OWNER'S MANUAL
MODEL GH
INDUSTRIAL DUTY DOOR OPERATOR

2 YEAR WARRANTY
Serial # ____________________
(located on electrical box cover)
Installation Date ____________
Wiring Type _________________

NOT FOR RESIDENTIAL USE

FACTORY SET
C2 Wiring
See page 8 for other wiring configurations

UL
LISTED DOOR OPERATOR
## SPECIFICATIONS

### MOTOR
- **Type:** Continuous duty
- **Horsepower:** 1/2, 3/4, 1 & 1-1/2 Hp
  - Single or Three phase
  - 2 HP Three phase
- **Speed:** 1725 RPM
- **Voltage:** 115, 220, 230 Single phase
  - 230, 460, 575 Three phase
- **Current:** See motor nameplate

### ELECTRICAL
- **Transformer:** 24VAC
- **Control Station:** NEMA 1 three button station. OPEN/CLOSE/STOP
- **Wiring Type:** C2 (Standard)
  - Momentary contact to OPEN/CLOSE/STOP plus wiring for sensing device to reverse and auxiliary devices to open and close with open override.
  - (Other types available. See chart, Pg. 8)
- **Limit Adjust:** Linear driven, fully adjustable screw type cams. Adjustable to 30 feet.

### MECHANICAL
- **Drive Reduction:** 40:1 Reduction
  - Heavy duty bronze worm gear reducer
- **Output Shaft Speed:** 43 R.P.M.
- **Door Speed:** 4 - 10" per sec.
  - depending on door
- **Brake:** Solenoid actuated disc brake
- **Hoist Wheel:** Standard mounting on left or right side

### SAFETY
- **Disconnect:** Floor level chain hoist with electrical interlock for emergency manual door operation
- **Clutch:** (Optional) Adjustable torque limiter type
- **Reversing Edge:** (Optional) Electric or pneumatic sensing device attached to the bottom edge of door.
  - A REVERSING EDGE IS STRONGLY RECOMMENDED FOR ALL COMMERCIAL OPERATOR INSTALLATIONS. REQUIRED WHEN THE 3 BUTTON CONTROL STATION IS OUT OF SIGHT OF DOOR OR ANY OTHER CONTROL (AUTOMATIC OR MANUAL) IS USED.

### WEIGHTS AND DIMENSIONS
- **Hanging Weight:** 80-110 LBS.

### Dimensions

<table>
<thead>
<tr>
<th>HP</th>
<th>Phase</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>1/2</td>
<td>1</td>
<td>11-1/2</td>
</tr>
<tr>
<td>3/4</td>
<td>1</td>
<td>12-1/2</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>12-3/4</td>
</tr>
<tr>
<td>1-1/2</td>
<td>1</td>
<td>12-3/4</td>
</tr>
<tr>
<td>1/2</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>3/4</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>1-1/2</td>
<td>3</td>
<td>12-1/2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>12-3/4</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>13-1/4</td>
</tr>
</tbody>
</table>

### Notes:
1. Output Shaft with 1" x 1/4" Key for 1/2 thru 2Hp operators, 1-1/4" x 1/4" Key for 3Hp operators.
2. MT’G CENTERS:
   - X = 4-3/4"; Y = 5-1/2” for 1/2 thru 2Hp operators
   - X = 7-17/32"; Y = 9-1/16" for 3Hp operators
3. Hand Chain Wheel extends 1-5/8” beyond operator in vertical mounting position as shown.
WARNING
KEEP DOOR BALANCED. STICKING OR BINDING DOORS MUST BE REPAIRED. DOORS, DOOR SPRINGS, CABLES, PULLEYS, BRACKETS AND THEIR HARDWARE MAY BE UNDER EXTREME TENSION AND CAN CAUSE SERIOUS PERSONAL INJURY. CALL A PROFESSIONAL DOOR SERVICEMAN TO MOVE OR ADJUST DOOR SPRINGS OR HARDWARE.

TO AVOID DAMAGE TO DOOR AND OPERATOR, MAKE ALL DOOR LOCKS INOPERATIVE. SECURE LOCK(S) IN “OPEN” POSITION. IF THE DOOR LOCK NEEDS TO REMAIN FUNCTIONAL, INSTALL AN INTERLOCK SWITCH. DO NOT CONNECT ELECTRIC POWER UNTIL INSTRUCTED TO DO SO.

SITE PREPARATIONS

It is imperative that the wall or mounting surface provide adequate support for the operator. This surface must:
- Be rigid to prevent play between operator and door shaft.
- Provide a level base.
- Permit the operator to be fastened securely and with the drive shaft parallel to the door shaft.

The safety and wear of the operator will be adversely affected if any of the above requirements are not met.

For metal buildings, fasten 2” x 2” x 3/16” (or larger) angle iron frames to the building purlins. Retain 5-1/2” between frames. See Figure 1.

OPERATOR PREPARATION

The GH operator may be mounted on either the right (standard) or left side of door, and in either a vertical (standard) or horizontal mounting position. Refer to the steps below if you require the hand chain and/or disconnect chain to be on the opposite side of the operator; Or if the operator is being mounted in a horizontal position.

