

General Electric Company

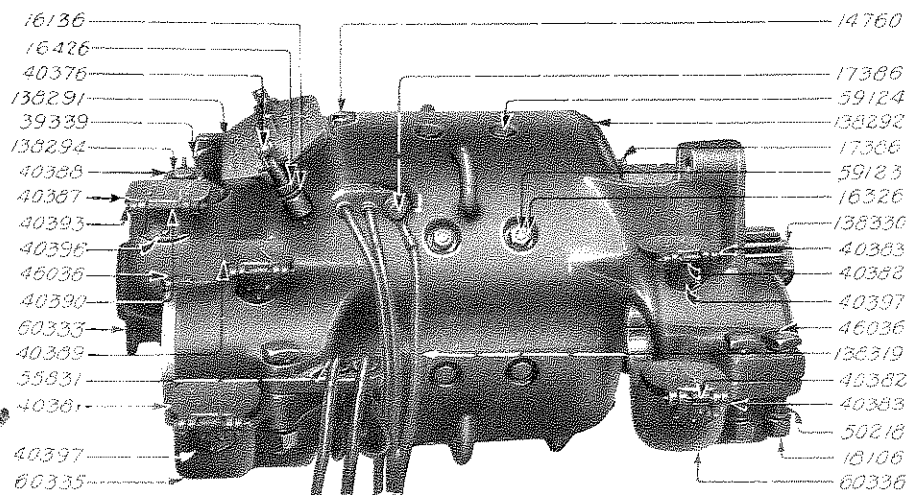
Schenectady, N.Y.

SUPPLY DEPARTMENT

January, 1913

Bulletin No. A4076

PARTS OF GE-202-A, 600 VOLT RAILWAY MOTOR



WEIGHTS

Motor, complete, without axle gear and case.....	2300 lb.
Armature without pinion.....	569 lb.
Axle gear (71 teeth).....	220 lb.
Gear case.....	166 lb.
Exciting field coil.....	31 lb.
Commutating field coil.....	23 lb.

Cat. No.	Description
138291	LID with felt packing, for frame casting, over commutator.....
40376	Cam with eyebolt fastening lid in position.....
16426	Nut for cam eyebolt ($\frac{3}{4}$ in.-10, $\frac{1}{2}$ in. thick, hex. rough).....
16136	Lock washer for No. 16426.....
14547	Spring cotter for lid ($\frac{1}{4}$ in. by $2\frac{1}{2}$ in.).....
33981	Lid with rope packing for lower frame casting, commutator end.....
138292	Lid with rope packing for upper frame casting, pinion end.....
138293	Lid with rope packing for lower frame casting, pinion end.....
17386	Bolt fastening Nos. 33981, 138292, 138293 to casting ($\frac{5}{8}$ in.-11, $1\frac{1}{8}$ in. hex. h. sp'l).....
16137	Lock washer for No. 17386.....
64090	Socket pipe plug for lower frame casting ($\frac{1}{2}$ in. pipe).....
55831	Soft rubber bushing for use with cables.....
60333	ARMATURE BEARING CAP, commutator end.....

NOTE.—The data in this publication are for the convenience of customers, and every effort is made to avoid error, but this Company does not guarantee their correctness, nor does it hold itself responsible for any errors or omissions in this publication. Subject to change without notice.

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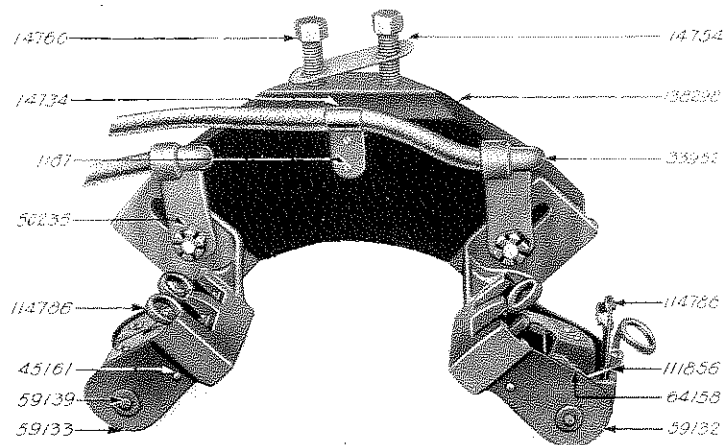
A4076-2 Parts of GE-202-A, 600 Volt Railway Motor

