

Owner's Manual contains: Installation, operating,
maintenance & warranty instructions.

Synergy LC

Light Duty Trolley Commercial Operator System

Install on Sectional Doors Only



Marantec America Corporation
5705 Centerpoint Court, Gurnee, IL 60031 U.S.A.
Phone 1-888-622-2489 • Fax 847-478-0348

www.marantecamerica.com

Dear Valued Customer!

On behalf of all of us at Marantec, thank you very much for purchasing one of the quietest, most innovative and reliable garage door operators available today!

At Marantec, we consider safety and quality to be paramount. From inherent protection features to cutting edge technology such as LED lighting, you can rest assured that your new opener system will provide you and your family with safety and convenience for many years to come.

We are inviting you to register your new Marantec garage door operator within the next 10 days. Not only will we be able to contact you with important product updates, registering your product will also serve as proof of purchase and will allow us to serve you more effectively. Registering your Marantec opener is quick and easy:

**Go to: www.marantecamerica.com or
Complete the registration form and mail it in**

Also, help is only a phone call away! Please contact us at 1-888-622-2489 or at (001) 847-478-1500 when calling from outside of the United States. Our dedicated customer service team is looking forward to assisting you with any questions you may have.

Thank you again for choosing the Marantec family of products!

Marantec Accessories

Convenience in many forms. All of Marantec's transmitting and receiving devices operate on 315MHz and are HomeLink compatible.



**Remote
Activation Kit**

Photo Eyes

LED

Individualized features and customized comfort can be achieved with Marantec's extensive range of accessories. Whatever accessories you are looking for, we have them available.

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1. INTRODUCTION

Congratulations on purchasing your Marantec® Synergy LC Light-Duty Trolley Commercial Operator System, the most innovative operator available today. This stylishly designed digital operator with a wide range of accessories is engineered to provide the smoothest, quietest and safest operation to compliment any commercial application. Advanced technology results in the operator being capable of easily moving almost any properly balanced sectional door, and at the same time providing state-of-the-art safety features to detect obstructions and to stop and reverse the door, thus helping to protect persons and property near the door.

2. ADVANCED FEATURES

This operator includes numerous state-of-the-art features to provide you, the user, with years of trouble-free, convenient, and safe use of your automatic garage door operator.

- **Advanced Digital Operating System EOS (Easy Operating System):** The EOS digital system provides an user friendly system set up. The EOS system requires only the initial set up parameters. All other operating parameters are learned and set automatically by the system. In addition, the system optimizes all parameters with every cycle for a more efficient operation by the GDO. This shorter parameter set up provides a quicker and more efficient installation.
- **New LED Lighting System:** Provides a green energy efficient lighting approach to conventional incandescent lighting. Added convenience requires no light bulb replacement.
- **Precision Controlled DC Motor, Complete with Automatic Soft Start and Soft Stop Feature:** The operator automatically detects when your door is almost fully closed or fully opened, and gradually slows the door down before it reaches its fully closed or opened position. During start-up, the door starts moving slowly and gradually ramps up to full speed for the full travel of your door. This reduces the possible damaging effects of the sudden starts and stops associated with some other operators, and results in the smooth operation and increased service life of your door and hardware.
- **Higher Motor Operating Speed:** Provides faster open and close cycles.
- **Quiet, Smooth Operation:** Precision engineering and carefully selected materials result in extremely smooth and quiet operation, unmatched by conventional garage door operators.
- **Built-In Safety Features:** Including patented drive system that delivers only the optimum power needed to move your door safely - Every time!
- **Timer-To-Close:** Provides automatic door closure. Specifically designed for apartment building garage applications.
- **LCD Display System Control:** Easy navigation through levels and menus.
- **Convenient Status Display:** To indicate the status of your door operator at any time. Especially useful if troubleshooting is necessary.
- **Numeric Parameter Display Setting:** Provides easier and quicker setup.
- **Numeric Error Code Display:** Provides quicker troubleshooting.
- **Modular Antenna Concept (patented):** Plug-in your choice of frequency module. **(Optional)**
- **Photo Eye (Infrared) Safety System:** State-of-the-art infrared beam system helps detect obstructions in the path of your door and automatically reverses closing door travel, helping to protect persons and property near the door.
- **Maintenance and Service Scheduling:** Optimizes operator service life and trouble-free performance.
- **The EOS platform unifies all Marantec Products by design.**
- **Fully compliant to UL 325-2010,** the standard to which commercial door operators must comply in order to achieve **UL** listing and bear the **UL** mark.

3. IMPORTANT SAFETY INFORMATION

This manual is essential to the safe and proper installation, operation, and maintenance of your operator. Read and follow all guidelines and operating instructions before the first use of this product. Store the manual in a safe, easily accessible location.



Garage doors are heavy, moving objects. When coupled with an automatic operator, electrical power is also present. If not properly installed, balanced, operated, and maintained, an automatic door can become dangerous and cause serious injury or death. Please pay close attention to the WARNING and CAUTION notices that appear throughout this manual. Failure to follow certain instructions may result in damage to the door or door opener, or may result in severe injury or death to yourself or others.

⚠ WARNING ⚠

WARNING means that severe injury or death could result from failure to follow instructions.

Mechanical

⚠ WARNING ⚠

WARNING means that severe injury or death could result from failure to follow instructions.

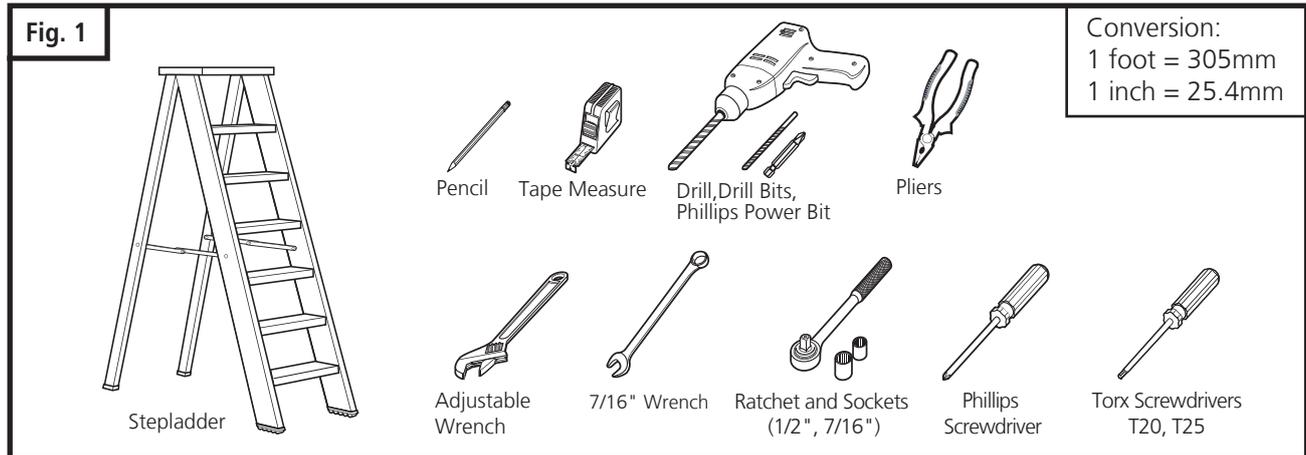
Electrical

⚠ CAUTION

CAUTION means that property damage or injury could result from failure to follow instructions.

4. TOOLS

The instructions will refer to the tools shown below for proper installation, adjustment, and maintenance of the garage door operator. Additional tools may be required depending on your particular installation.



5. GARAGE

⚠ WARNING ⚠

A garage door is a heavy moving object and can cause serious injury or death. An unbalanced door might not reverse when required, and can increase the risk of injury. If your garage door is out of balance, or if it binds or sticks, call for professional garage door service. Garage doors, springs, pulleys, cables, and hardware are under extreme tension and can cause serious injury or death.

Do not try to adjust them yourself. Ropes left on a garage door could cause someone to become entangled and could kill them. Remove all ropes connected to the door before installing your operator.

Take a moment to survey your garage and garage door.

- Is there an access door besides the garage door? If not, you should install an emergency key release kit.
- With the garage door closed, check alignment of door and garage floor. The gap, if any, should be no more than 1/4" (6mm). If the gap is larger than this, repair floor or door before installing operator.
- The operator is intended for installation on a properly balanced and adjusted garage door. **DO NOT INSTALL IF DOOR IS UNBALANCED OR BROKEN.**
- Check balance of door in mid travel and during full range of opening and closing. Lift the door about half way, as shown in Fig. 2. Release the door. It should remain in place, supported by its springs. Raise and lower the door fully to check for binding or sticking.
- If door is out of balance or needs repair, **DO NOT ADJUST IT YOURSELF. CALL A QUALIFIED GARAGE DOOR SERVICE PROFESSIONAL** to adjust your door.
- If your door is over 7 ft. (2.1m) high, you will need a longer rail. See section 6 "Rail Assembly" on pg. 8 of this manual for availability of longer rails.

Fig. 2

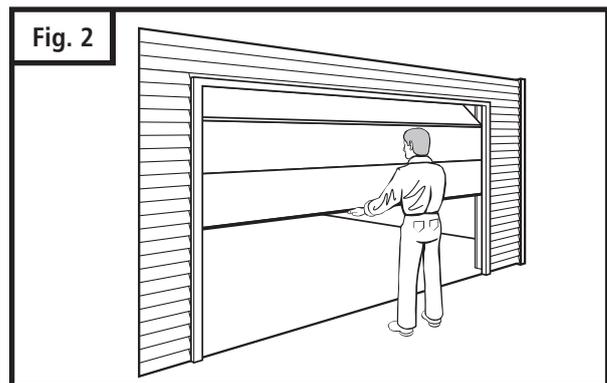
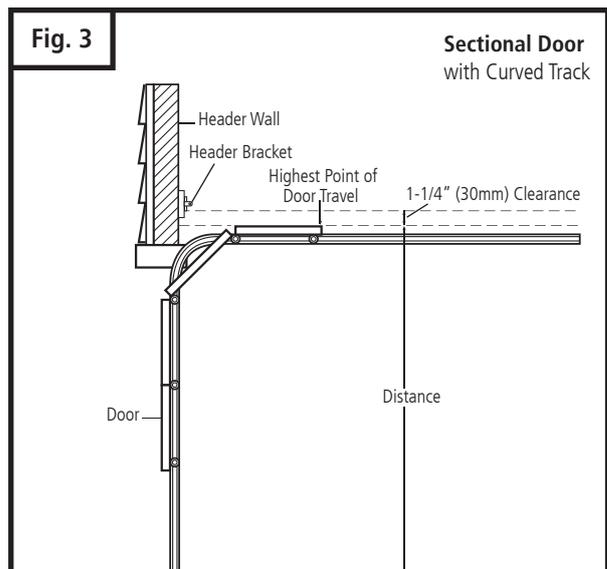


Fig. 3



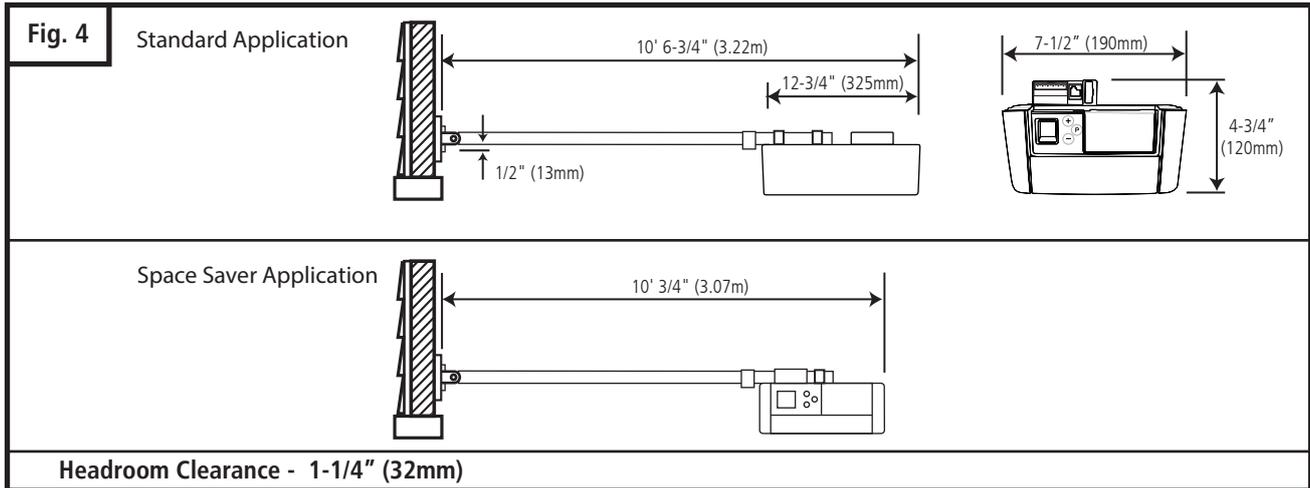
⚠ CAUTION ⚠

To prevent damage to steel, aluminum, fiberglass or glass panel doors, always reinforce the inside of the door both vertically and horizontally with steel or angle iron bracing.

The best solution is to follow the instructions for your particular garage door or contact the garage door manufacturer for proper reinforcement instructions.

5. GARAGE (cont'd)

GARAGE DOOR OPERATOR SYSTEM OVERALL DIMENSIONS 7' DOOR (2.1m)



6. OPERATOR PACKAGE CONTENTS

- Remove one of the serial number labels located on both sides of operator carton and apply to the front page of owner's manual. See Fig. 5.
- Operator's manufacturing date is located under operator lens cover.

The following items are included with your Garage Door Operator (GDO). All hardware components are located in the GDO carton. The accessories are packaged with their respective hardware in separate packs for ease of identification and use.

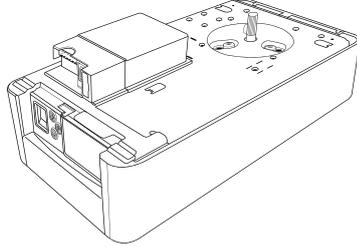
Items shown not actual size.

Fig. 5



Fig. 6

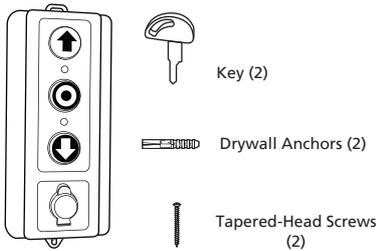
OPERATOR



6 Ft. (1.8m) Detachable Power Cord

Fig. 6A

Industrial Wall Control (with Hardware Kit)

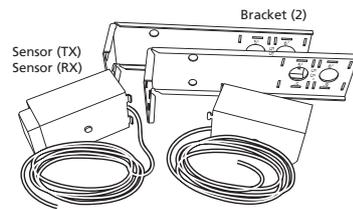


Key (2)

Drywall Anchors (2)

Tapered-Head Screws (2)

Photo Eye Safety System (with accessories)



Bracket (2)

Sensor (TX)
Sensor (RX)

Accessories



Terminal Block

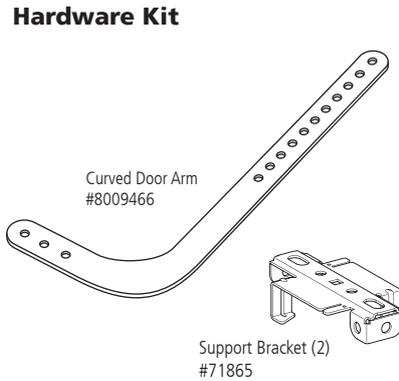
Wire Holder Kit



Garage Door Operator Manual and Warning Placards



Hardware Kit

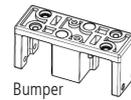


Curved Door Arm
#8009466

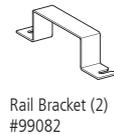
Support Bracket (2)
#71865



Door Bracket
#8030743



Bumper
#102723



Rail Bracket (2)
#99082



Clevis Pin (1): 5/16" x 7/8"
Cotter Ring (1)



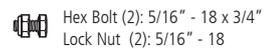
Carriage Bolt (2): 1/4" - 20 x 2"
Lock Washer (2): 1/4"
Hex Nut (2): 1/4" - 20



Lag Screw (2): 5/16" x 1-3/4"



Lag Screw (4): 1/4" x 1-1/2"



Hex Bolt (2): 5/16" - 18 x 3/4"
Lock Nut (2): 5/16" - 18



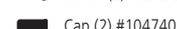
Hex Head Tek Screw (2): 1/4" x 3/4"



Screw (4): M5x8.5mm



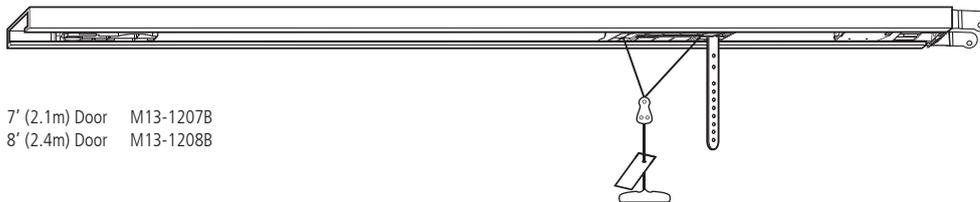
Screw (2): 3.9x32mm



Cap (2) #104740

Fig. 7

ONE PIECE BELT RAIL ASSEMBLY (packaged in separate carton)



