

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

# Dayton® AC Gearmotors

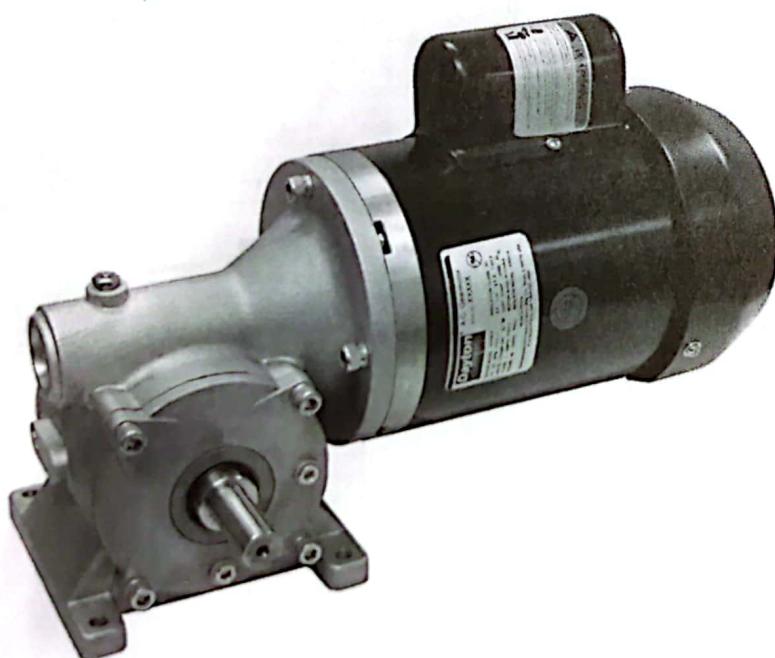
## Description

### RIGHT ANGLE SINGLE-REDUCTION AC GEARMOTORS

Right angle single reduction AC gearmotors are designed for applications requiring constant low speed, high torque drives such as conveyors, pumps, printing presses, mixers, etc. The gearmotors provide continuous duty service (8-hour day) for steady loads with ambient temperatures not exceeding 40°C.

The gearmotors can be mounted in any position (shaft up or down, feet up or down, etc.), providing the installer follows the instructions in the Installation section. The gearmotor design incorporates integral construction: the motor is mounted directly to the gearcase. Other design features include: forged bronze worm wheel, hardened steel worm shaft, high tensile strength die cast aluminum gearcase, and double lipped oil seals (on input and output shafts). The gearmotor output shaft accommodates couplings, gears and pulleys. Gearmotor shaft rotation is reversible by interchanging the electrical connections to the motor. Major variables in the series of gearmotors are: motor type (single phase capacitor-start vs. three phase), input motor horsepower, and gear ratio (input motor speed, horsepower and gear ratio determine gearmotor output speed and torque). See specifications for details.

Figure 1 – AC Gearmotor



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# Dayton® AC Gearmotors

## Unpacking

Handle cartons or crates with care to avoid dropping them and damaging the equipment. Store and unpack the carton with the correct side up. After unpacking the gearmotor, inspect carefully for any damage that may have occurred during transit. Check for loose, missing, or damaged parts. Shipping damage claims must be filed with the carrier. Check the nameplate ratings on the gearmotor to make sure you have obtained the correct unit for your power supply and application voltage, frequency (Hz), phase, output speed (rpm), and horsepower.

**DANGER** Be careful not to touch overhead power lines if you use lifting equipment to handle the gearmotors. The gearmotor weight varies between 30 and 60 pounds, depending on which model it is. Employ qualified personnel, proper tools and equipment in all phases of unpacking.

## Specifications

Please see specifications table on following page.

### NOTES: For Specifications Table:

(▲) - Totally Enclosed Fan Cooled-Continuous Duty.

Oil Capacity: 12 to 32 oz. approximately depending on orientation.

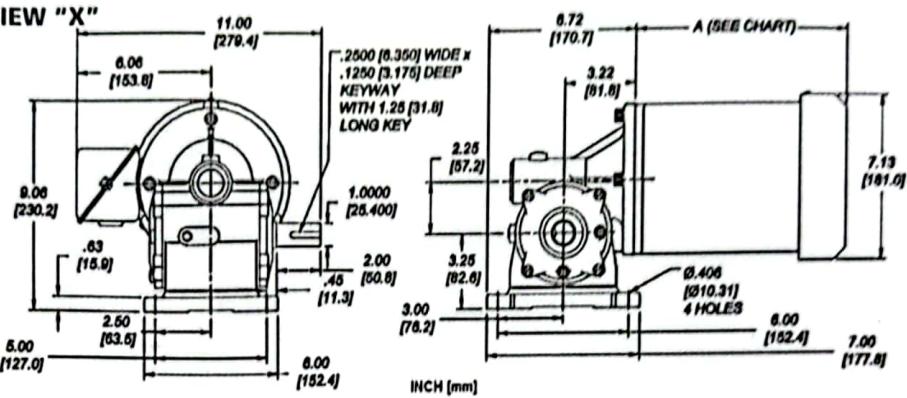
Agency Approvals - all motors UL/CSA.

See Installation section for additional information on overhung loads.

