January 2007

Test 1912: Case-IH Magnum 275 and MX 275 Diesel 19-Speed

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NEBRASKA OECD TRACTOR TEST 1912–SUMMARY 584
CASE IH MAGNUM 275 DIESEL
ALSO CASE IH MX 275 DIESEL
19 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP *(kW)*	Crank shaft speed rpm	Gal/hr *(l/h)*	lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—1109 rpm)					
227.00 *(169.27)*	2000	14.31 *(54.15)*	0.442 *(0.269)*	15.87 *(3.13)*	
Standard Power Take-off Speed (1000 rpm)					
267.97 *(199.82)*	1803	15.33 *(58.02)*	0.401 *(0.244)*	17.48 *(3.44)*	
Maximum Power (1 hour)					
268.64 *(200.33)*	1750	15.24 *(57.71)*	0.398 *(0.242)*	17.62 *(3.47)*	
VARYING POWER AND FUEL CONSUMPTION					
227.00 *(169.27)*	2000	14.31 *(54.15)*	0.442 *(0.269)*	15.87 *(3.13)*	Air temperature
200.59 *(149.58)*	2077	14.10 *(53.37)*	0.493 *(0.300)*	14.23 *(2.80)*	77°F *(25°C)*
152.91 *(114.03)*	2114	12.31 *(46.62)*	0.564 *(0.343)*	12.42 *(2.45)*	Relative humidity
104.73 *(78.10)*	2165	9.67 *(36.62)*	0.647 *(0.394)*	10.83 *(2.13)*	35%
53.02 *(39.54)*	2208	6.71 *(25.39)*	0.886 *(0.539)*	7.91 *(1.56)*	Barometer
2.07 *(1.55)*	2243	4.11 *(15.56)*	13.896 *(8.453)*	0.50 *(0.10)*	28.77" Hg *(97.43 kPa)*

Maximum torque - 909 lb.-ft. *(1232 Nm)* at 1402 rpm
Maximum torque rise - 52.3%
Torque rise at 1600 engine rpm - 43%
Power increase at 1750 engine rpm - 18.3%

DRAWBAR PERFORMANCE
UNBALLASTED - FRONT DRIVE ENGAGED
FUEL CONSUMPTION CHARACTERISTICS

Power Hp *(kW)*	Drawbar pull lbs *(kN)*	Speed mph *(km/h)*	Crank-shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr *(kg/kW.h)*	Fuel Consumption Hp.hr/gal *(kW.h/l)*	Temp.°F cool-ing med	Temp. *(°C)* Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Power—9th Gear									
192.12 *(143.26)*	12424 *(55.26)*	5.80 *(9.33)*	1998	2.8	0.518 *(0.315)*	13.53 *(2.67)*	191 *(88)*	57 *(14)*	29.04 *(98.34)*
75% of Pull at Maximum Power—9th Gear									
151.59 *(113.04)*	9301 *(41.37)*	6.11 *(9.84)*	2091	2.1	0.615 *(0.374)*	11.39 *(2.24)*	191 *(88)*	59 *(15)*	29.07 *(98.44)*
50% of Pull at Maximum Power—9th Gear									
104.26 *(77.75)*	6194 *(27.55)*	6.31 *(10.16)*	2145	1.4	0.761 *(0.463)*	9.21 *(1.81)*	190 *(88)*	59 *(15)*	29.08 *(98.48)*
75% of Pull at Reduced Engine Speed—11th Gear									
150.98 *(112.58)*	9315 *(41.44)*	6.08 *(9.78)*	1589	2.2	0.502 *(0.305)*	13.97 *(2.75)*	187 *(86)*	59 *(15)*	29.07 *(98.44)*
50% of Pull at Reduced Engine Speed—11th Gear									
104.66 *(78.04)*	6182 *(27.50)*	6.35 *(10.22)*	1642	1.2	0.602 *(0.366)*	11.64 *(2.29)*	187 *(86)*	60 *(16)*	29.09 *(98.51)*

