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Test 1551: International 3088 Diesel 16-Speed

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1551—INTERNATIONAL 3088 DIESEL 16 SPEED

POWER TAKE-OFF PERFORMANCE

Power Hp (kW)	Crank shaft speed- rpm	Fuel Consumption			Temperature ° (°C)			Barometer inch Hg (kPa)	
		gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cooling medium	Air wet bulb	Air dry bulb		
MAXIMUM POWER AND FUEL CONSUMPTION									
Rated Engine Speed — Two hours (PTO Speed—1159 rpm)									
81.35 (60.66)	2400	5.465 (20.685)	0.469 (0.285)	14.88 (2.933)	186 (85.6)	59 (15.1)	75 (24.1)	28.97 (97.83)	
Standard Power Take-off Speed (1000 rpm) — One Hour									
80.28 (59.87)	2072	5.009 (18.960)	0.435 (0.265)	16.03 (3.158)	187 (85.8)	59 (15.0)	75 (23.9)	28.95 (97.74)	
VARYING POWER AND FUEL CONSUMPTION — Two Hours									
72.31 (53.92)	2511	5.141 (19.461)	0.496 (0.302)	14.06 (2.771)	184 (84.4)	59 (14.7)	75 (23.9)	..... .....
0.00 (0.00)	2637	2.098 (7.941)	..... .....	..... .....	182 (83.1)	58 (14.2)	73 (22.8)	..... .....
36.83 (27.46)	2558	3.495 (13.229)	0.662 (0.403)	10.54 (2.076)	183 (83.6)	59 (14.7)	74 (23.3)	..... .....
81.83 (61.02)	2400	5.472 (20.714)	0.467 (0.284)	14.95 (2.946)	186 (85.6)	60 (15.6)	76 (24.4)	..... .....
18.88 (14.08)	2620	2.816 (10.658)	1.041 (0.633)	6.71 (1.321)	182 (83.3)	59 (15.0)	75 (23.9)	..... .....
55.08 (41.08)	2549	4.303 (16.288)	0.545 (0.332)	12.80 (2.522)	185 (84.7)	60 (15.6)	76 (24.2)	..... .....
Av Av	44.15 (32.93)	2546	3.887 (14.715)	0.614 (0.374)	11.36 (2.238)	183 (84.1)	59 (15.0)	75 (23.8)	28.89 (97.57)

DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption			Temp. °F (°C)			Barom. inch Hg (kPa)
					gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cool- ing med	Air wet bulb	Air dry bulb	
Maximum Available Power — Two Hours 8th (H1) Gear											
70.31 (52.43)	5100 (22.68)	5.17 (8.32)	2401	4.63	5.474 (20.720)	0.543 (0.331)	12.84 (2.530)	185 (85.0)	46 (7.5)	57 (13.6)	29.07 (98.17)
75% of Pull at Maximum Power — Ten Hours 8th (H1) Gear											
55.56 (41.43)	3841 (17.09)	5.42 (8.73)	2489	3.50	4.794 (18.149)	0.602 (0.366)	11.59 (2.283)	183 (84.0)	30 (-1.3)	32 (-0.2)	29.02 (98.00)
50% of Pull at Maximum Power — Two Hours 8th (H1) Gear											
38.46 (28.68)	2561 (11.39)	5.63 (9.06)	2554	2.34	3.940 (14.916)	0.715 (0.435)	9.76 (1.923)	183 (83.9)	52 (10.8)	59 (15.0)	28.39 (95.85)
50% of Pull at Reduced Engine Speed — Two Hours 12th (H4) Gear											
38.46 (28.68)	2560 (11.39)	5.63 (9.07)	1634	2.31	3.045 (11.526)	0.553 (0.336)	12.63 (2.488)	184 (84.4)	48 (8.9)	56 (13.1)	28.40 (95.89)
MAXIMUM POWER IN SELECTED GEARS											
62.88 (46.89)	10995 (48.91)	2.14 (3.45)	2491	14.70	4th (L4) Gear			183 (83.9)	34 (1.1)	38 (3.3)	29.14 (98.40)
69.16 (51.57)	7827 (34.82)	3.31 (5.33)	2401	7.39	5th (L5) Gear			184 (84.4)	39 (3.9)	45 (7.2)	29.14 (98.40)
69.38 (51.74)	6588 (29.30)	3.95 (6.36)	2399	6.15	6th (L6) Gear			185 (84.7)	42 (5.6)	49 (9.4)	29.13 (98.37)
69.60 (51.90)	5767 (25.65)	4.53 (7.28)	2400	5.24	7th (L7) Gear			185 (84.7)	42 (5.6)	49 (9.4)	29.13 (98.37)
71.20 (53.09)	5175 (23.02)	5.16 (8.30)	2397	4.59	8th (H1) Gear			185 (84.7)	36 (2.2)	40 (4.4)	29.14 (98.40)
70.19 (52.34)	4909 (21.83)	5.36 (8.63)	2399	4.45	9th (L8) Gear			185 (85.0)	42 (5.6)	50 (10.0)	29.12 (98.33)
70.64 (52.68)	4328 (19.25)	6.12 (9.85)	2400	3.87	10th (H2) Gear			185 (85.0)	42 (5.6)	50 (10.0)	29.12 (98.33)
70.50 (52.57)	3799 (16.90)	6.96 (11.20)	2399	3.35	11th (H3) Gear			185 (85.0)	43 (6.1)	51 (10.6)	29.11 (98.30)
68.76 (51.28)	3133 (13.94)	8.23 (13.25)	2399	2.83	12th (H4) Gear			185 (85.0)	44 (6.7)	52 (11.1)	29.11 (98.30)