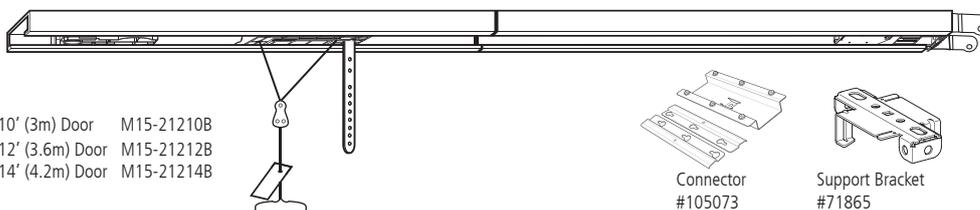
7' (2.1m) Door M13-1207B
8' (2.4m) Door M13-1208B

Header Bracket Kit
#103238



(Clevis Pin 1/4" x 3 1/4")

TWO PIECE BELT RAIL ASSEMBLY (packaged in separate carton)

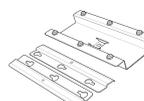


10' (3m) Door M15-21210B
12' (3.6m) Door M15-21212B
14' (4.2m) Door M15-21214B

Header Bracket Kit
#103238



(Clevis Pin 1/4" x 3 1/4")



Connector
#105073



Support Bracket
#71865

7. IMPORTANT INSTALLATION INSTRUCTIONS

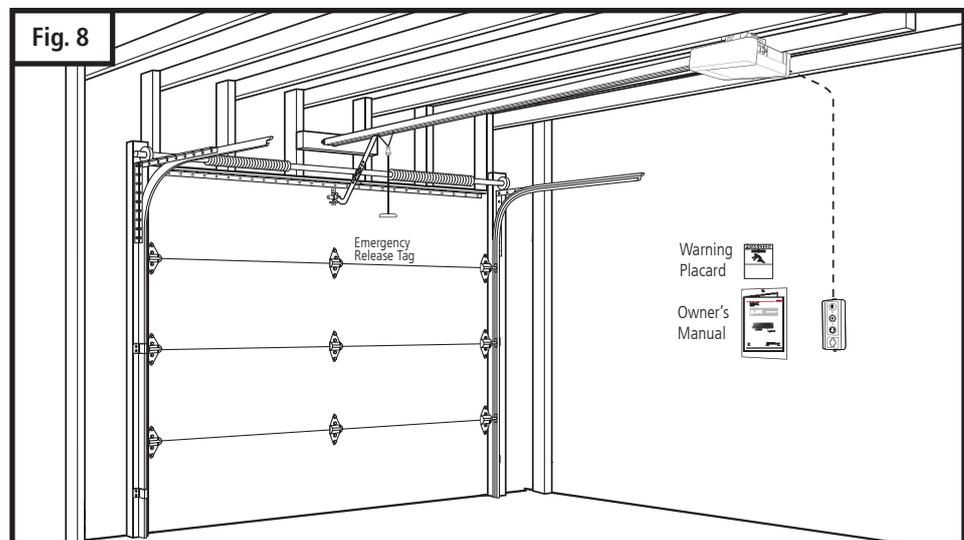
! WARNING !

TO REDUCE THE RISK OF SEVERE INJURY OR DEATH:

1. READ AND FOLLOW ALL WARNINGS AND INSTALLATION INSTRUCTIONS.
2. Check with the door manufacturer to determine if additional reinforcement is required to support the door prior to installation of the door operator.
3. Install operator only on a properly balanced garage door. An improperly balanced door could cause serious injury. Have a qualified service person make repairs to garage door cables, spring assemblies, and other hardware before installing the operator.
4. Remove all ropes and disable all locks connected to the garage door before installing operator.
5. If possible, install the door operator 7 feet (2.1m) or more above the floor. Adjust the emergency release cord so that knob hangs 6 feet (1.8m) above the floor.
6. Do not connect the operator to source of power until this manual instructs you to do so.
7. Locate the wall control station: (a) within sight of door, (b) at a minimum height of 5 feet (1.5m) above the ground so small children cannot reach it, and (c) away from all moving parts of the door.
8. The Emergency Release Tag must remain on the emergency release cord.
9. Install the entrapment warning placard next to the wall control station in a prominent location.
10. After installing the operator, test Safety Reversal System. Door MUST reverse when it contacts a 1-1/2 inch (40mm) high object (or a 2x4 laid flat) on the floor.
11. **Momentary contact activation of door (down/close travel) by the control station, or remote, transmitter, activation requires the installation of photo eye sensors safety system.**
12. For products having a manual release, instruct the end user on the operation of the manual release.

For Important Safety Instructions see page 26.

Shown on the right is an overall view of a completed garage door operator system installed on a sectional door.



8. INSTALLATION STEPS

Identify a sound structural support on header wall above garage door for header bracket mounting. See Fig. 9. If appropriate header does not exist, replace or install a new support using a 50mm x 100mm or a 50mm x 150mm board. Fasten it securely using lag screws (not provided) to structural supports of garage. See Fig. 10 and 11.

8-1. MEASURE AND MARK DOOR AREA

Before starting your installation, the door and the header above the door must be measured and marked. This way, the appropriate brackets can be mounted at the correct locations avoiding installation and operating difficulties later.

MARK VERTICAL CENTER LINE:

- Measure door width, then locate the center point (Fig. 9).
- Mark a vertical line on the upper half of your door, on the top edge of your door, and on the header, through the centerpoint.

MEASURE DOOR'S HIGHEST TRAVEL POINT:

(Review Fig. 3 on p. 6 for details)

- Open door to its highest travel point and measure from the garage floor to the top of door.
- Write down this distance.
- Add 1-1/4" (30mm) to the door travel height (measured above).

MARK HORIZONTAL LINE FOR HEADER BRACKET LOCATION:

- Close door and measure the required distance (determined above) from the garage floor to the header.
- Mark a horizontal line, intersecting the vertical center line, on header. This is the position at which the bottom of the header bracket should be installed.
- In case of minimal clearance above the door, the header bracket may be mounted to the ceiling. In this case, extend the vertical center line onto the ceiling, and mark a horizontal line on the ceiling no further than 4" (100mm) from the header wall. The header bracket should be mounted no farther than this distance from the header wall.

8-2. INSTALL HEADER BRACKET

Header bracket kit located in rail carton.

⚠ WARNING ⚠

If the header bracket is not rigidly fastened to a sound structural support on the header wall or ceiling, the safety reverse system may not work and could cause serious injury or death. DO NOT move or adjust springs or garage door hardware, as these parts are under extreme tension and could cause injury or death.

Fig. 9

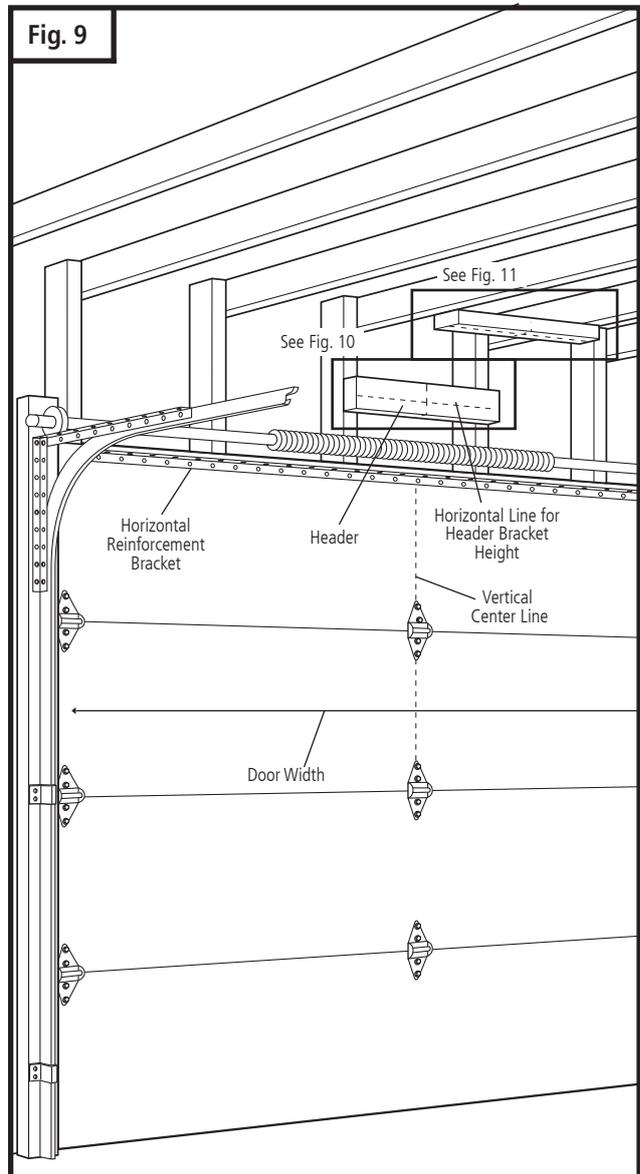
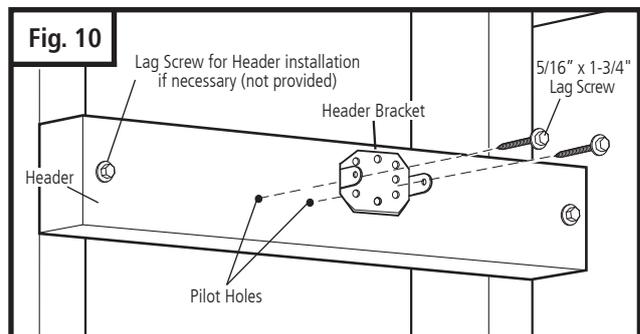


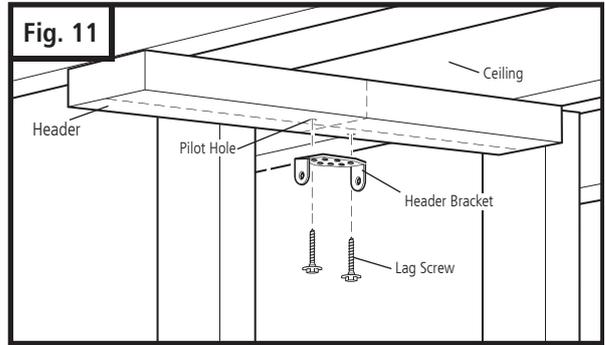
Fig. 10



8-2. INSTALL HEADER BRACKET (cont'd)

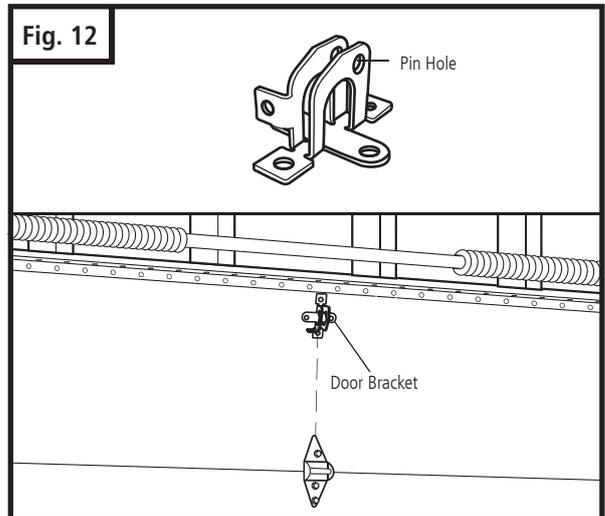
- Mark pilot holes location on header through header bracket holes where lag screws will be inserted.
IMPORTANT: See Fig. 10 for which header bracket holes to use.
- Drill 3/16" pilot holes into header, and install bracket with lag screws (5/16" x 1-3/4") provided.
- Tighten lag screws firmly.

NOTE: Follow the same procedure if header runs vertically instead of horizontally and is the only option for mounting header bracket to header wall. In case of minimal clearance above the garage door, the header bracket may be mounted to the ceiling (Fig. 11). Follow the same steps above to ensure a sound surface for mounting.



8-3. INSTALL DOOR BRACKET TO DOOR

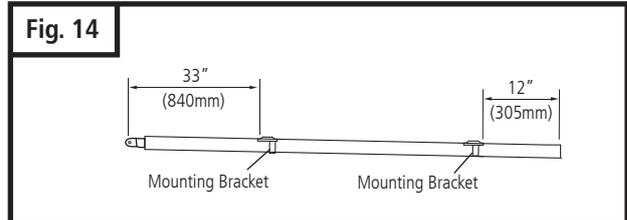
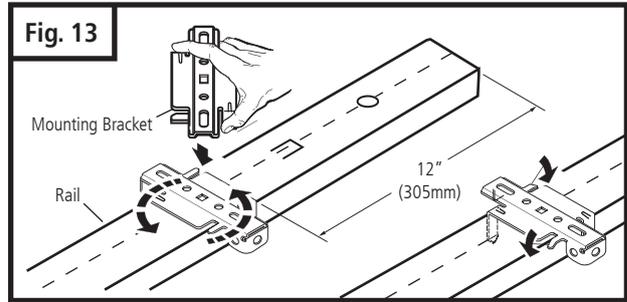
- Position door bracket (Fig. 12) along vertical center line of door with pin hole facing top of the door and top edge of the bracket 4" to 5" (100mm - 125mm) below top edge of the door, or roughly at the same height as top rollers on the door.
- Attach door bracket to metal sectional door with two teck screws (provided) per door manufacturer recommendations.
- Use 1/4" 20x2" carriage bolts, washers and 1/4-20 nuts for wood sectional doors (provided).



8-4. ONE PIECE RAIL ASSEMBLY

NOTE: Rail comes fully preassembled with straight door arm already attached.

- Unpack one-piece preassembled rail.
- Leave straight door arm taped inside rail for safe and convenient installation—it will be untaped and used later.
- Place mounting bracket over rail (close side) on a diagonal. Make sure support securement clamps clear rail sides.
- Twist mounting bracket and secure onto rail 12" (305mm) from sprocket end side of rail as shown in Fig. 13.
- Place second mounting bracket over the backside of the rail 33" (840mm) from pin hole. See Fig. 14.
- Secure bracket as shown on Fig. 13.

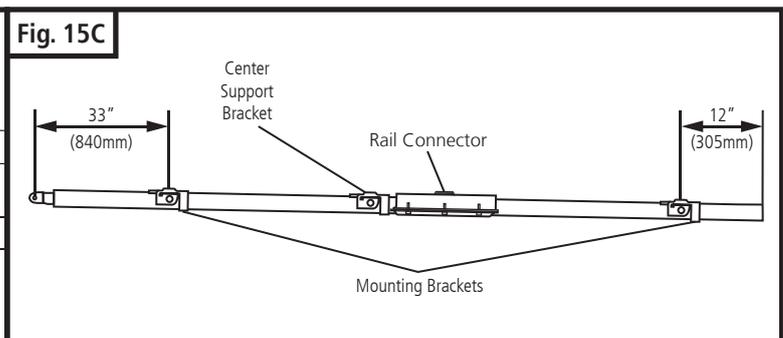
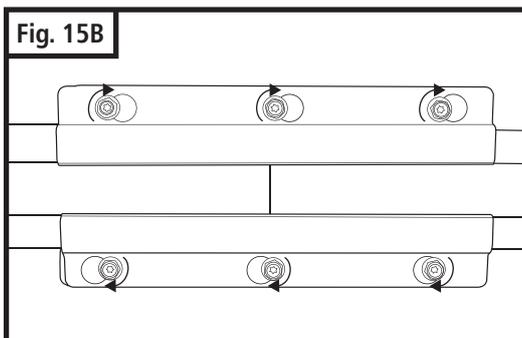
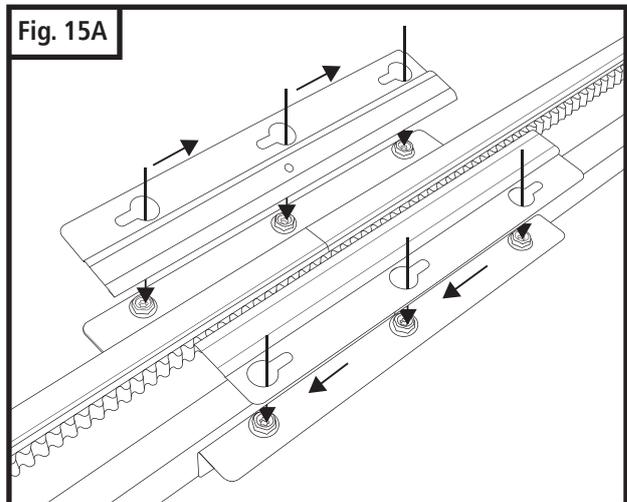
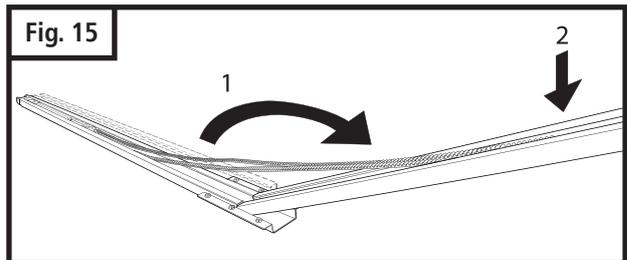


8-5. TWO PIECE RAIL ASSEMBLY

- Unpack two-piece preassembled and pretensioned rail and place it on the floor.
- Save center support bracket and header bracket kit for later in the installation.

