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Nebraska Summary: S717 Case-IH Farmall 85C

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SUMMARY OF OECD TESTS 2478 & 2479 — NEBRASKA SUMMARY 717

CASE IH FARMALL 85C DIESEL

16 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Gal/hr (l/h)	lb/lp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed (PTO speed—563 rpm)					
75.1 (56.0)	2299	4.72 (17.85)	0.439 (0.267)	15.92 (3.14)	
Standard Power Take-off speed (541 rpm)					
74.4 (55.5)	2208	4.50 (17.04)	0.422 (0.257)	16.55 (3.26)	
VARYING POWER AND FUEL CONSUMPTION					
75.1 (56.0)	2299	4.72 (17.85)	0.439 (0.267)	15.92 (3.14)	Air temperature
67.9 (50.6)	2441	4.58 (17.35)	0.472 (0.287)	14.82 (2.92)	75°F (24°C)
51.4 (38.3)	2464	3.86 (14.61)	0.526 (0.320)	13.30 (2.62)	Relative humidity
34.6 (25.8)	2489	3.20 (12.12)	0.648 (0.394)	10.81 (2.13)	52%
17.4 (13.0)	2504	2.48 (9.40)	0.995 (0.605)	7.03 (1.38)	Barometer
--	2532	2.04 (7.73)	--	--	30.1" Hg (101.8 kPa)
Maximum torque -271.1 lb.-ft. (367.6 Nm) at 882 rpm					
Maximum torque rise -58.0%					
Torque rise at 1840 engine rpm -20%					

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

Dates of tests: July to September, 2008

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 CH-4 **Transmission and hydraulic lubricant** Akcela Nexplore fluid
Front axle lubricant Akcela Nexplore fluid

ENGINE: Make Iveco Diesel **Type** four cylinder vertical with turbocharger and air to air intercooler
Serial No. 0002254 **Crankshaft** lengthwise **Rated engine speed** 2300 **Bore and stroke** 4.094" x 5.197" (104.0 mm x 132.0 mm) **Compression ratio** 17.5 to 1 **Displacement** 274 cu in (4485 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

CHASSIS: **Type** front wheel assist **Serial No.** Z7JB01008 **Tread width** rear 48.5" (1232 mm) to 76.7" (1949 mm) front 48.7" (1236 mm) to 76.6" (1945 mm) **Wheel base** 86.0" (2185 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph(km/h)** first 0.49(0.79) second 0.73(1.18) third 1.08(1.73) fourth 1.64(2.64) fifth 2.06(3.32) sixth 2.52(4.06) seventh 3.07(4.94) eighth 3.76(6.05) ninth 4.52(7.27) tenth 5.52(8.89) eleventh 6.90(11.10) twelfth 7.28(11.72) thirteenth 8.44(13.59) fourteenth 10.86(17.47) fifteenth 15.96(25.68) sixteenth 24.38(39.23) reverse 0.46(0.74), 0.69(1.11), 1.01(1.62), 1.54(2.48), 1.94(3.12), 2.37(3.81), 2.88(4.64), 3.53(5.68), 4.24(6.83), 5.19(8.36), 6.48(10.43), 6.84(11.01), 7.93(12.76), 10.20(16.41), 14.99(24.12), 22.90(36.85) **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 2206 engine rpm or 1000 rpm at 2260 engine rpm **Unladen tractor mass** w/rear roll bar-7145 lbs(3240 kg), w/cab-8115 lb(3680 kg)

Famall 85C - with rear roll bar

(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 lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. ^o F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—10th(3MH)Gear									
63.4 (47.3)	4635 (20.62)	5.13 (8.25)	2299	7.8	0.505 (0.307)	13.86 (2.73)	201 (94)	79 (26)	29.9 (101.4)
75% of Pull at Maximum Power—10th(3MH) Gear									
51.4 (38.3)	3480 (15.48)	5.54 (8.92)	2424	5.1	0.565 (0.343)	12.39 (2.44)	199 (93)	81 (27)	29.9 (101.4)
50% of Pull at Maximum Power—10th(3MH)Gear									
35.5 (26.5)	2315 (10.29)	5.75 (9.26)	2473	3.6	0.654 (0.398)	10.70 (2.11)	199 (93)	79 (26)	29.9 (101.4)
75% of Pull at Reduced Engine Speed—11th(4ML) Gear									
51.5 (38.4)	3485 (15.50)	5.54 (8.92)	1939	4.9	0.540 (0.329)	12.94 (2.55)	201 (94)	79 (26)	29.9 (101.4)
50% of Pull at Reduced Engine Speed—11th(4ML) Gear									
35.5 (26.5)	2315 (10.30)	5.75 (9.26)	1981	3.7	0.650 (0.395)	10.76 (2.12)	199 (93)	81 (27)	29.9 (101.4)

