

PLEASE NOTE

This owner's manual is for a previously produced operator model. This model is no longer in production.

If you are inquiring about our newest operator, please click [here](#) to access the owner's manual for the Hydraulic (HYJG) model.



HYJD-25 & HYJD-25E SSHYJD-25 & SSHYJD-25E HYDRAULIC VERTICAL PIVOT GATE

Operator's & Parts Manual



**NOTE: WHEN ORDERING PARTS, PLEASE HAVE YOUR SERIAL NUMBER
TO ENSURE THE CORRECT PARTS ARE SENT TO YOU.**

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TABLE OF CONTENTS

DESCRIPTION	PAGE NO.
WARRANTY	BEGINNING
SAFETY INFORMATION	PAGE 1
CLASS OF VEHICULAR GATES	PAGE 1
PROTECTION AGAINST ENTRAPMENT	PAGE 1
GATE SPECIFICATIONS	PAGE 2
ALTERNATE FENCE SCHEMES	PAGE 3
GENERAL INFORMATION	PAGE 4
GENERAL CIRCUIT BOARD CONNECTIONS	PAGE 4
LOGIC TIMER BOARD GENERAL CAPABILITY	PAGES 4, 5
208 / 240 ELECTRICAL DIAGRAM	PAGES 6, 7
MASTER SLAVE ELECTRICAL DIAGRAM MASTER	PAGE 8
MASTER SLAVE ELECTRICAL DIAGRAM SLAVE	PAGE 9
OPERATOR FIELD INSTALLATION FOR ASSEMBLED GATE	PAGES 10, 11
OPERATOR FIELD INSTALLATION FOR UNASSEMBLED GATE	PAGES 10, 11
BALANCE SYSTEM ADJUSTMENT AND SAFETY WARRINGS	PAGES 12, 13
GENERAL MAINTENANCE	PAGE 14
GENERAL ARRANGEMENT	PAGES 14, 15
BARRIER CARRIAGE 6 SHORT & STANDARD	PAGES 16, 17
ACTUATOR CYLINDER WITH COMPONENTS	PAGES 18, 19
BARRIER UNIT	PAGE 20
BALANCE SYSTEM 6 CABLE & SHEAVE	PAGE 21
BALANCE SYSTEM CABLE GUIDE	PAGE 22
ACCESS GUARDS	PAGE 23
BALANCE SYSTEM SPRING TENSIONER UNIT	PAGES 24, 25
STANDARD HYDRAULIC SYSTEM	PAGES 26, 27
EXTENDED HYDRAULIC SYSTEM	PAGES 26, 27
WEATHER GUARD OVERHEAD PROTECTION	PAGE 28
COLD WEATHER PACKAGE	PAGE 29
VICKERS 4 GALLON POWER UNIT	PAGES 30, 31
ELECTRICAL EMERGENCY STOP	PAGE 32
SAFETY WARNING LIGHT	PAGE 33
MANUAL KEY SWITCH	PAGE 34
OPERATOR ENCLOSURE STANDARD AND EXTENDED	PAGE 35
ELECTRICAL LOGIC TIMER BOARD	PAGE 36
ELECTRICAL LOOP WIRING	PAGE 37
LOOP DETECTOR DIAGRAM	PAGE 38
LOOP WIRES INSTALLATION	PAGES 38-1 THRU 38-10
LOOP WIRES TROUBLE SHOOTING	PAGES 38-11 THRU 38-12
ELECTROMAGNETIC LOCK	PAGE 39
REMOTE CONTROL STATION	PAGE 40
PHOTO EYE - END STANCHION	PAGE 41
PHOTO EYE 6 SURFACE MOUNT STANCHION	PAGE 41
REFLECTIVE TYPE PHOTO EYE	PAGE 42
HORN & LIGHT GATE OPEN INDICATOR	PAGE 43
REVERSING EDGE INSTALLATION	PAGE 44
TRANSMITTER INSTALLATION INSTRUCTIONS	PAGE 46, 47, 48,49
GENERAL SAFETY INFORMATION	PAGE 50
TROUBLE SHOOTING GUIDE	PAGE 51



**2011 Harnish Blvd.
Billings, MT 59101**

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406-656-4360 800-523-3888**

TILT-A-WAY LIMITED WARRANTY

Ideal Manufacturing warrants that its Tilt-A-Way vertical pivot gate Model KJB-25, HYJD-25E and HYJD-25 products will be free from defects in materials and workmanship for a period of 3 years from the date of purchase. If the product fails to function because of defects in materials or workmanship within the 3 year period of time being used for the purpose for which it was designed, Ideal Manufacturing will repair or replace the defective part at its option. This warranty excludes electrical components and damage due to Acts of God, unauthorized modifications, misuse, abuse or negligence to this product.

In order to proceed with a warranty claim, Ideal Manufacturing must be notified of the problem. A new part will be shipped out prepaid (Ground UPS). If the customer requests that the part be expedited that shipping charge will be charged to the owner.

The part that is being warranted must be returned to Ideal Manufacturing, postage prepaid. When the new part is shipped out, it will go out with an invoice and a warranty part return number. The defective part must be returned to Ideal Manufacturing, freight prepaid, with the warranty part return number. At that time the invoice will be considered paid in full.

This warranty is exclusive and in lieu of all other obligation, liabilities or warranties. In no event shall Ideal Manufacturing be liable or responsible for incidental or consequential damage or for any other direct or indirect damage loss, cost, expense or fee.

This warranty shall not apply to any products or parts that have been altered or repaired without written consent of Ideal Manufacturing.

Labor to remove and reinstall defective product or parts will be paid from a labor rate and schedule only. Consult Ideal Manufacturing for that rate and schedule.

For further information on returning your product or questions concerning Ideal Manufacturing warranty, please contact Ideal Manufacturing.

IMPORTANT SAFETY INFORMATION

Before installing the installer should read and understand the owners manual and safety instructions. The owner should keep this owners manual.

WARNING-TO REDUCE THE RISK OF INJURY TO PERSONS

1. Do not operate gate unless all safety devices are connected and working properly.
2. Do not permit children to play on or around a gate. Keep all controls out of reach from children.
3. Automatic gates are not intended for pedestrian use. Pedestrians must be supplied a separate entrance separate from the automatic gate.
4. Never operate an automatic gate system without visual contact so it can be shut down if necessary.
5. Access controls, are required, to be mounted at least 6 feet away from the gate and operator.
6. Disconnect all power before performing any maintenance on your gate or operator.
7. Keep your gate properly maintained-have a qualified service person make all repairs.
8. Test your gate monthly; make sure all safety devices are in working order. If you have a reversing edge use a rigid object to actuate the edge photo eyes-use an object to break the beam to insure it is in working order.
9. The gate and operator must have the appropriate primary and secondary safety devices to match the gate class installation.
10. Operator and barrier must display warning signs on both sides, in view of operator.
11. Do not install added weight to the gate barrier, your barrier has been balanced at the factory, if you add weight to the gate barrier it will make your gate out of balance, which could cause it to malfunction.
12. Only qualified personnel should install this equipment. Failure to meet this requirement could cause severe injury and or death, for which the manufacturer cannot be held responsible.
13. Safety devices, such as photo eyes and reversing edges should be installed to provide protection for personal Property and pedestrians.
14. Before turning the power on be sure that the correct voltage has been supplied to the electric motor and the equipment has been properly grounded

CLASS OF VEHICULAR GATES

Glossary

CLASS I-RESIDENTIAL VEHICULAR GATE OPERATOR (3.15)

A vehicular gate operator (or system) intended for use in a home of one to four single family dwelling, or a garage or parking area associated therewith.

CLASS II-COMMERCIAL/GENERAL ACCESS VEHICULAR GATE OPERATOR (3.16)

A vehicular gate operator (or system) intended for use in a commercial location or building such as multi-family housing unit (five or more single family unit), hotel, garages, retail store, or other building servicing the general public.

CLASS III-INDUSTRIAL/LIMITED ACCESS VEHICULAR GATE OPERATOR (3.17)

A vehicular gate operator (or system) intended for use in an industrial location or building such as a factory or loading dock area or other locations not intended to service the general public.

CLASS IV-RESTRICTED ACCESS VEHICULAR GATE OPERATOR (3.18)

A vehicular gate operator (or system) intended for use in a guarded industrial location or building such as an airport security area or other restricted access locations not servicing the general public, in which unauthorized access is prevented via *supervision by security personnel*.

INSTRUCTIONS FOR MANUAL OPERATION HYJD-25, HYJD25E SSHYJD-25 & SSHYJD-25E

1. Locate two Brass colored knurled knobs on the top of the pump housing
(If equipped with a cold weather package, lift flap on the black cover to access knobs.)
2. Turn both knobs counter clockwise one full turn to open.
3. Gate barrier can now be lifted manually from out at the end of gate.
4. Turn knobs clockwise to close, then operate gate normally.

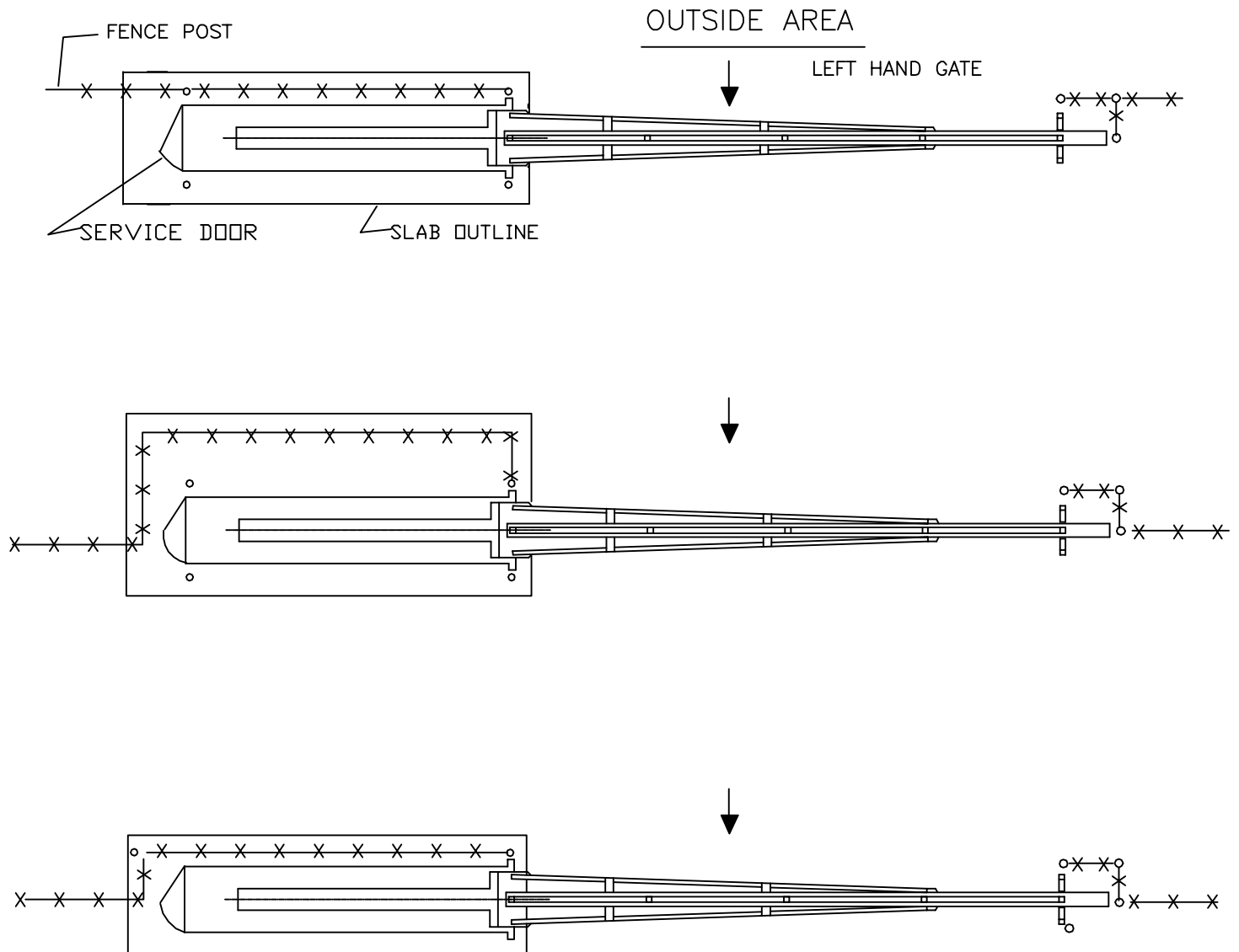
PROTECTION AGAINST ENTRAPMENT

Gate operator category				
Usage class	Horizontal slide, vertical lift, and vertical pivot		Swing and vertical barrier (arm)	
	Primary type (a)	Secondary type (a)	Primary type (a)	Secondary type (a)
Vehicular I and II	A	B1, B2, or D	A, or C	A, B1, B2, C, OR D A, B1, B2, C,
Vehicular III	A, B1, or B2	A, B1, B2, D, or E	A, B1, B2, or C	D, or E
Vehicular IV	A, B1, B2, or D	A, B1, B2, D, or E	A, B1, B2, C, OR D	A, B1, B2, C, D, or E
Note-The same type of device shall not be utilized for both the primary and the secondary entrapment protection means. Use of a single device to cover both the opening and closing directions is in accordance with the requirement; however, a single device is not required to cover both directions. A combination of one Type B1 for one direction and one Type B2 for the other direction is the equivalent of one device for the purpose of complying with the requirements of either the primary or secondary entrapment protection means.				
(a) Entrapment protection types:				
Type A 6 Inherent entrapment protection system. See 31.1.5.				
Type B1 6 Provision for connection of, or supplied with, a non-contact sensor (photoelectric sensor or the equivalent). See 31.1.6 6 31.1.9.				
Type B2 6 Provision for connection of, or supplied with, a contact sensor (edge device or the equivalent). See 31.1.7 and 31.1.10 6 31.1.12.				
Type C 6 Inherent adjustable clutch of pressure relief device. See 31.1.13.				
Type D 6 Provision for connection of, or supplied with, an actuating device requiring continuous pressure to maintain opening or closing motion of the gate. See 31.1.14 and 31.1.15.				
Type E - An inherent audio alarm. See 31.1.16, 31.1.17, and 31.1.18				

Specifications

Model#		HYJD-25		
Operator Size		28" W x 50" T x 120"L		
Operator Weight		1,800 lbs.		
Maximum Barrier Size		96" T x 300"L-375 lbs		
Model#		HYJD-25E		
Operator Size		28"W x 50"T x 132"L		
Operator Weight		1,830 lbs		
Maximum Barrier Size		108" T x 300" L-375 lbs		
Model #		SSHYJD-25		
Operator Size		28" W x 50" T x 120" L		
Operator Weight		1800 lbs		
Maximum Barrier Size		96"T x 300" L-375 lbs		
Model #		SSHYJD-25E		
Operator Size		28"w x 50" T x 120" L		
Operator Weight		1800 lbs		
Maximum Barrier Size		108' T x 300" L-375lbs		
Voltage	Phase	Hz	Cir. Reg. Amps.	Act. Draw
208/240 VAC	1 4-wire	60	20	14
Operator Speed to 90°		16-20 Seconds		
Hydraulic Fluid		Dexron III ATF		

Note: Minimum Circuit Requirements: 20 amp service at 208 / 240 VAC Single Phase (4-wire). For wire sizes consult the NEC (National Electric Code).



INDICATED ARE THREE MOST COMMON WAYS TO SET A TILT-A-WAY GATE
 INDIVIDUAL CONDITIONS MAY REQUIRE A SPECIAL ARRANGEMENT

ALTERNATE FENCE SCHEMES HYJD-25, HYJD-25E SSHYJD-25 & SSHYJD-25E

GENERAL INFORMATION

The PEO202P Ideal logic timer board allows numerous programmable functions in various combinations (See Universal Commercial Logic Function Chart). This logic board contains an adjustable time for automatic closing which is adjustable from 1 second to 4 minutes.

When the time function is selected (Switch #3 ON), the timing sequence starts when the gate activates the open limit switch. (At this time the TIMER ACTIVE LIGHT comes ON.) The gate will automatically close after a predetermined time. The timing range is adjustable from 1 second to 4 minutes. The timer is reset by activating any input, which is selected to set the timer. Any combination of inputs will allow you to have more switches ON than are shown for any one input. For example: Input #2 SAFETY (Stop and Reverse) plus input #8 TIMER (Open and Always Set Timer). Switch #3 and switch #5 will both be ON.

GENERAL CIRCUIT BOARD CONNECTIONS

The numbers below refer to the terminal strip (#1 - #15) in the gate operator. All inputs are normally open.

SAFETY

Terminals 2 and 3 In the open position, this input will prevent the gate from closing, or if the timer is used, hold the timer until the input is cleared. In the closing cycle, activation of this input will reverse the gate to full open position, and if the timer is used, set and hold the timer until the input is cleared.

AUX TIMER

Terminals 2 and 4 this input is active only when timer circuit is used. In the open position, activation of this input will hold the timer until the input is cleared. In the closing cycle, activation of this input will reverse the gate to full open position, set the timer and hold the time until the input is cleared.

TIMER

Terminal 2 and 5 This input is active only when the timer circuit is used. When the gate is in the closed position activation of this input will open the gate and set the time. In the open position, this input will hold the timer until the input is cleared. In the closing cycle, activation of this input will reverse the gate to full open position, set the timer and hold the timer until the input is cleared.

ELECTRICAL LOGIC TIMER BOARD GENERAL CAPABILITY

TIMER BOARD

Terminal 2 and 6 This input is active only when the timer circuit is used. When the operator is in the full open position, activation of this input will hold the timer until the input is cleared. This input will NOT reverse the gate when the operator is in the closing cycle.

SINGLE BUTTON

Terminal 2 and 11 When in the closed position, activation of this input will open gate. When in the opening cycle, activation of this input will stop the gate. If gate is stopped in mid travel, this input will open the gate when activated. In the full open position, activation of this input will close the gate. In the closing cycle, this input will reverse the gate to the full open position.

CLOSE

Terminal 2 and 12 When the gate is in the full open position or stopped in mid travel, activation of this input will close the gate.

OPEN

Terminal 2 and 13 When the gate is in the full closed position or stopped in mid travel, activation of this input will open the gate.

STOP

Terminal 7 and 8 This is a NORMALLY CLOSED circuit. Anytime the stop circuit is opened, all functions of the logic board will cease. Then the circuit is once again closed, the desired input will have to be reactivated to start the function once again.

INPUT:	FUNCTION:	SWITCH POSITION							
		1.	2.	3.	4.	5.	6.	7.	8.
1. SAFETY	WHEN DOOR IS OFF DOWN LIMIT STOPPING SAFETY ONLY	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2. SAFETY	WHEN DOOR IS OFF DOWN LIMIT STOP AND REVERSE	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
3. SAFETY	WHEN DOOR IS OFF DOWN LIMIT INSTANT REVERSE	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
4. SAFETY	WHEN DOOR IS OFF DOWN LIMIT STOP AND REVERSE AND SET TIMER	OFF	ON	ON	OFF	ON	OFF	OFF	OFF
5. SAFETY	WHEN DOOR IS OFF DOWN LIMIT INSTANT REVERSE AND SET TIMER	OFF	ON	ON	OFF	ON	ON	OFF	OFF
6. AUX. TIMER	WHEN DOOR IS OFF DOWN LIMIT OPEN AND SET TIMER STOP AND REVERSE AND SET TIMER	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
7. AUX. TIMER	WHEN DOOR IS OFF DOWN LIMIT OPEN AND SET TIMER INSTANT REVERSE AND SET TIMER	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF
8. TIMER	OPEN AND ALWAYS SET TIMER STOP AND REVERSE AND SET TIMER	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
9. TIMER	OPEN AND ALWAYS SET TIMER INSTANT REVERSE AND SET TIMER	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF
10. HOLD	HOLD TIMER RESET TIMER ONLY DURING TIMING PERIOD	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
11. STOP	STOP DOOR / GATE TRAVEL ONLY	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
12. STOP	STOP DOOR / GATE TRAVEL AND TIMER	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
13. SINGLE BUTTON	OPEN CYCLE OPEN - PARK - OPEN CLOSE CYCLE CLOSE - PARK - OPEN	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
14. SINGLE BUTTON	OPEN CYCLE OPEN - PARK - OPEN CLOSE CYCLE CLOSE - STOP - REVERSE	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON
15. SINGLE BUTTON	OPEN CYCLE OPEN - PARK - OPEN CLOSE CYCLE CLOSE - INSTANT REVERSE	OFF	OFF	OFF	OFF	OFF	ON	ON	ON
16. SINGLE BUTTON	OPEN CYCLE SET TIMER WHEN ACTIVATED ON OPEN LIMIT CLOSE CYCLE PARK - OPEN	ON	OFF	ON	ON	OFF	OFF	OFF	ON
17. SINGLE BUTTON	OPEN CYCLE OPEN - PARK - OPEN SET TIMER WHEN ACTIVATED ON OPEN LIMIT CLOSE CYCLE STOP AND REVERSE	ON	OFF	ON	ON	OFF	OFF	ON	ON
18. SINGLE BUTTON	OPEN CYCLE OPEN - PARK - OPEN SET TIMER WHEN ACTIVATED ON OPEN LIMIT CLOSE CYCLE INSTANT REVERSE	ON	OFF	ON	ON	OFF	ON	ON	ON
19. CLOSE	CLOSE DOOR / GATE EVEN WHILE TIMER IS TIMING	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
20. CLOSE	CLOSE DOOR / GATE EXCEPT WHEN TIMER IS TIMING	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
21. OPEN	OPEN DOOR / GATE ONLY	NOT DEPENDENT ON ANY SWITCH POSITION							

ELECTRICAL LOGIC TIMER BOARD - GENERAL CAPABILITY

**TILT-A-WAY
HYDRAULIC OPERATOR
BASIC ELECTRICAL HARDWARE
DRAWING RGHYJD-E200**

	PART NO.	DESCRIPTION	QTY
1	PEO600	ENCLOSURE	1
2	FGO600	PANEL MOUNTING	1
3	PEO602	CIRCUIT BREAKER	1
4	PEO602A	C/B BRACKET	1
5	PEO603	CONTACTOR	2
6	PEO603A	INTERLOCK-CONTACTOR	1
7	PEO604	OVERLOAD RELAY	1
8	PEO605	RELAY 5 PIN	2
9	PEO605A	SOCKET 5 PIN	2
10	PEO606	RELAY 8 PIN	4
11	PEO606A	SOCKET 8 PIN	4
12	PEO607	TRANSFORMER	1
13	PEO608	P/B CARTRIDGE	1
14	PEO608A	P/B OPERATOR	1
15	PEO202P	TIMER BOARD	1
16	PEO611	SAFETY SWITCH	2
17	PEO620	END BARRIER 6 TERMINAL BLOCK	2
18	PEO621	GRE/YEL BLOCK- TERMINAL BLOCK	2
19	PEO622	BLACK BLOCK-TERMINAL BLOCK	3
20	PEO623	RED BLOCK- TERMINAL BLOCK	3
21	PEO624	GREY BLOCK- TERMINAL BLOCK	2
22	PEO625	FUSE BLOCK- TERMINAL BLOCK	2
23	PEO625A	FUSE 1 AMP 250 VOLT-TERMINAL BLOCK	2
24	PEO626	BARRIER- TERMINAL BLOCK	1
25	PEO627	DOUBLE BLOCK- TERMINAL BLOCK	18
26	PEO628	DOUBLE BLOCK- TERMINAL BLOCK	4
27	PEO629	BARRIER- TERMINAL BLOCK	1
28	PEO630	JUMPER- TERMINAL BLOCK	1
29	PEO631	JUMPER- TERMINAL BLOCK	1
30	PEO632	JUMPER- TERMINAL BLOCK	3
31	PEO633	MARKER- 1 THRU 13	1
32	PEO634	MARKER- G,N,L1,L2,LL1,LL2,	1
33	PEO635	T DUCT PVC 48- WIRE TRACK	1
34	PEO636	COVER PVC 48- WIRE TRACK	1
35	PEO637	DIN TRACK 34	1
36	PEO231	ELBOW CONNECTION 90 DEGREES	1
37	PEO235	CONNECTION STRAIGHT	3
38	PEO223	½" ROMEX	2
39	PEO275	¾" ROMEX	2
40	N/A	8 X ½" SELF DRILLING PHILLIPS SCREW	19
41	PEO214	SOCKET LOOP DETECTOR	3

