DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

ANNOUNCEMENT OF APPROVAL AND RELEASE OF NONDESTRUCTIVE TEST EQUIPMENT INSPECTION PROCEDURE MANUAL

TM 1-1520-264-23, TECHNICAL MANUAL AVIATION UNIT MAINTENANCE (AVUM) AND AVIATION INTERMEDIATE MAINTENANCE (AVIM) MANUAL NONDESTRUCTIVE INSPECTION PROCEDURES FOR AH-64A HELICOPTER SERIES

Headquarters, Department of the Army, Washington, D. C.
1 MAY 1997

NOTE

THIS PUBLICATION IS EFFECTIVE UNTIL REFERENCES TO TM 1-1520-264-23, TECHNICAL MANUAL AVIATION UNIT MAINTENANCE (AVUM) AND AVIATION INTERMEDIATE MAINTENANCE (AVIM) MANUAL NONDESTRUCTIVE INSPECTION PROCEDURES FOR AH-64A HELICOPTER, HAVE BEEN INCORPORATED INTO THE TM 1-1520-238-23, AVIATION UNIT AND INTERMEDIATE MAINTENANCE MANUAL, HELICOPTER, ATTACK, AH-64A APACHE.

1. Priority Classification. Routine

2. Purpose. The purpose of this technical bulletin (TB) is to announce the approval and release of the nondestructive test equipment inspection procedure manual, TM 1-1520-264-23, Technical Manual Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual Nondestructive Inspection Procedures for AH-64A Helicopter. This manual shall be referred to when performing inspections on the AH-64A aircraft.

3. Description. Approved nondestructive test inspection procedures are referenced in Table 1. Refer to TM 1-1520-264-23, Technical Manual Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual Nondestructive Inspection Procedures for AH-64A Helicopter, for safety information, part locations, inspection method descriptions, and complete procedures. Do not attempt to perform any nondestructive test inspection without first referring to TM 1-1520-264-23 as this TB does not provide adequate information to properly perform the inspections.

4. Now to Use. The columns in Table 1. Approved Nondestructive Test Inspection Components/Assemblies, are defined as follows:

(1) Procedure Number: references the procedure number in TM 1-1520-264-23, Technical Manual Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual Nondestructive Inspection Procedures for AH-64A Helicopter.
(2) Component/Assembly: provides the list of parts approved for nondestructive test inspections on the AH-64A aircraft. Parts not listed have not been approved for nondestructive test inspection and shall be inspected as referenced in TM 1-1520-238-23, Aviation Unit and Intermediate Maintenance Manual, Helicopter, Attack, AH-64A Apache.
(3) Inspect For: provides the approved manner of inspection. All other types of inspection shall be performed as referenced in TM 1-1520-238-23, Aviation Unit and Intermediate Maintenance Manual, Helicopter, Attack, AH-64A Apache.
(4) Maintenance Category: details the approved maintenance level for each nondestructive test inspection.
(5) Inspection Equipment Requirements: provides the approved nondestructive inspection method/equipment to perform the inspection. Refer to Notes for the legend.
(6) Remarks: provides the approved backup method/equipment to perform the inspection. Refer to Notes for the legend.

NOTE

Legend for the nondestructive inspection methods/equipment referenced in columns (5) and (6):

001	Fluorescent Penetrant Method	004	Ultrasonic Method
002	Magnetic Particle Method	005	Bond Testing Method
003	Eddy Current Method	006	Radiographic Method

Table 1. Approved Nondestructive Test Inspection Components/Assemblies.

(1) PROCEDURE NUMBER	(2) COMPONENT/ASSEMBLY	(3) INSPECT FOR	(4) MAINTENANCE CATEGORY			(5) INSPECTION EQUIPMENT REQUIREMENTS	(6) REMARKS
			AVUM	AVIM	DEPOT		
2.2	Main Rotor Droop Stop Follower (Plunger)	Cracks		√		001	
2.3	Droop Stop Ring	Cracks		√		002	
2.4	Main Rotor Blade (Voids)	Voids		√		005	
2.5	Main Rotor Blade	Cracks		√		001	
2.6	Main Rotor Blade	Fluid		√		006	
2.7	Main Rotor Blade Weight Support Fittings	Cracks		√		003	
2.8	Main Rotor Mast	Cracks		√		002	
2.9	Main Rotor Mast Retaining Ring	Cracks		√		002	
2.10	Main Rotor Hub Retention Nut	Cracks		√		002	
2.11	Main Rotor Head (Hub)	Cracks		√		003	
2.12	Main Rotor Lead Lag Link (Damper Link)	Cracks		√		003	
2.13	Main Rotor Damper	Cracks		√		003	
2.14	Main Rotor Damper Trunnion	Cracks		√		003	
2.15	Main Rotor Damper Rod End	Cracks		√		002	
2.16	Main Rotor Pitch Housing	Cracks		√		003	

Table 1. Approved Nondestructive Test Inspection Components/Assemblies.

