

# NEBRASKA OECD TRACTOR TEST 2000—SUMMARY 783

## JOHN DEERE 8360RT DIESEL

### INFINITELY VARIABLE TRANSMISSION

#### 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
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed—(PTO speed—1050 rpm)</b>					
305.42 (227.75)	2100	17.20 (65.11)	0.394 (0.240)	17.76 (3.50)	
<b>Standard Power Take-off Speed(1001 rpm)</b>					
330.90 (246.75)	2000	18.29 (69.22)	0.387 (0.235)	18.10 (3.56)	
<b>Maximum Power (1 hour)</b>					
339.86 (253.44)	1800	18.74 (70.95)	0.386 (0.235)	18.13 (3.57)	

#### VARYING POWER AND FUEL CONSUMPTION

305.42 (227.75)	2100	17.20 (65.11)	0.394 (0.240)	17.76 (3.50)	Air temperature
266.58 (198.79)	2154	15.27 (57.82)	0.401 (0.244)	17.45 (3.44)	76°F (25°C)
200.66 (149.63)	2165	12.23 (46.31)	0.427 (0.260)	16.40 (3.23)	Relative humidity
134.08 (99.98)	2175	9.29 (35.17)	0.485 (0.295)	14.43 (2.84)	39%
67.70 (50.48)	2185	6.49 (24.58)	0.672 (0.409)	10.43 (2.05)	Barometer
5.43 (4.05)	2195	4.66 (17.63)	6.005 (3.653)	1.17 (0.23)	29.08" Hg(98.47kPa)

Maximum torque - 1091 lb.-ft. (1479 Nm) at 1600 rpm  
 Maximum torque rise - 42.8%  
 Torque rise at 1700 engine rpm - 36%  
 Power increase at 1800 rpm - 11.3%

#### DRAWBAR PERFORMANCE (Unballasted)

##### 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)	Hp.hr/gal (kW.h/l)	Temp.°F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
<b>Maximum Power—4.7 mph (7.6 km/h)</b>									
256.60 (191.34)	21827 (97.09)	4.41 (7.10)	2100	3.6	0.472 (0.287)	14.83 (2.92)	216 (102)	71 (22)	28.93 (97.96)
<b>75% of Pull at Maximum Power—4.7 mph (7.6 km/h)</b>									
201.52 (150.27)	16362 (72.78)	4.62 (7.44)	2158	1.7	0.494 (0.300)	14.18 (2.79)	210 (99)	70 (21)	28.91 (97.90)
<b>50% of Pull at Maximum Power—4.7 mph (7.6 km/h)</b>									
136.46 (101.75)	10917 (48.56)	4.69 (7.54)	2170	0.8	0.560 (0.341)	12.51 (2.46)	199 (93)	69 (21)	28.91 (97.90)
<b>75% of Pull at Reduced Engine Speed—Auto mode</b>									
201.29 (150.10)	16385 (72.88)	4.61 (7.41)	1760	1.6	0.463 (0.282)	15.13 (2.98)	212 (100)	70 (21)	28.91 (97.90)
<b>50% of Pull at Reduced Engine Speed—Auto mode</b>									
135.66 (101.16)	10953 (48.72)	4.65 (7.48)	1416	0.8	0.474 (0.288)	14.78 (2.91)	205 (96)	69 (21)	28.90 (97.87)

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

**Dates of tests:** September 8-27, 2011

**Manufacturer:** John Deere Tractor Works, 3500 East Donald St., P.O. Box 270, Waterloo Ia, 50704-0270

**FUEL, OIL and TIME:** Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8411 Fuel weight 7.003 lbs/gal (0.840 kg/l) Oil SAE 15W-40 API service classification CI-4 Transmission and hydraulic lubricant John Deere Hy-Gard fluid Total time engine was operated: 38.0 hours

