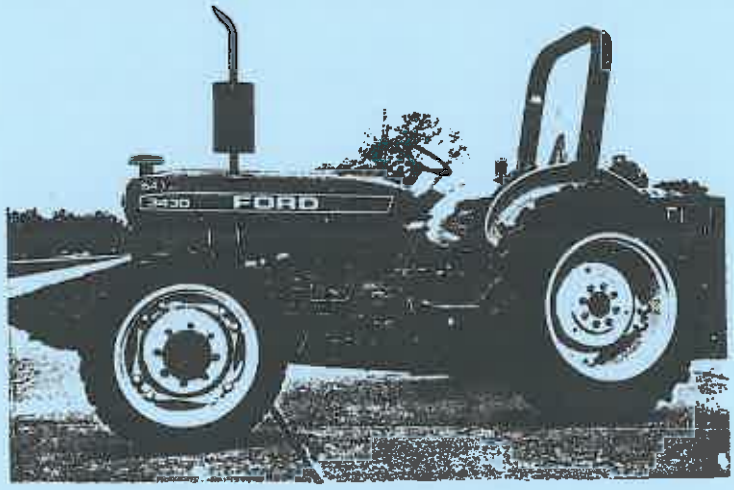
OECD APPROVAL # 1325
(Restricted code)
Date of approval: 6 September 1991

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 3430 (4WD) 8 x 2 WITH MECHANICAL FRONT WHEEL DRIVE



Ford 3430 (8 x 2) Diesel

MANUFACTURED BY: FORD NEW HOLLAND LTD
BASILDON, ESSEX
ENGLAND

NEBRASKA TEST NO. 1643

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 September 6, 1991.

Ford 3430 8 x 2 with MFWD OECD # 1325

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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	: 206 hours
Location of Test	: Tractor Testing Laboratory Lincoln, Nebraska, U.S.A.

TRACTOR SPECIFICATIONS.

Make	Ford
Model	3430 (BA 51)
Type	Unit construction, mechanical front wheel drive (4WD)
Number of driving wheels	4
Serial Number	*BC76438*
1st Serial number	*C43002*

ENGINE.

Make	Ford New Holland
Model	B192
Type	Diesel, direct injection
Serial Number	*B293648*
Cylinders	
Number/Disposition	3, in-line, vertical
Bore/stroke	111.8 mm x 106.7 mm (4.4 in x 4.2 in)
Capacity	3142 ml (192 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	19453 JGH
Production setting of pump Flow Rate	7.5 - 8.4 Kg/h at 2000 rev/min (16.5 - 18.5 lb/h)
Make/Model/Type Injectors	CAV/multi-hole/JB 6801111 nozzle
Injection pressure	23.3-24.3 MPa
Timing	15 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
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.

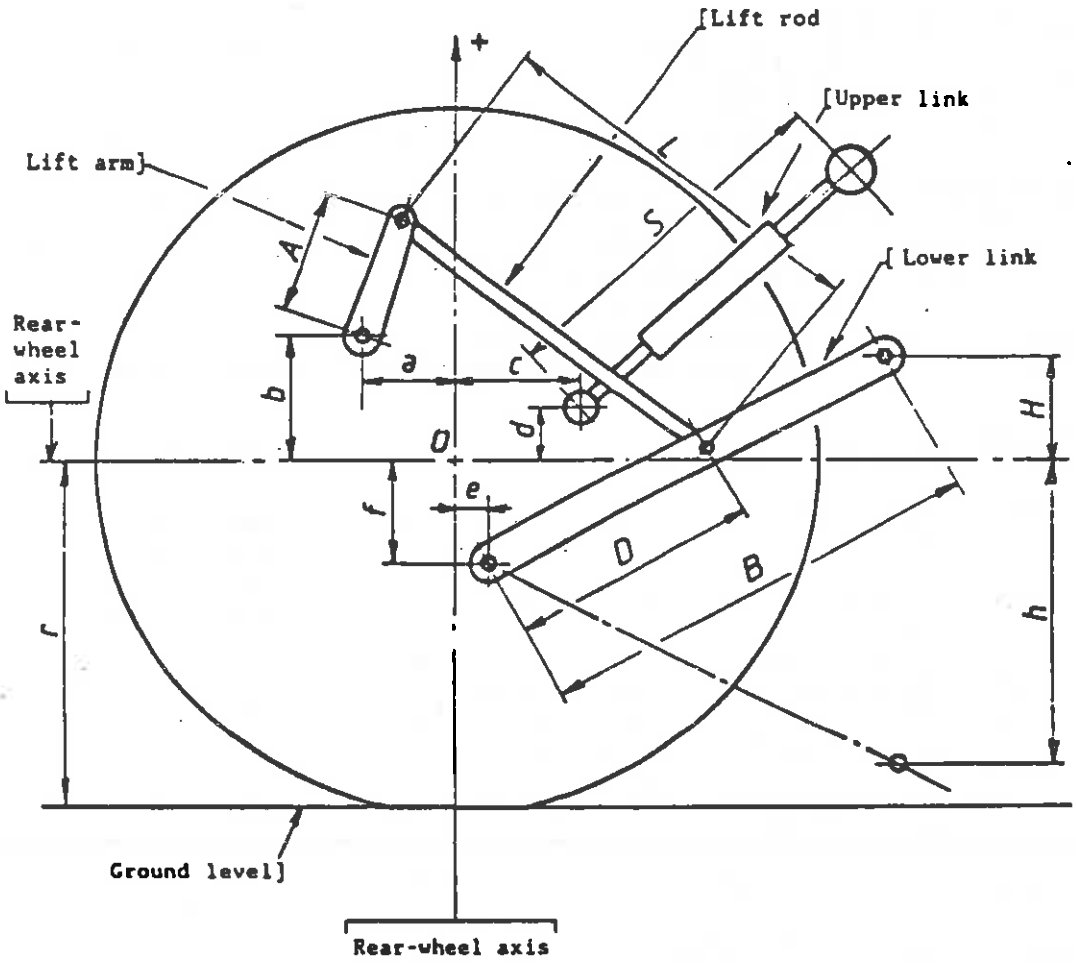
POWER LIFT.

