

LIMITED URGENT

DAMWO effective date 1 July 1982 and completion date 1 November 1982

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DEPARTMENT OF THE ARMY MODIFICATION WORK ORDER

MODIFICATION OF

TRUCK TRACTOR WRECKER

5 TON MODEL M819

(NSN 2320-00-050-9004)

INSTRUCTIONS FOR MODIFICATION OF

FRONT WHEEL HUBS AND

FRONT TIRE RIMS FOR USE WITH

12:00 X20, 16 PLY TIRES

HEADQUARTERS, DEPARTMENT OF THE ARMY, WASHINGTON, DC.

30 August 1982

REPORTING OF 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 or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to: US Army Tank-Automotive Command, ATTN: DRSTA-MB, Warren, MI 48090. A reply will be furnished direct to you.

1. PURPOSE OF MODIFICATION.

The purpose of these instructions is to provide a procedure for conversion of both front and spare tires to 12:00 X 20, 16 PLY. Also to install a modified hub that will accept rims used with 16 ply tires.

2. PRIORITY CLASSIFICATION.

This modification is classified as LIMITED URGENT.

- a. Equipment in Use. (Includes equipment in supply or maintenance activities below depot level and equipment in administrative storage.) Equipment in use will be modified as soon as possible but no later than the scheduled completion date of this MWO. Equipment in use may continue to be operated for a specific limited period of time, not to exceed 120 days, provided that normal operating precautions and the maximum highway speed is restricted to 30 mph (40 kph).

Equipment not modified within the 120 day compliance period will not be operated until this MWO is applied. After expiration of MWO completion date, such equipment will be reported as NORM/NOT READY in accordance with AR 220-1 and TM 38-750.

- b. Equipment in Wholesale Depot Supply or Maintenance Activities. Serviceable equipment in Depot Supply or Maintenance will be modified prior to issue but not later than the completion date of this MWO. The modification will be applied to unserviceable equipment at the time of scheduled depot overhaul or repair.
- c. Prepositioned Stock. LIMITED URGENT MWO will be applied prior to expiration of MWO completion date. Issue of unmodified stock is prohibited.

3. END ITEM OR SYSTEM TO BE MODIFIED.

Table 1. End Item or System to be Modified

Nomenclature	NSN	Part No.	Model No.	Serial No. Range
Truck Tractor Wrecker, 5 Ton, Model M819	2320-00-050-9004	N/A	M819	A11

4. MODULES (Components, Assemblies, Subassemblies, Boards, and Cards) TO BE MODIFIED. Not applicable.

NOTE

A modified hub P/N 12300683 will be supplied with the Model M819 Truck Tractor Wrecker 5 Ton front wheel hub modification kit P/N 12300681.

5. **PARTS TO BE MODIFIED.** Not applicable.

6. **APPLICATION.**

- a. Time Compliance Schedules. MWO effective date 1 March 1982 and completion date 1 July 1982.
- b. Level of Maintenance. Modification will be accomplished by direct support/general support level maintenance personnel.
- c. Applied By. Two persons are required to apply MWO Kit.
- d. Time Required. Time for completion of MWO application to one truck tractor, wrecker, 5 ton is:
 - (1) Total of three man-hours using two men.
 - (2) Total of four man-hours down time for end item.
 - (3) Time of completion of one part. Not applicable.
- e. MWO's to be Applied Prior to or Concurrently with this MWO. None.
- f. Additional Information. None.

7. **TECHNICAL PUBLICATIONS AFFECTED/CHANGED AS A RESULT OF THIS MWO.**

TM 9-2320-260-10, December 1980
TM 9-2320-260-20, January 1981
TM 9-2320-260-20P, November 1972
TM 9-2320-260-34, December 1980
TM 9-2320-260-34P, March 1973

8. **SUPPLY KITS, PARTS AND DISPOSITION.**

- a. General.
 - (1) Kits/Parts Required to Accomplish MWO. Contents of all kits required to accomplish this installation are listed in Table 2. Parts will be checked against the listing for completeness and accuracy. In the event of a discrepancy, notify: Commander, US Army Tank-Automotive Command, ATTN: DRSTA-MTB, Warren, MI 48090 for disposition instructions.
 - (2) Weight, dimensions and cube of conversion kit for M819 wrecker. See table 3.