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

Dates of tests: October 30 - November 14, 2007

Manufacturer: CNH America LLC, 700 State St. Racine, Wi. 53404 USA

FUEL, OIL and TIME: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F *(15°/15°C)*** 0.8417 **Fuel weight** 7.008 lbs/gal *(0.840 kg/l)* **Oil SAE** 15W40 **API service classification** CI-4 **Transmission and hydraulic lubricant** Case IH Hy-Tran Ultra fluid **Front axle lubricant** SAE 85W-140 API GL-5 **Total time engine was operated:** 23.0 hours

ENGINE: Make CNH Engine Corporation Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler **Serial No.** *46751025* **Crankshaft** lengthwise **Rated engine speed** 2000 **Bore and stroke** 4.488" x 5.315" *(114.0 mm x 135.0 mm)* **Compression ratio** 17.5 to 1 **Displacement** 505 cu in *(8268 ml)* **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements and aspirator **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil **Fuel filter** two paper elements **Fuel cooler** radiator for pump return fuel **Muffler** vertical **Cooling medium temperature control** 2 thermostats and variable speed fan

ENGINE OPERATING PARAMETERS: Fuel rate: 100.3-110.7 lb/h *(45.5 - 50.2 kg/h)* **High idle:** 2220-2260 rpm **Turbo boost:** nominal 21.0 - 25.4 psi *(145 - 175 kPa)* as measured 22.4 psi *(154 kPa)*

CHASSIS: Type front wheel assist **SerialNo.** *Z7RZ04004* **Tread width** rear 64.0" *(1626 mm)* to 129.0" *(3277 mm)* front 60.0" *(1524 mm)* to 88.0" *(2235 mm)* **Wheelbase** 118.3" *(3005 mm)* **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with full range operator controlled powershift **Nominal travel speeds mph *(km/h)*** first 1.97 *(3.17)* second 2.26 *(3.64)* third 2.60 *(4.19)* fourth 2.99 *(4.81)* fifth 3.43 *(5.52)* sixth 3.93 *(6.33)* seventh 4.59 *(7.38)* eighth 5.26 *(8.47)* ninth 6.06 *(9.77)* tenth 6.96 *(11.20)* eleventh 7.98 *(12.85)* twelfth 9.16 *(14.74)* thirteenth 11.41 *(18.37)* fourteenth 13.09 *(21.07)* fifteenth 15.10 *(24.30)* sixteenth 17.32 *(27.87)* seventeenth 19.87 *(31.97)* eighteenth 22.79 *(36.67)* nineteenth 24.86 *(40.00)* (1750 engine rpm) reverse 2.83 *(4.56)*, 3.26 *(5.24)*, 6.61 *(10.63)*, 7.57 *(12.19)* **Clutch** multiple wet disc electrohydraulically operated by foot pedal **Brakes** wet disc hydraulically operated by two foot pedals that can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 1806 engine rpm or 1000 rpm at 1803 engine rpm **Unladen tractor mass** 21570 lb *(9784 kg)*

DRAWBAR PERFORMANCE

UNBALLASTED - FRONT DRIVE ENGAGED

MAXIMUM POWER IN SELECTED GEARS

Power Hp *(kW)*	Drawbar pull lbs *(kN)*	Speed mph *(km/h)*	Crank-shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Temp.°F *(°C)* cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
					5th Gear				
170.07 *(126.82)*	21071 *(93.73)*	3.03 *(4.87)*	2026	12.0	0.583 *(0.354)*	12.03 *(2.37)*	192 *(89)*	48 *(9)*	29.01 *(98.24)*
					6th Gear				
185.20 *(138.10)*	19805 *(88.10)*	3.51 *(5.64)*	1965	8.2	0.544 *(0.331)*	12.89 *(2.54)*	191 *(88)*	51 *(11)*	29.02 *(98.27)*
					7th Gear				
204.02 *(152.13)*	19135 *(85.12)*	4.00 *(6.43)*	1896	7.2	0.508 *(0.309)*	13.79 *(2.72)*	191 *(88)*	54 *(12)*	29.03 *(98.31)*
					8th Gear				
217.58 *(162.25)*	18628 *(82.86)*	4.38 *(7.05)*	1803	6.8	0.489 *(0.297)*	14.33 *(2.82)*	191 *(88)*	56 *(13)*	29.04 *(98.34)*
					9th Gear				
225.60 *(168.23)*	16953 *(75.41)*	4.99 *(8.03)*	1753	4.9	0.470 *(0.286)*	14.93 *(2.94)*	191 *(88)*	57 *(14)*	29.04 *(98.34)*
					10thGear				
225.39 *(168.07)*	14615 *(65.01)*	5.78 *(9.31)*	1755	3.7	0.469 *(0.285)*	14.95 *(2.95)*	191 *(88)*	57 *(14)*	29.04 *(98.34)*
					11thGear				
228.27 *(170.22)*	12814 *(57.00)*	6.68 *(10.75)*	1760	3.1	0.464 *(0.282)*	15.12 *(2.98)*	191 *(88)*	57 *(14)*	29.05 *(98.37)*
					12thGear				
225.59 *(168.22)*	11010 *(48.97)*	7.68 *(12.37)*	1754	2.5	0.466 *(0.283)*	15.05 *(2.96)*	191 *(88)*	57 *(14)*	29.05 *(98.37)*
					13thGear				
225.60 *(168.23)*	8770 *(39.01)*	9.65 *(15.53)*	1752	1.8	0.465 *(0.283)*	15.07 *(2.97)*	191 *(88)*	58 *(14)*	29.06 *(98.41)*

