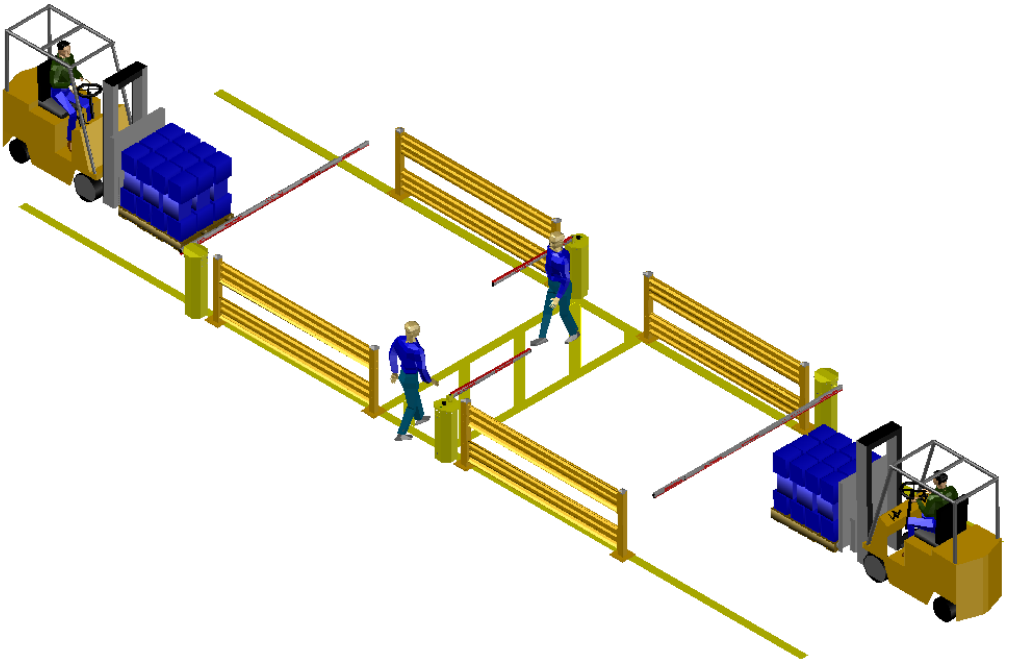
www.cisco-eagle.com/aislecop

AisleCop® Gate Systems by Cisco-Eagle

OWNER/INSTALLATION MANUAL



- ✓ **BEFORE** installation, operation, or maintenanace of the equipment, please read this manual carefully, and follow all safety instructions.

- ✓ This manual is intended to focus on certain safety-related issues. These guidelines are not intended to be all-inclusive. Each application is unique; it is the responsibility of the purchaser, designer, installer, and end user to ensure that the gate system is safe for the intended use.

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1. SAFETY

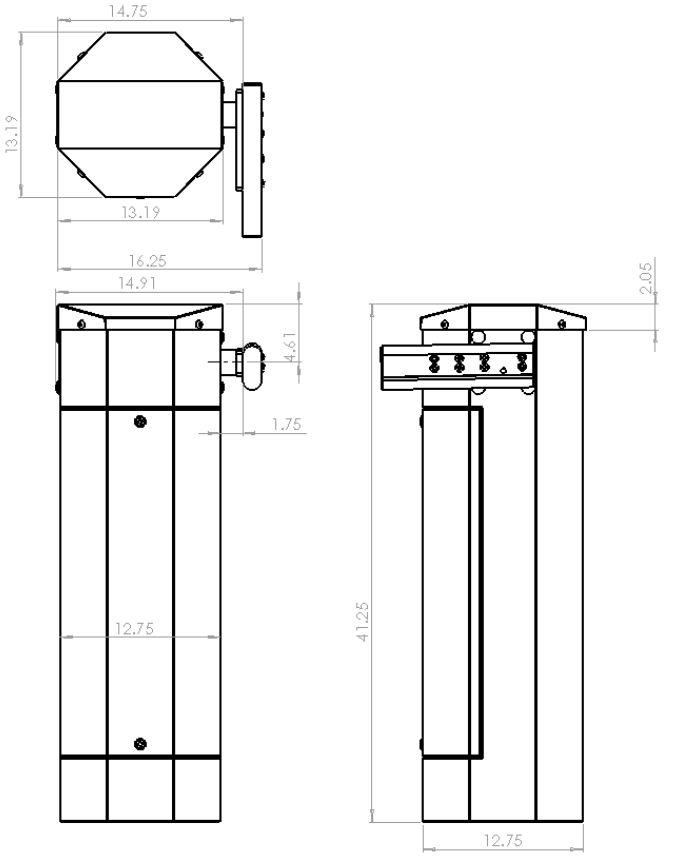
AisleCop® gates contribute to a safer working environment. AisleCop® gates in no way remove the risks associated with pedestrian and vehicle traffic. AisleCop® gates serve as a visual warning, to both drivers and pedestrians to be cautious in pedestrian and vehicle traffic ways**. AisleCop® gates do not provide 100% protection from industrial traffic accidents. AisleCop® gates do not stop forklifts or other industrial traffic. Other critical factors, such as system maintenance, driver/pedestrian training and compliance, enforcement of crossing lanes, and assessment of safe crossings are the responsibility of others.**

Training is required to safely operate AisleCop® gates. Read the operation instructions contained within this manual prior to use.

- ✓ **NEVER** operate AisleCop® gates in applications for which the gates were not intended
- ✓ **NEVER** operate AisleCop® gates without proper training.
- ✓ **NEVER** use accessories or attachments that are not approved by Cisco-Eagle, Inc.
- ✓ **NEVER** make modifications to AisleCop® gates without prior written approval from Cisco-Eagle, Inc.
- ✓ **ALWAYS** be aware of operation of AisleCop® gates.
- ✓ **ALWAYS** keep hands, feet, and loose clothing clear of moving parts at all times.

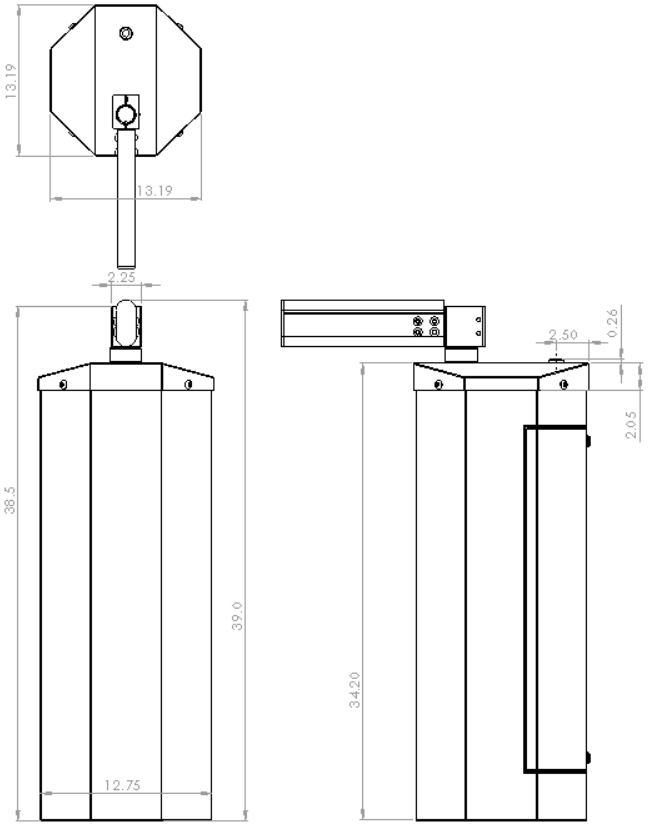
2.1 VEHICLE GATE

Weight:	120 lbs.
Voltage/Phase:	115 VAC Single-Phase
Current:	6.0 amps @ 115V
Max Arm Length:	12 ft
Speed:	90° in approximately 3.0 seconds
Temperature Range:	40° to 105° Fahrenheit

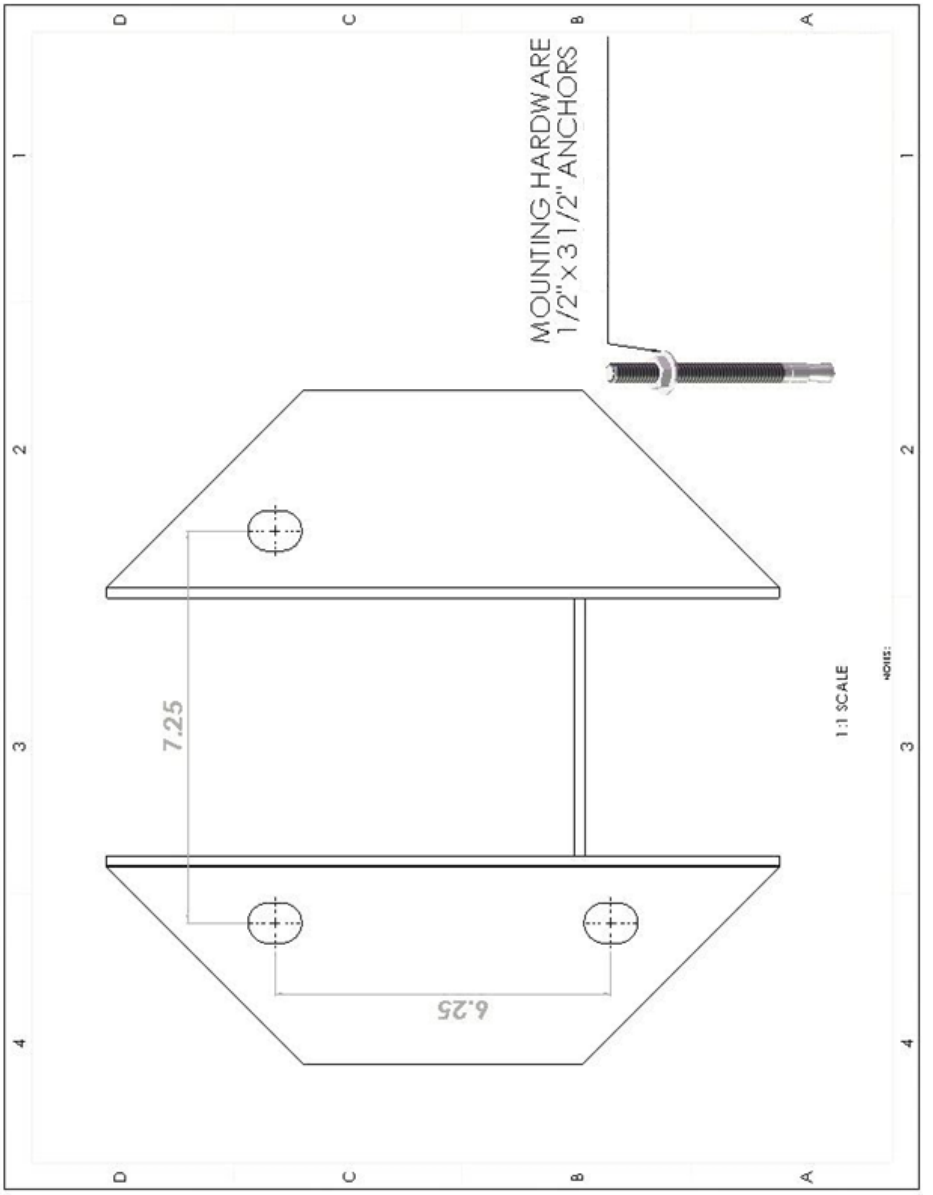


2.2 PEDESTRIAN GATE

Weight:	75 lbs.
Voltage/Phase:	115 VAC Single-Phase
Current:	6.0 amps @ 115V
Max Arm Length:	40.5 in
Speed:	90° in approximately 3.0 seconds
Temperature Range:	40° to 105° Fahrenheit

