

59. Generator

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mjgr's. Part No.	Mjgr's. Code
...		1	Generator and regulator assy.—Delco-Remy Model 1101747.....	A108-87	A
...		1	Support—For generator.....	39-1353	A
...		2	Capscrew.....	02-34	A
...		2	Lockwasher—For #02-34, 3/8".....	05-51	A
...		2	Capscrew.....	02-20	A
...		2	Lockwasher—For #02-20, 1/16".....	05-50	A
...		2	Nut—For #02-20, 3/16"—18.....	04-102	A
...		1	Adjusting support.....	39-1354	A
...		1	Pulley—Generator drive.....	36-519	A
...		1	Belt—Generator drive.....	41-229	A
...		1	Control unit.....	5897	F
...		3	Lockwasher.....	106495	F
...		3	Lockwasher.....	106496	F
...		1	Lockwasher.....	106497	F
...		1	Screw.....	107728	F
...		2	Lockwasher.....	108579	F
...		1	Woodruff key.....	124545	F
...		2	Screw.....	132900	F
...		2	Lockwasher.....	138479	F
...		2	Screw.....	141540	F
...		1	Screw.....	141543	F
...		2	Lockwasher.....	802730	F
...		3	Lockwasher.....	802731	F
...		4	Lockwasher.....	802757	F
...		1	Lockwasher.....	804000	F
...		1	Wick.....	804076	F
...		1	Nut.....	806915	F
...		1	Dowel pin.....	809062	F
...		3	Washer.....	809551	F
...		1	Dowel pin.....	809593	F
...		1	Pin.....	809614	F
...		3	Brush.....	809637	F
...		3	Brush holder.....	809642	F
...		2	Spring (3rd and grd.).....	809644	F
...		1	Spring (Ins. main).....	809658	F
...		1	Lead (Ground).....	809688	F
...		1	Brush plate.....	809698	F
...		1	Spring Washer.....	809824	F
...		1	Washer.....	809945	F
...		1	Felt washer.....	809961	F

3H4574/N15
3H4574/S137

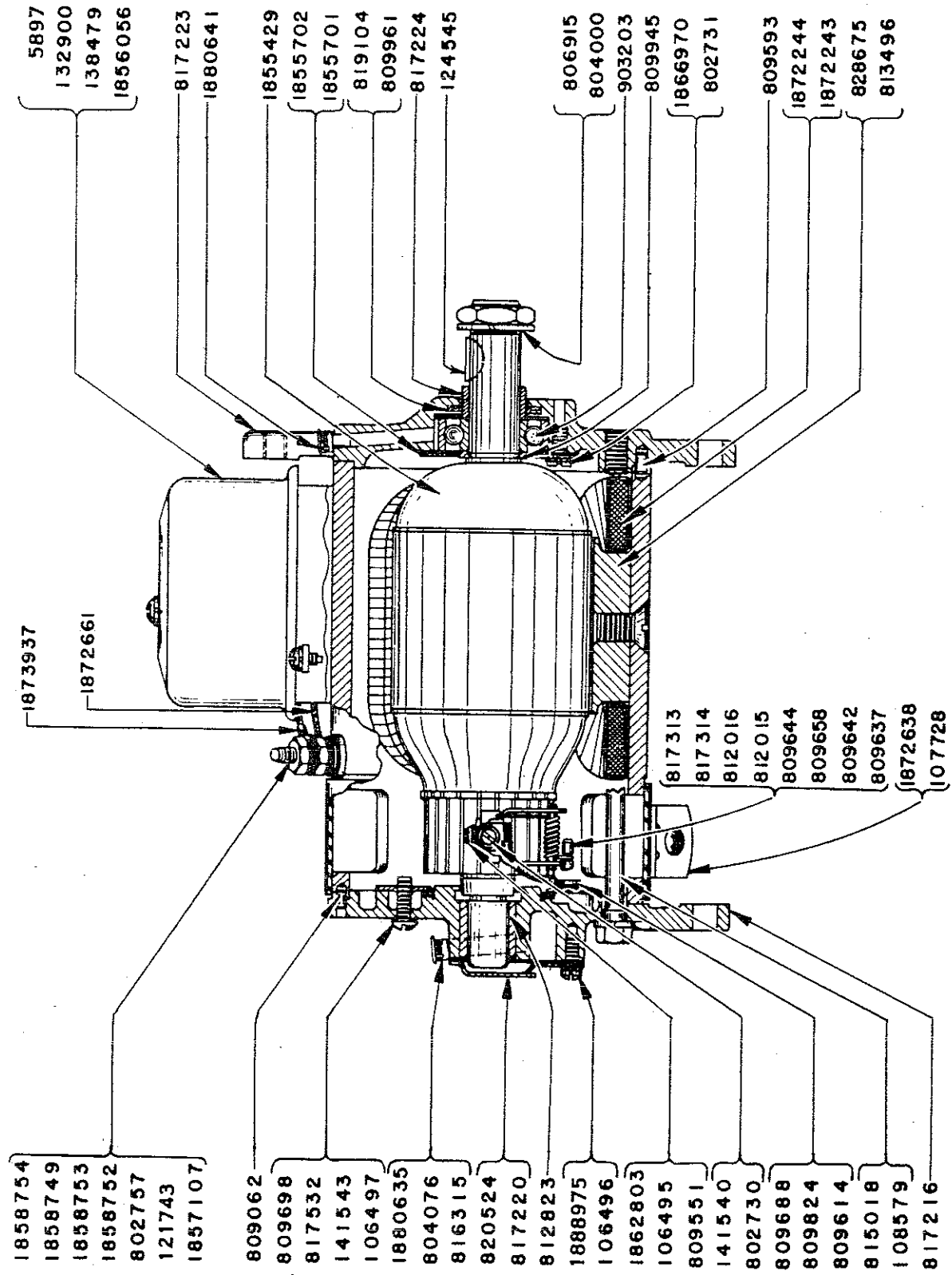


Fig. 62. Longitudinal Section through 12 Volt Generator

59. Generator (Cont'd)

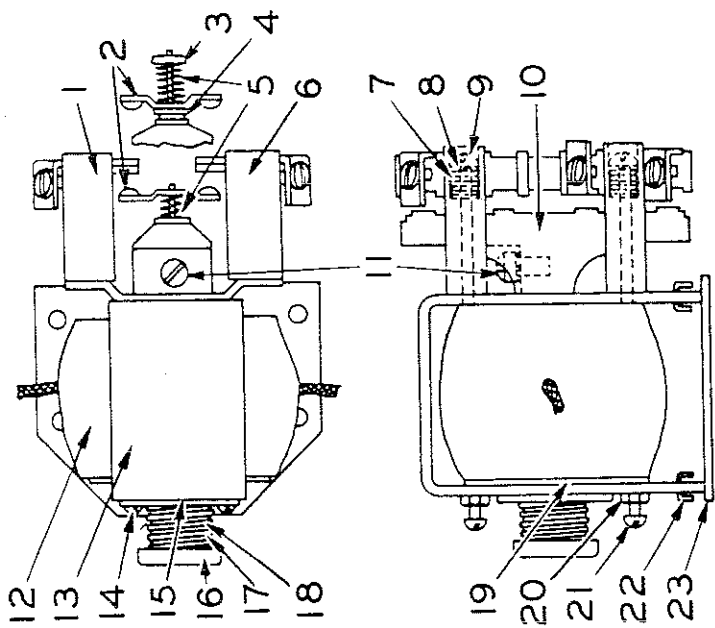
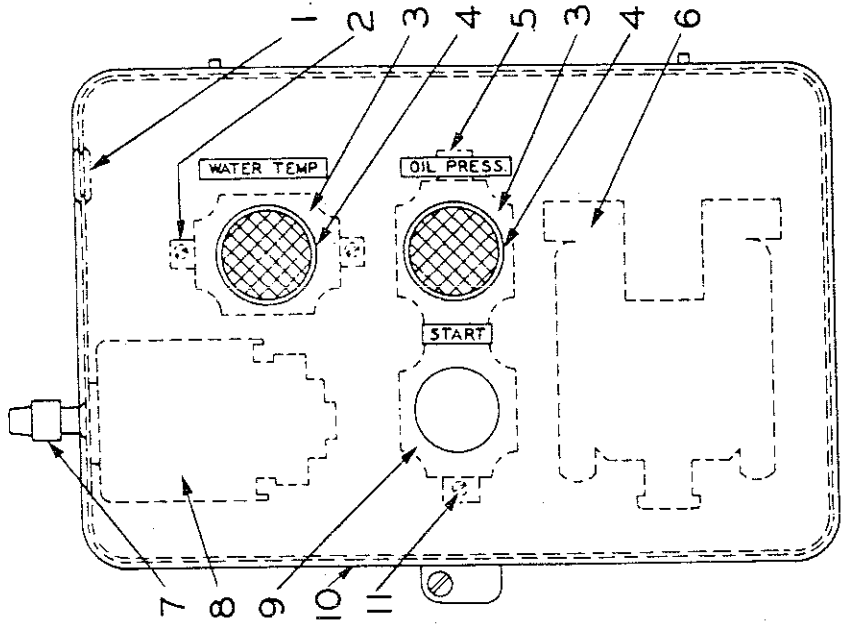
Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mjgr's. Part No.	Mjgr's. Code
...		1	Stop pin and insul.	812015	F
...		1	Hinge pin and insul.	812016	F
...		1	Bushing	812823	F
...		2	Pole shoe	813496	F
...		2	Through bolt	815018	F
...		1	Plug	816315	F
...		1	Comm. end frame	817216	F
...		1	Gasket	817220	F
...		1	Drive end frame	817223	F
...		1	Collar	817224	F
...		1	Hinge pin	817313	F
...		1	Stop pin	817314	F
...		1	Plate clamp	817532	F
...		1	Retainer plate	819104	F
...		1	End plate	820524	F
...		2	Screw	828675	F
...		1	Ball bearing	903203	F
...		4	Nut	1843522	F
...		1	Armature	1855429	F
...		1	Gasket	1855701	F
...		1	Retainer plate	1855702	F
...		2	Washer	1856056	F
...		2	Clip (To brush)	1857107	F
...		1	Stud (Field)	1858749	F
...		2	Washer	1858752	F
...		2	Washer (Insul.)	1858753	F
...		1	Stud and lead (Armature)	1858754	F
...		3	Screw	1862803	F
...		3	Screw	1866970	F
...		3	Screw	1868330	F
...		1	Field coil (L.H.)	1872243	F
...		1	Field coil (R.H.)	1872244	F
...		1	Cover Band	1872638	F
...		1	Armature lead	1872661	F
...		1	Field lead	1873937	F
...		1	Oil.	1880635	F
...		1	Oil.	1880641	F

60. Battery

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfg'r's. Part No.	Mfg'r's. Code
...		1	Battery—Globe-Union #133, 12 volt,	A117-55	A
...	3H4574/S138.	1	Battery strap.....	83-90	A
...		2	Lockwasher—For #83-90, 3/8".....	05-51	A
...		2	Nut—For #83-90, 3/8"—16 hex.....	04-103	A
...		2	Spacer—For battery, rubber.....	22-191	A

61. Control Switch Box Assembly

640	3H4584D/S46	1	Control switch box assy. Allen-Bradley No. X-84446.....	A76-176	A
...		3	Machine screw—Control box mounting, 1/4 x 1/2" rd. hd.....	03-619	A
...		3	Lockwasher—For #03-619, 1/4".....	05-49	A
1		1	Rubber grommet.....	F-13342	D
2		1	Mounting strap.....	A-22509	D
3		2	Pilot light unit (with lamp).....	X-49323	D
...		2	12 Volt lamp only.....	X-84317	D
4		2	Red lens.....	X-70103	D
5		1	Mounting strap.....	A-22508	D
6			See below for Bul. 200 Parts List.....		
7		1	Adapter.....	X-67988	D
8		1	Pressure switch.....	X-62153	D
9		1	Push button.....	X-49579	D
10		1	Cabinet (for 2 pilot lights).....	X-84561	D
11		8	Screw (with M-1100 washer).....	M-718	D
12		1	Thermostat (Le Roi No. 76-177).....	X-66847	D
...		1	Cabinet (for 1 pilot light).....	X-84562	D



THERMOSTAT
LE ROI NO.76-177

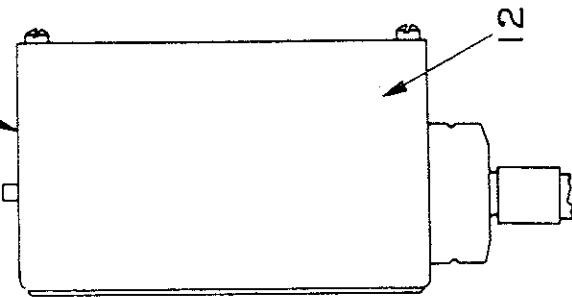


Fig. 63. Control Switch Box Assembly

61. Control Switch Box Assembly (Cont'd)

Bulletin 200 D. C. Relay

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfg'r's. Part No.	Mfg'r's. Code
1		1	Left hand stationary contact.....	X-48686	D
2		3	Movable contact (twisted).....	X-68997	D
3		1	Cup washer.....	M-2429	D
4		1	Spacer.....	E-8394	D
5		3	Contact spring.....	E-10113	D
6		1	Right hand stationary contact.....	X-48687	D
7		4	Spring.....	B-8590	D
8		4	Iron washer.....	M-1689	D
9		4	#4-40 x 1" screw.....	M-2066	D
10		1	Cross bar only.....	X-44849	D
11		1	Special washer.....	M-2240	D
...		1	Spring washer.....	M-1100	D
...		1	Screw.....	M-2855	D
12		1	Solenoid coil.....	R.L-4605	D
13		1	Frame assembly.....	X-52884	D
14		2	#6-32 x 3/4" screw.....	M-1496	D
15		1	Washer.....	E-9512	D
16		1	Cup washer.....	M-1932	D
17		1	Spring.....	B-11234	D
18		1	Core & plunger assembly.....	X-52864	D
19		1	Washer.....	E-1938	D
20		2	Nut.....	M-990	D
21		2	#6-32 x 3/8" screw.....	M-256	D
22		2	Lock nut.....	B-8446	D
23		1	Mounting plate.....	A-18459	D

