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2008

## Nebraska Summary: S715 Case-IH Farmall 65C

Nebraska Tractor Test Laboratory

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# SUMMARY OF OECD TESTS 2467 & 2468 — NEBRASKA SUMMARY 715

## CASE IH FARMALL 65C 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
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed (PTO speed—564 rpm)</b>					
59.0 (44.0)	2304	3.61 (13.65)	0.427 (0.260)	16.34 (3.22)	
<b>Standard Power Take-off speed (539 rpm)</b>					
58.7 (43.8)	2202	3.56 (13.46)	0.424 (0.258)	16.50 (3.25)	
<b>VARYING POWER AND FUEL CONSUMPTION</b>					
59.0 (44.0)	2304	3.61 (13.65)	0.427 (0.260)	16.34 (3.22)	Air temperature
51.6 (38.5)	2404	3.37 (12.77)	0.456 (0.278)	15.32 (3.02)	79°F (26°C)
39.6 (29.5)	2458	2.81 (10.64)	0.496 (0.302)	14.06 (2.77)	Relative humidity
26.9 (20.1)	2509	2.31 (8.76)	0.602 (0.366)	11.62 (2.29)	52%
13.7 (10.2)	2541	1.84 (6.97)	0.942 (0.573)	7.43 (1.46)	Barometer
--	2569	1.40 (5.30)	--	--	30.1" Hg (101.8 kPa)
Maximum torque -202.2 lb.-ft. (274.2 Nm) at 1001 rpm					
Maximum torque rise -50.4%					
Torque rise at 1850 engine rpm -15%					

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

**Dates of tests:** June to July, 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.** 0003011 **Crankshaft** lengthwise **Rated engine speed** 2300 **Bore and stroke** 3.898" x 4.094" (99.0 mm x 104.0 mm) **Compression ratio** 17.5 to 1  
**Displacement** 195 cu in (3200 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.** H7JB01004 **Tread width** rear 48.5" (1232 mm) to 76.7" (1949 mm) front 48.7" (1236 mm) to 76.6" (1945 mm) **Wheel base** 82.6" (2098 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- 7045 lbs (3195 kg), w/cab - 8035 lb (3645 kg)

**Famall 65C - 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. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
<b>Maximum Power—10th(3MH)Gear</b>									
51.0 (38.0)	3630 (16.14)	5.27 (8.48)	2303	5.6	0.480 (0.292)	14.57 (2.87)	207 (97)	79 (26)	29.9 (101.3)
<b>75% of Pull at Maximum Power—10th(3MH) Gear</b>									
40.9 (30.5)	2720 (12.10)	5.64 (9.08)	2438	4.2	0.514 (0.313)	13.60 (2.68)	207 (97)	81 (27)	29.9 (101.3)
<b>50% of Pull at Maximum Power—10th(3MH)Gear</b>									
28.2 (21.1)	1815 (8.08)	5.83 (9.38)	2482	3.0	0.637 (0.387)	10.98 (2.16)	205 (96)	79 (26)	29.9 (101.3)
<b>75% of Pull at Reduced Engine Speed—12th(1H) Gear</b>									
40.8 (30.5)	2715 (12.08)	5.64 (9.08)	1848	4.0	0.508 (0.309)	13.76 (2.71)	207 (97)	79 (26)	29.9 (101.3)
<b>50% of Pull at Reduced Engine Speed—12th(1H) Gear</b>									
28.2 (21.0)	1815 (8.07)	5.83 (9.38)	1886	2.9	0.633 (0.385)	11.06 (2.18)	205 (96)	81 (27)	29.9 (101.3)

**MAXIMUM POWER IN SELECTED GEARS**

<b>6th(1MH) Gear</b>									
38.5 (28.7)	6270 (27.89)	2.30 (3.70)	2452	15.0	0.501 (0.305)	13.96 (2.75)	207 (97)	79 (26)	29.9 (101.3)
<b>7th(2ML) Gear</b>									
43.3 (32.3)	5630 (25.05)	2.88 (4.64)	2430	11.5	0.485 (0.295)	14.42 (2.84)	205 (96)	81 (27)	29.9 (101.3)
<b>8th(2MH) Gear</b>									
47.6 (35.5)	5010 (22.29)	3.56 (5.73)	2399	9.7	0.480 (0.292)	14.57 (2.87)	205 (96)	81 (27)	29.9 (101.3)
<b>9th(3ML) Gear</b>									
48.9 (36.4)	4375 (19.46)	4.19 (6.74)	2301	7.5	0.499 (0.304)	14.01 (2.76)	205 (96)	81 (27)	29.9 (101.3)
<b>10th(3MH) Gear</b>									
51.0 (38.0)	3630 (16.14)	5.27 (8.48)	2303	5.6	0.480 (0.292)	14.57 (2.87)	207 (97)	79 (26)	29.9 (101.3)
<b>11th(4ML) Gear</b>									
51.4 (38.3)	2915 (12.97)	6.61 (10.64)	2297	4.5	0.478 (0.291)	14.62 (2.88)	207 (97)	81 (27)	29.9 (101.3)
<b>12th(1H) Gear</b>									
50.4 (37.6)	2685 (11.95)	7.04 (11.33)	2301	3.8	0.488 (0.297)	14.31 (2.82)	207 (97)	79 (26)	29.9 (101.3)
<b>13th(4MH) Gear</b>									
48.8 (36.4)	2235 (9.95)	8.18 (13.16)	2297	3.4	0.504 (0.306)	13.88 (2.73)	205 (96)	79 (26)	29.9 (101.3)
<b>14th(2H) Gear</b>									
47.9 (35.7)	1695 (7.53)	10.61 (17.07)	2299	2.9	0.512 (0.312)	13.65 (2.69)	205 (96)	81 (27)	29.9 (101.3)

**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 claim of 16.9 gpm (64 l/min) remote hydraulic flow was not verified. The performance results on this summary were taken from OECD 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. **2467** and **2468**, Nebraska summary 715, March 19, 2010.

