

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

Inspection and Repair of the Unit Maintenance Aerial Recovery Kit

NSN 1670-01-454-9945 P/N 94J500-1 LIN U87773
 NSN 1670-01-501-8140 P/N 94J500-3 LIN U87773

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

THIS PUBLICATION IS EFFECTIVE UNTIL RESCINDED OR SUPERSEDED.

1. **PURPOSE.** The purpose of this TB is to inspect and repair all Unit Maintenance Aerial Recovery Kits (UMARK) returning from Operation Enduring Freedom/Iraqi Freedom (OEF/OIF), to determine the need for repair and to incorporate approved configuration changes via separately funded MWO kits.
2. **PRIORITY CLASSIFICATION.** PRIORITY.
3. **SUMMARY OF PROBLEM.** Operations in OEF/OIF may have caused serious deterioration to the Unit Maintenance Aerial Recovery Kits, which will make repair or replacement of UMARK components and cases necessary.
4. **REFERENCES.** UMARK TM 1-1670-260-12&P, dated 20 March 2003 with Change 3.
5. **APPLICATION.** This TB shall be applied to all kits listed in TABLE 1 returning from operations. Fielding will occur based on Department of the Army Master Priority List (DAMPL) sequence and be coordinated through all applicable MACOMs.

TABLE 1 lists the UMARK systems that are eligible for RESET under this TB, based on inspection criteria.

Table 1. Unit Maintenance Aerial Recovery Kit		
DESCRIPTION	PART NUMBER	NATIONAL STOCK NUMBER
AERIAL RECOVERY KIT, HELICOPTER	94J500-1	1670-01-454-9945
AERIAL RECOVERY KIT, HELICOPTER	94J500-3	1670-01-501-8140

6. MAINTENANCE REQUIREMENTS.

NOTE

To prevent catastrophic failure do not use the UMARK if its record log indicates lifts in excess of 20 aerial recoveries, 16 cumulative flight hours or 100 static lifts (crane/hoist). If any of these limitations is met or exceeded contact the AGSE PM for UMARK disposition.

- a. **MODIFICATION WORK ORDERS (MWO).** No MWO shall be applied under authority of this TB. Concurrent MWO kit application, funded separately, may be applied as directed by the AGSE Project Office.
- b. **DATA PLATES.** All data plates, decals, and stencils shall be legible. Replace items as required.
 - (1) An additional data plate shall be riveted/attached to the UMARK Cases that contains the following data. This data plate shall be affixed to the center of the UMARK system cases.
 - (a) NSN 1670-01-454-9945 or 1670-01-501-8140, as appropriate.
 - (b) RESET by: "facility name".
 - (c) Date of RESET.
 - (d) Serial Number.
 - (e) Box 1, 2 or 3 of 3.
- c. **LOAD BEARING SLINGS.**
 - (1) Inspect the large black, small yellow, green, red, black, blue and white slings for cuts and tears in the polyester cover, plastic sheath and exposure of the spectra fibers. Exposure of spectra fiber requires replacement of sling due to UV radiation exposure.
 - (2) Inspect sling eyes for deformation, cuts and tears. Check for exposure of spectra fibers. Any deformation of cuts and tears will require replacement.
 - (3) Clean slings with mild soap (see consumables listing) and water.
- d. **NON-LOAD BEARING ROPES.**
 - (1) Inspect for cuts and tears. Check for serviceability and attachment of metallic components.
 - (2) Check attached Metallic components for serviceability.
 - (3) Clean with mild soap (see consumables listing) and water.
 - (4) Use CPC to preserve all attached metallic components.

e. **ALL RUBBER COMPONENTS.**

- (1) Inspect for dry rotting, cracks and serviceability.
- (2) Inspect all lanyards and clips for serviceability.
- (3) Clean with mild soap (see consumables listing) and water.

f. **ALL METALLIC ATTACHMENT COMPONENTS.**

- (1) Inspect for corrosion, pitting, nicks, dents, scratches and deformation. Conduct Die Penetrant inspections for any suspected cracks or scratches.
- (2) Inspect all pins for proper operation.
- (3) Inspect all lanyards and clips for serviceability.
- (4) Use CPC to preserve all metallic components and lube as necessary.

g. **CASES.**

- (1) Inspect cases for cracks, holes, cuts, tears, excessive wear and damage.
- (2) Inspect case seal for serviceability. Case must seal to prevent water intrusion.
- (3) Inspect foam inserts for dry rotting, oil contamination and serviceability.
- (4) Inspect case latches, hinges and handles for serviceability.
- (5) Any of the above criteria that are not met is cause for replacement of the case.
- (6) Inspect inside case lid for inventory checklist and lift tracking sheet.

