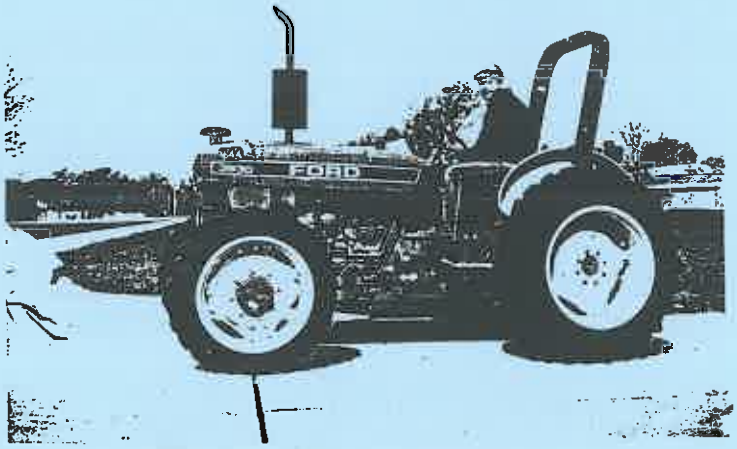
OECD APPROVAL # 1326
(Restricted code)
Date of approval: 6 September 1991

NEBRASKA TRACTOR TESTING LABORATORY
DEPARTMENT OF AGRICULTURAL ENGINEERING
INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
UNIVERSITY OF NEBRASKA - EAST CAMPUS
LINCOLN, NEBRASKA 68583-0832, USA

REPORT ON TEST IN ACCORDANCE WITH OECD STANDARD CODE FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTOR PERFORMANCE

FORD NEW HOLLAND 3930 (4WD) 8 x 2
MECHANICAL FRONT WHEEL DRIVE (4 WD)



Ford 3930 (8 x 2) Diesel

MANUFACTURED BY: FORD NEW HOLLAND LTD
BASILDON, ESSEX
ENGLAND

NEBRASKA TEST NO. 1644

Test date: April 1991

This test report provides the results of the tests conducted in accordance with the OECD Standard Test Code for the Official Testing of Agricultural Tractor Performance - C(87)53 Final - Annex II, Restricted Code.

This report has been approved by the OECD Coordinating Centre in Paris (CEMAGREF) on 6 September 1991

Ford 3930 8 x 2 with MFWD OECD # 1326

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SPECIFICATIONS OF TRACTOR.

Manufacturers name/address	: Ford New Holland Ltd. Basildon, Essex England
Submitted for test by	: The manufacturer
Selected for test by	: The manufacturer in agreement with the test station.
Place of running in	: Ford New Holland New Holland PA
Duration of running in	: 140 hours
Location of Test	: Tractor Testing Laboratory Lincoln, Nebraska, U.S.A.

TRACTOR SPECIFICATIONS.

Make	Ford
Model	3930 (CA 51)
Type	Unit construction, mechanical front wheel drive (4WD)
Number of driving wheels	4
Serial Number	*BC76440*
1st Serial number	*C43131*

ENGINE.

Make	Ford
Model	C201
Type	Diesel, direct injection
Serial Number	*C293877*
Cylinders	
Number/Disposition	3, in-line, vertical
Bore/stroke	111.8 mm x 111.8 mm (4.4 in x 4.4 in)
Capacity	3293 ml (201 cu in)
Compression Ratio	16.3 - 1
Arrangement of valves	Overhead
Cylinder liners	None, Monobloc construction
Fuel System	
Feed system	Gravity
Make/Type/Model of filters	Plastic strainer in tank and paper element filter with sediment bowl and water trap between tank and injection pump
Fuel Tank capacity	65.7 liters (17.4 US gallons)

Make/Model/Type Injection Pump	Lucas/CAV/DPA 3238F
Pump Serial number	06232LHG
Production setting of pump Flow Rate	8.6 - 9.8 Kg/h at 2000 rev/min (19.0 - 21.5 lb/h)
Make/Model/Type Injectors	CAV/multi-hole/JB 6801110 nozzle
Injection pressure	23.3 - 24.3 MPa
Timing	16 degrees before TDC
Governor	
Make/Model/Type	CAV/mechanical
Governed engine speed range	From 600 to 2200 rev/min
Rated engine speed	2000 rev/min
High-idle speed range	2150 - 2200 rev/min
Air Cleaner	
Pre-cleaner	
Make/Model/Type	Ford New Holland
Air intake location	Above front hood
Primary Cleaner	
Make/Model/Type	Locker air maze/dry paper element/pleated paper
Secondary element	
Make/Model/Type	pleated paper
Maintenance indicator	restriction pressure switch in manifold inlet tube
Lubrication system.	
Type of feed pump	Force feed from eccentric rotor pump
Type of filters	Full flow paper element filter
Number	one
Cooling system.	
Type of coolant	Liquid
Type of pump	Centrifugal
Fan specification	Belt driven
Number of fan blades	4
Fan diameter	406 mm (16 in)
Coolant system capacity	10.4 l (11 qt)
Type of temperature control	1 thermostat
Superpressure system	48 kPa (7 psi)
Starting system.	
Make/Model/Type	Lucas-MME/M127/electro-mechanical engagement
Power Rating	2.8 kW (3.8 hp)
Cold starting aid	CAV Thermostart
Safety device	Transmission neutral switch

Electrical system.	
Voltage & grounding.	12 Volt DC;negative ground
Generator	
Make/Model/Type	Lucas MME A 12755
Power rating	55 Amp at 6000 rev/min.
Batteries	
Number & connection	1-12 V battery
Rating	107 Amp-hour at 20 hour rating 800 cold crank amps
Exhaust system.	
Make/Model/Type	Nelson Burgess two chamber
Location	vertical above hood,left of centerline

TRANSMISSION.

Clutch. (travel)	
Make/Model/Type	AP single dry plate
Number of plates	1
Plate diameter	330 mm (13 in)
Method of operation	mechanical by foot pedal
Gear Box.	
Make/Model/Type	Ford New Holland
Arrangement	4 forward speeds, high/low range selector 1R high/low
Number of gears	8 forward and 2 reverse controlled by two hand levers
Available options	none
Rear axle and final drives.	
Make/Model/Type	Ford New Holland/crown wheel and pinion, differential and epicyclic reduction gear final drive
Differential Lock	
Type	Mechanical
Method of engagement	pedal operated
Method of disengagement	self disengaging

Front Axle and final drives.

Make/Model/Type: Carraro 707/164

Differential lock

Type: none

Gear ratios and travel speeds.

(Tire dynamic radius of 610 mm (24.0 in) ISO 4251/1-1984)

Gear Number	Number of engine revolutions for one revolution of the driving wheels	Nominal travel speed at rated engine speed of 2000 rev/min [km/h]	[mph]
1L	164.96	2.79	1.73
2L	132.17	3.48	2.16
3L	75.31	6.10	3.79
4L	55.33	8.30	5.16
1H	46.17	9.94	6.18
2H	36.99	12.41	7.71
3H	21.08	21.76	13.52
4H	15.49	29.75	18.49
1R	114.75	4.00	2.49
2R	32.12	14.30	8.89

Number of front wheel revolutions for one rear wheel revolution. 1.3652

POWER - TAKE - OFF.

