FACTORYSET

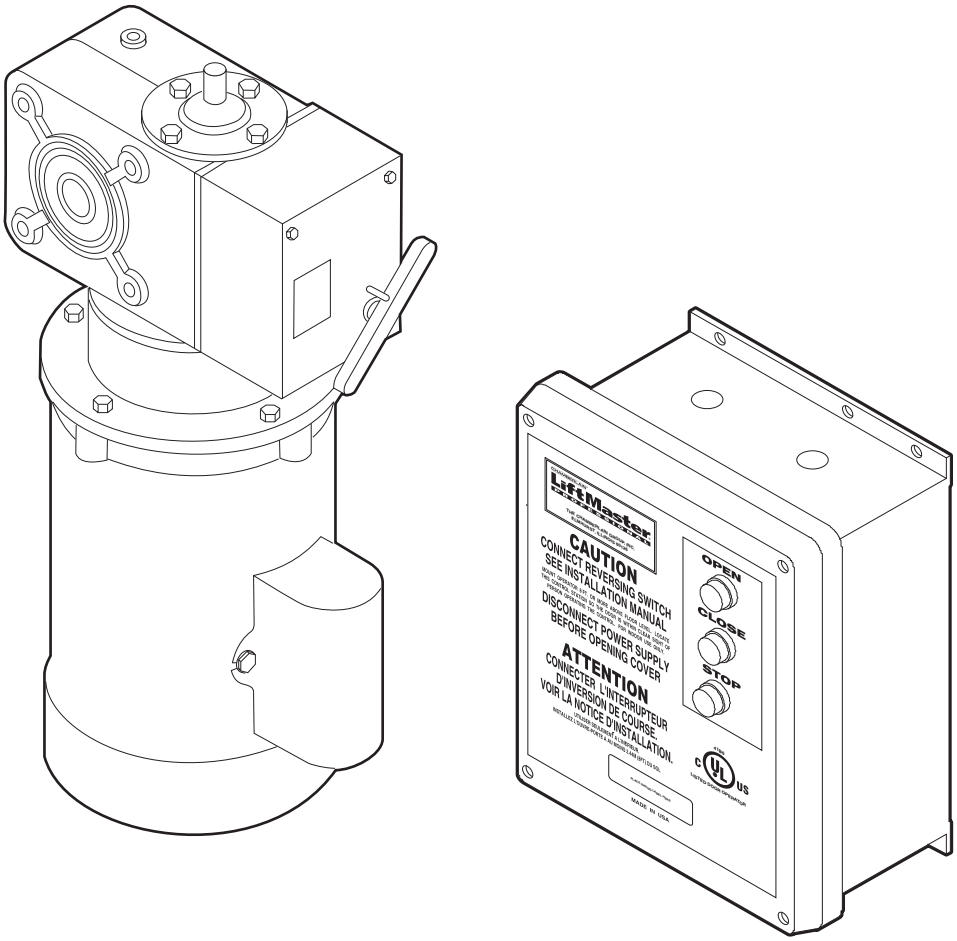
C2 Wiring

See page 7 for other wiring configurations

OWNER'S MANUAL

EGJ

EUROPEAN STYLE GEARHEAD DAMP ENVIRONMENT JACKSHAFT



2 YEAR WARRANTY

NOT FOR RESIDENTIAL USE

Serial # Box _____

Installation Date _____

Wiring Type _____

c UL US LISTED

TABLE OF CONTENTS

⚠ WARNING

Mechanical

⚠ WARNING

Electrical

CAUTION

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.

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.

IMPORTANT NOTES:

- *BEFORE attempting to install, operate or maintain the operator, you must read and fully understand this manual and follow all safety instructions.*
- *DO NOT attempt repair or service of your commercial door and gate operator unless you are an Authorized Service Technician.*

OPERATOR SPECIFICATIONS

⚠ WARNING

To reduce the risk of SEVERE INJURY or DEATH, ALWAYS install reversing sensors when the 3-Button control station is out of sight of door or any other control (automatic or manual) is used. Reversing devices are recommended for ALL installations.

MOTOR

TYPE: . . . . . .Gearhead Jackshaft
HORSEPOWER: . . . . . .1/2 HP
SPEED: . . . . . .1725 RPM
VOLTAGE: . . . . . .115/230V 1 Phase
230/460V 3 Phase
CURRENT: . . . . . .See Motor Nameplate

ELECTRICAL

TRANSFORMER: 24Vac
CONTROL STATION: . . . . . .NEMA 4 3-Button Station. OPEN/CLOSE/STOP
WIRING TYPE: . . . . . .C2 (Standard) Momentary contact to OPEN & STOP, constant pressure to CLOSE, plus wiring for sensing device to reverse and auxiliary devices to open and close with open override. See page 9 for optional wiring types and operating modes.
LIMIT ADJUST: . . . . . .Linear driven, fully adjustable screw type cams. Adjustable to 30'.
BRAKE: . . . . . .Dynamic brake, provides electrical braking in the form of DC current to stop the motor.

MECHANICAL

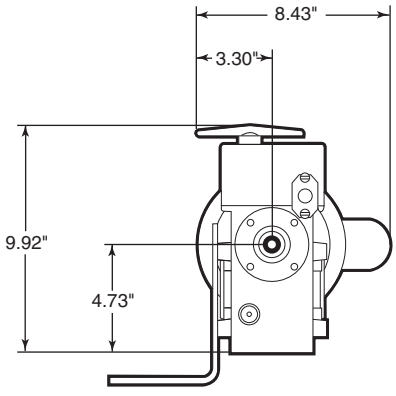
DRIVE REDUCTION: . . . . . .45:1 Reduction Hollow Shaft Gear
OUTPUT SHAFT SPEED: . . . . . .39 RPM
DOOR SPEED: . . . . . .Variable, depending on door type.
CLUTCH: . . . . . .Slipping Clutch

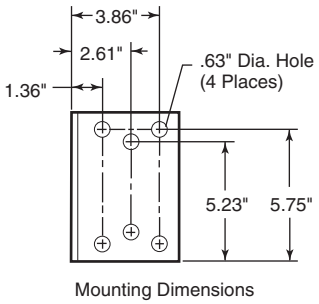
SAFETY

DISCONNECT: . . . . .Floor level clutch disconnect with electrical interlock for emergency manual door operation
CLUTCH: . . . . . .Adjustable Slipping Clutch
REVERSING EDGE (Optional)**:** . . Electric or pneumatic sensing device attached to the bottom edge of door.

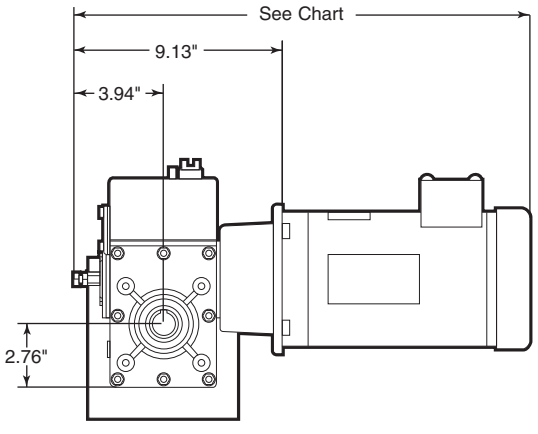
OPERATOR DIMENSIONS

HP	PHASE	DIMENSION
1/2	1	21"
1/2	3	21-1/8"





Mounting Dimensions



PREPARATION

It is imperative that the wall or mounting surface provide adequate support for the operator.

