

GEMINI



INSTALLATION/OWNERS MANUAL

**MOTORISED OPENER FOR
OVERHEAD TYPE GARAGE DOORS**

24V DC SYSTEM

MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

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MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 1: Suitable Applications

This GEMINI Motorised Door Opening system is designed for and only compatible with the following type of Domestic garage doors:

- **All trackless solid tip-up doors that protrude through the garage entrance.**
- **Sectional slide-up doors as depicted below.**

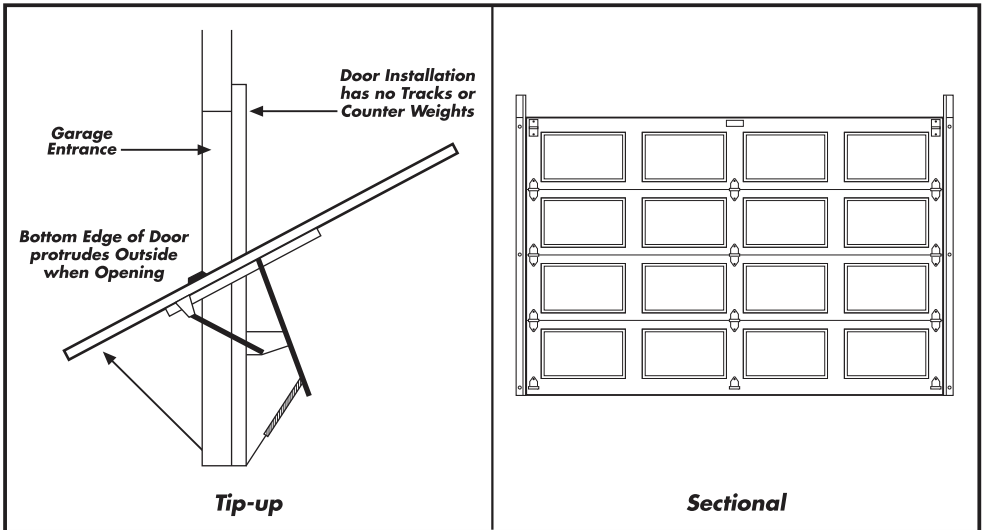


Figure 1

Please note!

- Unsuitable for vertical *Tip-up* doors.
- Suitable for most Sectional slide-up doors which slide upwards and inwards.
- Carefully read through this manual before installing or using this motorised door opener.

Important

- The garage door should always be in perfect working order. The door must be easily openable by hand without presenting undue resistance or friction.
- **Never attempt to rectify an unstable or jamming door by fitting an automation system! It may result in serious injury or damage.**
- Please adhere to the **Important safety information** in Section 5.

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MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 2: Introduction

Thank you for choosing GEMINI for your automation requirements. Be assured that your system was driven by safety and the requirements of the *Norme Internationale CEI 60335 Partie 2-95* have been used as the design criteria. (Particular requirements for vertical and horizontally moving garage doors.)

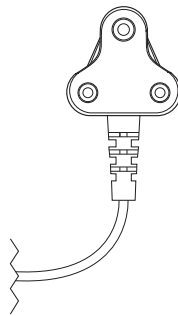
By following the basic principles of installation as explained in this manual, your GEMINI automation system will provide you with many years of trouble free service.

The GEMINI system is of rugged design and manufacture. It is built for reliability and safety. It consists of a single 24V DC motor that drives a maintenance free chain through a worm gear assembly.

The electronic control, enhanced by “open” and “closed” obstruction sensitivity adjustment makes provision for several handy features such as remote control and a courtesy light. A wireless push button console incorporating a lock-out function can be located in any convenient location.

WARNING!

Do not cut the electrical plug off as this will terminate the warranty.



WARNING!

This Door Opening system is only suitable for use with a trackless Solid Tip-up style garage door which swings its bottom edge outside the garage entrance, and with Sectional Slide-up type garage doors.

MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 3: Technical Specifications

Motor	24V DC
Door speed.....	± 10 meter/minute
Proximity sensors.....	Independent in both directions
Obstruction sensing.....	Electronically in both directions
Activation.....	Remote control and/or wireless wall mounted push button
Weight.....	± 12kg
Electric load current.....	≤4.5A
Duty cycle	50%
Receiver.....	Onboard 433.92 Mhz Code Hopping
Transmitter	3 button Code Hopping
Other features	<ul style="list-style-type: none">•Battery back-up in case of power failure•40W courtesy light•Manual override•Lock out function•Remote light on/off

Section 4: Dimensions



Figure 2

A = 2606mm

B = 330mm

C = 140mm

D = 200mm



MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 5: Important Safety Information

BE SURE TO READ AND HEED THESE INSTRUCTIONS!

When installing or using the GEMINI Opener for Overhead type garage doors, normal basic safety precautions, including those detailed below, should always be followed to reduce the risk of electric shock or injury to persons or animals.

