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® Right Angle Gearmotors

Description

Dayton® totally enclosed right angle gearmotors are used in general purpose applications, including industrial, business, graphic arts and equipment used in dusty environments. Units feature high-strength die cast gear housing and hardened worm gears. Permanently lubricated ball bearings are located on output shaft and motor shaft. Models 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3 (Figure 1) utilize bronze output gear and oil lubrication. Models 1XFY2, 1XFY3, 1XFY4, 1XFY5, 1XFY6 and 1XFY7 (Figure 2) have a phenolic output gear and grease lubrication. Output shafts can be reversed for right-hand or left-hand extension. Rotation is easily reversed by electrical reconnection.

Figure 1 – Models 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3

Figure 2 – Models 1XFY2, 1XFY3, 1XFY4, 1XFY5, 1XFY6 and 1XFY7

Unpacking

After unpacking the gearmotor, carefully inspect the unit for any damage that may have occurred during transit. Check for loose, missing, or damaged parts. Check that output shaft is not damaged. Check that motor shaft extension cover (for brake modification) is intact. Check that conduit box is not loose.

NOTE: A small plastic bag of miscellaneous hardware has been packed with the gearmotor. DO NOT DISCARD HARDWARE.

Specifications

Model Number	Nominal F/L RPM 60 Hz	50 Hz*	F/L Torque In-Lb	Start Torque	Input HP 60 Hz	Ratio	Enclosure	F/L Amps 60 Hz 115 VAC	50 Hz*	Max Overhung Load Lb+	Capacitor MFD (370 VAC)	Part Number
1XFY2	43	35	21	14	1/20	40:1	TENV	1.0	1.2	70	4	2GE75
1XFY3	86	68	22	12	1/20	20:1	TENV	1.0	1.2	60	4	2GE75
1XFY4	173	137	13	7	1/20	10:1	TENV	1.0	1.2	50	4	2GE75
1XFY5	43	35	55	35	1/12	40:1	TENV	1.3	1.5	110	6	2GE77
1XFY6	86	68	41	25	1/12	20:1	TENV	1.3	1.5	90	6	2GE77
1XFY7	173	137	23	12	1/12	10:1	TENV	1.3	1.5	70	6	2GE77
1XFY8	29	24	85	72	1/8	60:1	TEFC	2.0	2.4	130	15	2GE81
1XFY9	43	35	77	63	1/8	40:1	TEFC	2.0	2.4	110	15	2GE81
1XFZ1	57	48	68	54	1/8	30:1	TEFC	2.0	2.4	100	15	2GE81
1XFZ2	86	68	55	41	1/8	20:1	TEFC	2.0	2.4	90	15	2GE81
1XFZ3	173	137	31	24	1/8	10:1	TEFC	2.0	2.4	70	15	2GE81

(*) 50 Hz data at 105VAC max. (+) Applies at center of output shaft.

1. All motors are 115VAC, 60 Hz, 1725 RPM, reversible rotation. Permanent split capacitor, 40°C maximum ambient, continuous duty, Class "B" insulation, 1.0 service factor and rigid mount.
2. Performance data is based on Dayton brand capacitor shown in chart. Capacitor not included.
3. Models 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3 are supplied with bronze output gear and oil lubrication. All other models have phenolic output gear and grease lubrication.

Form 5S5713

Printed in U.S.A.
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XXXX/XXX/VCPVP

Supplier I.D. No. (optional)

Dayton® Right Angle Gearmotors

Dimensions (in inches)

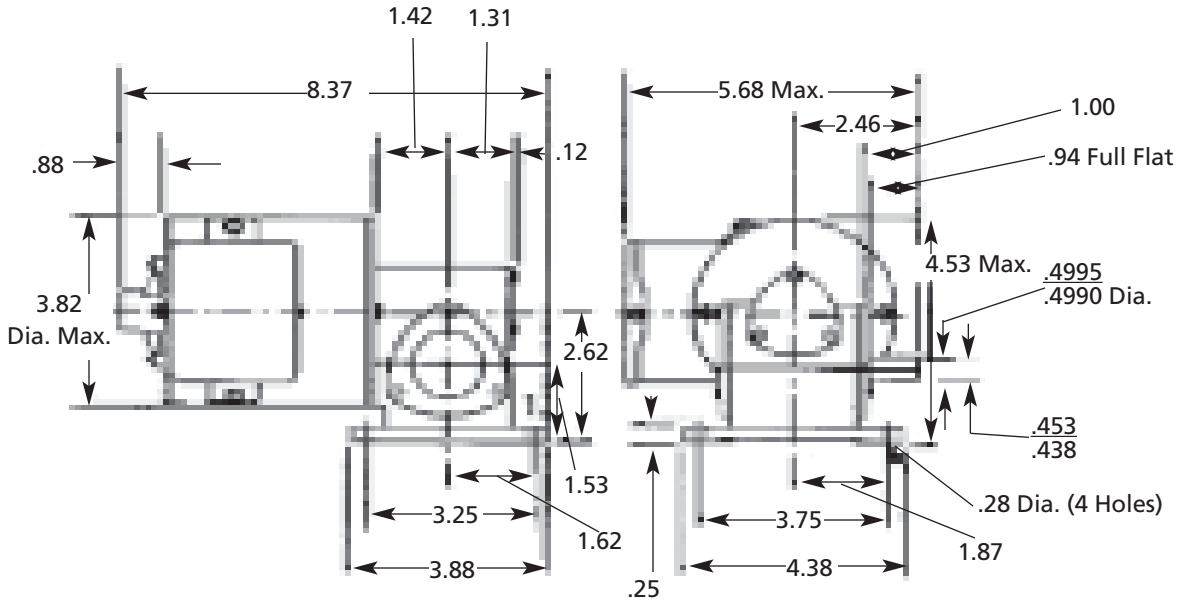


Figure 3 – Models 1XFY2, 1XFY3 and 1XFY4

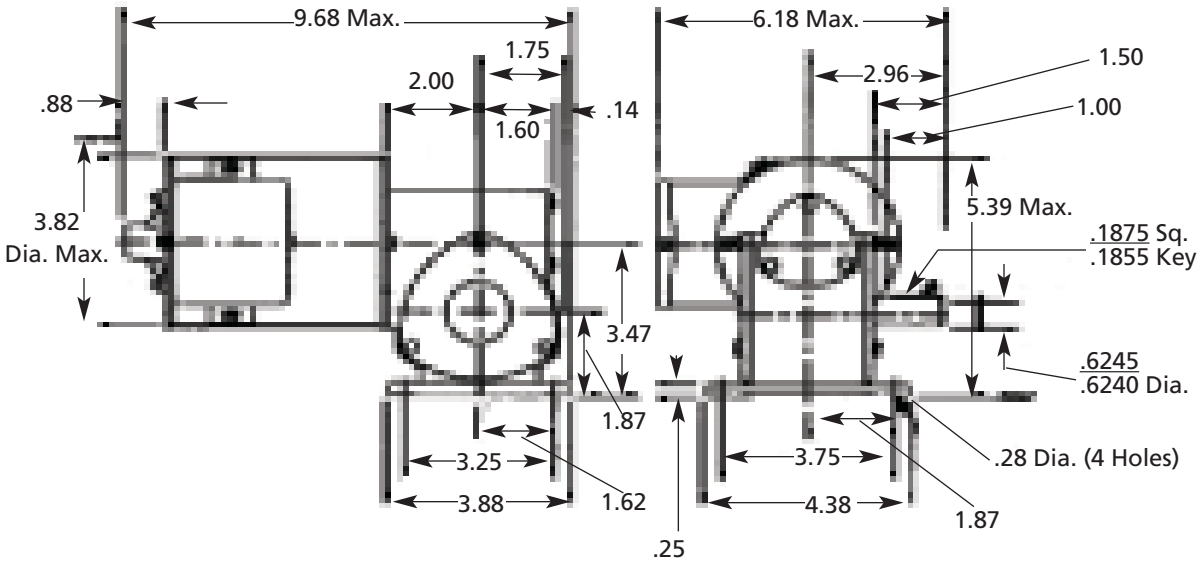


Figure 4 – Models 1XFY5, 1XFY6 and 1XFY7

Models 1XFY2 thru 1XFY9, 1XFZ1 thru 1XFZ3

Dimensions (Continued)
(in inches)