ATTENTION: Leave straight door arm taped inside rail for safe and convenient installation. Instructions when to unwrap straight door arm will be given in operator's instruction manual.

- Take the rail half with the end bracket and trolley and insert rail in connector as shown in Fig. 15, step 1.
- Swing the other rail half and insert rail in connector as shown in Fig. 15, step 2. Lower the rail end towards the floor to snap rail half in place.
- Install connector clamps and tighten screws as shown in Fig. 15A.
- Locate and use the two mounting brackets included with operator's hardware kit.
- Place first mounting bracket on rail sprocket side, and secure onto rail 12" (305mm) as described on one piece rail as shown on Fig. 13.
- Place second mounting bracket over the backside of the rail 33" (840mm) from pin hole as shown in Fig. 15C.
- Place center support bracket provided with rail hardware as shown in Fig. 15C and secure bracket onto rail.



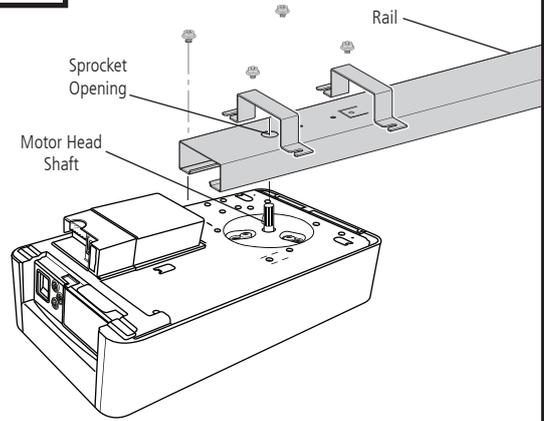
8-6. ATTACH RAIL TO OPERATOR HEAD

⚠ WARNING ⚠

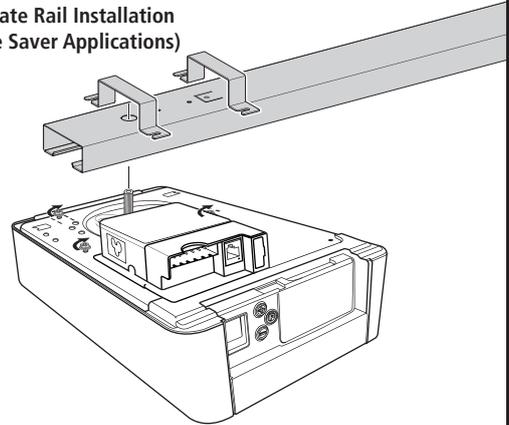
When fastening the rail to the operator, use only the screws provided. Use of any other screws may result in operator falling from ceiling and causing damage to persons or property in the garage.

- Position operator with control panel facing back of garage. Rest operator head on cardboard or protective surface on floor so opener does not get scratched.
- Position rail onto operator chassis by lining up rail sprocket opening with motor head shaft (Fig. 16). Make sure shaft engages teeth inside rail sprocket. Press rail down firmly onto shaft and opener chassis. DO NOT HAMMER.
- Position the two rail brackets over rail as shown in Fig. 16.
- Insert screws (M5 x 8.5) through bracket holes and into chassis holes, and tighten screws firmly to hold rail to head.

Fig. 16 Standard Application



Alternate Rail Installation (Space Saver Applications)



8-7. ATTACH RAIL TO HEADER BRACKET

- Support operator head slightly off the floor.
- Lift the opposite end of the rail up to the header bracket.
- Position rail end-stop within the openings in the header bracket. Insert header clevis pin (1/4" dia.) through header bracket and rail end, then attach cotter ring to end of pin. (See Fig. 17A)

Fig. 17

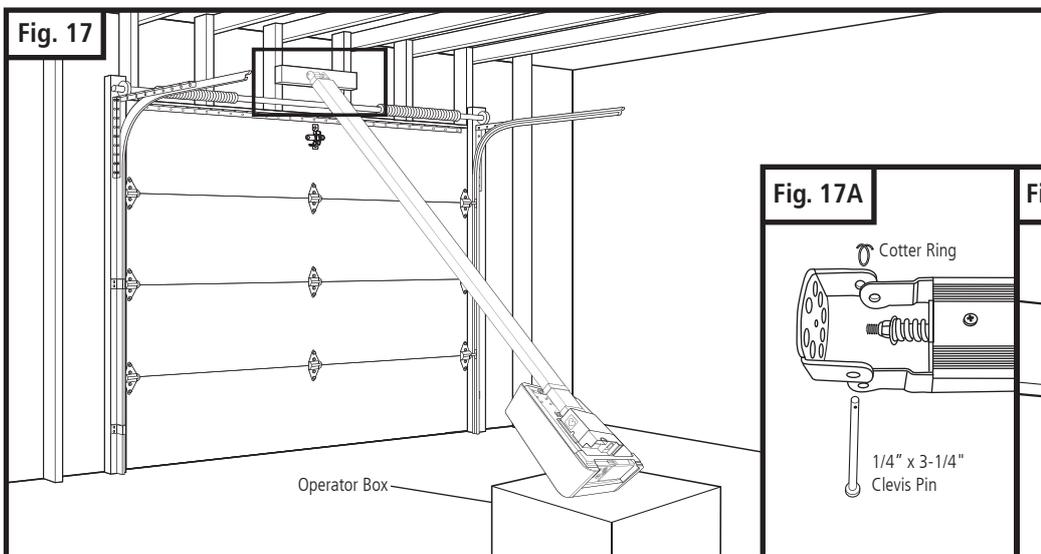


Fig. 17A

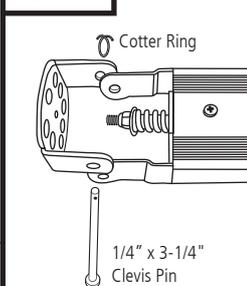
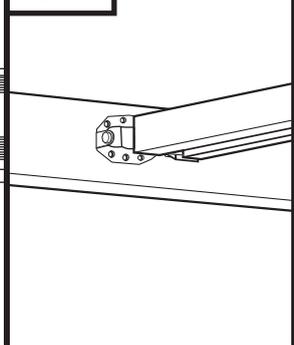


Fig. 17B

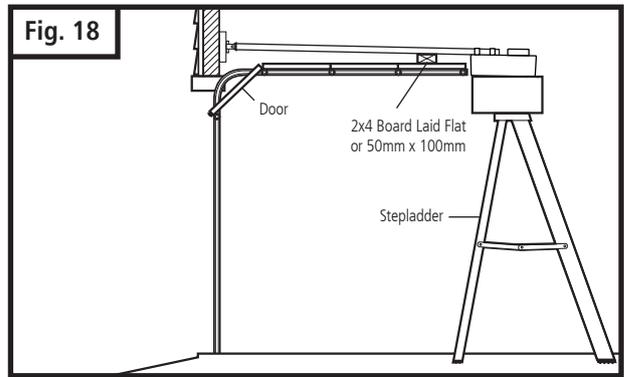


8-8. POSITION OPERATOR FOR MOUNTING

Once rail is attached to header bracket, support operator on ladder, or use the assistance of another person to support operator high enough so door can open without hitting the rail.

- Open garage door to fully opened position, and place a 2x4 (50mm x 100mm) laid flat between the door and the rail. See Fig. 18. This provides an easy method of ensuring the correct mounting height of the opener.

Fig. 18



8-9. MOUNT OPERATOR TO CEILING

⚠ WARNING ⚠

If not properly secured, the operator could fall and injure someone. Secure opener to structural supports or framing. Do not mount to drywall, plaster, or other such material.

- Position opener head so that rail is lined up with center line of open door.
- Line up sturdy perforated angle (not provided) with ceiling joists above rail mounting bracket. In case of finished ceiling use stud finder to locate joists.
- Mark location for 5/16" x 2" lag screws (not provided), and drill two 3/16" pilot holes.
- Fasten sturdy perforated angle to joists using lag screws.
- Measure distance from each side of mounting bracket to the perforated angle.
- Cut pieces of hanging brackets (perforated angles) to required lengths.
- Attach one end of each hanging brackets to rail mounting brackets with 5/16"-18 x 7/8" hex bolts, 5/16"-18 nuts, and 5/16" lock washers (hardware not provided).
- Fasten another end of hanging brackets to perforated angles using the same hardware.
- Once opener is securely fastened in position, remove wood block and lower door. Check door for proper operation and clearance by manually moving door to full open and closed position. If door hits rail at any point, raise opener head slightly higher and re-mount in position.
- Mark location and drill pilot holes for second perforated angle which will be located above second mounting bracket.
- Follow the same steps above for second mounting bracket. See Fig. 20.

Note:

For 2-Piece Rail, follow the same procedure as described and shown in Fig. 20A.

Fig. 19

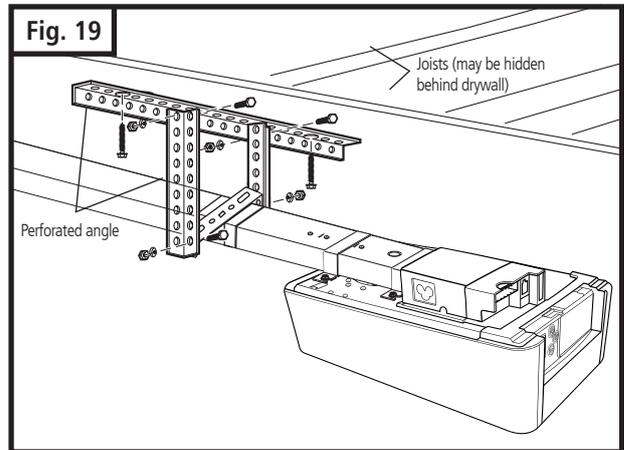


Fig. 20

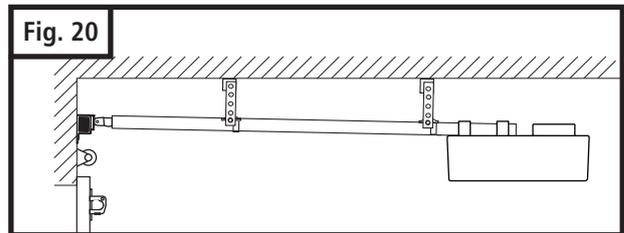
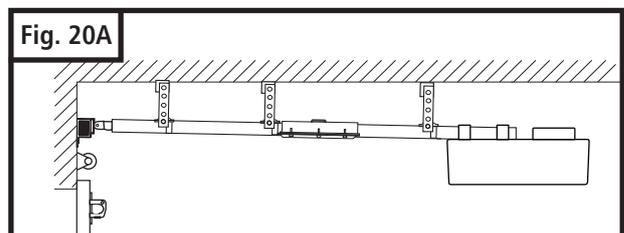


Fig. 20A



8-10. CONNECT ARM TO DOOR AND TROLLEY

- Make sure door is fully closed.
- Remove tape from rail holding straight door arm (sectional door only) and allow door arm to hang freely.
- Position curved door arm into door bracket channel so that short end of arm will be attached to door bracket. See Fig. 22. Curved door arm should be attached roughly at the same height as the top rollers of the door.
- Align curved door arm and bracket holes, then insert clevis pin through holes. Attach cotter ring to hold pin in place.
- Position straight arm and curved arm to form an angle with the door (Fig. 21) and at least two sets of holes line up. Select two overlapping holes as far apart as possible and secure arms together with hex bolts $5/16''-18 \times 3/4''$ and $5/16''-18$ lock nuts.

8-11. RAIL BUMPER INSTALLATION

ATTENTION

THE RAIL BUMPER IS AN IMPORTANT PART OF GARAGE DOOR OPERATOR SYSTEM. THE BUMPER IS DESIGNED FOR SETTING UP AND MONITORING THE OPERATOR'S TRAVEL LIMITS.

- With the trolley still in the unlocked position, manually move door up to the desired location. See Fig. 23.
- Snap rail bumper into place as shown in Fig. 24.
- Hold door and measure $1/2''$ (13mm) between trolley end and the bumper as shown in Fig. 25. This is the installation location for the rail bumper.

Important: The distance between the trolley and the bumper should not be greater than $1/2''$.

- Secure bumper with self-tapped $3.9 \times 32\text{mm}$ screws provided. Cover screws with plastic caps provided as shown on Fig. 25.

IMPORTANT NOTE

PULL RELEASE HANDLE TOWARDS DOOR FRAME TO LOCK TROLLEY, THEN MOVE DOOR MANUALLY UNTIL TROLLEY LOCKS WITH CHAIN OR BELT CONNECTOR.

Fig. 21

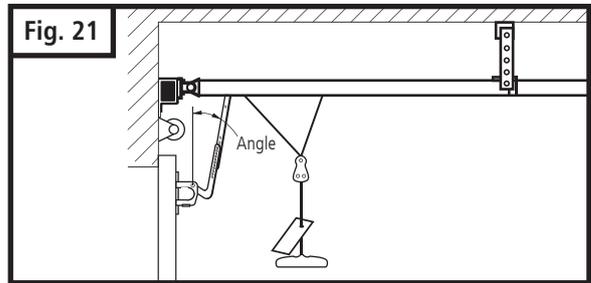


Fig. 22

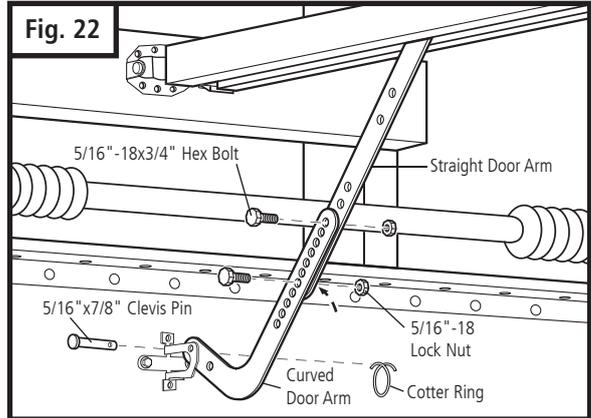


Fig. 23

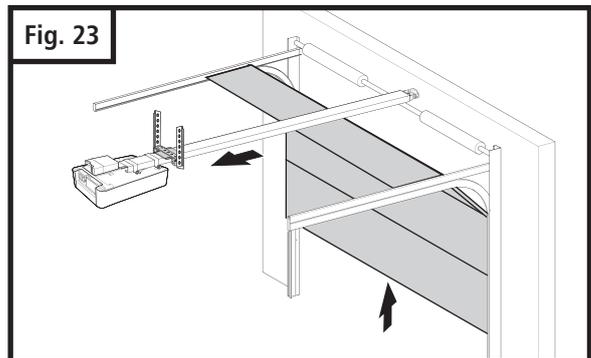


Fig. 24

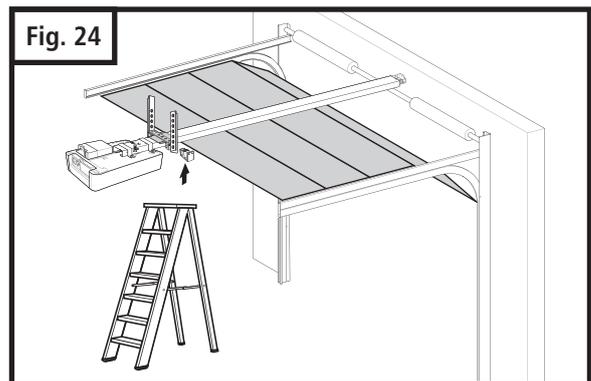
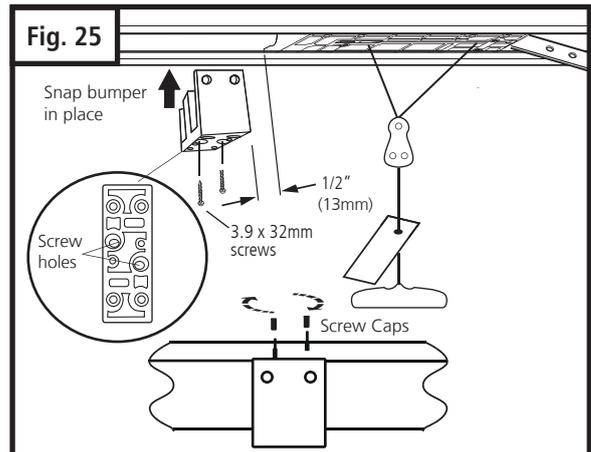


Fig. 25



8-12. CHECK EMERGENCY RELEASE



WARNING

To prevent possible **SERIOUS INJURY** or **DEATH** from a falling garage door:

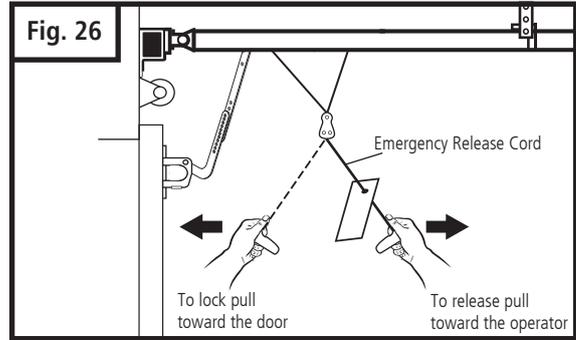
- If possible, use emergency release handle to disengage trolley **ONLY** when garage door is **CLOSED**. Weak or broken springs or unbalanced door could result in an open door falling rapidly and/or unexpectedly.
- **NEVER** use emergency release handle unless garage doorway is clear of persons and obstructions.
- **NEVER** use handle to pull door open or closed.

