

TECHNICAL BULLETIN

**MAINTENANCE EXPENDITURE LIMITS FOR
FSC GROUP 16
FSC CLASS 1670**

DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED

HEADQUARTERS, DEPARTMENT OF THE ARMY
1 NOVEMBER 2001

- This bulletin supersedes TB 43 -0002-43, 15 May 1995

THIS PAGE INTENTIONALLY LEFT BLANK

TB 43-0002-43

INSERT LATEST UPDATED PAGES / WORK PACKAGES DESTROY SUPERSEDED DATA

LIST OF EFFECTIVE PAGES

Note: The portion of text affected by the update is indicated by a vertical line in the outer margins of the page. Updates to illustrations are indicated by miniature pointing hands. Updates to wiring diagrams are indicated by shaded areas.

Dates of issue for original and changed pages are:

Original 01 Nov 2001

Revision

TOTAL NUMBER OF PAGES FOR THIS TB IS 24, CONSISTING OF THE FOLLOWING:

Page / WP No.	*Revision No.	Page / WP No.	*Revision No.
Front Cover	0		
A-B	0		
i-ii	0		
1-8	0		
Authentication Page	0		
2028 Instructions	0		
Sample DA Form 2028	0		
Blank DA Form 2028	0		
Back Cover	0		

*Zero in this column indicates an original page or work package

THIS PAGE INTENTIONALLY LEFT BLANK

MAINTENANCE EXPENDITURE LIMITS FOR
FSC GROUP 16
FSC CLASS 1670

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 your letter together with DA Form 2028 (Recommended Changes to Publications and Blank Forms), located in the back of this manual, directly to: Commander, U.S. Army Soldier and Biological Chemical Command, ATTN: AMSSB-RIM-E (N), Kansas Street, Natick, MA 01760-5052. You may also send in your recommended changes via electronic mail directly to amssb-rim-e@natick.army.mil. Instructions for sending an electronic 2028 may be found at the back of this manual immediately preceding the hard copy 2028. In either case, a reply will be furnished to you.

TABLE OF CONTENTS

	Page
SECTION I. GENERAL	
Purpose	1
Scope	1
Definitions	1
SECTION II. ONE –TIME REPAIR EXPENDITURE LIMITS	
Procedures	1
SECTION III. TECHNICAL INSPECTIONS	
Procedures	2
Forms	2
SECTION IV. COMPUTATION OF REPAIR COSTS ESTIMATES	
Cost Factors	2
Procedures	2
SECTION V. DISPOSITION INSTRUCTIONS	
Eligibility of Equipment for Evacuation to Depot Maintenance.....	2
Disposition Instructions	2
References	2
APPENDIX A. REPAIR LIMITATIONS FOR PERSONNEL/.....	3
CARGO PARACHUTES	
APPENDIX B. LIMITATIONS OF SERVICE AND SHELF LIFE	4
FOR AERIAL DELIVERY AND LIFE SUPPORT EQUIPMENT (FSC 1670)	

This bulletin supersedes TB43-0002-43, 15 May 1995

THIS PAGE INTENTIONALLY LEFT BLANK

TB 43-0002-43

Section I. GENERAL

1. **Purpose.** To implement the provisions of AR 750-1 pertinent to one-time repair expenditure limits and to provide guidance for technical inspection and disposition instructions for equipment listed herein.
2. **Scope.** This bulletin applies to all active U.S. Army, U.S. Army Reserve and National Guard organizations, installations, and activities engaged in supply and maintenance (either contract or in-house) of aerial delivery equipment.
3. **Definitions.**
 - a. **Shelf Life:** The time a parachute is in the depot or in the field unit but has not been removed from the depot or manufacturers container.
 - b. **Service Life:** Starts when the using unit receives the parachute and removes it from its shipping container.
 - c. **Age Life:** The maximum period of time during which an item is serviceable for its' intended use. Age life begins at the date of manufacture and extends over a specified number of years. Age life encompasses both shelf life and service life.
 - d. **Date Placed in Service:** Prior to being placed into service, personnel parachutes having no previous use will be marked to reflect the date of entry into service. Reference TM 10-1670-201-23.