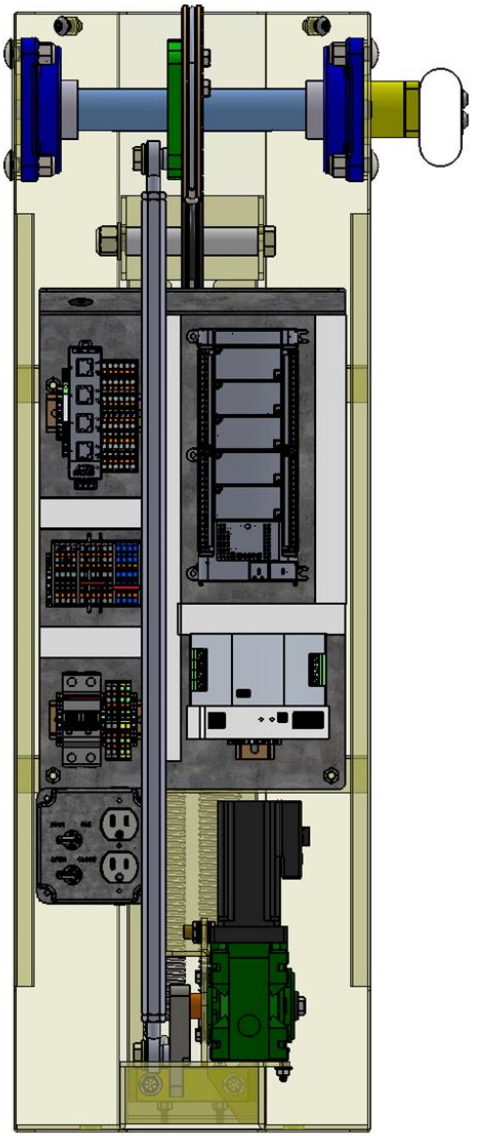


3.1 PAD MOUNTING

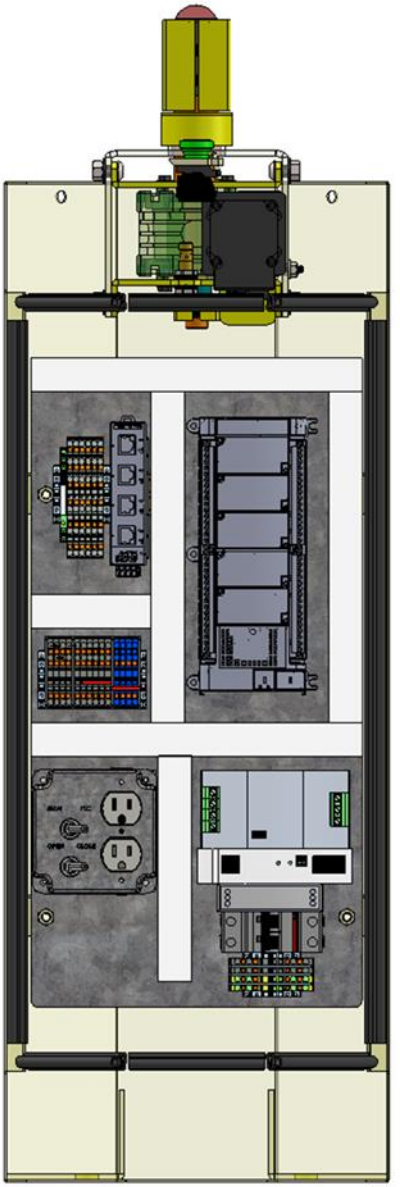


3.2 WIRING SPECIFICATIONS

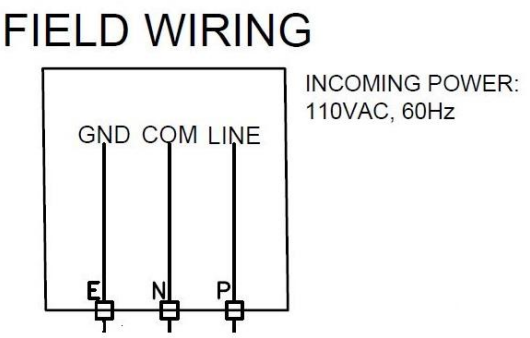
3.2.1 VEHICLE GATES



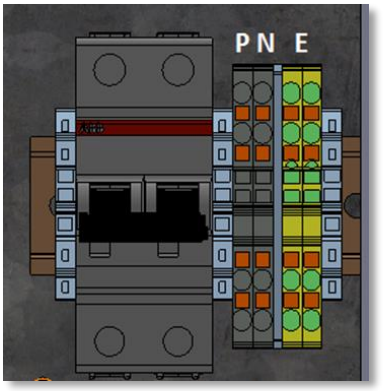
3.2.2 PEDESTRIAN GATES



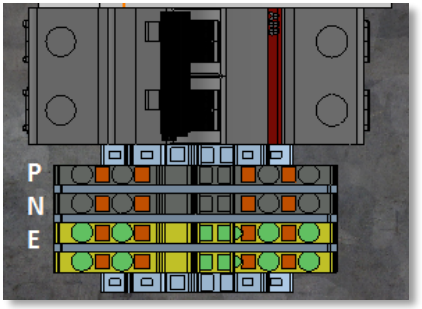
3.3 WIRING CONNECTIONS



3.3.1 VEHICLE GATE



3.3.2 PEDESTRIAN GATE

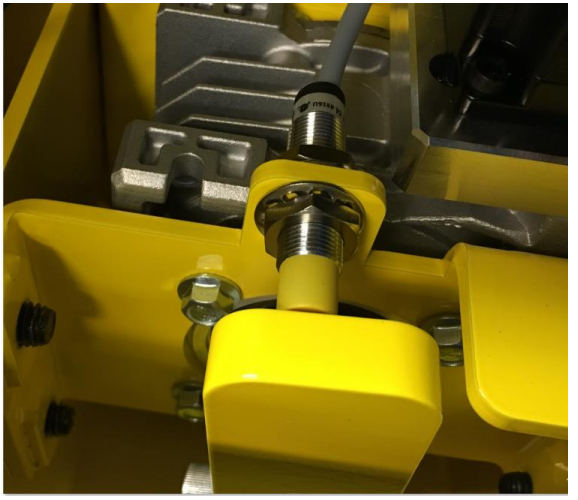


3.3.3 ROUTING OF WIRES

When field wiring, confirm that all wires are free from moving parts and heater (if applicable).

Moving Rod in Vehicle gate

Heater



Moving Flag in Pedestrian Gate

3.4 ELECTRICAL INSTALLATION

3.4.1 WIRE PULL DISTANCES

Most AisleCop® systems utilize a 2 Amp power supply. Utilizing this 2 Amp limit, the following chart outlines the recommended minimum wire gage for connecting 24V DC communications in the field.

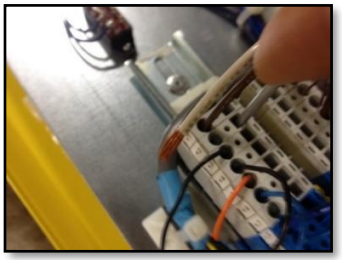
Distance of Wire Pull (ft)	25’	50’	75’	100’	125’	150’	175’	200’	225’	250’	Above 250’
Recommended Min. Wire Gage	18	18	18	18	16	16	14	14	14	14	**Call**

3.4.2 MAKING TERMINATIONS USING SCREWLESS TERMINAL BLOCKS

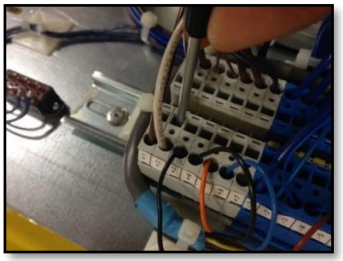
Most of the electrical terminations inside AisleCop® gates are made using screwless terminal blocks which utilize an internal spring to hold the wires in place. Please follow these steps to when wiring field terminations.

1. Verify the correct gage of wire is being used based on the chart above.
2. Strip the insulation off of the wire approximately ¼” from the end of the wire.
3. Insert a small, flathead screwdriver into the square hole on the top of the appropriate terminal. Lever the screwdriver away from you and hold it in place.
4. Insert the wire into the round hole of the appropriate terminal and allow the screwdriver to lever back, clamping the wire in place. Take care to make sure that the wire is not clamped on the insulation.
5. Pull the wire outward from the terminal block to ensure it is secure. If the wire pulls loose, repeat steps 3-5.

Steps 2-3



Steps 4-5



3.5 FIRE ALARM WIRING REQUIREMENTS

AisleCop® gate systems come preprogrammed with a set of fire alarm scenario operations. In order for this scenario to work properly, a 24V DC normally open input and an output signal are required to be wired to the appropriate terminal blocks inside the primary gate of each system.

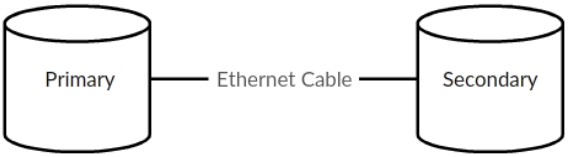
When the AisleCop® system's PLC receives a closed contact signal, the program will stop the current cycle and immediately enter the Fire Alarm Mode sequence. During this Fire Alarm Mode sequence, unless otherwise specified, all gates will immediately open, all applicable system red lights will flash their red lights, and all audible alarms will sound until the PLC no longer receives the closed-contact signal.

When the closed-contact signal is no longer received, the system will return to its normal operation.

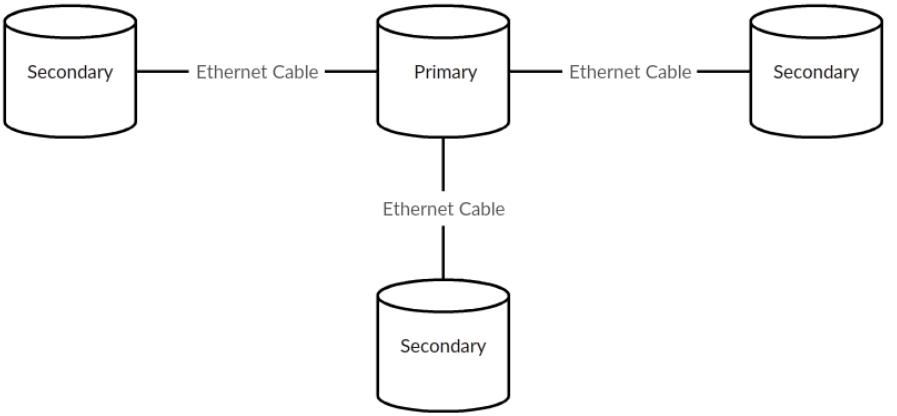
3.6 ETHERNET CABLE CONNECTIONS

Every Secondary Gate needs to be connected to only one Primary Gate via an Ethernet Cable or single chain of Ethernet Cables. The Connection should pass through as few Ethernet switches as possible. See illistrated examples below:

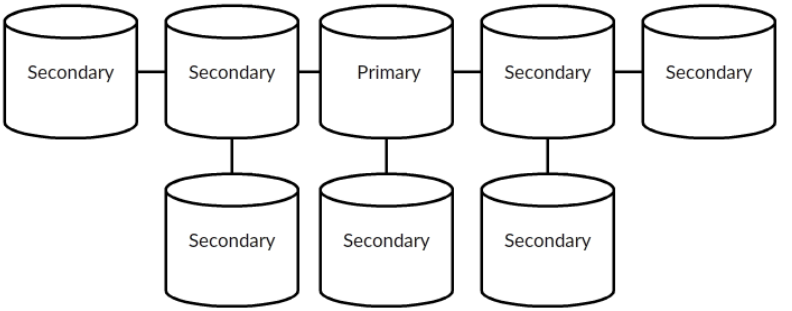
2-GATE SYSTEM



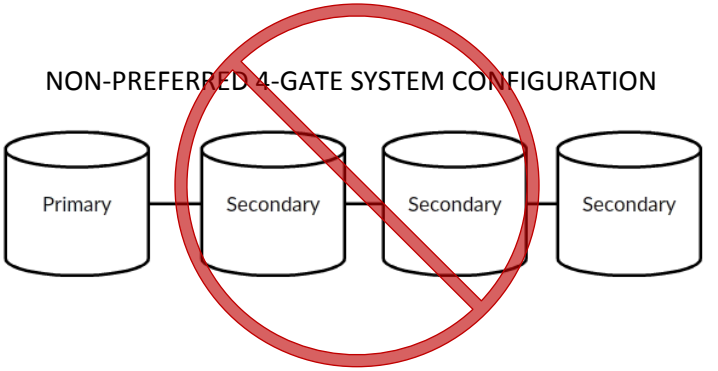
4-GATE SYSTEM



8-GATE SYSTEM

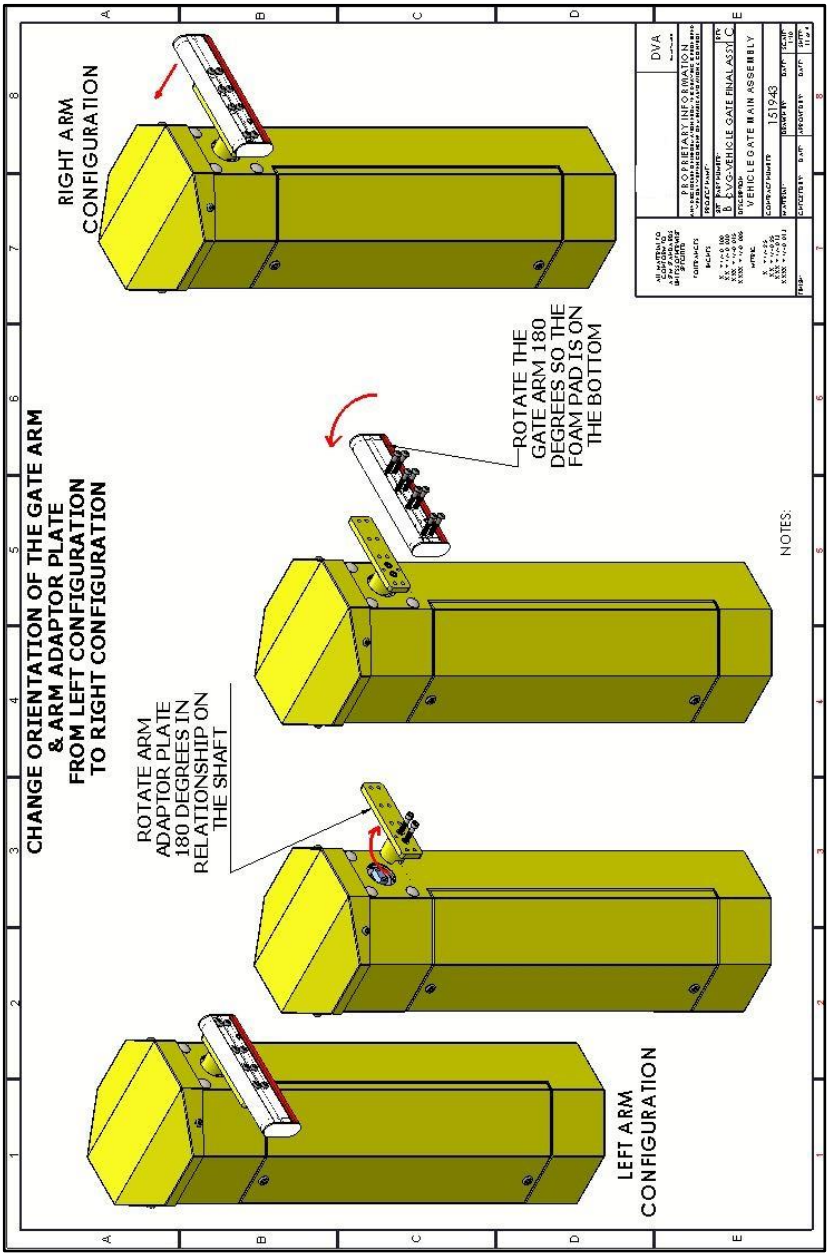


NON-PREFERRED 4-GATE SYSTEM CONFIGURATION

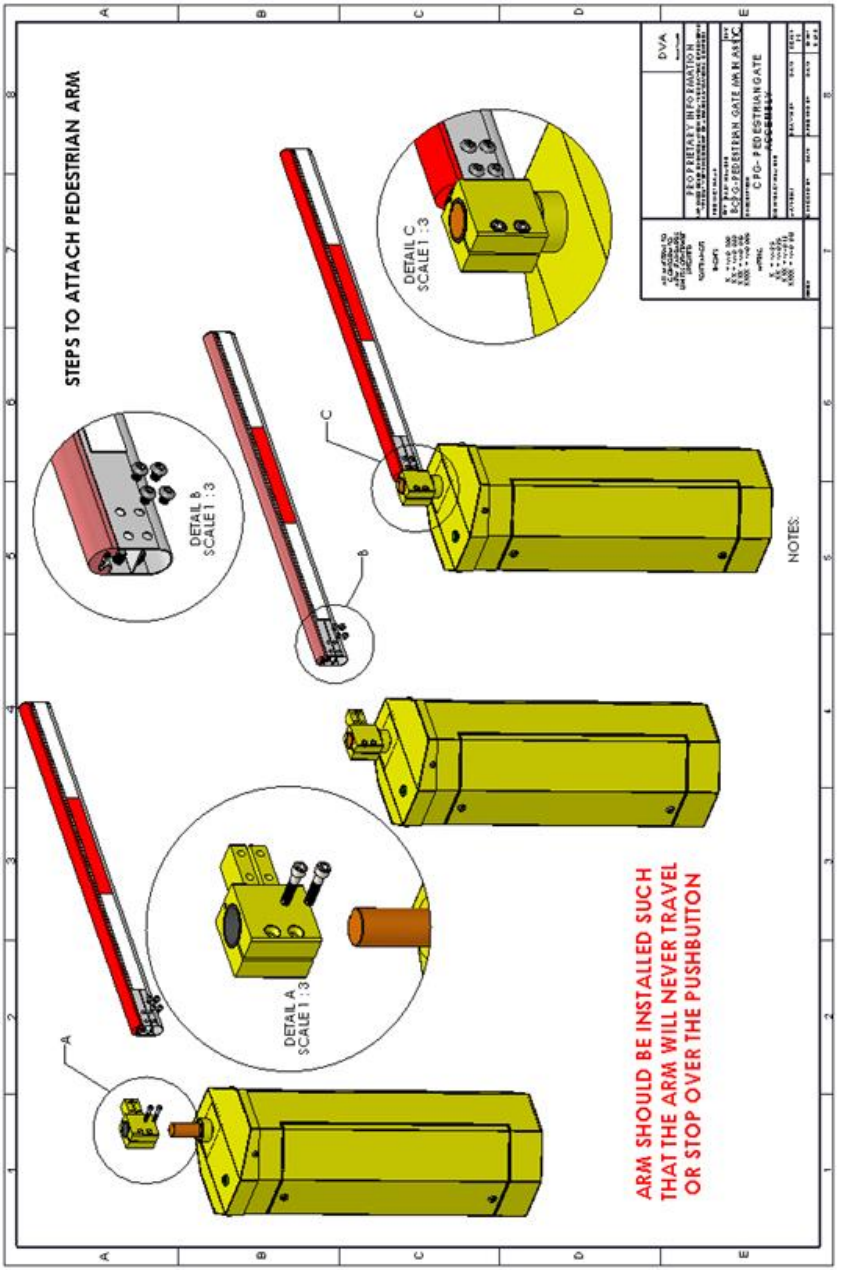


3.7 VEHICLE GATE ARM ATTACHMENT

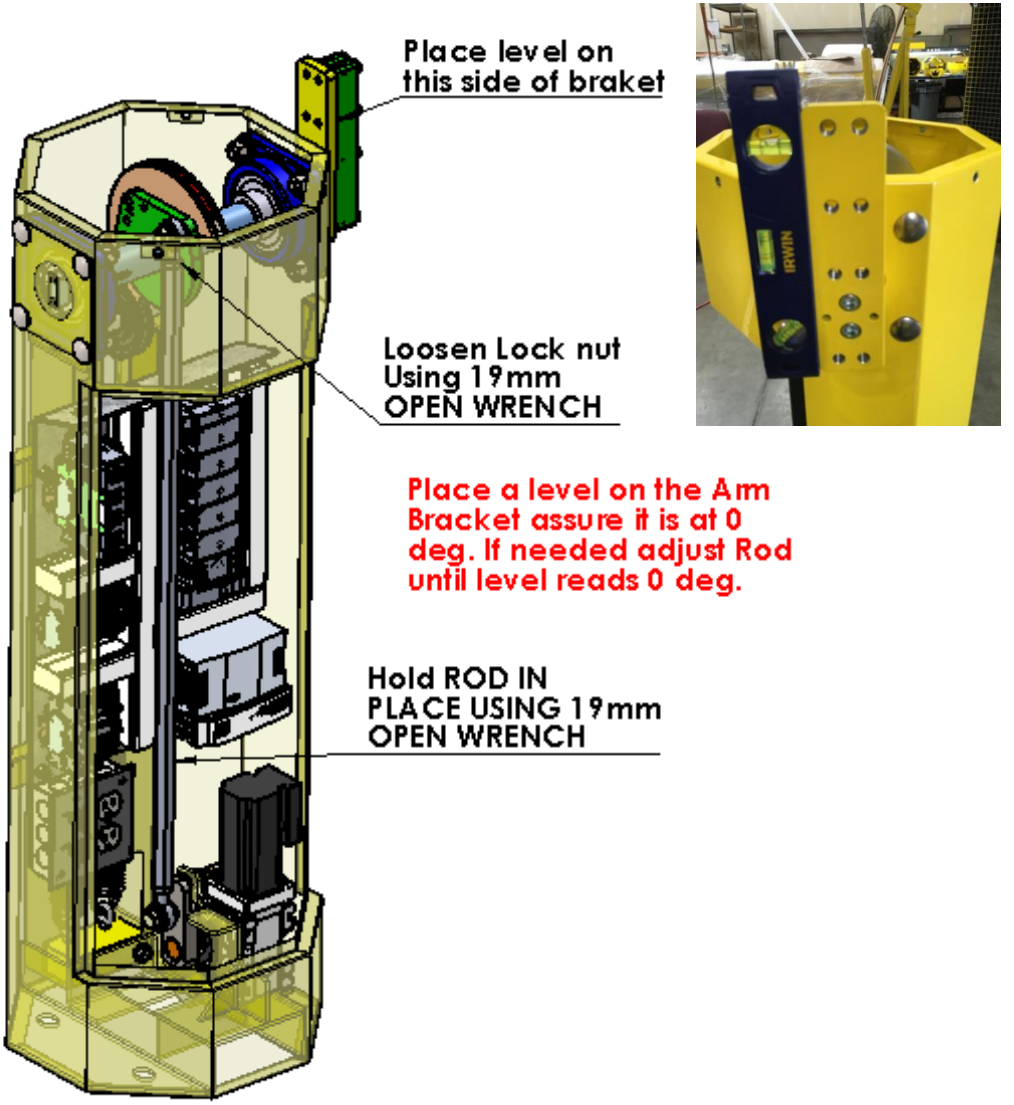
NEVER OPERATE THE VEHICLE GATE WITHOUT ARM ATTACHED



3.7 PEDESTRIAN GATE ARM ATTACHMENT

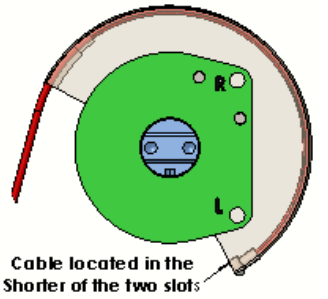


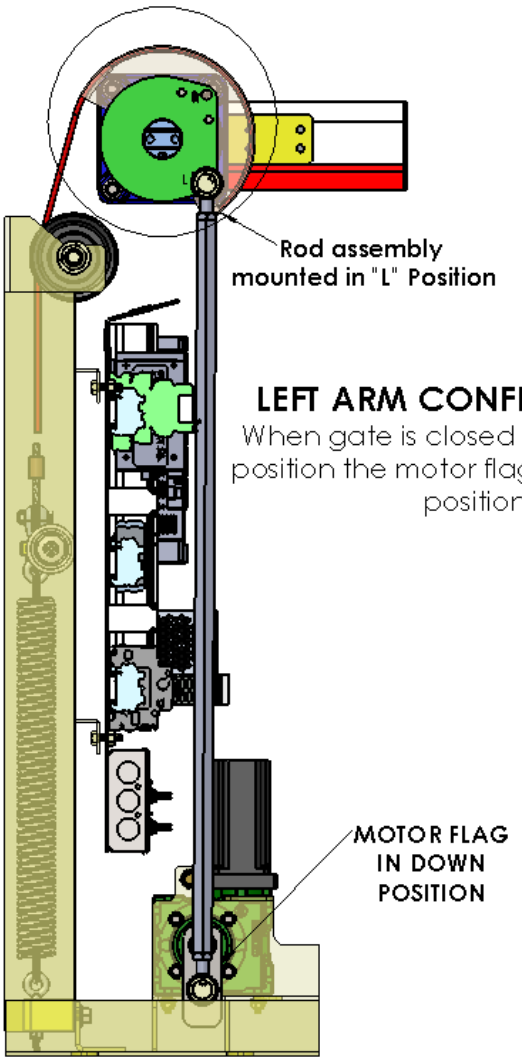
3.8 VEHICLE GATE ARM ADJUSTMENT



3.9 CABLE, ROD & CAM CONNECTION

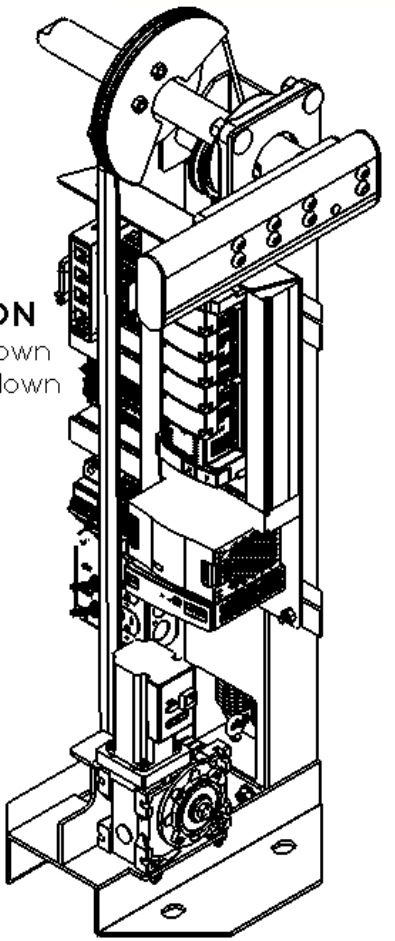
3.9.1 LEFT-ARM CONFIGURATION: DOWN POSITION



