19. WARRANTY INFORMATION

Contact your professional installer for all service. Service by anyone other than a professional installer voids this warranty. If you cannot locate your installer, please contact a Marantec Customer Service Representative at 1-888-622-2489.

LC 1000 — Parts (3) Year Warranty* - Operator and Rail only (Labor not included)

Marantec accessories include such items as transmitters, control stations, and photo eye systems. These are warranted to be free from defects and workmanship for 1 year from the date of purchase. 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. ALL OF THE DISCLAIMERS AND LIMITATIONS WITH RESPECT TO THE DOOR OPERATOR SYSTEM ABOVE ARE HEREIN INCORPORATED BY REFERENCE.**

MARANTEC AMERICA CORPORATION'S LIABILITY IS EXPRESSLY LIMITED TO THE RETAIL COST OF THE PARTICULAR ACCESSORY UNDER WARRANTY

Marantec does not warrant batteries, light bulbs, LED lighting and sensors, 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, resulting from alterations, lack of proper maintenance, unauthorized repair or modification of the product, misuse or abuse of the product, fire, flood, acts of God, or other failures due to failure to follow the recommendations of the Owner's Manual. This warranty applies only to Marantec systems purchased and used in the United States, Canada or Mexico.

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 created dangerous conditions and void all warranties. This would violate 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 at the place of manufacture, Gurnee, Illinois, 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 with the proper venue for any disputes being that of Marantec's registered office in Chicago, Illinois or its corporate offices in Gurnee, Illinois, whichever Marantec elects. 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.

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.

20. REGISTRATION:

After installation by your professional installer, this Warranty becomes effective upon registration at the Marantec web site: www.marantecamerica.com. If you do not have access to the internet, please complete and mail in the registration card enclosed with instruction manual.
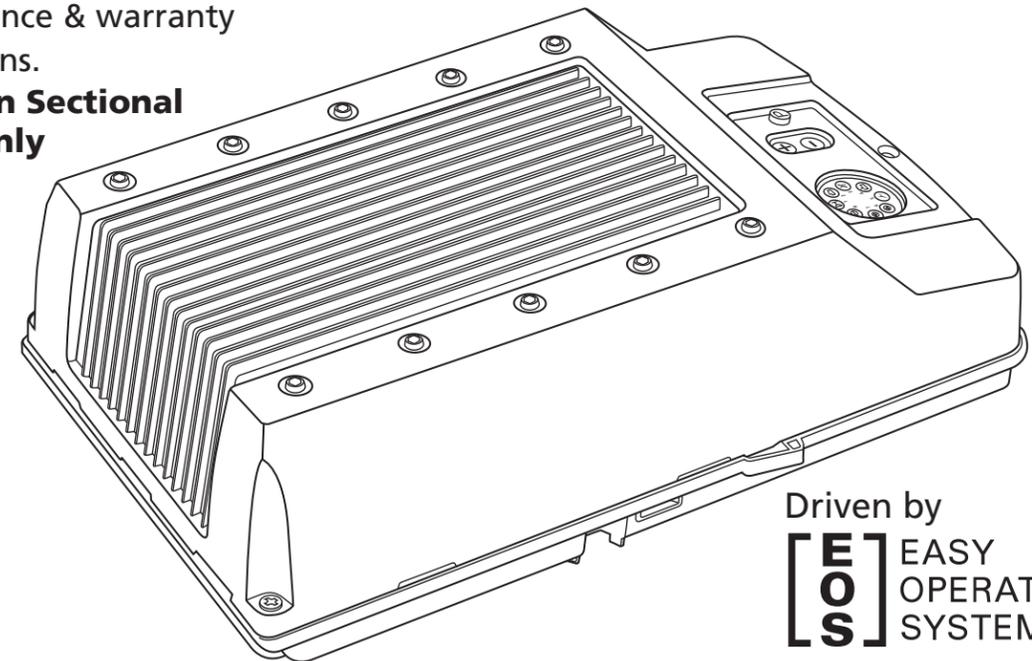
LC 1000
Light-Duty Trolley Commercial Operator System

Digital Intelligence for the Garage

Owner's Manual contains: Installation, operating, maintenance & warranty instructions.
Install on Sectional Doors Only

Driven by
[E O S] EASY OPERATING SYSTEM

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

Marantec M

Access Systems ➤ Automatically The Best Choice

BELT DRIVE   **CHAIN DRIVE**

c(UL)us   This product complies with the 325 regulations effective january 1,1993

www.marantecamerica.com

OWNER'S MANUAL CONTENTS

17. 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.

MONTHLY:	ONCE EVERY YEAR	AS NEEDED:
■ 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.	■ Keep door rollers, hinges, and bearings properly lubricated by following recommended door instructions or contacting a door service company in your area.	■ 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.

18. LIMITED PARTS WARRANTY

MARANTEC AMERICA CORPORATION
LIGHT-DUTY TROLLEY COMMERCIAL OPERATOR SYSTEM
LC 1000 — Parts (3) Year Warranty* - Operator and Rail only
Labor Not Included in Warranties

THIS LIMITED WARRANTY IS FOR THE ORIGINAL PURCHASER OF THE MARANTEC LIGHT-DUTY TROLLEY COMMERCIAL OPERATOR SYSTEM

Coverage: THIS LIMITED WARRANTY IS FOR THE ORIGINAL PURCHASER OF THE MARANTEC LIGHT-DUTY TROLLEY COMMERCIAL OPERATOR. This Warranty applies, upon purchase from an authorized Marantec reseller and installation by a professional installer and registration of the product within 14 days (or within 30 days of closing on a new home purchase from a developer) of the date of installation of the product, 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. Marantec warrants this garage door operator system to its first retail, consumer purchaser. 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" and counterfeit purchases are not warranted or recognized in any manner whatsoever. This is not a "do it yourself" product. No "aftermarket" installation, alteration, 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 your Marantec authorized reseller.

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.
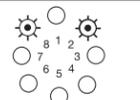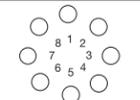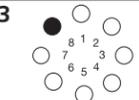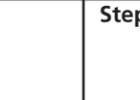
THIS LIMITED WARRANTY IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR OTHER WARRANTIES IMPLIED BY STATUTE, AND OF ANY OTHER OBLIGATIONS OR LIABILITY ON THE PART OF MARANTEC AMERICA CORPORATION. THIS LIMITED 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, INCLUDING ACCESSORIES. LABOR CHARGES FOR DISMANTLING OR REINSTALLING A REPAIRED OR REPLACED UNIT ARE EXCLUDED.
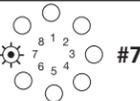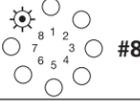
MARANTEC AMERICA CORPORATION'S LIABILITY IS EXPRESSLY LIMITED TO THE RETAIL COST OF THE PARTICULAR UNIT UNDER WARRANTY.

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, INCLUDING ACCESSORIES, COVERED HEREBY. NO PERSON IS AUTHORIZED TO ASSUME, FOR MARANTEC AMERICA CORPORATION, ANY OTHER LIABILITY OR MAKE ANY MODIFICATIONS OR EXTENSIONS OF THIS PRODUCT. THIS LIMITED WARRANTY MAY NOT BE TRANSFERRED OR ASSIGNED.

16. TROUBLESHOOTING — FOR PROFESSIONAL INSTALLER ONLY

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

System Fault Sequence Display: (Example - Error Code 10)

Step 1	Step 2	Step 3	Step 4
The fault code is displayed for approximately 3 seconds.	Pause between messages for approximately 1 second.	Operating mode is displayed for approximately 3 seconds (example: Operating voltage).	Pause between messages for approximately 1 second.

Step 5 : Steps 1 to 4 are repeated until all system fault(s) are cleared.

Note: ■ *The last system fault code can be viewed by pressing the "P" button once. To return to operation mode press "-" or "+" button.*
■ *Optional Accessory: The operator optional light system if installed will turn **"On"** when the diagnostic system detects any of the faults listed below for the duration of light timer setting specified in Level 5 Menu 4.*

FAULT DISPLAY	CODE	PROBLEM	SOLUTION
#7 Flashes	7	NOTICE: ■ If no buttons are pressed within 120 seconds, the programming mode terminates automatically. ■ OPEN and CLOSED door positions programmed without passing the reference point.	
#8 Flashes	8	■ Adjustments setting interrupted before completion. ■ Detective reference switch.	■ Door can be operated normally. Recheck adjustments if adjustment settings were not completed. Refer to page 15. ■ Have operator serviced.
#1 + #8 Flash	9	■ Defective RPM sensor/operator system blocked.	■ Have operator serviced.
#2 + #8 Flash	10	■ Door movement too stiff. ■ Force required to move door exceeded set force level. ■ Operator working force setting is too low.	■ Check door for obstructions, proper manual operation, proper balance, or broken springs. Clear obstructions or have door serviced. ■ If door is OK, increase force setting. Readjust force and run the operator for two (2) uninterrupted complete cycles. Refer to "Advanced settings" on page 18 – Level 2 (Menu 1 and Menu 2). REPEAT THE "SAFETY REVERSAL TEST" (page 20) AFTER ADJUSTMENT IS COMPLETE.
#3 + #8 Flash	11	■ Operator exceeded maximum run time limit.	■ Make sure rail is connected to operator head and belt or chain is moving.
#7 + #8 Flash *Note: System fault applicable "ONLY" with LC remote activation kit.*	15	■ Photo eye sensors not connected properly. ■ Photo eye sensors not aligned. ■ Obstruction in the door path (photo eye beam broken).	■ Check photo eye sensors wiring and connections. ■ Realign photo eye sensors. ■ Remove obstruction from door path.
#1 + #7 + #8 Flash	16	■ Force watchdog circuit found error. ■ The sensor which monitors the operator sensitivity has failed.	■ Readjust the operator force(s) and run the operator for two (2) uninterrupted complete cycles. Refer to "Advanced settings" on page 18 – Level 2 (Menu 1 and Menu 2). REPEAT THE "SAFETY REVERSAL TEST" (page 20) AFTER ADJUSTMENTS ARE COMPLETE. ■ Have operator checked.
#5 + #6 + #7 + #8 Flash	26	■ Undervoltage, operator system overloaded at maximum force setting (16). ■ Operator system overloaded.	■ Have the outlet assigned for the operator and/or supplied power checked.
#2 + #5 + #6 + #7 + #8 Flash	28	■ Door movement too stiff or irregular. ■ Door blocked. ■ Operator operating sensitivity set too sensitive (low).	■ 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 (Refer to "Advanced settings" on page 18 - Level 2 (Menu 3 and Menu 4.). Run the operator for two (2) uninterrupted complete cycles after adjustment are completed.

---

1. INTRODUCTION

Congratulations on purchasing your Marantec® LC 1000 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 home. Advanced technology results in the operator being capable of easily moving almost any properly balanced residential garage 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 Light-Duty Trolley Commercial Operator.

