**DEPARTMENT OF THE ARMY TECHNICAL MANUAL**

# Transportability Guidance
# SHOP EQUIPMENT, GENERAL PURPOSE REPAIR, SEMITRAILER MOUNTED, COUSE MANUFACTURE, MODEL MEDL

**Headquarters, Department of the Army, Washington, D.C.**
**12 January 1964**



## 1. Purpose

This manual provides transportability guidance in the shipment or movement of the Shop Equipment, General Purpose Repair, Semitrailer Mounted, Couse Manufacture, Model MEDL (fig. 1).

## 2. Scope

*a.* The information contained in this manual covers significant transportability and safety considerations in the movement of the item by the various modes of transport. Included are side- and end-elevation drawings, figures 2 and 3, and characteristics of the item.

*b.* Report all deficiencies in this manual on DA Form 1598 (Record of Comments on Publications). Submit recommendations for changes, additions or deletions to the Commanding Officer, US Army Transportation Engineering Agency, ATTN: TCTEA-TG, Fort Eustis, Va. 23604.

## 3. Modes of Transport

**NOTE**

**Figures in parentheses throughout this .manual are metric equivalents.**

*a. Shipment by Air.* The item is not transportable by US Army aircraft. Based on a typical logistical mission of 1,000 nautical miles, (1852 km), one way, the item is transportable without sectionalization in the C124A, C-124C, and C-133A US Air Force aircraft. After sectionalization, as described in paragraph 4, the item can be transported in the C-130A US Air Force aircraft. Shipment in some models of the C-130A will require shoring where the wheels of the item overlap the inside edge of the aircraft treadway.

*b. Shipment by Highway.*

(1) *On Road.* The item is transportable by highway, towed by the Truck, Tractor, 5 Ton, 6x6, M52, or equal. See figure 5 for turning characteristics of this combination. See TB 55-1 for characteristics of the Truck, Tractor, M52. The item width exceeds the legal highway limitations in CONUS and the recommended highway width and height limitations in oversea areas. Special permits will be required in CONUS and special routing may be required in oversea areas.

(2) *Off Road* (Soils Trafficability Data). The vehicle cone index (VCI) is a

number which tests have proven can be related to the characteristics of a particular vehicle. This number, when used in connection with the rating cone index (of the soil), can forecast the ability of that vehicle to repeatedly cross soft, poorly drained soils. The rating cone index is obtained by use of the cone penetrometer and its associated equipment. See TB ENG 37 for the use of the equipment in the field and for the interpretation of index numbers.

*Item 1.* Truck, Tractor, 5 Ton, 6 x 6, M52, VCI 53 WWN at curb weight plus personnel-19,346 lb (8775.35 kg).

*Item 2.* Truck, Tractor, 5 Ton, 6 x 6, M52, VCI 70 WWN at curb weight plus personnel-19,346 lb (8775.35 kg) towing the Shop Equipment, General Purpose Repair, Semitrailer Mounted at operational weight of 23,000 lb (10432.8 kg).

*c. Shipment by Rail.* The item loaded on a railroad flatcar is transportable, without sectionalization, within the Approved Limited Clearances of the Association of American Railroads. In countries complying with the Berne International Rail Interchange Agreement, the item is transportable by rail but exceeds height limitations and will require a depressed-center car, special routing, and/or restricted movement. After sectionalization as outlined in paragraph 4, the item is transportable without limitation on a single flatcar.