This surface must:

a. Be rigid to prevent play between operator and door shaft.

b. Provide a level base.

c. 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.

⚠⚠ 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 a trained professional door serviceman 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, cables, 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.

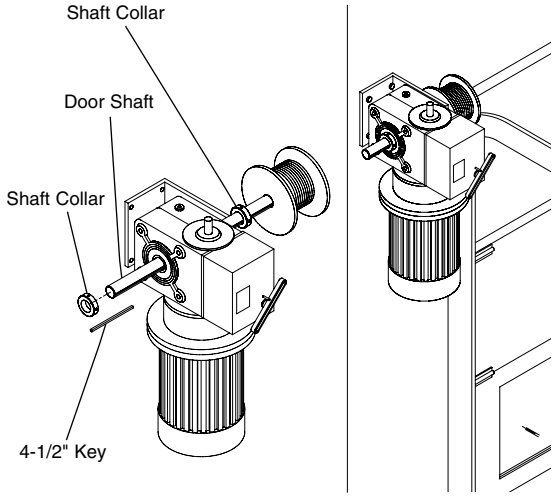
INSTALLATION

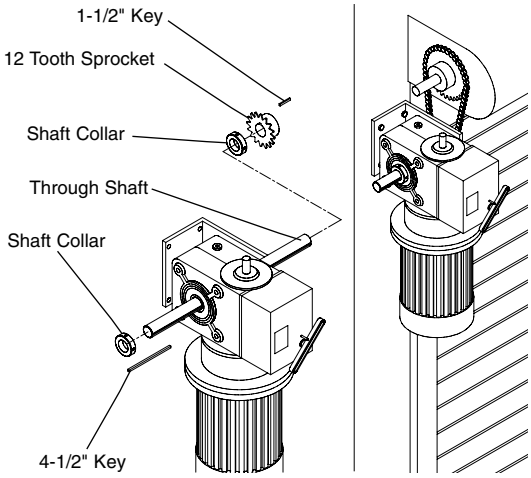
TYPICAL HOLLOW SHAFT

1. Slide the shaft collar provided over the door shaft to desired position and secure in place.
2. Slide the operator on the door shaft until it is laying against the shaft collar. Insert the 4-1/2" key provided into the operator and the door shaft.
3. Slide the second shaft collar on the door shaft until it is laying against the operator and secure in place, this will hold the 4-1/2" key in place.
4. Secure mounting bracket to wall (pad out as necessary).

OPTIONAL THROUGH-SHAFT

1. Slide the through shaft provided into the operator to desired position. Insert the 4-1/2" key provided into the operator and the door shaft.
2. Install a shaft collar onto each end of the through shaft until they are laying against the operator and secure in place, this will hold the 4-1/2" key in place.
3. Install the 12 tooth sprocket onto the though shaft with the 1-1/2" key provided.
4. Install the door sprocket provided to the door shaft. Connect the operator to the door with chain provided.
5. Secure mounting bracket to wall (pad out as necessary).





ENTRAPMENT PROTECTION ACCESSORIES (OPTIONAL)

PHOTO EYES & SENSING EDGES

Sensing devices provided for door industry type operators with an isolated normally open (N.O.) dry contact output are compatible with your operator. This includes pneumatic and electric edges, and through beam and retro reflective photo eyes. If you would like to order or receive more information on safety devices, please contact your local 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.

Important Notes:

a. Proceed with Limit Switch Adjustments described below before making any sensing edge wiring connections to operator.

b. Electrician must hardwire the junction box to the operator electrical box in accordance with local codes.

WIRING

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

TAKE-UP REEL:

Take-up reel should be installed 12" (30.48 cm) above the top of the door.

COIL CORD:

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

ADJUSTMENT

LIMIT ADJUSTMENT

Disconnect power to operator before any adjustments.

The limit switches will stop the door at each end of travel. Additional limit switches can be used for control of other automatic functions.

⚠ WARNING

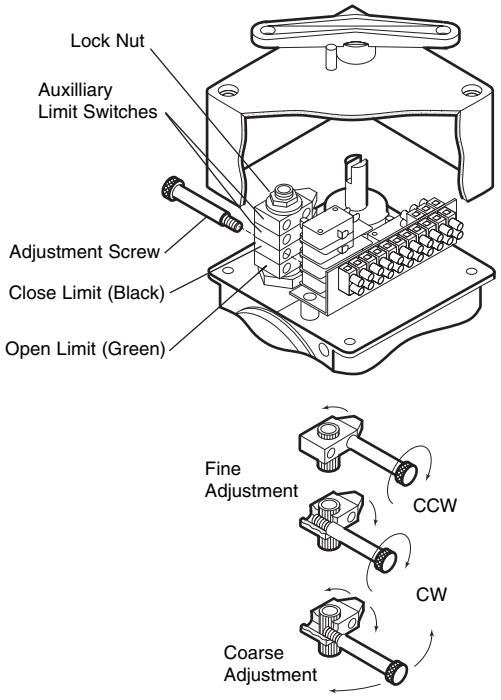
To avoid SERIOUS PERSONAL INJURY or DEATH from electrocution, disconnect electric power BEFORE manually moving limit nuts.

LIMIT SWITCH ADJUSTMENT

NOTE: *Before stating adjustment of the limit switches, loosen or tighten (if necessary) the lock nut in order to obtain a convenient adjustment tightness of the cam wheels. After finishing the adjustments, make sure that the lock nut is sufficiently tight to retain the cam wheels securely during operation.*

When door is in the fully open position, the green cam wheel (Open) will be turned into contact with its corresponding switch. In the same way, just before the door is in the closed position, the black cam wheel (Closed) will activate its switch.

LIMIT BOX ON POWERHEAD



COARSE ADJUSTMENT

The coarse adjustment of the limit switches can be done by inserting a rod or a screw driver into one of the adjustment holes in the cam wheels and by turning each cam wheel with the rod or screw driver.

FINE ADJUSTMENT

Fine adjustment can be done by screwing the adjustment screw (provided) against the cam shaft thread inside each cam wheel. The screw must be changed from one adjustment hole into the other for turning the cam wheel in the opposite direction.

SLIPPING CLUTCH ADJUSTMENT

The torque transmitted by the drive unit must always be adjusted in due consideration of the safety requirements of the door operation. The limitation of the torque is done by adjusting the slipping clutch situated between the electric motor and the gear box.
When delivered from the factory the slipping clutch is left loose so that no torque can be transmitted from the electric motor.