■ **Advanced Digital Operating System EOS (Easy Operating System):** The EOS digital system provides user friendly system set up. The system set up comprises of two programing levels, a "Basic Level" and a "Advanced Level". The EOS system requires only the basic set up parameter. All other operating parameters are learned and set automatically by the system. In addition the system optimizes all parameter with every cycle for a more efficient operation by the operator. This shorter parameter set up provides a quicker and more efficient installation. In addition, the EOS platform unifies all Marantec Products by design.

■ **Higher Motor Operating Speed:** Provides faster open and close cycles.

■ **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.

■ **Timer-To-Close:** Provides automatic door closure. Specifically designed for apartment building garage applications.

■ **Built-In Safety Features:** Including patented drive system that delivers only the optimum power needed to move your door safely—Every time!

■ **Convenient Status Display:** To indicate the status of your door operator at any time. Especially useful if troubleshooting is necessary.

■ **Quiet, Smooth Operation:** Precision engineering and carefully selected materials result in extremely smooth and quiet operation, unmatched by conventional garage door operators.

■ **Modular Antenna Concept (patented):** Plug-in your choice of frequency module. **(Optional)**

■ **Photo Eye (Infrared) Safety System (optional):** 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.
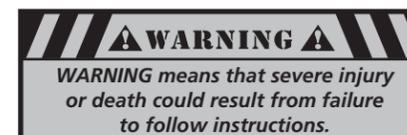
3. IMPORTANT SAFETY INFORMATION

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.
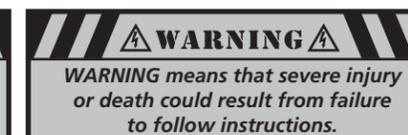
⚠ **WARNING** ⚠

Operate the light-duty commercial operator at 120V, 60Hz and do not exceed 19 complete cycles of operation per hour to avoid operator damage and to prevent overheating.
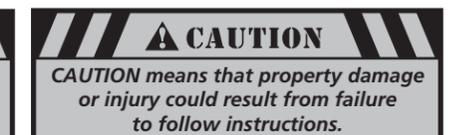*Garage doors are heavy, moving objects. When coupled with an automatic operator, electrical power is also present. If not properly installed, balanced, operated, and maintained, an automatic door can become dangerous and cause serious injury or death. Please pay close attention to the WARNING and CAUTION notices that appear throughout this manual. Failure to follow certain instructions may result in damage to the door or door operator, or may result in severe injury or death to yourself or others.*

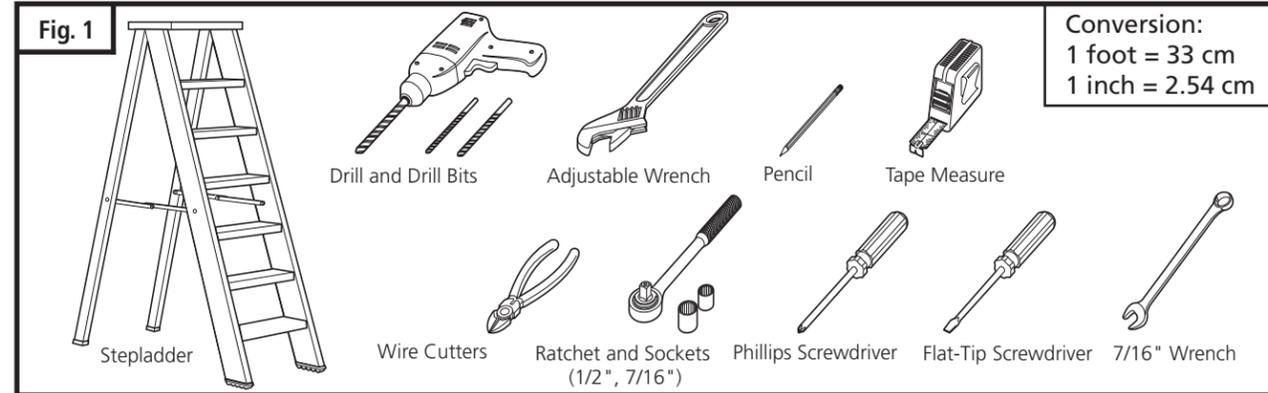| ⚠ WARNING ⚠	⚠ WARNING ⚠	⚠ CAUTION
WARNING means that severe injury or death could result from failure to follow instructions.	*WARNING means that severe injury or death could result from failure to follow instructions.*	*CAUTION means that property damage or injury could result from failure to follow instructions.*
Mechanical	**Electrical**	

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.

Fig. 1

Conversion:
1 foot = 33 cm
1 inch = 2.54 cm

Drill and Drill Bits   Adjustable Wrench   Pencil   Tape Measure

Stepladder   Wire Cutters   Ratchet and Sockets (1/2", 7/16")   Phillips Screwdriver   Flat-Tip Screwdriver   7/16" Wrench
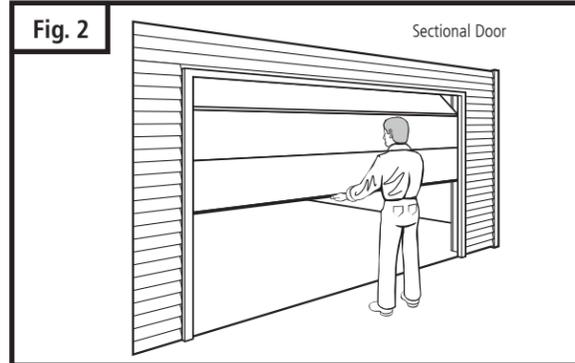
5. GARAGE

IMPORTANT:

*Install on sectional doors **ONLY** up to 14ft heights.*

⚠ 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 6mm (1/4"). 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.

Fig. 2   Sectional Door

- 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.
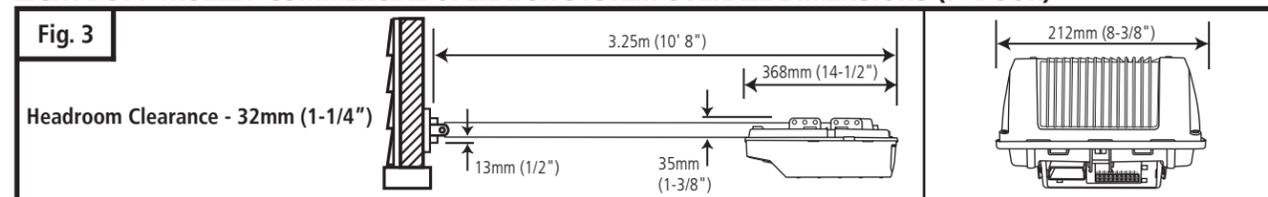- If your door is over 2.1m (7 ft.) high, you will need a longer rail.
See section "12. Rail Assembly" on p. 22 of this manual for availability of longer rails.

⚠ 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.

LIGHT-DUTY TROLLEY COMMERCIAL OPERATOR SYSTEM OVERALL DIMENSIONS (7' DOOR)

Fig. 3

Headroom Clearance - 32mm (1-1/4")

3.25m (10' 8")
368mm (14-1/2")
13mm (1/2")
35mm (1-3/8")
212mm (8-3/8")

15. HAVING A PROBLEM?

SITUATION	LIKELY CAUSE AND SOLUTION
Operator does not operate from control station:	■ Does operator have electric power? Plug a lamp into the electric outlet to see if lamp turns on. If not, check fuse box or circuit breaker (some outlets are controlled by wall switch). ■ Have you disengaged all locks on door? If not, do so. ■ The garage door spring may be broken. Have it replaced by a professional garage door technician. ■ Has snow or ice built up under door? Door may be frozen to ground. Remove any restrictions. ■ Are wiring connections correct? Check wall control wiring on page 12.
Door does not open completely:	■ Is something obstructing the door? Remove obstructions only after ensuring door area is free of persons, pets, and any other objects. ■ If door has been working properly but now doesn't open all the way, reset the open travel limit or/and increase the up force (page 15). REPEAT "TEST SAFETY REVERSAL" (page 20) AFTER ADJUSTMENT IS COMPLETE.
Door does not close completely:	■ Is something obstructing the door or in the path of the photo eye sensors? Remove obstructions only after ensuring door area is free of persons, pets, and any other objects. ■ If door has been working properly but now doesn't close all the way, reset the close travel limit or/and increase the down force (page 15). REPEAT "TEST SAFETY REVERSAL" (page 20) AFTER ADJUSTMENT IS COMPLETE.
Door opens but will not close at all:	■ Increase force in down direction. REPEAT "TEST SAFETY REVERSAL" (page 20) AFTER ADJUSTMENT IS COMPLETE.
Door reverses for no apparent reason:	■ Is something obstructing the door? Pull emergency release knob and open door manually. If it is unbalanced or broken, call for professional door service. ■ Clear ice or snow from garage floor area where garage door closes. ■ If door reverses from fully closed position, decrease travel limits (page 15). ■ Review and increase force adjustment setting for down travel (page 15). ■ REPEAT "TEST SAFETY REVERSAL" (page 20) AFTER ADJUSTMENT IS COMPLETE.
Operator strains or maximum force is needed to operate door	■ Door may be out of balance or springs are broken. To check balance, close the door and use emergency release knob to disconnect trolley. Open and close door manually. A properly balanced door will hold itself halfway open while being supported entirely by its springs. If it does not or the spring is broken, call for professional garage door service. DO NOT increase the force to the operator to compensate for unbalanced or damaged door.
Operator does not move door at all:	■ Door may be locked with a manual door lock. Remove any manual door locks. ■ Springs are broken or door is out of balance. (See "Situation" immediately preceding this one).
Operator won't work due to power failure	■ Use the emergency release knob to disconnect trolley. Door can be opened and closed manually. When power is restored, reconnect trolley and resume automatic operation of door. Refer to "Check Emergency Release" on page 11.

14. ACCESSORIES

The following accessories are designed to provide added convenience, satisfaction and value to your door operator system. Accessories are available from your dealer. If you have difficulty locating available accessories, please contact us directly at the number listed on page 28 of this manual.

Fig. 34
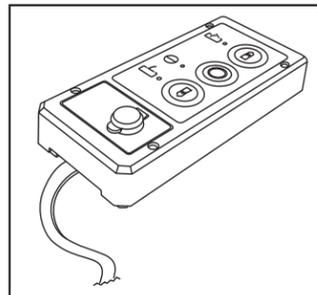
3-Button Industrial Control Station with Lock
- Mounting hardware and wire included.
 Part # 79904

⚠ CAUTION
To prevent possible OVERHEATING of the end panel or light socket:
- Use **ONLY** 14W (Base: E26) Compact Fluorescent Lamp (CFL).
- Use **ONLY** A15 (15W) incandescent light bulb.
- DO NOT use short neck or specialty light bulbs.
- DO NOT use halogen light bulbs.
- DO NOT use an incandescent light bulb with a rating higher than 15 Watts (W). A stronger or larger bulb may result in fire or damage to the opener.