Main Power-Take-Off.	
Type	Independent
Method of engagement	Hydraulically actuated multi-plate wet clutch operated by hand lever, independent of main drive clutch.
Number of shafts	One
Method of changing speeds	none
Standard PTO. 540 rev/min.	
Location	Rear of tractor, vertical center plane.
Diameter of shaft	34.9 mm (1.375 in)
Number of splines	6; conforms to ISO 500/1979.
Height above ground	490 mm (19.3 in)
Distance from median plane of tractor	0 mm
Distance behind rear axle	401 mm (15.8 in)
PTO Speed at rated engine spd	600 rev/min
Engine speed at Std. PTO spd	1800 rev/min
Engine speed/PTO speed ratio	3.333
Direction of rotation when viewed from shaft end	Clockwise.

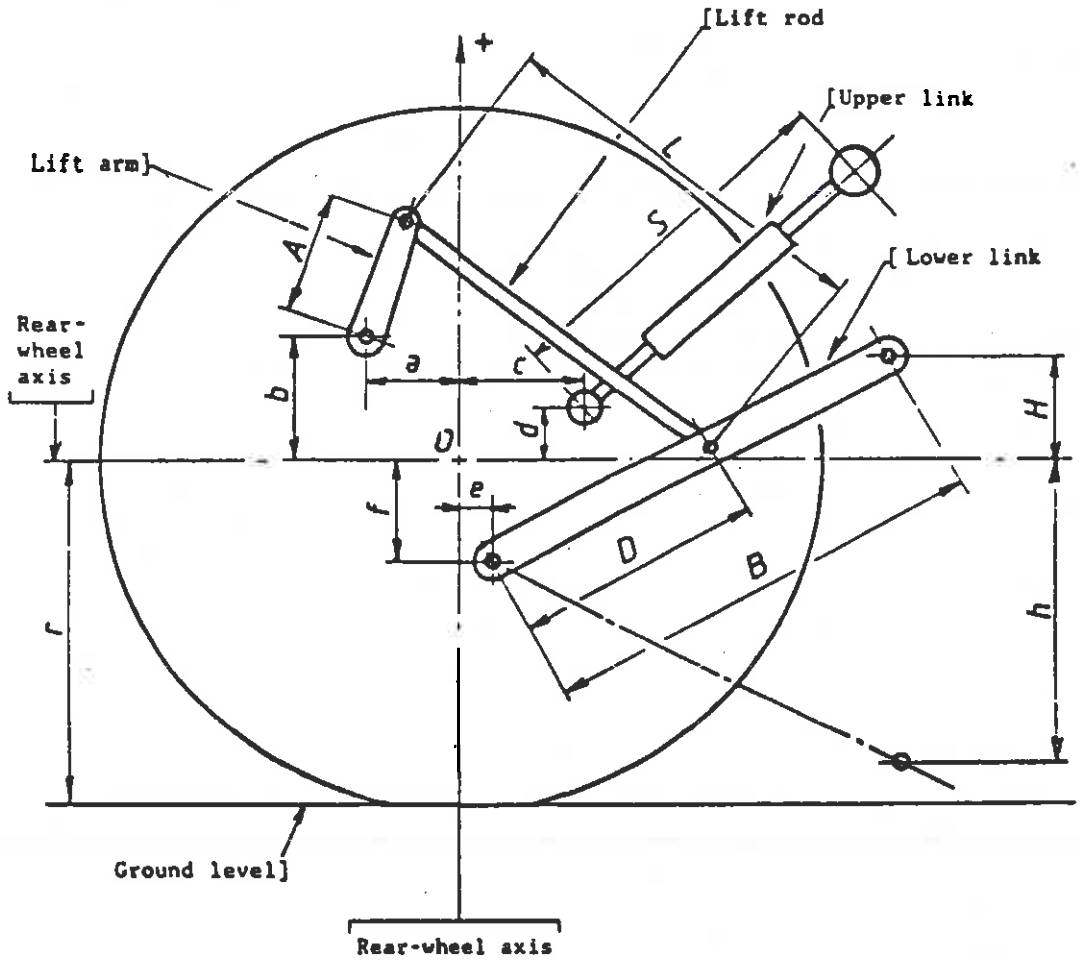
POWER LIFT.

Make	Sunstrand
Type of hydraulic system	Open Center
Number/Type of cylinders	One internal,single acting
Type of linkage lock for transport	None
Relief valve setting	17.2 MPa (2500 psi)
Opening pressure of cylinder safety valve	19.6 MPa (2850 psi)
Lift pump type	Gear
Power transmission to pump	From PTO shaft independent of main and PTO clutches
Type/Number of filters	Full flow/one
Location of oil reservoir	Rear axle housing
Number/Type/Location of tapping points.	1 pair of ISO standard couplings at rear of tractor.
Max. oil volume available for external cylinders.	27.7 l (29 qt)

THREE POINT LINKAGE.

- Category 1 or 2 in conformity with ISO 730/1-1977
- Category adaptor - None

THREE POINT LINKAGE



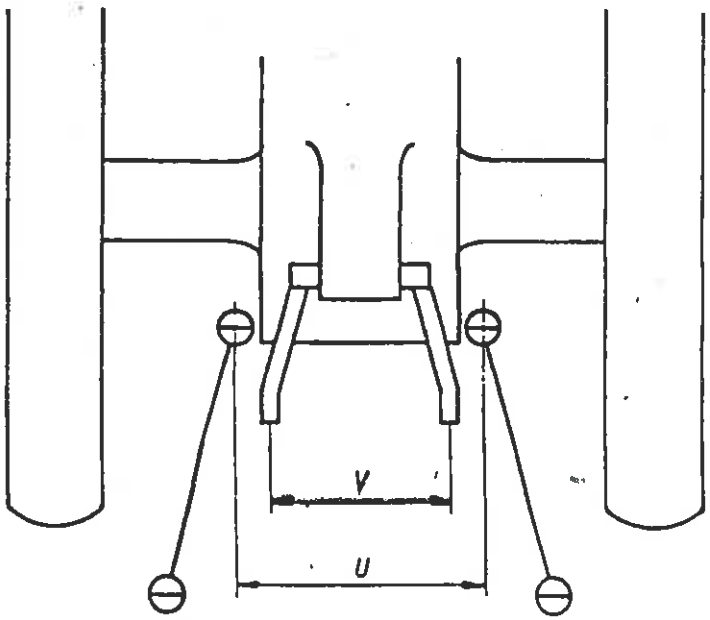


Table 1.1 -*Linkage geometry dimensions.

		Dimension or range [mm]	Dimension or range [in]	Settings used on test [mm]	Settings used on test [in]
Lift category		I			
Rear Tire - Radius Index	(r)	610	24.0		
Front Tire - Radius Index	(r')	470	18.5		
Length of lift arms	(A)	254	10.0	same	
Length of lower links	(B)	864	34.0	same	
Distance of lift arm pivot from: horizontal	(a)	203	8.0	same	
rear wheel axis: vertical	(b)	257	10.1	same	
Horizontal distance between the 2 lower link points	(u)	520	20.5	same	
Horizontal distance between the 2 lift arm end points	(v)	546	21.5	same	
Length of upper link	(S)	622 to 762	24.5 to 30.0	719	28.3
Distance of upper link pivot from: horizontal	(c)	262 or 222	10.3 or 8.7	222	8.7
rear wheel axis: vertical	(d)	153 or 191	6.0 or 7.5	191	7.5
Distance of lower link pivot from: horizontal	(e)	68	2.7	same	
rear wheel axis: vertical	(f)	203	8.0	same	
Distance of lower link pivot points to lift rod pivot pts on lower links.	(D)	481	18.9	same	
Length of lift rods	(L)	696 to 832	27.4 to 32.8	740	29.1
Height of lower hitch points relative to rear wheel axis In low position	(h)	389 to 630	15.3 to 24.8	419	16.5
In high position	(H)	83 to 232	3.2 to 9.1	219	8.6
Height above ground of lower hitch points when locked in transport position.		704 to 853	27.7 to 33.6	841	33.1

*Assuming (r) with a tire dynamic index of 610 mm (24.0 in)
ISO 4251/1-1984

SWINGING DRAWBAR.

