

LiftMaster®

Industrial DC Operators

Models JDC, JHDC, and
TDC

DC Jackshaft, Hoist, and Trolley
For Doors up to 700, 1200, and 2200 lbs

NOT FOR RESIDENTIAL USE



NOT FOR RESIDENTIAL USE

- Please read this manual and the enclosed safety materials completely, prior to installation and use!
- This product is to be installed and serviced by a trained door systems technician ONLY.
- These operators are compatible with myQ®, myQ® Smart Facility Access™, and Security+ 2.0® accessories.
- These operators are Wi-Fi® compatible.

2 YEAR WARRANTY

Serial # _____

Installation Date _____

Scan here for
LiftMaster support
videos and content.



LiftMaster
300 Windsor Drive
Oak Brook, IL 60523

Table of Contents

Safety Information	3	Wall Controller Installation	22
Safety Symbol and Signal Word Review	3	Factory Wiring Diagram	23
Planning	4	Accessory Wiring Diagram	25
Introduction	5	Power Wiring Diagram	26
Voltage Selection	5	Entrapment Protection	27
Amperage	5	Monitored Entrapment Protection	27
Operator Specifications	6	Install the Monitored Light Curtain	28
Operator Dimensions	7	Battery Backup Wiring	29
Jackshaft (JDC) and Hoist (JHDC)	7	Testing	30
TDC Trolley	8	Test all Entrapment Protection Devices	30
Battery Backup	8	Test Wall Controller Menu Access	30
TDC Trolley Operators	9	Test Limit Adjustment	30
Carton Inventory	9	Programming	31
Description	9	Quick Start Commissioning	31
Hardware	9	Manual Commissioning Program Flow	31
TDC Trolley Assembly	10	Operating Modes	34
Assemble the Operator	10	Determine Operating Mode	35
Install the Chain	11	Determine and Set Operating Mode	36
TDC Trolley Installation	12	Programmable Inputs	44
Install the Header Bracket	12	Radio	44
Attach the Track to the Header Bracket and Hang the Operator	13	Programming Remote Controls and myQ® Devices	44
Attach the Door Arm and Bracket	14	Erasing Programmed Devices	44
Jackshaft (JDC) and Hoist (JHDC) Operators	15	Reset Defaults	44
Carton Inventory	15	myQ® Smart Facility Access	45
Description	15	Setup a myQ® Smart Facility Access Account	45
Door Sprockets	15	Provisioning Wi-Fi	45
JDC/JHDC Assembly	16	Auxiliary Relays Accessory Kit ([XXXXX])	46
Configure the Operator	16	Configure the Relay Adapter	46
JDC/JHDC Installation	17	Loop Detector Board	47
Determine Mounting Location	17	Troubleshooting	48
Mount the Operator	18	Maintenance	51
Secure the Chain Hoist	18	Maintenance Schedule	51
Cable Tension Monitors	19	Accessories	52
Install the Cable Tension Monitor(s) (Optional)	19	Field Installable Accessory Kits	55
Manual Release	20	Service Parts	56
Emergency Disconnect System Model TDC	20	Model TDC	56
Emergency Disconnect System Model JHDC	20	Model JHDC	57
Wiring	21	Model TDC, JDC, and JHDC Common Parts	57
Power and Ground	21	Warranty	58
Voltage Selection	21		

MYQ® CONNECTIVITY

- myQ® Smart Facility Access Technology enables secure monitoring and control of door operators and other myQ® Smart Facility Access devices with a smartphone, tablet or computer.
- Alerts can be received as email notifications, ensuring the status of a commercial door.

SAFETY AND SECURITY

Security+ 2.0® – with every press of the button, a new code is sent to the commercial door operator, ensuring a door will only open for the remote control programmed.

UL 325 requires all commercial door operators to be either constant pressure to close or be equipped with a primary external monitored entrapment protection device.

LiftMaster® is the leading brand of professionally installed commercial door operators and access control products for businesses worldwide. We are committed to quality products, innovative designs and comprehensive services which exceed our Customers' expectations.

Safety Information

Safety Symbol and Signal Word Review

**WARNING**
Mechanical

**WARNING**
Electrical

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

**CAUTION**

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

**WARNING:** This product can expose you to chemicals including lead, which are known to the State of California to cause cancer or birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

IMPORTANT NOTES:

- BEFORE attempting to install, operate or maintain the commercial door operator, you must read and fully understand this manual and follow all safety instructions.
- DO NOT attempt repair or service of a commercial door operator unless you are an Authorized Service Technician.
- A commercial door operator should only be installed on a properly balanced door. Ensure door is properly balanced prior to installation.

ENTRAPMENT PROTECTION DEVICES

Monitored Entrapment Protection

Monitored photoelectric sensors and/or door edge sensors are required for any momentary contact to close modes of operation. See "Entrapment Protection" on page 27 for additional information. Refer to the Entrapment Protection Devices in "Accessories" on page 52 for available options.

**WARNING**

To reduce the risk of SEVERE INJURY or DEATH:

1. READ AND FOLLOW ALL INSTALLATION WARNINGS AND INSTRUCTIONS.
2. Install door operator ONLY on properly balanced and lubricated door. An improperly balanced door may NOT reverse when required and could result in SEVERE INJURY or DEATH.
3. ALL repairs to cables, spring assemblies and other hardware MUST be made by a trained door systems technician BEFORE installing operator.
4. Disable ALL locks and remove ALL ropes connected to door BEFORE installing operator to avoid entanglement.
5. Install an operator, a minimum of 8 feet (2.44 m) from the floor.
6. NEVER connect a door operator to a power source until instructed to do so.
7. NEVER wear watches, rings or loose clothing while installing or servicing an operator. They could be caught in the door or operator mechanisms.
8. Install a wall controller:
 - within sight of the door.
 - out of reach of small children and at a minimum height of 5 feet (1.5 m) above floors, landings, steps, or any other adjacent walking surface.
 - away from ALL moving parts of the door.
9. Install the wall controller far enough from the door to prevent the user from coming in contact with the door while operating the controls.
10. Install the entrapment warning placard on the wall next to the wall controller in a prominent location, visible from the door.
11. Place the manual release/safety reverse test label in plain view on the inside of door.
12. Upon completion of installation, test the entrapment protection device(s).
13. This door operator is not intended to replace door locks. With enough force, a door without a door lock can be opened. LiftMaster always recommends the use of door locks to properly secure a door.
14. SAVE THESE INSTRUCTIONS.