⚠ WARNING ⚠
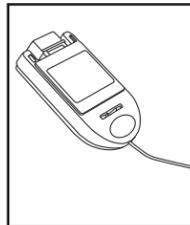To prevent possible serious injury and damage to the operator when replacing the light bulbs:
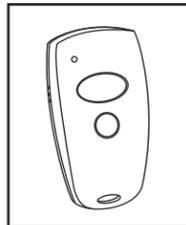- Disconnect ALL electric and battery power BEFORE performing ANY service or maintenance.
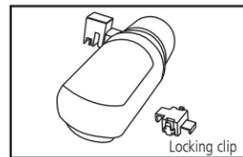
Light system
Part # 82202

Locking clip

Fig. 35 **LC Remote Activation Kit**
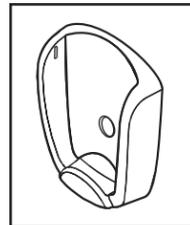Part # 88996

Modular Receiver 315MHz
Model # M5-831

2 Channel Transmitter
Model # M3-2312
- Battery included.
- Complete with visor clip.

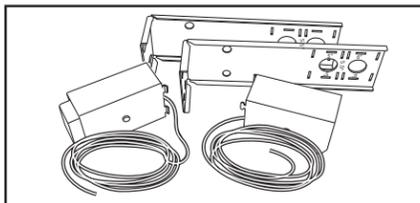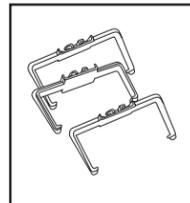**Transmitter Mounting Plate**
Part # 64847

Photo Eye Safety System
Model # M8-705
- Provides a system of protection.

Wire Holder Kit
Part # 86141

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

Photo Eye System Wiring
For further details consult the safety system sensors instructions.

1 2 3 4 5 6 7 8 9 10
Class 2
Supply 24 Volts

To Terminal 2
To Terminal 1
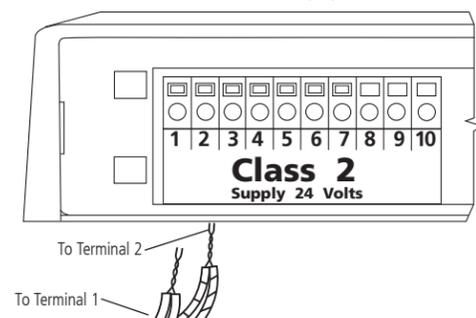
Modular Receiver Installation

24

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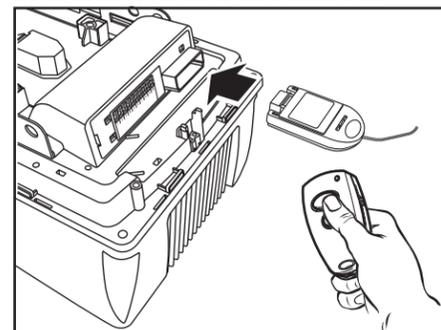
6. OPENER PACKAGE CONTENTS

The following items are included with your Light-Duty Commercial Operator. All hardware components are located in the operator carton. The accessories are packaged with their respective hardware in separate packs for ease of identification and use.
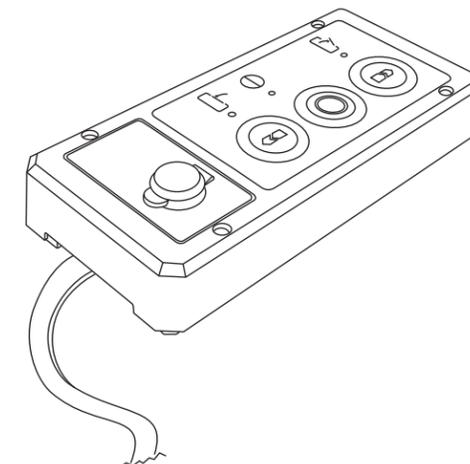
Items shown not actual size.

Fig. 4 **LC 1000 COMMERCIAL OPERATOR**
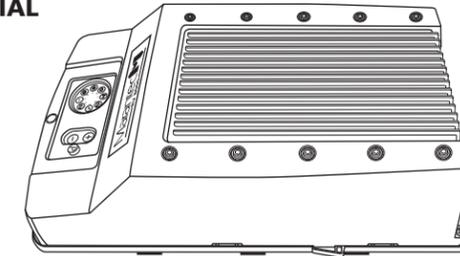
3-Button Industrial Control Station with Lock
(with Hardware Kit and keys)

Key (2)

Drywall Anchors (2)

Tapered-Head Screws (2)

Operator Instruction Manual and Warning Placard

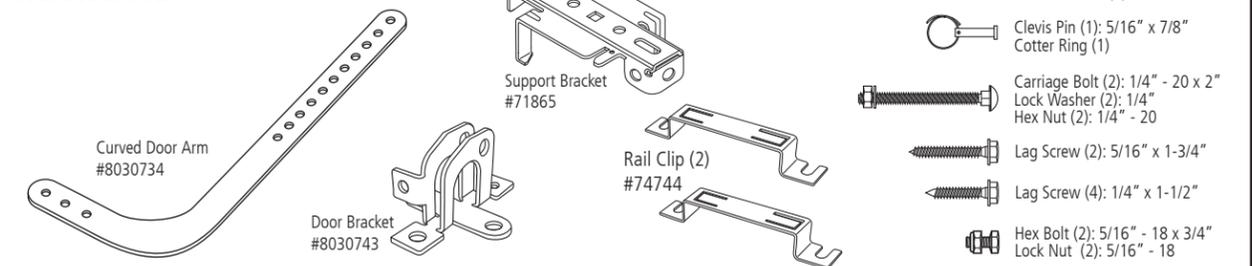Owner's Manual
GARAGE DOOR OPENER

Warranty Card

⚠WARNING

Field Label

Hardware Kit

Curved Door Arm
#8030734

Door Bracket
#8030743

Support Bracket
#71865

Rail Clip (2)
#74744

Plastite Screw (4): 4 x 10

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

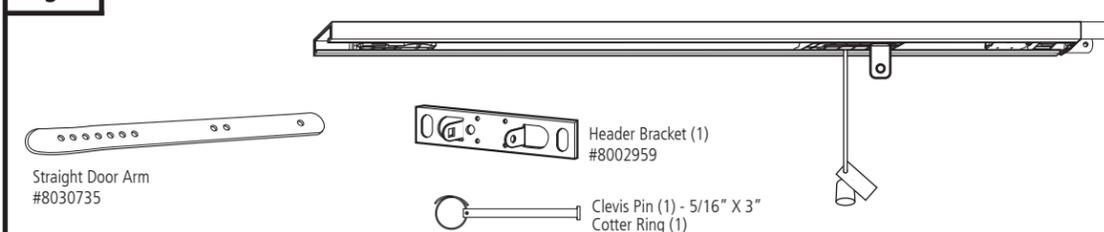Lag Screw (2): 5/16" x 1-3/4"

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

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

Fig. 5 **RAIL ASSEMBLY**

Straight Door Arm
#8030735

Header Bracket (1)
#8002959

Clevis Pin (1) - 5/16" X 3"
Cotter Ring (1)

5

7. IMPORTANT INSTALLATION INSTRUCTIONS

⚠ WARNING ⚠

IMPORTANT INSTALLATION INSTRUCTIONS
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 2.1m (7 feet) or more above the floor. Adjust the emergency release cord so that knob hangs 1.8m (6 feet) 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 1.5m (5 feet) 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 40mm (1-1/2 inch) high object (or a 2x4 laid flat) on the floor.

11. **Momentary contact activation of door (down/close travel) by the control station or transmitter 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.
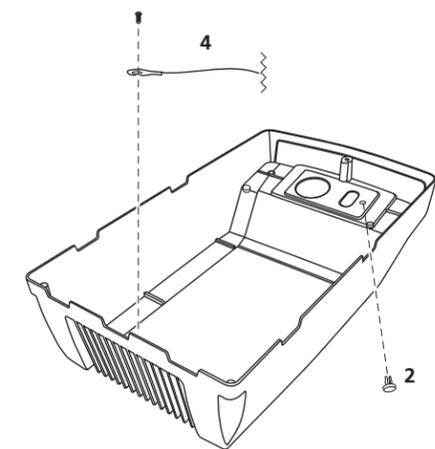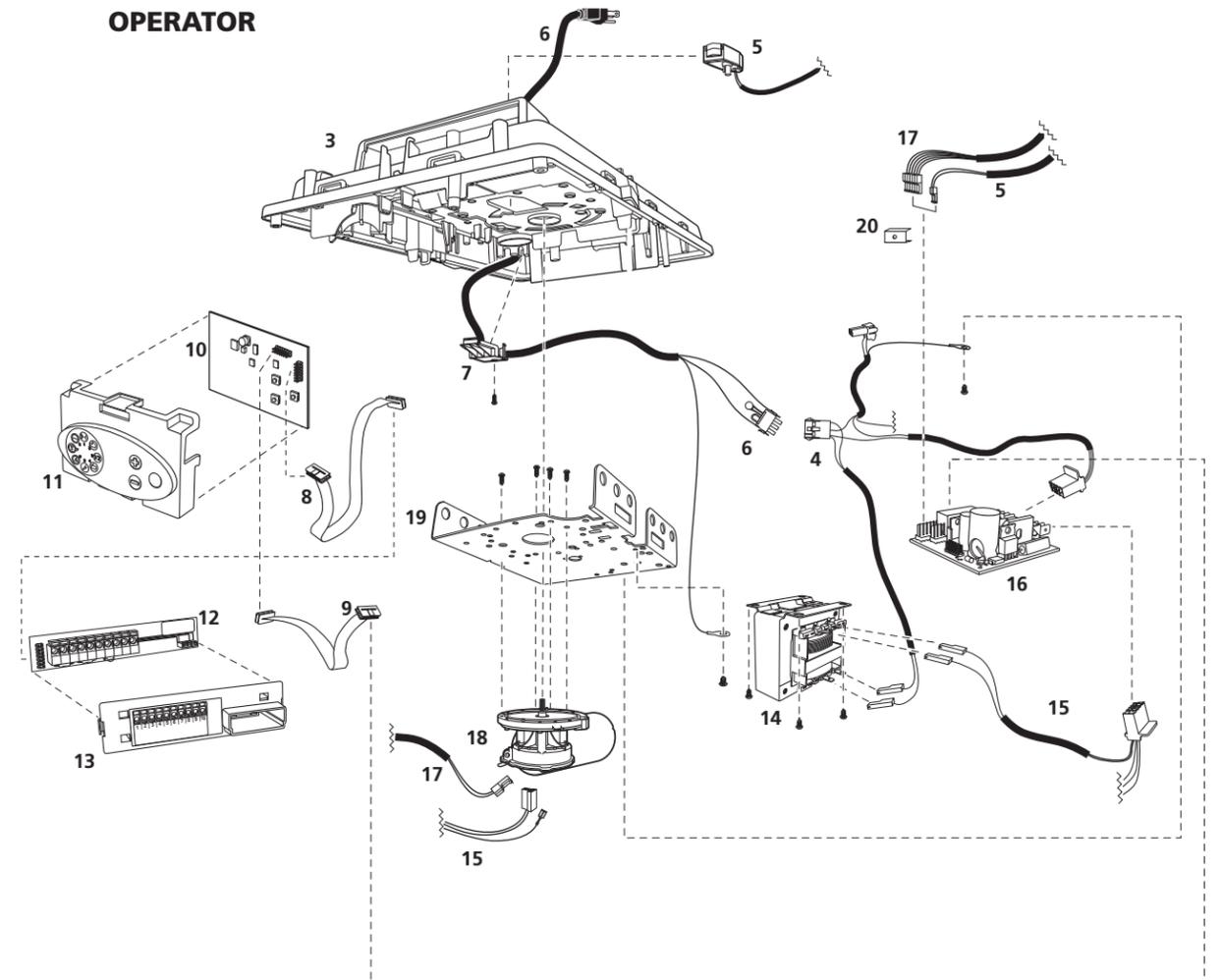
For Important Safety Instructions see page 21.
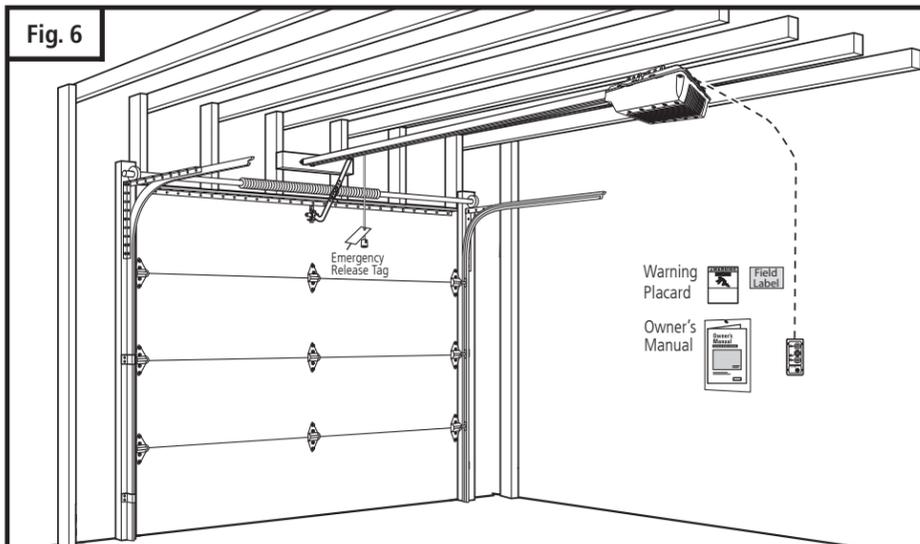
Shown on the right is an overall view of a completed door operator system installed on a sectional door.

