UNIVERSITY OF NEBRASKA—AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copied HM.
Calculated HM. RT

11.7705 for first gear
11.8723 for second gear

Log of Official Tractor Drawbar Horsepower Test No. 3399

Adv. per rev., ft. ~~11.2317~~

Op. Maximum

Date April 15 & 16, 1940

Chart and Reading No.	Time of day	Stop Watch, 500 ft., minutes	Engine Crankshaft R. P. M.*	Drive Wheel Slippage: Left Wheel Counter Reading	Left Wheel Revolutions 500 ft.	Right Wheel Counter Reading	Right Wheel Revolutions 500 ft.	Av. Rev., Columns 6 and 8	Distance Traveled, Feet	Distance Measured on Ground, Feet	Slippage, % Columns 10 and 11	Speed: Feet per Minute	Speed: Miles per Hour	Average Draft, Pounds	Drawbar Horsepower	Temperature: Radiator, Deg. F.	Temperature: Atmosphere, Deg. F.	Fuel Used, Pounds	Water Used, Pounds
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		First Gear Ratio 73.3333								500				Barometer 28.670					
				3549		1662				500									
2N	6:38	2.6725	1410	4060	51.1	0199	51.7	51.40		500		187.1	2.13	2229	12.64	170	43		
				4572		0698				500						~~160~~	~~43~~		
9N	6:57	2.7000	1395	5084	51.2	1213	51.5	51.35		500		185.2	2.10	2243	12.59	168	45		
Total		5.3725						102.75		500				4472					
Ave.		2.6863	1403					51.38	604.8	500	12.33	186.1	2.11	2236	12.61	169	43		
										500									
		Second Gear Ratio 57.0369								500		Barometer 28.490							
				4168		0165				500									
4N	4:15	2.0000	1399	4579	49.1	0655	49.0	49.05		500		250.0	2.84	2107	15.76	168	67		
6N	4:43	2.0000	1409	~~5052~~ 5588	~~49.4~~	~~1144~~ 1643	49.4	49.40		500		250.0	2.84	2095	15.87	168	66		
Total		4.0000			(5092)			98.45		500				4202		336	133		
Ave.		2.0000	1404					49.23	~~584.5~~ 589.0	500	~~14.46~~ 14.72	250.0	2.84	2101	15.92	168	67	~~66~~ 66.5	
										500									

NOTE: Record all stops by the word "Stop" and "Start" in column 1, record time and give full data.

* Engine R. P. M. = $\frac{\text{Gear Ratio x Column (9)}}{\text{Column (3)}}$

UNIVERSITY OF NEBRASKA—AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copied D.D. Calculated D., H.M.

Adv. per rev., ft. 11.8723 ~~11.92 317~~

Log of Official Tractor Drawbar Horsepower Test No. 339.9 Op. Maximum. Date April 16th, 1940.

Chart and Reading No.	Time of day	Stop Watch, 500 ft., minutes	Engine Crankshaft R.P.M.*	Drive Wheel Slippage: Left Wheel Counter Reading	Left Wheel Revolutions 500 ft.	Right Wheel Counter Reading	Right Wheel Revolutions 500 ft.	Av. Rev., Columns 6 and 8	Distance Traveled, Feet	Distance Measured on Ground, Feet	Slippage, % Columns 10 and 11	Speed: Feet per Minute	Speed: Miles per Hour	Average Draft, Pounds	Drawbar Horsepower	Temperature: Radiator, Deg. F.	Temperature: Atmosphere, Deg. F.	Fuel Used, Pounds	Water Used, Pounds
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
										500									
		Third Gear Ratio						24.6353		500		Barometer		28.740					
				2271		8326				500									
7N	1:12	0.7800		2711	44.0	8767	44.1	44.05		500		644.0	7.28	874	16.98	187	57		
8N	1:15	0.7750		3152	44.1	9207	44.0	44.05		500		645.2	7.33	869	16.99	188	57		
9N	1:19	0.7725		3593	44.1	9647	44.0	44.05		500		647.2	7.35	869	17.04	187	57		
				4033		0087				500									
11N	1:25	0.7775		4475	44.2	0528	44.1	44.15		500		643.1	7.31	874	17.03	187	57		
										500									
Total		3.1050						176.30		500				~~3486~~ 2612		749	228		
Avg.		0.7763	1399					44.08	523.3	500	4.45	644.1	7.32	87	17.02	187	57		
										500									
										500									
										500									
										500									

NOTE: Record all stops by the word "Stop" and "Start" in column 1, record time and give full data.

