

NEBRASKA OECD TRACTOR TEST 2121-SUMMARY 981

CASE IH MAGNUM 240 DIESEL

CONTINUOUSLY VARIABLE TRANSMISSION

CHASSIS SERIAL NUMBERS ZERH02500 AND HIGHER

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Diesel Consumption		D.E.F. Consumption		Mean Atmospheric Conditions
		Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Gal/hr (l/h)	
MAXIMUM POWER AND FUEL CONSUMPTION						
Rated Engine Speed—(PTO speed—1110 rpm)						
207.13 (154.46)	2101	11.78 (44.58)	0.398 (0.242)	17.59 (3.46)	0.76 (2.88)	
Standard Power Take-off Speed (1000 rpm)						
223.10 (166.36)	1893	12.12 (45.89)	0.381 (0.232)	18.40 (3.63)	0.77 (2.91)	
Maximum Power (1 hour)						
224.92 (167.72)	1800	12.05 (45.62)	0.375 (0.228)	18.66 (3.68)	0.78 (2.97)	

VARYING POWER AND FUEL CONSUMPTION

207.13 (154.46)	2101	11.78 (44.58)	0.398 (0.242)	17.59 (3.46)	0.76 (2.88)	Air temperature
182.95 (136.43)	2184	10.79 (40.83)	0.413 (0.251)	16.96 (3.34)	0.68 (2.56)	73°F (23°C)
138.23 (103.08)	2197	8.69 (32.91)	0.441 (0.268)	15.90 (3.13)	0.53 (2.01)	Relative humidity
92.80 (69.20)	2210	6.60 (24.99)	0.498 (0.303)	14.06 (2.77)	0.37 (1.38)	59%
46.79 (34.89)	2222	4.67 (17.69)	0.700 (0.426)	10.01 (1.97)	0.21 (0.81)	Barometer
1.57 (1.17)	2233	2.83 (10.73)	12.686 (7.716)	0.55 (0.11)	0.10 (0.39)	28.66" Hg (97.04 kPa)

Maximum torque - 725 lb.-ft. (982 Nm) at 1501 rpm

Maximum torque rise - 39.9%

Torque rise at 1681 engine rpm - 34%

Power increase at 1800 engine rpm - 8.6%

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)	D.E.F. Consumption Hp.hr/gal (kW.h/l)	Temp. °F(°C)	Barom. inch Hg (kPa)
Maximum Power—5.6 mph (9.0 km/h)-Manual mode								
186.70 (139.22)	12878 (57.28)	5.44 (8.75)	2100	3.6	0.444 (0.270)	15.79 (3.11)	187 (86)	43 (6)
75% of Pull at Maximum Power—5.6 mph (9.0 km/h)-Manual mode								
143.06 (106.68)	9594 (42.68)	5.59 (9.00)	2247	2.4	0.477 (0.290)	14.70 (2.90)	187 (86)	48 (9)
50% of Pull at Maximum Power—5.6 mph (10.0 km/h)-Manual mode								
96.22 (71.75)	6396 (28.45)	5.64 (9.08)	2272	1.5	0.537 (0.326)	13.06 (2.57)	187 (86)	49 (9)
75% of Pull at Reduced Engine Speed—Auto mode								
142.31 (106.12)	9603 (42.71)	5.56 (8.95)	1296	2.5	0.403 (0.245)	17.37 (3.42)	184 (84)	48 (9)
50% of Pull at Reduced Engine Speed—Auto mode								
96.25 (71.77)	6425 (28.58)	5.62 (9.04)	1159	1.6	0.429 (0.261)	16.35 (3.22)	183 (84)	48 (9)