Type	Oscillating
Height above ground	Min 240 mm (9.5 in) Max 375 mm (14.8 in)
Adjustments	Inverting drawbar
Distance of hitch point from rear wheel axis,horizontal	632 mm (24.9 in),750 mm (29.5 in)
Distance of hitch point from PTO shaft end Vertical Horizontal	 254 mm (10.0 in),114 mm (4.5 in) 355 mm (14.0 in),241 mm (9.5 in)
Lateral adjustment; Right hand Left hand	163 mm (6.4 in) 163 mm (6.4 in)
Distance of pivot point from rear wheel axis; horizontal	On rear axle centre line
Diameter of drawbar pin hole	27 mm (1.1 in)
Maximum vertical static permissible load	drawbar extended - 7.8 kN (1745 lb) drawbar retracted-10.2 kN (2300 lb)

STEERING

Make/Model/Type	Danfoss Motor/10 SPC-100/ Hydrostatic
Method of operation	Steering wheel
Pump	Gear pump,engine mounted
Ram(s)	One double acting cylinder
Working pressure	13.4 to 14.1 MPa (1950 - 2050 psi)
Oil cooler	heat exchanger with air

BRAKES.

Service brake. Make/Model/Type	Girling/oil immersed multiplate on rear axle planetary shafts operated by two pedals which can be locked together.
Method of operation	
Parking brake. Type	Mechanical linkage coupled to service brake
Method of operation	Hand lever with ratchet
Trailer Brake Type	None

WHEELS.

Number.	
Front	Two; Driving and steering
Rear	Two; Driving
Wheel base	2136 mm (84.1 in)

Track width adjustment

	Minimum [mm]	Minimum [in]	Maximum [mm]	Maximum [in]	Adjustment method
Front	1396	55.0	1855	73.0	Reversing wheels and offset lug rims
Rear	1423	56.0	2026	79.8	Reversing wheels and offset lug rims

STRUCTURE.

Make/Model/Type	Ford New Holland/ 2 Post Safety frame
Manufacturer's name/address	Ford New Holland New Holland, Penn.
Protective device	2 post ROPS
OECD approval number	None

DRIVER'S SEAT.

Make/Model/Type	Bostrom XL2
Type of suspension	mechanical
Type of damping	double acting hydraulic
Range of adjustment	
Longitudinal	50 mm (2.0 in)
Vertical	none

LIGHTING.

	Height above ground of center [mm]	Height above ground of center [in]	Size [mm]	Distance from out - side edge to median plane of tractor. [mm]	Distance from out - side edge to median plane of tractor. [in]
Headlights	900	35.4	127 dia.	220	8.6
Rearlight Left side	1350	53.2	146 x 95	420	16.5
Reflector Right side	1400	55.1	80 x 40	616	24.3

TEST CONDITIONS.

Overall dimensions.

Length		3606 mm (142.0 in)
Width	Minimum	1795 mm (70.8 in)
	Maximum	2402 mm (94.6 in)
Height - Top of ROPS		2248 mm (88.5 in)
- Top of exhaust		2290 mm (90.2 in)
Ground clearance. (unballasted)		259 mm (10.2 in)
Clearance-limiting part		bottom of drawbar support

Tractor Mass (with rollbar,full fuel tank).

		without driver [kg]	without driver [lb]	with driver [kg]	with driver [lb]
Unballasted	Front	1003	2212	1013	2234
	Rear	1458	3214	1523	3358
	Total	2461	5426	2536	5592

Tire Specifications.

	Front Wheels	Rear Wheels
Make	Goodyear	Goodyear
Dimensions	8.3-24	13.6-28
Ply rating	4 ply	6 ply
Type	Bias	Bias
Max.load (tire manufacturer)	625 kg/tire (1380 lb/tire)	1430 kg/tire (3150 lb/tire)
Max.load(tractor manufacturer)	625 kg/tire) (1380 lb/tire)	1430 kg/tire (3155 lb/tire)
Inflation pressure (tire mfr)	160 kPa(23 psi)	160 kPa(23 psi)
Dynamic Radius Index	470 mm(18.5 in)	610 mm (24.0 in)
Chosen track width	1553 mm(61.1 in)	1625 mm (64.0 in)

Oils and Lubrication.

Capacity and change interval:

	Capacity liter	Capacity quart	Oil change hours	Filter change hours
Engine (w/o filter)	6.6	7	300	300
Gear Box	12	14	1200	NA
Rear axle	47	50	1200	300
Front axle housing	5.5	6	1200	NA
Hydraulic system	common with rear axle			
Steering	2.2	2.5	1200	1200

Oil and Lubricant specifications:

	Recommended	Used during test
Engine oil		
Type	Ford M2C121-C	same
Viscosity	SAE 15W-40	
Classification	API SG/CE Mil-L-2104C	
Transmission		
Type	Ford M2C134-D	same
Viscosity	9.0 cST at 100'C	
Classification	Mil-L-2105	
Rear axle		
Type	Ford M2C134-D	same
Viscosity	9.0 cST at 100'C	
Classification	Mil-L-2105	
Hydraulic fluid	same as rear axle	same
Steering oil		
Type	Ford M2C134-D	same
Viscosity	9.0 cST at 100'C	
Front axle		
Type	Ford M2C134-D	same
Viscosity	9.0 cST at 100'C	
Classification	Rear axle oil	
Grease	Ford M1C137-B	
Number of lubrication points	13	

Fuel

Type/grade	Grade 2-D, in conformity with the national standard
Density (Pto test)	0.838 g/cubic-cm (6.993 lb/gallon) at 15'C (59'F)
(Drawbar test)	same as Pto test.
Cetane number	53.9
Viscosity	2.31 cSt at 38'C (100'F)

COMPULSORYTESTS.

(1) MAIN POWER TAKE-OFF PERFORMANCE (540 rev/min).

Date of tests : 8 April 1991
Location of tests : Tractor Testing Laboratory
University of Nebraska, Lincoln, Nebraska.
Type of Dynamometer: Eaton Dynamatic 2025 D.G.

Power kW (hp)	Speeds engine rev/min	Speeds PTO rev/min	Fuel Consumption hourly l/h (gal/h)	Fuel Consumption hourly kg/h (lb/h)	Fuel Consumption specific kg/kW.h (lb/hp.h)	Specific energy kW.h/l (hp.h/gal)
1.1 Maximum Power- 2 hour test.						
34.19 (45.85)	1999	600	10.70 (2.83)	8.96 (19.76)	0.262 (0.431)	3.20 (16.23)
1.2 Power at rated engine speed. (1 hour)						
34.19 (45.85)	1999	600	10.70 (2.83)	8.96 (19.76)	0.262 (0.431)	3.20 (16.23)
1.3 Maximum power at standard PTO speed. (540 rev/min)						
32.55 (43.65)	1800	540	10.03 (2.65)	8.40 (18.52)	0.258 (0.424)	3.25 (16.48)