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 primary fuel filter was maintained at 113°F *(45°C)*. The manufacturer's claims of 59 GPM*(223 lpm)* and 75 GPM*(282 lpm)* remote hydraulic flow were not verified. The performance results on this summary were taken from OECD tests conducted under the Code II Test Code Procedure.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1912**, Nebraska Summary 584, December 17, 2007.

Roger M. Hoy
Director

M.F. Kocher
V.I. Adamchuk
J.A. Smith
Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB	**dB(A)**
At no load in 7th gear	68.4
Bystander in 18th gear	87.9

TIRES, BALLAST AND WEIGHT	**With Ballast**	**Without Ballast**
Rear Tires - No., size, ply & psi *(kPa)*	Four 520/85R42;**;11*(75)*	Two 520/85R42;**;16*(110)*
Ballast - Duals (total)	1950 lb *(885 kg)*	None
- Cast Iron (total)	4005 lb *(1817 kg)*	None
Front Tires - No., size, ply & psi *(kPa)*	Four 420/90R30;**;10*(70)*	Two 420/90R30;**;16*(110)*
Ballast - Duals (total)	1030 lb *(467 kg)*	None
- Cast Iron (total)	1550 lb *(703 kg)*	None
Height of Drawbar	17.5 in *(445 mm)*	17.0 in*(430 mm)*
Static Weight with operator - Rear	18400 lb *(8346 kg)*	13110 lb*(5947 kg)*
- Front	11880 lb *(5389 kg)*	8635 lb*(3916 kg)*
- Total	30280 lb*(13735 kg)*	21745 lb*(9863 kg)*