Fig. 6

Emergency Release Tag

Warning Placard

Field Label

Owner's Manual

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13. OPERATOR ASSEMBLY PARTS

Fig. 33

LC 1000 COMMERCIAL OPERATOR

| Item	Part #	Description
1	86116	Housing Assembly
2	78999	Programming Button
3	——	Chassis
4	78744	Wire Harness
5	8054389	Reference Switch
6	8030987	Power Cord
7	8007776	Strain Relief Cover
8	73557	Ribon Cable
9	73109	Ribon Cable
10	77853	Logic Board
11	79011	Control Panel
12	78627	Terminal Board
13	70014	Terminal Board Housing
14	79067	Transformer
15	87519	Wire Harness (Motor / Transformer)
16	82424	Power Board
17	75350	RPM Sensor Harness
18	75365	Motor Assembly
19	——	Mounting Plate
20	60379	Clip

11. 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 opener.

Check Proper Tension:
- Release trolley from belt connector, 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 21mm or 13/16" from the rail end-plate. See Fig. 31.
- If the gap between the washer and the rail end-plate is too big or too small, the tension needs to be adjusted.

Fig. 31

960 mm (37 3/4")

Proper Space 21mm + 0.5 or approximately (53/64")
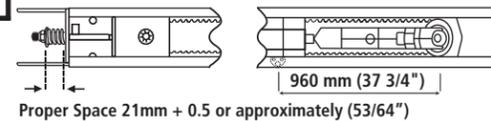
Adjust the Tension:
- To increase the tension and tighten the belt or chain, turn the tension nut clockwise with 1/2" or adjustable wrench until the washer is spaced properly from the rail end-plate. See Fig. 31.
- Once the washer is spaced correctly, any additional tightening will overtighten the belt and may cause damage to the system.
- To loosen the tension, turn nut counterclockwise.
- Reattach trolley.

12. RAIL ASSEMBLY PARTS

Fig. 32 — **Belt Rail Assembly**

Model#: ML-2807B (7' Door) ML-2808B (8' Door) ML-2810B (10' Door) ML-2812B (12' Door) ML-2814B (14' Door)
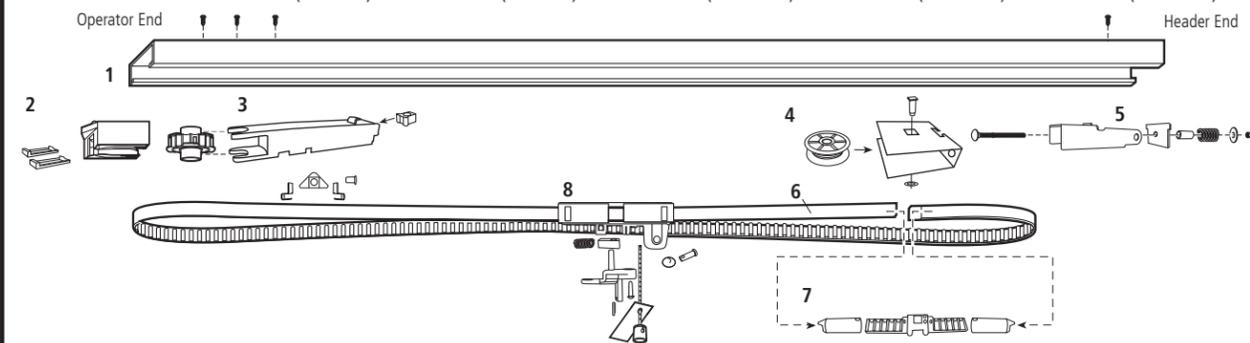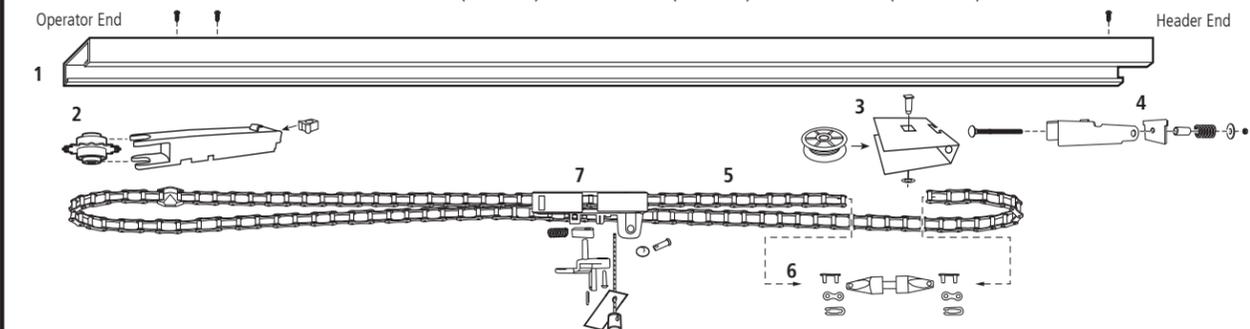

Item	Part #	Description	Item	Part #	Description
1.	———	Rail		———	Position tab assembly
2.	90171	Belt guide kit	7.	90172	Belt connector kit
3.	90169	Sprocket holder assembly	8.	90164	Trolley assembly (7' Door)
	8003305	Belt sprocket		90165	Trolley assembly (8' Door)
4.	90161	Roller holder with tension bolt assembly		90166	Trolley assembly (10' Door)
5.	90162	Rail end assembly		90167	Trolley assembly (12' Door)
6.	———	Belt with position tab		90168	Trolley assembly (14' Door)

Fig. 32A — **Chain Rail Assembly**

Model#: ML-2807C (7' Door) ML-2808C (8' Door) ML-2810C (10' Door)

Item	Part #	Description	Item	Part #	Description
1.	———	Rail	6.	90176	Chain connector kit
2.	90170	Sprocket holder assembly	7.	90164	Trolley assembly (7' Door)
	151984	Chain sprocket		90165	Trolley assembly (8' Door)
3.	90161	Roller holder with tension bolt assembly		90166	Trolley assembly (10' Door)
4.	90162	Rail end assembly			
5.	———	Chain with position tab			

8. INSTALLATION STEPS

Unpack operator and one-piece preassembled rail and prepare hardware components for installation. Identify a sound structural support on header wall above door for header bracket mounting. See Fig. 8. If appropriate header does not exist, replace or install a new support using a 50mm x 100mm or 50mm x 150mm (2x4 or 2x6) board. Fasten it securely using lag screws (not provided) to structural supports of building.

8-1. 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 head with control panel facing front of garage. Rest opener head on cardboard or protective surface on floor so opener does not get scratched. Chassis side of operator (with motor shaft sticking out) facing up.
- Position rail onto opener chassis by lining up rail sprocket opening with motor head shaft (Fig. 7A). Make sure shaft engages teeth inside rail sprocket. Press rail down firmly onto shaft and opener chassis. DO NOT HAMMER.
- Position 2 "C" brackets over rail and onto chassis. Flanges on "C" brackets **MUST** fit into cutout area on chassis (Fig. 7B).
- Insert screws (6 x 14) through bracket holes and into chassis holes, and tighten screws firmly to hold rail to head (Fig. 7C).

8-2. 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.8).
- Mark a vertical line on the upper half of your door, on the top edge of your door, and on the header, through the center point.