*d. Shipment by Water.* The item is transported by inland waterway cargo carriers and lighters of adequate capacity. It can be shipped by Mariner, Victory, and Liberty class seagoing vessels, subject to the following limitations:

| Class | Hatch size adequate | Hatch boom adequate | Hatches requiring terminal crane |
|---|---|---|---|
| 1 Mariner | Nos. 2, 3, 4, 5, 6, 7 | Nos. 4, 6 | Nos. 2, 3, 5, 7 |
| 2 Victory | Nos. 3, 4 | Nos. 3, 4 | None |
| 3 Liberty | Nos. 1, 2, 4, 5 | Nos. 2, 4 | Nos. 1, 5 |

**4. Sectionalization**

Sectionalization can be effected and the overall height can be reduced from 114.5 inches (2.91m) to 103 inches (2.62 m) and the width reduced from 97 inches (2.46 m) to 95 inches (2.41 m), by removing the four wheels and tires and lowering the vehicle to shoring. This may be accomplished by the use of jacks or other lifting devices with a minimum capacity of 12 tons (10.89 mt). The trailer supporting jacks, located toward the front of the vehicle, must be retracted prior to lowering the vehicle. The removed tires and wheels can be secured under the trailer gooseneck for shipment. Other than crane or jacks, no special tools are required. See figure 4 for sectionalization diagram and shipping dimensions.

**5. Item Characteristics and Related Data**

(Data based on item in loaded condition unless otherwise indicated.)

Nomenclature-Shop Equipment, General Purpose Repair, Semitrailer Mounted, Couse Manufacture, Model MEDL
FSN.....4940-287-4894
BEAM.....272165
Type Classification.....Standard A
Soils Trafficability Data (See par. 3*b*(2) )
Item 1. Truck, Tractor, M52 (curb weight plus personnel) .....VCI 53
Item 2. Truck, Tractor, M52 (curb weight plus personnel), towing Shop Equipment, Semitrailer Mounted. .....VCI 70
Vehicle Classification
Shop Equipment, Semitrailer Mounted.....11
Shop Equipment, Semitrailer Mounted towed by Truck, Tractor M52.....20
Center of Gravity (longitudinal):
From C/L King Pin .....140 inches (3.56 m)
Tire Size.....11:00 x 20 (.28 x .51 m), 12-ply
Tire Pressure .....65 p.s.i. (4.57 kg/sq cmn)
Angle of Departure .....28
Turning Radii (R&L) w/Truck, Tractor, M52, WWN (over front bumper) .....39.8 ft (12.13 m)

CONUS Freight Classification-Outfits, equipped for the repair of Army Tanks, Military Instruments, Military Motor Vehicles or Ordnance, Trailer Mounted, each unit weighing not less than 12,000 lb.

| | |
|---|---|
| Uniform Freight Classification (UFC) | Item 73750 |
| National Motor Freight Classification (NMFC) | Item 147530 |
| Item Dimensions: | |
| Length | 319 inches (8.10 m) |
| Width | 97 inches (2.46 m) reducible to 95 inches (2.41 m) |
| Height | 114.5 inches (2.91 m) reducible to 103 inches (2.62 m) |
| Item Weight: | |
| King Pin | 9,000 lb (4082.4 kg) |
| Axle | 14,000 lb (6350.4 kg) |
| Total | 23,000 lb (10432.8 kg) |
| Landing Gear | 15,000 lb (6804.0 kg) |
| Axle | 8,000 lb (3628.8 kg) |
| Total | 23,000 lb (10432.8 kg) |
| Shipping Data: | |
| *Operational:* | |
| Volume | 2,050.33 cu ft (58.02 cu m) |
| Area | 214.9 sq ft (19.96 sq m) |
| Weight | 23,000 lb (10432.8 kg) |
| *Sectionalized* | See figure 4 |
| Publications | TM 5-9128-1<br>TM 5-9128-2<br>TM 5-9128-3<br>TB 55-1<br>TB ENG 37 |