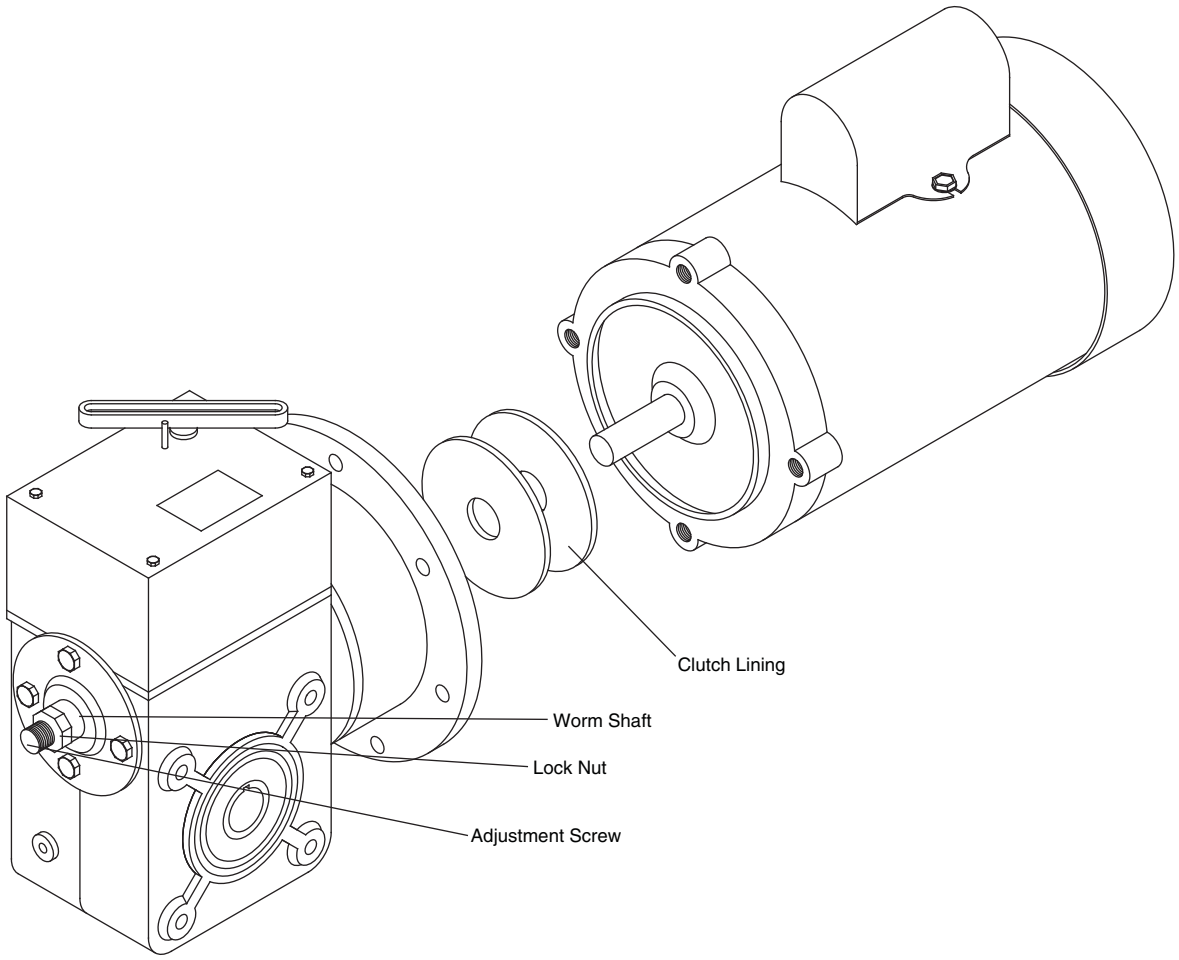
IMPORTANT: *Before starting to adjust the slipping clutch, check and make sure that the door can easily be moved manually in every part of its travel.*

1. Loosen the lock nut at the end of the worm shaft.
2. Hold the worm shaft with a spanner.
3. Start turning the adjustment screws inward (= clockwise) until the required torque has been obtained.

The torque should be adjusted so that it is just high enough to move the door over its complete travel and low enough to permit the clutch to slip as soon as the door is obstructed in its movement. A direct safety risk is produced if the torque is set to a considerably higher level than required for the door operation.

⚠ WARNING

To prevent possible SERIOUS INJURY or DEATH, install reversing sensors when the 3-button control station is out of sight of the door or any other control (automatic or manual) is used. Reversing devices are recommended for ALL installations.



POWER WIRING CONNECTIONS

⚠ WARNING

To reduce the risk of SEVERE INJURY or DEATH:

- ANY maintenance to the operator or in the area near the operator MUST NOT be performed until disconnecting the electrical power and locking-out the power via the operator power switch. Upon completion of maintenance the area MUST be cleared and secured, at that time the unit may be returned to service.
- Disconnect power at the fuse box BEFORE proceeding. Operator MUST be properly grounded and connected in accordance with local electrical codes. The operator should be on a separate fused line of adequate capacity.
- ALL electrical connections MUST be made by a qualified individual.
- DO NOT install ANY wiring or attempt to run the operator without consulting the wiring diagram. We recommend that you install an optional reversing edge BEFORE proceeding with the control station installation.
- ALL power wiring should be on a dedicated circuit and well protected. The location of the power disconnect should be visible and clearly labeled.
- ALL power and control wiring MUST be run in separate conduit.
- ALL electrical connections MUST be made using liquid tight fittings.

POWER WIRING

1. Do not turn power on until you have finished making all power and control wiring connections and have completed the limit switch adjustment procedure.
2. Remove the cover from the wall mounted starter. Inside this enclosure you will find the wiring diagram(s) for your unit. Refer to the wiring diagrams for all connections described below. If this diagram is missing, call the number on the back of this manual.
3. 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.

IMPORTANT NOTE: *For best protection against the environment follow directions below for required specifications for power and control wiring connections.*

CONDUIT & FITTING PREPARATION

The most efficient assembly of a liquid tight conduit and fitting system can be achieved, and optimum performance ensured, by adherence to simple conduit preparation and assembly techniques:

1. Square off ends of conduit by cutting the end of the conduit squarely using a hacksaw or similar tool, conduit manufacturers sometimes offer cutting jigs for this purpose.
2. Insert conduit flush with the fitting end stop.
3. Secure conduit to fitting. A compression gland nut, when provided as part of a fitting, will typically achieve maximum securement.
4. Ensure conduit jacket is not cut or ripped in any location along its surface.

NOTE: *For conduit preparation, always follow the conduit manufacturer's instructions.*

CONDUIT & FITTINGS

Liquid tight Flexible Non-metalics Conduit (LFNC) is required for use in both exposed and concealed areas and for electrical systems that require flexibility and protection from vapors, liquids or solids.

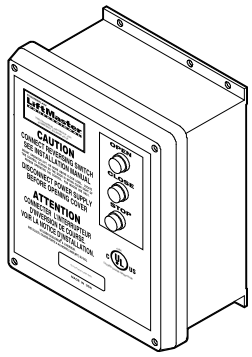
LFNC conduit should be used for liquid tight environment as stated by NEMA guidelines.

All conduit and conduit fittings should be marked as "Liquid Tight" conduit and fittings marked "Rain Tight" or "Wet Locations" are not to be automatically considered liquid tight.