(1) PROCEDURE NUMBER	(2) COMPONENT/ASSEMBLY	(3) INSPECT FOR	(4) MAINTENANCE CATEGORY AVUM	AVIM	DEPOT	(5) INSPECTION EQUIPMENT REQUIRE-MENTS	(6) REMARKS
2.17	Main Rotor Feathering Bearing Housing	Cracks		√		003	
2.18	Main Rotor Striker Plate and Shims	Cracks		√		002	
2.19	Main Rotor Hub Bearing	Cracks		√		003	
2.20	Main Rotor Lower Shoe	Cracks		√		003	
2.21	Main Rotor Head Hub Load Plate	Cracks		√		002	
2.22	Main Rotor Hub Brackets	Cracks		√		002	
2.23	Main Rotor Hub Lower Plate	Cracks		√		002	
2.24	Tail Rotor Fork Assembly (Head and Teeter Stop)	Cracks		√		003	
2.25	Tail Rotor Blade	Cracks		√		001	
2.26	Tail Rotor Blade (Voids)	Voids		√		005	
2.27	Tail Rotor Blade (Fluid)	Fluid		√		006	
2.28	Tail Rotor Hub	Cracks		√		003	
2.29	Tail Rotor Clamps and Locking Plates	Cracks		√		003	
3.2	Drive Shafts	Cracks		√		003	Backup 001
3.3	Drivetrain Couplings	Cracks		√		003	
3.4	Drivetrain Flanges	Cracks		√		002	
3.5	Damper and Anti-Flail Supports	Cracks		√		003	Backup 001
3.6	Forward Hanger Bearing Flange	Cracks		√		002	Backup 001
3.7	Forward Hanger Bearing Support	Cracks		√		003	Backup 001
3.8	Aft Hanger Bearing Flange	Cracks		√		002	Backup 001
3.9	Aft Hanger Bearing Support	Cracks		√		003	
3.10	Intermediate Gearbox Centrifugal Fan	Cracks		√		003	
3.11	Engine Nose Gearbox	Cracks		√		003	Backup 001

Table 1. Approved Nondestructive Test inspection Components/Assemblies.

(1) PROCEDURE NUMBER	(2) COMPONENT/ASSEMBLY	(3) INSPECT FOR	(4) MAINTENANCE CATEGORY			(5) INSPECTION EQUIPMENT REQUIRE-MENTS	(6) REMARKS
			AVUM	AVIM	DEPOT		
3.12	Engine Nose Gearbox Input Quill Shaft	Cracks		√		002	
3.13	Main Transmission	Cracks		√		003	
3.14	Main Transmission Compressor Drive Adapter	Cracks		√		003	
3.15	Main Transmission APU Drive Flange	Cracks		√		002	
3.16	Main Transmission Tail Rotor Drive Flange	Cracks		√		002	
3.17	Main Rotor Gearshaft Drive Gear Teeth	Cracks		√		002	
3.18	Main Rotor Mast Support Base	Cracks		√		003	
3.19	Intermediate Gearbox	Cracks		√		003	
3.20	Intermediate Gearbox Retainers	Cracks		√		003	Backup 001
3.21	Intermediate Gearbox Flange and Shouldered Shaft	Cracks		√		002	
3.22	Tail Rotor Gearbox	Cracks		√		003	Backup 001
3.23	Tail Rotor Gearbox Shouldered Shaft	Cracks		√		002	
3.24	Tail Rotor Gearbox Retainers	Cracks		√		003	Backup 001
3.25	Tail Rotor Gearbox Forward and Aft Strut	Cracks		√		002	
3.26	Tail Rotor Gearbox Forward and Aft Strut Fittings	Cracks		√		002	
3.27	Main Rotor Head (Hub)	Cracks		√		003	
3.28	Main Rotor Support Mast	Cracks		√		002	
4.2	Fuselage and Empen-nage Access Doors, Covers, Panels, and Fairings - Metal	Cracks		√		003	

Table 1. Approved Nondestructive Test Inspection Components/Assemblies.

