

AC Motor Installation – Maintenance Instructions

Handling

The weight of the motor and shipping container will vary. Use correct material handling equipment to avoid injury.

Receiving

Inspect the motor for damage before accepting it. The Motor shaft should rotate freely with no rubs. Report any damage immediately to the commercial carrier that delivered your motor.

Safety Notice

Only qualified personnel trained in the safe installation and operation of this equipment should install this motor. When improperly installed or used, rotating equipment can cause serious or fatal injury. Equipment must be installed in accordance with the National Electrical Code (NEC), local codes and NEMA MG2 Safety Standards for Construction and Guide for Selection, Installation and Use of Electric Motors and Generators. Observe the following guidelines:

1. When eyebolts are provided, they must be fully tightened and are intended to lift the motor and its included accessories only.
2. Ground the motor according to NEC and local codes.
3. Provide a permanent guard to prevent accidental contact of body parts or clothing with rotating or moving parts or burns if motor is hot.
4. Shaft key must be secured before starting motor.
5. Do not apply power to the motor until the motor is securely mounted by its mounting holes.
6. This motor must only be connected to the proper line voltage, line frequency and load size.
7. If a motor mounted brake is installed, provide proper safeguards for personnel in case of brake failure.
8. Disconnect all power services and stop the motor before servicing.
9. For single phase motors, discharge the start and/or run capacitors before servicing.
10. Do not by-pass or render inoperative any safety device.
11. When using AC motors with frequency inverters, be certain that the Maximum Speed rating (on nameplate) is not exceeded.
12. Mounting bolts should be high tensile steel. Be sure to use a suitable locking device on each bolt (spring washer or thread lock compound).

Motor Enclosure

ODP, Open drip proof motors are intended for use in clean, dry locations with adequate supply of cooling air. These motors should not be used in the presence of flammable or combustible materials. Open motors can emit flame and/or molten metal in the event of insulation failure.

TEFC, totally enclosed motors are intended for use where moisture, dirt and/or corrosive materials are present in indoor and outdoor locations.

Explosion proof motors, as indicated by the Underwriters Laboratories, Inc. label are intended for use in hazardous areas as specified by the NEC.

Mounting

Foot mounted machines should be mounted to a rigid foundation to prevent excessive vibration. Shims may be used if location is uneven.

Flange mounted machines should be properly seated and aligned. Note: If improper rotation direction is detrimental to the load, check rotation direction prior to coupling the load to the motor shaft.

For V-belt drive, mount the sheave pulley close to the motor housing. Allow clearance for end to end movement of the motor shaft. Do not overtighten belts as this may cause premature bearing failure or shaft breakage.

Mounting Continued

Direct coupled machines should be carefully aligned and the shaft should rotate freely without binding.

Wiring

Connect the motor as shown in the connection diagram. The wiring, fusing and grounding must comply with the National Electrical Code and local codes. When the motor is connected to the load for proper direction of rotation and started, it should start quickly and run smoothly. If not, stop the motor immediately and determine the cause. Possible causes are: low voltage at the motor, motor connections are not correct or the load is too heavy. Check the motor current after a few minutes of operation and compare the measured current with the nameplate rating.

Lubrication

This is a ball bearing motor. The bearings have been lubricated at the factory. Motors that do not have regrease capability are factory lubricated for the normal life of the bearings.

Relubrication Intervals (For motors with regrease capability)

New motors that have been stored for a year or more should be relubricated. Lubrication is also recommended at these intervals:

Relubrication Intervals

NEMA (IEC) Frame Size	Rated Speed (RPM)			
	3600	1800	1200	900
Up to 210 incl. (132)	5500Hrs.	12000Hrs.	18000Hrs.	22000Hrs.
Over 210 to 280 incl. (180)	3600Hrs.	9500Hrs.	15000Hrs.	18000Hrs.
Over 280 to 360 incl. (225)	*2200Hrs.	7400Hrs.	12000Hrs.	15000Hrs.
Over 360 to 5000 incl.(300)	*2200Hrs.	3500Hrs.	7400Hrs.	10500Hrs.

