#### **TECHNICAL MANUAL**

LIST OF APPLICABLE PUBLICATIONS (LOAP)

**FOR** 

REDEYE AIR DEFENSE GUIDED MISSILE SYSTEM

HEADQUARTERS, DEPARTMENT OF THE ARMY

APRIL 1985

TECHNICAL MANUAL )
No. 9-1425-425-L )

HEADQUARTERS DEPARTMENT OF THE ARMY Washington, D.C., 30 April 1985

# LIST OF APPLICABLE PUBLICATIONS (LOAP)

#### **FOR**

#### REDEYE AIR DEFENSE GUIDED MISSILE SYSTEM

Current as of 11 October 1984

#### REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to: Commander, U. S. Army Missile Command, ATTN: AMSMI-SNPM, Redstone Arsenal, AL 358985238. A reply will be furnished to you.

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<sup>\*</sup>This publication supersedes TM 9-1425-425-L, dated 9 April 1981.

#### Section I

#### **GENERAL INFORMATION**

- 1. Purpose. This technical manual identifies publications which apply to the REDEYE Guided Missile System. These publications are necessary to support the equipment and perform the assigned mission.
- 2. Arrangement. The publications listed in Sections II through VI of this manual are arranged in numerical order by publication number. For each publication listed, the following information is provided: Changes currently in effect, title and date of publication.
- 3. Security Classification.
- a. Publications classified SECRET or CONFIDENTIAL are identified by symbols (S) or (C) preceding the number. The title or subject of classified publications, if unclassified, is followed by (U). Classified titles of publications are not listed, and the word CLASSIFIED will appear in the title column. Classified publications are distributed on a need-to-know basis. These publications must be safeguarded in accordance with AR 380-5.
- b. The symbol (O) preceding the number denotes a publication which is FOR OFFICIAL USE ONLY. Publications FOR OFFICIAL USE ONLY must be protected in accordance with AR 340-17.
- 4. Requisitioning of Publications.
- a. Additional copies of the publications listed herein which are required in the performance of your mission may be requisitioned on DA Form 4569 (USAAGPC Requisition Code Sheet). Forward requisitions to: Commander, U. S. Army AG Publications Center, 2800 Eastern Boulevard, Baltimore, MD 21220.
- b. Unclassified publications and changes to these publications should be requisitioned by Army publication account holders via the AUTODIN (Automatic Digital Network) Data Transmission System. There is no method for requisitioning interim changes. To use the AUTODIN Data Transmission System, the following steps must be followed.
- (1) Complete a USAAGPC Requisition Code Sheet, DA Form 4569. This can be handwritten with pencil or pen.
- (2) Determine the type of local communications support available from your installation Telecommunications Center (TCC). If punched card transmission capability exists, go to paragraph (3). If only teletype transmission capability exists, go to paragraph (4).

- (3) Determine if local keypunch support is available. If so, arrange to have the DA Form 4569 keypunched. If no keypunch support exists, follow the procedures in paragraph (4) below.
- (a) Deliver the punched cards and a completed Data Message Form 1392 to your TCC for transmission in a "card-to-card" (CC) format.
- (b) Be sure that Commander, AG Publications Center, 2800 Eastern Boulevard, Baltimore, MD 21220 appears on the "To" line of the DD Form 173.
- (4) If local keypunch support is <u>not</u> available or if only teletype transmission capability exists, complete a Joint Messageform, DD Form 173. DD Form 173 must be prepared in four copies (original plus three carbons). <u>Do not use OCR versions of the DD Form 173.</u>
  - (a) Attach completed coding sheets (DA Form 4569) to the DD Form 173.
  - (b) Deliver both forms to your servicing TCC for transmission in a "teletype-to-card" (TC) format.
- (c) Be sure that the Army Publications Center (Baltimore, MD) appears on the "TO" line of the DD Form 173.
- (d) If TCC support is <u>not</u> available, complete a Disposition Form, DA Form 2496. Mail the DF and the coding sheets to the Army Publications Center. The Center will keypunch your requisition and process it through the resupply program. Forms containing errors will be returned to you by mail for correction and resubmission.
- c. The Standard Army Publications System (STARPUBS) Resupply Guide, DA PAM 310-10-2, 1 September 1979, should be consulted for further instructions. Additional copies of this pamphlet may be requisitioned under the nomenclature DA PAM 310-10-2 from: Commander, US Army AG Publications Center, 2800 Eastern Boulevard, Baltimore, MD 21220. Consult local library personnel for further information concerning AUTODIN.