Table 2. Modification Kits/Parts

Nomenclature	NSN	Part No	Qty Req'd	Figure	Item
Conversion Kit, M819 Wrecker	2540-01-127-6541	12300681	1	1	
Front Tire (1200 X 20X16) Ply Rated H Range)					
Gasket	5330-00-736-6993	7979275	2	1	1
**Seal Assembly	5330-00-740-9550	7979349	2	1	2
Plate, Instructions	9905-00-405-1952	11664718-5	1	1	3
*Tire, Pneumatic	2610-00-489-8041	123-340-988	3	1	4
*Flap, Tire	2640-00-158-5617	11662389-2	3	1	5
*Disc and Rim Assembly	2530-01-112-2166	12300571	3	1	6
Decal, Warning	7690-01-120-9811	12300572	1	1	7
M819 Tire					
Installation Instruction		12300682	1		
**Hub Assembly W/Pin and cups	1040-00-421-3982	12300683	2	1	8
Drawing		12300683	1		
*Tube, Inner	2610-00-051-9454	MS35392-16	3	1	9
**Cone, Inner	1110-00-100-0649	705155	2	1	10
Cone, Outer	3110-00-198-1468	712286	2	1	10

*NOTE: Tire, Tube, Flap and Disc and Rim assembly will come assembled.

**NOTE: Seal, Inner Cone and Hub assembly will come assembled.

Table 3. Weight Dimension and Cube of Conversion Kit for M819

Kit Number	Dimensions L x W x H	Cubic Feet	Shipping Weight	Security Classification
12300681	72 " x 48" x 36"	72	1000	N.A.

b. Distribution and Issue Instructions.

One tire conversion kit per vehicle will be furnished to the user from TOOELE Army Depot.

c. Bulk and Consumable Materials.

Nomenclature	NSN	Part No.
Solvent, Dry Cleaning SD-2. Federal Specification (P-D-680)		
Grease, Automotive and Artillery Type GAA. MIL-G-10924C		

d. Parts Disposition.

All material removed and not reused should be returned to stock fund for disposition in accordance with AR755-1.

9. SPECIAL TOOLS; JIGS, TEST MEASUREMENT AND DIAGNOSTIC EQUIPMENT (TMDE) AND FIXTURES REQUIRED.

Nomenclature	NSN	Part No.
Wrench, Bearing Nut Wheel		7076869
Wrench, Torque, 150 pound feet capacity		
Lubricator, Portable Bearing		
Lift, Truck Wheel		

10. MODIFICATION PROCEDURE.

- a. Check contents of modification kits to assure completeness in accordance with Table 2, Modification Kit/Parts.
- b. Remove left and right front wheel assemblies from truck. Refer to TM 9-2320-260-10.
- c. Remove spare tire and wheel assembly from truck.
- d. Remove front hubs and brake drum assemblies. Refer to TM 9-2320-260-20-3-2.
- e. Install new hub assembly P/N 12300683 in left and right brake drum assemblies as follows:
 - (1) Disassemble left and right front hub and brake drum assemblies. Refer to TM 9-2360-260-20-3-2.

CAUTION

Protect threads on studs with lug nuts. Striking stud threads will cause damage to studs.

NOTE

Retain the 20 wheel studs for reinstallation.

- (2) Disassemble left and right front hub assemblies. Refer to TM 9-2320-260-20-3-2.

NOTE

Reinstall 20 wheel studs removed in step (2) above. Make sure right hand studs are installed in right hand modified hub and left hand studs are installed on left hand modified hub.

- (3) Assemble modified left and right hub assemblies. Refer to TM 9-2320-260-20-3-2.
- (4) Assemble left and right front hub and brake drum assemblies. Refer to TM 9-2320-260-3-2.
- (5) Lubricate two new outer wheel bearing cones. Refer to TM 9-2320-260-20-3-2 and LO 9-2320-260-12.