Cat. No.	Description
60334	Armature bearing cap, pinion end
60335	Axle bearing cap, complete, commutator end
60336	Axle bearing cap, complete, pinion end
24559	Dowel pin for bearing caps ($\frac{5}{8}$ in. by $\frac{1\frac{1}{8}}$ in.)
40381	Lid for axle bearing cap grease chamber
40382	Spring for No. 40381
40383	Hinge pin for No. 40381 ($\frac{3}{8}$ in. by $3\frac{1}{8}$ in. r.h.)
56847	Spring cotter for No. 40383 ($\frac{1}{8}$ in. by $\frac{5}{8}$ in.)
40397	Hinge bracket with rivets for No. 40381
46036	Bolt fastening upper and lower frame castings together and bearing caps in position ($1\frac{1}{8}$ in.-7, $5\frac{1}{2}$ in. sq. h. sp'l, drilled for cotter)
43766	Hinge bolt for frame castings ($1\frac{1}{8}$ in.-7, 4 in. sp'l, drilled for cotter)
18106	Nut for Nos. 46036, 43766 ($1\frac{1}{8}$ in.-7, hex. rough)
50218	Lock washer for No. 18106
40386	Hinge pin for upper frame casting (1 in. by $4\frac{3}{4}$ in.)
16323	Spring cotter for Nos. 46036, 43766, 40386 ($\frac{3}{16}$ in. by $1\frac{1}{2}$ in.)
40387	Large lid for armature bearing grease chamber, commutator and pinion ends
40388	Small lid or lid for stand pipe for armature bearing grease chamber, commutator and pinion ends
40389	Lid for axle bearing grease chamber, commutator and pinion ends
40390	Spring for No. 40387
138294	Spring for No. 40388
40382	Spring for No. 40389
40393	Hinge pin for No. 40387 ($\frac{3}{8}$ in. by $4\frac{1}{8}$ in. r.h.)
40394	Hinge pin for No. 40388 ($\frac{3}{8}$ in. by $3\frac{1}{8}$ in. r.h.)
40383	Hinge pin for No. 40389 ($\frac{3}{8}$ in. by $3\frac{1}{8}$ in. r.h.)
56847	Spring cotter for Nos. 40393, 40394, 40383 ($\frac{1}{8}$ in. by $\frac{5}{8}$ in.)
40396	Hinge bracket with rivets for No. 40387
40397	Hinge bracket with rivets for No. 40389
39339	Suspension bolt ($1\frac{1}{8}$ in.-7, $3\frac{3}{4}$ in. sq. h. sp'l)
18106	Nut for No. 39339 ($1\frac{1}{8}$ in.-7, hex. rough)
50218	Lock washer for No. 18106
138295	LAMINATED POLE PIECE for exciting field coils
138296	Commutating pole piece
59123	Stud for No. 138295 ($\frac{3}{4}$ in.-10, 4 in. long)
16326	Nut for No. 59123 ($\frac{3}{4}$ in.-10, hex. rough)
59124	Bolt fastening No. 138296 to frame casting ($\frac{3}{4}$ in.-10, $1\frac{1}{8}$ in. hex. h. sp'l)
16136	Lock washer for Nos. 16326, 59124
41058	AXLE BEARING LINING, malleable iron and babbitt (2 halves, 4 in. bore)
59425	Axle bearing lining, malleable iron and babbitt (2 halves, $4\frac{1}{4}$ in. bore)
45270	Axle bearing lining, malleable iron and babbitt (2 halves, $4\frac{1}{2}$ in. bore)
47856	Axle bearing lining, malleable iron and babbitt (2 halves, 5 in. bore)
61901	ARMATURE BEARING LINING, commutator end, brass and babbitt
61902	Armature bearing lining, pinion end, brass and babbitt
138297	Plug for No. 61901
60339	BRUSH-HOLDER YOKE, complete, with brush-holders and cables, for axle side connection
60338	Brush-holder yoke, complete, with brush-holders and cables, for suspension side connection
138298	Brush-holder yoke with end plates, bracket and cap screws
59130	Right-hand brush-holder, complete
59131	Left-hand brush-holder, complete
59132	Right-hand body with pins
59133	Left-hand body with pins
114786	Pressure arm with contact spring, tip and flexible pigtail connector
114788	Contact spring with conductors, tip and rivets
64158	Flexible pigtail connector (4 in. long, 175 No. 30 B.&S. wire)
59137	Side washer for pressure arm ($\frac{1}{2}$ in. by $1\frac{3}{8}$ in. by 0.031 in. brass sp'l)
59139	Hinge pin for pressure arms ($\frac{1}{4}$ in. by $2\frac{1}{8}$ in. pin h.)