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 1 (29 qt)

THREE POINT LINKAGE.

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

THREE POINT LINKAGE



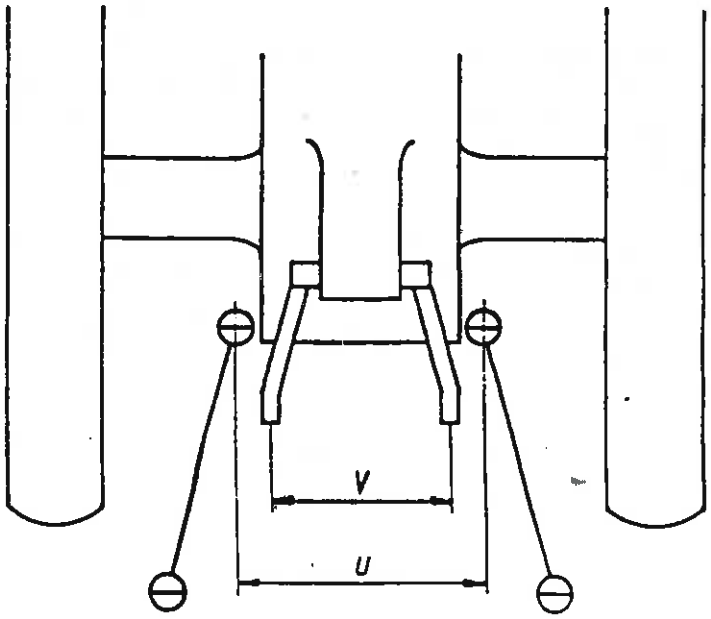


Table 1.1 -*Linkage geometry dimensions.

		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 833	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
Method of operation	operated by two pedals which can be locked together.
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]	[lb]	with driver [kg]	[lb]
Unballasted	Front	1001	2208	1011	2230
	Rear	1461	3220	1526	3364
	Total	2462	5428	2537	5594

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	Mil-L-2105	
Grease	Ford M1C137-B	
Number of lubrication points	13	

Fuel

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

COMPULSORY TESTS.

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

Date of tests : 17 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.						
28.70 (38.48)	2000	600	9.64 (2.55)	8.08 (17.82)	0.282 (0.463)	2.98 (15.11)
1.2 Power at rated engine speed. (1 hour)						
28.70 (38.48)	2000	600	9.64 (2.55)	8.08 (17.82)	0.282 (0.463)	2.98 (15.11)
1.3 Maximum power at standard PTO speed. (540 rev/min)						
27.53 (36.92)	1800	540	9.00 (2.38)	7.54 (16.62)	0.274 (0.450)	3.06 (15.53)

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.						
28.70 (38.48)	2000	600	9.64 (2.55)	8.08 (17.82)	0.282 (0.463)	2.98 (15.11)
ii. 85% of the torque obtained in (i)						
25.24 (33.85)	2076	623	8.44 (2.23)	7.08 (15.60)	0.280 (0.461)	2.99 (15.17)
iii. 75% of the torque defined in (ii)						
19.29 (25.87)	2109	632	7.15 (1.89)	5.99 (13.20)	0.310 (0.510)	2.70 (13.71)
iv. 50% of the torque defined in (ii)						
12.94 (17.36)	2124	637	5.68 (1.50)	4.76 (10.50)	0.368 (0.605)	2.28 (11.56)
v. 25% of the torque defined in (ii)						
6.58 (8.83)	2147	644	4.22 (1.12)	3.54 (7.80)	0.537 (0.883)	1.56 (7.92)
vi. unloaded						
0.09 (0.12)	2170	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						
27.53 (36.92)	1800	540	9.00 (2.38)	7.54 (16.62)	0.274 (0.450)	3.06 (15.53)
ii. 85% of the torque obtained in (i)						
24.29 (32.58)	1868	561	8.12 (2.15)	6.80 (15.00)	0.280 (0.460)	2.99 (15.19)
iii. 75% of the torque defined in (ii)						
18.50 (24.81)	1897	569	6.50 (1.72)	5.44 (12.00)	0.294 (0.484)	2.85 (14.46)
iv. 50% of the torque defined in (ii)						
12.49 (16.75)	1916	575	5.03 (1.33)	4.22 (9.30)	0.338 (0.555)	2.48 (12.59)
v. 25% of the torque defined in (ii)						
6.29 (8.44)	1941	583	3.74 (0.99)	3.13 (6.90)	0.498 (0.818)	1.68 (8.55)
vi. Unloaded						
0.08 (0.11)	1972	592	2.60 (0.69)	2.18 (4.80)	25.903 (42.584)	0.03 (0.16)