MEASURE DOOR'S HIGHEST TRAVEL POINT:
- Open door to its highest travel point and measure from the garage floor to the top of door (Fig.9).
- Write down this distance.
- Add 40mm (1-1/2") 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 100mm (4") from the header wall. The header bracket should be mounted no farther than this distance from the header wall.
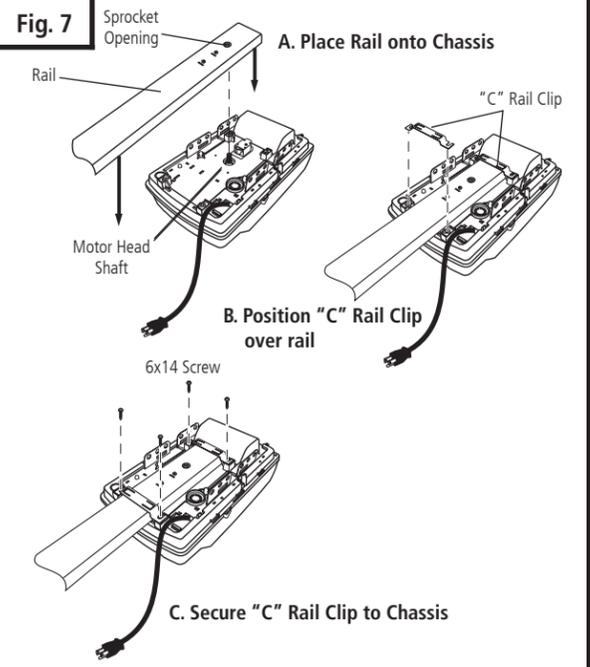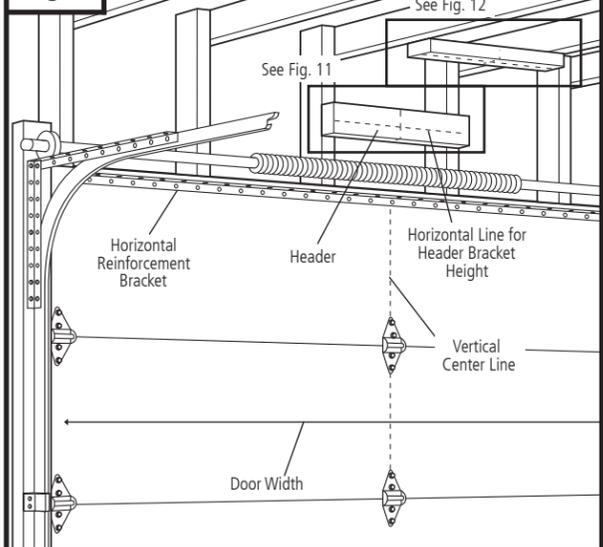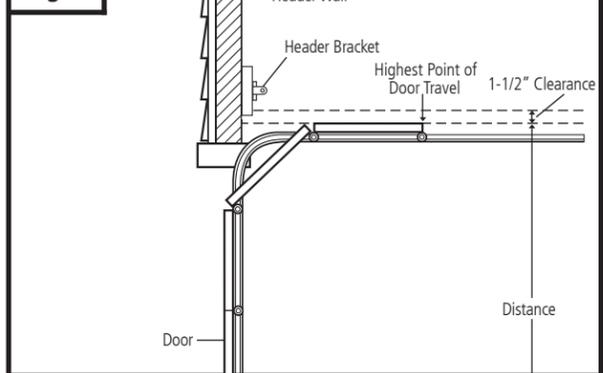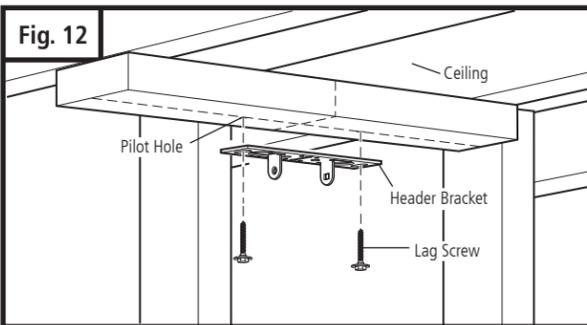
Fig. 7

A. Place Rail onto Chassis

B. Position "C" Rail Clip over rail

C. Secure "C" Rail Clip to Chassis

Fig. 8

Fig. 9

8-3. INSTALL HEADER BRACKET

- Remove and save clevis pin from header bracket assembly.
- Mark pilot holes location on header through header bracket holes where lag screws will be inserted.
  See Fig. 11 for which header bracket holes to use.
- Drill 3/16" pilot holes into header.
- Install bracket with lag screws (5/16 x 1-5/8") provided.
- Tighten lag screws firmly.

NOTE: Follow the same procedure if header (shown in Fig. 8) 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. Follow the same steps above to ensure a sound surface for mounting.

Fig. 10

Pin Hole

Fig. 11

Lag Screw for Header installation if necessary (not provided)
Header Bracket
5/16 x 1-5/8" Lag Screw
Header
Pilot Hole

Fig. 12

Ceiling
Pilot Hole
Header Bracket
Lag Screw
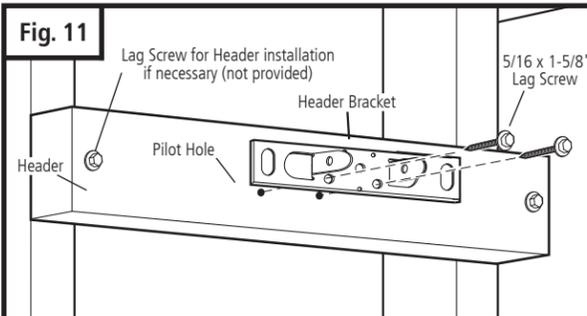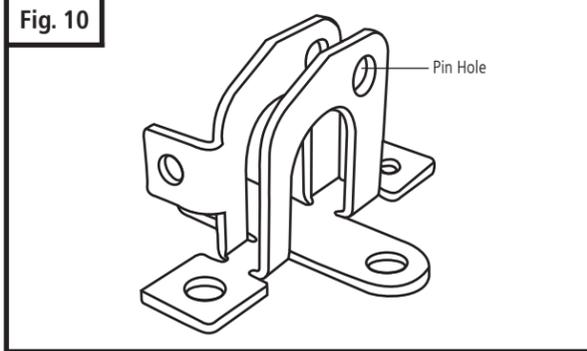
8-16. ATTACH *OWNER'S* MANUAL , WARNING PLACARD, AND FIELD LABEL TO THE WALL

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 and field label to the wall near wall control in location shown in Fig. 6 on page 6.
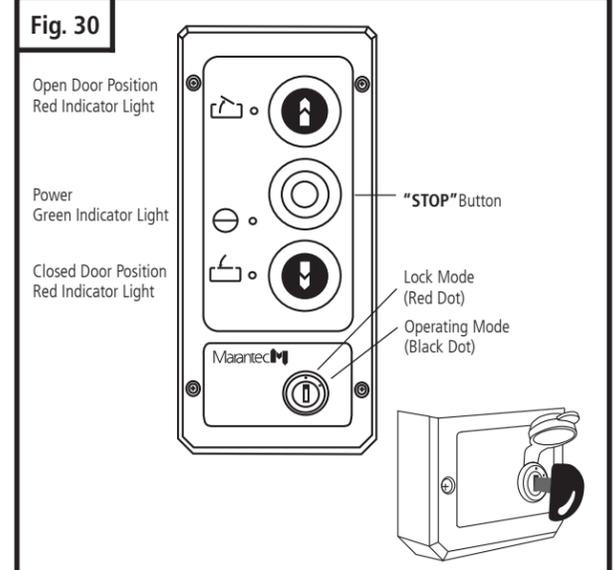
9. IMPORTANT SAFETY INSTRUCTIONS

10. 3-BUTTON INDUSTRIAL CONTROL STATION

IMPORTANT:
Under normal operation LED's #7 and #8 will flash, during and after down travel activation, due to the absence of the photo eye sensor.

- Turn key to operating mode position.
  LED "Power" will light when Control Station is properly connected (if it does not light up, review section 8-9. "Install 3-Button Industrial Control Station" on page 12 or refer to "Having a Problem" on page 25).
- To open door, momentary contact, press the ⬆ button.
  To stop door during travel, press "STOP" button.
  To resume door "UP" travel press button again.
- To close door, apply constant pressure on ⬇ button.
  If ⬇ button is depress the door will stop and reverse to the full open position unless the close travel limit is reached.
- To stop the door from opening fully press the "stop" button or the ⬇ button.
- To lock door in closed or open position turn key to lock mode position.

Fig. 30

Open Door Position Red Indicator Light
Power Green Indicator Light
Closed Door Position Red Indicator Light
"STOP" Button
Lock Mode (Red Dot)
Operating Mode (Black Dot)
Marantec M

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Menu 1: Programmable impulse input

	A1	–	–	D1	E1	–	–	–	–	–	–	–	–	–	–	–

Menu 4: Light Timer (in seconds)

	OFF	5	10	15	20	25	30	35	40	50	80	100	120	150	180	255

Menu 1: Programmable impulse input

	Functions
A1	Impulse (normally open contact only)
D1	Impulse OPEN (induction loop – normally open contact only)
E1	Stop (normally closed contact only)

Level 8: System settings

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Menu 3: Door reversal function modes

	A3	B3	C3	D3	–	–	–	–	–	–	–	–	–	–	–	–

Menu 3: Door reversal function

	OPEN	CLOSE
A3	Door Travel Direction: door stops	Door Travel Direction: door reverses a little*
B3	Door reverses a little*	Door reverses a little*
C3	Door stops	Door reverses completely**
D3	Door reverses completely**	Door reverses completely**

* Door reverses a little: The drive system moves the door a short distance in the opposite direction in order to free an obstacle.
** Door reverses completely: The drive system moves the door to the opposite door position.

8-15. 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.

⚠ CAUTION

Once the adjustments have been set and the door has been run up and down twice uninterrupted for the operator to "learn" the new settings, you must test the reversal system for proper operation.

- Place a 40mm (1-1/2") high rigid object or a 50mm x 100mm (2x4) board laid flat on the floor directly in the path of the door. See Fig. 29.
- Start the door in the downward direction and watch what happens.

Fig. 29

40mm (1-1/2") high rigid object
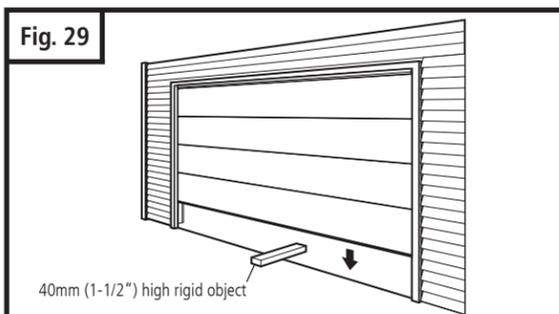
- When door contacts the object, it should stop, reverse, and automatically return to the fully opened position.
- If the door does not reverse, reset the down travel limit so that the door travels slightly further down in the closed direction. Then, retest the unit as described above.
- If the door still does not reverse, disconnect your operator and call a service person.