7. **PREPARATION FOR SHIPMENT.** Prepare UMARK for shipment IAW TM 1-1670-260-12&P and packing lists installed in the cases lids. Units are responsible for missing components and will provide the Reset Site the Units Document numbers for all missing UMARK components.
8. **PAPER DOCUMENTATION.** Paperwork; such as shop traveler, final inspection records, tags, test sheets; shall be used to document all processes, procedures, testing, and inspections specified and performed herein. A single document can cover one or multiple items. The original paperwork shall be maintained at the RESET facility for two years.
9. **QUALITY ASSURANCE.** Initial and final inspections shall be noted and documented on the final quality inspection sheet.
10. **SUPPLY/PARTS AND DISPOSITION.** This section will be conducted in accordance with the RESET Program Managers Office External SOP.

11. TRANSPORTATION. Units will ship UMARKs to the RESET site based on direction from AGSE and the RESET PMs. SDT TAC Code will be provided to the unit for shipment to the RESET site.

12. TECHNICAL INSPECTION PROCEDURES. RESET of the UMARK systems will be accomplished by representatives of the Reset site who will inspect the UMARK system and will repair or replace the defective items. The Reset site representatives will provide all replacement components and cases thus requiring no MILSTRIP activity by the units. The criteria cited in Table 2 developed from TM 1-1670-260-12&P, dated 20 March 2003 with Change 3 represents grounds to repair or replace the existing shipping cases and kit components. Inspection criteria for the kits are as follows:

NOTE

Any of the discrepancies listed in Table 2 below, will be cause for repair or replacement under RESET.

Table 2. Preventative Maintenance Checks and Services			
Insp #	Component to be Inspected	Inspection	Corrective Action
1	Slings, Light Weight (Red, Green, Black, Yellow, Blue) and White	Inspect polyester cover for wear and spectra fibers for exposure. There shall be no exposure to spectra fibers.	Replace sling.
2	Slings, Heavy Weight (Black & White) w/wo Bridle	Inspect polyester cover for wear and spectra fibers for exposure. There shall be no exposure to spectra fibers.	Replace sling.
3	Adjustable Length Tie-Downs	Inspect polyester cover for wear and spectra fibers for exposure. There shall be no exposure to spectra fibers.	Replace adjustable tie-down.
		Check eyehook spring locks for positive lock. There shall be no bent pins or missing components.	Replace adjustable tie-down.
4	Fixed Length Tie-Downs	Inspect polyester cover for wear and white strength members for exposure. There shall be no exposure to white strength members.	Replace fixed length tie-down.
	(with snaps)	Check eyehook spring locks for positive lock. There shall be no bent pins or missing components.	Replace fixed length tie-down.
	(without snaps)	Check eyehooks for cleanliness, and serviceability.	Clean and lubricate.
5	Blade Sleeve Assemblies	Inspect web stitching for looseness and breaks. There shall be no unraveled stitches or indication of breaks or tears.	Repair or replace blade sleeve Assembly.

Table 2. Preventative Maintenance Checks and Services (CONT)			
Insp #	Component to be Inspected	Inspection	Corrective Action
		Inspect blade sleeve assemblies for cleanliness.	Clean with soap and water.
6	Drogue Chute	Inspect canopy and lines for damage. There shall be no torn material or broken lines.	Repair or replace drogue chute.
		Inspect stitching for looseness and breaks. There shall be no unraveled stitches or indication of breaks or tears.	Repair or replace drogue chute.
		Check swivel for freedom of movement.	Replace drogue chute if swivel cannot be made operable by servicing.
7	Wedge Block Assemblies	Inspect blocks for fraying, crumbling, and compression. Replace if more than 25% of the material has been lost or the wedge has been permanently compressed by more than 25% of its nominal thickness.	Replace wedge block assembly.
		Check for cleanliness, and serviceability.	Wash with soap and water.
701	All Wedge Block Assembly Cables.	Inspect cable and loops for damage and fraying.	Replace cable assembly.
701	All Wedge Block Clips	Inspect clips for positive closure and deformation. There shall be no deformed clips or clips that will not close.	Replace clips.
8	Crossbar Assembly	Inspect for cracks, bends or deformation in assembly main member and tubes. There shall be no cracks, bends or deformations present. Tube assemblies must be able to be inserted into main member and locked in place preventing use.	Replace crossbar assembly.
		Inspect foam fitting for presence of deterioration that will prevent its use. Replace crossbar assembly if foam fitting not present or deteriorated beyond usability.	Repair foam fitting or replace crossbar assembly.
801	Crossbar Quick-Release Pin	Inspect quick-release pins for deformation and freedom of movement. Replace quick-release pin if it cannot be made operable by servicing or if deformation is present.	Service or replace quick-release pin.
802	Crossbar Cable Assemblies	Inspect cables and loops for damage. Replace cable if	Replace cable assembly.