Planning

SECTIONAL DOORS

Recommended Drum/Sprocket Configuration for 12"/second Door Speed

Operator	Door Type	Drum*	Sprockets**
700	Standard	D400-96	16
	Hi-lift	D400-54	
	Standard	D400-144	
1200	Vertical	D850-132	22
	Standard	D5250-18	
	Hi-lift	D525-54	
	Hi-lift	D575-120	
	Standard	D525-216	
2200	Vertical	D1100-216	32
	Hi-lift	D6375-164	
	Standard	D800-384**	
	Hi-lift	D800-120	
	Vertical	D1350-336	42

UNINSULATED ROLLING DOORS 20'

Operator	Sprocket	Door Weight
700	50	Up to 450 lbs
	72	450 up to 700 lbs
1200		700 up to 1200 lbs
2200		1200 up to 1800 lbs
	82	1800 up to 2200 lbs

INSULATED ROLLING DOORS 20'

Operator	Sprocket	Door Weight
700	60	Up to 450 lbs
1200	72	450 up to 900 lbs
2200	82	900 to 1500 lbs
	90	1500 up to 2000 lbs

* Sprockets will no longer be included in the box.

Introduction

Voltage Selection

Voltage Selection	
120/240V single and 3 phase	dedicated sku
480V 3 phase	dedicated sku
208V 3 phase	Via accessory step down transformer
600V 3 phase	Via accessory step down transformer

Amperage

Model	Operator Type	Voltage	Cycle	Max. Door Weight
JDC7S1BMC	Jackshaft non-hoisted Operators	120/240 single, 3 phase	Standard Cycle	700 lbs.
JDC7S4BMC		480V 3 phase BBU		
JHDC7S1BMC	Hoist Operators	120/240 single, 3 phase BBU Capable	Standard Cycle	700 lbs.
JHDC7S4BMC		480V 3 phase BBU Capable		
JHDC12S1BMC		120/240 single, 3 phase BBU capable		
JHDC12S4BMC		480V 3 phase BBU capable		
JHDC12X1BMC		120/240 single, 3 phase BBU capable	Extended Cycle	1200 lbs
JHDC12X4BMC		480V 3 phase BBU capable		
JHDC22X1BMC		120/240 single, 3 phase BBU capable		
JHDC22X4BMC		480V 3 phase BBU capable		
TDC7S1BMC	Trolley Operators	120/240 single, 3 phase BBU capable	Standard Cycle	700 lbs.
TDC7S4BMC		480V 3 phase BBU capable		
TDC12S1BMC		120/240 single, 3 phase BBU capable		
TDC12S4BMC		480V 3 phase BBU capable		
TDC12X1BMC		120/240 single, 3 phase BBU capable	Extended Cycle	1200 lbs
TDC12X4BMC		480V 3 phase BBU capable		
TDC22X1BMC		120/240 single, 3 phase BBU capable		
TDC22X4BMC		480V 3 phase BBU capable		
JHDC12X1N4XMC	Hoist Nema4X Operators	120/240 single, 3 phase N4X	Extended Cycle	1200 lbs
JHDC12X4N4XMC		480V 3 phase N4X		
JHDC22X1N4XMC		120/240 single, 3 phase		2200 lbs
JHDC22X4N4XMC		480V 3 phase		
TDC12X1N4XMC	Trolley Nema4X Operators	120/240 single, 3 phase N4X	Extended Cycle	1200 lbs
TDC12X4N4XMC		480V 3 phase N4X		
TDC22X1N4XMC		120/240 single, 3 phase N4X		2200 lbs
TDC22X4N4XMC		480V 3 phase N4X		

Operator Specifications

Duty Cycles:

- Standard: 20 cycles per hour / 90 cycles per day
- Extended: 30 cycles per hour / 150 cycles per day

Wall Controller: NEMA 1 General Purpose 3-Button Wall Controller Open/Close/Stop, LCD Display, and floor level commissioning through intuitive user menu.

Operation Mode: C2 (Factory default), B2, B2/T, B2/TS, D1, E2 and FSTS.

Brake: Standard Dynamic braking on 700, 1200, 2200; only 2200 has the standard Solenoid powered-off brake.

Disconnect:

- Jackshaft: No disconnect. Jackshaft operators come standard with battery backup for automatic opening or closing in case of emergency.
- Hoist: Operator includes an Engage rope (green) and a disengage rope (red) with manual hoist to electronically disable the operator controls.
- Trolley: Quick disconnect door arm for emergency manual door operation.

Mechanical Drive Reduction:

- Model JDC: 65:1 gearbox with #50 chain output.
- Model JHDC: 65:1 gearbox with #50 chain output.
- Model TDC: 65:1 gearbox with #48 chain output on 700 units and #41 chain output on 1200 and larger units.

Door Speed:

Fine adjustments are made via Wall Controller menu; if you want to slow down the operator, please adjust via sprocket choice:

- Model JDC: 12" per second for sectional and 8-9" per second for rolling steel doors.
- Model JHDC: 12" per second for sectional and 8-9" per second for rolling steel doors.
- Model TDC: 12" per second for sectional and 8-9" per second for rolling steel doors.

Limit Adjust: Electronic limits, Floor level adjust-ability up to 20ft.

Temperature Ratings:

- -20°C (14°F) to +65°C (149°F)
- ENVIRONMENT: For indoor use only.

Max. Door Weight: See Operator Charts which include Door Weight and Height information.

Door Dim: See Operator Charts which include Door Weight and Height information.