#### **NOTE**

All Army Publication Account holders must submit account numbers on requisitions. Non-account holders must establish an account and obtain an account number in order to submit requisitions.

# Section II

# **TECHNICAL MANUALS**

Publication Number	Title	Date
TM 5-4120-222-14 C1 - C4	Operator's, Organizational, DS and GS Maintenance Manual: Air Con- ditioner: Model CE20VAL6 (NSN 4120- 00-973-4589); Model CE20VAL4 (NSN 4120-00-858-5795)	21 Nov 69
TM 9-1400-425-12 C1 - C12	Operator's and Organizational Maintenance Manual: Intercept-Aerial Guided Missile System M41 (NSN 1425-00- 930-9923) and Training Intercept-Aerial Guided Missile System M46A2 (NSN 1425- 00-933-5352)	6 Jan 67
TM 9-1400-425-35 C1 - C16	DS, GS and Depot Maintenance Manual: Intercept-Aerial Guided Missile System M41 (NSN 1425-00-930-9923), Training Intercept-Aerial, Guided Missile System M46A2 (NSN 1425-00-933-5352), and Guided Missile Test Set AN/TSM-82 (NSN 4935-00- 930-9024)	6 Jan 67
TM 9-6740-427-20 C1	Organizational Maintenance Manual: Instruction and Service Manual for Series A or B Retectron Film Inspection Machines	26 Feb 74
TM 9-6920-427-10 C1 - C2	Operator's Manual: Moving Target Simulator Trainer Device M87 (NSN 920-00-179-734 3)	24 Jan 72
TM 9-6920-427-20 C1 - C9	Organizational Maintenance Manual: Moving Target Simulator Trainer Device M87 (NSN 6920-00-179-7343)	25 Jan 72
TM 9-6920-4 28-12 C1 - C6	Operator's and Organizational Maintenance Manual: Guided Missile System Training Set M76 (NSN 6920-00-809-0399)	1 Aug 69
TM 9-6920-428-34 C1 - C6	Direct Support and General Support Maintenance Manual: Guided Missile System Training Set M76 (NSN 6920-00- 809-0 399)	31 Jul 69

# Section II. TECHNICAL MANUALS - Continued

Publication Number	Title	Date
TM 11-6625-366-15 C1 - C4	Operator's, Organizational, DS, GS, and Depot Maintenance Manual: Multimeter TS-352B/U (NSN 6625-00- 553-0142)	5 Jan 67
TM 11-6625-537-14-1	Operator's, Organizational, Direct Support and General Support Mainte- nance Manual: Electronic Voltmeters ME-202A/U (6625-00-709-0288) and ME-202B/U (NSN 6625-00-972-4046)	3 Jul 75
TM 11-6625-640-15 C1 - C2	Operator's, Organizational, DS, GS and Depot Maintenance Manual. Oscilloscopes AN/USM-117 (NSN 6625-00-787-0304), AN/USM-117A (NSN 6625-00-902-3330), AN/USN-117B and AN/USM-117C (NSN 6625-00-787-0304)	17 Mar 71
TM 11-6625-683-14	Operator's, Organizational, Direct Support, and General Support Main- tenance Manual: Signal Generator AN/URM-127 (NSN 6625-00-783-5965)	3 May 83
TM 11-6625-700-10 C1 - C2	Operator's Manual: Digital Readout, Electronic Counter AN/USM-207 (NSN 6625-00-911-6368)	5 Oct 66
TM 11-6625-700-14-1 C1 - C2	Operator's, Organizational, DS and GS Maintenance Manual Including Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools): Digital Readout Electronic Counter AN/USM- 207A (Serial Nos. 1A thru 1100A) (NSN 6625-00-044-3228)	31 Dec 73
TM 11-6625-700-25 C1	Organizational, DS, GS and Depot Maintenance Manual: Digital Readout Electronic Counter AN/USM-207 (NSN 6625-00-911-6368)	6 Oct 66