- Do not disassemble the Carrier Box assembly, or attempt any installation or operating procedures not prescribed in this manual. Refer all servicing to qualified service personnel.
- This equipment must only be connected to a 220V 50/60Hz grounded outlet. Connecting to any other outlet will damage the equipment and invalidate the warranty.
- The power should always be disconnected when working on the system.
- Never allow persons, particularly children, or animals to stand close to the door whilst it is operational. Keep remotes away from children. Never let children play with the door controls.
- Regularly test all operating systems, ***particularly the safety features!***
- If the manual override function has been used, always re-engage the traveler assembly after closing the garage door. ***The engaged traveler assists as a locking mechanism.***
- Always watch the door while it is in motion and keep people and animals away until the door is completely open or closed.
- Always use caution when disengaging the traveler. The door may fall back rapidly due to weak or broken springs, or due to imbalance.
- Frequently examine the installation, in particular the springs and mountings for wear, damage or imbalance. Do not use if repair or adjustments are needed since a fault in the installation, or an incorrectly balanced door may cause injury.
- ***NB: Keep clear of all door parts during closing as well as opening!***

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MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 6: Standard Installation Kit

YOUR GEMINI DOOR OPENING KIT IS COMPRISED OF THE FOLLOWING:

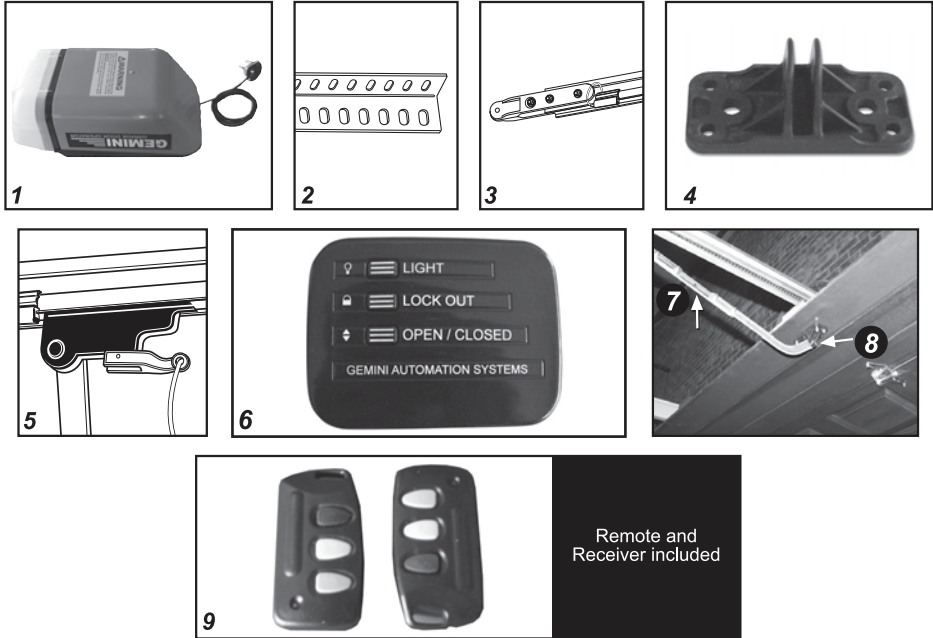


Figure 3

1. Motor Carrier Box including 40W courtesy light and attached 15A 3 pin plug.
2. Pre-punched angle-iron for mounting the Carrier Box during installation.
3. Aluminium Extrusion assembly with magnetic open and close sensors.
4. Wall, Door & Floor mount Anchor Bracket.
5. Traveler assembly with emergency release cord.
6. Wireless wall console.
7. Straight connecting arm.
8. Bent connecting arm.
9. 2 x Code Hopping 3 button Transmitters.



MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 7: Preparation of unit for installation

ASSEMBLY OF MOTOR AND EXTRUSION

This is an option to be incorporated in the near future. The unit comes fully assembled at present.

MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 8: Installation Instructions

The Door Opener is mounted below the garage ceiling or rafters at a suitable distance above the highest point of movement of the door's top edge. A wall anchor bracket (detail B, Figure 4) attaches the aluminium extrusion to the wall, centrally above the door, and the two interconnecting Tow Arms couple the traveler assembly to the door by means of the same bracket (detail A, Figure 4). The Carrier Box is mounted to a horizontal beam of the roof by means of the supplied punched angle.