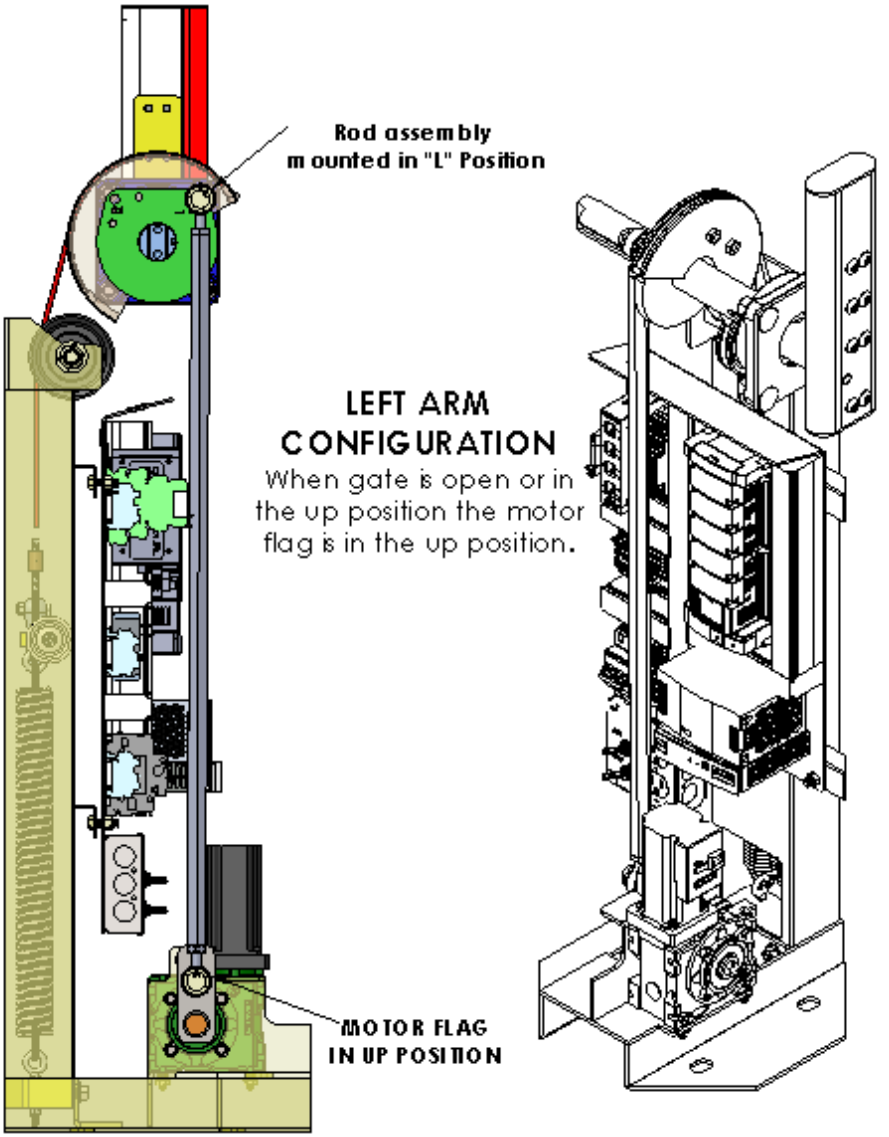


LEFT ARM CONFIGURATION

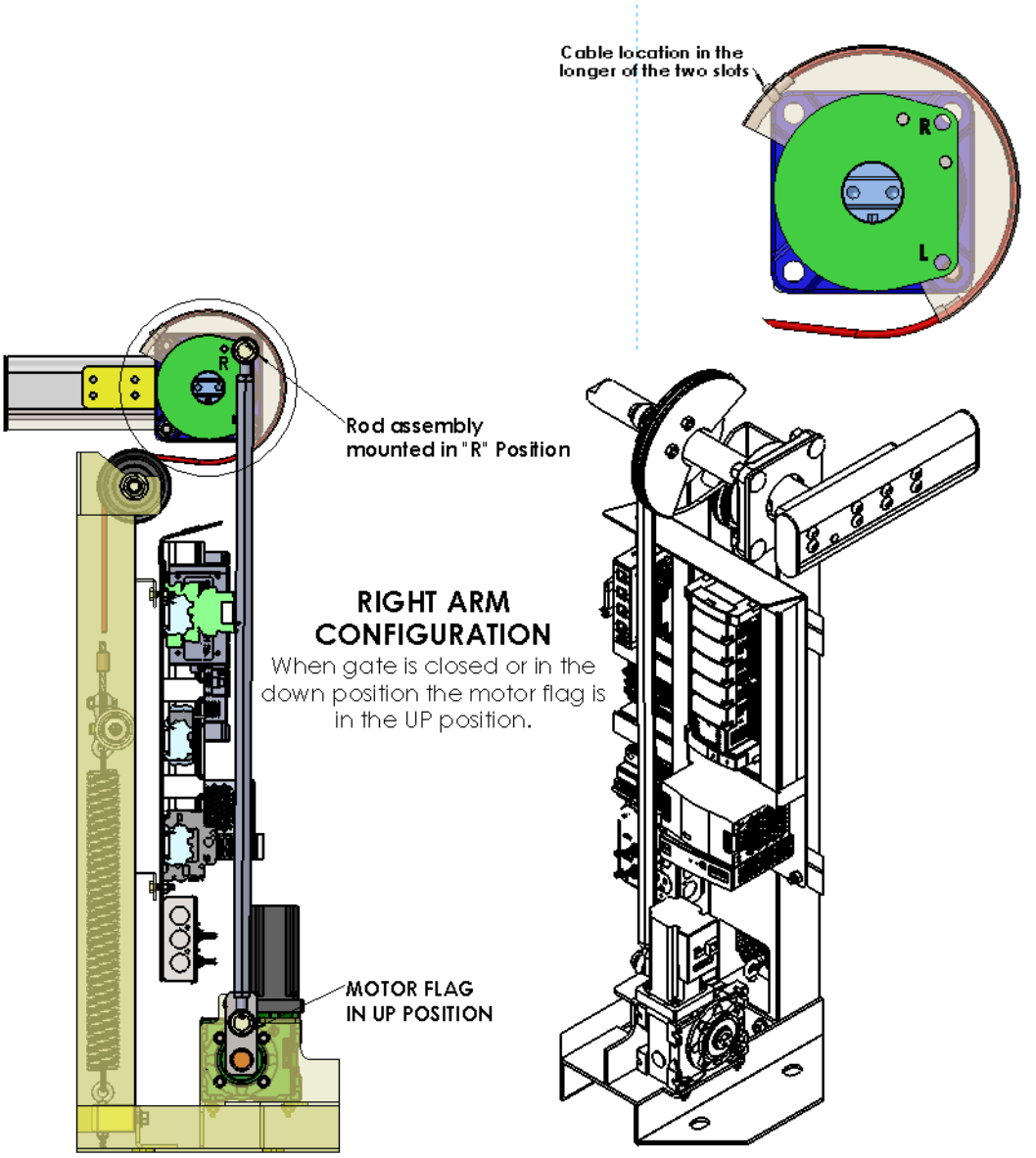
When gate is closed or in the down position the motor flag is in the down position.



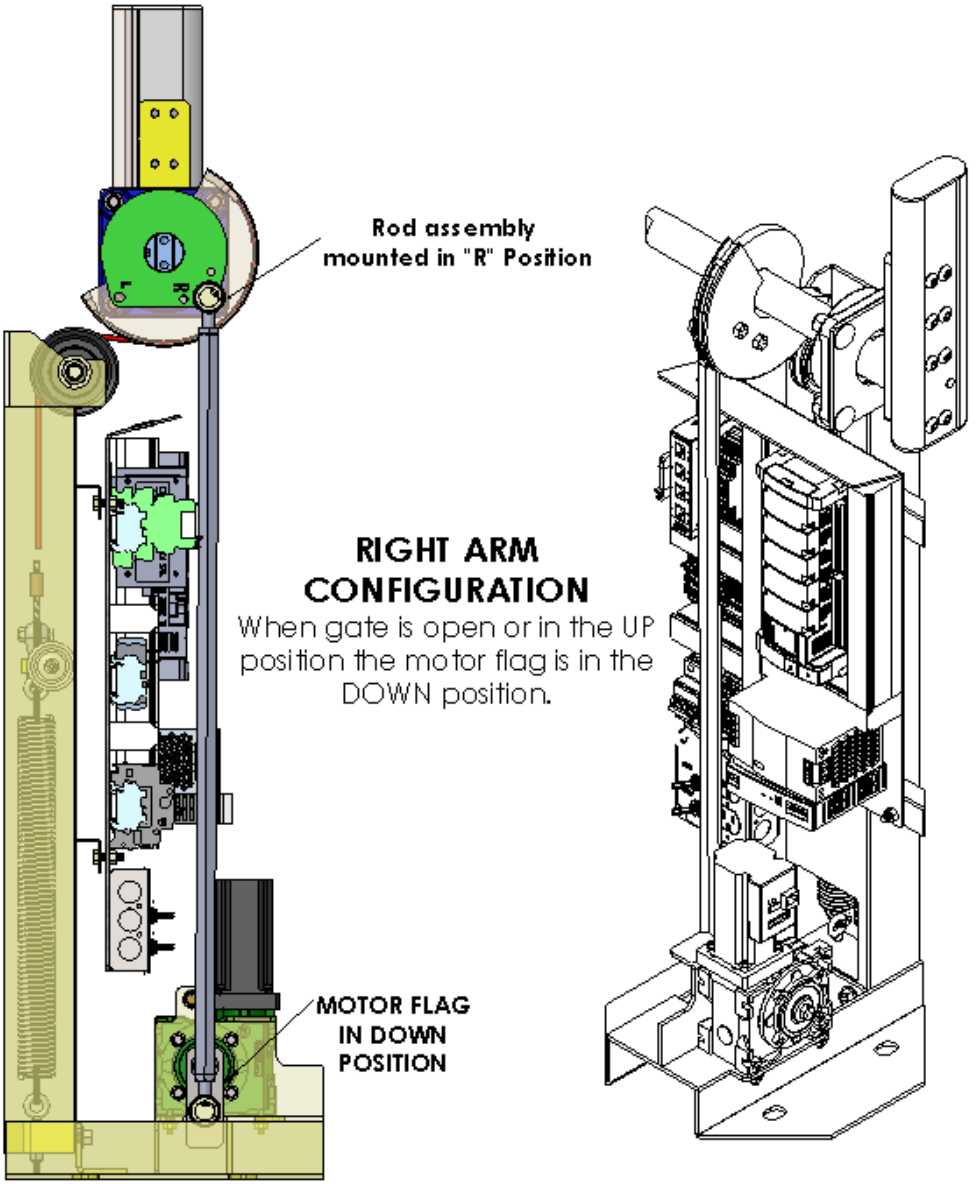
3.9.2 LEFT-ARM CONFIGURATION: UP POSITION



3.9.3 RIGHT-ARM CONFIGURATION: DOWN POSITION



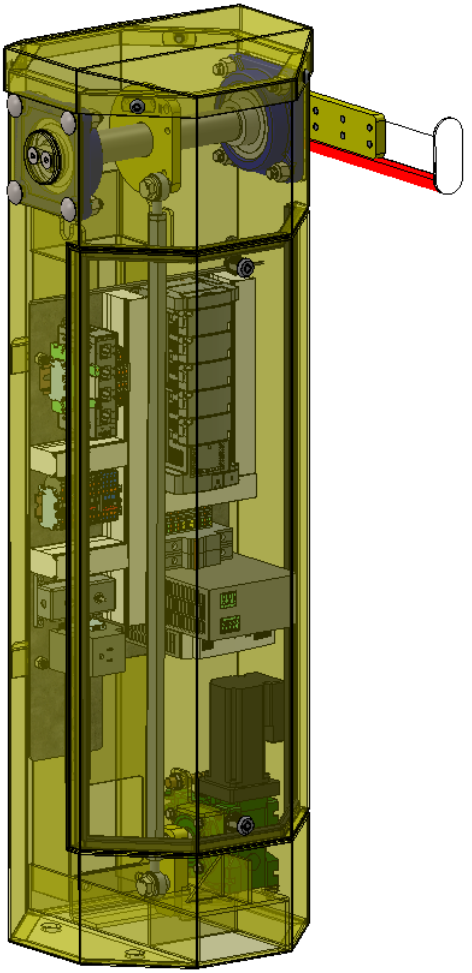
3.9.4 RIGHT-ARM CONFIGURATION: UP POSITION

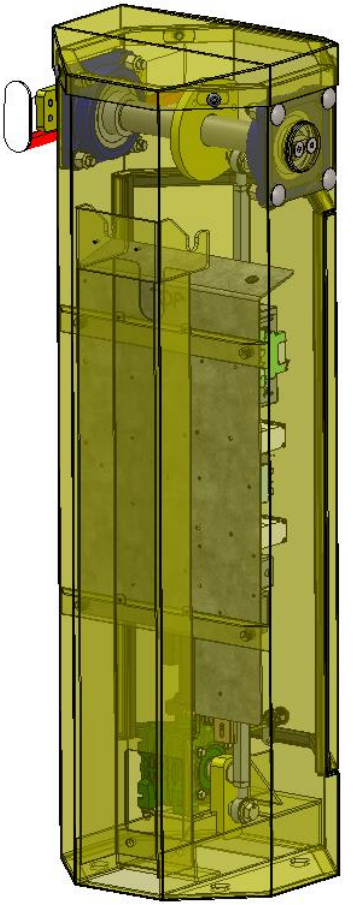


3.10 CAM ATTACHMENT-VARIOUS ARM LENGTHS (VEHICLE GATE ONLY)

3.10.1 4-6 FOOT GATE ARM LENGTH

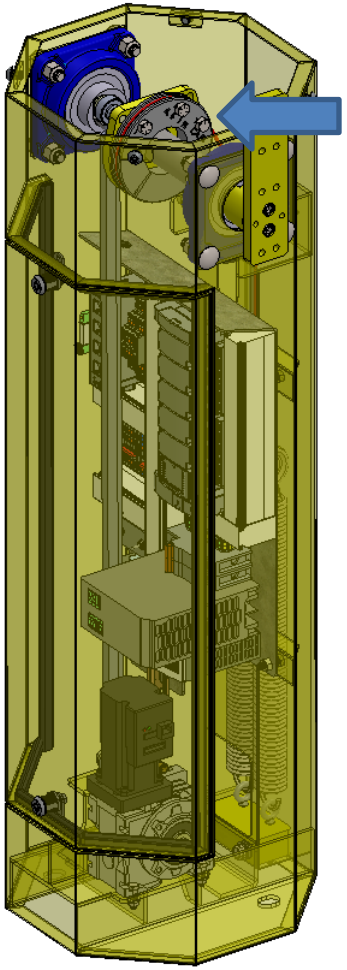
1. NO CAM REQUIRED
2. NO SPRING ASSEMBLY REQUIRED
3. NO PULLEY ASSEMBLY REQUIRED