NOTE: *Select all conduit and conduit connectors based on local code and application of job.*

ATTACHMENT TO ENCLOSURE

1. Select proper fitting entry hole to be placed in enclosure and punch through using drill or tool.
2. Slide threaded body into fitting hole in enclosure,
3. Insert gasket around threaded area and secure in place with nut provided. (Refer to manufacturer specifications for proper torque requirements.)
4. Remove all resulting debris created by entry hole(s) otherwise electrical components and operation may be affected.



WARNING

Do Not Run Power & Control Wiring in the Same Conduit

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.

WIRING TYPES

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.

IMPORTANT NOTE: I*f your wiring diagram is missing, or you are unsure of the wiring type for your operator, contact technical support @ 1-800-528-2806 or www.liftmaster.com.*

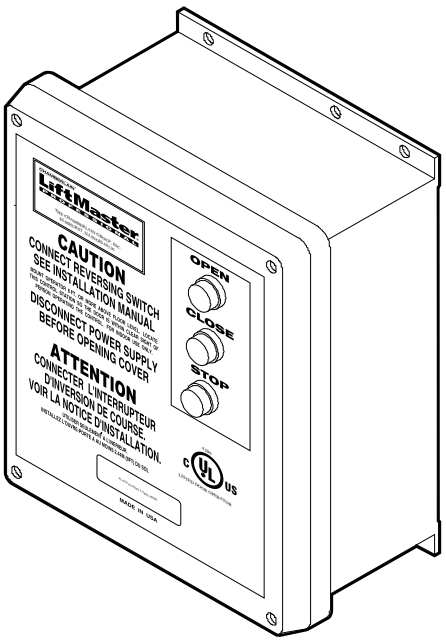
LOCATING THE CONTROL STATION

All operators are provided with a 3-Button Station (OPEN/CLOSE/STOP) incorporated into the wall mounted starter.

1. Mount the wall mounted starter where the door is visible, but away from the door and its hardware.
2. Mount WARNING NOTICE beside or below the wall mounted starter.
3. Mount control station(s) within line on sight of door(s).

⚠ WARNING

To prevent possible SERIOUS INJURY or DEATH, install reversing sensors when the 3-button control station is out of sight of the door or ANY other control (automatic or manual) is used. Reversing devices are recommended for ALL installations.



WARNING Notice

CONTROL WIRING

RADIO CONTROLS

On all models with type B2 control wiring, a terminal block marked R1 R2 R3 is located on the inside of the wall connected starter. Standard radio control receivers (single channel residential type) may be connected to this terminal block. The operator will then open a fully closed door, close a fully open door, and reverse a closing door from the remote control. However, for complete door control from a remote control, a commercial three-channel radio set (with connections for OPEN/CLOSE/STOP) is recommended.

⚠ WARNING

DO NOT use radio controls with your operator unless you have installed some type of entrapment protection device. The use of radio controls presents potential hazards due to the user's ability to open or close the door when out of sight of the door. In addition, if a single channel control is used, the user will not be able to stop the door from the transmitter.

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.

TEST THE SYSTEM

1. Turn on power.
2. Test all controls and safety devices to make sure they are working properly. It will be necessary to refer back to page 5 for fine adjustment of the limit switches.

IMPORTANT NOTES:

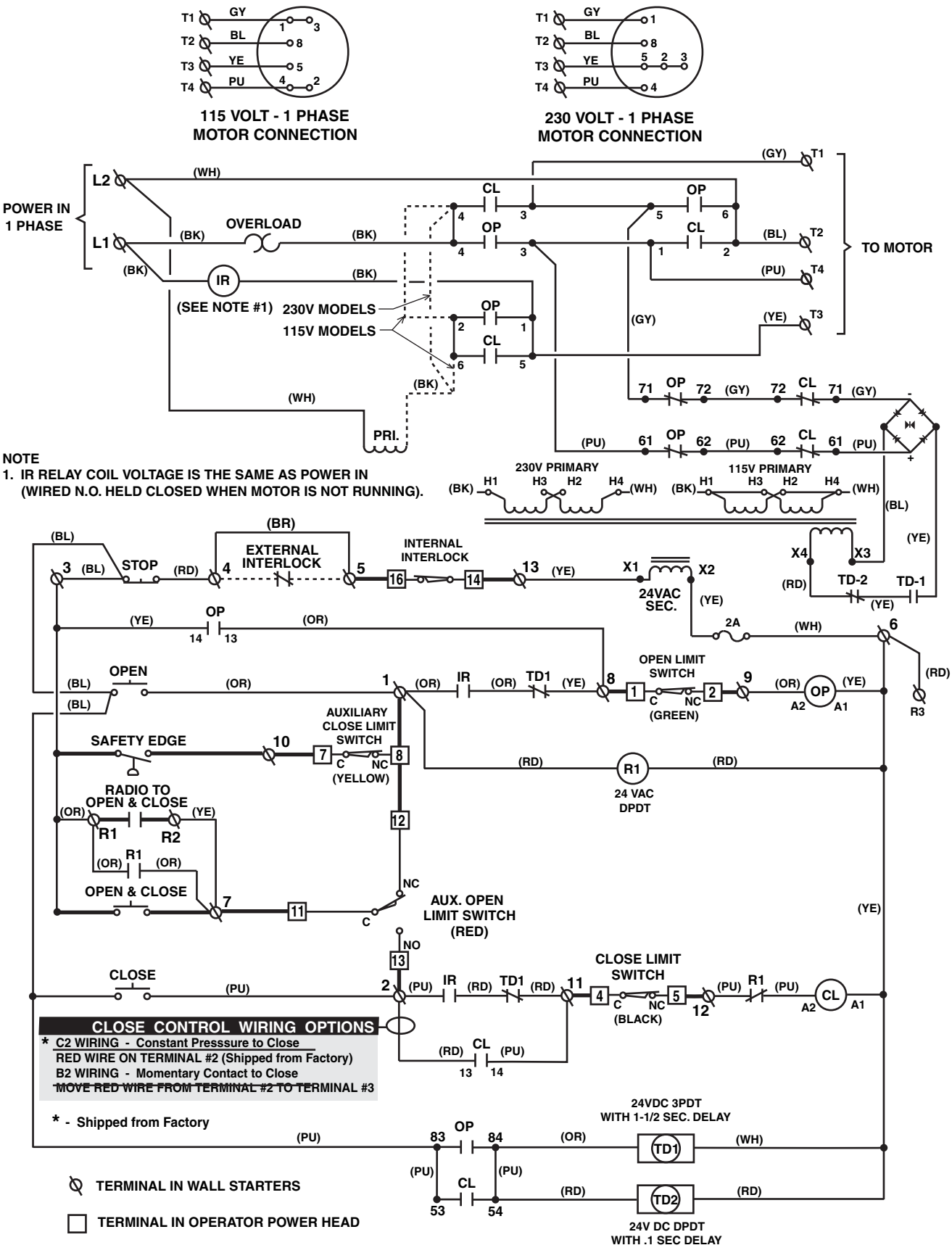
- *Do not leave operator power on unless all safety and entrapment protection devices have been tested and are working properly.*
- *Be sure you have read and understand all Safety Instructions included in this manual.*
- *Be sure the owner or person(s) responsible for operation of the door have read 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.*

⚠ WARNING

To prevent possible SERIOUS INJURY or DEATH, install reversing sensors when the 3-Button Control Station is out of sight of the door or any other control (automatic or manual) is used. Reversing devices are recommended for ALL installations.