# Section II. TECHNICAL MANUALS - Continued

Publication Number	Title	Date
TM 11-6625-1703-15 C1 - C3	Operator's, Organizational, DS, GS and Depot Maintenance Manual In- cluding Repair Parts and Special Tools Lists: Oscilloscope AN/USM- 281A (NSN 6625-00-228-2201)	4 Feb 70
TM 55-1400-425-15-1	Transportability Guidance for Guided Missile System, Intercept- Aerial M41, in Unipak Container M585 and Monopak Container M571; Shipping and Storage Containers, Unipak M585 and Monopak M571; Maintenance Equip- ment Shelter GMS S-408	1 May 73
TM 746-237	Preservation and Packing Procedures, Redeployment and Retrograde Materiel (REDEYE Air Defense Guided Missile System)	21 Dec 79
TM 750-262-4-3	Demilitarization Procedures for REDEYE Air Defense Guided Missile System	8 Aug 73

# Section III

# **REPAIR PARTS AND SPECIAL TOOLS LISTS**

Publication Number	Title	Date
TM 5-4120-222-24P C1 - C2	Organizational, Direct and GS Mainte- nance Repair Parts and Special Tools List: Air Conditioner: Compact Vertical, 208V 3 Phase, 18,000 BTUH Cooling, 12,000 BTU Heating; Cycle Model CE20VAL6 (NSN 4120-00-973- 4589); 400 Cycle Model CE20VAL4 (NSN 4 120-00-858-5795)	22 May 69 50/60
TM 9-1400-425-24P	Organizational, DS and GS Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools) for Guided Missile System, Intercept-Aerial M41 (NSN 1425-00-930-9923); Shipping and Storage Containers; Guided Missile System, Training M46A2 (NSN 1425-00-933- 5352) and Test Set AN/TSM-82 (NSN 4935- 00-930-9024) (Block III)	29 Jun 79
TM 9-4935-425-34P	DS and GS Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools for Test Set Test Equipment: Test Kit (4935-00-937- 5397); Test Kit (4935-00-930-2769); and Shelter (4935-00-087-3227)	14 Jun 79
TM 9-6920-427-20P	Organizational Maintenance Repair Parts and Special Tools List for Training Set, Moving Target Simulator M87 (NSN 6920-00-179-7343)	31 May 79
TM 9-6920-428-24P	Organizational, DS and GS Maintenance Repair Parts and Special Tools Lists (Including Depot Maintenance Repair Parts and Special Tools) for Training Set, Guided Missile System M76 (NSN 6920-00-809-0399)(Block III)	8 May 78

# Section III. REPAIR PARTS AND SPECIAL TOOLS LISTS - Continued

Publication Number	Title	Date
TM 11-6625-366-24P	Organizational, DS and GS Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools) for Multi- meter TS-352B/U (NSN 6625-00-533-0142)	30 Dec 76
TM 11-6625-537-24P-1	Organizational, DS and GS Maintenance Repair Parts and Special Tools Lists (Including Depot Maintenance Repair Parts and Special Tools) for Volt- meter, Electronic ME-202B/U (NSN 6625-00-972-4046)	4 Apr 78
TM 11-6625-640-24P	Organizational, DS and GS Maintenance Repair Parts and Special Tools Lists (Including Depot Repair Parts and Special Tools) for Oscilloscopes AN/ USM-117B and AN/USM-117C (NSN 6625-00-787-0 304)	12 Aug 77
TM 11-6625-683-24P C1	Organizational, DS and GS Maintenance Repair Parts and Special Tools Lists (Including Depot Maintenance Repair Parts and Special Tools) for Signal Generator AN/URM-127 (NSN 6625-00- 783-5965)	25 Oct 78
TM 11-6625-700-24P	Organizational, DS and GS Maintenance Repair Parts and Special Tools Lists for Digital Readout Electronic Counters AN/USM-207 (NSN 6625-00-911- 6368) and AN/USM-207A (NSN 6625-00- 044-3228)	28 Mar 79
TM 11-6625-1703-24P	Organizational, DS and GS Maintenance Repair Parts and Special Tools Lists (Including Depot Repair Parts and Special Tools) for Oscilloscope AN/ USM-281A (NSN 6625-00-228-2201)	31 Dec 76