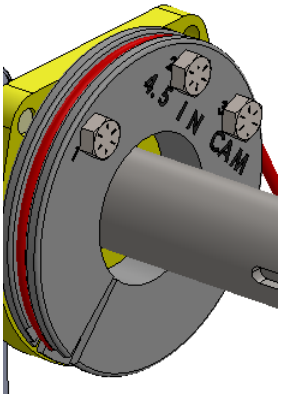


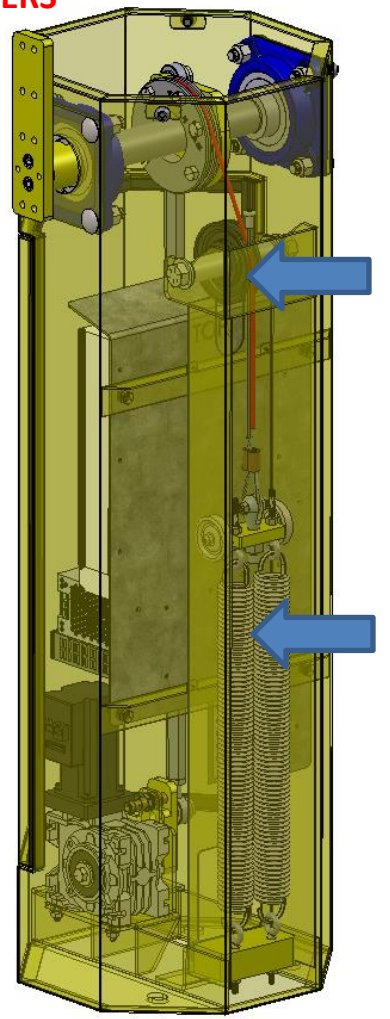
3.10.2 7-8 FOOT GATE ARM LENGTH

1. 4.5 in. DIA. CAM REQUIRED (2pc ENGRAVED)
2. SPRING ASSEMBLY REQUIRED
3. PULLEY ASSEMBLY REQUIRED



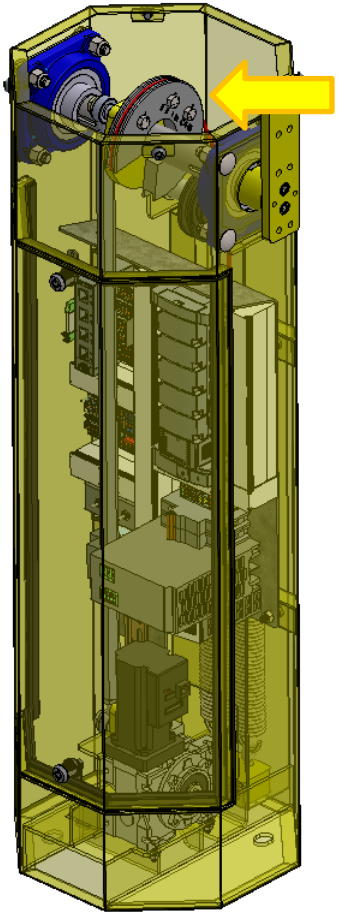
MOUNT 4.5 in. CAM on SHAFT ASSEMBLY, MATCHING NUMBERS 1 THRU 4



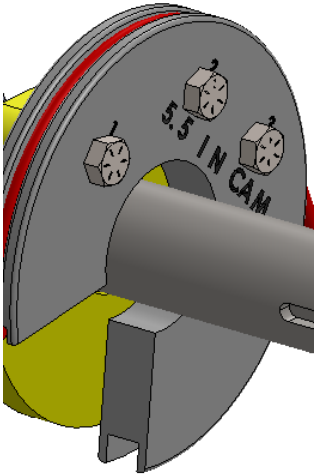


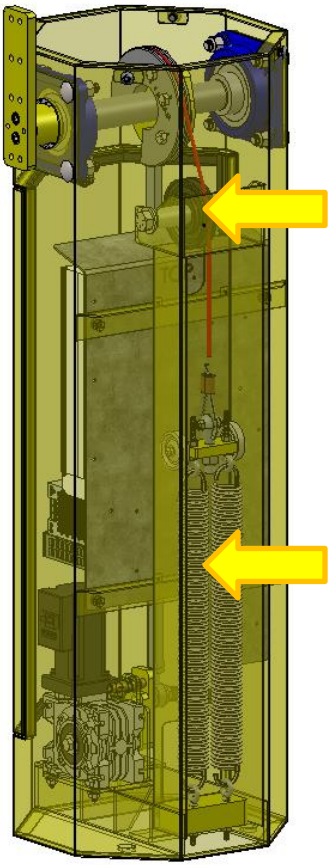
3.10.3 9-11 FOOT GATE ARM LENGTH

1. 5.5 in. DIA. CAM REQUIRED (2pc ENGRAVED)
2. SPRING ASSEMBLY REQUIRED
3. PULLEY ASSEMBLY REQUIRED



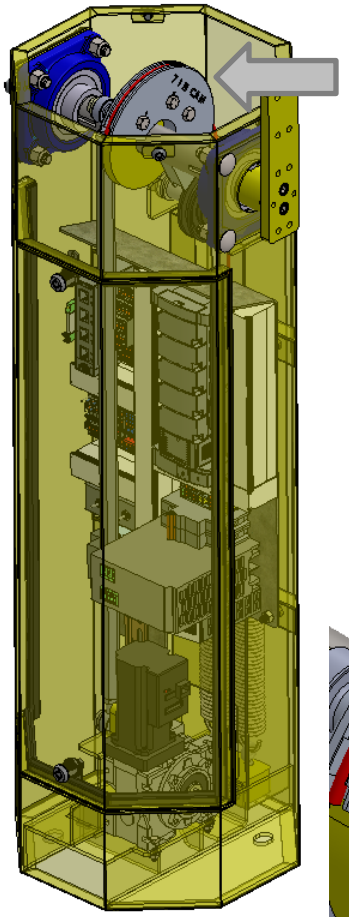
MOUNT 5.5 in. CAM on SHAFT ASSEMBLY, MATCHING NUMBERS 1 THRU 4



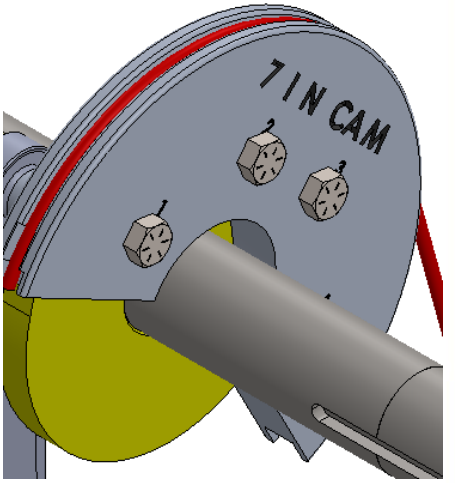


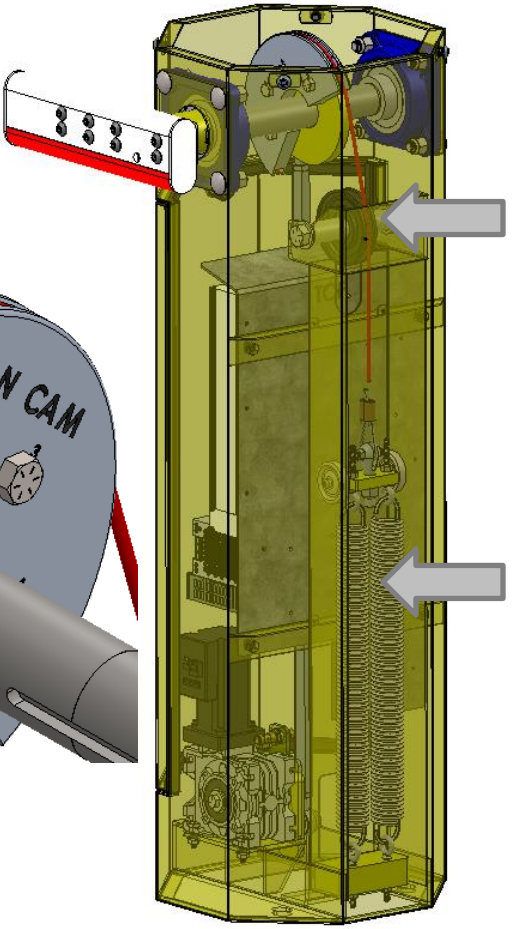
3.10.4 9-11 FOOT GATE ARM LENGTH

1. 7.0 in. DIA. CAM REQUIRED (2pc ENGRAVED)
2. SPRING ASSEMBLY REQUIRED
3. PULLEY ASSEMBLY REQUIRED



MOUNT 7.0 in. CAM on SHAFT ASSEMBLY, MATCHING NUMBERS 1 THRU 4





3.11 GATE ARM LENGTHS

3.11.1 VEHICLE GATE

PART NUMBER	CAM SIZE	ARM LENGTH DESIGNATION	CUT LENGTH – INCHES
	NO CAM, Spring Assy, or Pulley Assy	4 FOOT ARM	57 inches
161649-CVG-006 161648-CVG-006L	NO CAM, Spring Assy, or Pulley Assy	6 FOOT ARM	81 inches
161649-CVG-007 161648-CVG-007L	4.5in CAM-2pc	7 FOOT ARM	93 inches
161649-CVG-008 161648-CVG-008L	4.5in CAM-2pc	8 FOOT ARM	105 inches
161649-CVG-009 161648-CVG-009L	5.5in CAM-2pc	9 FOOT ARM	117 inches
161649-CVG-110 161648-CVG-110L	5.5in CAM-2pc	10 FOOT ARM	129 inches
161649-CVG-011 161648-CVG-011L	5.5in CAM-2pc	11 FOOT ARM	141 inches
161649-CVG-120 161648-CVG-120L	7in CAM- 1pc	12 FOOT ARM	153 inches
161649-CVG-140M 161648-CVG-140ML	7in CAM- 1pc	14 FOOT ARM	177 inches

L= Lighted Arm Assembly-24 Volt

3.12 GATE ARM LENGTHS

3.12.1 VEHICLE GATE

PART NUMBER	ARM LENGTH DESIGNATION	CUT LENGTH – INCHES
161648-CPG-080* 151942-CPG-080**	4 FOOT ARM	45.75inches
161648-CPG-085* 151942-CPG-085**	5 FOOT ARM	65.25 inches
161648-CPG-086* 151942-CPG-086 **	6 FOOT ARM	77.25 inches
161648-CPG-090* 151942-CPG-090 **	7 FOOT ARM	89.25inches
161648-CPG-100* 151942-CPG-100**	8 FOOT ARM	101.25 inches

***24 Volt Light Arm Assembly** ****12 volt Lighted Arm Assembly**

4.1 TOOLS AND PROGRAMS

a. Software tools used
   i. Applied Motion Products–Step Servo Quick Tuner V3.0.15.0625 http://www.applied-motion.com/products/software/step-servo-quick-tuner

   ii. Connected Components Workbench 8.01 http://www.rockwellautomation.com/global/products-technologies/connected-components/tools/workbench.page

b. Programs
   i. Vehicle
      1. PLC – 151943-PLC-A1215.zip
      2. Drive – 151943-MC-A1215.ssprj

   ii. Pedestrian
      1. PLC – 151942-PLC-A1215.zip
      2. Drive – 151942-MC-A1215.ssprj

4.2 GATE FUNCTION NOTES

a. Gate will automatically move to the home position on power up.

b. Direction bit for gate must be set on powerup (see more on gate direction in *Direction Notes* below.

c. After an overload condition the gate will not move unless this condition is acknowledged. To do this the OverloadAck bit must be true.

d. After a drive error condition, the gate will not move unless this condition is acknowledged. To do this the DriveErrorAck bit must be true.

e. The pushbutton is only active when the gate is in the closed positon.

f. Manual mode will not function until homing has completed. You can move the gate manually by switching the gate from PLC mode to MAN mode. Then move the OPEN/CLOSE switch in the direction desired. Note: OPEN or CLOSE will not go past the open or close limit. If CLOSE or OPEN is activated when this limit has been reached the gate will not respond.

