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REPORT NO. 922

SUMMARY OF MOTOR VEHICLE OPERATIONS
FOR THE CALENDAR YEAR 1943

by

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This report has been prepared in order to furnish comparable figures on the operation of the various vehicles used by the Institute, and for purposes of comparison with similar reports that were prepared in 1941 and 1942 (Reports 752 and 752-A). It should be helpful in the preparation of monthly requisitions, budget estimates and the amount of gasoline required for any period.

Most of the tables are self explanatory. All of the Institute vehicles are listed in Table 1. The monthly cost of operations for each unit is presented in Tables 2 to 10, inclusive. The total monthly cost of operations is listed in Table 11. The summary of individual motor vehicle operations for 1943 will be found in Table 12.

The comparison between the monthly mileage with percentage reduction between 1943 and 1941 is presented in Table 13. A total reduction in mileage of 5.1 per cent or 3,548 miles was effected in 1943 over 1942. A reduction of 38.2 per cent was effected in 1943 over 1941.

Table 14 compares the mileage, miles per gallon of gasoline, and the total cost per mile for the years 1941, 1942 and 1943. The increase in the number of miles per gallon for several of the units is probably due

to the decrease in the speed limit. The increase in the number of miles per gallon of gasoline and the total cost per mile can be attributed to several things, such as poorer quality of gasoline now available and the increased age of the vehicle.

Table 1

List of Institute vehicles used in 1943

License number	Total mileage to date	Total cost of operations to date	Year	Make	Body style
16	40,358	\$734.58	1938	Ford	1 1/2-ton stake-hoist truck
24	17,597	239.83	1942	Chevrolet	1/2-ton sedan delivery "
28	45,480	831.40	1941	Chevrolet	1/2-ton sedan delivery "
33	58,036	1,033.65	1938	Chevrolet	1/2-ton panel truck
34	23,700	710.08	1939	Ford	1 1/2-ton panel truck
35	31,268	631.05	1939	Ford	1 1/2-ton panel truck
44	42,203	582.12	1941	Chevrolet	Suburban carryall
45	43,417	560.16	1941	Chevrolet	Coupe
47	19,036	338.73	1941	Chevrolet	3/4-ton panel truck

Table 2

License number 16 (Ford stake-hoist truck).

Summary of operations by months

Month	Gasoline (gallons)	Cost of gasoline	Oil (quarts)	Cost of oil	Cost of tires and tubes	Cost of repairs, grease and accessories	Mileage during month	Total cost during month	
January	...	...	...	...	...	...	...	...
February	15.0	2.62	...	...	...	...	35	2.62
March	...	...	...	...	...	...	...	...
April	29.0	5.43	...	...	...	...	154	5.43
May	15.0	2.71	...	...	...	...	27	2.71
June	21.0	3.79	2	0.50	...	...	116	4.29
July	...	...	...	...	...	...	5	...
August	16.2	2.93	...	...	...	...	33	2.93
September	10.0	1.80	...	...	...	...	64	1.80
October	31.7	5.66	4	1.02	0.75	0.26	311	7.69	
November	5.0	0.90	...	...	...	...	30	0.90
December	10.0	1.93	5	1.60	...	10.97	28	14.50	
Totals	152.9	27.77	11	3.12	0.75	11.23	803	42.87	
								Total cost of operations to date ...	\$734.58
								Total mileage to date	40,358

Table 3

License number 24 (Chevrolet sedan delivery truck).

Summary of operations by months

Month	Gasoline (gallons)	Cost of gasoline	Oil (quarts)	Cost of oil	Cost of tires and tubes	Cost of repairs, grease and accessories	Mileage during month	Total cost during month
January	10.0	1.80	...	...	0.25	...	53	2.05
February	29.0	5.22	...	...	...	...	528	5.22
March	...	...	...	...	...	...	...	...
April	16.0	2.88	1	0.15	...	...	476	3.03
May	35.0	6.35	...	...	0.25	5.50	667	12.10
June	42.0	7.56	...	...	...	...	723	7.56
July	45.0	8.12	6	0.90	...	...	860	9.02
August	37.0	6.50	...	...	...	...	783	6.50
September	10.0	1.80	...	...	...	...	55	1.80
October	...	...	...	...	...	...	7	...
November	...	...	...	...	...	...	42	...
December	10.0	1.73	...	...	13.86	...	72	15.59
Totals	234.0	41.96	7	1.05	14.36	5.50	4,266	62.87
Total cost of operations to date								\$239.83
Total mileage to date								17,597

Table 4

License number 28 (Chevrolet sedan delivery truck).