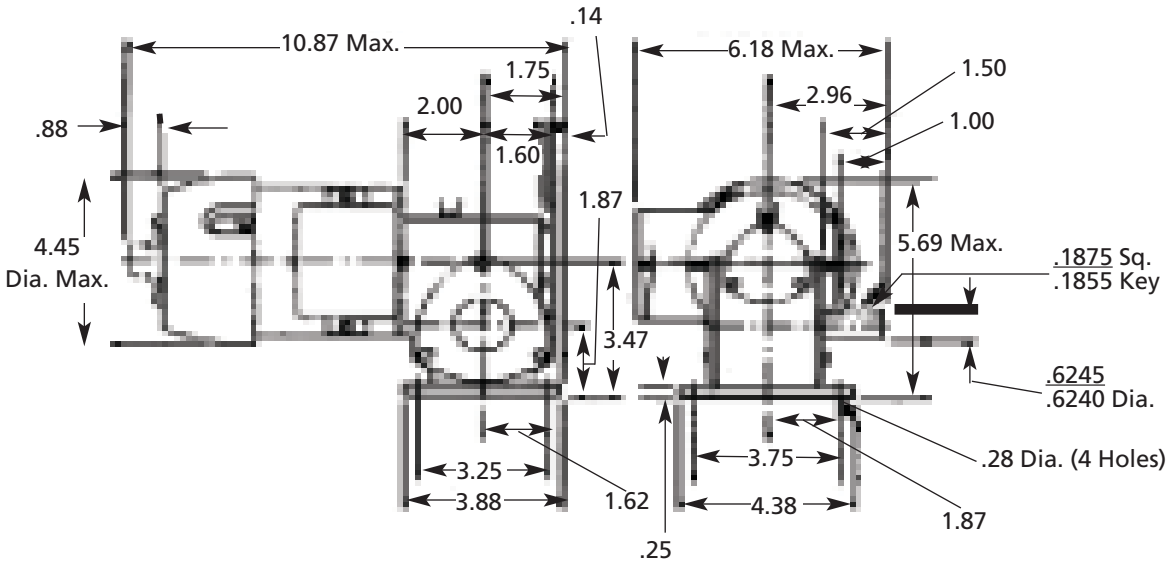


Figure 5 – Models 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3

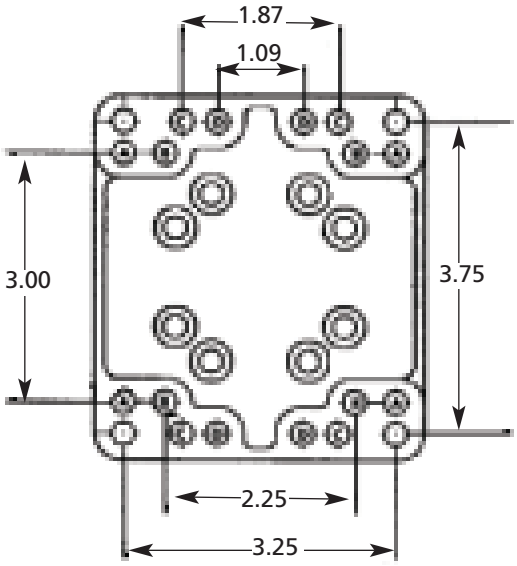


Figure 6 – Mounting Base Models

Dayton® Right Angle Gearmotors

Dimensions (Continued) (in inches)

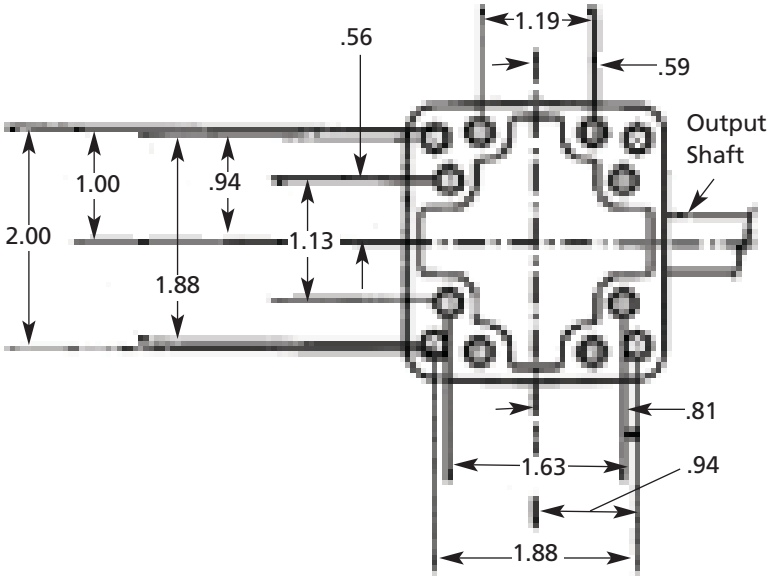


Figure 7 – Bottom View

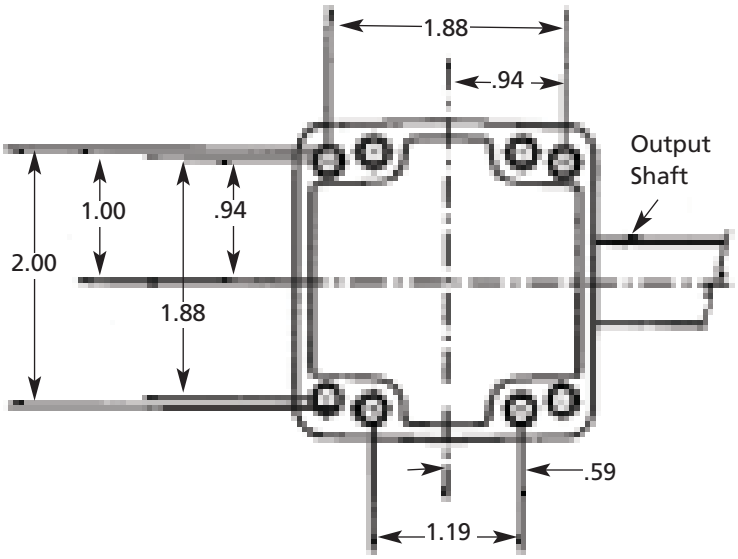


Figure 8 – Bottom View

General Safety Information

⚠DANGER ***Voltage and rotating parts can cause serious or fatal injury. Safe installation, operation, and maintenance must be performed by qualified personnel. Familiarization with and adherence to NEMA MG2, the National Electrical Code, OSHA and local codes is recommended. It is important to observe the following safety precautions to protect personnel from possible injury:***

1. DISCONNECT POWER BEFORE INSTALLING OR SERVICING.
2. Be familiar with the equipment and read all instructions thoroughly before installing or working on it.
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 Electrical 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

Models 1XFY2 thru 1XFY9, 1XFZ1 thru 1XFZ3

General Safety Information (Continued)

disconnect point is out of sight, lock it in the open position and tag it to prevent unexpected application of power.

9. Be careful touching an operating motor; it may be hot enough to hurt or injure you. At full rated voltage and load, modern motors run hot.
10. Protect the power cable: don't let it touch sharp objects, hot surfaces, oil, grease, or chemicals.
11. Do not kink the power cable.
12. Make certain that the power source conforms to the requirements of your equipment.
13. Do not use automatic reset starting devices where unexpected gearmotor starting could be hazardous to personnel or equipment.
14. Wear safety glasses to protect your eyes around running machinery, especially when cover plates are removed to inspect the equipment while it is running.
15. Do not permit the gearmotor load to exceed the values listed for it in the Specifications Table.
16. Store the gearmotor only in a clean, dry, indoor area, even if it is still in the original shipping container.
17. When cleaning electrical or electronic equipment, always use an approved nonflammable cleaning agent such as a dry solvent. Be careful about choosing and about using cleaning agents. Some of them attack motor insulation, finish, or bearing lubricants; some are highly flammable. If using cleaning agents, make sure the area is well-ventilated.
18. Provide guarding for all moving parts.
19. If the application involves a holding or overhauling type of load (such as 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.

Installation

⚠WARNING ***Do not install in an explosive atmosphere!***

See Figures 15 and 16 for parts illustration. Units are designed to accept a Dayton Model 5X400 brake at the end bracket or fan shroud of motor. To install brake, remove screws (Ref. No. 16) and cover (Ref. No. 17). Follow brake installation instructions.