The release cord with handle should be adjusted to hang **6 ft. (1.8m)** above garage floor.

To adjust:

- Slide handle up on cord.
- Tie new knot at correct height.
- Cut excess cord, leaving approximately 1" (25mm) after knot.
- Heatseal end of cord with match or lighter to prevent fraying.
- Slide handle back into place.

The emergency release cord with a red handle which is already attached to the trolley, are extremely important parts of the operator system. Pulling the release cord (see Fig. 26) disengages the door from the opener. This allows the door to be moved manually up and down independent of the opener motor.



If the door is in the open position, use extreme care when using the release.

Use emergency release to disconnect the door if the power is out. This allows the door to be moved manually up and down independent of the operator motor. It should also be used if for some unforeseen reason the door strikes a person or object during its travel and does not automatically reverse off the obstruction.

To release door—pull emergency release handle toward the operator at approximately 45 degrees (Fig. 26).

Prior to re-engaging door, ensure that all obstructions are removed and door is operating properly manually. Before re-gaging trolley with a belt connector, pull handle toward the door at approximately a 45 degree angle. Now the door can be reconnected by moving it manually and bringing it into position when the connector is inside of the trolley.

8-13. PHOTO EYE SAFETY SYSTEM



WARNING

To provide the maximum protection install the photo eye sensors so beam is **NO HIGHER** than **6" (150mm)**.

MOUNTING THE PHOTO EYE SENSOR BRACKETS TO WALL

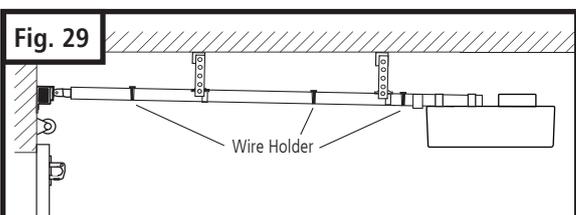
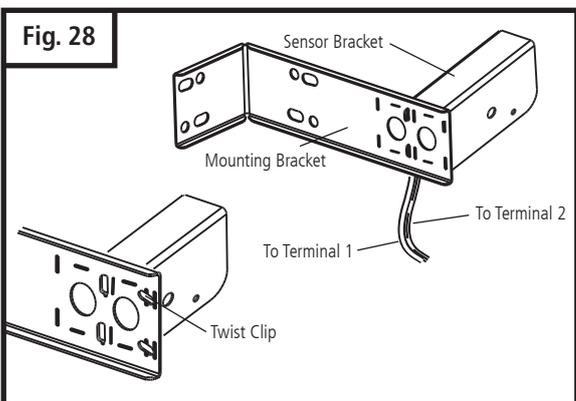
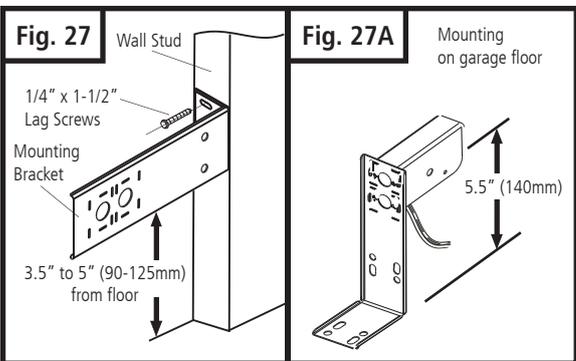
- Locate the mounting position for photo eye brackets 3.5" to 5" (90-125mm) from floor level. After mounting, the photo eye beam must have a clear path from one side of the door to the other.
- Use the bracket mounting holes as a template to locate an drill (2) 3/16" diameter pilot holes on both sides of the garage door as shown in Fig. 27
- Secure the bracket with 1/4" x 1-1/2" lag screws provided as shown in Fig. 27.

MOUNTING THE PHOTO EYE SENSORS TO MOUNTING BRACKET Fig. 28

- Install the sensors to the mounting bracket by inserting bend clips of sensor bracket through the vertical slot on mounting bracket.
- Insert straight clips through other set of vertical slot on the mounting bracket.
- Twist one of the straight clips slightly to lock the sensor in place once inserted through vertical slot on the mounting bracket.
- Repeat the above procedure for the other sensor.

ROUTE WIRES Fig. 29

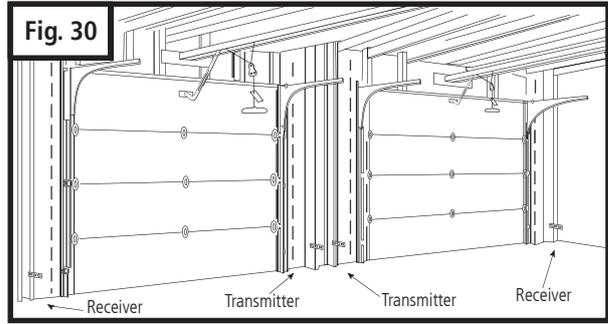
- Route wires along wall use staples (not provided) to secure wiring to wall. Do NOT pinch wire. Drive staples with only enough force to hold wiring in place. Be sure the wiring is routed away from all moving parts of door and rail.
- Run wires along the top of the rail assembly and secure them in wire holders.



8-13. PHOTO EYE SAFETY SYSTEM (cont'd)

DUAL DOOR INSTALLATION Fig. 30

- In dual door installations, the transmitter (TX) and the receiver (RX) photo eye sensors (as marked on each of the photo eye components) should be mounted as indicated. TX and RX marks located on the back side of the transmitter and receiver.



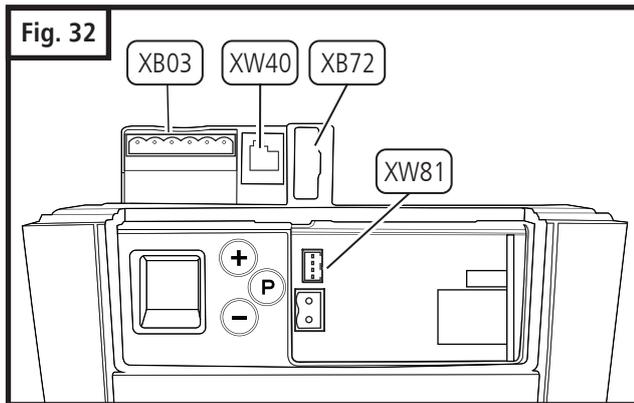
9. CONTROL UNIT CONNECTIONS



Danger of electric shock

Before any wiring work begin, make sure that the operator and all wiring is disconnected from the power supply. During wiring make sure all wires remain disconnected from the power supply at all times.

| | |
|------|---|
| XB03 | Connection for photo eye safety system Connection for residential wall control |
| XB72 | Connection for modular antenna |
| XW40 | Connection for MS bus expansion module (Industrial Wall Control) |
| XW81 | Inputs/outputs modules connection |

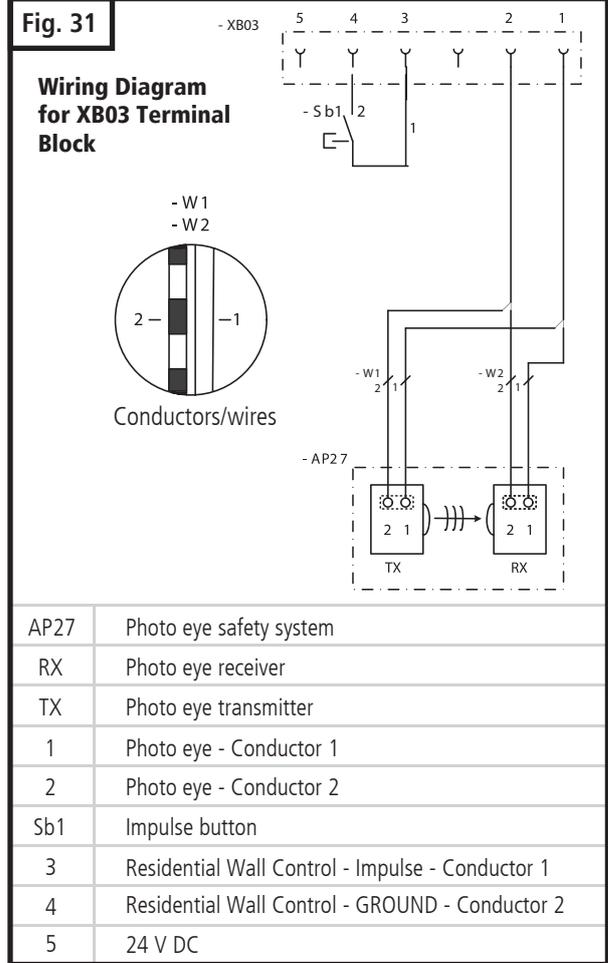


10. CONNECTING WIRES TO OPERATOR

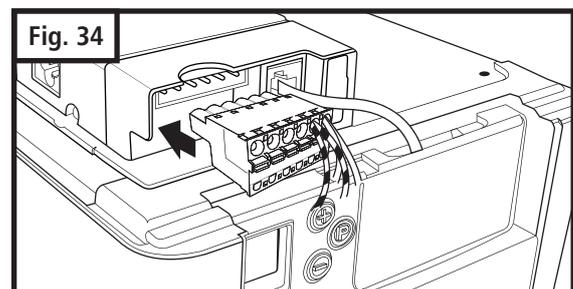
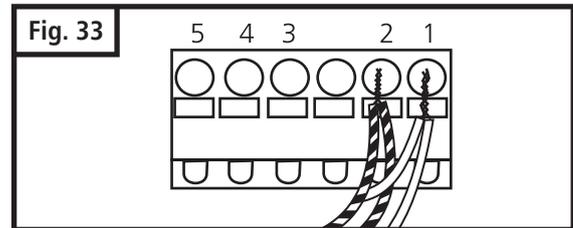
- Separate the double wire from each photo eye into two single wires: the white wire and the white wire with black stripes.
- Combine the white wires from each photo eye and twist stripped ends together tightly.
- Insert stripped end of white wire combination into terminal block hole #1. See Fig. 33.
- Repeat procedure for the white wires with black stripes except insert them into terminal hole #2.
- Connect terminal block with attached wires to control unit, see Fig. 34.

For reference see wiring diagram Fig. 31.

Note: After installation of photo eye safety system, an additional wall control model M3-543 may be installed with wires connected to terminals #3 and #4. See Fig. 31 and 33.



| | |
|------|--|
| AP27 | Photo eye safety system |
| RX | Photo eye receiver |
| TX | Photo eye transmitter |
| 1 | Photo eye - Conductor 1 |
| 2 | Photo eye - Conductor 2 |
| Sb1 | Impulse button |
| 3 | Residential Wall Control - Impulse - Conductor 1 |
| 4 | Residential Wall Control - GROUND - Conductor 2 |
| 5 | 24 V DC |



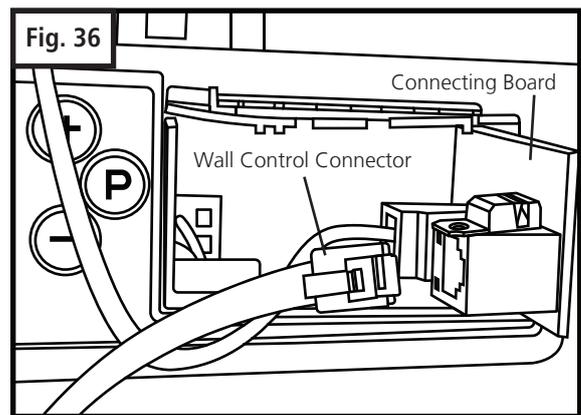
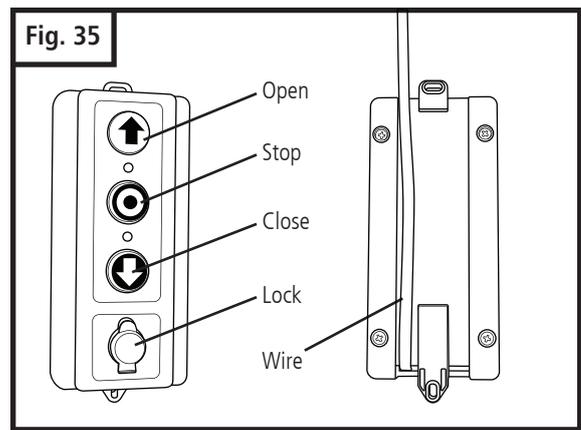
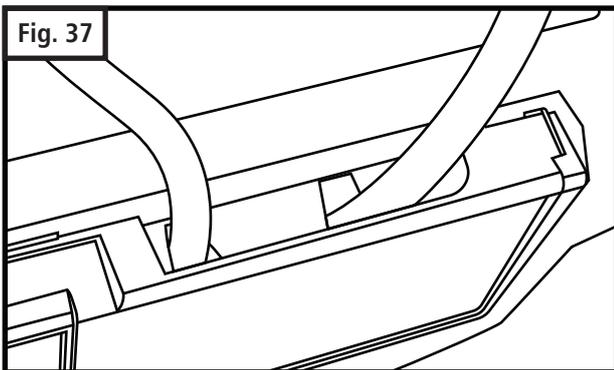
11. INSTALL 3-BUTTON INDUSTRIAL WALL CONTROL STATION

The control station must be mounted inside the building within sight of the building door, clear of all moving building door parts or any associated parts - and at least 5 feet (1.5m) above the floor to prevent the use of these controls by children. The device should only be used when the door is in clear sight of the user and the door area is free of people or any obstructions.

- Position wall control in desired location.
- Mark hole location on wall.
- Drill 1/16" pilot holes into wall.

If mounting to drywall instead of wood, drill 3/16" pilot holes and use anchors provided.

- Wiring is routed out behind wall control.
- Insert and tighten screws to secure wall control.
- Route wire along wall using staples (not provided) to secure wire to wall. Do NOT punch wire. Drive staples with only enough force to hold wire in place.
- To connect wall control to operator, remove operator's back cover, pull connecting board from operator and snap wall control connector into the board. See Fig. 36.
- Locate wall control wire in cut off in operator back plate. See Fig. 37.
- Replace back cover.



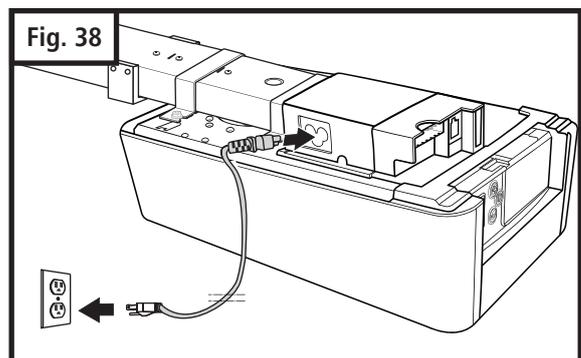
12. CONNECT TO POWER

To reduce the risk of electric shock, your operator is provided with an insulated power cord with a 3-prong grounding plug. The cord must be connected to a standard grounding outlet. If there is no outlet available at the location, you must have a qualified electrician install an approved grounded outlet in this area.

⚡ WARNING ⚡

To prevent electrocution or fire, installation and wiring must be done in accordance with local electrical and building codes. DO NOT use an extension cord. DO NOT use a 3 to 2 plug adapter. DO NOT modify or cut off the grounding pin on the plug.

- Plug the operator into a properly grounded outlet (Fig. 38).
- The display will illuminate the word "On" and  will be displayed. This indicates that the operator is ready for set up. See Fig. 39A for additional display icons.
- DO NOT operate or run the opener at this time.