No-load maximum engine speed	2170 rev/min
Equivalent engine torque:	
at rated engine speed	137 Nm (2000 rev/min)
at maximum power	137 Nm (2000 rev/min)
at maximum torque	165 Nm (1152 rev/min)
Mean atmospheric conditions:	
Temperature-dry bulb	24'C (75'F)
Relative humidity	41 %
Barometer	97.93 kPa (28.92 in Hg)

Maximum Temperatures :	
Thermostat housing	87'C (189'F)
Engine oil	108'C (227'F)
Fuel at injection pump	62'C (143'F)
Engine air intake	27'C (81'F)
Hydraulic oil	81'C (178'F)

2. HYDRAULIC POWER AND LIFTING FORCE.

Date of test:19 April,1991
Location: TTL/UNL, Lincoln, Nebr.

2.1 HYDRAULIC POWER TEST - HYDRAULIC PUMP PERFORMANCE

Sustained pressure with open relief valve	18.13 MPa (2630 psi)
Pump delivery rate at minimum pressure & 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)	16.20 (2350)	6.3 (8.5)
At maximum hydraulic power.	27.3 (7.2)	14.48 (2100)	6.6 (8.8)

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	11.8	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)

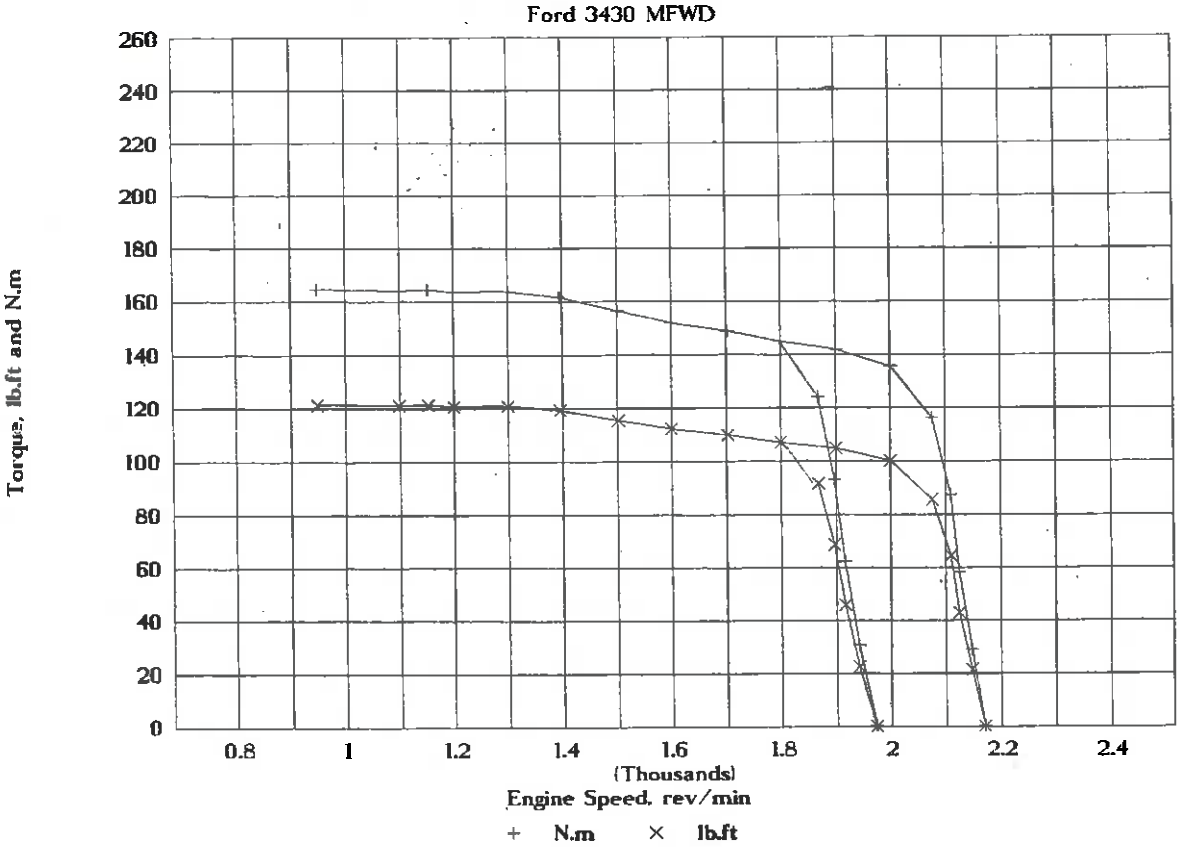
Date of tests: 18–Apr–91 19–Apr–91 Fuel density: 0.838 kg/l
Type of track: Concrete Test # 1643