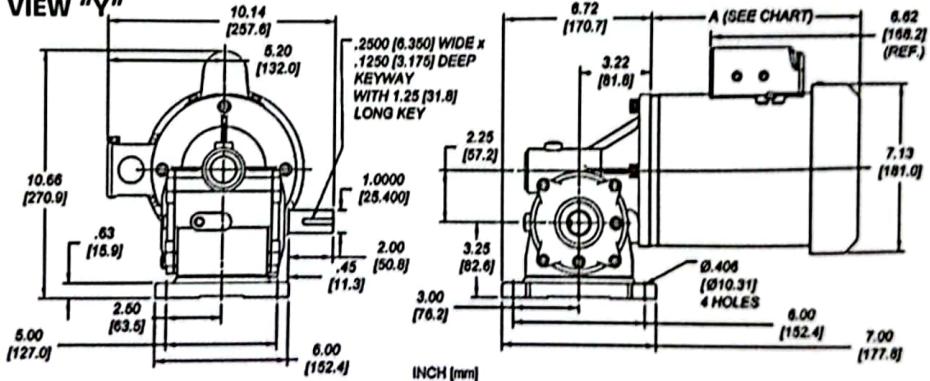
Dim. (Dimensional) View column entries X, Y, and Z refer to Dimensions section illustrations.

## Dimensional Views

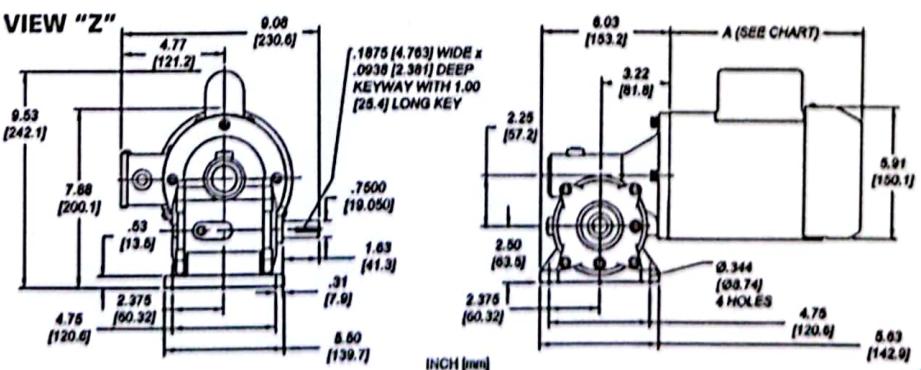
VIEW "X"



VIEW "Y"



VIEW "Z"



## Specifications for AC Gearmotors

Model #	Frame Size	Phase	Voltage/ Frequency	Max Output Torque (in-lbs)	FL Output RPM @ 60 Hz	Input HP	Ratio	Dim. Ref. A inch [mm]	Motor Enclos.	FL Amps	Output Shaft			
											In/Out	View	End Thrust (lbs)	
4CVU7	56	3	208-230/460V 50/60Hz	680	30	1/2	58:1	X	9.53 [242]	TEFC ▲	2.0-1.9/.95	490	980	42
4CVU8	56	3	208-230/460V 50/60Hz	507	45	1/2	39:1	X	9.53 [242]	TEFC ▲	2.0-1.9/.95	490	980	42
4CVU9	56	3	208-230/460V 50/60Hz	367	67	1/2	26:1	X	9.53 [242]	TEFC ▲	2.0-1.9/.95	466	932	42
4CVX1	56	3	208-230/460V 50/60Hz	265	97	1/2	18:1	X	9.53 [242]	TEFC ▲	2.0-1.9/.95	415	831	42
4CVX2	56	3	208-230/460V 50/60Hz	796	67	1	26:1	X	9.53 [242]	TEFC ▲	3.4-3.4/1.7	466	882	53
4CVX3	56	3	208-230/460V 50/60Hz	522	97	1	18:1	X	9.53 [242]	TEFC ▲	3.4-3.4/1.7	415	831	53
4CVX4	56	3	208-230/460V 50/60Hz	357	158	1	11:1	X	9.53 [242]	TEFC ▲	3.4-3.4/1.7	361	723	53
4CVX5	56	3	208-230/460V 50/60Hz	966	45	1	39:1	X	9.53 [242]	TEFC ▲	3.4-3.4/1.7	490	980	53
4CVX6	56	3	208-230/460V 50/60Hz	711	158	2	11:1	X	9.53 [242]	TEFC ▲	6.4-6.3/3.2	361	723	58
4CVZ1	56	1	115/208-230V 50/60Hz	633	56	3/4	31:1	Y	10.78 [274]	TEFC ▲	11.2/5.6	490	980	46
4CVZ2	56	1	115/208-230V 50/60Hz	456	83	3/4	21:1	Y	10.78 [274]	TEFC ▲	11.2/5.6	441	882	46
4CVX7	56	3	208-230/460V 50/60Hz	586	37	1/2	47:1	X	9.53 [242]	TEFC ▲	2.0-1.9/.95	490	980	42
4CVX8	56	3	208-230/460V 50/60Hz	428	56	1/2	31:1	X	9.53 [242]	TEFC ▲	2.0-1.9/.95	490	980	42
4CVX9	56	3	208-230/460V 50/60Hz	308	83	1/2	21:1	X	9.53 [242]	TEFC ▲	2.0-1.9/.95	441	882	42
4CVY1	56	3	208-230/460V 50/60Hz	855	37	3/4	47:1	X	9.53 [242]	TEFC ▲	2.7-3.0/1.5	490	980	42
4CVY2	56	3	208-230/460V 50/60Hz	633	56	3/4	31:1	X	9.53 [242]	TEFC ▲	2.7-3.0/1.5	490	980	42
4CVY3	56	3	208-230/460V 50/60Hz	456	83	3/4	21:1	X	9.53 [242]	TEFC ▲	2.7-3.0/1.5	441	882	42
4CVY4	56	3	208-230/460V 50/60Hz	835	56	1	31:1	X	9.53 [242]	TEFC ▲	3.4-3.4/1.7	490	980	53
4CVY5	56	3	208-230/460V 50/60Hz	605	83	1	21:1	X	9.53 [242]	TEFC ▲	3.4-3.4/1.7	441	882	53
4CVY6	56	3	208-230/460V 50/60Hz	743	45	3/4	39:1	X	9.53 [242]	TEFC ▲	2.7-3.0/1.5	490	980	42
4CVY7	56	3	208-230/460V 50/60Hz	537	67	3/4	26:1	X	9.53 [242]	TEFC ▲	2.7-3.0/1.5	466	932	42
4CVY8	56	3	208-230/460V 50/60Hz	394	97	3/4	18:1	X	9.53 [242]	TEFC ▲	2.7-3.0/1.5	415	831	42
4CVY9	56	3	208-230/460V 50/60Hz	269	158	3/4	11:1	X	9.53 [242]	TEFC ▲	2.7-3.0/1.5	361	723	42
4CVZ3	56	1	115/208-230V 50/60Hz	394	97	3/4	18:1	Y	10.78 [274]	TEFC ▲	11.2/5.6	415	831	46
4CVZ4	56	1	115/208-230V 50/60Hz	743	45	3/4	39:1	Y	10.78 [274]	TEFC ▲	8.4/4.2	490	980	46
4CVZ5	56	1	115/208-230V 50/60Hz	537	67	3/4	26:1	Y	10.78 [274]	TEFC ▲	11.2/5.6	466	932	46
4CVZ6	56	1	115/208-230V 50/60Hz	394	97	3/4	11:1	Z	9.27 [235]	TEFC ▲	2.7-3.0/1.5	490	980	42
4CVU6	48	1	115/208-230V 60Hz	173	158	1/2	58:1	Y	8.97 [228]	TEFC ▲	6.6/3.3	335	670	31
4CVU5	48	1	115/208-230V 60Hz	254	97	1/2	18:1	Z	8.97 [228]	TEFC ▲	6.6/3.3	335	670	31
4CVT8	48	1	115/208-230V 60Hz	292	83	1/2	21:1	Z	8.97 [228]	TEFC ▲	6.6/3.3	335	670	32
4CVU4	48	1	115/208-230V 60Hz	344	67	1/2	26:1	Z	8.97 [228]	TEFC ▲	6.6/3.3	335	670	32
4CVT7	48	1	115/208-230V 60Hz	390	56	1/2	31:1	Z	8.97 [228]	TEFC ▲	6.6/3.3	335	670	31
4CVU3	48	1	115/208-230V 60Hz	456	45	1/2	39:1	Z	8.97 [228]	TEFC ▲	6.6/3.3	335	670	31
4CUK7	48	1	115/208-230V 60Hz	163	97	1/3	18:1	Z	8.97 [228]	TEFC ▲	5.6/2.8	335	670	31
4CVT6	48	1	115/208-230V 60Hz	189	83	1/3	21:1	Z	8.97 [228]	TEFC ▲	5.6/2.8	335	670	31
4CVU2	48	1	115/208-230V 60Hz	222	67	1/3	26:1	Z	8.97 [228]	TEFC ▲	5.6/2.8	335	670	32
4CVT5	48	1	115/208-230V 60Hz	254	56	1/3	31:1	Z	8.97 [228]	TEFC ▲	5.6/2.8	335	670	32
4CVU1	48	1	115/208-230V 60Hz	299	45	1/3	39:1	Z	8.97 [228]	TEFC ▲	5.6/2.8	335	670	32
4CVT9	48	1	115/208-230V 60Hz	381	30	1/3	58:1	Z	8.97 [228]	TEFC ▲	5.6/2.8	335	670	32