Section II. ONE-TIME REPAIR EXPENDITURE LIMITS

4. **Procedures.**
 - a. One-time expenditure limits are applicable each time an item becomes unserviceable. The one-time repair expenditure limit is expressed as a percentage of the total repair cost estimate to the total cost of the end item.
 - b. The procedure for determining the repair expenditure limit for an item is as follows:
 - (1). Obtain the current price of the end item.
 - (2). The repair cost estimate is the sum total of the estimated cost of labor and parts listed in the technical inspection report as necessary requirements for the restoration of an end item to a serviceable condition.
 - c. Repair eligibility will be determined by comparing the report cost estimate with the product of the percentage shown on the applicable repair limitations chart, times the current price of the unserviceable end item. An end item loses its' repair eligibility if the estimated cost of repair exceeds this product (except with waiver in accordance with AR 750-1). The maximum allowable one-time overhaul allowance of 65 percent as authorized in AR 750-1 is restricted to those years identified in this bulletin.
 - d. The expenditure limit is 100 percent of the acquisition cost for components, assemblies and recoverable repair parts applicable to the end items of equipment that have remaining repair eligibility cited in this bulletin. Replace the components, assemblies, and recoverable repair parts where cost of repair exceeds 100 percent.
 - e. The above paragraph is applicable to bulk components, assemblies, and/or recoverable parts to be repaired and returned to the pipeline for issue. These bulk items are those items in support of the direct exchange program.

TB 43-0002-43

Section III. TECHNICAL INSPECTIONS

5. Procedures. Equipment requiring repair or overhaul will be inspected in accordance with the provisions of AR 750-1, DA PAM 738-750, and the applicable equipment technical manuals.

6. Forms. The following listed forms will be used when applicable:

- a. DA Form 2404 (Equipment Inspection and Maintenance Worksheet) will be used to record the results of technical inspections. Refer to DA PAM 738-750 for instructions for preparation and use of the form.
- b. DA Form 3590 (Repair Eligibility Data Sheet) will be prepared for items that are evacuated for depot maintenance or reported in the National Inventory Control Point (NICP) as serviceable/unserviceable excess. Refer to TB 43-0140 for instructions for preparation and use of the form.

Section IV. COMPUTATION OF REPAIR COST ESTIMATES

7. Cost Factors. Computation of repair costs estimates will be made in accordance with instructions contained in AR 750-1.

8. Procedures. Technical inspection findings will be converted to repair cost estimates by use of instructions contained in paragraphs 5 and 6 of this bulletin and AR 750-1. Exclusions to the estimate of cost to repair are listed in AR 750-1.

Section V. DISPOSITION INSTRUCTIONS

9. Eligibility of Material for Evacuation to Depot Maintenance. Aerial delivery equipment determined to be economically repairable according to Appendix A will not be evacuated to depot level without prior approval of SBCCOM.

10. Disposition Instructions.

- a. Items designated in periodic NICP supply letters will be automatically returned or reported for disposition as indicated in the supply letter and AR 710-1. Request for disposition instructions will be made in letter form with applicable DA Form 2404 (completed as prescribed in Appendix A) attached.
- b. Aerial delivery and life support equipment which are determined to be beyond economic repair, and that are not covered by the above disposition instructions, will be disposed of by the activity making this determination. Disposal will be made in accordance with applicable directives.

11. References:

- a. AR 310-25
- b. AR 700-82
- c. AR 710-1
- d. AR 750-1
- e. DA PAM 738-750
- f. TM 10-1670-201-23
- g. TB 43-0140

APPENDIX A

REPAIR LIMITATIONS FOR PERSONNEL/CARGO PARACHUTES

- 1) Repair limitations for Troop Back and Ram Air Personnel Parachute Systems (RAPPS).

Service Life	12	11	10	9	8	7	6	5	4	3	2	1
Expenditure Limit	96%	88%	80%	72%	64%	56%	48%	40%	32%	24%	16%	8%

- 2) Repair limitations for Ram Air Personnel Parachute Systems (RAPPS) for USAJFKSWC&S, Yuma, Arizona ONLY!

Service Life	6	5	4	3	2	1
Expenditure Limit	94%	78%	62%	46%	30%	14%

- 3) Repair limitations for the 24-Foot Troop Chest Reserve/Modified Improved Reserve Parachute System (MIRPS).

Service Life	13.5	12.5	11.5	10.5	9.5	8.5	7.5	6.5	5.5	4.5	3.5	2.5	1.5
Expenditure Limit	91%	84%	77%	70%	63%	56%	49%	42%	35%	28%	21%	14%	7%

- 4) Repair limitations for Cargo and Extraction Parachutes:

Cargo, Extraction Parachutes, and related items have a 100% maintenance expenditure limit (reference AMC-R 750-51).

APPENDIX B

LIMITATIONS OF SERVICE AND SHELF LIFE FOR AERIAL DELIVERY AND LIFE SUPPORT EQUIPMENT (FSC 1670)

1) Limitations of service and shelf life for Ram Air Personnel Parachute Systems (RAPPS).

