



models
70
105
114
116

garner **professional**
tape degaussers

owner and
maintenance manual



OPERATING INSTRUCTIONS

GEARMOTORS

MODELS 3M095, 3M096, 3M099, 3M100, 3M101, 3M097 and 3M098

FORM
5S2319
06315

0289/053/10M

READ INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO INSTALL, OPERATE OR SERVICE DAYTON GEARMOTORS!

RETAIN INSTRUCTIONS FOR FUTURE REFERENCE.

MODELS 3M095, 3M096, 3M099,
3M100 3M101, 3M097

MODEL 3M098

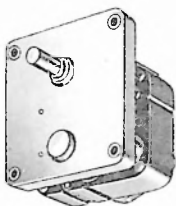


Figure 1

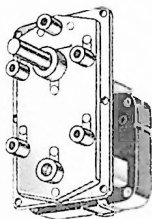


Figure 2

Description

Dayton gearmotors are designed for continuous duty and impedance protected against stall conditions. The unit is powered by a shaded pole motor and designed for clockwise rotation when viewing output. Housings are made from high strength zinc die casting. The gear unit is not designed for loads applying end thrust. Gears are delrin or steel designed for maximum torque of 50 inch pounds depending upon output speed. Bearings are porous bronze factory lubricated. All position mounting.

General Safety Information

Follow all local electrical and safety codes, as well as the National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).

WARNING: DISCONNECT FROM POWER SOURCE BEFORE SERVICING OR INSPECTING FOR ANY REASON. FAILURE TO DO SO COULD RESULT IN FATAL ELECTRICAL SHOCK.

1. 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.

WARNING: DO NOT INSTALL IN AN EXPLOSIVE ENVIRONMENT.

2. Follow all local electrical and safety codes, as well as the National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).
3. 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.

4. Do not depend on motor control devices (motor starters, etc.) to prevent unexpected motor start ups. 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.
5. All moving parts should be guarded.
6. Be careful when touching the exterior of an operating motor — it may be hot enough to be painful or cause injury. Modern-design motors normally run hot when operating at rated voltage and load.
7. Protect the power cable from coming in contact with sharp objects.
8. Do not kink power cable and never allow the cable to come in contact with oil, grease, hot surfaces, or chemicals.
9. Make certain that the power source conforms to the requirements of your equipment.
10. When cleaning electrical or electronic equipment, always use an approved cleaning agent such as dry cleaning solvent.

LIMITED WARRANTY

DAYTON ONE YEAR LIMITED WARRANTY Dayton gearmotors, Models 3M095, 3M096, 3M099, 3M100, 3M101, 3M097 and 3M098, are warranted by Dayton Electric Mfg. Co. (Dayton) to the original user against defects in workmanship or materials under normal use for one year after date of purchase. Any part which is determined by Dayton to be defective in material or workmanship and returned to an authorized service location, as Dayton designates, shipping costs prepaid, will be as the exclusive remedy required or replaced at Dayton's option. For limited warranty claim procedures, see PROMPT DISPOSITION below. This limited warranty gives purchasers specified legal rights which vary from state to state.

LIMITATION OF LIABILITY: To the extent allowable under applicable law, Dayton's liability for consequential and incidental damages is expressly disclaimed. Dayton's liability in all events is limited to and shall not exceed, the purchase price paid.

WARRANTY DISCLAIMER: Dayton has made a diligent effort to illustrate and describe the products in this literature accurately; however, such illustrations and descriptions are for the sole purpose of identification and do not express or imply a warranty that the products are merchantable or fit for a particular purpose, or that the products will necessarily conform to the illustrations or descriptions.

Except as provided below, no warranty or affirmation of fact, expressed or implied, other than as stated in LIMITED WARRANTY, above is made or authorized by Dayton.

PRODUCT SUITABILITY: Many states and localities have codes and regulations governing sales, construction, installation, and/or use of products for certain purposes, which may vary from those in neighboring areas. While Dayton attempts to assure that its products comply with such codes, it cannot guarantee compliance, and cannot be responsible for how the product is installed or used. Before purchase and/or use of a product, please review the product application, and national and local codes and regulations, and be sure that the product, installation and use will comply with them.

