
DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

**Inspection and Repair of Non-Destructive Test Equipment
NSN 6625-01-512-8476, Part Number 9744790**

**Headquarters Department of the Army, Washington, D.C.
5 September 2008**

DISTRIBUTION STATEMENT A: Approval for public release, distribution is unlimited

NOTE

THIS PUBLICATION IS EFFECTIVE UNTIL RESCINDED OR SUPERSEDED.

1. **PURPOSE.** The purpose of this Technical Bulletin (TB) is to inspect all Non-Destructive Test Equipment (NDTE) returning from Operation Iraqi Freedom/Operation Enduring Freedom (OIF/OEF) to determine the need for repair or replacement.
2. **PRIORITY CLASSIFICATION.** Routine
3. **SUMMARY OF PROBLEM.** System fatigue encountered during OIF/OEF may have caused system or component deterioration that dictates repair or replacement.
4. **REFERENCE MATERIEL.** The NDTE is a Commercial off-the-shelf (COTS) system consisting of Original Equipment Manufacturer (OEM) operator/maintainer manuals only. Calibration of this equipment by the Test Measurement and Diagnostic Equipment (TMDE) activity is not required and a Calibration Waiver exists. The maintenance and repair procedures outlined in the Original Equipment Manufacturer (OEM) manuals provide guidance for maintenance at the operator/maintainer level and will be used to complete this effort. Any repair outside the parameters of the procedures in the OEM manuals or determined to be outside the capabilities provided by Reset will be directed to the OEM of this equipment.
5. **APPLICATION.** This TB shall be applied to all NDTE systems fitting the description listed in Table 1 returning from OIF/OEF. NDTE Reset will occur based on Dynamic Army Research Priority List (DARPL) sequence and will be coordinated through all applicable MACOMs.

Table 1. NDTE (Class 7, Major Items)		
DESCRIPTION	PART NUMBER	NSN
Nortec 2000D Base Unit	9020210	6625-01-515-6713
Sonic 1200HR Base Unit	9322209	6625-01-515-6716

6. TRANSPORTATION.

- a. The NDTE identified for Reset will be shipped based on direction from PM AGSE and Reset PM. A Transportation Accounting Code will be provided to the unit for shipment to the Reset facility.
- b. The NDTE is not a transportability problem item as defined in AR 70-47 and can be transported by military and civilian transportation systems.

7. MAINTENANCE REQUIREMENTS.

- a. All data plates, decals, and stencils shall be legible. Replace questionable items.
- b. Additional data plates will be attached to the exterior of the case that include the following information:
 - (1) National Stock Number (NSN)
 - (2) Reset Facility Name
 - (3) Date of Reset
 - (4) Serial Number
- c. **Hi Brite EL Display Module (9020246).** Check for any physical damage which would prevent normal operation. During power-up of the unit, ensure that all pixels are correctly lit and the screen is easily readable. If the display does not meet these criteria, repair or replace the item as necessary.
- d. **Backlit LCD Display Module (9020221).** Check for any physical damage which would prevent normal operation. During power-up of the unit, ensure that all pixels are correctly lit and the screen is easily readable. Check for correct function of display backlight. If the display does not meet these criteria, repair or replace the item as necessary.
- e. **Batteries Ni-MH DR35 (0119447).** Check for any physical damage to the battery casing and terminals. Check for connector serviceability and voltage output at the terminals. Verify that each battery pack when fully charged can support normal operation of either base unit for a minimum of four (4) hours. If it supports normal operation of the unit for a period less than four (4) hours, then the battery is considered degraded and should be replaced or repaired as necessary.
- f. **Universal Battery Charger/Eliminator (UBCE) (9522153).** Two different part numbers have been identified for this kit, and their particular inspection procedure is as follows: For **P/N 9522153.04**, inspect the cables for cuts, frays, opens, shorts, connector serviceability, and pin-to-pin continuity. On the actual charge unit, verify correct voltage and amperage are present at the output pins when the unit is powered up (reference OEM manual). Repair or replace any items that do not meet these criteria. For **P/N 9019669.07**, inspect the cables for cuts, frays, opens, shorts, connector serviceability, and then attach the cable to either of the main units (9020210 or 9020217). Power up the test unit and verify that the charge indicator light illuminates indicating that the charger is functioning correctly. Repair or replace any items which do not meet these criteria.
- g. **Cable, UBCE to Ni-MH (9122230).** Inspect cable to ensure it is free of cuts, frays, opens or shorts, connector serviceability, and pin-to-pin continuity. With the UBCE powered up and the cable attached, verify correct voltage and amperage are present at output (reference OEM manual). Repair or replace items that do not meet these criteria.
- h. **Power Cord (0205959).** Inspect cable to ensure it is free of cuts, frays, opens or shorts, connector serviceability, and pin-to-pin continuity. Repair or replace items that are not serviceable.
- i. **Span External Battery Charger (3319665).** Inspect cables to ensure they are free of cuts, frays, opens or shorts, connector serviceability, and pin-to-pin continuity. With the charger powered up and the cables attached, verify correct voltage and amperage are present at output (reference OEM manual). Replace items that do not meet these criteria.