4.3 PEDESTRIAN-SPECIFIC SETUP

The Pedestrian gate can open clockwise (CW) or counterclockwise (CCW). The initial set up of the gate will be different depending on whether opening CW or CCW. **This procedure should not be followed until the gate is securely mounted.**

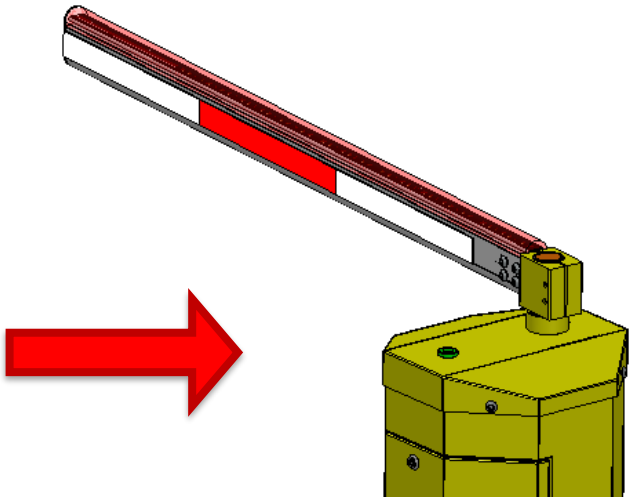
Opening CW: the gate direction bit in the PLC should be false

1. Power up gate
2. Wait for the vertical gate shaft to stop moving (about 30 seconds)
3. Install arm in the desired closed position
4. The gate will move 90° CW to open

Opening CCW: the gate direction bit in the PLC should be true

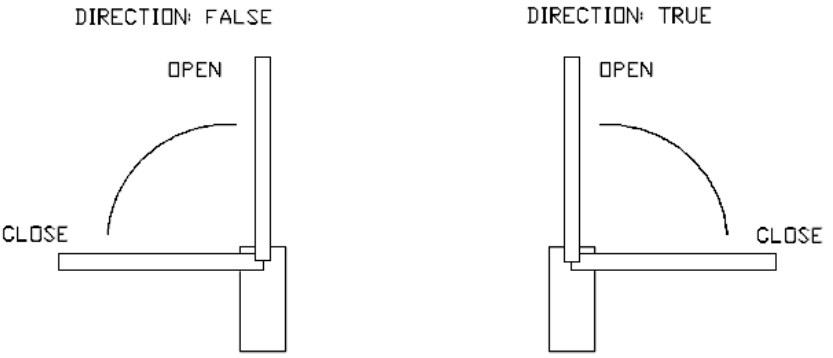
1. Power up gate
2. Wait for the vertical gate shaft to stop moving (about 30 seconds)
3. Install arm in the desired open position

The gate will move 90° CW to close. **Note: The gate arm should be installed such that the arm will never travel or stop over the pushbutton.**



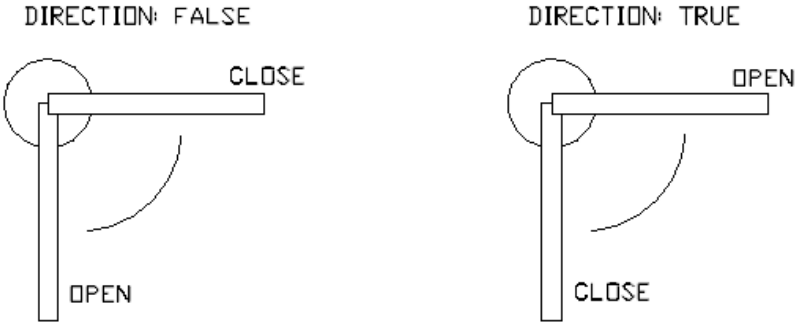
4.4 DIRECTION NOTES

4.4.1 VEHICLE GATE



RIGHT SIDE

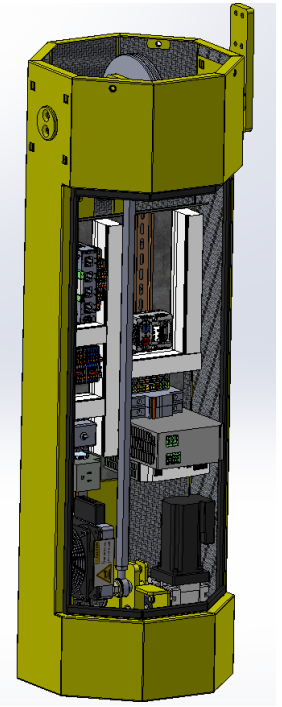
4.4.2 PEDESTRIAN GATE

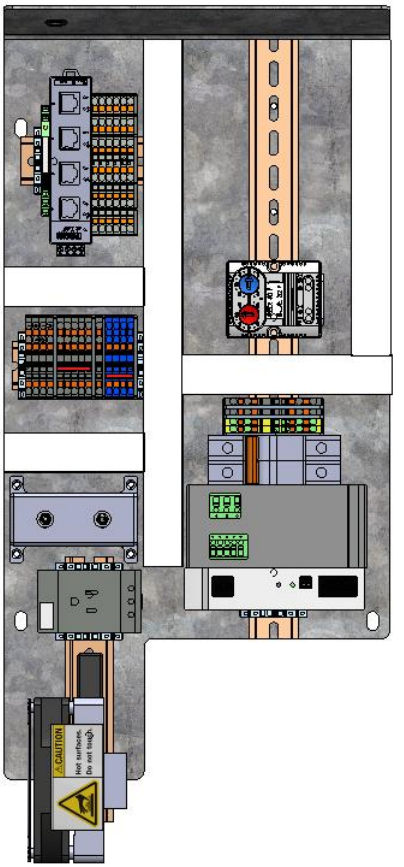


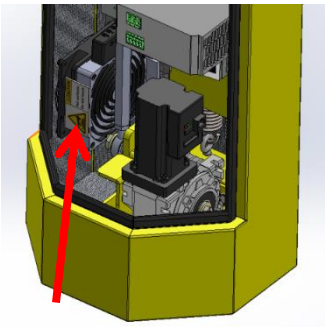
TOP SIDE

4.5 SEVERE DUTY/OUTDOOR GATE

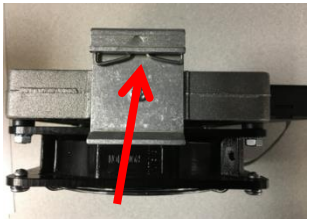
a. Confirm that the thermiostate is preset: RED:40°F & BLUE:32°F
b. DO NOT OPERATE GATE UNTIL 32°F TEMPERATURE IS MAINTAINED INSIDE OF ENCLOSURE
c. Options add: enclosure insulation, gaskets, thermostat, and heater







FAN CAN BE REMOVED FROM DIN RAIL TO ACCESS MOUNTING BOLTS IN BOTTOM OF ENCLOSURE



5.1 MOTION DETECTORS

Most AisleCop® systems utilize a series of digital radar motion detectors. These sensors act as the "eyes" of the system and work in concert with the system's PLC to determine if and when to open gates. As such, these motion detectors are vital in ensuring the system operates correctly. Verify all of the following conditions are met when mounting motion detectors for your AisleCop® system:

- ✓ The device is mounted so that it is vibration free
- ✓ There are no moving objects in the field of the sensor, such as adjacent machinery, robots, personnel, etc. that would falsely trigger the motion detector
- ✓ Fluorescent light tubes are not in the direct line of sight of the motion detector
- ✓ The motion detector is not installed behind an object(s) that significantly impedes its field
- ✓ Temperature must be maintained in the range of -4°F to 131°F and humidity must not exceed 95%
- ✓ Sensor should be aimed at area to be sensed.

Basic configuration of motion detectors has been done in the factory prior to shipping. If an installation option has been included with this system, Cisco-Eagle, Inc. will provide additional onsite configuration. Otherwise, this configuration will be the responsibility of the end user.

It is important to determine the location, direction, range, and area of each motion detector's field prior to installation. Drawings may be provided to determine these attributes. Each standard AisleCop® system is provided with three motion detectors: one for detecting motion in the pedestrian aisle(s); two for detecting motion in the vehicle aisle(s); with additional sensors provided as needed.

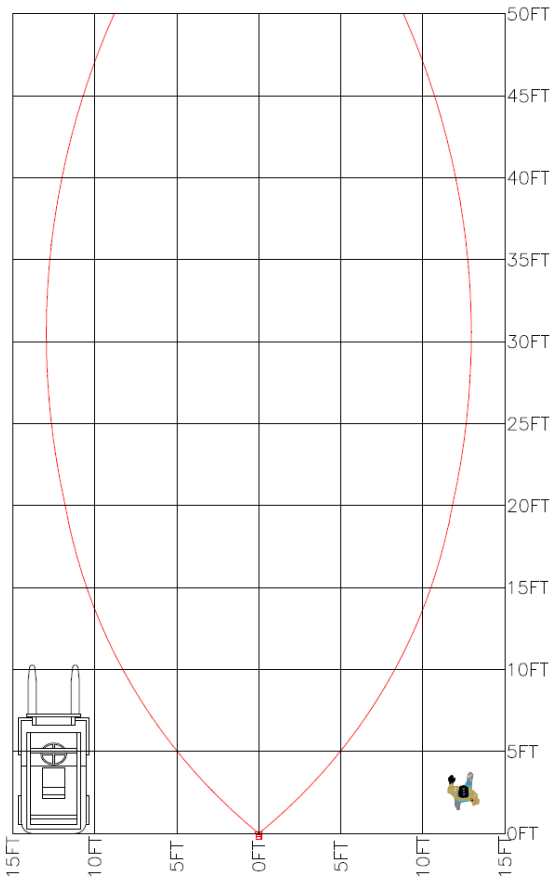
To ensure a good line of sight, and avoid background noise and false triggers, it is recommended that all sensors are mounted high (10 ft or 3M) and pitch at a downward facing angle (-15° to -30°). See Figure 4 on the following page. A motion detector is typically surface mounted with the included retainer bracket. The angle of each motion detector should be adjusted and fixed by tightening the two screws on either side of the bracket and motion detector. Refer to the motion detector manual included with the motion detector or online for additional information.