**ENGINE:** Make John Deere Diesel Type six cylinder vertical with two turbochargers and air to air aftercooler Serial No.\*RG6090R002447\* Crankshaft lengthwise Rated engine speed 2100 Bore and stroke 4.661" x 5.354" (118.4 mm x 136.0 mm) Compression ratio 16.0 to 1 Displacement 548 cu in (8984 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 one paper element and water separator Fuel cooler radiator for pump return fuel Exhaust regenerative particulate filter integrated within a vertical muffler Cooling medium temperature control 2 thermostats and variable speed fan

**ENGINE OPERATING PARAMETERS:** Fuel rate: 118.8 - 128.8 lb/h (53.9 - 58.4 kg/h) High idle: 2150 - 2250 rpm Turbo boost: nominal 33.4 - 36.3 psi (230 - 250 kPa) as measured 34.1 psi (235 kPa)

**CHASSIS:** Type tracklayer-rubber tracked Serial No.\*1RW8360RABD905504\* Track width 76.0" (1930 mm) to 120.0" (3048 mm) Length of track on ground 99.0" (2515 mm) Hydraulic control system direct engine drive Transmission Infinitely variable with four mechanical ranges and automatic shifting between ranges. Nominal travel speeds mph (km/h) forward - 0 - 26.1 mph, (0 - 42 km/h) reverse - 0 - 11.8 mph (0 - 19 km/h) Clutch a foot pedal controls the hydrostatic oil flow Brakes wet multiple disc hydraulically actuated by foot pedal Steering electro-hydraulic differential steering controlled by steering wheel Power take-off 1000 rpm at 2000 engine rpm Unladen tractor mass 35605 lb (16150 kg)

## DRAWBAR PERFORMANCE

### UNBALLASTED - 2100 RPM MAXIMUM POWER AT SELECTED 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)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
217.23 (161.98)	35309 (157.06)	2.31 (3.72)	2111	13.5	2.7 mph (4.4 km/h) 0.555 (0.337)		205 (96)	61 (16)	29.08 (98.48)
232.64 (173.48)	32108 (142.82)	2.72 (4.37)	2100	9.9	3.1 mph (5.0 km/h) 0.523 (0.318)		214 (101)	64 (18)	28.93 (97.97)
240.83 (179.58)	28970 (128.86)	3.12 (5.02)	2100	7.5	3.5 mph (5.6 km/h) 0.505 (0.307)		211 (99)	67 (19)	28.95 (98.04)
247.00 (184.18)	26285 (116.92)	3.53 (5.67)	2100	5.6	3.9 mph (6.2 km/h) 0.492 (0.299)		216 (102)	66 (19)	28.94 (98.00)
253.45 (188.99)	23538 (104.70)	4.04 (6.49)	2100	4.2	4.3 mph (7.0 km/h) 0.479 (0.292)		215 (101)	68 (20)	28.94 (98.00)
256.60 (191.34)	21827 (97.09)	4.41 (7.10)	2100	3.6	4.7 mph (7.6 km/h) 0.472 (0.287)		216 (102)	71 (22)	28.93 (97.97)
256.07 (190.95)	20046 (89.17)	4.79 (7.71)	2100	2.9	5.1 mph (8.2 km/h) 0.473 (0.288)		216 (102)	72 (22)	28.92 (97.93)
257.17 (191.77)	18218 (81.04)	5.30 (8.52)	2099	2.3	5.6 mph (9.0 km/h) 0.470 (0.286)		215 (102)	70 (21)	28.91 (97.90)
256.08 (190.96)	16229 (72.19)	5.92 (9.53)	2100	1.8	6.2 mph (10.0 km/h) 0.472 (0.287)		213 (100)	61 (16)	29.09 (98.51)
252.06 (187.96)	14479 (64.40)	6.53 (10.50)	2099	1.4	6.8 mph (11.0 km/h) 0.482 (0.293)		214 (101)	62 (17)	29.09 (98.51)
251.99 (187.91)	13212 (58.77)	7.15 (11.51)	2100	1.2	7.5 mph (12.0 km/h) 0.479 (0.291)		215 (102)	63 (17)	29.10 (98.54)
247.96 (184.90)	12005 (53.40)	7.75 (12.47)	2100	1.0	8.1 mph (13.0 km/h) 0.487 (0.297)		215 (102)	61 (16)	29.10 (98.54)
245.60 (183.14)	11009 (48.97)	8.37 (13.46)	2100	0.8	8.7 mph (14.0 km/h) 0.490 (0.298)		214 (101)	62 (16)	29.09 (98.51)