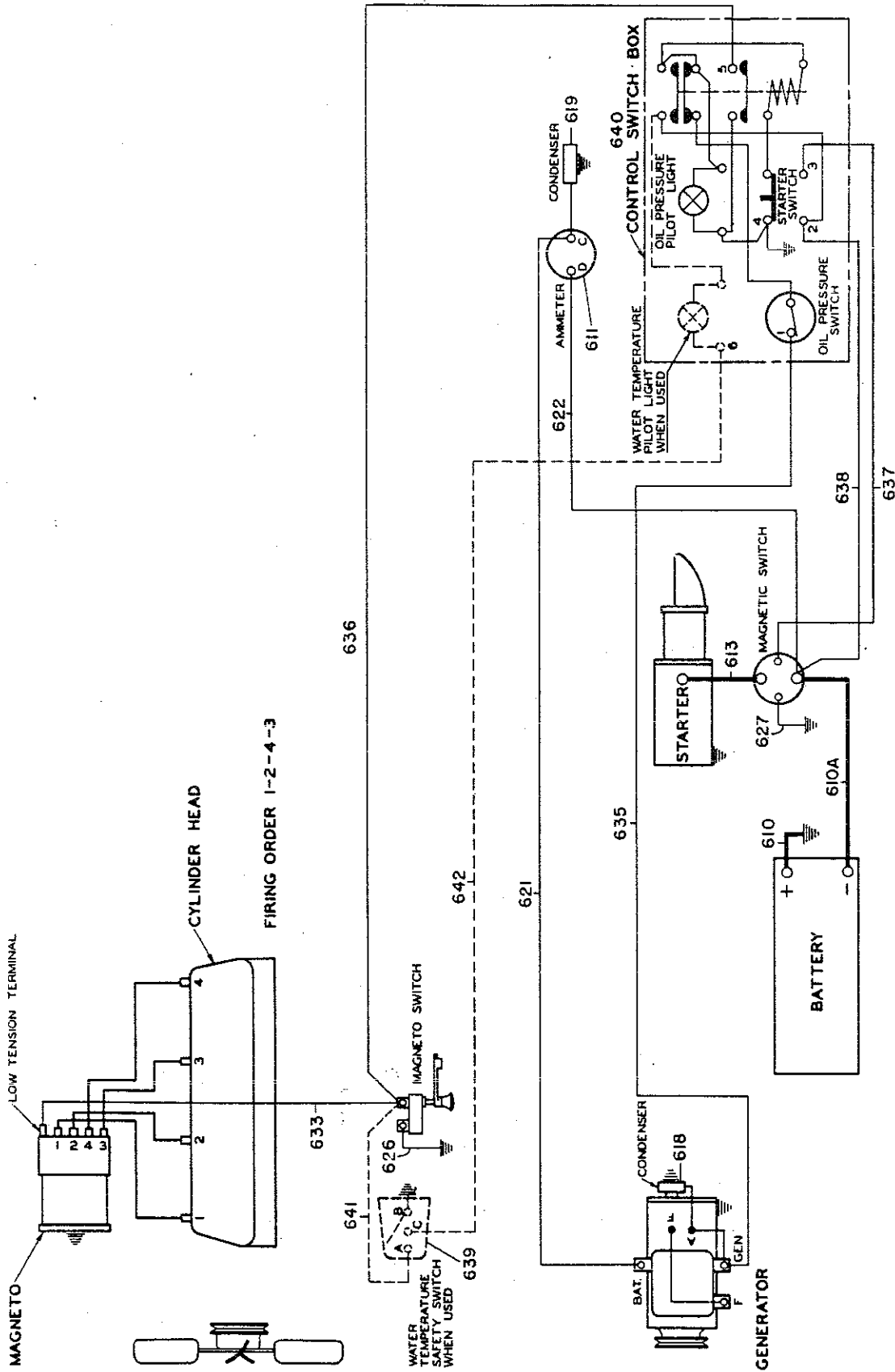


Fig. 64. Electrical Wires and Cables Diagram

62. Cables, Wires, Etc.

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mjgr's. Part No.	Mjgr's. Code
610	3H4574/C7	1	Ground cable—Battery (Pos.) to base.	A61-430	A
610A	3H4574/C1	1	Cable—Battery (Neg.) to magnetic switch.	A61-75-7	A
611	3H4574/A3	1	Ammeter.	A113-28	A
...	3H4574/C30	1	Clamp—For cable.	83-51	A
613	3H4574/C13	1	Cable—Magnetic switch to starter.	A61-75-8	A
615		1	Conduit—For wires.	55-653	A
616		1	Conduit clamp.	83-38	A
...		3	Conduit clamp.	55-659	A
...		1	Conduit—For wires.	02-32	A
...		3	Capscrew—For conduit clamp, $\frac{3}{8}$ —16 x $\frac{1}{2}$ " hex.	05-51	A
...		3	Lockwasher—For #02-32, $\frac{3}{8}$ "	167-6	A
...		1	Condenser—5 MFD, 200 V, generator.	167-6	A
618		1	Condenser—5 MFD, 200 V, ammeter.	A61-416-3	A
619	3H4584A/W19	1	Wire—Generator to ammeter, #10 x 59"	A61-416-2	A
621	3H4584A/W18	1	Wire—Ammeter to magnetic switch, #10 x 32"	A61-5-4	A
622	3H4584A/W13	1	Wire—Micro switch to ground, #14 x 2 $\frac{1}{2}$ "	A61-5-4	A
626	3H4584A/W13	1	Wire—Micro switch to ground, #14 x 2 $\frac{1}{2}$ "	1A55-29-55	A
627	3H4584A/W13	1	Wire—Magnetic switch to magneto. Includes items marked †.	A55-29-55	A
628		1	Tube assy.—Includes ferrule.	FP84832	I
...	3H4574/F12	1	†Ferrule—For A55-29-55.	IB84016	I
...	3H4584A/B50	1	†Insulating bushing.	NT571	I
...		1	†Nut.	FP84020	I
631	3H4574/F11	1	†Ferrule.	A61-306-33	A
...		1	†Wire—Micro Switch to magneto, #14 ga. x 30" lg.	A61-306-35	A
633		1	Wire—Generator to (No. 1) pressure switch.	121-5	A
635	3H4584A/W18	1	†Terminal.	A61-306-39	A
...		1	Wire—Micro Switch to (No. 5) relay.	A61-416-18	A
636	3H4574/W79	1	Wire—Starter Switch (No. 3) to magnetic switch.	A61-416-19	A
637	3H4584A/W20	1	Wire—Starter Switch (No. 2) to magnetic switch.	76-177	A
638	3H4584A/W21	1	Safety switch—Water temperature.	A61-306-37	A
1024		1	Wire—Temp. safety switch to micro switch.	A61-306-38	A
641	3H4574/W81	1	Wire—Temp. safety switch to control box.	55-674	A
642	3H4574/T19	1	Tube—Wire conduit.	83-91	A
1028	3H4574/C62	1	Clamp for tube.	02-32	A
...		1	Capscrew, $\frac{3}{8}$ x $\frac{1}{2}$ " hex.	05-51	A
...		1	Lockwasher, $\frac{3}{8}$ "		

63. Magneto

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfg'r's. Part No.	Mfg'r's. Code
350		1	Magneto assy., American Bosch Model MJB4A-314; Includes impulse coupling 1CA2A2.	A85-99-4	A
...		2	Capscrew—Magneto mounting, 3/8"—16 x 1 1/4"	02-37	A
...		2	Plain washer—For #02-37, 3/8"	06-4	A
...		2	Lockwasher—For #02-37, 3/8"	05-51	A
1	3H4584A/P42	1	Distributor plate with window and grounding cable assembly.	DP52328	I
2		1	Observation window.	WN521	I
3		1	Ring for window.	SP1001CA	I
4		1	Window gasket.	GA 1003	I
5		1	Clip for grounding cable (terminal block end).	EC 1003	I
7		1	Clip for external grounding cable.	EC 1001	I
8		1	Fastening screw—grounding cable to distributor plate.	SC 23-6 CA	I
9		1	Lockwasher for fastening screw.	WA 6-5	I
10		1	Insulation under cable clip.	IS 5257	I
11	3H4584A/S65	2	Distributor plate fastening screw.	SC 1003 CA	I
12	3H4584A/P41	2	Cover supporting post—long.	SD 527	I
13	3H4584A/P40	2	Cover supporting post—short.	SD 526	I
14		6	Lockwasher for fastening screw and cover supporting post.	WA 288	I
15		6	Plain washer for fastening screw and cover supporting post.	WA 98922	I
16	3H4584A/W45	6	Sealing washer for fastening screw and cover supporting post.	WA 5280	I
17		1	Distributor plate center brush and spring.	SA 82736	I
18		4	Distributor plate brush and spring.	SA 82876	I
19		1	Metal plate between frame and distributor plate.	PL 5232	I
20	3H4584A/C61	1	Radio shield cover.	CV 5224	I
21		2	Cover fastening screw—upper.	SC 78-7 OA	I
22		1	Round nut for low-tension terminal outlet.	NT 571	I
23		4	Terminal outlet ferrule—small.	FP 84020	I
24		4	Terminal outlet ferrule—large.	FP 84832	I
25	3H4584A/B50	1	Insulation bushing for low-tension terminal outlet.	IB 84016	I
26	3H4584A/B47	1	Cable outlet insulation bushing.	IS 524	I
27		1	Observation cover.	CV 5287	I
28		1	Fastening screw for observation cover.	SC 39-5 CA	I
29		1	Lockwasher for fastening screw.	WA 6-4	I
30	3H4584A/C56	1	Cap for radio shield cover.	CP 5223	I
31		4	Cap fastening screw.	SC 24-7 CA	I
32		4	Fastening screw lockwasher.	WA 5-5	I
33		1	Magneto housing.	HG 527	I
67	3H4584A/S74	2	Packing strip for magnet rotor ball bearing.	IS 504	I
68	3H4584A/W44	2	Bearing paper washer.	IS 222	I
69	3H4584A/T13	1	Oil thrower for ball bearing.	CV 522	I

63. Magneto (Cont'd)

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfg'r's. Part No.	Mfg'r's. Code
70	3H4584A/S71	1	Spacer on rotor.....	SR 1023	I
71		1	Woodruff key for gear.....	KY 11-3	I
72	3H4584A/G14	1	Magnet rotor gear.....	GE 5212	I
73	3H4584A/C55	1	Cam.....	CA 522	I
74		1	Cam fastening screw.....	SC 42-10 CA	I
75		1	Pastening screw lockwasher.....	WA 22-6	I
76		1	Cam retaining washer.....	WA 5241	I
77	3H4584A/W46	1	Indicating washer.....	WA 522	I
78	3H4584A/G16	1	Distributor gear and rotor assembly.....	GE 528	I
79	3H4584A/G15	1	Distributor gear only.....	GE 5247	I
80		1	Distributor rotor only.....	RT 525	I
81		3	Distributor rotor fastening screw.....	SC 521	I
82		3	Plain washer for screw.....	WA 1005 CA	I
83	3H4584A/W42	1	Distributor gear spacing washer.....	WA 78682	I
84		1	Interrupter assembly complete with platinum point.....	IN 5223	I
85		1	Interrupter plate with riveted parts and support plate.....	PL 52119	I
86	3H4574/P19	1	Interrupter lever with platinum point.....	LE 5220	I
87		1	Plain washer for lever stud.....	WA 86678	I
88		1	Interrupter lever cotter pin.....	FP 84791	I
89		1	Interrupter lever spring fastening screw.....	SC 1004 CA	I
90		1	Fastening screw lockwasher.....	WA 5-4	I
91	3H4574/P18	1	Adjustable contact bracket with platinum point.....	BK 5236	I
92		1	Contact bracket fastening screw.....	SC 104347	I
93		1	Fastening screw lockwasher.....	WA 6-4	I
94	3H4584A/G52	1	Interrupter grounding cable.....	CB 5227	I
95	3H4584A/B45	1	Interrupter grounding brush and spring.....	BR 521	I
96	3H4584A/C53	1	Cable between interrupter and clip on terminal block.....	CB 5223	I
97		1	Stop plate.....	PL 528	I
98		1	Stop plate fastening screw.....	SC 21-6 CA	I

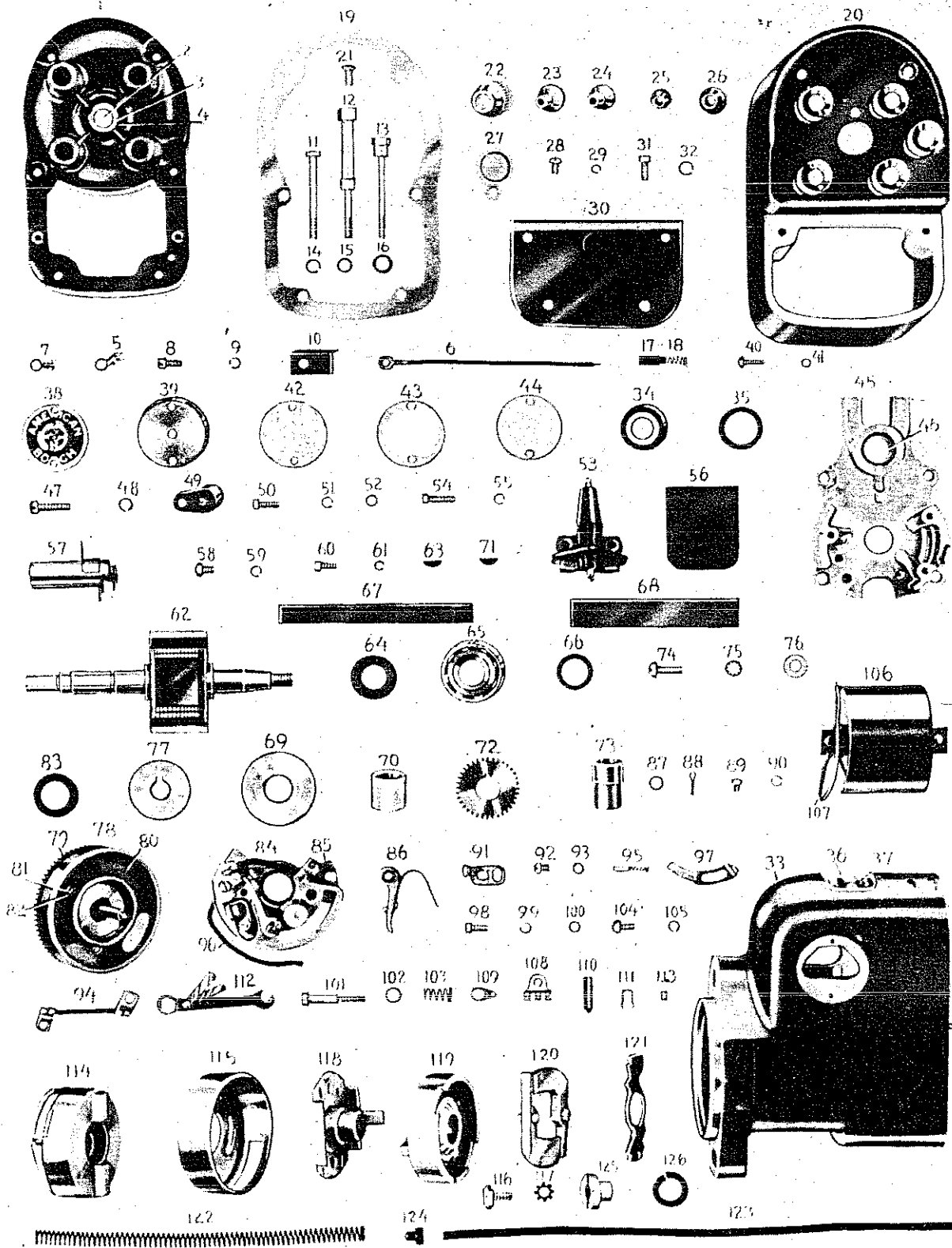


Fig. 65. Magneto and Component Parts

63. Magneto (Cont'd)

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfg'r's. Part No.	Mfg'r's. Code
34	3H4584A/S66	1	Leather oil seal—drive end.	PK 521	I
35	3H4584A/W43	1	Washer under oil seal.	WA 1071	I
36		1	Name plate for type designation.	NP 521	I
37		2	Name plate fastening screw.	SC 121-6 CA	I
38		2	Name plate on ventilator cover.	NP 522	I
39		2	Ventilator cover.	CV 52128	I
40		4	Cover fastening screw.	SC 1096	I
41		4	Fastening screw lockwasher.	WA 6-3 CA	I
42		2	Ventilator felt gasket.	GA 5210	I
43	3H4584A/G13	2	Ventilator washer.	WA 5269	I
44		2	Ventilator wire screen.	SN 526	I
45	3H4584A/B44	1	Gear bracket with bearing.	BK 527	I
46	3H4584A/B43	1	Bearing only.	BG 521	I
47		4	Bracket fastening screw.	SC 25-12 CA	I
48		4	Fastening screw lockwasher.	WA 6-6	I
49		1	Terminal block on gear bracket.	BL 522	I
50		1	Terminal block fastening screw.	SC 21-8 CA	I
51		1	Fastening screw lockwasher.	WA 6-4 CA	I
52		1	Fastening screw plain washer.	WA 72613	I
53		1	High-tension conductor.	EC 5212	I
54		2	Conductor fastening screw.	SC 21-10 CA	I
55		2	Fastening screw lockwasher.	WA 6-4 CA	I
56	3H4584A/J14	1	Conductor insulation.	IS 5226	I
57	3H4574/C123	1	Condenser with bracket.	CW 524	I
58		1	Condenser fastening screw.	SC 21-6 CA	I
59		1	Fastening screw lockwasher.	WA 6-4 CA	I
60		1	Condenser lead fastening screw.	SC 42-5 CA	I
61		1	Fastening screw lockwasher.	WA 76919 CA	I
62	3H4584A/R46	1	Magnet rotor.	RT 5217	I
63		1	Woodruff key—drive end.	KY 11-4	I
64	3H4584A/W41	1	Felt washer for magnet rotor—interrupter end.	WA 81751	I
65		2	Ball bearing.	BB 60226	I
66A	3H4584A/S67	As Req'd	Bearing shim (.0126").	WA 61	I
66B	3H4584A/S69	As Req'd	Bearing shim (.0071").	WA 106	I
66C	3H4584A/S68	As Req'd	Bearing shim (.004").	WA 107	I
66D	3H4584A/S70	As Req'd	Bearing shim (.0197").	WA 1009	I

63. Magneto (Cont'd)

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mjfr's. Part No.	Mjfr's. Code
99		1	Fastening screw lockwasher	WA 6-4 CA	I
100		1	Fastening screw plain washer	WA 72613	I
101		1	Stop plate stud	SD 1001 CA	I
102		1	Plain washer for stud	WA 98904	I
103	3H4584A/S73	1	Spring for stud	SP 525	I
104		1	Fastening screw for interrupter support plate	SC 1029 CA	I
105		1	Fastening screw lockwasher	WA 6-4 CA	I
106		1	High-tension coil	CL 524	I
107		1	Cable for coil—specify length	KL 100657	I
108	3H4584A/C59	1	Terminal clip for interrupter and coil cables	EC 5214	I
109	3H4584A/C58	1	Clip for retaining coil cable	EC 1002	I
110		2	Lock screw for mounting high-tension coil	SC 1060	I
111	3H4584A/C57	4	Terminal clip for distributor plate high-tension cable	FP 81953	I
112		1	Magneto wrench	WR 521	I
113		1	Set screw for edge distance holes	SC 1040	I
114		1	Impulse member assembly	HG 73118	I
115		1	Arrester plate assembly	PL 7365	I
116		4	Arrester plate fastening screw	SC 732	I
117		4	Fastening screw lockwasher	WA 1116	I
118	3H4584A/H18	1	Impulse member hub	HB 7328	I
119	3H4584A/H17	1	Impulse member housing	HG 73120	I
120	3H4584A/W47	1	Impulse member weight	SA 65972	I
121	3H4584A/C54	2	Cam	CA 789	I
122	3H4584A/S72	1	Spiral spring	SP 736	I
123	3H4584A/W48	1	Felt wick for spring	PK 734	I
124	3H4584A/P36	2	Pin for spring	PN 731	I
125	3H4584A/C62	1	Coupling to shaft securing nut	NT 731	I
126		1	Lockwasher for coupling	WA 5-16	I

