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Test 1633: Deutz-Allis 9150 Diesel 18-Speed

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1633—DEUTZ ALLIS 9150 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—1021 rpm) | | | | | | | |
|---|------|-------------------|------------------|-----------------|-------------|------------|------------|
| 151.07 (112.65) | 2400 | 9.274 (35.104) | 0.424 (0.258) | 16.29 (3.21) | 205 (96) | 55 (13) | 75 (24) |
| 28.88 (97.78) | | | | | | | |
| Standard Power Take-off Speed (1000 rpm)—One Hour | | | | | | | |
| 150.22 (112.02) | 2350 | 9.119 (34.518) | 0.419 (0.255) | 16.47 (3.25) | 205 (96) | 55 (13) | 75 (24) |
| 28.89 (97.83) | | | | | | | |

VARYING POWER AND FUEL CONSUMPTION—Two Hours

| | | | | | | | | |
|------------------------|------|-------------------|------------------|-----------------|-------------|------------|------------|------------------|
| 131.72 (98.22) | 2463 | 8.470 (32.064) | 0.444 (0.270) | 15.55 (3.06) | 197 (91) | 56 (13) | 74 (23) | |
| | 2573 | 2.431 (9.203) | | | 187 (86) | 56 (13) | 76 (24) | |
| 67.00 (49.96) | 2511 | 5.488 (20.773) | 0.566 (0.344) | 12.21 (2.41) | 174 (79) | 56 (13) | 76 (24) | |
| 151.89 (113.26) | 2400 | 9.260 (35.055) | 0.421 (0.256) | 16.40 (3.23) | 205 (96) | 56 (13) | 75 (24) | |
| 34.02 (25.37) | 2546 | 3.951 (14.955) | 0.802 (0.488) | 8.61 (1.70) | 174 (79) | 55 (13) | 73 (23) | |
| 99.71 (74.35) | 2487 | 6.955 (26.328) | 0.482 (0.293) | 14.34 (2.82) | 183 (84) | 55 (13) | 75 (24) | |
| Av 80.81 Av (60.26) | 2497 | 6.093 (23.063) | 0.521 (0.317) | 13.26 (2.61) | 187 (86) | 55 (13) | 75 (24) | 28.85 (97.70) |

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 (3D) Gear | | | | | | | | | | | |
| 132.71 (98.96) | 9699 (43.14) | 5.13 (8.26) | 2400 | 2.68 | 9.132 (34.567) | 0.475 (0.289) | 14.53 (2.86) | 183 (84) | 40 (4) | 51 (11) | 28.69 (97.14) |
| 75% of Pull at Maximum Power—Ten Hours 8th (3D) Gear | | | | | | | | | | | |
| 105.29 (78.51) | 7406 (32.94) | 5.33 (8.58) | 2478 | 2.01 | 7.880 (29.829) | 0.517 (0.315) | 13.36 (2.63) | 179 (82) | 47 (8) | 58 (15) | 28.62 (96.92) |
| 50% of Pull at Maximum Power—Two Hours 8th (3D) Gear | | | | | | | | | | | |
| 71.46 (53.29) | 4938 (21.97) | 5.43 (8.73) | 2509 | 1.53 | 6.245 (23.638) | 0.604 (0.367) | 11.44 (2.25) | 159 (70) | 41 (5) | 51 (11) | 28.88 (97.80) |
| 50% of Pull at Reduced Engine Speed—Two Hours 13th (5D) Gear | | | | | | | | | | | |
| 71.52 (53.33) | 4938 (21.97) | 5.43 (8.74) | 1619 | 1.49 | 4.682 (17.722) | 0.452 (0.275) | 15.28 (3.01) | 173 (78) | 45 (7) | 57 (14) | 28.81 (97.54) |

