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## Tests 2130 & 2151: New Holland TN75A Diesel

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# SUMMARY OF OECD TESTS 2130 and 2151—NEBRASKA SUMMARY 457 NEW HOLLAND TN75A DIESEL 16 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
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed (PTO speed—563 rpm)</b>					
63.6 (47.4)	2291	3.94 (14.92)	0.433 (0.264)	16.14 (3.18)	
<b>Maximum Power (2 hours)</b>					
64.4 (48.0)	2240	3.97 (15.04)	0.431 (0.262)	16.22 (3.19)	
<b>Standard Power Take-off speed (538 rpm)</b>					
63.6 (47.4)	2190	3.88 (14.68)	0.427 (0.260)	16.39 (3.23)	
<b>VARYING POWER AND FUEL CONSUMPTION</b>					
63.6 (47.4)	2291	3.94 (14.92)	0.433 (0.264)	16.14 (3.18)	Air temperature
55.9 (41.7)	2371	3.66 (13.84)	0.458 (0.278)	15.28 (3.01)	79°F (26°C)
42.7 (31.8)	2414	2.90 (10.98)	0.475 (0.289)	14.74 (2.90)	Relative humidity
28.8 (21.5)	2447	2.23 (8.44)	0.540 (0.329)	12.94 (2.55)	52%
14.6 (10.9)	2483	1.55 (5.86)	0.741 (0.451)	9.44 (1.86)	Barometer
--	2509	0.91 (3.44)	--	--	30.3" Hg (102.7 kPa)
Maximum Torque -202.5 lb.-ft. (274.5 Nm) at 1432 rpm Maximum Torque Rise -39.1% Torque rise at 1880 engine rpm -15%					

**Location of tests:** Alma Mater Studiorum, University Di Bologna, Via Gandolfi, 19-40057, Cadriano, Bologna, Italy

**Dates of tests:** October 2003 to April, 2004

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

**FUEL and OIL:** Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.840 **Fuel weight** 6.99 lbs/gal (0.838 kg/l) **Oil** SAE 15W40 **API service classification** CF-4/SG **Oil consumption for 10 hours** 0.03 lb (13 gm) **Transmission and hydraulic lubricant** Ambra Multi G 15W40 **Front axle lubricant** Ambra Multi G

**ENGINE: Make** Iveco Diesel **Type** three cylinder vertical with turbocharger **Serial No.** 832650 **Crankshaft** lengthwise **Rated engine speed** 2300 **Bore and stroke** 4.094" x 4.528" (104.0 mm x 115.0 mm) **Compression ratio** 18.0 to 1 **Displacement** 179 cu in (2930 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements **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 **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** thermostat and variable speed fan

**CHASSIS: Type** 2WD and front wheel assist **Serial No.** HJE159685 **Tread width** rear 48.5" (1232 mm) to 76.7" (1949 mm) front: 2WD - 48.7" (1236 mm) to 76.6" (1945 mm), FWA - 48.7" (1236 mm) to 76.6" (1945 mm) **Wheel base** 2WD - 81.5" (2070 mm) FWA - 81.3" (2065 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds (30 km/h transmission) mph (km/h)** first 0.39 (0.63) second 0.58 (0.93) third 0.85 (1.37) fourth 1.26 (2.03) fifth 1.63 (2.63) sixth 2.00 (3.22) seventh 2.43 (3.91) eighth 2.98 (4.79) ninth 3.57 (5.75) tenth 4.37 (7.04) eleventh 5.30 (8.53) twelfth 5.77 (9.28) thirteenth 6.49 (10.44) fourteenth 8.60 (13.84) fifteenth 12.64 (20.34) sixteenth 18.72 (30.13) reverse 0.38 (0.61), 0.56 (0.90), 0.83 (1.33), 1.22 (1.97), 1.58 (2.54), 1.93 (3.11), 2.36 (3.79), 2.88 (4.64), 3.46 (5.57), 4.24 (6.82), 5.13 (8.26), 5.59 (8.99), 6.28 (10.11), 8.33 (13.40), 12.24 (19.70), 18.14 (29.19) **Clutch** dual dry disc operated by foot pedal **Brakes** wet disc hydraulically operated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 2196 engine rpm or 1000 rpm at 2260 engine rpm **Unladen tractor mass** 2WD - 5215 lb (2365 kg), FWA - 5810 lb (2635 kg)

