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Test 1635: Deutz-Allis 9190 Diesel 18-Speed

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1635—DEUTZ ALLIS 9190 DIESEL

18 SPEED

POWER TAKE-OFF PERFORMANCE

Power Hp (kW)	Crank shaft speed rpm	Fuel Consumption			Temperature °F (°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—1062 rpm)									
193.55 (144.33)	2300	12.475 (47.222)	0.445 (0.271)	15.52 (3.06)	216 (102)	54 (12)	75 (24)	29.04 (98.33)	
Standard Power Take-off Speed (1000 rpm)—One Hour									
196.96 (146.87)	2167	12.027 (45.529)	0.422 (0.257)	16.38 (3.23)	220 (104)	55 (13)	77 (25)	29.04 (98.34)	
VARYING POWER AND FUEL CONSUMPTION—Two Hours									
168.18 (125.42)	2352	11.440 (43.305)	0.470 (0.286)	14.70 (2.90)	208 (98)	54 (12)	77 (25)	..... .....
.....	2474	4.389 (16.615)	..... .....	..... .....	162 (72)	55 (13)	76 (24)	..... .....
85.98 (64.11)	2408	7.863 (29.763)	0.632 (0.384)	10.94 (2.15)	168 (75)	55 (13)	77 (25)	..... .....
191.86 (143.07)	2300	12.278 (46.477)	0.442 (0.269)	15.63 (3.08)	204 (96)	54 (12)	74 (23)	..... .....
43.74 (32.62)	2444	6.221 (23.551)	0.983 (0.598)	7.03 (1.39)	172 (78)	55 (13)	77 (25)	..... .....
127.47 (95.05)	2378	9.621 (36.419)	0.522 (0.317)	13.25 (2.61)	182 (83)	55 (13)	80 (26)	..... .....
Av Av	102.96 (76.78)	2392	8.635 (32.688)	0.580 (0.353)	11.92 (2.35)	182 (84)	54 (12)	77 (25)	29.03 (98.31)

DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel gal/hr (l/h)	Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cool- ing med	Temp. °F (°C) Air wet bulb	Air dry bulb	Barom. inch Hg (kPa)
Maximum Available Power—Two Hours 8th (3D) Gear											
170.30 (127.00)	13005 (57.85)	4.91 (7.90)	2300	3.59	12.554 (47.523)	0.509 (0.310)	13.57 (2.67)	171 (77)	46 (8)	57 (14)	28.87 (97.77)
75% of Pull at Maximum Power—Ten Hours 8th (3D) Gear											
136.23 (101.59)	9905 (44.06)	5.16 (8.30)	2393	2.75	11.164 (42.259)	0.566 (0.344)	12.20 (2.40)	142 (61)	34 (1)	38 (3)	29.23 (98.97)
50% of Pull at Maximum Power—Two Hours 8th (3D) Gear											
92.96 (69.32)	6603 (29.37)	5.28 (8.50)	2429	1.98	9.052 (34.266)	0.673 (0.409)	10.27 (2.02)	134 (57)	38 (3)	47 (8)	29.13 (98.65)
50% of Pull at Reduced Engine Speed—Two Hours 14th (5D) Gear											
93.09 (69.42)	6603 (29.37)	5.29 (8.51)	1570	2.03	6.187 (23.419)	0.459 (0.279)	15.05 (2.96)	146 (63)	40 (4)	48 (9)	29.09 (98.51)
MAXIMUM POWER IN SELECTED GEARS											
147.97 (110.34)	18970 (84.38)	2.93 (4.71)	2368	8.05	5th (2D) Gear			142 (61)	34 (1)	40 (4)	29.19 (98.85)
167.18 (124.66)	18330 (81.53)	3.42 (5.50)	2300	6.73	6th (2O) Gear			149 (65)	36 (2)	42 (6)	29.17 (98.78)
169.07 (126.08)	15900 (70.72)	3.99 (6.42)	2301	4.67	7th (3U) Gear			165 (74)	44 (7)	54 (12)	28.91 (97.90)
173.17 (129.13)	13206 (58.74)	4.92 (7.91)	2301	3.59	8th (3D) Gear			167 (75)	43 (6)	53 (12)	28.94 (98.00)
170.17 (126.89)	12078 (53.73)	5.28 (8.50)	2301	3.18	9th (4U) Gear			167 (75)	44 (7)	54 (12)	28.92 (97.93)
168.57 (125.70)	10778 (47.94)	5.87 (9.44)	2300	2.92	10th (3O) Gear			162 (72)	44 (7)	55 (13)	28.90 (97.87)
168.93 (125.98)	10045 (44.68)	6.31 [†] (10.15)	2300	2.84	11th (5U) Gear			165 (74)	44 (7)	55 (13)	28.89 (97.83)
172.00 (128.26)	9950 (44.26)	6.48 (10.43)	2302	2.67	12th (4D) Gear			165 (74)	45 (7)	56 (13)	28.88 (97.80)
167.05 (124.57)	8130 (36.16)	7.71 (12.40)	2299	2.24	13th (4O) Gear			167 (75)	45 (7)	56 (13)	28.88 (97.80)
170.07 (126.82)	8257 (36.73)	7.72 (12.43)	2300	2.24	14th (5D) Gear			165 (74)	45 (7)	57 (14)	28.88 (97.80)
164.62 (122.75)	6712 (29.86)	9.20 (14.80)	2303	1.72	15th (5O) Gear			165 (74)	45 (7)	57 (14)	28.88 (97.80)

