

# GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y., SALES OFFICES IN PRINCIPAL CITIES

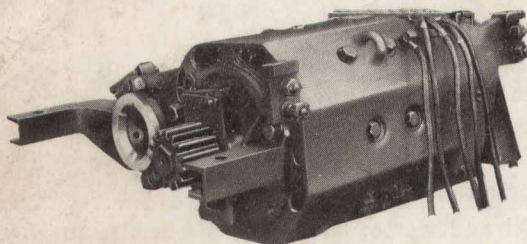
June, 1926



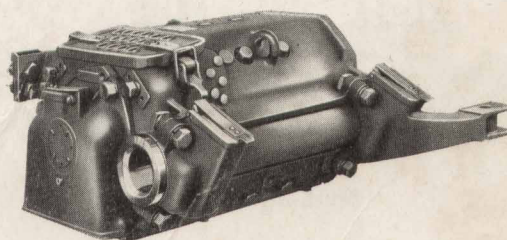
Bulletin No. GEA-41 8

## GE-247-A, 600-VOLT RAILWAY MOTOR

For Light Weight Cars in City, Suburban  
or Interurban Service



Suspension Side



Axle Side

GE-247-A RAILWAY MOTOR

### RATINGS

Hourly, for 75 deg. rise by thermometer;  
40 h.p., 600 volts, 60 amperes, 715 r.p.m.

Continuous, for 65 deg. rise by thermometer;  
36.6 amperes at 600 volts.  
35.8 amperes at 450 volts.  
34.4 amperes at 300 volts.

### TRUCK DATA

	Form A 26-in. Wheel Motor
Maximum diameter of car axle in bearing linings .....	4 in.
Clearance under frame with 26-in. wheels (maximum reduction).....	4 $\frac{5}{16}$ in.
Clearance under gear case with 26-in. wheels (max. red.).....	4 $\frac{5}{32}$ in.
Max. gear reduction (3 $\frac{1}{2}$ pitch)	58/15

### WEIGHTS

	APPROX. WT. in Lb.
	Form A 26-in. Wheel Motor
Motor, including gear, pinion, gear case and axle linings.	1740
Two-motor equipments, complete with two K-36 controllers.....	4590
Four-motor equipments, complete with two K-35 controllers.....	8520
Two-motor equipment, with Sprague G-E Type PC control complete.....	4680
Four-motor equipment, with Sprague G-E Type PC control complete.....	8400

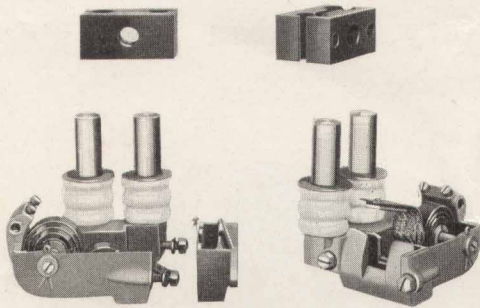
Supersedes 44406A

### Frame

Cast steel, box type, bar suspension, large opening over commutator, covered hand hole suspension side, commutator end.

### Axle Bearings

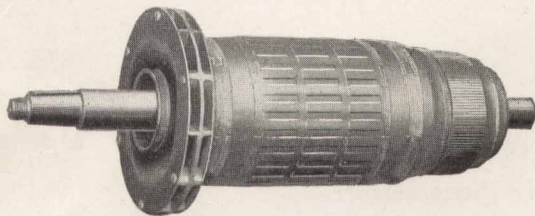
Bronze linings, standard size 4 in. diameter, 7 in. long, interchangeable, linings held by dowels.



Brush-holders

### Brush-holders

Adjustable pressure, renewable carbon-way, 1 brush per holder, size  $2\frac{1}{4}$  in. by  $2\frac{1}{2}$  in. by  $\frac{1}{2}$  in.



Armature

### Armature

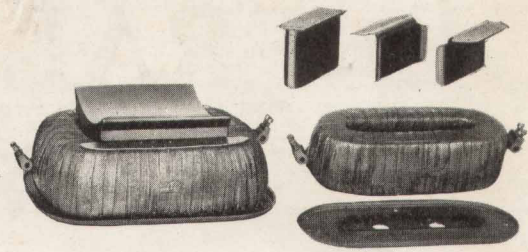
Hot banded, shaft removable without disturbing windings. Bearing surfaces rolled; thrust collars, drop forged, shrunk on shaft.

### Armature Bearings

Linings held by keys, bronze lined with babbitt, pinion end  $2\frac{3}{4}$  in. by  $6\frac{5}{8}$  in., commutator end  $2\frac{3}{8}$  in. by  $4\frac{3}{4}$  in.

### Field Coils

Wound with rectangular wire, compounded by vacuum process. Supported by spring flanges, terminals on coils.



Exciting and Commutating Field Coils

### Pole Pieces

Exciting, laminated, mounted on steel key, held by tap bolts; commutating, drop forged, held by tap bolts.

### Commutator

Hard drawn copper segments; selected mica insulation, mica grooved  $\frac{3}{64}$  in. One-piece mica cones, moulded.

### Lubrication

Oil and waste; large capacity wells; auxiliary wells.

### Ventilation

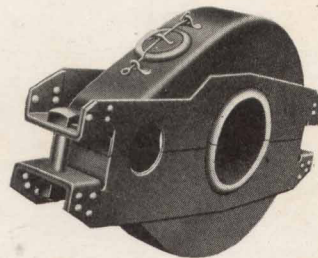
Multiple fan path through armature core, path around field coils, exhaust at pinion end.