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# Dayton® AC Gearmotors

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## General Safety Information

**WARNING** *High voltage and moving parts around motors and motor driven equipment can cause serious or fatal injuries. Always disconnect power source before working on a motor or its connected load. Installation must conform to all OSHA requirements and the National Electrical Code (NEC) in the United States, and all local codes.*

**IMPORTANT:** It is important to observe the following safety precautions to protect personnel from possible injury.

1. Be familiar with the equipment and read all instructions thoroughly before installing or working on it.
2. Be careful and follow the prescribed procedures when handling and lifting this equipment.
3. Do not install this equipment in an explosive atmosphere.
4. Avoid contact with energized circuits or rotating parts.
5. Follow all local electrical and safety codes, as well as the National Electric Code (NEC) and the Occupational Safety and Health Act (OSHA).
6. Motor must be securely and adequately grounded. This can be accomplished by wiring with a grounded, metal-clad raceway system, by using a separate ground wire connected to the bare metal of the motor frame, or other suitable means. Refer to NEC Article 250 (grounding) for additional information.
7. A qualified electrician should perform the electrical installation of this equipment.
8. Do not depend on motor control devices (motor starters, etc.) to prevent unexpected motor starting. Always disconnect power source before working on or near a motor or its connected load. If the power disconnect point is out of sight, lock it in the open position and tag it to prevent unexpected application of power.
9. Avoid touching capacitors until safe discharge procedure have been completed.
10. Be careful if touching an operating motor. It may be hot enough to hurt or injure you. At full rated voltage and load, modern motors run hot.
11. Protect the power cable: don't let it touch sharp objects, hot surfaces, oil, grease or chemicals.
12. Do not kink the power cable.
13. Make certain that the power source conforms to the requirements of your equipment.
14. Be sure output shaft key is removed before running the gearmotor without load.
15. Provide guarding for all moving parts.
16. If the application involves a holding or overhauling type of load (such as a hoist or conveyor), install a separate magnetic brake or other locking device to prevent the load from moving when the gearmotor is not running. Do not depend on gear friction to hold the load.
17. Provide proper personnel safeguards in applications where high inertia loads can cause over-speeding.
18. When cleaning electrical or electronic equipment, always use an approved non-flammable cleaning agent such as a dry cleaning solvent. Be careful about choosing and using cleaning agents. Some of them attack motor insulation, seals, finish or bearing lubricants; some are highly flammable. If using cleaning agents, make sure the area is well ventilated.
19. Avoid prolonged exposure to high noise levels from equipment.
20. To prevent accidents, be sure to guard equipment against access by children or unauthorized personnel.
21. Do not use automatic restart devices where unexpected gearmotor starting could be hazardous to personnel or equipment.
22. Wear safety glasses to protect your eyes around running machinery, especially were cover plates are removed to inspect equipment while it is running.
23. Do not permit the gearmotor load to continuously exceed the values listed for it in Specifications and Performance.
24. Store the gearmotor only in a clean, dry, indoor area, even if it is still in the original shipping container.