- j. **Protective Covers (1020100).** Verify that the protective covers are present, undamaged and able to function as intended. Repair or replace any items that do not meet these criteria.
- k. **SPO-6604, Probe Adapter, Burndy and BNC Switchable (9230412).** Inspect cable to ensure it is free of cuts, frays, opens, shorts, connector serviceability, and pin-to-pin continuity. Repair or replace any item which does not meet these criteria.
- l. **Dual Kit Case (1020256).** Check case for external or internal damage. Verify the case is free of holes, cuts, grease, debris, and other foreign objects that prevent the intended use. Inspect serviceability of the latches, locking mechanisms, and internal foam cutouts for dimensional adherence. If any equipment does not appear to be secure when packaged, repair or replace as necessary.
- m. **Nortec 2000D Operating Manual (7720064).** Verify that manual is present and complete. Inspect for missing pages and/or damage to the manual which would otherwise render it illegible. Replace any items which do not meet these criteria.
- n. **Sonic 1200HR Operating Manual (7720066).** Verify that manual is present and complete. Inspect for missing pages and/or damage to the manual which would otherwise render it illegible. Replace any items which do not meet these criteria.
- o. **Nortec 2000D Familiarization Video (9522165).** Verify that the video is present and physically undamaged. Repair or replace items which do not meet these criteria.
- p. **Sonic 1200HR Familiarization Video (9522164).** Verify that the video is present and physically undamaged. Repair or replace items which do not meet these criteria.
- q. **EddyMaster Software (9522113).** Verify that the software package is present and physically undamaged. Repair or replace items which do not meet these criteria.
- r. **FlawMaster Software (9522091).** Verify that the software package is present and physically undamaged. Repair or replace items which do not meet these criteria.
- s. **Probe Case Plastic (1020205).** Verify that the case is present, all latching mechanisms function properly, and the foam padding inside the case is undamaged. Repair or replace any items which do not meet these criteria.
- t. **Chest Harness (1020099).** Verify that the harness straps are free of dirt, grease, or debris and there are no cuts, frays, tears, or other physical damage. Verify that the latch mechanism operates correctly. Repair or replace any items that do not meet these criteria.
- u. **Manufacturer's Calibration Certificate.** Verify that this certificate is present and legible. Contact the OEM for support if this is missing or incomplete.
- v. **Included Ultrasonic Tester Accessories.** Ensure all items are present, physically no damages, and all connector ports are serviceable. Check cables to ensure they are free of cuts, frays, opens or shorts, and pin-to-pin continuity. Any additional inspection criterion is listed next to each item as applicable. Replace any items which do not meet these criteria.
 - (1) (9322209) 57A8299, 5 MHz, 0.250 inch, 45° Steel Angle Beam Transducer.
 - (2) (9322210) 57A3054, 5 MHz, 0.250 inch, 70° Steel Angle Beam Transducer.
 - (3) (9322211) 57A8300, 5 MHz, 0.250 inch, 60° Steel Angle Beam Transducer.
 - (4) (9322221) CM-1004-S, 10 MHz, 0.250 inch Fingertip Contact Transducer.

