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2014

## Test 2092A: New Holland T9.435

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, [tractortestlab@unl.edu](mailto:tractortestlab@unl.edu)

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# NEBRASKA OECD TRACTOR TEST 2092A - SUMMARY 957A

## NEW HOLLAND T9.435 DIESEL

### 16 SPEED

#### POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Diesel Consumption Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	D.E.F. Consumption Gal/hr (l/h)	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION						
Rated Engine Speed—(PTO speed—1104 rpm)						
323.32 (241.10)	1999	17.37 (65.76)	0.377 (0.229)	18.61 (3.67)	1.90 (7.18)	
Standard Power Take-off Speed (1000 rpm)						
364.07 (271.49)	1811	19.13 (72.40)	0.369 (0.224)	19.13 (3.75)	1.80 (6.81)	
Maximum Power (1 hour)						
366.46 (273.27)	1800	19.25 (72.88)	0.369 (0.224)	19.04 (3.75)	1.79 (6.76)	

#### VARYING POWER AND FUEL CONSUMPTION

323.32 (241.10)	1999	17.37 (65.76)	0.377 (0.229)	18.61 (3.67)	1.90 (7.18)	Air temperature
289.74 (216.06)	2107	16.31 (61.75)	0.395 (0.240)	17.76 (3.50)	1.47 (5.57)	73°F (23°C)
218.41 (162.87)	2121	12.99 (49.19)	0.418 (0.254)	16.81 (3.31)	1.10 (4.18)	Relative humidity
147.21 (109.77)	2138	9.94 (37.62)	0.474 (0.288)	14.81 (2.92)	0.72 (2.72)	38%
74.10 (55.25)	2152	6.79 (25.69)	0.643 (0.391)	10.92 (2.15)	0.41 (1.56)	Barometer
1.92 (1.43)	2165	3.81 (14.43)	13.922 (8.468)	0.50 (0.10)	0.24 (0.90)	29.18" Hg (98.82 kPa)

Maximum torque - 1239 lb.-ft. (1665 Nm) at 1400 rpm

Maximum torque rise - 45.9%

Torque rise at 1599 engine rpm - 37%

Power increase at 1800 engine rpm - 13.3%

#### DRAWBAR PERFORMANCE

##### 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)	D.E.F. Consumption lb/hp.hr (kg/kW.h)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—4th Gear										
300.99 (224.45)	23664 (105.26)	4.77 (7.68)	2000	3.1	0.406 (0.247)	17.27 (3.40)	0.053 (0.032)	214 (101)	56 (13)	28.92 (97.93)
75% of Pull at Maximum Power—4th Gear										
241.24 (179.89)	17817 (79.25)	5.08 (8.18)	2112	2.4	0.430 (0.261)	16.34 (3.22)	0.046 (0.028)	209 (98)	64 (18)	28.95 (98.04)
50% of Pull at Maximum Power—4th Gear										
163.32 (121.79)	11868 (52.79)	5.16 (8.30)	2130	1.5	0.478 (0.291)	14.69 (2.89)	0.047 (0.028)	192 (89)	64 (18)	28.95 (98.04)
75% of Pull at Reduced Engine Speed—8th Gear										
241.73 (180.25)	17646 (78.49)	5.14 (8.27)	1406	2.3	0.395 (0.240)	17.79 (3.50)	0.038 (0.023)	193 (89)	63 (17)	28.96 (98.07)
50% of Pull at Reduced Engine Speed—8th Gear										
163.58 (121.98)	11786 (52.43)	5.21 (8.38)	1414	1.5	0.414 (0.252)	16.97 (3.34)	0.041 (0.025)	189 (87)	63 (17)	28.96 (98.07)

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

**Dates of tests:** September 9 - 29, 2014

**Manufacturer:** CNH Industrial America 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)** 0.8434 **Fuel weight** 7.022 lbs/gal (0.842 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 lubricant** New Holland Mastertran Ultrraction fluid **Hydraulic and axle lubricant** New Holland Mastertran Ultrraction fluid **Total time engine was operated:** 32.0 hours