1 PHASE SCHEMATIC DIAGRAM

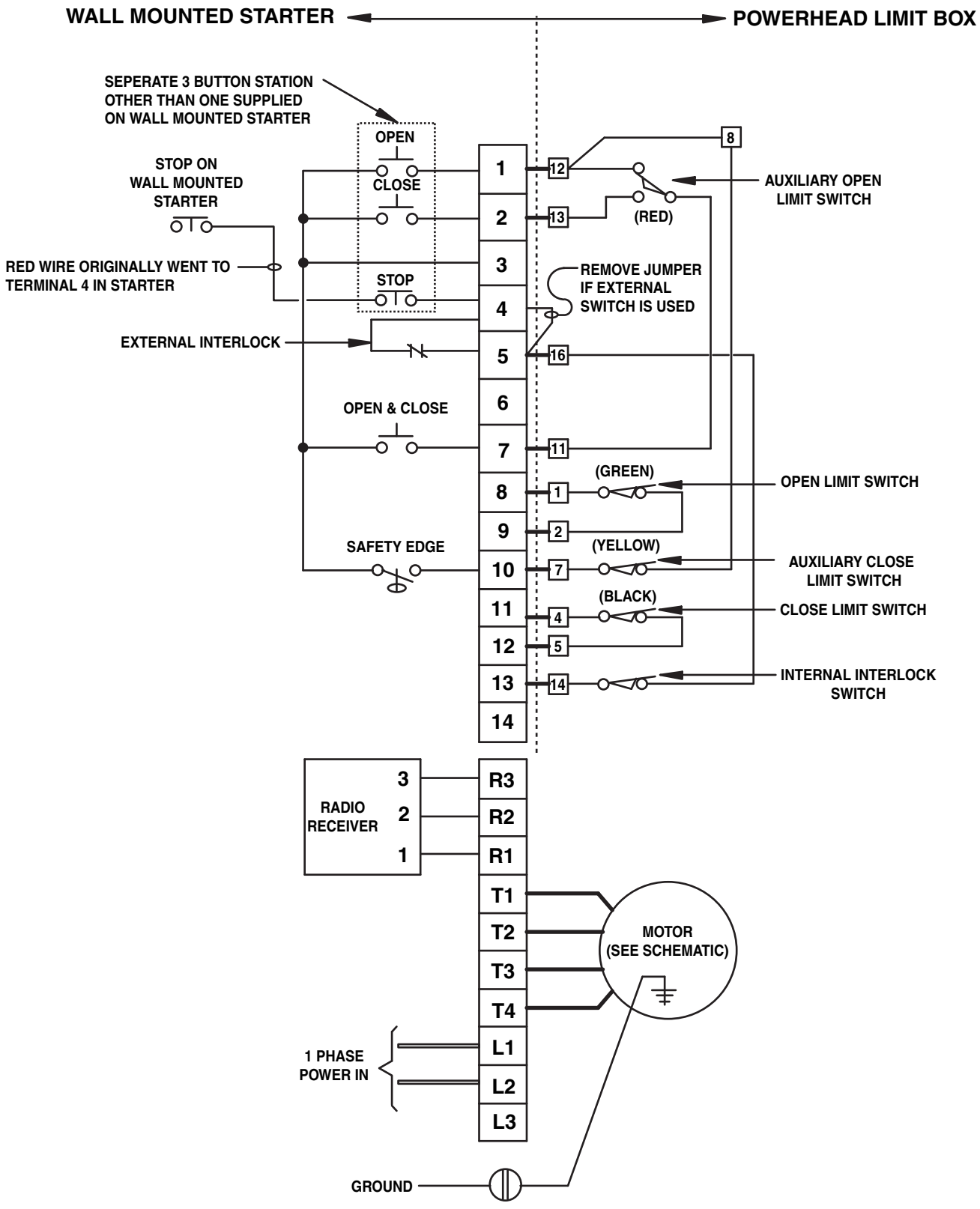
02228-1



1 PHASE FIELD CONNECTION DIAGRAM

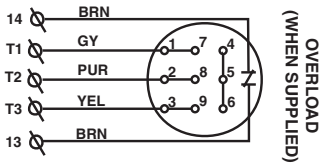
IMPORTANT NOTES:

1. *If a STOP button is not used, a jumper must be placed between terminals 3 and 4.*
2. *Auxiliary control equipment may be any normally open two wire device such as pullswitch, single button, loop detector, card key or such device.*
3. ***Attention Electrician:** Use 16 gauge or heavier wire for all control circuit wiring.*