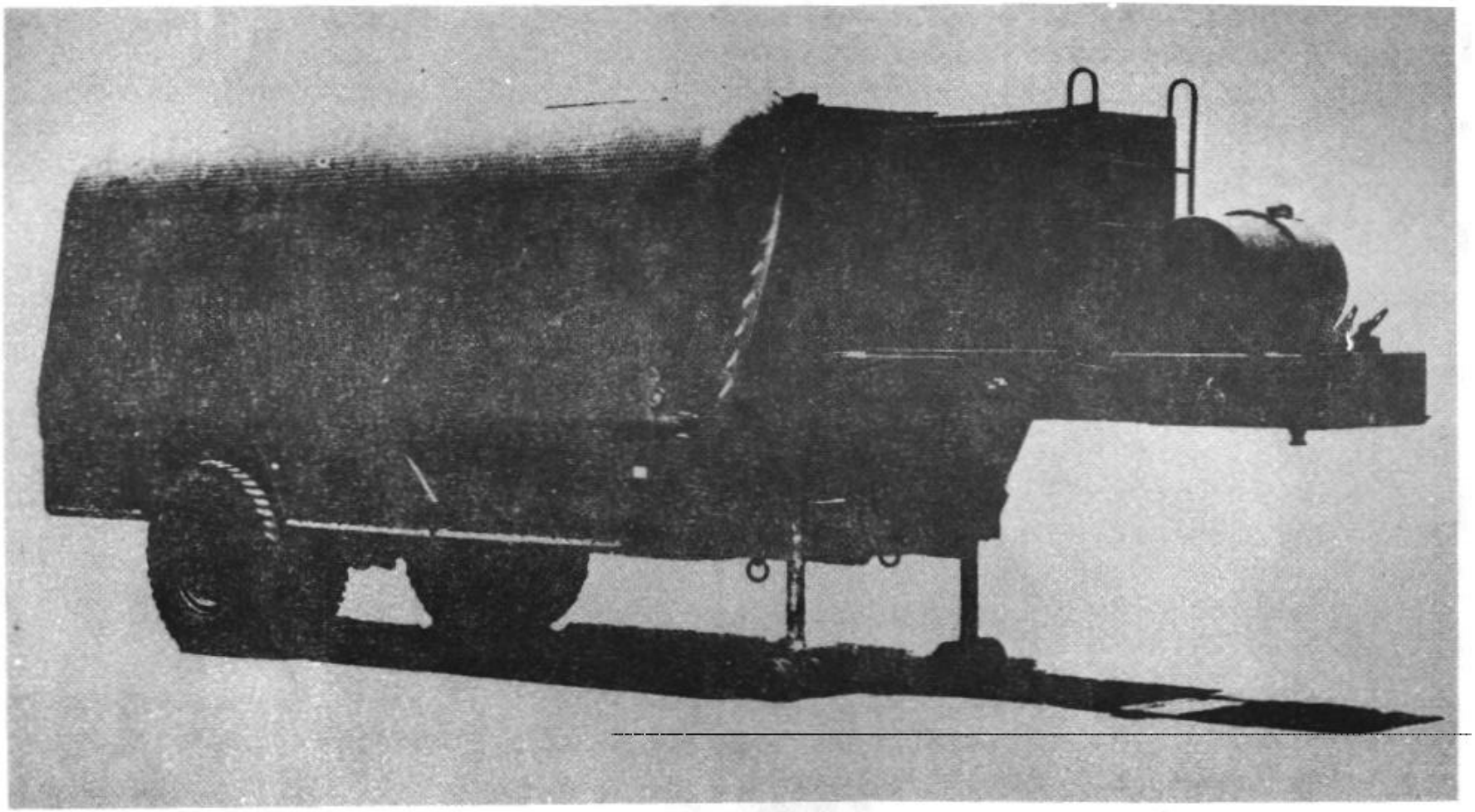

**Figure 1. Shop equipment, general purpose repair, semitrailer mounted, Couse