MAXIMUM POWER IN SELECTED GEARS

| | | | | | | | | | | |
|--------------------|------------------|-----------------|------|-------|--|----------------|-------------|-----------|------------|------------------|
| 119.68 (89.25) | 17334 (77.11) | 2.59 (4.17) | 2442 | 12.99 | | 4th (1O) Gear | 167 (75) | 38 (3) | 45 (7) | 28.88 (97.80) |
| 130.66 (97.43) | 16611 (73.89) | 2.95 (4.75) | 2398 | 7.64 | | 5th (2D) Gear | 179 (82) | 39 (4) | 50 (10) | 28.70 (97.19) |
| 133.15 (99.29) | 13632 (60.64) | 3.66 (5.89) | 2401 | 4.17 | | 6th (2O) Gear | 182 (83) | 39 (4) | 50 (10) | 28.71 (97.22) |
| 132.48 (98.79) | 11781 (52.40) | 4.22 (6.79) | 2401 | 3.27 | | 7th (3U) Gear | 182 (83) | 38 (3) | 49 (9) | 28.72 (97.26) |
| 135.28 (100.88) | 9875 (43.93) | 5.14 (8.27) | 2402 | 2.68 | | 8th (3D) Gear | 182 (83) | 40 (4) | 52 (11) | 28.68 (97.12) |
| 131.78 (98.27) | 8908 (39.62) | 5.55 (8.93) | 2400 | 2.51 | | 9th (4U) Gear | 183 (84) | 40 (4) | 51 (11) | 28.69 (97.16) |
| 132.33 (98.68) | 8060 (35.85) | 6.16 (9.91) | 2401 | 2.26 | | 10th (3O) Gear | 185 (85) | 40 (4) | 51 (11) | 28.68 (97.12) |
| 132.54 (98.84) | 7516 (33.43) | 6.61 (10.64) | 2401 | 2.09 | | 11th (5U) Gear | 184 (84) | 40 (4) | 51 (11) | 28.68 (97.12) |
| 134.82 (100.54) | 7502 (33.37) | 6.74 (10.85) | 2401 | 2.00 | | 12th (4D) Gear | 182 (83) | 40 (4) | 52 (11) | 28.68 (97.12) |
| 134.00 (99.93) | 6263 (27.86) | 8.02 (12.91) | 2401 | 1.75 | | 13th (5D) Gear | 183 (84) | 40 (4) | 52 (11) | 28.68 (97.12) |

Department of Agricultural Engineering

Dates of Test: November 2-14, 1989

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

FUEL, OIL AND TIME: Fuel No. 2 Diesel
Cetane 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 4.295 gal (16.257 l)
Drained from motor 2.852 gal (10.795 l) Trans-
mission and final drive lubricant Deutz Allis Power
Fluid 821-XL Total time engine was operated 32.0
hours.

ENGINE: Make Klockner-Humboldt-Deutz Ag
Diesel Type six cylinder vertical with turbocharger
and air to air intercooler Serial No. 7650794
Crankshaft lengthwise Rated rpm 2400 Bore and
stroke (as specified) 4.016" × 4.921" (102 mm ×
125 mm) Compression ratio 15.5 to 1 Displace-
ment 374 cu in (6129 ml) Starting system 12 volt
Lubrication pressure Air cleaner two paper ele-
ments and aspirator Oil filter one full flow car-
tridge Oil cooler radiator for crankcase oil, separate
radiators for transmission and powershift oils Fuel
filter two paper cartridges Fuel cooler radiator
for injection pump return fuel Muffler under-
hood Exhaust vertical Cooling medium temper-
ature control air cooled with variable speed fan.

ENGINE OPERATING PARAMETERS: Fuel
rate 62.8-67.2 lb/h (28.5-30.5 kg/h) High idle 2550-
2600 rpm Turbo boost nominal 11.3-13.8 psi (78-
95 kPa) as measured 13.0 psi (90 kPa).