# Models 4CUK7, 4CVT5-9, 4CVU1-9, 4CVX1-9, 4CVY1-9, 4CVZ1-6

## Installation

The gearmotor was thoroughly inspected before shipment. No further major assembly or adjustments are necessary. A minor adjustment, described in this section may be necessary.

**WARNING** *Do not install this gearmotor in an explosive atmosphere.*

**WARNING** *If the application involves a holding or overhauling type of load (such as a conveyor), install a separate magnetic brake or other locking device to prevent the load from moving when the gearmotor is not running. Do not depend on gear friction to hold the load.*

**IMPORTANT:** The gearmotor is shipped with oil installed.

Proceed with installation as follows:

1. Before mounting the gearmotor, consider the following:
  - a. Location: For maximum operating life, install the gearmotor in a cool, clean, dry and well ventilated area. Avoid installing it in a restricted area which limits the flow of cooling air over or through the motor.
  - b. Mounting position: You may mount the gearmotor in any position, providing the vent plug is installed in the correct position and the proper oil level is maintained. See steps 3 & 4.

**WARNING** *Be sure electrical power for the gearmotor is disconnected or is shut off at the disconnect switch, circuit breaker, or fuse box before proceeding.*

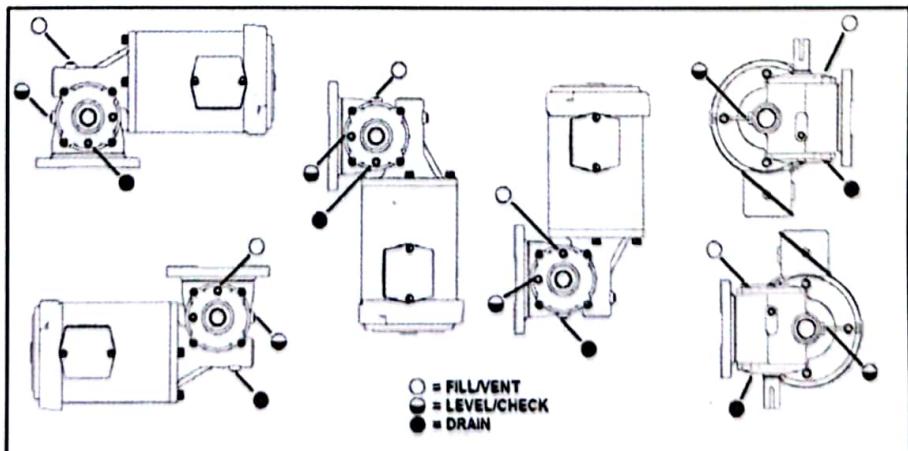
2. Mount the gearmotor to a rigid surface, preferably metallic, using the largest diameter bolts that will fit through the mounting holes in the base. Before tightening down the mounting bolts, make sure all four gearmotor mounting feet are touching the mounting surface at the same time. Add shims under the feet if necessary to make all four feet touch at the same time. (It may be necessary to install shims under the feet to obtain correct shaft alignment in installations where gearmotor output shaft is to be direct coupled to another shaft, see step 5a.) Tighten mounting bolts securely.
3. With the gearmotor securely mounted in the desired position, interchange the vent plug with one of the solid plugs on the gearcase to obtain the correct vent plug location. The proper vent location will be the highest plug location in the gearcase. (Skip this step if the vent plug is already in the correct

location). The vent plug relieves air pressure which would otherwise build up in the gearcase during operation because of normal heat rise due to gear friction and motor current. (Oil bath temperature may approach 200°F in normal operation. Failure to vent the resulting increased air pressure could cause oil seal failure.)

**NOTE:** Factory filled with oil for the horizontal foot mount position. Remove the oil level plug, mid-line plug and inspect oil level. Oil may have to be added for mounting positions other than horizontal foot mounting. See maintenance section for correct type & viscosity of oil to be used. Reinstall the oil level plug. Make sure that the vent breather is in the proper gearbox plug location depending on the mounting position as specified in the depiction.

**WARNING** *Do not remove motor fan cover guard if motor is operating. Be sure all power is disconnected before removing fan cover guard.*

Figure 2 – Gearmotor Mounting Position Oil Plug Reference

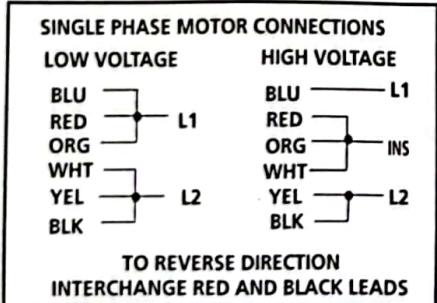


# Dayton® AC Gearmotors

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4. Make the electrical connections to the gearmotor. Observe these precautions:
  - a. All wiring and electrical connection must comply with the National Electrical Code and with all local electrical codes in effect.
  - b. For proper motor connections, refer to the connection diagram on the gearmotor nameplate or below. Make sure the connections are correct for the voltage to be supplied to the gearmotor, and that they will cause the gearmotor output shaft to rotate in the desired direction. To reverse the output rotation, see the connection diagrams below.

