TYPE SK SMALL MOTORS

SHUNT, COMPOUND AND SERIES WOUND

INSTRUCTIONS

Type SK motors are designed to operate satisfactorily on a voltage variation of 10% from that stamped on the nameplate but not necessarily in accordance with the standards of performance established for operation at normal rating. This company will assume no responsibility for its operation outside the above limits.

Inspection—After the motor is unpacked, examine carefully to see that it has not been damaged during shipment and that the shaft turns freely. Note the nameplate reading to see that it corresponds to the circuit to which the motor is to be connected.

Location—Motors not especially constructed for unusual operating conditions must be located in clean, dry, well ventilated, easily accessible places free from acid fumes, dripping water or oil, steam and excessively high temperatures.

Lubrication—If the motor has bearings of the oil ring type, fill each reservoir. through the combined overflow and filling gauge with a good grade of dynamo or machine oil, until the oil rises nearly to the top of the overflow hole. If the motor has grease lubricated ball bearings, unscrew the cup and fill with a good quality light grease (non fluid). Motors having grease cup are shipped with the reservoirs filled but should always be examined as good lubrication is of prime importance. Although these motors will run much longer under normal service conditions replenishing the lubricant in all types of bearings once a month is strongly recommended. About once a year the reservoirs of the oil ring type bearings should be emptied and cleaned with gasoline or kerosene to remove any dirt or sediment. A yearly inspection of the ball bearings is also recommended.

Mounting—Mount the motor as rigidly as possible and so that the oil wells are below the bearings, or grease cups above. Adjust the motor so that the pulley or pinion of the motor is directly in line with the pulley or gear it is to drive. Line up the motor so that when loaded the rotor "floats" or runs midway between the bearings without causing end thrust. (Ball bearing motors are assembled without endplay, and their armatures will not float.) For wall or ceiling mounting the brackets must be turned 90° or 180°, and the brush holder rocker arm turned so as to bring it into exactly the same position with reference to the poles as when received. It is preferable that motors be assembled at the Works for the mounting desired, however, the change can readily be made in the field.

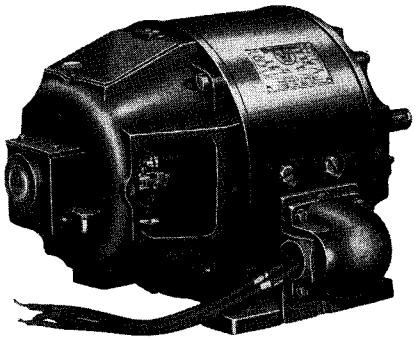

FIG. 1

Brushes—The neutral brush position is fixed for either direction of rotation. The brush holder rocker arm is marked and clamped in position before the motor leaves the works and should not require further adjustment. The carbon brushes supplied with the motors have been carefully selected for this particular service and for the best results only this make and grade should be used.

Commutator—The commutator surface should be kept clean and smooth. Ordinarily it will require only occasional wiping off with a piece of canvas.

Operation—A starting rheostat or controller must be used except with self-starting motors. A circuit breaker or line switch with fuses must be installed in the leads from the line to the starter or controller. When starting for the first time a shunt or compound wound motor should if possible be run without load and should be allowed to operate until it is evident that it is properly installed and connected. Never start a series motor without load.

Starting—Make certain that all instructions for installing and connecting have been complied with and that the handle of the controller is in the "OFF" position. Then close the line switch and move starter or controller handle by steps to the running position. If motor has not started when third step is reached, open the line switch, or move handle of controller to "OFF" position and look for overload or faulty connections.

Stopping—When a starting rheostat is used, open the line switch. Never force the rheostat handle to the "OFF" position but allow it to return automatically. When a controller is used, move the handle to the "OFF" position. If the motor is to be shut down for a considerable period, open the line switch.

In General—Keep the motor clean and dry. Tools, bolts, oil cans, etc., must not be allowed to lie around the motor or on the frame. Keep the motor free from dust by occasionally blowing it out with compressed air or a hand bellows.