⚠CAUTION ***When an installation involves a holding or overhauling application (such as a hoist or conveyor), a separate magnetic brake or other locking device should be used. Do not depend on gear friction to hold the load.***

OUTPUT SHAFT REVERSAL

Gearmotors are shipped with a right-hand extension output shaft (viewed from gearhousing end) and may be changed to left-hand by the following procedure. Refer to the exploded parts view.

⚠CAUTION ***Special care must be taken to prevent damage to components. Avoid sharp blows with a hammer or other tools.***

Steps 1, 2, and 7 apply to oil-lubricated units only (Models 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3).

1. Remove high-speed cover plate (Ref. No. 9) and gasket (Ref. No. 10) and drain oil into a clean container.
2. Wrap several layers of masking tape around output shaft to prevent shaft keyway from cutting oil seal.
3. Remove six (6) hex head screws (Ref.No. 7).
4. Loosen cover plate (Ref. No. 4) by inserting knife edge between cover plate and gearhousing near the screw holes, and tap knife with plastic hammer, taking care not to damage flange surfaces or "O" rings (Ref. No. 6). Gently pry cover plate from gearhousing. Loosen opposite cover plate (Ref. No. 5) following the same procedure.
5. Remove output shaft assembly with cover plate intact.
6. Reverse output shaft, replace both cover plates, taking care that "O" rings are properly seated.
7. Refill with oil and replace gasket and high speed cover plate.

RELOCATING CONDUIT BOX

Gearmotor is shipped with conduit box in 9:00 position, viewed from gear-housing end, and may be relocated at 90° intervals by following procedure:

NOTE: On models 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3, it is necessary to remove and replace the fan shroud (Ref. No. 29) and screws (Ref. No. 30) , the compression ring (Ref. No. 28) and the fan (Ref No. 27).

TO LOCATE THE CONDUIT BOX IN THE 3:00 POSITION:

1. Remove (2) nuts from stator thru bolts and remove thru bolts and lockwashers.

Dayton® Right Angle Gearmotors

Installation (Continued)

2. Rotate stator assembly 180° (keeping the end bracket intact with stator assembly).
3. Replace thru bolts, lockwashers, and nuts.

TO LOCATE CONDUIT BOX IN THE 12:00 OR 6:00 POSITION:

1. Remove the (2) nuts from stator thru bolts and remove thru bolts and lockwashers.
2. Remove end bracket, finger spring, and stator assembly from gearhousing. Do not attempt to remove rotor assembly.
3. A .175" diameter cored hole is provided at 12:00 position of gearhousing and must be punched thru.

IMPORTANT: Make sure gearhousing is free of any metal chips after punching the hole open.

4. Replace stator on the gearhousing with conduit box at desired position. Replace finger spring and end bracket.

IMPORTANT: Finger spring must be assembled with fingers placed against ball bearing on motor shaft. Make sure that spring is not cocked when assembling end bracket.

5. Replace the thru bolt, lockwasher, and nut at the 12:00 position of the gearhousing. Replace the thru bolt and lockwasher at the 6:00 position of the gearhousing, threading into the tapped hole provided.
6. Insert the (2) plastic plugs from the miscellaneous hardware bag into the open thru bolt holes.

MOUNTING

Gearmotor should be located in a clean and dry area with access to adequate cooling air supply. The ambient temperature should not exceed the rating shown on the nameplate. If installation is outdoors, make certain that the unit is protected from the weather.

Mount gearmotor to a rigid surface, preferably metallic.

NOTE: A variety of mounting options are provided. See Figures 9, 10, 11 & 12.

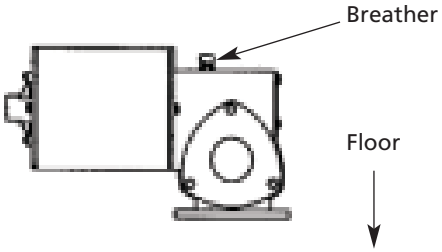


Figure 9

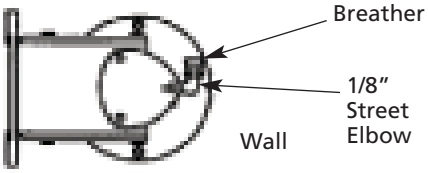


Figure 10

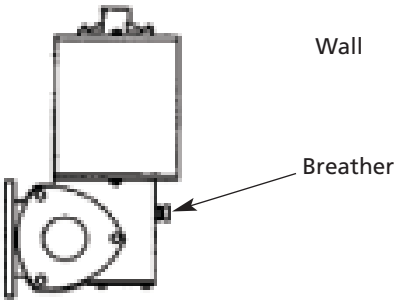
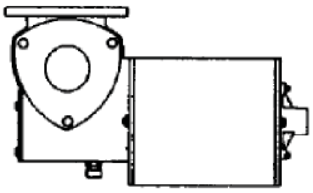


Figure 11



(Do not mount models 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3 in this position.)

Figure 12

IMPORTANT: (Models 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3) Before the gearmotor is put into operation the pipe plug must be removed and breather plug (Ref. No. 25) securely installed.

Grease-lubricated gearmotors (without breather plug) may be mounted in any of the positions shown without any modifications to the unit.

Oil-lubricated units may be mounted as shown. However, a 1/8" NPT street elbow must be used to keep the breather plug in a vertical position (vented end up). On wall mounted units 1 fluid ounce of oil must be removed from gearhousing. This may be done by removing high speed shaft cover plate (Ref. No. 9) and cover gasket (Ref. No. 10).

⚠CAUTION ***Never mount an oil filled gearmotor in a position that would have the motor below the gearhousing, as shown in Figure 12.***

ADAPTER PLATE

Gearmotor is provided with an adapter plate attached to the gearhousing. The adapter plate has four 9/32" diameter thru holes for mounting on a 3.75" x 3.25" hole pattern. The adapter plate may be rotated 90° by removing the four screws (Ref. No. 20).

Models 1XFY2 thru 1XFY9, 1XFZ1 thru 1XFZ3

Installation (Continued)

NOTE: All four screws must be used.

The adapter plate also contains four additional sets of 9/32" diameter pilot holes that can be punched or drilled to yield the most convenient mounting dimensions (Refer to Figure 6 for dimensions).

The adapter plate may also be removed and the gearhousing mounted directly with four 1/4-20 screws.

NOTE: Holes are tapped 3/8" deep. Refer to Figures 7 and 8 for dimensions.

WIRING CONNECTIONS

For proper motor connections, refer to the connection diagram in Figure 13. For CW rotation facing the output shaft (as shipped), connect per the diagram. For CCW rotation, interchange red and black leads. Dayton 4X814 reversing switch may be used if application requires reversing (Figure 14).

NOTE: Gearmotor must come to a complete stop before reversing.

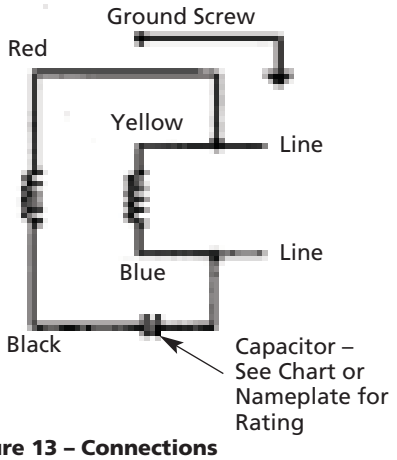
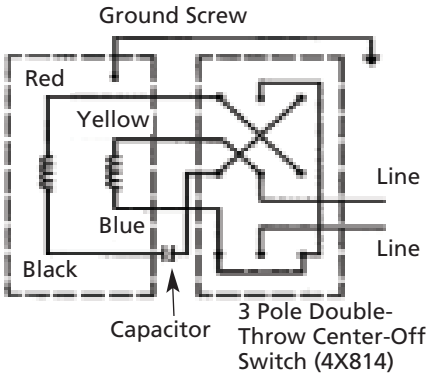


Figure 13 – Connections



(Drawing of switch made viewing from terminal end, with keyway on the threaded stem facing left.)

