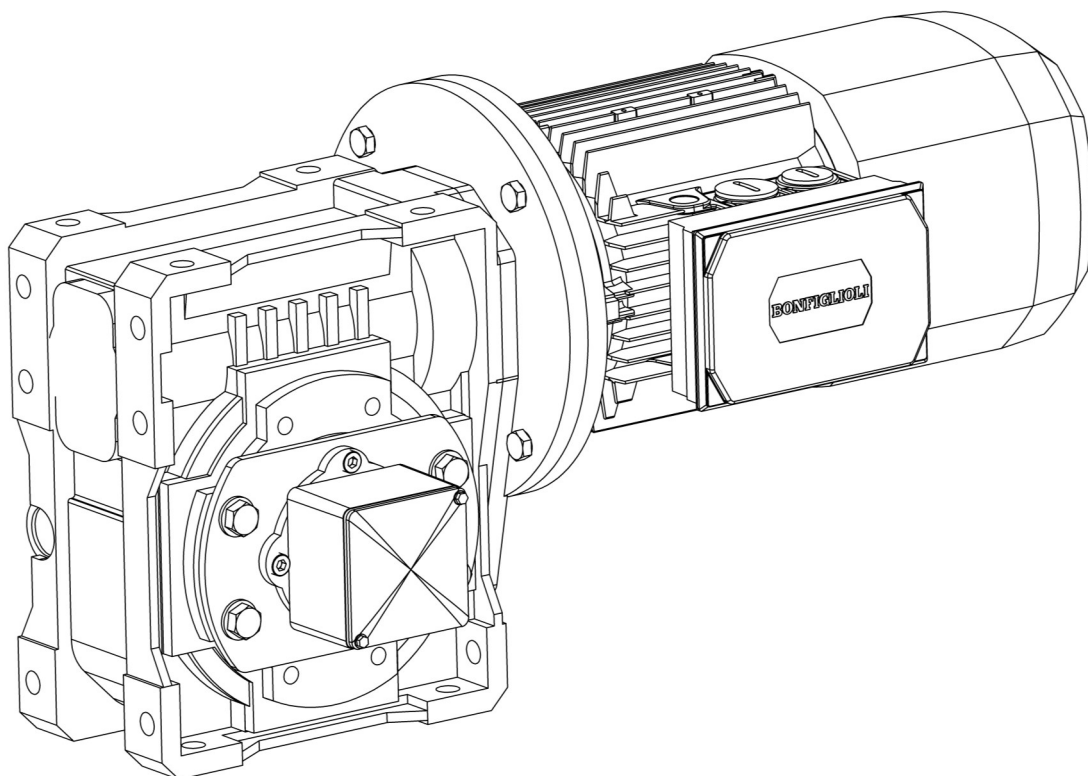


GRIFCO®

EHD Openers

Extra Heavy Duty Mechanical Industrial Door Opener



**Installation and users Manual for
Extra Heavy Duty Mechanical
Industrial Door Operator
Models: 71500 81500 91500**

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SAFETY SYMBOL AND SIGNAL WORD REVIEW

Safety symbol and signal word review

This commercial door opener has been designed and tested to offer safe service provided it is installed, operated, maintained and tested in strict accordance with the instructions and warnings contained in this manual.



WARNING

Mechanical



WARNING

Electrical

When you see these Safety Symbols and Signal Words on the following pages, they will alert you to the possibility of serious injury or death if you do not comply with the warnings that accompany them. The hazard may come from something mechanical or from electric shock.



CAUTION

When you see this Signal Word on the following pages, it will alert you to the possibility of damage to your commercial door and/or the commercial door opener if you do not comply with the cautionary statements that accompany it.

THESE ARE IMPORTANT SAFETY INSTRUCTIONS. FOLLOW ALL INSTRUCTIONS AS INCORRECT INSTALLATION CAN LEAD TO SEVERE INJURY OR DEATH