**ENGINE: Make** FPT Industrial Diesel **Type** six cylinder vertical with turbocharger, air to air intercooler and D.E.F. (diesel exhaust fluid) exhaust treatment **Serial No.** 000059449 **Crankshaft** lengthwise **Rated engine speed** 2000 **Bore and stroke** 4.606" x 5.315" (117.0 mm x 135.0 mm) **Compression ratio** 15.9 to 1 **Displacement** 531 cu in (8704 ml) **Starting system** 24 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, separate radiators 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) with a vertical muffler **Cooling medium** temperature control thermostat and variable speed fan

**ENGINE OPERATING PARAMETERS: Fuel rate:** 116.2 - 123.2 lb/h (52.7 - 55.9 kg/h) **High idle:** 2165 - 2215 rpm **Turbo boost:** nominal 23.2 - 26.1 psi (160 - 180 kPa) as measured 24.6 psi (170 kPa)

**CHASSIS: Type** four wheel drive with duals **Serial No.** \*ZEF300740\* **Tread width** rear 60.0" (1524 mm) to 130.0" (3302 mm) front 60.0" (1524 mm) to 130.0" (3302 mm) **Wheelbase** 148.0" (3759 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 2.82 (4.54) second 3.41 (5.48) third 4.11 (6.62) fourth 4.96 (7.98) fifth 5.69 (9.16) sixth 6.25 (10.06) seventh 6.85 (11.03) eighth 7.53 (12.12) ninth 8.28 (13.33) tenth 9.10 (14.65) eleventh 9.97 (16.05) twelfth 10.96 (17.63) thirteenth 12.58 (20.25) fourteenth 15.16 (24.40) fifteenth 18.31 (29.46) sixteenth 22.00 (35.47) reverse 4.29 (6.90), 8.62 (13.88) **Clutch** multiple wet disc electrohydraulically operated by foot pedal **Brakes** wet disc hydraulically operated by foot pedal **Steering** hydrostatic and articulated

## DRAWBAR PERFORMANCE AT 2000 ENGINE RPM

### DRAWBAR 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)	D.E.F. Consumption lb/hp.hr (kg/kW.h)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)	
254.71 (189.94)	37687 (167.64)	2.53 (4.07)	2095	13.8	1st Gear 0.463 (0.282)	15.17 (2.99)	0.053 (0.032)	203 (95)	56 (14)	28.96 (98.07)
290.96 (216.97)	35026 (155.80)	3.12 (5.01)	2000	8.1	2nd Gear 0.422 (0.257)	16.64 (3.28)	0.056 (0.034)	205 (96)	53 (12)	28.96 (98.07)
301.26 (224.65)	28993 (128.97)	3.90 (6.28)	2000	4.6	3rd Gear 0.405 (0.246)	17.34 (3.42)	0.055 (0.033)	212 (100)	60 (16)	28.95 (98.04)
300.99 (224.45)	23664 (105.26)	4.77 (7.68)	2000	3.1	4th Gear 0.406 (0.247)	17.27 (3.40)	0.053 (0.032)	214 (101)	56 (13)	28.92 (97.93)
300.12 (223.80)	20453 (90.98)	5.50 (8.85)	2000	2.5	5th Gear 0.407 (0.247)	17.26 (3.40)	0.054 (0.033)	216 (102)	55 (13)	28.90 (97.87)
302.68 (225.70)	18733 (83.33)	6.06 (9.75)	2000	2.3	6th Gear 0.404 (0.246)	17.36 (3.42)	0.053 (0.032)	215 (102)	56 (13)	28.91 (97.90)
300.01 (223.71)	16899 (75.17)	6.66 (10.72)	1999	2.0	7th Gear 0.407 (0.248)	17.23 (3.39)	0.054 (0.033)	215 (101)	57 (14)	28.91 (97.90)
300.79 (224.30)	15387 (68.44)	7.33 (11.80)	2000	1.9	8th Gear 0.405 (0.246)	17.33 (3.41)	0.053 (0.032)	215 (102)	57 (14)	28.93 (97.97)
296.68 (221.23)	13786 (61.32)	8.07 (12.99)	2000	1.7	9th Gear 0.410 (0.250)	17.10 (3.37)	0.054 (0.033)	215 (101)	62 (17)	28.93 (97.97)

**Power take-off** MY 2014 - 1000 rpm at 1998 engine rpm, MY 2015 - 1000 rpm at 1811 engine rpm **Unladen tractor mass** 40095 lb (18187 kg)

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

**Note 1:** The performance results on this report were obtained from tests carried out on the Case IH Steiger 370 Diesel.