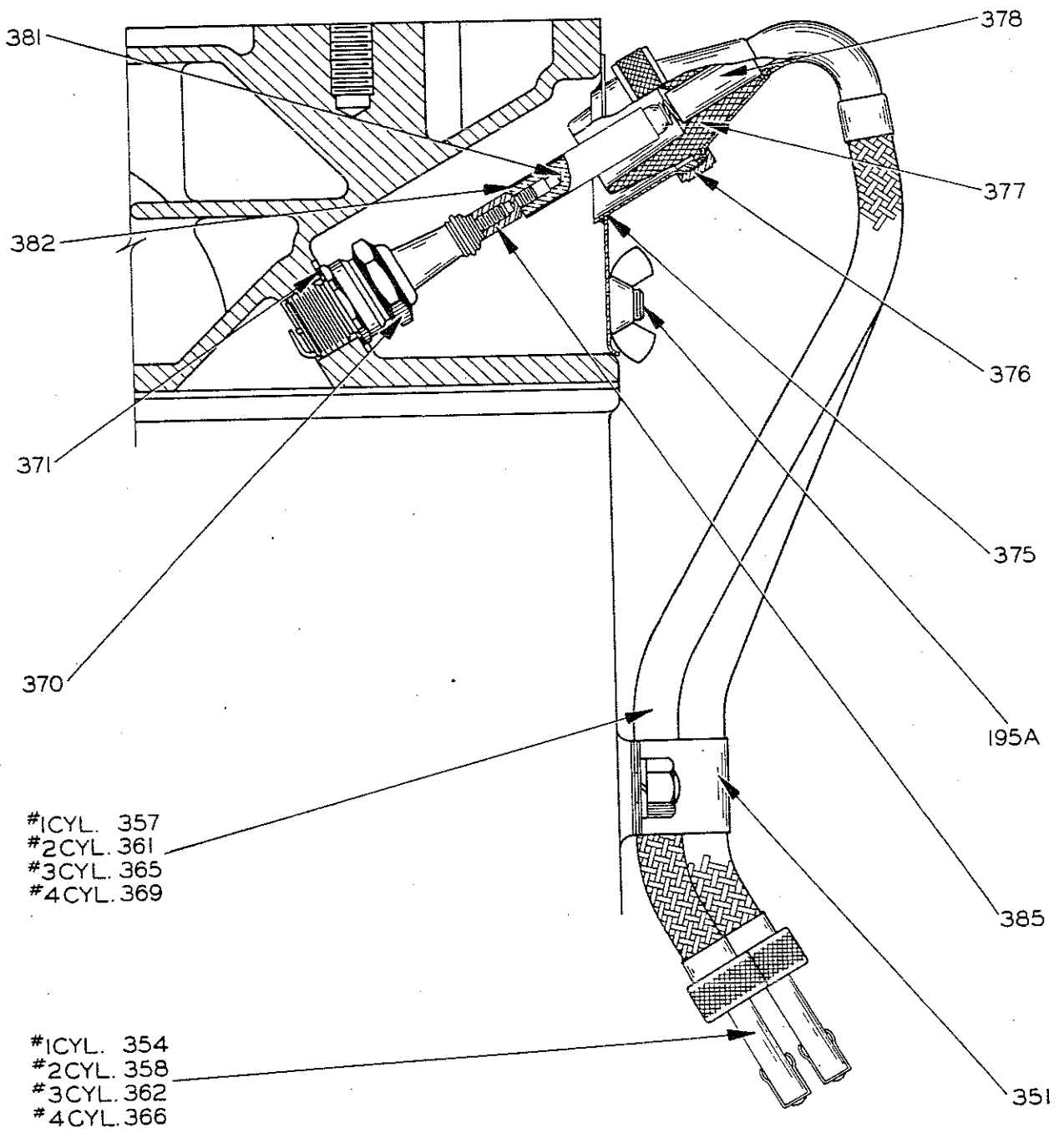


Fig. 66. Ignition and Radio Shielding Parts Diagram

64. Ignition Cables, Conduits, Etc.

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfg'r's. Part No.	Mfg'r's. Code
351	3H4574/C29	1	Clamp—Ignition cable	83-40	A
...			Lockwasher, 5/16"	05-50	A
...	3H4574/N4	1	Nut, 5/16"—24, hex.	04-602	A
354	3H4584/W8	1	Ignition cable—#1 cylinder	A61-1-51	A
357	3H4574/C44	1	Conduit assy.—#1 cylinder	A55-644-3	A
358	3H4584A/W9	1	Ignition cable—#2 cylinder	A61-1-52	A
361	3H4574/C46	1	Conduit assy.—#2 cylinder	A55-644	A
362	3H4584A/W10	1	Ignition cable—#3 cylinder	A61-1-53	A
365	3H4574/C45	1	Conduit assy.—#3 cylinder	A55-644-1	A
366	3H4584A/W11	1	Ignition cable—#4 cylinder	A61-1-54	A
369	3H4574/C47	1	Conduit assy.—#4 cylinder	A55-644-2	A
375	3H4574/P11	4	Shield plate—Spark plug	A156-130	A
...	3H4574/N20	16	Wing nut—For shield plate, 5/16"—18.	04-1001	A
376	3H4574/N19	4	Knurled nut—For spark plug shield, special	53-219	A
377	3H4574/J1	4	Insulator—Spark plug shield	124-11	A
378	3H4584A/C44	4	Spark plug connection	138-17	A
381	3H4574/T11	4	Spark plug terminal	121-42	A
382	3H4574/S59	4	Terminal shield	124-16	A
370	3H4684A/P29	4	Spark plug—18 mm, AC #83, special	86-9-6	A
385	3H4584A/N40	4	Terminal connection—AC #841549	138-21	A
371	3H4574/C30	4	Gasket—Spark plug, 18 mm.	16-796	A
383		1	Micro switch—Magneto	76-161	A
...		2	Screw—Switch mounting #6—32 x 1/8"	03-61	A
...		2	Lockwasher—For #03-61	05-23	A
...		1	Capscrew—Battery ground, 3/8"—16 x 3/4"	02-34	A
...		1	Lockwasher—For #02-34, 3/8"	05-51	A
...		1	Nut—For #02-34, 3/8"—16, hex.	04-103	A

65. Type G Synchronous Alternator with Exciter
 Generator Frame No. 8-24-6 — Exciter Frame No. E-83
 25 KVA — 12 Volts — 900 RPM — 1 Phase — 60 Cycles
 S. O. 85-H-380

Ref. No.	S. C. Stock No.	No. Req d	Name and Description	Mjgr's. Part No.	Mjgr's. Code
1		1	Alternator complete with exciter	S. O. 85H380	J
2		1	Field assembly complete with shaft	1287924	J
3		4	Open field coil complete with pole and damper	1287922	J
4		4	Crossed field coil complete with pole and damper	1287923	J
..		32	Bolt to connect damper segments, 1/4" — 20 x 5/8" hexagon head steel bolt	Std. Hdw.	J
..		32	Steel lock nut for bolt, 1/4" — 20	Std. Hdw.	J
..		32	1/4" Lockwasher for nut	Std. Hdw.	J
..		1	Laminated spider	1287925	J
5		16	Key (pole dovetail to spider)	1168061	J
..		16	Collector	1092211	J
6		1	Collector terminal	11040	J
7		2	Collector terminal nut, 1/4" — 20 hexagon, brass machine screw	Std. Hdw.	J
8		4	nut	124868	J
..		2	Insulation tube for collector leads	27395	J
..		2	Clamp for insulation tube and leads	Std. Hdw.	J
..		1	Screw for clamps, #10 — 32 x 5/8" fillister head steel machine screw	Std. Hdw.	J
..		1	.190" Lock washer for clamp screw	1287926	J
..		1	Shaft with spider key	750162	J
9		2	Spacing ring for bearings	1287927	J
10		2	Blower complete without hub	x1287928	J
11		1	†Front blower hub	1287928	J
12		1	Rear blower hub	Std. Hdw.	J
13		1	Bolt for blowers, 1/2" — 13 x 1 1/4" hexagon head steel bolt		
14		12			

Parts indented are included in the part under which they are indented.
 †On front blower hub drill and tap one hole .190 — 32 x 1/2" deep assy. for collector lead clamp screw.

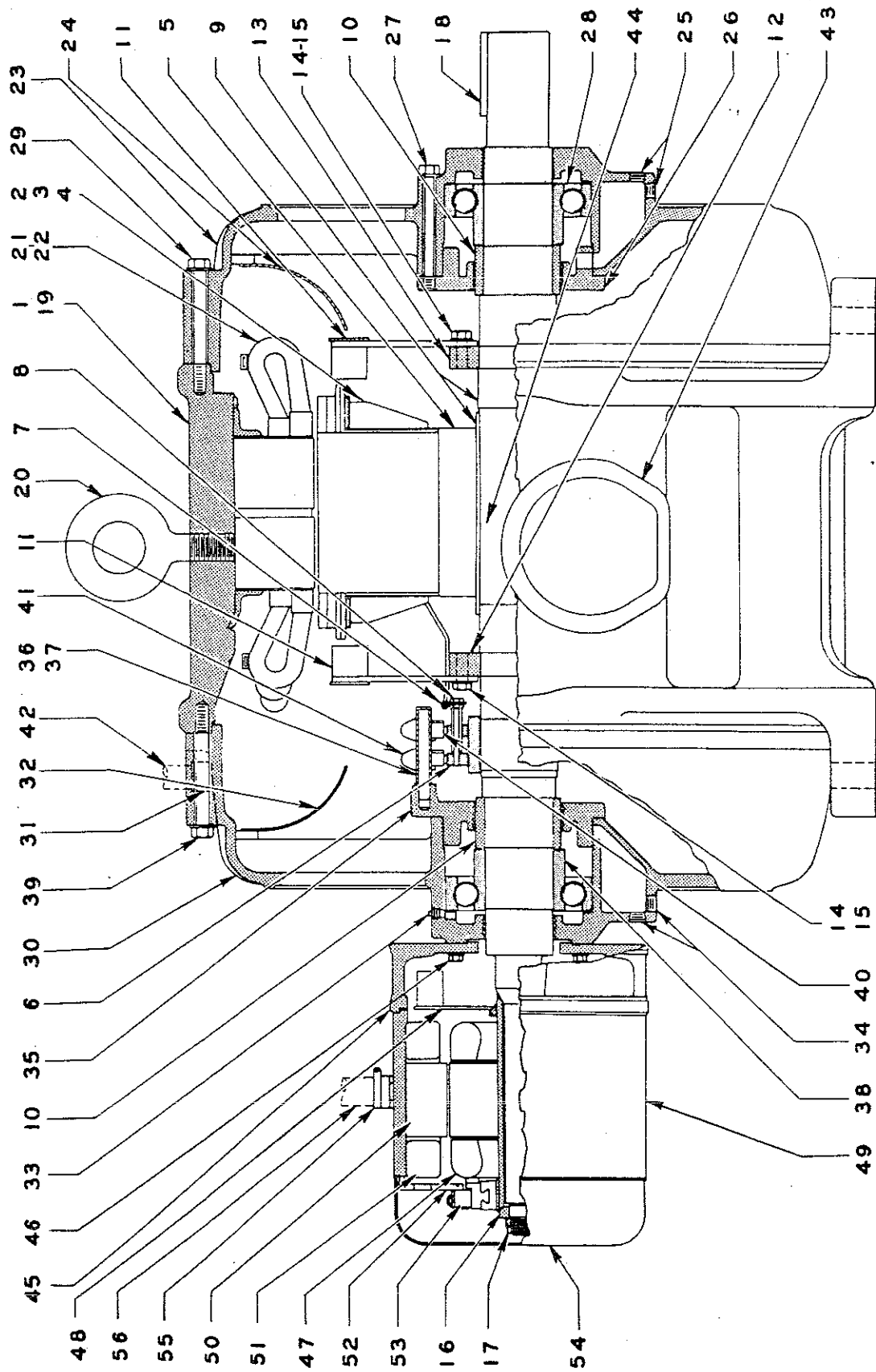


Fig. 67. Longitudinal Section through Alternator

65. Type G Synchronous Alternator with Exciter (Cont'd)

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfg'r's. Part No.	Mfg'r's. Code
15		12	Lockwasher for bolt	295498	J
16		1	Bushing to clamp exciter armature	1106568	J
17		1	Jam nut	1168084	J
18		1	Steel cotter pin for jam nut, 1/8 x 1 1/2"	Std. Hdw.	J
19		1	Key for shaft extension	1248997	J
20		1	Frame with eye bolt and stator core	1287929	J
21		1	Eye bolt—1 or 1 1/4" as req.	Std. Hdw.	J
22		1	Stationary armature coil	1287930	J
23		48	Complete winding material class #8 for the above coils	1289969	J
24		1 set	Rear bracket	458429	J
25		1	Rear air shield	Std. Hdw.	J
26		1	Screw to fasten rear air shield to rear bracket, 5/16—18 x 1/2" fillister head steel machine screw	Std. Hdw.	J
27		8	1/8" Pipe plug for rear bracket	Std. Hdw.	J
28		1	1/2" Countersunk pipe plug for rear bracket	Std. Hdw.	J
29		2	Housing cover for rear bearing	Std. Hdw.	J
30		1	Bolt to fasten housing cover to rear bracket, 1/2—13 x 5" hexagon head steel bolt	766706	J
31		4	Rear ball bearing	Std. Hdw.	J
32		1	Bolt to fasten rear bracket to frame, 5/8—11 x 5" hexagon head steel bolt	664664	J
33		8	Front bracket	Std. Hdw.	J
34		1	3/4" Straight squeeze connector for flexible conduit	1239970	J
35		1	Front air shield	1198551	J
36		1	Screw to fasten front air shield to front bracket, 5/16—18 x 1/2" fillister head steel machine screw	458429	J
37		8		Std. Hdw.	J

Parts indented are included in the part under which they are indented.

65. Type G Synchronous Alternator with Exciter (Cont'd)

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfg'r's. Part No.	Mfg'r's. Code
33		1	1/8" Pipe plug for front bracket	Std. Hdw.	J
34		2	1/2" Countersunk pipe plug for front bracket	Std. Hdw.	J
35		1	Housing cover with brush holder rods and insulation	1287931	J
36		2	Brush holder rod	817364	J
37		2	Brush holder rod insulation tube	1239831	J
		4	Bolt to fasten housing cover to front bracket, 1/2"-13 x 5" hexagon head steel bolt	Std. Hdw.	J
38		1	Front ball bearing	664664	J
39		8	Bolt to fasten front bracket to frame, 5/8"-11 x 5" hexagon head steel bolt	Std. Hdw.	J
40		4	Brush for generator, Stackpole WS-86, size 3/8 x 3/4 x 1 1/4"	777889	J
41		2	Brush holder complete for generator	834027	J
		4	Spring	444435	J
		4	Screw to fasten brush shunt to brush holder, No. 10-32 x 3/8" fillister head brass machine screw	Std. Hdw.	J
		4	Washer for shunt screw	779354	J
		2	Bolt to clamp brush holder to rod, 1/4"-20 x 7/8" hexagon head steel bolt	Std. Hdw.	J
		2	Lock nut for bolt, 1/4"-20	Std. Hdw.	J
		2	1/4" Lockwasher for nut	Std. Hdw.	J
		2	Terminal to connect generator field leads to brush holders	229105	J
		2	Terminal for generator field leads (external)	229105	J
42		1	Conduit for field leads, 14"-3/4" flexible steel	Standard	J
		1	Squeeze connector for field leads conduit, 3/4"-90°	52747	J
		1	Conduit box complete	974311	J
43		1	Squeeze connector for main leads conduit, 1 1/2"	1198554	J
		1	Conduit for main leads, 29"-1 1/2" flexible steel	Standard	J
44		1	Squeeze connector for main leads conduit, 1 1/2"-90°	752750	J
		2	Terminal for main leads	229120	J
45		1	Exciter support with cover	1239971	J
		1	Band cover for exciter support	1042282	J
		2	Screw, to fasten cover to exciter support #10-32 x 1 1/2"	Std. Hdw.	J
46		6	Bolt, exciter support to front bracket, 3/8"-16 x 7/8" hex.	Std. Hdw.	J
		4	Bolt, exciter frame to support 3/8"-16 x 1 3/8" hex.	Std. Hdw.	J
		1	Name plate, generator rating	NP-28788	J
		1	Name plate, generator lubrication	NP-34630	J

Parts indented are included in the part under which they are indented.

66. Type SK Exciter
Frame No. E-83
1 1/4 KW — 900 RPM — 125 Volts

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfgr's. Part No.	Mfgr's. Code
47		1	Exciter armature complete with quill	1287939	J
48		1	blower	359038	J
49		1	Exciter frame	1289962	J
50		4	Exciter pole	452945	J
51		8	Bolt to fasten pole to frame, hexagon head	359311	J
52		1	Exciter field coil set (4 coils per set)	1289968	J
		2	Terminal for field coil head	229105	J
		1	Panel complete with brushes and brush holder for exciter	1124998	J
		4	Brush spring	281633	J
53		4	Brush (exciter), stockpole WL-21, size 3/8 x 3/4 x 1/8	782740	J
		4	Stud to mount brush panel on exciter frame	559184	J
		12	Hexagon brass machine screw nut for stud, 1/4" — 20	Std. Hdw.	J
		8	Flat washer for stud	779355	J
		4	1/4" Lockwasher for stud	Std. Hdw.	J
54		1	Front cover for exciter	297421	J
		3	Fillister head brass machine screw for front cover No. 14 — 24 x 3/8"	Std. Hdw.	J
		3	1/4" Lockwasher for screw	Std. Hdw.	J
55		1	3/4" Straight squeeze connector for conduit for exciter leads	1198551	J
56		1	28" of 3/4" Steel flexible conduit for exciter leads	Standard	J
		1	3/4" — 90° Squeeze connector for conduit for exciter leads	752747	J
		4	Terminal for exciter leads	229105	J
		1	Exciter name plate	NP-17415	J

Parts indented are included in the part under which they are indented.

