

# COMMAND LIGHT

## Shadow Series



**Effective August 2015**  
**This guide supersedes all previous versions**

**MODEL COVERED:**  
**SL422D SL442D**

3842 Redman Drive  
Fort Collins, CO 80524

1-800-797-7974  
[www.CommandLight.com](http://www.CommandLight.com)

# THANK YOU

---

Please allow us to express a simple thank you for investing in a **COMMAND LIGHT** product.

As a company we are dedicated to producing the very best and most versatile flood lighting package available. We take great pride in the quality of our work and hope that you will find many years of satisfaction from the use of this equipment.

Should you have any problems with your product please do not hesitate to contact us.

## COMMAND LIGHT

3842 Redman Drive  
Fort Collins, CO 80524

PHONE: 1-800-797-7974  
FAX: 1-970-297-7099  
WEB: [www.CommandLight.com](http://www.CommandLight.com)



### **PERSONAL RESPONSIBILITY CODE**

The member companies of FEMSA that provide emergency response equipment and services want responders to know and understand the following:

1. Firefighting and Emergency Response are inherently dangerous activities requiring proper training in their hazards and the use of extreme caution at all times.
2. It is your responsibility to read and understand any user's instructions, including purpose and limitations, provided with any piece of equipment you may be called upon to use.
3. It is your responsibility to know that you have been properly trained in Firefighting and/or Emergency Response and in the use, precautions, and care of any equipment you may be called upon to use.
4. It is your responsibility to be in proper physical condition and to maintain the personal skill level required to operate any equipment you may be called upon to use.
5. It is your responsibility to know that your equipment is in operable condition and has been maintained in accordance with the manufacturer's instructions.
6. Failure to follow these guidelines may result in death, burns or other severe injury.



Fire and Emergency Manufacturers and Services Association, Inc.  
P.O. Box 147, Lynnfield, MA 01940 [www.FEMSA.org](http://www.FEMSA.org)

Copyright 2006 FEMSA. All Rights Reserved

Please take the time to read this manual before installing or operating the *Shadow<sup>RTB</sup>*.

Save this guide for future reference.

## Contents

<b>Breakage or Damage During Shipment.....</b>	<b>6</b>
<b>Product Safety Precautions.....</b>	<b>7</b>
<b>General Description and Specifications.....</b>	<b>8</b>
<b>Operation.....</b>	<b>8</b>
Raising the light from the nested position .....	8
Returning the light to the nested position .....	8
<b>Installation.....</b>	<b>9</b>
Installation Kit .....	9
Tools Required.....	9
Installation Notes .....	10
Location Requirements .....	10
Mounting.....	11
Control Box Holster Mounting .....	11
<b>Electrical Wiring.....</b>	<b>12</b>
12 VDC.....	12
<b>Warning Device Installation .....</b>	<b>12</b>
<b>Maintenance .....</b>	<b>13</b>
Cleaning.....	13
<b>Troubleshooting .....</b>	<b>14</b>
<b>Technical Specifications – Standard DC Model (SL422D, SL442D) .....</b>	<b>15</b>
<b>Specifications.....</b>	<b>16</b>
<b>Parts Lists - Exploded Views .....</b>	<b>17</b>
<b>Wiring Schematics.....</b>	<b>22</b>





Command Light  
3842 Redman Drive  
Fort Collins, CO 80524

PHONE: 1-800-797-7974  
FAX: 1-970-297-7099  
WEB: [www.CommandLight.com](http://www.CommandLight.com)

## LIMITED WARRANTY

### Five Year

**COMMAND LIGHT** warrants that the equipment is free from defects in materials and workmanship when used and operated for a period of five years. The responsibility of **COMMAND LIGHT** under this limited warranty is limited to the repair and replacement of any parts found defective. Parts must be returned to **COMMAND LIGHT** at 3842 Redman Drive, Ft Collins, Colorado 80524 with transportation charges prepaid (**C.O.D. shipments will not be accepted**).

Prior to returning defective parts to **COMMAND LIGHT**, the original purchaser shall make a claim in writing to **COMMAND LIGHT** at the above address indicating the model number, serial number and type of defect. No parts or equipment will be received by **COMMAND LIGHT** for repair or replacement under this warranty without specific written authority from it in advance.

Any parts damaged by improper installation, overloading, abuse or accident of any type or cause are not covered by this warranty.