Important Safety Instructions



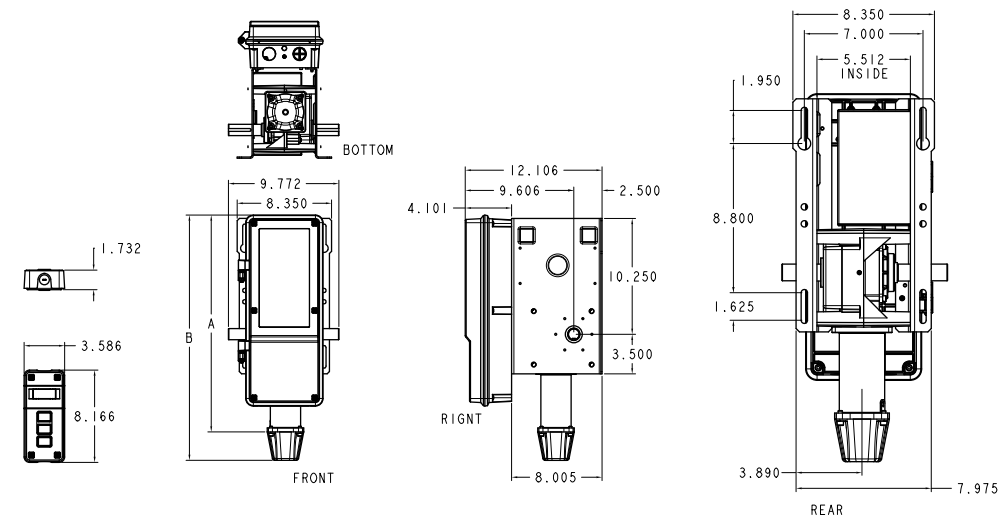
WARNING

To reduce the risk of SEVERE INJURY or DEATH:

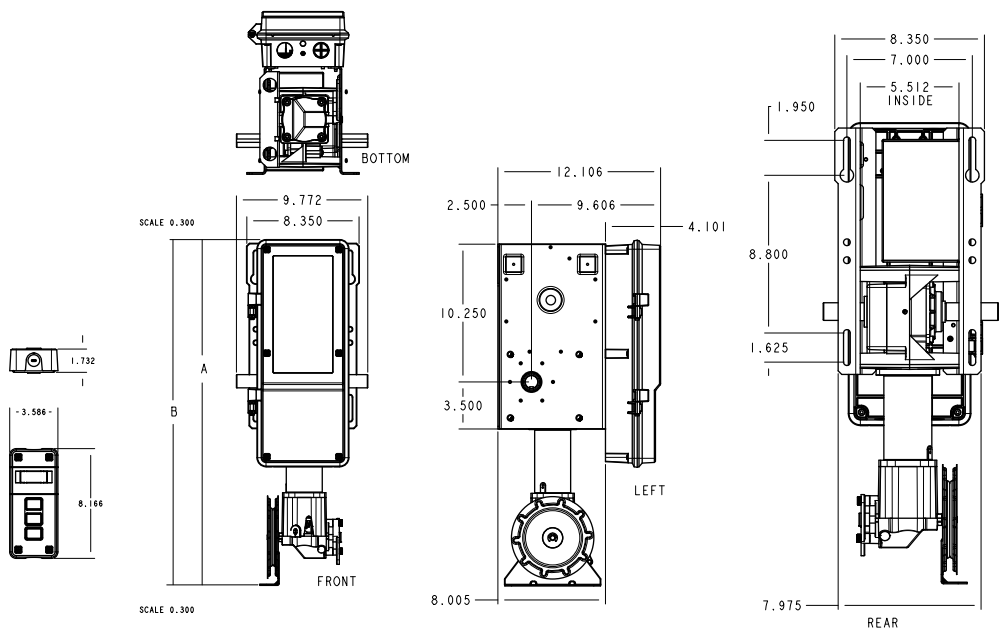
1. READ AND FOLLOW ALL WARNINGS AND INSTRUCTIONS.
2. ALWAYS keep remote controls out of reach of children. NEVER permit children to operate or play with door control push buttons or remote controls.
3. ONLY activate a door when it can be seen clearly, it is properly adjusted and no obstructions exist in the path the door will travel.
4. Personnel should keep away from a door in motion and ALWAYS keep a door in sight until completely closed. NO ONE SHOULD CROSS THE PATH OF A MOVING DOOR.
5. NO ONE SHOULD GO UNDER A STOPPED OR PARTIALLY OPENED DOOR.
6. If possible, use the manual release handle to disengage a door ONLY when a door is CLOSED. Weak or broken springs or an unbalanced door could result in an open door falling rapidly and/or unexpectedly causing SEVERE INJURY or DEATH.
7. NEVER use manual release handle unless the doorway is clear of persons and obstructions.
8. After ANY adjustments are made, the entrapment protection device(s) MUST be tested. Failure to adjust the operator properly may cause SEVERE INJURY and DEATH.
9. Entrapment protection device(s) MUST be tested every month. Failure to adjust the operator properly may cause SEVERE INJURY and DEATH.
10. ALWAYS KEEP DOOR PROPERLY BALANCED. An improperly balanced door may NOT reverse when required and could result in SEVERE INJURY or DEATH. See the door manufacturer's owners manual.
11. ALL repairs to cables, spring assemblies and other hardware, ALL of which are under EXTREME tension, MUST be made by an Authorized Service Technician.
12. ALWAYS disconnect electric power to the door operator BEFORE making ANY repairs or removing covers.
13. SAVE THESE INSTRUCTIONS.