Hand Chain Right/Left Conversion
Remove the two snap rings (1 pc. outer, 1 pc inner) on hand chain shaft assembly. Position roll-pin to fit through cutout in frame and slide complete shaft assembly through housing and bevel gear. Insert shaft assembly on opposite side of housing, and replace bevel gear, bearing, hardware, and snap rings on the opposite side of shaft in the same manner.

Disconnect Lever Right/Left Conversion
Remove cotter pins on the ends of the disconnect shaft (square shaft), move the disconnect lever arm to the opposite side, and replace the cotter pins. Be sure to keep two(2) 12ga. washers on the side without the lever arm.

Horizontal Mounting Conversion
Remove cotter pins on the ends of the disconnect shaft (square shaft), and remove lever. Replace lever using square hole on opposite end of lever. Reposition sash chain to opposite end of lever also. Replace cotterpins.
Before your operator is installed, be sure the door has been properly aligned and is working smoothly. The operator may be wall mounted or mounted on a bracket or shelf. If necessary, refer to the operator preparations on page 3. Refer to the illustration and instructions below that suits your application.

1a. **Wall Mounting**

The operator should generally be installed below the door shaft, and as close to the door as possible. The optimum distance between the door shaft and operator drive shaft is between 12” - 15”. Refer to Figure 3.

1b. **Bracket or Shelf Mounting**

The operator may be mounted either above or below the door shaft. The optimum distance between the door shaft and operator drive shaft is between 12” - 15”. Refer to Figure 4.

1c. Place door sprocket on the door shaft. Do not insert the key at this time.

2. Place drive sprocket on the appropriate side of the operator. Do not insert the key at this time.

3. Wrap drive chain around door sprocket and join roller chain ends together with master link.

4. Raise operator to approximate mounting position and position chain over operator sprocket.

5. Raise or lower operator until the chain is taut (not tight). Make sure the operator output shaft is parallel to door shaft and sprockets are aligned. When in position, secure the operator to wall or mounting bracket.

6. Align sprockets and secure, (see Figure 5).
7. **Install Hand Chain**
   Place hand chain around hand chain wheel. Be sure to pass it through both openings in the chain guide. Remove enough links so chain hangs approximately two feet above the floor.

8. **Mount Chain Keeper / Keyhole Bracket**
   Using suitable hardware mount the chain keeper approximately 4 feet above the floor, near the free hanging chain. Remove disconnect sash chain from bag and place the end through the keyhole in the chain keeper. Remove excess links if necessary.

---

**EMERGENCY MANUAL OPERATION**

This operator has provisions for manually operating the door in case of emergency or power failure. Refer to the appropriate instructions below for your model operator.

**Model GH**

These operators are equipped with a manual hoist. An electrical interlock will disable the electrical controls when the hoist is used.

To operate the hoist:

1. Pull the disconnect chain (small chain) to engage the hoist mechanism. The disconnect chain may be locked in position by slipping the end through the keyhole of the chain keeper mounted on the wall.

2. Operate the door in the desired direction by pulling on one side or the other of the continuous loop hoist chain (large chain).

3. The disconnect chain must be released from the chain keeper before the door will operate again electrically.

**CAUTION**

**TURN OFF POWER TO THE OPERATOR BEFORE MANUALLY OPERATING YOUR DOOR.**

---

**BRAKE ADJUSTMENT**

The brake is adjusted at the factory and should not need additional adjustment for the life of the friction pad. Replace friction pads when necessary. Refer to the illustration for identification of components for the solenoid type brake system.

**Solenoid Brake System**

- **Plate Assembly**
- **Release Lever**
- **Friction Pads**
- **Solenoid**
- **Actuator Plate**
SENSING EDGES & PHOTO EYES
Sensing devices supplied for door industry type operators with an isolated normally open (N.O.) output are compatible with your operator. This includes pneumatic and electric edges, and through beam and retro reflective photo eyes. If your door does not have a bottom sensing edge or safety photo eyes and you wish to add a safety device to your application, please contact your local LiftMaster Authorized Dealer.

If not pre-installed by the door manufacturer, mount the sensing edge on the door according to the instructions provided with the edge. The sensing edge may be electrically connected by either coiled cord or take-up reel. Refer to the steps below.

Important Notes:

a) Proceed with Limit Switch Adjustments before making any sensing edge wiring connections to operator as described below.
b) Electrician must hardwire the junction box to the operator electrical box in accordance with local codes.

LIMIT SWITCH ADJUSTMENT
MAKE SURE THE LIMIT NUTS ARE POSITIONED BETWEEN THE LIMIT SWITCH ACTUATORS BEFORE PROCEEDING WITH ADJUSTMENTS.

1. To adjust limit nuts depress retaining plate to allow nut to spin freely. After adjustment, release plate and ensure it seats fully in slots of both nuts.
2. To increase door travel, spin nut away from actuator. To decrease door travel, spin limit nut toward actuator.
3. Adjust open limit nut so that door will stop in open position with the bottom of the door even with top of door opening.
4. Repeat Steps 1 and 2 for close cycle. Adjust close limit nut so that actuator is engaged as door fully seats at the floor.