67. Alternator Controls

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfgr's. Part No.	Mfgr's. Code
..		1	Type HA ammeter -0-300 ampere (sold only as an assembly)	724215	J
..		1	Type HA voltmeter -0-150 volts (sold only as an assembly)	721721	J
..		1	Type HY frequency meter -58-62 cycles (sold only as an assembly)	721766	J
..		1	Type NH-35 total hour meter—120 volts (sold only as an assembly)	1205858	J
..		1	Type SRA-1 Silverstat regulator	S. O. 77Y440	J
..		2	Type AB breaker unit	807003	J
..		2	Type AB breaker trip unit	807134	J
..		1	Type WL rheostat	874473	J
..		1	Type W instrument switch	S. O. 62Y674	J
..		1	Terminal block	MKZ-24372	J
..		1	Block	805430	J
..		1	Cover	790073	J
..		1	Current transformer (sold only as an assembly)	MKZ-22349	J
..		1	Receptacle, female—Hubbell No. WE-22427		J
..		1	Lamp socket	484980	J
..		1	Plug fuse, pyrex glass—20 ampere	PYX-20	J

68. 1700 — Type SRA-1 Voltage Regulator

..		1	Type SRA-1 voltage regulator complete	S. O. 77Y440	J
..		1	Regulator without regulating resistor tubes	S. O. 77Y440	J
1		1	Contact device complete	1151948	J
2		1	Contact device plate (rear support)	1091989	J
3		1	Pusher screw	1092295	J
4		1	Magnet block, core and armature assembly, Items 2-8-12-13-14	94B503	J
5		3	Stud, 3" long	559185	J
6		6	Stud, 1 1/2" long	361702	J
7		1	Micarta spacer	1091992	J
8		1	Operating coil	1087327	J
9		1	Control spring	1387324	J
10		1	Control spring adjusting screw	1091987	J
11		1	Control spring bracket	1128305	J
12		1	Armature arm with spring holder, Item 1	94B503	J
			Item 4	94B504	J

Parts indented are included in the part under which they are indented.

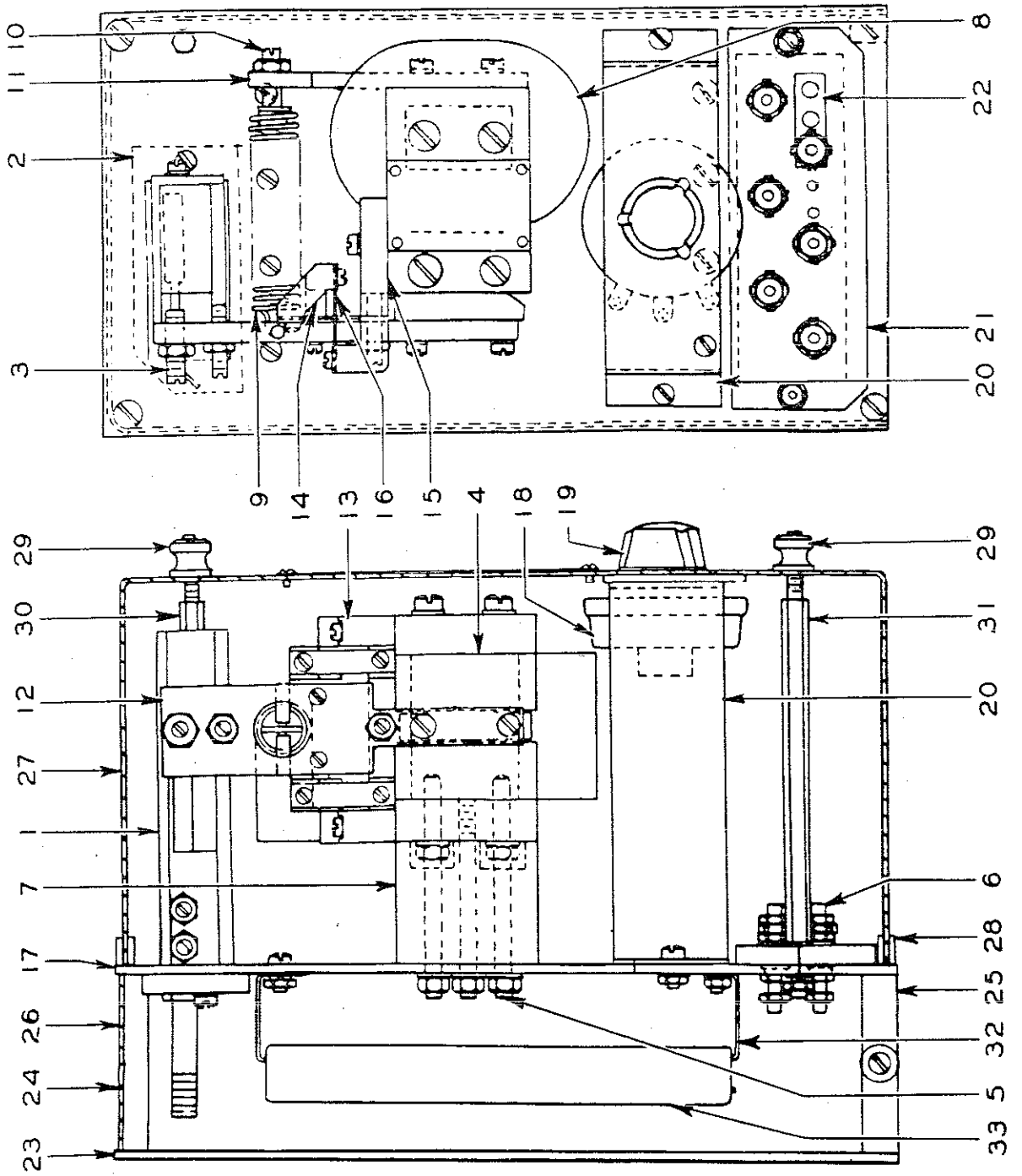


Fig. 68. Cross Section through 12 Volt Voltage Regulator

68. 1700 — Type SRA-1 Voltage Regulator (Cont'd)

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfg's. Part No.	Mfg's. Code
13		1	Spring hinge complete.....	1087322	J
14		1	Top hinge support.....	1092285	J
15		1	Bottom hinge support.....	1092286	J
16		4	Hinge spring.....	1092287	J
17		1	Front plate.....	S.O. 76Y414	J
18		1	Rheostat.....	1087334	J
19		1	Rheostat knob.....	1247175	J
20		1	Rheostat bracket.....	1091994	J
21		1	Terminal board.....	1B8419	J
22		1	Micarta hole cover, Item 3.....	1191990	J
23		1	Rear plate.....	1084587	J
24		2	Rear plate post—Upper.....	1084588	J
25		2	Rear plate post—Lower.....	1A8364	J
26		1	Rear cover, Item 6.....	1190739	J
27		1	Front cover.....	1B6878	J
28		1	Gasket for cover, Item 2.....	196369	J
29		2	Thumb nut.....	1091842	J
30		1	Cover stud—Top.....	1091996	J
31		1	Cover stud—Bottom.....	1087230	J
32		6	Resistor clip.....	1031595	J
33		1	Regulating resistor tube—18.5 ohms.....	1031596	J
33		1	Regulating resistor tube—31.6 ohms.....	1031597	J
33		1	Regulating resistor tube—55.8 ohms.....	1031598	J
33		1	Regulating resistor tube—75.0 ohms.....	1190741	J
..		1	Damping transformer and Rectox unit.....	1190740	J
..		1	Damping transformer.....	967282	J
..		4	Rectox unit.....		

Parts indented are included in the part under which they are indented.

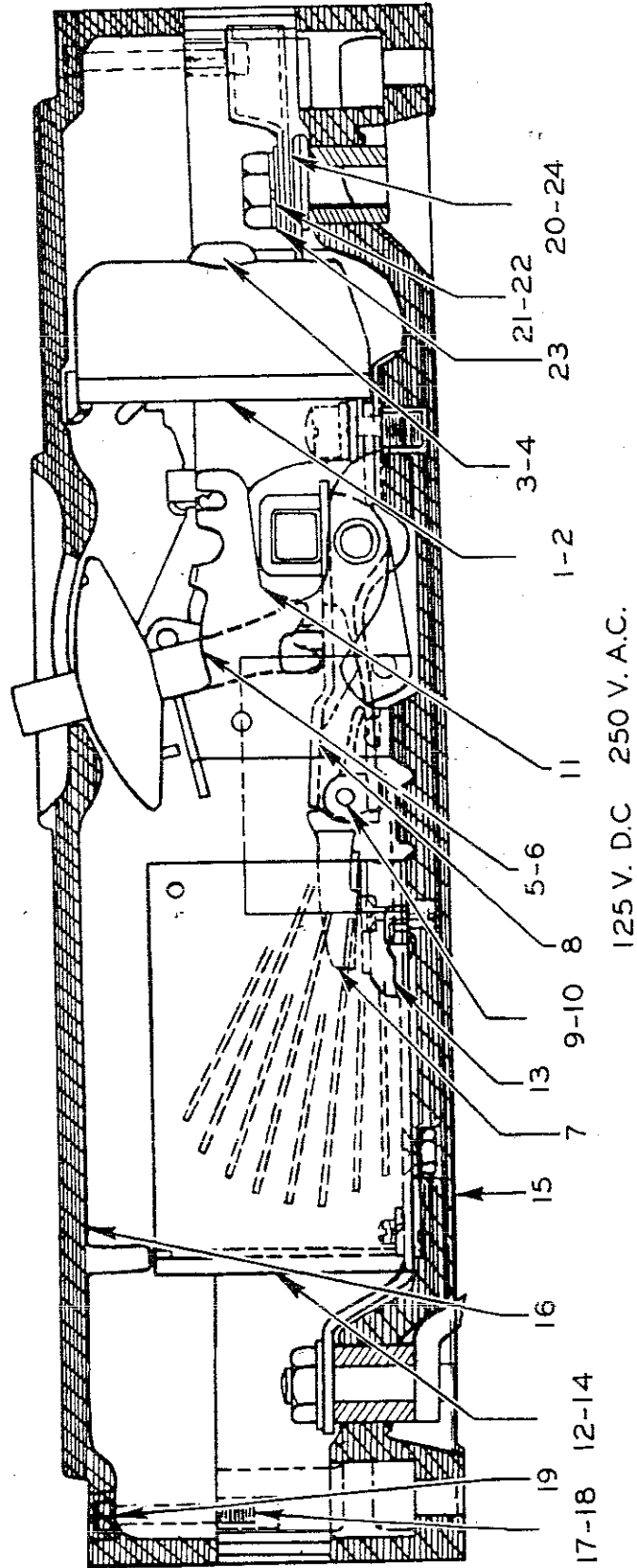


Fig. 69. Cross Section through Circuit Breaker

69. Type AB DE-ION Circuit Breaker
Manually Operated — Automatic Trip — Front or Rear Connected
225 Ampere Frame — 250 Volt A-C — 2 Poles

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mjgr's. Part No.	Mjgr's. Code
1		2	Breaker complete.....		J
2		2	Trip unit complete.....	807134	J
3		2	Cover for ref. 1.....	869783	J
4		4	Fil. Hd.I.M. screw for ref. 2 (1/8—40 x 1/4").....	Std. Hdw. 3407	J
5		4	Washer for ref. 3.....	807003	J
6		2	Breaker frame complete without trip unit.....		
7		2	Mechanism complete with contacts operating handle, cross bar and contact holder.....		
8		4	Moving contact and shunt.....	809823	J
9		4	Spring for ref. 7.....	809815	J
10		4	Hinge pin for ref. 7.....	809814	J
11		8	Hinge pin washer.....	706216	J
12		2	Mechanism complete with operating handle cross bar and contact holder.....	807169	J
13		2	Operating handle.....	1080034	J
14		2	Arc splitter complete with stationary contact.....	1020955	J
15		4	Stationary conductor.....	807143	J
16		4	Arc splitter complete.....	809914	J
17		4	Base complete.....	809915	J
18		2	Cover.....	807137	J
19		2	Fil. hd. I.M. screw for ref. 16 (190—32 x 1 3/8").....	807139	J
20		8	Lockwasher for ref. 17 (.190).....	Std. Hdw.	J
21		8	Washer for ref. 17.....	Std. Hdw. 779343	J
22		8	Terminal complete (front connected).....	806003	J
23		8	Hex. hd. bolt for ref. 20 (1/2 x 1").....	Std. Hdw.	J
24		8	Lockwasher for ref. 20 (1/2).....	Std. Hdw. 3223	J
25		8	Washer.....	776342	J
26		8	Terminal—225 ampere.....	806989	J
27		8	Stud complete (rear connected).....		J

Parts indented are included in part under which they are indented.

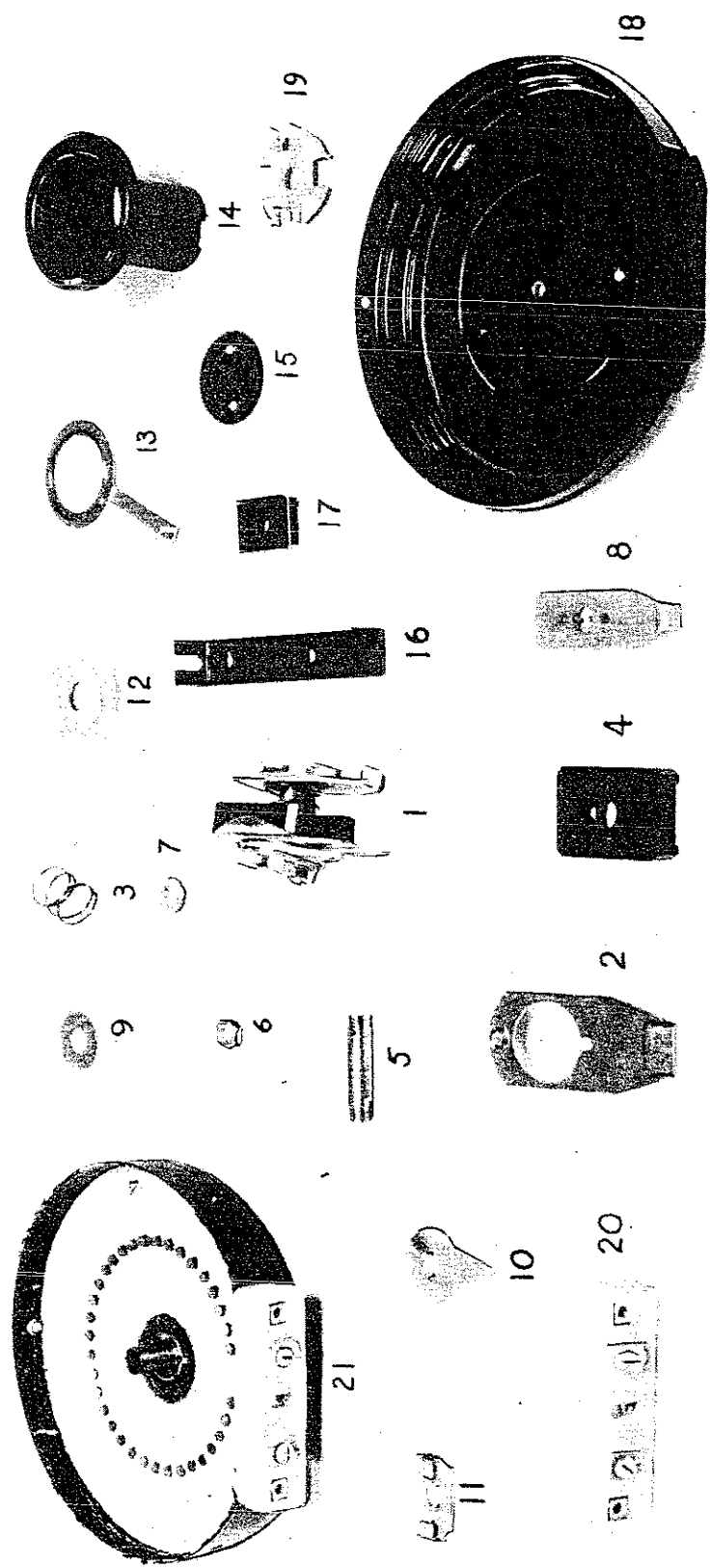


Fig. 70. Field Rheostat and Component Parts

70. Type WL Field Rheostat

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfgr's. Part No.	Mfgr's. Code
1		1	Contact arm complete.....	899020	J
2		1	Contact arm.....	898988	J
3		1	Contact arm spring.....	898990	J
4		1	Insulation block.....	898991	J
5		1	Shaft.....	898992	J
6		2	Shaft nut.....	898993	J
7		1	Shaft washer.....	898994	J
8		1	Drive arm.....	898995	J
9		1	Thrust washer.....	898996	J
10		1	Pointer.....	898997	J
11		1	Short coupling with tapped hole.....	896583	J
12		1	Insulation disc.....	898998	J
13		1	Collector ring.....	899000	J
14		†2	Short coupling.....	899016	J
15		1	Hand wheel.....	882151	J
16		1	Hand wheel name plate.....	899001	J
16		3	Foot for single plate.....	899002	J
16		3	Foot for two plate.....	399003	J
16		3	Foot for three plate.....	899004	J
16		3	Foot for four plate.....	899005	J
17		3	Saddle for foot.....	899010	J
18		1	Back pan with adjustable stop.....	899013	J
18		†1	Back pan—Intermediate.....	1257002	J
19		†1	Coupling disc.....	889015	J
20		1	Terminal block.....	899018	J
21		†	Plate only complete with element.....	†	
		2	Hand wheel stud.....	970628	J
0		1	Hard wheel complete, includes 14-15 and 22.....	948865	J

†Required number, used between plates.