Operator Dimensions

Jackshaft (JDC) and Hoist (JHDC)



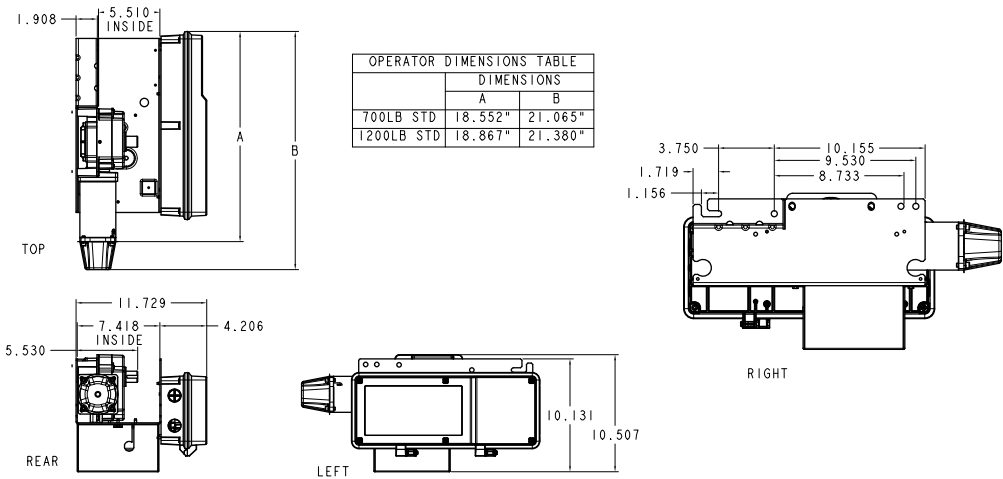
	OPERATOR DIMENSIONS TABLE	
	DIMENSIONS	
	A	B
700LB STD	19.187"	21.701"
1200LB STD	19.502"	22.016"



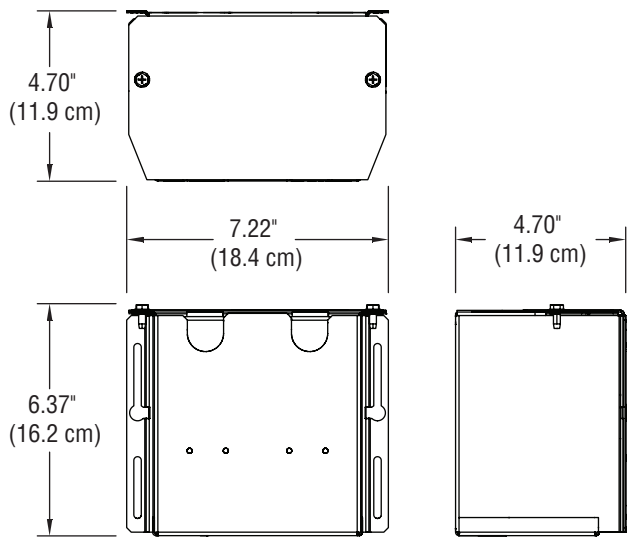
	OPERATOR DIMENSIONS TABLE	
	DIMENSIONS	
	A	B
700LB STD	19.1867"	25.7279"
1200LB STD	19.5017"	26.0428"

Operator Dimensions (continued)

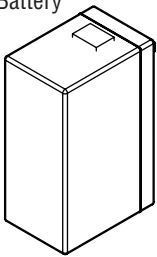
TDC Trolley



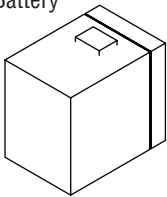
Battery Backup



7H Battery



4H Battery



TDC Trolley Operators



WARNING

To prevent possible SERIOUS INJURY or DEATH:

- DO NOT connect electric power until instructed to do so.
- If the door lock needs to remain functional, install an interlock switch.
- ALWAYS call an Authorized Service Technician if door binds, sticks, or is out of balance. An unbalanced door may NOT reverse when required.
- NEVER try to loosen, move, or adjust doors, door springs, cable, pulleys, brackets, or their hardware. ALL of which are under EXTREME tension and can cause SERIOUS PERSONAL INJURY.
- Disable ALL locks and remove ALL ropes connected to door BEFORE installing and operating door operator to avoid entanglement.
- Fasten the operator SECURELY to structural supports of the building.
- Concrete anchors MUST be used in installing ANY brackets.

Carton Inventory

Your door operator is packaged in one carton which contains the motor unit and the parts illustrated below. If anything is missing, carefully check the packing material.

Description

- Operator assembly
- Installation manual and caution labels
- Hardware box
- Wall Controller
- LiftMaster Monitored Entrapment Protection, CPS-U
- Trolley drive chain

NOTE: The tracks are shipped separately. Trolley Chain will be shipped separate. Will no longer be packed inside the operator packaging.

Hardware

- Fasteners
- Track spacers
- Trolley
- Door arm assembly
- Front idler
- Header mounting bracket

TDC Trolley Assembly

Assemble the Operator

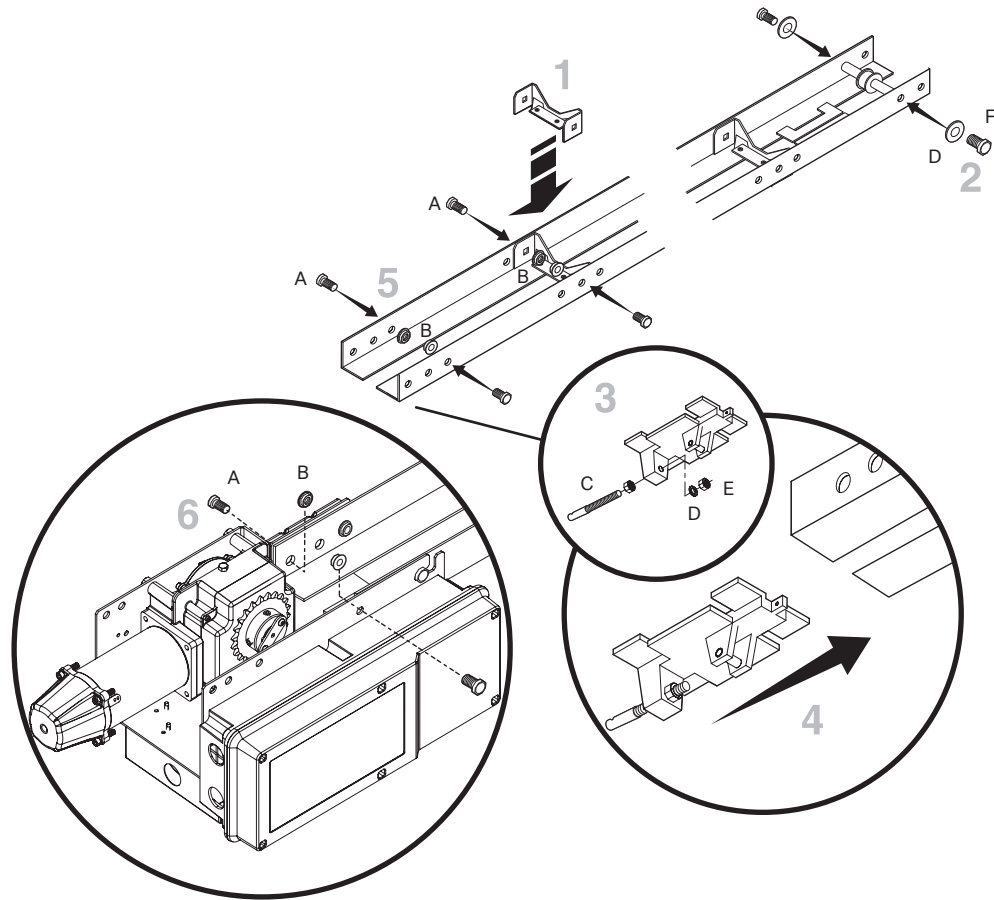
1. Install the track spacers evenly over the length of the track. Fasten the spacers to the track with bolt (A) and flange hex nuts (B).