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

Dates of tests: May 14 to June 8, 2015

Manufacturer: CNH Industrial LLC, 700 State St. Racine, WI. 53404 USA

CONSUMABLE Fluids, OIL and TIME: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.8415 **Fuel weight** 7.007 lbs/gal (0.840 kg/l) **Diesel Exhaust Fluid (DEF)** 32% aqueous urea solution **DEF weight** 9.071 lbs/gal (1.087 kg/l) **Oil SAE 10W40 API service classification CJ-4** **Transmission and hydraulic lubricant** Case IH Akcela Hy-tran Ultraction fluid **Front axle lubricant** SAE 85W-140 API GL-5 **Total time engine was operated:** 24.5 hours

ENGINE: Make F.P.T. Diesel **Type** six cylinder vertical with turbocharger, air to air intercooler and D.E.F. (diesel exhaust fluid) exhaust treatment. **Serial No.** *001217343* **Crankshaft** lengthwise **Rated engine speed** 2100 **Bore and stroke** 4.094" x 5.197" (104.0 mm x 132.0 mm) **Compression ratio** 17.5 to 1 **Displacement** 410 cu in (6728 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 **Exhaust** DOC (diesel oxidation catalyst) and SCR (selective catalyst reduction) integrated within a vertical muffler **Cooling medium temperature control** 2 thermostats and variable speed fan

ENGINE OPERATING PARAMETERS: Fuel rate: 79.1 - 84.0 lb/h (35.9 - 38.1 kg/h) **High idle:** 2280 - 2330 rpm, 2200-2250 rpm (PTO engaged) **Turbo boost:** nominal 21.8 - 24.7 psi (150 - 170 kPa) as measured 22.0 psi (152 kPa)

CHASSIS: Type front wheel assist **Serial No.** *ZERH05070* **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** Infinitely variable with two mechanical ranges and automatic shifting between ranges. **Nominal travel speeds mph (km/h)** forward - 0-25.0 mph (0-40 km/h), reverse - 0-25.0 mph (0-40 km/h) **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 1950 engine rpm or 1000 rpm at 1892 engine rpm **Unladen tractor mass** 22305 lb (10117 kg)

DRAWBAR PERFORMANCE
UNBALLASTED - FRONT DRIVE ENGAGED
MANUAL MODE - 2100 ENGINE RPM
DRAWBAR POWER AT SELECTED TRAVEL SPEED SETTINGS

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)	D.E.F. Consumption lb/hp.hr (kg/kW.h)	Temp.°F(°C) cool- ing med bulb	Air dry bulb	Barom. inch Hg (kPa)
3.1 mph (5.0 km/h)										
155.10 (115.66)	22274 (99.08)	2.62 (4.21)	2104	14.2	0.535 (0.326)	13.09 (2.58)	0.053 (0.032)	187 (86)	51 (10)	29.02 (98.27)
3.7 mph (6.0 km/h)										
174.46 (130.09)	19427 (86.42)	3.37 (5.42)	2100	7.6	0.475 (0.289)	14.76 (2.91)	0.048 (0.029)	187 (86)	56 (14)	29.01 (98.24)
4.2 mph (6.8 km/h)										
180.72 (134.76)	16917 (75.25)	4.01 (6.45)	2100	5.4	0.459 (0.279)	15.27 (3.01)	0.045 (0.027)	186 (86)	48 (9)	29.07 (98.44)
4.7 mph (7.5 km/h)										
184.93 (137.90)	15473 (68.83)	4.48 (7.21)	2100	4.5	0.448 (0.273)	15.63 (3.08)	0.045 (0.027)	188 (86)	43 (6)	29.08 (98.48)
5.0 mph (8.0 km/h)										
185.31 (138.19)	14456 (64.30)	4.81 (7.74)	2100	4.0	0.449 (0.273)	15.59 (3.07)	0.042 (0.026)	188 (87)	43 (6)	29.08 (98.48)
5.6 mph (9.0 km/h)										
186.70 (139.22)	12878 (57.28)	5.44 (8.75)	2100	3.6	0.444 (0.270)	15.79 (3.11)	0.044 (0.027)	187 (86)	43 (6)	29.09 (98.51)
6.2 mph (10.0 km/h)										
186.45 (139.03)	11519 (51.24)	6.07 (9.77)	2099	3.0	0.443 (0.269)	15.83 (3.12)	0.043 (0.026)	187 (86)	44 (7)	29.10 (98.54)
6.8 mph (11.0 km/h)										
184.37 (137.48)	10313 (45.87)	6.71 (10.79)	2100	2.7	0.447 (0.272)	15.68 (3.09)	0.043 (0.026)	187 (86)	44 (6)	29.10 (98.54)
7.5 mph (12.0 km/h)										
182.70 (136.24)	9338 (41.54)	7.34 (11.81)	2100	2.3	0.451 (0.275)	15.52 (3.06)	0.043 (0.026)	187 (86)	44 (7)	29.10 (98.54)
8.2 mph (13.2 km/h)										
187.43 (139.76)	8683 (38.62)	8.10 (13.03)	2100	2.1	0.440 (0.268)	15.92 (3.14)	0.042 (0.026)	186 (86)	44 (7)	29.08 (98.48)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