NOTICE
IT IS STRONGLY RECOMMENDED THAT A SAFETY PHOTO EYE OR SENSING EDGE BE USED IN CONJUNCTION WITH THE OPERATOR.

WIRING:
For wiring of your sensing device to the operator, refer to the wiring diagram supplied with your operator. See field connection terminals identified as Sensing Device or Safety Edge.

TAKE-UP REEL: Take-up reel should be installed 12" above the top of the door.

COIL CORD: Connect operator end of coil cord to junction box (not supplied) fastened to the wall approximately halfway up the door opening.

WARNING
TO AVOID SERIOUS PERSONAL INJURY OR DEATH FROM ELECTROCUTION, DISCONNECT ELECTRIC POWER BEFORE MANUALLY MOVING LIMIT NUTS.

If other problems persist, call our toll-free number for assistance - 1-800-528-2806.
POWER WIRING CONNECTIONS

Remove the cover from the electrical enclosure. Inside this enclosure you will find the wiring diagram(s) for your unit. Refer to the diagram (glued on the inside of the cover) for all connections described below. If this diagram is missing, call the number on the back of this manual. DO NOT INSTALL ANY WIRING OR ATTEMPT TO RUN THIS OPERATOR WITHOUT CONSULTING THE WIRING DIAGRAM.

**POWER WIRING**

1. Be sure that the power supply is of the correct voltage, phase, frequency, and amperage to supply the operator. Refer to the operator nameplate on the cover.

2. Using the 1-1/16” dia conduit access knockout as shown below, bring supply lines to the operator and connect wires to the terminals indicated on the WIRING CONNECTIONS DIAGRAM.

DO NOT TURN POWER ON UNTIL YOU HAVE FINISHED MAKING ALL POWER AND CONTROL WIRING CONNECTIONS AND HAVE COMPLETED THE LIMIT SWITCH ADJUSTMENT PROCEDURE.

CAUTION: THIS UNIT MUST BE PROPERLY GROUNDED. A GROUND SCREW IS SUPPLIED IN THE ELECTRICAL BOX FOR CONNECTION OF THE POWER SUPPLY GROUND WIRE. FAILURE TO PROPERLY GROUND THIS UNIT COULD RESULT IN ELECTRIC SHOCK AND SERIOUS INJURY.

ON THREE PHASE MACHINES ONLY!

Incorrect phasing of the power supply will cause the motor to rotate in the wrong direction (open when CLOSE button is pressed and vice-versa). To correct this, interchange any two of the incoming three phase power lines.

**CONDUIT ACCESS**

1-1/16’ Dia Knockout for power wiring conduit access (1 nearside)

7/8” Dia Knockouts for power wiring conduit access (2 on end panel)

**WARNING**

DISCONNECT POWER AT THE FUSE BOX BEFORE PROCEEDING.

OPERATOR MUST BE PROPERLY GROUNDED AND CONNECTED IN ACCORDANCE WITH LOCAL ELECTRICAL CODES. NOTE: THE OPERATOR SHOULD BE ON A SEPARATE FUSED LINE OF ADEQUATE CAPACITY.

ALL ELECTRICAL CONNECTIONS MUST BE MADE BY A QUALIFIED INDIVIDUAL.

**WARNING**

TO AVOID DAMAGE TO DOOR AND OPERATOR, MAKE ALL DOOR LOCKS INOPERATIVE. SECURE LOCK(S) IN "OPEN" POSITION.

IF THE DOOR LOCK NEEDS TO REMAIN FUNCTIONAL, INSTALL AN INTERLOCK SWITCH.
CONTROL WIRING

DETERMINE WIRING TYPE
Refer to the wiring diagram located on the inside cover the electrical box to determine the type of control wiring.

Standard C2 or B2 Wiring
Standard operators are shipped from the factory with jumper set for C2 wiring, which requires constant pressure on button to close the door. If momentary contact on close direction is desired (B2 wiring) you must include an entrapment protection device. See close control jumper setting below.

- Constant pressure on close (C2 wiring)
  Red jumper wire was placed on terminal #2 in electrical enclosure. The operator will require constant pressure on close control in order to keep door moving in the close direction.

- Momentary contact on close (B2 wiring)
  Move red jumper wire from terminal #2 to terminal #3. The operator will require only momentary contact to close the door.

SPECIAL CONTROL WIRING
If your operator was shipped from the factory with non-standard control wiring or with optional accessories that require addition instructions, refer to the wiring diagram(s) indicated in the special control wiring data box. When a replacement wiring diagram is present, wiring diagrams in this manual will not apply. Refer only to the replacement wiring diagram for all connections.

LOCATING THE CONTROL STATION
All operators are supplied with some type of control station. Generally a three button station (OPEN/CLOSE/STOP) is provided. A two-position key switch or control station (OPEN/CLOSE) may be added or substituted when requested at the time of order. Mount the control station near the door.