8-4. 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-stop, then attach cotter ring to end of pin. (See Fig. 13)

Fig. 13

Header Bracket
Rail End-Stop
1/4 x 3-1/4"
Clevis Pin
Cotter Ring
Rail
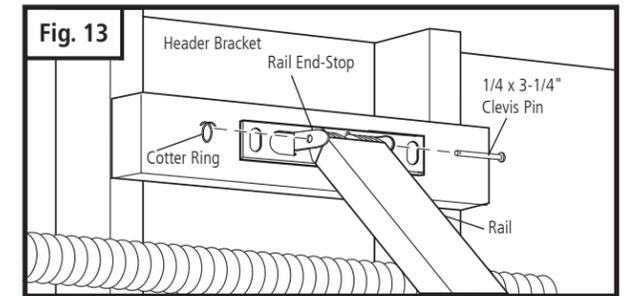
Fig. 14
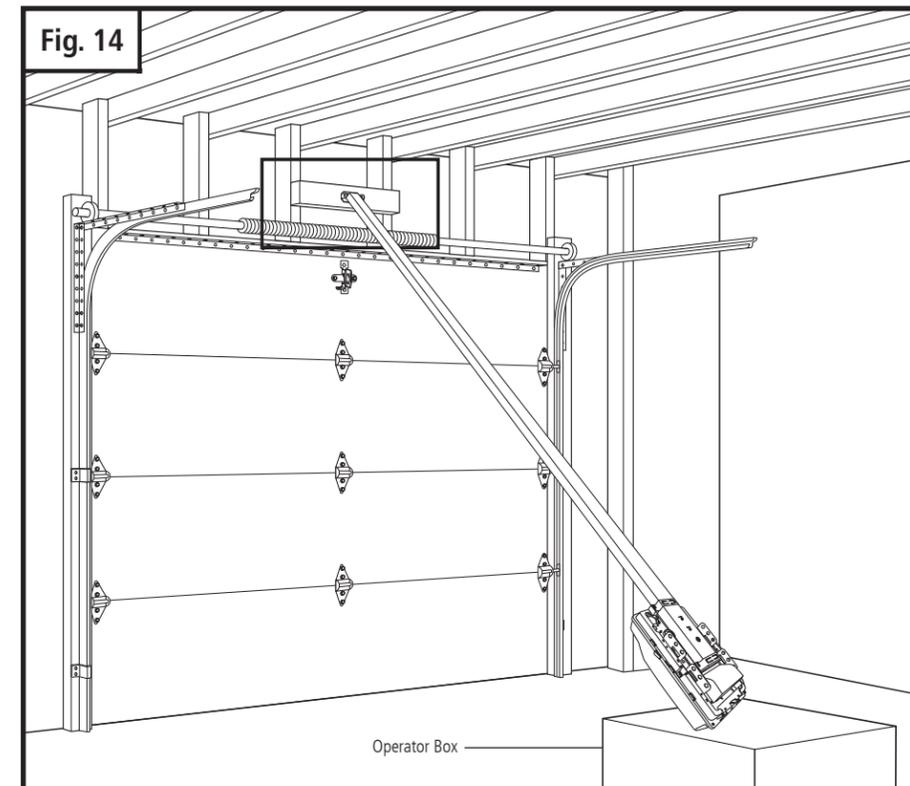
Operator Box

8-5. 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 50mm x 100mm (2x4) board laid flat between the door and the rail. See Fig. 15. This provides an easy method of ensuring the correct mounting height of the operator.

Fig. 15

Door
50mm x 100mm
(2x4) Board Laid Flat
Stepladder
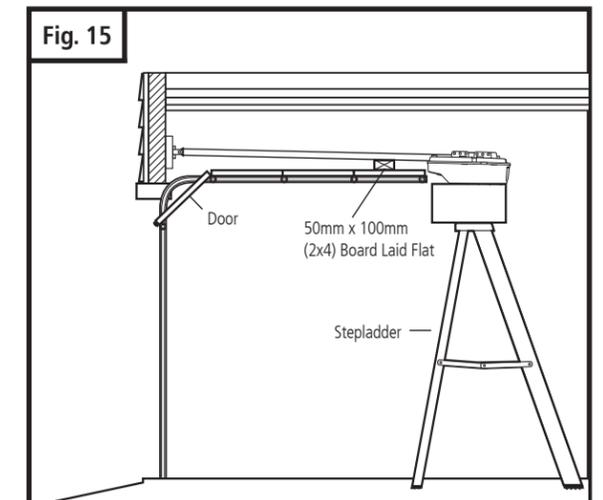
8-6. MOUNT OPERATOR TO CEILING

⚠ 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.

A. Fasten Operator to ceiling

■ Position S operator head so that rail is lined up with center line of open door.

■ Line up hanger brackets (not provided) with ceiling joists or framing to locate where brackets are to be fastened. See Fig. 16.

■ Mark location for 5/16" lag screws (not provided), and drill two 3/16" pilot holes.

■ Fasten hanger brackets to joists using lag screws.

■ If building framing supports are not visible, attach a length of perforated angle or a 50mm x 100mm (2x4) board to the ceiling, securing it to the hidden joists with lag screws long enough to fasten firmly to building framing (extra hardware items not provided). Then, attach one end of hanger brackets to the angle or 50mm x 100mm (2x4) board mounted to ceiling. Attach other end of hanger brackets to operator's perforated angles. See Fig. 17 for an alternate mounting methods.

■ Once operator is securely fastened in position, remove wood blocks and temporary supports 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 operator head slightly higher and re-mount in position.
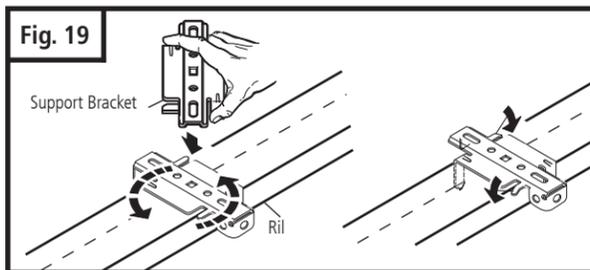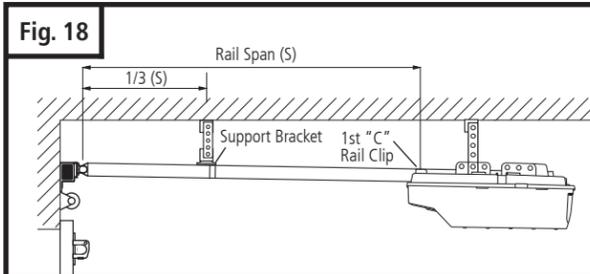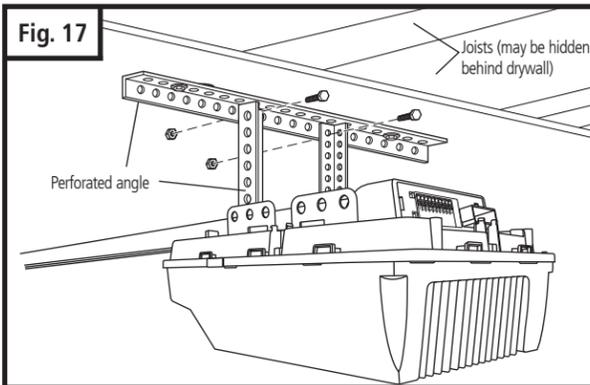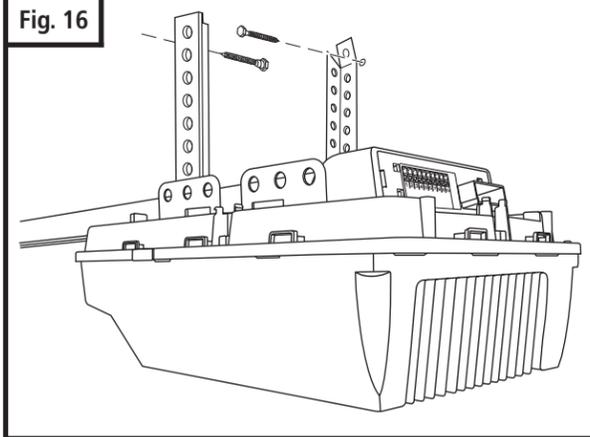
B. Attach support bracket

■ Measure the rail's overall span. Bracket is located on 1/3rd of the overall rail span from the door header bracket end. See Fig. 18

■ Place support bracket over rail (close side) on a diagonal. Make sure support securement clamps clear rail sides.

■ Secure bracket onto rail by twisting support bracket as indicated in Fig. 19.

■ Attach mounting strap (not provided) to support bracket and secure by fastening it to the ceiling.

Fig. 16

Fig. 17

Perforated angle

Joists (may be hidden behind drywall)

Fig. 18

Rail Span (S)

1/3 (S)

Support Bracket

1st "C" Rail Clip

Fig. 19

Support Bracket

Rail

8-14. ADVANCED SETTINGS (cont'd)

Level 3 - Automatic timer to close

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Menu 1: Timer to close - Setup

	A1	B1	C1	D1	E1	F1	G1	H1	I1	–	–	–	–	–	–	–

Menu 3: Open door timer (in seconds)

	2	5	10	15	20	25	30	35	40	50	80	100	120	150	180	255

Menu 4: Warning - Phase Timer (in seconds)

	1	2	5	10	15	20	25	30	35	40	45	50	55	60	65	70

Menu 5: Start-up warning timer (in seconds)

	Off	1	2	3	4	5	6	7	–	–	–	–	–	–	–	–

Menu 1: Timer-to-close setup

	Door open duration	Warning time	Signal light	Other functions
A1	-	-	-	Automatic closing timer deactivated
B1	15	5	flashes	-
C1	30	5	flashes	-
D1	15	5	flashes	closes after the photocell barrier has been driven past
E1	30	5	flashes	closes after the photocell barrier has been driven past
F1	15	5	on	-
G1	30	5	on	-
H1	15	5	on	closes after the photocell barrier has been driven past
I1	30	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.*

Level 4 – Transmitter code programming

Menu 1:   Impulse

Not available

Menu 2:   Code programming mid-stop position transmitter

One programmable position possible from Level 1 Menus 3 or 4
LED 7 flashes slowly -> use transmitter button other than those designated for garage doors -> LED 7 flashes quickly
Available ONLY with kit part# 88996

8-14. ADVANCED SETTINGS (cont'd)

Level 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Menu 7: Outputs - Connectivity to Terminal 9 and 10 (Requires Dry Contact Relay)

A7	B7	C7	D7	E7	F7	G7	H7	–	–	–	–	–	–	–	–

Menu 8: System RESET

No	Yes	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Menu 7: Outputs

	Functions			Functions
A7	Drive system running / signal light is on		E7	Malfunction
B7	Drive system running / signal light flashes		F7	Push-open security device
C7	3-min. light		G7	Door position CLOSED
D7	Wiping impulse		H7	Door position OPEN

Level 2: Functions overview

NOTE: Menus 7-8 are disabled
Press "+" or "-" button to scroll or navigate through menus.
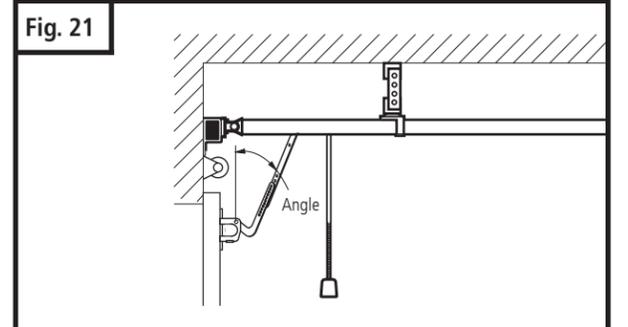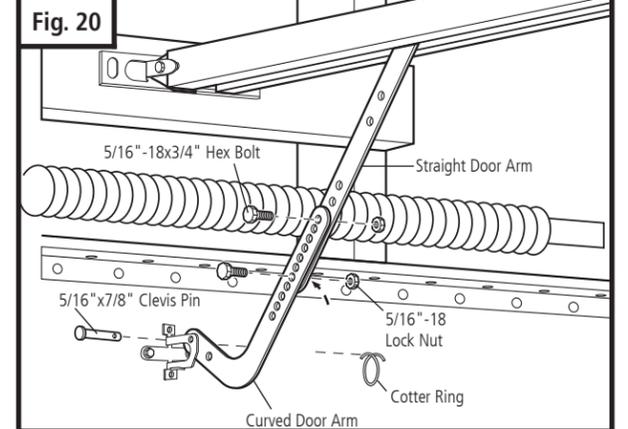
> **⚠ CAUTION**
> *The higher the sensitivity setting in menu 3 and 4, the higher the operator force capabilities or less sensitive operation.*

