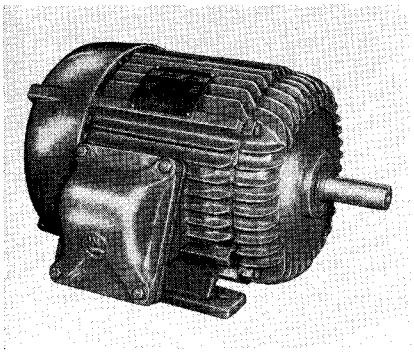
INSTALLATION • OPERATION • MAINTENANCE

INSTRUCTIONS

TYPE "A" EXPLOSION PROOF SQUIRREL-CAGE *Life-Line** MOTORS

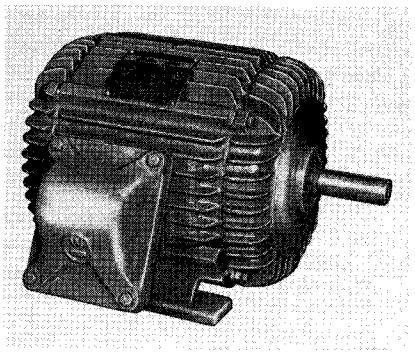
(Model No's. Ending in EP)



Totally Enclosed Fan-Cooled Explosion-Proof

UNDERWRITERS' LABEL

The presence of the Underwriters' label on the motor is certification that it has been built to rigidly controlled standards to assure utmost safety of operation in hazardous locations. If necessary to dismantle a labeled motor for servicing in the field, upon reassembly it is imperative that the factory assembly be duplicated in all respects. Und. label can only be mounted at point of manufacture. See Fig. 1.



Totally Enclosed Non-Ventilated Explosion-Proof

Warranty. The Corporation in connection with apparatus sold agrees to correct any defect or defects in workmanship or material which may develop under proper or normal use during the period of one year from date of shipment, by repair or by replacement f.o.b. Factory of the defective part or parts, and such correction shall constitute a fulfillment of all the Corporation's liabilities in respect to said apparatus, unless otherwise stated in the quotation.

Any defects that may develop should be referred to the nearest Westinghouse Sales Office for complete servicing information.

RECEIVING

Unpack the motor and make certain that it was not damaged during shipment. Turn the shaft by hand to see that it turns freely.

Check to see that the nameplate data agrees with the voltage and frequency of the power supply provided for the motor.

Shaft extension is coated with a slushing compound to prevent rusting during shipment and storage. This slushing compound may be removed by wiping with turpentine or any petroleum solvent such as benzine, gasoline, Stoddard solvent, etc. See precautions under "Maintenance" for use of these solvents.

INSTALLATION

Mounting. These motors can be installed outdoors or in dirty locations. Make sure that the fan inlet is not obstructed. The external air temperature should not exceed 40°C or 104°F, unless the motor has been specially designed or otherwise cleared for use in higher ambient.

Fasten to a rigid foundation using bolts of the largest size permitted by the drilling in the motor feet. The motor must rest evenly on all four foot pads.

Method of Drive. Any of the following drive methods may be used:

1. V-Belt or Chain Drive. Mount the motor on slide rails or bedplate to allow for adjusting belt or chain tension. Mount the sheave or sprocket as close to the motor bearing housing as practical, allowing sufficient clearance for rotor end play; provide accurate alignment between driving and driven sheaves or sprockets. Avoid excessive belt or chain tension.

2. Gear or Direct Coupled Drive. Mount the motor and the driven unit such that they are accurately aligned. Dowel the motor to the base.

Note: Pulleys, pinions or coupling halves should have a close fit on the motor shaft and must be securely locked to avoid coming loose in operation. If it is necessary to drive the part into position, it is imperative that the end of the shaft opposite the extension be backed up so that the force of the blow is not taken by the ball bearing. Use a puller for removing tight pulleys.