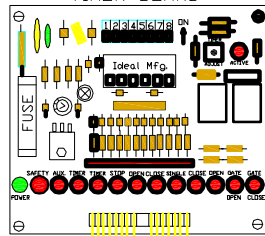


NOTE: SEE SHEET TWO FOR SLAVE GATE DWG

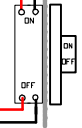
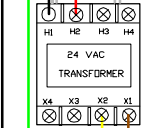
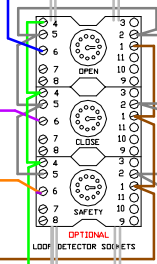
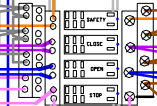
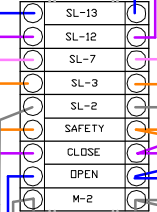
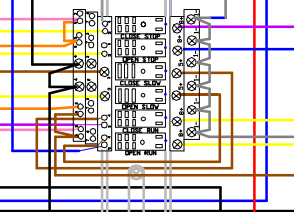
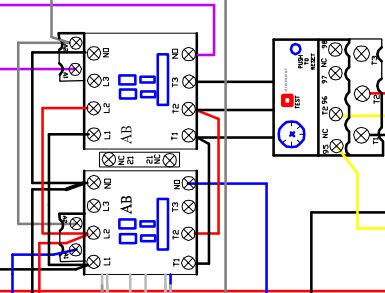
TO
STOP SWITCH
IN SLAVE BOX
FROM MASTER RELAY

TO
SLAVE BOX
TO
CONTROL STATIONS

TIMER BOARD

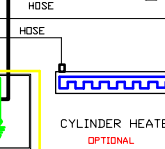
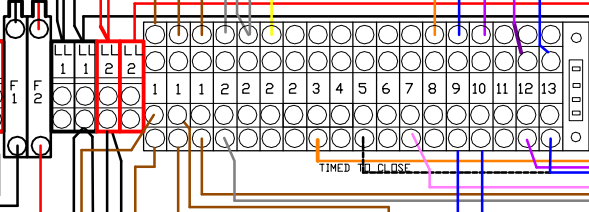
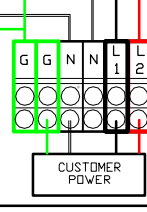


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15



WARNING
POWER
DISCONNECT
PROVIDED
BY OTHERS

ENCLOSURE OUTLINE



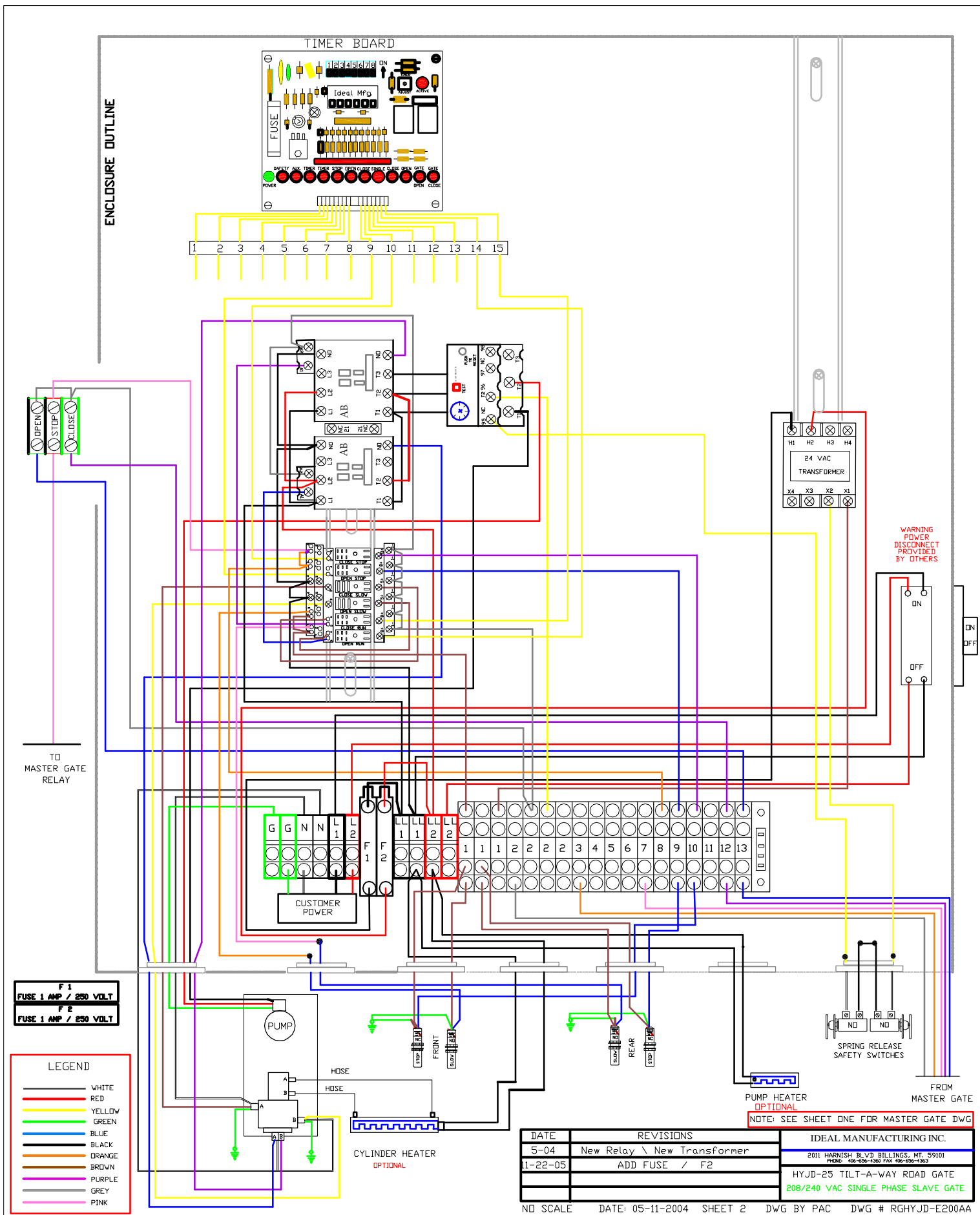
F 1
FUSE 1 AMP / 250 VOLT
F 2
FUSE 1 AMP / 250 VOLT

LEGEND

- WHITE
- RED
- YELLOW
- GREEN
- BLUE
- BLACK
- ORANGE
- BROWN
- PURPLE
- GREY
- PINK

DATE	REVISIONS	IDEAL MANUFACTURING INC.
11-22-05	ADD FUSE / F2	2011 HARNISH BLVD BILLINGS, MT. 59101 PHONE: 406-656-4360 FAX 406-656-4363
		HYJD-25 TILT-A-WAY ROAD GATE 208/240 VAC MASTER/ SLAVE MASTER GATE

NO SCALE DATE: 05-10-2004 SHEET 1 OF 2 DWG BY PAC DWG # RGHYJD-E200A



**HYDRAULIC TILT-A-WAY
OPERATOR FIELD INSTALLATION
DRAWING RGHY-3002
HYJD-25, HYJD-25E, SSHYJD-25 & SSHYJD-25E**

REF. NO.	DESCRIPTION
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**Note: If gate does not operate on first try, but hydraulic pump runs
switch 2 power lines to reverse pump rotation.**

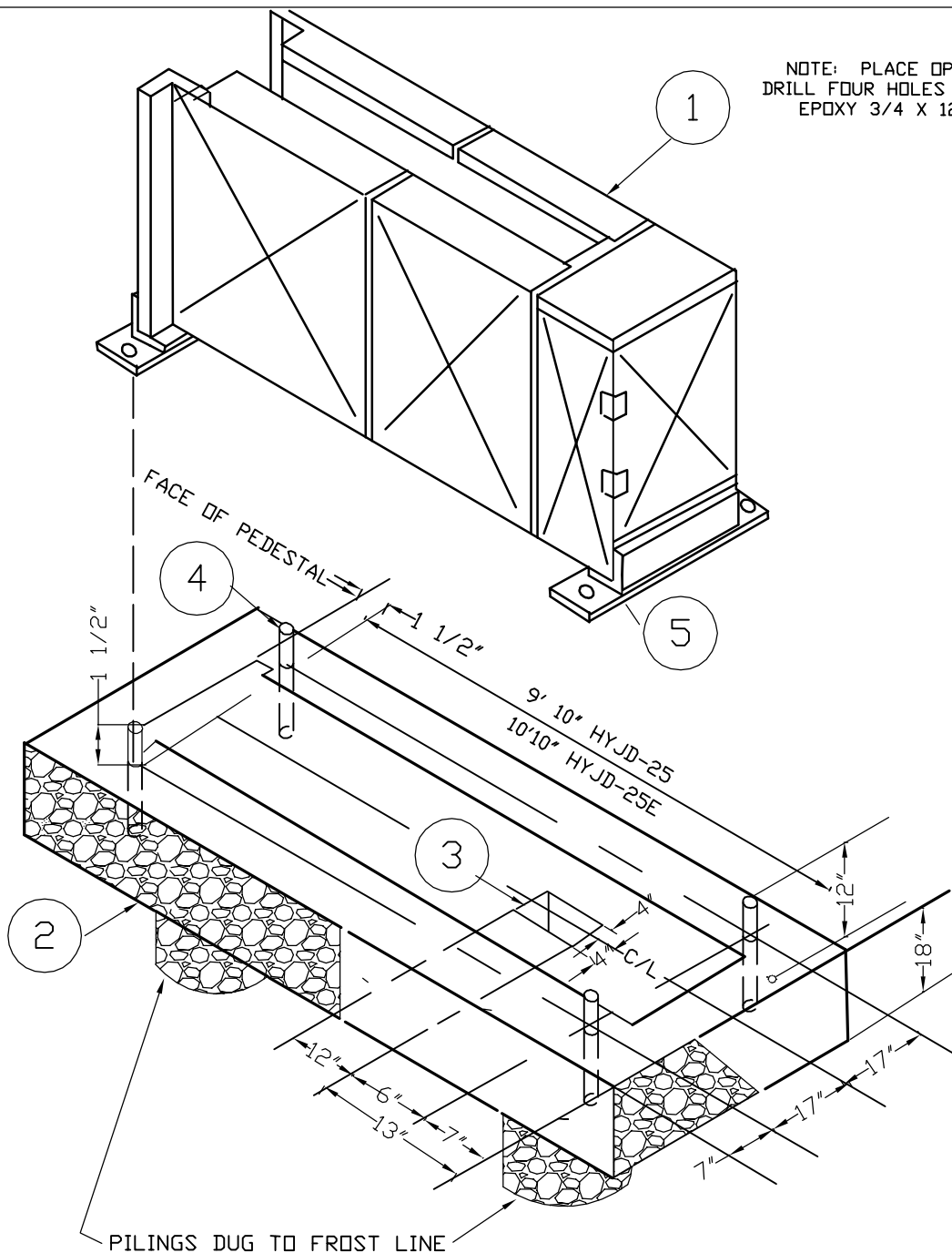
- | | |
|---|--|
| 1 | Control pedestal <u>HYJD-25 & SSHYJD-25</u>
Concrete support slab. Minimum dimensions 11'0" long x 4'0" wide x 1'6" thick. |
| 1 | Control pedestal <u>HYJD-25E & SSHYJD-25E</u>
Concrete support slab Minimum dimensions 12'0" long x 4'0" wide x 1'6" thick.
To be placed on firm soil or compacted fill, reinforced with #4 rebar each way; and cement piling dug to frost line by purchaser
<u>NOTE: Will withstand and estimated 100 MPH wind in most soil conditions.</u> |
| 2 | Electrical conduit area. Stub in electrical supply, 20 Amp service. |
| 3 | Four anchor bolts 3/4" diameter with 2" projection. Set in slab or expansion type. |
| 4 | Two base plates, furnished loose with pedestal. Level with grout and bolt in place. |
| 5 | Four corner field welds. Place pedestal on base plates with exact alignment and weld. |

**TILT-A-WAY
HYDRAULIC OPERATOR INSTALLATION PROCEDURE FOR GATE THAT IS SHIPPED
UNASSEMBLED DRAWING RGHY-3002**

1. Remove all materials used for protection during shipment.
2. Find two base plates, place them over the anchor bolts of prepared foundation. Fasten base plates to concrete pad.
3. Place pedestal on to secured base plates. Align and level pedestal, tack weld in place to insure pedestal does not move when performing steps 4 through 9. Remove lifting hook.
4. Open rear access door to expose spring tension adjustment screws.
5. Find two fluid bypass valves, place in open position.
6. Back off spring tension screws to provide slack in tension cables. (1 5/8" socket needed)
7. Rotate barrier carriage to down position. Remove pivot shaft with attached components. Install barrier and secure to vertical carriage post with three bolts and bolt at outer end of carriage horizontal channel.
8. Place plastic rub washer over pivot shaft collar on carriage. Align cylinder rod end bearing with collar and insert pivot shaft from far side. Secure with flat washer, lock washer and bolt.
9. Tighten spring tension screws while inspecting cables for proper wrap around balance sheaves. When slide members have reached marks indicated on tracks. Proper balance tension will have been achieved. If at a later date minor adjustment should be required, refer to balance system adjusting section.
10. Align gate for permanent position and secure pedestal to base plates with field welds at each corner.
11. Perform required electrical connections in accordance with diagrams shown in this manual.
12. Position fluid bypass valves to closed setting, close and secure access door.
13. If gate fails to function properly, contact manufacturer's representative.

**TILT-A-WAY
HYDRAULIC OPERATOR INSTALLATION PROCEDURE FOR GATE THAT IS SHIPPED
ASSEMBLED DRAWING RGHY-3002**

1. Remove all materials used for protection during shipment.
2. Find base plates, place them over the anchor bolts of prepared foundation, fasten base plates to concrete pad.
3. Place operator and barrier on to secured base plates. Tack weld in place and remove lifting hook.
4. Align gate for permanent position and secure pedestal to base plates with field welds at each corner.
5. Perform required electrical connections in accordance with diagrams shown in this manual.
6. Position fluid bypass valves to closed setting, close and secure access door.
7. If gate fails to function properly, contact manufacturer's representative.



TILT-A-WAY HYDRAULIC OPERATOR FIELD INSTALLATION HYJD-25, HYJD-255E, SSHYJD-25 & SSHYJD-25E

- | | |
|---|---|
| 1. Control Pedestal | |
| 2. Concrete Support Slab | Minimum dimensions 11'-0" long X 4'-0" wide X 1'-6" thick. (HYJD-25, SSHYJD-25) |
| | Minimum dimensions 12'-0" long X 4'-0" wide X 1'-6" thick. (HYJD-25E, SSHYJD-25E) |
| | To be placed on firm soil or compacted fill, reinforced with #4 rebar each way & cement piling dug to frost line by purchaser |
| | NOTE: Will withstand an estimated 100 MPH wind in most soil conditions |
| 3. Electric Conduit Area | Stub in electrical supply, 20 AMP service |
| 4. Four Anchor Bolts 3/4" Diameter X 12". | Drill holes in slab 10" deep minimum and epoxy or expansion type anchor bolts. |
| 5. Two Base Plates welded to Pedestal | Use holes in base plate as guides for 3/4" x 12 stud holes. |

**TILT-A-WAY
HYJD-25, HYJD-25E, SSHYJD-25 & SSHYJD-25E
HYDRAULIC OPERATOR BALANCE SYSTEM ADJUSTMENT
DRAWING RGHY-3003**

TILT-A-WAY road gate must be balanced to offer the least amount of resistance against movement at both up and down extreme positions or combination of both.

Balance adjustment is accomplished by cable tension, cable sheave position or combination of both.

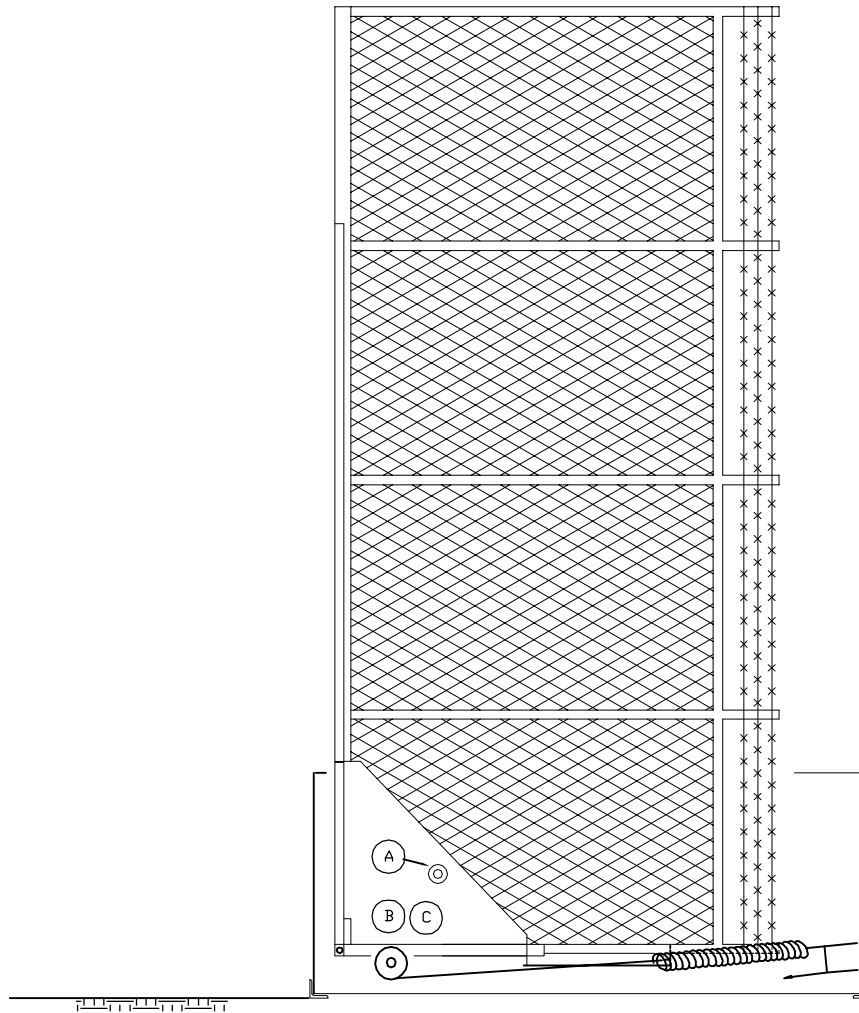
Two cable systems are incorporated and any adjustments preformed at one side must be duplicated on the opposite side.

SAFETY WARNINGS-VERY IMPORTANT

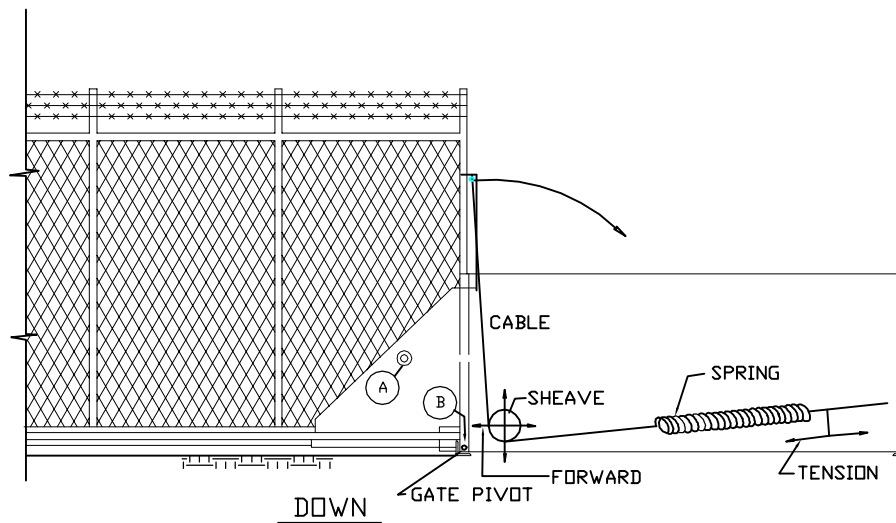
- 1. Before performing any maintenance or adjustment, open main power disconnect switch located adjacent to control panel enclosure. Prior to performing any adjustment, hydraulic fluid bypass valves must be placed in open position.**
- 2. Any adjustment preformed on cable sheave must be preceded by the release of all cable tension at spring connections.**

CONDITIONS AND SOLUTIONS

- 1. Condition: Gate heavy at both up and down positions.
Solution: Increases cable tension.**
- 2. Condition: Gate light at both up and down positions
Solution: Decrease cable tension.**
- 3. Condition: Gate heavy at down position only.
Solution: Lower cable sheave and increase cable tension.**
- 4. Condition: Gate light at down position only.
Solution: Raise cable sheave and decrease cable tension.**
- 5. Condition: Gate heavy at up position only.
Solution: Raise cable sheave and decrease cable tension.**
- 6. Condition: Gate light at up position only.
Solution: Lower cable sheave increase cable tension.**
- 7. Condition: Gate heavy at intermediate positions.
Solution: Move cable sheave forward.**
- 8. Condition: Gate light at intermediate positions.
Solution: Move cable sheave rearward.**



UP



DOWN

HYJD-25, HYJD-25E & SSHYJD-25, SSHYJD-25E TILT-A-WAY HYDRAULIC OPERATOR BALANCE SYSTEM ADJUSTMENT

IDEAL MANUFACTURING INC.