CHASSIS: Type standard with duals Serial No.
9150T-1071 Tread width rear 64" (1626 mm) to
125" (3175 mm) front 67.0" (1700 mm) to 91.0" (2310
mm) Wheel base 120" (3048 mm) Center of gravity
(without operator or ballast, with minimum tread,
with fuel tank filled and tractor serviced for op-
eration) Horizontal distance forward from center-
line of rear wheels 30.4" (773 mm) Vertical distance
above roadway 39.2" (995 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) sec-
ond 2.3 (3.8) third 2.5 (4.1) fourth 2.8 (4.5) fifth
3.1 (4.9) sixth 3.7 (5.9) seventh 4.2 (6.7) eighth 5.1
(8.1) ninth 5.4 (8.8) tenth 6.0 (9.7) eleventh 6.5
(10.4) twelfth 6.6 (10.6) thirteenth 7.8 (12.6) four-
teenth 7.9 (12.7) fifteenth 9.3 (15.0) sixteenth 13.9
(22.4) seventeenth 16.8 (27.1) eighteenth 20.1 (32.4)
reverse 2.2 (3.6), 2.7 (4.4), 3.3 (5.2), 4.8 (7.8), 5.9
(9.5) 7.0 (11.3) Clutch dry disc operated by foot

LUGGING ABILITY IN 8th (3D) GEAR

| | | | | | | |
|----------------------|--------------------|-------------------|-------------------|-------------------|-------------------|------------------|
| Crankshaft Speed rpm | 2402 | 2168 | 1913 | 1688 | 1433 | 1196 |
| Pull—lbs (kN) | 9875 (43.93) | 10610 (47.20) | 11488 (51.10) | 12449 (55.38) | 12838 (57.11) | 11123 (49.48) |
| Increase in Pull % | 0 | 7 | 16 | 26 | 30 | 13 |
| Power—Hp (kW) | 135.28 (100.88) | 130.92 (97.63) | 124.65 (92.95) | 118.83 (88.61) | 103.91 (77.49) | 75.60 (56.38) |
| Speed—Mph (km/h) | 5.14 (8.27) | 4.63 (7.45) | 4.07 (6.55) | 3.58 (5.76) | 3.04 (4.88) | 2.55 (4.10) |
| Slip % | 2.68 | 2.85 | 3.19 | 3.52 | 3.68 | 3.19 |

TRACTOR SOUND LEVEL WITH CAB

| | dB(A) |
|---|-------|
| Maximum Available Power—Two Hours | 75.5 |
| 75% of Pull at Maximum Power—Ten Hours | 76.0 |
| 50% of Pull at Maximum Power—Two Hours | 75.5 |
| 50% of Pull at Reduced Engine Speed—Two Hours | 74.5 |
| Bystander in 18th (6O) gear | 86.5 |

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) | 524 lb (238 kg) | None |
| —Test Equip (each) | 60 lb (27 kg) | None |
| Front Tires | | |
| —No., size, ply & psi (kPa) | Two 14L-16.1; 6; 28 (195) | Two 14L-16.1; 6; 28 (195) |
| Ballast | | |
| —Liquid (each) | None | None |
| —Cast Iron (each) | 187 lb (85 kg) | None |
| Height of Drawbar | 22 in (560 mm) | 22 in (560 mm) |
| Static Weight with Operator—Rear | 14260 lb (6468 kg) | 11925 lb (5409 kg) |
| —Front | 4365 lb (1980 kg) | 3990 lb (1810 kg) |
| —Total | 18625 lb (8448 kg) | 15915 lb (7219 kg) |

pedal **Brakes** wet disc hydraulically power actuated by two foot pedals which can be locked together **Steering** hydrostatic **Turning radius** (on concrete surface with brake applied) right 161" (4.09 m) left 167" (4.24 m) (on concrete surface without brake) right 259" (6.58 m) left 260" (6.60 m) **Turning space diameter** (on concrete surface with brake applied) right 329" (8.36 m) left 341" (8.66 m) (on concrete surface without brake) right 552" (14.02 m) left 549" (13.95 m) **Power take-off** 540 rpm at 2379 engine rpm and 1000 rpm at 2351 engine rpm **Unladen tractor mass** 14285 lb (6480 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 125°F (52°C). Ten gears were chosen between 15% slip and 10 mph (16.1 km/h). 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. 1633, February 8, 1990.

