TYPES FJ, FL AND FT SINGLE PHASE MOTORS

INSTRUCTIONS

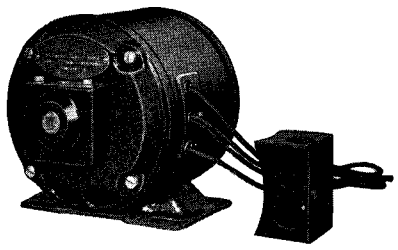

FIG. 1—TYPES FJ, FL AND FT MOTORS USING A SEPARATE CAPACITOR (Capacitor not shown)

Installation

Initial Inspection—After unpacking the motor, examine it carefully to see that no damage has occurred during shipment. Turn the shaft by hand to see that it turns freely. Check the name plate data to make certain that the rating is correct for the power supply and load.

Mounting—The location should be clean, dry and well-ventilated. If protecting shields or guards are used, they must permit a free flow of air over the motor.

Sleeve bearing motors are ordinarily designed for operation with the shaft horizontal. Rubber mounted motors may be arranged for floor, ceiling or wall mounting by simply turning the motor on the base so the oil well covers will be above the shaft when the motor is mounted. Rigid foot mounted motors and resilient spring mounted motors are assembled for floor mounting, unless ordered otherwise. Rigid foot mounted motors may be arranged for ceiling or wall mounting by shifting the end brackets of the motor 90° or 180° so that the oil well covers will be above the shaft when the motor is mounted. Care must be taken that no leads will rub any moving part. Lengthen the leads if necessary. Resilient spring mounted motors require special machining on the brackets to change from the mounting supplied. Brackets machined for floor, ceiling or either wall mounting can be supplied.

Ball bearing motors (grease lubricated) will operate in any position. For convenience in lubricating, it may be desirable to shift the motor brackets to obtain a more accessible location of the lubricating openings.

Pulleys, pinions, or coupling halves should have a close sliding fit on the shaft extension. If it is necessary to drive the part into position, it is important, that the end of the shaft opposite the extension be backed up so that the force of the blow is not taken in the bearing. For removing tight pulleys, a pinion puller should be used.

Belt or chain drives should be arranged when possible to have the tight side at the bottom. Sleeve bearing motors, should be mounted so that the pressure from the shaft is not against the window opening in the bearing. This window is ordinarily placed at the top of the bearing.

Wide, single ply belts are preferable to double ply belts on account of the lower bearing pressures that result. Where the pulleys are not of approximately the same diameter, the distance between shaft centers should be greater than twice the diameter of the larger pulley. For short center distances, an idler pulley or a "V" belt drive should be employed.

Connection to Power Supply

Types FJ, FL and FT motors are capacitor motors which require a capacitor properly connected in the circuit for operation. Motors with the capacitor mounted on top are complete; ready for operation. If the capacitor is not mounted on the motor, the style number of the capacitor required is specified on the motor name plate.

Motors with two leads are non-reversible. Connect one lead to each line wire.

Single Voltage Motors with Four Leads—marked T1, T2, T3, and T4 should be connected as follows:

FOR COUNTER CLOCKWISE ROTATION, connect T1 and T2 to one line wire; T3 and T4 to the other line wire.

FOR CLOCKWISE ROTATION, connect T1 and T4 to one line wire; T2 and T3 to the other line wire.

Single voltage motors with other than four leads, and all dual voltage motors have wiring instructions furnished, usually on a name plate on the capacitor.

Connect the power supply through a Westinghouse Sentinel Breaker, or other suitable switch and overload protection.

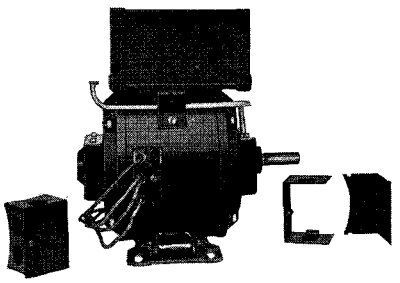

FIG. 2—TYPE FT MOTOR WITH CAPACITOR ON MOTOR

Lubrication

Wool Yarn Lubricated Sleeve Bearings—Motors with wool yarn lubricated sleeve bearings are shipped with the wool wick saturated with oil. They may be run continuously for several months before oil need be added. Use a good grade of dynamo or light machine oil.

Wasting oil due to over oiling will be indicated by the excessive amount flowing out the overflow hole in the side of the bearing housing.

Ball Bearings—Standard ball bearing motors are properly lubricated when they leave the factory. In ordinary service, the motors will run for a year as received. It is recommended, however, that a small quantity of neutral, medium consistency grease be added every four or six months to maintain an even lubricating condition. The grease must be free from grit and must not separate into soap and oil when left standing or when subjected to temperatures which occur in the bearing. Soda base soap greases are preferred on account of their higher melting point.

Operation

The motor will operate satisfactorily with a 10% variation in voltage, a 5% variation in frequency, or a combined voltage and frequency variation of 10%, but not necessarily in accordance with the standards of performance established for operation at normal rating. Low voltage reduces the torques. Guard against this condition. High voltage lowers the power factor and generally increases the temperature rise.