manufacture, model MEDL.**

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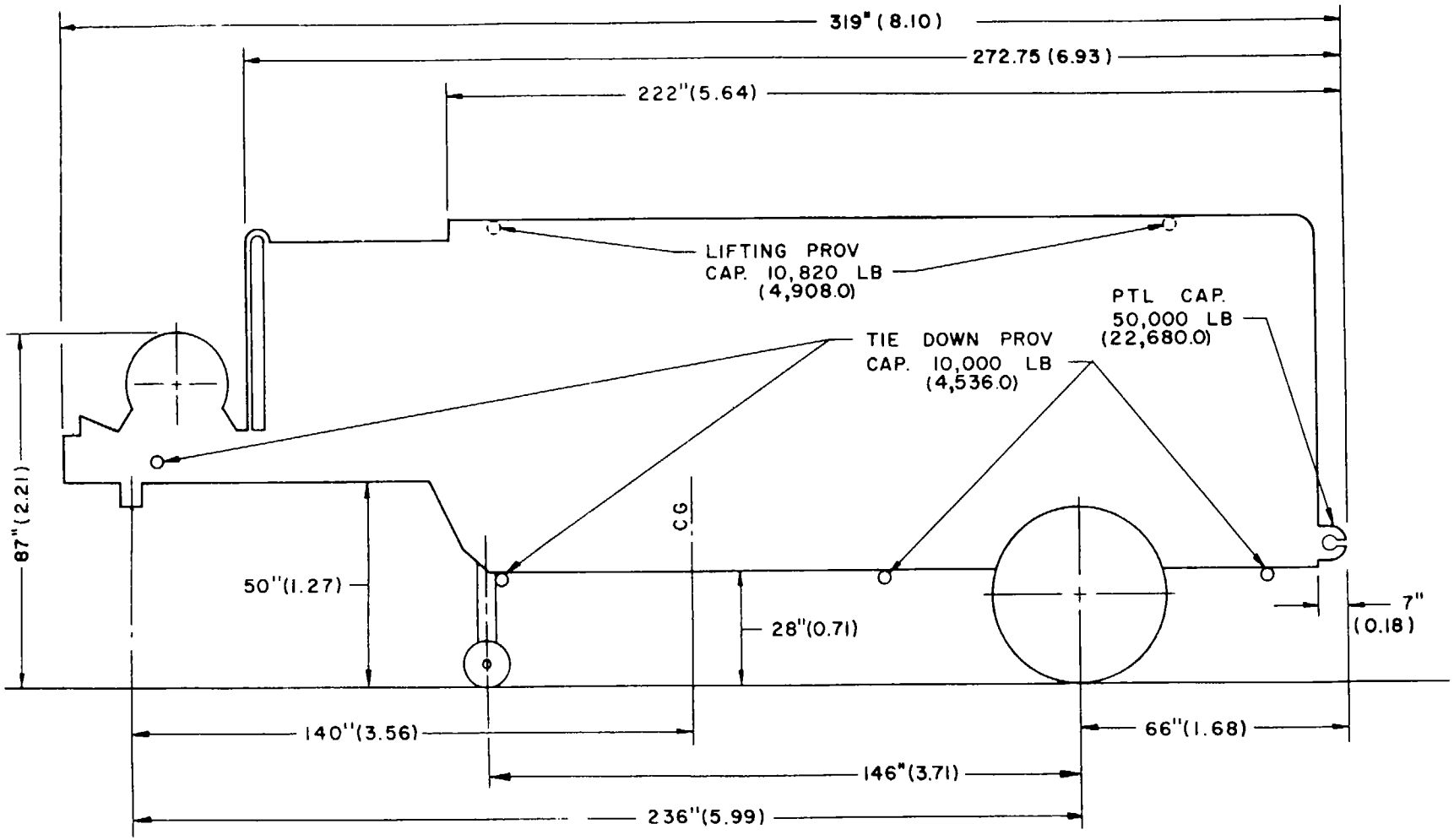


