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2014

Nebraska Summary: S944 Case-IH Farmall 115C

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SUMMARY OF OECD TESTS 2837 & 2839 — NEBRASKA SUMMARY 944

CASE IH FARMALL 115C DIESEL

12 SPEED

POWER TAKE-OFF PERFORMANCE (Tractor equipped with 2 post ROPS)

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
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed (PTO speed—565 rpm)					
99.1 (73.9)	2300	6.22 (23.56)	0.439 (0.267)	15.94 (3.14)	
Standard Power Take-off speed (540 rpm)					
100.7 (75.1)	2198	6.08 (23.00)	0.422 (0.257)	16.57 (3.27)	
Maximum power (1 hour)					
103.5 (77.2)	1897	5.87 (22.22)	0.396 (0.241)	17.64 (3.48)	

VARYING POWER AND FUEL CONSUMPTION

99.1 (73.9)	2300	6.22 (23.56)	0.439 (0.267)	15.94 (3.14)	Air temperature
85.4 (63.7)	2332	5.45 (20.64)	0.447 (0.272)	15.63 (3.08)	69°F (20°C)
64.6 (48.2)	2357	4.55 (17.23)	0.491 (0.299)	14.21 (2.80)	Relative humidity
43.4 (32.4)	2377	3.61 (13.68)	0.581 (0.353)	12.03 (2.37)	61%
22.0 (16.4)	2397	2.55 (9.64)	0.813 (0.494)	8.61 (1.70)	Barometer
--	2418	1.85 (6.99)	--	--	30.1" Hg (101.9 kPa)

Maximum torque -322.8 lb.-ft. (437.6 Nm) at 1506 rpm
 Maximum torque rise -42.6%
 Torque rise at 1840 engine rpm -30%
 Power increase at 1897 rpm -4.4%

POWER TAKE-OFF PERFORMANCE (Tractor equipped with Cab)

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
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed (PTO speed—565 rpm)					
98.7 (73.6)	2300	6.22 (23.53)	0.440 (0.268)	15.88 (3.13)	
Standard Power Take-off speed (540 rpm)					
100.4 (74.9)	2198	6.07 (22.98)	0.422 (0.257)	16.55 (3.26)	
Maximum power (1 hour)					
103.7 (77.3)	1901	5.86 (22.20)	0.396 (0.241)	17.68 (3.48)	

VARYING POWER AND FUEL CONSUMPTION

98.7 (73.6)	2300	6.22 (23.53)	0.440 (0.268)	15.88 (3.13)	Air temperature
84.9 (63.3)	2328	5.46 (20.67)	0.450 (0.273)	15.54 (3.06)	70°F (21°C)
64.4 (48.0)	2352	4.54 (17.18)	0.493 (0.300)	14.18 (2.79)	Relative humidity
43.3 (32.3)	2373	3.59 (13.60)	0.580 (0.353)	12.06 (2.37)	59%
21.7 (16.2)	2389	2.55 (9.67)	0.819 (0.498)	8.50 (1.68)	Barometer
--	2409	1.83 (6.92)	--	--	30.2" Hg (102.3 kPa)

Maximum torque -322.2 lb.-ft. (436.9 Nm) at 1502 rpm
 Maximum torque rise -42.9%
 Torque rise at 1840 engine rpm -30%
 Power increase at 1901 rpm -5.0%

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

Dates of tests: March to April, 2014

Manufacturer: CNH Italia SpA, Viale delle Nazioni
 55, Modena, Italy

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 CJ-4 **Transmission and hydraulic lubricant** Akcela Nexplere fluid **Front axle lubricant** Akcela Nexplere fluid

ENGINE: Make FPT Industrial Diesel **Type** four cylinder vertical with turbocharger and air to air intercooler **Serial No.** 000136003 **Crankshaft** lengthwise **Rated engine speed** 2300 **Bore and stroke** 3.898" x 4.331" (99.0 mm x 110.0 mm) **Compression ratio** 17.1 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** regenerative particulate filter integrated within an underhood muffler with vertical outlet **Cooling medium temperature control** thermostat

