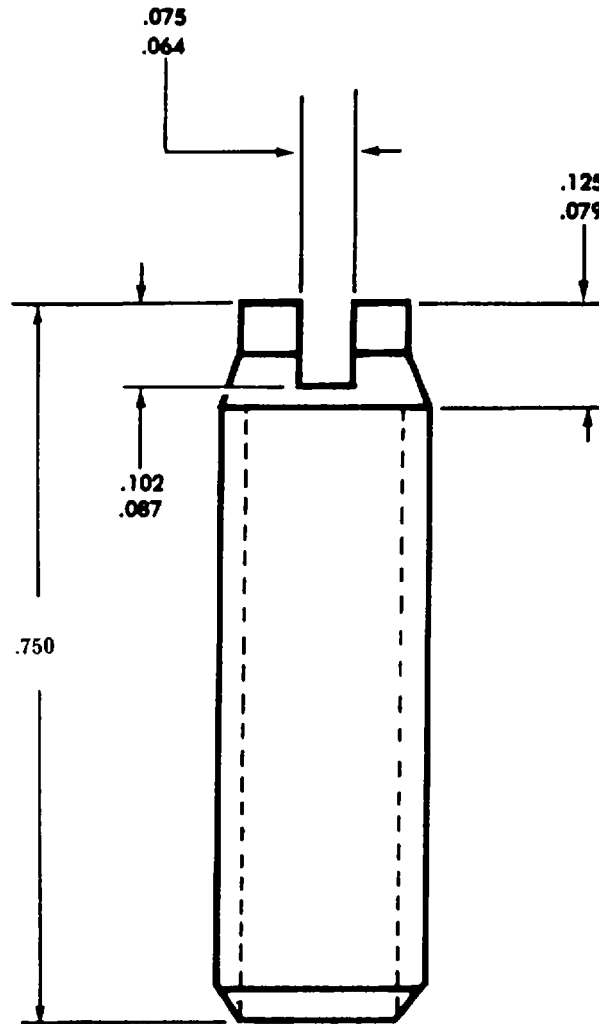
**Flight test of aircraft is required for removal and installation of engine transmission in accordance with TM 5-5120-209-10 or TM 55-1520-227-10 Operator's Manual and TM 55-1500-210-MTF/Maintenance Test Flight Manual.**

**11. Calibration Requirements.** Not applicable.

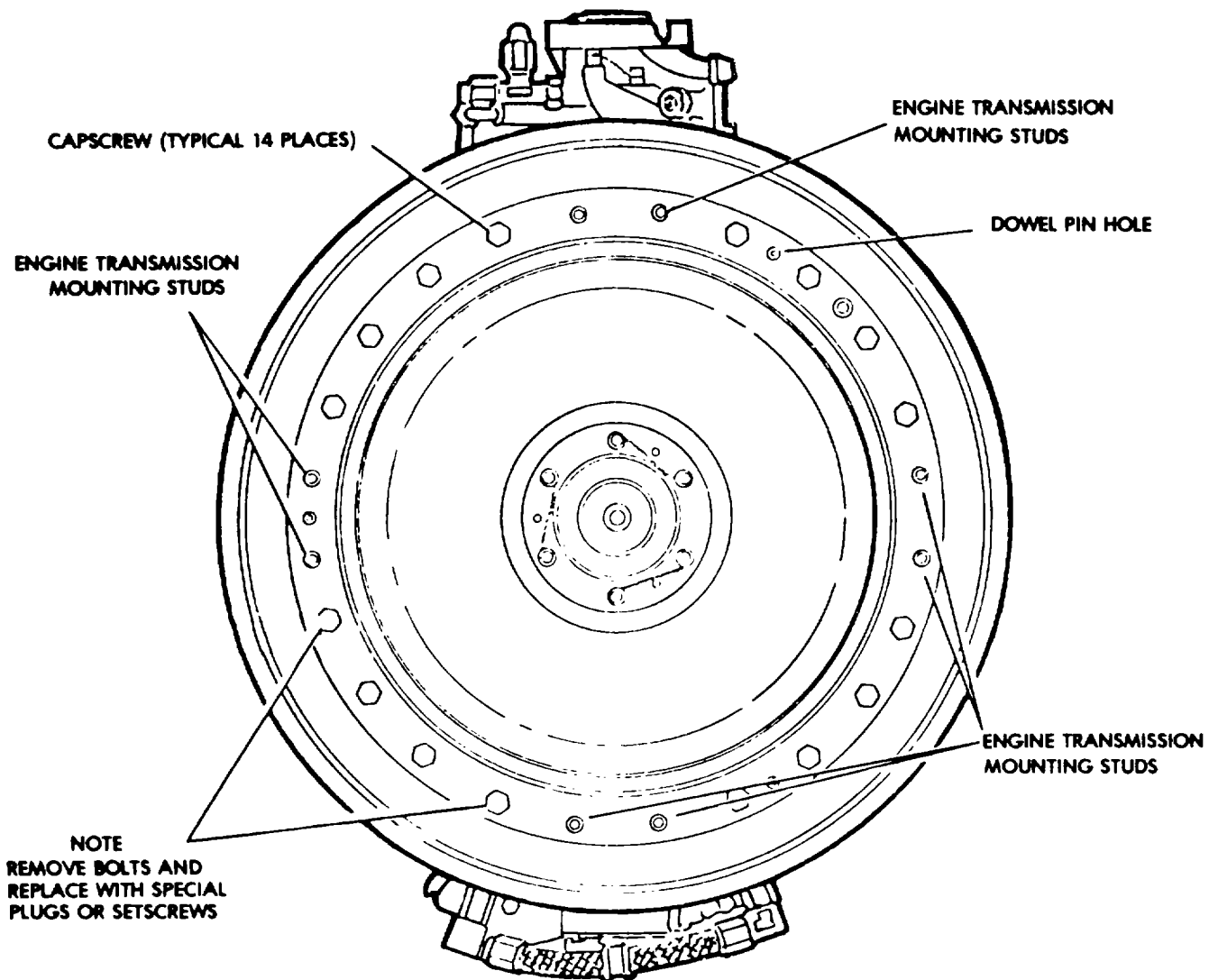
**12. Weight and Balance Data (Refer to TM 55-405-9).** The weight and balance change to the aircraft resulting from this modification is negligible.