NOTE

Inner wheel bearing cone, seal, and hub are preassembled.

- (6) Check two inner wheel bearing cones for lubrication. If they are not packed with grease, lubricate. Refer to TM 9-2320-260-20-3-2 and LO 9-2320-260-12.
- (7) Install left and right hub and brake drum assemblies on axle. Refer to TM 9-2320-260-20-3-2.

NOTE

Locating pins in hub and brake drum assemblies must align with holes in front wheel and tire assembly rims.

- f. Install new left and right front wheel and tire assemblies. Refer to TM 9-2320-260-10.
- g. Inflate left and right front tire and wheel assemblies to 105 psi (724 kPa).
- h. Adjust left and right front wheel bearings. Refer to TM 9-2320-260-20-3-2.
- i. Adjust brakes. Refer to TM 9-2320-260-20-3-2.
- j. Inflate new spare tire and wheel assembly to 105 psi (724 kPa).
- k. Install new spare tire and wheel assembly on truck.
- l. Remove old data plate and replace with new instruction and data plate P/N 11664718-5. Refer to TM 9-2320-260-10-1.

- m. Install warning decal P/N 12300572 next to new instruction and data plate.
- n. Change tire pressure markings on both left and right side fenders to read TP-105, in accordance with TB-43-0209.

11. CALIBRATION REQUIREMENTS. Not applicable

12. WEIGHT AND BALANCE DATA. Weight and balance are not significantly affected.

13. QUALITY ASSURANCE REQUIREMENTS. Not applicable.

14. RECORDING AND REPORTING THE MODIFICATION.

a. Records and Reports Forms.

- (1) DA Form 2408-5 or DA Form 2409. Record the modification on DA Form 2408-5, Equipment Modification Record, when multiple form assembled Equipment Logbook is applicable, or DA Form 2409, Equipment Maintenance Log (Consolidated).
- (2) Completion of DA Form 2407, Maintenance Request. The serial number to be reported in Block 2 must be in the serial range stated in paragraph 3 of the MWO. The NSN for components, assemblies, and subassemblies to be reported in Block 6 must be the same as the NSN shown in paragraphs 4 and 5. The NSN of the item actually modified will be entered in Block 20h. This NSN must match the NSN shown in Block 6. The UIC to be reported in Block 1c must be the six character code that is put on the Unit/Organization shown in Block 1a. (Normally, this will be the code that is put on the Unit/Organization Morning Report.) List by NSN the number of kits used to accomplish this MWO using Block 20 and/or Block 35. If more space is needed, use DA 2407-1, Continuation Sheet. After completing the form, mail the NMP copy (Copy 2) to: Commander, US Army Tank-Automotive Command ATTN: DRSTA-MRP, Warren, MI 48090. Mail the control Copy (Copy 3) to: Commander, US Army Depot System Command, ATTN: DRSDS-PM, Chambersburg, PA 17201, for PAC 98 (Non-AIF Field Activities). Forward the Organizational Copy (Copy 4) as directed by local commander. See Appendix C for examples of DA Form 2407.
- (3) DA Form 2408-9. Not applicable.