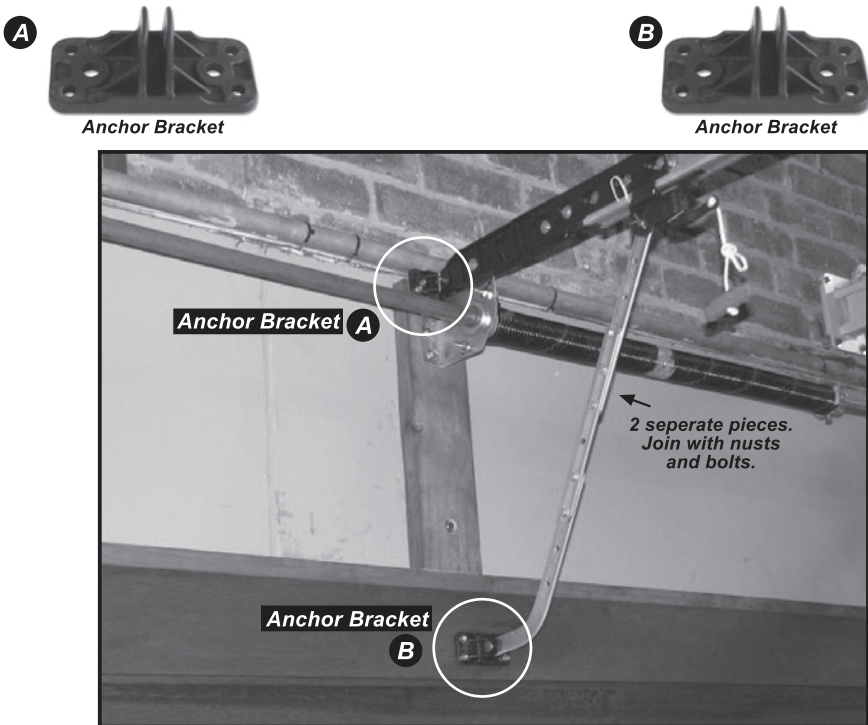


Figure 4

8.1 STANDARD DIMENSIONS AND ORIENTATION

- The optimum distance between the highest point of the door's upwards movement and the aluminium extrusion should be approximately 50mm, but not less than 25mm.
- The draw distance of the aluminium extrusion and operator combination is such that all standard garage door heights (2135mm) can be accommodated.

MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 8: Installation Instructions (Continued)

8.2 DETERMINING THE HEIGHT OF THE WALL ANCHOR BRACKET (Refer Fig.5)

1. Slowly open the garage door from the inside until the leading edge of the door top is at its highest point.
2. Using a spirit level, make a mark on the wall approximately 100mm above this highest point. (Not more than 130mm and not less than 75mm). This will be the height to secure the Wall Anchor bracket.

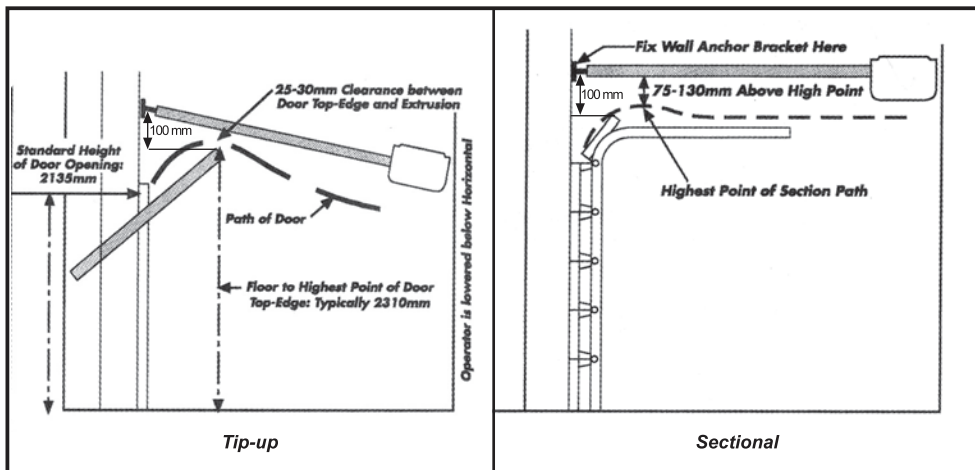


Figure 5

MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 8: Installation Instructions (Continued)

8.3 MOUNTING THE WALL ANCHOR BRACKET

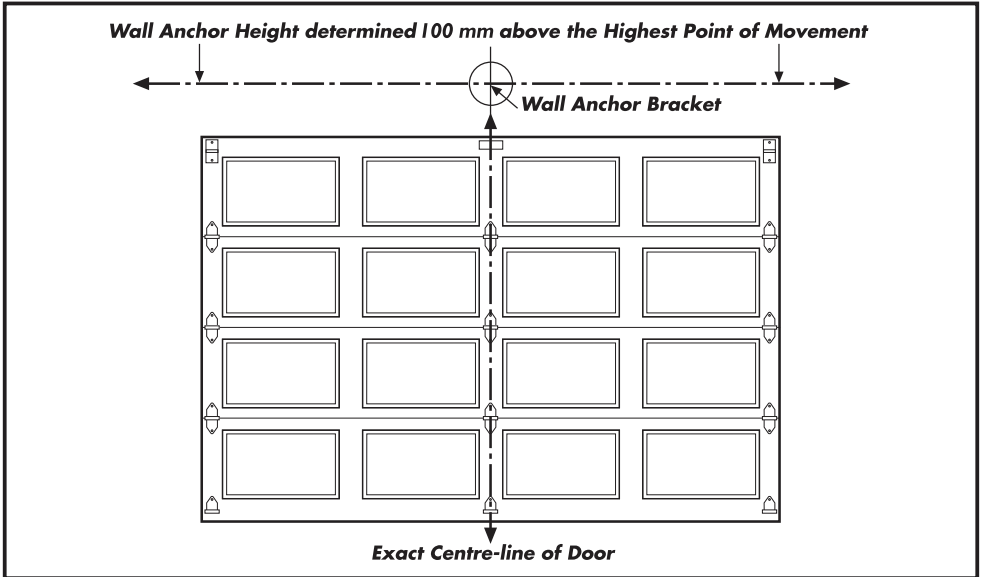


Figure 6

(Refer to Fig. 5 on page 9 and Fig. 6 above)

1. Determine the exact center of the garage door. Extend this line upwards until it crosses the horizontal line marked in Figure 6.
2. Align the center-line of the Wall Anchor bracket pivot with the door center-line.
3. Ensure that the Wall Anchor bracket is perfectly level, then secure it to the wall using the two M8x50 coach screws and wall plugs provided.