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Cat. No.	Description
10110	Spring cotter for No. 59139 ($\frac{5}{16}$ in. by $\frac{1}{2}$ in.)
111856	Tension spring
45161	Pin for tension springs ($\frac{3}{16}$ in. by $2\frac{3}{8}$ in. pin h.)
45162	Sleeve for No. 45161 ($\frac{3}{16}$ in. by $\frac{5}{16}$ in. by $\frac{1}{8}$ in. long, fiber)
45163	Washer for sleeve ($\frac{3}{16}$ in. by $\frac{5}{8}$ in. by $\frac{1}{16}$ in. thick, fiber)
14760	Cap screw fastening yoke to frame ($\frac{5}{8}$ in.-11, $1\frac{1}{8}$ in. hex. h.)
14754	Washer plate for No. 14760
50235	Crown nut for bolt fastening body to yoke ($\frac{1}{2}$ in.-13, hex. sp'l)
50236	Cotter pin for No. 50235 ($\frac{3}{32}$ in. by $1\frac{1}{2}$ in.)
59140	Inside connection cable with terminal, for No. 60339 (10 in. long, 49 No. 22 B.&S. wire)
138299	Inside connection cable with terminal, for No. 60338 (12 in. long, 49 No. 22 B.&S. wire)
138300	Outside connection cable with terminal, for No. 60339 (62 in. long, 49 No. 22 B.&S. wire)
138301	Outside connection cable with terminal, for No. 60338 (64 in. long, 49 No. 22 B.&S. wire)
33952	Terminal for cables



14734	Clip for cable
1187	Screw for clip (No. 10, $\frac{1}{8}$ in. r.h.)
50395	CARBON BRUSH ($2\frac{1}{2}$ in. long, $2\frac{1}{2}$ in. wide, $\frac{1}{2}$ in. thick) one required for each holder, two for each motor
61071	EXCITING FIELD COIL, complete
59142	Commutating field coil, complete
138302	Outside terminal with connection strip and screws, for No. 61071
138303	Outside terminal with connection strip and screws, for No. 59142
138304	Inside terminal with connection strip and screws, for No. 61071
138305	Inside terminal with connection strip and screws, for No. 59142
10063	Screw for terminals (14-24, $\frac{5}{8}$ in. fill. h.)
138306	Inside connection cable for exciting field coils ($14\frac{1}{2}$ in. long, 49 No. 22 B.&S. wire)
59811	Inside connection cable for commutating field coils (16 in. long, 49 No. 22 B.&S. wire)
138307	Outside connection cable for exciting field coil, upper suspension side ($12\frac{1}{2}$ in. long, 49 No. 22 B.&S. wire)
138308	Outside connection cable for exciting field coil, upper axle side (28 in. long, 49 No. 22 B.&S. wire)
138309	Outside connection cable with connector, for exciting field coil, lower suspension side and commutating field coil, upper suspension side ($12\frac{1}{2}$ in. long, 49 No. 22 B.&S. wire)
138310	Outside connection cable with connector, for exciting field coil, lower axle side (15 in. long, 49 No. 22 B.&S. wire)
119111	Outside connection cable with connector, for commutating field coil, upper axle side (25 in. long, 49 No. 22 B.&S. wire)

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A4076-4 Parts of GE-202-A, 600 Volt Railway Motor