IMPORTANT

Contact Marantec America for Replacement Power Cord

Part #105475
 Model: YP-12/YC-12
 Overall length 6ft.
 UL/CSA Recognized
 UL Type: E241374: SJT 3/C 18AWG 10⁵ C 300V VW-1
 CSA 177323: SJT 3/C 18AWG 10⁵ C 300V FT2

13. SYSTEM SET UP

⚠ WARNING ⚠

In order to insure a trouble-free programming, the door must be in the "CLOSED" position and engaged to the drive system (rail) before programming the operator or a system reset is performed.

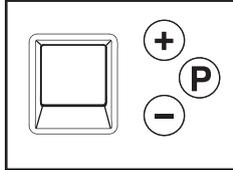
Fig. 39

Overview of the control unit

Control elements



LED display



- Drive the door in the OPEN direction, increase the value
- Drive the door in the CLOSE direction, decrease the value
- Start programming, confirm and save values

For proper initial operation of the operator, three basic functions must be set using the initial system programming:

- Open Door Position
- Close Door Position
- Program Remote Control (Transmitter)

Press and hold the "P" button for approximately 3 seconds. When illuminates, release the button. You are now ready to set or change the desired adjustment. If no buttons are pressed within 120 seconds while in programming mode, the control unit reverts back to operating mode.

TO MAKE OR CHANGE ANY ADJUSTMENT

If no changes are needed at any particular stage, you can keep the current information and "skip" over a specific adjustment by pressing the "P" button once. This is useful to know if you want to change only one setting, without changing any of the other adjustments. Simply enter the adjustment mode by pressing and holding the "P" button for approximately 2 seconds, then press and release "P" repeatedly until your particular adjustment is reached. This bypasses the unneeded adjustments, and takes you right to the adjustment you want. When your adjustment or setting is complete, simply press "P" as many times as needed to bypass the remaining steps and exit out of the program, returning the operator to normal mode.

NOTE: You may exit the System Set Up at any time by pressing the button "P" for more than 5 sec. The set up programming can be terminated at any time and from any stage. To do so, press the "P" button for longer than 5 seconds.

RESET FUNCTION

There might be times when the operator may have to reset in order to restore the operating system factory default setting. To reset operator by using three control buttons, , , see Fig. 39B or use operator reset procedure on page 22.

Fig. 39A

| Display | Description |
|---------|---|
| | Ready for operation |
| | Door position: CLOSED |
| | Door position: OPEN |
| | Fault message / Maintenance indicator in CLOSED door position |
| | Photoeye safety system |
| | Remote control |
| | External button |

| | |
|--|---|
| | Status display Battery backup system connected |
|--|---|

| | |
|--|--|
| | Level indicator Display shows Level 2 |
|--|--|

| | |
|--|---|
| | Menu and parameter indicator (Displayed Menu 3, Parameter Setting 8) |
|--|---|

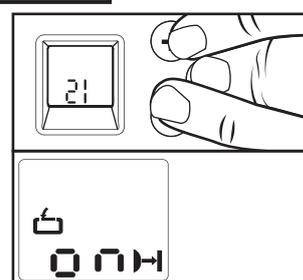
Minute indicator

| | |
|--|---|
| | Times exceeding one minute are shown in minutes and seconds. Example: 1.2 = 1 minute + 20 seconds = 80 seconds |
|--|---|

Status display

| Display | Function / Element |
|---------|--|
| | Warning time indicator (only for programmed automatic closing) |

Fig. 39B



Press and hold at the same time all three control buttons, , , as shown in Fig. 43A until counter reaches 21. Then depress buttons and let system reset.

Once the operator completes the Reset Process, The LCD display illuminates and stand-by mode is displayed as shown.

13. SYSTEM SET UP (cont'd)

| | | | |
|---|---|---|--|
|  <p>System initial display on control panel screen upon power ON</p> | 1 | System set up start and program open door travel position | Control Panel Display |
| | | <ul style="list-style-type: none"> To start the system set up, press and hold the  button for approximately 5 seconds. Once the display timer counter reaches the count of 5, release the  button. The blinking open door icon is displayed on the control panel screen. Set the open door travel position by pressing and holding the  button until the door reaches the desired open travel position. Further fine tuning of the open position can be performed by using the  or  buttons. Important Note: The back of the trolley must be approximately half inch from the reference bumper on rail. Once the desired open travel position is reached, press  button to save open travel position and move to the next step in the system set up. |   |
| | 2 | Program close door travel position | |
| | | <ul style="list-style-type: none"> The blinking closed door icon is displayed on the control panel screen. Set the close door travel position by pressing and holding the  button until the door reaches the down travel position desired. Important Note: In order to avoid unintentional door reversal, DO NOT set the down travel position too close to the floor where the door rubber seal is completely squeezed/compressed against the ground. Further fine tuning of the close travel position can be performed by using the  or  buttons. Once the desired close travel position is reached press  button to save the close travel position and move to the next step in the system set up. |  |
| | 3 | Program a remote control (requires the activation kit) | |
| | | <ul style="list-style-type: none"> The transmission icon will blink on the control panel display. This indicates the operator is ready to learn the remote control code. Press and hold the button on the remote control that you wish to use. The transmission icon will change its displayed symbol to a solid icon. This indicates that the remote control code has been successfully learned by operator. Release the remote control button. Press  button to save remote control code and end the system set up. |  |

System display on control panel screen after set-up is completed.



NORMAL OPERATION **IMPORTANT**

On the first open travel activation, the trolley will make contact with and will rest against the rail bumper. This will appear as if the system (door) went past the set open travel limit. However, this is not the case. On the next open travel cycle, the system will recognize the program travel limit. Every 10 full cycles the operator will perform a travel limit check and it will function as described on "Normal Operation" note.

IMPORTANT

Upon completion of the initial set up, the operator must be cycled for two complete cycles (complete cycle comprises of one uninterrupted up activation of the system and one uninterrupted down activation of the system).

Legend

| | |
|---|---|
| Drive the door in the OPEN direction, increase the value |  |
| Drive the door in the CLOSE direction, decrease the value |  |
| Start programming, confirm and save values |  |
| The display flashes |  |
| Display lights up |  |
| Ready for operation |  |
| Door position: CLOSED |  |
| Door position: OPEN |  |
| Fault message/Maintenance indicator in CLOSED door position |  |
| Photoeye safety system or closing edge safety device |  |
| Remote control |  |
| External button |  |

14. ADVANCED SETTINGS

CAUTION

Additional operator functions can be set using the advanced operator functions. Parameters factory default settings can be restored. This programming may only be carried out by a professional installer.

CAUTION

After a system reset, all parameters are restored to the factory settings.

- All the required function in the initial set up and advanced settings must be re-programmed if it is required.
- The operator must be activated for two (2) complete uninterrupted cycles in order for all restored or operating parameters settings to be learned by the operator again.

| Advanced Settings Programming Procedure (Diagram Illustrates Setting of Level 6, Menu 4) | | | | | |
|--|---|--|-----------|---|--|
| 1. | Door should be in closed position. The control system operating mode will be displayed as shown. | | 7. | Press and release ⊖ to change screen display. Number "7" will blink. | |
| 2. | Press and hold Ⓟ button until counter passes number "10". Then release the Ⓟ button. Screen display as shown. | | 8. | Press and release Ⓟ . Save parameter setting. | |
| 3. | Press ⊕ to select Level 6. Screen display as shown. | | 9. | Press Ⓟ for 5 seconds to exit advanced settings set up. | |
| 4. | Press Ⓟ . Menu 1 will appear on display as shown. | | OR | | |
| 5. | Press ⊕ to select Menu 4 (reset menu). Screen will display "16" as shown. | | 10. | Repeat steps 2-8 to change other Menu parameters | |
| 6. | Press and release Ⓟ . Number "16" blinks. | | | | |

14. ADVANCED SETTINGS (cont'd)

General overview of the programmable functions

| Level | Menu | Factory default setting  |
|--|--|---|
| Level 1 – Basic function | Menu 3: Mid-Stop “OPEN Position” | |
| | Menu 4: Mid-Stop “CLOSE Position” | |
| | Menu 8: RESET | |
| Level 2 – Operator settings | Menu 1: “OPEN” position – operator (system) force | Setting 8 |
| | Menu 2: “CLOSE” position – operator (system) force | Setting 8 |
| | Menu 3: “OPEN” position – operator sensitivity | Setting 15 |
| | Menu 4: “CLOSE” position – operator sensitivity | Setting 15 |
| Level 3 – Automatic timer to Close | Menu 1: Timer to close - Setup | Deactivated |
| | Menu 3: Open door timer | Off |
| | Menu 4: Warning - Phase Time | Off |
| | Menu 5: Start-up warning timer | Off |
| Level 4 – Transmitter Additional Functions | Menu 2: Mid-Stop “OPEN” | |
| | Menu 3: Mid-Stop “CLOSE” | |
| Level 5 | Menu 4: Light timer | Setting 4.1 (255 sec) |
| Level 6 – Variable speed | Menu 1: OPEN speed | Setting 16 |
| | Menu 2: Soft run OPEN speed | Setting 6 |
| | Menu 3: Soft run OPEN position | |
| | Menu 4: CLOSE speed | Setting 16 |
| | Menu 6: Soft run CLOSE speed | Setting 6 |
| Level 7 – Maintenance and servicing | Menu 1: Door cycle counter | |
| | Menu 2: Servicing counter | |
| | Menu 3: Servicing interval | |
| | Menu 8: Reset maintenance and servicing | |
| | Menu 9: Fault indicator | |
| Level 8 | Menu 7: Force relief CLOSED door position | Setting 1 - Not Active |

Level 1: Basic Functions

| |
|--|
| Menu 3: Mid-Stop “OPEN Position” |
| Set using the (+ / OPEN) and (- / CLOSE) buttons. Available ONLY with kit part #158667 Note: Only one mid-stop position can be selected. |
| Menu 4: Mid-Stop “CLOSE Position” |
| Set using the (+ / OPEN) and (- / CLOSE) buttons. Available ONLY with kit part #158667 Note: Only one mid-stop position can be selected. |

Menu 8: System RESET

| | | | |
|---|----------|---|-----------------------|
| 1 | No reset | 2 | Reset system settings |
|---|----------|---|-----------------------|

| Reset Procedure | | | | | |
|-----------------|---|---|-----|---|--|
| 1. | Door should be in closed position. The control system operating mode will be displayed as shown. |  | 7. | Press and release  to change screen display. Number “2” will blink. |  |
| 2. | Press and hold  button until counter passes number “10”. Then release the  button. Screen display as shown. |  | 8. | Press and release  to reset operator. During reset the display screen will turn blank for a couple of seconds. | |
| 3. | Press  to select Level 1. Screen display as shown. |  | 9. | Upon completion of operator reset, the LCD display illuminates. Stand-by mode is displayed as shown. |  |
| 4. | Press  . Menu 3 will appear on display as shown. |  | 10. | The operator must be set up again as described in Section 11. | <div style="border: 1px solid black; padding: 5px;">IMPORTANT Upon completion of the initial set up, the operator must be cycled for two complete cycles (complete cycle comprises of one uninterrupted up activation of the system and one uninterrupted down activation of the system).</div> |
| 5. | Press  to select Menu 8 (reset menu). Screen will display “1” as shown. |  | | | |
| 6. | Press and release  . Number “1” blinks. |  | | | |

14. ADVANCED SETTINGS (cont'd)

Level 2: Operator settings

| | | | | | | | | | | | | | | | | |
|---|-----|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|
| Menu 1: "OPEN" position operator (system) operating force ← Lower Force Higher Force → | | | | | | | | | | | | | | | | |
| 8 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Menu 2: "CLOSE" position operator (system) operating force ← Lower Force Higher Force → | | | | | | | | | | | | | | | | |
| 8 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Menu 3: "OPEN" position operator sensitivity ← More Sensitive Less sensitive → | | | | | | | | | | | | | | | | |
| 15 | OFF | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Menu 4: "CLOSE" position operator sensitivity ← More Sensitive Less sensitive → | | | | | | | | | | | | | | | | |
| 15 | OFF | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

Level 3: Automatic timer to close

| | | | | | | | | | | | | | | | | |
|---|-------|---|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|
| Menu 1: Timer to close - Setup | | | | | | | | | | | | | | | | |
| 1 | 1 off | 2 | 3 | 4 | 5 | 6 | 7 | 8 | - | - | - | - | - | - | - | - |
| Menu 3: Open door timer (in seconds)* | | | | | | | | | | | | | | | | |
| 2 | 2 off | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 50 | 80 | 100 | 120 | 150 | 180 | 255 |
| Menu 4: Warning - Phase Timer (in seconds)* | | | | | | | | | | | | | | | | |
| 1 | 1 off | 2 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 |
| Menu 5: Start-up warning timer (in seconds) | | | | | | | | | | | | | | | | |
| Off | 2 | 3 | 4 | 5 | 6 | 7 | 8 | - | - | - | - | - | - | - | - | - |

* Note: Parameter value in Menus 3 and 4 change based on step selected in Menu 1.

Menu 1: Timer-to-close setup

| | Door open duration | Warning time | Signal light (Optional kit required) | Other functions |
|---|--------------------|--------------|--------------------------------------|---|
| 1 | - | - | - | Automatic closing timer deactivated |
| 2 | 15 | 5 | flashes | - |
| 3 | 30 | 5 | flashes | - |
| 4 | 50 | 10 | flashes | - |
| 5 | 15 | 5 | flashes | closes after the photocell barrier has been driven past |
| 6 | 30 | 5 | on | closes after the photocell barrier has been driven past |
| 7 | 50 | 10 | on | closes after the photocell barrier has been driven past |
| 8 | Always open (4.1) | 5 | on | closes after the photocell barrier has been driven past |

CAUTION

- The automatic timer-to-close requires photo eyes safety system to be installed.
- The default setup established by the selection in Menu 1 can be altered as desired via the time settings in Menus 3, 4 and 5.

14. ADVANCED SETTINGS (cont'd)

Level 4: Transmitter Additional Functions

| |
|--|
| Menu 2: Mid Stop "OPEN" position transmitter code programming |
| One programmable position possible from Level 1 Menus 3 or 4 Available ONLY with kit part #158667 |
| Menu 3: Mid-stop "CLOSE" position transmitter code programming |
| One programmable position possible from Level 1 Menus 3 or 4 Available ONLY with kit part #158667 |

Level 5: Functions overview

| | | | | | | | | | | | | | | | | |
|---|---|---|----|----|----|----|----|----|----|----|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Menu 4: Operator Light "ON" → | | | | | | | | | | | | | | | | |
| Timer (in seconds) | | | | | | | | | | | Timer (in minutes) | | | | | |
|  | 2 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 50 | 1.2 (80sec) | 1.4 (100sec) | 2.0 (120sec) | 2.3 (150sec) | 3.0 (180sec) | 4.1 (255sec) |

Level 6: Variable Speed

| | | | | | | | | | | | | | | | | | | | | |
|---|----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----------|--|----------|--|
| Menu 1: OPEN speed | | | | | | | | | | | | | | | | | ← Slower | | Faster → | |
|  | 16 | - | - | - | - | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | | |
| Menu 2: Soft run OPEN speed | | | | | | | | | | | | | | | | | ← Slower | | Faster → | |
|  | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | | | |
| Menu 3: Soft run OPEN position | | | | | | | | | | | | | | | | | | | | |
| Set using the (+ / OPEN) and (- / CLOSE) buttons | | | | | | | | | | | | | | | | | | | | |
| Menu 4: CLOSE speed | | | | | | | | | | | | | | | | | ← Slower | | Faster → | |
|  | 16 | - | - | - | - | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | | |
| Menu 6: Soft run CLOSE speed | | | | | | | | | | | | | | | | | ← Slower | | Faster → | |
|  | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | | | |
| Menu 8: Soft run CLOSE position | | | | | | | | | | | | | | | | | | | | |
| Set using the (+ / OPEN) and (- / CLOSE) buttons | | | | | | | | | | | | | | | | | | | | |

Level 7 – Maintenance and servicing

| |
|---|
| Menu 1: Door cycle counter |
| Six-figure indicator showing the number of complete cycles, up to 999999. Once the counter setting is reached, it restarts count again. |
| Menu 2: Servicing counter |
| Five-figure indicator showing the number of complete cycles left up to maintenance indication. Figures shown one after the other up to the indicator point, then repeated. |

Menu 3: Service/Maintenance Counter Setting

Adjustment of the number of door operations to be completed before a servicing reminder is displayed.

| | | | |
|---|-----------------------|----|------------------------|
| 1 | OFF Default | 9 | 8,000 door operations |
| 2 | 100 door operations | 10 | 9,000 door operations |
| 3 | 500 door operations | 11 | 10,000 door operations |
| 4 | 1,000 door operations | 12 | 15,000 door operations |
| 5 | 4,000 door operations | 13 | 20,000 door operations |
| 6 | 5,000 door operations | 14 | 30,000 door operations |
| 7 | 6,000 door operations | 15 | 40,000 door operations |
| 8 | 7,000 door operations | 16 | 50,000 door operations |

14. ADVANCED SETTINGS (cont'd)

Menu 7: Outputs

| | Functions |
|----|---------------------------|
| A7 | Drive system running |
| B7 | Drive system running |
| C7 | 3-minute light |
| D7 | Wiping impulse |
| E7 | Malfunction |
| F7 | Push-open security device |
| G7 | Door position CLOSED |
| H7 | Door position OPEN |

Menu 8: Reset maintenance and servicing

The fault log for maintenance, diagnostics and servicing work is reset here

| | |
|---|----------------------------|
| 1 | No Reset - Default Setting |
| 2 | Reset the fault log |

15. OPERATION OF YOUR OPERATOR

- Turn key to operating mode position.
All buttons will light up when Control Station is properly connected. (if it does not light up, review section 11 on pg. 18).
- To open door, momentary contact, press the button.
To stop door during travel, press "STOP" button.
To resume door travel, press button again.
- To close door, apply constant pressure on button.
- To lock door in closed or open position turn key to lock mode position.