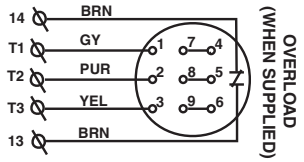


3 PHASE SCHEMATIC DIAGRAM

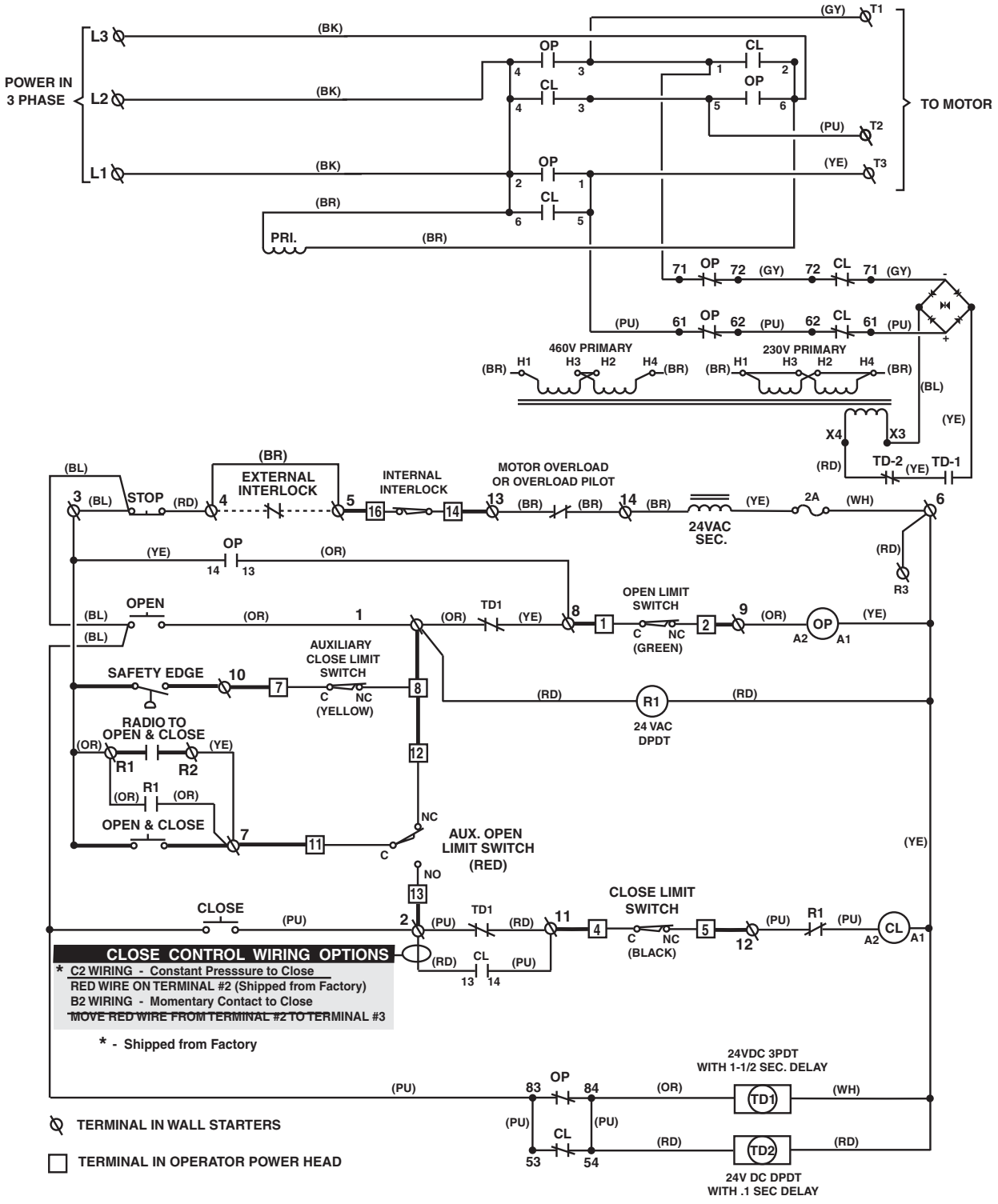
02228-3



230 VOLT - 3 PHASE
MOTOR CONNECTION



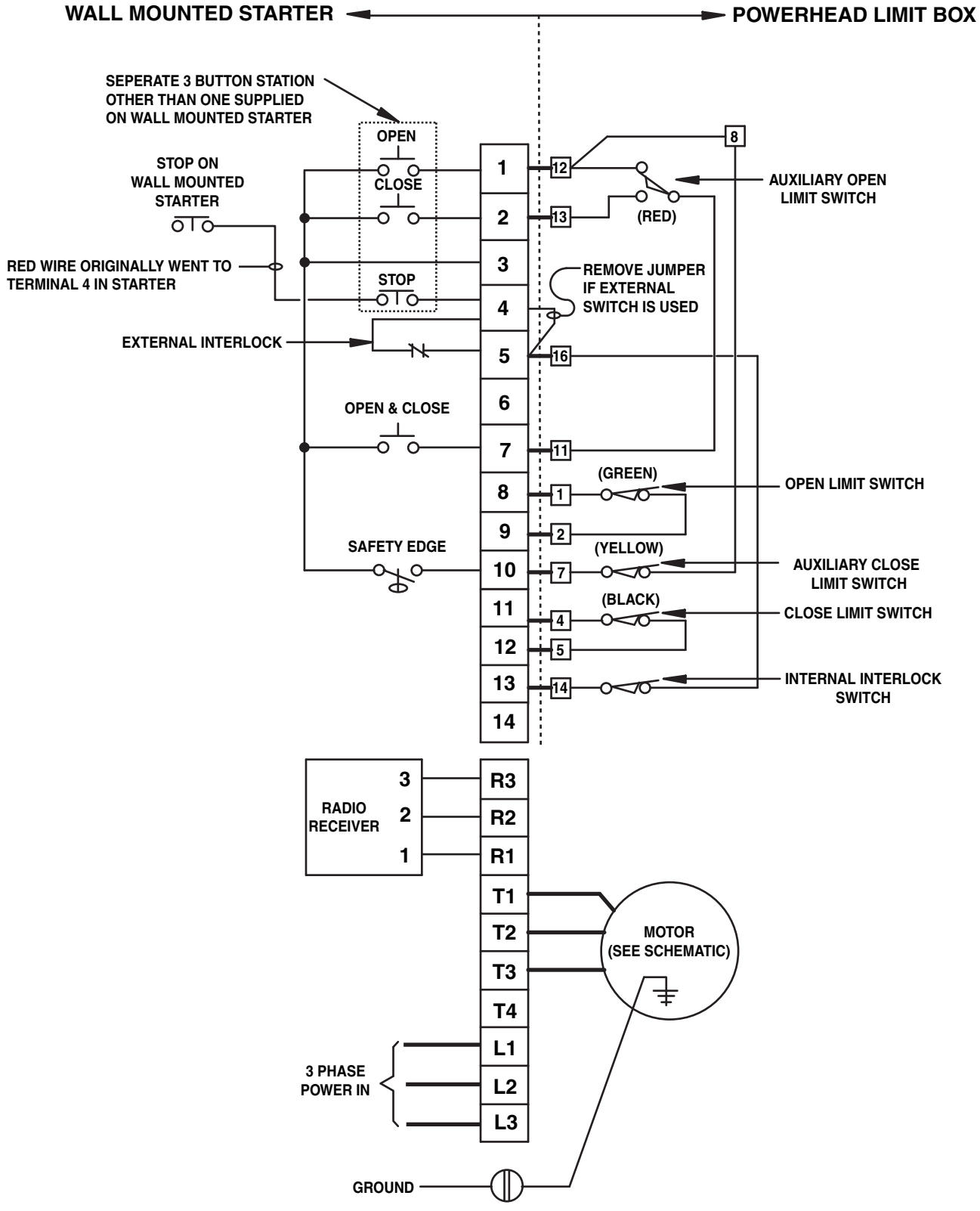
460 VOLT - 3 PHASE
MOTOR CONNECTION



3 PHASE FIELD CONNECTION DIAGRAM

IMPORTANT NOTES:

1. *If a STOP button is not used, a jumper must be placed between terminals 3 and 4.*
2. *Auxiliary control equipment may be any normally open two wire device such as pullswitch, single button, loop detector, card key or such device.*
3. ***Attention Electrician:** Use 16 gauge or heavier wire for all control circuit wiring.*



⚠ WARNING

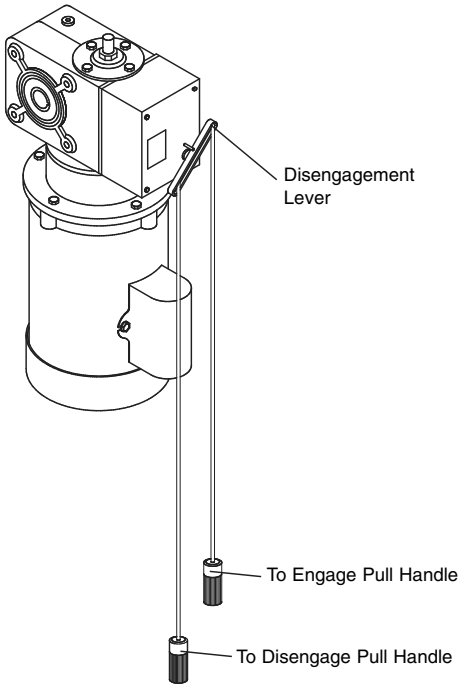
To reduce the risk of SEVERE INJURY or DEATH:

- ANY maintenance to the operator or in the area near the operator MUST NOT be performed until disconnecting the electrical power and locking-out the power via the operator power switch. Upon completion of maintenance the area MUST be cleared and secured, at that time the unit may be returned to service.
- Disconnect power at the fuse box BEFORE proceeding. Operator MUST be properly grounded and connected in accordance with local electrical codes. The operator should be on a separate fused line of adequate capacity.
- ALL electrical connections MUST be made by a qualified individual.
- DO NOT install ANY wiring or attempt to run the operator without consulting the wiring diagram. We recommend that you install an optional reversing edge BEFORE proceeding with the control station installation.
- ALL power wiring should be on a dedicated circuit and well protected. The location of the power disconnect should be visible and clearly labeled.
- ALL power and control wiring MUST be run in separate conduit.