(1) PROCEDURE NUMBER	(2) COMPONENT/ASSEMBLY	(3) INSPECT FOR	(4) MAINTENANCE CATEGORY AVUM	AVIM	DEPOT	(5) INSPECTION EQUIPMENT REQUIREMENTS	(6) REMARKS
4.3	Honeycomb Core Fuselage Panels, Vertical Fin, etc.	Voids		√		005	
4.4	Fluid in Honeycomb Core Fuselage Panels, Vertical Fin, etc.	Fluid		√		006	
4.5	Fittings, Castings, and Forgings	Cracks		√		003	Backup 001
4.6	Transmission Deck	Cracks		√		003	
4.7	Empennage Frame Assemblies F.S. 530 and F.S. 547 and Attached Stringers	Cracks		√		003	
4.8	Fuselage Support Holes	Cracks		√		003	
4.9	Gun and Ammo Support Mount Pads	Cracks		√		003	
4.10	Main Landing Gear Shock Strut Support	Cracks		√		002	
4.11	Main Landing Gear Cross Tube Mounting Points	Cracks		√		002	
4.12	Rotor Support Mixer Assembly and Mounting Surfaces	Cracks		√		002	
4.13	Rotor Mixer Support Assembly Bolt	Cracks		√		002	
4.14	Transmission Rotor Support Strut Assemblies	Cracks		√		003	
4.15	Nacelle Carry-Through Post Assembly	Cracks		√		003	
4.16	Wing Attachment Fittings on Wing and Fuselage	Cracks		√		003	
4.17	Wing Rack Attachment Points/Mounts	Cracks		√		003	
4.18	TADS/PNVS Support Fitting	Cracks		√		003	

Table 1. Approved Nondestructive Test inspection Component/Assemblies.

(1) PROCEDURE NUMBER	(2) COMPONENT/ASSEMBLY	(3) INSPECT FOR	(4) MAINTENANCE CATEGORY			(5) INSPECTION EQUIPMENT REQUIREMENTS	(6) REMARKS
			AVUM	AVIM	DEPOT		
4.19	Vertical Stabilizer Lugs	Cracks		√		003	
4.20	Vertical Stabilizer Barrel Nuts	Cracks		√		002	
4.21	Horizontal Stabilator Actuator Fitting	Cracks		√		003	
4.22	Engine Access and Ventilation Door Assembly Rig Connecting Link	Cracks		√		001	
4.23	Aft Inboard Engine Mount Support	Cracks		√		003	
4.24	Engine Nacelle Strut Attachment Area	Cracks		√		003	
4.25	Main Landing Gear Trailing Arms	Cracks		√		002	
4.26	Main Landing Gear Wheels	Cracks		√			
4.27	Main Landing Gear Shock Strut Housing, Piston, and Rod Ends	Cracks		√		002	
4.28	Main Landing Gear Lower Structural Support	Cracks		√		003	
4.29	Main Landing Gear Jack Pad Adapter	Cracks		√		002	
4.30	Main Landing Gear Trailing Arm Cross Tube	Cracks		√		002	
4.31	Main Landing Gear Shock Strut Mount Shaft	Cracks		√		002	
4.32	Tail Landing Gear Fork	Cracks		√		003	
4.33	Tail Wheel	Cracks		√		003	
4.34	Tail Landing Gear Shock Strut	Cracks		√		002	
4.35	Tail Landing Gear Trailing Arms	Cracks		√		003	
4.36	Tail Landing Gear Actuating Cylinder Assembly	Cracks		√		003	
4.37	Brake System Components	Cracks		√		001	

Table 1. Approved Nondestructive Test Inspection Components/Assemblies.

(1) PROCEDURE NUMBER	(2) COMPONENT/ASSEMBLY	(3) INSPECT FOR	(4) MAINTENANCE CATEGORY			(5) INSPECTION EQUIPMENT REQUIREMENTS	(6) REMARKS
			AVUM	AVIM	DEPOT		
4.38	General Helicopter Attaching Hardware	Cracks		√		002	
5.2	Aft Inboard and Aft Lower Engine Mounts	Cracks		√		003	
5.3	Forward Inboard Engine Mount	Cracks		√		002	
5.4	Forward Lower Engine Mount	Cracks		√		002	
5.5	Engine Tubing, Couplings, Air Ducts, Fittings, Supports, Brackets, and Clips	Cracks		√		001	
5.6	Air Inlet Assembly	Cracks		√		003	
5.7	Engine Air Inlet "V" Band Clamp	Cracks		√		001	
5.8	Starter Flange	Cracks		√		003	
5.9	Engine Shroud	Cracks		√		001	
5.10	Engine Load Demand Spindle Bellcrank Support	Cracks		√		003	
5.11	Engine Components	Cracks		√		001	
6.2	Flight Control Bellcranks	Cracks		√		003	
6.3	Main Rotor Swashplate Shoulder Pin Mating Bores	Cracks		√		003	
6.4	Main Rotor Link Barrels	Cracks		√		002	Backup 001
6.5	Main Rotor Scissors Upper Arm	Cracks		√		003	
6.6	Main Rotor Scissors Lower Arm	Cracks		√		003	
6.7	Pilot/CPG Collective Stick Tube	Cracks		√		003	