![WARNING]

INSTALL THE CONTROL STATION WHERE THE DOOR IS VISIBLE, BUT AWAY FROM THE DOOR AND ITS HARDWARE. IF CONTROL STATION CANNOT BE INSTALLED WHERE DOOR IS VISIBLE, OR IF ANY DEVICE OTHER THAN THE CONTROL STATION IS USED TO ACTIVATE THE DOOR, A REVERSING EDGE MUST BE INSTALLED ON THE BOTTOM OF THE DOOR. FAILURE TO INSTALL A REVERSING EDGE UNDER THESE CIRCUMSTANCES MAY RESULT IN SERIOUS INJURY OR DEATH TO PERSONS TRAPPED BENEATH THE DOOR.

![MOUNT WARNING NOTICE]

IMPORTANT: Mount WARNING NOTICE beside or below the push button station.
Radio Controls
On all models with type B2 control wiring, a terminal bracket marked R1 R2 R3 is located on the outside of the electrical enclosure. All standard radio control receivers (single channel residential type) may be mounted to this bracket. The operator will then open a fully closed door, close a fully open door, and reverse a closing door from the radio transmitter. However, for complete door control from a transmitter, a commercial three-channel radio set (with connections for OPEN/CLOSE/STOP) is recommended.

Additional Access Control Equipment
Locate any additional access control equipment as desired (but so that the door will be in clear sight of the person operating the equipment), and connect to the terminal block in the electrical enclosure as shown on the FIELD WIRING CONNECTIONS diagram. Any control with a normally (N.O.) isolated output contact may be connected in parallel with the OPEN button. More than one device may be connected in this manner. Use 16 gauge wire or larger for all controls. DO NOT USE THE CONTROL CIRCUIT TRANSFORMER (24VAC) IN THE OPERATOR TO POWER ANY ACCESS CONTROL EQUIPMENT OTHER THAN A STANDARD RESIDENTIAL TYPE RADIO RECEIVER.

External Interlock Switch
The operator has a terminal connection for an external interlock switch. This switch must be a normally closed (N.C.) two-wire device with a contact rating of at least 3 amps @ 24VAC. When such a switch is connected as shown on the FIELD WIRING CONNECTIONS diagram, the control circuit will be disabled when the switch is actuated, thereby preventing electrical operation of the door from the control devices.

CLUTCH ADJUSTMENT (OPTIONAL MODIFICATION)

1. Loosen set screws on clutch nut.
2. Back off clutch nut until there is very little tension on the clutch spring.
3. Tighten clutch nut gradually until there is just enough tension to permit the operator to move the door smoothly but to allow the clutch to slip if the door is obstructed. When the clutch is properly adjusted, it should generally adjusted, it should generally be possible to stop the door by hand during travel.

CAUTION: The torque limiter clutch is NOT an automatic reversing device. An electric or pneumatic reversing edge can be added to bottom edge of door if desired.
TEST THE SYSTEM

Turn on power. Test all controls and safety devices to make sure they are working properly. It will be necessary to refer back to page 6 for fine adjustment of the limit switches.

IMPORTANT NOTES:

- Do not leave operator power on unless all safety and entrapment protection devices have been tested and are working properly.

- Be sure you have read and understand all Safety Instructions included in this manual.

- Be sure the owner or person(s) responsible for operation of the door have read and understand the Safety Instructions, know how to electrically operate the door in a safe manner, and know how to use the manual disconnect operation of the door operating system.

The operator has been pre-wired to accept connection of a reversing edge device. Connect the normally open contacts to terminals T4 and T8 on the low voltage terminal block. A cut-off switch will deactivate the safety device during the last few inches of the door’s downward travel.

CONNECT REVERSING EDGE DEVICE (OPTIONAL)

NOTICE:
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

WARNING

IF CONTROL STATION CANNOT BE INSTALLED WHERE DOOR IS VISIBLE, OR IF ANY DEVICE OTHER THAN THE CONTROL STATION IS USED TO ACTIVATE THE DOOR, A REVERSING EDGE MUST BE INSTALLED ON THE BOTTOM OF THE DOOR. FAILURE TO INSTALL A REVERSING EDGE UNDER THESE CIRCUMSTANCES MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH TO PERSONS TRAPPED BENEATH THE DOOR.

WARNING

DO NOT PLACE HANDS OR TOOLS IN OR NEAR THE OPERATOR WHEN THE POWER IS ON OR WHEN TESTING CONTROL OR SAFETY DEVICES. ALWAYS DISCONNECT POWER BEFORE SERVICING OR ADJUSTING THE OPERATOR.
MAINTENANCE SCHEDULE

Check at the intervals listed in the following chart.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PROCEDURE</th>
<th>EVERY 3 MONTHS</th>
<th>EVERY 6 MONTHS</th>
<th>EVERY 12 MONTHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Chain</td>
<td>Check for excessive slack.</td>
<td></td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>Check &amp; adjust as required.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lubricate.*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sprockets</td>
<td>Check set screw tightness</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Fasteners</td>
<td>Check &amp; tighten as required</td>
<td></td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Manual Disconnect</td>
<td>Check &amp; Operate</td>
<td></td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Bearings &amp; Shafts</td>
<td>Check for wear &amp; lubricate</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
</tbody>
</table>

♦ Use SAE 30 Oil (Never use grease or silicone spray).
♦ Repeat ALL procedures.
■ Do not lubricate motor. Motor bearings are rated for continuous operation.
■ Inspect and service whenever a malfunction is observed or suspected.
■ CAUTION: BEFORE SERVICING, ALWAYS DISCONNECT OPERATOR FROM POWER SUPPLY.