All equipment manufactured by us is tested before leaving our plant, and is shipped in good working order and condition. We therefore extend to the original purchasers the following Limited Warranty for the period of five years from the original date of purchase:

1. This warranty does not apply to defects caused by accident, misuse, neglect, or wear and tear, nor can we be held responsible for incidental and consequential expense and loss, nor does this warranty apply to equipment where alterations have been executed without our knowledge or consent. These conditions are readily discernable when the equipment is returned to us for inspection.
2. On all component parts not manufactured by **COMMAND LIGHT**, their warranty is to the extent that the manufacturer of such component warrants them to **COMMAND LIGHT**, if at all. Look in your local business telephone directory for the nearest repair station for the brand of parts you have or write to us for the address.
3. If equipment received has been damaged in transit, a claim should be made against the carrier within three days, as we assume no responsibility for such damage.
4. Any service other than our Authorized Service voids this warranty.
5. This warranty is in lieu of and is intended to exclude all other warranties, express or implied, oral or written, including any warranties of MERCHANTIBILITY or FITNESS for a particular purpose.
6. Travel time paid at a maximum of 50% and only if pre-approved.

## Breakage or Damage During Shipment

The transportation company is fully responsible for all shipping damage and will resolve problems promptly if you handle it correctly. Please read these instructions carefully.

Examine the contents of all shipping cases. If you find any damage, call your transportation agent at once and have them make a description on the freight or express bill describing the damage and the number of pieces. Then contact us and we will send you the original bill of lading. Also promptly contact the transportation company and follow their procedure for filing a claim. Each company will have a unique procedure to follow.

Please note, we cannot and will not enter claims for damages. If we filed claim here, it would be sent to your local freight agent for verification and investigation. This time can be saved by you filing the claim directly. Every consignee is on the ground floor, in contact with the local agent who inspects the damaged goods, and thus, each claim can be given individual attention.

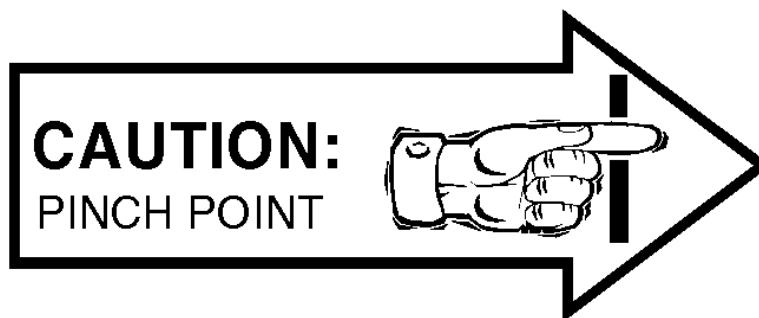
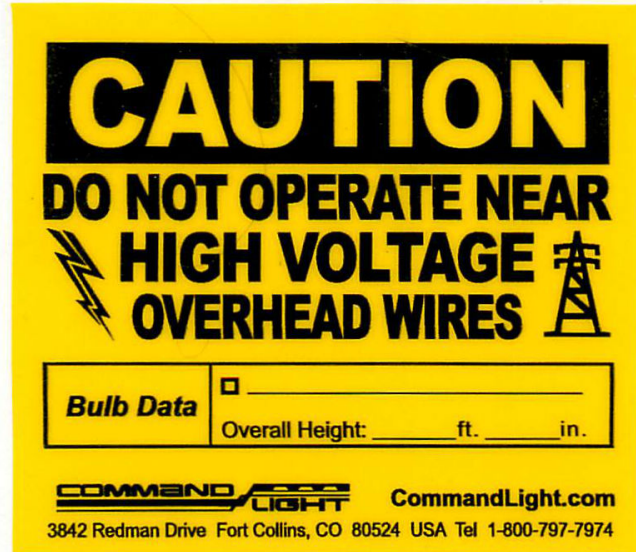
Since our goods are packed to comply with the regulations of all railroad, truck, and express companies, we cannot allow deduction from any invoice because of any damage, however, be sure to file your claim promptly. Our goods are sold F.O.B. factory. We take receipt from the transportation company certifying that the goods were delivered to them in good order and our responsibility ceases.

It is seldom that any breakage or damage occurs in any of our shipments and in no case will the customer be out any expense if they follow the above instructions.

Be sure to keep all damaged goods subject to examination of the truck or express company inspector, who may call on you some time later. These damaged goods, of course, will belong to them, and they will inform you what to do with them. If you dispose of these damaged goods, your claim may not be paid.

## Product Safety Precautions

- Never operate the **Command Light Shadow<sup>RTB</sup>** near overhead high voltage power lines. The **Command Light Shadow<sup>RTB</sup>** is manufactured from electrically conductive materials.
- Do not use the **Command Light Shadow<sup>RTB</sup>** for uses other than its intended purpose.
- Do not move emergency vehicle with the light extended. Visually verify that the light is completely nested before moving vehicle.
- Do not change light position while people are located within its operating envelope. There are numerous pinch points that can cause serious bodily injury.
- Do not use a high-pressure washer or subject the light to high volumes of water when cleaning.
- Never use the **Command Light Shadow<sup>RTB</sup>** as a lifting device or mobile arm.
- Do not use a **Command Light Shadow<sup>RTB</sup>** that has been damaged or is not fully functional, including non-working indicator lamps.
- Never hold any part of the **Command Light Shadow<sup>RTB</sup>** with a hand or foot while it is in motion.
- The **Command Light Shadow<sup>RTB</sup>** has numerous pinch points. Keep loose clothing, hands and feet clear of moving parts.