Certain aspects of disclaimers are not applicable to consumer products, e.g. (a) some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you; (b) also, some states do not allow limitations on how long an implied warranty lasts, consequently the above limitation may not apply to you; and (c) by law, during the period of the Limited Warranty, any implied warranties of merchantability or fitness for a particular purpose applicable to consumer products purchased by consumers, may not be excluded or otherwise disclaimed.

PROMPT DISPOSITION: Dayton will make a good faith effort for prompt correction or other adjustment with respect to any product which proves to be defective within limited warranty. For any product believed to be defective within limited warranty, first write or call dealer from whom product was purchased. Dealer will give additional directions. If unable to resolve satisfactorily, write to Dayton at address below, giving dealer's name, address, date and number of dealer's invoice, and describing the nature of the defect. Title and risk of loss pass to buyer on delivery to common carrier. If product was damaged in transit to you, the claim with carrier.

Manufactured for Dayton Electric Mfg. Co.,
5959 W. Howard St., Chicago, IL 60648

Specifications

MODEL	FULL LOAD RPM	IN. LBS. TORQUE START	INCH LBS. RUN	INPUT MOTOR H.P.	AMPS @ 115 VOLT 60 HZ	SERVICE FACTOR
3M095	1	50.0	50.0	1/250	0.32	1.0
3M096	7	27.0	35.0	1/100	0.55	1.0
3M099	18	9.5	13.0	1/100	0.55	1.0
3M100	25	6.7	9.2	1/100	0.55	1.0
3M101	35	5.0	7.0	1/100	0.55	1.0
3M097	50	3.0	4.0	1/100	0.55	1.0
3M098	4	18.0	18.0	1/250	0.32	1.0

All models recognized by Underwriters Laboratories for construction under the Motor Component Recognition Program.

Installation

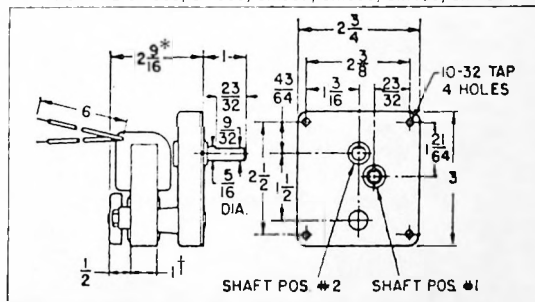
- Use only in a clean and dry location with adequate supply of cooling air. Ambient temperature should not exceed 40°C. For outdoor installation, gearmotor must be protected by a cover that does not block air flow to and around the motor.
- WARNING: NOT TO BE USED IN HAZARDOUS LOCATIONS.** Consult your local government inspection agency for guidance.
- Mount Gearmotor to rigid flat surface, using (4) 10-32 self-tapping screws (5) 8-32 self-tapping screws on 3M098.
- Wiring Connections: All wiring and electrical connections must comply with the National Electrical Code and local electrical codes. In particular, refer to Article 430 (Motors, Motor Circuits and Controllers) of the NEC.
- Voltage, frequency and phase of power supply must be the same as that shown on the motor nameplate.

Operation

- When using a direct coupling, check carefully the alignment making sure that they are in direct alignment after bolting down. Shim if required. If using a flexible coupling do not depend on it to compensate for misalignment.
- Do not exceed torque shown. Avoid shock load. For 24 hour service reduce torque rating by 25%.
- When used with belt or chain do not side load output shaft bearing in excess of 3.5 lbs. located midway on output shaft.
- Unit is not designed for Axial thrust load.

Mounting Dimensions

MODELS 3M095, 3M096, 3M097, 3M099, 3M100, 3M101



SHAFT POSITION #1 FOR NOS. 3M095 & 3M096.
SHAFT POSITION #2 FOR NOS. 3M097, 3M099, 3M100 & 3M101.
(*) 1-15/16" ON 3M095. (†) 7/16" ON 3M095.

Figure 3

Troubleshooting Chart

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION(S)
Won't start.	1. No input power. 2. Self aligning bearings not in alignment.	1a. Check voltage available. b. If no voltage is present check fuse 2. With power off, inspect motor bearing alignment first by trying to rotate rotor shaft or motor. If a binding condition exists, tap slightly on the side of motor with a plastic hammer. Do not tap on motor bobbin or coil. Apply power to see if problem has been corrected.
	3. Overloaded	3a. Check load and alignment of coupling. b. Too much side load.
Motor runs but output shaft doesn't turn.	1. Stripped gears due to overload condition.	1. Replace unit — eliminate shock load condition or use larger capacity gearmotor using correct service factor.