* Engine R. P. M. = $\frac{\text{Gear Ratio x Column (9)}}{\text{Column (3)}}$

Second Trial

UNIVERSITY OF NEBRASKA—AGRICULTURAL ENGINEERING DEPARTMENT

AGRICULTURAL COLLEGE, LINCOLN

Copied B

Calculated B H.M.

Log of Official Tractor Drawbar Horsepower Test No. 339 f - 100%

Date Apr. 16, 1940

Adv. per rev., ft. 11.~~92317~~ 8212 ~~77552~~

Chart and Reading No.	Time of day	Stop Watch, 500 ft., minutes	Engine Crankshaft R. P. M.*	Drive Wheel Slippage: Left Wheel Counter Reading	Left Wheel Revolutions 500 ft.	Right Wheel Counter Reading	Right Wheel Revolutions 500 ft.	Av. Rev., Columns 6 and 8	Distance Traveled, Feet	Distance Measured on Ground, Feet	Slippage, % Columns 10 and 11	Speed: Feet per Minute	Speed: Miles per Hour	Average Draft, Pounds	Drawbar Horsepower	Temperature: Radiator, Deg. F.	Temperature: Atmosphere, Deg. F.	Fuel Used, Pounds	Water Used, Pounds
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
				Second Gear Ratio ~~7.6720~~ 57.0369												Barometer 28.690" Hg.			
				7065		3163				500									
6N	4:12	2.035	1383	7559	49.4	3657	49.3	49.35		500		245.7	2.79	2154	16.04	183	54		
				9555		5643				500									
11N	5:10	1.980	1401	0041	48.6	6130	48.7	48.65		500		252.5	2.87	2134	16.33	181	52		
12N	5:20	1.965	1416	0529	48.8	6618	48.8	48.80		500		254.5	2.89	2149	16.57	183	52		
Total		5.980						146.80		500		~~757~~		6437		549	158		
Avg		1.9933	1400					48.93	~~578.4~~ 578.4	500	~~13.55~~ 13.55	~~250.8~~ 250.8	2.85	2146	~~16.31~~ 16.31	182	53		

513 / 520 = 0.986538

$\sqrt{0.986538} = 0.993245$

29.920 / 28.690 = 1.042872

1.042872 × 0.993245 = 1.036 Corr. Factor

16.32 × 1.036 = 16.90 Corr. HP.

16.90 × 0.75 = 12.68 Rated HP.

12.68 × 33,000 ÷ 255 = 1641 lbs.

NOTE: Record all stops by the word "Stop" and "Start" in column 1, record time and give full data.

* Engine R. P. M. = $\frac{\text{Gear Ratio x Column (9)}}{\text{Column (3)}}$

UNIVERSITY OF NEBRASKA—AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copied H.M. R.T.
Calculated H.M. R.T. R.T.

Log of Official Tractor Drawbar Horsepower Test No. 339 M
Rated Load

Adv. per rev., ft. 11.7705

Date April 18, 1940.