Note: The performance figures on this report apply to tractors with chassis serial numbers ZERH02500 and higher.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. The manufacturer's 3 point lift claim of 13600 lbs (6170 kg) without Quick Coupler was not verified. The performance results on this summary were taken from a test conducted under the OECD Code 2 test procedure.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **2121**, Nebraska Summary 981, December 20, 2015.

Roger M. Hoy
Director

M.F. Kocher
J.D. Luck
P.J. Jasa
Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
At no load at 4.6 mph (7.5 km/h) engine speed - 2220 rpm	64.2	64.1
At no load at 4.6 mph (7.5 km/h) engine speed - 1070 rpm	61.6	61.3
Bystander		82.9

TIRES, BALLAST AND WEIGHT

	With Ballast	Without Ballast
Rear Tires -No., size, ply & psi (kPa)	Four 480/80R46;**,12(85)	Two 480/80R46;**,18(125)
Ballast - Duals (total)	2115 lb (959 kg)	None
- Cast Iron (total)	2585 lb (1173 kg)	None
Front Tires -No., size, ply & psi (kPa)	Two 420/90R30;**,20(135)	Two 420/90R30;**,18(125)
Ballast - Liquid (total)	None	None
- Cast Iron (total)	None	None
Height of Drawbar	20.0 in (510 mm)	20.5 in (520 mm)
Static Weight with operator - Rear	17205 lb (7804 kg)	12505 lb (5672 kg)
- Front	9975 lb (4525 kg)	9975 lb (4525 kg)
- Total	27180 lb(12329 kg)	22480 lb(10197 kg)

DRAWBAR PERFORMANCE
UNBALLASTED - FRONT DRIVE ENGAGED

AUTOMATIC MODE(Loads based on 2100 engine rpm manual mode performance runs)