16. TEST SAFETY REVERSAL

The safety reversal function of your operator is an extremely important feature of your operator. Testing this function ensures the correct operation of your operator and door. The reversal system test should be performed:

- Once per month.
- Anytime the travel or force limits are reset or changed.
Once the adjustments have been set and the door has been run up and down twice to "learn" the new settings, you must test the reversal system for proper operation.
- Place a 1-1/2" (40mm) high rigid object (or a 2x4 board laid flat) on the floor directly in the path of the door.
- Start the door in the downward direction and watch what happens.
- When door contacts the object (or 2x4), it should stop, reverse, and automatically return to the fully opened position.
- If the door does not reverse, reset the down travel limit so that the door travels slightly further down in the closed direction. Then, retest the unit as described above.
- If the door still does not reverse, disconnect your operator and call a service person.

Level 8 - System Setting

Menu 8 - CLOSE Travel Position Pressure Sensitivity Adjustment (PSATM)

| | |
|---|-----------------------|
| 1 | Default not activated |
| 2 | Short |
| 3 | Medium |
| 4 | Long |

Fig. 40

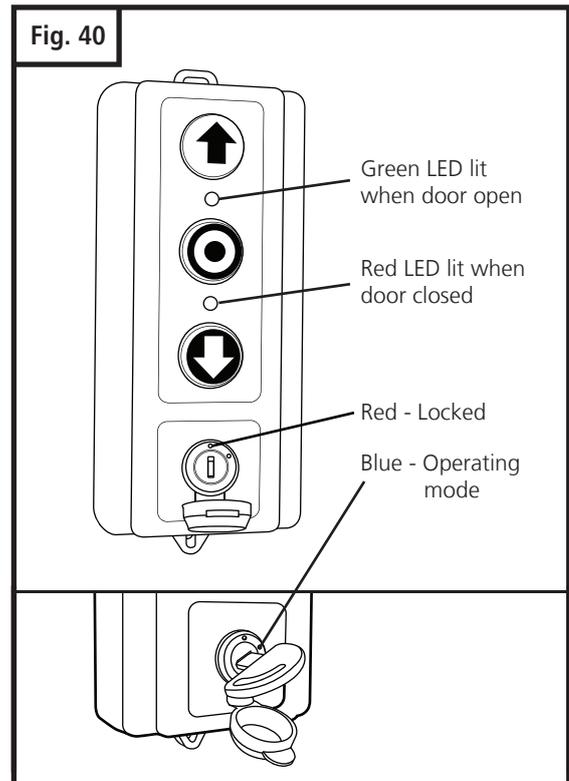
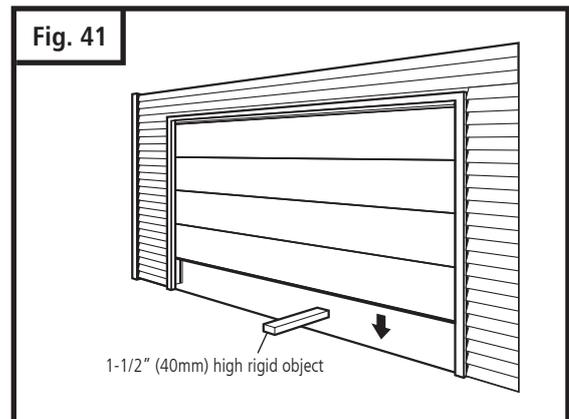


Fig. 41



17. ALIGN AND TEST PHOTO EYE SENSORS

PHOTO EYE SENSORS ALIGNMENT

The photo eye sensors maintain an invisible, unbroken beam between each other. See Fig. 42.

NOTE: Sensor alignment must be done with the door in the closed position in order to ensure proper visibility of the sensor indicator LED.

- When the photo eye system is connected to the operator and the power is on, the green light on the transmitter sensor flashes, if the sensors are not aligned. When the sensors are aligned, the green light on the transmitter sensor will turn steady. See Fig. 43.
- Sensors must be installed parallel to the door plane and make sure the sensors are facing each other.

AFTER THE SENSORS HAVE BEEN PROPERLY ALIGNED, MAKE SURE THAT THE SYSTEM OPERATION AND SAFETY TESTS OUTLINED BY THE GARAGE DOOR OPENER MANUFACTURER HAVE BEEN VERIFIED.

SAFETY TEST

Photo eye sensors installed on opposite sides of your door opening are intended to detect a person or object in the path of the door and prevent the door from moving downward. The following steps will determine if the system is functioning properly:

- Open door.
- Place a box or other object in the path of the door so it breaks the photo eye beam. See Fig. 44.
- Press and release the wall control button. The door should not move in the down direction. If this does not happen, disconnect operator and call for service.
- To reset operator, remove the obstruction and operate the door normally.
- If photo eye sensors are not aligned or are damaged, door can only be closed by pressing and holding wall control button until door is fully closed.

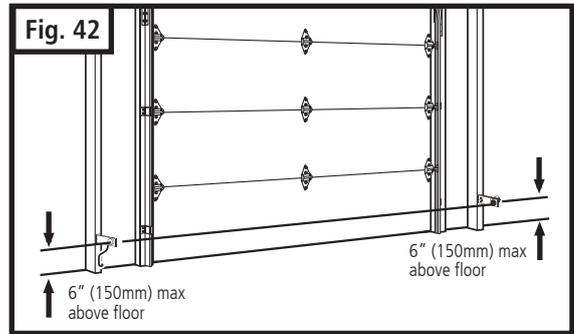


Fig. 43 Clear Path between Photo Eye Sensors

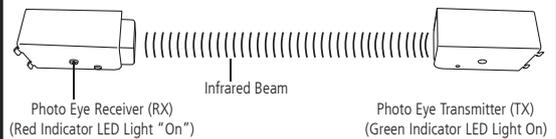
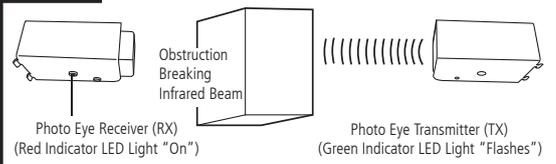


Fig. 44 Object directly in Path between Photo Eye Sensors



18. IMPORTANT SAFETY INSTRUCTIONS

⚠ WARNING ⚠

IMPORTANT INSTALLATION INSTRUCTIONS TO REDUCE THE RISK OF SEVERE INJURY OR DEATH:

1. **READ AND FOLLOW ALL WARNINGS AND INSTRUCTIONS CAREFULLY.**
2. Never let children operate or play with door controls. Keep the remote control away from children.
3. Always keep the moving door in sight and away from people and objects until it is completely closed or opened.
NO ONE SHOULD CROSS THE PATH OF THE MOVING DOOR.
4. Test door operator monthly. The garage door **MUST** reverse on contact with a 1-1/2" (40mm) high object or a 2x4 (50mm x 100mm) board laid flat on the floor. After any adjustments either to the force or the limit of travel, retest the door operator. The safety reversal system must be tested. Failure to adjust the operator properly may cause severe injury or death.
5. If possible, use the emergency release only when the door is closed. Use caution when using this release with the door open. Weak or broken springs may allow the door to fall rapidly, causing severe injury or death.
6. **KEEP DOORS PROPERLY OPERATING AND BALANCED.** See Garage Door Owner's Manual. An improperly balanced door could cause severe injury or death. Have a qualified service person make repairs to cables, spring assemblies, and other hardware.
7. Disconnect the electrical power to the garage door operator before making any repairs or removing the housing cover.
8. **Momentary contact activation of door (down/close travel) by the control station or remote, transmitter, activation requires the installation of photo eye sensors safety system.**
9. **SAVE THESE INSTRUCTIONS** for future safety, adjustment, and maintenance purposes.

19. ATTACH OWNER'S MANUAL AND WARNING PLACARD TO THE WALL

It is important that the manual be stored where it can be referred to later in case adjustments need to be made, and / or new controls or accessories added. Store the manual in a safe, easily accessible location. We recommend you use an envelope with an eyelet to store the manual in the building on a nail or hook on the wall near the wall control. Attach warning placard to the wall near wall control in location shown in Fig. 8 on Page 9.

20. TENSION ADJUSTMENT

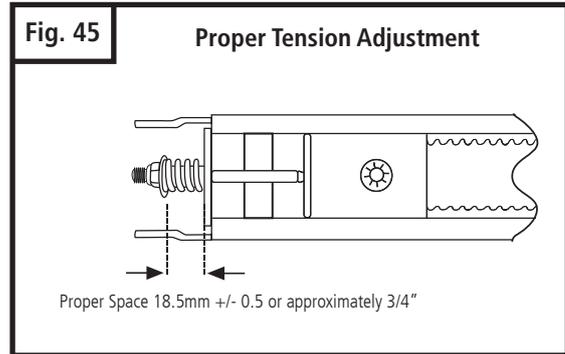
Your preassembled rail comes with the tension adjusted to factory specifications. There should be no need for further adjustment. However, if exposed or subjected to unusually harsh operating conditions, the tension may need to be readjusted during the life of the operator.

CHECK PROPER TENSION (Fig. 45)

- Release trolley from belt or chain, then examine the setting of the tension adjustment at the header end of the rail.
- Proper tension is set when the tension nut is tightened just enough so that the washer will be spaced approximately 18.5mm (or 3/4") from the stationary rail end-stop arch.
- If the gap between the washer and the rail end-stop arch is too big or too small, the tension needs to be adjusted.

ADJUST THE TENSION

- To increase the tension and tighten the belt or chain, turn the tension nut clockwise with 7/16" wrench until the washer is spaced properly from the rail end-stop arch. See Fig. 45.
- Once the washer is spaced correctly, any additional tightening will overtighten the belt or chain and may cause damage to the system.
- To loosen the tension, turn nut counterclockwise.
- Reattach trolley.



21. RAIL LENGTH ADJUSTMENT

FOR PROFESSIONAL INSTALLERS ONLY

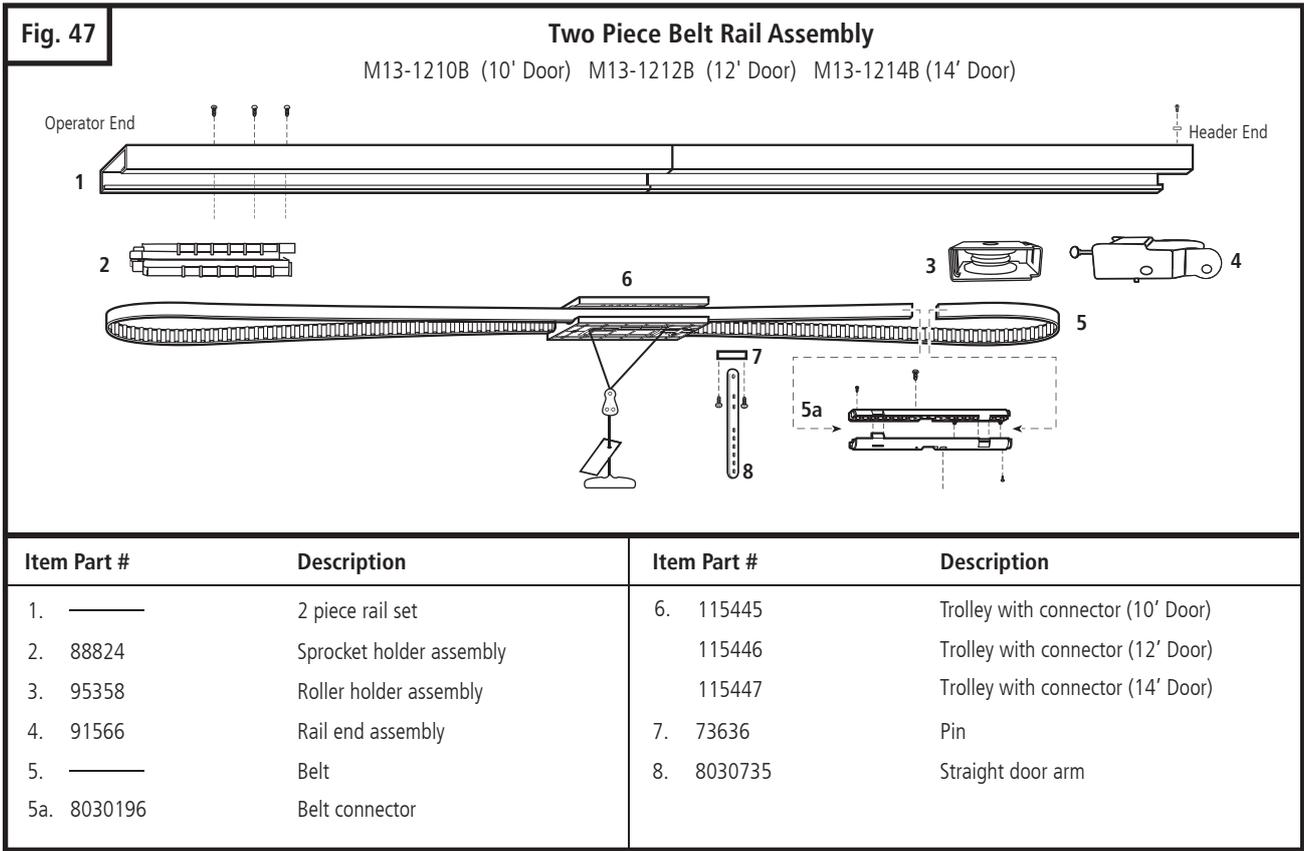
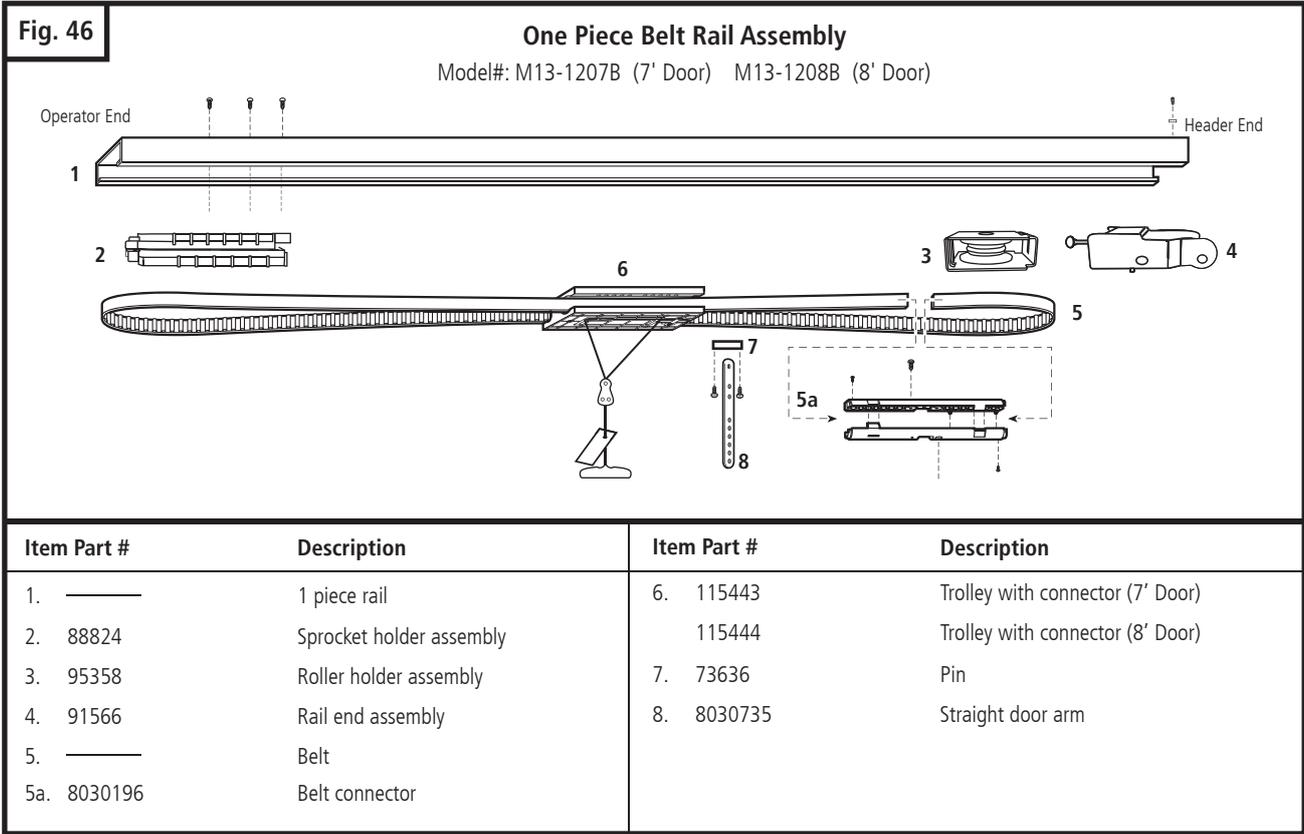
If your particular installation calls for a shorter rail than the standard length provided, it is possible to shorten the rail.