Electrical Connections. Be sure the motor is connected as shown on the nameplate diagram and that the power supply (voltage, frequency and phases) corresponds with nameplate data.

Connect to the power supply through a suitable switch and overload protection. Install all wiring and fusing in accordance with the National Electric Code and local requirements.

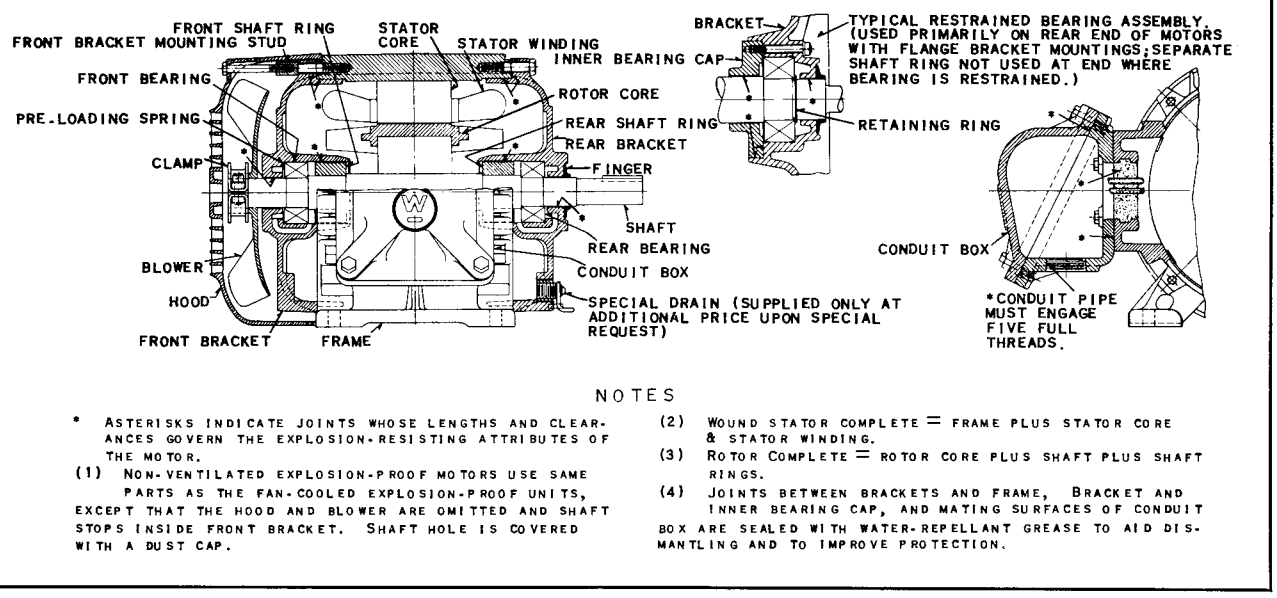
To change the direction of rotation on three-phase motors, interchange any two line leads. To change direction of rotation on two-phase motors, interchange the line of either phase.

Conduit box. If the conduit box is desired on the opposite side of the motor, remove the brackets and rotor, reverse the frame, and reassemble. Note precautions under Fig. 1.

The conduit box is mounted on the horizontal centerline, and may be rotated in steps of 90° to receive conduit from any of four directions. The conduit pipe-size conforms to accepted standards for the particular motor frame size, and a reducer should be used when connecting to smaller conduit.

OPERATION

Run the motor without load to check the connections and direction of rotation.



NOTES

* ASTERISKS INDICATE JOINTS WHOSE LENGTHS AND CLEARANCES GOVERN THE EXPLOSION-RESISTING ATTRIBUTES OF THE MOTOR.

(1) NON-VENTILATED EXPLOSION-PROOF MOTORS USE SAME PARTS AS THE FAN-COOLED EXPLOSION-PROOF UNITS, EXCEPT THAT THE HOOD AND BLOWER ARE OMITTED AND SHAFT STOPS INSIDE FRONT BRACKET. SHAFT HOLE IS COVERED WITH A DUST CAP.