Department of Agricultural Engineering

Dates of Test: October 24-November 13, 1989

Manufacturer: WHITE NEW IDEA FARM
EQUIPMENT CO., 123 West Sycamore Street,
Coldwater, Ohio 45828

FUEL, OIL AND TIME: Fuel No. 2 Diesel Ce-
tane No. 51.1 (rating taken from oil company's
inspection data) **Specific gravity converted to 60°/**
60° (15°/15°) 0.8300 **Fuel weight** 6.910 lbs/gal (0.828
kg/l) **Oil SAE 15W-40 API service classification**
CE, CD-II, SG **To motor** 6.691 gal (25.330 l)
Drained from motor 4.716 gal (17.851 l) **Trans-**
mission and final drive lubricant Deutz Allis Power
Fluid 821-XL **Front axle lubricant** SAE 90 Gear
Lube API GL-5 **Total time engine was operated**
39.5 hours.

ENGINE: Make Klockner-Humboldt-Deutz Ag
Diesel **Type** six cylinder vertical with turbocharger
Serial No. 7634237 **Crankshaft** lengthwise **Rated**
rpm 2300 **Bore and stroke** (as specified) 4.921" ×
5.118" (125 mm × 130 mm) **Compression ratio** 15.8
to 1 **Displacement** 584 cu in (9570 ml) **Starting**
system 12 volt **Lubrication** pressure **Air cleaner**
two paper elements with aspirator **Oil filter** two
full flow cartridges **Oil cooler** radiator for crank-
case oil, separate radiators for transmission and
powershift oils **Fuel filter** two paper cartridges
Fuel cooler radiator for injection pump return
fuel **Muffler** underhood **Exhaust** vertical **Cooling**
medium temperature control air cooled with var-
iable speed fan.

ENGINE OPERATING PARAMETERS: **Fuel**
rate 82.67-88.18 lb/h (37.5-40.0 kg/h) **High idle**
2450-2500 rpm **Turbo boost** nominal 16-18 psi
(110-124 kPa) as measured 17.3 psi (119 kPa).