- (5) (9322222) CM-0508-S, 5 MHz, 0.500 inch Fingertip Contact Transducer.
- (6) (9322223) GR-1504, 15 MHz, 0.250 inch Delay Line Transducer.
- (7) (9322212) Rompas (B1) Calibration Block, 1.0 inch Steel.
- (8) (9322213) Rompas (B1) Calibration Block, 1.0 inch Aluminum.
- (9) (3317450) X-30 Couplant 2oz. – Verify that this bottle is full or replace. NSN for this Class 9 item is 6860-01-157-4348.
- (10) (9102894) BNC/Microdot Cable 6 feet.
- (11) (9122232) MB-RA, BNC/Microdot Right Angle Cable 6 feet.

w. Included Eddy Current Accessories. Ensure that all of these items are present, physically undamaged, and all connector ports are serviceable. Check cables to ensure they are free of cuts, frays, opens or shorts, and pin-to-pin continuity. Any additional inspection criterion is listed next to each item as applicable. Replace any items which do not meet these criteria.

- (1) (1902510) TBS-1 Aluminum Standard 0.008 inch, 0.020 inch, 0.040 inch notches.
- (2) (1919611) TBS-1 Titanium Standard 0.008 inch, 0.020 inch, 0.040 inch notches.
- (3) (1919610) TBS-1 Magnesium Standard 0.008 inch, 0.020 inch, 0.040 inch notches.
- (4) (1902474) Conductive Sample, Set of six.
- (5) (9222075) PMD/100kHz-500kHz/A/90.5/6 – Check for excessive wear on probe tip. Exposed wiring is a sign of excessive wear and justifies probe replacement.
- (6) (9230410) PMD/1MHz-2MHz/A/90.5/6 - Check for excessive wear on probe tip. Exposed wiring is a sign of excessive wear and justifies probe replacement.
- (7) (9230409) PMD/100kHz-500kHz/A/0.0/4 - Check for excessive wear on probe tip. Exposed wiring is a sign of excessive wear and justifies probe replacement.
- (8) (9230411) PMD/1MHz-2MHz/A/0.0/4 - Check for excessive wear on probe tip. Exposed wiring is a sign of excessive wear and justifies probe replacement.
- (9) (3303965) ¼ inch Teflon Tape (One Roll) – If this item has less than 30% remaining, replacement is justified.

(10) (9102894) BNC/Microdot Cable 6 feet.

(11) (9122232) MB-RA, BNC/Microdot Right Angle Cable 6 feet.

x. Clean all item surfaces so that they are free of dirt, grease, or any other foreign material.

8. **CORRECTION PROCEDURES.** Not applicable unless a questionable defect with the system is identified. A questionable defect will require that a Quality Deficiency Report be processed.
9. **DESIGNATION OF NSNs.** All NDTE systems processed through RESET will retain their original NSN.
10. **SUPPLY/PARTS.** The losing organization will be responsible for ensuring that the turn-in NDTE systems are complete by the component listing. Missing and unserviceable items on requisition will remain on requisition to fill known shortages. DA Form 2404 of any discrepancies will be included with the NDTE, to include any document numbers of parts that are missing from the system at the time of turn-in for Reset.
11. **DOCUMENTATION.** Shop travelers, pre and final inspection records, tags, and test sheets shall be used to document all processes, procedures, testing, and inspections specified and performed herein. A single document can be used to cover single or multiple items. The original paperwork shall be maintained at the Reset facility for a period of two years.
12. **TECHNICAL INSPECTION.** Reset of the NDTE systems will be accomplished by representatives who will inspect, repair, or replace the defective items. The representatives will provide all replacement items. The criteria cited in paragraph 7 represent grounds to repair or replace the identified components.
13. **QUALITY ASSURANCE.** Initial and final inspections shall be noted and documented on the final quality inspection sheet.