FIGURE 4–MOTION DETECTOR MOUNTING POSITIONS

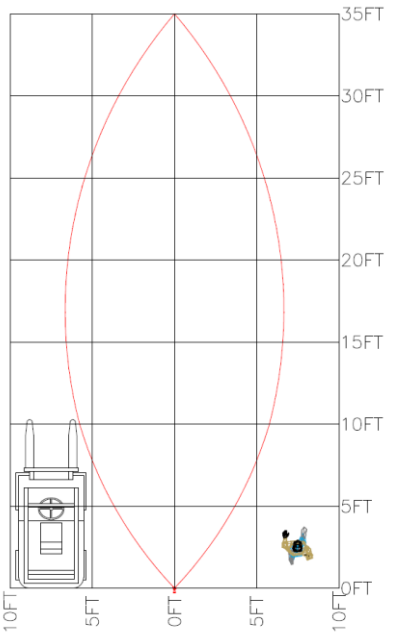
Horizontal Mounting Position

Vertical Mounting Position

FIGURE 5–MOTION DETECTOR RANGES



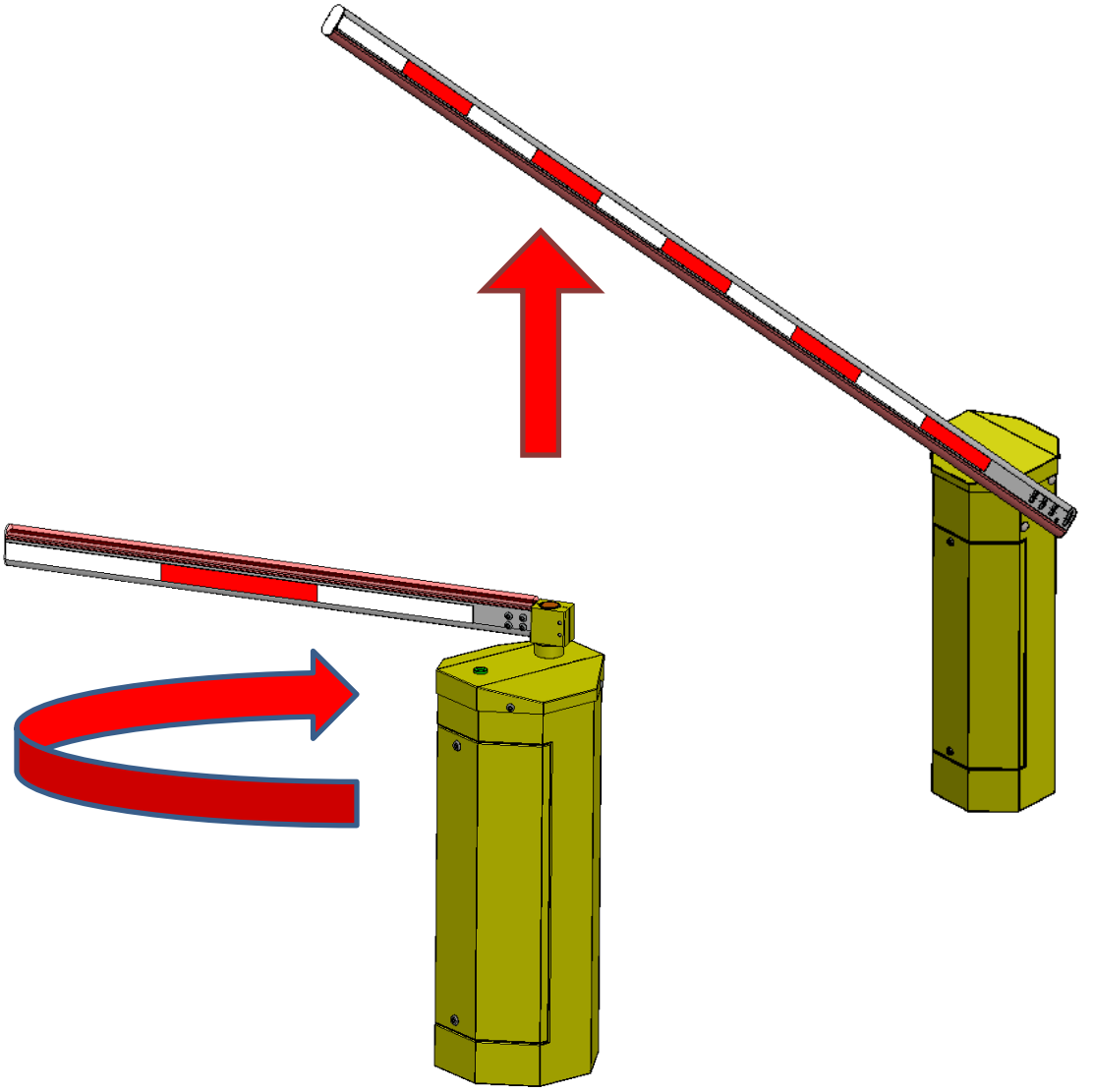
AISLECOP® MOTION DETECTOR
HORIZONTAL MOUNTING POSITION



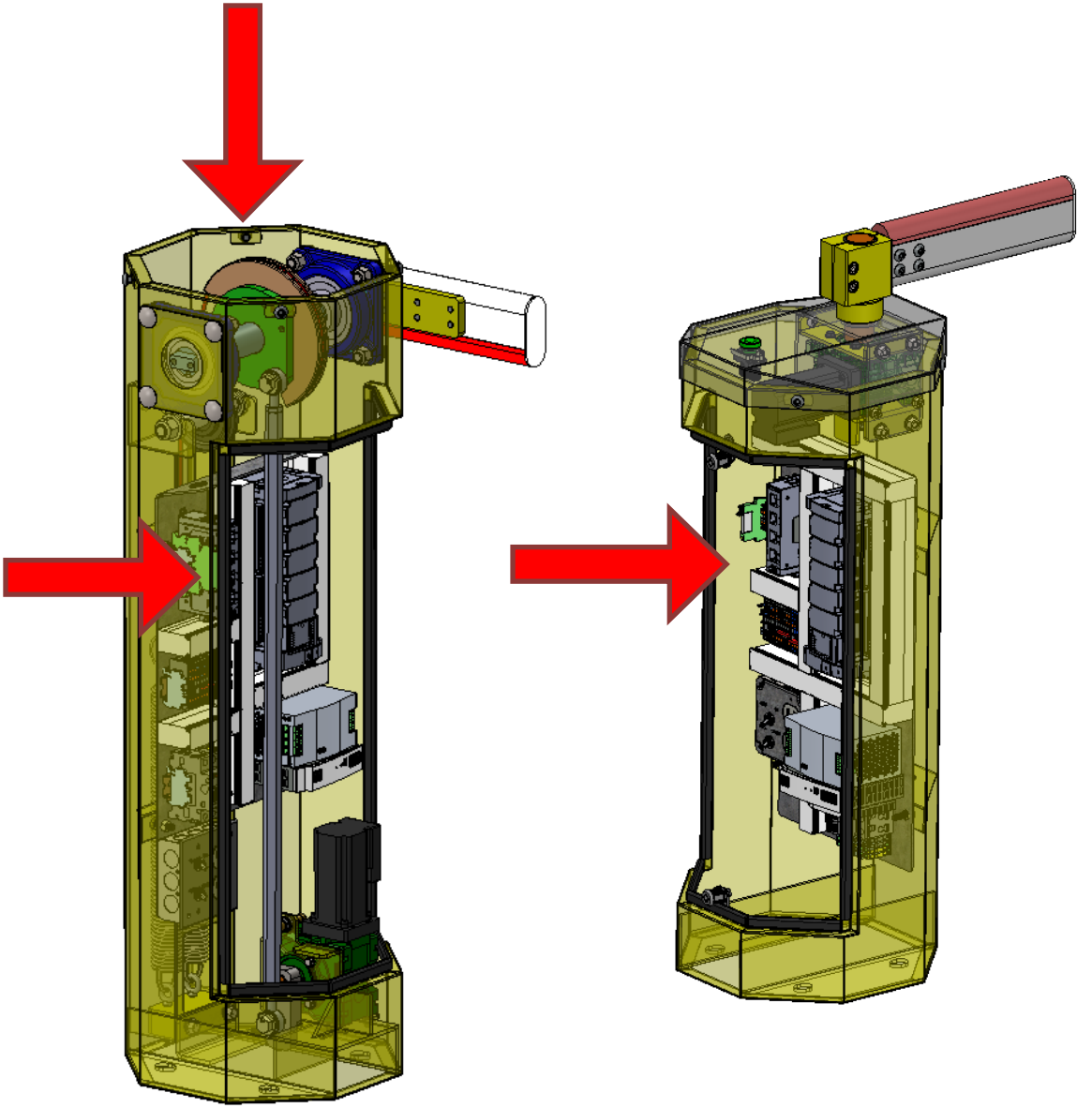
AISLECOP® MOTION DETECTOR
VERTICAL MOUNTING POSITION

Note: The area within the red lines represents the area in which motion may be detected when the sensor is set to its highest sensitivity (sensitivity/sensor field may be adjusted to accommodate a smaller area). The ranges are linear perpendicular distances from the transceiver face of the motion detector. The motion detector does not reliably detect movement past the range depicted below for each respective mounting position. Reference photos for mounting positions.

USE EXTREME CAUTION WHEN TROUBLE-SHOOTING
DO NOT STAND IN ARM'S PATH OF TRAVEL



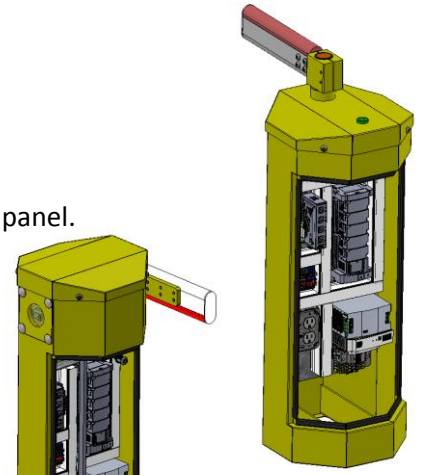
DO NOT PLACE HANDS OR BODY PARTS IN THESE AREAS DURING OPERATION OR WHEN UNIT IS POWERED.



6.1 TROUBLE-SHOOTING & MAINTENANCE

Under the rare case that the gate stops working, possible causes might be:

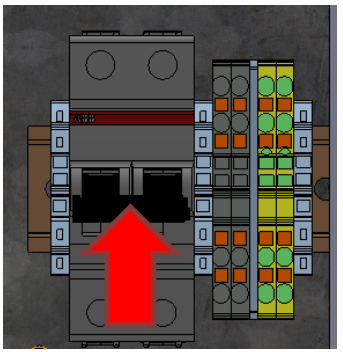
- Unit Lost Power
- Motor Lost Power
- Communication Error
- Arm Positioning Error



To start troubleshooting remove Gate front panel.

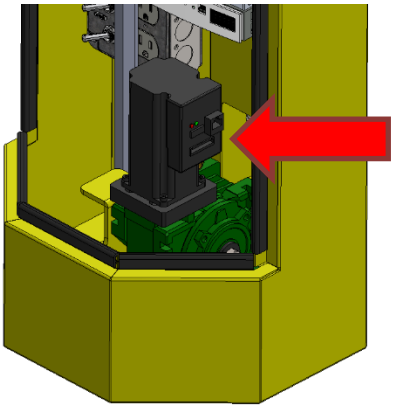
UNIT LOST POWER

If the unit lost power, check to see if the panel's circuit breaker was tripped. The circuit breaker switch should be in the top position. If switch is in the bottom position *(see picture below)*, move the switch to the top position. If power is not restored, check to see if power is supplied to the unit. If unsure, check with the site's maintenance.

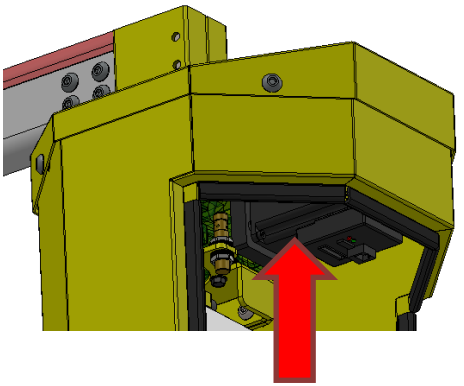


MOTOR LOST POWER

Check to see if the motor has the green operating LED lit *(see picture below)*. If the green operating LED is lit and the gate is not running, perform a power cycle on the unit. To do this, move the switch of the circuit breaker to the down position. Wait 10 seconds. Then move the switch back to the top position. If the motor's green operating LED is lit and the gate is still not running this may be a communications error.



VEHICLE GATE



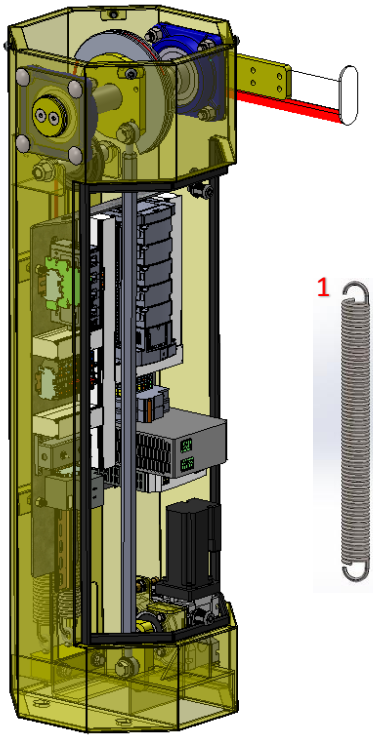
PEDESTRIAN GATE

COMMUNICATIONS ERROR

For a communication error verify that the Ethernet cable is plugged into the motor and the PLC. If the Ethernet cable is fully plugged in and the above errors are not the cause, contact Cisco-Eagle for support: 888-877-3861.

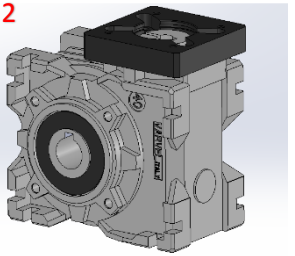
6.2 PREVENTIVE MAINTENANCE

6.2.1 VEHICLE GATE



Gearbox is filled with long-life synthetic oil and in case of replacement or topping, do not mix with mineral lubricants.

2

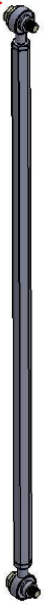


1

3

Bearing are pre-lubricated. As a guideline, re-lubricate until the first indication of grease is observed purging from the bearing.

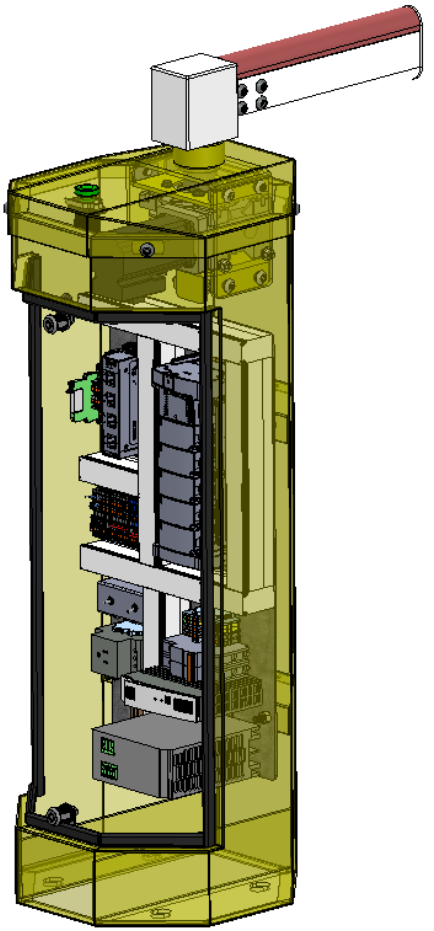
4



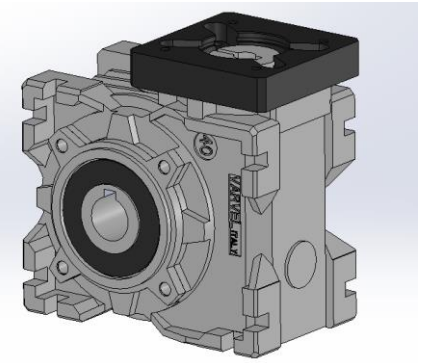
5

MAINTENANCE SCHEDULE													
MAINTENANCE ITEM	RECOMMENDED INTERVALS	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
(1)Springs-Check for stress cracks in top and bottom hooks	Monthly												
(2)Gearbox-Oil seal Visual check to monitor any lubricant leakage	500 hours or Monthly												
(2) Gearbox- Replace Synthetic Oil	Every 5 years												
(3) Flange Bearing-Lubrication	Indoor- Not required Outdoor-1-2 times per year												
(4)Rod End Couplings-Check for wear and noise. Spray lubricant for noise	Monthly												
(5)Cable-Check for wear and fraying	Monthly												

