

# NEBRASKA TRACTOR TEST 1852 MASSEY FERGUSON 492 DIESEL 12 SPEED

## POWER TAKE-OFF PERFORMANCE

| Power<br>HP<br>(kW)                               | Crank<br>shaft<br>speed<br>rpm | Gal/hr<br>(l/h) | lb/hp.hr<br>(kg/kW.h) | Hp.hr/gal<br>(kW.h/l) | Mean Atmospheric<br>Conditions |
|---|--------------------------------|-----------------|-----------------------|-----------------------|--------------------------------|
| <b>MAXIMUM POWER AND FUEL CONSUMPTION</b>         |                                |                 |                       |                       |                                |
| <b>Rated Engine Speed—(PTO speed—1157 rpm)</b>    |                                |                 |                       |                       |                                |
| 87.61<br>(65.33)                                  | 2200                           | 5.40<br>(20.45) | 0.433<br>(0.263)      | 16.22<br>(3.19)       |                                |
| <b>Maximum Power (1 hour)</b>                     |                                |                 |                       |                       |                                |
| 91.66<br>(68.35)                                  | 2050                           | 5.35<br>(20.25) | 0.410<br>(0.249)      | 17.13<br>(3.38)       |                                |
| <b>Standard Power Take-off Speed - (1000 rpm)</b> |                                |                 |                       |                       |                                |
| 90.37<br>(67.39)                                  | 1901                           | 5.10<br>(19.30) | 0.396<br>(0.241)      | 17.72<br>(3.49)       |                                |

## VARYING POWER AND FUEL CONSUMPTION

|                  |      |                 |                  |                 |                       |
|------------------|------|-----------------|------------------|-----------------|-----------------------|
| 87.61<br>(65.33) | 2200 | 5.40<br>(20.45) | 0.433<br>(0.263) | 16.22<br>(3.19) | Air temperature       |
| 75.38<br>(56.21) | 2231 | 4.81<br>(18.21) | 0.448<br>(0.273) | 15.67<br>(3.09) | 75°F (24°C)           |
| 56.92<br>(42.45) | 2251 | 4.06<br>(15.36) | 0.501<br>(0.305) | 14.03<br>(2.76) | Relative humidity     |
| 38.49<br>(28.70) | 2260 | 3.17<br>(12.02) | 0.579<br>(0.352) | 12.12<br>(2.39) | 78%                   |
| 19.40<br>(14.47) | 2279 | 2.29<br>(8.68)  | 0.830<br>(0.505) | 8.47<br>(1.67)  | Barometer             |
| 1.78<br>(1.32)   | 2289 | 1.57<br>(5.93)  | 6.192<br>(3.766) | 1.13<br>(0.22)  | 28.94" Hg (98.00 kPa) |

Maximum Torque 293 lb.-ft. (397 Nm) at 1298 rpm  
 Maximum Torque Rise - 40.1%  
 Torque rise at 1800 rpm - 24%

## TRACTOR SOUND LEVEL WITH CAB

|                             | Front wheel drive<br>Engaged | Disengaged |
|-----------------------------|------------------------------|------------|
|                             | dB(A)                        | dB(A)      |
| At no load in 6th(3LH) gear | 81.1                         | 80.9       |
| Bystander                   | --                           | --         |

## TIRES AND WEIGHT

**Rear Tires**—No., size, ply & psi (kPa)  
**Front Tires**—No., size, ply & psi (kPa)  
**Height of Drawbar**  
**Static Weight with operator**—Rear  
 —Front  
 —Total

## Tested Without Ballast

Two 18.4-34; 10; 16 (110)  
 Two 14.9-24; 6; 20 (135)  
 20.0 in (510 mm)  
 5060 lb (2295 kg)  
 3500 lb (1588 kg)  
 8560 lb (3883 kg)

**Location of tests:** Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln Nebraska 68583-0832

**Dates of tests:** June 22-23, 2005

**Manufacturer:** AGCO Corporation, 4205 River Green Parkway, Duluth, Georgia 30096

**FUEL, OIL and TIME:** Fuel No. 2 Diesel Specific gravity converted to 60°/60° F (15°/15°C) 0.8437 Fuel weight 7.025 lbs/gal (0.842 kg/l) Oil SAE 15W40 API service classification CE/CF-4 Transmission and hydraulic lubricant AGCO Power Fluid 821 XL fluid Total time engine was operated 8.5 hours

**ENGINE: Make** Perkins Diesel **Type** four cylinder vertical with turbocharger **Serial No.** RG38179\*B503915M\* **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.134" x 5.00" (105.0 mm x 127.0 mm) **Compression ratio** 18.2 to 1 **Displacement** 268 cu in (4400 ml) **Starting system** 12 volt **Lubrication pressure** **Air cleaner** two paper elements **Oil filter** one full flow cartridge **Fuel filter** one paper element and water separator **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** one thermostat

**ENGINE OPERATING PARAMETERS: Fuel rate:** 36.5 - 39.2 lb/h (16.6 - 17.8 kg/h) **High idle:** 2250 - 2350 rpm **Turbo boost:** nominal 10.4-12.5 psi (72 - 86 kPa) as measured 11.4 psi (79 kPa)