# Section IV.

# **MODIFICATION WORK ORDERS**

Publication Number	Title	Date
MWO 9-1425-425-50-1	Aerial-Intercept Guided Missile System M41A2: Installs Late Sus- tainer Ignition Circuit Card	1 Apr 83

# Section V.

# **TECHNICAL BULLETINS**

Publication Number	Title	Date
TB 9-380-101-10	Security Classification for REDEYE Missile System and Associated Equipment	2 Feb 84
(C) TB 9-1400-425-35/1 C1	Guided Missile Test Set AN/TSM-82: Sound Level Test Frequency (U)	10 Aug 66
TB 9-4931-220-35 C1	Calibration Procedure for Signal Generator HP202C, 202CR, and SG-621/U	15 Jul 74
(C) TB 9-4935-425-50/1 C1	Calibration Procedure for IR Target Irradiance Function of Guided Missile Test Set AN/TSM-82 and AN/TSM-54 (U)	22 Aug 68
TB 9-4935-425-50/2 C1	Calibration Procedure for Weapon Test Simulator 10211768 and 10215020	30 Dec 68
TB 9-6625-342-35	Calibration Procedure for Oscilloscope AN/USM-117 and AN/USM-117C and Plug-In Units, MX2995/USM-117 and MX-2996/USM-117	17 Nov 80
TB 9-6625-1861-35 C1	Calibration Procedure for Differential Voltmeters ME202A/U and ME202B/U and John Fluke Models 803B and 803D Series	27 Apr 72
TB 9-6625-1998-35	Calibration Procedure for Signal Generators AN/URM-127 and AN/URM-127A	29 Oct 80
TB 9-6660-270-50	Calibration Procedure for Aneroid Barometers, ML-102, ML-102G, ML-331/TM, ML-332/TM, ML-333/TM, ML-434/PM, ML-459PMQ1 and FA112150	8 Sep 77

# Section V. TECHNICAL BULLETINS - Continued

Publication Number	Title	Date
TB 11-6625-700-35 C1 - C2	Calibration Procedure for Electronic Counter AN/USM-207 Consisting of CP- 814/USM-207 and CV1921/USM-207; CP- 768/U; AN/USM-207A Consisting of CP-814A/USM-207 and CV-1921A/USM- 207; CP-769/U; and H/P Model 5221B	21 Feb 75
TB 43-0001-20-5	Equipment Improvement Report and Maintenance Digest	1 Apr 83
TB 43-180	Calibration Requirements for the Maintenance of Army Materiel	4 Jan 84
TB 750-92-10/51	Calibration Procedures for Sound Level Calibrator Assembly (NSN 4935- 00-902-2797)(P/N 10215019)	7 Mar 67

# Section VI

# **GENERAL TYPE EQUIPMENT PUBLICATIONS**

Publication Number	Title	Date
	REGULATIONS	
AR 75-1	Malfunctions Involving Ammunition and Explosives	1 Jul 81
AR 75-15	Responsibilities and Procedures for Explosive Ordnance Disposal	1 Nov 78
AR 310-1	Publications, Blank Forms, and Printing Management	15 Feb 80
AR 310-2 C1-C5	Identification and Distribution of DA Publications and Issue of Agency and Command Administrative Publications	12 Jul 76
AR 310-3 C1-C14	Preparation, Coordination, and Approval of Department of the Army Publications	20 Dec 68
AR 310-34 C1-C6	Equipment Authorization and Utilization Policies and Criteria and Common Tables of Allowances	24 Feb 75
AR 310-50	Authorized Abbreviation and Brevity Codes	1 Jan 81
AR 340-15 C1 - C2	Preparing Correspondence	1 Jan 79
AR 380-5	Department of the Army Information Security Program	1 Aug 83
AR 385-30	Safety Color Code Markings and Signs	15 Sep 83
AR 385-40	Accident Reporting and Records	1 Sep 80
AR 385-62 C1	Regulations for Firing Guided Missiles and Heavy Rockets for Training, Target Practice, and Combat	5 Jan 77