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

TYPES FJ, FL AND FT SINGLE PHASE MOTORS
RENEWAL PARTS DATA

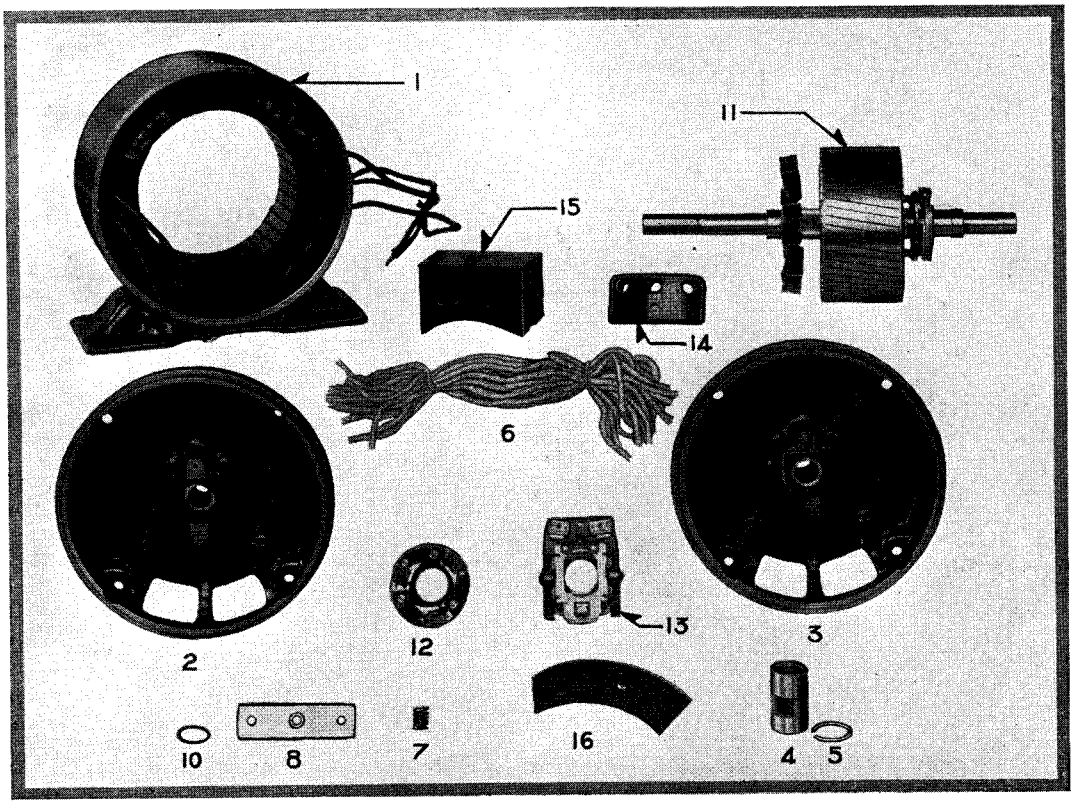

FIG. 3—RENEWAL PARTS FOR TYPES FJ, FL AND FT MOTORS

RECOMMENDED STOCK OF RENEWAL PARTS

Ref. No.	Name of Part	No. Per Motor	For Motors in use up to and including 1	5	15
			Recommended For Stock		
1	Frame and Wound Primary Complete	1	0	0	1
2	Front Bracket Complete	1	0	0	0
4	Bearing	1	0	1	2
5	Retaining Ring	1	0	1	2
3	Rear Bracket Complete (For Pulley End)	1	0	0	0
4	Bearing	1	0	1	2
5	Retaining Ring	1	0	1	2
6	Lubricating Wick	2	0	2	4
7	Wick Pressure Spring	2	0	0	2
8	Oil Well Cover, front on all motors, and rear on all motors except those using Ref. No. 9	2	0	0	2
†9	Oil Pipe and Rear Oil Well Cover complete (For Motors with Capacitor on Motor)	1	0	0	1
10	End Play Washer	4	0	4	8
11	Rotor Complete	1	0	0	1
12	Rotating Starting Switch	1	0	0	1
13	Stationary Starting Switch	1	0	0	1
14	Conduit Box Clamp	1	0	0	1
15	Conduit Box and Cover	1	0	0	1
△16	Enclosing Cover	2	0	0	0
†17	Capacitor	1	0	0	1

†Not listed on illustration.
△When an enclosing cover is applied to an open motor, the temperature rise is increased, and it may be necessary to reduce the rating.
Parts indented are included in the part under which they are indented.

This is a list of the Renewal Parts and the quantities of each that we recommend should be stocked by the user of this apparatus to minimize interrupted operation caused by breakdowns. The parts recommended are those most subject to wear in normal operation or those subject to damage or breakage due to possible abnormal conditions.

This list of Renewal Parts is given only as a guide. The parts illustrated may not be identical in construction with the parts needed, but the views in Fig. 3 will assist in ordering.

ORDERING INSTRUCTIONS

Name the part and give the complete name plate reading. State whether shipment is desired by express, freight or by parcel post. Send all orders or correspondence to nearest Sales Office of the Company. Small orders should be combined so as to amount to a value of at least $1.00 net. Where the total of the sale is less than this, the material will be invoiced at $1.00.

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

Westinghouse Electric & Manufacturing Company

East Springfield Works — Printed in U.S.A. — Springfield, Mass.