Figure 14 – Reversing Switch Diagram

Gearmotor should be grounded by use of separate grounding conductor, connected to the motor frame. A green ground screw is provided inside conduit box. Verify that the groundwire runs to a good electrical ground such as a grounded conduit or water system.

All wiring and electrical connections must comply with the National Electrical Code, and local electrical codes in effect. In particular, refer to Article 430 (Motor, Motor Circuits, and Controllers) of the NEC.

Whenever possible, the gearmotor should be powered from a separate branch circuit of adequate capacity to keep voltage drop to a minimum during starting and running. For longer runs, increase wire size in accordance with the wire selection guide shown below. Never use smaller than #14 AWG for permanent installation.

WIRE SELECTION GUIDE

#14 . . . . . 25 – 50'
#10 . . . . . 100 – 150'
#8 . . . . . 200'

IMPORTANT: Gearmotor is not provided with internal thermal protection. Assure that motor failure due to malfunction or overload condition will not cause a safety hazard. Use of a motor starter, either manual or magnetic, incorporating thermal protection, is advisable and may be required by local electrical codes. Follow motor starter manufacturer's recommendations on thermal overload relay heater selection. Do not oversize heaters. Do not use automatic reset starting devices when unexpected starting of the unit could be hazardous to personnel or equipment.

Operation

APPLICATION OF LOAD

To determine output torque capacity for operating conditions other than a normal eight-hour day and shock-free operation, multiply the rated output torque (see Specifications Table) by the applicable load factor listed below. Heavy shock loads should be avoided. Do not exceed output torque rating on nameplate.

LOAD FACTOR CHART

	Operating Time		
Nature of Load	Inter-mittent	Normal 8-hour Day	Cont. 24 Hours
Uniform	1.0	1.0	0.7
Moderate Shock	1.0	0.8	0.5

Dayton® Right Angle Gearmotors

Operation (Continued)

If unit is directly coupled to load, carefully check shaft and coupling alignment to avoid overloading of gearmotor and/or bearings. Shim mounting surface as required. Do not depend on a flexible coupling to compensate for misalignment. Motor must come to a complete stop before reversing.

OVERHUNG LOAD

When a sprocket or pulley is mounted on the gearmotor output shaft, care should be taken to avoid excessive tension in the belt or chain.

Use the following formula to determine overhung load:

$$\frac{\text{Full load torque (in-lbs) of gearmotor} \times 2}{\text{Pitch diameter of sprocket, pulley or pinion in inches}} \times \text{Drive Factor} = \text{Overhung Load in pounds}$$

DRIVE FACTOR

Chain (sprocket) = 1.0
V Belt (pulley) = 1.5
Pinion (gear) = 1.25
Flat Belt (pulley) = 2.5

See Specifications Table for maximum permissible overhung load. These values apply when the center line of pinion, pulley, or sprocket is at center of output shaft. To further minimize overhung load the sprocket, pinion, or pulley may be located as close to the output shaft cover plate as practical. Consult Dayton Electric Manufacturing Company, Engineering Department for assistance if sprocket, pulley, or pinion must be located outboard of midpoint of output shaft.

THRUST LOADS

Many driven loads impose a thrust on the output shaft either directly or indirectly. Helical gears, worms, solenoid actuated clutches, coupling components, and acme shafts are examples. Externally applied thrust loads should not exceed 50 lbs. on models 1XFY2, 1XFY3, 1XFY4, and 75 lbs. on Models 1XFY5, 1XFY6, 1XFY7, 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3. Maximum overhung load and thrust load ratings may change with loading conditions. Consult Dayton Electric Manufacturing Company in the event combined thrust and overhung loads are applied.

Maintenance

⚠CAUTION ***Make certain that the power supply is disconnected before attempting to service or remove any components. If the power disconnect point is out of sight, lock it in the open position and tag to prevent unexpected application of power.***

LUBRICATION

Grease-lubricated gearmotors (models 1XFY2, 1XFY3, 1XFY4, 1XFY5, 1XFY6 and 1XFY7) are lubricated for design life at the factory. Periodic lubrication should not be required under normal conditions. Should the gearmotor require relubrication, use Hodson #2-1000, Mobilux EP2, Alvania EP2, Gulf Crown EP2, or their equivalent. Oil-lubricated gearmotors (Models 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3) are filled with 3 fluid ounces of oil at the factory. The oil should be changed every 2,500 hours or one year, whichever comes first. Relubricate with Hodson #4111, Mobil 600W, Gulf #121, Shell J78, or an equivalent AGMA #7 worm gear oil.

DISASSEMBLY

See Figures 15 and 16 for parts illustration.

NOTE: On models 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3 remove the (3) Hex head screws (Ref. 8), high speed cover plate (Ref. 9), and the gasket (Ref. 10). Drain the oil. Remove the fan shroud (Ref. 29) and screws (Ref. 30), the compression ring (Ref. 28) and the fan (Ref. 27).

1. Remove the (2) nuts from the stator thru bolts and remove the thru bolts and lockwashers.
2. Remove the end bracket, finger spring, and stator assembly. Inspect the stator assembly for any evidence of damage to the windings or the lead wire.
3. On models 1XFY5, 1XFY6, 1XFY7, 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3 remove the locknut and worm (Ref. 11) while holding the rotor in a stationary position.
4. Carefully disassemble the motor shaft assembly from the gearhousing by gently rocking the assembly back and forth until the bearing comes out of the housing. Striking or hitting may damage bearing raceways.
5. On models 1XFY5, 1XFY6, 1XFY7, 1XFY8, 1XFZ1, 1XFZ2 and 1XFZ3 remove the key (Ref. 22). Remove any burrs from the output shaft by filing and cover the shaft with 1½ wraps of masking tape. This will prevent damage to the low speed shaft oil seal (Ref. 23).
6. Remove (6) Hex head screws (Ref. 7).

Models 1XFY2 thru 1XFY9, 1XFZ1 thru 1XFZ3

Maintenance (Continued)

7. Loosen cover plate (Ref. 4) by inserting a knife edge between the cover plate and gearhousing near the screw holes and tap the knife with a plastic hammer, taking care not to damage the flange surfaces or O-ring (Ref. 6).
8. Gently pry the cover plate from the gearhousing.
9. Remove the opposite cover plate (Ref. 5) following the same procedure, removing the output shaft assembly (Ref. 2) with the cover plate intact.
10. Carefully remove output shaft assembly from the cover plate.
11. On models 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3, the oil seals in the low speed cover plate and the gearhousing (Ref. 23 and 26) may be replaced if necessary.
12. Clean the oil seal cavities and press the new seals squarely in place with the lip edge inward towards the gear cavity.
13. The high speed shaft oil seal (Ref. 26) should be fully seated in the gearhousing.
14. The low speed shaft oil seal should be pressed flush with the outer surface of the low speed cover plate.
15. The output shaft assembly and gearhousing should be cleaned and inspected for wear.
16. Assure that the motor shaft ball bearing (Ref. 12 and 13) and the output shaft ball bearings (Ref. 3) rotate freely and smoothly.
17. Damaged bearings should be replaced.
18. When installing bearing, apply pressure to the inner race only.
19. Seat the bearings properly on output shaft, taking care not to move the output gear with respect to the shaft.
20. High speed cover plate gasket (Ref. 10) and O-rings (Ref. 6) may be reused unless damaged, in which case they should be replaced.
21. If necessary, worm (Ref. 11) on models 1XFY2, 1XFY3 and 1XFY4 may be replaced.
22. Remove and reinstall roll pin which attaches worm to motor shaft, taking care to support shaft properly to prevent bending.

REASSEMBLY

See Figures 15 and 16.

NOTE: Models 1XFY2, 1XFY3 and 1XFY4 are lubricated with 1.4 fluid ounces of grease. Models 1XFY5, 1XFY6 and 1XFY7 are lubricated with 3 fluid ounces of grease. Models 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3 are lubricated with 3 fluid ounces of oil.