1.4 Part Loads - governor hand lever set for maximum power at rated engine speed

Power kW (hp)	Speeds engine rev/min	Speeds PTO rev/min	Fuel Consumption hourly l/h (gal/h)	Fuel Consumption hourly kg/h (lb/h)	Fuel Consumption specific kg/kW.h (lb/hp.h)	Specific energy kW.h/l (hp.h/gal)
i. Torque corresponding to maximum power at rated engine speed.						
34.19 (45.85)	1999	600	10.70 (2.83)	8.96 (19.76)	0.262 (0.431)	3.20 (16.23)
ii. 85% of the torque obtained in (i)						
30.26 (40.58)	2085	625	9.74 (2.57)	8.16 (18.00)	0.270 (0.444)	3.11 (15.76)
iii. 75% of the torque defined in (ii)						
23.01 (30.85)	2109	633	7.96 (2.10)	6.67 (14.70)	0.290 (0.476)	2.89 (14.68)
iv. 50% of the torque defined in (ii)						
15.40 (20.65)	2127	638	6.17 (1.63)	5.17 (11.40)	0.336 (0.552)	2.50 (12.67)
v. 25% of the torque defined in (ii)						
7.77 (10.42)	2147	644	4.55 (1.20)	3.81 (8.40)	0.490 (0.806)	1.71 (8.68)
vi. unloaded						
0.09 (0.12)	2169	651	3.09 (0.82)	2.59 (5.70)	27.972 (45.985)	0.03 (0.15)

1.5 Part Loads - governor hand lever set for maximum power at standard pto speed

Power kW (hp)	Speeds engine rev/min	Speeds PTO rev/min	Fuel Consumption hourly l/h (gal/h)	Fuel Consumption hourly kg/h (lb/h)	Fuel Consumption specific kg/kW.h (lb/hp.h)	Specific energy kW.h/l (hp.h/gal)
i. Torque corresponding standard PTO rpm						
32.55 (43.65)	1800	540	10.03 (2.65)	8.40 (18.52)	0.258 (0.424)	3.25 (16.48)
ii. 85% of the torque obtained in (i)						
28.49 (38.20)	1856	557	8.77 (2.32)	7.35 (16.20)	0.258 (0.424)	3.25 (16.49)
iii. 75% of the torque defined in (ii)						
21.73 (29.14)	1882	565	7.15 (1.89)	5.99 (13.20)	0.276 (0.453)	3.04 (15.44)
iv. 50% of the torque defined in (ii)						
14.62 (19.60)	1906	572	5.52 (1.46)	4.63 (10.20)	0.316 (0.520)	2.65 (13.44)
v. 25% of the torque defined in (ii)						
7.39 (9.90)	1926	578	4.22 (1.11)	4.22 (9.30)	0.479 (0.787)	1.98 (10.04)
vi. Unloaded						
0.13 (0.17)	1961	588	2.76 (0.73)	2.31 (5.10)	18.473 (30.369)	0.05 (0.23)

No-load maximum engine speed	2169 rev/min
Equivalent engine torque:	
at rated engine speed	163 Nm (1999 rev/min)
at maximum power	163 Nm (1999 rev/min)
at maximum torque	186 Nm (1101 rev/min)
Mean atmospheric conditions:	
Temperature-dry bulb	24'C (76'F)
Relative humidity	44 %
Barometer	96.95 kPa (28.63 in Hg)

Maximum Temperatures :	
Coolant	94'C (202'F)
Engine oil	101'C (213'F)
Fuel at injection pump	60'C (140'F)
Engine air intake	28'C (83'F)
Hydraulic oil	78'C (173'F)

2. HYDRAULIC POWER AND LIFTING FORCE.

Date of test: 11 April 1991
Location: TTL/UNL, Lincoln, Nebr.

2.1 HYDRAULIC POWER TEST - HYDRAULIC PUMP PERFORMANCE

Sustained pressure with open relief valve	18.34 MPa (2660 psi)
Pump delivery rate at minimum pressure and rated engine speed	29.9 l/m (7.9 gpm)

	Flow Rate l/min (gal/min)	Pressure MPa (psi)	Power kW (hp)
At 90% of relief valve setting	23.5 (6.2)	16.41 (2380)	6.4 (8.6)
At maximum hydraulic power.	25.7 (6.8)	15.51 (2250)	6.7 (8.9)

Tapping point	one remote outlet
Hydraulic fluid temperature at flow meter	66'C (151'F)

2.2 POWER LIFT TEST.

	Hitch Points	Frame
Lower hitch points above ground - down position. [mm/in]	206/8.1	191/7.5
Vertical movement without load [mm/in]	638/25.1	759/29.9
Vertical movement with load [mm/in]	617/24.3	726/28.6
Maximum corrected force through full range [kN/lbf]	14.1/3159	13.6/3056
Corresponding pressure [kPa/psi]	16258/2358	
Moment about rear axle [kN.m/ft.lb]	25.2/18612	32.7/24113
Maximum mast tilt angle [degrees]	--	8.9

Lifting height relative to the horizontal position of lower links

[mm]	-216	-201	-99	0	99
[in]	-8.5	-7.9	-3.9	0	3.9
Corrected lift forces.					
hitch points [kN]	--	14.1	16.0	16.9	18.1
hitch points [lb]	--	3159	3600	3789	4077
at frame [kN]	13.6	--	14.5	15.6	15.7
at frame [lb]	3056	--	3515	3533	3515
Lifting height relative to the horizontal position of lower links					
[mm]	201	300	401	417	511
[in]	7.9	11.9	15.8	16.4	20.1
Corrected lift forces.					
hitch points [kN]	18.8	19.3	20.6	20.4	--
hitch points [lb]	4231	4344	4625	4589	--
at frame [kN]	15.6	--	15.3	14.8	14.4
at frame [lb]	3515	--	3443	3317	3234

DRAWBAR POWER AND FUEL CONSUMPTION (UNBALLASTED TRACTOR)

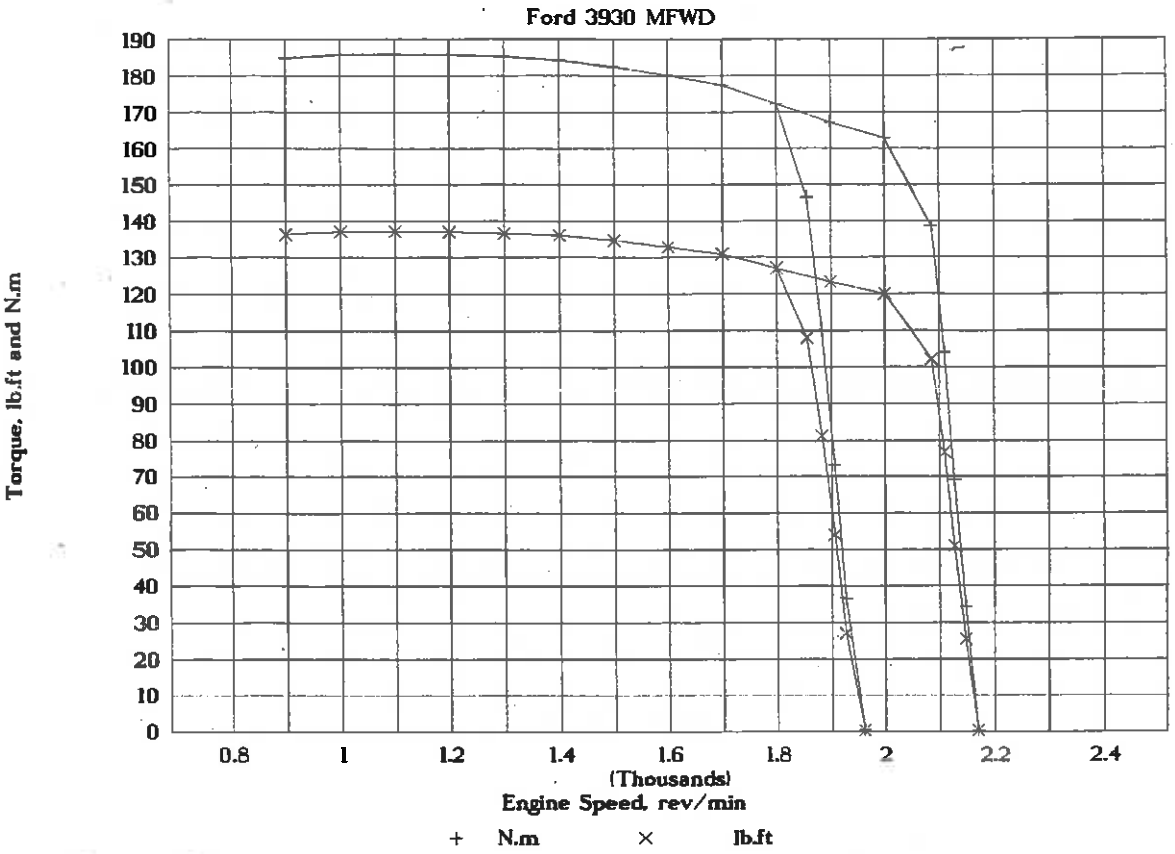
Date of tests: 09–Apr–91 10–Apr–91 Fuel density: 0.838 kg/l
Type of track: Concrete Test # 1644