Department of Agricultural Engineering

Dates of Test: November 8 to 13, 1984

Manufacturer: INTERNATIONAL HAR-
VESTER COMPANY, 401 North Michigan Av-
enue, Chicago, Illinois 60611

FUEL, OIL AND TIME: Fuel No. 2 Diesel
Cetane No. 46.8 (rating taken from oil company's
inspection data) **Specific gravity (converted to 60/
60°F (15/15°C))** 0.8382 **Fuel weight** 6.979 lbs/gal
(0.836 kg/l) **Oil SAE 30 API service classification**
CD/SF **To motor** 2.502 gal (9.470 l) **Drained from**
motor 2.273 gal (8.603 l) **Transmission and final**
drive lubricant I.H. Hy-Tran fluid **Total time**
engine was operated 35.0 hours.

ENGINE: Make International Diesel **Type** six
cylinder vertical **Serial No.** 358DT2D120827*
Crankshaft lengthwise **Rated rpm** 2400 **Bore and**
stroke 3.875" × 5.062" (98.4 mm × 128.6 mm)
Compression ratio 16.4 to 1 **Displacement** 358
cu in (5867 ml) **Starting system** 12 volt **Lubri-**
cation pressure **Air cleaner** two paper elements
and aspirator **Oil filter** one full flow cartridge
Oil cooler engine coolant heat exchanger for
crankcase oil, radiator for hydraulic and trans-
mission oil **Fuel filter** two paper cartridges **Muf-**
fler underhood **Exhaust** vertical **Cooling medium**
temperature control one thermostat.

CHASSIS: **Type** standard with duals **Serial No.**
2480003U001368* **Tread width** rear 60" (1524
mm) to 127.5" (3238 mm) front 60" (1524 mm) to
84" (2134 mm) **Wheel base** 104.8" (2662 mm) **Center**
of gravity (without operator or ballast, with
minimum tread, with fuel tank filled and tractor
serviced for operation) Horizontal distance for-
ward from center-line of rear wheels 28.5" (724
mm) Vertical distance above roadway 38.1" (969
mm) Horizontal distance from center of rear wheel
tread 0" (0 mm) to the right/left **Hydraulic control**
system direct engine drive **Transmission** selective
gear fixed ratio with partial (2) range operator
controlled powershift **Advertised speeds mph (km/
h)** first 1.5 (2.4) second 1.8 (2.9) third 2.0 (3.2)
fourth 2.4 (3.8) fifth 3.5 (5.6) sixth 4.1 (6.6) sev-
enth 4.7 (7.5) eighth 5.3 (8.5) ninth 5.5 (8.8) tenth
6.2 (10.0) eleventh 7.0 (11.3) twelfth 8.3 (13.3)
thirteenth 12.2 (19.6) fourteenth 14.3 (23.1) fif-
teenth 16.3 (26.2) sixteenth 19.1 (30.8) reverse 2.6
(4.2), 3.1 (4.9), 3.5 (5.6), 4.1 (6.5), 6.0 (9.7), 7.0
(11.3), 8.0 (12.9), 9.4 (15.1) **Clutch** single dry disc
hydraulically power actuated and operated by foot
pedal **Brakes** wet multiple disc hydraulically power
actuated and operated by two foot pedals which
can be locked together **Steering** hydrostatic
Turning radius (on concrete surface with brake
applied) right 142.8" (3.63 m) left 142.8" (3.63 m)
(on concrete surface without brake) right 174.6"

LUGGING ABILITY IN 8th (H1) GEAR

Crankshaft Speed rpm	2397	2163	1923	1681	1444	1201	964
Pull—lbs (kN)	5175 (23.02)	5798 (25.79)	6298 (28.01)	6550 (29.14)	6952 (30.92)	6976 (31.03)	6678 (29.71)
Increase in Pull %	0	12	22	27	34	35	29
Power—Hp (kW)	71.20 (53.09)	71.56 (53.36)	68.69 (51.22)	62.27 (46.43)	56.52 (42.15)	47.12 (35.14)	36.32 (27.08)
Speed—Mph (kmh)	5.16 (8.30)	4.63 (7.45)	4.09 (6.58)	3.56 (5.74)	3.05 (4.91)	2.53 (4.08)	2.04 (3.28)
Slip %	4.59	5.09	5.66	6.08	6.50	6.50	6.50