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:		381 mm									
1 (1L)	14.58	20.34	2.58	2101	14.67%	0.404	2.07	55	82	97	8	7	87%	98.14
2 (2L)	18.00	20.36	3.18	2082	14.85%	0.379	2.21	59	83	97	8	7	87%	98.10
3 (3L)	23.00	14.34	5.77	2003	8.39%	0.348	2.41	62	84	99	11	10	89%	97.46
4 (4L)	23.36	10.38	8.10	2004	5.53%	0.342	2.45	62	84	100	12	12	100%	97.49
5 (1H)	23.61	8.67	9.80	2001	4.65%	0.339	2.47	62	84	100	12	11	89%	97.46
6 (2H)	22.91	6.67	12.36	2001	3.58%	0.353	2.37	61	83	100	11	11	100%	97.46
II. Part Loads (unballasted, fwa, 2000 rev/min)						Tire pressure:		97 kPa, rear			110 kPa, front			
			Drawbar height:		381 mm									
II.1 in selected gear at maximum power														
5 (1H)	23.61	8.67	9.80	2001	4.65%	0.339	2.47	62	84	100	12	11	89%	97.46
II.1.1 75% of pull at maximum power at rated speed														
5 (1H)	18.57	6.51	10.28	2081	3.94%	0.363	2.31	54	83	94	8	7	87%	98.27
II.1.2 50% of pull at maximum power at rated speed														
5 (1H)	12.60	4.33	10.48	2101	2.85%	0.432	1.94	55	82	94	8	7	87%	98.27
II.1.3 next higher gear at reduced engine speed, same pull and travel speed as II.1.1														
6 (2H)	18.58	6.53	10.25	1664	3.94%	0.333	2.51	56	82	93	8	7	87%	98.27
II.1.4 next higher gear at reduced engine speed, same pull and travel speed as II.1.2														
6 (2H)	12.60	4.33	10.47	1682	3.03%	0.381	2.20	52	80	91	8	7	87%	98.27
II.2 in selected gear nearest to 7.5 km/h														
4 (4L)	23.36	10.38	8.10	2004	5.53%	0.342	2.45	62	84	100	12	12	100%	97.49
II.2.1 75% of pull at maximum power at rated speed														
4 (4L)	18.41	7.80	8.49	2079	4.71%	0.364	2.30	58	82	97	8	7	87%	98.21
II.2.2 50% of pull at maximum power at rated speed														
4 (4L)	12.53	5.18	8.71	2103	3.40%	0.432	1.94	54	82	95	8	7	87%	98.21
II.2.3 next higher gear at reduced engine speed, same pull and travel speed as II.2.1														
5 (1H)	18.42	7.81	8.49	1737	4.77%	0.331	2.53	55	84	94	8	7	87%	98.21
II.2.4 next higher gear at reduced engine speed, same pull and travel speed as II.2.2														
5 (1H)	12.58	5.19	8.73	1758	3.40%	0.379	2.21	52	83	92	8	7	87%	98.21

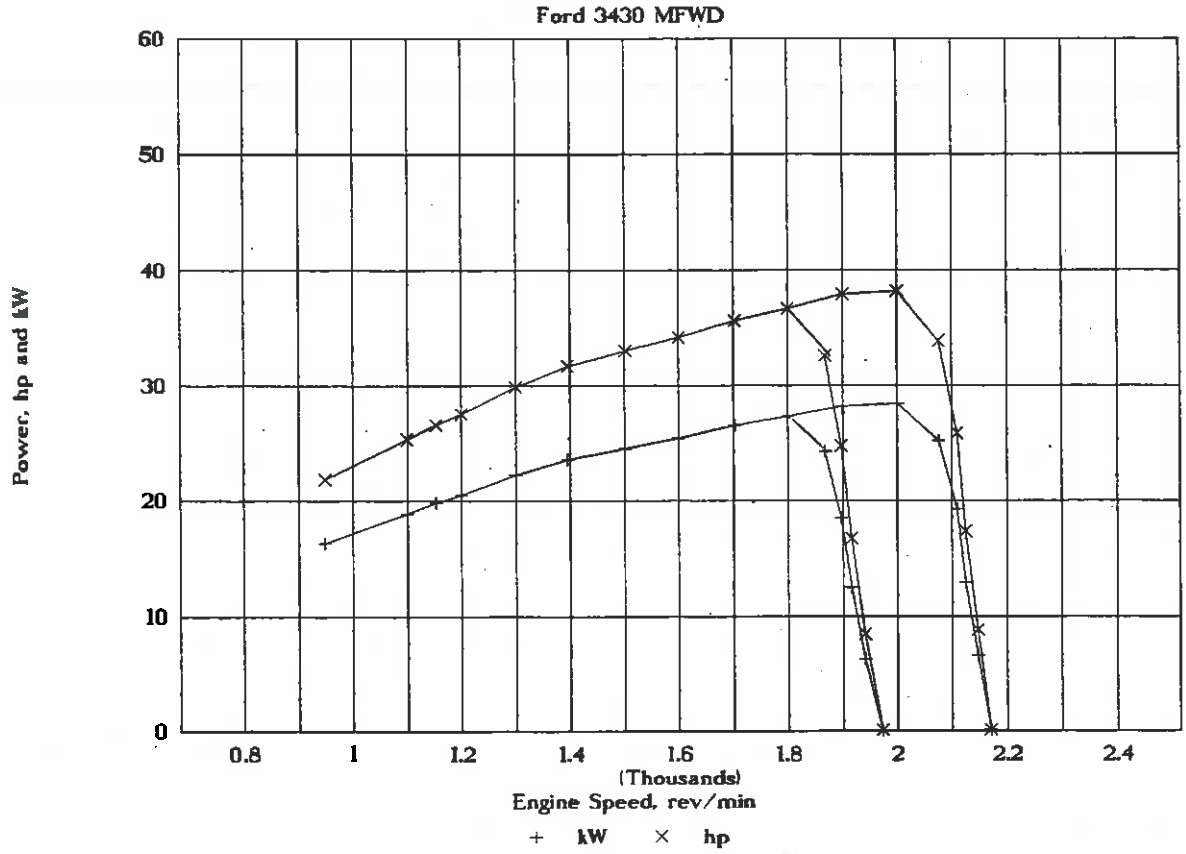
Date of tests: 18–Apr–91 19–Apr–91 Fuel density: 6.993 lb/gal
Type of track: Concrete Test # 1643