8.4 ATTACHING THE DOOR BRACKET

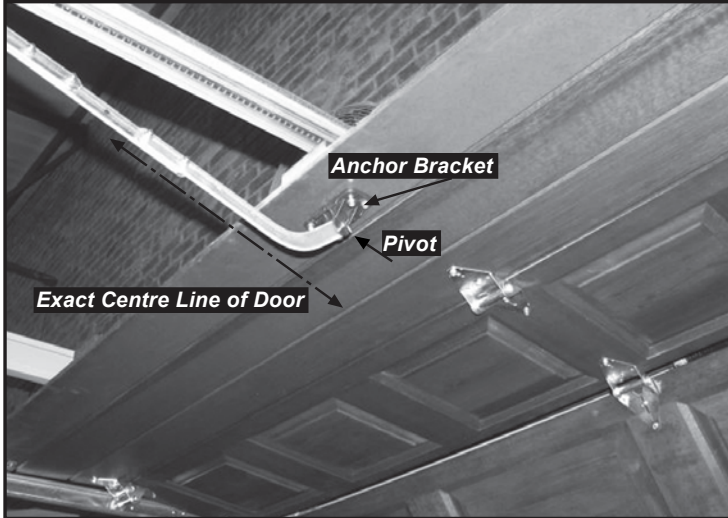


Figure 7

1. Position the Anchor bracket on the door centerline as in figure 7. Please be assured that if required this bracket can be installed the other way around without affecting the functionality of your operator. It is purely a matter of choice and available space.
2. Secure the bracket on the door using the four M6x30 screws and washers, or other suitable means.



MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 8: Installation Instructions (Continued)

8.5 MOUNTING THE CARRIER BOX TO THE CEILING



Figure 8

1. Temporarily support the Carrier Box from the ceiling by any suitable means. (Refer Fig. 5)
2. Open the door fully in order to orientate the Opener along the door centerline.
3. Using the pre-punched angle iron or other rigid bracket material, suspend the Carrier Box from a suitably position rafter beam. Refer to the diagram inset in Figure 8 for an example of a typical, rigid construction.

MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 8: Installation Instructions (Continued)

8.6 ADJUSTING AND CONNECTING THE TOW ARMS

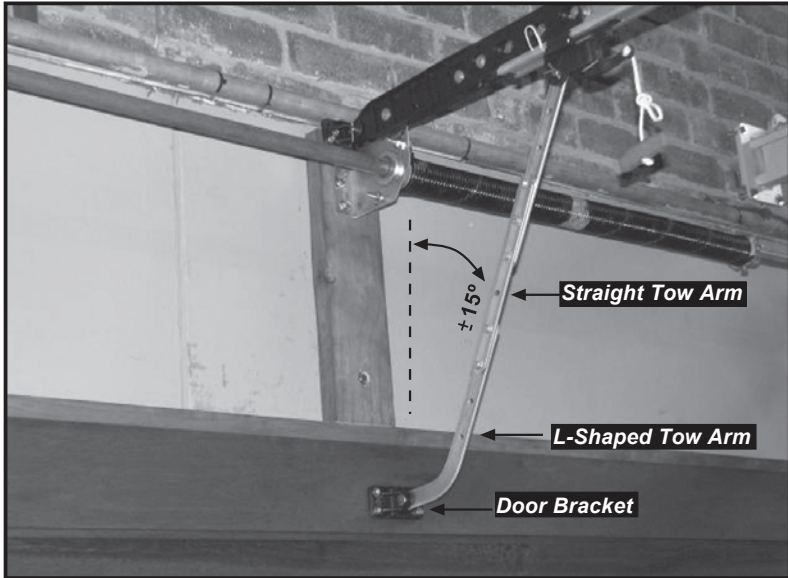


Figure 9

1. Once the Anchor Bracket is secured, the Tow arm combined length needs to be adjusted as follows:
 - Separate the two Tow arms
 - Close the door fully
 - Disengage the Traveler
 - Move the Traveler until the Tow arm combination forms an angle of about 15 degrees to the vertical.
 - Align two sets of holes in the Tow arms and secure with the supplied bolts and nuts.

MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 8: Installation Instructions (Continued)

Continued from page 12



Figure 10

Note: *If it is difficult to let two Tow arm holes correspond, the ideal is to shorten the Tow arm*

- Once the Tow arm length is adjusted, slowly open the door manually (with the traveler disconnected.)
- Confirm that the door opens with ease, smoothly and without any unusual noises and binding. Repeat continuously and adjust if necessary.

MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 8: Installation Instructions (Continued)

8.7 CONNECTING THE 220V ELECTRICAL SUPPLY

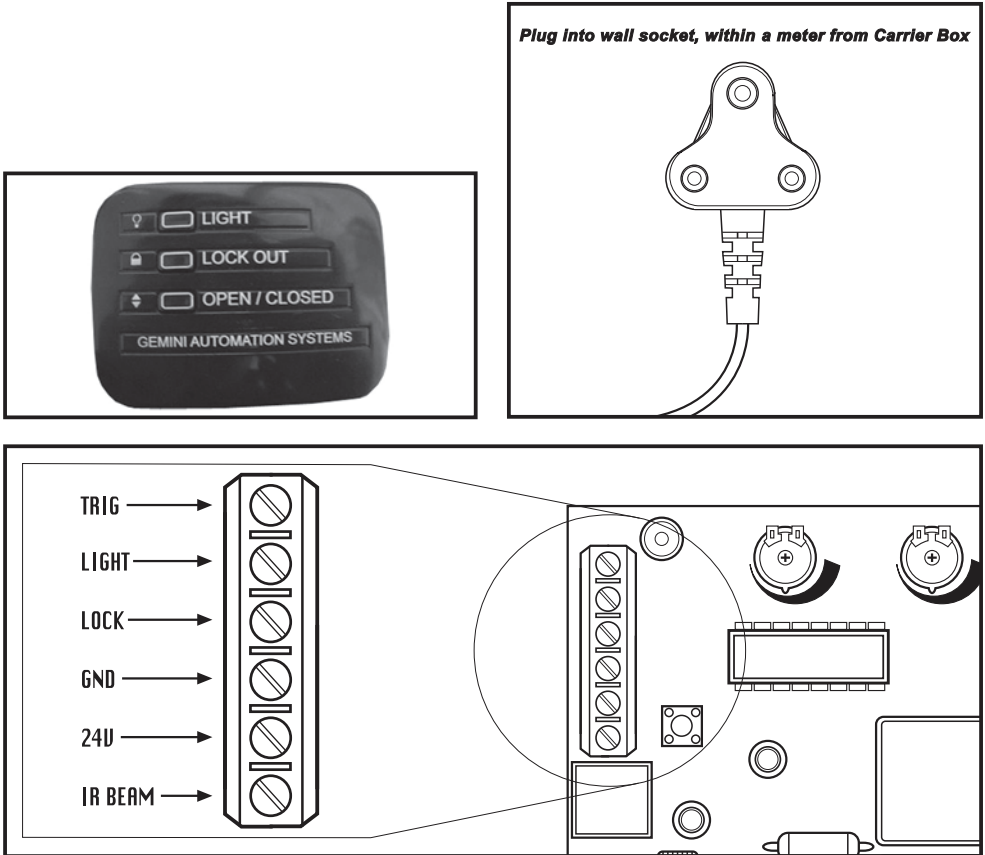


Figure 11

CAUTION

Under no circumstances must the main electrical supply be wired from a primary power source. An ON/OFF switch MUST be incorporated into the circuit. Comply with all legal requirements for your area.

8.7.1 Ensure that the battery pack is connected.

MOTORISED OPENER FOR VERTICAL TYPE GARAGE DOORS

Section 8: Installation Instructions (Continued)

8.8 INSTALLING AND PROGRAMMING THE REMOTES AND WALL CONSOLE

(Refer to illustration on page 14)

1. Press and release the “Function” button on the PC board inside the Garage Door Operator.
2. LED will flash once.
3. Push and hold remote control/wall console button until LED flashes again.
4. Repeat steps 1-3 for every remote control/wall console.
5. To re-format system, hold function button in for at least 5 seconds.

INSTALLING THE PUSH BUTTON CONSOLE

(Only applicable if remote control and wall console are not used)

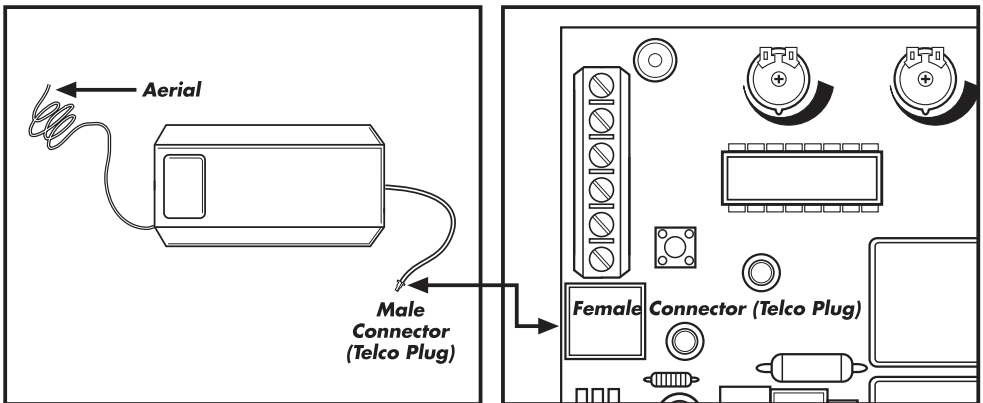
1. Identify a practical and easily accessible location for the push- button.
2. Connect two wires to the connections marked (1) TRIGGER and (2) COMMON. Note and record colour and connecting positions of each of the wires.
3. Mount the push – button against the wall, route a practical path with no interference with any moving assemblies to the Carrier Box connector block. Make sure to secure the cables at short intervals with suitable means.
4. Connect the wires that the wire to the corresponding connector block terminals as indicated in Figure 11. Ensure that the wire positions correspond with those on the push – button.

MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 8: Installation Instructions (Continued)

8.9 CONNECTING A REMOTE RECEIVER

Insert the telephone – type male connector of the Remote control receiver into the female Receptacle on the Carrier Box as shown below, and mount the receiver in a suitable position. Straighten the aerial wire, taping it out of the way of any moving parts.