Summary of operations by months

Month	Gasoline (gallons)	Cost of gasoline	Oil (quarts)	Cost of oil	Cost of tires and tubes	Cost of repairs, grease and accessories	Mileage during month	Total cost during month
January	10.0	1.92	...	...	27.86	90.86	265	120.64
February	43.7	9.35	6	1.77	0.75	4.49	824	16.36
March	15.0	2.82	6	1.77	17.75	3.75	231	26.09
April	128.0	24.43	9	2.25	18.07	7.40	2,750	52.15
May	78.2	14.47	2	0.53	13.12	4.10	1,543	32.22
June	106.0	19.83	8	2.04	1.00	5.66	1,919	28.53
July	85.7	15.92	13	3.46	0.50	22.55	1,805	42.43
August	80.0	14.53	3	0.57	...	1.50	1,822	26.60
September	75.8	14.17	8	2.17	...	6.58	1,383	22.92
October	69.0	12.64	7	2.00	...	2.36	1,604	17.00
November	20.0	3.57	5	1.50	...	4.25	303	9.32
December	83.3	15.46	6	1.50	...	0.72	1,491	17.68
Totals	799.7	149.11	73	19.56	79.05	154.22	15,940	401.94
Total cost of operations to date ...								\$331.40
Total mileage to date								45,480

Table 5

License number 33 (Chevrolet panel truck).

Summary of operations by months

Month	Gasoline (gallons)	Cost of gasoline	Oil (quarts)	Cost of oil	Cost of tires and tubes	Cost of repairs, grease and accessories	Mileage during month	Total cost during month
January	...	...	...	...	...	...	...	...
February	...	...	...	...	...	...	...	...
March	...	...	...	...	...	...	...	...
April	53.0	9.54	7	1.65	...	1.10	721	12.29
May	44.0	7.92	...	...	...	...	767	7.92
June	31.0	5.58	2	0.50	0.50	...	458	6.58
July	10.0	1.80	...	...	...	...	269	1.80
August	30.2	5.45	...	...	...	...	396	5.45
September	35.0	6.20	...	...	...	...	457	6.20
October	31.0	5.58	3	0.55	...	1.00	607	7.13
November	25.0	4.50	...	...	...	...	328	4.50
December	29.0	5.29	5	1.60	...	36.70	300	43.59
Totals	288.2	51.86	17	4.30	0.50	38.80	4,303	95.46
Total cost of operations to date ..								\$1,033.65
Total mileage to date								58,036

Table 6

License number 34 (Ford panel truck).

Summary of operations by months

Month	Gasoline (gallons)	Cost of gasoline	Oil (Quarts)	Cost of oil	Cost of tires and tubes	Cost of repairs, grease and accessories	Mileage during month	Total cost during month
January	56.0	10.08	1	0.15	...	12.80	464	23.03
February	70.0	12.60	2	0.30	...	...	518	12.90
March	35.0	6.41	1	0.15	0.25	...	440	6.81
April	10.0	1.92	5	1.50	...	13.75	94	17.17
May	...	...	...	...	...	...	17	...
June	10.0	1.92	...	...	...	...	44	1.92
July	16.3	3.13	...	...	...	...	152	3.13
August	20.0	3.84	...	...	...	...	184	3.84
September	10.0	1.92	...	...	...	1.00	37	2.92
October	...	...	...	...	...	...	...	...
November	15.0	2.86	6	1.77	0.70	16.30	155	21.63
December	12.0	2.16	1	0.15	...	...	115	2.31
Totals	254.3	46.84	16	4.02	0.95	43.85	2,220	95.66
Total cost of operations to date ..								\$710.08
Total mileage to date								23,700

Table 7

License number 35 (Ford panel truck).

Summary of operations by months

Month	Gasoline (gallons)	Cost of gasoline	Oil (quarts)	Cost of oil	Cost of tires and tubes	Cost of repairs, grease and accessories	Mileage during month	Total cost during month
January	88.8	13.73	5	1.50	...	3.35	826	18.58
February	80.2	12.77	9	2.44	...	1.60	831	16.81
March	79.0	12.97	2	0.52	0.25	9.65	991	23.39
April	33.8	6.01	5	1.50	...	3.25	497	10.76
May	12.0	2.16	2	0.30	...	...	176	2.46
June	35.0	6.73	...	...	...	1.00	262	7.73
July	29.2	5.61	1	0.27	...	...	452	5.88
August	97.5	18.70	5	1.35	...	...	1,055	20.05
September	15.0	2.88	1	0.27	...	1.75	130	4.90
October	...	...	...	...	...	...	57	...
November	120.6	22.11	15	3.74	...	7.60	1,594	33.45
December	15.0	2.76	5	1.50	...	2.47	112	6.73
Totals	606.1	106.43	50	13.39	0.25	30.67	6,893	150.74
Total cost of operations to date ..								\$631.05
Total mileage to date								31,268

Table 8

License number 44 (Chevrolet suburban carryall).