Table 2. Preventative Maintenance Checks and Services (CONT)			
Insp #	Component to be Inspected	Inspection	Corrective Action
		frayed. Reinstall quick-release pin and secure cable.	
803	Crossbar Tube Assemblies	Refer to group number 0008 for inspections.	
80301	Crossbar Tube Spring Locks	Inspect spring lock for positive lock and freedom of movement. Replace crossbar assembly if spring lock has been deformed, has no spring action, or fails to lock.	Clean and lubricate as required. Replace crossbar assembly.
9	Lifting Clevis Assembly	Check that the pivot block can move freely on the clevis pins through its full range of motion. Inspect lifting clevis assembly for damage and cracks. There shall be no damage or cracks, and must move freely.	Replace lifting clevis assembly if freedom of motion is not demonstrated. Replace assembly if damaged or cracked.
		Check for cleanliness, and serviceability.	Clean with PD-680, Type II, dry cleaning solvent or soap and water.
		Inspect locking pin hole in pivot block for deformations.	Replace lifting clevis assembly.
901	Lifting Clevis Assembly Locking Pin	Inspect pivot block locking pin. There shall be no deformations.	Replace locking pin assembly.
902	Lifting Clevis Assembly Quick-Release Pin	Inspect quick-release pin for deformation and freedom of movement.	Replace quick-release pin if it cannot be made operable by servicing or if deformation is present.
		Check for cleanliness, and serviceability.	Clean with PD-680, Type II, dry cleaning solvent or soap and water.
903	Lifting Clevis Assembly Cables	Inspect cables and loops for damage. Replace cable if frayed. Reinstall quick-release pin and secure cable.	Replace cable assembly.
10	Shackle Assembly	Inspect for cracks, bends or deformation in assembly. There shall be no cracks, bends or deformations present.	Repair or replace shackle assembly.
		Check for cleanliness, and serviceability.	Clean with PD-680, Type II, dry cleaning solvent or soap and water.
1001	Shackle	Inspect shackle and through holes for deformation and cracks. There shall be no deformation or cracks.	Replace shackle.

Table 2. Preventative Maintenance Checks and Services (CONT)			
Insp #	Component to be Inspected	Inspection	Corrective Action
1002	Shackle Assembly Pin	Inspect pin for deformation and cracks. There shall be no deformation or cracks.	Replace shackle pin.
1003	Shackle Assembly Spacer	Inspect spacer for freedom of movement and ease in sliding onto the pin. Restricted movement may indicate pin deformation. See Group 001002. Replace spacer if deformed.	Replace shackle assembly spacer.
1004	Shackle Assembly Quick-Release Pin	Inspect quick-release pin for deformation and freedom of movement.	Replace quick-release pin if it cannot be made operable by servicing or if deformation is present.
		Check for cleanliness, and serviceability.	Clean with PD-680, Type II, dry cleaning solvent or soap and water.
1005	Shackle Assembly Cable Assembly	Inspect cables and loops for damage. Replace cable if frayed. Reinstall quick-release pin and secure cable.	Replace cable assembly.
11	Sling Link Assemblies	Inspect pin for deformations. Check spring locking operation. There shall be no deformation to spring locking clips.	Replace if deformed. Replace assembly if spring lock cannot be closed.
		Inspect safety wire at pivot end of spring lock. If missing, broken, or improperly installed (Figure 2), replace safety wire in accordance with WP 27 Paragraph 1, Step c. TM 1-1670-260-12&P.	Replace safety wire in accordance with Paragraph 1, Step c.
		Check for cleanliness, and serviceability.	Clean with PD-680, Type II, dry cleaning solvent or soap and water.
12	Box Link Assemblies	Check for cleanliness, and serviceability.	Clean with PD-680, Type II, dry cleaning solvent or soap and water.
1201	Box Link	Inspect for deformations and cracks. Inspect box link pin holes for deformation. There shall be no deformations or cracks.	Replace box link.
1202	Box Link Pin-Lanyard Assembly	Inspect lanyard and loops for damage. Replace lanyard if frayed. Reinstall quick-release pin and secure lanyard.	Replace lanyard assembly.
120201	Box Link Pin Assembly	Inspect box link pin. There shall be no deformations.	Replace box link pin assembly.