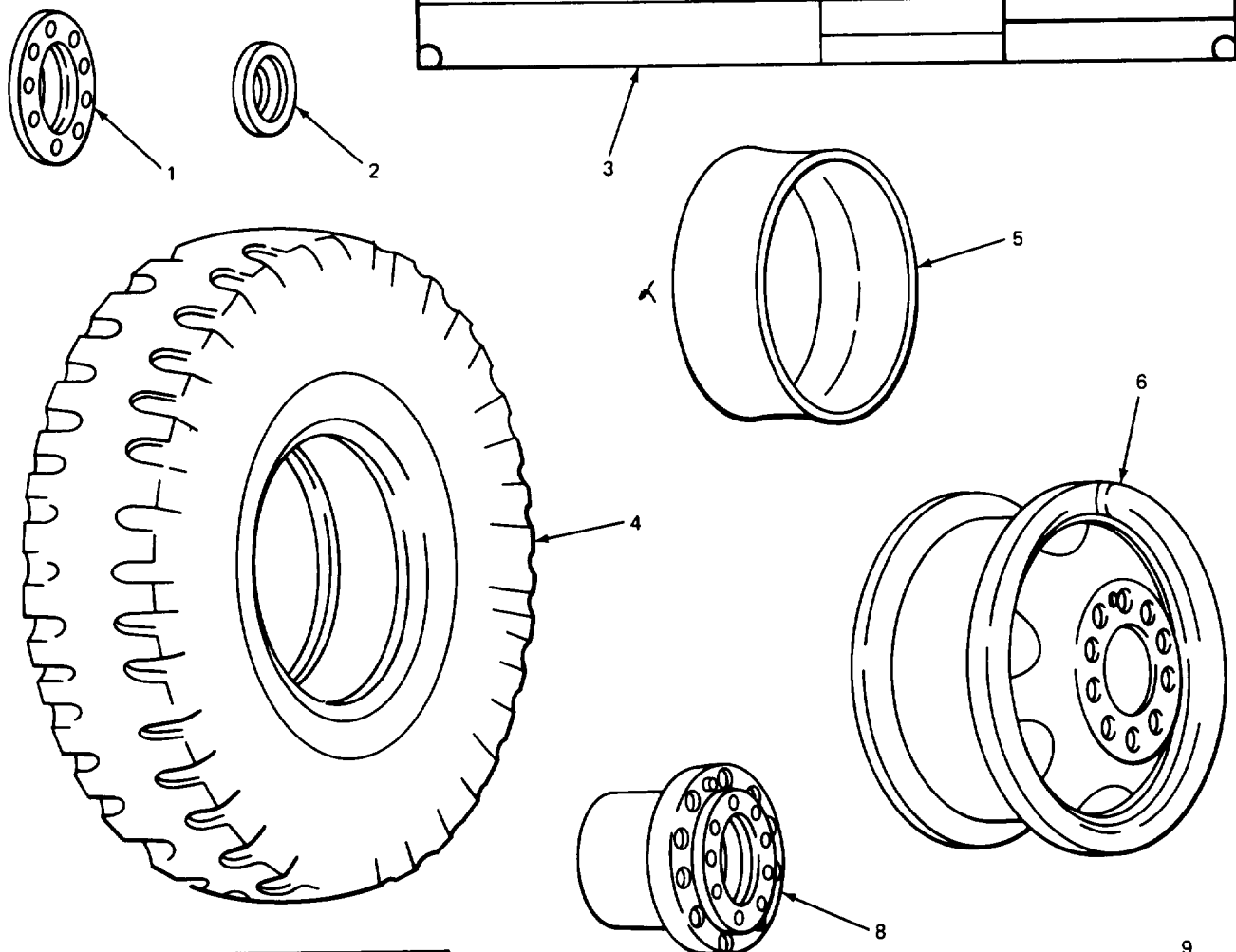
b. Marking Equipment.

- (1) Mark the equipment by stamping "MWO 9-2320-260-30-1" in a conspicuous location near the identification plate of the end item modified.
- (2) A new data plate is furnished as part of the modification kit. The new data plate replaces the old data plate.
- (3) A warning decal is furnished as part of the modification kit. This decal is installed on inside of left cab door.

c. Identification Data. Not applicable.

15. **PRODUCT IMPROVEMENT PROPOSAL (PIP) NUMBER.** Authority for this MWO is 1-81-06-3083.

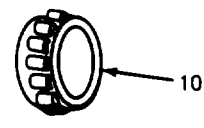
SERVICING DATA	ELECTRICAL SYSTEM 24V	PUBLICATIONS APPLYING TO THIS VEHICLE
DIESEL FUEL PER FEDERAL SPEC VV-F-800	TIRE INFLATION PRESSURE PSI	



WARNING

DO NOT OPERATE THIS VEHICLE UNLESS FRONT WHEELS ARE EQUIPPED WITH 12.00 X 20 16 PLY RATED H RANGE TIRES. TIRE PRESSURE TO BE IN ACCORDANCE WITH DATA PLATE.