MAXIMUM POWER IN SELECTED GEARS

7th(2ML) Gear									
47.5 (35.4)	6365 (28.31)	2.80 (4.50)	2453	15.0	0.556 (0.338)	12.59 (2.48)	201 (94)	79 (26)	29.9 (101.4)
8th(2MH) Gear									
54.0 (40.3)	5915 (26.32)	3.42 (5.51)	2413	13.3	0.570 (0.347)	12.27 (2.42)	199 (93)	77 (25)	29.9 (101.4)
9th(3ML) Gear									
59.4 (44.3)	5255 (23.37)	4.24 (6.83)	2392	10.2	0.531 (0.323)	13.16 (2.59)	201 (94)	77 (25)	29.9 (101.4)
10th(3MH) Gear									
63.4 (47.3)	4635 (20.62)	5.13 (8.25)	2299	7.8	0.505 (0.307)	13.86 (2.73)	201 (94)	79 (26)	29.9 (101.4)
11th(4ML) Gear									
65.2 (48.6)	3725 (16.56)	6.56 (10.56)	2302	5.6	0.496 (0.301)	14.11 (2.78)	201 (94)	77 (25)	29.9 (101.4)
12th(1H) Gear									
64.5 (48.1)	3470 (15.44)	6.97 (11.21)	2304	5.1	0.503 (0.306)	13.91 (2.74)	199 (93)	75 (24)	29.9 (101.4)
13th(4MH) Gear									
62.5 (46.6)	2890 (12.86)	8.11 (13.04)	2300	4.4	0.512 (0.312)	13.65 (2.69)	201 (94)	77 (25)	29.9 (101.4)
14th(2H) Gear									
61.4 (45.8)	2185 (9.73)	10.52 (16.93)	2302	3.4	0.522 (0.317)	13.40 (2.64)	201 (94)	75 (24)	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 16.9R30; **, 23 (160)

Two 11.2R24; ***, 23 (160)

19.3 in (490 mm)

4475 lb (2030 kg)

2835 lb (1285 kg)

7310 lb (3315 kg)

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 15.0 gpm (57 l/min) remote hydraulic flow. 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. **2478** and **2479**, Nebraska summary 717, March 19, 2010.

Roger M. Hoy
Director

M.F. Kocher
D.R. Keshwani
J.A. Smith
Board of Tractor Test Engineers

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—10th(3MH)Gear									
64.4 (48.0)	4675 (20.79)	5.16 (8.31)	2300	7.0	0.494 (0.300)	14.16 (2.79)	203 (95)	79 (26)	30.1 (101.8)
75% of Pull at Maximum Power—10th(3MH) Gear									
51.7 (38.6)	3505 (15.60)	5.53 (8.90)	2421	5.3	0.524 (0.319)	13.35 (2.63)	203 (95)	79 (26)	30.1 (101.8)
50% of Pull at Maximum Power—10th(3MH)Gear									
35.6 (26.6)	2335 (10.38)	5.73 (9.23)	2468	3.8	0.649 (0.395)	10.76 (2.12)	201 (94)	79 (26)	30.1 (101.8)
75% of Pull at Reduced Engine Speed—11th(4ML) Gear									
51.8 (38.6)	3510 (15.62)	5.53 (8.90)	1936	5.1	0.518 (0.315)	13.50 (2.66)	199 (93)	81 (27)	30.1 (101.8)
50% of Pull at Reduced Engine Speed—11th(4ML) Gear									
35.7 (26.6)	2335 (10.39)	5.73 (9.23)	1973	3.7	0.644 (0.392)	10.86 (2.14)	201 (94)	81 (27)	30.1 (101.8)