* Lubrication interval for 6313 or 6314 bearings that are used in 360 through 5000 frame, 2 pole motors. If roller bearings are used, bearings must be lubricated more frequently, divide the interval by 2.

Lubricant

Baldor motors are pregreased, normally with **Polyrex EM** (Exxon Mobil). If other greases are preferred, check with a local Baldor Service Center for recommendations.

Procedure

Clean the grease fitting (or area around grease hole, if equipped with slotted grease screws). If motor has a purge plug, remove it. Motors can be regreased while stopped (at less than 80°C) or running.

Apply grease gun to fitting (or grease hole). **Too much grease or injecting grease to quickly can cause premature bearing failure.** Slowly apply the recommended amount of grease, taking 1 minute or so to apply. Operate motor for 20 minutes, then reinstall purge plug if previously removed.

Caution: Keep grease clean. **Mixing dissimilar grease is not recommended.**

Amount of Grease to Add

Frame Size NEMA (IEC)	Weight of grease to add ounce (gram)	Volume of grease to add	
		inches ³	teaspoon
Up to 210 incl. (132)	0.30 (8.4)	0.6	2.0
Over 210 to 280 incl. (180)	0.61 (17.4)	1.2	3.9
Over 280 to 360 incl. (225)	0.81 (23.1)	1.5	5.2
Over 360 to 5000 incl.(300)	2.12 (60.0)	4.1	13.4



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Lubrication > Lubricants > Greases

MOBIL Electric Motor Grease, 14 oz, Blue

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Electric Motor Grease, Polyrex EM, Container Size 14 oz Cartridge, Size/Net Weight 14 oz, Temp Range -29C to 177C, Color Blue, NLGI Grade 2, Polyurea Base, Film Type Semi-Solid to Solid Grease, Standards ASTM D 3336

Grainger Item #	5XB54
Price (ea.)	\$7.37
Brand	MOBIL
Mfr. Model #	98GY40
UNSPSC #	15121902
Ship Qty.	1
Sell Qty. (Will-Call)	1
Ship Weight (lbs.)	0.95
Availability	Typically in Stock
Catalog Page No.	N/A
Country of Origin	USA
<small>(Country of Origin is subject to change.)</small>	



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Optional Accessories

[More Accessories](#)



Grease Gun

Brand: WESTWARD

Grainger Item #: [4BY74](#)

Price (ea.): \$24.96

Qty

Qty.

Order one time only

Order now, then Auto-Reorder this item every Month(s)

[More about Auto-Reorder](#)

Price shown may not reflect your price. [Sign in](#) or [register](#).






Check Availability Use your ZIP code to estimate availability.

Qty: ZIP code:

Tech Specs	Additional Information	Compliance & Restrictions	MSDS	Required Accessories	Optional Accessories	Alternate Products	Repair Parts
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Item	Electric Motor Grease
Size	14 oz.
Color	Blue

Customers Also Bought 1 of 5

				
Screwdriver/Nut Driver, 11-In-1	Lubricant, Smart Strawz, 12 oz	Grease Gun	Thread Sealant Tape, PTFE, 1/2 x 260 In	Penetrating Solvent, HD, Size 11 Oz
Brand: KLEIN TOOLS	Brand: WD-40	Brand: WESTWARD	Brand: ANTI-SEIZE	Brand: BLASTER
Grainger Item #: 2RKT1	Grainger Item #: 2NV59	Grainger Item #: 4BY69	Grainger Item #: 3PDL5	Grainger Item #: 4LRF8
Price: \$25.40	Price: \$10.08	Price: \$29.95	Price: \$0.70	Price: \$4.84
Qty <input type="text"/>	Qty <input type="text"/>	Qty <input type="text"/>	Qty <input type="text"/>	Qty <input type="text"/>

Other Popular Terms for this Product

- Grease Lubricants (270)
- Lubricant Grease (263)
- High-Temperature Lubricants (249)
- Multipurpose Lubricants (178)
- Bearing Lubricants (152)
- Multipurpose Grease (110)
- Bearing Grease (106)
- Lithium Lubricants (104)
- Lithium Grease (101)
- High-Temperature Grease (95)
- Gun Cartridge Grease (25)