Spacers Provided	Track Length
2	8-14 foot
3	16-20 foot
4	22-24 foot

2. Install the front idler to the track with bolts (F) and washers (D).
3. Assemble the trolley with the take up bolt (C), hex nuts (E), and lock washer (D).
4. Slide the trolley onto the track.
5. Insert bolts (A) into the end of the track and loosely thread the nuts (B) onto the ends of the bolts.
6. Slide bolts (A) on the end of the track assembly into the "L" slot in the operator and tighten nuts (B). Insert bolts (A) into the holes on the end of the track and the operator. Secure the track with nuts (B).

HARDWARE

- A Bolt 3/8"-16 x 3/4"
- B Flange Hex Nut 3/8"-16
- C Take Up Bolt
- D Lock Washer 3/8"
- E Hex Nut 3/8"-16
- F Bolt 3/8"-16 x 1"

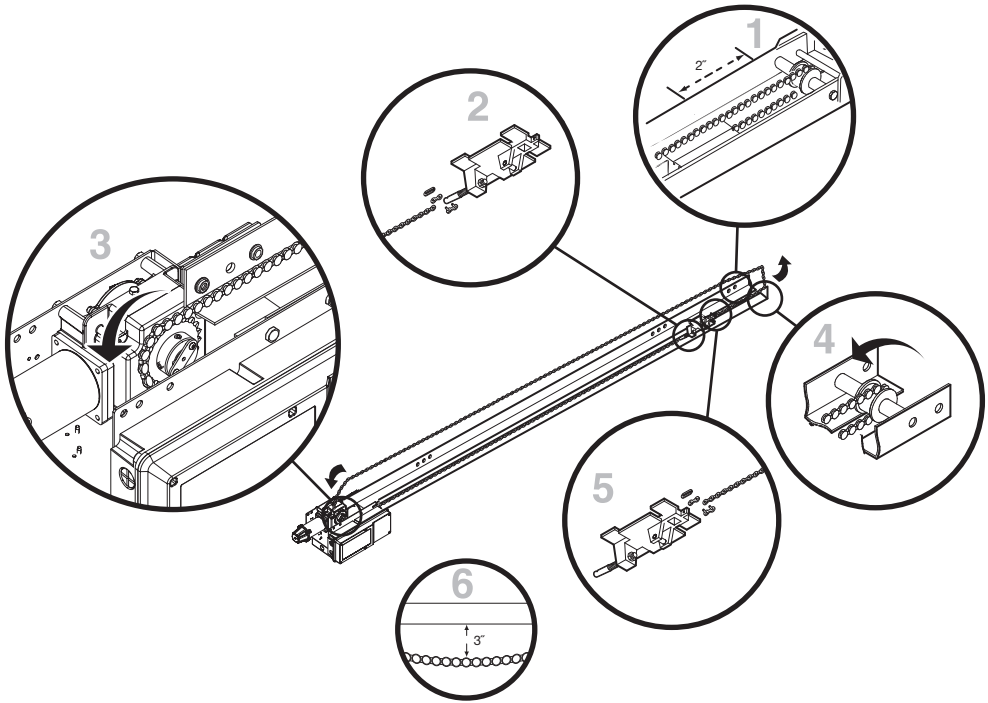


TDC Trolley Assembly (continued)

Install the Chain

The chain is packed separately from the operator. Please ensure you have your chain before starting installation.

1. Position the trolley 2 inches (5.1 cm) away from the front idler.
2. Attach the chain to the trolley threaded shaft using the master link.
3. Run the chain along the track to the operator. Wrap the chain around the operator drive sprocket.
4. Run the chain along the track to the front idler. Wrap the chain around the front idler.
5. Attach the chain to the front of the trolley using the master link.
6. Tighten the chain until the chain sags about 3 inches (7.6 cm) at the mid point of the track.
7. For retrofit trolley installations, use an additional 6" of chain for the installation.



TDC Trolley Installation

Install the Header Bracket

The trolley operator is generally mounted over the center of the door. However, off center mounting may be required due to interfering structures or location of the door stile / top section support. Typically, the operator may be mounted up to 24 inches (60.1 cm) off center on torsion spring doors. Extension springs require center mounting.