MAXIMUM POWER IN SELECTED GEARS

6th(1MH) Gear									
44.8 (33.4)	7275 (32.36)	2.31 (3.71)	2461	15.1	0.558 (0.339)	12.54 (2.47)	203 (95)	77 (25)	30.1 (101.8)
7th(2ML) Gear									
50.0 (37.3)	6475 (28.81)	2.90 (4.66)	2453	12.1	0.540 (0.329)	12.94 (2.55)	201 (94)	79 (26)	30.1 (101.8)
8th(2MH) Gear									
55.6 (41.5)	5855 (26.04)	3.55 (5.73)	2416	10.5	0.542 (0.330)	12.89 (2.54)	203 (95)	79 (26)	30.1 (101.8)
9th(3ML) Gear									
61.2 (45.6)	5360 (23.84)	4.28 (6.88)	2377	9.0	0.516 (0.314)	13.55 (2.67)	199 (93)	79 (26)	30.1 (101.8)
10th(3MH) Gear									
64.4 (48.0)	4675 (20.79)	5.16 (8.31)	2300	7.0	0.494 (0.300)	14.16 (2.79)	203 (95)	79 (26)	30.1 (101.8)
11th(4ML) Gear									
64.8 (48.3)	3700 (16.46)	6.57 (10.56)	2301	5.5	0.504 (0.306)	13.88 (2.73)	201 (94)	79 (26)	30.1 (101.8)
12th(1H) Gear									
64.2 (47.9)	3465 (15.41)	6.95 (11.18)	2300	5.1	0.505 (0.307)	13.86 (2.73)	201 (94)	77 (25)	30.1 (101.8)
13th(4MH) Gear									
62.4 (46.5)	2885 (12.84)	8.10 (13.04)	2299	4.4	0.511 (0.311)	13.70 (2.70)	203 (95)	79 (26)	30.1 (101.8)
14th(2H) Gear									
60.7 (45.3)	2170 (9.66)	10.49 (16.88)	2297	3.5	0.524 (0.319)	13.35 (2.63)	201 (94)	77 (25)	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 16.9R30; **; 23 (160)
 Two 11.2R24; ***; 23 (160)
 19.3 in (490 mm)
 5145 lb (2335 kg)
 3130 lb (1420 kg)
 8275 lb (3755 kg)

TRACTOR SOUND LEVEL WITHOUT CAB	FWA dB(A)	2WD dB(A)
At no load in 9th (3ML) gear	83.6	83.6
Bystander	--	--

TRACTOR SOUND LEVEL WITH CAB	FWA dB(A)	2WD dB(A)
At no load in 9th (3ML) gear	78.9	78.9
Bystander	--	--

HYDRAULIC PERFORMANCE

CATEGORY: II

Quick Attach: None

OECD Static test

Maximum force exerted through whole range:	2950 lbs (13.12 kN)
i) Sustained pressure with relief valve open:	2815 psi (194 bar)
ii) Pump delivery rate at minimum pressure:	13.9 GPM (52.5 l/min)
iii) Pump delivery rate at maximum	
hydraulic power:	12.6 GPM (47.6 l/min)
Delivery pressure:	2450 psi (169 bar)
Power:	18.0 hp (13.4 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD

	SAE TEST		OECD TEST	
	inch	mm	inch	mm
A	27.2	690	27.2	690
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	27.6	700	27.6	700
H	1.4	35	1.4	35
I	13.4	340	13.6	345
J	20.1	511	20.1	511
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	17.6	448	14.5	369
P	39.1	994	44.1	1121
Q	38.7	983	40.2	1020
R	22.4	570	22.5	571

THREE POINT HITCH PERFORMANCE (SAE Static Test)

Observed maximum pressure psi. (bar)	2975 (205)
Location:	remote outlets
Hydraulic oil temperature: °F (°C)	113 (45)
Location:	hydraulic sump
Category:	II
Quick attach:	none

System pressure 2675 psi (185 Bar)

Hitch point distance to ground level in. (mm)	17.6 (448)	22.0 (558)	26.2 (665)	30.2 (766)	34.4 (875)	38.7 (983)
Lift force on frame lb	4925	5105	4970	4675	4180	4115
" " " " " " (kN)	(21.9)	(22.7)	(22.1)	(20.8)	(18.6)	(18.3)