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:		15 in									
1 (1L)	19.55	4573	1.60	2101	14.67%	0.664	10.53	132	180	206	46	45	87%	28.98
2 (2L)	24.14	4577	1.98	2082	14.85%	0.624	11.21	139	181	207	46	45	87%	28.97
3 (3L)	30.85	3224	3.59	2003	8.39%	0.572	12.23	144	183	211	52	50	89%	28.78
4 (4L)	31.32	2333	5.03	2004	5.53%	0.563	12.43	143	183	212	54	53	100%	28.79
5 (1H)	31.66	1950	6.09	2001	4.65%	0.558	12.54	144	183	212	53	52	89%	28.78
6 (2H)	30.73	1501	7.68	2001	3.58%	0.581	12.04	142	182	212	52	51	100%	28.78
II. Part Loads (unballasted, fwa, 2000 rev/min)						Tire pressure:		14 psi, rear			16 psi, front			
			Drawbar height:		15 in									
II.1 in selected gear at maximum power														
5 (1H)	31.66	1950	6.09	2001	4.65%	0.558	12.54	144	183	212	53	52	89%	28.78
II.1.1 75% of pull at maximum power at rated speed														
5 (1H)	24.91	1463	6.38	2081	3.94%	0.597	11.72	129	182	201	47	45	87%	29.02
II.1.2 50% of pull at maximum power at rated speed														
5 (1H)	16.90	973	6.51	2101	2.85%	0.710	9.85	131	180	202	47	45	87%	29.02
II.1.3 next higher gear at reduced engine speed, same pull and travel speed as II.1.1														
6 (2H)	24.92	1467	6.37	1664	3.94%	0.548	12.76	133	180	199	47	45	87%	29.02
II.1.4 next higher gear at reduced engine speed, same pull and travel speed as II.1.2														
6 (2H)	16.90	974	6.51	1682	3.03%	0.626	11.17	126	177	197	47	45	87%	29.02
II.2 in selected gear nearest to 4.6 mph														
4 (4L)	31.32	2333	5.03	2004	5.53%	0.563	12.43	143	183	212	54	53	100%	28.79
II.2.1 75% of pull at maximum power at rated speed														
4 (4L)	24.69	1754	5.28	2079	4.71%	0.598	11.69	137	179	207	47	45	87%	29.00
II.2.2 50% of pull at maximum power at rated speed														
4 (4L)	16.81	1165	5.41	2103	3.40%	0.711	9.84	129	179	204	47	45	87%	29.00
II.2.3 next higher gear at reduced engine speed, same pull and travel speed as II.2.1														
5 (1H)	24.70	1756	5.28	1737	4.77%	0.544	12.86	132	183	201	47	45	87%	29.00
II.2.4 next higher gear at reduced engine speed, same pull and travel speed as II.2.2														
5 (1H)	16.88	1167	5.42	1758	3.40%	0.623	11.23	125	181	198	47	45	87%	29.00