RGHY-3003

**TILT-A-WAY
HYDRAULIC OPERATOR GENERAL ARRANGEMENT
HYJD-25, HYJD-25E, SSHYJD-25, & SSHYJD-25E
RGHY-3006**

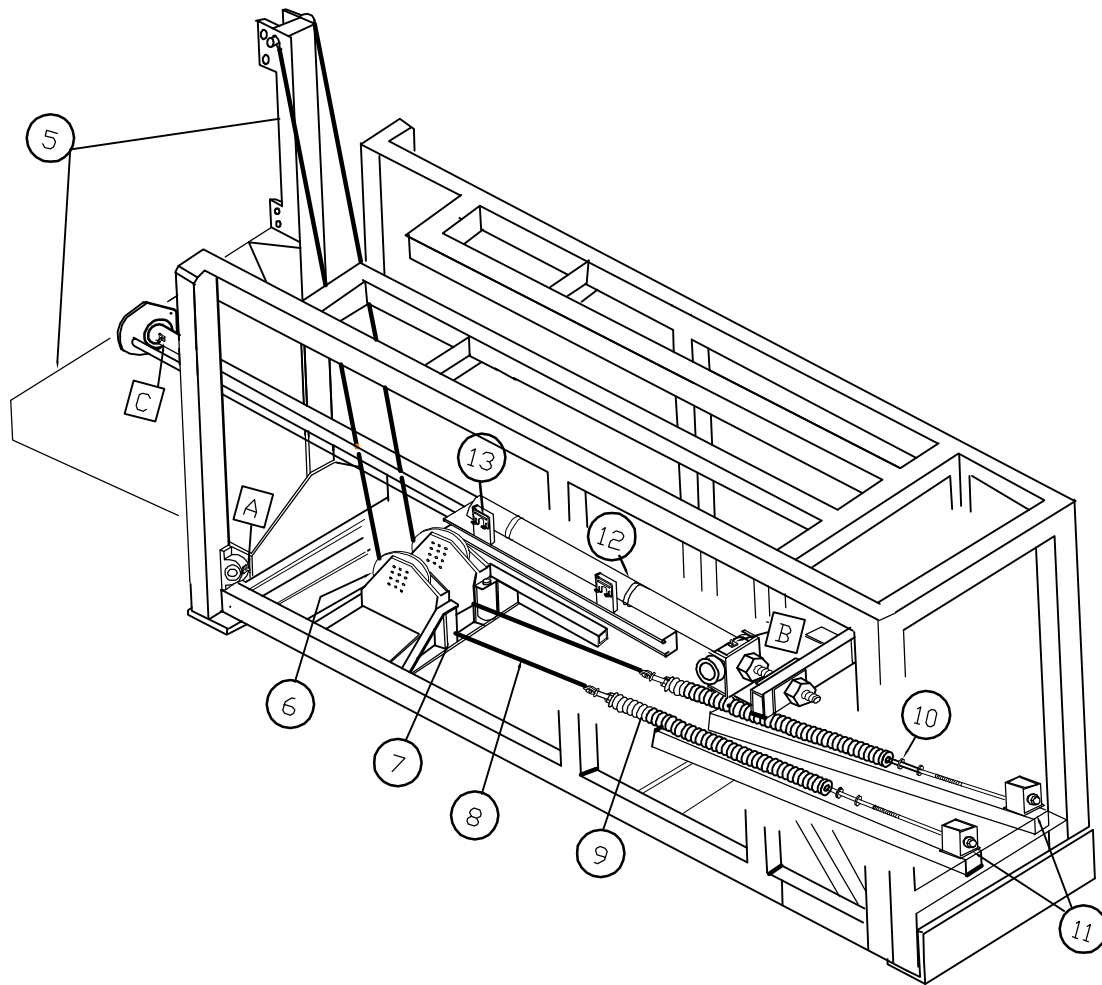
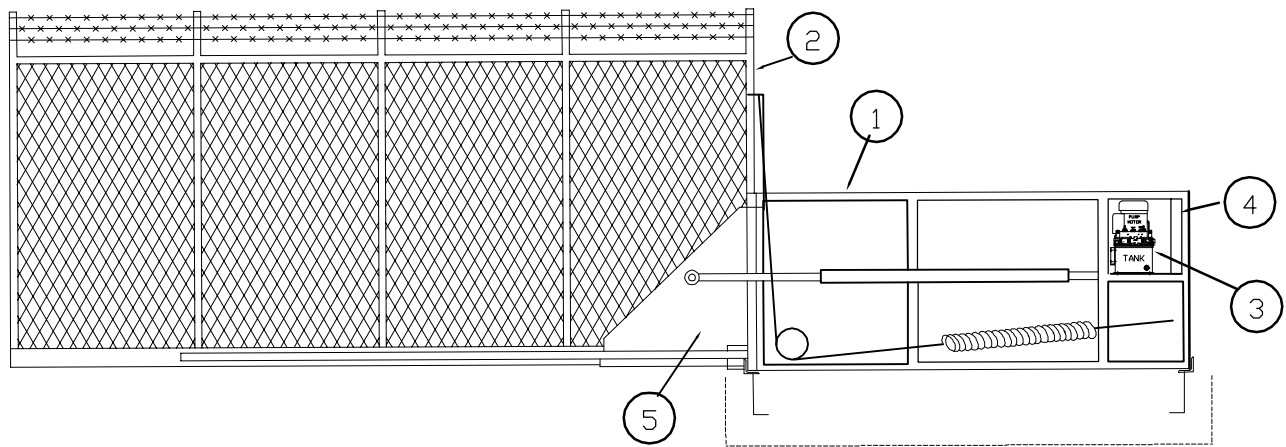
REF NO.	DESCRIPTION	
1	Control Pedestal Frame	For covering. See Drawing RGHY-3005 Page 11
2	Barrier Unit	See Drawing RGHY-3004 Page 20
3	Hydraulic Pump & Reservoir	See Drawing RGHY-3015 Page 27 & Page 31
4	Electrical Control Enclosure	See Drawing RGHY-E200 Page 7
5	Barrier Carriage	See Drawing RGHY-3007 Page 17
6	Balance System Cable Guide Assembly.	See Drawing RGHY-3009 Page 21
7	Balance System Cable Guide Assembly.	See Drawing RGHY-3010 Page 22
8	Balance System Tension Cable	See Drawing RGHY-3009 Page 21
9	Balance system Tension Spring	See Drawing RGHY-3012 Page 25
10	Balance System Spring Tension Adjusting Limit	See Drawing RGHY-3011 Page 25
11	Balance System Spring Tension Release	Power Off Safety Switch. See Drawing RGHY-3013 Page 25
12	Hydraulic Actuating Cylinder	See Drawing RGHY-3008 Page 19
13	Cylinder Control Actuating System	See Drawing RGHY-3008 Page 19

**TILT-A-WAY
RECOMMENDED GENERAL MAINTENANCE
RGHY-3006**

Check interior of pedestal for any accumulation of trash caused by blowing wind and remove.

On regular basis the following maintenance steps should be performed (**Monthly**).

1. Check hydraulic fluid level with site gauge on oil reservoir. Level to be approximately 2 ½" below the top of the pipe. If required, add Dextron #4 hydraulic fluid (same as automatic transmission fluid). Check with cylinder retracted.
2. Clean and lubricate spring tension screws with (general purpose grease) to prevent rusting.
3. Lubricate with (general purpose grease such as a bearing grease) all pints equipped with zerk fitting.
 - A. Barrier carriage pivot bearing.
 - B. Cylinder anchor pivot.
 - C. Cylinder rod end pivot bearing.

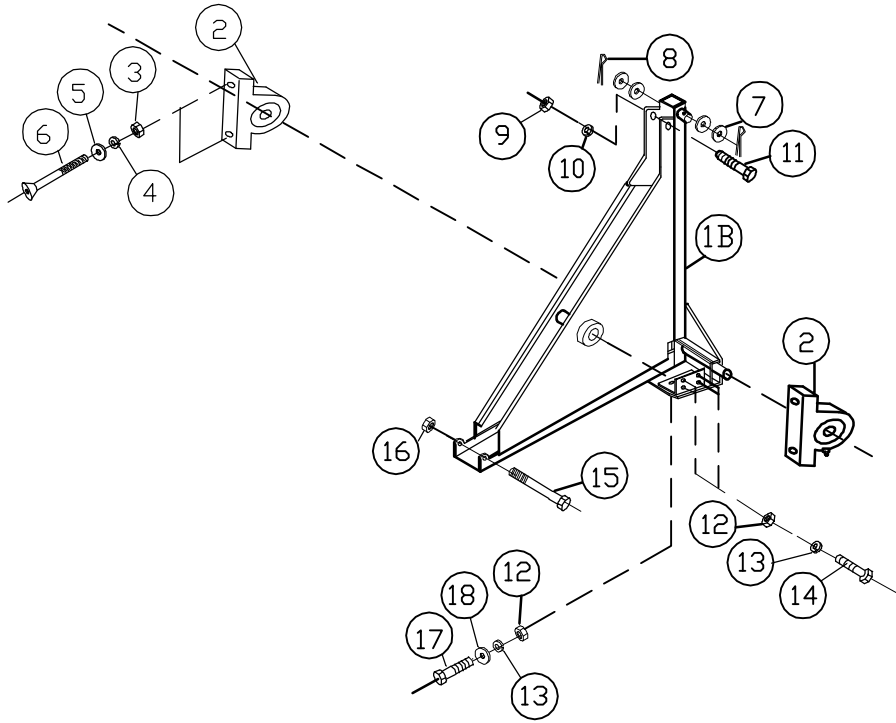


TILT-A-WAY ROAD GATE
 HYJD-25, HYJD-25E, SSHYJD-25 & SSHYJD-25E
 CONTROL PEDESTAL
 GENERAL ARRANGEMENT

**TILT-A-WAY
HYDRAULIC OPERATOR
BARRIER CARRIAGE**

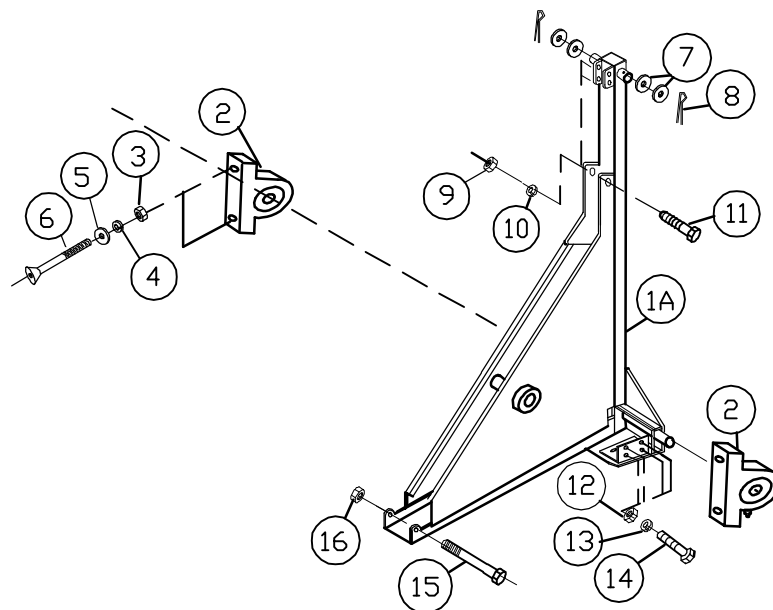
DRAWING RGHY 3007

REF NO.	PART NO.	DESCRIPTION	REQ'D NO.
1A	FGO147-A	Barrier Carriage Frame (standard)	1
1B	FGO147-B	Barrier Carriage Frame (short)	1
2	TWO101	Pillow Block Bearing	2
3	N/A	1/2" Hex Nut	4
4	N/A	1/2" Lock washer	4
5	N/A	1/2" SAE Flat Washer	4
6	N/A	1/2" X 4 1/2" Flat head Bolt	4
7	N/A	1" SAE Flat Washer	4
8	ID1006	3/16" X 1 1/2" Stainless Cotter Pin	2
9	N/A	5/8" Hex Nut	3-(1A) 1-(1B)
10	N/A	5/8" Lock washer	3-(1A) 1-(1B)
11	N/A	5/8" x 3 1/4" Hex Head Bolt	3-(1A) 1-(1B)
12	N/A	3/8" Hex Nut	8
13	N/A	3/8" Lock washer	8
14	N/A	3/8" X 2 1/4" Hex Head Bolt	8
15	N/A	1/2" X 5 1/2" Hex head Bolt	1
16	N/A	1/2" Nylock Nut	1
17	N/A	3/8" X 1 1/2" Hex Head Bolt	2
18	N/A	3/8" Flat Washer	4



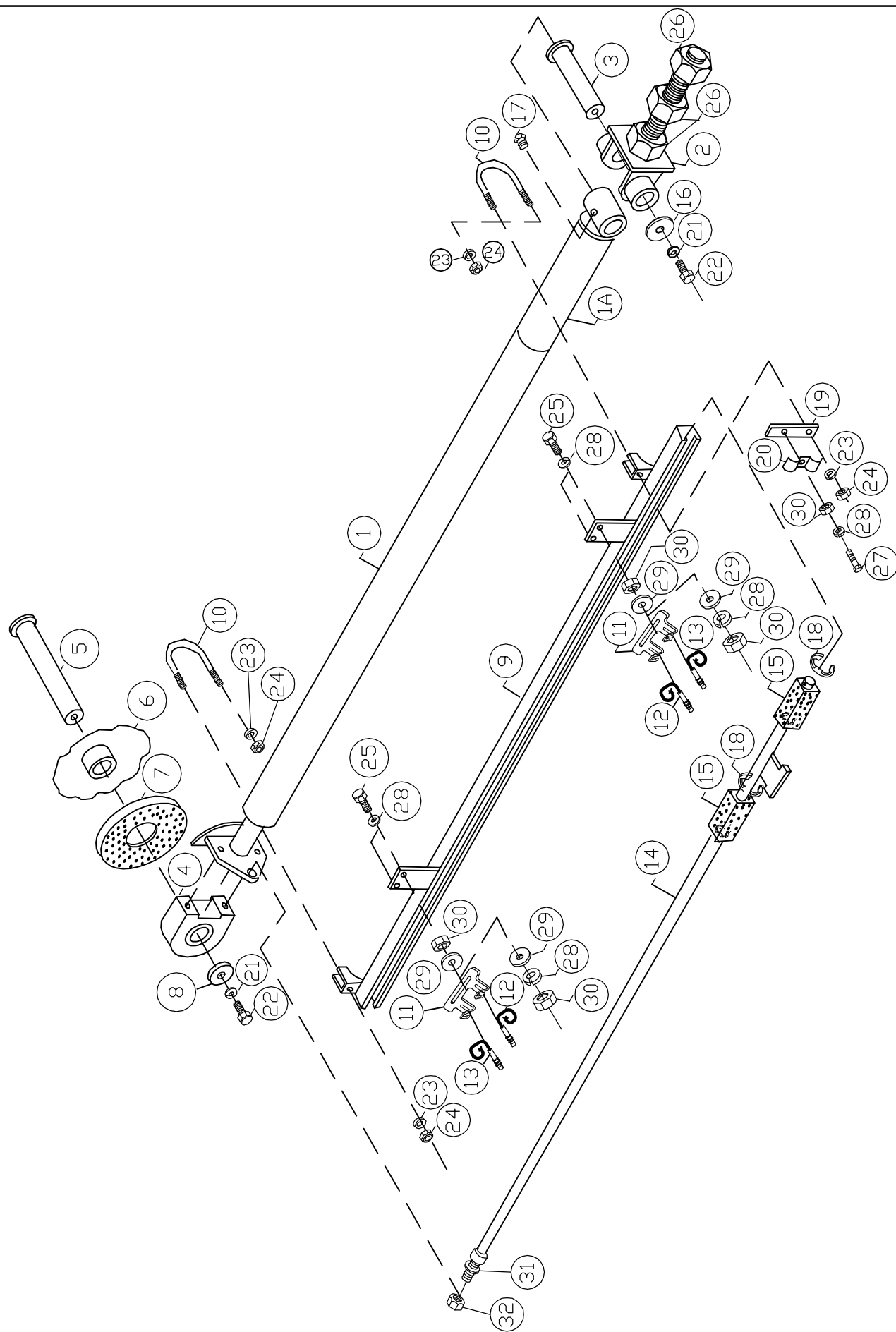
TILT-A-WAY ROAD GATE BARRIER - SHORT CARRIAGE

TILT-A-WAY ROAD GATE BARRIER- STANDARD CARRIAGE

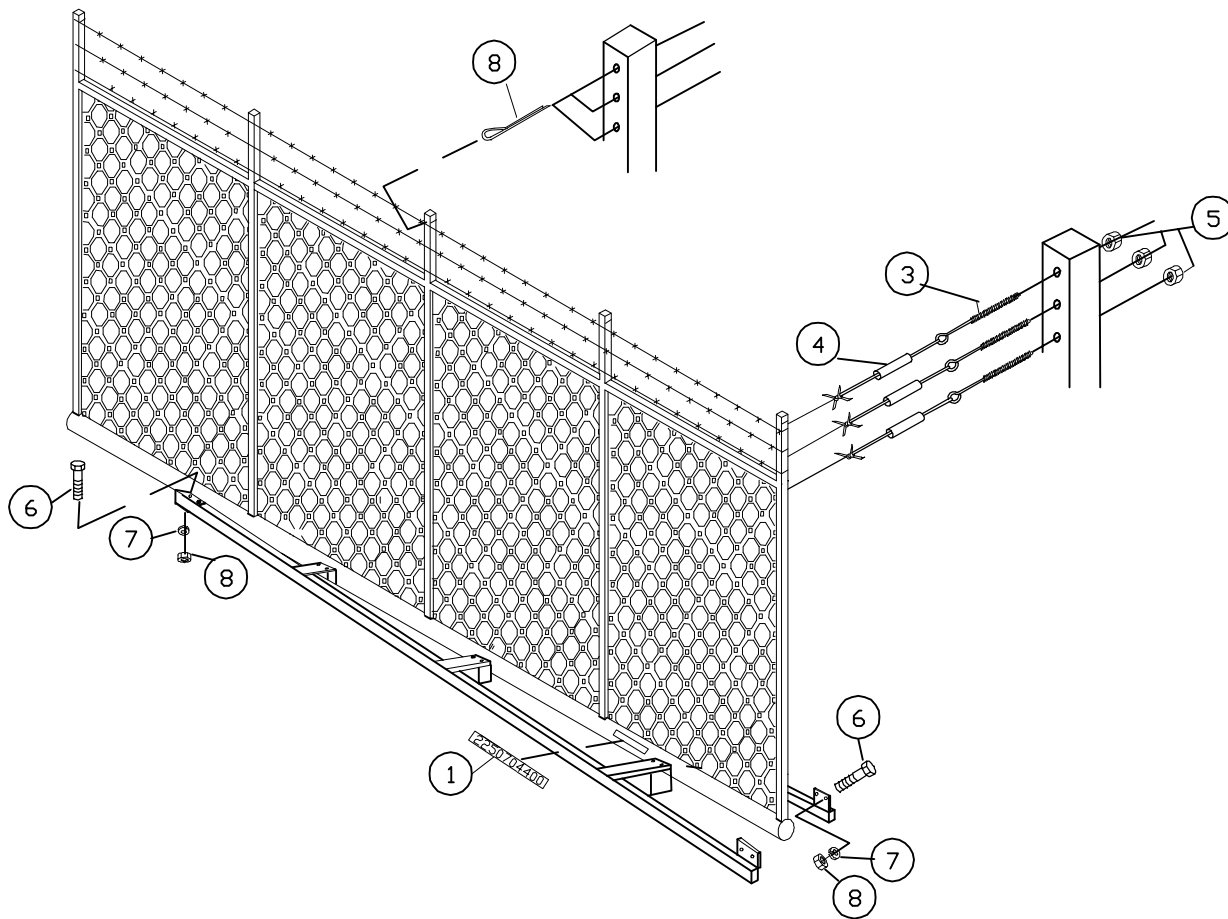


**TILT-A-WAY
HYDRAULIC OPERATOR
ACTUATING CYLINDER WITH COMPONENTS
HYJD-25, HYJD-25E, SSHYJD-25 & SSHYJD-25E
RGHY-3008**

REF NO.	PART NO.	DESCRIPTION	REQ'D NO.
1	TWO400	Hydraulic Cylinder	1
1A	TWO401	Hydraulic Cylinder Extended Operator	1
2	FGO187	Foot Clevis Assembly	1
3	FGO118	Foot Clevis Pivot Shaft	1
4	TWO118	Rod End Pivot Bearing	1
5	FGO198	Rod End Pivot Shaft	1
6	N/A	Pivot Shaft Collar on Barrier Carriage (See Drawing RGHY 3007)	1
7	FGO199	Plastic Rub Washer	1
8	FGO208	Bearing Sleeve Pressure Washer	1
9	FGO401	Cylinder Actuator Track	1
10	TWO119	Actuator Track Clamp	2
11	FGO400	Adjustable Mount Plate	2
12	PEO401	Slow Down Proximity Switch NO	2
13	PEO400	Limit Proximity Switch NC	2
14	FGO402	Control Actuator Rod	1
15	FGO194	Plastic Runner Bearing	2
16	FGO208	Shaft Pressure Washer	1
17	ID1030	Grease Zerk	1
18	ID1031	Oil Ring	4
19	FGO211	Hydraulic Hose Support	1
20	FGO206	Hydraulic Hose Clamp	1
21	NA	1/2" Lock washer	2
22	N/A	1/2" X 1" Hex Head Bolt	2
23	N/A	3/8" Lock washer	5
24	N/A	3/8" Hex Nut	5
25	NA	1/4" X 1 1/4" Hex Head Bolt	5
26	NA	1 1/2" Hex Nut	3
27	NA	1/4" X 1" Hex Head Bolt	1
28	NA	1/4" Lock washer	9
29	NA	1/4" SAE Flat Washer	8
30	NA	1/4" Hex Nut	9
31	N/A	3/4" Lock washer	1
32	N/A	3/4" Hex Nut	2



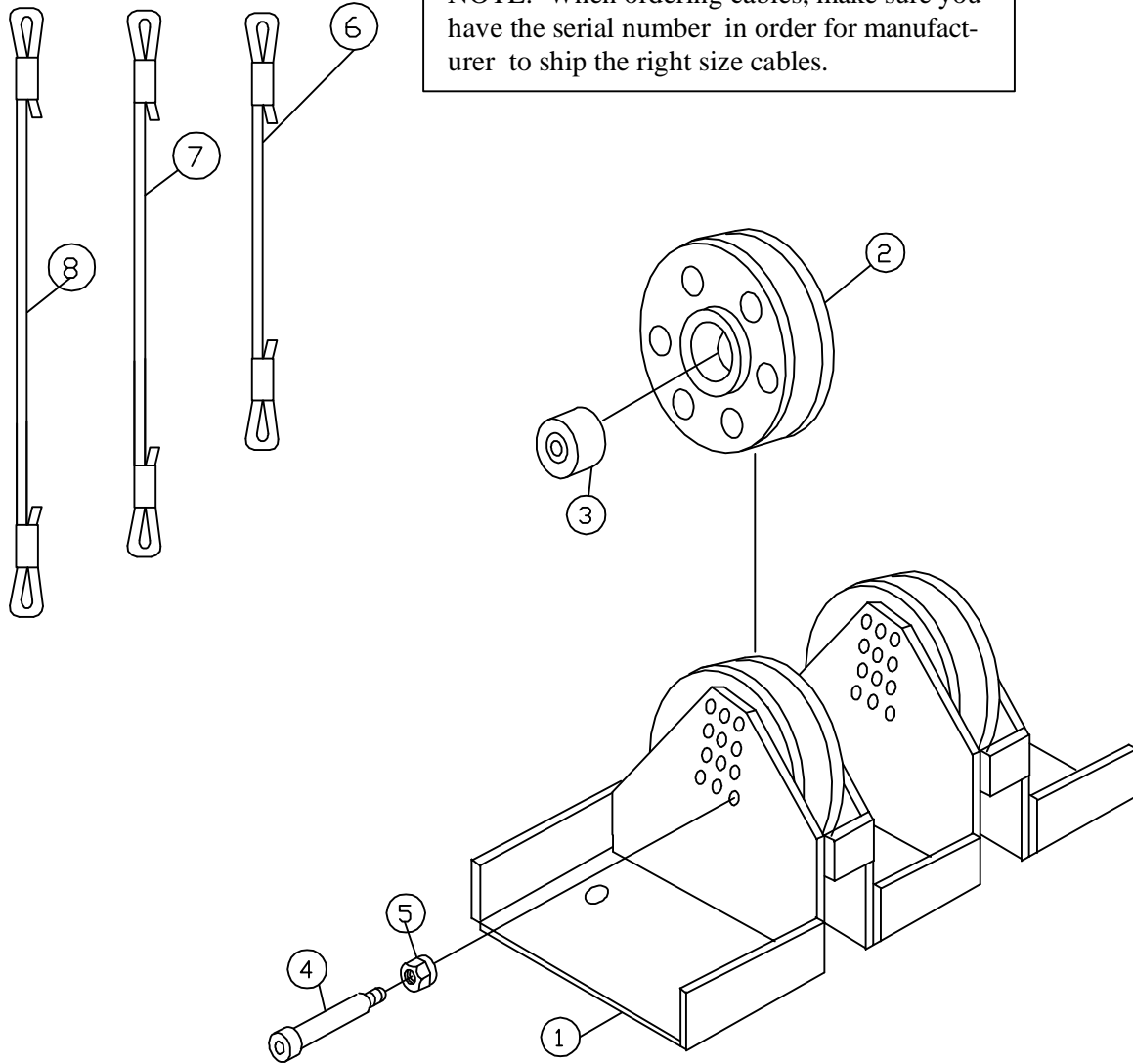
ACTUATOR CYLINDER WITH COMPONENTS



TILT-A-WAY HYDRAULIC ROAD GATE BARRIER UNIT
HYJD-25, HYJD-25E & SSHYJD-25 & SSHYJD 25E

REF NO.	PART NO.	DESCRIPTION	REQ NO
1		Barrier serial # decal	
		Barrier assemblies are manufactured from steel or aluminum material and in varied lengths and heights.	
		When contacting manufacturer regarding a TILT-A-Way gate, always provide complete serial number.	
2	ID1066	3/16" x 2 1/2 Stainless Steel Cotter Pin - 3 per inside tube	
3	ID1063	5/16 x 4" Eye Bolts (3 per end)	6
4	ID1064	Wire Crimp	6
5	N/A	5/16" Hex Nut	6
6	N/A	3/8" x 2 1/4" Hex Bolt for Aluminum Brace or 3/8" x 2" Hex Bolt for Steel Brace	6
7	N/A	3/8" Lock Washer	6
8	N/A	3/8" Hex Nut	6

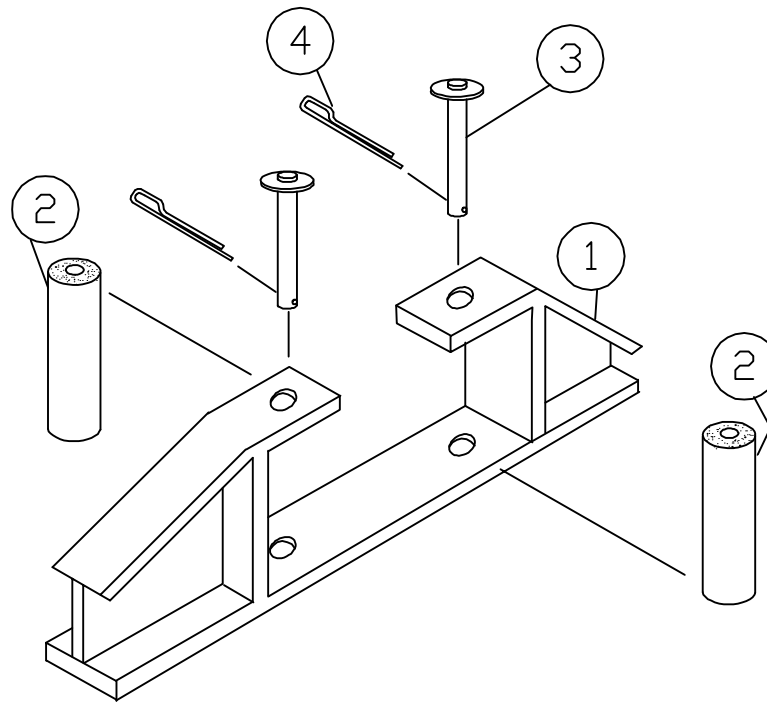
NOTE: When ordering cables, make sure you have the serial number in order for manufacturer to ship the right size cables.