**Figure 3 – Single Phase and Three Phase Connection Diagrams**



c. Whenever possible, install a separate branch circuit of sufficient capability to supply the starting and full load gearmotor current requirements with minimal voltage drop. Increase the conductor size as circuit length increases. The characteristics (voltage, phase, frequency, available current, etc.) of the electrical supply being connected to the gearmotor must conform to the requirements shown on the gearmotor nameplate. Terminal voltage should not vary more than  $\pm 10\%$  from the nameplate voltage at the nameplate frequency (Hz). Even small amounts of voltage unbalance between the lines on three phase models will cause gearmotor overheating. For three-phase power, voltages for all three lines must be balanced within 1%. Do not continuously exceed the gearmotor nameplate current rating.

d. Motor must be securely and adequately grounded by wiring with a grounded metallic conduit or other grounding method approved by the NEC and local codes.

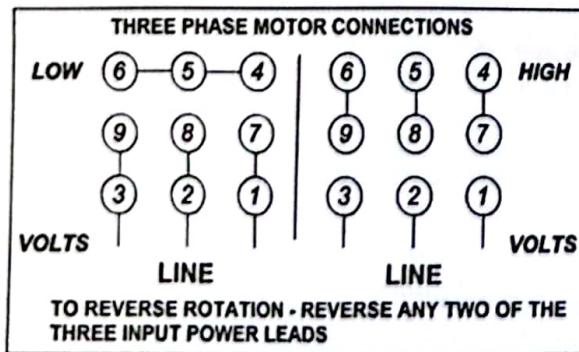
e. The manufacturer recommends (and local electrical codes may require) that a manual or magnetic motor starter with thermal overload protection should control power to the gearmotor. When selecting thermal overload relay heaters, follow the motor starter manufacturer's recommendations.

**CAUTION** *Do not oversize (overampage) heaters.*

**WARNING** *Do not install an automatic reset starting device to control the gearmotor in applications where unexpected motor starting could harm personnel or equipment.*

5. Attaching (coupling) the load:

**NOTE:** To determine output torque capacity for operating conditions other than normal 8-hour days with shock free operation, multiply the rated output torque for the gearmotor (from Specifications and Performance) by the applicable load factor listed in the Load Factor chart. Avoid shock loads.



**Models****4CUK7, 4CVT5-9, 4CVU1-9, 4CVX1-9, 4CVY1-9, 4CVZ1-6****Table 1 – Load Factors**

Service	Loading		
	Uniform	Moderate Shock	Heavy Shock
LESS THAN 10 STARTS/STOPS PER DAY			
Occasional 1/2 hour total per day	1.25	1.10	1.00
Intermittent 2 hours total per day	1.10	1.00	0.80
8 hours per day	1.00	0.80	0.67
24 hours per day	0.80	0.67	0.57
OVER 10 STARTS/STOPS PER DAY			
Occasional 1/2 hour total per day	1.10	1.00	0.80
Intermittent 2 hours total per day	1.00	0.80	0.67
8 hours per day	0.80	0.67	0.57
24 hours per day	0.67	0.57	0.50

**Overhung Loads**

Sideward (radial) force on a motor output shaft is called overhung load. Driving a load through a gear, sprocket wheel or belt pulley which is mounted on the gearmotor output shaft causes overhung load on the shaft. Too much overhung load can break the shaft or cause bearings to fail prematurely. Calculate the amount of overhung load which the gearmotor will receive in your installation as follows:

After calculating the amount of overhung load expected in your installation, compare it to the overhung load rating (limit) listed for your gearmotor in Specifications & Performance. If the expected amount of overhung load is higher than the specified limit, you must change a component or the location of a

component in your installation to bring the overhung load within the limit. To increase the operating life of the gearmotor bearings, design your installation to reduce overhung load as much as possible.

**Table 2 – Overhung Load Calculations**

Overhung Load Formula	
$(2 \times T) \times (C \times L)$	
D	
T	Full load torque of gearmotor in in-lbs from Specifications and Performance section
C	Coupling factor from Coupling Factors Chart, accounting for type of coupling
D	Pitch diameter in inches of coupling being mounted on gearmotor output shaft
L	Leverage factor from Leverage Factors Chart accounting for position of coupling along length of gearmotor output shaft

**Table 3 – Coupling Factors**

Coupling Factors	
Coupling Type	Factor
Chain sprocket wheel	1.00
Gear (pinion)	1.25
V-belt pulley	1.50
Flat belt pulley	2.50

**Table 4 – Leverage Factors**

Leverage Factors	
Coupling Location	Factor
End of shaft extension	0.8
Center of shaft extension	1.0
Next to shaft extension shoulder	1.2

- a. On direct-coupled installations, carefully check shaft and coupling alignment while bolting down gearmotor. Shim as required. Do not depend on a flexible coupling to compensate for misalignment.
- b. End thrust capacity (see Specifications and Performance):

**NOTE:** The thrust ratings given in the chart are calculated at full output torque. The thrust ratings are in addition to the full overhung load rating, assuming all the worst conditions of loading.

- c. To prevent bearing damage, do not strike output shaft with hammer or other tool.

**Operation**

**WARNING** *High voltage and rotating parts can cause serious or fatal injury. For safety, only qualified personnel should operate the gearmotor. For personnel and equipment protection, Observe all precautions given in General Safety Information.*

**IMPORTANT:** The gearmotor is shipped with oil. Make sure the proper amount of lubricant is in the gearcase relative to the mounting position before operation.

**IMPORTANT:** Stop gearmotor and have it checked if you notice excessive noise, vibration, or heating, or if you notice operating speed slowing down.

Apply the specified electrical power to the gearmotor to operate it. (Gearmotor nameplate and Specifications and Performance sections specify correct voltage, frequency and phase.) Do not overload the gearmotor. Observe the Full Load Amp limit given in the Specifications and Performance and the Load Factor charts in the Installation section.