	Keep commercial door balanced. Sticking or binding doors must be repaired. Commercial doors, door springs, pulleys, brackets and their hardware are under extreme tension and can cause serious personal injury. Do not attempt to loosen, move or adjust them. Call for commercial door service.		Disengage all existing commercial door locks to avoid damage to commercial door. Install the wall control (or any additional push buttons) in a location where the commercial door is visible during operation. Do not allow children to operate push button(s) or remote control(s). Serious personal injury from a closing commercial door may result from misuse of the opener.
	Do not wear rings, watches or loose clothing while installing or servicing a commercial door opener.		Permanently fasten all supplied labels adjacent to the wall control as a convenient reference and reminder of safe operating procedures.
	To avoid serious personal injury from entanglement, remove all ropes connected to the commercial door before installing the door opener.		Activate opener only when the door is in full view, free of obstructions and opener is properly adjusted. No one should enter or leave the building while the door is in motion.
	Installation and wiring must be in compliance with your local building and electrical codes. Connect the power supply cord only to properly earthed mains.		An electrician must disconnect electric power to the commercial door opener before making repairs or removing covers.
	Moisture and water can destroy the electronic components. Make sure under all circumstances that water moisture or storage moisture cannot penetrate the electronics. The same applies for openings and cable entries.		If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard. A disconnection device incorporated in the fixed wiring must be provided in accordance with the wiring rules of the country in which it is installed.
	After the installation a final test of the full function of the system and the full function of the safety devices must be done.		The actuating member of a biased-off switch is to be located within direct sight of the door but away from moving parts. Unless it is key operated, it is to be installed at a minimum height of 1500mm and not accessible to the public.
	When operating a biased-off switch, make sure that other persons are kept away.		Make sure that people who install, maintain or operate the door follow these instructions. Keep these instructions in a safe place so that you can refer to them quickly when you need to.
	The opener cannot be used with a driven part incorporating a wicket door (unless the opener cannot be operated with the wicket door open).		If the opener is installed at a height less than 2.5 metres from floor level or any other level from which the unit can be accessed (eg mezzanine) the installer is responsible to fit guards to the opener to prevent access to the chain drive.
	Ensure that entrapment between the driven part and the surrounding fixed parts due to the opening movement of the driven part is avoided		This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
	Motor may become hot during operation. Appropriate clearance and/or shielding should be supplied by the installer to ensure any cabling, wiring and/or other items cannot come in contact with the motor. If temperature rise exceeds 50°C all fixed wiring insulation must be protected, for example, by insulating sleeving having an appropriate temperature rating.		Use the commercial door opener for its intended purpose.

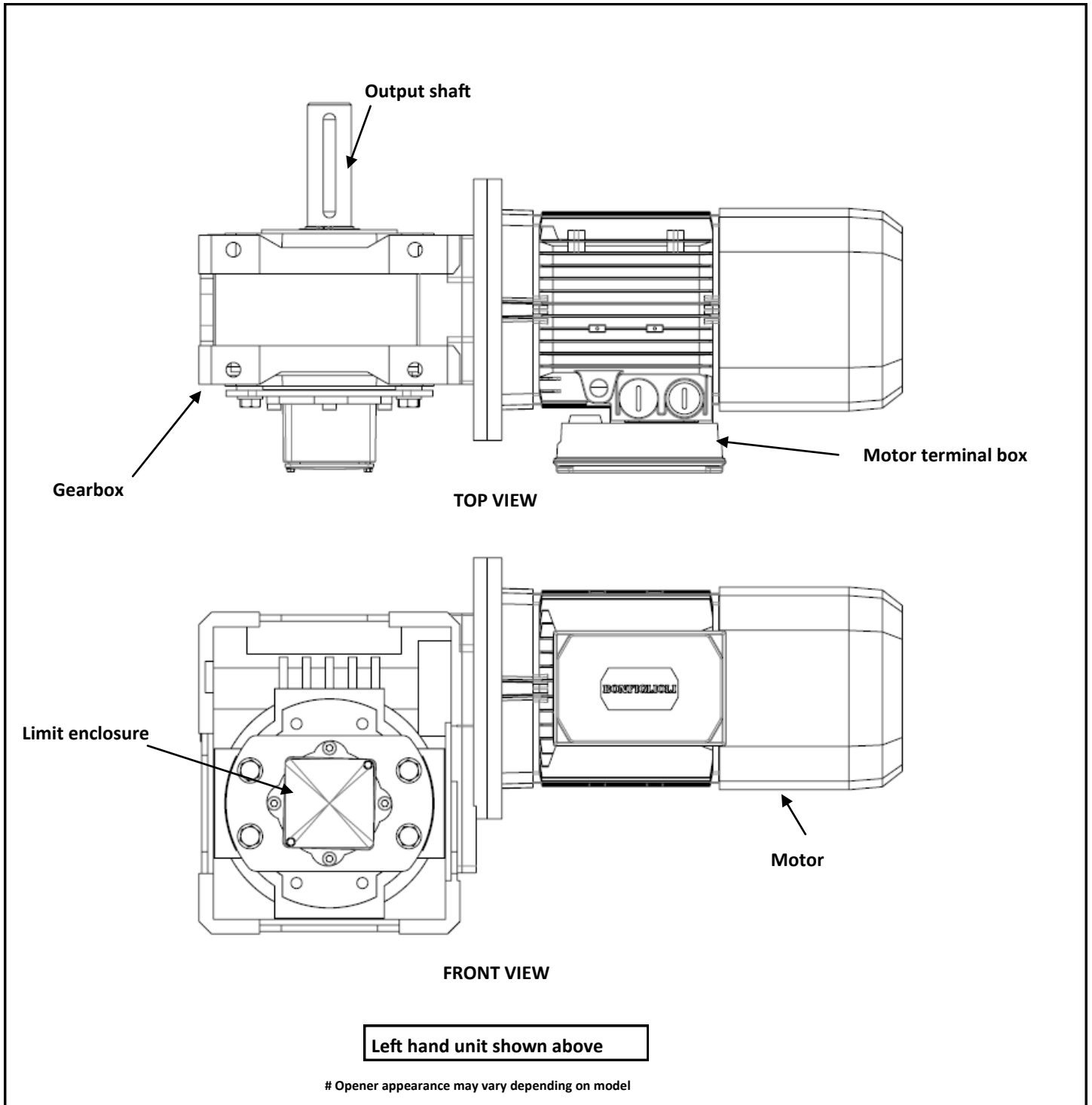


WARNING: Important safety instructions. It is important for the safety of persons to follow all instructions. SAVE these instructions.