FIGURES IN PARENTHESES ARE METRIC EQUIVALENTS
DIMENSIONS ARE IN METERS
WEIGHTS ARE IN KILOGRAMS
SCALE 1: 40

**Figure 2. Side elevation.**

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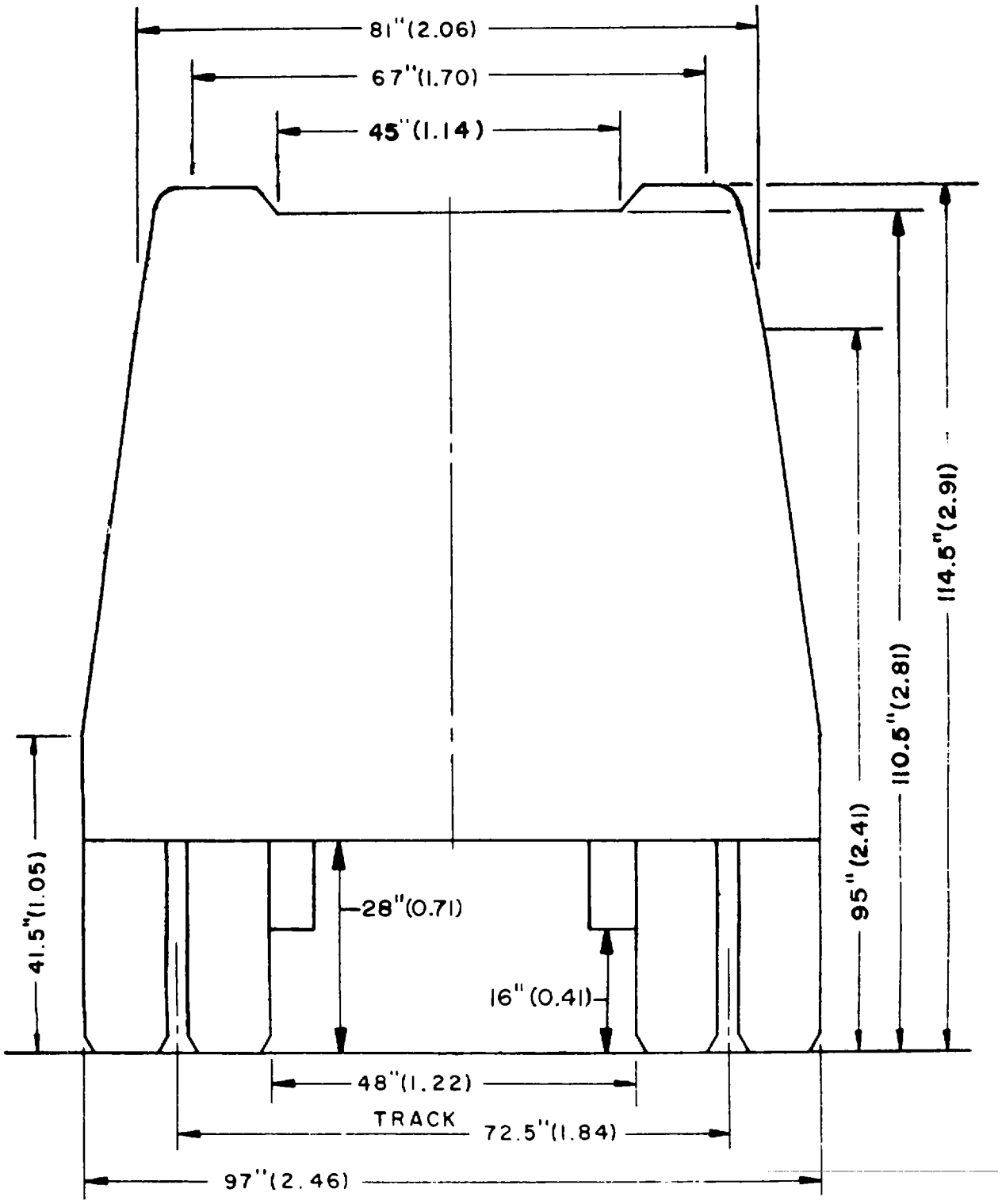


FIGURES IN PARENTHESES ARE METERS

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**Figure 3. End elevation.**