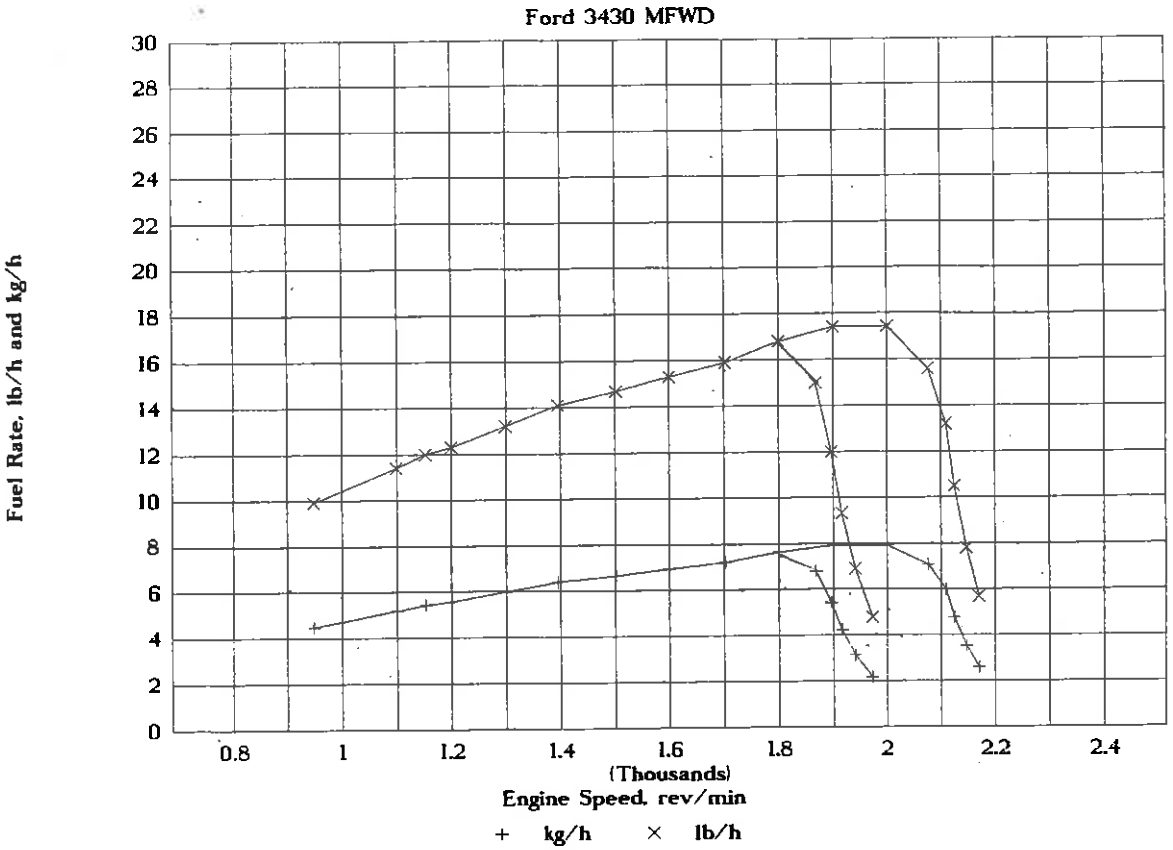
Equivalent Crankshaft Torque



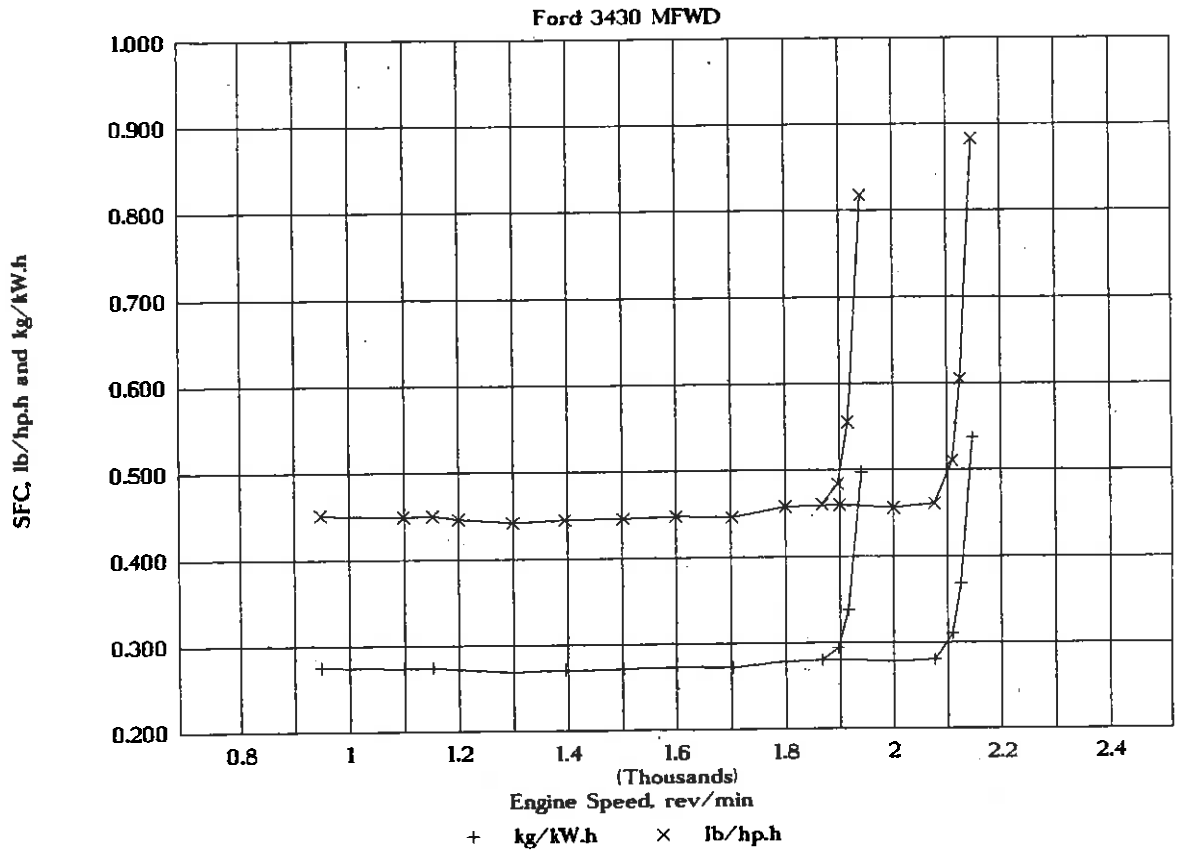
PTO Power



PTO Fuel Consumption

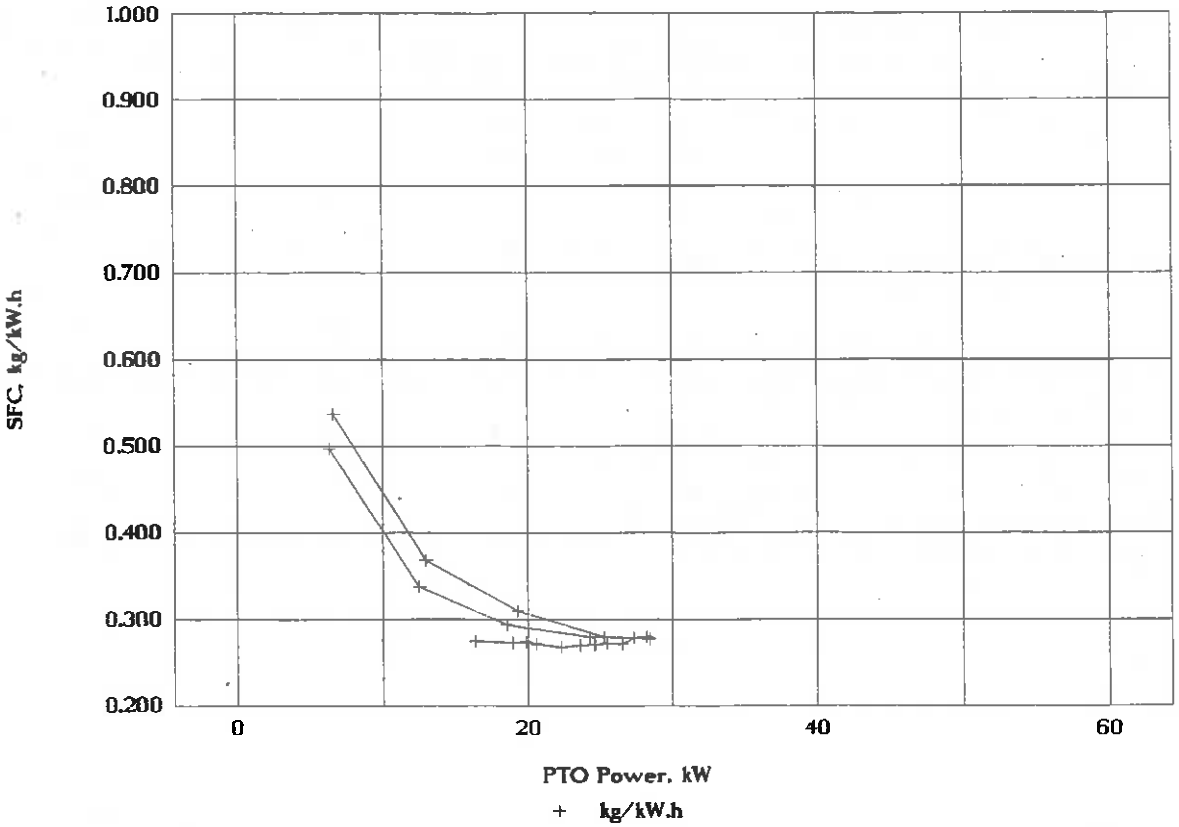


PTO Specific Fuel Consumption



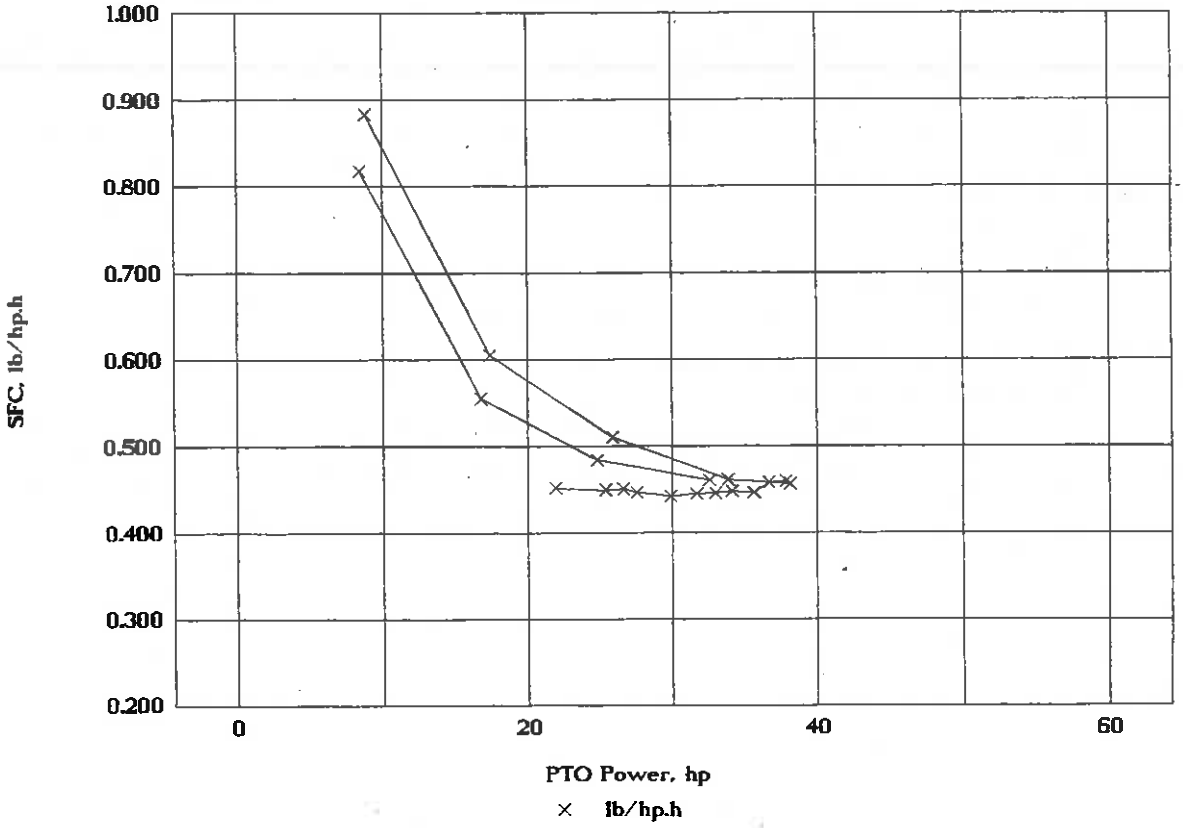
SFC vs PTO Power

Ford 3430 MFWD



SFC vs PTO Power

Ford 3430 MFWD



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

Date of tests: 18–Apr–91 19–Apr–91 Fuel density: 0.838 kg/l
Type of track: Concrete Test # 1643

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: 381 mm														
3 (3L)	20.51	13.48	5.48	2061	14.92%	0.367	2.28	58	83	98	8	7	87%	98.17
4 (4L)	22.70	10.75	7.60	2002	10.62%	0.352	2.38	62	84	100	12	12	100%	97.46
5 (1H)	23.56	9.10	9.32	1996	8.36%	0.338	2.48	61	84	100	12	11	89%	97.49
6 (2H)	23.34	7.03	11.94	2000	6.03%	0.345	2.43	61	83	99	11	11	100%	97.46
II. Part Loads (unballasted, 2wd 2000 rev/min) Tire pressure: 97 kPa, rear 110 kPa, front Drawbar height: 0 mm														
II.1 in selected gear at maximum power														