CHASSIS: **Type** front wheel assist **Serial No.** ZDJX 50304 **Tread width** rear 52.6" (1337 mm) to 76.3" (1937 mm) front 48.6" (1235 mm) to 76.3" (1937 mm) **Wheel base** 88.9" (2258 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph(km/h)** first 1.34(2.15) second 1.99(3.20) third 2.95(4.74) fourth 3.12(5.02) fifth 4.32(6.95) sixth 4.64(7.47) seventh 6.87(11.06) eighth 7.34(11.82) ninth 10.09(16.24) tenth 10.94(17.60) eleventh 16.18(26.04) twelfth 23.75(38.22) reverse 1.31(2.11), 1.95(3.14), 2.88(4.64), 3.06(4.92), 4.23(6.81), 4.55(7.33), 6.74(10.84), 7.20(11.59), 9.88(15.91), 10.72(17.25), 15.86(25.52), 23.28(37.47) **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 2199 engine rpm or 1000 rpm at 2261 engine rpm **Unladen tractor mass** w/2 post ROPS - 7505 lbs (3405 kg), w/cab - 8380 lb (3800 kg)

**Famall 115C - with 2 post ROPS
(Unballasted - Front Drive Engaged)**

DRAWBAR PERFORMANCE

FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption		Temp.°F (°C)	Barom.	
					lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	cool- ing med	Air dry bulb (kPa)	
Maximum Power—7th(3M)Gear									
64.1 (47.8)	3690 (16.42)	6.51 (10.48)	2304	7.0	0.591 (0.359)	11.83 (2.33)	207 (97)	59 (15)	30.2 (102.1)
75% of Pull at Maximum Power—7th(3M) Gear									
49.3 (36.7)	2770 (12.32)	6.67 (10.74)	2334	5.6	0.663 (0.403)	10.56 (2.08)	203 (96)	59 (15)	30.2 (102.1)
50% of Pull at Maximum Power—7th(3M)Gear									
33.5 (25.0)	1845 (8.21)	6.81 (10.96)	2358	4.6	0.801 (0.487)	8.73 (1.72)	203 (96)	61 (16)	30.2 (102.1)
75% of Pull at Reduced Engine Speed—8th(1H) Gear									
49.3 (36.7)	2770 (12.32)	6.67 (10.74)	2178	5.5	0.569 (0.346)	12.28 (2.42)	207 (97)	61 (16)	30.2 (102.1)
50% of Pull at Reduced Engine Speed—8th(1H) Gear									
33.5 (25.0)	1845 (8.21)	6.81 (10.96)	2197	4.5	0.722 (0.439)	9.70 (1.91)	207 (97)	63 (17)	30.2 (102.1)
MAXIMUM POWER IN SELECTED GEARS									
6th(2M) Gear									
60.7 (45.3)	6215 (27.64)	3.67 (5.90)	2112	15.0	0.658 (0.400)	10.63 (2.09)	205 (96)	59 (15)	30.2 (102.1)
7th(3M) Gear									
75.4 (56.2)	5540 (24.65)	5.10 (8.21)	1903	11.8	0.530 (0.322)	13.20 (2.60)	203 (95)	61 (16)	30.2 (102.1)
8th(1H) Gear									
77.2 (57.6)	5245 (23.33)	5.52 (8.89)	1910	10.6	0.515 (0.313)	13.57 (2.67)	205 (96)	59 (15)	30.2 (102.1)
9th(4M) Gear									
79.0 (58.9)	3790 (16.86)	7.82 (12.58)	1899	7.1	0.507 (0.309)	13.78 (2.72)	207 (97)	59 (15)	30.2 (102.1)

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 remote hydraulic flow claims of 12.5 GPM (47.5 l/min) for standard pump nor 16.9 GPM (63.8 l/min) with optional pump. This tractor did not meet the manufacturer's 3 point lift capacity claim of 5620 lbs (2549 kg). The manufacturer's 3 point lift claim of 7351 lbs (3334 kg), with one optional lift cylinder, was not verified. The performance results on this summary were taken from tests conducted under the OCED Code 2 test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Reports No. **2837** and **2839**, Nebraska Summary 944, July 11, 2014.