INTRODUCTION

Congratulations on your purchase of the GRIFCO Extra Heavy Duty Roller Shutter Operator. For more than 50 years, we have been producing industrial mechanical operators that are well known for their proven reliability & robust design.

IDENTIFYING YOUR OPENER



WARNING

Please remove any locks fitted to the door before operation in order to prevent damage to the door.



WARNING

It is important to make sure the door always runs smoothly. Doors which stick or jam must be repaired immediately. Employ a qualified technician to repair the door, never attempt to repair it yourself.

PLANNING

Identify the type and dimensions of your commercial door. A survey of the application is recommended to see if any of the requirements below are not applicable with your installation.

EHD Opener High Cycle Three Phase 415V

Part No.	kW	Amps	HP	Voltage	Phase	Max door Size		IP Rating	Controller Options	
						Spring balanced	Non-Spring balanced		Reversing Starter	Logic
71500	2.5kW	5.7A	3.3HP	415V	3ph	100m ²	80m ²	IP50	RG374-LB3E009	GLMe2H
81500	3.0kW	5.88A	4.0HP	415V	3ph	120m ²	100m ²	IP50	RG374-LB3E010	GLMe2H
91500	4.0kW	7.75A	5.0HP	415V	3ph	150m ²	120m ²	IP50	RG374-LB3E012	GLMe2H

* If **Neutral is unavailable** on a 3 Ø installation, the RG378 Reversing Starter Controller with corresponding 3 phase overload must be used

Based on "standard shutter":

- The shutter has $\leq 1.0\text{mm} \times \geq 100\text{mm}$ slats
- The shutter has no wind-locks
- A $\geq 4:1$ sprocket ratio is used

If any conditions above are not met, some consideration should be given to increasing the sprocket ratio, or opener size. The opener should be installed on the correct side of the commercial door.

Before installing the opener, check that the commercial door is in good mechanical condition, correctly balanced and open & closes properly.



CAUTION

The roller shutter guides must be fitted with mechanical stops that prevent the bottom rail from passing through in the opening direction. The opener should stall if driving into the mechanical stops.

INSTALLATION

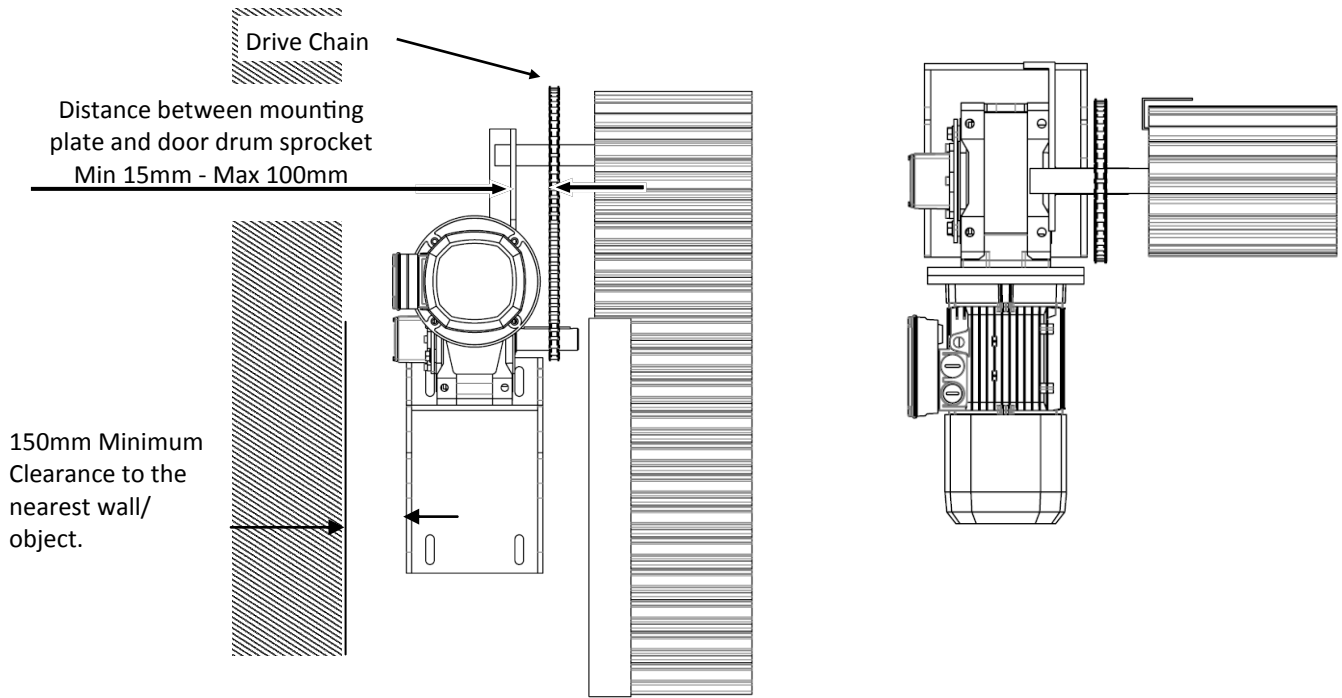
Mounting the Unit

The EHD is always platform mounted below the door drum so that the opener shaft points toward the door opening and lies beneath the sprocket of the door drum. For mounting you will need to either secure the opener to the roller shutter head plate with prepared holes or slots, or use a mounting plate that will need fixing via a wall angle or similar existing fixture.