1. Reassemble the gearhousing (Ref. 1), cover plates (Ref. 4 and 5), "O" rings (Ref. 6), and output shaft assembly (Ref. 2). On models 1XFY2, 1XFY3, 1XFY4, 1XFY5, 1XFY6 and 1XFY7 apply sufficient amount of grease to cover output gear teeth before assembly.
2. Insert hex head screws (Ref. 7) and apply remaining amount of grease through the opening in the end of the gearhousing.
3. Carefully insert the motor shaft assembly into the gearhousing. On models 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3 wrap the motor shaft with masking tape from the flats to the shaft threads.
4. This will prevent damage to the high speed shaft oil seal (Ref. 26).
5. On models 1XFY5, 1XFY6, 1XFY7, 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3 assemble the worm (Ref. 11) on the motor shaft, making sure it is fully seated on the shaft flats.
6. Replace and tighten locknut. Replace high speed cover (Ref 9), gasket (Ref. 10), and hex head screws (Ref. 8).
7. Install the stator assembly to the gearhousing making sure it is fully seated.

⚠CAUTION ***Take special care not to damage the windings. Make sure the stator thru bolt holes are aligned with the holes in the gearhousing.***

8. Reverse the disassembly procedure to install the finger spring and end bracket.

IMPORTANT: Finger spring must be assembled with the "fingers" placed against the ball bearings of the rotor assembly. Make sure the spring is not cocked when assembling the end bracket.

9. On models 1XFY8, 1XFY9 1XFZ1, 1XFZ2 and 1XFZ3 replace the fan (Ref. 27), compression ring (Ref. 28), shroud (Ref. 29), and screws (Ref. 30).
10. Start and stop the motor. The gearing should turn freely and quietly.

Dayton® Right Angle Gearmotors

Maintenance (Continued)

ASSEMBLY ILLUSTRATIONS

NOTE: Use Figures 15 and 16 to aid in maintenance procedures requiring disassembly and reassembly of units. Use Figures 17, 18, 19 and 20 to order replacement parts.

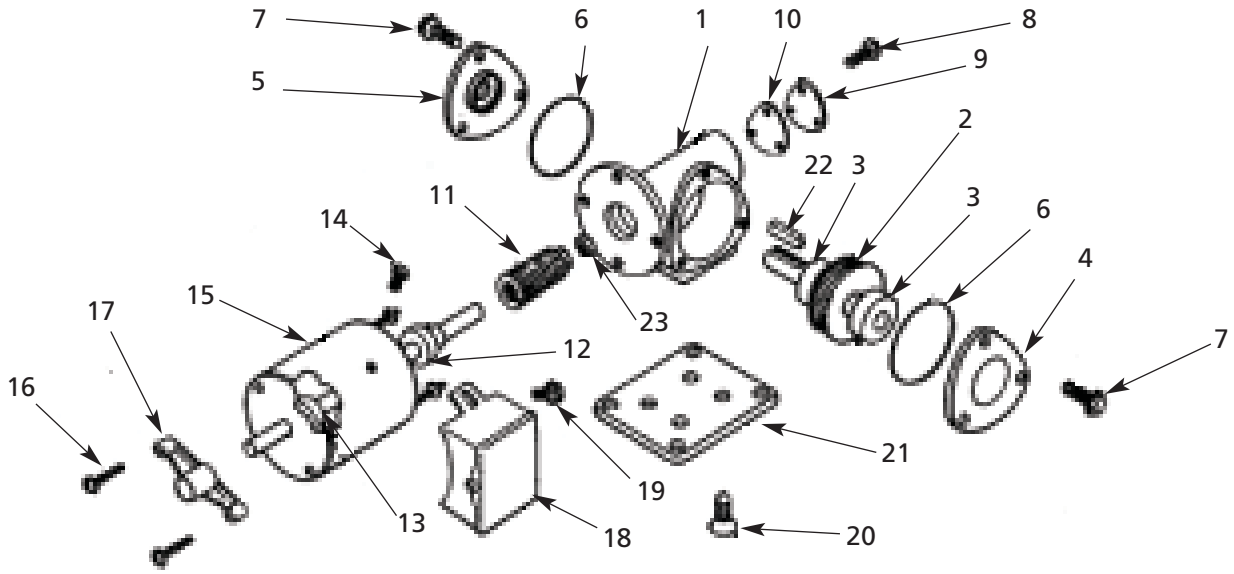


Figure 15 – Disassembly and Reassembly for Models 1XFY2, 1XFY3, 1XFY4, 1XFY5, 1XFY6 and 1XFY7

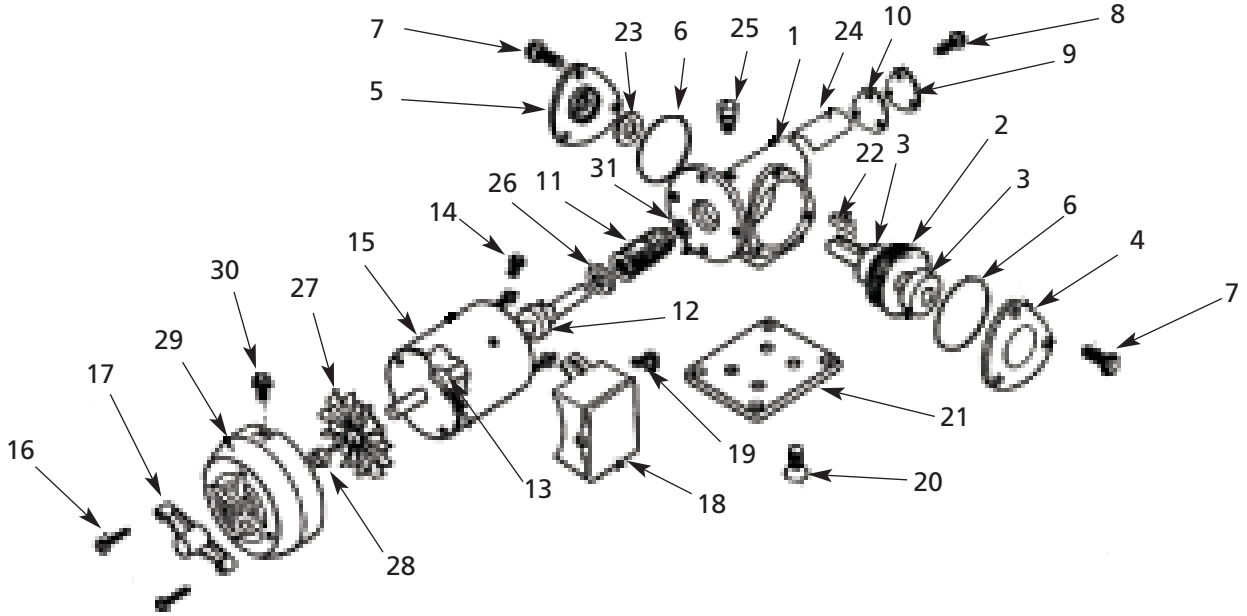


Figure 16 – Disassembly and Reassembly for Models 1XFY8, 1XFY9, 1XFZ1, 1XFZ2 and 1XFZ3

Models 1XFY2 thru 1XFY9, 1XFZ1 thru 1XFZ3

Troubleshooting Chart

Symptom	Possible Cause(s)	Corrective Action
Unit fails to operate	1. Blown fuse or open circuit breaker	1. Replace fuse or reset circuit breaker
	2. No power	2. Contact power company
	3. Defective motor	3. Repair or replace
	4. Defective manual or magnetic control switch	4. Repair or replace
	5. Defective capacitor	5. Replace
	6. Bearings seized	6. Replace
Unit operates, but with reduced output	1. Defective motor	1. Repair or replace
	2. Defective capacitor	2. Replace
	3. Bearings tight	3. Repair or replace
Motor shaft rotates, output shaft remains stationary or rotates intermittently	1. Defective gear assembly possibly caused by shock load	1. Replace gear assembly and if possible avoid shock load
	2. Worm loose on high speed shaft	2. Repair or replace
Excessive noise	1. Bearings worn	1. Replace
	2. Belt too tight	2. Adjust tension
	3. Overhung load exceeds rating	3. Correct load and/or replace bearing
	4. Lack of lubricant	4. Check lubricant and add if required
	5. Fan hitting fan shroud or motor	5. Readjust
	6. Defective or worn gearing	6. Replace