TILT-A-WAY HYDRAULIC ROAD GATE OPERATOR
HYJD-25, HYJD-25E & SSHYJD-25 & SSHYJD 25E

BALANCE SYSTEM CABLE & SHEAVE

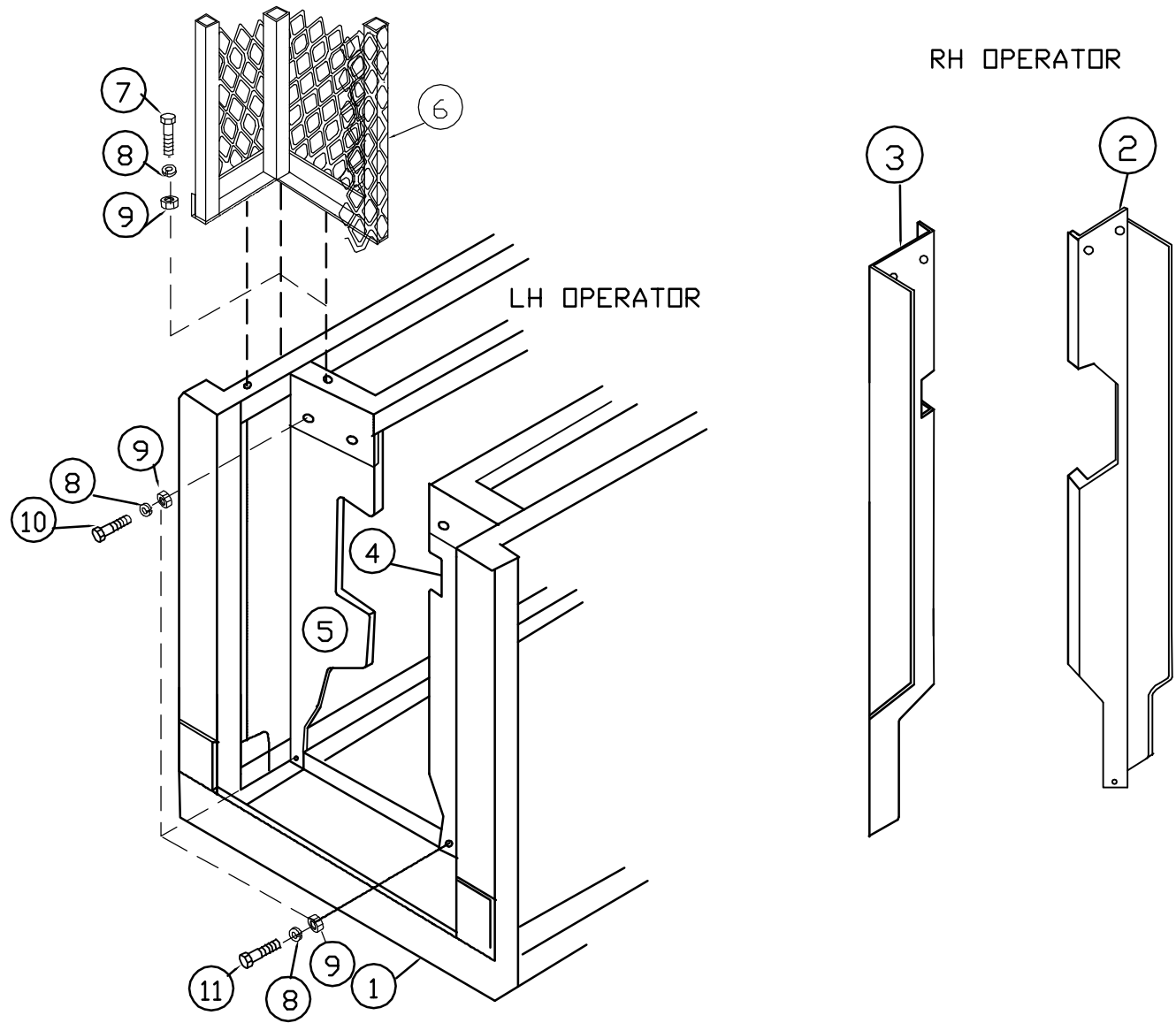
REF. NO.	PART NO.	DESCRIPTION	REQ. NO.
1	NA	Sheave Mount on Pedestal Frame	
2	TWO 105	Cable Sheave	2
3	TWO106	Bearing "Lock Tight"	2
4	TWO103	Sheave Shaft	2
5	NA	1/2" Lock Nut	2
6	TWO110-1	Tension Cable 72 1/2"	2
7	TWO110-2	Tension Cable 95 1/2"	2
8	TWO110-3	Tension Cable 107 1/2"	2



**TILT-A-WAY HYDRAULIC ROAD GATE OPERATOR
HYJD-25, HYJD-25E & SSHYJD-25 & SSHYJD 25E**

BALANCE SYSTEM CABLE GUIDE

REF. NO.	PART NO.	DESCRIPTION	REQ. NO.
1	NA	Support Carriage on Pedestal Frame	
2	FGO127	Plastic Roller	2
3	FGO128	Shaft	2
4	IDI006	3/16" x 1 1/2" Stainless Cotter Pin	2

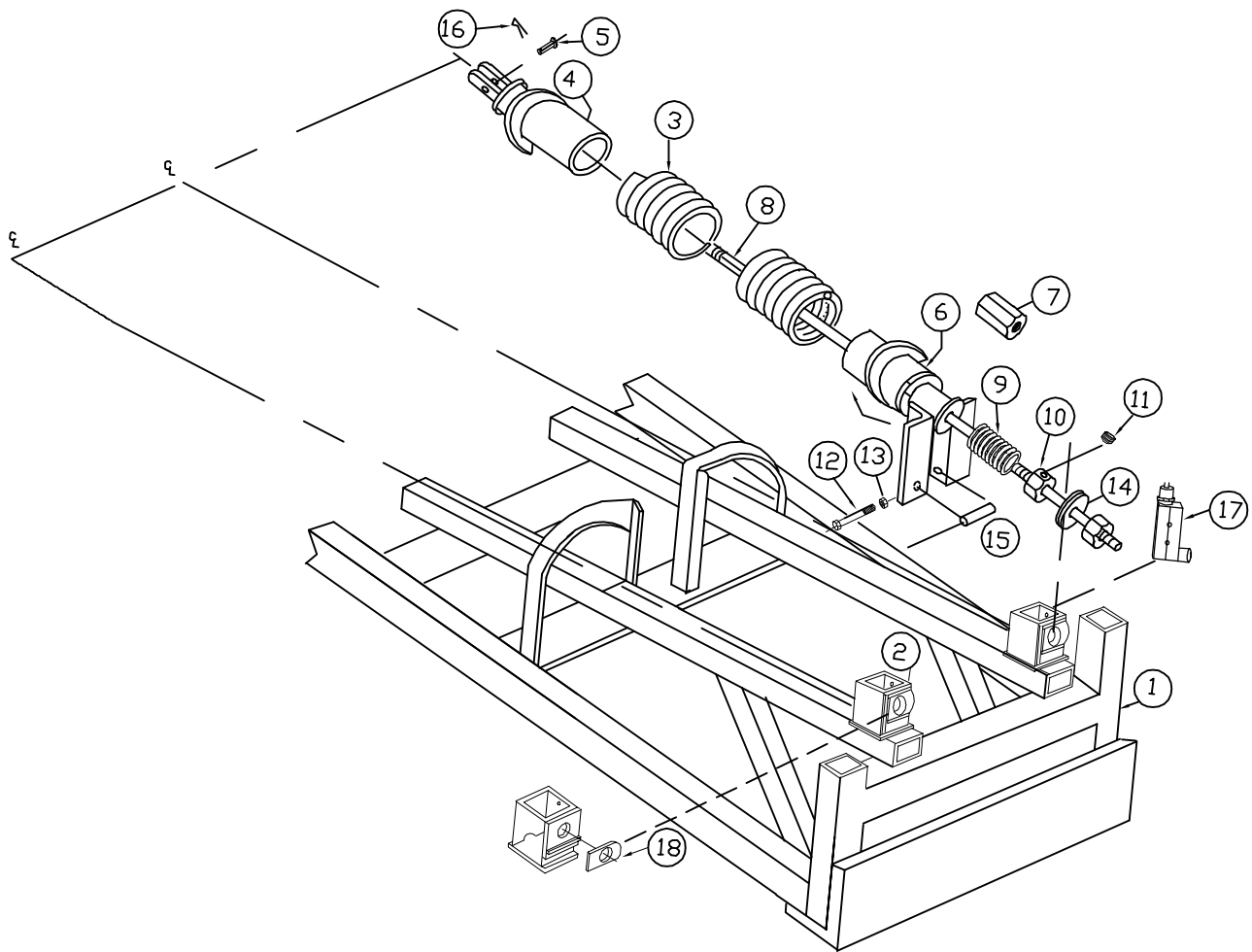


TILT-A-WAY HYDRAULIC ROAD GATE ACCESS GUARDS
HYJD-25, HYJD-25E & SSHYJD-25 & SSHYJD 25E

REF NO.	PART NO.	DESCRIPTION	REQ NO
1	N/A	Pedestal Frame	1
2	FGO404	Left Inner Guard for Right Hand Gate	1
3	FGO405	Right Inner Guard for Right Hand Gate	1
4	FGO404A	Left Inner Guard for Left Hand Gate	1
5	FGO405A	Right Inner Guard for Left Hand Gate	1
6	FGO175	Outer Guard Aluminum Amplimesh	1
7	NA	3/8" x 2 3/4" Hex Head Bolt	2
8	N/A	3/8" Lock Washer	8
9	N/A	3/8" Hex Nut	8
10	N/A	3/8" x 3/4" Hex Head Bolt	4
11	N/A	3/8" x 1 1/2" Hex Head Bolt	2

**TILT-A-WAY
HYDRAULIC OPERATOR
BALANCE SYSTEM SPRING TENSIONER UNIT
DRAWING RGHY 3011
(2 ASSEMBLIES INCLUDED)**

REF NO.	PART NO.	DESCRIPTION	REQ'D NO.
1	N/A	Pedestal Frame	
2	N/A	Safety Device Brackets (See Detail 2 & 18)	
3		Tension Spring	
	TWO137	500 Pound	2 Blue
	TWO138	1000 Pound	2 Yellow
	TWO139	1500 Pound	2 Orange
	TWO112	1750 Pound	2 Green
	TWO140	2000 Pound	2 Red
	TWO113	2500 Pound	2 White
4		Front Spring Connector	
	FGO168	500 or 1000 Pound Spring	2
	FGO170	1500 or 1750 Pound Spring	2
	FGO171	2000 or 2500 Pound Spring	2
5	TWO104	Clevis Pin	2
6		Rear Spring Connector	
	FGO139	500 or 1000 Pound Spring	2
	FGO157	1500 or 1750 Pound Spring	2
	FGO159	2000 or 2500 Pound Spring	2
7	TWO155	Threaded Bronze Hex Stock Encased in Item 6	2
8	FGO130	Tension Screw with End Nut Welded	2
9	TWO133	Safety Compression Spring	2
10	FGO131	Safety Nut	2
11	TWO108	Set Screw	2
12	N/A	½" x 3" Hex Head Bolt	2
13	N/A	½" Lock Nut	2
14	N/A	1" SAE Washer	4
15	FGO174	Pipe Spacer	2
16	ID1061	Cotter Pin	2
17	PEO611	Safety Switch	2
18	FGO161	Safety Release Bar	2



TILT-A-WAY HYDRAULIC ROAD GATE BALANCE SYSTEM
 SPRING TENSIONER UNIT
 HYJD-25, HYJD-25E & SSHYJD-25 & SSHYJD 25E

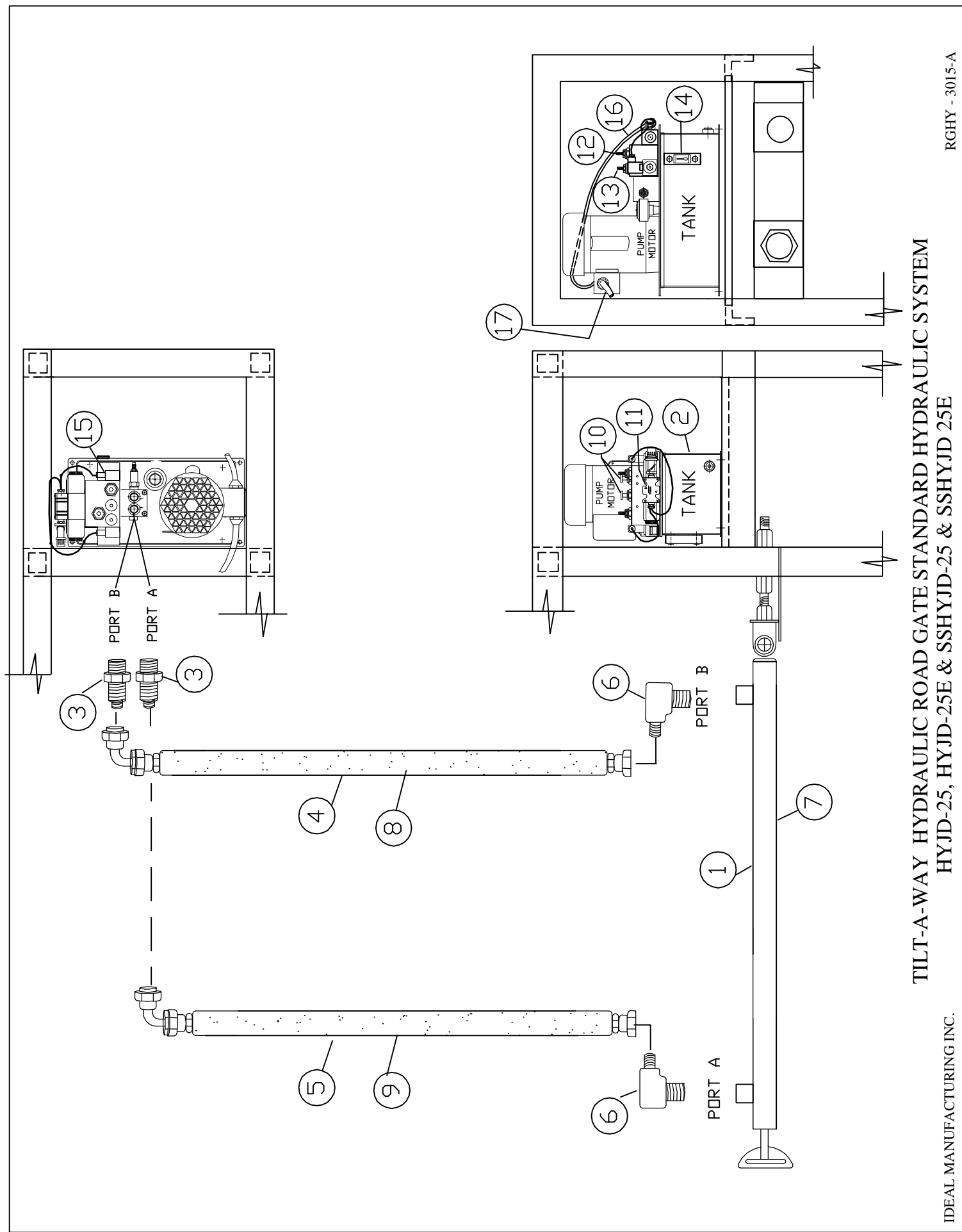
**TILT-A-WAY
HYDRAULIC OPERATOR
STANDARD HYDRAULIC SYSTEM**

DRAWING RGHY 3015-A

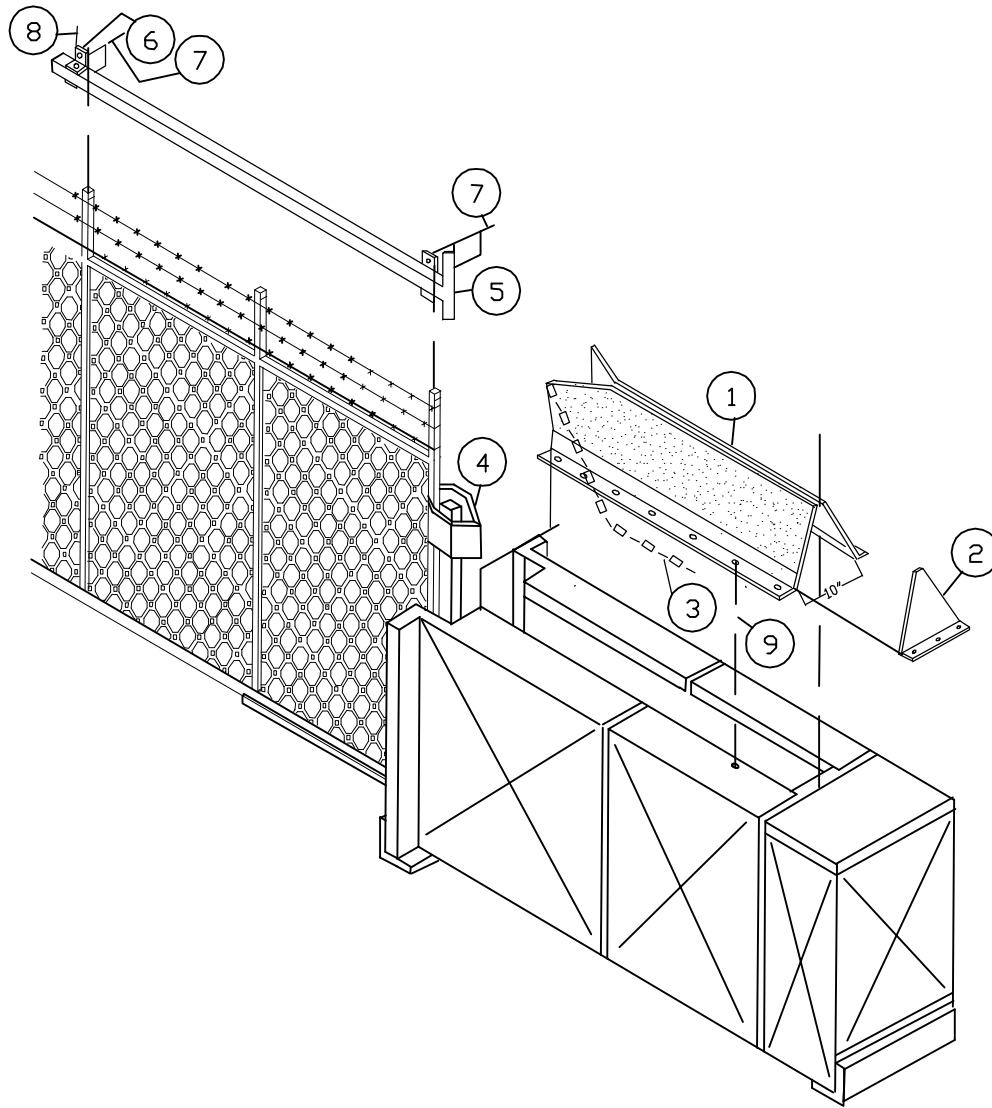
REF NO.	PART NO.	DESCRIPTION	REQ'D NO.
1	TWO400	Standard Hydraulic Cylinder	1
2	TWO410	Hydraulic Pump & Reservoir Set	1
3	TWO411	#8 O Ring Male NPT X 3/8" JIC Adapter	2
4	TWO402	Short 3/8" Pressure Hose 36"	1
5	TWO166	Long 3/8" Pressure Hose 98"	1
6	TWO154	90 degree Elbow	2
10		Manual Override Valves	2
11		Solenoid	1
12		Cylinder slow down open	1
13		Cylinder slow down closed	1
14		Sight Gauge	1
15		Directional Valves	2
16		Conduit	1
17		Conduit to Electrical Box	1

**EXTENDED HYDRAULIC SYSTEM
DRAWING RGHYE 3015-A**

REF NO	PART NO	DESCRIPTION	REQ NO
7	TWO401	Extended Hydraulic Cylinder	1
8	TWO403	Extended Short 3/8" Pressure Hose 46"	1
9	TWO165	Extended Long 3/8" Pressure Hose 107"	1