Gear	Power kW	Pull kN	Speed km/h	Engine Speed rev/min	Slip	SFC kg/kW.h	SFE kW.h/l	Temperature, deg C Fuel	Coolant	Oil	Dry	Wet	Relative humidity	Barometric Pressure kPa
I. Maximum Power (unballasted, fwa 2000 rev/min) Tire pressure: 97 kPa, rear 110 kPa, front Drawbar height: 368 mm														
1 (1L)	15.15	21.35	2.55	2114	14.83%	0.401	2.09	56	78	88	11	8	67%	97.87
2 (2L)	18.80	21.38	3.17	2092	14.55%	0.368	2.28	57	80	90	13	9	59%	97.87
3 (3L)	27.44	17.74	5.57	2000	10.23%	0.331	2.53	60	83	89	11	6	46%	98.37
4 (4L)	27.94	12.78	7.87	2001	7.14%	0.327	2.57	59	82	92	9	7	76%	97.87
5 (1H)	28.47	10.73	9.56	2001	5.74%	0.318	2.63	59	81	88	6	4	73%	98.37
6 (2H)	27.77	8.25	12.11	2004	4.41%	0.328	2.56	59	81	88	7	4	62%	98.41
II. Part Loads (unballasted, fwa 2000 rev/min) Tire pressure: 97 kPa, rear 110 kPa, front Drawbar height: 368 mm														
II.1 in selected gear at maximum power														
5 (1H)	28.47	10.73	9.56	2001	5.74%	0.318	2.63	59	81	88	6	4	73%	98.37
II.1.1 75% of pull at maximum power at rated speed														
5 (1H)	22.60	8.05	10.11	2084	4.35%	0.339	2.47	58	78	88	9	5	53%	98.41
II.1.2 50% of pull at maximum power at rated speed														
5 (1H)	15.48	5.37	10.37	2112	3.11%	0.397	2.11	57	78	87	9	5	53%	98.41
II.1.3 next higher gear at reduced engine speed, same pull and travel speed as II.1.1														
6 (2H)	22.52	8.05	10.07	1666	4.24%	0.314	2.67	56	78	83	9	5	53%	98.41
II.1.4 next higher gear at reduced engine speed, same pull and travel speed as II.1.2														
6(4H)	15.55	5.39	10.38	1692	3.17%	0.353	2.38	54	78	83	9	5	53%	98.41
II.2 in selected gear nearest to 7.5 km/h														
4 (4L)	27.94	12.78	7.87	2001	7.14%	0.327	2.57	59	82	92	9	7	76%	97.87
II.2.1 75% of pull at maximum power at rated speed														
4 (4L)	22.90	9.96	8.28	2075	5.96%	0.344	2.44	58	79	87	13	9	59%	97.90
II.2.2 50% of pull at maximum power at rated speed														
4 (4L)	15.75	6.63	8.55	2115	4.24%	0.397	2.11	56	78	87	13	9	59%	97.90
II.2.3 next higher gear at reduced engine speed, same pull and travel speed as II.2.1														
5 (1H)	22.98	9.95	8.32	1740	5.68%	0.313	2.68	54	80	84	13	9	59%	97.90
II.2.4 next higher gear at reduced engine speed, same pull and travel speed as II.2.2														
5 (1H)	15.71	6.63	8.54	1758	4.24%	0.347	2.42	53	78	85	13	9	59%	97.90

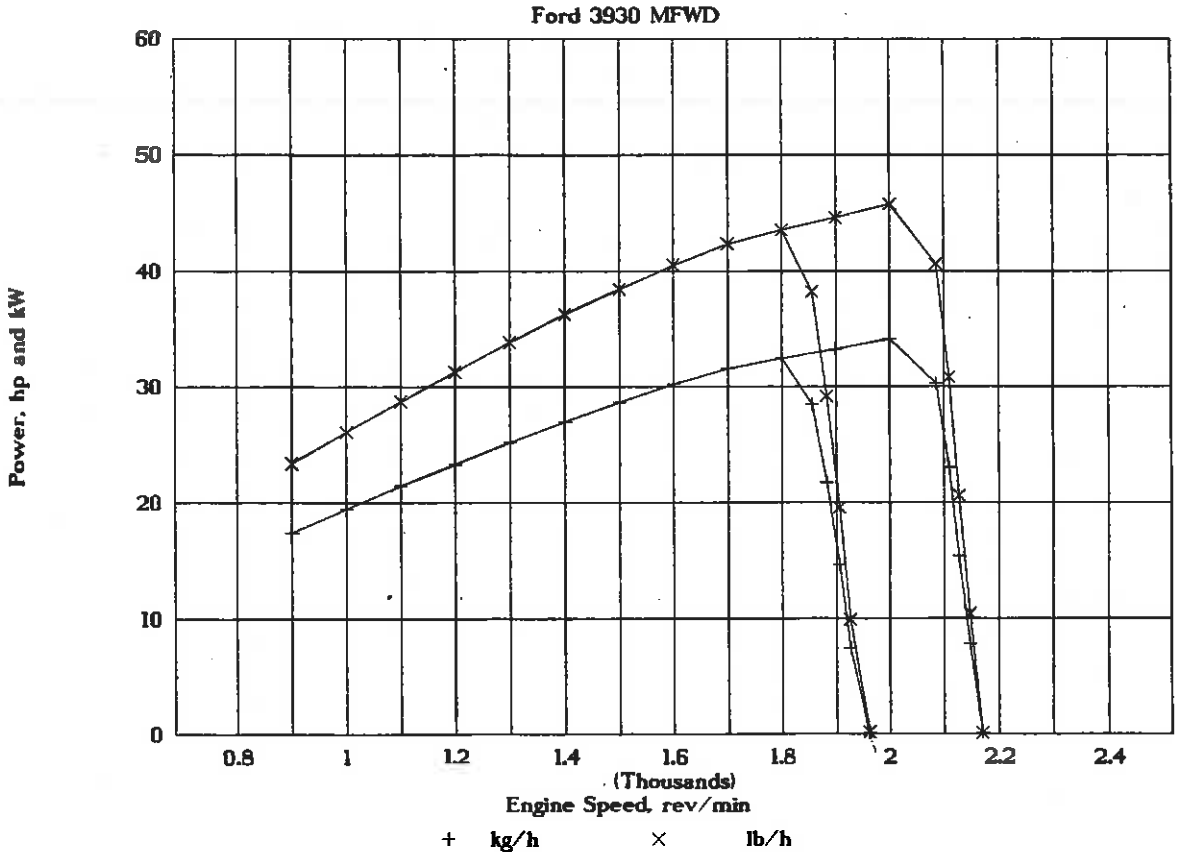
Date of tests: 09–Apr–91 10–Apr–91 Fuel density: 6.993 lb/gal
Type of track: Concrete Test # 1644