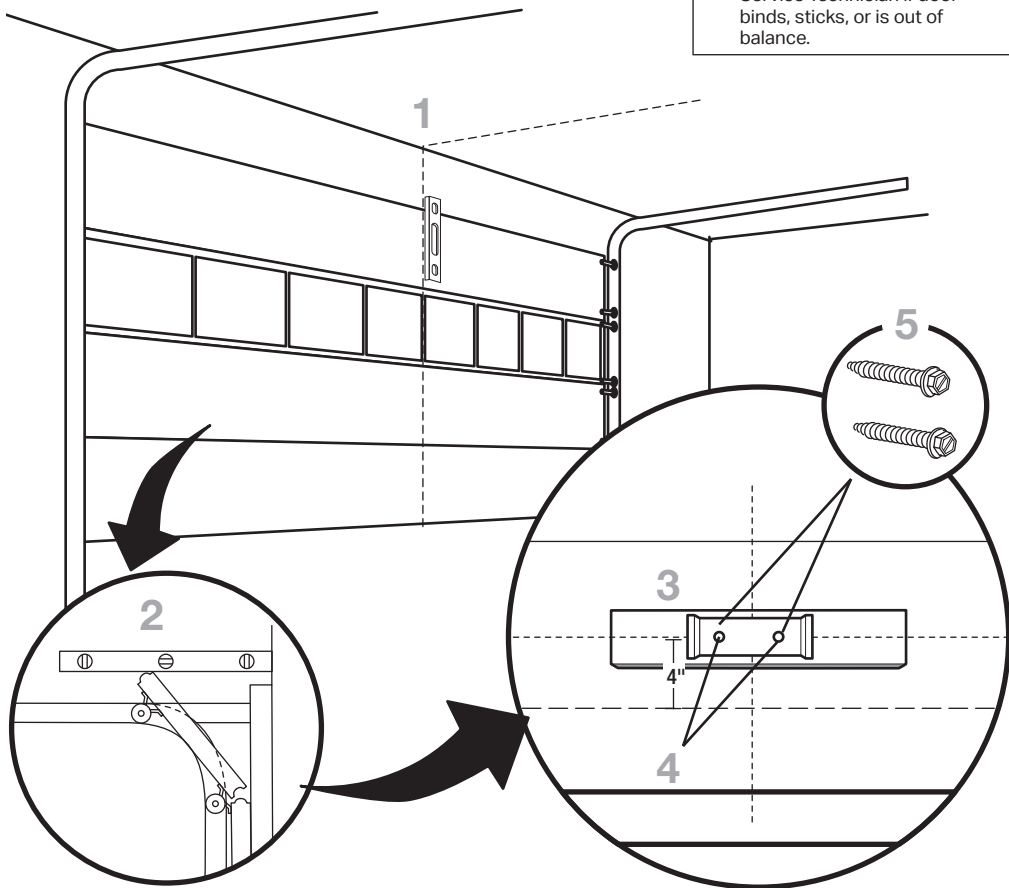
1. Close the door. Mark the center of the door with a vertical line, extend the line onto the ceiling.
2. Open the door to the highest point of travel mark 4 inches (10.1 cm) above the highest point of travel.
3. Center the header bracket on the vertical center line and the horizontal line.
4. Drill the pilot holes for the header bracket.
5. Fasten the header bracket with appropriate hardware (not provided).



WARNING

To prevent possible **SERIOUS INJURY** or **DEATH**:

- Header bracket **MUST** be **RIGIDLY** fastened to the structural support on the header wall or ceiling, otherwise the door might **NOT** reverse when required. **DO NOT** install the header bracket over drywall.
- Concrete anchors **MUST** be used if mounting the header bracket or 2x4 into masonry.
- **NEVER** try to loosen, move or adjust door, springs, cables, pulleys, brackets, or their hardware, **ALL** of which are under **EXTREME** tension.
- **ALWAYS** call an Authorized Service Technician if door binds, sticks, or is out of balance.



TDC Trolley Installation (continued)

Attach the Track to the Header Bracket and Hang the Operator

1. Align the track with the header bracket.
2. Insert the clevis pin through the track and header bracket holes. Secure with the fasteners.
3. Swing the operator up and ensure the operator is level.
4. Secure the operator using the appropriate fasteners and locking hardware to support the weight of the operator.



CAUTION

To avoid possible **SERIOUS INJURY** from a falling operator:

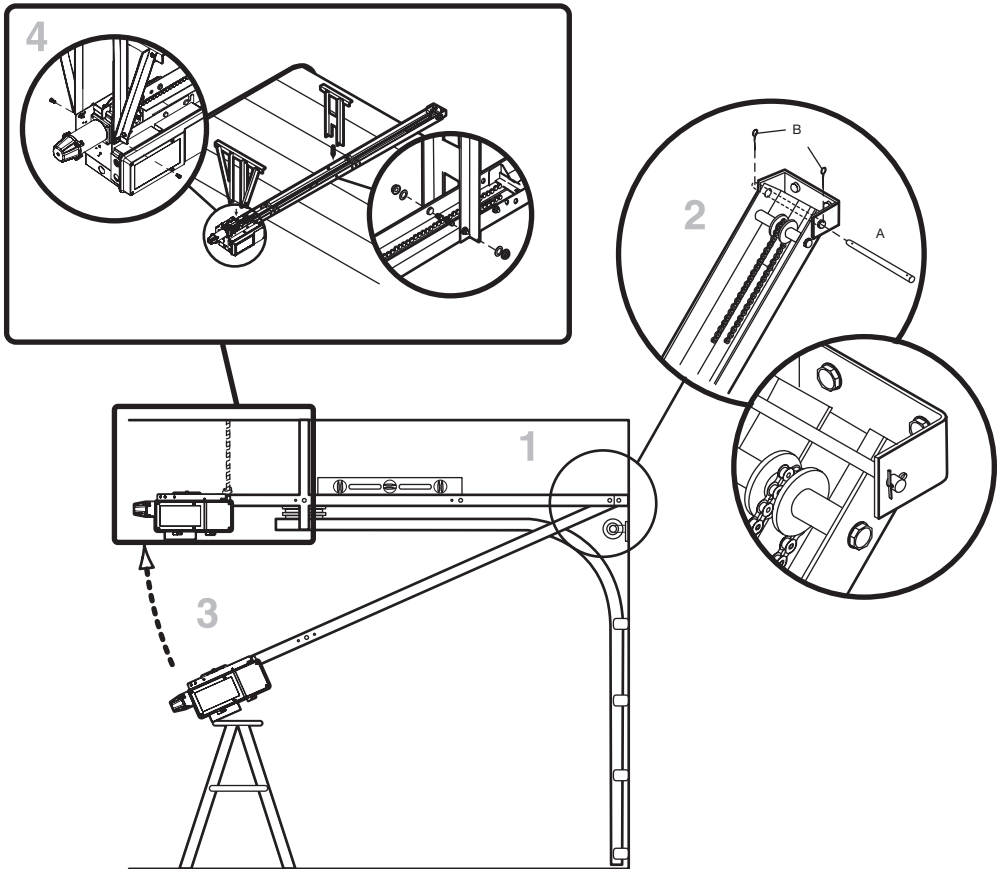
- Fasten the operator **SECURELY** to structural supports of the building.
- Concrete anchors **MUST** be used if installing **ANY** brackets into masonry.