14. TECHNICAL PUBLICATIONS AFFECTED. Not applicable. Each NDTE system will include an operator/maintenance manual, Equipment Inspection and Maintenance Worksheet (DA FORM 2404).

EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET						
For use of this form, see DA PAM 738-750 and 738-751; the proponent agency is DCSLOG						
1. ORGANIZATION				2. NOMENCLATURE AND MODEL		
3. REGISTRATION/SERIAL/NSN		4a. MILES	b. HOURS	c. ROUNDS FIRED	d. HOT STARTS	5. DATE
6. TYPE INSPECTION						
7. APPLICABLE REFERENCE						
TM NUMBER			TM DATE		TM NUMBER	
TM DATE			TM NUMBER		TM DATE	
COLUMN a – Enter TM item number. COLUMN b – Enter the applicable condition status symbol. COLUMN c – Enter deficiencies and shortcomings.				COLUMN d – Show corrective action for deficiency or shortcoming listed in Column c. COLUMN e – Individual ascertaining completed corrective action initial in this column.		
STATUS SYMBOLS						
<p>"X" – Indicates a deficiency in the equipment that places it in an inoperable status.</p> <p>CIRCLED "X" – Indicates a deficiency, however, the equipment may be operated under specific limitations as directed by higher authority or as prescribed locally, until corrective action can be accomplished.</p> <p>HORIZONTAL DASH "-" – Indicates that a required inspection, component replacement, maintenance operation check, or test flight is due but has not been accomplished, or an overdue MWO has not been accomplished.</p>				<p>DIAGONAL "/" – Indicates a material defect other than a deficiency which must be corrected to increase efficiency or to make the item completely serviceable.</p> <p>LAST NAME INITIAL IN BLACK, BLUE-BLACK INK, OR PENCIL - Indicates that a completely satisfactory condition exists.</p> <p>FOR AIRCRAFT - Status symbols will be recorded in red.</p>		
ALL INSPECTIONS AND EQUIPMENT CONDITIONS RECORDED ON THIS FORM HAVE BEEN DETERMINED IN ACCORDANCE WITH DIAGNOSTIC PROCEDURES AND STANDARDS IN THE TM CITED HEREON.						
8a. SIGNATURE (Person(s) performing inspection)			8b. TIME	9a. SIGNATURE (Maintenance Supervisor)		9b. TIME
						10. MANHOURS REQUIRED
TM ITEM NO.	STATUS	DEFICIENCIES AND SHORTCOMINGS		CORRECTIVE ACTION		INITIAL WHEN CORRECTED
a	b	c		d		e

15. POINTS OF CONTACT.

- a. Logistics points of contact for this TB is Mr. Rickey Clay, SFAE-AV-AS-AG, DSN 645-8391 or commercial (256) 955-8540, e-mail rickey.clay@us.army.mil. (Alt) John McGuire, SFAE-AV-AS-AG, DSN: 645-8540 or commercial (256) 955-8540, e-mail john.mcguire@peoavn.redstone.army.mil.
- b. Technical point of contact for this TB is Mr. Andy Bestor, SFAE-AV-AS-AG, DSN: 645-0485 or commercial (256) 955-0485, e-mail: andy.bestor@us.army.mil.

16. 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:



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

0822022

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

Distribution:

To be distributed in accordance with the initial distribution number (IDN) 314226 requirements for TB 1-6625-512-20-1.

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
---	---	------------------------

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
--	--	-----------

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
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
---	--	-------------

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

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.)*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
----------------------------	--	-----------

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 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 temperature	°C
----	---------------------------	-------------------------------	------------------------	----

PIN: 085058-000