Table 2. Preventative Maintenance Checks and Services (CONT)			
Insp #	Component to be Inspected	Inspection	Corrective Action
120202	Box Link Cable Assembly	Inspect cables and loops for damage. Replace cable if frayed. Reinstall quick-release pin and secure cable.	Replace cable assembly.
1203	Box Link Quick-Release Pins	Inspect quick-release pin for deformation and freedom of movement.	Replace quick-release pin if it cannot be made operable by servicing or if deformation is present.
		Check for cleanliness, and serviceability.	Clean with PD-680, Type II, dry cleaning solvent or soap and water.
13	NBC Containers (Green Boxes)	Inspect case and gasket for damage. Check latches, hinges and handles for damage.	Replace if container is damaged, cracked, torn, worn or has holes. Replace gasket. Repair latches, hinges and handles as required. Replace case if hinges, latches and handles are not repairable.
		Check for cleanliness, and serviceability. Decontaminate exterior and clean interior.	Clean with PD-680, Type II, dry cleaning solvent or soap and water.
14	Blade Pole Assembly	Check for serviceability.	Replace blade pole assembly and/or quick-release pins and/or lanyards if damaged or unserviceable.
		Check for cleanliness.	Clean with PD-680, Type II, dry cleaning solvent or soap and water.
15	Cargo Hook Thimbles	Inspect thimble for deformation and damage to sling mating surfaces. There shall be no cracks or deformations.	Replace if deformed or damaged.
		Check for cleanliness.	Clean with PD-680, Type II, dry cleaning solvent or soap and water.
16	Sling Retainer Assembly	Inspect for cuts, dry rotting, and cracks. Ensure that the handle turns freely and lugs are not damaged.	Replace if damaged.
17	Sling Sheaths, 34 & 72 Inch	Inspect for fraying, torn seams, cuts and holes.	Replace if damaged.
18	Sling Sheaths, 96 Inch	Inspect for fraying, torn seams, cuts and holes. Check Velcro for working condition and cleanliness.	Replace if damaged.

13. CORRECTION PROCEDURES. Not applicable unless a questionable defect with equipment is identified. A questionable defect will require that a Quality Deficiency Report (QDR) be processed.

14. DESIGNATION OF UMARK SYSTEMS NSNs. RESET kits will not be re-designated under applicable NSNs, and will continue to be carried under existing Line Item Number (LIN).

15. CONSUMABLE ITEMS.

Table 3. Consumable Listing		
NSN	PART NUMBER	NOMENCLATURE
9505-00-293-4208	MS20995C32	Wire, Non Electrical
6850-01-474-2319	MIL-PRF-680	Cleaning Compound, Solvent
9150-01-260-2534	MIL-L-23398 TYPE II	Lubrication, Solid Film
7930-00-281-4731	C1DAA5	Dishwashing Compound, Hand

16. COMPONENT LIST OF UMARKS.

Table 4. NSN 1670-01-454-9945 Part Number 94J500-1 with Crossbar					
NSN	PART NUMBER	NOMENCLATURE	QTY	FIGURE	ITEM
3940-01-538-5739	94D519-1	Green and White Light Weight Sling	4	1	1
3940-01-539-0534	94D519-2	Yellow and White Light Weight Sling	4	1	2
3940-01-539-1505	94D519-3	Red and White Light Weight Sling	2	1	3
3940-01-538-9499	94D519-4	Blue and White Light Weight Sling	2	1	4
3940-01-538-6784	94D519-5	Black and White Light Weight Sling	1	1	5
3940-01-538-6732	94H520-1	Black and White Heavy Weight Sling	2	2	1
3940-01-538-5218	94H520-2	Black and White Heavy Weight Sling w/Bridle	1	2	2
3940-01-538-2835	94H521-1	Adjustable Length Tie Down	2	3	1
3940-01-538-8611	94H521-2	Sling Extension	4	3	2
1670-01-538-2808	94C522-1	Fixed Length Tie Down	4	4	1
1670-01-541-1132	94C522-2	Snapless Tie Down	1	4	2
Not Assigned	94J516-1	Blade Sleeve	4	5	1
1670-00-391-8499	1670EG029B3	Drogue, Chute	1	6	1
5340-01-538-5104	94D527-1	OH-58 Sight Wedge	1	7	1
5340-01-538-4723	94D528-1	UH-1 Square Wedge	1	7	2
1680-01-539-3155	94D529-1	AH-1 Mast Wedge	1	7	3
5340-01-538-4862	94D530-1	OH-58 A/C Mast Wedge	1	7	4
3940-01-538-3471	94H501-1	Cross Bar Assembly	1	8	
	94J502-1	Cross Bar	1	8	1
	94H504-1	Foam Fitting	1	8	2