6.2.2 PEDESTRIAN GATE



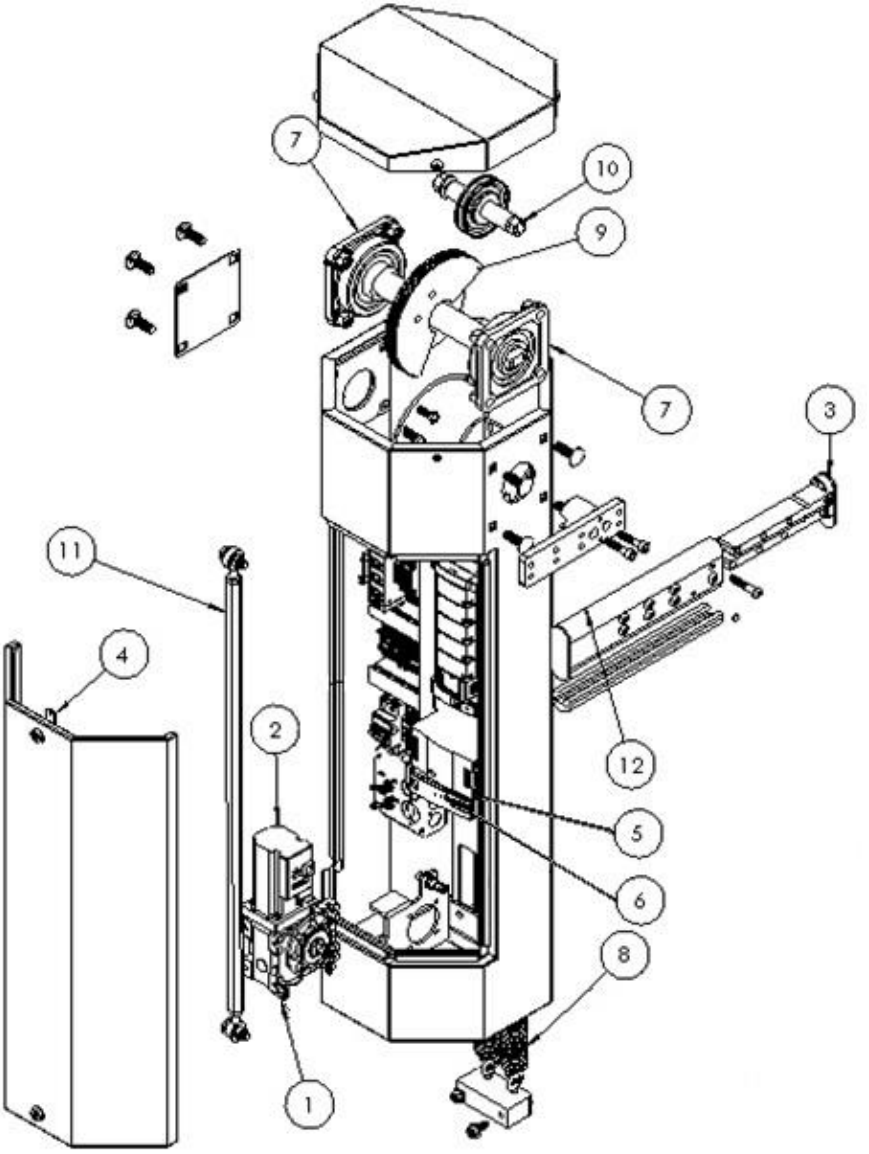
Gearbox is filled with long-life synthetic oil and in case of replacement or topping, do not mix with mineral lubricants.



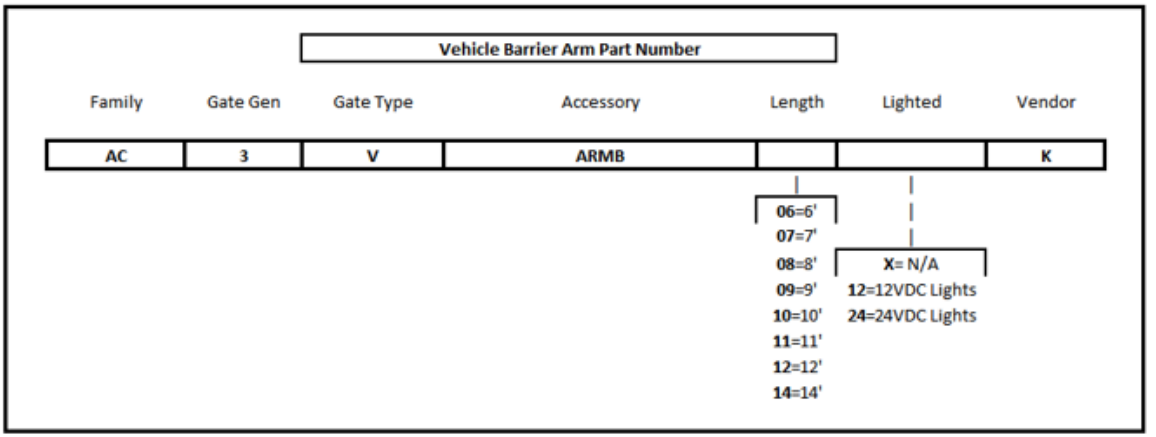
MAINTENANCE SCHEDULE													
MAINTENANCE ITEM	RECOMMENDED INTERVALS	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
(2)Gearbox-Oil seal Visual check to monitor any lubricant leakage	500 hours or Monthly												
(2) Gearbox- Replace Synthetic Oil	Every 5 years												

6.3 PARTS LIST

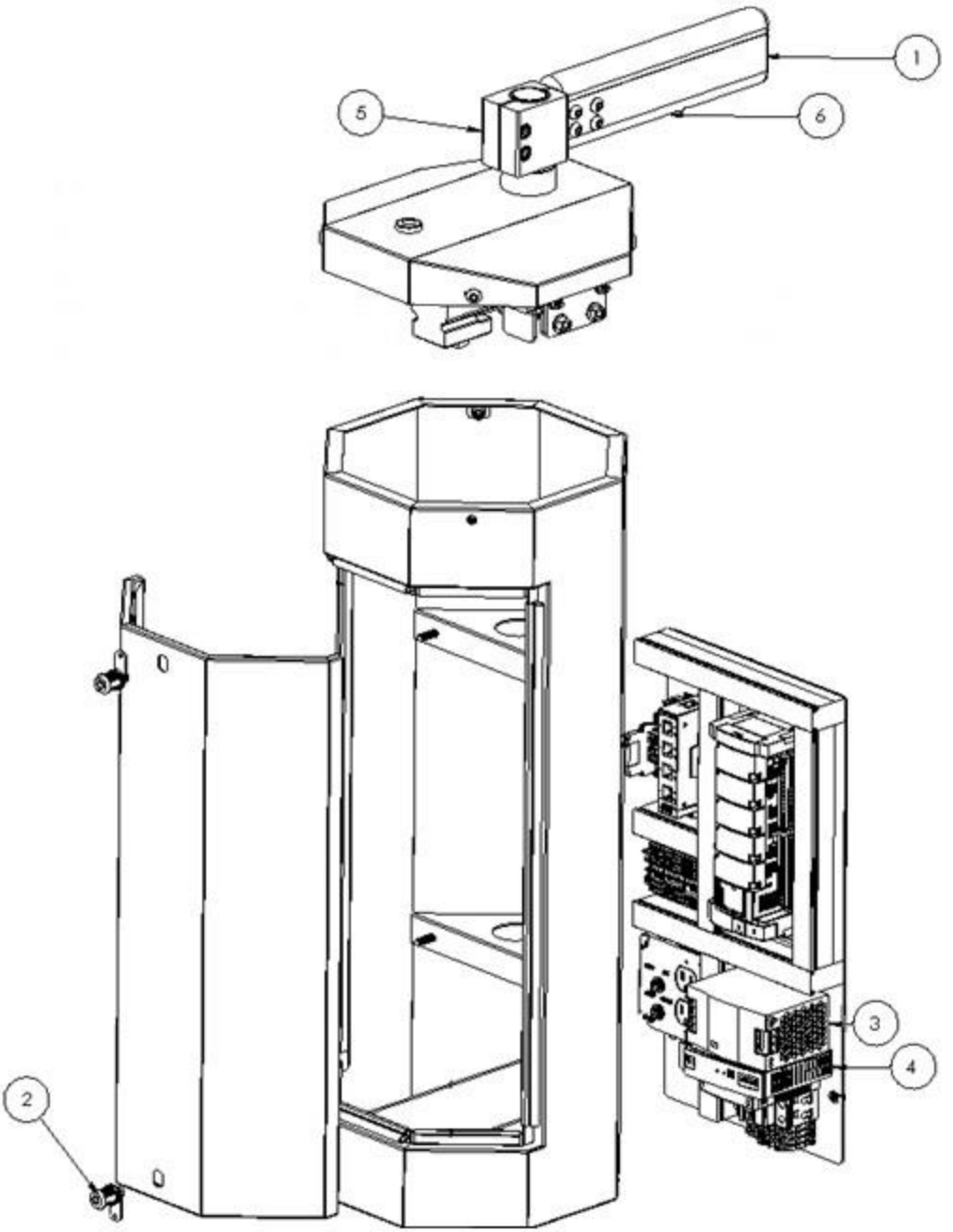
6.3.1 VEHICLE GATE



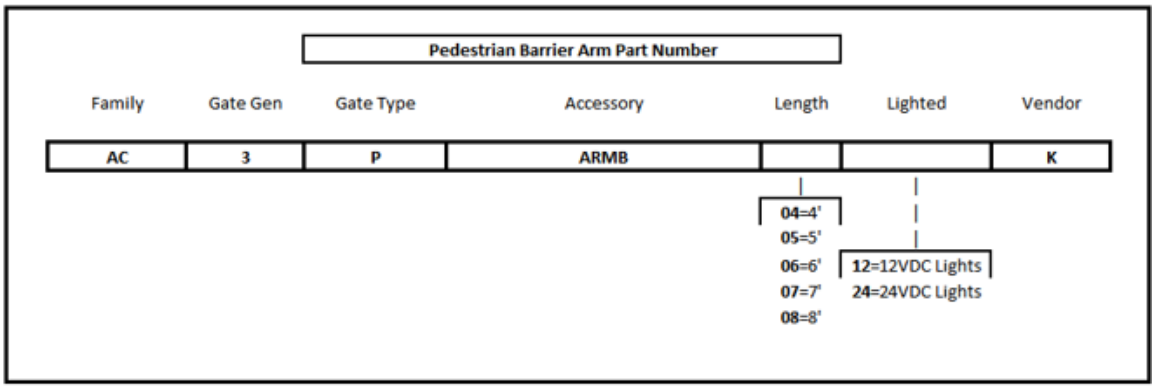
Vehicle Gate's Spare Parts List			
Position	Part No.	Description	Critical/Recommended
---	AC3VCABFXXK	Cable Assembly/ Check Gate Serial #	C
1	AC3BGEARXXK	Vehicle Gate Gearbox	C
2	AC3BMOTOXXK	Vehicle Motor	C
3	AC3BCAPEXXK	Vehicle/Pedestrian Gate White End Cap For Arm	R
4	AC3BLOCKXXK	Circular Keway Cam Lock Key	R
5	AC3BPS48XXK	48Volt Power Supply	R
6	AC3BPS24XXK	24Volt Power Supply	R
7	AC3VBEAFXXK	4 Bolt Flange Gearing 1.5" Shaft	R
8	AC3VSPREXXK	Expansion Spring (2pc set)	C
9	ACCAMV1214K	7in. DA anodized pulley for 12-14ft arms	R
9	ACCAMV0911K	5.5in. DA anodized pulley for 9-11ft arms	R
9	ACCAMV0708k	4.5in. DA anodized pulley for 7-8ft arms	R
10	ACPULLEYASSY01	Spare V-Gate- PULLEY Assembly	R
11	ACRODASSY01	Spare V-Gate-ROD END Assembly	C
12	↓Below↓	Vehicle Barrier Arm Assembly	C



6.3.2 PEDESTRIAN GATE



Pedestrian Gate's Spare Parts List			
Position	Part No.	Description	Critical/Recommended
---	AC3PCAPHXXK	CPG-Arm Bracket Cap/Top	R
1	AC3BCAPEXXK	Vehicle/Pedestrian Gate White End Cap For Arm	R
2	AC3BLOCKXXK	Circular Keway Cam Lock Key	R
3	AC3BPS48XXK	48Volt Power Supply	R
4	AC3BPS24XXK	24Volt Power Supply	R
5	AC3PHEADXXK	Pedestrian Head Assembly	R
6	↓Below↓	Pedestrian Barrier Arm Assembly	C



7. WARRANTY

Cisco-Eagle, Inc. warrants that all AisleCop® safety gates will be free from defects in material and workmanship for one (1) year or 2 million cycles, whichever occurs first, under normal operating conditions when installed in accordance with Cisco-Eagle's installation instructions, normal wear and tear excepted. The warranty period shall start from the date of shipment of the product by Cisco-Eagle, Inc. During the warranty period, Cisco-Eagle will repair or replace at its option, any of its products which have been found to be defective. A Return Material Authorization number (RMA) must be obtained before products are returned, and products must be shipped freight prepaid to:

Cisco-Eagle, Inc.
2120 Valley View Lane
Dallas, TX 75234
Attn: AisleCop® RMA
www.cisco-eagle.com/aislecop