# Dayton® AC Gearmotors

E N G L I S H

## Maintenance

**WARNING** Make sure that the electrical power is disconnected before attempting to inspect or service the gearmotor. If the power disconnect point is out of sight, lock it in the open position and tag it to prevent unexpected power turn on. Only qualified personnel should trouble shoot and maintain the gearmotor. Wear safety glasses when inspecting operating equipment.

**DANGER** Any repair required on motor must be performed by a UL authorized service shop. Failure to comply will void UL listing and may result in personal injury or death.

**DANGER** Before performing any maintenance, disconnect power and allow motor to come to a complete stop.

### GENERAL

Properly applied and installed gearmotors operate for long periods with minimal maintenance. Dirt accumulation can cause motor overheating and a fire hazard. Clean the motor with an air jet; wear eye protection. Inspect periodically. Check for dirt accumulation; unusual noise or vibration; overheating; worn or loose couplings, sheaves and belts; high motor current; poor wiring or overheating connections; loose mounting bolts or guards; and worn motor starter contacts.

Clean the gearcase vent-plug often enough to prevent clogging. To extend the gearmotor operating life, keep the gearmotor clean and make sure that nothing obstructs the flow of cooling air over or through it. Use only approved cleaning agents, such as dry cleaning solvent when cleaning electrical equipment and components. If the gearmotor is installed outdoors, protect it from the weather.

The gearmotor requires oil changes periodically, as described in Lubrication. Periodically check that the gearmotor mounting hardware has not loosened, that electrical connections are secure and not shorted, and that wiring insulation is sound.

### PARTS REPLACEMENT

Gearmotor parts that may require replacing are listed on the chart in this publication. Complete gearbox assemblies and motors are listed as well as specific parts and kits.

If you disassemble the gearmotor, note the location and size of shims as you disassemble so you can insert them in the right places when you re-assemble. All shafts should be shimmed to maintain 0.001 to 0.004 inch endplay.

See Replacement Parts List for component parts numbers and for ordering instructions.

### LUBRICATION

**CAUTION** The gearmotor is shipped with oil. Be sure to check the gearcase oil level and adjust as instructed by steps 3 & 4 in Installation before operating the gearmotor.

Careful attention to maintaining the correct amount of the correct type of oil in the gearcase will help lengthen gearmotor operating life.

The amount of oil required varies from 12 to 32 oz. depending on model and mounting orientation. Oil level should be maintained level with the gearcase level check plug.

Steps 3 & 4 in the Installation section describe how to check the gearcase oil initially. Select the gearcase oil AGMA number from the chart. Note that two different oil weights (viscosities) represented by AGMA numbers are

recommended. Select the correct AGMA number for the air temperature in which the gearmotor will operate. (Air temperature range for each AGMA number is provided in the column heading in the chart.)

After the first week of gearmotor operation, and twice yearly after that, completely drain the gearcase oil, and refill with new oil selected from the chart. Fill the gearcase to the level check plug for all models. Some bronze flakes will be present in the drained oil, especially in the first oil change because of the normal worm wheel wear-in process.

Check the gearcase oil level periodically. Maintain the level at the gearcase level check plug. Refer to the recommended oil chart and obtain by AGMA number. The oil obtained must be a compounded worm gear lubricant. Table 5 – Lubricants

### Recommended Worm Gear Oil \*AGMA Number Chart

Air Temperature °F	AGMA Number
15 - 50	7
50 - 125	8

\* American Gear Manufacturing Association

**CAUTION** Do not use oils with extreme pressure additives consisting of kerosene, sulfur, or chlorine or any combination thereof because they will corrode the worm gear bronze.

Note that the oil temperature in the gearcase may rise as high as 200°F in normal operation.

The bearings in the input motor portion of the gearmotor are pre-lubricated; they require no further lubrication. The bearings in the gearcase are lubricated by the gearcase oil.

# Models 4CUK7, 4CVT5-9, 4CVU1-9, 4CVX1-9, 4CVY1-9, 4CVZ1-6

## Troubleshooting Chart

Symptom	Possible Cause(s)	Corrective Action
Gearmotor won't operate	<ol style="list-style-type: none"> <li>1. Loose connections.</li> <li>2. Blown fuse or open circuit breaker.</li> <li>3. Loss of line power.</li> <li>4. Defective input motor.</li> <li>5. Defective control switch.</li> </ol>	<ol style="list-style-type: none"> <li>1. Make connections secure.</li> <li>2. Replace fuse or reset circuit breaker.</li> <li>3. Have power company restore service.</li> <li>4. Repair or replace motor.</li> <li>5. Repair or replace switch.</li> </ol>
Input motor runs, but gearmotor doesn't drive load	<ol style="list-style-type: none"> <li>1. Defective gear and/or worm shaft in gearmotor gearcase.</li> <li>2. Stripped gearmotor output key.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace defective part(s): Check for excess shock load; reduce shock load where possible.</li> <li>2. Replace key.</li> </ol>
Operation is too noisy	<ol style="list-style-type: none"> <li>1. Worn gearmotor bearings.</li> <li>2. Excess belt or chain tension.</li> <li>3. Excess overhung load, causing bearing wear.</li> <li>4. Low gearmotor oil level.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace bearings.</li> <li>2. Adjust tension.</li> <li>3. Reduce overhung load (see Installation step 8a); inspect bearings; replace defective bearings.</li> <li>4. Add correct oil. (see Lubrication in Maintenance).</li> </ol>
Gearmotor stalls or runs at low speed	<ol style="list-style-type: none"> <li>1. Low input voltage.</li> <li>2. Gearmotor overload.</li> <li>3. Dirty and/or loose connections.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check input voltage at motor leads. It should be at least 90% of the nameplate voltage, if not, correct cause of low voltage. (Branch line conductors from power company lines to motor may be too small).</li> <li>2. Reduce the load.</li> <li>3. Clean and/or secure the connections.</li> </ol>
Fuse blows repeatedly	<ol style="list-style-type: none"> <li>1. Same possible causes as listed above for "gearmotor stalls, etc."</li> <li>2. Defective gearmotor bearings.</li> </ol>	<ol style="list-style-type: none"> <li>1. Same corrective action as listed above for "gearmotor stalls, etc."</li> <li>2. Replace bearings. Make sure overhung load is not excessive (see Installation step 8a).</li> </ol>

## For Repair Parts, call 1-800-323-0620

**24 hours a day - 365 days a year**

Please provide following information:

-Model number.