DRAWBAR PERFORMANCE

BALLASTED - 1750 ENGINE RPM

MAXIMUM POWER IN SELECTED GEARS

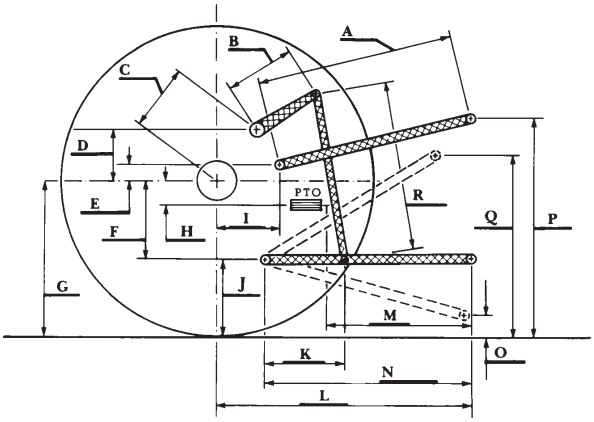
Power Hp *(kW)*	Drawbar pull lbs *(kN)*	Speed mph *(km/h)*	Crank-shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Temp.°F *(°C)* cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
				3rd Gear					
175.12 *(130.59)*	30086 *(133.83)*	2.18 *(3.51)*	1965	14.7	0.574 *(0.349)*	12.21 *(2.41)*	192 *(89)*	42 *(6)*	29.35 *(99.39)*
				4th Gear					
193.90 *(144.59)*	28845 *(128.31)*	2.52 *(4.06)*	1906	10.5	0.533 *(0.324)*	13.16 *(2.59)*	192 *(89)*	43 *(6)*	29.34 *(99.36)*
				5th Gear					
208.16 *(155.23)*	27821 *(123.75)*	2.81 *(4.52)*	1811	8.2	0.511 *(0.311)*	13.71 *(2.70)*	193 *(89)*	43 *(6)*	29.34 *(99.36)*
				6th Gear					
218.46 *(162.91)*	25573 *(113.75)*	3.20 *(5.16)*	1756	5.6	0.486 *(0.296)*	14.41 *(2.84)*	193 *(89)*	43 *(6)*	29.33 *(99.32)*
				7th Gear					
225.49 *(168.15)*	22229 *(98.88)*	3.80 *(6.12)*	1756	4.2	0.469 *(0.286)*	14.93 *(2.94)*	192 *(89)*	43 *(6)*	29.33 *(99.32)*
				8th Gear					
228.43 *(170.34)*	19430 *(86.43)*	4.41 *(7.10)*	1758	3.2	0.462 *(0.281)*	15.18 *(2.99)*	192 *(89)*	43 *(6)*	29.32 *(99.29)*
				9th Gear					
230.60 *(171.96)*	16892 *(75.14)*	5.12 *(8.24)*	1763	2.8	0.459 *(0.280)*	15.25 *(3.00)*	192 *(89)*	44 *(7)*	29.30 *(99.22)*
				10th Gear					
230.60 *(171.96)*	14759 *(65.65)*	5.86 *(9.43)*	1752	2.3	0.457 *(0.278)*	15.32 *(3.02)*	192 *(89)*	45 *(7)*	29.30 *(99.22)*
				11th Gear					
226.43 *(168.85)*	12575 *(55.94)*	6.75 *(10.87)*	1754	2.0	0.464 *(0.283)*	15.09 *(2.97)*	191 *(88)*	45 *(7)*	29.28 *(99.15)*
				12th Gear					
224.62 *(167.50)*	10819 *(48.12)*	7.79 *(12.53)*	1758	1.7	0.469 *(0.285)*	14.96 *(2.95)*	191 *(88)*	45 *(7)*	29.27 *(99.12)*
				13th Gear					
220.18 *(164.18)*	8505 *(37.83)*	9.71 *(15.62)*	1757	1.3	0.487 *(0.296)*	14.40 *(2.84)*	192 *(89)*	46 *(8)*	29.26 *(99.09)*

THREE POINT HITCH PERFORMANCE(OECD Static Test)

CATEGORY: III
Quick Attach: Yes

		High Lift Option
Maximum force exerted through whole range:	15183 lb *(67.5 kN)*	17931 lb *(79.8 kN)*
	38.6 GPM pump	44.0 GPM pump
i) Sustained pressure at compensator cutoff:	3128 psi *(216 bar)*	3183 psi *(219 bar)*
ii) Pump delivery rate at minimum pressure and rated engine speed:	39.2 GPM *(148.4 l/min)*	44.0 GPM *(166.6 l/mn)*
iii) Pump delivery rate at maximum hydraulic power:	38.3 GPM *(145.0 l/min)*	42.3 GPM *(160.1 l/min)*
Delivery pressure:	2853 psi *(197 bar)*	3005 psi *(207 bar)*
Power:	63.8 HP *(47.5 kW)*	74.2 Hp *(55.3 kW)*

HITCH DIMENSIONS AS TESTED—NO LOAD



	inch	*mm*
A	28.2	*718*
B	20.5	*520*
C	22.9	*581*
D	20.7	*525*
E	10.5	*266*
F	15.7	*400*
G	36.4	*925*
H	3.5	*90*
I	20.9	*530*
J	20.7	*525*
K	30.2	*768*
L	46.1	*1170*
*L'	50.7	*1287*
M	20.1	*511*
N	38.2	*970*
O	9.0	*230*
P	47.6	*1210*
Q	40.7	*1035*
R	39.2	*995*

*L' to Quick Attach ends

CASE IH MAGNUM 275 DIESEL

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