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2014

Nebraska Summary: S941 Case-IH Farmall 85C

Nebraska Tractor Test Lab

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SUMMARY OF OECD TESTS 2827 & 2829 — NEBRASKA SUMMARY 941

CASE IH FARMALL 85C 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—564 rpm)					
71.5 (53.3)	2295	4.59 (17.36)	0.449 (0.273)	15.58 (3.07)	
Standard Power Take-off speed (540 rpm)					
71.7 (53.5)	2198	4.45 (16.84)	0.433 (0.264)	16.13 (3.18)	
Maximum power (1 hour)					
76.6 (57.1)	1905	4.38 (16.58)	0.400 (0.243)	17.47 (3.44)	

VARYING POWER AND FUEL CONSUMPTION

71.5 (53.3)	2295	4.59 (17.36)	0.449 (0.273)	15.58 (3.07)	Air temperature
61.4 (45.8)	2320	4.22 (15.97)	0.480 (0.292)	14.55 (2.87)	70°F (21°C)
46.4 (34.6)	2340	3.52 (13.32)	0.529 (0.322)	13.20 (2.60)	Relative humidity
31.2 (23.3)	2365	2.82 (10.67)	0.630 (0.383)	11.09 (2.19)	64%
15.7 (11.7)	2381	2.21 (8.38)	0.984 (0.598)	7.11 (1.40)	Barometer
--	2401	1.76 (6.66)	--	--	30.1" Hg (101.8 kPa)

Maximum torque -237.4 lb.-ft. (321.9 Nm) at 1502 rpm

Maximum torque rise -45.2%

Torque rise at 1840 engine rpm -32%

Power increase at 1905 rpm -7.1%

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)					
71.3 (53.2)	2300	4.58 (17.35)	0.449 (0.273)	15.58 (3.07)	
Standard Power Take-off speed (540 rpm)					
71.7 (53.5)	2198	4.45 (16.83)	0.433 (0.264)	16.14 (3.18)	
Maximum power (1 hour)					
76.6 (57.1)	1901	4.37 (16.54)	0.399 (0.243)	17.51 (3.45)	

VARYING POWER AND FUEL CONSUMPTION

71.3 (53.2)	2300	4.58 (17.35)	0.449 (0.273)	15.58 (3.07)	Air temperature
61.3 (45.7)	2324	4.18 (15.82)	0.477 (0.290)	14.67 (2.89)	72°F (22°C)
46.4 (34.6)	2344	3.50 (13.25)	0.528 (0.321)	13.25 (2.61)	Relative humidity
31.2 (23.3)	2365	2.80 (10.60)	0.627 (0.382)	11.15 (2.20)	62%
15.7 (11.7)	2385	2.17 (8.23)	0.967 (0.588)	7.23 (1.42)	Barometer
--	2401	1.72 (6.52)	--	--	30.2" Hg (102.4 kPa)

Maximum torque -237.6 lb.-ft. (322.1 Nm) at 1498 rpm

Maximum torque rise -45.7%

Torque rise at 1840 engine rpm -33%

Power increase at 1901 rpm -7.3%

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

Dates of tests: January, 2014

Manufacturer: CNH Italia SpA, Viale, Nazioni 55, 41122, 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 Nexplore fluid **Front axle lubricant** Akcela Nexplore fluid

ENGINE: Make FPT Industrial Diesel **Type** four cylinder vertical with turbocharger and air to air intercooler **Serial No.** 000128121 **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 and variable speed fan

CHASSIS: **Type** front wheel assist **Serial No.** ZCJX 50038 **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 (7.32), 6.74 (10.84), 7.20 (11.59), 9.89 (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- 7495 lbs (3400 kg), w/cab - 8155 lb (3700 kg)

**Famall 85C - 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. inch Hg (kPa)	
					lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	cool- ing med	Air dry bulb	
Maximum Power—7th(3M)Gear									
58.5 (43.6)	3355 (14.93)	6.53 (10.51)	2301	5.6	0.509 (0.310)	13.74 (2.71)	199 (93)	50 (10)	30.0 (101.7)
75% of Pull at Maximum Power—7th(3M) Gear									
44.7 (33.4)	2515 (11.20)	6.67 (10.73)	2331	4.8	0.615 (0.374)	11.37 (2.24)	199 (93)	48 (9)	30.0 (101.7)
50% of Pull at Maximum Power—7th(3M)Gear									
30.6 (22.9)	1680 (7.47)	6.84 (11.02)	2355	3.4	0.712 (0.433)	9.82 (1.93)	199 (93)	50 (10)	30.0 (101.7)
75% of Pull at Reduced Engine Speed—8th(1H) Gear									
44.7 (33.4)	2515 (11.20)	6.67 (10.73)	2175	4.7	0.576 (0.351)	12.13 (2.39)	198 (92)	50 (10)	30.0 (101.7)
50% of Pull at Reduced Engine Speed—8th(1H) Gear									
30.6 (22.8)	1680 (7.47)	6.84 (11.02)	2212	3.5	0.703 (0.428)	9.95 (1.96)	198 (92)	48 (9)	30.0 (101.7)
MAXIMUM POWER IN SELECTED GEARS									
6th(2M) Gear									
60.1 (44.8)	6195 (27.56)	3.64 (5.85)	2106	15.0	0.511 (0.311)	13.70 (2.70)	199 (93)	54 (12)	30.0 (101.7)
7th(3M) Gear									
62.6 (46.7)	4415 (19.64)	5.33 (8.56)	1902	7.0	0.490 (0.298)	14.26 (2.81)	201 (94)	54 (12)	30.0 (101.7)
8th(1H) Gear									
62.0 (46.2)	4055 (18.05)	5.73 (9.22)	1907	6.4	0.496 (0.301)	14.11 (2.78)	203 (95)	52 (11)	30.0 (101.7)
9th(4M) Gear									
60.5 (45.2)	2835 (12.62)	8.00 (12.88)	1904	4.7	0.503 (0.306)	13.91 (2.74)	201 (94)	50 (10)	30.0 (101.7)