Summary of operations by months

Month	Gasoline (gallons)	Cost of gasoline	Oil (quarts)	Cost of oil	Cost of tires and tubes	Cost of repairs, grease and accessories	Mileage during month	Total cost during month
January	31.0	5.58	...	...	5.00	...	595	10.58
February	40.5	7.29	...	...	...	8.70	820	15.99
March	57.0	10.41	2	0.54	...	4.25	1,089	15.20
April	147.0	24.68	5	1.50	...	6.65	2,583	32.83
May	46.0	8.28	5	1.50	0.80	7.58	929	18.16
June	41.0	7.38	...	...	...	0.33	682	7.71
July	75.0	13.50	2	0.30	6.40	2.75	1,245	22.95
August	75.0	13.42	1	0.15	...	...	1,636	13.57
September	31.0	5.58	5	1.50	...	2.40	452	9.48
October	14.0	2.52	...	...	...	...	220	2.52
November	40.0	7.20	1	0.15	...	...	612	7.35
December	41.0	7.38	5	1.75	...	4.05	617	13.18
Total	638.5	113.22	26	7.39	12.20	36.71	11,480	169.52
Total cost of operations to date ..								\$582.12
Total mileage to date								42,203

Table 9

License number 45 (Chevrolet coupe).

Summary of operations by months

Month	Gasoline (gallons)	Cost of gasoline	Oil (quarts)	Cost of oil	Cost of tires and tubes	Cost of repairs, grease and accessories	Mileage during month	Total cost during month
January	42.6	7.96	1	0.31	...	2.86	959	11.13
February	38.6	7.37	1	0.27	...	2.10	660	9.74
March	15.6	2.95	1	0.27	...	...	293	3.22
April	20.0	3.60	...	...	...	1.00	650	4.60
May	61.0	11.44	2	0.54	0.25	24.65	1,125	36.88
June	62.0	11.35	2	0.54	...	2.00	1,541	13.89
July	35.2	6.23	1	0.26	0.65	10.50	525	17.64
August	101.0	18.16	1	0.25	0.25	...	2,192	18.66
September	109.0	19.68	8	1.95	2.80	5.20	1,968	29.63
October	16.0	2.83	...	...	...	3.00	377	5.83
November	27.7	5.32	6	1.51	0.25	4.41	304	11.49
December	50.0	8.88	4	1.04	...	...	1,185	9.92
Total	578.7	105.77	27	6.94	4.20	55.72	11,779	172.63
Total cost of operations to date ..								\$560.16
Total mileage to date								43,417

Table 10

License number 47 (Chevrolet panel truck).

Summary of operations by months

Month	Gasoline (gallons)	Cost of gasoline	Oil (quarts)	Cost of oil	Cost of tires and tubes	Cost of repairs, grease and accessories	Mileage during month	Total cost during month
January	76.0	13.60	2	0.48	...	14.80	855	28.88
February	84.7	14.77	5	1.38	...	...	1,113	16.15
March	29.0	5.22	...	...	...	8.53	402	13.75
April	33.5	6.03	...	...	...	17.35	382	23.38
May	34.0	7.02	1	0.25	...	2.35	564	9.62
June	53.0	9.54	1	0.25	...	4.40	672	14.19
July	50.5	9.09	2	0.30	...	3.25	952	12.64
August	38.0	6.84	...	...	1.00	...	689	7.84
September	43.5	7.83	1	0.15	...	0.60	516	8.58
October	45.0	8.10	1	0.15	...	3.40	761	11.65
November	20.0	3.60	6	0.90	...	4.38	298	8.88
December	33.5	6.14	1	0.27	0.25	8.74	353	15.40
Total	540.7	97.78	20	4.13	1.25	67.80	7,557	170.96
Total cost of operations to date ..								\$338.73
Total mileage to date								19,036