CHASSIS: **Type** front wheel assist with duals
Serial No. *9190F-1075* **Tread width** rear 64"
(1626 mm) to 125" (3175 mm) front 66.6" (1690 mm)
to 81.8" (2080 mm) **Wheel base** 115" (2921 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 41.2" (1046
mm) Vertical distance above roadway 39.0" (992
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 (3) range operator
controlled powershift **Advertised speeds mph (km/**
h) first 1.9 (3.1) second 2.3 (3.8) third 2.5 (4.0)
fourth 2.8 (4.5) fifth 3.1 (4.9) sixth 3.6 (5.8) sev-
enth 4.1 (6.6) eighth 5.0 (8.1) ninth 5.4 (8.7) tenth
6.0 (9.6) eleventh 6.4 (10.2) twelfth 6.6 (10.6) thir-
teenth 7.8 (12.5) fourteenth 7.8 (12.6) fifteenth
9.2 (14.9) sixteenth 13.8 (22.2) seventeenth 16.8
(27.0) eighteenth 19.9 (32.0) reverse 2.2 (3.6), 2.7
(4.4), 3.2 (5.2), 4.8 (7.7), 5.9 (9.4) 6.9 (11.1) **Clutch**
dry disc operated by foot pedal **Brakes** wet disc

LUGGING ABILITY IN 8th (3D) GEAR

Crankshaft Speed rpm	2301	2075	1842	1604	1375	1146
Pull—lbs (kN)	13206 (58.74)	15218 (67.69)	16684 (74.21)	17617 (78.36)	18166 (80.81)	17909 (79.66)
Increase in Pull %	0	15	26	33	38	36
Power—Hp (kW)	173.17 (129.13)	178.60 (133.19)	172.30 (128.48)	157.07 (117.12)	137.80 (102.76)	113.58 (84.70)
Speed—Mph (km/h)	4.92 (7.91)	4.40 (7.08)	3.87 (6.23)	3.34 (5.38)	2.84 (4.58)	2.38 (3.83)
Slip %	3.59	4.42	4.91	5.87	6.82	6.35

TRACTOR SOUND LEVEL WITH CAB

	dB(A)
Maximum Available Power—Two Hours	75.5
75% of Pull at Maximum Power—Ten Hours	76.5
50% of Pull at Maximum Power—Two Hours	75.5
50% of Pull at Reduced Engine Speed—Two Hours	73.0
Bystander in 18th (6O) gear	88.5

TIRES, BALLAST AND WEIGHT

		With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi (kPa)	Four 20.8R38; *, 12 (85)	Four 20.8R38; *, 12 (85)
Ballast	—Liquid (each)	None	None
	—Test Equip (each)	60 lb (27 kg)	None
Front Tires	—No., size, ply & psi (kPa)	Two 18.4R26; **, 16 (110)	Two 18.4R26; **, 16 (110)
Ballast	—Liquid (each)	None	None
	—Test Equip (each)	105 lb (48 kg)	None
Height of Drawbar		22 in (560 mm)	22 in (560 mm)
Static Weight with Operator—Rear		12270 lb (5565 kg)	12030 lb (5457 kg)
	—Front	6880 lb (3121 kg)	6670 lb (3025 kg)
	—Total	19150 lb (8686 kg)	18700 lb (8482 kg)

hydraulically power actuated by two foot pedals which can be locked together **Steering** hydrostatic **Turning radius** (on concrete surface with brake applied) right 199" (5.05 m) left 197" (5.00 m) (on concrete surface without brake) right 306" (7.77 m) left 311" (7.89 m) **Turning space diameter** (on concrete surface with brake applied) right 433" (11.00 m) left 429" (10.89 m) (on concrete surface without brake) right 636" (16.15 m) left 646" (16.41 m) **Power take-off** 1000 rpm at 2168 engine rpm **Unladen tractor mass** 16890 lb (7661 kg).