Level 2 – Operator settings

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Menu 1:   "OPEN" position operator (system) operating force (scale from 1 to 16)

1	2	3	4	5	6	7	**8**	9	10	11	12	13	14	15	16

Menu 2:   "CLOSED" position operator (system) operating force (scale from 1 to 16)

1	2	3	4	5	6	7	**8**	9	10	11	12	13	14	15	16

Menu 3:   "OPEN" position operator sensitivity (sensitivity scale from 1 to 16)

OFF	2	3	4	5	6	7	8	9	10	11	12	13	14	**15**	16

Menu 4:   "CLOSE" position operator sensitivity (sensitivity scale from 1 to 16)

OFF	2	3	4	5	6	7	8	9	10	11	12	13	14	**15**	16

Menu 5:   "OPEN" Position operator speed (step 16 highest travel rate)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	**16**

Menu 6:   "CLOSE" Position operator speed (step 16 highest travel rate)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	**16**

8-7. 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.
- Insert single hole side of straight door arm into trolley channel.
- Align straight door arm and trolley holes, then insert clevis pin through holes, and attach cotter ring to hold pin in place.
- Pull the manual release cord on the trolley to disconnect trolley from chain or belt connector. Slide trolley to position it about 100mm (4") away from the door.
- Position curved door arm into door bracket channel so that short end of arm will be attached to door bracket. See Fig. 20. 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) and lock nuts.

PULL EMERGENCY RELEASE KNOB TOWARD THE OPENER AT 45 DEGREE ANGLE TO LOCK TROLLEY, THEN MOVE DOOR MANUALLY UNTIL TROLLEY LOCKS WITH CONNECTOR INSIDE RAIL.

Fig. 20 — 5/16"-18x3/4" Hex Bolt; Straight Door Arm; 5/16"x7/8" Clevis Pin; 5/16"-18 Lock Nut; Cotter Ring; Curved Door Arm

Fig. 21 — Angle

8-8. CHECK EMERGENCY RELEASE

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

To adjust:

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

> **⚠ WARNING ⚠**
> *To prevent possible SERIOUS INJURY or DEATH from a falling garage door:*
> *• If possible, use emergency release knob 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 knob unless garage doorway is clear of persons and obstructions.*
> *• NEVER use knob to pull door open or closed.*

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 opener 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.

Fig. 22 — Emergency Release Cord; To release pull toward the door; To lock pull toward the opener
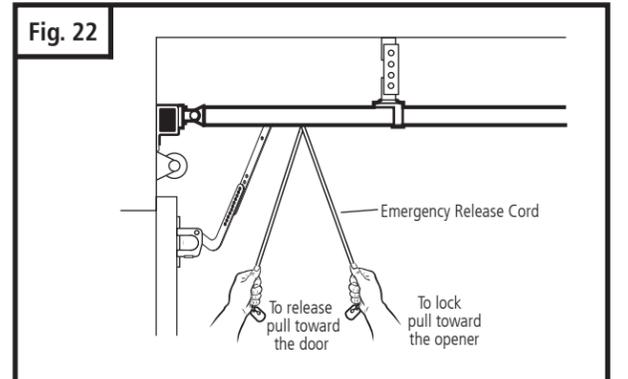
To release door—pull emergency release knob toward the door at approximately 45 degrees. (Fig. 22)

Prior to re-engaging door, ensure that all obstructions are removed and door is operating properly manually. Before re-engaging trolley with a belt connector, pull knob toward the opener 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.

8-9. INSTALL 3-BUTTON INDUSTRIAL 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 1.5m (5 feet) 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.
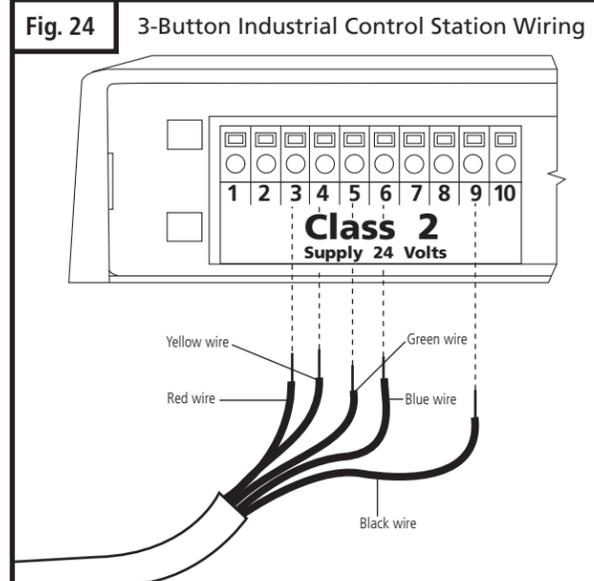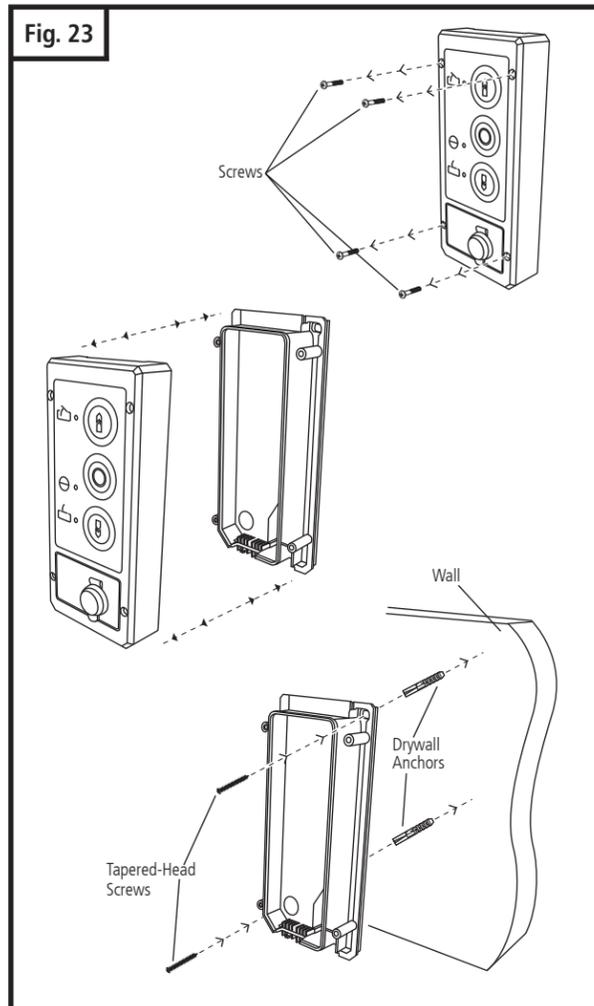
■ Open control station.
■ Position back panel onto wall in desired location.
■ Mark hole location on wall.
■ Drill 1/16" pilot holes into wall.
■ Insert and tighten screws to secure back panel to wall.
■ Make sure wiring is routed out from behind control through one of the cutouts to avoid pinching the wires.
■ Replace housing.

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

8-10. CONNECTING WIRES TO OPERATOR

■ Run wires from control station along wall and ceiling to operator. Use the staples to secure wiring to wall, joists and ceiling. Do not pinch wiring. Drive staples with only enough force to hold wiring in place. Refer to Fig. 6 on p.6 for an example of typical wiring routing.
■ Firmly insert red wire in terminal #3, yellow wire in terminal #4, green wire in terminal #5, blue wire in terminal #6, and black wire in terminal #9. See Fig. 24.

NOTE: *If wires are difficult to insert, a screwdriver may be used to depress the terminal "tab" while inserting the wires. To remove wires, depress tab again and pull wires out.*

Fig. 23

Screws

Wall

Drywall Anchors

Tapered-Head Screws

Fig. 24   3-Button Industrial Control Station Wiring

1 2 3 4 5 6 7 8 9 10

Class 2
Supply 24 Volts

Yellow wire
Red wire
Green wire
Blue wire
Black wire

8-14. ADVANCED SETTINGS (cont'd)

⚠ **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.*

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 5: Soft run position OPEN	–
	Menu 6: Soft run position CLOSE	–
	Menu 7: Outputs	A7
	Menu 8: System 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
	Menu 5: "OPEN" position – operator speed	Setting 16
	Menu 6: "CLOSE" position – operator speed	Setting 16
Level 3 – Automatic timer to close	Menu 1: Timer to close – Setup	Deactivated
	Menu 3: Open door timer	15 seconds
	Menu 4: Warning – Phase Time	5 seconds
	Menu 5: Start-up warning timer	Off
Level 4 – Transmitter code programming	Menu 1: Impulse	–
	Menu 2: Code programming mid-stop position transmitter	–
Level 5	Menu 1: Programmable impulse input	Impulse
	Menu 4: Light Timer	255 seconds
Level 8 – System settings	Menu 3: Door reversal function modes	C3

Level 1: Functions overview

NOTE: Menus 1 and 2 are disabled. Press "+" or "-" button to scroll or navigate through menus.

Level 1																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Menu 3:   Mid-stop "OPEN Position"

Set using the (+ / OPEN) and (- / CLOSE) buttons
Available ONLY with kit part# 88996
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# 88996
Note: Only one mid-stop position can be selected.

Menu 5:   Soft run position OPEN

Set using the (+ / OPEN) and (- / CLOSE) buttons

Menu 6:   Soft run position CLOSE

Set using the (+ / OPEN) and (- / CLOSE) buttons

8-14. ADVANCED SETTINGS

Advanced settings programming flow chart (Diagram illustrates: Level 2, Menu 2)

⚠ 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.

Levels · Menu · Parameter

(Continue to levels 5, 6, 7)

Operating mode

Level 4 · Menu 3 · Increase value

Level 3 · Menu 2 · Parameter · > 5 sec.

Level 2 · Menu 1 · Reduce value

Level 1 · Menu Exit (Level 2)

Levels Exit · Menu 8 · > 5 sec.

> 10 sec.

End programming

Level 8 · > 5 sec.