NOTE: Shortening rail too much may result in door travel length reduction and door not opening fully. This depends on door size and configuration. Carefully plan all such modifications before proceeding. THIS PROCEDURE SHOULD BE PERFORMED ONLY BY A PROFESSIONAL INSTALLER FULLY FAMILIAR WITH THIS TYPE OF OPENER SYSTEM.

TO SHORTEN BELT RAIL LENGTH

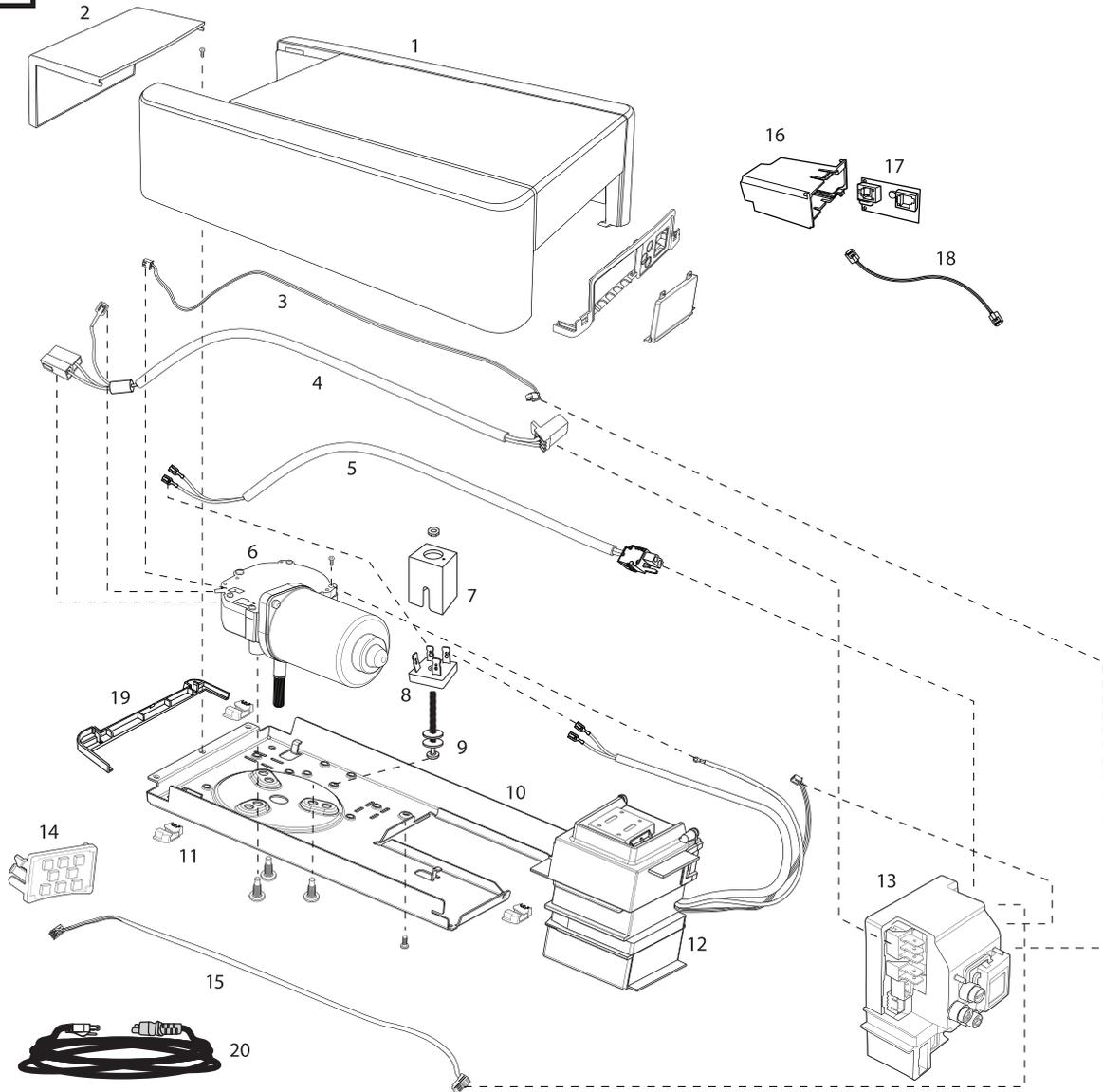
- Loosen belt tension as much as possible.
- Remove screws from sprocket holder and rail end-stop.
- Slide belt and all rail parts out of rail from header end. See rail exploded view, Fig. 46 on p. 28, for disassembly details.
- Measure and cut off excess rail from header end.
- Using rail end-stop as a guide, mark and drill a 3/16" hole for rail end-stop screw.
- Disassemble connector to expose free ends of belt.
- Using the same measurement as the excess rail length, cut the same amount off BOTH free ends of the belt.
- Reassemble belt connector, and slide all rail parts into rail from header end according to original assembly (Fig. 46).
- Tension belt properly (Fig. 45).
- Check rail for proper assembly and operation by manually moving trolley from end to end with trolley connected to belt.

22. RAIL PARTS



23. OPERATOR PARTS

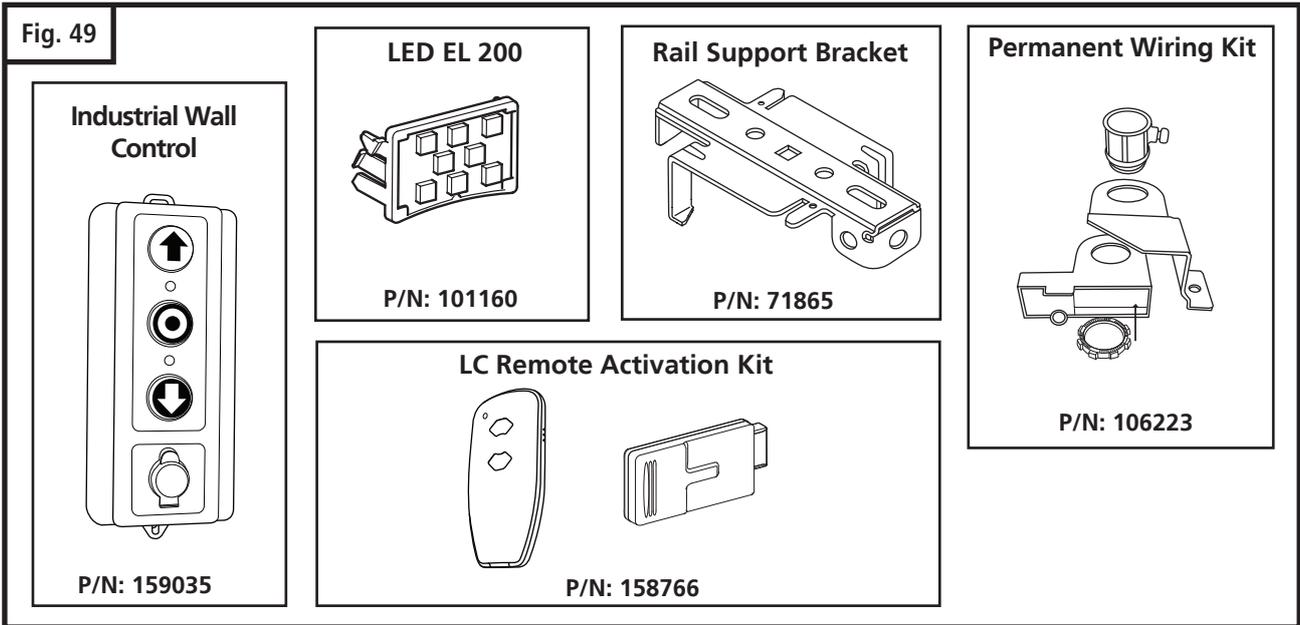
Fig. 48



| Item | Part # | Description |
|------|--------|--|
| 1. | 158866 | Housing Kit |
| 2. | 158867 | Lens Cover |
| 3. | _____ | Wire (motor / control box) |
| 4. | _____ | Wire harness (motor / control box) |
| 5. | _____ | Wire harness (rectifier / control box) |
| 6. | 102276 | Gearmotor |
| 7. | _____ | Enclosure |
| 8. | _____ | Bridge Rectifier |
| 9. | _____ | Hardware |
| 10. | _____ | Chassis |
| 11. | _____ | Wire holder |
| 12. | 158869 | Transformer box |
| 13. | 158868 | Control box |
| 14. | 101160 | LED cluster |
| 15. | _____ | Wire (LED cluster / control box) |
| 16. | _____ | Holder |
| 17. | _____ | Connecting Board |
| 18. | _____ | Wire (connecting board / control box) |
| 19. | _____ | Spacer |
| 20. | 105475 | Detachable Power Cord |

24. ACCESSORIES

Accessories are available from your dealer. If you have difficulty locating available accessories, please visit our website at www.marantecamerica.com.



24-1. LED REPLACEMENT



WARNING

Danger of electric shock

Before any wiring work begin, make sure that the operator and all wiring is disconnected from the power supply. During wiring make sure all wires remain disconnected from the power supply at all times.

LED Cluster Replacement:

- Assembly LED cluster per instruction provided (Fig. 50).
- Disconnect power cord from operator (Fig. 51).
- Remove lens cover.
- Disconnect LED cluster from operator's housing.
- Replace the old LED cluster.
- Snap new cluster in operator's housing.
- Replace lens cover.
- Connect power cord to operator.

Additional LED:

- Follow the same steps above.
- Attach additional LED cluster to existing one.
- Snap both clusters into housing. See Fig. 52A.
- Replace lens cover.
- Connect power cord to operator.

Fig. 50

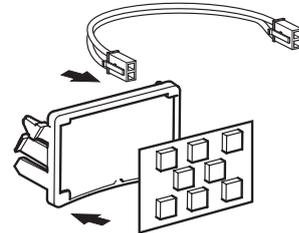


Fig. 51

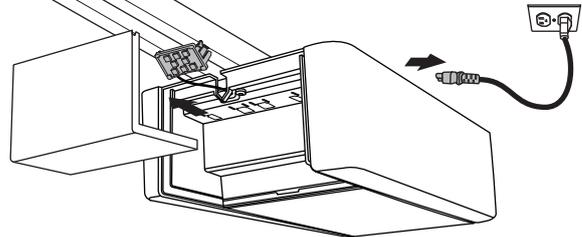


Fig. 52

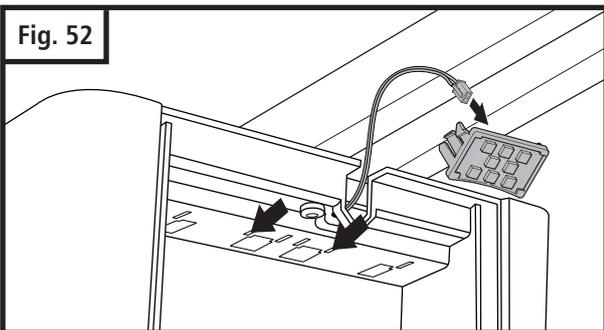
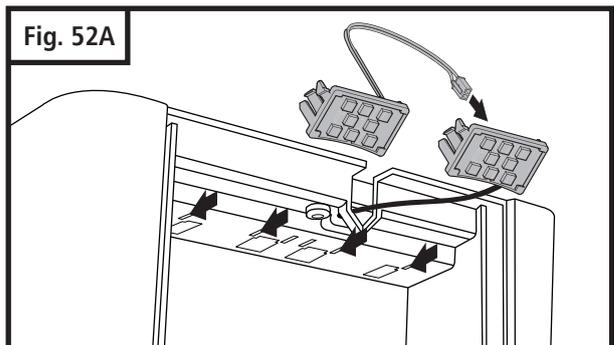


Fig. 52A



24-2. ACTIVATION KIT INSTALLATION

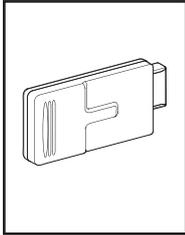
CAUTION

Momentary contact activation of door by the control station or transmitter requires the installation of photo eye sensors safety system.

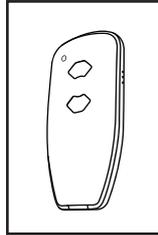
IMPORTANT INSTALLATION INSTRUCTION

Before installing the remote activation kit, make sure that the operator is disconnected from the power supply to ensure the new system connectivity set up is acknowledged.

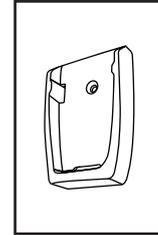
Fig. 53 Activation Kit Components



Modular Receiver
315MHz
Model # M16-831
Part #122667



2 Channel Transmitter
Model # 382-315
Part #122436
■ Battery included.
■ Complete with accessory bag.



Transmitter Mounting Plate
Model # M16-920
Part #140419

MODULAR RECEIVER

- To install modular antenna, refer to Fig. 54.

REMOTE CONTROL TRANSMITTER

FCC Certified: This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

WARNING

Danger of injury due to uncontrolled operation of the door!

- Operate the controls or the hand transmitter only when there are no persons or objects in the path of the door.
- Ensure that the controls and the hand transmitter are never used by children or unauthorized persons.
- Ensure that the hand transmitter cannot be operated by accident (in a trouser pocket, for example).

- To program transmitter, refer to pg. 20.
- Operate the controls or the hand transmitter only when there are no persons or objects in the path of the door.
- Ensure that the controls and the hand transmitter are never used by children or unauthorized persons.
- To resume garage door travel after stopping, press button again. Door begins to move in the opposite direction.

TRANSMITTER MOUNTING

The transmitters can be conveniently mounted inside your car using the visor clip or on the wall using the mounting plate.

Fig. 54

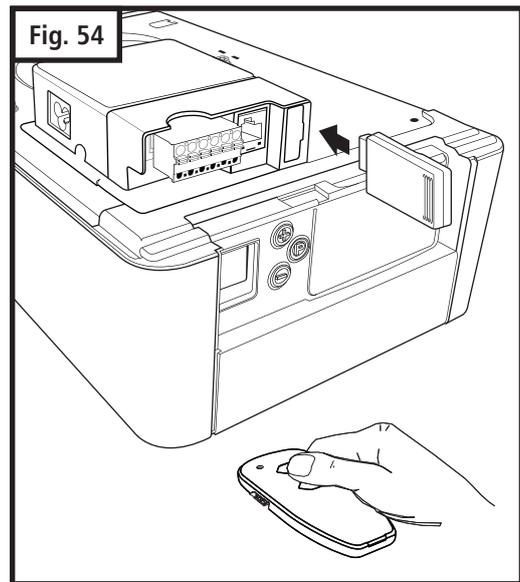


Fig. 55

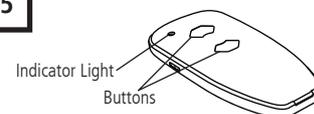


Fig. 56

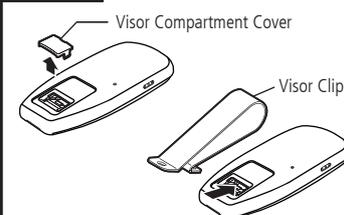
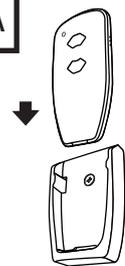


Fig. 56A



24-3. PERMANENT WIRING KIT

If permanent wiring is required by your local code refer to the procedure below.

WARNING

To prevent possible **SERIOUS INJURY** or **DEATH** from electrocution or fire:

- Be sure power is not connected to the operator, and disconnect power at circuit breaker **BEFORE** removing cover to establish permanent wiring connection.
- Garage door installation and wiring **MUST** be in compliance with **ALL** local electrical and building codes.
- **NEVER** use an extension cord, 2-wire adapter or change plug in any way to make it fit outlet. Be sure the opener is grounded.