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

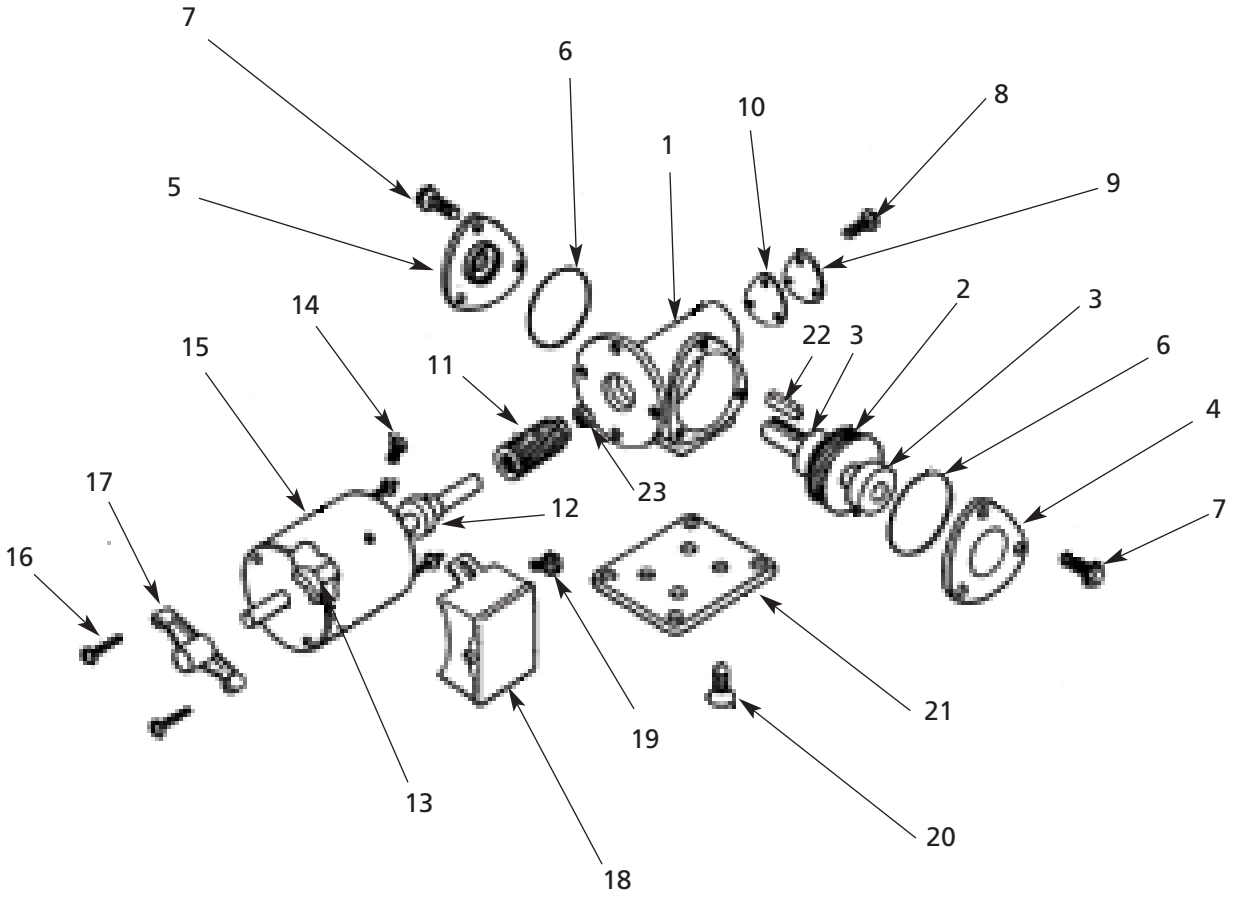


Figure 17 – Repair Parts Illustration for Right Angle Gearmotors

Models 1XFY2, 1XFY3 and 1XFY4

Repair Parts List for Right Angle Gearmotors

Reference Number	Description	Part Number for Models: 1XFY2	1XFY3	1XFY4	Quantity
1	Gearhousing	H352730210000	H352730210000	H352730210000	1
2	Output shaft, worm wheel and bearing assembly	X722695610013	X722695610010	X722695610012	1
3	Output shaft bearing	B452226920000	B452226920000	B452226920000	2
4	Low speed shaft cover plate (enclosed end)	X292730160000	X292730160000	X292730160000	1
5	Low speed shaft cover plate (output shaft end)	X292730160001	X292730160001	X292730160001	1
6	O-ring	R352703830001	R352703830001	R352703830001	2
7	#8-32 x 1/2" Hex head screw	*	*	*	6
8	#6-32 x 3/8" Hex head screw	*	*	*	3
9	High speed shaft cover plate	C702705580000	C702705580000	C702705580000	1
10	Cover gasket	G102701310000	G102701310000	G102701310000	1
11	Worm (includes pin)	W602713270004	W602713270000	W602713270000	1
12	Motor shaft bearing (gearhousing end)	B452226920000	B452226920000	B452226920000	1
13	Motor shaft bearing (opposite gearhousing end)	B452531100000	B452531100000	B452531100000	1
14	#10-24 x 1/4" Green hex head grounding screw	*	*	*	1
15‡	Motor kit	Z295228120000	Z295228120000	Z295228120000	1
16	#8-32 x 3/8" Slotted head screw	*	*	*	2
17	Motor shaft extension cover	G351956290000	G351956290000	G351956290000	1
18	Conduit box assembly	Z295184330000	Z295184330000	Z295184330000	1
19	#10-24 x 1/4" Hex head screw	*	*	*	2
20	1/4-20 x 1/2" Flat head screw	*	*	*	4
21	Adapter plate	B352711850000	B352711850000	B352711850000	1
22	Shaft key	Not required	Not required	Not required	-
△	4 MFD 370 VAC Capacitor	2GE75	2GE75	2GE75	1

(*) Standard hardware item, available locally.
(‡) Partial assembly required. Kit includes Ref. Nos. 12 thru 19. See Pages 9 and 10 for assembly instructions.
(△) Not shown.