HOW TO PROGRAM CODE HOPPING RECEIVERS

1. Select "pulse" on receiver before connecting to female connector on the PCB.
2. Plug receiver into the female connector on the PCB.
3. Press and release program button.
4. Holding remote at least an arm length away, press and release the desired button on the remote.
5. Repeat steps 3 & 4 for every remote.
6. A maximum of 32 remotes can be programmed per receiver.
7. Once all remotes have been learned, unplug the receiver and plug in again.

***To erase all codes, press and hold down program button until LED flashes.
Unplug receiver and plug in again.***

MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 8: Installation Instructions (Continued)

8.10 ADJUSTING THE MAGNETIC “OPEN” AND “CLOSED” SENSORS

1. Manually move the door to the full open position.
2. Referring to Figure 12, move the “open” sensor (sensor closest to the carrier box) until it aligns with the traveler assembly.
3. Manually move the door to the fully closed position.
4. Move the “closed” sensor (sensor furthest away from the carrier box) until it aligns with the traveler assembly. (See figure 13)

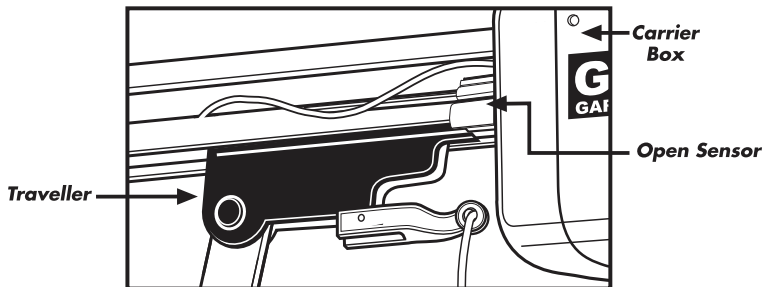


Figure 12

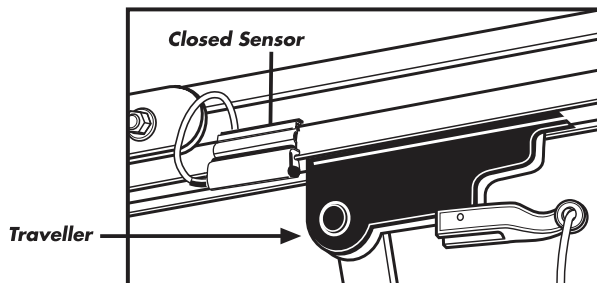


Figure 13



MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 8: Installation Instructions (Continued)

8.11 TESTING THE SENSORS

1. Disengage the Traveler assembly and ensure that the door is in the fully closed position.
2. Activate the door as if to open.
3. Now manually open the door until the open sensor switches off the opener operation. Ensure the door is fully open.
4. Re – adjust the “open” sensor if necessary.
5. Disengage the traveler assembly and ensure the door is in the fully open position.
6. Activate the door as if to close.
7. Now manually close the door until the sensor switches off the opener operation. Ensure the door is fully closed. Re-adjust the “closed” sensor if necessary.

8.12 CHECKING THE DOOR OBSTRUCTION FORCE

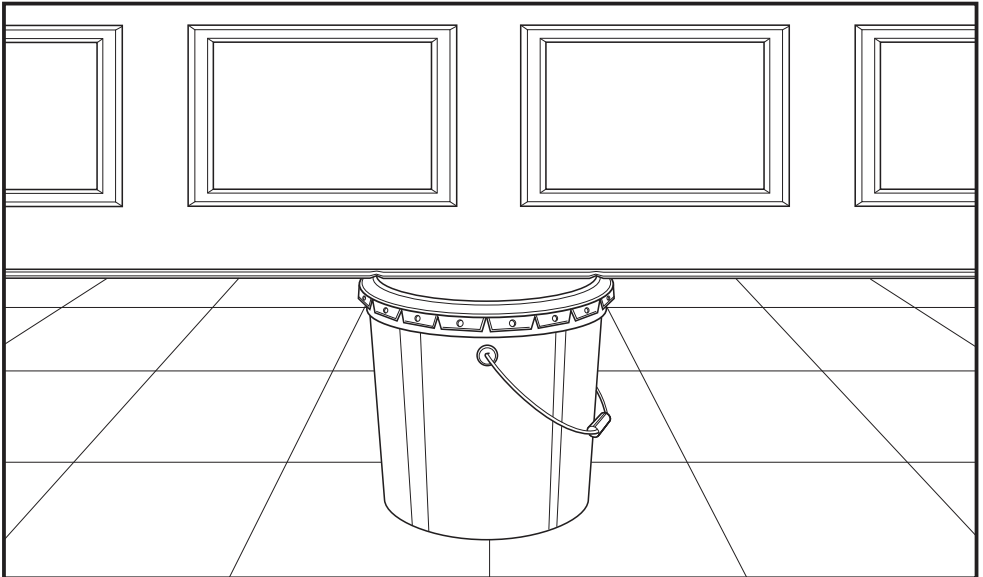


Figure 14

1. Open the door fully. Place a 400mm high and solid object under the door, where edge of the door will touch it squarely.
2. Stand clear of the door and operate to close.
3. The electric motor should stop its operation and return the door position once a resisting force of 5 – 10 kg is reached after touching the obstruction.

MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 8: Installation Instructions (Continued)

8.13 ADJUSTING THE 'OPEN' AND 'CLOSED' SENSORS ON THE PCB

Obstruction sensing should be set so that the door will stop and reverse on impact while closing. The obstruction sensitivity is set at the factory, but adjustment will be required to suit the mass of the door.

Impact sensitivity is set by adjusting the sensitivity rheostat on the PCB.

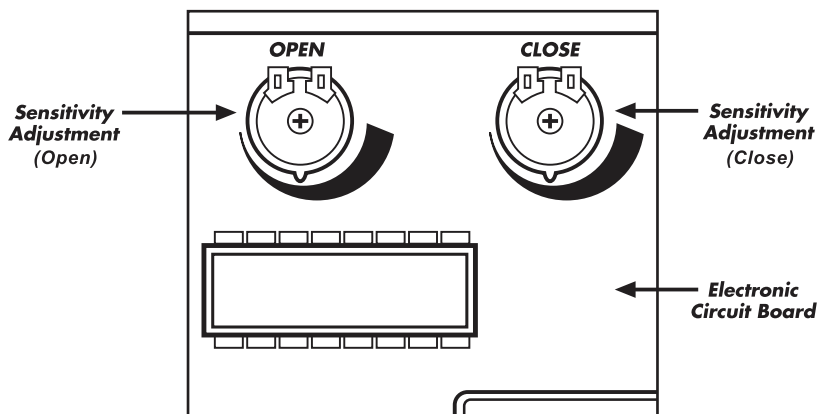


Figure 15

If adjustment is required, insert a small flat tip instrument type screwdriver into the rheostat adjusting slot. Turning the adjuster clockwise will decrease the sensitivity and turning it counter – clockwise will increase the sensitivity. Adjust as necessary.

MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 9

9. A) INITIAL TESTING PROCEDURES AFTER INSTALLATION

1. Disengage the traveler assembly and move the door to its halfway position. Re – engage the traveler assembly. Press remote control button. The door must open to its full extent and stop. If necessary adjust the 'Door Open' limit sensor. (Closest to motor)
2. Press the remote control button. The door must move to the fully closed position and stop. If necessary adjust the "Door Closed' sensor.(Furthest away from the Carrier Box)
3. Perform an obstruction sensing test. If necessary, refer to '**ADJUSTING THE DOOR OBSTRUCTION SENSITIVITY**' and re – adjust the obstruction sensitivity. Test the operation of the door and courtesy light from the inside of the garage by using the push button and the remote control. The courtesy light must come on for 2 minutes.

B) DAILY OPERATION

The remote or push – button can now be utilized for the door. Pressing either one in the event of operation will lead to the following:

- *If door was closing – Door will stop and open.*
- *If door was opening – Door will stop and await next command.*

9.1 EMERGENCY MANUAL OVER-RIDE

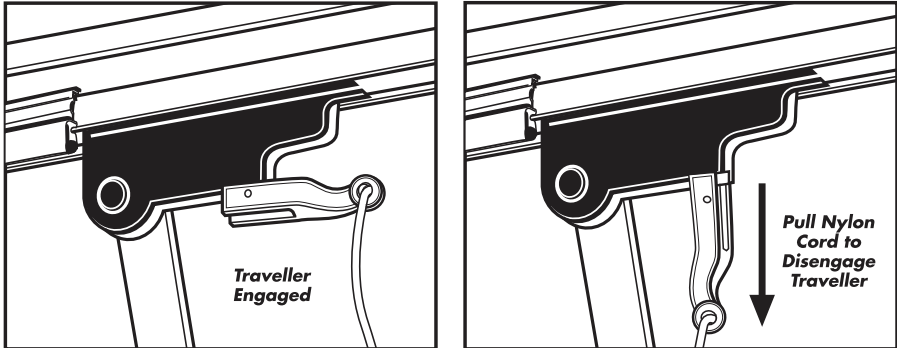


Figure 16

In the unlikely event of a failure or breakdown, the Opener will be inoperative but the garage door can be opened manually from inside the garage by disengaging the traveler mechanism.

An easy to reach emergency release cord is attached to the traveler lever. Under normal operating conditions, the traveler lever will be in the horizontal (engaged) position, pointing towards the light cover on the motor. To disengage the traveler, switch OFF the electrical power, and pull the emergency release cord downwards. The traveler will disengage as the release clip moves into a vertical position.

The door can now be opened and closed in the conventional way.

Caution! Do not use the emergency cord to open and close the door!

HOW TO RE – ENGAGE THE TRAVELER

Ensure that the opener is in the midway position. Pull the emergency cord towards the Opener head.

The traveler lever will be re – engaged as it moves into the horizontal position.

DOOR LOCKING MECHANISM

The engaged traveler assists as the door locking mechanism for normal operation. Alternative security and/or locking measures should be implemented if the situation requires so. When the manual override was used, please remember to re-engage the traveler after closing the door.



MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 10: Maintenance

GENERAL

The GEMINI domestic door opening system is a maintenance free unit and needs very little attention other than checking the door tracks for obstructions (excessive dirt, sand etc)

On a 6 – monthly basis, it is advisable to remove the protection lid and blow off all accumulated dust and dirt from the Carrier box interior with low – pressure compressed air.

DOOR MAINTENANCE

The sliding channels in which the doors move must be kept clear of congealed debris by cleaning it with a stiff brush when necessary.