Note: THE EHD IS NOT DESIGNED TO BE INSTALLED UPSIDE DOWN. OR VERTICALLY

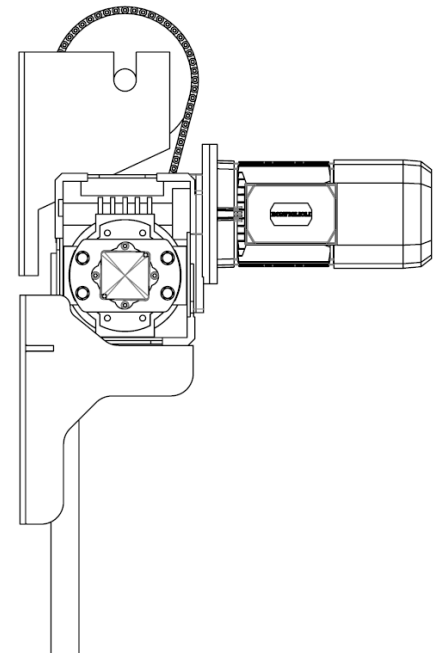
When assessing and selecting an appropriate mounting location, the following considerations should be made:

Alignment of door sprocket to output shaft of EHD



Side room to imposing structures

Note: The EHD limit housing requires adequate clearance to allow setting of limit cams during installation. 150mm is the minimum recommended clearance between wall and lid.



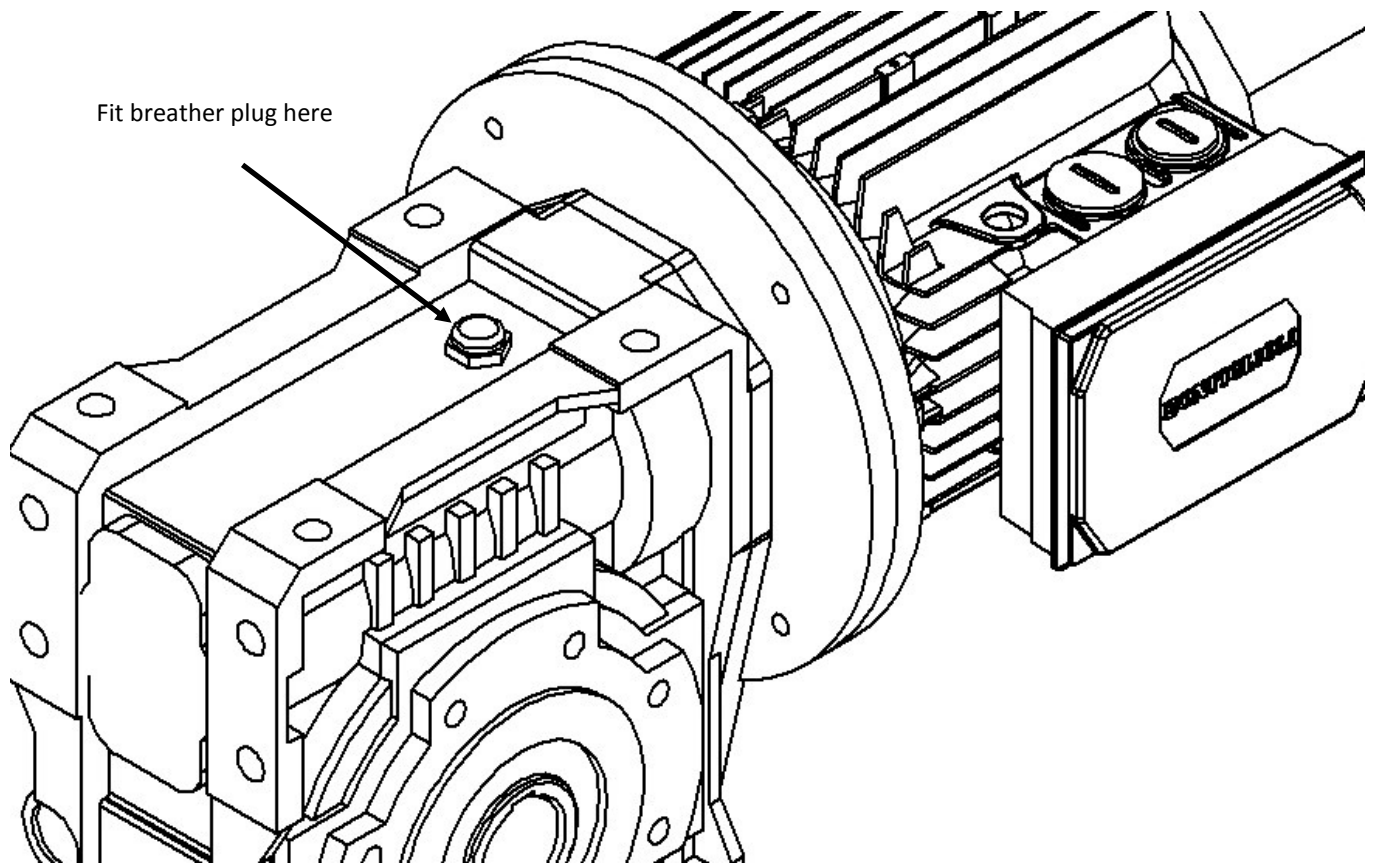
INSTALLATION

Mounting the Unit

IMPORTANT:

The EHD is supplied with a breather plug.

Remove the blind cap located on the top of the gearbox, and fit the breather cap.



INSTALLATION



CAUTION

The EHD Opener **must**:

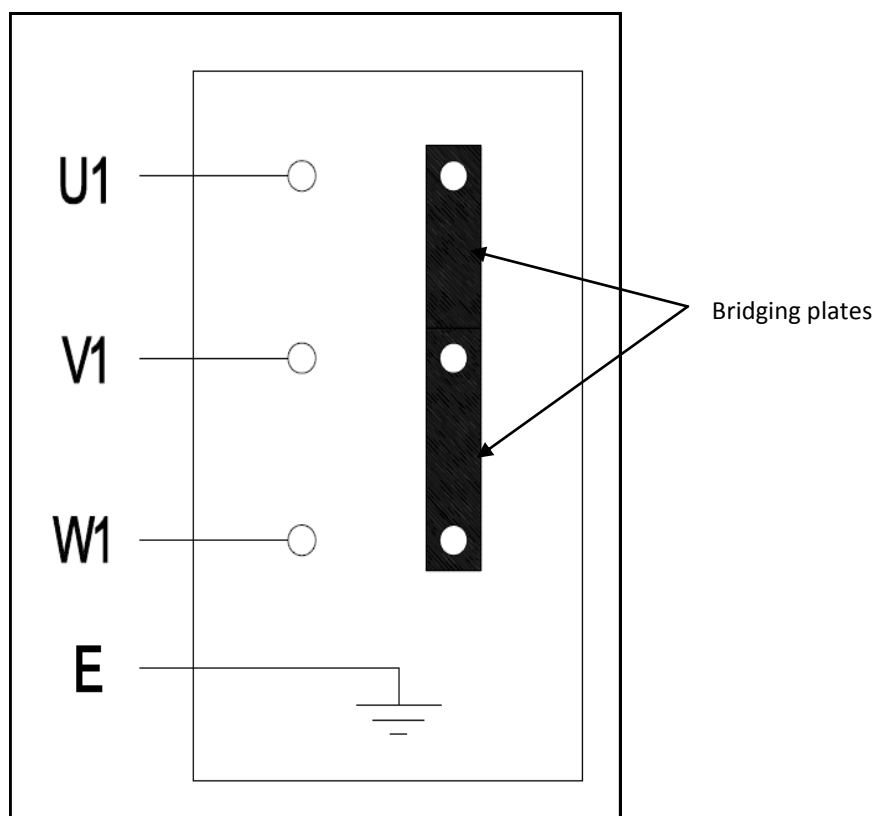
- be connected via a device that is capable of being locked for maintenance
- be connected via a suitable circuit breaker that disconnects all live conductors
- be connected in accordance with the wiring rules of the country in which it is installed
- not have control enclosures left open for extended periods (excess dust will void warranty)

Electrical Connections

Motor connections

Bridging plates are supplied uninstalled.

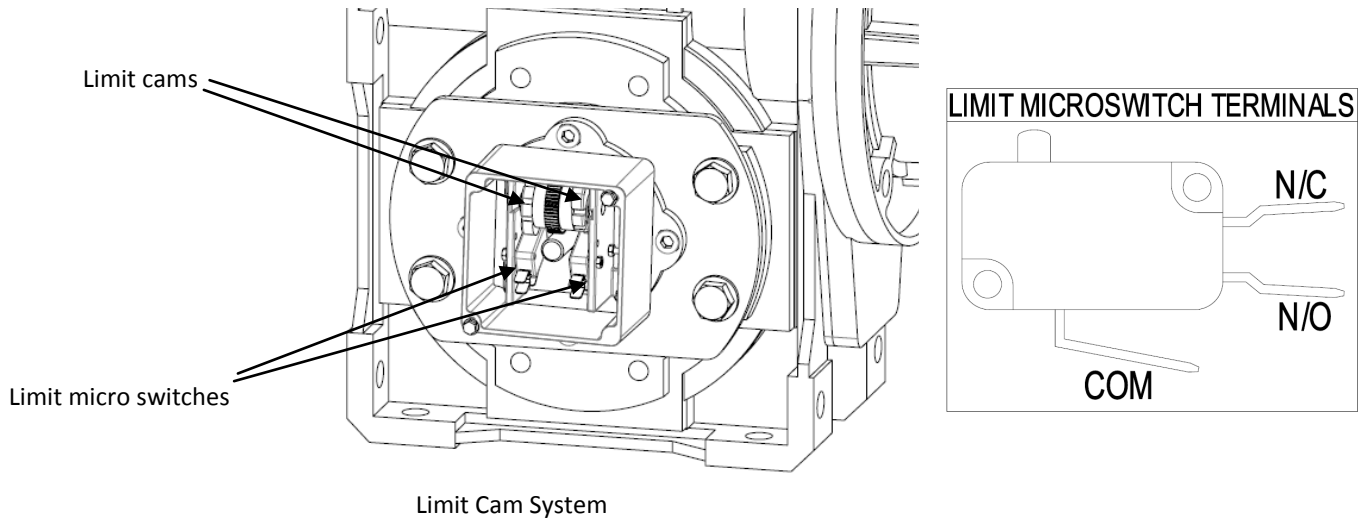
Connect bridging plates as shown.