†When ordering plates, give style number of Rheostat and also specify number of plates required. Parts indented are included in part under which they are indented.

71. Carburetor

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfg'r's. Part No.	Mfg'r's. Code
430		1	Carburetor assy. Zenith #62AJ10.	A84-546-3	A
431	3H4574/G11	1	Gasket—Carburetor flange.	16-27	A
...		2	Capcrew—Carburetor mounting, 3/8-16 x 1"	02-36	A
...		2	Lockwasher—For #02-36, 3/8"	05-51	A
1	3H4584A/B23	1	Throttle body.	B2-104	C
2	3H4584A/B46	1	Fuel bowl assembly.	B3-37C	C
3	3H4584A/P34	1	Throttle plate.	C21-79	C
4		1	Throttle shaft.	C-23164	C
5	3H4584A/L5	1	Throttle lever.	C24-7	C
6	3H4584A/V17	1	Main venturi (size 23).	C38-24	C
7	3H4584A/V16	1	Secondary venturi.	C39-7	C
8	3H4584A/N7	1	Idle adjusting needle.	C46-38	C
9		1	Economizer jet (blank).	C52-1	C
10		1	Well vent (size 19).	C52-2	C
11		1	Main jet (size 27).	C52-6	C
12	3H4584A/J21	1	Idling jet (size 13).	C55-7	C
13	3H4584A/J20	1	Main discharge jet (size 70-1).	C66-25-1	C
14		1	Main jet adjustment.	C71-21	C
15		1	Fuel valve assembly (size 60-1).	C81-1	C
16		1	Float assembly.	C85-26	C
17	3H4584A/P42	1	Air shutter plate.	C101-2	C
18	3H4584A/S75	1	Air shutter shaft.	C105-18	C
19	3H4584A/L9	1	Air shutter lever.	C106-2	C
20		1	Air shutter bracket.	C109-2	C
21	3H4584A/S77	1	Idle adjusting, needle spring.	C111-17	C
22		1	Bracket locating pin.	C120-9	C
23	3H4584A/A44	1	Float axle.	C120-15	C
25	3H4584A/R15	1	Packing retainer.	C131-3x3	C
26		2	Throttle Plate screws.	C136-3	C
28		1	Air shutter shaft hole plug.	C138-24	C
29		1	Air shutter bracket screw.	C140-7	C
30	3H4584A/B49	1	Bowl to body gasket.	C142-15	C
31	3H4584A/L17	1	Throttle stop lever.	CR28-28	C
32	3H4584A/B48	1	Float bracket.	CR88-7	C
33		1	Throttle stop pin.	CR121-8	C
34		1	Air shutter lever swivel.	CR134-1	C
35		1	Throttle shaft packing washer.	CT57-8	C
36	3H4584A/P47	1	Taper pin.	CT63-2	C
37		1	Pipe plug (not illustrated).	CT91-3	C

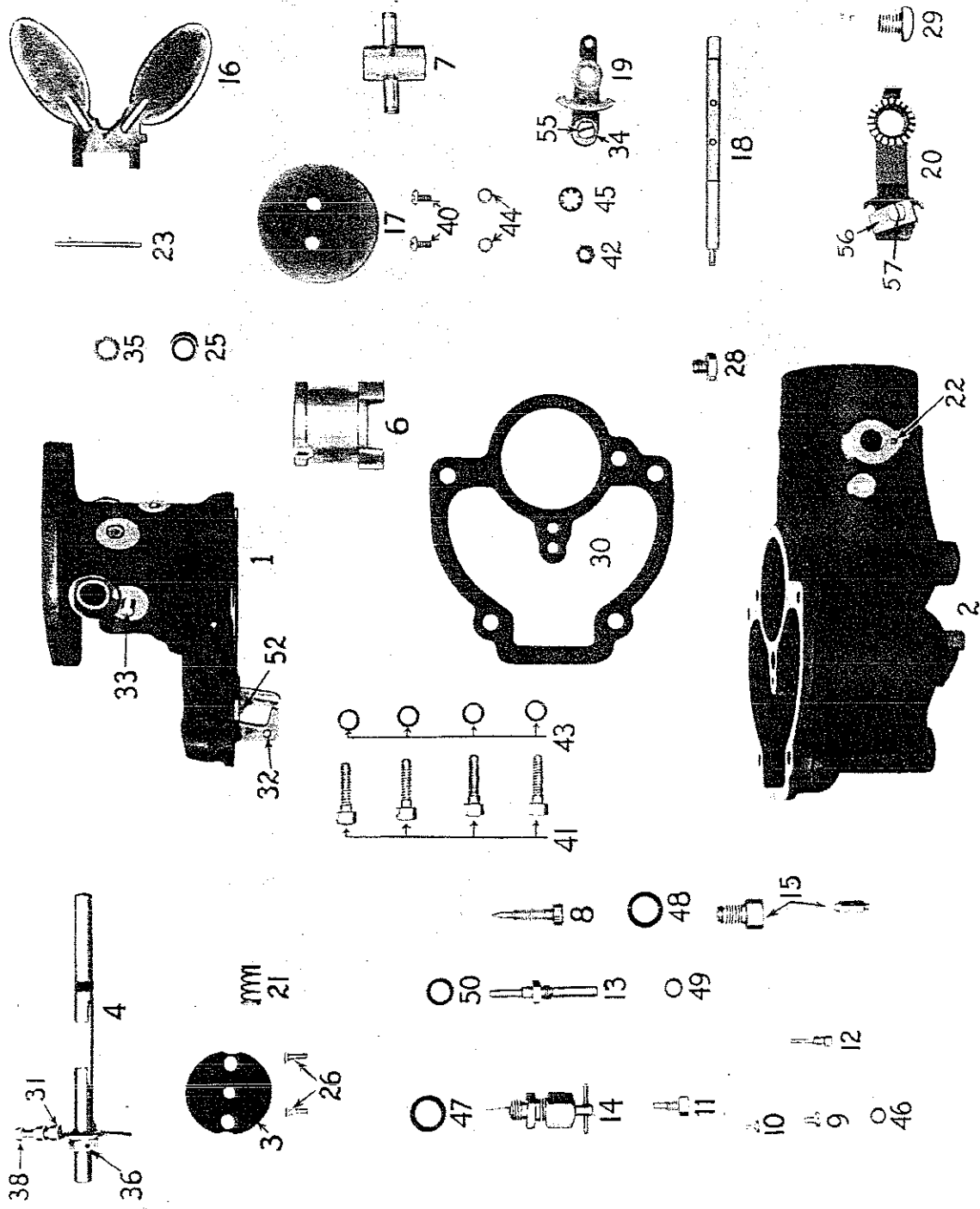


Fig. 71. Carburetor and Component Parts

71. Carburetor (Cont'd)

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfg'r's. Part No.	Mfg'r's. Code
38		1	Throttle stop screw.....	T1S8-10	C
40		2	Air shutter plate screw.....	T1EB6-4	C
41		4	Bowl to body screw.....	T1S812-12	C
42		1	Air shutter shaft nut.....	T22S8	C
43		4	Bowl to body screw lockwasher.....	T41-12	C
44		1	Air shutter screw lockwasher.....	T43-6	C
45		1	Air shutter shaft nut lockwasher.....	T45-8	C
46		1	Economizer jet washer.....	T56-4	C
47		1	Main jet adjusting or lower plug washer.....	T56-23	C
48		1	Fuel valve washer.....	T56-23	C
49		1	Main jet washer.....	T56-24	C
50		1	Main discharge jet washer.....	T56-48	C
51		1	Secondary venturi locating pin.....	T73-8	C
52		1	Float bracket pin.....	T73-9	C
54		1	Swivel washer (not illustrated).....	CT52-1	C
55		1	Swivel screw (not illustrated).....	T1S8-6	C
		1	Air shutter shaft packing (not illustrated).....		
		1	Packing retainer (not illustrated).....		
		1	Filter screen (not illustrated).....		
		1	Filter screen washer (not illustrated).....		
	3H4584A/S76	1		C150-12	C
		1		T56-10	C

72. Fuel Pump

		1	Fuel Pump Assy.—A. C. #1523019.....	A81-99-4	A
	3H4574/P25	1	Gasket—Fuel pump flange.....	16-229	A
	3H4574/G10	2	Cap screw—Fuel pump mounting, 5/16" x 3/4" hex.....	02-18	A
		2	Lockwasher—For #02-18, 5/16".....	05-50	A

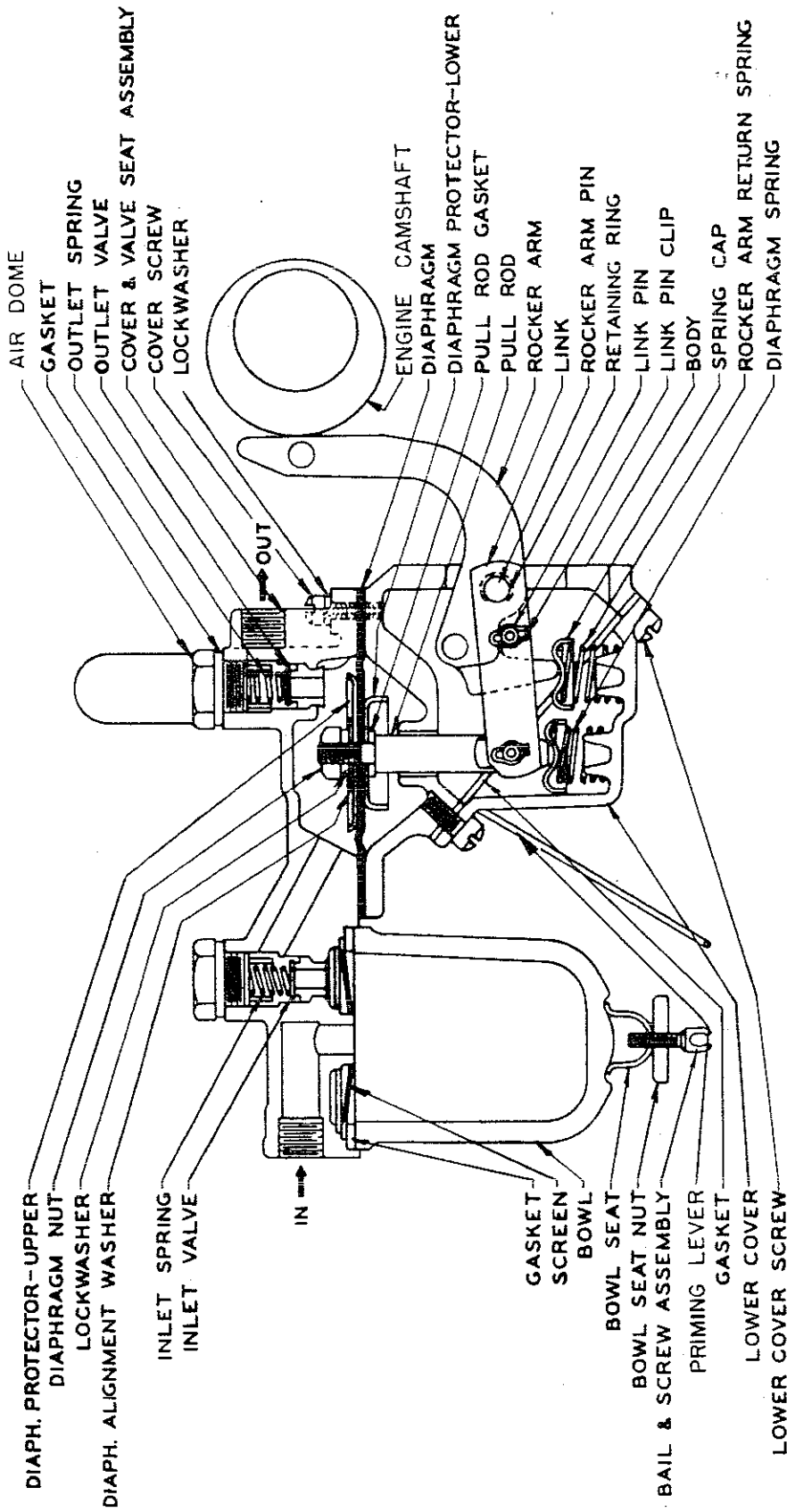


Fig. 72. Cross Section through Fuel Pump

72. Fuel Pump (Cont'd)

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfg'r's. Part No.	Mfg'r's. Code
..		1	Air dome.....	855918	G
..		1	Valve plug.....	855281	G
..		2	Gasket—valve plug and air dome.....	855282	G
..		2	Spring—For valve.....	856270	G
..		2	Valve.....	855279	G
..		1	Cover and valve seat assy.—Top.....	855761	G
..	3H4584/C63	1	Screen (Le Roi No. 43-135).....	1523603	G
..	3H4574B/S1	1	Gasket—For bowl (Le Roi No. 16-921-1).....	854003	G
..	3H4574I/G77	1	Bowl—Fuel sediment, Glass (Le Roi No. 184-2).....	854004	G
..	3H4574/B53	1	Seat—For bowl.....	854005	G
..		1	Bail thumb nut.....	855763	G
..		1	Bail and screw.....	854016	G
..		1	Diaphragm protector—lower.....	1521720	G
..		1	Diaphragm protector—upper.....	855274	G
..		1	Nut—Pull rod.....	855213	G
..		1	Lockwasher—For #855213.....	855390	G
..		1	Washer—Diaphragm alignment.....	855029	G
..		1	Gasket—For pull rod.....	855012	G
..		1	Diaphragm—5 pieces (Le Roi No. 186-9).....	855389	G
..		1	Pull rod.....	855250	G
..		1	Rocker arm.....	1523020	G
..		1	Pin—Rocker arm.....	1521289	G
..		2	Washer—For #1521289.....	1521288	G
..		2	Link—Rocker arm.....	855574	G
..		2	Link pin.....	855016	G
..		4	Clip—Link pin.....	855017	G
..		1	Body—Fuel pump.....	855674	G
..		2	Spring cap.....	855632	G
..		1	Spring—Rocker arm.....	855253	G
..		1	Gasket—Bottom cover.....	855585	G
..		1	Bottom cover.....	855673	G
..		3	Screw—Bottom cover.....	132108	G
..		1	Spring—Diaphragm, lower.....	1521266	G
..		1	Priming lever.....	1522280	G
..		10	Screw—Top cover.....	855493	G
..		10	Lockwasher—For #855493.....	855084	G
..		1	Pipe plug.....	103877	G

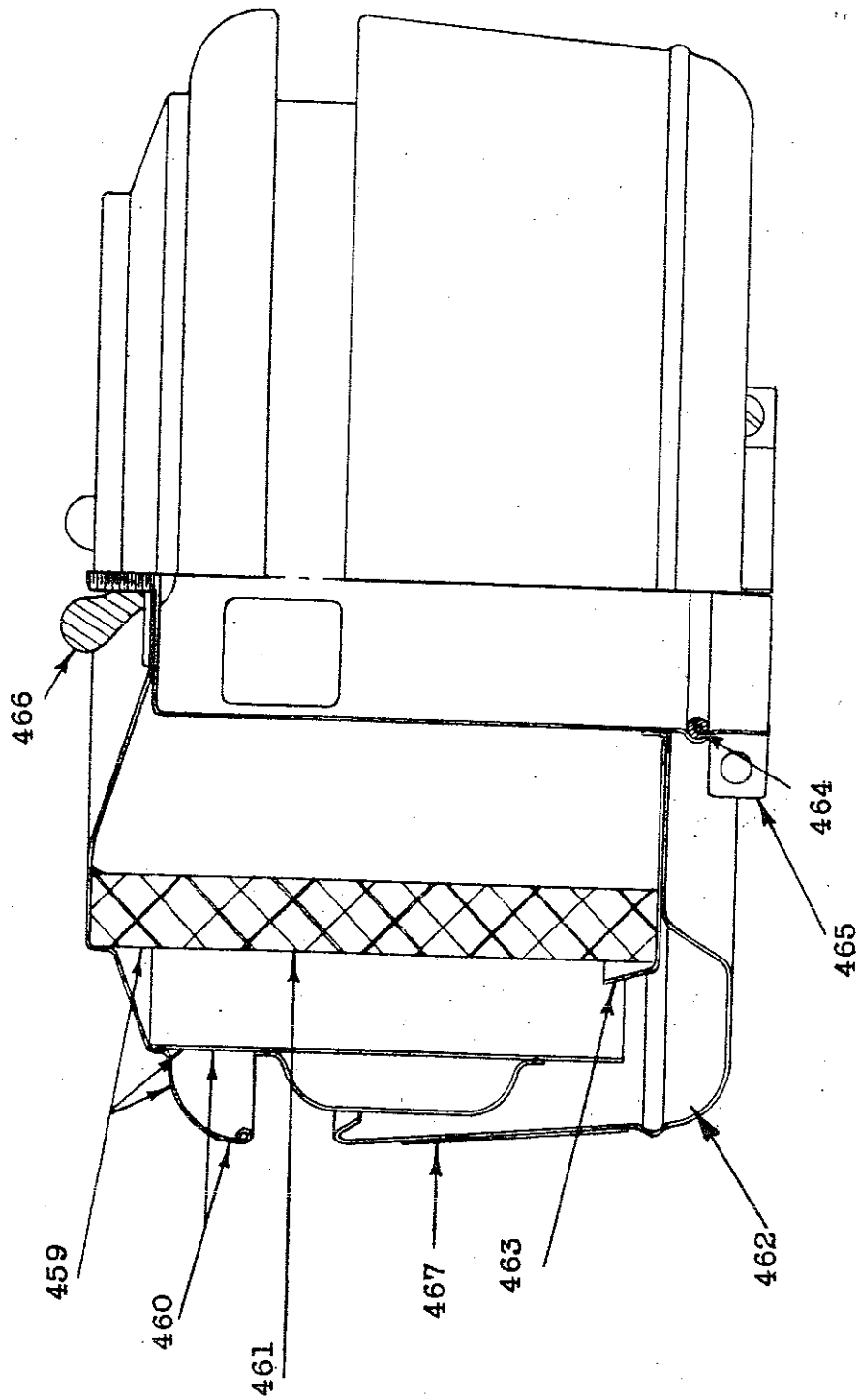


Fig. 73. Cross Section through Air Cleaner

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73. Air Cleaner

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfg's. Part No.	Mfg's. Code
453		1	Air cleaner—Oil bath, Air-Maze, Model 37U-0BF.....	A77-145-1	A
455		1	Connection—Air cleaner to carburetor.....	66-620	A
456		1	Gasket—Air cleaner connection.....	16-908-1	A
...		2	Capscrew connection to cyl. block, 3/8" - 16 x 3/4" lg.....	02-34	A
...		2	Lockwasher—For #02-34.....	05-51	A
457		1	Hose, 2" dia. x 3" lg.....	73-1-16	A
...		2	Hose clamp.....	83-94	A
459		1	Upper assembly only.....	AP-1128U	B
460		1	Top and Skirt assembly only.....	AP-112U	B
461	3H4584A/E5	1	Filter element only.....	AP-18	B
...		1	Lower bowl only.....	AP-137F	B
463		1	Baffle plate only.....	AP-17F	B
464	3H4584A/L14	1	Felt liner and retaining spring.....	AP-137Z	B
465	3H4584A/C19	1	Clamp assembly only.....	AP-22F	B
466	3H4584A/N13	1	Wing nut only.....	AP-15	B
467		1	Instruction decalcomania only.....	AP-4	B