HOW TO ORDER REPAIR PARTS
OUR LARGE SERVICE ORGANIZATION SPANS AMERICA
INSTALLATION AND SERVICE INFORMATION ARE AVAILABLE 6 DAYS A WEEK
CALL OUR TOLL FREE NUMBER - 1-800-528-2806
HOURS 7:00 TO 3:30 p.m. (Mountain Std. Time)
MONDAY Through SATURDAY

WHEN ORDERING REPAIR PARTS
PLEASE SUPPLY THE FOLLOWING INFORMATION:

PART NUMBER   DESCRIPTION   MODEL NUMBER

ADDRESS ORDER TO:
THE CHAMBERLAIN GROUP, INC.
Electronic Parts & Service Dept.
2301 N. Forbes Blvd., Suite 104
Tucson, AZ 85745
NOTE:
1. Voltage same as line voltage.

CLOSE CONTROL WIRING OPTIONS

*C2 WIRING - Constant Pressure to Close
RED WIRE ON TERMINAL #2 (Shipped from Factory)
B2 WIRING - Momentary Contact to Close
MOVE RED WIRE FROM TERMINAL #2 TO TERMINAL #3
SINGLE PHASE WIRING DIAGRAM

NOTE:
1. TO REVERSE MOTOR DIRECTION: INTERCHANGE PURPLE & GRAY MOTOR LEADS AT CONTACTOR 1 & 3.
2. WIRE MUST BE REMOVED FOR 230V 1PH OPERATION.
** - Transformer Primary & Relay Voltage same as Line Voltage.

CLOSE CONTROL WIRING OPTIONS

** - Shipped from Factory
*2 WIRING:
Constant Pressure to Close
RED WIRE ON TERMINAL #2 (Shipped from Factory)
** - Momentary Contact to Close
MOVE RED WIRE FROM TERMINAL #2 TO TERMINAL #3

WARNING
Always Disconnect Power Whenever Installing or Servicing the Door Operator.

GROUND
NOTE:
1. Voltage same as line voltage
2. Overload in motor for models up to 3/4 Hp, located in limit box for 1 Hp and above.
THREE PHASE WIRING DIAGRAM

1742-3

WARNING
Always Disconnect Power Whenever Installing or Servicing the Door Operator.

OPEN LIMIT SWITCHES

CLOSE LIMIT SWITCHES

R1 RELAY

INTERLOCK

( OPTIONAL )

See Note:

1) TO REVERSE MOTOR DIRECTION: INTERCHANGE ANY 2 OF THE 3 POWER WIRES AT L1, L2 & L3, OR EXCHANGE PURPLE & GRAY MOTOR LEADS AT CONTACTOR 1 & 3 (3PH UNITS ONLY).

** 3 PHASE POWER IN

NOTES:

- Shipped from Factory

CLOSE CONTROL WIRING OPTIONS

C3 WIRING:
Constant Pressure to Close
RED WIRE ON TERMINAL 
2 (Shipped from Factory)

B2 WIRING:
Momentary Contact to Close
MOVE RED WIRE FROM TERMINAL #2 TO TERMINAL #3

575V. CONNECTION

460V. CONNECTION

230V. CONNECTION

GROUND

SAFETY EDGE

OVERLOAD (1 HP & ABOVE ONLY)

** LINE

WIRE NUT

SEE NOTE:

1) TO REVERSE MOTOR DIRECTION: INTERCHANGE ANY 2 OF THE 3 POWER WIRES AT L1, L2 & L3, OR EXCHANGE PURPLE & GRAY MOTOR LEADS AT CONTACTOR 1 & 3 (3PH UNITS ONLY).

** - Transformer Primary Voltage same as Line Voltage.
Below are replacement kits available for your operator. For replacement of electrical box, motor or brake components be sure to match model number of your unit to kit number below to ensure proper voltage requirements. Optional modifications and/or accessories included with your operator may add or remove certain components from these lists. Please consult a parts and service representative regarding availability of individual components of kits specified below. Refer to page 11 for all repair part ordering information.

**Complete Electrical Box Replacement Kits**
To order a complete electrical box replacement kit, add a K- prefix to the model number of your operator. For example:
GH5011M (Operator) = K-GH5011M (Elec. Box Kit)

**Electrical Box Sub-Assembly Kits**
- K72-12510 Limit Shaft Assembly
- K75-12511 Limit Switch Assembly

**Complete Gear Reducer Housing Kits**
See Page 18 for more information

**Shaft Assembly Kits**
- K72-12789 Hand Chain Shaft Assembly
- K72-13379 Hand Chain Shaft Assembly
- K75-12783 Disconnect Assembly

**Complete Brake Assembly Kits**
- K75-12584 115V Models
- K75-12585 230-460V Models
- K75-12586 575V Models

**Brake Solenoid Plate Assembly Kits**
- K75-11034 115V Models
- K75-11035 230-460V Models
- K75-11036 575V Models

**Individual Components**
- 21-5115 Transformer, 115V Operators
- 21-5230 Transformer, 230V Operators
- 21-5460 Transformer, 380-460V Operators
- 21-5575 Transformer, 575V Operators

