

# SUMMARY OF OECD TEST 3002-NEBRASKA SUMMARY 1132 CASE IH FARMALL 90C DIESEL 12 SPEED

## 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—634 rpm)						
66.6 (49.7)	2300	4.69 (17.76)	0.492 (0.299)	14.21 (2.80)	0.12 (0.47)	
Standard Power Take-off Speed (540 rpm)						
75.6 (56.4)	1956	4.37 (16.54)	0.404 (0.246)	17.31 (3.41)	0.08 (0.41)	
Maximum Power (1 hour)						
75.6 (56.4)	1956	4.37 (16.54)	0.404 (0.246)	17.31 (3.41)	0.08 (0.41)	

## VARYING POWER AND FUEL CONSUMPTION

66.6 (49.7)	2300	4.69 (17.76)	0.492 (0.299)	14.21 (2.80)	0.12 (0.47)	Air temperature
57.1 (42.6)	2321	4.33 (16.40)	0.530 (0.322)	13.20 (2.60)	0.13 (0.51)	76°F (24°C)
43.2 (32.2)	2335	3.63 (13.75)	0.589 (0.358)	11.89 (2.34)	0.13 (0.48)	Relative humidity
29.0 (21.6)	2352	2.99 (11.31)	0.722 (0.439)	9.70 (1.91)	0.09 (0.36)	62%
14.6 (10.9)	2373	2.44 (9.24)	1.167 (0.710)	5.99 (1.18)	0.07 (0.26)	Barometer
---	2387	1.87 (7.09)	---	---	0.06 (0.21)	30.2" Hg (102.2 kPa)

Maximum torque - 249 lb.-ft. (338 Nm) at 1449 rpm

Maximum torque rise - 63.7%

Torque rise at 1850 engine rpm - 40%

Power increase at 1956 engine rpm - 13.4%

## 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 lb/hp.hr (kg/kW.h)	Temp. °F(°C) cool- ing med bulb	Air dry bulb	Barom. inch Hg (kPa)	
Power at Rated Engine Speed—7th (3M) Gear										
51.4 (38.4)	4445 (19.78)	4.34 (6.98)	2301	6.9	0.584 (0.355)	11.98 (2.36)	0.021 (0.013)	194 (90)	66 (19)	30.1 (102.0)
75% of Pull at Rated Engine Speed—7th (3M) Gear										
40.3 (30.0)	3335 (14.84)	4.53 (7.29)	2338	4.4	0.610 (0.371)	11.47 (2.26)	0.025 (0.015)	196 (91)	68 (20)	30.1 (102.0)
50% of Pull at Rated Engine Speed—7th (3M) Gear										
27.5 (20.5)	2225 (9.89)	4.64 (7.46)	2357	3.2	0.732 (0.445)	9.56 (1.88)	0.026 (0.016)	196 (91)	66 (19)	30.1 (102.0)
75% of Pull at Reduced Engine Speed—8th (4M) Gear										
40.3 (30.0)	3335 (14.84)	4.53 (7.29)	1678	4.4	0.604 (0.367)	11.58 (2.28)	0.023 (0.014)	194 (90)	66 (19)	30.1 (102.0)
50% of Pull at Reduced Engine Speed—8th (4M) Gear										
27.5 (20.5)	2225 (9.89)	4.64 (7.46)	1704	3.2	0.721 (0.439)	9.70 (1.91)	0.028 (0.017)	194 (90)	68 (20)	30.1 (102.0)

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

**Dates of tests:** April, 2016

**Manufacturer:** CNH Industrial Italia S.p.A, viale delle, Nazioni 55, 41122 - Modena, Italy

**CONSUMABLE Fluids, OIL and TIME: 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) **Diesel Exhaust Fluid (DEF)** 32% aqueous urea solution **DEF weight** 9.071 lbs/gal (1.087 kg/l) **Oil SAE 10W30 API service classification CJ-4 Transmission and hydraulic lubricant** Akcela Nexlore fluid **Front axle lubricant** Akcela Nexlore fluid

**ENGINE: Make** F.P.T Industrial Diesel **Type** Four cylinder vertical with turbocharger, air to air intercooler and D.E.F. (diesel exhaust fluid) exhaust treatment **Serial No.** 281301 **Crankshaft** lengthwise **Rated engine speed** 2300 **Bore and stroke** 3.898" x 4.331" (99.0 mm x 110.0 mm) **Compression ratio** 17.0 to 1 **Displacement** 207 cu in (3387 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 **Exhaust** DOC (diesel oxidation catalyst) and SCR (selective catalyst reduction) integrated within a vertical muffler **Cooling medium temperature control** one thermostat and variable speed fan