74. Fuel Tank, Lines, Etc.

960	3H4574/T30	1	Fuel tank assy.—15 gal. U. S. Capacity.....	69-186	A
961		2	Strap—Fuel tank holddown.....	33-37	A
...	3H4574/N24	2	Nut—For #83-97, 3/8" - 16 hex.....	04-103	A
...		2	Lockwasher—For #04-103, 3/8".....	05-51	A
965	3H4574/C102	1	Cap Assy.—For fuel tank.....	A4-129	A
...		1	Drain plug—Brass, 1/4" square head.....	011-252	A
...		1	Nipple, 1/4" brass, close.....	33-546	A
...	3H4574/E16	1	Reducing elbow, 1/4 x 1/8" - 90°.....	33-547	A
...	3H4574/N34	3	Nipple, 3/8" brass, close.....	35-544	A
...	3H4574/L30	1	Fuel line—Tank to valve, titeflex—11 3/4".....	A55-643-3	A
...	3H4574/L31	1	Fuel line—Fuel pump to valve, titeflex—23".....	A55-643-4	A
...	3H4574/L13	1	Fuel line—Fuel pump to carburetor, titeflex—38".....	A55-643-6	A
...	3H4574/N15	1	Nipple, 1/8 x 2" lg.—brass.....	33-545	A
...	3H4574/E18	2	St. ell, 1/8" - 90°—brass.....	33-542	A
...	3H4574/E17	1	St. ell, 1/8" - 45°—brass.....	33-543	A
...		1	Clamp—For fuel line.....	83-44	A
...		1	Capscrew—For #83-44, 1/4 - 28 x 1/2" hex.....	02-502	A
...		1	Lockwasher—For #02-502, 1/4".....	05-49	A
...		1	Nut—For #02-502, 1/4" - 28 hex.....	04-601	A

74. Fuel Tank, Lines, E (Cont'd)

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mjgr's. Part No.	Mjgr's. Code
...	3H4574/C106	1	Choke control.....	120-2-9	A
...		1	Valve—Brass, 1/8" P. T.....	15-321	A
970		1	Support—Fuel tank (Carb. side).....	39-1253	A
971		1	Support—Fuel tank (Mag. side).....	39-1256	A
...	3H4574/S2	4	Capscrew—For supports, 3/8"—16 x 1" hex.....	02-86	A
...		4	Lockwasher—For #02-86, 3/8".....	05-51	A
...		1	Decalcomania—Instruction.....	62-101	A
...	3H4584A/H4	1	Gasoline hose, flexible, 35' lg.....	73-253-8	A
...		1	Coupling, 1 x 1/4" reducing.....	33-548	A

75. Governor Assembly

281	3H4574/G43	1	Governor Assy., Woodward Model SGX No. 040348, Includes next 3 items.....	1A116-84	A
...		1	Lever—Governor, operating.....	48-501-1	A
...		1	Taper pin for operating lever, #000 x 1/2".....	010-201	A
...	3H4574/S3	1	Screw, for operating lever.....	03-92	A
282	3H4574/G17	1	Gasket—Governor flange.....	16-873	A
...		4	Capscrew—Governor flange, 5/16"—15 x 1 1/4" hex.....	02-21	A
...		4	Lockwasher, 5/16".....	05-50	A
1		1	Servo Piston.....	040005	H
2		1	Pilot valve plunger.....	040041	H
3		1	Relief valve plunger.....	040042	H
5		1	Base gasket.....	040149	H
6	3H4584A/G8	1	Cover gasket.....	040156	H
8		2	Spring Fork Pin.....	040307	H
10		1	Idle Stud.....	040310	H
11		1	Speed Adj. Lever Pin.....	040384	H
12		2	Terminal sleeve.....	040316	H
14		1	Governor base.....	040319	H
16		1	Governor case.....	040326	H
17		1	Cover.....	040328	H
18		1	Spring seat.....	040331	H
19		1	Terminal lever.....	040338	H
20		1	Terminal shaft (short).....	040340	H
21		1	Terminal shaft (long).....	040341	H
22		2	Spacer cap.....	040342	H
24		1	Droop adjusting screw.....	040346	H

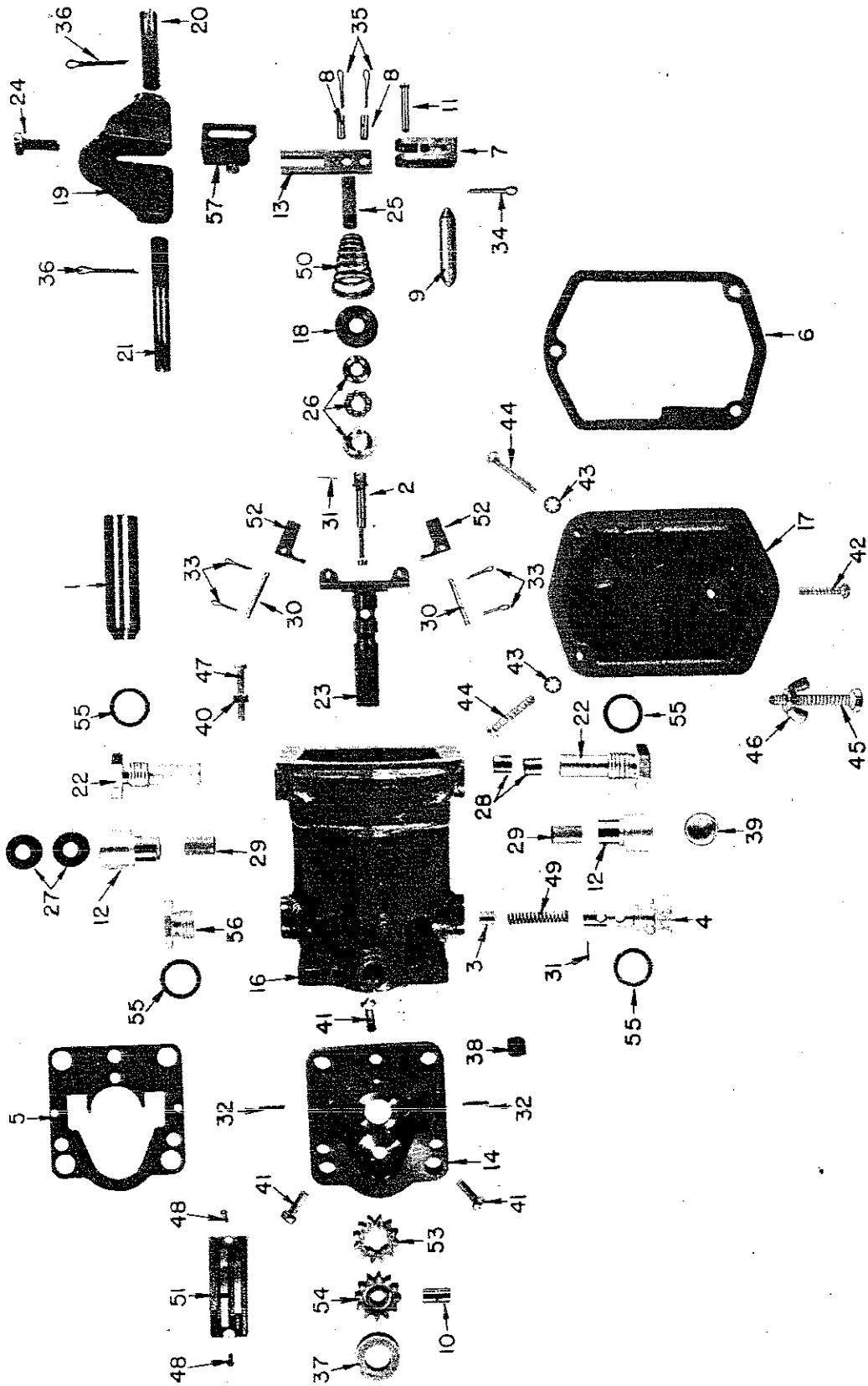


Fig. 74. Governor and Component Parts

75. Governor Assembly (Cont'd)

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfg'r's. Part No.	Mfg'r's. Code
25		1	Spring fork	040350	H
26		1	Thrust bearing	180004	H
27		1	Neoprene oil seal	182079	H
29		2	Oillite bushing	183180	H
28		1	Oillite bushing	183181	H
30		2	Ball arm pin	184000	H
31		2	Pin	184001	H
32		2	Dowel pin, Base	184008	H
33		2	Cotter pin 1/16 x 3/8"	184100	H
36		4	3/32" Dia. cotter pin 1" long	184362	H
35		2	1/16" Cotter pin 5/8" long	184229	H
37		2	Drive shaft collar	186003	H
38		1	Pipe plug	187034	H
39		2	Welch plug	187109	H
40		1	Nut (speed limit)	188041	H
41		1	Screw (base)	188116	H
42		3	Screw (cover)	188118	H
43		1	#10 Shakeproof washer	188138	H
44		3	Screw (cover)	188144	H
45		2	Screw (low limit adj.)	188147	H
46		1	Wing Nut—Cad. plated	188148	H
47		1	Screw (high limit adj.)	188149	H
48		1	#2 Drive screw	188216	H
50		2	Spring (speeder)	191441	H
51		1	Name plate	193000	H
49		1	Spring (relief valve)	191369	H
54		1	Idler gear	204361	H
53		1	Pump gear	204362	H
55		4	Copper washer gasket	206000	H
56		1	Plug	040126	H
23		1	Ball head	040352	H
13		1	Floating lever	040353	H
9		1	Speed adjusting shaft	040354	H
7		1	Speed adjusting lever	040355	H
4		1	Relief valve sleeve	040359	H
52		2	Flyball	196000	H
57		1	Drop adj. bracket assembly, includes droop rivet pin	040364	H

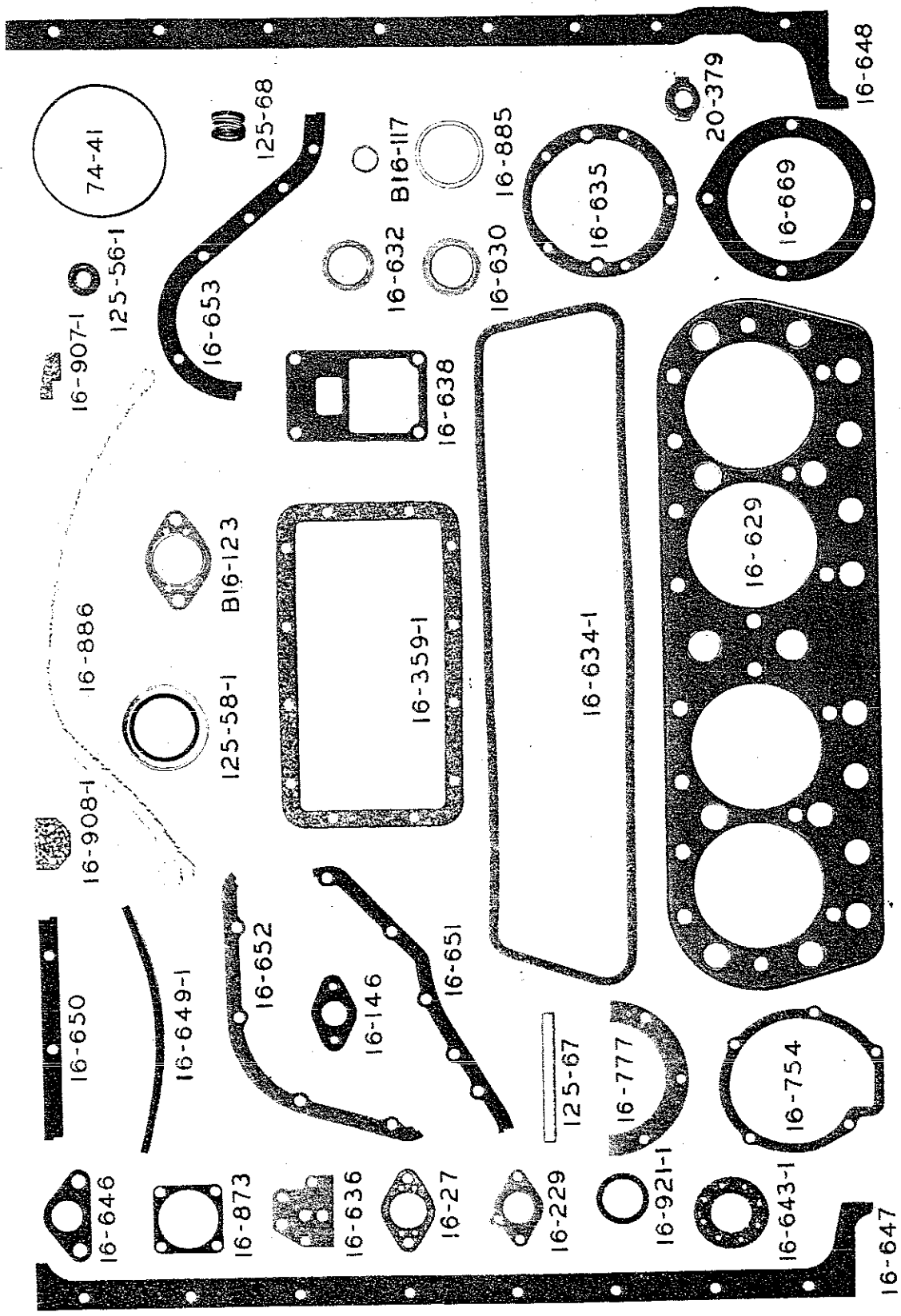


Fig. 75. Gasket List

76. Spare Parts, Tools and Supplies

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Function	Mfg'r's. Part No.	Mfg'r's. Code
..		1	Metal tool box		119-123-1	A
..		2	Nut, 1/2" - 20		04-605	A
..		2	Lockwasher, 1/2"		05-53	A
..		1	Padlock		A178-14	A
Parts in Bottom of Box						
..	3H4574/H7	1	Service Cyl. Hd. Assembly		3A2-149-3	A
..	3H4574/R25	1	Push Rod		99-72	A
..		1	Conn. Rod and Piston Assembly		5A7-74	A
..	3H4574/S15	1	Cyl. Sleeve, 4 1/2"		175-6-1	A
..		1	Gasoline Line, 10 Ft. Lg.		55-643-7	A
..	3H4584D/32	10	Oil Filter Elements		A77-180-1	A
..		1	Oil Pressure Hose, 10 Ft. Lg.		55-642-16	A
..		1	Exciter Brush Holder, Westinghouse, No. 1124998		174-18	A ^o
Tray No. 1						
..		1	Magneto		A85-99-4	A-G
..	3H4574/B53	1	Fuel Pump Sediment Bowl, A. C., No. 854004		184-2	A
..		1	Carburetor		A84-546-3	A
..	3H4574/P25	1	Fuel Pump, Complete		A81-99-4	A-F
..		1	Voltage Regulator, Delco Remy, No. 5897		116-85	A
..		1	Oil Can, 8 Oz.		88-227	A
..		1	Oil Can Holder		39-1404	A
..		1	5 Lb. Can of Grease		204-4	A
..	3H4584A/P29	24	Spark Plugs, No. 83AC		86-9-6	A-G
..		1	Generator Brush Holders, Westinghouse, No. 884027		174-19	A-J
..		4	Exhaust Valves		15-201-1	A
..	3H4574/V8	4	Intake Valves		15-200	A
..	3H4574/V2	4	Valve Springs		B24-26	A
..	3H4574/S11	4	Valve Spring Retainer Washers		20-278	A
..	3H4584A/R4	4	Valve Spring Lockwashers		20-279	A
..	3H4574/W6	8	Rocker Arm Assembly		A98-19-3	A
..	3H4584A/A1	1	Funnel		88-236	A

76. Spare Parts, Tools and Supplies (Cont'd)

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mjor's. Part No.	Mjor's. Code
..	3H4574/H3	2	Radiator Hose.....	73-5-14	A
..	3H4574/H13	2	Radiator Hose.....	73-5-20	A
..	3H4584A/C25	8	Hose Clamps.....	83-93	A
..	3H4574/C69	2	Hose Clamps.....	83-92	A
..	3H4574B/B3	2	Seal Bellows Assembly, Water Pump.....	125-68	A
..	3H4574B/F3	2	Seal Bellows Assembly, Water Pump.....	182-163	A
..	3H4574B/F4	1	Fitting, Titeflex.....	182-164	A
..	3H4574B/F1	1	Fitting, Titeflex.....	182-165	A
..	3H4574/F2	1	Fitting, Titeflex.....	182-180	A
..	3H4574/F1	1	Fitting, Titeflex.....	18-233	A
..	3H4574/F2	1	Fitting, Titeflex.....	18-114	A
..	3H4584A/R7	12	Piston Rings, Comp., 4 1/2 x 3/8".....	181-180	A-F
..	3H4584A/R8	4	Piston Rings, Oil, 4 1/2 x 3/16".....	21-363	A-F
..	..	1	Battery Generator Ball Bearing, Delco, No. 909203.....	21-364	A-F
..	..	1	Battery Generator Bushing, Delco, No. 812823.....	21-365	A-F
..	..	1	Starting Motor Bushing, Delco, No. 810620.....	21-366	A-F
..	..	1	Starting Motor Bushing, Delco, No. 35048.....	204-1	A
..	..	1	Starting Motor Bushing, Delco, No. 1839345.....
..	..	1	Container of Gasket Shellac.....