MANUAL DISCONNECT

By turning the disengagement lever the gear unit can be disconnected from electric operation in order to permit manual operation of the door. For operating the lever from above floor level, attack a rope or a chain in the holes at the ends of the lever.

The movement of the lever acts upon a safety micro switch, which will keep the control current disconnected until the lever has been turned absolutely perfectly into its position for normal electric operation of the door.



MAINTENANCE SCHEDULE

⚠ WARNING

To avoid SERIOUS PERSONAL INJURY or DEATH from electrocution, disconnect ALL electric power BEFORE performing ANY maintenance.

Check at the intervals listed in the following chart.

ITEM	PROCEDURE	EVERY 3 MONTHS	EVERY 6 MONTHS	EVERY 12 MONTHS
Drive Chain	Check for excessive slack. Check & adjust as required. Lubricate.*	●♦		♦
Sprockets	Check set screw tightness	●		♦
Fasteners	Check & tighten as required		●	♦
Manual Disconnect	Check & Operate		●	♦
Bearings & Shafts	Check for wear & lubricate	●♦		♦

♦ **Use SAE 30 Oil (Never use grease or silicone spray).**
- Do not lubricate motor. Motor bearings are rated for continuous operation.
- Do not lubricate clutch or V-belt.

♦ **Repeat ALL procedures.**

● Inspect and service whenever a malfunction is observed or suspected.

HOW TO ORDER REPAIR PARTS

OUR LARGE SERVICE ORGANIZATION SPANS AMERICA
Installation and service information
are available.
Call our TOLL FREE number:

1-800-528-2806

WHEN ORDERING REPAIR PARTS
PLEASE SUPPLY THE FOLLOWING INFORMATION:
PART NUMBER DESCRIPTION MODEL NUMBER

ADDRESS ORDER TO:
THE CHAMBERLAIN GROUP, INC.
Technical Support Center
6020 S. Country Club
Tucson, AZ 85706

REPAIR PARTS KITS – WALL MOUNTED STARTER

Below are replacement kits available for your operator. For replacement of wall mounted starter and or motor kit 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 15 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:
EGJ5011M (Operator) = K-EGJ5011M (Elec. Box Kit)

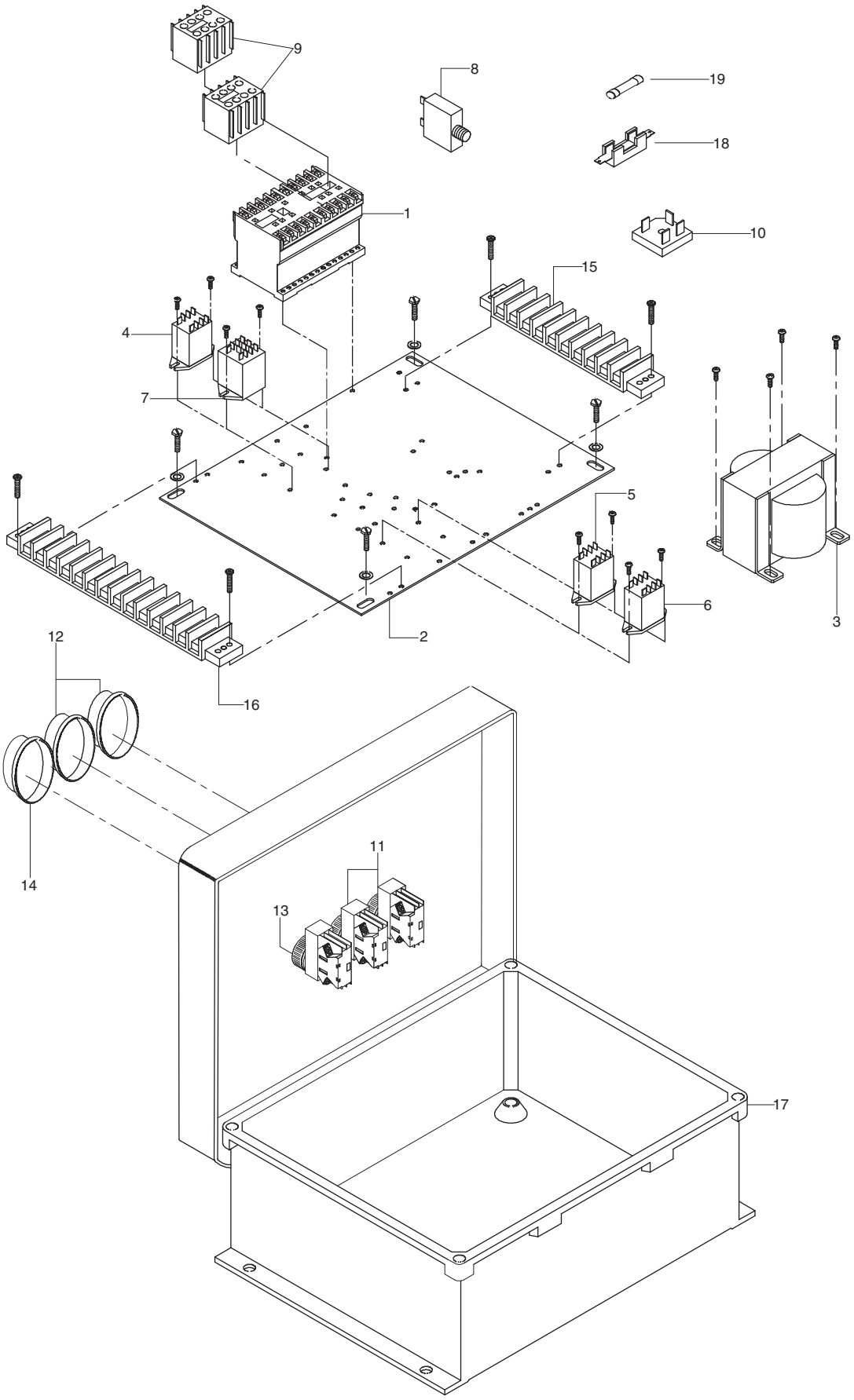
Motor Kits

20-1050C2T	Models EGJ5011M & EGJ5021M
20-3050C-5T	Model EGJ5053M
20-3050C4T	Models EGJ5023M & EGJ5043M