- Become familiar with assembly parts shown in Fig. 57 for 1/2" conduit permanent wiring installation.
- Assemble conduit adapter, use parts as shown in Fig. 57.
- Feed wires through conduit adapter assembly. Then connect field wires to terminal block as shown in Fig. 58.
- Remove screw from transformer module cover plate. Break cover plate as shown in Fig. 59. Remove and save chassis screw.
- Slide power board slightly out to make room to accept terminal block on the power board pin connections as shown in Fig. 60*.
* **Make sure the power board is seated on the transformers module housing guides before sliding it back in place.**
- Secure conduit adapter assembly to transformer module enclosure, as shown in Fig. 61, with screw provided in kit. Metal bracket secure to chassis with screw removed in step 2.
- Run field wires through conduit.
- Secure conduit to screw connector on assembly as shown in Fig. 61.
- Terminate and complete field wiring connection.

IMPORTANT NOTE

Check installation then turn power "on" at breaker.

Fig. 57

Permanent Wiring Kit
P/N: 106223

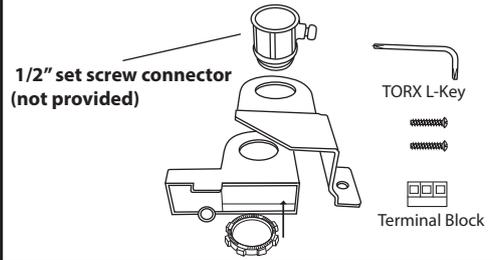


Fig. 58

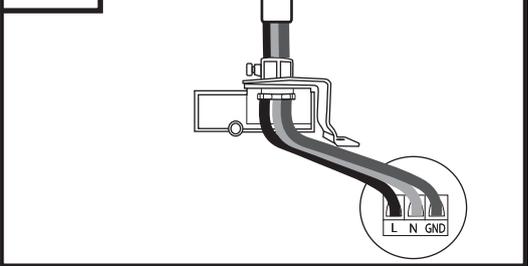


Fig. 59

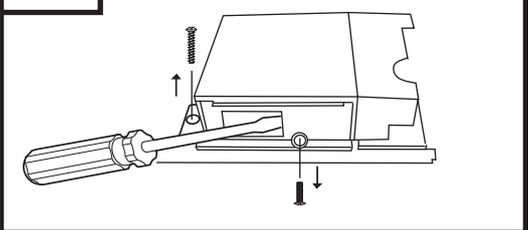


Fig. 60

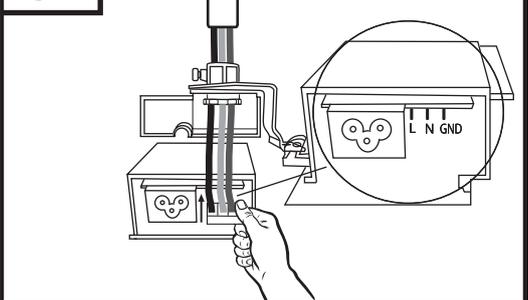
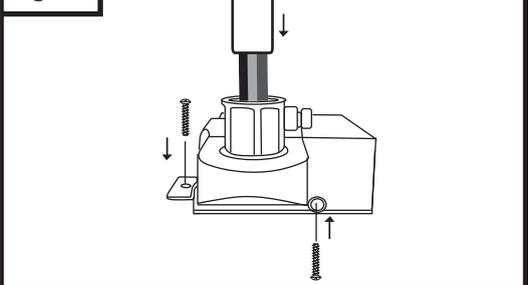


Fig. 61



25. TROUBLESHOOTING

The operator displays the system fault(s) automatically one at a time as follows:

System Fault Display: (Example - Error Code 7)

Fault 1



Note The last system fault code can be viewed by pressing the "P" button once. To return to operation mode press "-" or "+" button.

| FAULT DISPLAY | CODE | PROBLEM | SOLUTION |
|---------------|------|--|---|
| | 7 | NOTICE If no buttons are pressed within 120 seconds, the programming mode terminates automatically. | |
| | 8 | <ul style="list-style-type: none"> Adjustments setting interrupted before completion. | <ul style="list-style-type: none"> Door can be operated normally. Recheck adjustments if adjustment settings were not completed. Refer to page 18. Have operator serviced * |
| | 9 | <ul style="list-style-type: none"> Rational speed (RPM) sensor impulse not present, operator system is obstructed. | <ul style="list-style-type: none"> Have operator serviced * |
| | 10 | <ul style="list-style-type: none"> The door does not move easily or is obstructed. | <ul style="list-style-type: none"> The maximum driving power has been set too low. Have maximum driving power checked by specialist * |
| | 11 | <ul style="list-style-type: none"> Excess travel stop. | <ul style="list-style-type: none"> Have operator serviced * |
| | 15 | <ul style="list-style-type: none"> Photo eye sensors not connected properly. Photo eye sensors not aligned. Obstruction in the door path (photo eye beam broken). | <ul style="list-style-type: none"> Check photo eye sensors wiring and connections. Realign photo eye sensors. Remove obstruction from door path. |
| | 16 | <ul style="list-style-type: none"> The current sensor for the monitoring motor overload is defective. | <ul style="list-style-type: none"> Have operator serviced * |
| | 26 | <ul style="list-style-type: none"> Power overload condition. | <ul style="list-style-type: none"> Have the outlet assigned for the operator and/or supplied power checked. |
| | 28 | <ul style="list-style-type: none"> Door movement too stiff or irregular. Door blocked. Operator operating sensitivity set too sensitive (low). | <ul style="list-style-type: none"> Check door for obstructions, proper manual operation, proper balance, or broken springs. Clear obstructions or have door serviced, If needed. Have the operating sensitivity settings checked by an authorized dealer/installer. |
| | 30 | <ul style="list-style-type: none"> MS bus fault. | <ul style="list-style-type: none"> Reset the bus modules. Have the connected bus modules checked. |
| | 35 | <ul style="list-style-type: none"> Electronic defect. | <ul style="list-style-type: none"> Have operator serviced. |
| | 36 | <ul style="list-style-type: none"> Wall control connected incorrectly. | <ul style="list-style-type: none"> Check wall control terminals connection. Reset operator. |

CAUTION



Short and rapid cycles are conducted with the operator (motor). This condition could result in overheating of motor / transformer.

* Contact Marantec Customer Service at our toll free number 1-888-622-2489 to find nearest authorized service center.

26. MAINTENANCE AND ADJUSTMENTS

To ensure continued safe operation and extended life of your operator system, periodic checking for proper operation is necessary. Occasional maintenance and readjustment of your system may also be needed.

| | | |
|--|---|--|
| <p>MONTHLY</p> <ul style="list-style-type: none"> ■ Check reversal system by performing "safety reversal test" described in this manual. ■ Check proper operation of door by manually moving door open and closed. If door binds or sticks, or is out of balance call for garage door service. ■ Check and test photo eye safety system as described in this manual. | <p>ONCE EVERY YEAR</p> <ul style="list-style-type: none"> ■ Keep door rollers, hinges, and bearings properly lubricated by following recommended door instructions or contacting a door service company in your area. | <p>AS NEEDED</p> <ul style="list-style-type: none"> ■ Readjust operator travel limits and force settings as necessary — due to cold weather, normal wear of door, etc. For any periodic adjustments needed refer to this manual. ■ Check and readjust belt tension, if necessary, in the unlikely event that it loses its proper tension during the life of the operator. Always check the reversal system after any adjustment of travel limits or forces. A door operator that is not checked could possibly be out of adjustment and be dangerous. |
|--|---|--|

27. MAINTENANCE RECORD

Good maintenance of your garage door is an imperative requirement. Not only will it prolong the life of the door and the opener, but more importantly, it assures your safety and that of others. Use the form below to record the monthly, yearly, and "as needed" maintenance.

| Maintenance Steps | Date | Performed By | Comments |
|-------------------|------|--------------|----------|
| | | | |
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28. LIMITED PARTS WARRANTY

MARANTEC AMERICA CORPORATION
Light-Duty Trolley Commercial Operator System
Limited Parts Warranty
Model Synergy LC

The Synergy LC System Limited Warranty is 3 years for parts and a Limited 3-year Warranty for the motor, gear assembly and rail system.
 Marantec America Corporation warrants:
 LED Lighting system for 5 years
 Accessories for 1 year

LIMITED WARRANTY COVERAGE: THE LIMITED 3-YEAR WARRANTY IS FOR AS LONG AS THE ORIGINAL PURCHASER OF THE MARANTEC SYSTEM OWNS OR LEASES HIS OR HER BUILDING, OR 20,000 SYSTEM OPEN & CLOSE CYCLES, WHICHEVER COMES FIRST. This Warranty applies, upon purchase from a Marantec reseller and installation by a professional installer and registration of the product within 14 days of the date of installation of the product, (or within 30 days of closing on a new building from a developer) to any defect in materials or workmanship in the Marantec product parts or components from personal, normal, household use in compliance with the Owner's Manual for a period of 3 years from the date of installation (or closing date) on its parts and, for the Limited 3-year portion of this Warranty on the motor and rail system and belt, for as long as the original retail purchaser owns his or her home or 20,000 system open & close cycles, whichever comes first.

28. LIMITED PARTS WARRANTY (cont'd)

Marantec warrants this system to its first retail, consumer purchaser only. Marantec disclaims any and all warranties in the event that the product is obtained from a source which is not a Marantec authorized reseller or if the product is not installed by a professional installer. "Grey market" purchases are not warranted or recognized in any manner whatsoever. This is not a "do it yourself" product. There is no warranty if the seal on the Marantec carton is broken at the time of sale, delivery or installation by a professional installer. No "aftermarket" installation, alteration, opening of the housing or cases, modification or repairs are recognized or warranted. Any of the foregoing conduct voids all warranty provisions. This warranty is for parts only and is not for any service call(s) or labor in connection with the repair or replacement of the unit or its parts. Parts will only be shipped to a Marantec authorized reseller.

Marantec Accessories: Marantec accessories include such items as transmitters, wall controls, photo eye systems, and wireless/keyless entry systems. These are warranted to be free from defects in materials or workmanship for 1 year from the date of installation or closing. At Marantec's sole option, Marantec may elect to replace the accessory with new or reconditioned parts, components or units utilizing product of the same or similar design available at that given time. **WITH RESPECT TO ACCESSORIES, ALL OTHER WARRANTIES, INCLUDING FITNESS FOR PARTICULAR PURPOSE AND MERCHANTABILITY ARE SPECIFICALLY DISCLAIMED AND THE LIMITED WARRANTY SET FORTH BELOW IN BOLD TYPE IS HEREIN INCORPORATED BY REFERENCE.**

LED Lighting System: Marantec warrants the parts of the LED Lighting System, including its lighting bar, LEDs, and lens covers for 5 years from the date of installation or closing, if a new home purchased from a developer. These are warranted to be free from defects in materials or workmanship for 1 year from the date of installation or closing. At Marantec's sole option, Marantec may elect to replace the System with new or reconditioned parts, components or units utilizing product of the same or similar design available at that given time. **WITH RESPECT TO THE LED LIGHTING SYSTEM, ALL OTHER WARRANTIES, INCLUDING FITNESS FOR PARTICULAR PURPOSE AND MERCHANTABILITY ARE SPECIFICALLY DISCLAIMED AND THE LIMITED WARRANTY SET FORTH BELOW IN BOLD TYPE IS HEREIN INCORPORATED BY REFERENCE.**

Marantec does **not** warrant batteries, sensors or LED bulbs (except the LED Lighting System LEDs above). Unauthorized repairs or repair parts, installations, commercial use, damage while in transit, defects or damage resulting from power washing, water or moisture exposure, or accidents, power failure and surges, resulting from alterations, lack of proper maintenance, unauthorized repair or modification of the product, opening of housing or case, misuse or abuse of the product, fire, flood, acts of God, damage to doors, tracks, springs, hardware or the residence, its contents and vehicles, other property or persons or other failures due to failure to follow the recommendations of the Owner's Manual are not warranted. This warranty applies only to Marantec systems purchased from authorized Marantec retail sellers and used in the United States, its Territories or Canada. Marantec makes no warranties outside the United States, its Territories or Canada.

Marantec Commitment: If Marantec determines the product parts to be defective in materials or workmanship, then Marantec will supply parts for the repair or replacement of the defect to the Marantec authorized professional installer at no cost to you. You must pay for the service call and labor for installation of the part(s) determined to be defective by Marantec. At Marantec's sole option, Marantec may elect to replace the part(s) with new or reconditioned parts, components or units utilizing product of the same or similar design available at that given time.

THIS LIMITED WARRANTY IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR OTHER WARRANTIES IMPLIED BY STATUTE, AND OF ANY OTHER OBLIGATIONS OR LIABILITY ON THE PART OF MARANTEC AMERICA CORPORATION. THIS LIMITED WARRANTY DOES NOT COVER NON-DEFECT DAMAGE CAUSED BY IMPROPER INSTALLATION, OPERATION OR CARE AND MAINTENANCE, INCLUDING BUT NOT LIMITED TO ABUSE, MISUSE, POWER SURGE, FAILURE TO PROVIDE REASONABLE AND NECESSARY MAINTENANCE OR ANY ALTERATIONS TO THIS PRODUCT. LABOR CHARGES FOR DISMANTLING OR REINSTALLING A REPAIRED OR REPLACED UNIT ARE EXCLUDED.

UNDER NO CIRCUMSTANCES SHALL MARANTEC AMERICA CORPORATION BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES ARISING IN CONNECTION WITH THE USE OR INABILITY TO USE THIS PRODUCT OR THE PREMISES IN WHICH IT IS UTILIZED. IN NO EVENT SHALL MARANTEC AMERICA CORPORATION INCUR LIABILITY FOR BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE OR STRICT LIABILITY IN EXCESS OF THE COST OF THE PRODUCT COVERED HEREBY. NO PERSON IS AUTHORIZED TO ASSUME, FOR MARANTEC AMERICA CORPORATION, ANY OTHER LIABILITY OR MAKE ANY MODIFICATIONS OR EXTENSIONS TO THE WARRANTY OF THIS PRODUCT. THIS LIMITED WARRANTY MAY NOT BE TRANSFERRED OR ASSIGNED.

29. WARRANTY LIMITATIONS, CLAIMS AND SERVICE

This Limited Warranty is the one which Marantec gives on this product and sets forth all of its responsibilities regarding the Marantec product. There are no other express or implied warranties. Installation by unauthorized personnel or use of unauthorized parts or accessories could cause improper operation and even create dangerous conditions and voids all warranties. This could void the UL Safety Approval of the product and constitute a safety hazard.

This Limited Warranty contains the entire warranty on the product. All discussions, representations or negotiations between the consumer and the retail seller are merged into this Limited Warranty, and there are no understandings or warranties other than those herein. None of the terms of the Limited Warranty shall be waived or modified to any extent, except by a written instrument signed and delivered by Marantec's Corporate Officer.

This Limited Warranty is being delivered in Gurnee, Illinois, USA and is intended to be performed in the State of Illinois and shall be construed and enforced in accord with the laws and statutes of the State of Illinois without regard to or application of its rules on the conflict of laws, with the proper venue for any disputes being that of Marantec's registered office in Illinois or its corporate offices in Gurnee, Illinois, whichever Marantec elects. Marantec expressly disclaims the application to this Limited Warranty of the 1980 United Nations Convention on the International Sale of Goods. Any interpretation of this Limited Warranty shall be conducted in English and no other language. **ALL CLAIMS AND CAUSES OF ACTION OF ANY NATURE AGAINST MARANTEC AMERICA CORPORATION SHALL BE BROUGHT WITHIN 1 YEAR OF THE DATE OF DISCOVERY OF THE CLAIM.**

In the event any action or proceeding or claim is asserted or brought against Marantec, if Marantec prevails, then Marantec shall be entitled to recover all costs and expenses, including the actual fees of its attorneys and expert or professional witnesses incurred in connection with such action or proceeding or claim.

This Limited Warranty becomes valid only upon the receipt of "Payment in Full" by Marantec from the Marantec reseller and upon receipt of "Payment in Full" by the Marantec reseller from the end user. This Limited Warranty is null and void if the System is not installed within 24 months of the date of manufacture as marked on the product housing. This Limited Warranty is void outside the United States, its Territories and Canada.

Whenever possible, each provision of this Limited Warranty shall be interpreted in such a manner as to be effective and valid under applicable Illinois law. If any provisions of this Limited Warranty are prohibited or invalidated under applicable law, then such provisions shall only be ineffective to the extent of such prohibition or invalidity, without invalidating the remaining provisions of this Limited Warranty. Some jurisdictions do not allow the exclusion or limitation of consequential, incidental or special damages, so the above limitations or exclusions may not apply to you. This Limited Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

30. REGISTRATION

This Warranty becomes effective upon registration at the Marantec website: www.marantecamerica.com. If you do not have access to the internet, please fill out and send in enclosed warranty card.

31. WARRANTY SERVICE

Contact your professional installer for all services. Service by anyone other than a professional installer voids this warranty. If you cannot locate your installer, please contact your Marantec Customer Service Representative at 888-622-2489.