Table 1. Approved Nondestructive Test Inspection Components/Assemblies.

(1) PROCEDURE NUMBER	(2) COMPONENT/ASSEMBLY	(3) INSPECT FOR	(4) MAINTENANCE CATEGORY			(5) INSPECTION EQUIPMENT REQUIRE-MENTS	(6) REMARKS
			AVUM	AVIM	DEPOT		
6.8	Pilot/CPG Collective Stick Rotor Housing	Cracks		√		003	
6.9	Pilot Collective Stick Cylinder	Cracks		√		003	
6.10	Flight Control Rods, Connecting Links, Rod Ends, Clevises, Levers and Attaching Parts	Cracks		√		003	
6.11	Pilot Collective Stick Support Assembly	Cracks		√		003	
6.12	CPG Collective Stick Support Assembly	Cracks		√		003	
6.13	Pilot Cyclic Stick	Cracks		√		003	
6.14	Lateral Feel Spring Cartridge	Cracks		√		003	
6.15	Pilot Cyclic Stick Housing and Support Assembly	Cracks		√		003	
6.16	CPG Cyclic Stick Forward and Aft Links	Cracks		√		003	
6.17	CPG Cyclic Stick Remote Control Lever	Cracks		√		003	
6.18	CPG Cyclic Stick Fitting Assembly	Cracks		√		003	
6.19	Ferrous Flight Control System Push-Pull Rods	Cracks		√		002	
6.20	Nonferrous Flight Control System Push-Pull Rods	Cracks		√		003	
6.21	CPG to Pilot Longitudinal F.S. 82.80 Control Bracket	Cracks		√		003	
6.22	CPG to Pilot Collective F.S. 118.50 Bellcrank	Cracks		√		003	
6.23	CPG Directional Shear Pin Activated Decoupler (SPAD) Arms	Cracks		√		003	
6.24	Directional F.S. 121.40 Bellcrank	Cracks		√		003	

Table 1. Approved Nondestructive Test Inspection Components/Assemblies.

(1) PROCEDURE NUMBER	(2) COMPONENT/ASSEMBLY	(3) INSPECT FOR	(4) MAINTENANCE CATEGORY			(5) INSPECTION EQUIPMENT REQUIREMENTS	(6) REMARKS
			AVUM	AVIM	DEPOT		
6.25	Directional F.S. 121.40 Bellcrank Bracket	Cracks		√		003	
6.26	Pilot Directional Shear Pin Activated Decoupler (SPAD) Transducer Arm	Cracks		√		003	
6.27	Pilot Directional Shear Pin Activated Decoupler (SPAD) Remote Control Lever	Cracks		√		003	
6.28	Pilot Directional Shear Pin Activated Decoupler (SPAD) Bellcranks	Cracks		√		003	
6.29	Directional F.S. 156.07 Bellcrank	Cracks		√		003	
6.30	Directional F.S. 159.98 Bellcrank and Bracket	Cracks		√		003	
6.31	Directional F.S. 164.33 Bellcrank Bracket and Attaching Area on Deck	Cracks		√		003	
6.32	Pilot Longitudinal Shear Pin Activated Decoupler (SPAD) Outer and Inner Lever	Cracks		√		003	
6.33	Pilot/CPG Directional Control Pedal Release Handle	Cracks		√		003	
6.34	Pilot/CPG Directional Control Pedal Release Shaft	Cracks		√		002	
6.35	Pilot/CPG Directional Control Pedal Release Nuts	Cracks		√		002	
6.36	Directional F.S. 199.25 Tail Rotor Fitting	Cracks		√		003	
6.37	Directional F.S. 275 Rotor Control Bracket	Cracks		√		003	
6.38	Directional F.S. 348 Bellcrank	Cracks		√		003	

Table 1. Approved Nondestructive Test Inspection Components/Assemblies.