-Serial number (if any).

-Part description and number as shown in parts list

- NOTES:**
- Purchase fasteners and keys locally.
  - Use only gear oil type and quantity specified in Maintenance section.
  - Purchase Grainger capacitor.
  - Parts with the same reference number are sold together as a kit.

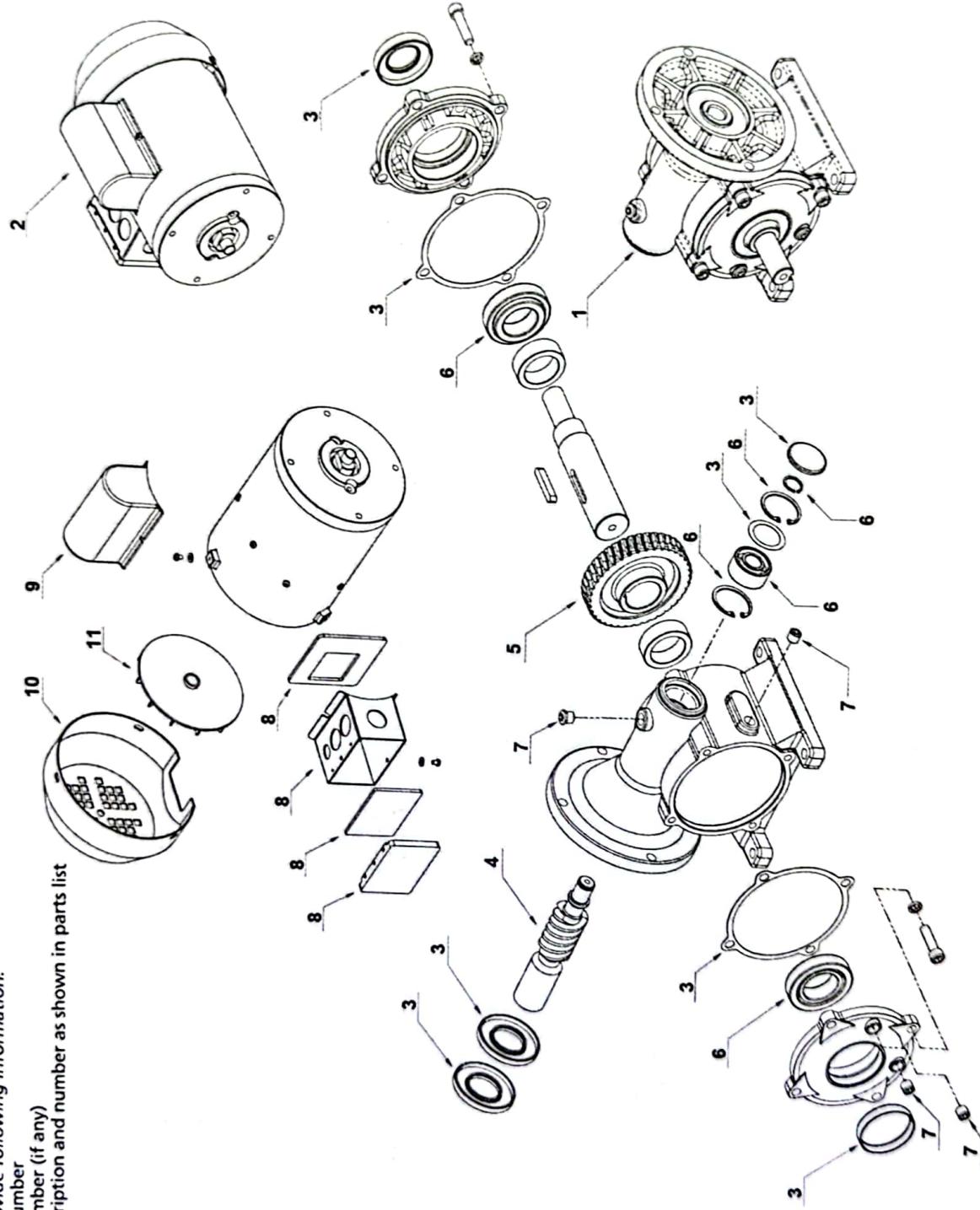


Figure 4 – Repair Parts Illustration for AC Gearmotor

## Repair Parts List for AC Gearmotor

Ref # >	1	2	3	4	5	6	7	8	9	10	11	< Ref #
Model #	Gearbox	Motor Complete	Seal Kit	Worm Shaft	Gear	Bearing Kit	Conduit	Capacitor Cover	Fan	Cooling Fan	Stationary Fan	Centrifugal Switch
4CVU7	256GG6090D-58	A64AC1420000000	OS/GA-01K	6058B058	6058B058	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVU8	256GG6090D-39	A64AC1420000000	OS/GA-01K	6058B039	6058B039	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVU9	256GG6090D-26	A64AC1420000000	OS/GA-01K	6058B026	6058B026	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVX1	256GG6090D-18	A64AC1420000000	OS/GA-01K	6058B018	6058B018	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVX2	256GG6089D-26	A64AC2130000000	OS/GA-01K	6058B026	6058B026	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVX3	256GG6089D-18	A64AC2130000000	OS/GA-01K	6058B018	6058B018	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVX4	256GG6089D-11	A64AC2130000000	OS/GA-01K	6058B011	6058B011	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVX5	256GG6089D-39	A64AC2130000000	OS/GA-01K	6058B039	6058B039	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVX6	256GG6089D-11	A64AC2760000000	OS/GA-01K	6058B011	6058B011	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVZ1	256GG6075D-31	A64V2763240000	OS/GA-01K	6058B031	6058B031	BG-01K	FAP/BR-01K	CB-03K	CC-02	MFC-02	MF-02	40A268-0401
4CVZ2	256GG6075D-21	A64V2763240000	OS/GA-01K	6058B021	6058B021	BG-01K	FAP/BR-01K	CB-03K	CC-02	MFC-02	MF-02	40A268-0401
4CVX7	256GG6090D-47	A64AC1420000000	OS/GA-01K	6058B047	6058B047	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVX8	256GG6090D-31	A64AC1420000000	OS/GA-01K	6058B031	6058B031	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVX9	256GG6090D-21	A64AC1420000000	OS/GA-01K	6058B021	6058B021	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVY1	256GG6090D-47	A64AC1810000000	OS/GA-01K	6058B047	6058B047	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVY2	256GG6090D-31	A64AC1810000000	OS/GA-01K	6058B031	6058B031	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVY3	256GG6090D-21	A64AC1810000000	OS/GA-01K	6058B021	6058B021	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVY4	