**CHASSIS: Type** front wheel assist **Serial No.** 8029BP10184 **Tread width** rear 62.4" (1585 mm) to 85.0" (2160 mm) front 66.7" (1695 mm) to 83.6" (2123 mm) **Wheelbase** 90.2" (2290 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph (km/h)** first 1.50 (2.42) second 1.85 (2.98) third 2.22 (3.57) fourth 2.73 (4.39) fifth 4.19 (6.74) sixth 5.15 (8.28) seventh 6.16 (9.91) eighth 7.57 (12.19) ninth 9.08 (14.61) tenth 11.17 (17.98) eleventh 17.16 (27.61) twelfth 21.07 (33.91) reverse 2.16 (3.47), 2.65 (4.26), 8.82 (14.19), 10.84 (17.45) **Clutch** single dry disc operated by foot pedal **Brakes** multiple wet disc hydraulically operated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 1908 engine rpm or 1000 rpm at 1900 engine rpm **Unladen tractor mass** 8385 lb (3803 kg)

### THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: None

Maximum Force Exerted Through Whole Range: 3682 lbs (16.4 kN)

|  |                       |   |
|--|-----------------------|---|
| i) Opening pressure of relief valve:                               | NA                    | <u>Auxiliary and linkage pumps combined</u> |
| Sustained pressure of the open relief valve:                       | 2630 psi (181 bar)    | 2694 psi (186 bar)                          |
| ii) Pump delivery rate at minimum pressure and rated engine speed: | 10.0 GPM (37.9 l/min) | 17.1 GPM (64.7 l/min)                       |
| iii) Pump delivery rate at maximum hydraulic power:                | 8.9 GPM (33.7 l/min)  | 14.4 GPM (54.5 l/min)                       |
| Delivery pressure:   | 1814 psi (125 bar)    | 1945 psi (134 bar)                          |
| Power:   | 9.4 HP (7.0 kW)       | 16.3 HP (12.2 kW)                           |

### THREE POINT HITCH PERFORMANCE

|                                     |                 |
|-------------------------------------|-----------------|
| Observed Maximum Pressure psi.(bar) | 2950(203)       |
| Location:                           | lift cylinder   |
| Hydraulic oil temperature: °F(°C)   | 149(65)         |
| Location:                           | hydraulic valve |
| Category:                           | II              |
| Quick attach:                       | none            |

SAE Static Test—System pressure 2655 psi (183 Bar)

|  |          |           |           |           |           |
|--|----------|-----------|-----------|-----------|-----------|
| Hitch point distance to ground level in.(mm) | 8.0(203) | 15.0(381) | 22.0(559) | 29.0(737) | 36.0(914) |
| Lift force on frame lb                       | 4199     | 4519      | 4604      | 4465      | 4390      |
| " " " " " " (kN)                             | (18.7)   | (20.1)    | (20.5)    | (19.9)    | (19.5)    |

**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. This tractor did not meet the manufacturer's remote flow claims of 11.2 GPM (42.4 lpm) with auxiliary pump nor 18.5 GPM (70.4 lpm) with both pumps combined. For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 133°F (56°C).

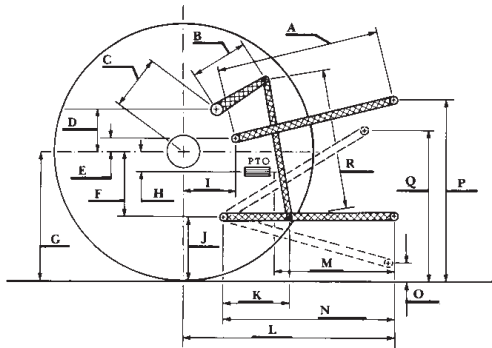
We, the undersigned, certify that this is a true and correct report of official Tractor Test No. 1852, August 19, 2005.

Leonard L. Bashford  
Director

M.F. Kocher  
J.A. Smith  
W.P. Campbell  
Board of Tractor Test Engineers

|   | SAE test |      | OECD test |      |
|---|----------|------|-----------|------|
|   | inch     | mm   | inch      | mm   |
| A | 32.8     | 833  | 33.2      | 843  |
| B | 10.5     | 267  | 10.5      | 267  |
| C | 12.0     | 304  | 12.0      | 304  |
| D | 9.1      | 232  | 9.1       | 232  |
| E | 8.0      | 204  | 8.0       | 204  |
| F | 8.3      | 212  | 8.3       | 212  |
| G | 30.3     | 770  | 30.3      | 770  |
| H | 5.0      | 127  | 5.0       | 127  |
| I | 6.9      | 175  | 6.9       | 175  |
| J | 22.0     | 558  | 22.0      | 558  |
| K | 31.4     | 797  | 31.4      | 797  |
| L | 41.8     | 1062 | 41.8      | 1062 |
| M | 30.0     | 762  | 30.0      | 762  |
| N | 43.2     | 1098 | 43.2      | 1098 |
| O | 8.0      | 203  | 8.0       | 203  |
| P | 41.0     | 1041 | 46.0      | 1168 |
| Q | 36.6     | 930  | 36.6      | 930  |
| R | 29.2     | 742  | 29.2      | 742  |

### HITCH DIMENSIONS AS TESTED - NO LOAD



MASSEY FERGUSON 492 Diesel