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

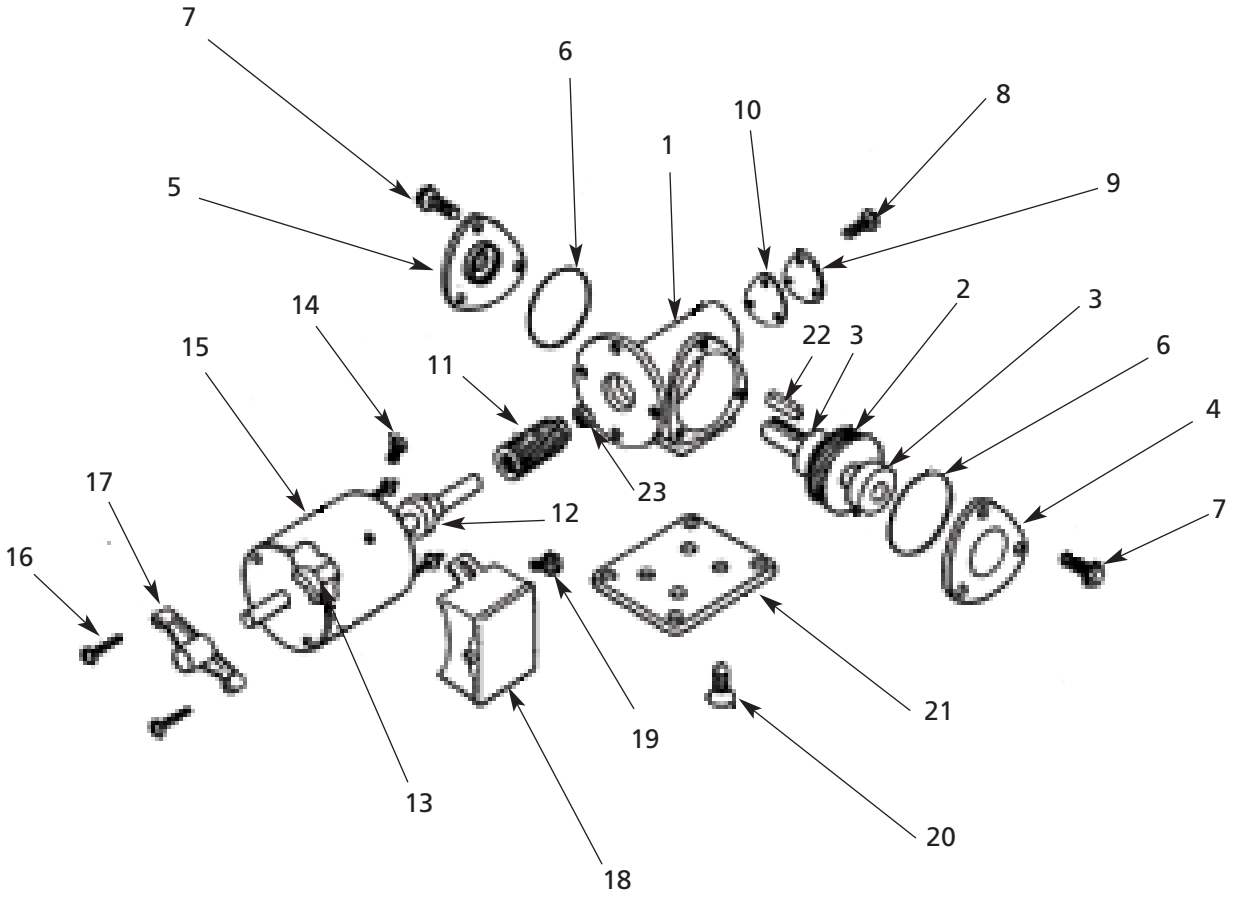


Figure 18 – Repair Parts Illustration for Right Angle Gearmotors

Models 1XFY5, 1XFY6 and 1XFY7

Repair Parts List for Right Angle Gearmotors

Reference Number	Description	Part Number for Models: 1XFY5	1XFY6	1XFY7	Quantity
1	Gearhousing	H352695640001	H352695640001	H352695640001	1
2	Output shaft, worm wheel and bearing assembly	X722695610008	X722695610007	X722695610001	1
3	Output shaft bearing	B451366960002	B451366960002	B451366960002	2
4	Low speed shaft cover plate (enclosed end)	X292695630000	X292695630000	X292695630000	1
5	Low speed shaft cover plate (output shaft end)	X292695630001	X292695630001	X292695630001	1
6	O-ring	R352609300004	R352609300004	R352609300004	2
7	#10-24 x 1/2" Hex head screw	*	*	*	6
8	#8-32 x 3/8" Hex head screw	*	*	*	3
9	High speed shaft cover plate	C702695540000	C702695540000	C702695540000	1
10	Cover gasket	G102695530000	G102695530000	G102695530000	1
11	Worm	W602698950004	W602698950002	W602698950000	1
12	Motor shaft bearing (gearhousing end)	B452226920000	B452226920000	B452226920000	1
13	Motor shaft bearing (opposite gearhousing end)	B452531100000	B452531100000	B452531100000	1
14	#10-24 x 1/4" Green hex head grounding screw	*	*	*	1
15‡	Motor kit	Z295226330000	Z295226330000	Z295226330000	1
16	#8-32 x 3/8" Slotted head screw	*	*	*	2
17	Motor shaft extension cover	G351956290000	G351956290000	G351956290000	1
18	Conduit box assembly	Z295184330000	Z295184330000	Z295184330000	1
19	#10-24 x 1/4" Hex head screw	*	*	*	2
20	1/4-20 x 1/2" Flat head screw	*	*	*	4
21	Adapter plate	B352711850000	B352711850000	B352711850000	1
22	3/16 x 3/16 x 1" Shaft key	*	*	*	1
23	Nut	N402695520000	N402695520000	N402695520000	1
△	6 MFD 370 VAC Capacitor	2GE77	2GE77	2GE77	1

(*) Standard hardware item, available locally.
(‡) Partial assembly required. Kit includes Ref. Nos. 12 thru 19. See Pages 9 and 10 for assembly instructions.
(△) Not shown.