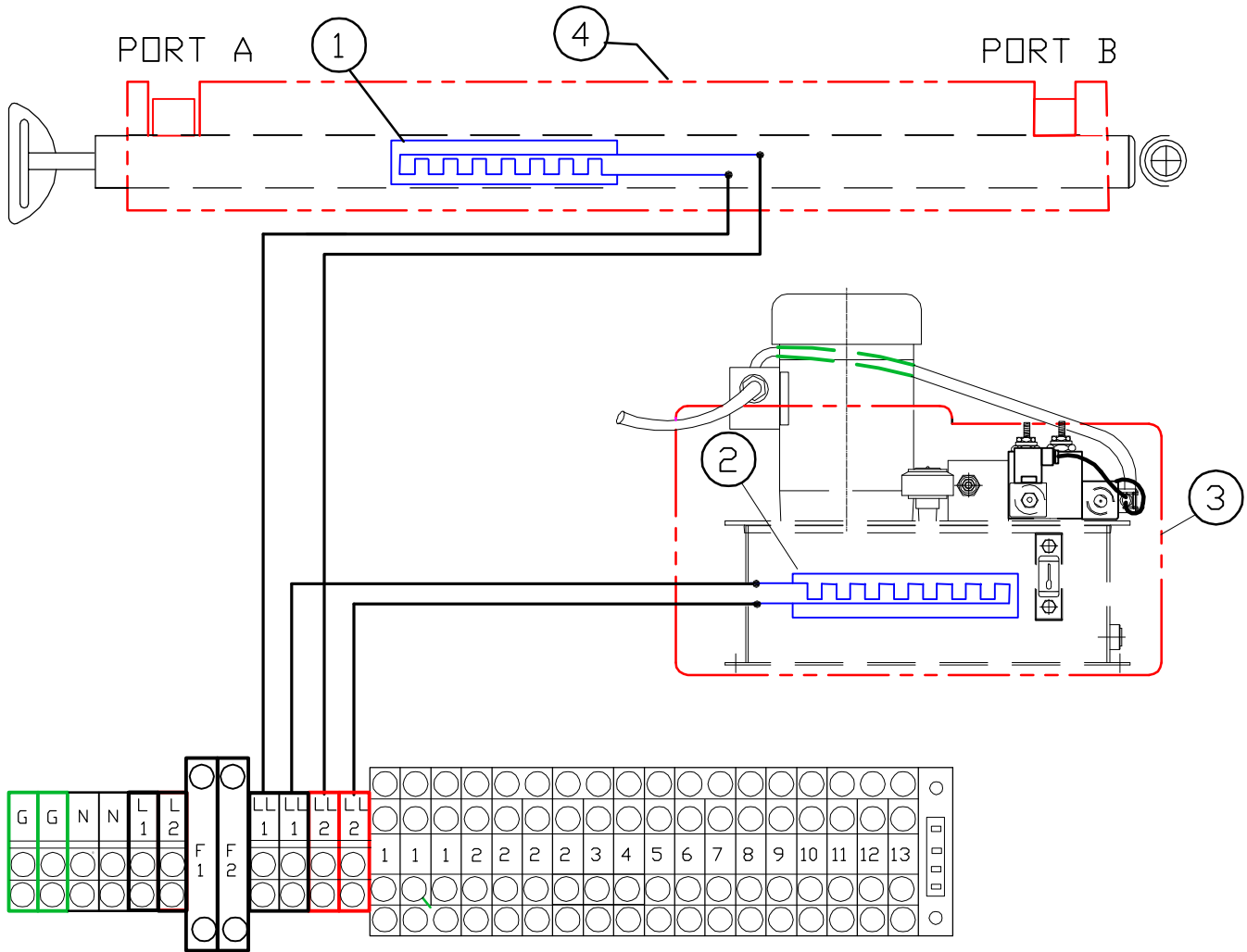


TILT-A-WAY HYDRAULIC ROAD GATE STANDARD HYDRAULIC SYSTEM
 HYJD-25, HYJD-25E & SSHYJD-25 & SSHYJD 25E



**TILT-A-WAY HYDRAULIC ROAD GATE
WEATHER GUARD OVERHEAD PROTECTION
HYJD-25, HYJD-25E & SSHYJD-25 & SSHYJD 25E**

REF NO.	PART NO.	DESCRIPTION	REQ NO
1	FGO213	Right Hand Flexible Shroud Unit	1
	FGO109	Left Hand Flexible Shroud Unit	1
2	FGO203	Rear End Cap	1
3	TWO161	Front Spreader Chain with Extra Length for Adjustment	2
4	FGO204	Cable Connection Guard	1
5	FGO210	Barbed Wire Guard	1
6	FGO211	Barbed Wire Guard End Bracket	1
7	N/A	1/4" x 2 3/4" Bolt with Nut & Lock	4
8	N/A	1/4" x 1 3/4" Bolt with Nut & Lock Washer	1
9	N/A	#12 X 7/8" TEK Screws	req'd



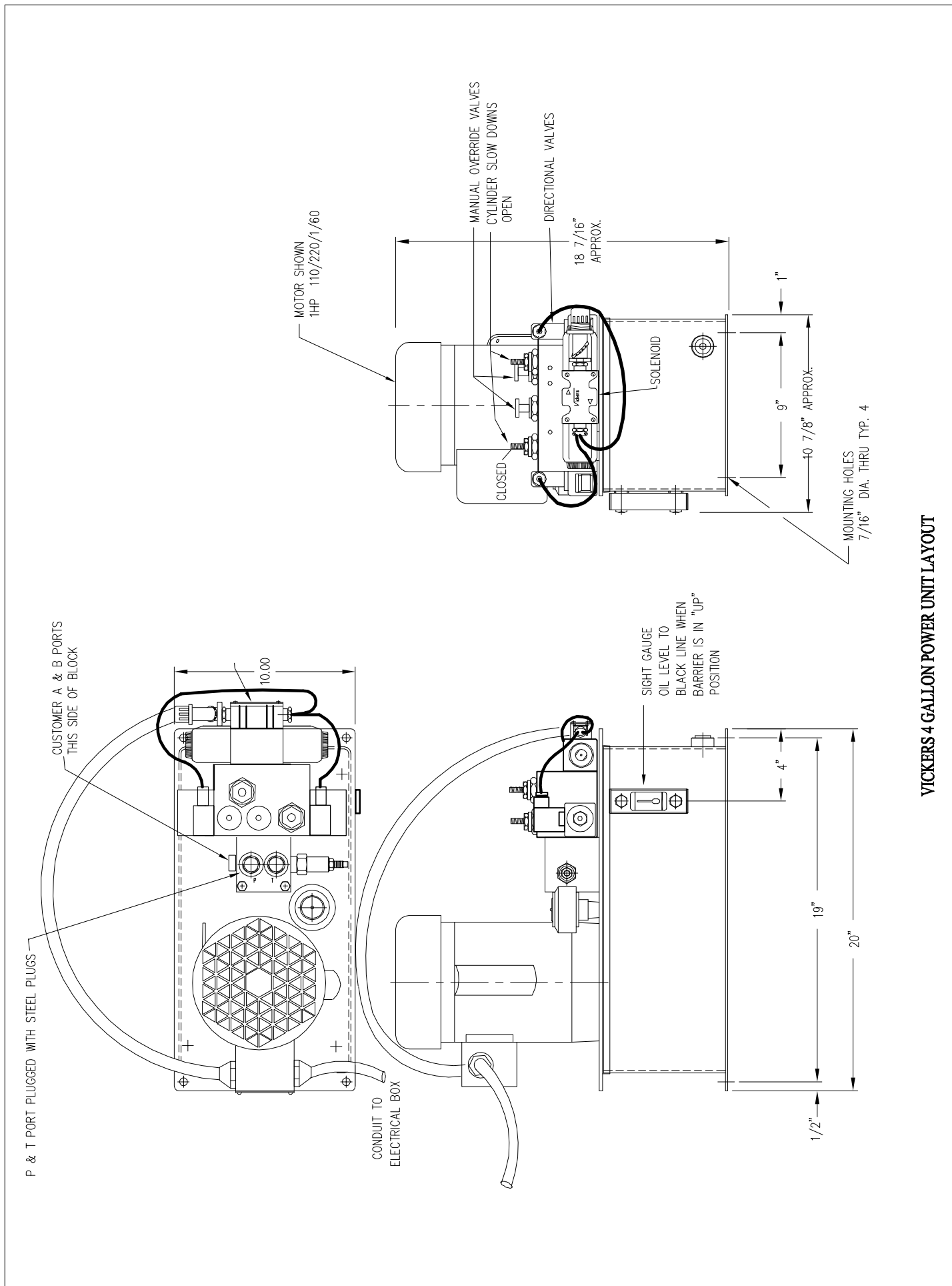
**TILT-A-WAY HYDRAULIC ROAD GATE
HYJD-25, HYJD-25E & SSHYJD-25 & SSHYJD 25E**

COLD WEATHER PACKAGE

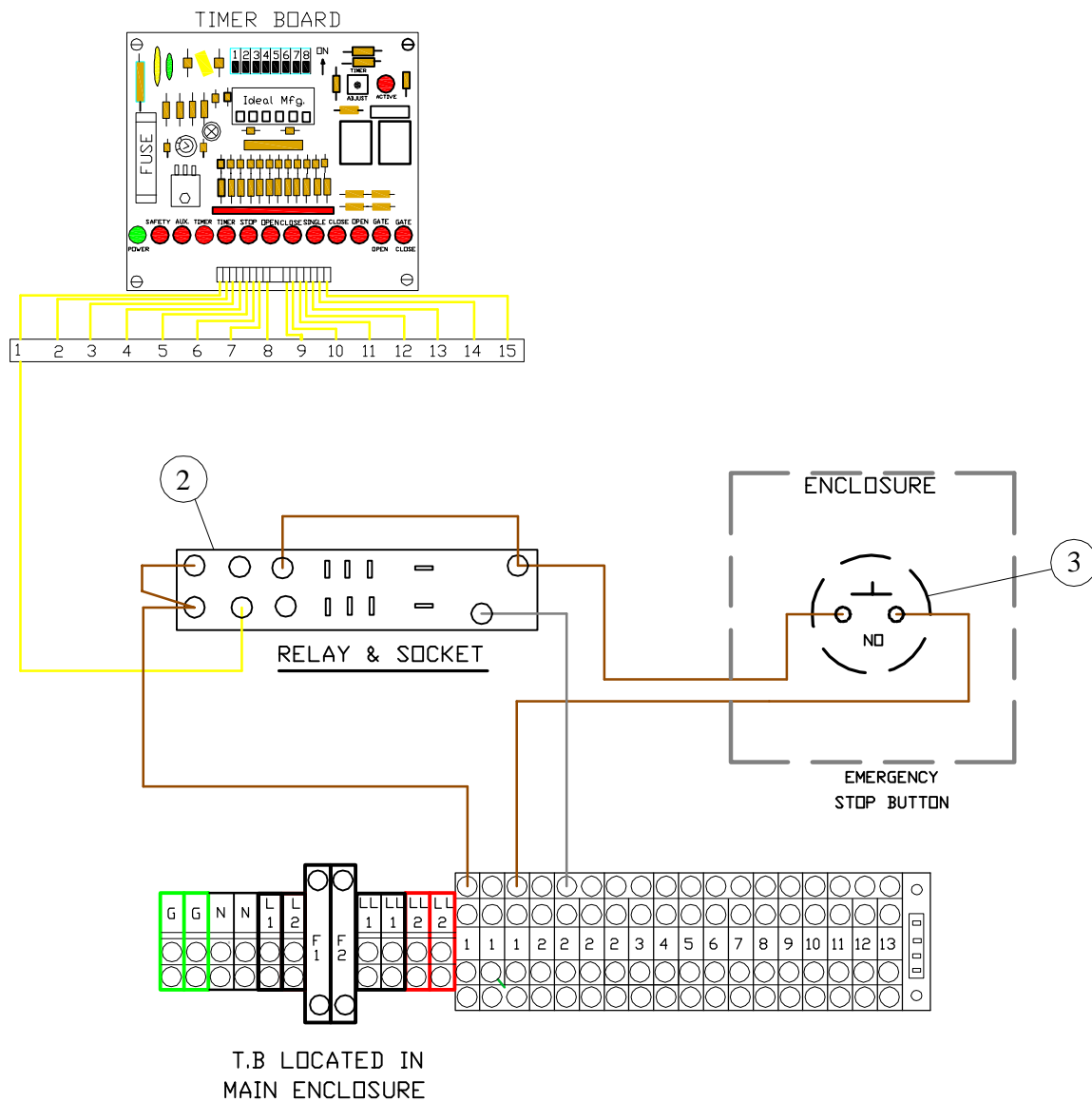
REF. NO.	PART NO.	DESCRIPTION	REQ. NO.
1	PEO247	Cylinder Heating Strip With Thermostat	1
2	PEO249	Pump Heating Strip With Thermostat	1
3	PEO420	Hydraulic Pump & Reservoir Insulating Cover	1
4	PEO421	Cylinder Insulating Cover	1

**TILT-A-WAY
HYDRAULIC OPERATOR
BILL OF MATERIALS POWER UNIT
4 GALLON POWER UNIT LAYOUT**

PART NO.	DESCRIPTION	REQ'D NO.
723629	Custom Reservoir	1
3004871-35	Hyco Sight Gauge	1
382065-4/V101S2S11D20	Vickers Pump	1
3004825-11	Baldor Electric Motor	1
SP-02948-00	Filter Air Vent ¾ NPT	1
AD03P12S/C DO3 1 station	Damon Manifold W/Relief Cavity	1
02-113123/RV5-10-S-0-35/30	Vickers Relief Cartridge	1
02-145150/DG4V-3S-8C-VM-FW-B5-61	Vickers Control Valve	1
02-199679/MCD-8289	Custom Valve Assembly	1
02-178114	Custom Valve Coil	1
565542/SV4-10-00	Custom Valve Solenoid Valve Cartridge	1
02-113019/FCV7-10-S-0NVF	Custom Valve Slow Down Cartridge	2
565590/NV1-10-K-0	Custom Valve Emergency Open Cartridge	1



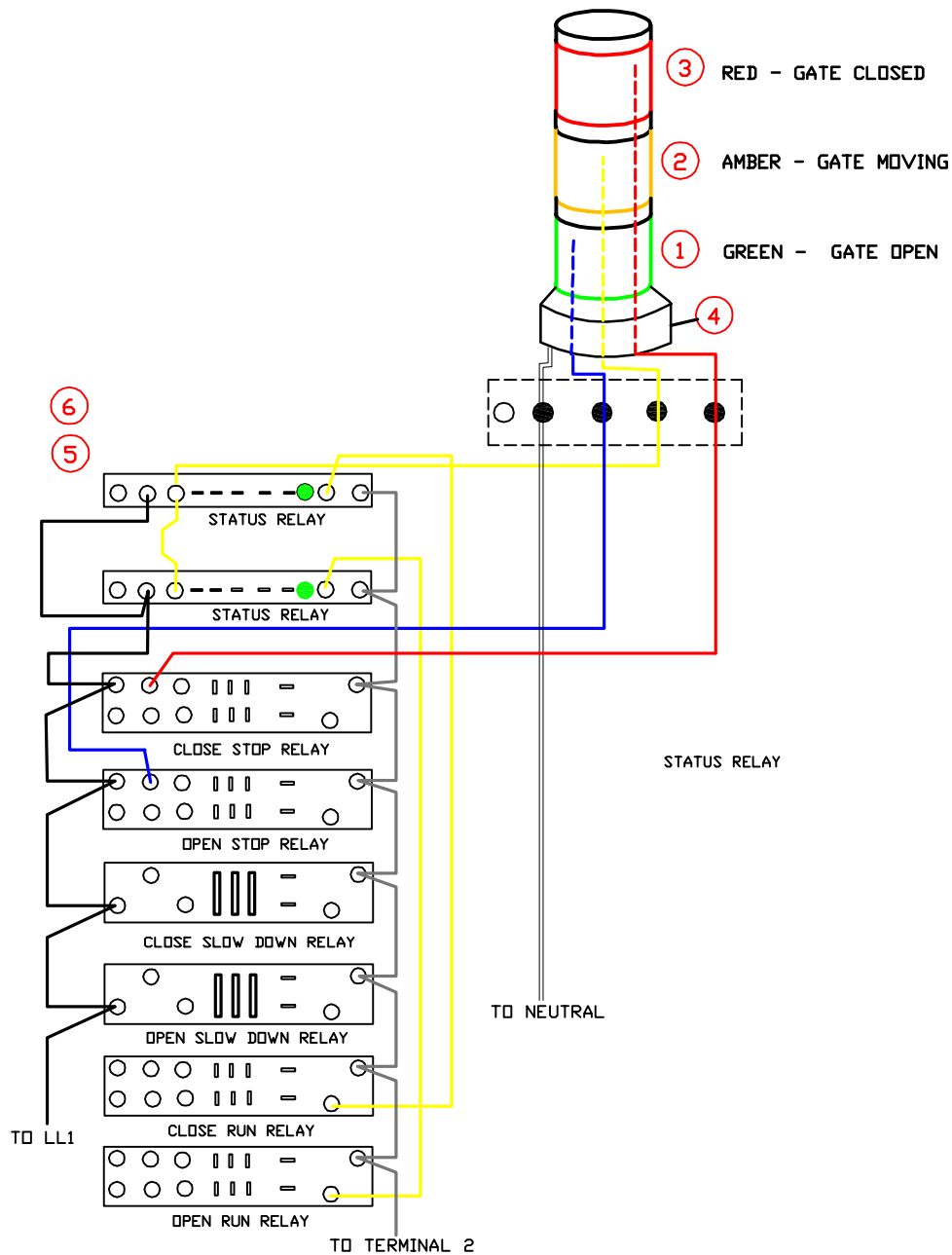
VICKERS 4 GALLON POWER UNIT LAYOUT



TILT-A-WAY HYDRAULIC ROAD GATE OPERATOR HYJD-25, HYJD-25E & SSHYJD-25 & SSHYJD 25E

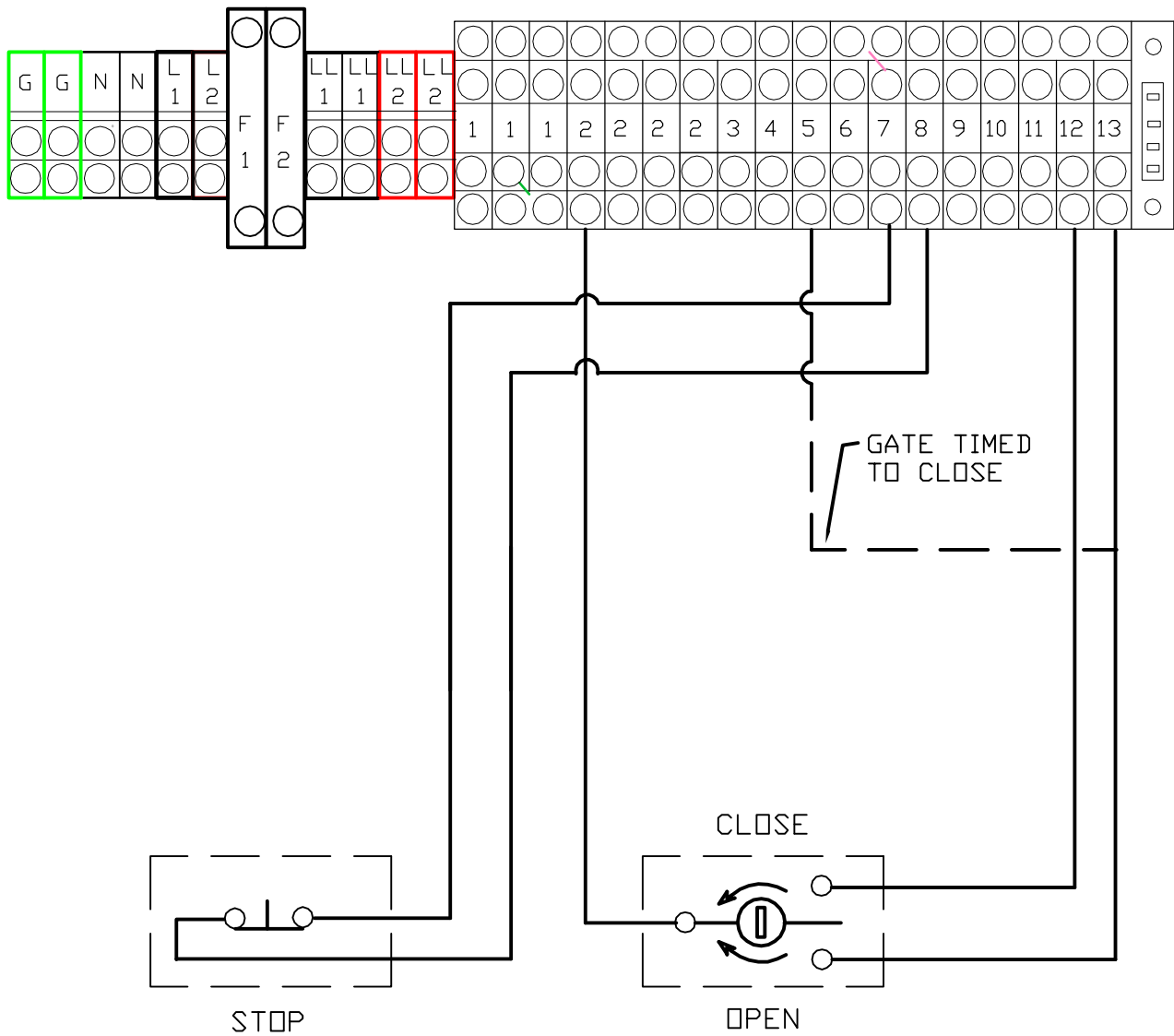
EMERGENCY STOP COMPONENTS

REF. NO.	PART NO.	DESCRIPTION	REQ. NO.
1	PEO606	Relay (not shown)	1
2	PEO606A	Socket, Relay	1
3	PEO257	Emergency Stop Button	1



**TILT-A-WAY HYDRAULIC ROAD GATE OPERATOR
HYJD-25, HYJD-25E & SSHYJD-25 & SSHYJD 25E
SAFETY WARNING LIGHT**

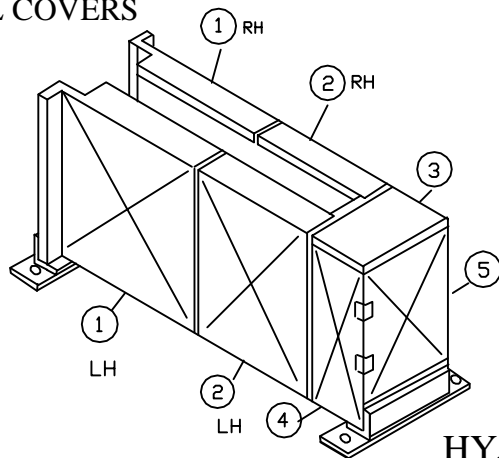
REF. NO.	PART NO.	DESCRIPTION	REQ. NO.
1	PEO361	Light Module - Green - Steady 120 VAC	1
2	PEO362	Light Module - Amber - Steady 120 VAC	1
3	PEO363	Light Module - Red - Steady 120 VAC	1
4	PEO360	Pole Mount Base	
5	PEO639A	Relay Socket	2
6	PEO639	Relay	2
	PEO364	Single Tone Sound Module (not shown) (Optional) 120 VAC	
	PEO365	Incandescent Lamp (not shown) (replacement) 120 VAC	



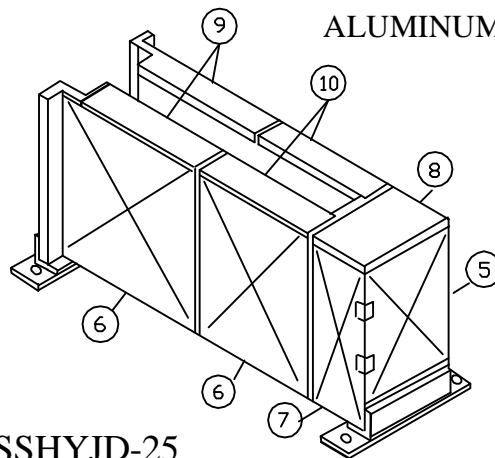
TILT-A-WAY ROAD GATE MANUAL KEY SWITCH
HYJD-25, HYJD-25E & SSHYJD-25 & SSHYJD-25E

PART NO	DESCRIPTION	REQ NO
PEO263	Manual Key Switch	as req'd

STEEL COVERS



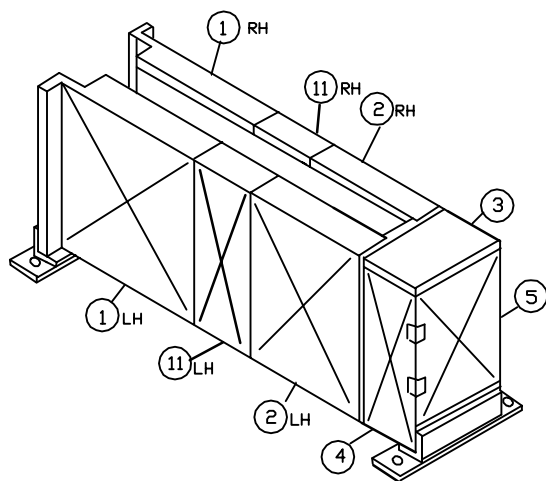
ALUMINUM COVERS



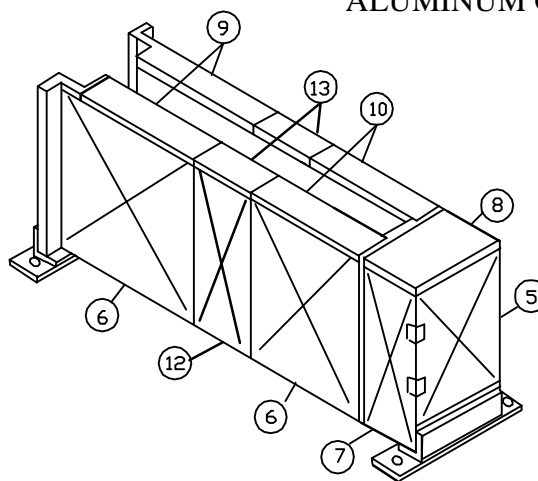
HYJD-25 & SSHYJD-25 TILT-A-WAY HYDRAULIC OPERATOR ENCLOSURE

