

The  
**MECHANICAL  
MULE**



**WILLYS MOTORS, INC.**

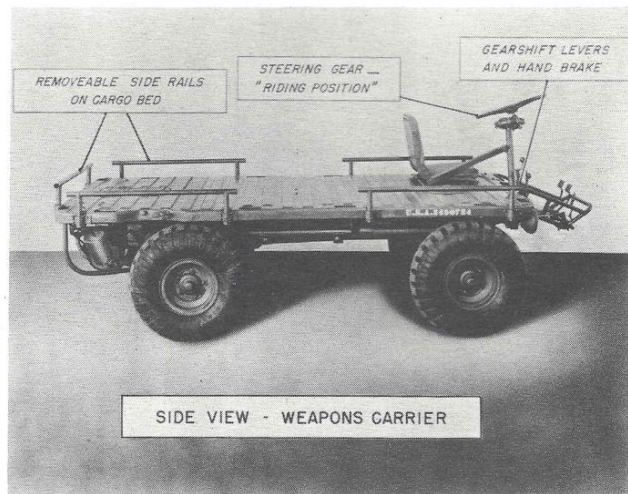
**Toledo, Ohio**



"The Mechanical Mule" is the finest friend that the infantryman has. It weighs 760 lbs. and is capable of carrying 1000 lbs. up a 70% grade. The vehicle can move through the roughest of terrain.



The Mule can be operated at speeds varying from 1 to 25.6 MPH and is equipped with 4-wheel steering to make it the most maneuverable 4-wheel drive vehicle.



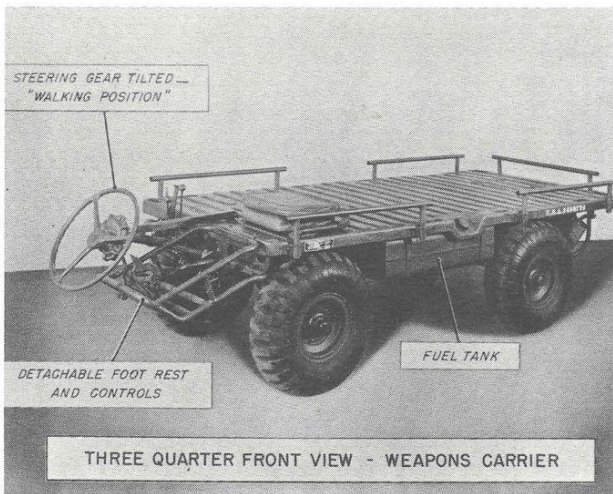
SIDE VIEW - WEAPONS CARRIER



The Mule has an unobstructed flat bed of over 30 sq. ft. and can be used as a BAT Weapon vehicle, heavy ammunition carrier and can mount four litters.



The Mule is an excellent cargo carrier for munitions, parts, armament, food and personnel and can easily maneuver heavy loads.



The Mule is equipped with steering controls that permit operation by riding, walking or crawling positions over all types of terrain.



The Mule is light weight and is an excellent support vehicle for airborne and helicopter operations. An extremely low silhouette makes it practical for moving by truck, air or sea to any location.



# THE MECHANICAL MULE SPECIFICATIONS

## WILLYS XM274 1/2 TON WEAPON CARRIER

### CHASSIS

Wheelbase.....	57 inches
Track.....	37.4 inches
Turning Radius [Outside of Tire].....	10.0 feet
Overall Length	
Less Steering and Foot Rest.....	100 inches
With Steering Mounted.....	106 inches
With Foot Rest Mounted.....	117.4 inches
Overall Width	
Over Platform.....	46 inches
Over Wheels.....	46.4 inches
Heights [Loaded]	
Over Platform.....	27 inches
Over Driver Seat.....	42 inches
Over Steering.....	47 inches
Road Clearance:	
At Front Steering Arm.....	12.0 inches
At Rear Under Axle.....	12.25 inches
Under Propeller Shaft.....	15.2 inches
Under Engine.....	11.5 inches
Angle of Approach:	
With Foot Rest.....	41 degrees
Angle of Departure.....	36 degrees
Weight:	
Vehicle [With Gas and Lubrication].....	760 pounds
Load.....	1000 pounds
Gross Vehicle Weight.....	1760 pounds

### WHEELS & TIRES

Wheel Rim.....	10 x 5.50 inches
Tire.....	7.50 x 10 inches
Tire Ground Pressure.....	8 pounds

### STEERING & CONTROLS

Steering....Two or Four Wheel via Pivoted Type 17 inch Diameter Wheel  
Throttle....Foot & Hand Throttle  
Brakes....Foot Pedal and Tie-in Hand Ratchet Lever with Cable Linkage  
Clutch....Foot Pedal  
Gear Shift....Mounted on Forward End of Platform to Right of Steering Column  
Choke....At Front adjacent to Starter Handle

### FRAME

Two tubular members which are connected to the front and rear axle housing form the chassis Frame. These tubes are made of Steel N.A.X.-9112 or equivalent, minimum yield 50,000# P.S.I. outside diameter. 3 1/2" nominal #16 [.0598 U.S.S. Ga. welded].

### FRONT AXLE

Front Axle is of the front wheel drive and steering design. Spiral Bevel drive with helical gear reduction.

### TRANSMISSION

3 Speed and Reverse with 2 Ranges.

### REAR AXLE & TRANSMISSION

Rear Axle is of a Rear Wheel Drive with Steering design. Spiral Bevel Drive with Helical Gear Reduction. Transmission is designed as a unit with Rear Axle.

### Propeller Shaft

Overall Length.....	39.86 inches
Centerline to Centerline Joint.....	35.73 inches

### Clutch

Diameter.....	6.5 inches
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### Brake

Brake [Propeller Shaft Mounting].....	5.5 Diameter drum
Means of Operating.....	Hand or Foot

### ENGINE

Type [Opposed Air Cooled].....	4 Cylinder 4 Cycle
Displacement.....	53 Cubic inches
Compression Ratio.....	6.5 to 1
Horse Power [Maximum at R.P.M.].....	25 @ 4500
Torque [Pounds Feet at R.P.M.].....	32 @ 2100
Ignition.....	Conventional Flange—Mounting Magneto Starting.
Fuel [Recommended].....	Manual Pull with Rewind Cable
Cooling.....	80 Octane Centrifugal Belt Driven Fan
Engine Guard.....	Tubular Frame

### BODY

Platform Size.....	.95 inches x 46 inches
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### PERFORMANCE

Road Load Fuel Consumption:	
Gross Vehicle Weight—High Gear, @ 20 Miles per Hour,	18 Miles per Gallon
Fuel Tank Capacity.....	8 Gallon
Speeds:	
High Gear.....	25.6 Miles Per Hour
Minimum Low Speed.....	1.0 Miles Per Hour
Ratios:	
Final Ratio [Transmission in Low].....	35.46 and 66.34
Final Ratio [Transmission in 2nd].....	20.73 and 38.77
Final Ratio [Transmission in High].....	12.09 and 22.62
Bevel Gear in Axle.....	1.92
Gear Ratio @ Wheel.....	2.22
Gradeability [Tangent]:	
High Gear.....	19.3 and 39.6%
Low Gear.....	72.2*%

\*Note: Limited by the Amount of Traction

Willys Motors, Inc.  
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