6-29-1950

Test 447: International TD-24

Nebraska Tractor Test Lab
University of Nebraska-Lincoln, tractortestlab@unl.edu

Department of Agricultural Engineering
Dates of test: June 29 to July 18, 1950.
Manufacturer: INTERNATIONAL HARVESTER CO., CHICAGO, ILLINOIS
Manufacturer's rating: 140 drawbar hp in 3rd gear (corrected).

The Experiment Station
University of Nebraska College of Agriculture
W. V. Lambert, Director, Lincoln, Nebraska

NEBRASKA TRACTOR TEST NO. 447
INTERNATIONAL TD-24

DRAWBAR HORSEPOWER TESTS

Hp	Draw bar pull lb	Speed miles per hr	Crank shaft speed rpm	Slip of drive wheels %	Fuel Consumption			Water used gal per hour	Temp Deg F		Barometer in Hg
					Gal per hour	Hp-hr per gal	Lb per hp-hr		Cooling med	Air	
TESTS F AND G—100% MAXIMUM LOAD											
138.13	33714	1.54	1374	3.79	Not Recorded				186	79	28.880
140.59	26496	1.99	1376	2.21	"	"			184	73	28.920
142.11	21873	2.44	1379	0.92	"	"			187	70	28.920
141.26	17025	3.11	1375	0.29	"	"			181	81	28.800
134.92	12468	4.06	1375	0.00	"	"			186	80	28.840
128.46	9309	5.18	1376	0.00	"	"			179	79	28.840
116.19	7043	6.19	1375	0.00	"	"			188	79	28.850
103.81	4892	7.96	1374	0.00	"	"			180	78	28.850
TEST H—RATED LOAD—TEN HOURS—3rd GEAR											
111.81	17322	2.42	1373	1.16	9.079	12.32	0.567	0.00	178	75	28.672

FUEL, OIL and TIME Diesel Fuel cetane No. 41.5 (rating taken from oil company's typical inspection data); weight per gallon 6.988 lb **Oil** SAE 20; to motor 7.456 gal; drained from motor 5.778 gal **Total time motor was operated** 37 hours.

CHASSIS Type tracklayer **Serial No** TDE 2330 **Tread width** 80" **Measured length of track** 331.5" **Cleats** integral with shoes **Cleats per track** 39 **Size of cleats** 24" x 2¾" **Advertised speeds forward mph** first 1.6 second 2.0 third 2.4 fourth 3.1 fifth 4.0 sixth 5.2 seventh 6.1 eighth 7.8 **Advertised speeds reverse mph** first 1.6 second 2.0 third 2.4 fourth 3.1 fifth 4.0 sixth 5.1 seventh 6.0 eighth 7.7 **Clutch** double plate spring loaded dry disk operated by foot pedal with spring booster **Seat** upholstered **Brakes** disk brakes operated by steering levers or foot pedal **Steering** hand levers actuating hydraulic steering control.

ENGINE Make International Diesel **Type** 6 cylinder vertical **Serial No** TDEM 2169 **Crankshaft mounted** lengthwise **Head I Lubrication** pressure **Bore and Stroke** 5¾" x 7" **Rated rpm** 1375 **Compression ratio** 15.22 to 1 **Displacement** 1090.6 cu in **Port Diameter Valves** inlet 2 5/16" exhaust 1⅞" **Governor** fly ball variable speed **Carburetor Size** 1¼" (for starting only) **Ignition System** 12 volt battery (for starting only) **Starter** 24 volt **Air Cleaner** oil washed crimped wire screen **Muffler** two used **Oil Filter** by-pass with three radial fin replaceable paper elements **Fuel Filter** auxiliary and final replaceable paper elements **Cooling medium temperature control** thermostat and shutter.

TOTAL WEIGHT AS TESTED (with operator) 40,595 lbs.

REPAIRS AND ADJUSTMENTS No repairs or adjustments.

REMARKS All test results were determined from observed data and without allowances, additions or deductions. Test F was made with fuel pumps set by the manufacturer to develop approximately 140 observed drawbar horsepower and data from this test were used in determining the horsepower to be developed in test H.

No belt tests were made on this tractor due to the limited capacity of the dynamometer.

HORSEPOWER SUMMARY

	Drawbar
1. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg)	148.43
2. Observed maximum horsepower (test F)	142.11
3. Seventy-five per cent of calculated maximum drawbar horsepower (formerly ASAE and SAE ratings)	111.32

We, the undersigned, certify that this is a true and correct report of official tractor test No. 447.

L. F. Larsen
Engineer in Charge

C. W. Smith
F. D. Yung
L. W. Hurlbut
Board of Tractor Test Engineers