Roger M. Hoy
Director

M.F. Kocher
S. Pitla
P.J. Jasa
Board of Tractor Test Engineers

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 540/65R34; **; 23 (160)
Two 440/65R24; **; 23 (160)
18.1 in (460 mm)
4555 lb (2065 kg)
3120 lb (1415 kg)
7675 lb (3480 kg)

Famall 115C - with cab
(Unballasted - Front Drive Engaged)

DRAWBAR PERFORMANCE
FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption		Temp. °F cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—7th(3M) Gear									
69.3 (51.7)	3915 (17.43)	6.64 (10.68)	2307	5.4	0.567 (0.345)	12.33 (2.43)	203 (95)	64 (18)	30.1 (101.8)
75% of Pull at Maximum Power—7th(3M) Gear									
53.2 (39.7)	2935 (13.07)	6.80 (10.94)	2338	4.1	0.648 (0.394)	10.79 (2.13)	205 (96)	64 (18)	30.1 (101.8)
50% of Pull at Maximum Power—7th(3M) Gear									
36.4 (27.1)	1960 (8.72)	6.96 (11.21)	2361	3.2	0.763 (0.464)	9.16 (1.80)	203 (95)	63 (17)	30.1 (101.8)
75% of Pull at Reduced Engine Speed—8th(1H) Gear									
53.2 (39.7)	2935 (13.07)	6.80 (10.94)	2181	4.0	0.574 (0.349)	12.18 (2.40)	203 (95)	64 (18)	30.1 (101.8)
50% of Pull at Reduced Engine Speed—8th(1H) Gear									
36.4 (27.1)	1960 (8.72)	6.96 (11.21)	2223	3.1	0.679 (0.413)	10.30 (2.03)	201 (94)	64 (18)	30.1 (101.8)

MAXIMUM POWER IN SELECTED GEARS

6th(2M) Gear									
66.1 (49.3)	6775 (30.13)	3.66 (5.89)	2110	15.0	0.615 (0.374)	11.37 (2.24)	205 (96)	63 (17)	30.1 (101.8)
7th(3M) Gear									
78.3 (58.4)	5610 (24.96)	5.23 (8.42)	1906	9.4	0.514 (0.312)	13.61 (2.68)	203 (95)	64 (18)	30.1 (101.8)
8th(1H) Gear									
79.7 (59.4)	5290 (23.53)	5.65 (9.10)	1901	8.4	0.503 (0.306)	13.91 (2.74)	201 (94)	64 (18)	30.1 (101.8)
9th(4M) Gear									
79.7 (59.4)	3720 (16.55)	8.03 (12.93)	1909	5.1	0.501 (0.305)	13.96 (2.75)	201 (94)	63 (17)	30.1 (101.8)

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 540/65R34; **; 23 (160)
 Two 440/65R24; **; 23 (160)
 18.1 in (460 mm)
 5005 lb (2270 kg)
 3540 lb (1605 kg)
 8545 lb (3875 kg)

TRACTOR SOUND LEVEL WITHOUT CAB	FWA dB(A)	2WD dB(A)
At no load in 6th (2M) gear	82.0	82.0
Bystander	--	--

TRACTOR SOUND LEVEL WITH CAB	FWA dB(A)	2WD dB(A)
At no load in 6th (2M) gear	76.5	76.5
Bystander	--	--

HYDRAULIC PERFORMANCE

CATEGORY: II

Quick Attach: None

OECD Static test

Maximum force exerted through whole range:	3880 lbs (17.3 kN)	
	<u>Standard pump</u>	<u>Optional pump</u>
i) Sustained pressure with relief valve open:	2800 psi (193 bar)	2845 psi (196 bar)
ii) Pump delivery rate at minimum pressure:	11.6 GPM (44.0 l/min)	14.9 GPM (56.5 l/min)
iii) Pump delivery rate at maximum		
hydraulic power:	10.6 GPM (40.1 l/min)	13.4 GPM (50.8 l/min)
Delivery pressure:	2570 psi (177 bar)	2525 psi (174 bar)
Power:	15.9 hp (11.8 kW)	19.7 hp (14.7 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	25.6	650
B	10.0	255
C	13.9	352
D	11.7	296
E	10.0	255
F	8.3	210
G	29.5	750
H	0.6	15
I	15.2	385
J	21.2	540
K	17.9	455
L	42.6	1083
M	22.0	558
N	37.5	953
O	13.7	347
P	45.3	1150
Q	42.7	1085
R	21.6	545