## DRAWBAR PERFORMANCE(40 km/h trans.)

### BALLASTED - 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)	Temp.°F (°C) cool- ing med	Barom. inch Hg (kPa)		
<b>75% of Pull at Maximum Power—Five Hours 10th (3MHi) Gear</b>									
44.0 (32.8)	2970 (13.21)	5.56 (8.95)	2375	4.3	0.518 (0.315)	13.50 (2.66)	190 (88)	45 (7)	29.9 (101.4)
<b>MAXIMUM POWER IN SELECTED GEARS</b>									
6th (1M Hi) Gear									
37.3 (27.8)	6135 (27.29)	2.28 (3.67)	2399	15.1	0.536 (0.326)	13.05 (2.57)	199 (93)	52 (11)	30.1 (102.0)
7th (2M Lo) Gear									
44.4 (33.1)	6055 (26.93)	2.75 (4.43)	2367	14.9	0.506 (0.308)	13.81 (2.72)	199 (93)	52 (11)	30.1 (102.0)
8th (2M Hi) Gear									
51.1 (38.1)	5895 (26.22)	3.25 (5.23)	2282	13.0	0.512 (0.312)	13.65 (2.69)	198 (92)	50 (10)	30.1 (102.0)
9th (3M Lo) Gear									
54.7 (40.8)	4930 (21.94)	4.16 (6.69)	2246	7.9	0.488 (0.297)	14.31 (2.82)	205 (96)	50 (10)	30.1 (102.0)
10th (3M Hi) Gear									
54.6 (40.7)	3955 (17.59)	5.18 (8.34)	2241	5.8	0.485 (0.295)	14.42 (2.84)	196 (91)	52 (11)	30.1 (102.0)
11th (4M Lo) Gear									
55.0 (41.0)	3250 (14.45)	6.35 (10.22)	2247	4.2	0.497 (0.302)	14.07 (2.77)	199 (93)	50 (10)	30.1 (102.0)
12th (1 Hi) Gear									
55.4 (41.3)	2945 (13.09)	7.06 (11.36)	2265	4.0	0.487 (0.296)	14.37 (2.83)	197 (92)	52 (11)	30.1 (102.0)
13th (4M Hi) Gear									
54.3 (40.5)	2545 (11.32)	8.01 (12.89)	2266	3.6	0.495 (0.301)	14.12 (2.78)	208 (98)	50 (10)	30.1 (102.0)
14th (2 Hi) Gear									
53.0 (39.5)	1865 (8.30)	10.66 (17.15)	2255	2.6	0.505 (0.307)	13.86 (2.73)	203 (95)	50 (10)	30.1 (102.0)

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

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor did not meet the manufacturer's claim of 5258 lbs (2385 kg) 3 point lift capacity. The performance results on this summary were taken from OECD tests conducted under the Code I Test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Reports No. **2130** and **2151**, Nebraska Summary 457, August 29, 2005.

Leonard L. Bashford  
Director

M.F. Kocher  
V.I. Adamchuk  
W. P. Campell  
Board of Tractor Test Engineers

## TN75A-FWA(40km/h transmission)

TIRES, BALLAST AND WEIGHT		With Ballast	Without Ballast
<b>Rear Tires</b>	-No., size, ply & psi (kPa)	Two 16.9R30; **,19 (130)	Two 16.9R30; **,19 (130)
<b>Ballast</b>	-Liquid (total)	None	None
	-Cast Iron (total)	440 lb (200 kg)	None
<b>Front Tires</b>	-No., size, ply & psi (kPa)	Two 11.2R24; **,17 (120)	Two 11.2R24; **,17 (120)
<b>Ballast</b>	-Liquid (total)	None	None
	-Cast Iron (total)	640 lb (290 kg)	None
<b>Height of Drawbar</b>		19.3 in (490 mm)	19.3 in (490 mm)
<b>Static Weight with Operator</b>	- Rear	3915 lb (1775 kg)	3650 lb (1655 kg)
	- Front	3140 lb (1425 kg)	2325 lb (1055 kg)
	- Total	7055 lb (3200 kg)	5975 lb (2710 kg)

## DRAWBAR PERFORMANCE(30 km/h trans.)

### BALLASTED - 2WD

#### 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 (°C) cool- ing med	Air dry bulb (°C)	Barom. inch Hg (kPa)
<b>75% of Pull at Maximum Power—Five Hours 10th (3 MHi) Gear</b>									
39.5 (29.5)	3530 (15.71)	4.20 (6.75)	2336	7.2	0.560 (0.341)	12.49 (2.46)	180 (82)	59 (15)	30.4 (102.8)

#### MAXIMUM POWER IN SELECTED GEARS

9th (3M Lo) Gear									
42.5 (31.7)	5135 (22.83)	3.11 (5.00)	2320	15.0	0.626 (0.381)	11.17 (2.20)	178 (81)	61 (16)	30.2 (102.4)
10th (3M Hi) Gear									
48.0 (35.8)	4730 (21.04)	3.81 (6.13)	2246	12.5	0.549 (0.334)	12.74 (2.51)	180 (82)	59 (15)	30.2 (102.4)
11th (4 MLo) Gear									
53.2 (39.7)	4185 (18.63)	4.77 (7.67)	2249	9.2	0.499 (0.304)	14.01 (2.76)	178 (81)	59 (15)	30.2 (102.4)
12th (1 Hi) Gear									
54.7 (40.8)	3890 (17.31)	5.27 (8.48)	2251	7.9	0.485 (0.295)	14.42 (2.84)	178 (81)	59 (15)	30.2 (102.4)
13th(4M Hi) Gear									
55.1 (41.1)	3400 (15.13)	6.08 (9.78)	2256	6.2	0.483 (0.294)	14.49 (2.86)	180 (82)	61 (16)	30.2 (102.4)
14th(2 Hi) Gear									
53.7 (40.1)	2470 (10.99)	8.15 (13.12)	2240	3.6	0.496 (0.301)	14.11 (2.78)	178 (81)	61 (16)	30.2 (102.4)