Gear	Power hp	Pull lb	Speed mph	Engine Speed rpm	Slip	SFC lb/hp.h	SFE hp.h/gal	Temperature, deg F Fuel	Coolant	Oil	Dry	Wet	Relative humidity	Barometric Pressure in Hg
I. Maximum Power (unballasted, fwa 2000 rev/min) Tire pressure: 14 psi, rear 16 psi, front Drawbar height: 14.5 in														
1 (1L)	20.31	4800	1.59	2114	14.83%	0.659	10.61	133	173	190	51	46	67%	28.90
2 (2L)	25.21	4807	1.97	2092	14.55%	0.605	11.55	134	176	194	55	48	59%	28.90
3 (3L)	36.80	3988	3.46	2000	10.23%	0.545	12.84	141	181	193	51	43	46%	29.05
4 (4L)	37.47	2874	4.89	2001	7.14%	0.537	13.03	139	179	198	48	44	76%	28.90
5 (1H)	38.18	2412	5.94	2001	5.74%	0.523	13.37	138	178	191	43	39	73%	29.05
6 (2H)	37.24	1856	7.53	2004	4.41%	0.539	12.98	138	179	191	44	39	62%	29.06
II. Part Loads (unballasted, fwa 2000 rev/min) Tire pressure: 14 psi, rear 16 psi, front Drawbar height: 14.5 in														
II.1 in selected gear at maximum power														
5 (1H)	38.18	2412	5.94	2001	5.74%	0.523	13.37	138	178	191	43	39	73%	29.05
II.1.1 75% of pull at maximum power at rated speed														
5 (1H)	30.30	1810	6.28	2084	4.35%	0.557	12.56	137	173	191	48	41	53%	29.06
II.1.2 50% of pull at maximum power at rated speed														
5 (1H)	20.76	1208	6.45	2112	3.11%	0.652	10.72	134	173	188	48	41	53%	29.06
II.1.3 next higher gear at reduced engine speed, same pull and travel speed as II.1.1														
6 (2H)	30.20	1810	6.26	1666	4.24%	0.516	13.54	133	173	181	48	41	53%	29.06
II.1.4 next higher gear at reduced engine speed, same pull and travel speed as II.1.2														
6(4H)	20.85	1213	6.45	1692	3.17%	0.580	12.06	130	172	182	48	41	53%	29.06
II.2 in selected gear nearest to 4.6 mph														
4 (4L)	37.47	2874	4.89	2001	7.14%	0.537	13.03	139	179	198	48	44	76%	28.90
II.2.1 75% of pull at maximum power at rated speed														
4 (4L)	30.71	2238	5.15	2075	5.96%	0.565	12.37	136	175	189	55	48	59%	28.91
II.2.2 50% of pull at maximum power at rated speed														
4 (4L)	21.12	1491	5.31	2115	4.24%	0.653	10.70	133	173	188	55	48	59%	28.91
II.2.3 next higher gear at reduced engine speed, same pull and travel speed as II.2.1														
5 (1H)	30.82	2237	5.17	1740	5.68%	0.514	13.60	129	176	184	55	48	59%	28.91
II.2.4 next higher gear at reduced engine speed, same pull and travel speed as II.2.2														
5 (1H)	21.07	1490	5.30	1758	4.24%	0.570	12.27	127	172	185	55	48	59%	28.91