MODEL 3M098

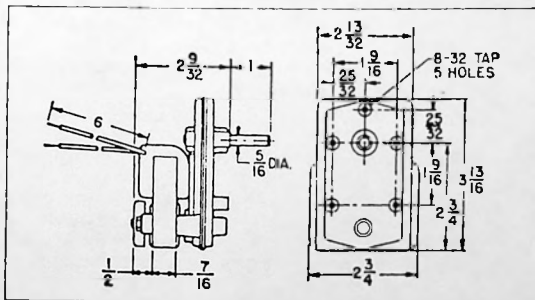


Figure 4

PARTS LIST
SCHEMATIC DIAGRAM
Model 105

<u>Designation</u>	<u>P/N</u>	<u>Qty. Req'd.</u>	<u>Description</u>
F1	328-0010	1	Fuse, 10A 250V Slow Blow
R1	361-0008	1	Resistor, 3.3K ohm 5% 5W WW
DS1	345-0001	1	Lamp, No. 327
S1	375-0006	1	Switch, Push Maint. SPDT 10A Ltd.
S2	375-0007	1	Heat Switch, 150 ^o F
RV1	395-0001	1	Varistor, 150V 20 Joule 0.85W
DM	350-0001	1	Motor, 35 RPM 115V 60 Hz
L1, L2	545-0004	2	Coil Assembly, Style D
C1, C2	310-0025	2	Capacitor, 15 μ F 660 VAC

GARNER TAPE DEGAUSSERS
MODELS 70 * 105 * 114 * 116
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*Model 70
G-70-121
Band Drive Mechanism*

Unit Model	<u>105-60</u>
Serial Number	<u>G-105-329</u>

LIMITED WARRANTY INFORMATION

Garner Industries Professional Tape Degaussers, Models 70, 105, 114 and 116 are covered by a limited one warranty. Copies of the complete warranty statement are available from Garner Industries at the address shown below...



GARNER INDUSTRIES

4200 North 48th Street
Lincoln, Nebraska 68504

402-464-5911

1.0 GENERAL INFORMATION

1.1 DESCRIPTION

Garner Tape Degaussers deliver fast, efficient erasures of magnetic audio tape. The tape is passed on a continuous belt over high-flux coils. Your Degausser has been carefully constructed of the highest-quality materials and should provide years of trouble-free operation.

1.2 SPECIFICATIONS

MODEL	70	105	114	116
Power (VAC)	120	120	120	120
Requirements (A)	4	5	10	11
Erasure Level, nominal (dB)	-80	-80	-80	-80
Max. Reel Dia. (in.)	7	10.5	14	16

Overall Dimensions

Length (in.) {cm}	27.5 {69.9}	27.5 {69.9}	27.5 {69.9}	27.5 {69.9}
Width (in.) {cm}	10.0 {25.4}	16.0 {40.6}	19.0 {48.3}	21.0 {53.3}
Height (in.) {cm}	5.0 {12.7}	5.0 {12.7}	5.0 {12.7}	5.0 {12.7}
Weight (lbs) {kg}	60.0 {27.2}	80.0 {36.3}	115 {52.2}	127 {57.6}

2.0 INSTALLATION

2.1 UNPACKING

Unpack the Degausser carefully, and inspect it for signs of physical damage. If damage is apparent a claim should be filed with the carrier. It is recommended that all packing material and shipping carton be retained to facilitate shipping, should factory service ever be required.

2.2 POWER REQUIREMENTS

Consult the table in Sec. 1.2 for the electrical specifications of your particular model. All Garner Degaussers are wired with a three-conductor power cord which, when plugged into a properly-wired receptacle, grounds the unit. This ground is essential in assuring safe operation.

2.3 50 Hz MODELS

These units are specifically designed to operate from a 50 Hz AC power source. The required operating voltage is designated on the serial number tag on the rear panel. Should a particular question arise, consult the factory.