INSTALLATION

Limit Switch Connection

The limit switches must be connected to the control gear being used via the NORMALLY CLOSED (N/C) and COMMON (COM) of the microswitch:



The limit switch mechanism is a worm driven friction held adjustable cam system using two micro switches.

SETUP AND ADJUSTMENT

Limit setting procedure

- ISOLATE MAINS BEFORE SETTING LIMITS
- AVOID CRAMMING WIRES INTO LIMIT ENCLOSURE AS IT MAY AFFECT CAM MOVEMENT

Follow the steps below:

1. Manually position the door in the centre of the opening.
2. Position one cam to depress a switch and the other so that it is well clear of the switch (note which switch it is that you have depressed).

For controls with up and down functions:

- Supply power and activate control in the upward direction.
- If the door travels up, then the limit switch which is engaged by the cam is the CLOSED limit.
- If the door doesn't move it is at the OPEN limit.
- Continue to Step 3 below

For single button controls:

- Supply power and push the button.
- If the door travels up, then the limit switch which is engaged by the cam is the CLOSED limit.
- If the door travels down, then the limit switch which is engaged by the cam is the OPEN limit.
- Continue to Step 3 below

3. Isolate power and adjust the limit cams to depress the switches when the shutter reaches its OPEN and CLOSED positions.
4. Supply power and cycles the door between the OPEN and CLOSED positions. Adjust cam position if necessary.



WARNING

Limits are extremely sensitive, a small cam movement may correspond to a large amount of shutter travel.

MAINTENANCE SCHEDULE

<u>Maintenance</u>	<u>Frequency</u>
Check chain tension	Every 6 months
Check gearbox oil level	Every 6 months or 25000 cycles. Which ever occurs first.
Check motor cut-out switch	Every 12 months
Check wiring	Every 18 months

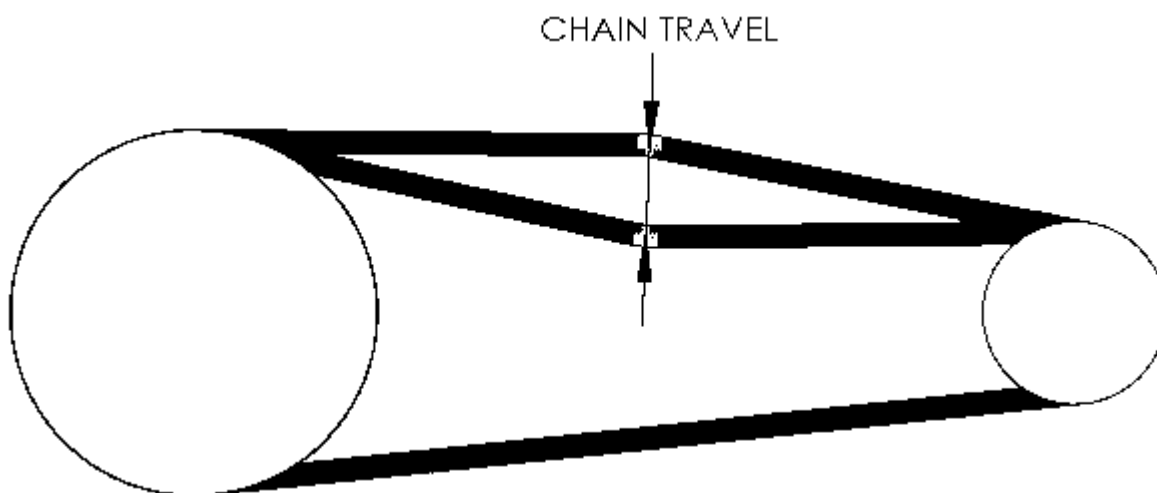
PERFORMING GENERAL MAINTENANCE

Check chain tension

After extended use the chain connecting the operator to its load may become elongated. To check the chain tension, perform the steps below:

- Remove power to the operator and ensure the power will not be applied during maintenance
- With the manual crank, rotate the motor shaft until one side of the chain is tight between sprockets and the other side is slack
- Move the centre of the slack side perpendicular to the chain until it is tight
- Move the chain again but in the opposite direction until the chain again is tight, and measure the distance of travel

If the travel of the chain exceeds 15mm, reposition the operator further from the load to reduce the slack in the chain. (It may be necessary to move operator towards the load sprocket and remove a link from the chain depending on the operators movability)



Check motor cut-out switch for manual crank operation

To test the manual crank cut-out switch, follow the steps below:

- Ensure the unit is powered and running properly.
- Lift the crank cover plate located on the rear of the motor.
- While the plate is lifted and the end of the motor shaft is exposed, try to run the operator.
- If the operator will not run then the cut-out switch is working properly.
- If the unit does run when please check for faulty wiring or tampering.