## TN75A-2WD(30km/h transmission)

TIRES, BALLAST AND WEIGHT		With Ballast	Without Ballast
<b>Rear Tires</b>	-No., size, ply & psi (kPa)	Two 16.9R30;**,19 (130)	Two 16.9R30;**,19 (130)
<b>Ballast</b>	-Liquid (total)	None	None
	-Cast Iron (total)	440 lb (200 kg)	None
<b>Front Tires</b>	-No., size, ply & psi (kPa)	Two 7.50-16; 8; 36 (250)	Two 7.50-16; 8; 36 (250)
<b>Ballast</b>	-Liquid (total)	None	None
	-Cast Iron (total)	640 lb (290 kg)	None
<b>Height of Drawbar</b>		30.3 in (770 mm)	24.4 in (620 mm)
<b>Static Weight with Operator</b>	- Rear	4025 lb (1825 kg)	3750 lb (1700 kg)
	- Front	2435 lb (1105 kg)	1630 lb (740 kg)
	- Total	6460 lb (2930 kg)	5380 lb (2440 kg)

TRACTOR SOUND LEVEL WITHOUT CAB	FWA dB(A)	2WD dB(A)
At no load in 9th (3M Lo) gear	84.6	84.9
Bystander in 16th (4 Hi) gear	84.1	83.0

**CENTER OF GRAVITY - 2WD**

Horizontal distance forward from centerline of rear wheels	24.7" (628 mm)
Vertical distance above roadway	31.4" (798 mm)
Horizontal distance from center of rear wheel tread	0.5" (13 mm) to the left

**CENTER OF GRAVITY - FWA**

Horizontal distance forward from centerline of rear wheels	31.7" (804 mm)
Vertical distance above roadway	31.3" (794 mm)
Horizontal distance from center of rear wheel tread	0.3" (7 mm) to the left

**TURNING ON A CONCRETE SURFACE (2WD)**

Turning radius—without brake right 141" (3.58 m) left 139" (3.53 m)
Turning space radius—without brake right 145" (3.68 m) left 143" (3.63 m)

**TURNING ON A CONCRETE SURFACE (FWA)**

Turning radius—without brake right 142" (3.61 m) left 142" (3.61 m)
Turning space radius—without brake right 148" (3.75 m) left 148" (3.75 m)

**THREE POINT HITCH PERFORMANCE (OECD Static Test)**

CATEGORY: II

Quick Attach: None

Maximum force exerted through whole range: 3865 lbs (17.2 kN)

i) Opening pressure of relief valve: NA

Sustained pressure with relief valve open: 2975 psi (205 bar)

ii) Pump delivery rate at minimum pressure: 17.1 GPM (64.9 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 15.5 GPM (58.9 l/min)

Delivery pressure: 2380 psi (164 bar)

Power: 21.6 hp (16.1 kW)

**THREE POINT HITCH PERFORMANCE (SAE Static Test)**

Observed maximum pressure psi.(bar) 2975 (205)

Location: hydraulic pump

Hydraulic oil temperature: °F(°C) 114 (45)

Location: hydraulic sump

Category: II

Quick attach: none

System pressure 2675 psi (185 Bar)

Hitch point distance to ground level in.(mm) 14.6 (370) 19.4 (492) 24.2 (614) 29.0 (736) 33.8 (858) 38.6 (980)

Lift force on frame lb 4825 5260 5265 4975 4670 4330

" " " " " " (kN) (21.5) (23.4) (23.4) (22.1) (20.8) (19.3)

**HITCH DIMENSIONS AS TESTED—NO LOAD**

	SAE TEST		OECD TEST	
	inch	mm	inch	mm
A	27.2	690	27.4	697
B	10.0	255	10.0	255
C	12.3	312	12.3	312
D	10.9	276	10.9	276
E	14.2	361	12.1	308
F	7.5	189	7.5	189
G	27.2	690	27.4	695
H	1.2	30	1.2	30
I	13.4	340	13.6	345
J	19.7	501	19.9	506
K	20.6	523	20.6	523
L	40.7	1035	40.7	1035
M	21.7	550	21.7	550
N	34.6	880	34.6	880
O	14.6	370	14.8	375
P	38.7	984	43.9	1116
Q	39.8	1010	39.9	1014
R	22.4	570	22.5	572