5 (1H)	23.56	9.10	9.32	1996	8.36%	0.338	2.48	61	84	100	12	11	89%	97.49
II.1.1 75% of pull at maximum power at rated speed														
5 (1H)	18.84	6.83	9.94	2081	6.20%	0.359	2.34	54	83	93	8	8	100%	98.34
II.1.2 50% of pull at maximum power at rated speed														
5 (1H)	12.88	4.55	10.19	2099	4.83%	0.422	1.98	55	83	94	8	8	100%	98.34
II.1.3 next higher gear at reduced engine speed, same pull and travel speed as II.1.1														
6 (2H)	18.82	6.82	9.93	1671	6.48%	0.329	2.55	56	82	93	8	8	100%	98.34
II.1.4 next higher gear at reduced engine speed, same pull and travel speed as II.1.2														
6 (2H)	12.90	4.55	10.20	1685	4.83%	0.373	2.25	53	80	92	8	8	100%	98.34

Date of tests: 18–Apr–91 19–Apr–91 Fuel density: 6.993 lb/gal
Type of track: Concrete Test # 1643

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: 15 in														
3 (3L)	27.51	3030	3.40	2061	14.92%	0.604	11.58	137	181	208	47	45	87%	28.99
4 (4L)	30.44	2416	4.73	2002	10.62%	0.579	12.09	143	183	212	54	53	100%	28.78