Motor Connections Shunt Wound

Counter Clockwise Rotation looking at commutator end.—Connect the two line wires to terminals on starter marked LINE+ and LINE —. Connect A1 to terminals on starter marked ARM; Connect F1 to terminal on starter marked FLD; Connect A2 to F2 together and connect to terminal on starter marked LINE—.

Clockwise Rotation looking at commutator end—Connect the two line wires to terminals on starter marked LINE+ and LINE—. Connect A2 to terminal on starter marked ARM; Connect F1 to terminal on starter marked FLD; Connect A1 and F2 together and connect to terminal on starter marked LINE—.

Compound Wound

Counter Clockwise Rotation looking at commutator end—Connect the two line wires to terminals on starter marked LINE+ and LINE—. Connect A1 to terminal on starter marked ARM; Connect F1 to terminal on starter marked FLD; Connect S1 to A2; Connect S2 and F2 together and connect to terminal on starter marked LINE—.

Clockwise Rotation looking at commutator end—Connect the two line wires to terminals on starter marked LINE+ and LINE—. Connect A2 to terminal on starter marked ARM; Connect F1 to terminal on starter marked FLD; Connect S1 to A1; Connect S2 and F2 together and connect to terminal on starter marked LINE—.

Series Wound

When Used Without Starter

Counter Clockwise Rotation looking at commutator end—Connect A1 to one line wire; Connect A2 to S1; and Connect S2 to the other line wire.

Clockwise Rotation looking at commutator end—Connect A2 to one line wire; Connect A1 to S1; and connect S2 to the other line wire.

When Used With Starter

Counter Clockwise Rotation looking at commutator end—Connect the two line wires to terminals on starter marked LINE+ and LINE—; Connect A1 to terminal marked ARM; Connect A2 to S1; Connect S2 to terminal marked LINE—.

Clockwise Rotation looking or commutator end—Connect the two line wires to terminals on starter marked LINE+ and LINE—. Connect A2 to terminal marked ARM; Connect A1 to S1; Connect S2 to terminal marked LINE—.