(2) WOUND STATOR COMPLETE = FRAME PLUS STATOR CORE & STATOR WINDING.

(3) ROTOR COMPLETE = ROTOR CORE PLUS SHAFT PLUS SHAFT RINGS.

(4) JOINTS BETWEEN BRACKETS AND FRAME, BRACKET AND INNER BEARING CAP, AND MATING SURFACES OF CONDUIT BOX ARE SEALED WITH WATER-REPELLANT GREASE TO AID DISMANTLING AND TO IMPROVE PROTECTION.

FIG. 1. Arrangement of Parts, Totally Enclosed Fan-Cooled Explosion-Proof Type "A" Life-Line Motors

The motor will operate satisfactorily with a 10 per cent variation in voltage, a 5 per cent variation in frequency, or a combined voltage and frequency variation of 10 per cent, but not necessarily in accordance with the standards of performance established for operation at rated voltage and frequency.

MAINTENANCE

Inspection. Although Life-Line "A" motors require a minimum of attention in service, they should be inspected at regular intervals to check for excessive (1) dirt, (2) moisture, (3) friction and (4) vibration, which account for 90 per cent of all motor failures.

1. Guard Against Dirt. Prevent excessive build up of dirt on the motor exterior by blowing it off or brushing it clean. Particular care should be taken to assure that the inlet and outlet openings of the hood in fan cooled motors are kept clear to avoid reduction in ventilation.

Do not inspect the motor interior unless the motor is dismantled for other reasons. If grease or oil is present, wipe with a cloth moistened (but not dripping) with a petroleum solvent of a "safety type" such as Stoddard solvent or similar materials available under various trade names. Wear suitable gloves to prevent skin irritation when using these petroleum solvents. Petroleum solvents are flammable but relatively non-toxic.

2. Guard Against Moisture. The insulation resistance of stand-by motors should be checked with a "megger" at regular intervals to detect the presence of moisture in the windings. If the insulation resistance shows an appreciable decrease, the windings should be dried out by any suitable means before applying power to the motor. This is particularly important in installations where the ambient temperature is subject to frequent, sharp fluctuations or where the atmosphere is unusually damp. For less severe installations, running stand-by motors at least once a week should protect the windings from moisture absorption or condensation.

Before motor windings are blown out with air, make sure that water has not condensed in the air line.

3. Guard Against Friction. Excessive friction or overheating of bearings is usually traced to one of the following causes:

- **a.** Excessive belt tension.
- **b.** Poor alignment.
- **c.** Bent shaft.
- **d.** Excessive end or side thrust.
- **e.** Over or under-greasing (not a factor with sealed, pre-lubricated ball bearings).

4. Guard Against Vibration. To avoid failures from vibration, a few simple checks should be made regularly.

Check for foundation settling or heavy floor loading. These may be causing vibration through misalignment:

Check to see if vibration from the driven machine is being transmitted to the motor.

Check for excessive belt or chain tension or the push-apart effect inherent in spurgears.

Check the motor mounting bolts and bracket bolts to be sure they are tight.

Coils. Revarnishing the windings when motors are overhauled will lengthen their life. Suitable varnish may be obtained from the nearest Westinghouse Sales Office.

Bearings. The sealed, pre-lubricated ball bearings have an improved double seal on each side for keeping out foreign material and retaining the lubricant. They are packed at the factory with the proper amount of lubricant; no further lubrication is needed for the normal life of the bearings.

A specially selected grease having a high degree of stability is permanently sealed in the bearings. The grease has been proven by tests both in the laboratory and the field for long service.

RENEWAL PARTS

Renewal Parts information may be obtained from the nearest Westinghouse Sales Office. Be sure to name the part or parts required (see Fig. 1) and give the complete nameplate reading on the motor for positive identification.

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