Table 4. NSN 1670-01-454-9945 Part Number 94J500-1 with Crossbar (CONT)					
NSN	PART NUMBER	NOMENCLATURE	QTY	FIGURE	ITEM
	94D505-1	Tube Assembly	4	8	3
	MS17985C1237	Quick Release Pin	4	8	4
4030-01-088-2952	MS51844-62	Swaging Sleeve	4	8	5
	MIL-W-83420/4-002	Wire Rope, 21 Inches	4	8	6
5340-01-539-1932	94D509-1	Lifting Clevis Assembly	1	9	
	94C512-011	Locking Pin	1	9	1
	MS17987C406	Quick Release Pin	1	9	2
4030-01-088-2952	MS51844-62	Swaging Sleeve	2	9	3
	MIL-W-83420/4-002	Wire Rope	1	9	4
	MS51944-63	Swaging Sleeve	1	9	5
4030-01-539-0567	94D514-1	Shackle Assembly	1	10	
	38850-0006-106	Shackle	1	10	1
	94D514-2	Pin	1	10	2
	94C515-1	Spacer	1	10	3
5315-01-032-3066	MS17987C617	Quick Release	1	10	4
	MIL-W-83420/4-002	Wire Rope	1	10	5
4030-01-088-2952	MS51844-62	Swaging Sleeve	2	10	6
3940-01-538-0291	94H523-1	Sling Link Assembly	3	11	1
3940-01-538-9452	94C524-1	Box Link Assembly	3	12	
	94C525-1	Box Link	3	12	1
	94C532-1	Pin Lanyard Assembly	3	12	2
8145-01-487-0841	AL4021-0804-ELEC07	NBC Container	3	13	1
Not Assigned	94J531-1	Blade Pole Assembly	1	14	
	94J531-2	Lanyard Assembly	3	14	1
5315-01-476-4260	90293A113	Quick Release Pin	1	14	2
	MIL-W-83420/4-002	Wire Rope 15.1 Inches	1	14	3
4030-01-088-2952	MS81544-62	Swaging Sleeve	2	14	4
4030-01-549-4538	94C533-1	Cargo Hook Thimble	2	15	1

Table 5. NSN 1670-01-501-8140 and Part Number 94J500-3 without Crossbar					
NSN	PART NUMBER	NOMENCLATURE	QTY	FIGURE	ITEM
3940-01-538-5739	94D519-1	Green and White Light Weight Sling	4	1	1
3940-01-539-0534	94D519-2	Yellow and White Light Weight Sling	4	1	2
3940-01-539-1505	94D519-3	Red and White Light Weight Sling	2	1	3
3940-01-538-9499	94D519-4	Blue and White Light Weight Sling	2	1	4
3940-01-538-6784	94D519-5	Black and White Light Weight Sling	1	1	5

