NEBRASKA TRACTOR TEST 1851
MASSEY FERGUSON 491 DIESEL
ALSO MASSEY FERGUSON 593 DIESEL
12 SPEED

Location of tests: Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln Nebraska 68583-0832
Dates of tests: May 25-26, 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 10.0 hours

ENGINE: Make Perkins Diesel
Type four cylinder vertical with turbocharger Serial No. RG37828*B503638M*

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: 34.0 - 35.7 lb/h (15.4 - 16.2 kg/h) High idle: 2250 - 2350 rpm Turbo boost: nominal 9.7-11.7 psi (67 - 81 kPa) as measured 10.8 psi (74 kPa)

CHASSIS: Type front wheel assist Serial No. 8027BP11089 Tread width rear 64.0" (1626 mm) to 88.1" (2238 mm) front 66.1" (1680 mm) to 83.5" (2120 mm) Wheelbase 90.2" (2290 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio Nominal travel speeds mph (km/h) first 1.34 (2.16) second 1.65 (2.65) third 1.98 (3.18) fourth 2.43 (3.91) fifth 3.73 (6.00) sixth 4.57 (7.37) seventh 5.49 (8.83) eighth 6.75 (10.86) ninth 8.08 (13.01) tenth 9.94 (16.00) eleventh 15.25 (24.54) twelfth 18.75 (30.17) reverse 1.92 (3.09), 2.36 (3.80), 7.85 (12.63), 9.65 (15.53) 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 1906 engine rpm or 1000 rpm at 1900 engine rpm Unladen tractor mass 7435 lb (3372 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

Auxiliary and linkage pumps combined:
Sustained pressure of the open relief valve: 2445 psi (169 bar)
2580 psi (178 bar)

ii) Pump delivery rate at minimum pressure and rated engine speed:

Pump delivery rate at maximum hydraulic power:

 ochanical rate: 1676 psi (116 bar)

2580 psi (178 bar)

ii) Pump delivery rate at minimum pressure and rated engine speed:

Pump delivery rate at maximum hydraulic power:

3.5 GPM (13.3 l/min)
15.4 GPM (58.3 l/min)

Delivery pressure: 1676 psi (116 bar)

2580 psi (178 bar)

Power: 8.7 HP (6.5 kW)

17.7 HP (13.2 kW)

THREE POINT HITCH PERFORMANCE

Observed maximum pressure psi. (bar)
Hitch point distance to ground level in. (mm)
Lift force on frame lb (kN)

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

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<th>SAE test</th>
<th>OECD test</th>
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<tbody>
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<td>inch</td>
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HITCH DIMENSIONS AS TESTED - NO LOAD

MASSEY FERGUSON 491 Diesel

Institute of Agriculture and Natural Resources
University of Nebraska–Lincoln