HARDWARE

A Clevis Pin (1)



B Cotter pins (2)



TDC Trolley Installation (continued)

Attach the Door Arm and Bracket

1. Latch the door arm to the trolley. Make sure the open side of the notch on the door arm faces the door.
2. Position the door bracket to the center line of the door and attach the door bracket to the door using appropriate hardware (not included).

NOTE: When properly installed and adjusted the door arm should be leaning back toward the operator slightly. Refer to door manufacturer's instructions for recommended installation guidelines.

HARDWARE

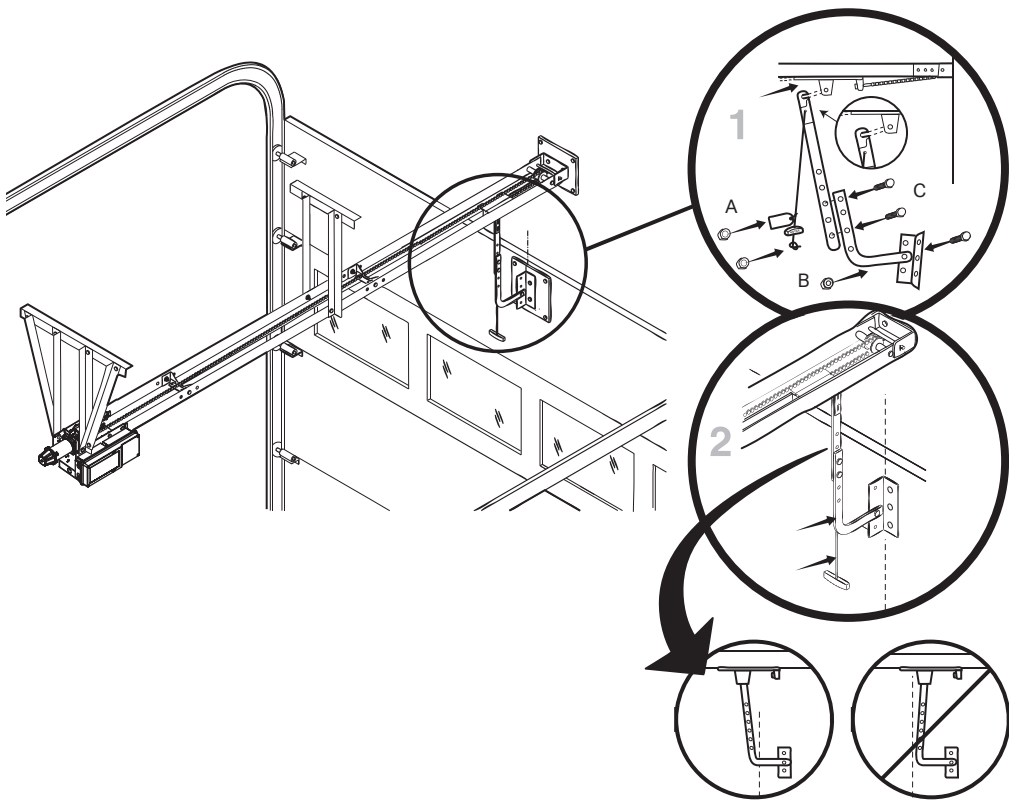
A Flanged Hex
Nut 3/8"-16 (2)



B Nylok Nut 3/8"-
16 (1)



C Bolt 3/8"-16 x
1" (3)



WARNING

To prevent possible **SERIOUS INJURY** from a moving chain:

- DISCONNECT electric power to the operator **BEFORE** manually operating your door.
- If possible, use emergency disconnect **ONLY** when door is **CLOSED**. Weak or broken springs or unbalanced door could result in an open door falling rapidly and/or unexpectedly.
- **NEVER** use emergency disconnect unless doorway is clear of persons and obstructions.

Jackshaft (JDC) and Hoist (JHDC)

Operators

Carton Inventory

Your door operator is packaged in one carton which contains the motor unit and the parts illustrated below. If anything is missing, carefully check the packing material.

Description

- Powerhead assembly
- Installation manual and caution labels
- Hardware box (includes fasteners)
- Floor level Wall Controller with LCD display to program and setup the door and operator system
- LiftMaster Monitored Entrapment Protection, CPS-U
- Hoist hand chain (JHDC models only)
- Sash chain (JHDC models only)
- Door/operator drive chain

JDC Operators also include:

- 700 operators - (2) 4.5 AH batteries and battery mounting tray
- 1200 operators - (2) 4.5 AH batteries and battery mounting tray
- 2200 operators - (2) 7AH batteries and battery mounting tray

NOTE: The new DC logic board includes inputs for CTM (Cable Tension Monitor). Although, not required to operate the unit, it is highly recommended to include Cable Tension Monitors (part #: K41-0157-000 and K41-0156-000) in all Jackshaft installations. The Cable Tension Monitor detects cable slack and will stop and reverse the door.

NOTE: Pusher springs should be used with the door system to help get the door moving in the Close direction. For certain types of doors, such as standard lift, angled track may also be recommended. Please check with the door manufacturer for details.



WARNING

To prevent possible **SERIOUS INJURY, DEATH**, or uncontrolled descent of the door:

- When installing a jackshaft-style operator on a sectional door, additional precautions **MUST** be taken to assure that proper door cable tension is present throughout the **ENTIRE** travel of the door.