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption		D.E.F. Consumption	Temp. ^o F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
					lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	lb/hp.hr (kg/kW.h)			
3.1 mph (5.0 km/h)										
157.49 (117.44)	21661 (96.35)	2.73 (4.39)	1517	14.3	0.474 (0.288)	14.78 (2.91)	0.051 (0.031)	186 (85)	53 (12)	29.02 (98.27)
3.6 mph (5.8 km/h)										
173.95 (129.71)	19282 (85.77)	3.39 (5.45)	1529	8.3	0.432 (0.263)	16.22 (3.19)	0.046 (0.028)	186 (85)	58 (14)	29.00 (98.21)
4.2 mph (6.8 km/h)										
180.55 (134.63)	16706 (74.31)	4.05 (6.52)	1520	5.6	0.420 (0.256)	16.68 (3.29)	0.044 (0.027)	185 (85)	47 (9)	29.08 (98.48)
4.7 mph (7.5 km/h)										
184.97 (137.93)	15306 (68.08)	4.53 (7.29)	1534	4.6	0.416 (0.253)	16.86 (3.32)	0.045 (0.027)	186 (85)	43 (6)	29.09 (98.51)
5.0 mph (8.0 km/h)										
185.18 (138.08)	14302 (63.62)	4.86 (7.81)	1546	4.0	0.415 (0.252)	16.88 (3.33)	0.044 (0.027)	186 (86)	43 (6)	29.09 (98.51)
5.6 mph (9.0 km/h)										
186.18 (138.83)	12695 (56.47)	5.50 (8.85)	1624	3.6	0.417 (0.254)	16.79 (3.31)	0.044 (0.027)	185 (85)	43 (6)	29.09 (98.51)
6.2 mph (10.0 km/h)										
186.48 (139.05)	11402 (50.72)	6.13 (9.87)	1563	3.0	0.407 (0.247)	17.24 (3.40)	0.043 (0.026)	186 (85)	44 (7)	29.10 (98.54)
6.8 mph (11.0 km/h)										
184.23 (137.38)	10181 (45.29)	6.79 (10.92)	1503	2.6	0.398 (0.242)	17.63 (3.47)	0.044 (0.027)	186 (85)	44 (7)	29.10 (98.54)
7.5 mph (12.0 km/h)										
182.37 (135.99)	9207 (40.95)	7.43 (11.96)	1516	2.3	0.396 (0.241)	17.69 (3.49)	0.042 (0.026)	185 (85)	45 (7)	29.09 (98.51)
8.2 mph (13.2 km/h)										
187.41 (139.75)	8578 (38.16)	8.20 (13.19)	1584	2.1	0.401 (0.244)	17.47 (3.44)	0.042 (0.025)	185 (85)	45 (7)	29.09 (98.51)

DRAWBAR PERFORMANCE
UNBALLASTED - FRONT DRIVE ENGAGED

MANUAL MODE - 1800 ENGINE RPM
DRAWBAR POWER AT SELECTED TRAVEL SPEED SETTINGS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Consumption Hp.hr/gal (kW.h/l)	D.E.F. Consumption lb/hp.hr (kg/kW.h)	Temp.°F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
3.1 mph (5.0 km/h)										
156.54 (116.73)	22302 (99.20)	2.63 (4.23)	2103	13.4	0.531 (0.323)	13.19 (2.60)	0.051 (0.031)	188 (86)	50 (10)	29.02 (98.27)
3.7 mph (6.0 km/h)										
176.51 (131.62)	20315 (90.37)	3.26 (5.25)	2052	8.5	0.476 (0.289)	14.73 (2.90)	0.048 (0.029)	187 (86)	56 (13)	29.02 (98.27)
4.2 mph (6.8 km/h)										
182.77 (136.29)	19456 (86.54)	3.53 (5.67)	1943	7.8	0.466 (0.283)	15.05 (2.96)	0.046 (0.028)	187 (86)	58 (15)	29.00 (98.21)
4.7 mph (7.5 km/h)										
190.16 (141.80)	18156 (80.76)	3.93 (6.32)	1936	6.5	0.450 (0.274)	15.57 (3.07)	0.047 (0.028)	186 (86)	49 (9)	29.07 (98.44)
5.0 mph (8.0 km/h)										
193.37 (144.19)	17421 (77.49)	4.17 (6.70)	1912	5.9	0.442 (0.269)	15.84 (3.12)	0.047 (0.028)	187 (86)	48 (9)	29.06 (98.41)
5.6 mph (9.0 km/h)										
197.10 (146.98)	16343 (72.70)	4.53 (7.28)	1833	5.2	0.430 (0.261)	16.30 (3.21)	0.043 (0.026)	187 (86)	48 (9)	29.06 (98.41)
6.2 mph (10.0 km/h)										
198.83 (148.27)	15075 (67.05)	4.95 (7.97)	1799	4.5	0.425 (0.258)	16.50 (3.25)	0.043 (0.026)	186 (86)	46 (8)	29.10 (98.54)
6.8 mph (11.0 km/h)										
199.55 (148.80)	13661 (60.76)	5.48 (8.82)	1800	4.0	0.425 (0.258)	16.51 (3.25)	0.042 (0.026)	186 (86)	46 (8)	29.10 (98.54)
7.5 mph (12.0 km/h)										
199.33 (148.64)	12379 (55.06)	6.04 (9.72)	1800	3.3	0.423 (0.257)	16.56 (3.26)	0.043 (0.026)	186 (86)	46 (8)	29.10 (98.54)
8.2 mph (13.2 km/h)										
202.50 (151.00)	11383 (50.63)	6.67 (10.73)	1800	3.1	0.417 (0.254)	16.79 (3.31)	0.041 (0.025)	186 (86)	45 (7)	29.10 (98.54)
8.9 mph (14.4 km/h)										
204.87 (152.77)	10524 (46.81)	7.30 (11.75)	1800	2.7	0.413 (0.251)	16.97 (3.34)	0.040 (0.025)	186 (85)	46 (8)	29.10 (98.54)
9.9 mph (16.0 km/h)										
207.15 (154.47)	9549 (42.47)	8.14 (13.09)	1800	2.4	0.408 (0.248)	17.19 (3.39)	0.040 (0.024)	186 (86)	46 (8)	29.09 (98.51)