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

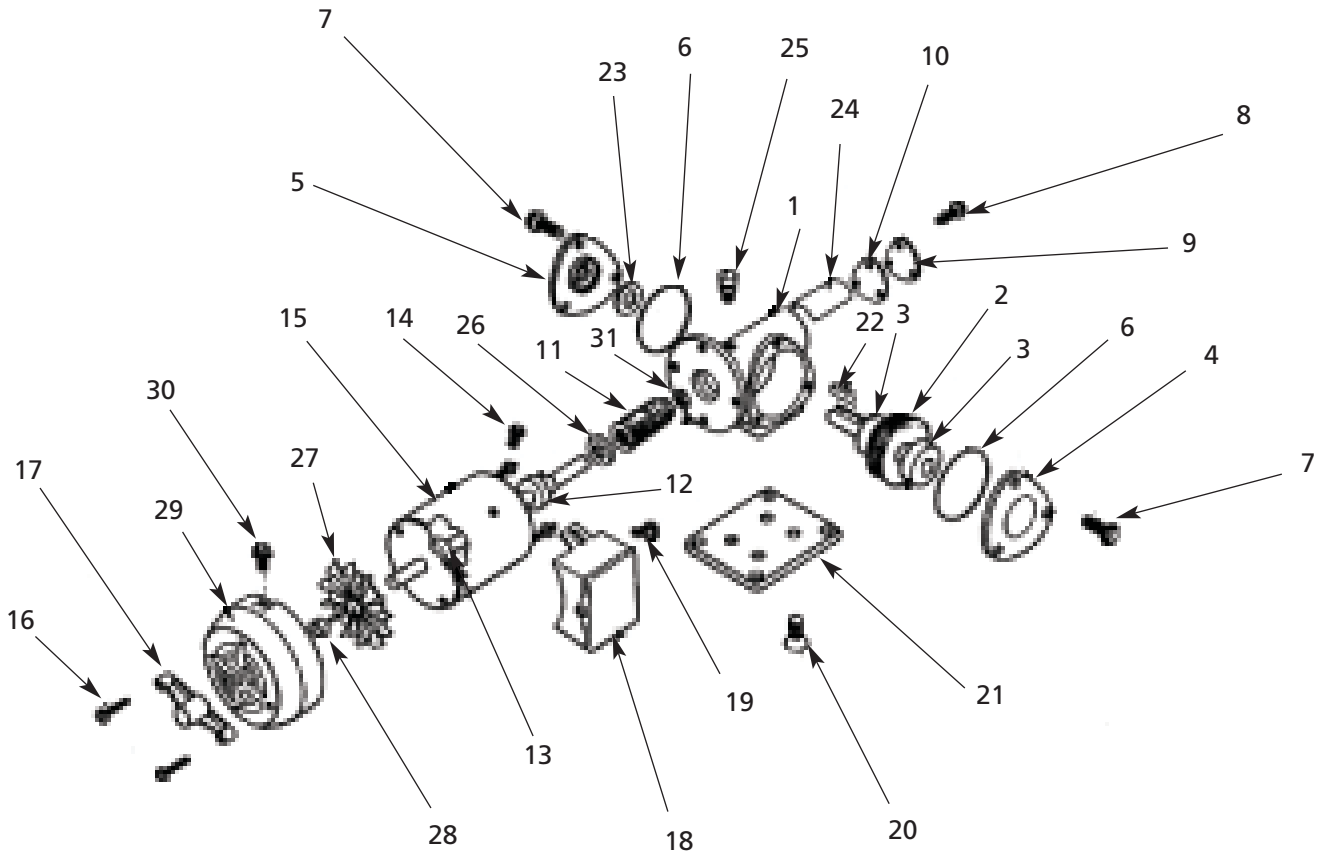


Figure 19 – Repair Parts Illustration for Right Angle Gearmotors

Models 1XFY9, 1XFZ2 and 1XFZ3

Repair Parts List for Right Angle Gearmotors

Reference Number	Description	Part Number for Models: 1XFY9	1XFZ2	1XFZ3	Quantity
1	Gearhousing	H352695640000	H352695640000	H352695640000	1
2	Output shaft, worm wheel and bearing assembly	X722695610004	X722695610002	X722695610003	1
3	Output shaft bearing	B451366960002	B451366960002	B451366960002	2
4	Low speed shaft cover plate (enclosed end)	X292695630000	X292695630000	X292695630000	1
5	Low speed shaft cover plate (output shaft end)	C702695700000	C702695700000	C702695700000	1
6	O-ring	R352609300004	R352609300004	R352609300004	2
7	#10-24 x 1/2" Hex head screw	*	*	*	6
8	#8-32 x 3/8" Hex head screw	*	*	*	3
9	High speed shaft cover plate	C702695540000	C702695540000	C702695540000	1
10	Cover gasket	G102695530000	G102695530000	G102695530000	1
11	Worm	W602698950004	W602698950002	W602698950000	1
12	Motor shaft bearing (gearhousing end)	B452226920000	B452226920000	B452226920000	1
13	Motor shaft bearing (opposite gearhousing end)	B452531100000	B452531100000	B452531100000	1
14	#10-24 x 1/4" Green hex head grounding screw	*	*	*	1
15‡	Motor kit	Z295226210000	Z295226210000	Z295226210000	1
16	#8-32 x 3/8" Slotted head screw	*	*	*	2
17	Motor shaft extension cover	G351956290000	G351956290000	G351956290000	1
18	Conduit box assembly	Z295226230000	Z295226230000	Z295226230000	1
19	#10-24 x 1/4" Hex head screw	*	*	*	2
20	1/4-20 x 1/2" Flat head screw	*	*	*	4
21	Adapter plate	B352711850000	B352711850000	B352711850000	1
22	3/16 x 3/16 x 1" Shaft key	*	*	*	1
23	Low speed shaft oil seal	S152695650002	S152695650002	S152695650002	1
24	Splash guard	B052883500000	B052883500000	B052883500000	1
25	Breather plug	P552695550000	P552695550000	P552695550000	1
26	High speed shaft oil seal	S152695650003	S152695650003	S152695650003	1
27	Fan	F103118890000	F103118890000	F103118890000	1
28	Compression ring	R352678450000	R352678450000	R352678450000	1
29	Fan shroud	C632400400001	C632400400001	C632400400001	1
30	#10-24 x 1/4" Hex head screw	*	*	*	3
31	Nut	N402695520000	N402695520000	N402695520000	1
△	15 MFD 370 VAC Capacitor	2GE81	2GE81	2GE81	1

(*) Standard hardware item, available locally.

(‡) Partial assembly required. Kit includes Ref. Nos. 12 thru 19 and Ref. Nos. 27 thru 30. See Pages 9 and 10 for assembly instructions.

(△) Not shown.

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

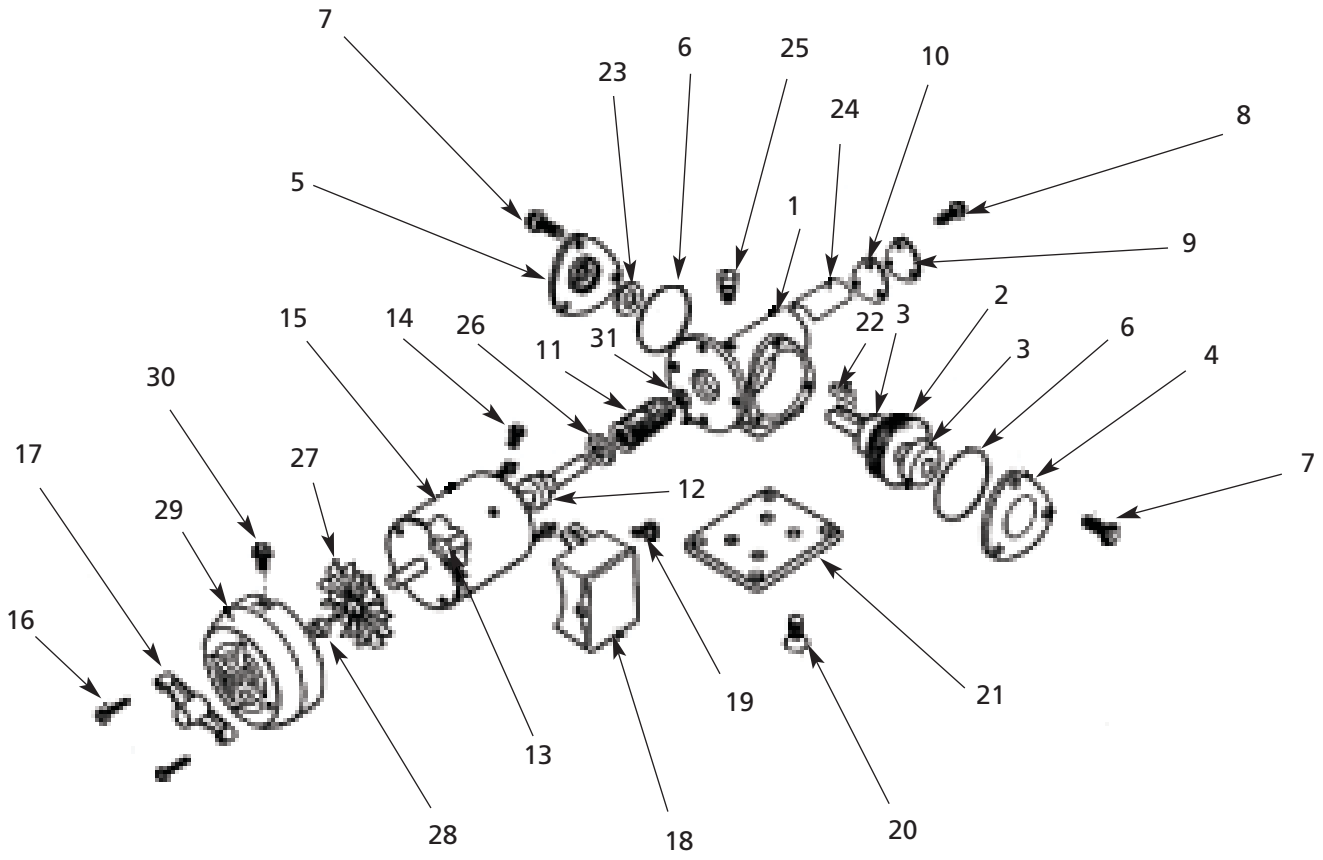


Figure 20 – Repair Parts Illustration for Right Angle Gearmotors

Models 1XFY8 and 1XFZ1

Repair Parts List for Right Angle Gearmotors

Reference Number	Description	Part Number for Models: 1XFY8	1XFZ1	Quantity
1	Gearhousing	H352695640004	H352695640004	1
2	Output shaft, worm wheel and bearing assembly	X722695610006	X722695610005	1
3	Output shaft bearing	B451366960002	B451366960002	2
4	Low speed shaft cover plate (enclosed end)	X292695630000	X292695630000	1
5	Low speed shaft cover plate (output shaft end)	X292695620000	X292695620000	1
6	O-ring	R352609300004	R352609300004	2
7	#10-24 x 1/2" Hex head screw	*	*	6
8	#8-32 x 3/8" Hex head screw	*	*	3
9	High speed shaft cover plate	C702695540000	C702695540000	1
10	Cover gasket	G102695530000	G102695530000	1
11	Worm	W602698950005	W602698950003	1
12	Motor shaft bearing (gearhousing end)	B452226920000	B452226920000	1
13	Motor shaft bearing (opposite gearhousing end)	B452531100000	B452531100000	1
14	#10-24 x 1/4" Green hex head grounding screw	*	*	1
15‡	Motor kit	Z295226320000	Z295226320000	1
16	#8-32 x 3/8" slotted head screw	*	*	2
17	Motor shaft extension cover	G351956290000	G351956290000	1
18	Conduit box assembly	Z295184330000	Z295184330000	1
19	#10-24 x 1/4" Hex head screw	*	*	2
20	1/4-20 x 1/2" Flat head screw	*	*	4
21	Adapter plate	B352711850000	B352711850000	1
22	3/16 x 3/16 x 1" Shaft key	*	*	1
23	Low speed shaft oil seal	S152695650002	S152695650002	1
24	Splash guard	B052883500000	B052883500000	1
25	Breather plug	P552695550000	P552695550000	1
26	High speed shaft oil seal	S152695650003	S152695650003	1
27	Fan	F103118890000	F103118890000	1
28	Compression ring	R352678450000	R352678450000	1
29	Fan shroud	C632496460000	C632496460000	1
30	#10-24 x 1/4" Hex head screw	*	*	3
31	Nut	N402695520000	N402695520000	1
△	15 MFD 370 VAC Capacitor	2GE81	2GE81	1

(*) Standard hardware item, available locally.

(‡) Partial assembly required. Kit includes Ref. Nos. 12 thru 19 and Ref. Nos. 27 thru 30. See Pages 9 and 10 for assembly instructions.

(△) Not shown.

Dayton® Right Angle Gearmotors

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