Door Sprockets

Door Sprocket (with setscrew and keyway) will now be sold separately via accessory kits. Please see the guide below for the correct Door Sprocket kit for your door type and installation.

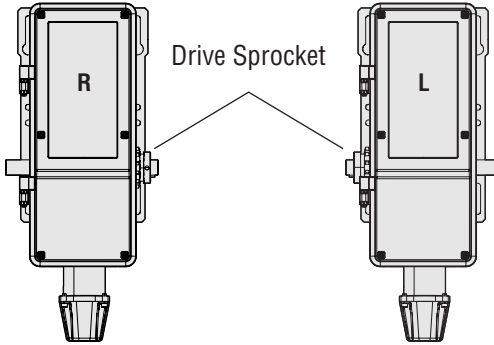
- Kit :[XXX] For Sectional Doors include 18 tooth sprocket [XXX-verify]
- Kit: [XXX] For Rolling Steel Doors include [XXX- what size sprocket].
- Kit: [XXX]
- Kit: [XXX]
- Kit: [XXX]
- Kit: [XXX]
- Kit: [XXX]
- Kit: [XXX]
- Kit: [XXX]
- Kit: [XXX]

JDC/JHDC Assembly

Configure the Operator

Units are now dual handed and can be used in either the right or left side.

1. Select right (R) or left (L) handing for the sprocket and hoist as needed.
 - For JDC models, the drive sprocket can be mounted on either the right or left side.



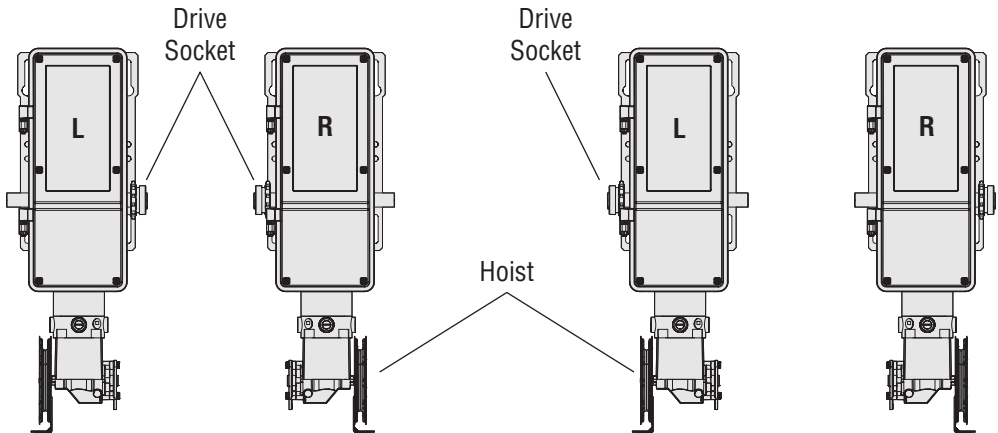
- For JHDC models with manual hand chain systems, the drive sprocket can be installed as a right (R) hand or left (L) hand.

NOTE: The hoist will need to change location depending on the wall mount or front of hood application shown in the images below.

WARNING

To prevent possible **SERIOUS INJURY** or **DEATH**:

- DO NOT connect electric power until instructed to do so.
- If the door lock needs to remain functional, install an interlock switch.
- ALWAYS call an Authorized Service Technician if door binds, sticks or is out of balance. An unbalanced door may NOT reverse when required.
- NEVER try to loosen, move or adjust doors, door springs, cable, pulleys, brackets or their hardware, ALL of which are under **EXTREME** tension and can cause **SERIOUS PERSONAL INJURY**.
- Disable ALL locks and remove ALL ropes connected to door **BEFORE** installing and operating door operator to avoid entanglement.
- Fasten the operator **SECURELY** to structural supports of the building.
- Concrete anchors **MUST** be used if installing ANY brackets.



Wall Mount

Front of Hood Mount

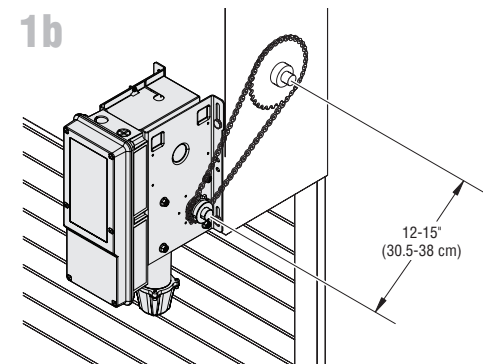
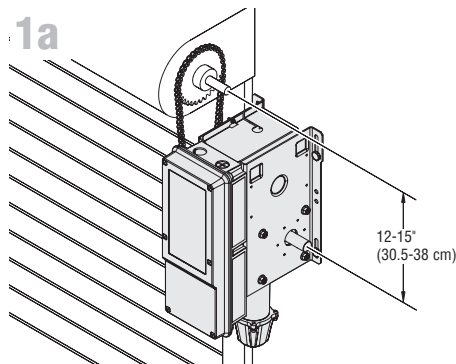
- To reposition the hoist:
 - a. Remove the four allen bolts.
 - b. Pull the housing down and away from the motor, then rotate the housing 180 degrees.
 - c. Place the housing back up to the motor and tighten back in place using the allen bolts.
2. Place the operator drive sprocket on the appropriate side of the operator for your installation type. To avoid potential damage caused by an overhung load, position the sprocket as close to the center of the exposed drive shaft.

JDC/JHDC Installation

Determine Mounting Location

1. The operator may be mounted on the wall, shelf, or bracket (not provided, see "Accessories" on page 52). The optimum distance between the door shaft and operator drive shaft is 12-15 inches (30.5-38 cm).

In the image, 1a shows the wall mount, and 1b shows the shelf or bracket mount.



WARNING

TO REDUCE THE RISK OF SEVERE INJURY:

- Install the operator, a minimum of 8 feet (2.44m) from the floor.

NOTE: If the operator sprocket is below the minimum 8 foot requirement, please purchase and install the operator Chain/Sprocket Guard Kit PN# [XX] travel of the door.