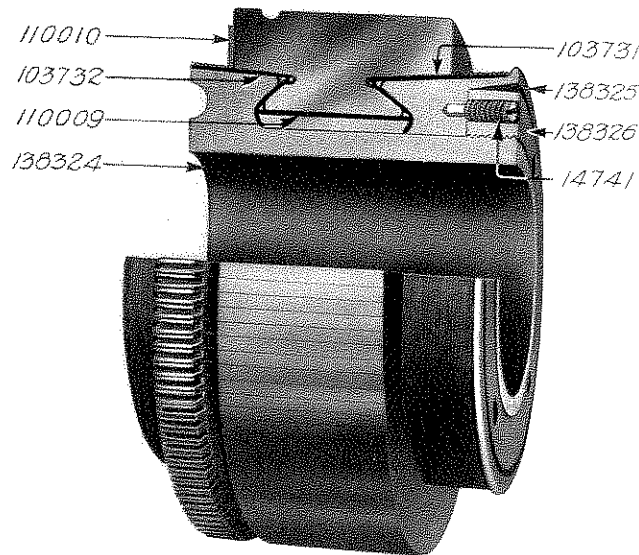
Cat. No.	Description
138311	Outside connection cable for commutating field coil, lower suspension side (20 in. long, 49 No. 22 B.&S. wire).....
59811	Outside connection cable for commutating field coil, lower axle side (16 in. long, 49 No. 22 B.&S. wire).....
114812	Outside cable for exciting field coil, upper axle side (54 in. long, 49 No. 22 B.&S. wire).....
138312	Outside cable with connector, for exciting field coil, lower axle side (16 in. long, 49 No. 22 B.&S. wire).....
59811	Outside cable for commutating field coil, lower axle side (16 in. long, 49 No. 22 B.&S. wire).....
138313	Motor lead for exciting field coil, lower axle side (48 in. long, 49 No. 22 B.&S. wire).....
119117	Motor lead with connector, for commutating field coil, lower axle side (48 in. long, 49 No. 22 B.&S. wire).....
59812	Motor lead for exciting field coil, suspension side (55 in. long, 49 No. 22 B.&S. wire).....
138314	Motor lead for commutating field coil, lower suspension side (60 in. long, 49 No. 22 B.&S. wire).....
119118	Two-way connector with screws, for Nos. 138309, 138310, 119111, 138312, 119117.....
32857	Screw for connector (12-24, $\frac{3}{8}$ in. r.h. blued).....
138315	Flange for exciting field coil.....
138316	Brass flange for commutating field coil.....
138317	Oiled canvas pad for exciting field coil.....
138318	Oiled canvas pad for commutating field coil.....
138319	Ground cable with terminal (48 in. long, 49 No. 22 B.&S. wire).....
17386	Bolt fastening ground cable terminal to frame ($\frac{5}{8}$ in.-11, $1\frac{5}{8}$ in. hex. h. sp'l).....
16137	Lock washer for No. 17386.....
34076	AXLE KEY (1 in. by 1 in. by $6\frac{3}{8}$ in. long, round ends).....
43937	* Adjustable axle collar, 2 halves (4 in. axle).....
43961	* Adjustable axle collar, 2 halves ($4\frac{1}{2}$ in. axle).....
17983	Screw for adjusting axle collars from $3\frac{1}{4}$ in. to 5 in. (1 in.-8, $3\frac{3}{16}$ in. sp'l).....
17985	Spring cotter for No. 17983 ($\frac{3}{16}$ in. by $2\frac{1}{4}$ in.).....
34076	Bolt for axle collars ($\frac{3}{4}$ in.-10, $4\frac{1}{4}$ in. sq. h.).....
16326	Nut for No. 34076 ($\frac{3}{4}$ in.-10, hex. rough st'd).....
16136	Lock washer for No. 16326.....
45842	SPLIT GEAR, 67 teeth, 4 in. bore.....
45778	Split gear, 67 teeth, $4\frac{1}{2}$ in. bore.....
45862	Split gear, 67 teeth, 5 in. bore.....
45846	Split gear, 69 teeth, 4 in. bore.....
45779	Split gear, 69 teeth, $4\frac{1}{2}$ in. bore.....
45871	Split gear, 69 teeth, 5 in. bore.....
45848	Split gear, 71 teeth, 4 in. bore.....
45780	Split gear, 71 teeth, $4\frac{1}{2}$ in. bore.....
45876	Split gear, 71 teeth, 5 in. bore.....
45814	Solid gear, 67 teeth, 3.996 in. bore.....
45781	Solid gear, 67 teeth, 4.495 in. bore.....
45817	Solid gear, 67 teeth, 4.995 in. bore.....
45826	Solid gear, 69 teeth, 3.996 in. bore.....
45782	Solid gear, 69 teeth, 4.495 in. bore.....
45829	Solid gear, 69 teeth, 4.995 in. bore.....
45836	Solid gear, 71 teeth, 3.996 in. bore.....
45783	Solid gear, 71 teeth, 4.495 in. bore.....
45839	Solid gear, 71 teeth, 4.995 in. bore.....
28387	Pinion, 15 teeth, $2\frac{3}{4}$ in. taper bore.....
28350	Pinion, 17 teeth, $2\frac{3}{4}$ in. taper bore.....
28395	Pinion, 19 teeth, $2\frac{3}{4}$ in. taper bore.....
49609	GEAR CASE (D.L. 37956), complete, adapted for use with gear having 8 in. hub diameter, max. gear 71 teeth, max. pinion 23 teeth (malleable iron).....
114818	Lid for oil hole, with spring and hinge pin, complete.....
40390	Spring for lid.....