TRACTOR SOUND LEVEL WITH CAB

	dB(A)
Maximum Available Power—Two Hours	79.0
75% of Pull at Maximum Power—Ten Hours	80.0
50% of Pull at Maximum Power—Two Hours	78.0
50% of Pull at Reduced Engine Speed—Two Hours	76.5
Bystander in 15th (H7) gear	86.5

TIRES, BALLAST AND WEIGHT

	With Ballast	Without Ballast
Rear Tires	Four 18.4-34; 6; 12 (85)	Four 18.4-34; 6; 12 (85)
Ballast	None	None
—No. size, ply & psi (kPa)	235 lb (107 kg)	None
—Liquid (each)	None	None
—Cast Iron (each inner)	Two 9.5L-15; 6; 36 (250)	Two 9.5L-15; 6; 36 (250)
Front Tires	None	None
Ballast	45 lb (20 kg)	None
—No. size, ply & psi (kPa)	19.5 in (495 mm)	19.5 in (495 mm)
—Liquid (each)	9210 lb (4178 kg)	8740 lb (3964 kg)
—Test Equip (each)	3290 lb (1492 kg)	3200 lb (1452 kg)
Height of Drawbar	12500 lb (5670 kg)	11940 lb (5416 kg)
Static Weight with Operator		
—Rear		
—Front		
—Total		

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi (kPa)	2325	16030
Location	remote	
Hydraulic oil temperature °F (°C)	155	68
Location	sump	
	Maximum Lift Capacity	Lift Capacity for Transport
QUICK ATTACH	no	
CATEGORY	II	*not measured
LOAD lbs (kg)	6705	3041
TIME sec	5.00	
HITCH POINT MOVEMENT in (mm)		
Lowest position	11.9	302
Top of timed range	35.9	911
Highest position	36.0	914
LOAD CG MOVEMENT in (mm)		
Lowest position	11.3	287
Top of timed range	35.6	903
Highest position	35.8	908

*Implement load capacity for transport purposes not specified by manufacturer.

(4.43 m) left 174.6" (4.43 m) **Turning space diameter** (on concrete surface with brake applied) right 301.4" (7.66 m) left 301.4" (7.66 m) (on concrete surface without brake) right 365.2" (9.28 m) left 365.2" (9.28 m) **Power take-off** 540 rpm at 2106 engine rpm and 1000 rpm at 2072 engine rpm **Unladen tractor mass** 10820 lb (4908 kg).

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

REMARKS: All test results were determined from observed data obtained in accordance with SAE and ASAE test codes and the technically equivalent ISO test codes or official Nebraska test procedure. For the maximum power tests, the fuel temperature at the injection pump was maintained at 104°F (40.0°C). Nine gears were chosen between 15% slip and 10 mph (16.1 km/h).

We, the undersigned, certify that this is as true and correct report of official Tractor Test No. 1551, December 10, 1984.

LOUIS I. LEVITICUS

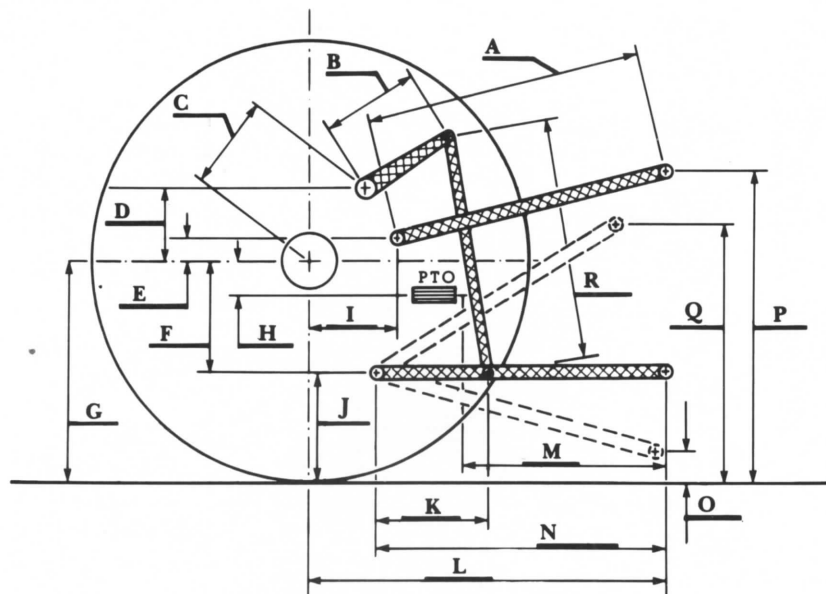
Engineer-in-Charge

K. VON BARGEN

W. E. SPLINTER

L. L. BASHFORD

Board of Tractor Test Engineers



Hitch Dimensions as Tested — No Load

	inch	mm
A	28.0	711
B	15.0	381
C	18.0	458
D	16.4	416
E	9.2	233
F	9.7	245
G	29.9	759
H	0.7	18
I	16.0	406
J	20.2	514
K	22.0	559
L	44.3	1124
*M	22.0	559
N	33.6	852
O	6.5	165
P	39.3	997
Q	34.0	864
R	29.8	756

*To 1000 RPM shaft



International 3088 Diesel