

NEBRASKA TRACTOR TEST 2209A

NEW HOLLAND WORKMASTER 70 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
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—545 rpm)					
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)
Standard Power Take-off Speed(540 rpm)					
63.49 (47.35)	2575	4.61 (17.46)	0.508 (0.309)	13.77 (2.71)	
VARYING POWER AND FUEL CONSUMPTION					
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%					

TRACTOR SOUND LEVEL WITHOUT CAB	dB(A)
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 New Holland Ambra Multi G 134 fluid Front axle lubricant New Holland Ambra Multi G 134 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: 2636 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 a automatic control for the regeneration process that was manually overridden.

NOTE 2: The performance results on this report were obtained from tests carried out on the Case IH Farmall 70A Diesel.

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

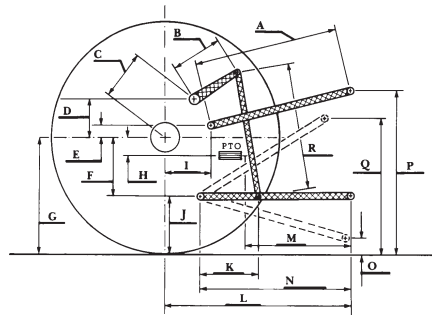
We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **2209A**, February 4, 2019.

Roger M. Hoy
Director

M.F. Kocher
P.J. Jasa
J.D. Luck
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 2209A for New Holland Workmaster 70 Diesel.
Lincoln, NE:Nebraska Tractor Test Laboratory. Retrieved from <http://tractortestlab.unl.edu>



**New Holland Workmaster 70 Diesel
(FWA model pictured was not tested)**