(1) PROCEDURE NUMBER	(2) COMPONENT/ASSEMBLY	(3) INSPECT FOR	(4) MAINTENANCE CATEGORY AVUM	AVIM	DEPOT	(5) INSPECTION EQUIPMENT REQUIRE-MENTS	(6) REMARKS
6.39	Directional F.S. 348 Tail Rotor Bracket	Cracks		√		003	
6.40	Tail Rotor Swashplate Control Bellcrank	Cracks		√		002	
6.41	Tail Rotor Drive Links	Cracks		√		003	
6.42	Exterior Surfaces of All Ferrous Hydraulic Components (Servocylinders, Actuators, Reservoirs, etc.)	Cracks		√		002	

5. Points of Contact.

a. Technical point of contact for this TB is Mr. Wayne Suchman, AGSE-PM, AMSAT-D-WAG, DSN 693-1924 or commercial (314)263-1924, e-mail: wsuchman@emh4.wsmd.stl.army.mil.

b. Nondestructive Test Inspection technical point of contact for this TB is Mr. Scott Huddleston, DSN 693-1923 or commercial (314)263-1923, e-mail: shuddles@emh4.wsmd.stl.army.mil.

6. Reporting of Errors and Recommending Improvements. You can help improve this TB. If you find any mistakes or if you know of a way to improve these procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: Commander, US Army Aviation and Troop Command, ATTN: AMSAT-I-MP, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished to you. You may also submit your recommended changes by E-mail directly to <mpmt%avma28@st-louis-emh7.army.mil>. reply will be furnished directly to you. Instructions for sending an electronic 2028 may be found at the back of this manual.

By Order of the Secretary of the Army.

DENNIS J. REIMER
General, United States Army
Chief of Staff

Official:

JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
03511

DISTRIBUTION:

To be distributed in accordance with DA Form 12-31-E, block no. 3675, requirements for TB 1-1520-238-23-1.

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To: mpmt%avma28@st-louis-emh7.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.

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THEN . .JOT DOWN THE DOPE ABOUT IT ON THIS FORM,CAREFULLYTEAR 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	PUBLICATION DATE	PUBLICATION TITLE
TM 1-1520-250-10	15 June 1992	Operator's manual MH60K Helicopter

BE EXACT PIN-POINT WHERE IT IS

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO
6	2-1 a		
B1		4-3	

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

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.

Callout 16 on figure 4-3 is pointed at a bolt. In key to figure 4-3, item 16 is called a shim. Please correct one or the other

EXAMPLE

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

JOHN DOE, PFC (268) 317-7111

SIGN HERE

JOHN DOE John Doe

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DRSTS-M verprint2, 1 Nov 80

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DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TB 1-1520-238-23-1	1 MAY 1997	Announcement of Approval and Release of NDTE Procedure Manual AH-64A

BE EXACT PIN-POINT WHERE IT IS

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO

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

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THE METRIC SYSTEM AND EQUIVALENTS

NEAR MEASURE

. Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 lb.
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches
1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet
1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

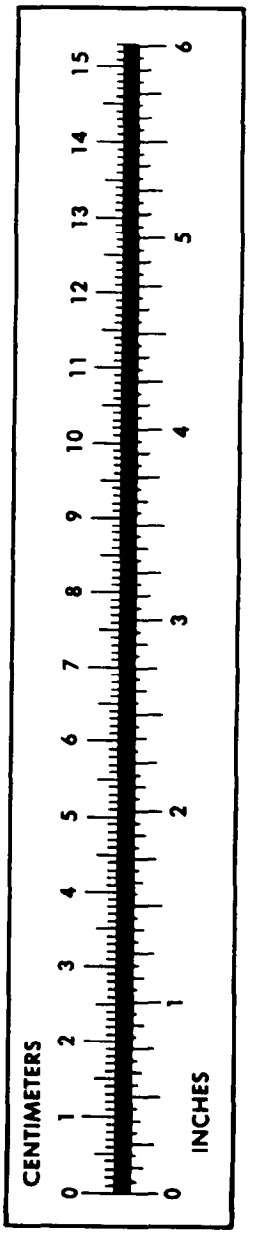
TEMPERATURE

5/9(°F - 32) = °C
212° Fahrenheit is evuivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
32° Fahrenheit is equivalent to 0° Celsius
9/5C° + 32 =°F

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
ıts	Liters	0.473
arts	Liters	0.946
allons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
ers	Gallons	0.264
ms	Ounces	0.035
ograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
lometers per Liter	Miles per Gallon	2.354
meters per Hour	Miles per Hour	0.621



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