**Motor Kits**
- K20-1050C2 Models GH5011M, GH5021M
- K20-3050C4 Models GH5023M, GH5043M, GH5038M
- K20-3050M5 Model GH5053M
- K20-5150C6 Model GH5025M
- K20-1075C2 Models GH7511M, GH7521M
- K20-3075C4 Models GH7523M, GH7543M, GH7538M
- K20-3075C5 Model GH7553M
- K20-5175C6 Model GH7525M
- K20-1100C2 Models GH1011M, GH1021M
- K20-3100C4 Models GH1023M, GH1043M, GH1038M
- K20-3100CST Model GH1053M
- K20-5110C6 Model GH1025M
- K20-1150C2 Models GH1511M, GH1521M
- K20-3150C4 Models GH1523M, GH1543M, GH1538M
- K20-3150CST Model GH1553M
- K20-5115C6 Model GH1525M
- K20-3200C4 Models GH2023M, GH2043M, GH2038M
- K20-3200C5 Model GH2053M
- K20-3300C4 Models GH3023M, GH3043M, GH3038M

**K72-12510 LIMIT SHAFT ASSEMBLY**

<table>
<thead>
<tr>
<th>Item</th>
<th>P/N</th>
<th>Description</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>11-10021</td>
<td>Limit Shaft, Standard T</td>
<td>1</td>
</tr>
<tr>
<td>L2</td>
<td>12-10028</td>
<td>Flange Bearing, 3/8” I.D.</td>
<td>2</td>
</tr>
<tr>
<td>L3</td>
<td>13-10024</td>
<td>Limit Nut</td>
<td>2</td>
</tr>
<tr>
<td>L4</td>
<td>15-4889XXX</td>
<td>Sprocket 48B9 x 3/8” Bore</td>
<td>1</td>
</tr>
<tr>
<td>L5</td>
<td>80-10025</td>
<td>Washer, Shim 3/8” I.D. x .050 THK.</td>
<td>1</td>
</tr>
<tr>
<td>L6</td>
<td>80-10026</td>
<td>Washer, Shim 3/8” I.D. x .010 THK.</td>
<td>4</td>
</tr>
<tr>
<td>L7</td>
<td>86-RP04-100</td>
<td>Roll Pin, 1/8 DIA. x 1” Long</td>
<td>1</td>
</tr>
<tr>
<td>L8</td>
<td>87-E-038</td>
<td>E Ring, 3/8”</td>
<td>1</td>
</tr>
</tbody>
</table>

**K75-12511 LIMIT SWITCH ASSEMBLY KIT**

<table>
<thead>
<tr>
<th>Item</th>
<th>P/N</th>
<th>Description</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>10-10013</td>
<td>Depress Plate</td>
<td>1</td>
</tr>
<tr>
<td>S2</td>
<td>10-12553</td>
<td>Nut Plate, Switch</td>
<td>4</td>
</tr>
<tr>
<td>S3</td>
<td>10-12806</td>
<td>Backup Plate</td>
<td>2</td>
</tr>
<tr>
<td>S4</td>
<td>18-10036</td>
<td>Spring, Depress Plate</td>
<td>2</td>
</tr>
<tr>
<td>S5</td>
<td>23-10041</td>
<td>Limit Switch</td>
<td>4</td>
</tr>
<tr>
<td>S6</td>
<td>31-12542</td>
<td>Standoff, Limit Switch</td>
<td>4</td>
</tr>
<tr>
<td>S7</td>
<td>82-PX04-20</td>
<td>Screw, #4-40 Pan Head Phillips</td>
<td>8</td>
</tr>
<tr>
<td>S8</td>
<td>82-PX06-16</td>
<td>Screw, #6-32 x 1” Pan Hd Phillips</td>
<td>2</td>
</tr>
<tr>
<td>S9</td>
<td>84-LH-06</td>
<td>Locknut, #6-32 Nylon Hex</td>
<td>2</td>
</tr>
</tbody>
</table>
REPAIR PARTS KITS – MODEL GH

Refer to the parts lists below for replacement kits available for your operator. If optional modifications and/or accessories are included with your operator, certain components may be added or removed from these lists. Individual components of each kit may not be available. Please consult a parts and service representative regarding availability of individual components. Refer to page 11 for all repair part ordering information.

INDIVIDUAL PARTS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PART #</th>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10-11045</td>
<td>Elec. Box Mounting Bracket</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>15-48B18GGE</td>
<td>Sprocket, 48B18 LGE</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>15-50B12GGE</td>
<td>Sprocket, 50B12 LGH</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>15-80BQGGE</td>
<td>Sprocket, 80B9 QGH (3HP Models)</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>See Page 16</td>
<td>Electrical Box</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>See Var. Comp.</td>
<td>Gear Reducer</td>
<td>1</td>
</tr>
</tbody>
</table>