*** COMPLETE ELECTRICAL BOX KITS**

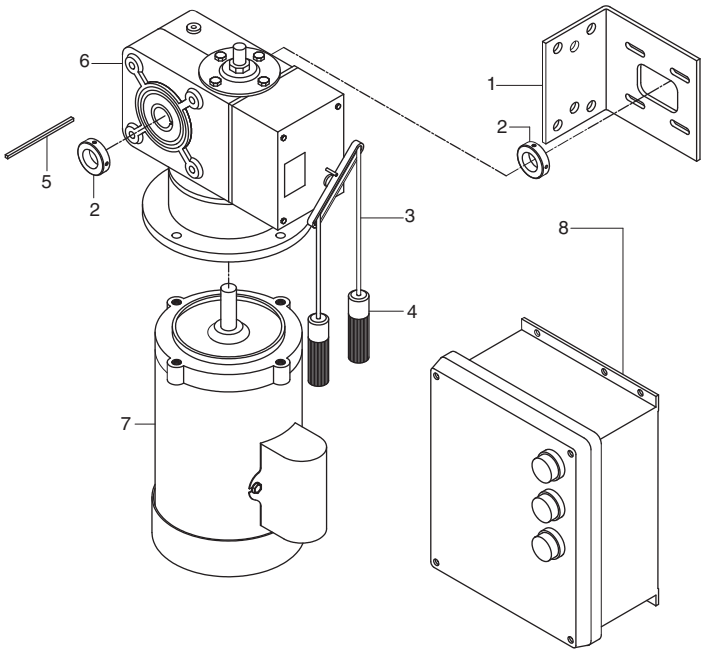
ITEM	PART #	DESCRIPTION
1	03-8024K	Contactor
2	10-15598	Panel, EGJ
3		Transformer
	21-7115	115/230V 1 Phase
	21-7460	230/460V 3 Phase
4	24-24-1	Relay, R1
5	24-24-03	Relay, TD1
6	24-264-4	Relay, TD2
7		Relay, I. R.
	24-115-1	115V
	24-230-5	230V
8		Single Phase Overload
	25-2006	6 Amp/230V
	25-2010	10 Amp/115V
9	27-8004-K	Contact Block
10	29-448	Bridge Rectifier
11	30-100-E	Black Button
12	30-105-E	Black Boot
13	30-200-E	Red Button
14	30-205-E	Red Boot
15	42-110	10 Pole Terminal Block
16	42-114	14 Pole Terminal Block
17	44-1210-4XH	Enclosure
18	27-58301-01	Fuse Holder
19	29-ABC-2	2A Fuse
	NOT SHOWN	
	K71-11606	(TD1) 1.5 Second Time Delay Resistor
	K71-11742	(TD2) 0.1 Second Time Delay Resistor

ILLUSTRATED PARTS – WALL MOUNTED STARTER



REPAIR PARTS KITS – MODEL EGJ (TYPICAL HOLLOW SHAFT)

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 remove 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 15 for all repair part ordering information.

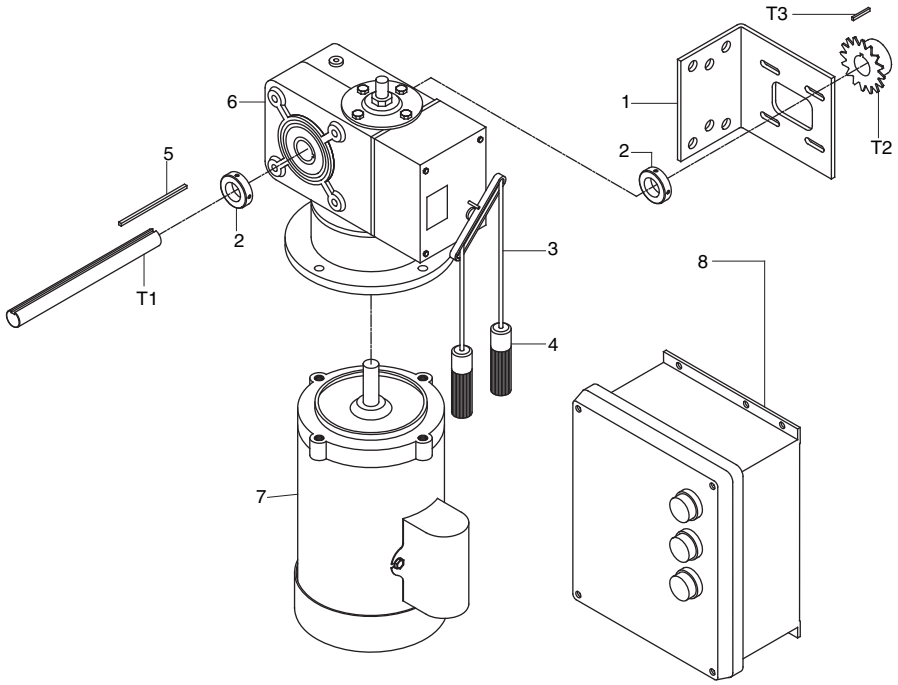


INDIVIDUAL PARTS

ITEM	PART #	DESCRIPTION
1	10-9097	Mounting Bracket
2	13-10465	Shaft Collar
3	19-02411	Pull Cord
4	50-13507	Pull Switch Handle
5	80-13713	Key, 1/4"x4-1/2"
6	TVR-4-1	Limit Gear Reducer
7		Motor -
	20-1050C-2T	Models EGJ5011M & EGJ5021M
	20-3050C-4T	Models EGJ5023M & EGJ5043M
	20-3050C-5T	Model EGJ5053M,
8		Wall Mounted Starter
	NOT SHOWN	
	K75-17143	Clutch Kit EGJ
	K75-17138	Housing Service Kit EGJ
	K75-17137	Cam EGJ Service Kit
	K75-17136	Limit/Terminal Block EGJ
	39-16759	Clutch Pad

ILLUSTRATED PARTS – MODEL EGJ (OPTIONAL THROUGH SHAFT)

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 remove 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 15 for all repair part ordering information.



INDIVIDUAL PARTS

ITEM	PART #	DESCRIPTION
1	10-9097	Mounting Bracket
2	13-10465	Shaft Collar
3	19-02411	Pull Cord
4	50-13507	Pull Switch Handle
5	80-13713	Key, 1/4"x4-1/2"
6	TVR-4-1	Limit Gear Reducer
7		Motor -
	20-1050C-2T	Models EGJ5011M, EGJ5021M
	20-3050C-4T	Models EGJ5023M, EGJ5043M
	20-3050C-5T	Model EGJ5053M
8		Wall Mounted Starter
	NOT SHOWN	
	K75-17143	Clutch Kit EGJ
	K75-17138	Housing Service Kit EGJ
	K75-17137	Cam EGJ Service Kit
	K75-17136	Limit/Terminal Block EGJ
	39-16759	Clutch Pad

THROUGH SHAFT KIT, 71-13716

ITEM	PART #	DESCRIPTION
T1	11-13717	Through Shaft
T2	15-50B12LGH	Sprocket, 50B12 1" Bore
T3	80-207-19	Key, 1/4"x1-1/2"
	NOT SHOWN	
	19-50106MN	Chain #50 Nickel Plated