	PART NO	DESCRIPTION	REQ NO
1- RH	FGO 140	Right Front Cover	1
1- LH	FGO 141	Left Front Cover	1
2- RH	FGO 142	Right Center Cover	1
2- LH	FGO 143	Left Center Cover	1
3	FGO 144	Rear Top Cover	1
4	FGO 145	Rear Side Cover	2
5	FGO 403	Door	1
6	FGO 424	Large Side Cover	4
7	FGO 425	Rear Side Cover	2
8	FGO 423	Rear Top Cover	1
9	FGO 421	Front Top Cover	2
10	FGO 420	Center Top Cover	2

STEEL COVERS



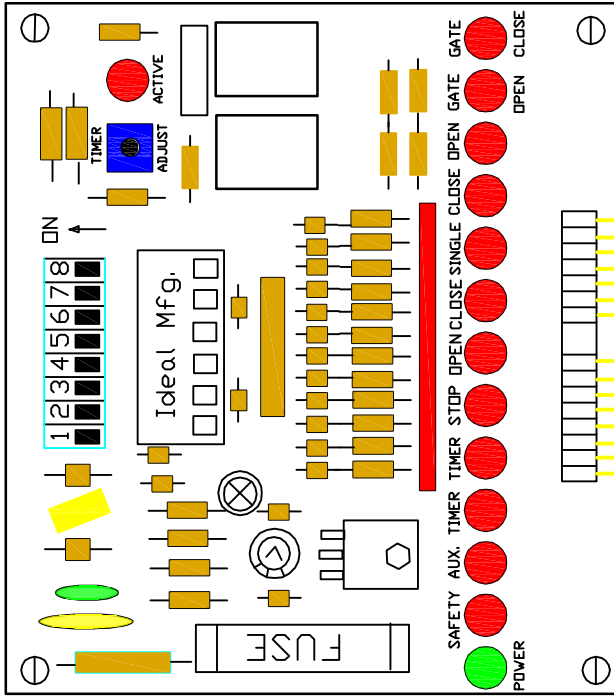
ALUMINUM COVERS



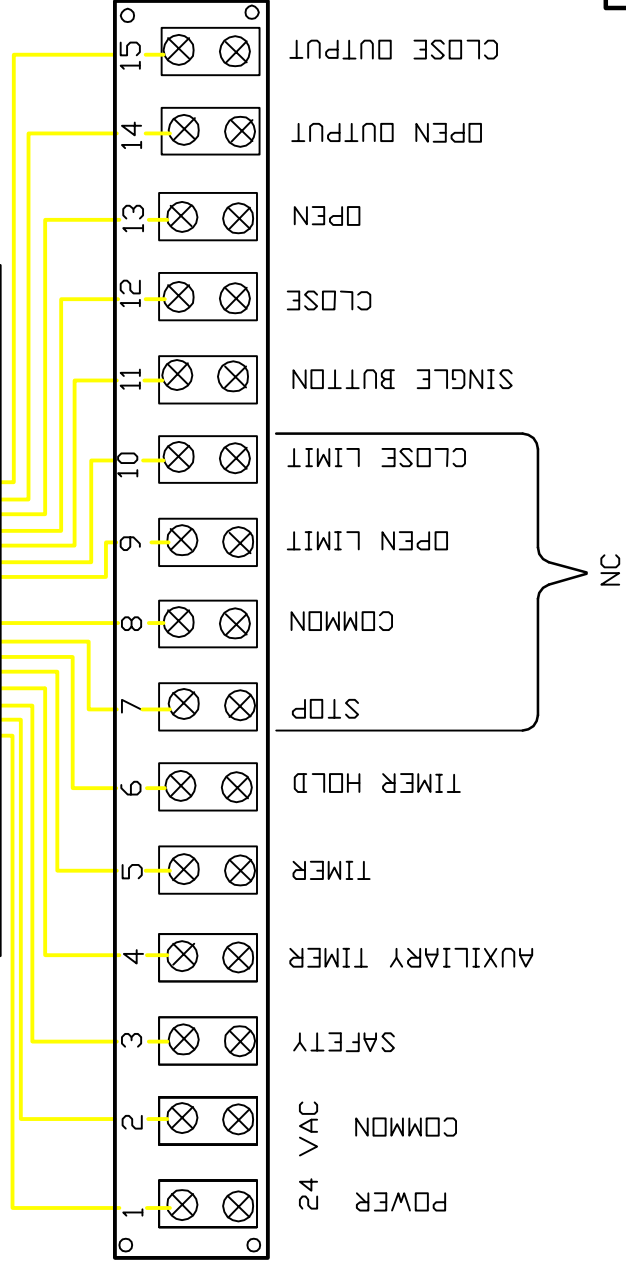
TILT-A-WAY HYDRAULIC EXTENDED OPERATOR ENCLOSURE HYJD-25E & SSHYJD-25E

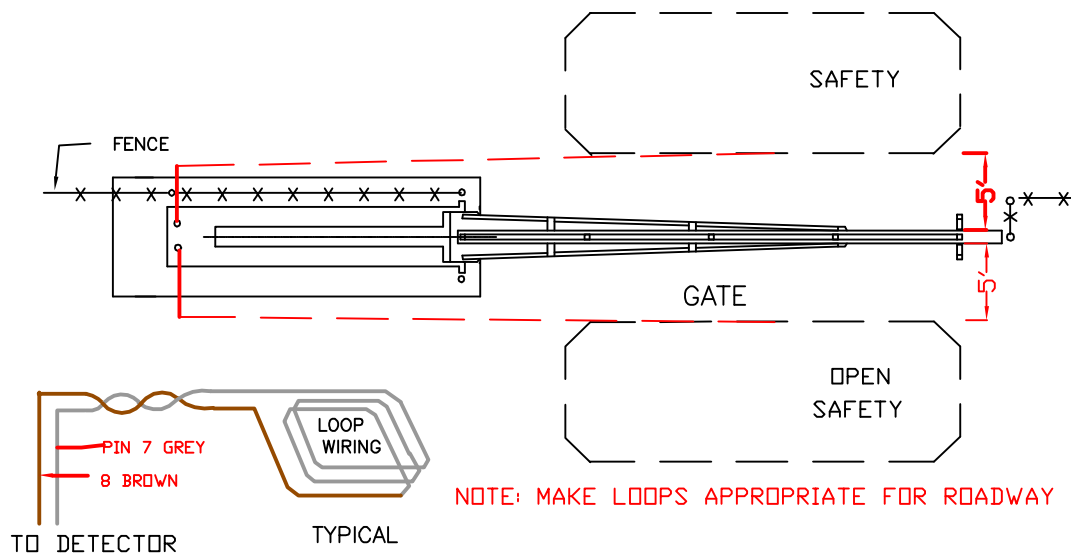
	PART NO	DESCRIPTION	REQ NO
11- RH/LH	FGO 404	Extended Cover	2
12	FGO 426	Extended Side Cover	2
13	FGO 422	Extended Top Cover	2

TIMER BOARD



NOTE:
WIRES NUMBER
9, 10, 14, 15
CONNECT TO RELAYS
SEE DWG# RGHT JD-E200
PAGE 7





OPEN SAFETY

LOOP DETECTOR	PIN 1 BROWN	2 GREY	4 GREEN	5 GREY	6 BLUE
TERMINAL BLOCK	1	2	BOX GROUND	2	5

SAFETY

LOOP DETECTOR	PIN 1 BROWN	2 GREY	4 GREEN	5 GREY	6 ORANGE
TERMINAL BLOCK	1	2	BOX GROUND	2	3

NOTE:

Lead wires from more than one loop installation may be routed in same conduit if wires from each individual loop are twisted at least 6 turns per 12 inches.

NOTE: Loop to open gate, pin-6 Blue

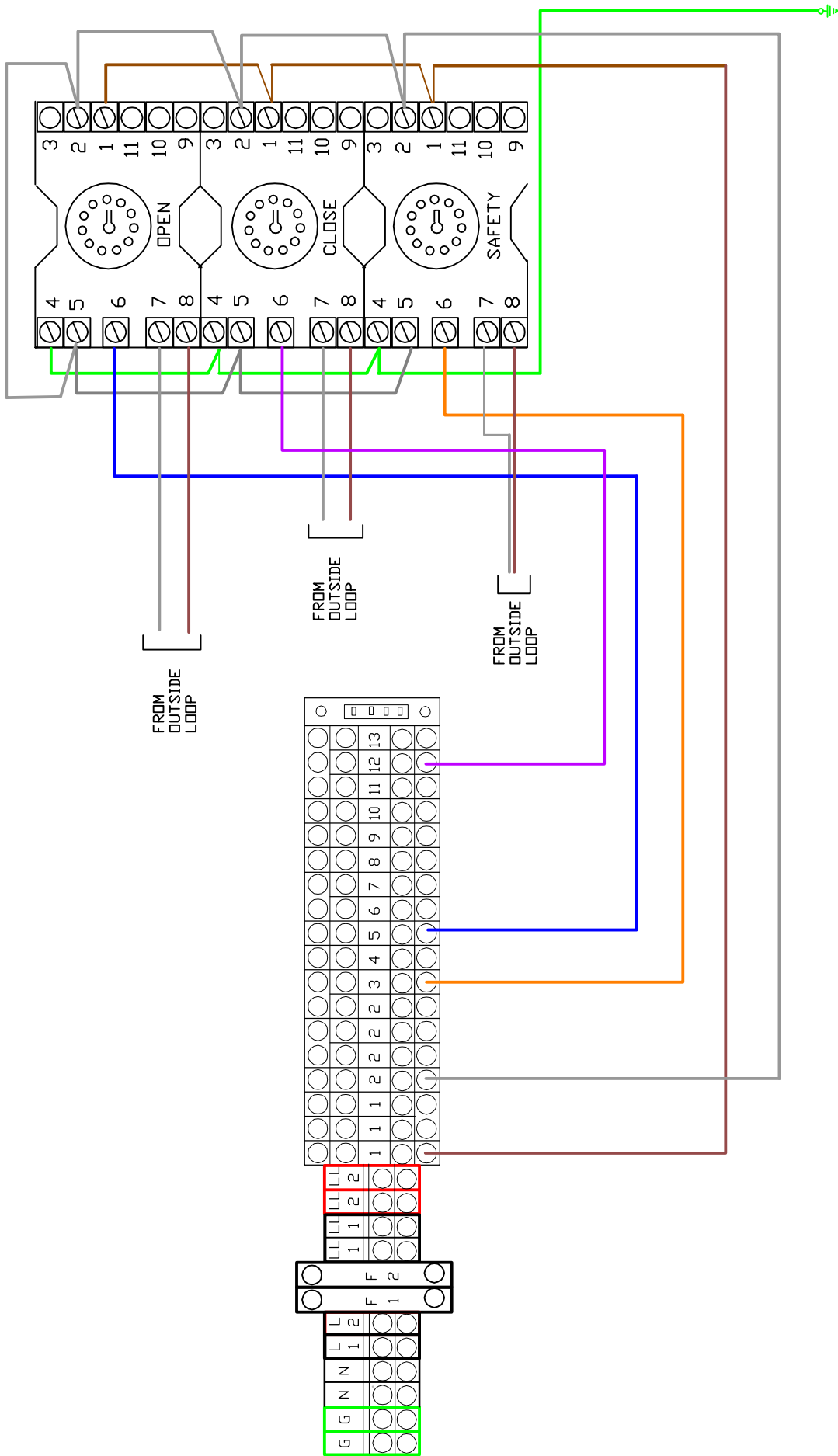
Terminal - 13 OR 5 FOR TIME TO CLOSE

Loop to close gate, pin-6 Purple

Terminal - 12

TILT-A-WAY HYDRAULIC ROAD GATE OPERATOR HYJD-25, HYJD-25E & SSHYJD-25 & SSHYJD 25E

ELECTRICAL LOOP WIRING



TILT-A-WAY ROAD GATE
LOOP DETECTOR DIAGRAM

TO: **Loop Detector Installers**
FROM: Joe Rozgonyi
DATE: July 15, 1996
SUBJECT: **Loop Wires Installation**

Dear Installer:

You may have installed loops for some time. Or, you may be just starting out. In any case, it is good to refresh our memory and maybe learn some new tricks.

First, remember that the loop is an integral part of the detector electronic circuitry. We, the loop detector manufacturers entrust you with making a very important electronic part of our loop detector.

Materials used in the construction of the loop are important. The loop wire should be 16 gage stranded tinned copper wire with cross-linked polyethylene (XLPE) insulation rated for 600V. By using this wire you get the following **advantages**:

- a. The wire gage is large enough so the serial resistance of the loop is low.
- b. The wire is flexible enough to work with in the saw cut, minimizing the possibility of a damage to the insulation.
- c. The XLPE insulation has increased moisture and solvent resistance, and superb aging characteristics. Moisture and solvents in the black top pavement or oil spills from the cars are the major causes in long term insulation damage that causes **intermittent loop lockups and false detection**.

Note: The standard THHN wire so popular with installers is designed for the following applications:

" An all around general purpose building wire, for fixture raceways, conduit and tubing raceways, internal wiring of fixtures and applications requiring building wire".

Please note that the THHN wire was designed for conduit application. It sometimes has a very thin sheeting of nylon, which protects it from moisture, but it is easily damaged during wire installation in the saw cut.

Sealant: Use only a commercial type of loop sealant designed for traffic loops. Any other material will not work for a long time.

Backer Rod: Use a backer rod to ensure that the wires are in place and do not vibrate under the backer rod. Any vibration or wire movement will cause a false detection.

We have the materials covered so let's discuss the **wire installation**. The purpose of all the installation rules you may have heard or read is very simple. We want you to construct a wire coil in the pavement that will comply with the following:

- a. The loop wire insulation will be intact for a long time after you have sealed it in the pavement.
- b. The loop wire will not move or vibrate in the pavement.
- c. The loop wire will be away from any electrical noise.
- d. The loop wire will be away from any moving metal you do not want to detect.
- e. The loop wire continuity (or serial resistance) will be low and constant.

Let's expand on these five points:

a. The wire insulation is very important in preventing a false detection and detector lock-ups. So any scratches on the wire insulation, sharp edges in the saw cut, or small stones in the saw cut and sharp tools used during the installation will cause damage to the wire.

Good Insulation = No Call Back

b. Any vibration of the loop wires or the movement of the steel mesh underneath of the loop will cause false detection. Before the loop installation, inspect the pavement. If in the area of the loop you see large cracks in the pavement and there is an evidence of pavement movement, there is a potential problem. Parts of the pavement may move after you have installed the loops and damage the wire, or cause false detection. Use the backer rod to make sure that the wire is held firm in the saw cut.

No Wire Vibration and Good Pavement = No Call Back

c. If you have a power line running under the loop wire do not be surprised if you get false detects. The changes in electrical current are detected by the loop detector as cars.

No Power Lines Close To The Loop = No Call Back

d. If you have a metal slide gate or a metal overhead door close to the loop, the detector will detect it. The detector cannot distinguish between the metal in the gate and the metal in the car.

No Moving Metal Close To The Loop = No Call Back

e. Wire nut as a splice connection is great when dealing with mains. However, when you have to make a splice on the lead-in wire use a solder iron. The current on the loop wire is too low to overcome the long term oxidation occurring on a wire nut connection.

Soldered Splices = No Call Back

In summary

The following elements can reduce the loop detector sensitivity:

1. Underground steel reinforcing - make the loop cut shallow in concrete pavement (approx. 1 inch) or use fiberglass mesh when installing new concrete pavement.
2. More than one loop connected to one detector - if you are experiencing a low sensitivity problem and you have two loops on one detector, consider adding an additional loop detector. Two loops on one detector = half of the sensitivity.

The following elements can cause detector lock up or intermittent detection:

1. Cross-talk between adjacent loops due to both having the same operating frequency. Use the LD-2000 loop detector frequency counter feature to measure the loop frequency.
2. Inadequate loop spacing - keep loops 4 feet apart.
3. Loop wire vibration in the saw cut - use backer rod.
4. Splices with wire nut - solder all splices
5. Lead-in wires not twisted - twist lead-in wire at least 6 turns per foot.
6. Power lines close to the loop - keep at least 6 feet away from power lines.
7. Loop too close to moving gate - keep at least 4 feet way.

Note: Always connect safety loops in series, free exit loops can be connected in parallel.

Use automatic sensitivity boost to detect high bed vehicles.

Use the filter function to filter out RF noise generated by police and EMS vehicles.

Use fail safe detector for safety and fail secure detector for free exit application.

Shortcut: You can avoid installation problems and guess work by simply installing a well constructed preformed loop like our EMX Lite Loop.

Loop Sizes and Loop Characteristics

Loop Size	Loop Size	Inductance	Turns	Detect. Height
2	2	60	5	1.6
2	4	60	4	1.6
2	6	80	4	1.6
2	8	60	3	1.6
2	10	72	3	1.6
2	12	84	3	1.6
2	14	96	3	1.6
2	16	108	3	1.6
2	18	120	3	1.6
2	20	132	3	1.6
4	4	80	4	3.2
4	6	100	4	3.2
4	8	72	3	3.2
4	10	84	3	3.2
4	12	96	3	3.2
4	14	108	3	3.2
4	16	120	3	3.2
4	18	132	3	3.2
4	20	144	3	3.2
4	22	156	3	3.2
4	24	168	3	3.2
4	26	180	3	3.2
4	28	192	3	3.2
4	30	102	2	3.2
4	32	108	2	3.2
4	33	111	2	3.2
4	34	114	2	3.2
4	36	120	2	3.2
4	38	126	2	3.2
4	40	132	2	3.2
6	6	120	4	4.8
6	8	84	3	4.8
6	10	96	3	4.8
6	12	108	3	4.8
6	14	120	3	4.8
6	16	132	3	4.8
6	18	144	3	4.8

All the numbers are approximated, actual results may vary.

Loop Sizes and Loop Characteristics

Loop Size	Loop Size	Inductance	Turns	Detection Hight
6	20	78	2	4.8
6	22	84	2	4.8
6	24	90	2	4.8
6	26	96	2	4.8
6	28	102	2	4.8
6	30	108	2	4.8
6	32	114	2	4.8
6	33	117	2	4.8
6	34	120	2	4.8
6	36	126	2	4.8
6	38	132	2	4.8
6	40	138	2	4.8
8	4	120	4	3.2
8	6	140	4	4.8
8	8	96	3	5.6
8	10	108	3	5.6
8	12	120	3	5.6
8	14	132	3	5.6
8	16	144	3	5.6
8	18	78	2	5.6
8	20	84	2	5.6
8	22	90	2	5.6
8	24	96	2	5.6
8	26	102	2	5.6
8	28	108	2	5.6
8	30	114	2	5.6
8	32	120	2	5.6
8	33	123	2	5.6
8	34	126	2	5.6
8	36	132	2	5.6
8	38	138	2	5.6
8	40	144	2	5.6
Loop Numbers				
Serial Resistance: between two lead-in wires - less than 5 ohms				
Leakage to Ground: between one lead-in wire and the ground more than 10 mega ohm at 500VDC for one minute.				
Use DI 6200 insulation tester or equivalent				

All the numbers are approximated, actual results may vary.

D-TEK Vehicle Loop Detector - Operating Instructions

We at EMX have designed the new D-TEK vehicle loop detector with the following objectives in mind:

1. Compact package to allow easy installation into small operator housings.
2. All the controls are accessible from the outside for easy installation and operation.
3. Integral loop conditioner is provided, to enable detector operation with marginal loops.
4. Provide all the features and controls necessary for a variety of applications.
5. Use metal housing for maximum durability and RF blocking.
6. Provide maximum surge protection on all inputs and outputs of the detector.

We took extra care to achieve and exceed these objectives. For example the controls are divided into two groups. The group on the front of the detector is for basic operation and the group on the back of the detector is for advanced settings. This way the more advanced settings are not visible to the casual user.

There is no skimping on the quality in the D-TEK detector. The housing is made from aircraft quality anodized aluminum. All the switches have gold plated contacts and are sealed for protection. The detector is protected by easily replaceable fuse, snubbing circuitry on the relay contacts, metal oxide varistor on the power input and triple protection on the loop input.

The D-TEK features are extensive and they include full loop diagnostics with frequency counter, 10 sensitivity settings, delay and extend features, "fail safe" and "fail secure" operation, automatic sensitivity boost, pulse or two presence relay operation and more.

Technical Information

Detector Connections

Pin	Function	Harness
1	Power	White
2	Power	Black
3	Relay 2 N.O	Orange
4	Ground	Green
5	Presence Relay Comm..	Yellow
6	Presence Relay N.O.	Blue
7	Loop	Gray
8	Loop	Brown
9	Relay 2 Comm..	Red
10	Presence Relay N.C.	White/Blk or Pink
11	Relay 2 N.C.	White/Red or Violet

Note: Functions on pins 6 and 10 are reversed if DIP 4 is set to **OFF** "Fail Secure" operation

Front Indicators

1. Green Led is ON - the detector is powered.
2. Red Led is ON - the detector detected a vehicle
3. Green Led is Blinking - the loop failed and is shorted or disconnected
4. Green Led is Blinking with two consecutive fast blinks - the loop failed in the past and now is working correctly.
5. Red Led is Blinking at the start of a vehicle detection - the Filter function is ON
6. Red Led is Blinking at the end of a vehicle detection - the Extend function is ON
7. Red Led is Blinking during a vehicle detection - 4 minute limited presence time has expired.

Note: Functions on pins 6 and 10 are reversed if DIP 4 is set to OFF

Front Controls

- Reset** this toggle switch when pushed momentarily down will reset the detector
- Frequency Counter** this toggle switch when pushed momentarily up will count the frequency on the loop. This count is displayed by the Red Led blinks, each blink represents frequency of 10K Hz. Count between 3 to 13 blinks confirms that the loop detector is tuned to the loop.
- Frequency** This toggle switch controls the loop frequency. Set different frequencies on adjacent loops. Verify frequencies with the frequency counter by counting the Red Led blinks.

Back Controls

- Sensitivity** this rotary switch controls the detector sensitivity. During normal operation the sensitivity level is set to 3 or 4.

DIP Switch Functions

DIP	OFF	ON
1	Pulse on Relay II	Presence on Relay II
2	Pulse on detect	Pulse on Un-detect
3	Constant presence	4 minute limited presence time
4	"Fail Secure"	"Fail Safe"
5	Filter Off	Filter On
6	ASB Off	Automatic Sensitivity Boost On
7	Extend detect	6 seconds
8	Extend detect	3 seconds

When Dip 7 and 8 are in ON position the extend time is 9 seconds.

Warning: Do not use limited presence setting and / or "Fail Secure" setting for reversing gates, doors or barriers.

DIP - Detector Functions

1. Presence function is provided always by the presence relay output on pins 5, 6, and 10. These outputs are active when the detector detects a car. If there is a need for an additional presence output the Relay 2 can be configured as a second presence output by setting DIP 1 to ON position.
2. Pulse function is provided by the Relay 2 output on pins 3, 9, and 11. To obtain pulse on Relay 2 set DIP 1 to OFF position. The pulse of about 0.5 second can be generated when the car enters the loop or when it exits. To generate pulse on vehicle entry to the loop set DIP 2 to OFF position. To generate pulse on vehicle exit from the loop set DIP 2 to ON position.
3. The presence relay provides constant output as long as the car is detected on the loop. To obtain constant presence time set DIP 3 to OFF position. In some applications limited presence time is required. To obtain limited presence time of approximately 4 minutes set DIP 3 to ON position. Be aware that the detector relay will be released after 4 minutes even if the vehicle is still detected by the detector. This may be a serious hazard in applications where gates, doors or barriers are reversed, therefore never use this option in these applications.
4. When DIP 4 is set to ON position the detector works in "Fail Safe" mode of operation the detector will issue a detect signal when a car is detected, loop is disconnected or shorted, or when the power to the detector is interrupted. It is strongly recommended to use the detector in this mode.