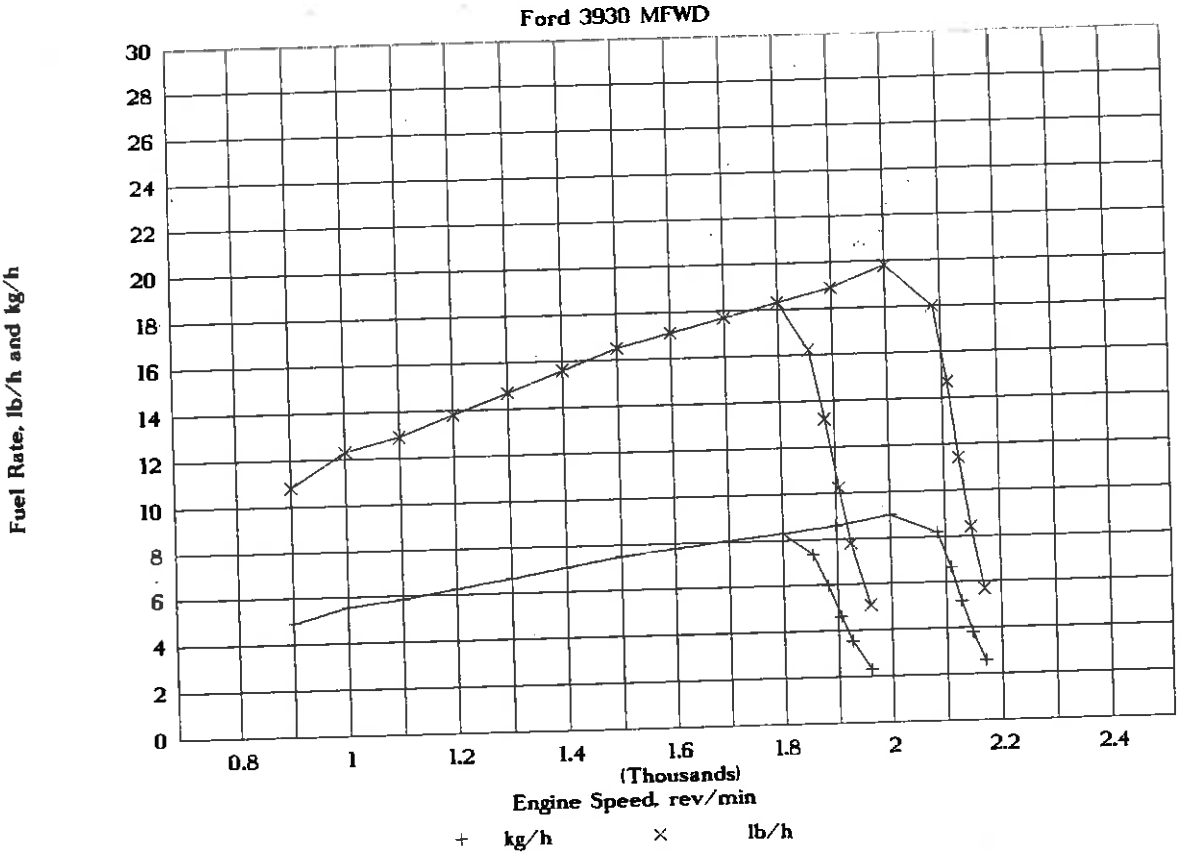
Equivalent Crankshaft Torque



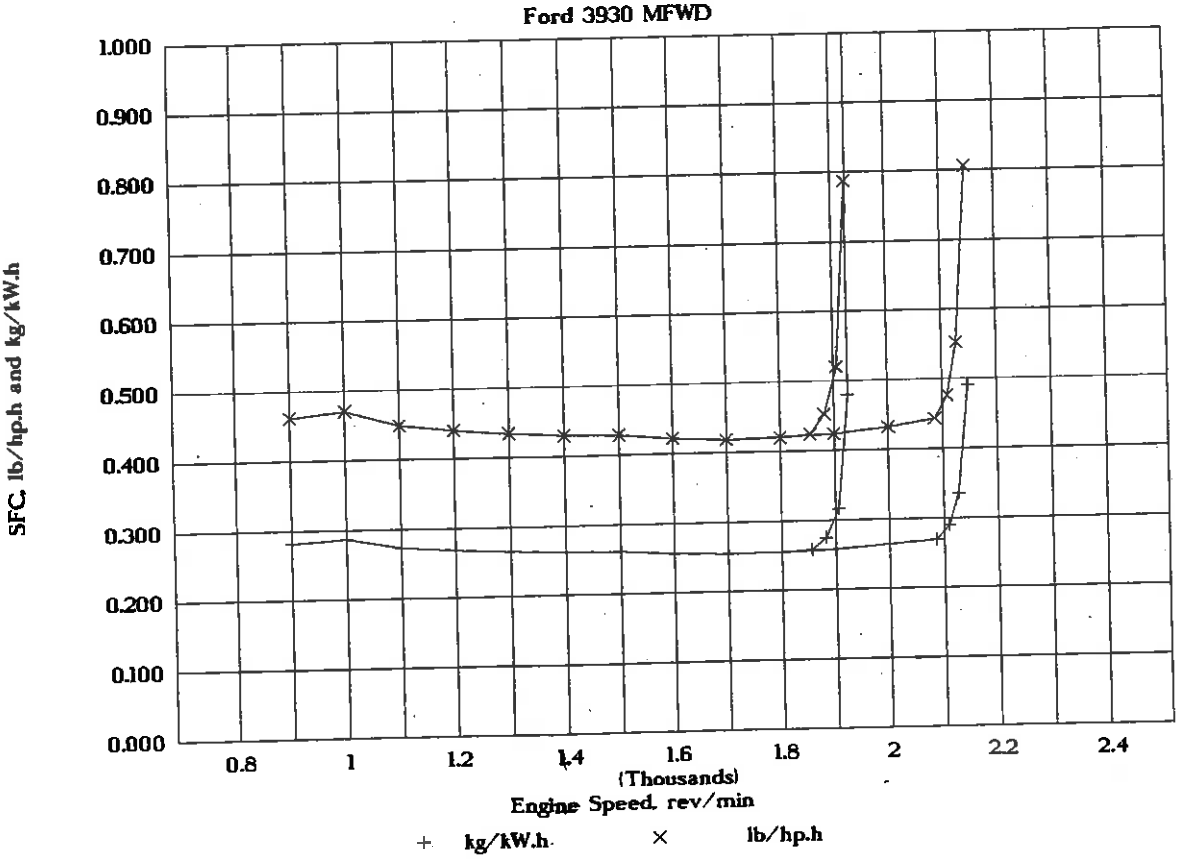
PTO Power

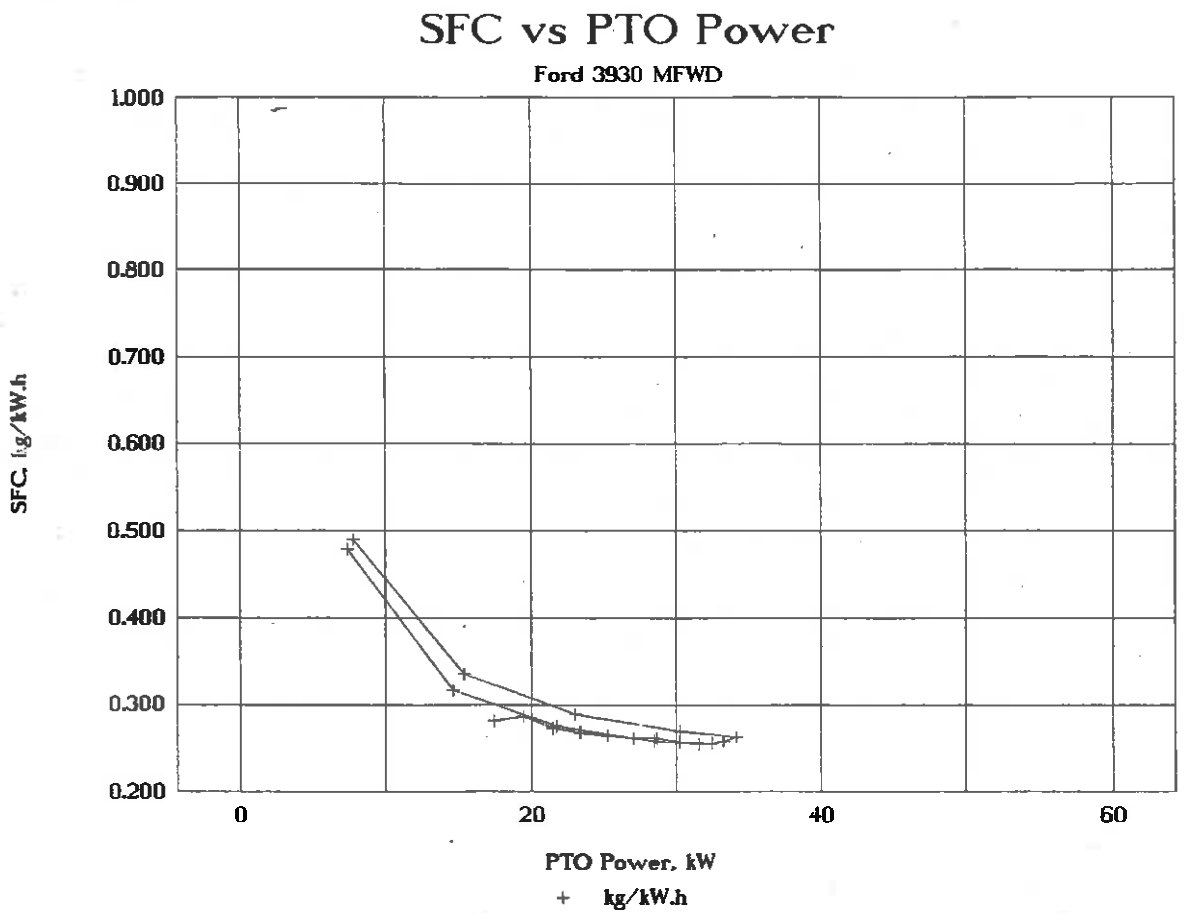


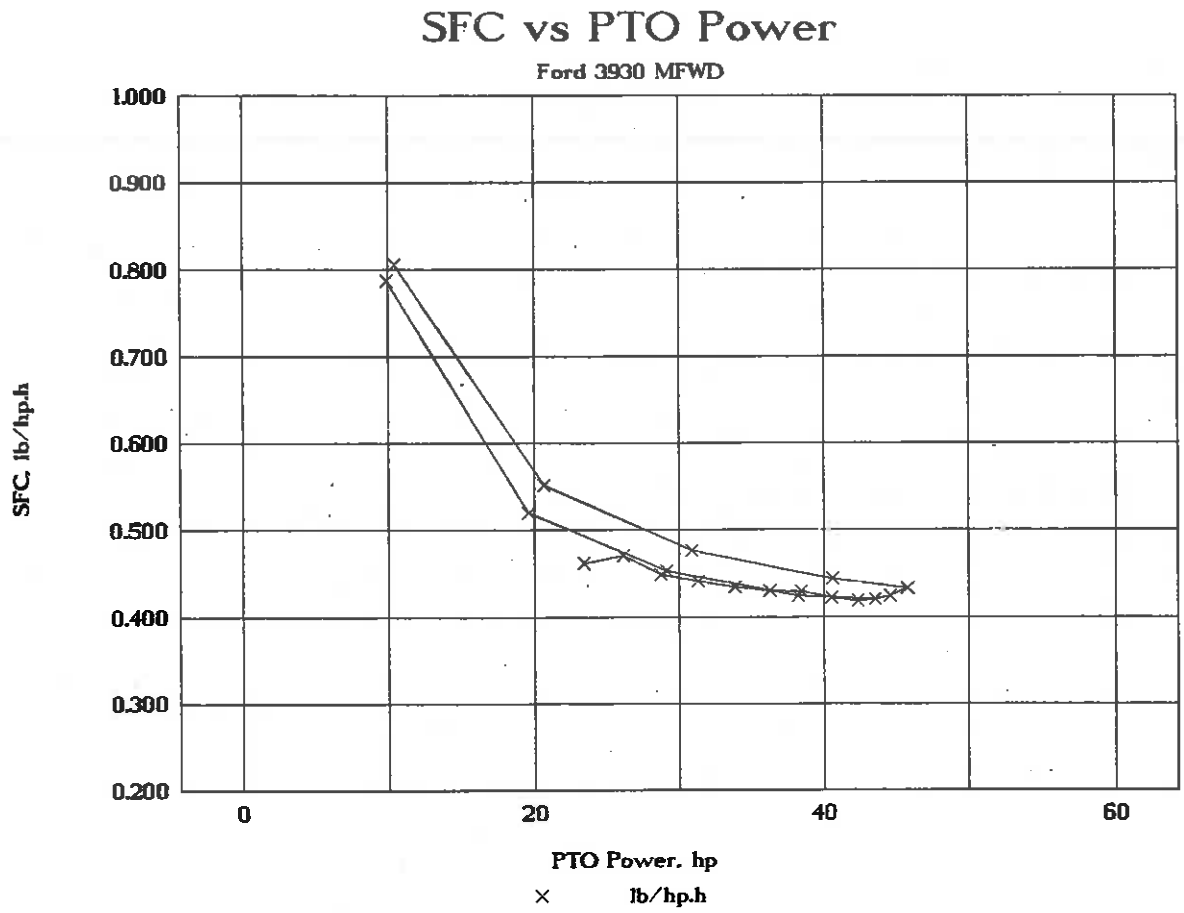
PTO Fuel Consumption



PTO Specific Fuel Consumption




SFC vs PTO Power
Ford 3930 MFWD
SFC, kg/kW.h
1.000
0.900
0.800
0.700
0.600
0.500
0.400
0.300
0.200
0
20
40
60
PTO Power, kW
+ kg/kW.h


SFC vs PTO Power
Ford 3930 MFWD
SFC, lb/hp.h
1.000
0.900
0.800
0.700
0.600
0.500
0.400
0.300
0.200
0
20
40
60
PTO Power, hp
× lb/hp.h

DRAWBAR POWER AND FUEL CONSUMPTION (UNBALLASTED TRACTOR) Optional test 2 WD

Date of tests: 09-Apr-91 10-Apr-91 Fuel density: 0.838 kg/l
Type of track: Concrete Test # 1644

Gear	Power kW	Pull kN	Speed km/h	Engine Speed rev/min	Slip	SFC kg/kW.h	SFE kW.h/l	Temperature, deg C Fuel	Coolant	Oil	Dry	Wet	Relative humidity	Barometric Pressure kPa
Ia. Maximum Power (unballasted, 2wd @ 2000 rev/min)					Tire pressure:			97 kPa, rear			110 kPa, front			
			Drawbar height:		368 mm									
3 (3L)	24.57	16.42	5.39	2063	14.72%	0.345	2.43	58	79	90	11	7	56%	98.37
4 (4L)	27.46	13.27	7.45	2005	10.84%	0.332	2.53	59	82	91	11	8	67%	97.87
5 (1H)	28.40	11.17	9.15	1998	8.21%	0.321	2.61	59	82	90	9	7	76%	98.04
6 (2H)	28.25	8.67	11.73	2001	6.09%	0.324	2.58	58	82	91	11	8	67%	98.04
II. Part Loads (unballasted, 2wd @ 2000 rev/min)					Tire pressure:			97 kPa, rear			110 kPa, front			
			Drawbar height:		368 mm									
II.1 in selected gear at maximum power														
5 (1H)	28.40	11.17	9.15	1998	8.21%	0.321	2.61	59	82	90	9	7	76%	98.04
II.1.1 75% of pull at maximum power at rated speed														
5 (1H)	22.84	8.38	9.81	2084	5.87%	0.337	2.49	56	78	89	13	9	59%	98.00
II.1.2 50% of pull at maximum power at rated speed														
5 (1H)	15.72	5.59	10.13	2110	3.93%	0.386	2.17	55	78	86	13	9	59%	98.00
II.1.3 next higher gear at reduced engine speed, same pull and travel speed as II.1.1														