DRAWBAR PERFORMANCE

BALLASTED - FRONT DRIVE ENGAGED

MANUAL MODE - 1800 ENGINE RPM

DRAWBAR POWER AT SELECTED TRAVEL SPEED SETTINGS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/lp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	D.E.F. Consumption lb/lp.hr (kg/kW.h)	Temp.°F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
2.4mph(3.8 km/h)										
141.84 (105.77)	26561 (118.15)	2.01 (3.23)	2087	12.8	0.583 (0.355)	12.01 (2.37)	0.052 (0.031)	188 (86)	62 (17)	28.79 (97.49)
3.1mph(5.0 km/h)										
169.34 (126.28)	25130 (111.78)	2.53 (4.07)	1924	9.2	0.504 (0.306)	13.91 (2.74)	0.048 (0.029)	188 (86)	64 (18)	28.79 (97.49)
3.7mph(6.0 km/h)										
182.29 (135.93)	23670 (105.29)	2.89 (4.65)	1800	7.5	0.463 (0.282)	15.13 (2.98)	0.044 (0.027)	188 (86)	65 (18)	28.79 (97.49)
4.2mph(6.8 km/h)										
184.95 (137.91)	20781 (92.44)	3.34 (5.38)	1800	5.8	0.456 (0.277)	15.36 (3.03)	0.043 (0.026)	187 (86)	66 (19)	28.79 (97.49)
4.7mph(7.5 km/h)										
190.42 (142.00)	19258 (85.66)	3.71 (5.97)	1800	5.0	0.444 (0.270)	15.79 (3.11)	0.042 (0.025)	188 (86)	68 (20)	28.81 (97.56)
5.0mph(8.0 km/h)										
193.16 (144.04)	18243 (81.15)	3.97 (6.39)	1800	4.6	0.437 (0.266)	16.02 (3.16)	0.041 (0.025)	187 (86)	69 (21)	28.80 (97.53)
5.6mph(9.0 km/h)										
196.52 (146.54)	16388 (72.90)	4.50 (7.24)	1800	4.0	0.429 (0.261)	16.32 (3.21)	0.040 (0.024)	187 (86)	70 (21)	28.80 (97.53)
6.2mph(10.0 km/h)										
197.48 (147.26)	14747 (65.60)	5.02 (8.08)	1801	3.7	0.426 (0.259)	16.43 (3.24)	0.039 (0.024)	187 (86)	71 (22)	28.80 (97.53)
6.8mph(11.0 km/h)										
197.40 (147.20)	13348 (59.37)	5.55 (8.93)	1800	3.2	0.427 (0.260)	16.41 (3.23)	0.040 (0.024)	187 (86)	72 (22)	28.80 (97.53)
7.5mph(12.0 km/h)										
196.53 (146.53)	12139 (53.99)	6.07 (9.77)	1800	2.7	0.431 (0.262)	16.28 (3.21)	0.039 (0.024)	188 (86)	73 (23)	28.79 (97.49)
8.2mph(13.2 km/h)										
199.43 (148.71)	11160 (49.64)	6.70 (10.78)	1801	2.5	0.423 (0.257)	16.57 (3.26)	0.039 (0.024)	188 (87)	74 (23)	28.80 (97.53)
8.9mph(14.4 km/h)										
201.22 (150.05)	10297 (45.80)	7.33 (11.80)	1801	2.3	0.419 (0.255)	16.73 (3.30)	0.039 (0.024)	188 (87)	75 (24)	28.80 (97.53)
9.9mph(16.0 km/h)										
202.98 (151.36)	9324 (41.47)	8.16 (13.13)	1801	2.0	0.415 (0.252)	16.89 (3.33)	0.038 (0.023)	189 (87)	75 (24)	28.80 (97.53)