**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 109°F (43°C). 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. **2092A**, Nebraska Summary 957A, December 19, 2014.

Roger M. Hoy  
Director

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

### TRACTOR SOUND LEVEL WITH CAB

	dB(A)
At no load in 4th gear	74.0
Bystander in 16th gear	85.3

### 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

Four 480/95R50;\*\*\*,9(60)  
 Four 480/95R50;\*\*\*,12(85)  
 20.5 in (520 mm)  
 17280 lb (7838 kg)  
 22990 lb(10428 kg)  
 40270 lb(18266 kg)

## DRAWBAR PERFORMANCE AT 1800 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)	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)
1st Gear										
255.32 (190.39)	37765 (167.98)	2.54 (4.08)	2089	13.6	0.461 (0.281)	15.22 (3.00)	0.053 (0.032)	203 (95)	58 (14)	28.97 (98.10)
2nd Gear										
295.43 (220.30)	36857 (163.95)	3.01 (4.84)	1959	9.4	0.425 (0.259)	16.52 (3.25)	0.057 (0.034)	213 (101)	60 (15)	28.96 (98.07)
3rd Gear										
327.05 (243.88)	35370 (157.33)	3.47 (5.58)	1825	6.9	0.408 (0.248)	17.19 (3.39)	0.049 (0.030)	216 (102)	61 (16)	28.94 (98.00)
4th Gear										
338.29 (252.26)	30123 (133.99)	4.21 (6.78)	1800	5.1	0.399 (0.243)	17.60 (3.47)	0.047 (0.028)	217 (103)	62 (17)	28.94 (98.00)
5th Gear										
338.28 (252.26)	25852 (114.99)	4.91 (7.90)	1799	3.4	0.400 (0.244)	17.53 (3.45)	0.046 (0.028)	217 (103)	56 (13)	28.91 (97.90)
6th Gear										
341.15 (254.40)	23619 (105.06)	5.42 (8.71)	1801	3.0	0.396 (0.241)	17.71 (3.49)	0.045 (0.027)	217 (103)	56 (14)	28.92 (97.93)
7th Gear										
338.95 (252.75)	21320 (94.83)	5.96 (9.59)	1801	2.7	0.398 (0.242)	17.62 (3.47)	0.045 (0.028)	218 (103)	57 (14)	28.93 (97.97)
8th Gear										
340.90 (254.21)	19480 (86.65)	6.56 (10.56)	1800	2.4	0.396 (0.241)	17.72 (3.49)	0.045 (0.027)	217 (103)	57 (14)	28.93 (97.97)
9th Gear										
338.03 (252.07)	17526 (77.96)	7.23 (11.64)	1800	2.1	0.400 (0.243)	17.56 (3.46)	0.045 (0.027)	216 (102)	62 (17)	28.94 (98.00)
10th Gear										
339.81 (253.40)	15999 (71.16)	7.97 (12.82)	1801	1.9	0.396 (0.241)	17.72 (3.49)	0.046 (0.028)	217 (103)	62 (17)	28.94 (98.00)

Power take-off performance with 1:1.998 ratio PTO box.  
These data apply to production for model year 2014.

## POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Diesel Consumption Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.k/l)	D.E.F. Consumption Gal/hr (l/h)	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION						
Rated Engine Speed—(PTO speed—1001 rpm)						
323.40 (241.16)	2000	17.36 (65.73)	0.377 (0.229)	18.63 (3.67)	1.76 (6.68)	
Standard Power Take-off Speed (1001 rpm)						
323.40 (241.16)	2000	17.36 (65.73)	0.377 (0.229)	18.63 (3.67)	1.76 (6.68)	
Maximum Power (1 hour)						
366.43 (273.25)	1800	19.25 (72.87)	0.369 (0.224)	19.03 (3.75)	1.67 (6.34)	
VARYING POWER AND FUEL CONSUMPTION						
323.40 (241.16)	2000	17.36 (65.73)	0.377 (0.229)	18.63 (3.67)	1.76 (6.68)	Air temperature
289.57 (215.93)	2107	16.30 (61.70)	0.395 (0.240)	17.76 (3.50)	1.37 (5.19)	75°F (24°C)
218.54 (162.97)	2121	13.01 (49.24)	0.418 (0.254)	16.80 (3.31)	1.00 (3.79)	Relative humidity
146.86 (109.51)	2137	9.90 (37.48)	0.473 (0.288)	14.83 (2.92)	0.63 (2.39)	55%
73.96 (55.16)	2152	6.79 (25.70)	0.644 (0.392)	10.90 (2.15)	0.36 (1.37)	Barometer
1.88 (1.40)	2166	3.76 (14.25)	14.057 (8.550)	0.50 (0.10)	0.24 (0.92)	28.84" Hg (97.66 kPa)
Maximum torque - 1242 lb.-ft. (1683 Nm) at 1401 rpm						
Maximum torque rise - 46.2%						
Torque rise at 1600 engine rpm - 37%						
Power increase at 1800 engine rpm - 13.3%						