### Gearing

Short addendum gear tooth; long addendum pinion teeth,  $3\frac{1}{2}$  pitch, 4- $\pi$  face.

### Gear Case

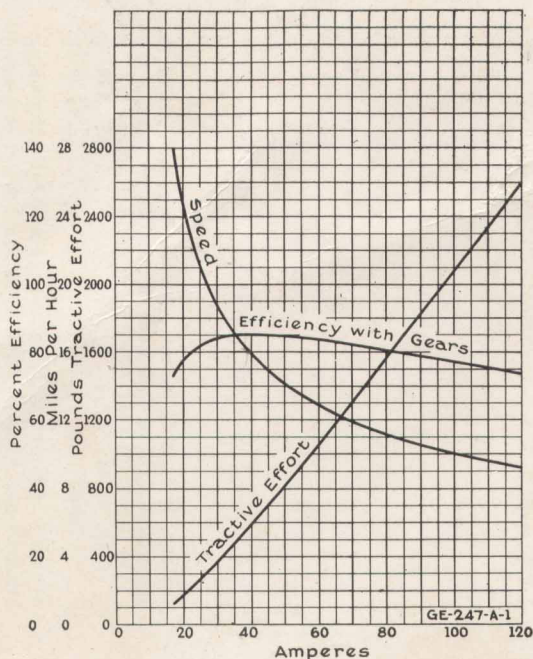
Pressed steel gear-case welded to supporting cradle.



Pressed Steel Gear Case

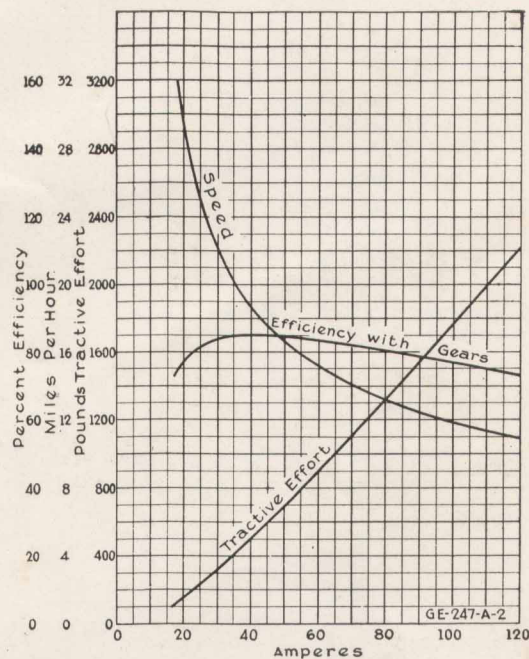


**GE-247-A 26-IN. WHEEL MOTOR**  
 Characteristic Curves on 550 Volts, Diameter of Car Wheels,  
 26 Inches; Gear, 58 Teeth; Pinion, 15 Teeth; Ratio,  
 3.87; Maximum Gear Ratio



Characteristic Curve No. 388

**GE-247-A 26-IN. WHEEL MOTOR**  
 Characteristic Curves on 550 Volts, Diameter of Car Wheels,  
 26 Inches; Gear, 56 Teeth; Pinion, 17 Teeth; Ratio, 3.29



Characteristic Curve No. 399

**SCHEDULE SPEED, GE-247-A  
 600-VOLT MOTOR**

The following table indicates the capacity of the GE-247-A motor and will assist materially in determining whether this motor is suitable for the desired schedule. It is based on the following assumptions: Average trolley potential, 550 volts; acceleration and braking, 1.5 miles per hour per second; duration of stops, 10 seconds; coasting for 230 feet on all runs; straight level track,

maximum temperature rise not exceeding 65 deg. C. Schedule speeds given are 10 per cent less than theoretical values, to allow for delays due to grades, curves, slow downs, or other factors that may affect the schedule.

It is strongly recommended that service data be supplied and the General Electric Company's engineers be consulted before the final selection of a motor and gear ratio, since co-operation has been found to be mutually beneficial.

Stops per Mile	MILES PER HOUR WITH LOAD IN TONS PER MOTOR											
	Gearing 58/15					Gearing 56/17						
	4.5	5	5.5	6	7	8	4.5	5	5.5	6	7	8
1	20.1	19.7	19.1	18.3	17.7	17.2	21.2	20.7	20.2	19.8	19.3	18.3
3	14.1	13.8	13.6	13.5	13.2	13.0	14.5	14.3	14.0	13.8	13.6	13.0
5	11.2	11.1	11.0	10.9	10.7	10.6	11.5	11.3	11.1	11.0	10.9	
6	10.1	10.0	9.9	9.9	9.8	9.7	10.4	10.2	10.1	10.0		
7	9.4	9.3	9.2	9.2	9.1	9.0	9.6	9.4	9.3	9.2		
8	8.7	8.6	8.5	8.5	8.5		8.9	8.7	8.6	8.5		
9	8.1	8.1	8.0	8.0	8.0		8.5	8.2	8.1			
Maximum free-running speed	29.5	28.4	27.8	25.5	24.7	23.3	32	31.5	30.4	29.3	27.2	26.0

Above free-running speed based on four-motor equipment.  
 Max: free-running speed of two-motor equipment approximately 90 per cent of above values.