Table 5. NSN 1670-01-501-8140 and Part Number 94J500-3 without Crossbar (CONT)					
NSN	PART NUMBER	NOMENCLATURE	QTY	FIGURE	ITEM
3940-01-538-6732	94H520-1	Black and White Heavy Weight Sling	2	2	1
3940-01-538-5218	94H520-2	Black and White Heavy Weight Sling w/Bridle	1	2	2
3940-01-538-2835	94H521-1	Adjustable Length Tie Down	2	3	1
3940-01-538-8611	94H521-2	Sling Extension	4	3	2
1670-01-538-2808	94C522-1	Fixed Length Tie Down	4	4	1
1670-01-541-1132	94C522-2	Snapless Tie Down	1	4	2
Not Assigned	94J516-1	Blade Sleeve	4	5	1
1670-00-391-8499	1670EG029B3	Drogue, Chute	1	6	1
5340-01-538-4723	94D528-1	UH-1 Square Wedge	1	7	2
1680-01-539-3155	94D529-1	AH-1 Mast Wedge	1	7	3
5340-01-538-4862	94D530-1	OH-58 A/C Mast Wedge	1	7	4
4030-01-088-2952	MS51844-62	Swaging Sleeve	4	8	5
	MIL-W-83420/4-002	Wire Rope, 21 Inches	4	8	6
5340-01-539-1932	94D509-1	Lifting Clevis Assembly	1	9	
	94C512-011	Locking Pin	1	9	1
	MS17987C406	Quick Release Pin	1	9	2
4030-01-088-2952	MS51844-62	Swaging Sleeve	2	9	3
	MIL-W-83420/4-002	Wire Rope	1	9	4
	MS51944-63	Swaging Sleeve	1	9	5
4030-01-539-0567	94D514-1	Shackle Assembly	1	10	
	38850-0006-106	Shackle	1	10	1
	94D514-2	Pin	1	10	2
	94C515-1	Spacer	1	10	3
5315-01-032-3066	MS17987C617	Quick Release	1	10	4
	MIL-W-83420/4-002	Wire Rope	1	10	5
4030-01-088-2952	MS51844-62	Swaging Sleeve	2	10	6
3940-01-538-0291	94H523-1	Sling Link Assembly	3	11	1
3940-01-538-9452	94C524-1	Box Link Assembly	3	12	
	94C525-1	Box Link	3	12	1
	94C532-1	Pin Lanyard Assembly	3	12	2
8145-01-487-0841	AL4021-0804-ELEC07	NBC Container	3	13	1
Not Assigned	94J531-1	Blade Pole Assembly	1	14	
	94J531-2	Lanyard Assembly	3	14	1
5315-01-476-4260	90293A113	Quick Release Pin	1	14	2
	MIL-W-83420/4-002	Wire Rope 15.1 Inches	1	14	3
4030-01-088-2952	MS81544-62	Swaging Sleeve	2	14	4
4030-01-549-4538	94C533-1	Cargo Hook Thimble	2	15	1

17. DA FORM 2404, EQUIPMENT INSPECTION, AND MAINTENANCE WORKSHEET.

- 20. REPORTING ERRORS.** You can help improve this bulletin. If you find mistakes or know of a way to improve procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), located at the back of this bulletin, directly to: Commander, U.S. Army Aviation and Missile Command, ATTN: AMSAM-MMC-MA-NP, Redstone Arsenal, AL 35898-5000. A reply will be furnished to you. You may also provide DA Form 2028 information to AMCOM via e-mail, fax or the World Wide Web. Our fax number is: DSN: 788-6546 or Commercial (256) 842-6546. Our e-mail address is: 2028@redstone.army.mil. Instructions for sending an electronic 2028 may be found at the back of this bulletin immediately preceding the hard copy 2028. For the World Wide Web use: <https://amcom2028.redstone.army.mil>.

By Order of the Secretary of the Army

Official:

A handwritten signature in black ink that reads "Joyce E. Morrow". The signature is written in a cursive style with a large, stylized initial "J".

JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army
0818302

GEORGE W. CASEY, JR.
General, United States Army
Chief of Staff

These are the instructions for sending an electronic 2028

The following format must be used if submitting an electronic 2028. The subject line must be exactly the same and all fields must be included; however only the following fields are mandatory: 1, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15, 16, 17, and 27.

From: "Whomever" whomever@wherever.army.mil

To: 2028@redstone.army.mil

Subject: DA Form 2028

1 **From: Joe Smith**
2 *Unit: home*
3 **Address: 4300 Park**
4 **City:** Hometown
5 **St: MO**
6 **Zip: 77777**
7 **Date Sent:** 19--OCT--93
8 **Pub no:** 55--2840--229--23
9 **Pub Title: TM**
10 **Publication Date:** 04--JUL--85
11 *Change Number: 7*
12 *Submitter Rank: MSG*
13 **Submitter FName:** Joe
14 *Submitter MName: T*
15 **Submitter LName:** Smith
16 **Submitter Phone:** 123--123--1234
17 **Problem: 1**
18 *Page: 2*
19 *Paragraph: 3*
20 *Line: 4*
21 *NSN: 5*
22 *Reference: 6*
23 *Figure: 7*
24 *Table: 8*
25 *Item: 9*
26 *Total: 123*

27 **Text:**

This is the text for the problem below line 27.

RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is ODISC4.						Use Part II (reverse) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/ Supply Manuals (SC/SM)	DATE 8/30/02
TO: (Forward to proponent of publication or form)(Include ZIP Code) Commander, U.S. Army Aviation and Missile Command ATTN: AMSAM--MMC--MA--NP Redstone Arsenal, AL 35898						FROM: (Activity and location)(Include ZIP Code) MSG, Jane Q. Doe 1234 Any Street Nowhere Town, AL 34565	
PART 1 - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS							
PUBLICATION/FORM NUMBER TM 9-1005-433-24						DATE 16 Sep 2002	TITLE Organizational, Direct Support, And General Support Maintenance Manual for Machine Gun, .50 Caliber M3P and M3P Machine Gun Electrical Test Set Used On Avenger Air Defense Weapon System
ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON	
1	WP0005 PG 3		2			Test or Corrective Action column should identify a different WP number.	
EXAMPLE							
* Reference to line numbers within the paragraph or subparagraph.							
TYPED NAME, GRADE OR TITLE MSG, Jane Q. Doe, SFC					TELEPHONE EXCHANGE/ AUTOVON, PLUS EXTENSION 788-1234		SIGNATURE

TO: (Forward direct to addressee listed in publication) Commander, U.S. Army Aviation and Missile Command ATTN: AMSAM-MMC-MA-NP Redstone Arsenal, AL 35898	FROM: (Activity and location) (Include ZIP Code) MSG, Jane Q. Doe 1234 Any Street Nowhere Town, AL 34565	DATE 8/30/02
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PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION NUMBER			DATE	TITLE				
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION
<div style="font-size: 100px; opacity: 0.5; transform: rotate(-30deg); pointer-events: none;"> EXAMPLE </div>								

PART III - REMARKS (Any general remarks or recommendations or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)

EXAMPLE

TYPED NAME, GRADE OR TITLE MSG, Jane Q. Doe, SFC	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION 788-1234	SIGNATURE
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RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25--30; the proponent agency is ODISC4.						Use PartII(reverse) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/ Supply Manuals (SC/SM)	DATE
TO: (Forward to proponent of publication or form)(Include ZIP Code) Commander, U.S. Army Aviation and Missile Command ATTN: AMSAM-MMC-MA-NP Redstone Arsenal, AL 35898						FROM: (Activity and location)(Include ZIP Code)	
PART 1 --ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS							
PUBLICATION/FORM NUMBER						DATE	TITLE
ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON	
* Reference to line numbers within the paragraph or subparagraph.							
TYPED NAME, GRADE OR TITLE						TELEPHONE EXCHANGE/ AUTOVON, PLUS EXTENSION	SIGNATURE

TO: <i>(Forward direct to addressee listed in publication)</i> Commander, U.S. Army Aviation and Missile Command ATTN: AMSAM-MMC-MA-NP Redstone Arsenal, AL 35898	FROM: <i>(Activity and location) (Include ZIP Code)</i>	DATE
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PART II --REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

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TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
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The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
 1 decimeter = 10 centimeters = 3.94 inches
 1 meter = 10 decimeters = 39.37 inches
 1 dekameter = 10 meters = 32.8 feet
 1 hectometer = 10 dekameters = 328.08 feet
 1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
 1 decigram = 10 centigrams = 1.54 grains
 1 gram = 10 decigram = .035 ounce
 1 decagram = 10 grams = .35 ounce
 1 hectogram = 10 decagrams = 3.52 ounces
 1 kilogram = 10 hectograms = 2.2 pounds
 1 quintal = 100 kilograms = 220.46 pounds
 1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce
 1 deciliter = 10 centiliters = 3.38 fl. Ounces
 1 liter = 10 deciliters = 33.81 fl. ounces
 1 dekaliter = 10 liters = 2.64 gallons
 1 hectoliter = 10 dekaliters = 26.42 gallons
 1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
 1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. Inch
 1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. Inches
 1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

<i>To change</i>	<i>To</i>	<i>Multiply by</i>	<i>To change</i>	<i>To</i>	<i>Multiply by</i>
inches	centimeters	2.540	ounce-inches	Newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29.573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	Newton-meters	1.356	metric tons	short tons	1.102
pound-inches	Newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius °C temperature
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