Check wiring

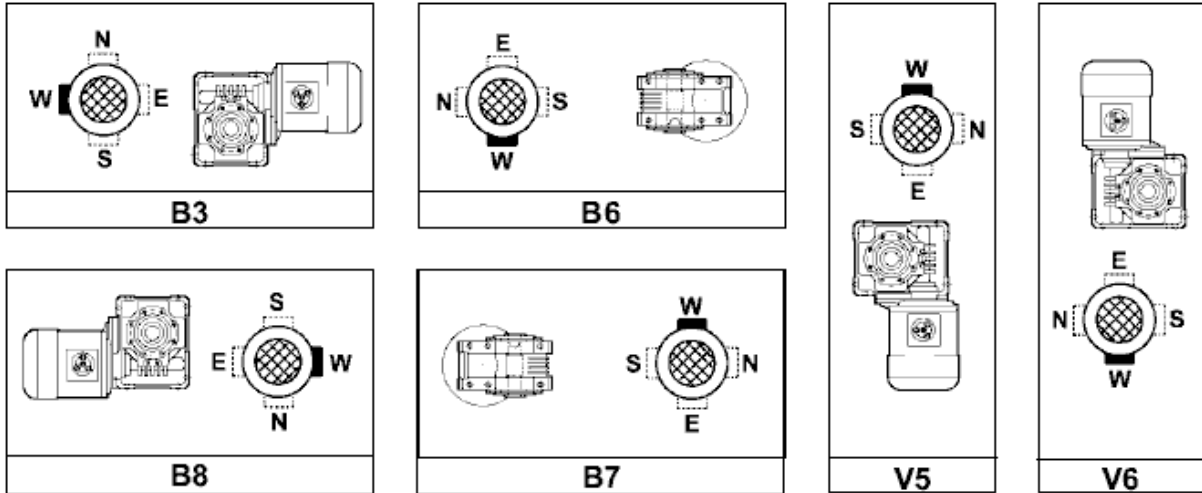
To check wiring, follow the steps below:

- Disconnect power to the control box and open. Ensure the power can not applied when control box is open
- Inspect wiring, looking for damaged leads or loose connections.
- If a loose connection is found then tighten.

PERFORMING GENERAL MAINTENANCE

Check gearbox oil level

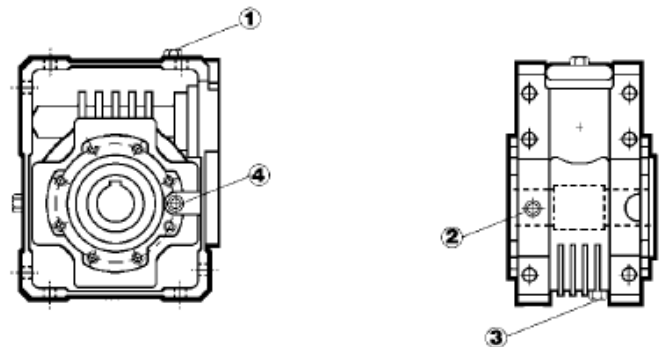
To check the oil level of the gearbox you must first identify the mounting orientation. The table below shows the different orientations. (The most common is B3)



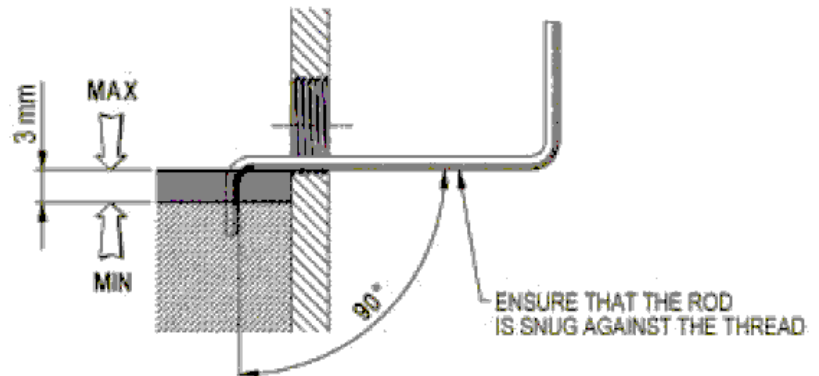
With the correct orientation identified, refer to the table below to select the appropriate plug to remove to check oil level. (For mounting position B3, the oil level plug is plug 2)

	Mounting Position					
	B3	B6	B7	B8	V5	V6
W 110	1 C	3 AC	4 C	3 C	2 C	1 CA
	2 L	1 L	1 L	2 L	3 L	3 L
	3 S	4 S	3 S	1 S	1 SB	2 S

C (1/2")	Vented fill plug
L (1/2")	Level plug
S (1/2")	Drain plug
A (1/2")	90° elbow
B (1/2")	Extension



With the oil level plug removed, insert an oil dipstick to measure the oil level as shown on the right. If the oil level is 3mm below the plug level, the oil requires topping up. Use Shell Tivela Oil S 320 or equivalent.