### TRACTOR SOUND LEVEL WITH CAB dB(A)

At no load at 4.6 mph (7.5 km/h) engine speed - 2220 rpm	72.1
At no load at 4.6 mph (7.5 km/h) engine speed - 1200 rpm	65.9
Transport speed - no load	73.3
Bystander	83.7

### TIRES, BALLAST AND WEIGHT

	With Ballast	Without Ballast
Track width	25.0 in (635 mm)	25.0 in (635 mm)
Ballast - Cast iron (front)	2550 lb (1156 kg)	None
- Cast iron (front frame)	1000 lb (454 kg)	None
Height of Drawbar	19.0 in (485 mm)	18.0 in (455 mm)
Static Weight with operator	39330 lb (17840 kg)	35780 lb (16230 kg)

**REPAIRS AND ADJUSTMENTS:** No repairs of adjustments.

**NOTE 1:** During testing the engine was operated for 38.0 hours. During this period, the tractor experienced one active exhaust filter cleaning while operated in Auto Filter Cleaning Mode. This occurred after 22.4 hours of operation.

**NOTE 2:** The manufacturer declared that the active exhaust filter cleanings consume an average of 0.04 gal/hr (0.15 l/hr) across total tractor use. Fuel consumed during the active exhaust filter cleanings will normally be less than 1% of the total fuel consumed. The manufacturer declared that no active exhaust filter cleanings occurred during 12 hours of continuous operation of the tractor in the Auto Filter Cleaning Mode at 30% loading and the engine speed at which the maximum torque occurs.

**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 inlet was maintained at 107°F (41°C). This tractor did not meet the manufacturer's initial claims of 45% torque rise nor 12% power bulge. The performance figures 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. **2000**, Nebraska Summary 783, December 14, 2011.