5 (1H)	31.59	2046	5.79	1996	8.36%	0.556	12.57	142	183	213	53	52	89%	28.79
6 (2H)	31.29	1582	7.42	2000	6.03%	0.567	12.33	142	182	210	52	51	100%	28.78
II. Part Loads (unballasted, 2wd 2000 rev/min) Tire pressure: 14 psi, rear 16 psi, front Drawbar height: 15 in														
II.1 in selected gear at maximum power														
5 (1H)	31.59	2046	5.79	1996	8.36%	0.556	12.57	142	183	213	53	52	89%	28.79
II.1.1 75% of pull at maximum power at rated speed														
5 (1H)	25.27	1535	6.17	2081	6.20%	0.590	11.86	130	181	200	46	46	100%	29.04
II.1.2 50% of pull at maximum power at rated speed														
5 (1H)	17.28	1024	6.33	2099	4.83%	0.694	10.07	130	181	202	46	46	100%	29.04
II.1.3 next higher gear at reduced engine speed, same pull and travel speed as II.1.1														
6 (2H)	25.23	1534	6.17	1671	6.48%	0.541	12.93	132	179	199	46	46	100%	29.04
II.1.4 next higher gear at reduced engine speed, same pull and travel speed as II.1.2														
6 (2H)	17.30	1024	6.34	1685	4.83%	0.613	11.41	128	176	198	46	46	100%	29.04

Repairs: None
Remarks: None