Chart and Reading No.	Time of day	Stop Watch, 500 ft., minutes	Engine Crankshaft R. P. M.*	Drive Wheel Slippage: Left Wheel Counter Reading	Left Wheel Revolutions 500 ft.	Right Wheel Counter Reading	Right Wheel Revolutions 500 ft.	Av. Rev., Columns 6 and 8	Distance Traveled, Feet	Distance Measured on Ground, Feet	Slippage, % Columns 10 and 11	Speed: Feet per Minute	Speed: Miles per Hour	Average Draft, Pounds	Drawbar Horsepower	Temperature: Radiator, Deg. F.	Temperature: Atmosphere, Deg. F.	Fuel Used, Pounds	Water Used, Pounds
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
				6279		2389				500									
7S	4:24	1.8400		6735	45.6	2845	45.6	45.60		500						180	62		
7N	4:29	1.8400		7190	45.5	3300	45.5	45.50		500		271.9	3.09	1574	12.96	178	60		
8S	5:35	1.6500		7644	45.4	3754	45.4	45.40		500						180	60		
8N	5:40	1.6400		8097	45.3	4207	45.3	45.30		500		271.0	3.08	1535	12.61	180	60		
9S	6:31	1.8500		8550	45.3	4661	45.4	45.35		500						176	58		
9N	6:36	1.8325		9002	45.2	5113	45.2	45.20		500		271.5	3.09	1528	12.57	176	58		
10S	7:27	1.8575		9456	45.4	5567	45.4	45.40		500						173	56		
10N	7:33	1.8425		9908	45.2	6018	45.1	45.15		500		270.3	3.07	1559	12.77	173	56		
Stop	7:49	88/100		Pulled rated load 10 hours and 88/100 minutes						500									
										500									
Total		37.1206						910.55		500				15681		3554	1191		
Ave.		1.8560	1399					45.53	535.9	500	6.70	269.4	3.06	1568	12.80	176	60	9222	0.00
										500									
										500									

NOTE: Record all stops by the word "Stop" and "Start" in column 1, record time and give full data.

* Engine R. P. M. = $\frac{\text{Gear Ratio} \times \text{Column (9)}}{\text{Column (3)}}$

UNIVERSITY OF NEBRASKA—AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copied HM. R.T.
Calculated HM. R.T.

Adv. per rev., ft. 11.7705 — Log of Official Tractor Drawbar Horsepower Test No. 339 h. Rated Load — Date April 18, 1940.

Chart and Reading No.	Time of day	Stop Watch, 500 ft., minutes	Engine Crankshaft R. P. M.*	Drive Wheel Slippage: Left Wheel Counter Reading	Left Wheel Revolutions 500 ft.	Right Wheel Counter Reading	Right Wheel Revolutions 500 ft.	Av. Rev., Columns 6 and 8	Distance Traveled, Feet	Distance Measured on Ground, Feet	Slippage, % Columns 10 and 11	Speed: Feet per Minute	Speed: Miles per Hour	Average Draft, Pounds	Drawbar Horsepower	Temperature: Radiator, Deg. F.	Temperature: Atmosphere, Deg. F.	Fuel Used, Pounds	Water Used, Pounds
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		Second Gear Ratio 57.0369								500				Barometer 28.855					
	9:49	Start Test		0800		6915				500									
1S	10:30	1.8600		1257	45.7	7372	45.7	45.70		500						174	55		
1N	10:35	1.8350		1712	45.5	7826	45.4	45.45		500		270.6	3.08	1517	12.44	173	56		
2S	11:34	1.8850		2169	45.7	8282	45.6	45.65		500						176	66		
2N	11:39	1.8400		2623	45.4	8735	45.3	45.35		500		268.5	3.05	1540	12.53	176	66		
3S	12:30	1.8700		3080	45.7	9192	45.7	45.70		500						178	60		
3N	12:35	1.8500		3535	45.5	9647	45.5	45.50		500		268.8	3.05	1569	12.78	177	60		
4S	1:27	1.8800		3993	45.8	0105	45.8	45.80		500						180	58		
4N	1:33	1.8500		4446	45.5	0560	45.5	45.50		500		268.1	3.05	1585	12.88	179	58		
5S	2:30	1.8900		4907	45.9	1018	45.8	45.85		500						180	60		
5N	2:35	1.8500		5363	45.6	1474	45.6	45.60		500		267.4	3.04	1618	13.11	180	60		
6S	3:35	1.8850		5822	45.9	1933	45.9	45.90		500						185	62		
6N	3:40	1.8725		6279	45.7	2389	45.6	45.65		500		266.1	3.02	1656	13.35	180	60		
										500									

NOTE: Record all stops by the word "Stop" and "Start" in column 1, record time and give full data.

* Engine R. P. M. = $\frac{\text{Gear Ratio x Column (9)}}{\text{Column (3)}}$