In some application there is a need to ignore the loop or power failures and only to provide the detect signal when a car is detected on the loop. To ignore loop or power failures set the detector to "Fail Secure" by setting DIP 4 to OFF position. Do not use this setting for application where gates, doors or barriers have to be reversed.

Note: Functions on pins 6 and 10 are reversed if DIP 4 is set to OFF

5. In some applications it is necessary to filter out short detections such as cross traffic or short burst of radio frequency such as keying of a CB transmitter. To ignore these short detections set DIP 5 to ON position. This will cause any detection that is shorter than 2 seconds to be ignored.
6. To increase detection height when detecting high bed vehicles set DIP 6 to ON position. This setting will cause the sensitivity to automatically increase once the front axle of the truck is detected. The sensitivity will go back to the normal level once the truck left the loop.

NOTES

7. To extend the presence output for 6 seconds after the vehicle left the loop set DIP 7 to ON position.
8. To extend the presence output for 3 seconds after the vehicle left the loop set DIP 8 to ON position.

Note: If DIP 7 and DIP 8 are set to ON position the presence output will be extended 9 seconds after the vehicle left the loop.

Troubleshooting

Symptom	Possible Cause	Correction
Green indicator is not ON	No input voltage	1. Check voltage on pins 1 and 2. 2. Replace internal fuse 3. Check wiring to detector
Green indicator flashes	Loop wire shorted or disconnected	1. Check loop resistance on pins 7 and 8 it should be less than 5 ohms and more than 0.5 ohms.
Green indicator flashes with two consecutive fast blinks	Loop wire was temporarily shorted or disconnected	1. Check loop resistance on pins 7 and 8 while driving over the loop it should be less than 5 ohms and more than 0.5 ohms. The reading should be steady.
Detector stays in detect mode after the car left the loop and fails to undetect.	1. Faulty loop 2. Poorly crimped terminals 3. Loose connections	1. Perform megger test between loop lead and ground the reading should be larger than 100 megaohms. 2. Check that loop is tightly connected to proper terminals 3. Check that splices are tightly soldered and sealed against moisture.
Detector detects intermittently even when there is no car on the loop.	1. Faulty loop 2. Poorly crimped terminals 3. Loose connections 4. ~ Cross-talk between adjacent loop detectors	1. Perform megger test between loop lead and ground the reading should be larger than 100 megaohms. 2. Check that loop is tightly connected to proper terminals 3. Check that splices are tightly soldered and sealed against moisture. 4. Set adjacent loops on different frequencies.

Technical Specifications

Power: the detector is available in the following voltages, 12V AC/DC, 24V AC, 24V DC, 110V AC, 220V AC. maximum current draw 100mA.

Low power detector is available with maximum current draw of 60mA

Temperature: -40F to + 180F

Environmental Protection: Circuit board is conformally coated

Enclosure: Extruded anodized aluminum, Height = 3.25 inches 83 mm
Width = 2.56 inches 40 mm
Depth = 3.65 inches 90 mm

Output Relays:	5A/125 V AC standard version, 1A/125 V AC low current version
Connector:	86CP11 compatible with 11pin Octal DIN rail mountable socket or wire harness

Surge Protection: The detector is protected with neon discharge lamps, zenner diodes and surge arrestors.

Loop Input: Transformer isotated

Grounded Loop: The loop isolation transformer allows operation with poor quality loops.

Loop Inductance Range: 20 to 2000 microhenries with Q factor of 5 or higher.

Tuning: Detector automatically tunes to the loop after power application or reset.

Tracking: Detector automatically tracks and compensates for environmental changes

Power Indicator: Green LED solid light indicates power

Loop Failure Indicator: Green LED blinks indicates loop problem

Loop Failure Memory: Green LED blinks with fast consecutive blinks indicates past loop problem that healed.

Detect Indicator: Red LED solid light indicates detection

Extend Indicator: Red LED blinks after a car left the loop indicates time extend feature

Sensitivity: is set by 10 position rotary switch

Frequency: is set three position toggle switch

Infinite Presence Mode: DIP switch selectable presence

Limited 4 Minutes

Presence Time: DIP switch selectable

Second Presence Relay: DIP switch selectable

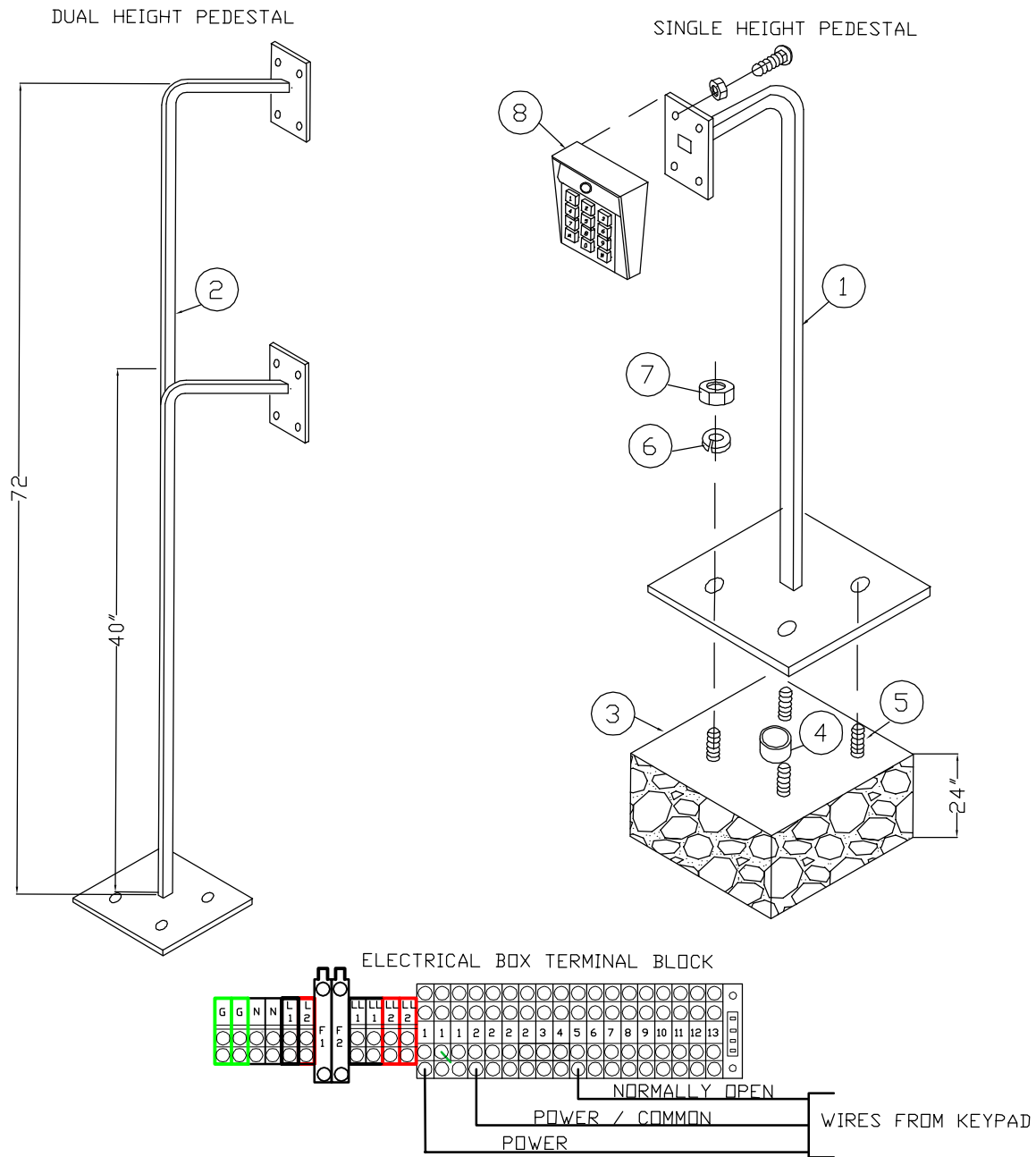
Pulse On Exit / Entry: DIP switch selectable

Fail Safe / Secure : DIP switch selectable

Filter: DIP switch selectable 2 seconds

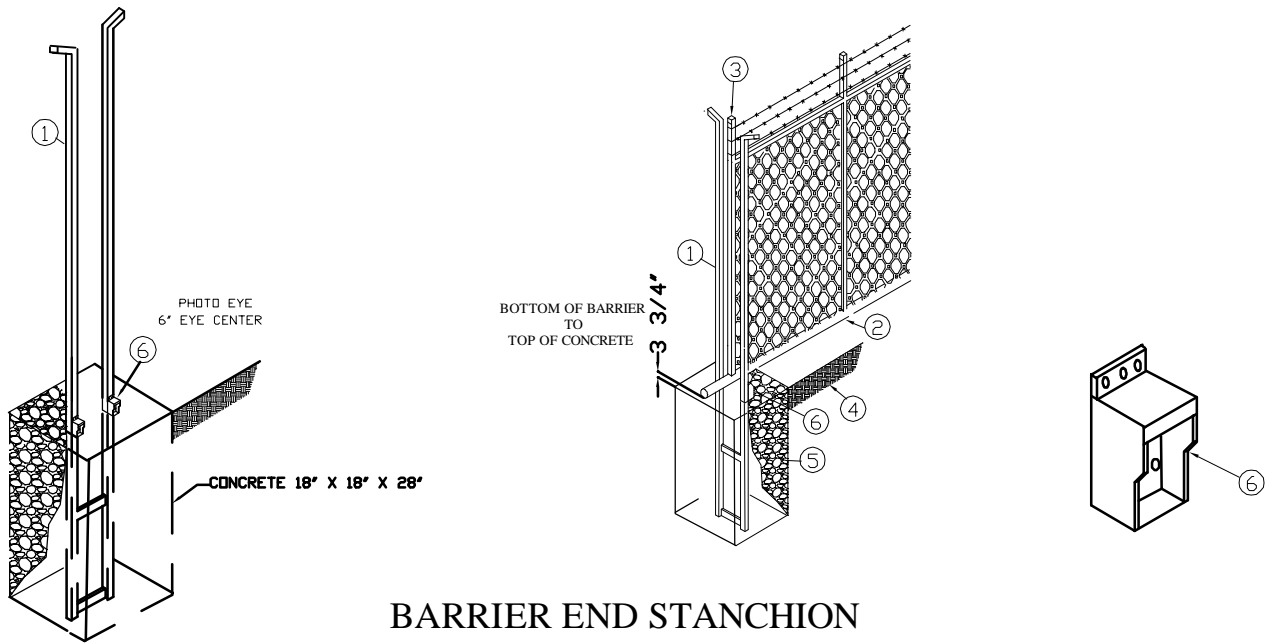
Extended Detection: DIP switch selectable 3, 6 and 9 seconds

39



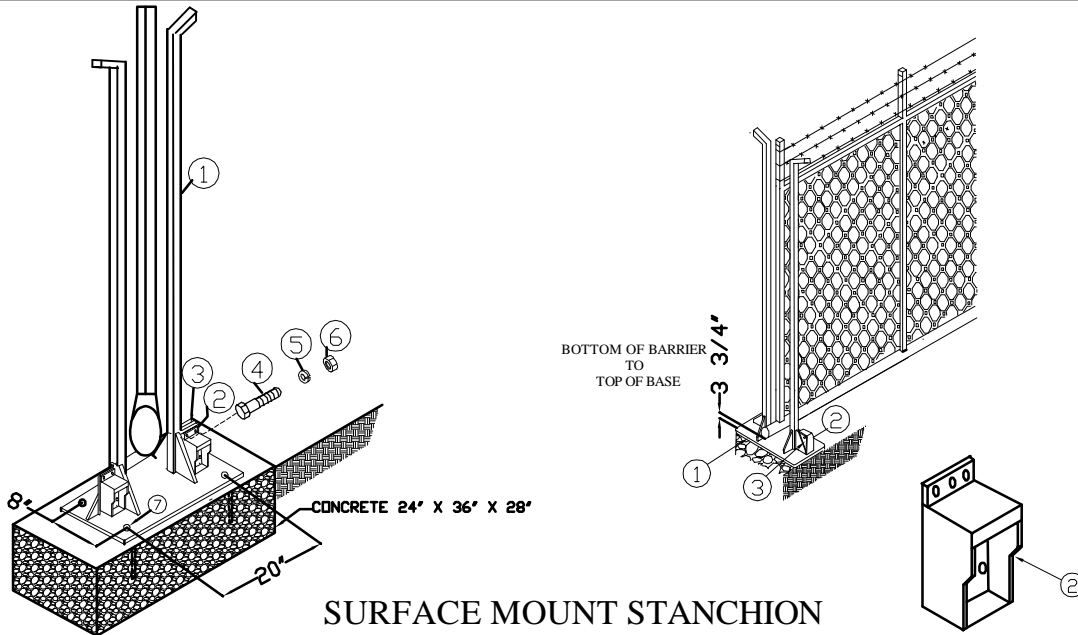
**TILT-A-WAY HYDRAULIC ROAD GATE REMOTE CONTROL STATION
PEDESTAL AND GATELOCK
HYJD-25, HYJD-25E & SSHYJD-25 & SSHYJD 25E**

REF NO.	PART NO.	DESCRIPTION	REQ NO
1	N/A	Single Height Pedestal	1
2	N/A	Dual Height Pedestal 72" in Height	1
3	N/A	Concrete Support Pier 15" X 15" X 24" Deep	1
4	N/A	1" in Diameter Electrical Conduit with 2 1/2" projection above Concrete. Conduit Routed from Barrier Pedestal.	1
5	N/A	1/2" x 8" Expansion Bolt	4
6	NA	1/2" Lock Washer	4
7	N/A	1/2" Hex Nut	4
8	N/A	Remote Control Station of Choice (Included are bolts, nuts, keys and plate.	4



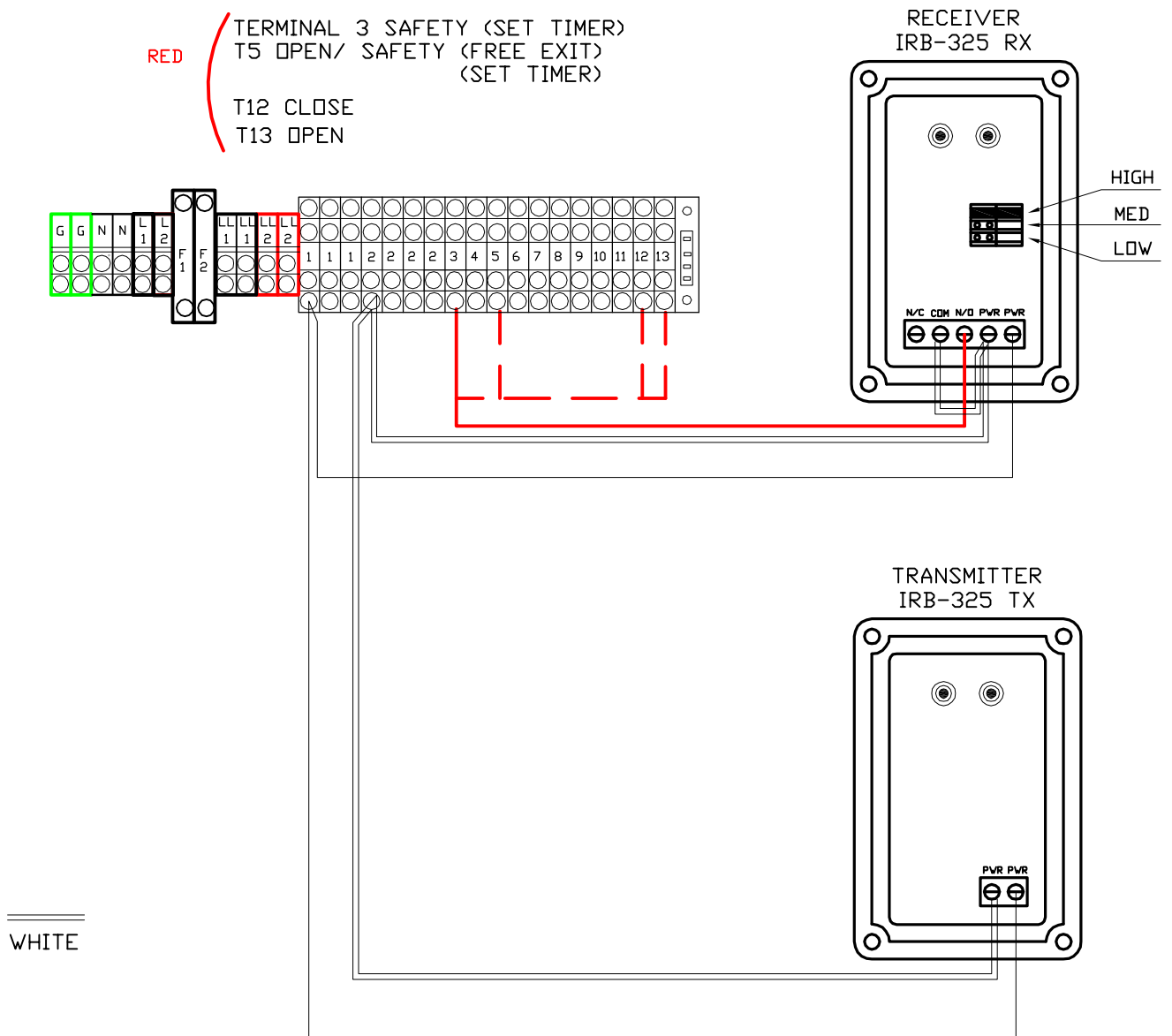
BARRIER END STANCHION

REF NO.	PART NO.	DESCRIPTION	REQ NO
1	FGO172	Stanchion Unit	1
2	N/A	Barrier Main Tube 3 3/4" Clearance to grade-line	
3	N/A	Top of Barrier Post flush with top of stanchion.	
4	N/A	Grade Line	
5	N/A	Concrete Embedment Block top at grade line or below size to suit conditions	
6	PEO404	Photo Eye	2



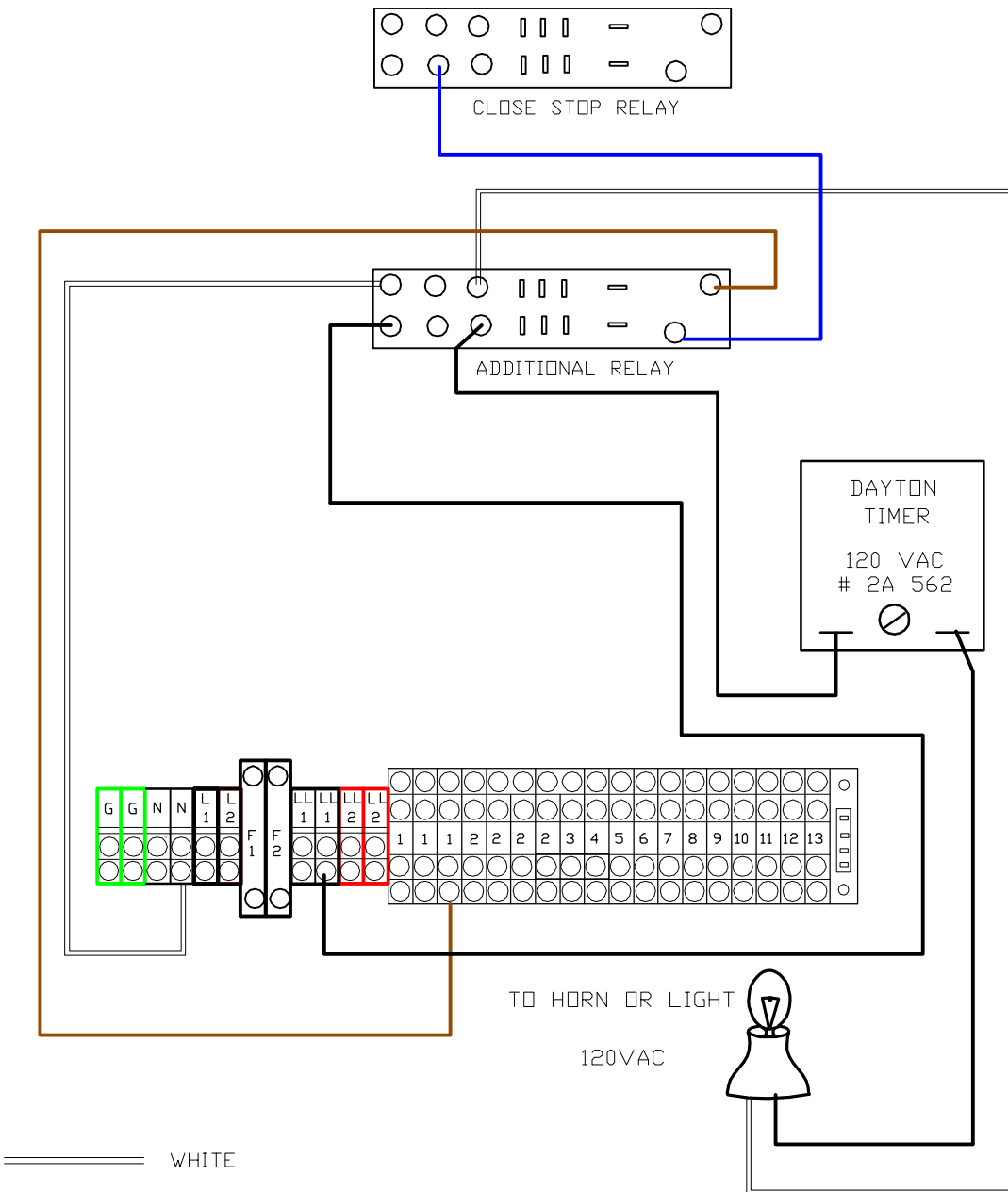
SURFACE MOUNT STANCHION

REF NO.	PART NO.	DESCRIPTION	REQ NO
1	FGO407	Surface Mount Stanchion Unit	1
2	PEO404	Photo Eye (2 on operator)	2
3	FGO406	Photo Eye Mount	2
4	N/A	5/16" x 1" Bolt	4
5	N/A	5/16" Lock Washer	4
6	N/A	5/16" Hex Nut	4
7	NA	3/4" x 6" Exposed Bolts	4



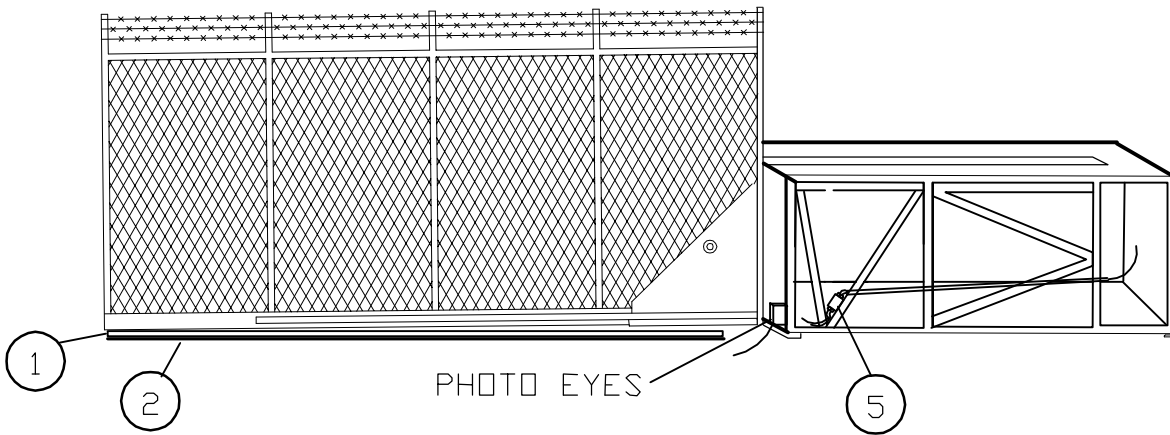
TILT-A-WAY HYDRAULIC OPERATOR REFLECTIVE TYPE PHOTO EYE

REF NO.	PART NO.	DESCRIPTION	REQ NO
1	PEO404 (set)	Photo Eye 24VAC	1
2	PEO405	Hood (not shown)	2