Publication Number	Title	Date
AR 700-15	Packaging of Materiel	15 Jan 84
AR 700-22	Worldwide Ammunition Reporting System (WARS), Reports Control Symbol CSGLD-1322(R1), (MIN)	15 Oct 83
AR 708-1 C1 - C3	Cataloging and Supply Management Data	1 Apr 81
AR 710-2 C1	Supply Policy Below the Wholesale Level	1 Oct 81
AR 725-50 C1 - C4	Requisitioning, Receipt, and Issue System	15 Aug 81
AR 746-1 C1	Packaging of Army Materiel for Shipment and Storage	28 Oct 77
AR 750-1	Army Materiel Maintenance Concepts and Policies	1 Dec 83
AR 750-40 C1	Missile Materiel Readiness Report (RCS AMC-139)	15 Mar 82
	FORMS	
DA Form 12-32	Requirements for Army Missile, Rocket, and Air Defense Fire Distribution Systems Publications	Nov 83
DA Form 17	Requisition for Publications and Blank Forms	Oct 79
DA Form 2028	Recommended Changes to Publications and Blank Forms	Feb 74
DA Form 2402	Exchange Tag	May 81
DA Form 2404	Equipment Inspection and Maintenance Worksheet	Apr 79

Publication Number	Title	Date
DA Form 2407	Maintenance Request	May 81
DA Form 2408	Equipment Log Assembly (Records)	Dec 77
DA Form 2409	Equipment Maintenance Log (Consolidated)	Apr 62
DA Form 2415	Ammunition Condition Report	Dec 77
DA Form 3020-R	Magazine Data Card (LRA)	Jul 65
DA Form 3266	Missile Equipment Failure Report	Jan 82
DD Form 314	Preventive Maintenance Schedule and Record	Dec 53
DD Form 1348-1	DOD Single Line Item Release/ Receipt Document	Mar 74
DD Form 1387-1	Military Shipping Tag	Mar 70
DD Form 1387-2	Special Handling Data/Certification	Feb 82
DD Form 1750	Packing List	Sep 70
SF 368	Quality Deficiency Report/ Equipment Improvement Recommendation	Apr 74
	DA PAMPHLETS	
DA Pam 108-1 C1 - C2	Index of Army Motion Pictures and Related Audio-Visual Aids	30 Jan 79
DA Pam 310-1	Consolidated Index of Army Publications and Blank Forms	1 Mar 84
DA Pam 310-35	Index of International Standardization Agreements	15 Dec 78
DA Pam 738-750	The Army Maintenance Management System (TAMMS)(Except Aircraft and Calibration)	1 Dec 83

Publication Number	Title	Date
DA Pam 750-10	US Army Equipment Index of Modification Work Orders	1 Aug 83
DA Pam 750-22	Troubleshooting Equipment in Combat Units	15 Nov 73
	FIELD MANUALS	
FM 5-20	Camouflage	20 May 68
FM 5-25	Explosives and Demolitions	5 Feb 71
FM 6-2 C1 - C2	Field Artillery Survey	29 Sep 78
FM 9-13	Ammunition Handbook	28 Jan 81
FM 9-15	Explosive Ordnance Disposal Service and Unit Operations	24 Feb 84
FM 9-16	Explosive Ordnance Reconnaissance	30 Jul 81
FM 9-59	Unit Operations for Support of Missile and Air Defense Gun Systems	30 Jul 81
FM 10-544	Airdrop of Supplies and Equipment Rigging REDEYE Missiles	Sep 74
FM 20-32	Mine/Countermine Operations at the Company Level	30 Nov 76
FM 21-11	First Aid for soldiers	1 Mar 83
FM 21-30 C1	Military Symbols	6 May 70
FM 21-40 C1	NBC (Nuclear, Biological, and Chemical) Defense	14 Oct 77
FM 24-1	Combat Communications (How to Fight)	30 Sep 76
FM 31-70 C1	Basic Cold Weather Manual	12 Apr 68