6 (2H)	22.82	8.38	9.80	1671	5.92%	0.312	2.69	56	79	86	13	9	59%	98.00
II.1.4 next higher gear at reduced engine speed, same pull and travel speed as II.1.2														
6 (2H)	15.66	5.58	10.10	1687	3.87%	0.345	2.43	53	77	84	13	9	59%	98.00

Date of tests: 10-Apr-91 17-Apr-91 Fuel density: 6.993 lb/gal
Type of track: Concrete Test # 1644

Gear	Power hp	Pull lb	Speed mph	Engine Speed rpm	Slip	SFC lb/hp.h	SFE hp.h/gal	Temperature, deg F Fuel	Coolant	Oil	Dry	Wet	Relative humidity	Barometric Pressure
Ia. Maximum Power (unballasted, 2wd @ 2000 rev/min)					Tire pressure:			14 psi, rear			16 psi, front			
			Drawbar height:		14.5 in									
3 (3L)	32.95	3692	3.35	2063	14.72%	0.566	12.35	137	175	195	52	44	56%	29.05
4 (4L)	36.82	2983	4.63	2005	10.84%	0.545	12.83	138	180	197	51	46	67%	28.90
5 (1H)	38.08	2511	5.69	1998	8.21%	0.528	13.26	138	179	195	48	44	76%	28.95
6 (2H)	37.89	1950	7.29	2001	6.09%	0.533	13.12	137	180	196	52	46	67%	28.95
II. Part Loads (unballasted, 2wd @ 2000 rev/min)					Tire pressure:			14 psi, rear			16 psi, front			
			Drawbar height:		14.5 in									
II.1 in selected gear at maximum power														
5 (1H)	38.08	2511	5.69	1998	8.21%	0.528	13.26	138	179	195	48	44	76%	28.95
II.1.1 75% of pull at maximum power at rated speed														
5 (1H)	30.62	1884	6.10	2084	5.87%	0.554	12.63	133	172	193	56	49	59%	28.94
II.1.2 50% of pull at maximum power at rated speed														
5 (1H)	21.08	1256	6.29	2110	3.93%	0.635	11.01	131	172	187	56	49	59%	28.94
II.1.3 next higher gear at reduced engine speed, same pull and travel speed as II.1.1														
6 (2H)	30.60	1885	6.09	1671	5.92%	0.513	13.64	133	175	187	56	49	59%	28.94
II.1.4 next higher gear at reduced engine speed, same pull and travel speed as II.1.2														
6 (2H)	20.99	1254	6.28	1687	3.87%	0.567	12.34	127	171	184	56	49	59%	28.94

Repairs: None
Remarks: None