K72-12789 or K72-13379

HAND CHAIN SHAFT KIT

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PART #</th>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>08-11012</td>
<td>Bevel Gear, 5/8” ID</td>
<td>1</td>
</tr>
<tr>
<td>H2</td>
<td>08-11013</td>
<td>Bevel Gear Assy, 3/4” ID (3HP)</td>
<td>1</td>
</tr>
<tr>
<td>H3</td>
<td>10-10882</td>
<td>Hand Chain Guide</td>
<td>1</td>
</tr>
<tr>
<td>H4</td>
<td>11-11015</td>
<td>Hand Chain Shaft, GH</td>
<td>1</td>
</tr>
<tr>
<td>H5</td>
<td>12-10029</td>
<td>Bearing, 3/4” I.D.</td>
<td>2</td>
</tr>
<tr>
<td>H6</td>
<td>12-10883</td>
<td>Nyliner Bearing</td>
<td>1</td>
</tr>
<tr>
<td>H7</td>
<td>18-11008</td>
<td>Compression Spring, GH</td>
<td>1</td>
</tr>
<tr>
<td>H8</td>
<td>75-10884</td>
<td>Chain Wheel Assembly</td>
<td>1</td>
</tr>
<tr>
<td>H9</td>
<td>80-10022</td>
<td>Shim Washer, Thick</td>
<td>4</td>
</tr>
<tr>
<td>H10</td>
<td>80-11014</td>
<td>Washer, .656 I.D. x 1.25 O.D.</td>
<td>1</td>
</tr>
<tr>
<td>H11</td>
<td>86-RP08-108</td>
<td>Roll Pin, 1/4” x 1-1/2” Long</td>
<td>2</td>
</tr>
<tr>
<td>H12</td>
<td>86-RP10-110</td>
<td>Roll Pin, 5/16” x 1-5/8” Long</td>
<td>1</td>
</tr>
<tr>
<td>H13</td>
<td>86-RP10-208</td>
<td>Roll Pin, 5/16” x 2-1/2” Long</td>
<td>1</td>
</tr>
<tr>
<td>H14</td>
<td>87-E-062</td>
<td>E Ring, 5/8”</td>
<td>1</td>
</tr>
<tr>
<td>H15</td>
<td>87-E-075</td>
<td>E Ring, 3/4”</td>
<td>4</td>
</tr>
</tbody>
</table>

K75-12783 DISCONNECT ASSEMBLY KIT

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PART #</th>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>10-11021</td>
<td>GH Disconnect Lever</td>
<td>1</td>
</tr>
<tr>
<td>D2</td>
<td>10-11023</td>
<td>Bevel Gear Yoke</td>
<td>1</td>
</tr>
<tr>
<td>D3</td>
<td>10-11024</td>
<td>Brake Release</td>
<td>1</td>
</tr>
<tr>
<td>D4</td>
<td>10-11029</td>
<td>Actuator Bracket</td>
<td>1</td>
</tr>
<tr>
<td>D5</td>
<td>10-11030</td>
<td>Switch Actuator</td>
<td>1</td>
</tr>
<tr>
<td>D6</td>
<td>11-11106</td>
<td>Disconnect Shaft</td>
<td>2</td>
</tr>
<tr>
<td>D7</td>
<td>18-11007</td>
<td>GH Tension Spring</td>
<td>1</td>
</tr>
<tr>
<td>D8</td>
<td>19-8A-12</td>
<td>12ft. Of Sash Chain</td>
<td>1</td>
</tr>
<tr>
<td>D9</td>
<td>82-PX08-04T</td>
<td>Screw, #6-32 x 1” Self Tap</td>
<td>1</td>
</tr>
<tr>
<td>D10</td>
<td>82-SH10-14</td>
<td>Screw, #10-32 x 7/8” Long</td>
<td>2</td>
</tr>
<tr>
<td>D11</td>
<td>82-WX10-08T</td>
<td>Screw, #10-32 x 1/2” Serrated Fl.</td>
<td>2</td>
</tr>
<tr>
<td>D12</td>
<td>84-FN-10</td>
<td>Nut, #10-32 Serrated Flange</td>
<td>2</td>
</tr>
<tr>
<td>D13</td>
<td>85-FW-50</td>
<td>USS Flatwasher, 3/4”</td>
<td>3</td>
</tr>
<tr>
<td>D14</td>
<td>85-LS-10</td>
<td>#10 Lockwasher zinc</td>
<td>2</td>
</tr>
<tr>
<td>D15</td>
<td>86-CP04-112</td>
<td>Cotter Pin, 1/8” x 1-3/4” Long</td>
<td>3</td>
</tr>
<tr>
<td>D16</td>
<td>86-RP06-300</td>
<td>Roll Pin, 3/16” x 3” Black Oxide</td>
<td>1</td>
</tr>
</tbody>
</table>

