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January 1935

## Test 233: Twin City M-M Model "JT"

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, [tractortestlab@unl.edu](mailto:tractortestlab@unl.edu)

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT  
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 233

Dates of test: April 17 to 29, 1935.

Name and model of tractor: Twin M-M City "JT".

Manufacturer: Minneapolis-Moline Power Implement Co., Minneapolis, Minn.

Manufacturer's rating: NOT RATED.

B R A K E H O R S E P O W E R T E S T S

H. P.	:Crank : :shaft :	Fuel consumption :Gals. :H.P. :Lbs.per:	Water consumption : per hour gallons :	Temp. : :Deg.F.:	Barometer :Inches of :Air:Mercury
	:speed : :R.P.M.:	:per : :hour :	:Cool- : :ing :	:In : :fuel :	:Cool- : :ing :
		:hrs.per:H.P. : :gal. :hour :		:Total : :med. :	

TEST B 100% MAXIMUM LOAD. TWO HOURS

24.22	:	1278	:	2.417	:	10.02	:	0.693	:	0.011	:	0.000	:	0.011	:	208	:	83	:	28.523
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TEST C OPERATING MAXIMUM LOAD. ONE HOUR

23.94	:	1278	:	2.272	:	10.54	:	0.660	:	0.351	:	0.000	:	0.351	:	210	:	86	:	28.485
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TEST D RATED LOAD. ONE HOUR

22.19	:	1281	:	2.191	:	10.13	:	0.686	:	0.000	:	0.000	:	0.000	:	203	:	87	:	28.475
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TEST E \*VARYING LOAD. TWO HOURS

22.17	:	1280	:	2.197	:	10.09	:	0.689	:	--	:	--	:	--	:	202	:	86	:	
0.89	:	1425	:	0.911	:	0.98	:	7.112	:	--	:	--	:	--	:	200	:	86	:	
11.65	:	1333	:	1.506	:	7.74	:	0.899	:	--	:	--	:	--	:	199	:	86	:	
23.16	:	1217	:	2.193	:	10.56	:	0.658	:	--	:	--	:	--	:	210	:	86	:	
6.06	:	1401	:	1.614	:	3.75	:	1.851	:	--	:	--	:	--	:	200	:	85	:	
16.73	:	1307	:	1.856	:	9.01	:	0.771	:	--	:	--	:	--	:	201	:	84	:	
13.44	:	1327	:	1.713	:	7.85	:	0.886	:	0.108	:	0.000	:	0.108	:	202	:	85	:	28.470

\*20 minute runs. Last line is average for two hours.

D R A W B A R H O R S E P O W E R T E S T S

H. P.	: Draw : : Bar :	Speed : : miles :	Crank : :shaft :	Slip : : on :	Fuel Consumption :H.P. :Lbs.:	Water: :used :	Temp. : :Barometer
	: pull : :pounds:	:per : :hour :	:speed : :R.P.M.:	:drive : :wheels:	:Gal. : :per :	:hour : :per :	:Gal. : :per :
			:% :	:hour :	:gal. : :hour :	:hour :	:Cool- : :ing :
							:Air:Mercury

TEST F 100% MAXIMUM LOAD. THIRD GEAR

17.98	:	1972	:	3.42	:	1276	:	2.80	:	Not recorded	:		:	201	:	74	:	28.580
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TEST G OPERATING MAXIMUM LOAD

17.92	:	2787	:	2.41	:	1274	:	3.33	:	Not recorded	:		:	195	:	72	:	28.535
17.57	:	2280	:	2.89	:	1275	:	2.95	:	"	:	"	:	191	:	68	:	28.560
17.93	:	1973	:	3.41	:	1273	:	2.86	:	"	:	"	:	200	:	75	:	28.580
15.95	:	1186	:	5.04	:	1273	:	1.96	:	"	:	"	:	197	:	72	:	28.585

TEST H RATED LOAD. TEN HOURS. THIRD GEAR

14.76	:	1617	:	3.42	:	1273	:	2.42	:	1.983	:	7.45	:	0.933	:	0.017	:	184	:	57	:	28.820
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Copy of Report of Official Tractor Test No. 233

BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. 361271 JE Type 4 cylinder vertical  
 Head F Mounting Crank-shaft lengthwise  
 Bore and stroke: 3 5/8 x 4 3/4 in. Rated R.P.M. 1275  
 Port Diam. Valves: Inlet 1 5/8" Exhaust 1 7/16"  
 Belt pulley: Diam. 15 5/8 in. Face 6 1/2 in. R.P.M. 730  
 Magneto: Fairbanks-Morse Model RV-4  
 Carburetor Zenith Model 124 1/2 T Size 1"  
 Governor: Own No. --- Type Centrifugal  
 Air Cleaner: Donaldson Type Oil washed wire filter  
 Lubrication: Full pressure

CHASSIS: Type 4 wheels, 2 drivers Serial No. 550073 JT Drive Enclosed gear  
 Gear Type-  
 Clutch: Twin Disc Type Single plate operated by Hand  
 Advertised speeds, miles per hour: First 2.2 Second 2.65  
 Third 3.13 Fourth 4.57 \*Fifth 12.1 Reverse 1.19  
 Drive wheels: Diameter 50" Face 8"  
 Lugs: Type Spade No. per wheel 24 Size 4" high x 3" face  
 Extension rims: None  
 Seat Pressed Steel  
 Total weight as tested (with operator) 3880 pounds.

FUEL AND OIL:

Fuel: Distillate Weight per gallon 6.95 pounds  
 Oil: S.A.E. Viscosity No. 30  
 Total oil to motor 2.385 gallons The oil was drained  
 Total drained from motor 1.284 gallon once - at the end of  
 the test.  
 Total time motor was operated 45 hours

\*Not recommended for steel wheels.

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Copy of Report of Official Tractor Test No. 233

REPAIRS AND ADJUSTMENTS

No repairs or adjustments

REMARKS

All results shown on page 1 of this report were determined from observed data and without allowances, additions, or deductions. Tests B and F were made with carburetor set for 100% maximum horsepower and these figures were used in determining the ratings recommended by the A.S.A.E. and S.A.E. tractor rating codes. Tests C, D, E, G, and H were made with an operating setting of the carburetor (selected by the manufacturer) of 98.8% of maximum horsepower.

Observed maximum horsepower (tests B & F) Drawbar 17.98. Belt 24.22.

Sea level (calculated) maximum horsepower  
(Based on 60° F. and 29.92" Hg.) Drawbar 19.08. Belt 25.96.

Highest permissible horsepower ratings  
(As recommended by A.S.A.E. and S.A.E.  
codes) Drawbar 14.31, Belt 22.07.

The 100% maximum belt and drawbar tests were not included in reports issued from 1928 to 1934 inclusive, except in those cases where the 100% maximum setting was used throughout the complete test.

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 233.

\_\_\_\_\_  
Carlton L. Zink  
Engineer-in-charge

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E. E. Brackett

\_\_\_\_\_  
C. W. Smith

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E. B. Lewis  
Board of Tractor Test Engineers