Due to the worldwide variety of receptacle types, the power cord is unterminated. Be certain to select a plug with a current rating not less than that of

the machine. The green conductor must connect to the ground circuit of the power source to assure safe operation. Garner Industries assumes no responsibility for improperly-connected machines.

3.0 OPERATION

3.1 "POWER" SWITCH

This applies power to both the coils and belt drive-motor. The switch button also lights to indicate power is "ON".

NOTE: *NEVER unplug machine when power is "ON".*

3.2 ERASING TAPES

Once power has been applied, tapes to be erased are simply placed on the left end of the moving belt. They pass through a strong magnetic field in the center area, and then, if not lifted from the right end, slide off the belt.

Garner Degaussers are designed primarily for 1/4" audio tapes (reel or cartridge) and 1/8" audio cassettes. However, many users report success also with wider formats, such as 1/2" or 1" tape. Two passes on the belt may be needed, and depth-of-erasure standards differ among users, so experimentation is suggested.

3.3 INTERNAL HEAT SWITCH

Garner Degaussers are equipped with high-temperature sensing switches to prevent overheating, if accidentally left with the power "ON". The belt drive-motor and coils are de-energized while the power switch indicator lamp remains lit. Following a sufficient cool-down period, the coils and drive-motor are reactivated automatically.

3.4 FUSING

Garner Degaussers have fuse posts located on their rear panels. Should replacement become necessary, be sure to use a SLOW-BLOW type of the size indicated. Repeated fuse failure generally denotes a problem existing somewhere within the machine. Contact the factory for assistance.

4.0 MAINTENANCE

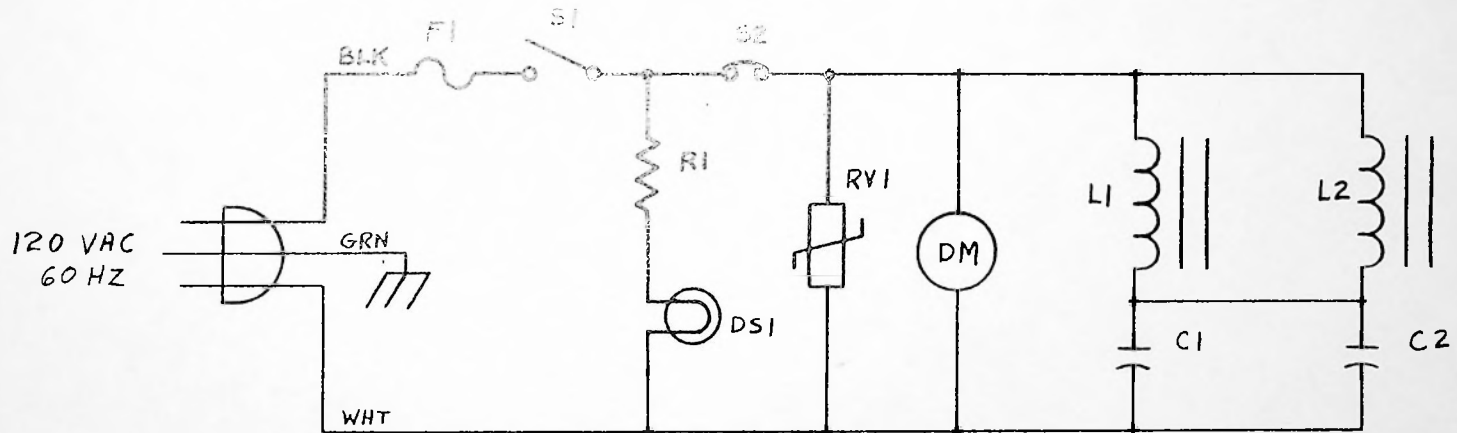
4.1 CLEANING

Cleaning the belt and enamel surfaces of the Degausser with a soft cloth, moistened with a mild detergent solution. *Avoid scouring powder, abrasive pads or solvents, as these will mar the finish.*

4.2 SERVICING

All machines are completely checked for proper operation before leaving Garner Industries. They should provide years of trouble-free performance. The belt

drive-system utilizes permanently-lubricated bearings, normally requiring no user attention. If the machine ever fails to operate properly, or the need for servicing arises, consult the factory.



SCHEMATIC DIAGRAM
Model 105