COMPLETE GEAR REDUCER HOUSING KITS

<table>
<thead>
<tr>
<th>KIT REQUIRED</th>
<th>OPERATOR(S)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>K75-12829</td>
<td>Up to 1HP, 115 Volts</td>
<td></td>
</tr>
<tr>
<td>K75-12830</td>
<td>Up to 1HP, 230-460 Volts</td>
<td></td>
</tr>
<tr>
<td>K75-12831</td>
<td>Up to 1HP, 575 Volts</td>
<td></td>
</tr>
<tr>
<td>K75-12832</td>
<td>1.5 to 2HP, 230-460 Volts</td>
<td></td>
</tr>
<tr>
<td>K75-12833</td>
<td>1.5 to 2HP, 575 Volts</td>
<td></td>
</tr>
<tr>
<td>K75-12834</td>
<td>3HP, 230-460 Volts</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PART #</th>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>10-11006</td>
<td>Housing Support Bracket</td>
<td>2</td>
</tr>
<tr>
<td>G2</td>
<td>10-11026M1</td>
<td>Gear Brake Housing</td>
<td>2</td>
</tr>
<tr>
<td>G3</td>
<td>10-11046M1</td>
<td>Housing Cover</td>
<td>1</td>
</tr>
</tbody>
</table>

* Gear Housing Kits also include:
  - K75-12788 Disconnect Assembly Kit
  - K72-12789 Hand Chain Shaft Kit
  - K72-13379 Hand Chain Shaft Kit (3HP Models)
  - K75-12584 Brake Assembly Kit (115V Models)
  - K75-12585 Brake Assembly Kit (230-460V Models)
  - K75-12586 Brake Assembly Kit (575V Models)

* Brake Kit Voltage same as Operator Voltage.

VARIABLE COMPONENTS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PART #</th>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>75-111034</td>
<td>Brake Solenoid Assy (115V Oper)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>75-111035</td>
<td>Brake Solenoid Assy (230-460V Oper)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>75-111036</td>
<td>Brake Solenoid Assy (575V Oper)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>32-11009</td>
<td>Gear Reducer (1 HP Oper, 45:1)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>32-11010</td>
<td>Gear Reducer (1.5-2 HP Oper, 45:1)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>32-11011</td>
<td>Gear Reducer (3 HP Oper, 45:1)</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

BRAKE ASSEMBLY KITS

<table>
<thead>
<tr>
<th>KIT REQUIRED</th>
<th>OPERATOR(S)</th>
<th>ITEM</th>
<th>PART #</th>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>K75-12584</td>
<td>115 Volt Models</td>
<td>B1</td>
<td>07-10179</td>
<td>Brake Hub</td>
<td>1</td>
</tr>
<tr>
<td>K75-12585</td>
<td>230-460 Volt Models</td>
<td>B2</td>
<td>10-10190</td>
<td>Brake Release Lever</td>
<td>1</td>
</tr>
<tr>
<td>K75-12586</td>
<td>575 Volt Models</td>
<td>B3</td>
<td>10-10191</td>
<td>Brake Disk</td>
<td>1</td>
</tr>
<tr>
<td>B4</td>
<td>Spring Cup for Brake Assembly</td>
<td>11-10193</td>
<td>Brake Stud</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>B6</td>
<td>Spring, Compression x .87”</td>
<td>18-10194</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B7</td>
<td>Spacer, .20” x .31” Long</td>
<td>31-10186</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B8</td>
<td>Brake Pressure Plate Assembly</td>
<td>75-10184</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B9</td>
<td>Brake Solenoid Assembly (115V)</td>
<td>75-11034</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B10</td>
<td>Feather Key</td>
<td>80-9001</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B11</td>
<td>Push on Fastener, 5/8” Int. Star</td>
<td>87-P-062</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**IMPORTANT NOTES:**
1) The 3-Button Control Station provided must be connected for operation.
2) If a STOP button is not used, a jumper must be placed between terminals 3 and 4.
3) Auxiliary control equipment may be any normally open two wire device such as pullswitch, single button, loop detector, card key or such device.

**ATTENTION ELECTRICIAN:**
USE 16 GAUGE OR HEAVIER WIRE FOR ALL CONTROL CIRCUIT WIRING.

### 3 BUTTON STATION or 3 POSITION KEYSWITCH w/ SPRING RETURN TO CENTER AND STOP BUTTON

<table>
<thead>
<tr>
<th>Standard</th>
<th>2 OR MORE</th>
<th>Key Lockout</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Diagram" /></td>
<td><img src="image2.png" alt="Diagram" /></td>
<td><img src="image3.png" alt="Diagram" /></td>
</tr>
</tbody>
</table>

### 2 BUTTON STATION or 3 POSITION KEYSWITCH w/ SPRING RETURN TO CENTER

<table>
<thead>
<tr>
<th>Standard</th>
<th>2 OR MORE</th>
<th>1 Button Station or Any Auxiliary Device</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image4.png" alt="Diagram" /></td>
<td><img src="image5.png" alt="Diagram" /></td>
<td><img src="image6.png" alt="Diagram" /></td>
</tr>
</tbody>
</table>

### Sensing Device to Reverse or Stop

<table>
<thead>
<tr>
<th>Sensing Device</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image7.png" alt="Diagram" /></td>
</tr>
</tbody>
</table>

### Residential Radio Controls

- **Open Timer to Close**
  - ![Diagram](image8.png)
- **External Terminal Block**
  - ![Diagram](image9.png)

### Timer to Close w/ Warning Light

- **Warning Light will activate 15 sec. before door closes.**
  - ![Diagram](image10.png)

### External Interlock

- **Remove Jumper When Interlock is Used**
  - ![Diagram](image11.png)