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Test 474: Cockshutt 20\*

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NEBRASKA TRACTOR TEST NO. 474

Department of Agricultural Engineering
Dates of test: June 16 to June 24, 1952.
Manufacturer: COCKSHUTT FARM EQUIPMENT
LTD., BRANTFORD, ONTARIO, CANADA.
Manufacturer's rating: Not rated.

Fuel Consumption

## BELT HORSEPOWER TESTS

		rank	Fuel Consumption						Water		Temp De		Deg	F	Barometer
Нр	8	haft peed rpm	Gal per hou	r	Hp-hr per gal		Lb per hp-hour		used gal per hour		Cooling med		1	ir	inches of mercury
And the	1	TE	ST B-	-100	1%	MAXI	MUN	1 LO	AD-	TW	ОН	OUI	RS		100
28.94		1800	2.886	6	10.	.03	0.6	05	0.0	0		86	1	75	28.840
		TEST	r c-0	PER	ATI	NG M	IAXI	MUN	I LO	D-	-ON	EH	OUI	1	
27.40		1801	2.566	1	10.	.68	0.5	69	0.0	0	1	80	T	76	28.835
			TES	T I	)—I	RATEI	) LC	AD-	ONI	E He	OUR				
25.94			2.479	10.46			0.580		0.00			170 7		71 28.875	
TE	ST E-	-VARY	ING L	DAD	)—T	rwo I	HOU	RS (	20 mi	inute	run	s; l	ast I	ine ave	erage)
25.96				2.481   10.					10.00		168		71		
2.26			1.230		1.84		3.305				152		73		4.4
13.98			1.789	1.789		81	0.777				156		72		
25.13			2.332	2.332		10.78		0.563		444		170		72	
7.29	29   1999		1.428		5.	11	1.189				155		73		Book
20.37	37   1891		2.155	_	_	45	0.642				1	58		70	
15.83		1883	1.902		8.32		0.730		0.0	0.00		160		72	28.860
				T	ORC	QUE (	at d	ynam	omete	r)			-		
Eng.	Eng. RPM   1801   1706		1706	1602   14		1499	99   1395		1300   12		200   109		99 996		893
Lb-ft	-	175.4	177.8	17	8.2	177.5	17	5.0	175.4	1	76.4	18	1.0	185.5	183.8
			D	RAV	1	R H	ORSE	POV	VER '	TES	TS				
SIL!	Draw Spee				Slip of drive wheels		Gal Hp- per per hour ga		hr Lb r per			Water		p Deg F	Baromete
Нр	bar pull lb	per hr									gal per hour		Cool ing	Air	of mercury
110			TEST 1	F_1	100%				LOAL						170
25.47	1866				6.3				Recor	_			17	6   76	28,930
			TEST	G	-OF	PERAT	TNG	MA	XIMI	M I	LOA	D		1110	1 200550
18.75	3266	2.15		_	15.2			2000	Recor				16	2   82	28,920
24.06	2568				8.8	0 .		Not	Reco	rded	_	_	17		28.920
23.86	1730	5.17	7   180	0	5.0	8		Not	Reco	rded			170		The second second
19.05	528	13.5	3   179	8	1.4	7		Not	Reco	rded			16	4   76	28.920
		TE	ST H-	-RA	TEI	LOA	D-	TEN	HOU	JRS-	-3rd	Ge	ar		1 121
20.24	1459	5.20	179	8	4.4	8 2.	207	9.1	7   0.	662	0.	00	16	9 83	28.666
		TE	ST J—C	OPE	RAT	TING	MAX	IMU	M LC	AD	-3re	d Ge	ar	- 101	
22.12	1697	-	- Delivery	-	12.2		_	-	Reco	-	_	Ch Thirty	18	0   88	28.600
		-	ST K—C	OPE	RAT	TING	MAX	IMU	M LO	AD-	_3rc	Ge	ar	-	1 40,000
19.42	1572			-	15.8			_	Recor	-	200	_	18	0   91	28,600
	-	ELS and		нт		, G, &			est J		9,0	Ž		st K	20.000
Rear wheels Type				Pressed steel				_ 1	Pressed steel			Pressed steel			
Liquid ballast				279 lb each				_ ]	None			None			
Added cast iron				560 lb each					None			None			

Kear wheels Type	Pressed steel	Pressed steel	Pressed steel
Liquid ballast	279 lb each	None	None
Added cast iron	560 lb each	None	None
Rear tires No. and size	Two 11-24	Two 11-24	Two 10-24
Ply	4	4	4
Air pressure	12 lb	12 lb	12 lb
Front wheels Type	Pressed steel	Pressed steel	Pressed steel
Liquid ballast	None	None	None
Added cast iron	135 lb each	None	None
Front tires No. and size	Two 5.00-15	Two 5.00-15	Two 5.00-15
Ply	4	4	4
Air pressure	28 lb	28 lb	28 lb
Height of drawbar	18½ inches	20½ inches	19 inches
Static weight Rear end	3378 lb	1700 lb	1684 lb
Front end	1208 lb	938 lb	936 lb
Total weight as tested with operator	4761 lb	2813 lb	2795 lb

## COCKSHUTT 20\*

\* Also designated as Co-op E2.

FUEL, OIL and TIME Gasoline octane No ASTM 76 Research 82 (rating taken from oil company's typical inspection data) weight per gallon 6.071 lb Oil SAE 10; to motor 0.988 gal; drained from motor 0.921 gal Total time motor was operated 43 hours.

CHASSIS Type Standard Serial No 20-294 Tread width rear 48" to 76" front 48" to 72" Wheel Base 72" Hydraulic control system direct engine drive Advertied speeds mph first 2½ second 3¼ third 5¼ fourth 13¼ reverse 3 Belt pulley diam 10" face 6½" rpm 1160 Belt speed 3037 fpm Clutch single plate dry disc operated by foot pedal Seat upholstered with back rest Brakes contracting bands operated by foot pedals on right hand side Equalized by foot action only Power take-off standard type.

ENGINE Make Continental Type 4 cylinder vertical Serial No 23285 Crankshaft mounted lengthwise Head L Lubrication pressure Bore and Stroke 3 3/16" x 4 3/8" Rated rpm 1800 Compression ratio 6.75 to 1 Displacement 140 cu in Port Diameter Valves inlet 1 23/64" exhaust 1 1/16" Governor variable speed centrifugal Carburetor Size 1" Ignition System battery Starting System 6 volt battery Air Cleaner oil washed wire mesh Muffler was used Oil Filter replaceable cotton waste element Cooling medium temperature control thermostat.

REPAIRS AND ADJUSTMENTS No repairs or adjustments.

REMARKS All test results were determined from observed data and without allowances, additions or deductions. Tests B and F were made with carburetor set for 100% maximum belt horsepower and data from these tests were used in determining the horsepower to be developed in tests D and H, respectively. Tests C, D, E, G, H, J & K were made with an operating setting of the carburetor (selected by the manufacturer) of 94.8% of maximum belt horsepower.

## HORSEPOWER SUMMARY

		Draw- bar	Belt
1.	Sea level (calculated maximum horsepower based on 60° F. and 29.92" Hg.)	26.74	30.45
2.	Observed maximum horsepower (tests F & B)	25.47	28.94
3.	Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (form- erly ASAE and SAE ratings)	20.06	25,88

We, the undersigned, certify that this is a true and correct report of official tractor test No. 474.

L. F. LARSEN Engineer in Charge

C. W. SMITH F. D. YUNG L. W. HURLBUT Board of Tractor Test Engineers