Tray No. 2—Lower Compartment

..	3H4574/G25	2	Gasket (Water Outlet Conn.).....	16-146	A
..	3H4574/G11	2	Carb. Flange Gasket.....	16-27	A
..	3H4574/G10	2	Fuel Pump Flange Gasket.....	16-229	A
..	3H4574/G2	8	Water Outlet Conn. Gasket.....	16-646	A
..	3H4574/G38	4	Water Outlet Conn. Gasket.....	16-907-1	A
..	3H4584A/G7	2	Retainer Parting Gasket.....	16-908-1	A
..	3H4574/G77	2	Air Cleaner Brkt. Gasket.....	16-921-1	A-G
..	3H4574/G3	2	Gasket for Sed. Bowl, A. C., No. 854003.....	B16-123	A
..	3H4574/G39	2	Rad. Inlet Conn. Gasket.....	16-636	A
..	3H4574/G15	2	Oil Pump, Body to Cover Gasket.....	16-873	A
..	3H4574/G8	4	Gov. Flange to Drive Body Gasket.....	16-638	A
..	3H4574/G21	2	Water Pump Brkt. Gasket.....	16-643-1	A
..	..	2	Breather Gasket.....	125-67	A
..	..	4	Rear Oil Seal.....

76. Spare Parts, Tools and Supplies (Cont'd)

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mjor's. Part No.	Mjor's. Code
..	3H4574/G27	2	Crankcase Retainer Gasket.....	16-777	A
..	3H4574/P1	16	Cyl. Sleeve Packing.....	74-41	A
..	3H4574/G9	1	Diaphragm, Fuel Pump, A. C., No. 855389.....	186-9	A-G
..	3H4574/G24	2	Water Pump Body Gasket.....	16-754	A
..	3H4574/G19	2	Oil Pump Cover Flange Gasket.....	16-635	A
..	3H4574/G14	2	Gear Cover Gasket (Upper).....	16-650	A
..	3H4574/G16	2	Gov. Drive Body to Crankcase Gasket.....	16-669	A
..	3H4574/G17	2	Gear Cover Gasket (Magneto Side).....	16-663	A
..	3H4574/G18	2	Gear Cover Gasket (Lower).....	16-652	A
..	3H4574/G1	2	Gear Cover Gasket (Manifold Side).....	16-651	A
..	3H4574/G5	8	Oil Pan Cover Gasket.....	16-859-1	A
..	3H4584A/B1	2	Oil Pan Rear Gaskets.....	16-649-1	A
..	3H4574/G7	2	Generator Belts.....	41-229	A
..	3H4574/G6	2	Fan Belts.....	41-235	A
..	3H4574/G20	2	Oil Pan Flange Gasket (Carb. Side).....	16-647	A
..	3H4574/G22	2	Oil Pan Flange Gasket (Magneto Side).....	16-648	A
..	3H4574/H14	6	Cyl. Hd. Cover Gasket.....	16-634-1	A
..		6	Cyl. Hd. Gaskets.....	16-629	A
..		1	Instruction Book.....		
..		1	Hose, 3/4 x 11 1/2".....	73-29-8	A
Tray No. 2—R. H. End Compartment					
..	3H4584A/S56	2	Oil Seal for Gov. Drive Body.....	125-56-1	A
..	3H4574/R6	2	Oil Seal for Gear Cover.....	125-58-1	A
..	3H4574/E16	1	Brass Reducing Ell, 1/4 x 1/8"—90°.....	33-547	A
..	3H4574/E17	1	Brass Street Ell, 1/8"—45°.....	33-543	A
..	3H4574/C48	1	Brass Nipple, Close, 1/8".....	33-544	A
..	3H4584A/T5	1	Brass Tee, 1/8 x 1/8 x 1/8".....	33-554	A
..	3H4574/E18	1	Brass Street Ell, 1/8"—90°.....	33-542	A
..		1	Brass Nipple, 1/8 x 2".....	33-545	A
..	3H4574/N15	1	Brass Cross, 1/8".....	54-101	A
..	3H4574/W77	2	Seal Washer, Water Pump.....	20-379	A
..	3H4574/G23	2	Oil Relief Plug Gasket.....	B16-117	A

76. Spare Parts, Tools and Supplies (Cont'd)

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfg'r's. Part No.	Mfg'r's. Code
..	3H4784A/N40	4	Spark Plug Terminal Nuts.....	188-21	A
..	3H4574/G13	4	Intake Manifold Gaskets.....	16-630	A
..	3H4574/G29	4	Exhaust End Gaskets.....	16-632	A
..	3H4574/G28	2	Exhaust Center Gaskets.....	16-885	A
Tray No. 2—L. H. End Compartment					
..	3H4574/P4	2	Asbestos Packing.....	16-886	A
..	3H4574/B12	3	Battery Generator Brushes, Delco Remy, No. 809637.....	174-14	A-F
..	3H4574/B24	4	Generator Brushes, Westinghouse, No. 777889.....	174-20	A-J
..		6	Starter Brushes, Delco Remy, No. 38367.....	174-15	A-F
..		4	Exciter Brushes, Westinghouse, No. 782740.....	174-17	A-J
Tray No. 3					
..		1	Gas Pliers.....	88-230	A
..		1	Feeler Gauge.....	88-10	A
..		1	Screwdriver (Large).....	88-74	A
..		1	Screwdriver (Small).....	88-229	A
..		1	Crescent Wrench, 8".....	88-235	A
..		1	Pin Punch, 3/8".....	88-233	A
..		1	Pin Punch, 5/16".....	88-232	A
..		1	Pin Punch, 1/2".....	88-231	A
..		1	Socket Wrench, Spark Plug.....	88-224	A
..	3H45842/W20	1	Valve Lifter.....	88-48	A
..		1	Hammer.....	88-228	A
..		1	Wrench, Open End, 3/8 and 1/16".....	88-11	A
..		1	Wrench, Open End, 1/2 and 9/16".....	88-9	A
..		1	Wrench, Open End, 9/16 and 5/8".....	88-234	A
..		1	Wrench, Open End, 11/16 and 15/16".....	88-85	A
..		1	Wrench, Open End, 3/4 and 7/8".....	88-138	A
..		1	Box Socket Wrench, Double End, 3/4 and 7/8".....	88-21	A
..		1	Adjustable Auto Wrench, 11".....	88-72	A

76 Spare Parts, Tools and Supplies (Cont'd)

Tray No. 3 (Cont'd)

Ref. No.	S. C. Stock No.	No. Req'd	Name and Description	Mfgr's. Part No.	Mfgr's. Code
..		1	Combination pliers, 6"	38-78	A
..		1	Box of Assorted Cotter Pins	204-2	A
..		1	Spool Wire	204-3	A
..		2	Sheets No. 00 Sandpaper	204-5	A
..		1	Wrench for Allen Socket Screw	38-239	A
..		1	Spanner Wrench	38-252	A

Tray No. 4

..		2	Main Bearing Shells	21-349	A
..		2	Center Main Bearing Shells	21-347	A
..		2	Front Main Bearing Shells	21-348	A
..		8	Conn. Rod Bearing Shells	21-350	A
..	3H4584D/B10	8	Piston Pin Bushings	21-384	A
..	3H4584A/W1	4	Rear Main Bearing Thrust Washers	20-370	A
..		4	Wrist Pins	B17-17	A

Additional Items in Box, Not Classified as "Spare Parts, Tools and Supplies"

Tray No. 1

..		1	Exhaust pipe nipple	38-178-23	A
..	3H4574/P4	1	Muffler packing	16-886	A
..		1	Muffler packing retainer	31-426	A
..	3H4574/C51	1	Reducing coupling, 1 x 1/4" I.P.T.	33-548	A

Tray No. 2—Lower Compartment

..	3H4584A/H4	1	Flexible gasoline hose, 35 feet long	73-253-8	A
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77. Standard Parts List

Quantity	Size	Length	Thread	Description	Where Used
20	1/4"	1/2"	20	Hex. head capscrew	Magnetic switch mounting
6	1/4"	5/8"	20	Hex. head capscrew	Rubber mountings
2	1/4"	2"	20	Hex. head capscrew	Oil pump
1	5/16"	1/2"	18	Hex. head capscrew	Control bracket
14	5/16"	3/4"	18	Hex. head capscrew	Bed plate
					Camshaft
					Oil pump
					Water pump and fan
					Fuel pump mounting
					Crankcase
3	5/16"	7/8"	18	Hex. head capscrew	Generator
2	5/16"	1"	18	Hex. head capscrew	Generator
6	5/16"	1 1/4"	18	Hex. head capscrew	Oil pump
					Governor flange
					Water pump and fan
5	5/16"	1 3/4"	18	Hex. head capscrew	Cooling group
5	3/8"	1 1/2"	16	Hex. head capscrew	Control box
					Bell housing
6	3/8"	5/8"	16	Hex. head capscrew	Bell housing
13	3/8"	3/4"	16	Hex. head capscrew	Generator
					Battery ground
					Conn. to cyl. block
					Radiator support
6	3/8"	7/8"	16	Hex. head capscrew	Outlet conn. to manifold
15	3/8"	1"	16	Hex. head capscrew	Cranking motor mounting
					Carburetor mounting
					Supports
					Engine base flange
18	3/8"	1/4"	16	Hex. head capscrew	Magneto mounting
					Gear cover
2	3/8"	1 1/2"	16	Hex. head capscrew	Gear cover
11	3/8"	1 3/4"	16	Hex. head capscrew	Cooling group
2	7/16"	1/4"	14	Hex. head capscrew	Inlet connection
					Bell housing
6	1/2"	1 1/4"	13	Hex. head capscrew	Cyl. hd. water connection to manifold
					Crankshaft support
2	1/2"	1 1/2"	13	Hex. head capscrew	Support
4	5/8"	1 1/4"	11	Hex. head capscrew	Radiator
2	5/8"	1 1/2"	11	Hex. head capscrew	Engine to base
6	3/4"	2"	10	Hex. head capscrew	Generator to base
4	3/4"	2 3/4"	10	Hex. head capscrew	Fuel line
1	1/4"	1/2"	28	Hex. head capscrew	

77. Standard Parts List (Cont'd)

Quantity	Size	Length	Thread	Description	Where Used
2	#6	7/8"	32	Fill. head machine screw	Switch mounting
3	#10	1/2"	24	Fill. head machine screw	Governor operating cross shaft lever
12	1/4"	1/2"	20	Rd. head machine screw	Cooling group Control box mounting
8	5/16"	3/4"	18	Button head machine screw	Cover
2	3/8"	3/4"	16	Rd. head machine screw	Bell housing
6	#10	3/8"		Binding head, Parker-Kalon Type Z screw	Cooling group
4	#10	3/8"		Stove head, Parker-Kalon Type Z screw	Breather
16	#2	3/16"		Drive screw, Parker-Kalon Type U	Crankcase Bed plate
9	1/4"		20	Square nut	Cooling group
2	3/8"		16	Square nut	Bell housing
3	5/16"		18	Hex. nut	Guide—governor controls Generator
5	3/8"		16	Hex. nut	Battery strap Battery ground
2	1/2"		13	Hex. nut	Fuel tank hold down
4	3/8"		16	Hex. castellated nut	Bed plate
4	1/4"		28	Hex. nut—Clevis end	Bed plate Governor
6	5/16"		24	Hex. nut	Fuel line Oil filter
5	3/8"		24	Hex. nut	Support stud Ignition cables Gear cover
4	1/16"		20	Hex. nut	Water pump and fan Engine base
26	1/4"		20	Hex. nut	Rocker arm bracket Cylinder head stud Manifold
16	5/16"		18	Wing nut	Cooling group
1	3/8"		16	Wing nut	Metal tool box
4	1/16"		20	Hex. acorn nut	Shield plate Cylinder head Cylinder head cover

77. Standard Parts List (Cont'd)

Quantity	Size	Length	Thread	Description	Where Used
2	6"			Machine screw lockwasher	Screw on switch mounting
29	1/4"			Lockwasher	Oil pump Manifold Bed plate Magnetic switch Control box mounting Fuel line
42	5/16"			Lockwasher	Crankcase Oil pump Water pump and fan Bed plate Generator Ignition cables Fuel pump mounting Governor assembly
143	3/8"			Lockwasher	Bell housing Cylinder head Gear cover Governor drive Water pump and fan Cooling group Engine base Bed plate Cranking motor Generator Battery Magneto mounting Battery ground Carburetor mounting Connection to cylinder block Fuel tank hold down Fuel tank Cooling group Bell housing Cooling group Capscrew on crank support Metal tool box Cooling group Support
2	7/16"			Lockwasher	
10	1/2"			Lockwasher	
6	5/8"			Lockwasher	

77. Standard Parts List (Cont'd)

Quantity	Size	Length	Thread	Description	Where Used
9	1/4"			Flat washer	Cooling group
1	5/16"			Plain washer	Oil pump
2	3/8"			Plain washer	Magneto mounting
2	1/4"			Plain washer	Bed plate
4	3/8"			Plain washer	Bed plate
1	7/16"			Plain washer	Rocker arm bracket stud
2	5/8"	7/16"		Plain washer	Cooling group
3	1/10"	1"		Cotter pin	Governor controls
26	3/32"			Cotter pin	Bell housing
					Connecting rod
					Bed plate
4	#6	1/2"		Woodruff key	Oil pump drive gear
					Oil pump gear
					Magneto coupling
					Crankshaft
2	#A	7/8"		Woodruff key	Camshaft gear
1	#13	1"		Woodruff key	Alternator
1	5/8"	2 1/2"		Square key	Oil pump drive gear
1	#2	1"		Taper pin	Governor drive gear
2	#3	1 1/4"		Taper pin	Fan hub
1	#4	1"		Taper pin	Impellor hub
1	#4	1 1/2"		Taper pin	Coupling for operating lever
2	#000	1/2"		Taper pin	Gear cover
2	#7	2"		Taper pin	Bed plate
4	#9	3"		Dowel pin	Bed plate
5	1/8"			Square head pipe plug	Crankcase
1	1/4"			Countersunk pipe plug	Oil pump
1	3/8"			Countersunk pipe plug	Crankcase
1	1/4"			Square head drain plug	Fuel tank
1	3/4"			Oil drain line	Engine base
1	3/4"	2 1/2"		90° Street ell	Oil drain line—Engine base
1	1/8"			45° Street ell	Water pump and fan
1	1/4"			45° Street ell	Cooling group
1	#000			Grease cup	Water pump and fan
4	1 1/4"		1/8"	Welch plug	Manifold
1	3"			Welch plug	Crankcase
3	1/4"		28	Clevis end	Governor rod and spring rod in governor controls
					Governor controls
3	1/4"			Clevis pin	Governor controls