Publication Number	Title	Date
FM 31-71	Northern Operations	21 Jun 71
FM 44-1(HTF)	US Army Air Defense Artillery Employment (How to Fight)	9 May 83
FM 44-1-2	Air Defense Artillery Reference Handbook	30 Jun 78
(S) FM 44-1A C1	US Army Air Defense Artillery Employment (U)	30 Oct 77
FM 44-16S	Soldiers' Manual: 16S, MANPADS Crewman (Skill Levels 1, 2, 3, and 4)	31 Mar 83
FM 44-23(HTF)	US Army Air Defense Artillery Employment REDEYE (How to Fight)	30 Sep 77
FM 44-23-1	Operations and Training, REDEYE	31 Oct 77
FM 90-2(HTF)	Tactical Deception (How to Fight)	2 Aug 78
FM 90-3(HTF)	Desert Operations (How to Fight)	19 Aug 77
FM 90-5(HTF)	Jungle Operations (How to Fight)	16 Aug 82
FM 90-6(HTF)	Mountain Operations (How to Fight)	30 Jun 80
FM 90-13(HTF)	River Crossing Operations (How to Fight)	1 Nov 78
FM 100-42	US Army/US Air Space Management in an Area of Operations	1 Nov 76
	SUPPLY BULLETINS	
SB 38-100	Preservation, Packaging, Packing, and Marking Materials, Supplies, and Equipment Used by the Army	1 Mar 78

Publication Number	Title	Date
SB 700-20	Army Adopted/Other Items of Materiel Selected for Authorization/ List of Reportable Items	1 Sep 83
SB 740-1	Storage and Supply Activities; Covered and Open Storage	29 Aug 75
SB 740-92-10	Storage Serviceability Standard for REDEYE Air Defense Guided Missile System	16 May 80
SB 740-4935-92-009	Storage Serviceability Standard for Test Set, Guided Missile System AN/TSM-82; Training Set, Guided Missile System M76	4 Oct 73
SB 742-1	Ammunition Surveillance Procedure	5 Oct 79
SB 742-1425-92-001	Ammunition Surveillance Procedure for USAMICOM Materiel: Guided Missile Intercept-Aerial System, M41 Series (REDEYE)	19 Oct 82
	SUPPLY CATALOGS	
SC 4935-95-CL-A64	Tool Kit, Electronic Repairman MOS27C (REDEYE)	7 Jan 70
	TECHNICAL MANUALS	
TM 9-1300-206 C1 - C6	Ammunition and Explosives Standards	30 Aug 73
TM 38-230-1	Packaging of Materiel: Preservation (Vol 1)	1 Aug 82
TM 38-230-2 C1	Packaging of Materiel: Preservation (Vol 2)	15 Jun 77
TM 38-250 C1 - C4	Packaging and Materials Handling: Preparation of Hazardous Materials for Military Air Shipment	22 Mar 70

Publication Number	Title	Date
TM 38-750 C1	The Army Maintenance Management System (TAMMS)(Aircraft and Calibration only)	31 May 81
TM 38-750-1 C1	The Army Maintenance Management System (TAMMS) Field Command Procedures	29 Dec 78
TM 43-0139	Painting Instructions for Field Use	8 Jul 75
TM 740-90-1	Administrative Storage of Equipment	12 Mar 71
TM 743-200-1 C2 - C24	Storage and Materials Handling	15 Jan 58
TM 750-245-4	Direct Support and General Support Quality Control: Inspector's Inspec- tion Criteria	25 Jan 71

By	Order	of the	Secretary	of /	the	Army	<i>'</i> :
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JOHN A. WICKHAM, JR. General, United States Army Chief of Staff

Official:

DONALD J. DELANDRO Brigadier General, United States Army The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-32, Operator, Organizational, Direct Support and General Support Maintenance requirements for REDEYE Air Defense Guided Missile System.

**☆ U.S. GOVERNMENT PRINTING OFFICE: 1985-544-007/20070** 

# RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

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**DA** 1 FORM 2028-2

PREVIOUS EDITIONS ARE OBSOLETE. P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

#### 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 milliters = .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**

To change	То	Multiply by	To change	То	Multiply by
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	5/9 (after	Celsius	°C
	temperature	subtracting 32)	temperature	

PIN: 044713-000