ITEM NO.	NOMENCLATURE
1	GASKET
2	SEAL
3	PLATE-INSTRUCTION
4	TIRE-PNEUMATIC
5	FLAP, TIRE
6	DISC AND RIM ASSEMBLY
7	DECAL-WARNING M819 TIRE
8	HUB WITH CUP AND PIN
9	INNER TUBE
10	CONE OUTER, CONE INNER



TÅ204760

MAINTENANCE REQUEST For use of this form, see TM 38-750; the proponent agency is Office of the Deputy Chief of Staff for Logistics.				* See reverse of file copy for codes and additional data	PAGE NO.	NO. OF PAGES	REPORTS CONTROL SYMBOL CSGLD-147 (R1)
SECTION I				<input type="checkbox"/> WORK REQUEST	<input checked="" type="checkbox"/> MWO	<input type="checkbox"/> EIR	<input type="checkbox"/> ORGANIZATION ISSUE PRIORITY DESIGNATOR CODE
CONTROL NUMBER W72132	1. ORGANIZATION 172d ORD DET	b. LOCATION APO NY 09086		c. UNIT IDEN CODE WK4F87			
2. SERIAL NUMBER	3. NOUN NOMENCLATURE AMP IF	4. LINE NUMBER	5. MODEL	6. NATIONAL STOCK NUMBER 1430-00-933-4163			
7. MAINTENANCE ACTIVITY D	8. UTILIZATION CODE*	9. SELECTED ITEM <input type="checkbox"/> 1 YES <input type="checkbox"/> 2 NO		10. HOURS	11. MILES	12. ROUNDS	13. STARTS
14. FAILURE DETECTED DURING (Select one - use ✓ or X) <input type="checkbox"/> A SCHEDULED MAINTENANCE <input type="checkbox"/> C TEST <input type="checkbox"/> E STORAGE <input type="checkbox"/> G FLIGHT <input type="checkbox"/> B HANDLING <input type="checkbox"/> D NORMAL OPERATION <input type="checkbox"/> F INSPECTION <input type="checkbox"/> H OTHER				15. FIRST INDICATION OF TROUBLE (Select one - use ✓ or X) <input type="checkbox"/> 068 INOPERATIVE <input type="checkbox"/> 256 OVERHEATING <input type="checkbox"/> 790 OUT OF ADJUSTMENT <input type="checkbox"/> 008 NOISY <input type="checkbox"/> 387 LOW PERFORMANCE <input type="checkbox"/> OTHER			
16. DESCRIBE DEFICIENCIES OR SYMPTOMS ON THE BASIS OF COMPLETE CHECKOUT AND DIAGNOSTIC PROCEDURE IN EQUIPMENT TM (Do not prescribe repairs)							
Apply MWO 9-1430-513-50-7 To IF Amplifiers							
S/N 1054							
1341							
1291							
1535							
SECTION II - WORK ACCOMPLISHED							
17a. REPAIR ORGANIZATION/ACTIVITY				c. UNIT IDEN CODE		18. TYPE ORGANIZATION/ACTIVITY ACCOMPLISHING WORK (Select one - use ✓ or X) <input type="checkbox"/> 1 TOE <input type="checkbox"/> 2 TD <input type="checkbox"/> 3 CONTRACTOR	
b. LOCATION				19. AMS ACT. CODE			
20a. I.C. # 10. I.C. CODE	b. FAILURE CODE #	c. COMPONENT/PART NOUN, SERVICE, OR MWO NO		d. MANHOURS* (Hours & Decimals)	e. NATIONAL STOCK NUMBER	f. PART SOURCE CODE	g. QUANTITY
		d. CB CODE	e. REFERENCE DESIGNATOR / f. MFR CODE				h. PARTS COST
	801	MWO	1430-513-50-7 Military	15.5	1430-00-935-4163		4
			Civilian	5.0			
					1430-00-156-123		1
					1430-00-158-125		1
					1430-00-165-6891		1
				i. TOTAL MANHOURS 20.5	j. TOTAL MANHOURS COST	k. TOTAL PARTS COST	
21. DELAY (Select one - use ✓ or X) <input type="checkbox"/> 1 PARTS <input type="checkbox"/> 2 MANPOWER <input type="checkbox"/> 3 FACILITIES <input type="checkbox"/> 4 FUNDS <input type="checkbox"/> 5 TOOLS							
23. SUBMITTED BY		24. RECEIVED BY		25. WORK STARTED BY		26. INSPECTED BY	
				F. Priestler		B. McCall	
JULIAN DATE		JULIAN DATE		JULIAN DATE		JULIAN DATE	
				7025		7028	
						7031	
27. ACCEPTED BY T. Smith							
28. DISPOSITION (Select one - use ✓ or X) <input type="checkbox"/> A TO USER <input type="checkbox"/> C SALVAGED <input type="checkbox"/> B TO STOCK <input type="checkbox"/> D EVACUATED <input type="checkbox"/> E CANNIBALIZATION							
SECTION III - EQUIPMENT IMPROVEMENT RECOMMENDATION							
29. NORMAL REPLACEMENT (Select one - use ✓ or X) <input type="checkbox"/> 1 YES <input type="checkbox"/> 2 NO		30. EIR (Select one - use ✓ or X) <input type="checkbox"/> E EMERGENCY <input type="checkbox"/> U URGENT <input type="checkbox"/> R ROUTINE		31. RECOMMENDATION (Select one - use ✓ or X) <input type="checkbox"/> A IMPROVE DESIGN <input type="checkbox"/> C REVISE PROCEDURE <input type="checkbox"/> B MODIFY <input type="checkbox"/> D OTHER (Specify)		32. a. ORGANIZATION/ACTIVITY	
						c. UNIT IDEN CODE	
				b. LOCATION		d. SUBMITTED BY	
33. NATIONAL STOCK NUMBER		34. NOUN NOMENCLATURE		35. OPINION OR REMARKS: DESCRIBE CONDITIONS UNDER WHICH FAILURE OCCURRED. ATTACH PHOTOS OR SKETCHES, IF AVAILABLE.			