Roger M. Hoy  
Director

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

**DRAWBAR PERFORMANCE**  
**UNBALLASTED - 1800 RPM**  
**MAXIMUM POWER AT SELECTED 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)	Temp. °F(°C) cool- ing med	Barom. inch Hg (kPa)		
218.44 (162.89)	35495 (157.89)	2.31 (3.72)	2105	13.3	2.7 mph (4.4 km/h) 0.555 (0.337)	12.62 (2.49)	202 (94)	61 (16)	29.08 (98.48)
233.81 (174.35)	32584 (144.94)	2.69 (4.33)	2089	10.3	3.1 mph (5.0 km/h) 0.524 (0.319)	13.36 (2.63)	214 (101)	64 (18)	28.94 (98.00)
246.08 (183.50)	31200 (138.78)	2.96 (4.76)	2042	9.8	3.5 mph (5.6 km/h) 0.515 (0.313)	13.59 (2.68)	216 (102)	67 (19)	28.95 (98.04)
259.76 (193.70)	30691 (136.52)	3.17 (5.10)	1960	8.9	3.9 mph (6.2 km/h) 0.501 (0.305)	13.97 (2.75)	216 (102)	68 (20)	28.94 (98.00)
271.31 (202.31)	29304 (130.35)	3.47 (5.58)	1832	7.4	4.3 mph (7.0 km/h) 0.489 (0.297)	14.33 (2.82)	215 (102)	68 (20)	28.94 (98.00)
274.50 (204.69)	28233 (125.59)	3.65 (5.87)	1801	7.1	4.7 mph (7.6 km/h) 0.482 (0.293)	14.53 (2.86)	216 (102)	71 (22)	28.92 (97.93)
278.62 (207.77)	26094 (116.07)	4.01 (6.45)	1800	5.4	5.1 mph (8.2 km/h) 0.476 (0.290)	14.70 (2.90)	216 (102)	71 (22)	28.92 (97.93)
281.63 (210.01)	23759 (105.69)	4.45 (7.15)	1803	4.3	5.6 mph (9.0 km/h) 0.471 (0.287)	14.87 (2.93)	215 (102)	70 (21)	28.92 (97.93)
284.99 (212.52)	21385 (95.13)	5.00 (8.05)	1797	3.2	6.2 mph (10.0 km/h) 0.463 (0.281)	15.14 (2.98)	214 (101)	61 (16)	29.10 (98.54)
284.05 (211.82)	19258 (85.66)	5.53 (8.90)	1800	2.5	6.8 mph (11.0 km/h) 0.463 (0.282)	15.12 (2.98)	215 (101)	62 (17)	29.11 (98.58)
285.24 (212.70)	17611 (78.34)	6.08 (9.78)	1800	2.0	7.5 mph (12.0 km/h) 0.465 (0.283)	15.05 (2.96)	216 (102)	63 (17)	29.10 (98.54)
283.10 (211.11)	16098 (71.61)	6.59 (10.61)	1802	1.6	8.1 mph (13.0 km/h) 0.470 (0.286)	14.91 (2.94)	215 (102)	61 (16)	29.10 (98.54)
282.54 (210.69)	14857 (66.08)	7.14 (11.48)	1797	1.4	8.7 mph (14.0 km/h) 0.469 (0.285)	14.94 (2.94)	215 (101)	61 (16)	29.09 (98.51)
278.71 (207.83)	13681 (60.86)	7.64 (12.29)	1799	1.2	9.3 mph (15.0 km/h) 0.473 (0.288)	14.79 (2.91)	215 (102)	62 (16)	29.09 (98.51)
277.18 (206.69)	12736 (56.65)	8.16 (13.13)	1804	1.1	9.9 mph (16.0 km/h) 0.472 (0.287)	14.82 (2.92)	215 (102)	63 (17)	29.08 (98.48)

**DRAWBAR PERFORMANCE**  
**UNBALLASTED - AUTO MODE**  
**MAXIMUM POWER AT SELECTED 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)	Temp.°F cool- ing med	Temp.°C Air dry bulb	Barom. inch Hg (kPa)	
215.50 (160.69)	34429 (153.15)	2.35 (3.78)	1978	13.6	0.536 (0.326)	13.06 (2.57)	212 (100)	62 (16)	29.08 (98.48)
236.59 (176.42)	32209 (143.27)	2.76 (4.43)	1997	10.6	0.514 (0.313)	13.62 (2.68)	214 (101)	65 (19)	28.95 (98.04)
256.11 (190.98)	31301 (139.23)	3.07 (4.94)	1971	9.8	0.507 (0.308)	13.82 (2.72)	216 (102)	66 (19)	28.94 (98.00)
261.39 (194.91)	30530 (135.80)	3.21 (5.17)	1943	8.9	0.500 (0.304)	14.02 (2.76)	216 (102)	67 (20)	28.95 (98.04)
265.65 (198.10)	29329 (130.46)	3.40 (5.47)	1943	7.6	0.488 (0.297)	14.35 (2.83)	216 (102)	70 (21)	28.93 (97.97)
267.58 (199.53)	28309 (125.92)	3.55 (5.71)	1944	7.2	0.487 (0.297)	14.37 (2.83)	216 (102)	71 (22)	28.92 (97.93)
275.46 (205.41)	26022 (115.75)	3.97 (6.39)	1937	5.4	0.475 (0.289)	14.75 (2.91)	216 (102)	70 (21)	28.92 (97.93)
277.61 (207.01)	23742 (105.61)	4.39 (7.06)	1942	4.3	0.470 (0.286)	14.90 (2.94)	216 (102)	71 (21)	28.91 (97.90)
279.80 (208.65)	21397 (95.18)	4.90 (7.89)	1945	3.3	0.465 (0.283)	15.07 (2.97)	214 (101)	62 (17)	29.09 (98.51)
280.14 (208.90)	19210 (85.45)	5.47 (8.80)	1944	2.5	0.460 (0.280)	15.21 (3.00)	214 (101)	62 (17)	29.11 (98.58)
281.86 (210.18)	17587 (78.23)	6.01 (9.67)	1944	2.0	0.462 (0.281)	15.16 (2.99)	215 (102)	61 (16)	29.10 (98.55)
278.38 (207.58)	16118 (71.70)	6.48 (10.42)	1944	1.7	0.465 (0.283)	15.07 (2.97)	215 (102)	60 (16)	29.10 (98.55)
277.49 (206.92)	14796 (65.81)	7.04 (11.32)	1944	1.4	0.471 (0.287)	14.86 (2.93)	215 (102)	62 (17)	29.09 (98.51)
276.35 (206.07)	13657 (60.75)	7.59 (12.21)	1944	1.2	0.469 (0.285)	14.93 (2.94)	215 (102)	62 (17)	29.09 (98.51)
273.30 (203.80)	12699 (56.49)	8.07 (12.99)	1943	1.1	0.473 (0.287)	14.82 (2.92)	214 (101)	62 (17)	29.09 (98.51)