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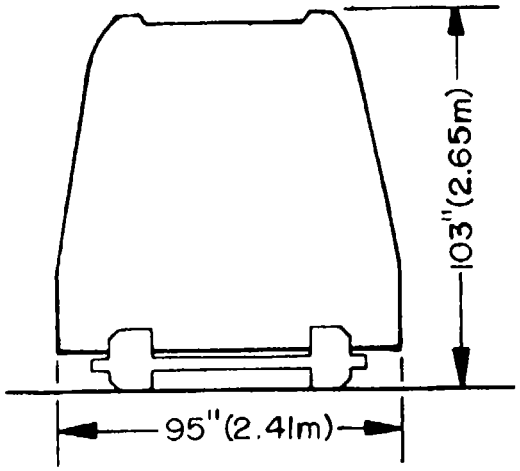


SHIPPING DATA

| | |
|---|---|
| WT. | 23,000 LB (10432.8 kg) |
| VOL. | 1,806.4 CU FT (51.12 cu m) |
| AREA | 210.5 SQ FT (19.56 sq m) |

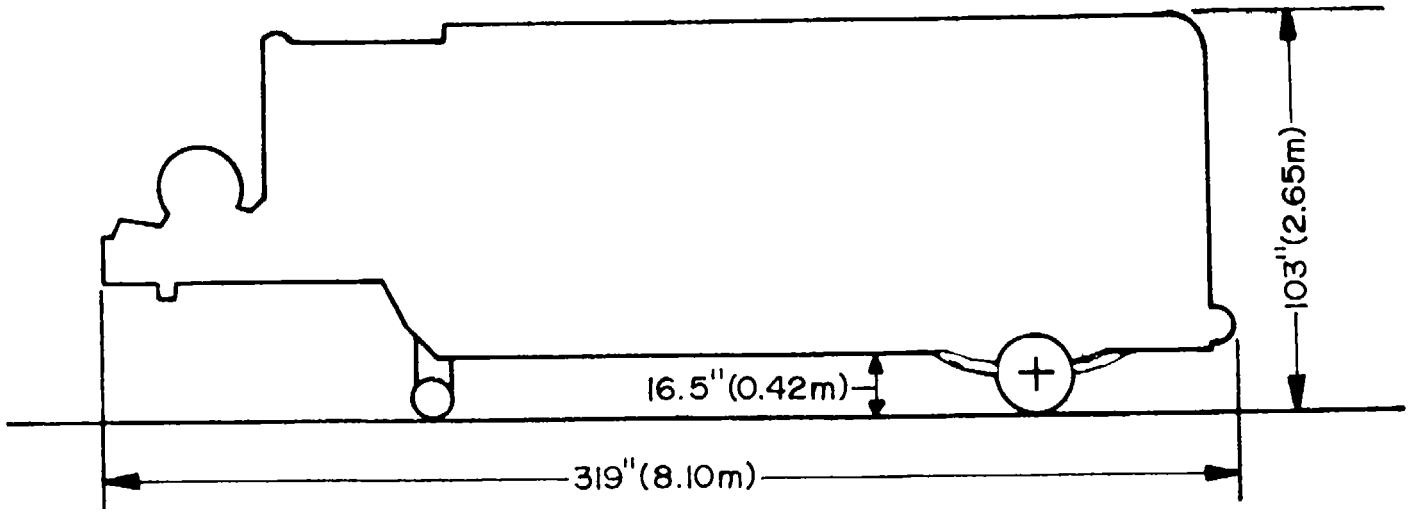


**Figure 4. Sectionalization diagram.**

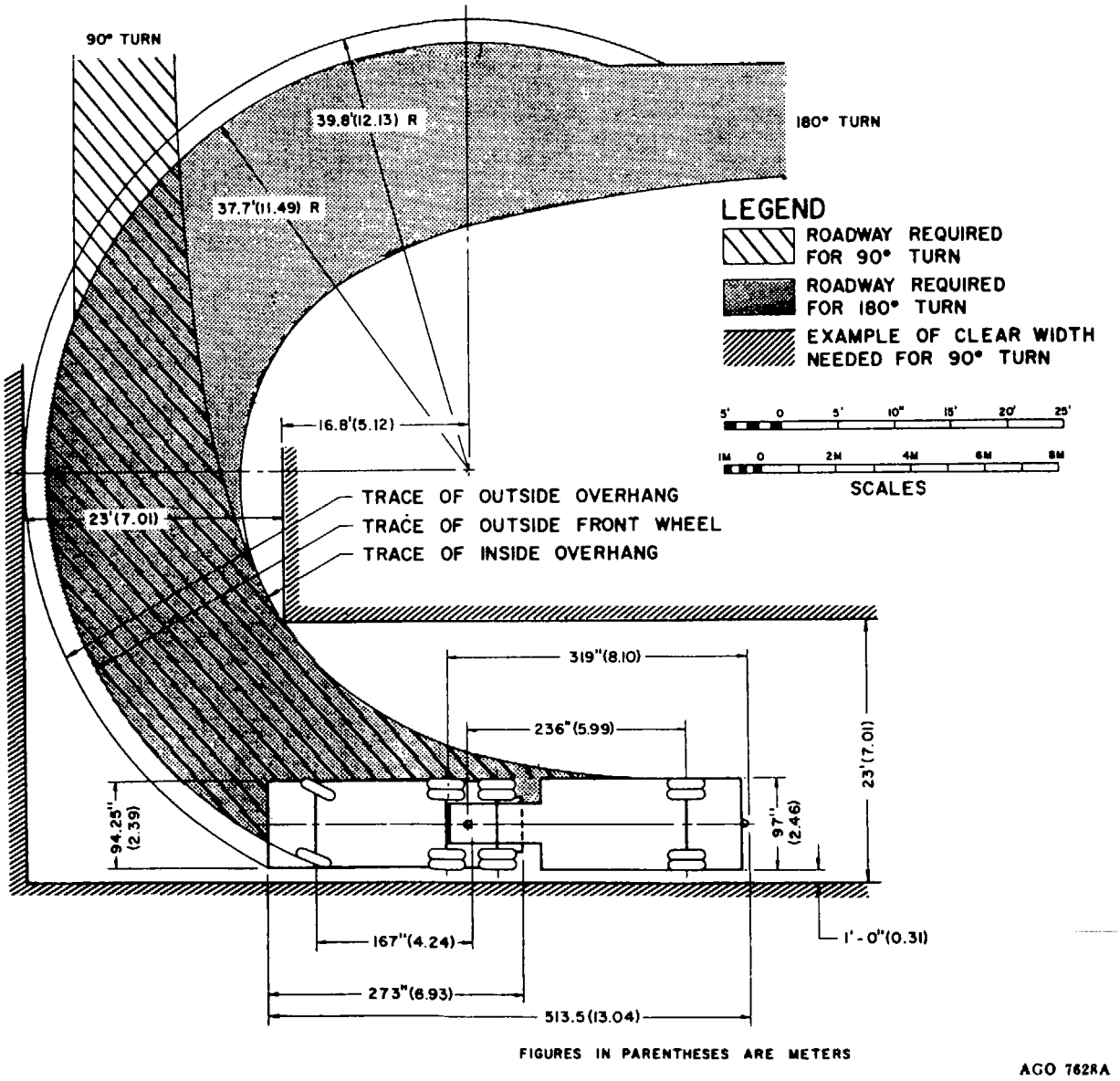


**Figure 5. Turning diagram.**

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Svc Colleges (2)
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USA Tml Comd (2) except
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Army Tml (2)
USAOSA (1)
POE (2)
Centers (2)
Arsenals (2)
USA Trans Engr Agcy (50)
USA Corps (1)

*NG:* State AG (3).
*USAR*: None.
For explanation of abbreviations used, see AR 320-50.

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

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