**Special Plug**

1. Make from MS 9566-12, NSN 5306-00-143-1547, FSCM 96906, TM5-2840-234-23P, Figure 22, Item 6A.



**Figure 1. Special Plug.**



**NOTE**  
REMOVE BOLTS AND  
REPLACE WITH SPECIAL  
PLUGS OR SETSCREWS

**NOTE**

These two bolt holes are not to be used and must be plugged to prevent their usage. Plug with (2) Special Plugs P/N 5306-T55-000-1. Fabricate from MS9566-12. Refer to TM55-2840-249-23, Para2-11. Setscrews P/N NAS1081C4A14L may be used as an alternate.

**Figure 2. Installation Special Plugs.**



MAINTENANCE REQUEST				PAGE NO.	REPAIR ORGANIZATION		
For use of this form, see FM 23-155, the proponent agency is Office of the Deputy Chief of Staff for Logistics				* See reverse of this form for codes and additional data.		FORM 2407 (R)	
SECTION I				<input type="checkbox"/> WORK REQUEST	<input checked="" type="checkbox"/> DAMWO	<input type="checkbox"/> LIR	ORGANIZATION ISSUE PRIORITY DESIGNATOR CODE
CONTROL NUMBER	1A. ORGANIZATION	3. LOCATION		4. UNIT IDENT CODE			
204509	172d ORD DLT	AM NY (HOUR)		WK4F87			
5. SERIAL NUMBER	2. HOUR NOMENCLATURE	4. LINE NUMBER	5. MODEL	6. NATIONAL STOCK NUMBER			
	AJP 1F			1430-00-933-4163			
7. MAINTENANCE ACTIVITY	8. UTILIZATION CODE*	9. SELECTED ITEM	10. HOURS	11. MILES	12. ROUNDS	13. STARTS	
D		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
14. FAILURE DETECTED DURING (Select one - use / or X)				15. FIRST INDICATION OF TROUBLE (Select one - use / or X)			
<input type="checkbox"/> SCHEDULED MAINTENANCE <input type="checkbox"/> TEST <input type="checkbox"/> STORAGE <input type="checkbox"/> FLIGHT <input type="checkbox"/> INSPECTION <input type="checkbox"/> OTHER				<input type="checkbox"/> OPERATIVE <input type="checkbox"/> OVERHEATING <input type="checkbox"/> OUT OF ADJUSTMENT			
<input type="checkbox"/> HANDLING <input type="checkbox"/> NORMAL OPERATION <input type="checkbox"/> INSPECTION <input type="checkbox"/> OTHER				<input type="checkbox"/> NOISE <input type="checkbox"/> LOW PERFORMANCE <input type="checkbox"/> OTHER			
16. DESCRIBE DEFICIENCIES OR SYMPTOMS ON THE BASIS OF COMPLETE CHECKOUT AND DIAGNOSTIC PROCEDURE IN EQUIPMENT TECHNICAL MANUAL SPECIFICATIONS							
APPLY MWO 9-1430-513-50-7 TO IF AMPLIFIERS							
S/N 1054							
1341							
1291							
1535							
SECTION II - WORK ACCOMPLISHED							
17A. REPAIR ORGANIZATION/ACTIVITY		18. TYPE ORGANIZATION/ACTIVITY ACCOMPLISHING WORK (Select one-use / or X)		19. AMN ACT. CODE			
3. LOCATION		EXAMPLE		<input type="checkbox"/> TOE <input type="checkbox"/> TO			
				<input checked="" type="checkbox"/> CONTRACTOR			
20. FAILURE CODE*	21. COMPONENT/PART HOUR, SERVICE OR MWO NO.	22. MANHOURS (Hours & minutes)	23. NATIONAL STOCK NUMBER	24. QUANTITY	25. PARTS COST	26. UNIT IDENT CODE	
801	AWO 1430-513-50-7 Military	15.5	1430-00-933-4163	4			
	Civilian	5.0					
ACTUAL MANHOURS CHARGED TO INSTALL, INSPECT AND CHECK-OUT							
ENTER THE SAME NSN SHOWN IN BLOCK 6							
KITS USED TO ACCOMPLISH THIS MWO. IF MORE SPACE IS NEEDED, USE 2407-1 CONTINUATION SHEET.			1430-00-156-7123	1			
			1430-00-158-7125	1			
			1430-00-165-6891	1			
TOTAL MANHOURS		TOTAL MANHOURS COST		TOTAL PARTS COST			
20.5							
27. DATA TRANSMITTED TO LOG BOOK				<input type="checkbox"/> SALVAGED			
<input type="checkbox"/> PARTS <input type="checkbox"/> MANPOWER <input type="checkbox"/> FACILITIES <input type="checkbox"/> FUNDS <input type="checkbox"/> TOOLS				<input type="checkbox"/> TO USE <input type="checkbox"/> EVACUATED			
<input type="checkbox"/> TO STOCK <input type="checkbox"/> TO DISPOSITION				<input type="checkbox"/> TO STOCK <input type="checkbox"/> TO DISPOSITION			
28. SUBMITTED BY	29. RECEIVED BY	30. WORK STARTED BY	31. INSPECTED BY	32. ACCEPTED BY	33. DISPOSITION (Select one - use / or X)	34. UNIT IDENT CODE	
		F. Priester	B. McCall	R. Smith			
JULIAN DATE	JULIAN DATE	JULIAN DATE	JULIAN DATE	JULIAN DATE			
7025	7028	7051					
35. NORMAL REPLACEMENT (Select one - use / or X)	36. EMERGENCY (Select one - use / or X)	37. ROUTINE	38. NATIONAL STOCK NUMBER	39. OPTIONS UNDER WHICH FAILURE OCCURRED, IF AVAILABLE			
<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
40. ILLUSTRATES USE OF DA FORM 2407 AT ORGANIZATION, DEPOT OR TEAM LEVEL TO RECORD APPLICATION OF ONE DAMWO TO MULTISERIAL-NUMBERED END ITEM. WHEN MAINTENANCE ACTIONS ARE ACCOMPLISHED BY SUPPORT PERSONNEL BLOCKS 17, 18 and 21-28 ARE COMPLETED.							
PRON NO.							
FISCAL STATION NO.							
MOD IDENTIFICATION NO.							