**DRAWBAR PERFORMANCE**  
**BALLASTED - 1800 RPM**  
**MAXIMUM POWER AT SELECTED 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)	Temp. °F(°C) cool- ing med	Temp. °F(°C) Air dry bulb	Barom. inch Hg (kPa)	
205.42 (153.18)	40243 (179.01)	1.91 (3.07)	2137	13.5	2.2 mph (3.6 km/h) 0.572 (0.348)	12.24 (2.41)	195 (91)	47 (9)	29.04 (98.34)
233.57 (174.17)	37898 (168.58)	2.31 (3.72)	2075	12.0	2.7 mph (4.4 km/h) 0.528 (0.321)	13.25 (2.61)	208 (98)	51 (10)	29.05 (98.37)
251.42 (187.48)	36049 (160.35)	2.62 (4.21)	2026	10.3	3.1 mph (5.0 km/h) 0.509 (0.309)	13.77 (2.71)	212 (100)	53 (11)	29.05 (98.37)
263.11 (196.20)	34470 (153.33)	2.86 (4.60)	1958	9.1	3.5 mph (5.6 km/h) 0.493 (0.300)	14.20 (2.80)	213 (100)	54 (12)	29.05 (98.37)
270.10 (201.41)	33204 (147.70)	3.05 (4.91)	1871	8.4	3.9 mph (6.2 km/h) 0.485 (0.295)	14.44 (2.84)	213 (101)	56 (13)	29.05 (98.37)
277.18 (206.69)	30881 (137.36)	3.37 (5.42)	1800	7.0	4.3 mph (7.0 km/h) 0.476 (0.290)	14.70 (2.90)	214 (101)	57 (14)	29.05 (98.37)
283.36 (211.30)	28695 (127.64)	3.70 (5.95)	1803	5.8	4.7 mph (7.6 km/h) 0.465 (0.283)	15.05 (2.96)	214 (101)	59 (15)	29.05 (98.37)
285.38 (212.80)	26480 (117.79)	4.05 (6.51)	1800	4.7	5.1 mph (8.2 km/h) 0.463 (0.282)	15.12 (2.98)	215 (102)	59 (15)	29.06 (98.41)
288.58 (215.19)	24133 (107.35)	4.49 (7.22)	1797	3.7	5.6 mph (9.0 km/h) 0.457 (0.278)	15.33 (3.02)	215 (101)	59 (15)	29.06 (97.41)
288.75 (215.32)	21539 (95.81)	5.03 (8.09)	1802	2.8	6.2 mph (10.0 km/h) 0.457 (0.278)	15.32 (3.02)	215 (102)	61 (16)	29.06 (97.41)
288.35 (215.02)	19462 (86.57)	5.56 (8.94)	1801	2.3	6.8 mph (11.0 km/h) 0.458 (0.279)	15.28 (3.01)	215 (102)	62 (16)	29.05 (97.37)
287.10 (214.09)	17685 (78.66)	6.09 (9.80)	1799	2.0	7.5 mph (12.0 km/h) 0.458 (0.279)	15.28 (3.01)	215 (102)	63 (17)	29.04 (97.34)
284.66 (212.27)	16181 (71.97)	6.60 (10.61)	1799	1.7	8.1 mph (13.0 km/h) 0.460 (0.280)	15.21 (3.00)	215 (102)	62 (17)	29.05 (98.37)
283.65 (211.51)	14940 (66.46)	7.12 (11.46)	1800	1.5	8.7 mph (14.0 km/h) 0.463 (0.282)	15.12 (2.98)	215 (101)	63 (17)	29.04 (98.34)
281.03 (209.56)	13774 (61.27)	7.65 (12.31)	1799	1.4	9.3 mph (15.0 km/h) 0.467 (0.284)	15.01 (2.96)	216 (102)	63 (17)	29.04 (98.34)
280.34 (209.05)	12855 (57.18)	8.18 (13.16)	1800	1.3	9.9 mph (16.0 km/h) 0.469 (0.285)	14.94 (2.94)	216 (102)	63 (17)	29.04 (98.34)