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LINCOLN Grease Gun, Pistol Type

1 pump = .03 oz. of grease

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Grease Gun, Type Pistol, 34 Strokes for 1 Oz. Output, Length 15 1/2 In, Nozzle Type Whip Hose, Max Operating PSI 6000, Capacity For 16 Oz Bulk or 14 1/2 Oz Cartridge, Includes Cast Pump Head, 18 Inch Hose and Follower

Grainger Item #	6WA97
Price (ea.)	\$30.00
Brand	LINCOLN
Mfr. Model #	G113
UNSPSC #	27112901
Ship Qty.	1
Sell Qty. (Will-Call)	1
Ship Weight (lbs.)	2.95
Availability	Typically in Stock
Catalog Page No.	1314
Country of Origin	India
(Country of Origin is subject to change.)	



Enlarge Image

Optional Accessories

[More Accessories](#)

Needle Nozzle, 4 In

Brand: LINCOLN

Grainger Item #: [6WB12](#)

Price (ea.): \$15.90

Qty

Qty.

Price shown may not reflect your price. [Sign in](#) or [register](#).

Check Availability Use your ZIP code to estimate availability.

Qty. ZIP code:

Tech Specs	Additional Information	Compliance & Restrictions	MSDS	Required Accessories	Optional Accessories	Alternate Products	Repair Parts
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Item	Grease Gun
Type	Pistol
Capacity	For 16 Oz Bulk or 14 1/2 Oz Cartridge
Strokes for 1-Oz. Output	34
Max. Operating PSI	6000
Length (In.)	15-1/2
Includes	Cast Pump Head, 18" Hose and Follower

Customers Also Bought 1 of 5

Coupler Plug, 1/4 MNPT	Penetrating Solvent, HD, Size 11 Oz	Trigger Sprayer, 24 or 32 oz., Red/White	Screw driver/Nut Driver, 11-In-1	Disposable Respirator, N95, PK 20
Brand: SPEEDAIRE	Brand: BLASTER	Brand: TOUGH GUY	Brand: KLEIN TOOLS	Brand: 3M
Grainger Item #: 30E657	Grainger Item #: 4LRF8	Grainger Item #: 3U594	Grainger Item #: 2RKT1	Grainger Item #: 3KP43
Price: \$2.35	Price: \$4.84	Price: \$2.61	Price: \$25.40	Price: \$26.52
Qty <input type="text"/>	Qty <input type="text"/>	Qty <input type="text"/>	Qty <input type="text"/>	Qty <input type="text"/>

Other Popular Terms for this Product

- Grease Guns (95)

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Product Reviews Disclaimer:

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Recommended Formula to find amount of grease in oz. to add once a year.

OZ-per table/ (run hrs. per table/actual run hrs. per yr.)= amount of grease per year

Example Motor: Baldor 15 HP, 1765 RPM, 254T Frame (needs .61 oz. of grease every 9500 hrs.), RUN TIME- 12 hrs. a day, 6 days a week =72 hours a week X 52 weeks a year = 3744 HOURS actual run hours per year

Example: .61/ (9500/3744) = .24 oz. per year

In the tables, you find that this motor should get .61 oz. per every 9500 hrs. If you divide 9500 by 3744(actual run hours per year) you will find that the motor will only need .61 oz. of grease every 2.5 years, but the Baldor maintenance manual says that you should re-grease a new motor if it has been in storage for a year, so we believe that you should grease at least once a year.

If you want to find out how much grease to add per year, you can divide .61 oz. by 2.5 years and that gives you .24 oz. per year, for our example motor.

The half pump grease gun shown in the handout has a rating of .03 oz. per pump, so if you are using this grease gun you will have to add 8 pumps of grease per bearing per year (.24 divided by .03).

To figure out how many pumps of grease per bearing, just divide the amount per year by the amount per pump for your grease gun.

Grease gun -oz. per pump will vary depending on the manufacturer, you can get this info from the supplier or the manufacturer.