DA FORM 2407  
1 OCT 73

EDITION OF 1 JAN 64 WILL BE USED UNTIL EXHAUSTED

CONTROL COPY

Figure 3. Maintenance Request Single DAMWO to Multiserial-Numbered Item.

**13. Quality Assurance Requirements.** Inspection of completed MWO application for full compliance with the technical requirements of the instructions will be accomplished by qualified personnel in accordance with an approved prescribed inspection system. The inspection system in effect will be determined on the basis of instructions issued at the site of work; i. e. Army AVUM/AVIM, Army Depots, contractors, etc.

**14. Recording and Reporting of the Modification.**

**a. Records and Reports Forms.** Record accomplishments to the modification in accordance with TM 38750. The following forms are applicable: DA Form 2407 (Maintenance Request), DA Form 2408-5 (Equipment Modification Record Component Engine) and DA Form 2408-13 (Aircraft Inspection and Maintenance Record).

**b. Completion of DA Form 2407, Maintenance Request.** Reporting of MWO application will be accomplished as required by TM 38-750. After completing the DA Form 2407 (Figure 3), mail the NMP Copy (Copy 2) to Commander, US Army Troop Support & Aviation Materiel Readiness Command (TSARCOM), ATTN: DRSTS-MEM, 4300 Goodfellow Boulevard, St. Louis, MO 63120. If the application is accomplished by field personnel under a negotiated MOU and required reimbursement, mail the Control Copy (Copy 3) to Commander, US Army Depot System Command (DESCOM) ATTN: DRSDS-PM, Chambersburg, PA 17201. Procurement Request Order Number (PRON), Memorandum of Understanding (MOU) Number and fiscal station code will be annotated in Block 35. If application is accomplished by depot or contractor teams, Copy 3 will not be submitted to DESCOM and may be disposed of in accordance with TM 38-750.

**15. Product Improvement Proposal (PIP).** Not applicable.

**By Order of the Secretary of the Army:**

**Official:**


**E. C. MEYER**  
**General, United States Army**  
**Chief of Staff**

**ROBERT M. JOYCE**  
**Brigadier General, United States Army**  
**The Adjutant General**

**DISTRIBUTION:**

To be distributed in accordance with DA Form 12-31 ,MWO requirements for CH-47A and CH-47B/C aircraft.

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

 <p style="font-size: small; margin: 0;"><i>THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL.</i></p>		SOMETHING WRONG WITH PUBLICATION	
		FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)	
		DATE SENT	
PUBLICATION NUMBER		PUBLICATION DATE	PUBLICATION TITLE
IN THIS SPACE, TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT.			
BE EXACT PIN-POINT WHERE IT IS			
PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.
PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER		SIGN HERE	