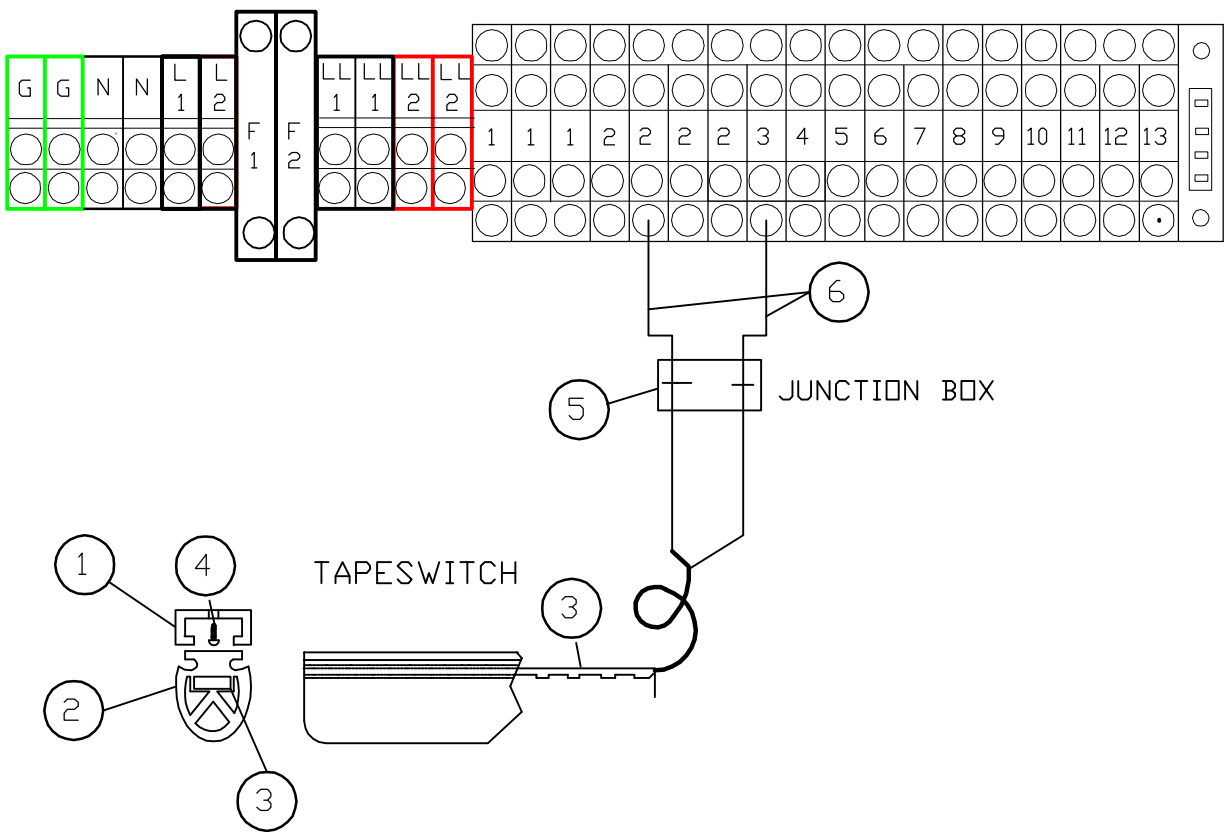


**TILT-A-WAY HYDRAULIC OPERATOR
HYJD-25, HYJD-25E & SSHYJD-25 & SSHYJD-25E
ROAD GATE HORN & LIGHT GATE OPEN INDICATOR**

REF NO.	PART NO.	DESCRIPTION	REQ NO
1	PEO284	Delay Timer	1
2	PEO606A	Socket, Relay	1
3	PEO606	Relay	1
		Vehicle Indicator Light (supplied by customer)	

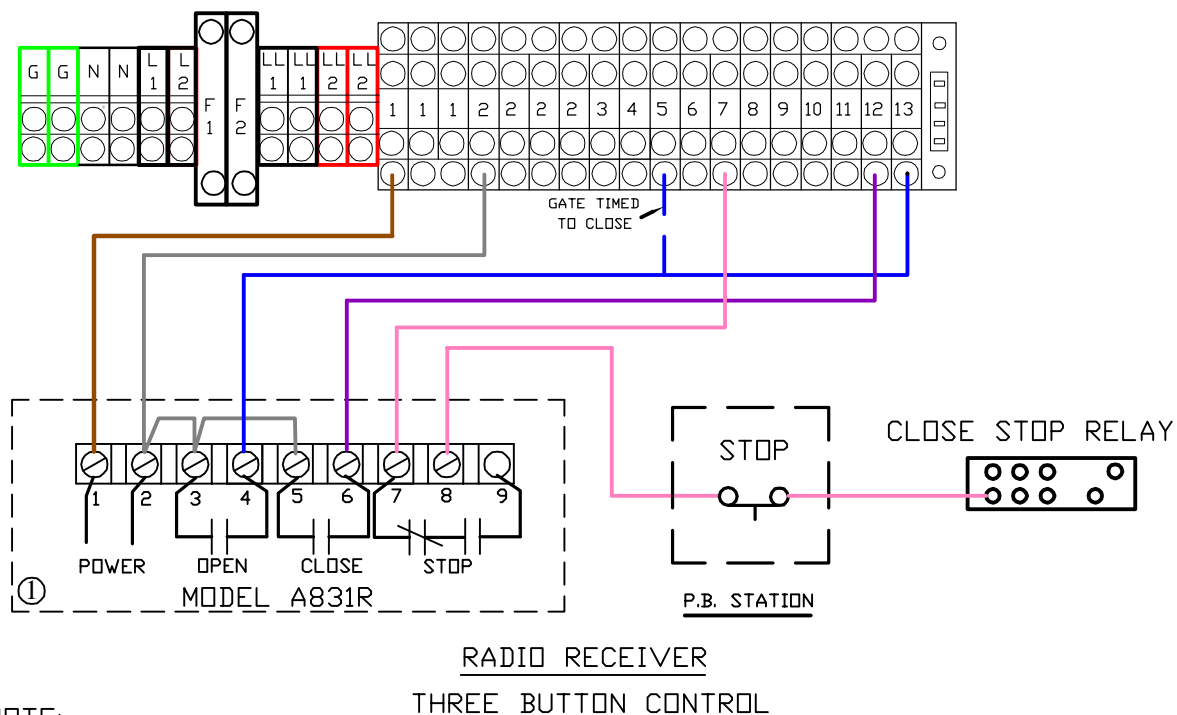
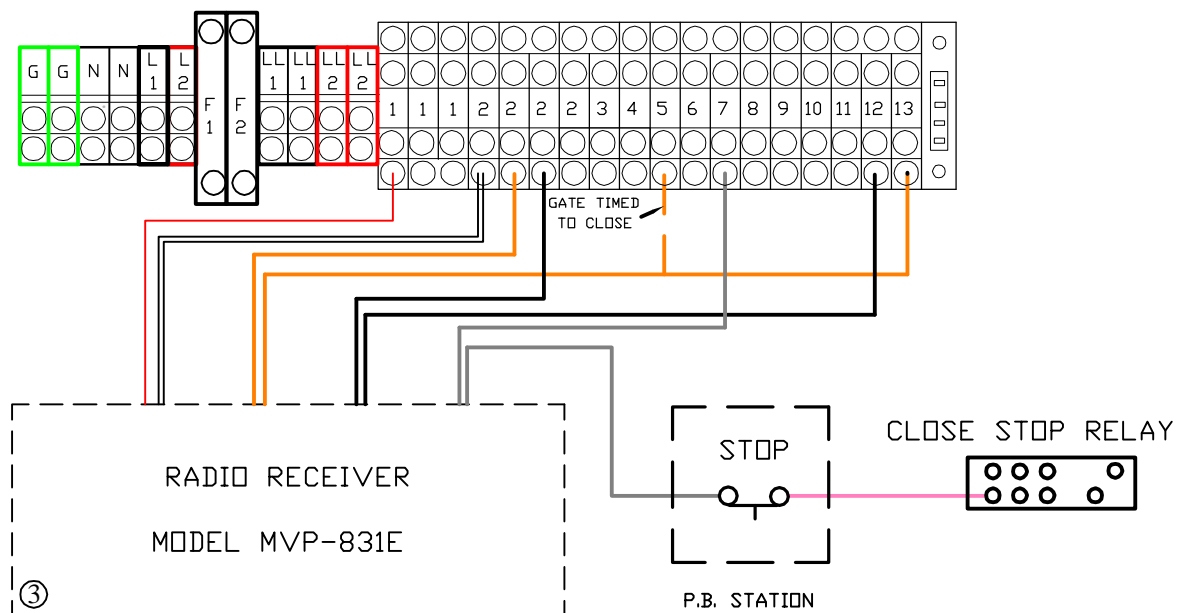


TERMINAL BLOCKS IN ELECTRICAL ENCLOSURE



TILT-A-WAY HYDRAULIC OPERATOR REVERSING EDGE INSTALLATION

REF NO.	PART NO.	DESCRIPTION	REQ NO
1	PEO243	Reversing Edge Holding Track (Length is required)	1
2	PEO243A	Reversing Edge Rubber Strip (Length is Required) (Insert in Track from front)	1
3	PEO244-Length	C Switch (Order Length as Required) (Insert in Tract from front)	1
4	N/A	8 x 3/4" Tapping Phillips Pan Head Screw	as req.
5	PEO410	Junction Box	1
6	N/A	16/2 S O Cord	9'
	PEO246	1/2" Strain Relief Fitting (not shown)	4
	PEO237	Junction Box Cover (not shown)	1



NOTE:

ALL STOP CONNECTIONS IN SERIES

TILT-A-WAY HYDRAULIC ROAD GATE OPERATOR HYJD-25, HYJD-25E & SSHYJD-25 & SSHYJD 25E

RADIO RECEIVER - THREE BUTTON

REF. NO.	PART NO.	DESCRIPTION	REQ. NO.
1	PEO261	Radio Receiver Model A831R	1
2	PEO262	Radio Transmitter	as req
3	PEO261-MVP	Radio Receiver Model MVP-831E	1



Classic Quik-Code Transmitter Installation Instructions

Replacement for Models:

•9921T •9931T •8822T •8832T
•8833T •9921MT •9931MT •9921TK
•9931TK •8832TK •9931TK6

Product Features

The Classic Quik Code Transmitter makes it possible to operate a single or group of remotely controlled devices such as a garage door opener, with a single transmitter.

Programming the Classic is done by simply:

1. Put the transmitter in program mode.
2. Select the button you wish to use.
3. Enter your 9 digit code.

Follow these simple instructions.
Please read the instructions completely before starting.
Further instructions are available at www.allstarcorp.com

INSTRUCTIONS FOR REPLACEMENT TRANSMITTERS

Select the block of switches below that best matches the one in the transmitter or receiver that you are replacing.

*The grids display an EXAMPLE using the code shown on the switches to the left.

9 switches w/ + 0 -



1	2	3	4	5	6	7	8	9
-	-	0	0	+	+	-	0	+

turn page Go to Step 1...

9 switches w/ On & Off



OR

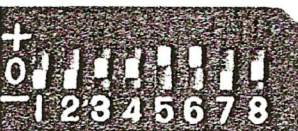


1	2	3	4	5	6	7	8	9
-	-	+	+	-	-	+	+	-

turn page
Go to
Step 1a

1	2	3	4	5	6	7	8	9
-	-	+	+	-	-	+	+	-

8 switches w/ + 0 -



1	2	3	4	5	6	7	8	9
-	-	0	0	+	+	-	0	+

turn page Go to Step 1...



WARNING

Disconnect power to operator before any installation or repair. Follow all instructions provided by the manufacturer of your operator.



Allstar Radio Controls are compatible with HomeLink®.
Homelink® is a registered trade mark of Johnson Controls, Inc.

NOTE: The table has a row for each one of the three buttons since it is possible to set a unique code for each button. Write the code that you matched from your transmitter or receiver in the grids below.

	1	2	3	4	5	6	7	8	9
+ / On BUTTON									
Zero BUTTON									
- / Off BUTTON									

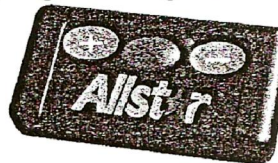
- PUT THE TRANSMITTER IN PROGRAM MODE -

1. First, press and hold the **+** button. The Red LED will turn on. Next, while continuing to hold the **+** button, press and hold the **-** button. Continue to hold both buttons until the LED starts to blink (approximately 5 seconds). **Release both buttons while the LED is blinking.** The LED will blink two times and then remain on to confirm you are in programming mode. Go to Step 2



**If the LED goes out, start over.*

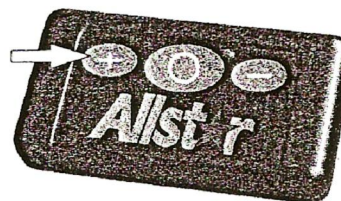
1a. First, press and hold the **-** button. The Red LED will turn on. Next, while continuing to hold the **-** button, press and hold the **+** button. Continue to hold both buttons until the LED starts to blink (approximately 5 seconds). **Release both buttons while the LED is blinking.** The LED will blink two times and then remain on to confirm you are in programming mode. Go to Step 2



**If the LED goes out, start over.*

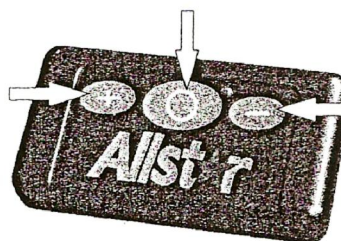
- SELECT THE BUTTON YOU WISH TO USE

2. While the LED is on, **press the button you wish to use.** (If your block has 8 switches press the **+** button, if not, press any button you'd like to use). The LED will blink off once and then remain on. Go to Step 3...

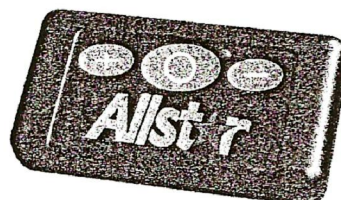


- ENTER YOUR 9 DIGIT CODE

3. Enter the 9-digit code from the table pressing the buttons that correspond with the grid above. (If your block has 8 switches use the **+** button in the 9th position) Go to Step 4...



4. After the 9-digit code is entered, the LED will blink twice to confirm a valid code and remain off.



5. Repeat the procedure for the remaining buttons.

INSTRUCTIONS FOR USE WITH AN ALLSTAR SMART RECEIVER

When using the Allstar Classic with a Smart Receiver there is no need to match a switch setting.

Simply make up your own unique code, enter it in the grid on page 2 and follow the instructions starting with Step 1.

When the transmitter is programmed, follow the instructions for teaching the receiver the transmitter code.

Note: If you want to program all the buttons you can Express Code them by selecting the **+** button in Step 2 and ending the 9 position code in Step 3 with a **+**. This will code all three buttons in one programming step.

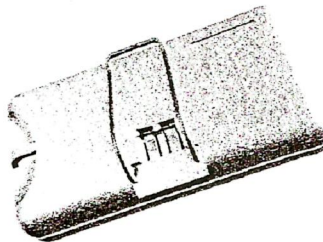
IMPORTANT
The **SAME CODE** must be set on both the transmitter and receiver. The controls will not function if the codes are mismatched.

WARNING

Keep transmitters and remote controls out of the reach of children.
Do not let children play with or use the transmitter or remote controls.
Unexpected door operations can cause personal injury or property damage.
Do not place transmitter where the buttons can be accidentally or unintentionally activated.

Installing the Transmitter

The transmitter is supplied with a metal clip which may be used to attach the unit to a sun visor. If the clip is used, slide it into the recess provided on the back of the transmitter case until the snaps on the case fit around the clip. If the transmitter is installed in a pocket in your car, follow all the manufacturer's instructions.



Battery Replacement

The MVP Quik-Code transmitter is provided with two factory installed 3-volt batteries which should be replaced after two years of normal use. The transmitter code is retained in permanent memory and will not be lost during battery replacement. To replace the batteries, remove the back of the case with a small screwdriver. Carefully slip the batteries out of the holders and replace with fresh CR2032 3-volt batteries. The "+" on the batteries must point away from the circuit board. Replace the back of the cover and resume normal use.

Improper transmitter installation or use may cause intermittent operation which can result in unexpected door operations.

Operational Check

After installing your receiver and transmitter, check the operation of your radio controls by moving approximately 45 feet back from the garage door, then press the transmitter button. Operation at this distance should be reliable. However, environmental conditions and the location of the transmitter and receiver will affect distance.

- If the transmitter doesn't activate the operator check the coding on both the transmitter and receiver. The code setting must match **exactly**.
- If the distance is inadequate check the battery and replace if necessary.
- To maximize the operating distance move the transmitter to different locations in the car until a satisfactory distance is achieved. Vanity mirrors on sun visors will affect performance.
- If the receiver is in the proximity of a metal beam or other obstruction it may be necessary to relocate the receiver to increase the operating range.
- If multiple receivers are mounted closer than 15 feet, blocking and interference may occur. Move the receivers further apart.
- If system does not work at any distance, check that the receiver terminals are connected to the proper operator terminals.
- If the HomeLink® transmitter does not activate the operator or distance is inadequate, verify proper operation using the hand-held transmitter. Contact your HomeLink® system provider for help with configuring the HomeLink® transmitter and to resolve distance problems when using the HomeLink® system.

Manufacturer's Limited Warranty

Allstar warrants its radio controls to be free from defect in material and workmanship for a period of one (1) year from the date of purchase. To obtain service, contact your dealer.

To obtain service under this warranty the buyer must obtain authorization instructions for the return of any goods from Allstar before returning the goods. The goods must be returned with complete identification, with copy of proof-of-purchase, freight prepaid and in accordance with Allstar's instructions or they will not be accepted. In no event will Allstar be responsible for goods returned without proper authorization or identification.

Goods returned to Allstar for warranty repair within the warranty period, which upon receipt by Allstar are confirmed to be defective and covered by this limited warranty, will be repaired or replaced at Allstar's sole option, at no cost and returned pre-paid. Defective parts will be repaired or replaced with new or factory rebuilt parts at Allstar's sole option.

This limited warranty does not cover non-defect damage, damage caused by unreasonable use, damage caused by improper installation or care, vandalism or lightning, fire or excessive heat, flood or other acts of God (including, but not limited to misuse, abuse or alterations, failure to provide reasonable and necessary maintenance), labor charges for dismantling or reinstalling a repaired or replaced unit, or replacement batteries.

These warranties are in lieu of all other warranties, either expressed or implied. All implied warranties of merchantability and/or fitness for a particular purpose are hereby disclaimed and excluded. Under no circumstances shall Allstar be liable for consequential, incidental or special damages arising in connection with the use or inability to use this product. In no event shall Allstar's liability for breach of warranty, breach of contract, negligence or strict liability exceed the cost of the product covered hereby. No person is authorized to assume for Allstar any other liability in connection with the sale of this product.

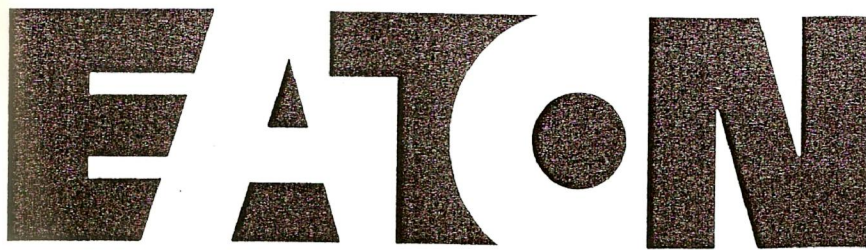
This warranty gives you specific legal rights. Warranty effective after July 24, 2002.

WARNING

Unexpected door operations can cause personal injury or property damage.

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.





Product Documentation

General Safety Information



Warning: Read safety information carefully before attempting to assemble, install, operate, or maintain these products. Failure to comply with these instructions may result in personal injury and/or property damage. Retain these instructions for future reference.

1. Make all electrical connections in accordance with the National Electrical Code (NEC) and Occupational Safety and Health Act (OSHA) to avoid electric shock and fire hazards.
2. Avoid potential for oil spills and slippery floor conditions by:
 - Mounting oil reservoir on a level surface
 - Maintaining leak-free hydraulic hose or pipe connections to the unit
 - Not overfilling the unit with hydraulic fluid
3. Do not exceed recommended operating temperatures or unit components may become too hot to handle. Overheated components create a potential for burns.
4. Ensure that the relief valve setting does not exceed the pressure of the lowest rated component connecting into the power unit, or the rating of the power unit.
5. Make sure that all pressure is released from the system before attempting to remove or repair any valve, pump, or any portion of the system. Failure to follow this procedure may result in the release of pressurized hydraulic fluid with the potential for severe personal injury.
6. Make sure that all electrical power is disconnected before attempting removal or repair of any valve, pump, or any other component in the system.

HYJD-25 TROUBLE SHOOTING GUIDE

PROBLEM

CIRCUIT BOARD LIGHTS (ON)

SOLUTIONS

	P O W E R	S A F E T Y	A U X	T I M E R	T I M E R H O L D	S T O P	O P E N L I M I T	C L O S E L I M I T	S I N G L E	C L O S E	O P E N	G A T E O P E N	G A T E C L O S E	T I M E R A C T I V E	
Gate stopped in any position	X X X					X	X	X				X	X		1 Check for power 2 Check for broken spring or cable 3 Overload relay tripped ? 4 Stop circuit broken (terminals 7 & 8) 5 Over run timer reached, manual valves open or low oil pressure, out of oil. 6 Over run timer reached same as #5
Gate stopped in open position	X X X	X			X	X		X						X	1 Safety circuit activated (remove wires from terminal 3 until light goes out, trace wire to trouble) 2 Timer circuit activated (remove wire from terminal 5 until light goes out, trace wire to trouble) 3 gate timing, safety and timer must be deactivated to resume operation. 4 Close limit failure
Gate stopped in close position	X X X			X		X	X					X			1 Open limit failure 2 Timer item failure (keypad, card reader, open and set timer button, etc.) 3 Open button failure
Motor runs but gate does not operate (shown in closed position)	X X X					X	X	X			X	X	X		1 Check manual valves (close if needed) 2 If 3 Phase, reverse 2 legs (check rotation) 3 Check for valve operation (115 VAC at coils)
Gate opens but motor does not stop running	X					X	X	X							1 Open limit failure or open limit relay failure
Gate closes but motor does not stop running	X X					X	X	X							1 Close limit failure or close limit relay failure 2 Close limit needs to be adjusted
Contactors pulls in but motor does not run	X X X					X		X							1 Check wiring at contactor 2 Check wiring in motor junction box 3 Check for motor failure (local motor shop)
Gate runs considerably slower in one direction	X X					X	X	X							1 Check to see that both manual valves are closed 2 Check balance of barrier (open manual valves and raise barrier by hand checking to see if gate will stay put in any position-adjust springs accordingly)
Gate operates in jerky inconsistent manner	X					X	X	X							1 Check oil level (use Dexron 3 ATF)
Motor runs in jerky inconsistent manner	X X					X	X	X							1 Check voltage while running (over 3% drop unacceptable) (compare to cover voltage) 2 Oil pressure too high (consult mfg.)
Plastic covering coming off of cable (shut off power when inspecting balance system)															1 Normal wear cable can be lubed (replace cable if seven or more steel strands are broken)
Gate squeaking while operating (shut off power)															1 Cable connections dry lube with cable lube 2 Check cable sheave bearings (replace as needed)
Barrier no longer slows down before reaching limit	X					X	X								1 Check operation of slow down valves (115 VAC)

*The stop and both limit circuits are NC therefore the light goes out when that circuit is activated.

*When calling Ideal Mfg. for technical help, please note the lights during the problem occurring for easier trouble shooting.