

# NEBRASKA TRACTOR TEST 2209

## CASE IH FARMALL 70A DIESEL

### 8 SPEED

#### POWER TAKE-OFF PERFORMANCE

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
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed—(PTO speed—545 rpm)</b>					
63.99 (47.72)	2599	4.69 (17.75)	0.513 (0.312)	13.64 (2.69)	Fuel used during exhaust regeneration - 0.23 gal (0.88 l) (see note 1 page 2)
<b>Standard Power Take-off Speed(540 rpm)</b>					
63.49 (47.35)	2575	4.61 (17.46)	0.508 (0.309)	13.77 (2.71)	
<b>VARYING POWER AND FUEL CONSUMPTION</b>					
63.99 (47.72)	2599	4.69 (17.75)	0.513 (0.312)	13.64 (2.69)	Air temperature
55.17 (41.14)	2639	4.22 (15.97)	0.535 (0.325)	13.08 (2.58)	72°F (22°C)
41.62 (31.04)	2656	3.49 (13.22)	0.587 (0.357)	11.92 (2.35)	Relative humidity
28.20 (21.03)	2697	2.64 (9.98)	0.654 (0.398)	10.70 (2.11)	17%
14.16 (10.56)	2713	1.94 (7.35)	0.960 (0.584)	7.29 (1.44)	Barometer
1.06 (0.79)	2729	1.35 (5.11)	8.935 (5.435)	0.78 (0.15)	28.90"Hg (97.85 kPa)
Maximum Torque - 167 lb.-ft. (216 Nm) at 1798 rpm					
Maximum Torque rise - 29.2%					
Torque rise at 2079 engine rpm - 23%					

<b>TRACTOR SOUND LEVEL WITHOUT CAB</b>	<b>dB(A)</b>
At no load in 3rd (L3) gear	89.9
Bystander in 8th (H4) gear	82.6

Horizontal distances of drawbar hitch point behind rear wheel axis - 27.6"(700 mm), 31.5"(800 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 14.9/13-28; 12:14 (95)  
 Two 7.50-16; 8; 24 (165)  
 16.0 in (405 mm)  
 2740 lb (1243 kg)  
 1630 lb (739 kg)  
 4370 lb (1982 kg)

**Location of tests:** Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln Nebraska 68583-0832

**Dates of tests:** January 16-17, 2019

**Manufacturer:** CNH Ind India Private LTD Plot No. 3, Udyog Kendra, Greater Noida India

**FUEL, OIL and TIME:** Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8404 Fuel weight 6.998 lbs/gal (0.839 kg/l) Oil SAE 10W40 API service classification CJ-4 Transmission and hydraulic lubricant Case IH Akcela Nexlore fluid Front axle lubricant Case IH Akcela Nexlore fluid Total time engine was operated 7.0 hours

**ENGINE:** Make FCA Diesel Type three cylinder vertical with turbocharger and air to air intercooler Serial No. 50D12345 Crankshaft lengthwise Rated engine speed 2600 Bore and stroke 3.701" x 4.213" (94.0 mm x 107.0 mm) Compression ratio 17.5 to 1 Displacement 136 cu in (2228 ml) Starting system 12 volt Lubrication pressure Air cleaner two paper elements Oil filter one full flow cartridge Fuel filter one paper element Fuel cooler radiator for pump return fuel Exhaust regenerative aftertreatment system consisting of DOC (diesel oxidation catalyst) and DPF (diesel particulate filter) integrated within an underhood muffler with horizontal exhaust to the right side Cooling medium temperature control thermostat and variable speed fan

**ENGINE OPERATING PARAMETERS:** Fuel rate: 31.0 - 33.2 lb/h (14.1 - 15.1 kg/h) High idle: 2700 - 2800 rpm Turbo boost: nominal 16.0 - 18.9 psi (110 - 130 kPa) as measured 18.2 psi (125 kPa)

**CHASSIS:** Type 2WD Serial No. FR5387469 Tread width rear 52.6" (1336 mm) to 68.4" (1737 mm) front 56.1" (1424 mm) to 77.6" (1972 mm) Wheelbase 77.6" (1970 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio Nominal travel speeds mph (km/h) first 1.83 (2.94) second 2.75 (4.43) third 4.07 (6.55) fourth 5.60 (9.01) fifth 6.64 (10.68) sixth 10.00 (16.09) seventh 14.76 (23.75) eighth 20.31 (32.68) reverse 1.93 (3.11), 2.91 (4.69), 4.30 (6.92), 5.92 (9.52), 7.02 (11.29), 10.56 (17.00), 15.60 (25.10), 21.46 (34.53) 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 2575 engine rpm Unladen tractor mass 4195 lb (1903 kg)

## HYDRAULIC PERFORMANCE

CATEGORY: II

Quick Attach: None

OECD Static test

Maximum force exerted through whole range: 2705 lbs (12.0 kN)(at frame)  
3608 lbs (16.0 kN)(at link ends)  
**single outlet set**

- i) Sustained pressure of the open relief valve: 2656 psi (183 bar)
- ii) Pump delivery rate at minimum pressure and rated engine speed: 12.0 GPM (45.3 l/min)
- iii) Pump delivery rate at maximum hydraulic power: 11.6 GPM (44.0 l/min)  
Delivery pressure: 2373 psi (164 bar)  
Power: 16.1 HP (12.0 kW)

**REPAIRS AND ADJUSTMENTS:** No repairs or adjustments.

**NOTE 1:** The engine in this tractor has an automatic control for the regeneration process that was manually overridden.

**NOTE 2:** The performance figures on this report are the result of replacing the electronic engine control module of the Case IH Farmall 60A with the Case IH Farmall 70A module.

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures.

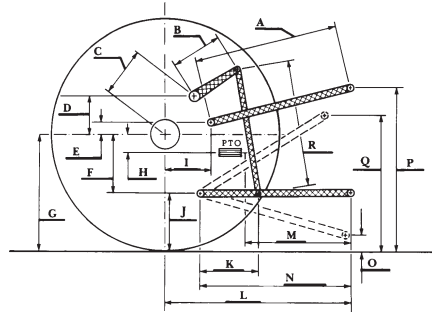
We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **2209**, February 4, 2019.

Roger M. Hoy  
Director

M.F. Kocher  
J.D. Luck  
P.J. Jasa  
Board of Tractor Test Engineers

### HITCH DIMENSIONS AS TESTED - NO LOAD

	inch	mm
A	26.8	680
B	9.1	230
C	1.6	40
D	1.1	28
E	15.2	385
F	5.9	150
G	25.6	650
H	0.6	14
I	7.2	183
J	19.7	500
K	13.6	345
L	34.8	885
M	21.7	551
N	30.1	765
O	9.1	230
P	43.7	1110
Q	35.4	900
R	19.5	495



### RECOMMENDED CITATION FORMAT:

NTTL.(2019). Nebraska Tractor test 2209 for Case IH Farmall 70A Diesel.

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



**Case IH Farmall 70A Diesel**

Institute of Agriculture and Natural Resources  
University of Nebraska-Lincoln