Levels 6 and 7 are disable
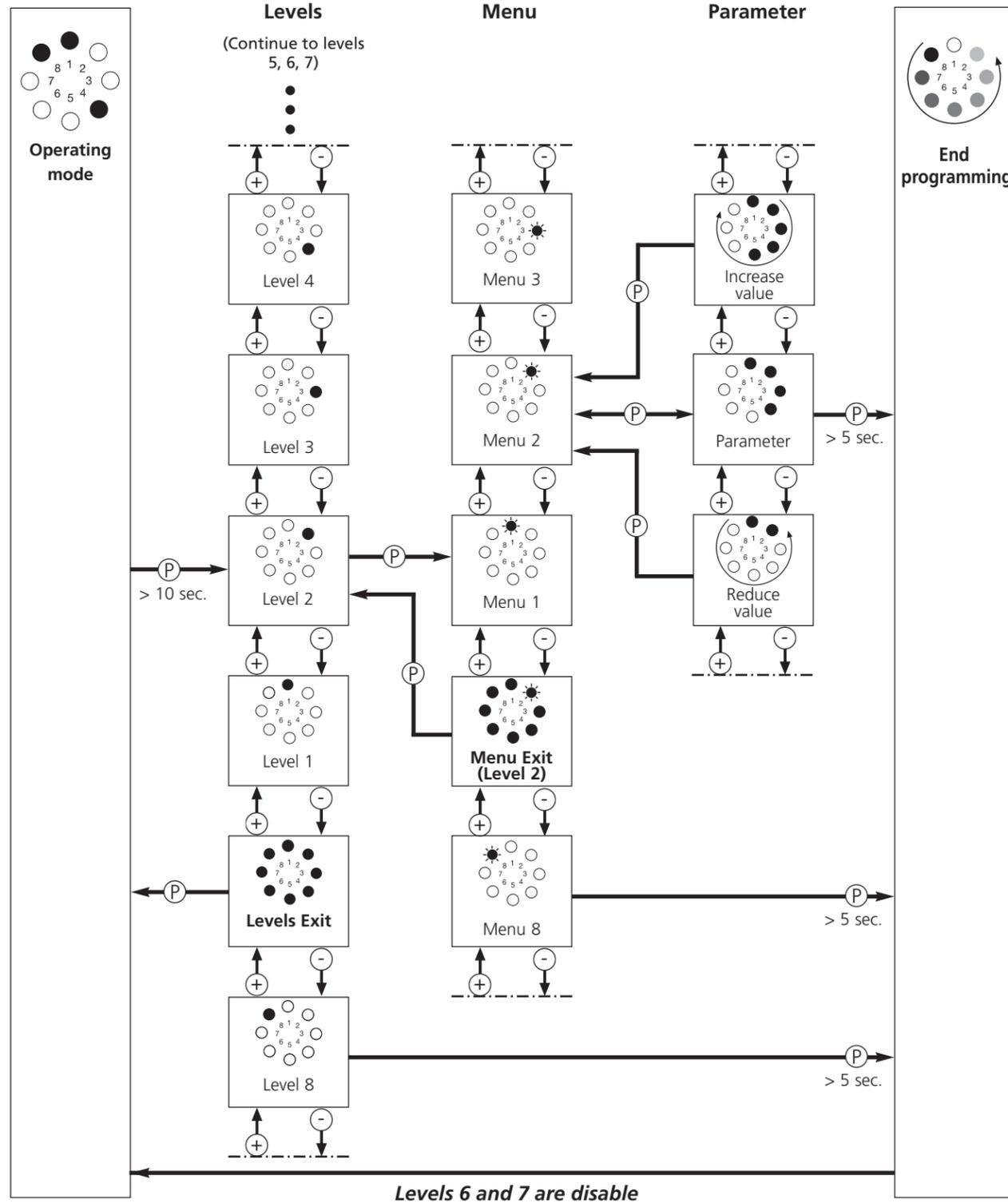
8-11. CONNECT TO POWER

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.
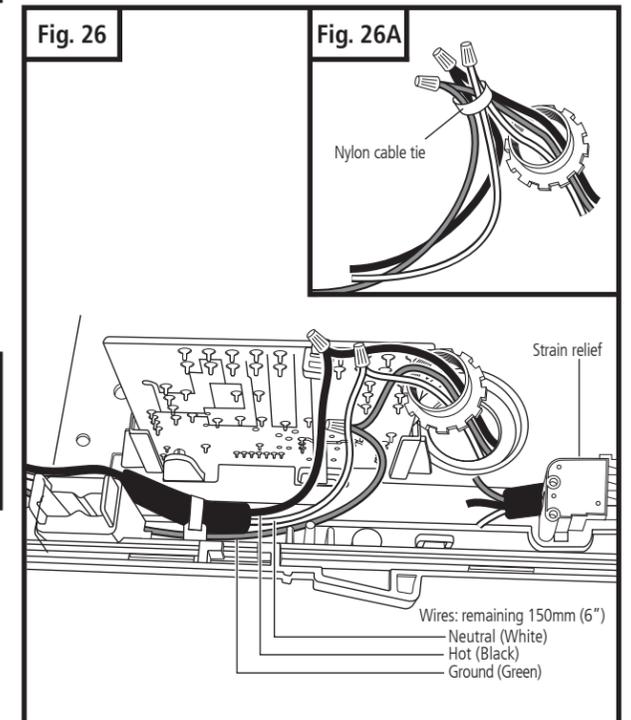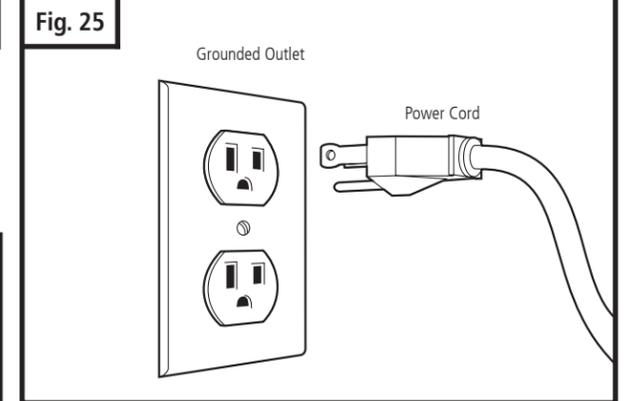
- Plug the operator into a properly grounded outlet (Fig. 25).
- An indicator light (LED #8) on the operator control panel will turn on showing that the power is "On" and the opener is ready to set the adjustments.
- DO NOT operate or run the opener at this time.

PERMANENT WIRING CONNECTION:
(If required by your local electrical code)

If local codes require your operator to be connected via permanent wiring instead of a cord and plug, your opener must be converted, as shown in Fig. 26. Contact a qualified electrician to run the necessary wiring to your operator and to perform the electrical connections.

⚠ WARNING ⚠

To prevent electrocution, disconnect the operator from power and turn off power at circuit breaker for the circuit you will be using to connect to the opener.

- Remove operator housing by removing the four screws, two screws located at the front by the control panel area, and two screws located on the back of the unit, then pulling the housing away from the chassis.
- Cut the power cord close to strain relief cover, so that after cut, there is at least 150mm (6") of wiring remaining. Remove approx. 40mm (1 ½") of black insulation left on the cable to expose the three conductor leads (white-neutral, black-hot, and green-ground).
- Remove two screws and unsnap the power cord strain relief cover by disengaging the tabs, and remove this part (save for reattachment later).
- Remove the cut power cord and discard. Replace the strain relief cover by snapping tabs back into place.
- Using a hammer and screwdriver or punch, knock out conduit hole, and bring in the permanent wiring and conduit.
- Secure conduit to chassis (method varies depending on type of conduit used).
- Attach the incoming power leads (hot, neutral, and ground) to the remaining internal wires using suitable wire nuts (not provided). Tight wire leads together with a nylon cable tie to avoid the leads from coming in contact with the relay circuit board, see Fig. 26A.
- Reinstall opener housing and secure housing with screws. Make sure that when reinstalling operator housing, no wires will be pinched between the housing and the chassis.
- Complete the remaining installation.
- Turn on power at breaker.

Fig. 25

Grounded Outlet

Power Cord

Fig. 26

Fig. 26A

Nylon cable tie

Strain relief

Wires: remaining 150mm (6")
Neutral (White)
Hot (Black)
Ground (Green)

8-12. CONTROL PANEL

On the control panel (See Fig. 27) you will find a circular LED display with 8 numbered icons which shows useful status information regarding the operator and its function and 3 buttons labeled "+", "-" and "P" which allows you to set all the adjustments of your operator.

8-13. INITIAL SYSTEM SET UP

⚠ **WARNING** ⚠

In order to guarantee 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.*

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

- Open Door Position
- Close Door Position

Press and hold the "P" button for approximately 2 seconds. When LED's 8, 1 and 2 illuminate, 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:

HANDY NOTE: 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.

Your new operator has automatic force learning and maximum force setting. It may be required to change force settings. If the force needs to be increased or decreased, it should be changed by one (1) increment at a time. The force should be set as low as possible, just enough to allow your unobstructed door to travel freely without reversing or stopping.

NOTE: You may exit the System Set Up at any time by pressing the button "P" for more then 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. When programming is terminated, all LED's light up once and then turn off, one after the other.
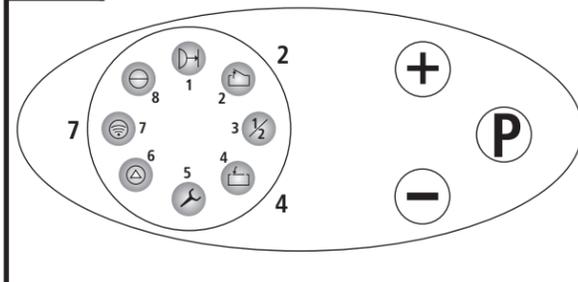
Fig. 27

Fig. 28

Icons Description and LED's Assignment

	LED #1	Photo Eye Sensors Connectivity/Alignment Indicator Normal operation without photo eye sensor LED #1 "__On__"
	LED #2	"OPEN Door Position"
½	LED #3	"Door Mid-Stop Position Indicator" Level 1: Menu 3 and 4 only available with remote activation kit part # 88996, pg. 24.
	LED #4	"CLOSED Door Position"
	LED #5	"Reference Point"
	LED #6	-----
	LED #7	"Impulse (Remote Control)"
	LED #8	"Power"

8-13. INITIAL SYSTEM SET UP (cont'd)

Power on

1	Press and hold for 2s<10s P	**Start initial system setup by programming the door OPEN position.**	
2	(+)	Bring the door to the desired OPEN postion	
3	(+) (-)	Fine adjustment if necessary. Adjust the OPEN door position using (+) and (-)	
4	Press once P	**Saves the OPEN door position. Start programming the CLOSED door position.**	
5	(-)	Bring the door to the desired CLOSED position	
6	(+) (-)	Fine adjustment if necessary. Adjust the CLOSED door position using (+) and (-)	
7	Press once P	**Saves the CLOSED door position. Go to step 10 to end system programming.**	

* Optional if using Remote Activation Kit (part # 88996)
Proceed to steps 8 and 9 to program the transmitter code to the operator.

8*		Press the transmitter button. LED #7 flashes rapidly	
9*		Release the transmitter button	**Operating mode**
10	Press once P	**End the system setup (programming) procedure. *(Saves the transmitter code settings).** *IMPORTANT: SEE NOTE BELOW*	
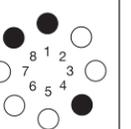
IMPORTANT:

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:	
LED off	○
LED on	●
LED flashes slowly	☀
LED pulses	☼
LED flashes quickly	☀
Factory default setting	
Not possible	–