Maximum Age Life 15 Years	Maximum Service Life 12 Years	Shelf	1-3	4	5	6	7	8	9	10	11	12	13	14	15
		Service	12	11	10	9	8	7	6	5	4	3	2	1	0

2) Limitations of service and shelf life for Ram Air Personnel Parachute Systems (RAPPS) for USAJFKSWC&S, Yuma, Arizona ONLY!

Maximum Age Life 15 Years	Maximum Service Life 6 Years	Shelf	1-9	10	11	12	13	14	15
		Service	6	5	4	3	2	1	0

NOUN

NSN

P/N

MC-4 RAM AIR PERSONNEL PARACHUTE SYSTEM (RAPPS)

NOTE: Individual components have a 12-year service life (components at USAJFKSWC&S Yuma, AZ have a 6 year service life and must have adequate control measures incorporated to prevent mixing of these systems at the Fort Bragg, NC location).

CANOPY, MAIN	1670-01-330-3916	11-1-3518
CANOPY, RESERVE	1670-01-330-3279	11-1-3518-1
HARNESS/CONTAINER	1670-01-330-3280	11-1-3517
PILOT CHUTE	1670-01-330-3747	11-1-3522
SLIDER	1670-01-330-3744	11-1-3531
RISERS, MAIN	1670-01-330-3284	11-1-3519

APPENDIX B

LIMITATIONS OF SERVICE AND SHELF LIFE FOR AERIAL DELIVERY AND LIFE SUPPORT EQUIPMENT (FSC 1670) (continued)

Maximum Age Life 10 Years	Maximum Service Life 10 Years	Shelf	0	1	2	3	4	5	6	7	8	9	10
		Service	10	9	8	7	6	5	4	3	2	1	0

NOUN

NSN

P/N

ANCHORING DEVICE

1670-00-999-3544

11-1-886

WEB LOOP/STRAP ASSEMBLY

1670-00-927-1242

11-1-885

APPENDIX B

LIMITATIONS OF SERVICE AND SHELF LIFE FOR AERIAL DELIVERY AND LIFE SUPPORT EQUIPMENT (FSC 1670) (continued)

Maximum Age Life 16.5 Years	Maximum Service Life 12 Years	Shelf	1-4.5	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5	13.5	14.5	15.5	16.5
		Service	12	11	10	9	8	7	6	5	4	3	2	1	0

NOUN

NSN

P/N

*T-10C PARACHUTE ASSEMBLY	1670-01-248-9502	11-1-564-2
*T-10D PARACHUTE ASSEMBLY	1670-01-484-2234	11-1-564-4
T-10C/T-10D CANOPY	1670-01-247-7151	11-1-1501-2
*MC1-1B PARACHUTE ASSEMBLY	1670-00-598-0751	11-1-900-1
*MC1-1C PARACHUTE ASSEMBLY	1670-01-262-2359	11-1-900-2
*MC1-1D PARACHUTE ASSEMBLY	1670-01-487-0777	11-1-900-3
*MC1-1E PARACHUTE ASSEMBLY	TBD	11-1-900-4
MC1-1B/MC1-1E CANOPY	1670-01-007-8559	11-1-1501-1
MC1-1C/MC1-1D CANOPY	1670-01-262-2360	11-1-1501-3

NOTE

PACK TRAY AND DEPLOYMENT BAGS HAVE NO SHELF/SERVICE LIFE

* See Appendix B, page 8 for Riser and Harness Data.

APPENDIX B

LIMITATIONS OF SERVICE AND SHELF LIFE FOR AERIAL DELIVERY AND LIFE SUPPORT EQUIPMENT (FSC 1670) (continued)

Maximum Age Life 16.5 Years	Maximum Service Life 13.5 Years	Shelf	1-3	4	5	6	7	8	9
		Service	13.5	12.5	11.5	10.5	9.5	8.5	7.5

Maximum Age Life 16.5 Years	Maximum Service Life 13.5 Years	Shelf	10	11	12	13	14	15	16
		Service	6.5	5.5	4.5	3.5	2.5	1.5	0.5

NOUN

NSN

P/N

MODIFIED IMPROVED RESERVE PARACHUTE SYSTEM (MIRPS)	1670-01-420-4256	11-1-4012-1
PILOT CHUTE, ASSY, MIRPS	1670-01-457-7897	11-1-6966-1
PILOT CHUTE (only), MIRPS	1670-01-476-2984	11-1-4014-1
BRIDLE ASSEMBLY, MIRPS	1670-01-461-0071	11-1-4018
EJECTOR SPRING ASSY, MIRPS	1670-01-457-7901	11-1-4040-1
T-10 RESERVE ASSEMBLY	1670-00-892-4218	62C4317
PILOT CHUTE, T-10R	1670-00-251-6603	49J7161-2
MIRPS/T-10R CANOPY	1670-00-622-4462	48J7156-3