SECTION V. APPENDIX

78. Identification Index to Manufacturers of Accessories and Equipment

Le Roi Part Name	Le Roi Part No.	Manufacturer Name and Address	Manufacturers Model or Type No.
Air Cleaner.....	A77-145-1	Air-Maze Corporation..... Cleveland, Ohio	37U-0BF
Alternator.....	A108-97	Westinghouse Electric & Mfg. Co..... East Pittsburgh, Pa.	SO85-11-380
Ammeter.....	A113-28	U. S. Gauge Company..... Sellersville, Pa.	AU-1166
Battery.....	A117-55	Globe-Union Inc.....	133
Breather, Cyl. head.....	A77-137	Milwaukee, Wisconsin Air-Maze Corporation..... Cleveland, Ohio	ZOH
Carburetor.....	A84-546-3	Zenith Carburetor Division..... Detroit, Michigan	62AJ10
Control switch box.....	A76-176	Allen-Bradley Co.....	X84446
Coupling.....	A28-256	Milwaukee, Wis. Thomas Flexible Coupling Co..... Warren, Pa.	312-DF
Cranking motor.....	A107-37	Delco-Remy Div.....	412
Fuel pump.....	A81-99-4	Anderson, Indiana AC Spark Plug Division..... Flint, Michigan	1523019
Generator (12V).....	A108-87	Delco-Remy Div.....	1101747
Governor.....	1A116-84	Anderson, Indiana Woodward Governor Company.....	SGX-040348
Instrument panel.....	A151-214	Rockford, Illinois Westinghouse Electric & Mfg. Co..... Chicago, Ill.	MKZ-24372
Magnetic switch.....	A76-46	Delco-Remy Div.....	1422
Magneto.....	A85-99-4	Anderson, Indiana American Bosch Corp..... Springfield, Massachusetts	MJB4A-314

78. Identification Index to Manufacturers (Cont'd)

Le Roi Part Name	Le Roi Part No.	Manufacturer Name and Address	Manufacturers Model or Type No.
Magneto ground switch	76-161	Micro Switch Corporation..... Freeport, Illinois	YZ-RQT
Oil filter.....	A77-176	Briggs Clarifier Co..... Washington, D. C.	G400
Oil pressure gauge	60-80	U. S. Gauge Company..... Sellersville, Pa.	AU-1171
Spark plug.....	86-9	AC Spark Plug Div..... Flint, Michigan	83 Spec.
Thermometer.....	60-146	Diesel Plant Specialties Co..... Chicago, Illinois	426
Thermostat	116-54	Fulton Sylinder Company..... Knoxville, Tenn.	155
Water temperature safety switch.....	76-177	Allen-Bradley..... Milwaukee, Wisconsin	X66847

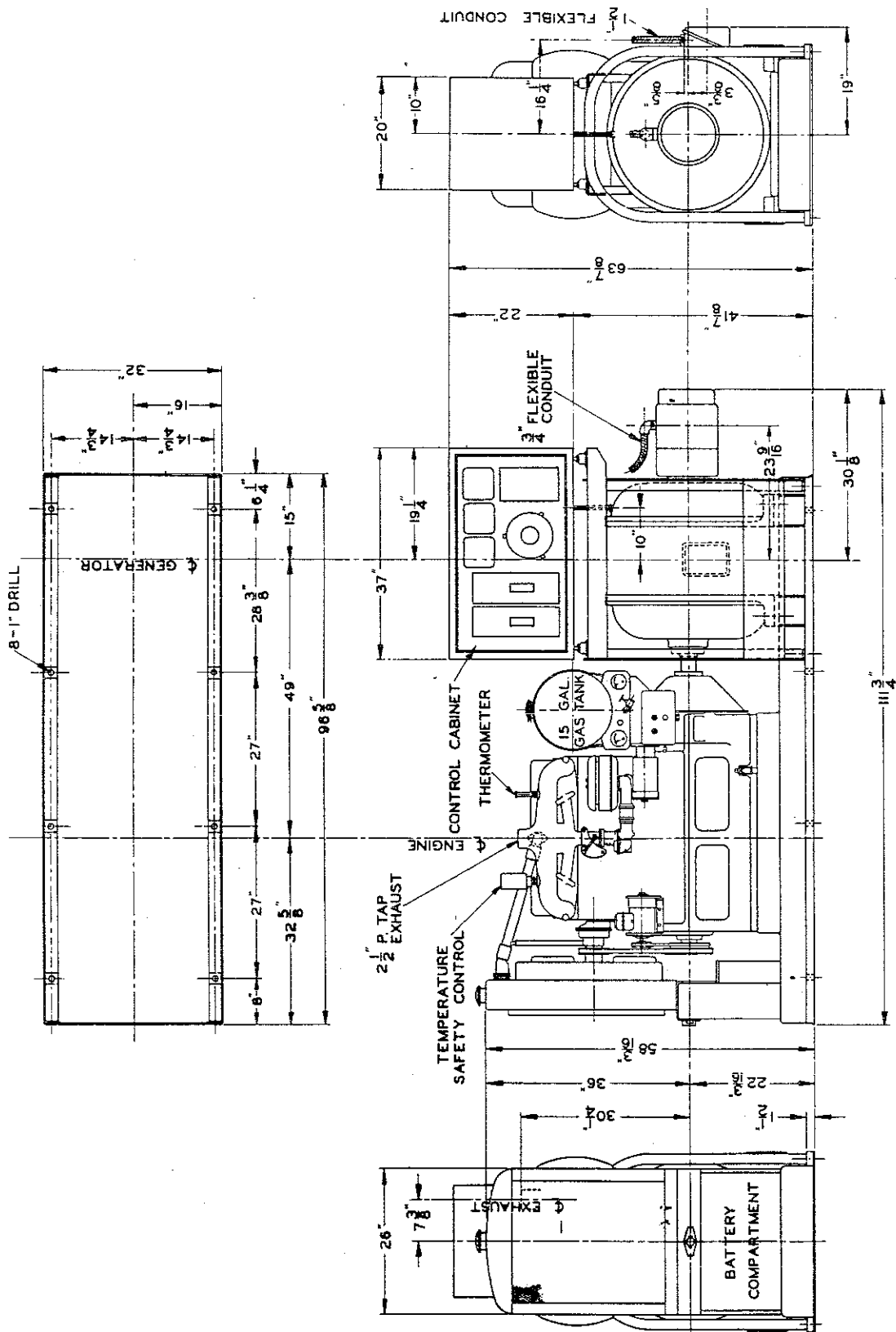


Fig. 76. Installation and Dimensional Drawing of Power Unit

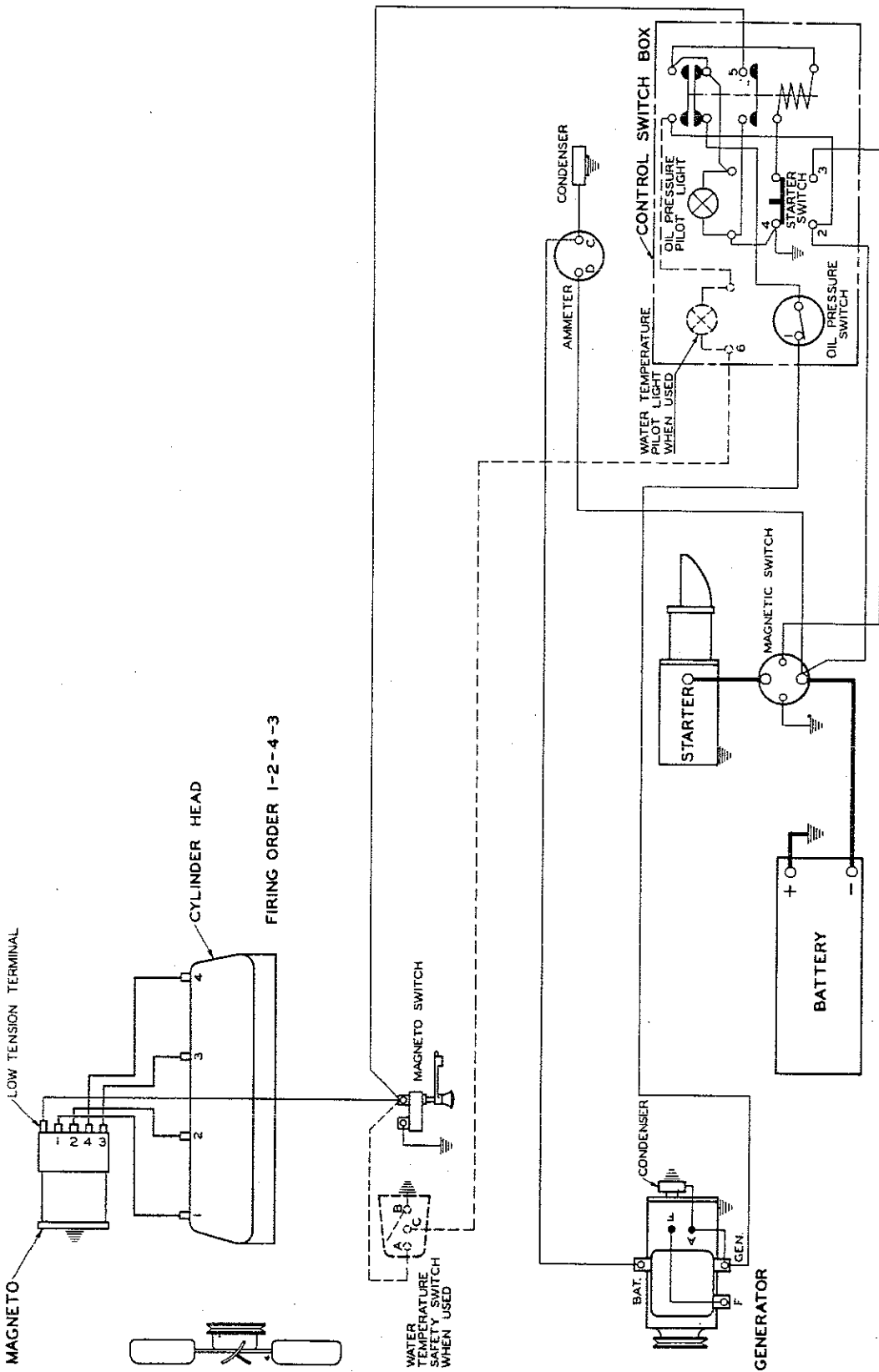


Fig. 77. Wiring Diagram, 12 Volt Electrical System

79. First Aid Instructions for Electric Shock

(From American Red Cross First Aid Text Book)

Symptoms.

In electric shock, the current may pass through the breathing center at the base of the brain and cause this center to stop sending out the nervous impulses which act upon the muscles responsible for breathing. In consequence, breathing stops abruptly. If the shock has not been too severe, the breathing center recovers after a time and resumes the vitally necessary duty of sending impulses to the muscles of breathing, provided that a sufficient supply of air has been furnished the body meanwhile by artificial respiration. Cases are recorded where eight hours work was necessary before the breathing center recovered and the patient began to breathe of his own accord. *Therefore, the ordinary and general tests for death should never be accepted.*

The patient is usually blue, although occasionally he may be very white. The pulse is weak or entirely absent. Unconsciousness is complete. Burns may be present. Occasionally the body becomes rigid or stiff in a very few minutes. This is due to the action of the electricity and is not to be considered "rigor mortis." *This stiffness is not a sign to stop artificial respiration, as a few of such cases are reported to have been revived.*

Resuscitation Procedure.

1. Lay the patient face downwards, one arm extended directly overhead, the other arm bent at elbow and with the face turned outward and resting on hand or forearm so that the nose and mouth are free for breathing. (See Fig. 78.)

2. Kneel straddling the patient's thighs, with your knees placed at such a distance from the hip bones as will allow you to assume the position shown in Fig. 78. In many cases (due to size of the patient) it may be more convenient to straddle only one leg.

Place the palms of the hands on the small of the back with fingers resting on the ribs, the little finger just touching the lowest rib, with the thumb and fingers in a natural position and the tips of the fingers just out of sight. (See Fig. 78.)

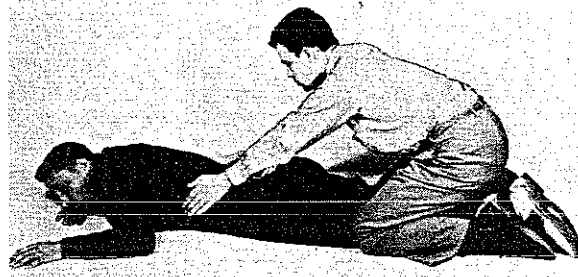


Fig. 78. Artificial Respiration—Ready to Apply Pressure

3. With arms held straight, swing forward slowly, so that the weight of your body is gradually brought to bear upon the patient. The shoulder should be directly over the heel of the hand at the end of the forward swing. (See Fig. 79.) Do not bend your elbows. This operation should take about two seconds.



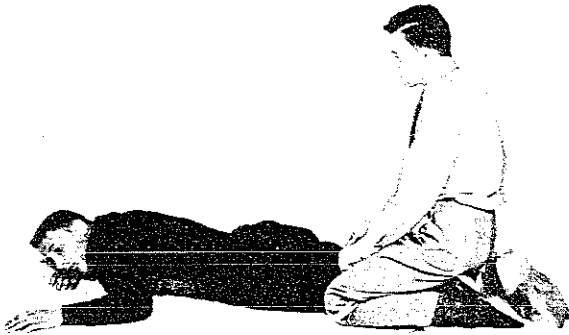
Fig. 79. Artificial Respiration—Pressure Applied

4. Now immediately swing backward so as to remove the pressure completely. (See Fig. 80.)

5. After two seconds, swing forward again. Repeat this double movement of compression and release (a complete respiration in four or five seconds) twelve to fifteen times a minute.

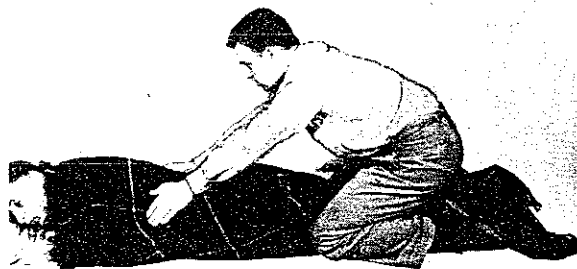
6. Continue artificial respiration without interruption until natural breathing is restored (if necessary four hours or longer) or until a physician declares the patient dead.

7. As soon as artificial respiration has been started and while it is being continued, an



**Fig. 80. Artificial Respiration—
Pressure Released**

assistant should loosen any tight clothing about the patient's neck, chest or waist. *Keep the patient warm.* If at all possible, artificial respiration should be performed while the patient is wrapped in a blanket, as shown in Fig. 81. *Do not give any liquids whatever by mouth until the patient is fully conscious.*



**Fig. 81. Artificial Respiration—
Through a Blanket**

8. To avoid strain on the heart when the patient revives, he should be kept lying down and not allowed to stand or sit up. If the doctor has not arrived by the time the patient has revived, the patient should be given some stimulant, such as one teaspoonful of aromatic spirits of ammonia in a small glass of water, or a hot drink of coffee or tea, etc. The patient should be kept warm.

9. Resuscitation should be carried on at the nearest possible point to where the patient received his injuries. He should not be moved from this point until he is breathing normally, of his own volition, and then moved only in a lying position. Should it be neces-

sary, due to extreme weather conditions, etc., to move the patient before he is breathing normally, resuscitation should be carried on during the time he is being moved.

10. A brief return of natural respiration is not a certain indication for stopping the resuscitation. Not infrequently the patient, after a temporary recovery of respiration, stops breathing again. The patient must be watched and if natural breathing stops, artificial respiration should be resumed at once.

11. In carrying out resuscitation it may be necessary to change operators. This change must be made without losing the rhythm of respiration. As pressure is released the operator falls aside while his assistant takes his place. By this procedure no confusion results at the time of change-of-operator and a regular rhythm is kept up.

Explanatory Notes on Resuscitation.

If it is evident that air is not being drawn into the patient's chest, examine the mouth for a possible obstruction, and remove any foreign body such as false teeth, chewing gum, or tobacco. An assistant, if present, should watch the patient's face, and wipe out from the mouth any frothy mucus or saliva that may collect and interfere with respiration.

If the operator is large and the patient is small, then the operator will of course not swing forward until all the weight of his body is brought to bear on the patient, but only until firm resistance is met beneath his hands. *Sixty pounds pressure is sufficient for even a large adult.* Damage has been done by too great pressure.

Treatment During Recovery.

The patient may show no sign of beginning recovery for some time, and then may gradually begin to regain a more normal color, indicating that the blood is getting more oxygen and that the circulation is improving. Then he may show slight muscular effort, such as a slight twitching or a scratching or clutching motion of the fingers. The first attempt to breathe may be a catch of the breath or a faint sign. The operator should watch very carefully at this point so as not to exert pressure as the patient attempts to

take his first spontaneous breath. Artificial respiration should be withheld when the first breathing begins, but may have to be resumed at once if breathing does not continue.

The breathing at first may be very slow—four to six times per minute—but should not be assisted by artificial respiration.

As breathing is resumed the patient may attempt to get up, or even become violent in his semi-conscious efforts to help himself. He must be restrained and kept in the prone position.

A person who has been resuscitated has been through one of the most severe strains

that can be experienced. His heart has been under extreme exertion, and the regulation of rhythm and the volume of heart action may not have returned to normal for some time.

The patient must be kept lying down. Permitting him to get up and walk may cause sudden heart failure and death. Shock treatment must be continued long after the patient begins to breathe. He must be carefully watched, as some cases, apparently breathing normally, will suddenly stop breathing and need additional artificial respiration. Never leave a resuscitated person alone until quite sure he is normal again.

[A.G. 062.11 (5-21-43)]

By Order of the Secretary of War

G. C. MARSHALL
Chief of Staff

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J. A. ULIO
Major General
The Adjutant General

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