## HYDRAULIC PERFORMANCE

CATEGORY: IVN

Quick Attach: yes

OECD Static test

Maximum force exerted through whole range: 21903 lbs (97.4 kN)

### Three outlet sets combined

Standard pump	High flow pump
2877 psi (198 bar)	3095 psi (213 bar)

i) Sustained pressure of the open relief valve:	41.7 GPM (157.7 l/min)	56.6 GPM (214.1 l/min)
ii) Pump delivery rate at minimum pressure and rated engine speed:	43.3 GPM (163.7 l/min)	55.3 GPM (209.5 l/min)
iii) Pump delivery rate at maximum hydraulic power:	2526 psi (174 bar)	2672 psi (184 bar)
Delivery pressure:	63.7 HP (47.5 kW)	86.3 Hp (64.3 kW)
Power:		

### Single outlet set

ii) Pump delivery rate at minimum pressure and rated engine speed:	41.0 GPM (155.2 l/min)	49.1 GPM (185.9 l/min)
iii) Pump delivery rate at maximum hydraulic power:	42.7 GPM (161.6 l/min)	43.6 GPM (165.2 l/min)
Delivery pressure:	2024 psi (139 bar)	2183 psi (150 bar)
Power:	50.4 HP (37.6 kW)	55.6 Hp (41.4 kW)

## MegaFlow system

### Two outlet sets combined

Standard pump	TwinFlow pump
2877 psi (198 bar)	2855 psi (197 bar)

i) Sustained pressure at compensator cutoff:	41.7 GPM (157.7 l/min)	54.6 GPM (206.8 l/min)
ii) Pump delivery rate at minimum pressure and rated engine speed:	96.3 GPM (364.5 l/min)	
Combined flow:	43.3 GPM (163.7 l/min)	56.4 GPM (213.6 l/min)
iii) Pump delivery rate at maximum hydraulic power:	2526 psi (174 bar)	2479 psi (171 bar)
Delivery pressure:	63.7 HP (47.5 kW)	81.6 Hp (60.9 kW)
Power:		

### Two outlet sets combined

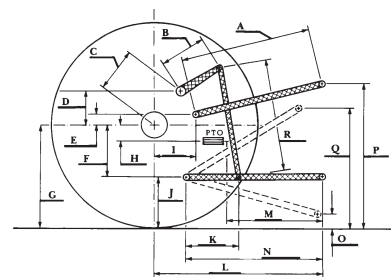
High flow pump	TwinFlow pump
3014 psi (208 bar)	2855 psi (197 bar)

i) Sustained pressure at compensator cutoff:	58.2 GPM (220.1 l/min)	54.6 GPM (206.8 l/min)
ii) Pump delivery rate at minimum pressure and rated engine speed:	112.8 GPM (426.9 l/min)	
Combined flow:	57.3 GPM (216.8 l/min)	56.4 GPM (213.6 l/min)
iii) Pump delivery rate at maximum hydraulic power:	2539 psi (175 bar)	2479 psi (171 bar)
Delivery pressure:	84.8 HP (63.3 kW)	81.6 Hp (60.9 kW)
Power:		

## HITCH DIMENSIONS AS TESTED - NO LOAD

	inch	mm
A	39.0	990
B	30.7	780
C	27.9	709
D	26.5	673
E	13.5	342
F	16.3	415
G	38.2	970
H	2.6	66
I	21.2	538
J	21.9	555
K	30.5	775
L	58.5	1487
*L'	65.8	1671
M	53.6	1361
N	43.0	1093
O	9.1	230
P	52.6	1335
Q	46.5	1181
R	39.4	1000

\*L' to Quick Attach ends



NEW HOLLAND T9.435 Diesel