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 for standard pump nor 16.9 GPM with optional pump. This tractor did not meet the manufacturer's 3 point lift capacity claim of 5620 lbs. The performance results on this summary were taken from OECD tests conducted under the OECD Code 2 test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Reports No. **2827** and **2829**, Nebraska Summary 941, 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)
4605 lb (2090 kg)
3055 lb (1385 kg)
7660 lb (3475 kg)

Famall 85C - 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	°C Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—7th(3M)Gear									
59.6 (44.4)	3380 (15.04)	6.61 (10.63)	2301	4.4	0.497 (0.303)	14.06 (2.77)	196 (91)	48 (9)	29.9 (101.4)
75% of Pull at Maximum Power—7th(3M) Gear									
45.8 (34.1)	2535 (11.28)	6.77 (10.89)	2327	3.0	0.607 (0.369)	11.52 (2.27)	196 (91)	48 (9)	29.9 (101.4)
50% of Pull at Maximum Power—7th(3M)Gear									
31.0 (23.1)	1690 (7.52)	6.89 (11.08)	2345	2.1	0.754 (0.459)	9.27 (1.83)	196 (91)	50 (10)	29.9 (101.4)
75% of Pull at Reduced Engine Speed—8th(1H) Gear									
45.8 (34.1)	2535 (11.28)	6.77 (10.89)	2168	2.9	0.572 (0.348)	12.23 (2.41)	194 (90)	48 (9)	29.9 (101.4)
50% of Pull at Reduced Engine Speed—8th(1H) Gear									
31.0 (23.1)	1690 (7.52)	6.89 (11.08)	2197	2.4	0.703 (0.428)	9.95 (1.96)	196 (91)	46 (8)	29.9 (101.4)

MAXIMUM POWER IN SELECTED GEARS

5th(4L) Gear									
62.3 (46.4)	6665 (29.64)	3.50 (5.64)	2181	15.0	0.499 (0.304)	14.01 (2.76)	196 (91)	48 (9)	29.9 (101.4)
6th(2M) Gear									
62.5 (46.6)	6375 (28.36)	3.68 (5.92)	2104	13.8	0.496 (0.301)	14.11 (2.78)	198 (92)	48 (9)	29.9 (101.4)
7th(3M) Gear									
61.7 (46.0)	4325 (19.24)	5.35 (8.61)	1908	6.2	0.493 (0.300)	14.16 (2.79)	196 (91)	50 (10)	29.9 (101.4)
8th(1H) Gear									
61.5 (45.9)	4005 (17.81)	5.76 (9.27)	1903	5.7	0.493 (0.300)	14.20 (2.80)	196 (91)	50 (10)	29.9 (101.4)
9th(4M) Gear									
61.1 (45.5)	2815 (12.52)	8.13 (13.08)	1915	3.8	0.499 (0.303)	14.02 (2.76)	198 (92)	48 (9)	29.9 (101.4)

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)
 5025 lb (2280 kg)
 3295 lb (1495 kg)
 8320 lb (3775 kg)

TRACTOR SOUND LEVEL WITHOUT CAB	FWA dB(A)	2WD dB(A)
At no load in 6th (2M) gear	81.0	81.0
Bystander	--	--

TRACTOR SOUND LEVEL WITH CAB	FWA dB(A)	2WD dB(A)
At no load in 6th (2M) gear	76.0	76.0
Bystander	--	--

HYDRAULIC PERFORMANCE

CATEGORY: II

Quick Attach: None

OECD Static test

Maximum force exerted through whole range:	3530 lbs (15.7 kN)	
	Standard pump	Optional pump
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:	10.8 GPM (40.9 l/min)	13.4 GPM (50.8 l/min)
Delivery pressure:	2525 psi (174 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	349
P	45.3	1150
Q	42.7	1085
R	21.6	545

