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1-1-1931

Test 187: Bates Steel Mule Model 45

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 187

Dates of test: April 8 to 28, 1931.

Name and model of tractor: BATES STEEL MULE "45"

Manufacturer: Foote Bros. Gear and Machine Co., Chicago, Ill.

Manufacturer's rating: Drawbar - 45 H.P. Belt - 55 H.P.

Highest rating permissible under the recommendations of the A.S.A.E. and S.A.E. Tractor Rating Codes: Drawbar - 40.07 H.P. Belt - 60.38 H.P. One carburetor setting (100% of maximum) was used through this test.

BRAKE HORSE POWER TESTS

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Copy of Report of Official Tractor Test No. 187

BRIEF SPECIFICATIONS
MOTOR: Make Waukesha Serial No. 273044 Type 6 Cylinder Vertical
Head L Mounting Lengthwise
Bore and stroke: 4 5/8 x 5 1/8 in. Rated R.P.M. 1500
Port Dia. Valves: Inlet 1 5/8" Exhaust 1 3/8"
Belt pulley: Diam. 12 in. Face 9 in. R.P.M. 920
Magneto: American Bosch Model U6
Carburetor: Schebler Model HDX Size 1 1/2"
Governor: Waukesha No. None Type Centrifugal
Air Cleaner: Vortox Type Oil spray and steel wool
Lubrication: Pressure Feed
CHASSIS: Type Tracklayer Serial No. 455001 Drive Enclosed gear
Clutch: Twin Disc Type Dry double plate operated by hand
Advertised speeds, miles per hour: Low 1.92
Intermediate 2.92 High 3.87 Reverse 1.40
Tracks: Length 20.5 ft. Face 14"
Lugs: Type Cleats cast with shoe No. per track 41 Sizel4"long x 2'
Extension rims: None
Seat Upholstered
Total weight as tested (with operator) 13509 pounds.
FUEL AND OIL: Fuel: Gasoline Weight per gallon 6:87 pounds on belt tests
Oil: S. A. E. Viscosity No. 40
Total oil to motor 4.221 gallons The oil was draine
Total drained from motor 1.055 gallons once - at the end
Total time motor was operated 55 Hours

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REPAIRS AND ADJUSTMENTS

After 15 hours operation a leak was discovered at the connection between the oil line and the pressure gauge. The connection was tightened and the leak stopped. Four quarts of oil had been added prior to this time.

REMARKS

At the end of the rated drawbar test, oil was dripping from the clutch housing indicating that oil from the crankcase was leaking out through the rear main bearing.

The tests herein reported were conducted with one carburetor setting which remained unchanged thruout the tests. This condition should be recognized when comparing this test with any Nebraska test conducted prior to 1928.

The track and lug equipment used in the drawbar tests is the same as that described on page 2 of this report.

In the advertising literature submitted with the specifications and application for test of this tractor we find that in Form BSF201 the rated motor speed is specified as 1400 r.p.m. instead of 1500 r.p.m. as used in this test.

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 187.

Carlton L. Zink	E. E. Brackett
Engineer -in-charge	
	C. W. Smith
	E. B. Lewis
	Board of Tractor Test Engineers