LOUIS I. LEVITICUS

Engineer-in-Charge

K. VON BARGEN

R. D. GRISSE

G. J. HOFFMAN

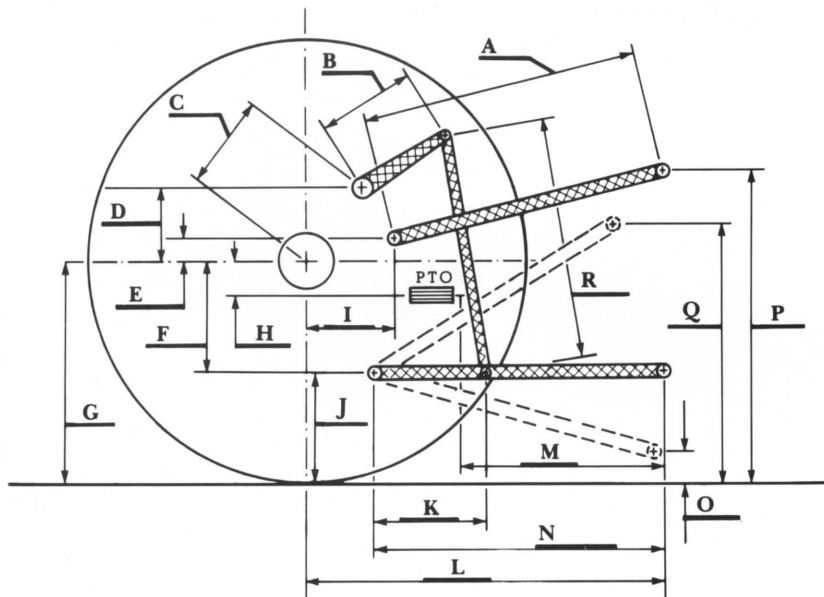
Board of Tractor Test Engineers

THREE POINT HITCH PERFORMANCE

| | |
|--------------------------------------|------------------------|
| Observed Maximum Pressure psi. (kPa) | 2275 (15690) |
| Location | remote outlet |
| Hydraulic oil temperature °F (°C) | 147 (64) |
| Location | hydraulic suction line |

Maximum Lift Capacity with boost cylinder

| | No | | No |
|------------------------------|-------------|--|-------------|
| QUICK ATTACH | III | | III |
| CATEGORY | III | | III |
| LOAD lbs (kg) | 7212 (3271) | | 8544 (3875) |
| TIME sec | 6.36 | | 4.92 |
| HITCH POINT MOVEMENT in (mm) | | | |
| Lowest position | 13.8 (351) | | 13.6 (345) |
| Top of timed range | 40.0 (1016) | | 40.0 (1016) |
| Highest position | 40.2 (1021) | | 40.1 (1019) |
| LOAD CG MOVEMENT in (mm) | | | |
| Lowest position | 14.4 (366) | | 14.2 (361) |
| Top of timed range | 42.1 (1069) | | 42.1 (1069) |
| Highest position | 42.3 (1074) | | 42.2 (1072) |



HITCH DIMENSIONS AS TESTED—NO LOAD

| | inch | mm |
|---|------|------|
| A | 24.9 | 632 |
| B | 16.0 | 406 |
| C | 20.1 | 511 |
| D | 18.6 | 472 |
| E | 10.4 | 263 |
| F | 10.2 | 260 |
| G | 32.5 | 826 |
| H | 1.9 | 48 |
| I | 19.9 | 506 |
| J | 22.3 | 566 |
| K | 21.8 | 553 |
| L | 45.3 | 1151 |
| M | 22.3 | 566 |
| N | 34.8 | 884 |
| O | 8.0 | 203 |
| P | 44.3 | 1125 |
| Q | 36.3 | 922 |
| R | 38.5 | 978 |



Deutz Allis 9150 Diesel

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