HYDRAULIC PERFORMANCE

CATEGORY: IHN

Quick Attach: Yes

OECD Static test

Maximum force exerted through whole range: 14269 lbs (63.5 kN) (110 mm cylinders w/QA)

two outlet sets combined

i) Sustained pressure at compensator cutoff: 2872 psi (198 bar)

ii) Pump delivery rate at minimum pressure
and rated engine speed: 42.0 GPM (159.0 l/min)
at 2200 engine rpm: 43.9 GPM (166.0 l/min)

iii) Pump delivery rate at maximum
hydraulic power: 40.4 GPM (152.9 l/min)
Delivery pressure: 2526 psi (172 bar)
Power: 59.5 HP (44.4 kW)

i) Sustained pressure at compensator cutoff: 2871 psi (198 bar)

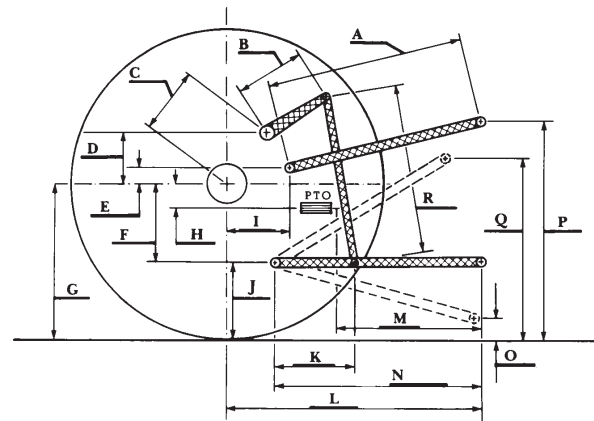
ii) Pump delivery rate at minimum pressure
and rated engine speed: 41.8 GPM (158.1 l/min)
at 2200 engine rpm: 42.8 GPM (161.9 l/min)

iii) Pump delivery rate at maximum
hydraulic power: 39.9 GPM (151.0 l/min)
Delivery pressure: 2108 psi (145 bar)
Power: 49.1 HP (36.6 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	26.8	680
B	17.9	454
C	15.1	383
D	14.6	372
E	10.9	277
F	10.6	270
G	36.4	925
H	2.8	71
I	19.7	500
J	25.8	655
K	26.9	682
L	48.1	1223
*L'	53.1	1349
M	22.4	570
N	38.3	974
O	9.1	230
P	52.6	1335
Q	37.7	957
R	37.7	957

*L' to Quick Attach ends



CASE IH MAGNUM 240 DIESEL