256GG6090D-31	A64AC2130000000	OS/GA-01K	6058B031	6058B031	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVY5	256GG6089D-21	A64AC2130000000	OS/GA-01K	6058B021	6058B021	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVY6	256GG6090D-39	A64AC1810000000	OS/GA-01K	6058B039	6058B039	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVY7	256GG6090D-26	A64AC1810000000	OS/GA-01K	6058B026	6058B026	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVY8	256GG6090D-18	A64AC1810000000	OS/GA-01K	6058B018	6058B018	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVY9	256GG6090D-11	A64AC1810000000	OS/GA-01K	6058B011	6058B011	BG-01K	FAP/BR-01K	CB-02K	n/a	MFC-02	MF-02	n/a
4CVZ3	256GG6075D-58	A64V15052200000	OS/GA-01K	6058B058	6058B058	BG-01K	FAP/BR-01K	CB-03K	CC-02	MFC-02	MF-02	40A268-0401
4CVZ4	256GG6075D-39	A64V2763240000	OS/GA-01K	6058B039	6058B039	BG-01K	FAP/BR-01K	CB-03K	CC-02	MFC-02	MF-02	40A268-0401
4CVZ5	256GG6075D-26	A64V2763240000	OS/GA-01K	6058B026	6058B026	BG-01K	FAP/BR-01K	CB-03K	CC-02	MFC-02	MF-02	40A268-0401
4CVZ6	256GG6075D-18	A64V2763240000	OS/GA-01K	6058B018	6058B018	BG-01K	FAP/BR-01K	CB-03K	CC-02	MFC-02	MF-02	40A268-0401
4CVT5	225GG6065D-31	A56V2202800000	OS/GA-01K	6058B031	6058B031	BG-01K	FAP/BR-01K	CB-01K	CC-01	MFC-01	MF-01	N5400
4CVT6	225GG6065D-21	A56V2202800000	OS/GA-01K	6058B021	6058B021	BG-01K	FAP/BR-01K	CB-01K	CC-01	MFC-01	MF-01	N5400
4CVT7	225GG6065D-31	A56V2204540000	OS/GA-01K	6058B031	6058B031	BG-01K	FAP/BR-01K	CB-01K	CC-01	MFC-01	MF-01	N5400
4CVT8	225GG6065D-21	A56V2204540000	OS/GA-01K	6058B021	6058B021	BG-01K	FAP/BR-01K	CB-01K	CC-01	MFC-01	MF-01	N5400
4CVT9	225GG6065D-58	A56V2202800000	OS/GA-01K	6058B058	6058B058	BG-01K	FAP/BR-01K	CB-01K	CC-01	MFC-01	MF-01	N5400
4CVU1	225GG6065D-39	A56V2202800000	OS/GA-01K	6058B039	6058B039	BG-01K	FAP/BR-01K	CB-01K	CC-01	MFC-01	MF-01	AR5401
4CVU2	225GG6065D-26	A56V2202800000	OS/GA-01K	6058B026	6058B026	BG-01K	FAP/BR-01K	CB-01K	CC-01	MFC-01	MF-01	AR5401
4CUK7	225GG6065D-18	A56V2202800000	OS/GA-01K	6058B018	6058B018	BG-01K	FAP/BR-01K	CB-01K	CC-01	MFC-01	MF-01	AR5401
4CVU3	225GG6065D-39	A56V2204540000	OS/GA-01K	6058B039	6058B039	BG-01K	FAP/BR-01K	CB-01K	CC-01	MFC-01	MF-01	AR5401
4CVU4	225GG6065D-26	A56V2204540000	OS/GA-01K	6058B026	6058B026	BG-01K	FAP/BR-01K	CB-01K	CC-01	MFC-01	MF-01	AR5401
4CVU5	225GG6065D-18	A56V2204540000	OS/GA-01K	6058B018	6058B018	BG-01K	FAP/BR-01K	CB-01K	CC-01	MFC-01	MF-01	AR5401
4CVU6	225GG6065D-11	A56V2204540000	OS/GA-01K	6058B011	6058B011	BG-01K	FAP/BR-01K	CB-01K	CC-01	MFC-01	MF-01	AR5401

# Dayton® AC Gearmotor

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