CHAMBERLAIN LIMITED WARRANTY - Grifco Products

Chamberlain Australia Pty Limited / Chamberlain New Zealand Limited (**Chamberlain**) is committed to manufacturing and supplying high quality goods. As part of this commitment, we seek to provide reliable service and support for our goods and are pleased to provide you, the original purchaser, with this Chamberlain Limited Warranty.

We also provide the following statement as required by the Australian Consumer Law: In Australia, in addition to your rights under this Chamberlain Limited Warranty, our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Chamberlain's warranty

Chamberlain warrants to the original purchaser of the Grifco product (**Unit**) that:

- 1 The Unit is free from defects in materials and workmanship for a period of 24 months from the date of purchase.
- 2 Genuine accessories are free from defects in materials and workmanship for a period of 12 Months from the date of purchase.
- 3 Genuine spare parts are free from defects in materials and workmanship for a period of 6 Months from the date of purchase.

During the applicable Chamberlain Warranty period, if you are concerned that the Unit or electric motor may be defective, call our service centre on the toll free number below before removing the Unit and a Chamberlain technician will diagnose the problem. Once the problem has been diagnosed, subject to your rights under the Australian Consumer Law with respect to major failures, Chamberlain will provide you with:

- 1 parts for "do-it-yourself" repairs; or
- 2 shipping instructions for a factory repair or replacement.

If a factory repair or replacement is required, provided the defective part or Unit is returned to Chamberlain well-packaged and in accordance with Chamberlain's shipping instructions, Chamberlain will, subject to your rights under the Australian Consumer Law with respect to major failures:

- 1 in relation to the Unit repair or, at its option where permissible, replace any defective part or Unit (excluding the electric motor) and return it to you at no cost; and
- 2 in relation to the electric motor, replace the electric motor and return it to you at no cost.

Where the Unit has been installed by an authorised installer, you must call them for prompt on-site service. Chamberlain will furnish replacement parts free of charge through the authorised installer. A service fee for on-site service may apply.

Repairs and replacement parts provided under this Chamberlain Limited Warranty are provided free of charge and are warranted for the remaining portion of the original warranty period.

This Chamberlain Limited Warranty provides benefits which are in addition to your other rights and remedies as a consumer.

Exclusions

If our service centre determines that a warranty claim has been made in respect of a failure or defect arising under or out of any exclusion detailed below such that the claim is not covered under this Chamberlain Limited Warranty, we may, subject to your other rights and remedies as a consumer, charge you a fee to repair, replace and/or return the Unit to you.

This Chamberlain Limited Warranty does not cover any failure of, or defect in, the Unit due to:

- 1 non-compliance with the instructions regarding installation, operation, maintenance and testing of the Unit or of any product with which the Unit is used;
- 2 any attempt by a person other than an authorised installer to change settings, repair, dismantle, reinstall or move the Unit to another location once it has been installed;
- 3 tampering, neglect, abuse, wear and tear, accident, electrical storm, excessive use or conditions other than normal commercial use;
- 4 use of the Unit in conjunction with controls which have not been supplied, or pre-approved, by Chamberlain;
- 5 problems with, or relating to, the commercial door or commercial door hardware, including but not limited to the door springs, door rollers, door alignment, hinges, guides, slats and drums; or
- 6 problems caused by electrical faults.

If this Chamberlain Limited Warranty does not apply, you may have rights available to you under the Australian Consumer Law.

Liability – Australia only

Except as set out in the Australian Consumer Law (being Schedule 2 of the *Competition and Consumer Act 2010*) (as amended, consolidated or replaced):

- 1 all other guarantees, warranties and representations in relation to the Unit or its supply are excluded to the extent that Chamberlain can lawfully exclude them; and
- 2 under no circumstances will Chamberlain be liable for consequential, incidental or special damages arising in connection with the use, or inability to use, the Unit, other than those which were reasonably foreseeable as liable to result from the failure.

Liability – New Zealand only

Except as set out in the *Fair Trading Act 1986* and the *Consumer Guarantees Act 1993* (as amended, consolidated or replaced):

- 1 all other guarantees, warranties and representations in relation to the Unit or its supply are excluded to the extent that Chamberlain can lawfully exclude them; and
- 2 under no circumstances will Chamberlain be liable for consequential, incidental or special damages arising in connection with the use, or inability to use, the Unit, other than those which were reasonably foreseeable as liable to result from the failure.

Note

We request that you retain your sales docket or invoice as proof-of-purchase and attach it to this manual to enable you to establish the date of purchase in the unlikely event of a warranty service being required. Chamberlain reserves the right to change the design and specifications of the Unit without prior notification. Some features or accessories of the Unit may not be available in certain markets or areas. Please check with your distributor.

Chamberlain service centre contact details

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