TYPE SK SMALL MOTORS
RENEWAL PARTS DATA

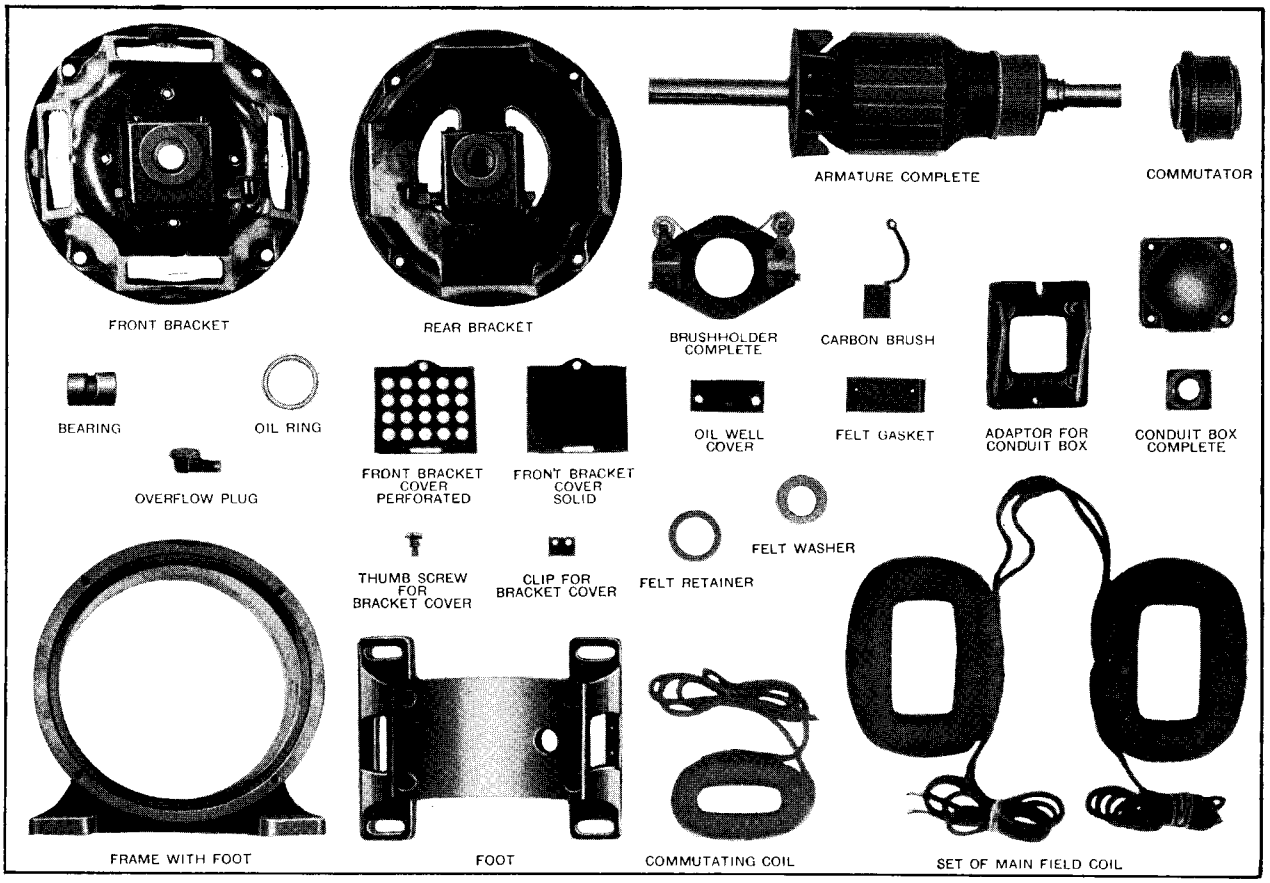

FIG. 2—RENEWAL PARTS OF TYPE SK SMALL MOTORS

RECOMMENDED STOCK OF RENEWAL PARTS

For Motors in use up to and including		2	5	15
NAME OF PART	NO. PER MOTOR	RECOMMENDED FOR STOCK		
Frame with Foot	1	0	0	0
Foot	1	0	0	0
Front Bracket	1	0	0	0
Rear Bracket	1	0	0	0
Bearing	2	0	2	4
Oil Ring	2	0	2	2
Overflow Plug	2	0	2	2
Brushholder Complete	1	0	0	1
Carbon Brush	2	2	4	8
Brushholder Spring	2	1	2	2
Main Field Coil	1 set	0	1 set	2 sets
Commutating Field Coil	1	0	1	2
Armature Complete	1	0	0	1
Commutator Complete	1	0	1	2

Ordering Instructions

Quick shipments from local stock and prompt replies to inquiries, without the necessity of referring to the works for information, are possible only when complete identifying information for the parts is given. Careful observance of the following points on inquiries or orders is essential for correct shipments and prompt service.

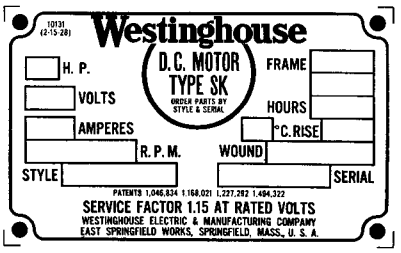

FIG. 3—NAME PLATE

1. Name the part, using the name shown on the illustration, figure 2, and state the quantity desired. The parts illustrated may not be identical in construction with the parts needed, but the views in Fig. 2 will assist ordering.

When major repairs are necessary, it is advisable for the customer to buy a new motor.

2. Give the motor name plate reading. See illustration, figure 3.

3. State whether shipment is to be made by express, freight or by parcel post.

4. Send all orders or correspondence to the nearest sales office of the Company.

5. Small orders should be combined, so as to amount to a value of at least one dollar, as order-handling and shipping expenses prevent us from billing a smaller amount

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
East Springfield Works Printed in U.S.A. Springfield, Mass.

*To be filed as an Instruction and Renewal Parts Leaflet; for Instructions, see reverse side of this sheet.