* Includes adjusting screw.

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Parts of GE-202-A, 600 Volt Railway Motor A4076-5

Cat. No.	Description
64114	Hinge pin for lid ($\frac{3}{8}$ in. by $5\frac{1}{8}$ in. r.h.)
56847	Spring cotter for No. 64114 ($\frac{1}{8}$ in. by $\frac{5}{8}$ in.)
46036	Bolt fastening halves of gear case together and fastening to frame ($1\frac{1}{8}$ in.-7, $5\frac{1}{2}$ in. sq. h. sp'l, drilled for cotter)
18106	Nut for No. 46036 ($1\frac{1}{8}$ in.-7, hex. rough)
50218	Lock washer for No. 18106
16323	Spring cotter for No. 46036 ($\frac{3}{16}$ in. by $1\frac{1}{2}$ in.)
123723	ARMATURE, 3 turns, complete, with thrust collars, without pinion (No. 9 B.&S. E.D.C.C. wire)
59150	* Armature coil, 3 turns (No. 9 B.&S. 0.114 in. E.D.C.C. wire) per set of 25
138320	Armature head, commutator end
138321	Armature head, pinion end



136954	Armature nut for holding armature head, commutator end, in position
138322	Thrust collar with dowel pins, commutator end
138323	Thrust collar with dowel pin, pinion end
114823	Key for armature head, commutator end and commutator ($\frac{3}{8}$ in. by $\frac{1}{2}$ in. by $3\frac{3}{4}$ in. round ends)
59151	COMMUTATOR, complete
138324	Shell
138325	Cap
138326	Nut
14741	Set screw for nut ($\frac{3}{8}$ in.-16, $1\frac{1}{8}$ in. headless sp'l)
59152	Set of copper and mica segments, finished and bound (125 segments)
110009	Mica collar under segments
103731	Combination inner and outer mica cone, wide
103732	Combination inner and outer mica cone, narrow
110010	Mica ring back of commutator segments (7 in. by $9\frac{1}{8}$ in. by $\frac{1}{8}$ in. thick)
138327	Shaft, bare
138328	Key for shaft ($\frac{1}{2}$ in. by $\frac{1}{2}$ in. by $19\frac{1}{4}$ in. square ends)

* 25 coils in complete set for one armature. Cat. No. is for one coil.

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A4076-6 Parts of GE-202-A, 600 Volt Railway Motor

Cat. No.	Description
138329	Key for pinion ($\frac{5}{8}$ in. by $\frac{5}{8}$ in. by $4\frac{3}{4}$ in. round ends)
138330	Pinion nut

NOTE.—The GE-202 motor, as now manufactured, is fitted with pinion having a saw cut in the side face to receive the flanged portion of the lock washer adapted to its use. A number of motors are in use having pinions with keyway cut on a diameter across the side face to receive lock washer with punched projection adapted to its use. Cat. Nos. of both washers are listed as follows.

59391	Lock washer for pinion nut, used with pinion having saw cut inside face ($1\frac{1}{8}$ in. by 4 in. by 0.0625 in. sp'l)
34091	Lock washer for pinion nut, used with pinion having keyway cut on a diameter across the side face ($1\frac{1}{8}$ in. by $4\frac{1}{8}$ in. by 0.0625 in. sp'l)
138331	Complete set of armature core insulations
138332	Complete set of armature winding insulations
138334	Complete set of armature binding insulations
14571	Binding clip ($2\frac{1}{2}$ in. by $\frac{1}{2}$ in. by 0.010 in. tin)
103531	"T" shaped binding clip ($1\frac{1}{4}$ in. by $\frac{1}{2}$ in. by 0.020 in. tin, bent)
24904	"U" shaped binding clip (developed length 1.016 in. by $\frac{5}{8}$ in. by 0.020 in. tin)
100862	"U" shaped binding clip (developed length $1\frac{1}{8}$ in. by $\frac{5}{8}$ in. by 0.020 in. tin.)
107610	"U" shaped binding clip (developed length $1\frac{7}{8}$ in. by $\frac{5}{8}$ in. by 0.020 in. tin)
100885	"U" shaped binding clip (developed length $4\frac{1}{4}$ in. by $\frac{5}{8}$ in. by 0.020 in. tin)

Acme tape used in connecting and binding armature ($\frac{3}{4}$ in. wide), cord for dressing No. 7, binding wire is 0.045 in. tinned steel, requiring approximately 416 feet.

GENERAL ELECTRIC COMPANY

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