Table 11

Monthly cost of operations
for all vehicles during 1943

Month	Gasoline (gallons)	Cost of gasoline	Oil (quarts)	Cost of oil	Cost of tires and tubes	Cost of repairs, grease and accessories	Total mileage	Total cost
January	314.4	54.67	9	2.44	33.11	124.67	4,017	214.89
February	406.7	71.99	23	6.16	0.75	16.89	5,329	95.79
March	230.6	40.78	12	3.25	18.25	26.18	3,446	88.46
April	470.3	84.52	32	8.55	18.07	50.50	8,307	161.64
May	325.2	60.35	12	3.12	14.42	44.18	5,815	122.07
June	401.0	73.68	15	3.83	1.50	13.39	6,417	92.40
July	346.9	63.40	25	5.49	7.55	39.05	6,265	115.49
August	494.9	90.37	10	2.32	1.25	1.50	8,790	95.44
September	339.3	61.86	23	6.04	2.80	17.53	5,062	88.23
October	206.7	37.33	15	3.72	0.75	10.02	3,944	51.82
November	273.3	50.06	39	9.57	0.95	36.94	3,666	97.52
December	283.8	51.73	32	9.41	14.11	63.65	4,273	138.90
Totals	4,093.1	740.74	247	63.90	113.51	444.50	65,331	1,362.65

Table 12

Summary of individual motor vehicle operations for 1943

License number	Gasoline (gallons)	Cost of gasoline	Oil (quarts)	Cost of oil	Cost of tires and tubes	Cost of repairs, grease and accessories	Mileage during 1943	Cost of opera- tions 1943	Miles per gallon gasoline	Total cost per mile
16	152.9	27.77	11	3.12	0.75	11.23	803	42.87	5.25	\$ 0.053
24	234.0	41.96	7	1.05	14.36	5.50	4,266	62.87	18.23	0.015
28	799.7	149.11	73	19.56	79.05	154.22	15,940	401.94	19.93	0.025
33	288.2	51.86	17	4.30	0.50	38.80	4,303	95.46	14.93	0.022
34	254.3	46.84	16	4.02	0.95	43.85	2,220	95.66	8.73	0.043
35	606.1	106.43	50	13.39	0.25	30.67	6,983	150.74	11.52	0.022
44	638.5	113.22	26	7.39	12.20	36.71	11,480	169.52	17.98	0.015
45	578.7	105.77	27	6.94	4.20	55.72	11,779	172.63	20.35	0.015
47	540.7	97.78	20	4.13	1.25	67.80	7,557	170.96	13.98	0.023
Totals or averages	4093.1	740.74	247	63.90	113.51	444.50	65,331	1,362.65	...	...

Table 13

Comparison between 1941, 1942 and 1943 mileages,
with percentage reduction

Month	1941	1942	1943	Per cent reduction		
				1942 over 1941	1943 over 1942	1943 over 1941
January	5,832	5,010	4,017	14.1	19.8	31.1
February	7,000	5,823	5,329	16.8	8.5	23.9
March	8,466	6,926	3,446	18.2	50.2	59.3
April	9,641	7,709	8,307	20.0	+7.2	13.8
May	10,347	5,983	5,815	42.2	20.8	43.8
June	12,191	5,847	6,417	52.0	+8.9	47.4
July	12,693	9,215	6,265	27.4	32.0	51.6
August	10,298	5,734	8,790	44.3	+34.8	14.6
September	10,567	5,190	5,062	50.9	2.5	52.1
October	11,067	5,289	3,944	52.2	25.4	66.2
November	4,349	2,634	3,666	39.4	+28.1	15.7
December	3,352	3,519	4,273	+4.7	+17.6	+21.6
Totals	105,799	68,879	65,331	34.9	5.1	38.2

Table 14

Comparison of mileage, miles per gallon of gasoline, and
total cost per mile for all units during 1941, 1942 and 1943

License number	Mileage			Total mileage to date	Miles per gallon			Total cost per mile		
	1941	1942	1943		1941	1942	1943	1941	1942	1943
16	2,766	4,425	803	40,358	6.87	8.55	5.25	\$0.034	\$0.033	\$0.053
24	150	13,181	4,266	17,597	...	18.52	18.23	...	0.013	0.015
28	20,134	9,399	15,940	45,480	17.40	19.42	19.93	0.016	0.012	0.025
33	6,962	7,213	4,303	58,036	13.85	16.14	14.93	0.018	0.020	0.022
34	4,740	7,343	2,220	23,700	9.51	11.53	8.73	0.026	0.043	0.043
35	5,882	5,683	6,983	31,268	10.01	10.28	11.52	0.024	0.023	0.022
44	16,887	10,332	11,480	42,203	17.54	18.96	17.98	0.014	0.013	0.015
45	24,162	6,640	11,779	43,417	18.62	19.20	20.35	0.012	0.013	0.015
47	6,816	4,663	7,557	19,036	16.44	14.94	13.98	0.013	0.017	0.023

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