## HYDRAULIC PERFORMANCE

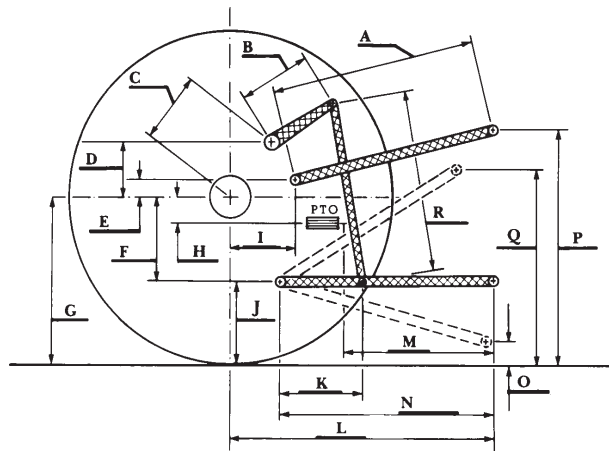
CATEGORY: IVN

Quick Attach: yes

OECD Static test

Maximum force exerted through whole range:	21167 lbs (94.2 kN)	
	63 cc pump	85 cc pump
i) Sustained pressure at compensator cutoff:	2959 psi (204 bar)	2894 psi (199 bar)
	three outlet sets combined	
ii) Pump delivery rate at minimum pressure and rated engine speed:	48.7 GPM (184.4 l/min)	65.0 GPM (246.1 l/min)
iii) Pump delivery rate at maximum hydraulic power:	48.6 GPM (184.0 l/min)	64.8 GPM (245.2 l/min)
Delivery pressure:	2652 psi (183 bar)	2417 psi (167 bar)
Power:	75.2 HP (56.1 kW)	91.3 HP (68.1 kW)
	single outlet set	
ii) Pump delivery rate at minimum pressure and rated engine speed:	38.8 GPM (146.9 l/min)	39.0 GPM (147.6 l/min)
iii) Pump delivery rate at maximum hydraulic power:	37.4 GPM (141.5 l/min)	39.5 GPM (149.7 l/min)
Delivery pressure:	2289 psi (158 bar)	2044 psi (141 bar)
Power:	49.9 HP (37.2 kW)	47.1 HP (35.2 kW)

### HITCH DIMENSIONS AS TESTED - NO LOAD



	inch	mm
A	28.1	715
B	20.5	520
C	24.8	631
D	24.2	615
E	12.6	320
F	11.5	292
G	35.0	888
H	3.1	80
I	18.5	470
J	23.5	596
K	39.8	1011
L	53.6	1361
*L'	59.5	1511
M	30.6	777
N	45.7	1161
O	9.0	230
P	50.5	1283
Q	41.1	1043
R	44.7	1135

\*L' to Quick Attach ends



**JOHN DEERE 8360RT DIESEL**