**CHASSIS: Type** front wheel assist **Serial No.** ZFLF 00463 **Tread width** rear 52.6" (1337 mm) to 76.3" (1937 mm) front 48.6" (1235 mm) to 76.7" (1947 mm) **Wheelbase** 90.0" (2285 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph (km/h)** first 0.60 (0.97) second 0.92 (1.48) third 1.35 (2.17) fourth 1.87 (3.01) fifth 2.08 (3.34) sixth 3.18 (5.11) seventh 4.65 (7.48) eighth 6.45 (10.38) ninth 7.99 (12.86) tenth 12.22 (19.67) eleventh 17.90 (28.80) twelfth 24.84 (39.97) reverse 0.60 (0.97), 0.92 (1.48), 1.34 (2.16), 1.86 (3.00), 2.07 (3.33), 3.16 (5.09), 4.64 (7.46), 6.43 (10.35), 7.97 (12.82), 12.19 (19.61), 17.85 (28.72), 24.77 (39.86) **Clutch** single dry disc operated by foot pedal **Brakes** single wet disc operated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 1957 engine rpm or 1000 rpm at 2125 engine rpm **Unladen tractor mass** 8215 lb (3725 kg)

**DRAWBAR PERFORMANCE AT 1956 ENGINE RPM  
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)	D.E.F Consumption lb/hp.hr (kg/kW.h)	Temp.°F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)	
6th (2M) Gear										
49.6 (37.0)	6765 (30.10)	2.75 (4.43)	2326	15.0	0.549 (0.334)	12.74 (2.51)	0.021 (0.013)	196 (91)	68 (20)	30.1 (102.0)
7th (3M) Gear										
53.0 (39.5)	5595 (24.88)	3.55 (5.72)	1950	10.2	0.572 (0.348)	12.23 (2.41)	0.021 (0.013)	194 (90)	66 (19)	30.1 (102.0)
8th (4M) Gear										
62.5 (46.6)	4580 (20.38)	5.11 (8.23)	1958	7.2	0.487 (0.296)	14.37 (2.83)	0.018 (0.011)	194 (90)	66 (19)	30.1 (102.0)
9th (1H) Gear										
65.1 (48.6)	3770 (16.78)	6.47 (10.42)	1955	5.3	0.465 (0.283)	15.02 (2.96)	0.016 (0.010)	196 (91)	68 (20)	30.1 (102.0)
10th (2H) Gear										
64.1 (47.8)	2360 (10.50)	10.19 (16.40)	1957	2.9	0.475 (0.289)	14.72 (2.90)	0.018 (0.011)	196 (91)	66 (19)	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. The manufacturer's 3 point lift capacity claim of 7351 lbs (3334 kg), with optional lift cylinders, was not verified. The performance results on this summary were taken from tests conducted under the OECD Code 2 test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **3002**, Nebraska Summary 1132, December 14, 2017.

Roger M. Hoy  
Director

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Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
At no load in 7th (3M) gear	77.3	77.3
Bystander		---

Horizontal distance of drawbar hitch point behind rear wheel axis - 34.8 in (885 mm)

**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**

Two 460/85R34; \*\*; 23 (160)  
Two 380/85R24; \*\*; 23 (160)  
18.1 in (460 mm)  
5050 lb (2290 kg)  
3330 lb (1510 kg)  
8380 lb (3800 kg)

## HYDRAULIC PERFORMANCE

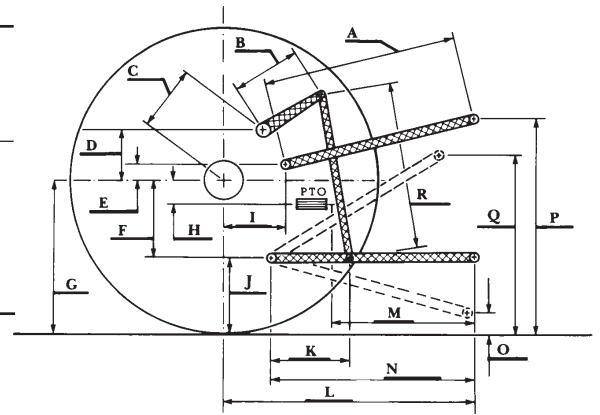
CATEGORY: II

Quick Attach: None

OECD Static test

Maximum force exerted through whole range: 5760 lbs (25.6 kN)

- |   |                       |
|---|-----------------------|
| i) Sustained pressure with relief valve open: | 3000 psi (207 bar)    |
| ii) Pump delivery rate at minimum pressure:   | 17.1 GPM (65.0 l/min) |
| iii) Pump delivery rate at maximum            |                       |
| hydraulic power:                              | 15.4 GPM (58.3 l/min) |
| Delivery pressure:                            | 2640 psi (182 bar)    |
| Power:  | 23.7 hp (17.7 kW)     |



**HITCH DIMENSIONS AS TESTED—NO LOAD**

	inch	mm
A	28.7	730
B	10.0	255
C	13.8	351
D	12.7	323
E	11.8	300
F	7.4	189
G	30.5	775
H	0.6	16
I	13.0	330
J	23.1	586
K	19.7	500
L	42.1	1070
M	23.2	590
N	36.0	915
O	16.3	415
P	47.1	1196
Q	40.9	1038
R	24.2	615

### RECOMMENDED CITATION FORMAT:

NTTL.(2017). OECD tractor test 3002 for Case IH Farmall 90C Diesel.

Lincoln, NE:Nebraska Tractor Test Laboratory. Retrieved from <http://tractortestlab.unl.edu>