NOTE

MIRPS/T-10R PACK TRAYS HAVE NO SHELF/SERVICE LIFE

APPENDIX B

LIMITATIONS OF SERVICE AND SHELF LIFE FOR AERIAL DELIVERY AND LIFE SUPPORT EQUIPMENT (FSC 1670) (continued)

Maximum Age Life 20 Years	Maximum Service Life 17 Years	Shelf	1-3	4	5	6	7	8	9	10	11
		Service	17	16	15	14	13	12	11	10	9

Maximum Age Life 20 Years	Maximum Service Life 17 Years	Shelf	12	13	14	15	16	17	18	19	20
		Service	8	7	6	5	4	3	2	1	0

NOUN

NSN

P/N

HARNESSES, PERSONNEL	1670-01-272-1901	11-1-2143-1
RISERS, 30-INCH, T-10C/T-10D	1670-00-457-7897	11-1-2149-2
RISERS, 30-INCH, MC1-1B/MC1-1C		
MC1-1D/MC1-1E	1670-01-007-8563	11-1-2149-1

By Order of the Secretary of the Army:

Official:



JOEL B. HUDSON

*Administrative Assistant to the
Secretary of the Army*

0131705

ERIC K. SHINSEKI
*General, United States Army
Chief of Staff*

DISTRIBUTION:

To be distributed in accordance with Initial Distribution Number (IDN 344705), requirements for EM 0198.

THIS PAGE INTENTIONALLY LEFT BLANK

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@avma27.army.mil>

To: amssb-rim-e@natick.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.

THIS PAGE INTENTIONALLY LEFT BLANK

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



THEN ...JOT DOWN THE DOPE ABOUT IT ON THIS FORM, CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL!

SOMETHING WRONG WITH THIS PUBLICATION?

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)
 PFC John DOE
 Co A 3rd Engineer Bn
 Ft. Leonardwood, MO 63108

DATE SENT
 22 August 1992

PUBLICATION NUMBER TM 1-1520-250-10	PUBLICATION DATE 15 June 1992	PUBLICATION TITLE Operator's manual MH60K Helicopter
--	----------------------------------	---

BE EXACT PIN-POINT WHERE IT IS				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			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.
B1		4-3		Callout 16 in figure 4-3 is pointed out bolt. In key to figure 4-3, item 16 is called a shim. Please correct one or the other

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER JOHN DOE, PFC (268) 317-7111	SIGN HERE JOHN DOE <i>John Doe</i>
--	---------------------------------------

DA FORM 2028-2
1 JUL 79

PREVIOUS EDITIONS ARE OBSOLETE.
DRSTS-M verprint2, 1 Nov 80

P.S. - IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION, MAKE A CARBON COPY OF THIS AND GIVE TO YOUR HEADQUARTERS.

FILL IN YOUR
UNITS ADDRESS



FOLD BACK

DEPARTMENT OF THE ARMY

OFFICIAL BUSINESS

COMMANDER
U.S. ARMY SOLDIER AND BIOLOGICAL CHEMICAL COMMAND
ATTN: AMSSB-RIM-E
KANSAS STREET
NATICK, MA 01760-5052

TEAR ALONG PERFORATED LINE

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



SOMETHING WRONG WITH THIS PUBLICATION?

THEN . . . JOT DOWN THE DOPE ABOUT IT ON THIS FORM, CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL!

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER
TB 43-0002-43

PUBLICATION DATE
01 November 2001

PUBLICATION TITLE
Maintenance Expenditure Limits for FSC Group 16 (FSC Class 1670)

BE EXACT PIN-POINT WHERE IT IS

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

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

SIGN HERE

FILL IN YOUR
UNITS ADDRESS



FOLD BACK

DEPARTMENT OF THE ARMY

OFFICIAL BUSINESS

COMMANDER
U.S. ARMY SOLDIER AND BIOLOGICAL CHEMICAL COMMAND
ATTN: AMSSB-RIM-E
KANSAS STREET
NATICK, MA 01760-5052

TEAR ALONG PERFORATED LINE

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 decigrams = .035 ounce
 1 dekagram = 10 grams = .35 ounce
 1 hectogram = 10 dekagrams = 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 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 temperature	_C
----	---------------------------	-------------------------------	------------------------	----

PIN: 064936-000