Under no circumstances must the channels or door edges in contact therewith be greased. Only dry graphite lubricant must be dusted upon the solid contact pads or flexible contact strips.

MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 11: Trouble Shooting Guide

<p>Electrical Motor does not activate</p>	<ul style="list-style-type: none"> • Is the main power switched on? • Is the battery pack serviceable? • Is the battery pack connected 	<ul style="list-style-type: none"> • Switch the power ON • Replace 24 volt battery • Connect battery pack
<p>Electrical Motor turns but the door does not move</p>	<ul style="list-style-type: none"> • Is the traveller engaged? 	<ul style="list-style-type: none"> • Engage the traveller
<p>Power is ON (LED indicating) but the motor does not react.</p>	<ul style="list-style-type: none"> • Wiring to PC Board not properly connected 	<ul style="list-style-type: none"> • Check and rectify as necessary
<p>Motor operates when pressing the wall-mounted push-button but not with the remote control.</p>	<ul style="list-style-type: none"> • Remote control not learned to receiver • Remote Control battery flat • Remote Control defective 	<ul style="list-style-type: none"> • Refer to Section 8.3 page 16 • Replace battery • Replace Remote Control
<p>Motor opens door for a short travel only</p>	<ul style="list-style-type: none"> • Door mass too heavy for unit • Obstruction in track • Obstruction sensitivity too high 	<ul style="list-style-type: none"> • Discuss problem with your local GEMINI agent • Check and rectify as necessary • Adjust obstruction sensitivity to suit

MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 11 : Trouble Shooting Guide (Continued)

<p>Motor makes a clicking sound but does not switch on</p>	<ul style="list-style-type: none"> • Proximity sensors incorrectly set. • Control Board has to be reset. 	<ul style="list-style-type: none"> • Adjust proximity sensors • Disengage battery • Turn OFF mains power • After 10 seconds reset power and reconnect battery
<p>Door opens and closes by itself</p>	<ul style="list-style-type: none"> • Faulty Push-button wiring • Faulty Remote Control Receiver • Somebody in your area is using the same security setting (if dip switch coding is used) 	<ul style="list-style-type: none"> • Check all wiring • Replace the Remote Control receiver • Change Dip Switch settings if applicable
<p>Receiver reception insufficient</p>	<ul style="list-style-type: none"> • Transmitter Battery flat • Receiver reception is obstructed 	<ul style="list-style-type: none"> • Replace Remote Control Battery • Reposition Receiver in different position • Straigten aerial
<p>Door doesn't open (Light flashes 3 times)</p>	<p>Lock function on wall console activated.</p>	<p>Press lock function to de-activate</p>



MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 12: Standard Guarantee

GEMINI AUTOMATION SYSTEMS manufactured by DMI Engineering are warranted against defects in material and faulty workmanship for 24 months from the date of purchase.

This warranty applies only to products purchased new from DMI Engineering or its authorized dealers. This warranty does not apply to products which have been subjected to lightning, flood damage or any other freak occurrence of nature, abused, modified, or repaired by someone other than DMI Engineering or its authorized dealers.

- A) No batteries are included in the warranty.
- B) Electronic components have a 12 month warranty.

If a DMI Engineering product proves defective in material or workmanship within 24 months after purchase, return it to any authorized dealer or DMI Engineering, transportation to and from DMI Engineering's factory prepaid, enclosing your name and address, adequate proof of date of purchase and a short description of the defect. DMI Engineering, at its discretion will repair or replace the defective product free of charge. Repairs or replacements are warranted as described above for the remainder of the original warranty period. DMI Engineering's sole liability and your exclusive remedy under this warranty is limited to repair or replacement of the defective product.

The foregoing warranty is exclusive and in lieu of all other warranties or condition, written or oral, expressed or implied all of which are hereby disclaimed. There shall be no liability, for incidental, consequential or special damages, or any other damages, costs or expenses, excepting only the cost or expense of the replacement or repair.

Use only authorized parts and/or accessories. Any damage or malfunction caused by the use of unauthorized parts is not covered by the warranty.

No warranty is applicable on products not registered with DMI Engineering within the prescribed time and on the correct form.



MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 13: Data Sheets

FOR YOUR RECORDS

GEMINI MODEL 24V DC SYSTEM

Installation Date:.....Dealer Name:.....

Tel No: ().....Installer's Name.....

Unit Serial No:.....

Door Size: Height.....mm, Width:.....mm, Mass: ±.....kg

Remote Control Type:.....

UNIT SERVICE RECORD

Date	Fault	Parts Required	Invoice No.	Serviced By	Job No.



MOTORISED OPENER FOR OVERHEAD TYPE GARAGE DOORS

Section 15: Warranty Registration Form

WARRANTY REGISTRATION FORM

**GEMINI MODEL 24V DC SYSTEM
FOR OVERHEAD TYPE GARAGE DOORS**

Name of User:.....

Date:.....

Postal Address:.....

.....Code.....

Telephone No: ().....

Fax No: ().....

Date of Installation:.....Serial No. of Unit.....

Are you satisfied with the service provided by your Dealer/Installer: YES / NO

Comments:.....

.....

For Office Use Only	
Date Received:.....	
File No:.....	

<p>Please cut out and forward this Warranty Registration to: The Manufacturer PO Box 36816 Menlo Park 0102</p>
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