DA FORM 1 OCT 73 2407

EDITION OF 1 JAN 64 WILL BE USED UNTIL EXHAUSTED.

FILE COPY

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By Order of the Secretary of the Army:

E.C. MEYER
General, United States Army
Chief of Staff

Official:

ROBERT M. JOYCE
Brigadier General, United States Army
The Adjutant General

DISTRIBUTION:

To be distributed in accordance with DA Form 12-38 MWO requirements for Truck
Tractor Wrecker, 5-Ton Model, M819.

*U.S. GOVERNMENT PRINTING OFFICE: 1982-564-016/318

THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 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

1 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

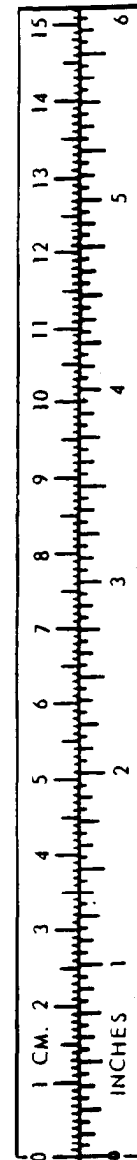
TEMPERATURE

$5.9^{\circ}\text{F} - 32 = ^{\circ}\text{C}$
 $212^{\circ}\text{ Fahrenheit is equivalent to } 100^{\circ}\text{ Celsius}$
 $90^{\circ}\text{ Fahrenheit is equivalent to } 32.2^{\circ}\text{ Celsius}$
 $32^{\circ}\text{ Fahrenheit is equivalent to } 0^{\circ}\text{ Celsius}$
 $9.5^{\circ}\text{C} + 32 = \text{F}^{\circ}$

APPROXIMATE CONVERSION FACTORS

<u>TO CHANGE</u>	<u>TO</u>	<u>MULTIPLY BY</u>
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
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	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

<u>TO CHANGE</u>	<u>TO</u>	<u>MULTIPLY BY</u>
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
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621



TA089991