Roger M. Hoy  
Director

M.F. Kocher  
D.R. Keshwani  
J.A. Smith  
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 16.9R30;\*\*,23 (160)

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

19.3 in (490 mm)

4420 lb (2005 kg)

2790 lb (1265 kg)

7210 lb (3270 kg)

**Famall 65C - 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 (°C)		Barom. inch Hg (kPa)
					lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	cool- ing med	Air dry bulb	
<b>Maximum Power—10th(3MH)Gear</b>									
50.9 (37.9)	3620 (16.10)	5.27 (8.48)	2305	5.1	0.482 (0.293)	14.52 (2.86)	201 (94)	75 (24)	30.1 (102.0)
<b>75% of Pull at Maximum Power—10th(3MH) Gear</b>									
40.9 (30.6)	2715 (12.07)	5.66 (9.12)	2436	4.0	0.469 (0.285)	14.92 (2.94)	199 (93)	73 (23)	30.1 (102.0)
<b>50% of Pull at Maximum Power—10th(3MH)Gear</b>									
28.1 (20.9)	1810 (8.06)	5.81 (9.35)	2479	2.7	0.589 (0.358)	11.88 (2.34)	201 (94)	73 (23)	30.1 (102.0)
<b>75% of Pull at Reduced Engine Speed—11th(4ML) Gear</b>									
40.9 (30.5)	2710 (12.05)	5.66 (9.12)	1957	3.7	0.459 (0.279)	15.23 (3.00)	199 (93)	75 (24)	30.1 (102.0)
<b>50% of Pull at Reduced Engine Speed—11th(4ML) Gear</b>									
28.0 (20.9)	1810 (8.05)	5.81 (9.35)	1972	2.6	0.576 (0.350)	12.14 (2.39)	201 (94)	75 (24)	30.1 (102.0)

**MAXIMUM POWER IN SELECTED GEARS**

5th(1ML) Gear									
35.3 (26.3)	6990 (31.09)	1.89 (3.04)	2465	15.1	0.505 (0.307)	13.86 (2.73)	199 (93)	73 (23)	30.1 (102.0)
6th(1MH) Gear									
39.4 (29.4)	6230 (27.71)	2.37 (3.82)	2444	12.0	0.488 (0.297)	14.31 (2.82)	201 (94)	73 (23)	30.1 (102.0)
7th(2ML) Gear									
45.2 (33.7)	5820 (25.89)	2.91 (4.68)	2423	10.5	0.465 (0.283)	15.02 (2.96)	201 (94)	75 (24)	30.1 (102.0)
8th(2MH) Gear									
47.6 (35.5)	5160 (22.95)	3.46 (5.57)	2299	8.3	0.508 (0.309)	13.76 (2.71)	199 (93)	75 (24)	30.1 (102.0)
9th(3ML) Gear									
50.0 (37.3)	4425 (19.69)	4.24 (6.82)	2301	6.6	0.488 (0.297)	14.31 (2.82)	199 (93)	73 (23)	30.1 (102.0)
10th(3MH) Gear									
50.9 (37.9)	3620 (16.10)	5.27 (8.48)	2305	5.1	0.482 (0.293)	14.52 (2.86)	201 (94)	75 (24)	30.1 (102.0)
11th(4ML) Gear									
51.5 (38.4)	2905 (12.93)	6.65 (10.70)	2300	4.0	0.477 (0.290)	14.67 (2.89)	199 (93)	75 (24)	30.1 (102.0)
12th(1H) Gear									
51.0 (38.0)	2720 (12.09)	7.03 (11.33)	2298	3.5	0.483 (0.294)	14.47 (2.85)	201 (94)	73 (23)	30.1 (102.0)
13th(4MH) Gear									
49.8 (37.1)	2265 (10.07)	8.25 (13.28)	2301	2.9	0.493 (0.300)	14.16 (2.79)	199 (93)	73 (23)	30.1 (102.0)
14th(2H) Gear									
50.0 (37.3)	1755 (7.81)	10.67 (17.17)	2304	2.5	0.491 (0.299)	14.24 (2.81)	199 (93)	75 (24)	30.1 (102.0)

**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)  
 5080 lb (2305 kg)  
 3120 lb (1415 kg)  
 8200 lb (3720 kg)

TRACTOR SOUND LEVEL WITHOUT CAB	FWA dB(A)	2WD dB(A)
At no load in 9th (3ML) gear	82.8	82.8
Bystander	--	--

TRACTOR SOUND LEVEL WITH CAB	FWA dB(A)	2WD dB(A)
At no load in 9th (3ML) gear	79.9	79.9
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:	2800 psi (193 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:	2465 psi (170 bar)
Power:	18.1 hp (13.5 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)