REPAIRS and ADJUSTMENTS: No repairs or adjustments.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. For the maximum power tests, the fuel temperature at the injection pump return was maintained at 151°F (66°C). Eleven gears were chosen between 15% slip and 10 mph (16.1 km/h). The pull in 5th (2D) gear was limited to avoid tractor bouncing. The cooling air temperature was measured in the airstream of cylinder number 5. The report reflects the test on the tractor equipped with the above hood air inlet.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. 1635, February 8, 1990.

LOUIS I. LEVITICUS

Engineer-in-Charge

K. VON BARGEN

R. D. GRISSO

G. J. HOFFMAN

Board of Tractor Test Engineers

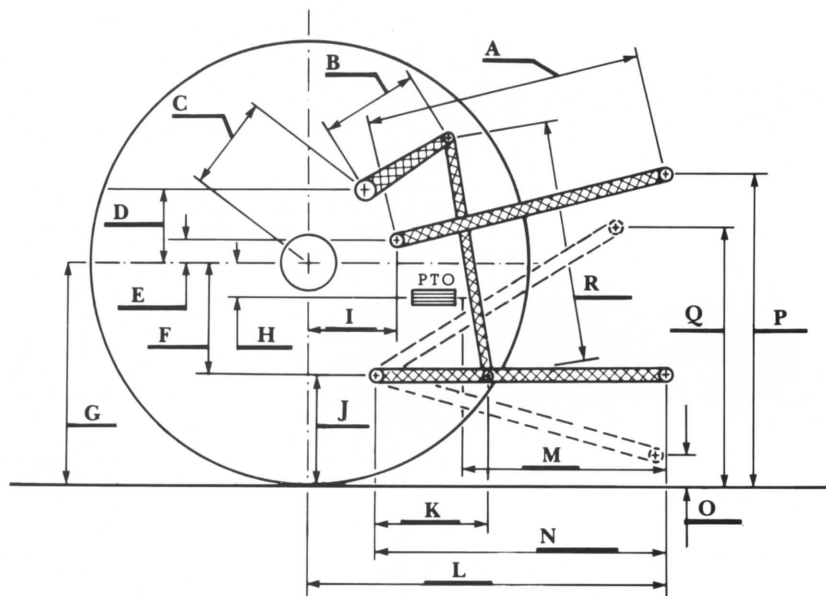
THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi. (kPa)	2500 (17235)
Location	remote outlet
Hydraulic oil temperature °F (°C)	179 (82)
Location	hydraulic suction line

	Maximum Lift Capacity	
QUICK ATTACH	No	Yes
CATEGORY	III	III
LOAD lbs (kg)	9898 (4490)	7966 (3613)
TIME sec	8.63	5.53
HITCH POINT MOVEMENT in (mm)		
Lowest position	14.0 (356)	13.2 (335)
Top of timed range	*39.2 (996)	40.0 (1016)
Highest position	**39.2 (996)	40.2 (1021)
LOAD CG MOVEMENT in (mm)		
Lowest position	14.1 (357)	13.3 (337)
Top of timed range	40.7 (1033)	41.5 (1053)
Highest position	40.7 (1033)	41.7 (1058)

*The observed power range 25.2" (645 mm) does not meet the minimum power range 26.0" (660 mm) specified by ASAE Standard S217.10

**The observed highest position 39.2" (996 mm) is less than the minimum height for highest position for Cat III, 40.0" (1016 mm) specified by ASAE Standard S217.10



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	25.0	635
B	16.0	406
C	20.1	511
D	18.6	472
E	10.4	263
F	10.2	260
G	32.6	828
H	1.9	48
I	19.9	506
J	22.4	568
K	22.3	566
L	45.3	1151
L'	49.9	1268
M	23.5	597
N	34.8	884
O	8.0	203
P	44.4	1128
Q	35.8	908
R	39.0	991

L' to end of quick attach



Deutz Allis 9190 Diesel

Agricultural Research Division
Institute of Agriculture and Natural Resources
University of Nebraska—Lincoln
Darrell Nelson, Dean and Director