## General Description and Specifications

The *Shadow<sup>RTB</sup>* is designed to provide high intensity emergency scene lighting with quick precision. As with any electromechanical device, take precautionary steps to ensure safe operation.

Model #	Description	Minimum Power Requirements
SL422D	2 x LED	50 Amps, 12 VDC
SL442D	4 x LED	90 Amps, 12 VDC

The vehicle provides power for the 12 VDC circuitry. The umbilical corded control unit is powered via 12 VDC eliminating hazardous voltage levels within the hand held control box.

The *Shadow<sup>RTB</sup>* is manufactured to provide years of service with a minimum of maintenance.

## Operation

### *Raising the light from the nested position*

Using the control box, raise the lower stage. Control switches are of momentary action style and must be held in the “on” position to actuate the stages.

The *Shadow<sup>RTB</sup>* has an override system that precludes rotation of the lamp tree until the lower stage has elevated approximately 16” from the nested position. When the lower stage is below 16” the following conditions exist:

- Lamp Tree is prevented from rotating.
- All lights are turned off, including strobe light if equipped, regardless of light switch positions.
- Prevents the lower stage from moving down if lamp tree is not centered.

If the supply from the vehicle is marginal, position the *Shadow<sup>RTB</sup>* before turning on lights.

### *Returning the light to the nested position*

The *Shadow<sup>RTB</sup>* is equipped with an Autopark function as a standard feature. Releasing the Autopark button acts as an “Emergency Stop” and will cancel the Autopark sequence.

### Autopark Sequence

Press and hold the black Autopark button on the controller. The Autopark sequence begins:

1. Lamps are extinguished.
2. Lamp tree begins rotation to the center position. If equipped with back light option, back light begins rotation and returns to the home position.
3. Once lamp tree is centered, rotation stops, green center indicator illuminates, and lower stage begins retracting.
4. After lower stage has fully retracted, upper stage begins retracting. Upon upper stage retracting fully, red nest indicator will be extinguished

## Installation

The **Shadow<sup>RTB</sup>** must be installed by a designated installation facility or by an EVT certified Level FA4 Technician. All safety precautions must be thoroughly understood before installation. Please consult the factory for additional installation information assistance.

Improper installation can cause overheating of electrical power wires that could catch fire and void the warranty.

Ensure all wiring is properly protected with correct sized breakers and fuses before connecting to the power source.

DC powered light towers require a high current draw to provide high levels of lighting. Verify all connected electrical components are able to handle the load for this light tower as listed in the Technical Specifications on page 15.

If in doubt, contact Command Light at 1-800-797-7974 or [info@commandlight.com](mailto:info@commandlight.com).

### Installation Kit

Included with the **Shadow<sup>RT</sup>** is an installation kit. Verify that the kit contains the following items:

- |   |  |
|---|--|
| (1) 25 feet of 2GA-2 Conductor power cable      | (1) 25 feet of 22GA-20 conductor cable                                   |
| (1) Pre-wired HOLSTER BOX w/cover               | (1) Handheld Controller  |
| (1) Small hardware parts bag with:              |  |
| (4) mounting spacers                            | (4) $\frac{5}{16}$ -18 X 2 $\frac{1}{2}$ " bolts                         |
| (4) $\frac{5}{16}$ -18 nylon lock nuts          | (8) $\frac{5}{16}$ " flat washers  |
| (4) large diameter flat washers                 | (2) $\frac{1}{4}$ -20 X $\frac{5}{8}$ " Phillips pan head machine screws |
| (4) $\frac{1}{4}$ " flat washers                | (2) $\frac{1}{4}$ -20 nylon lock nuts                                    |
| (3) $\frac{1}{2}$ " 90° sealing connector w/nut |  |

### Tools Required

Lifting device (crane, forklift, block and tackle, etc.)

Sling for lifting

Drill

$\frac{21}{64}$ ",  $\frac{17}{64}$ " drill bits

Hole punch for metal with  $\frac{7}{8}$ " and  $1\frac{5}{16}$ " diameter capacity

Phillips head screwdriver, #2

**Command Light** flat blade screwdriver (included with light)

$\frac{7}{16}$ " and  $\frac{1}{2}$ " combination wrenches and/or ratchet and  $\frac{7}{16}$ " and  $\frac{1}{2}$ " sockets

8" adjustable wrench

Tongue and Groove Pliers

Wire stripper or razor blade knife

Solder-less wire connector crimp tool

Silicone based gasket sealer, RTV™ recommended

## Installation Notes

The **Shadow<sup>RTB</sup>** weighs approximately 75 pounds. Use mechanical assistance such as a forklift or crane to lift the light into installation position.

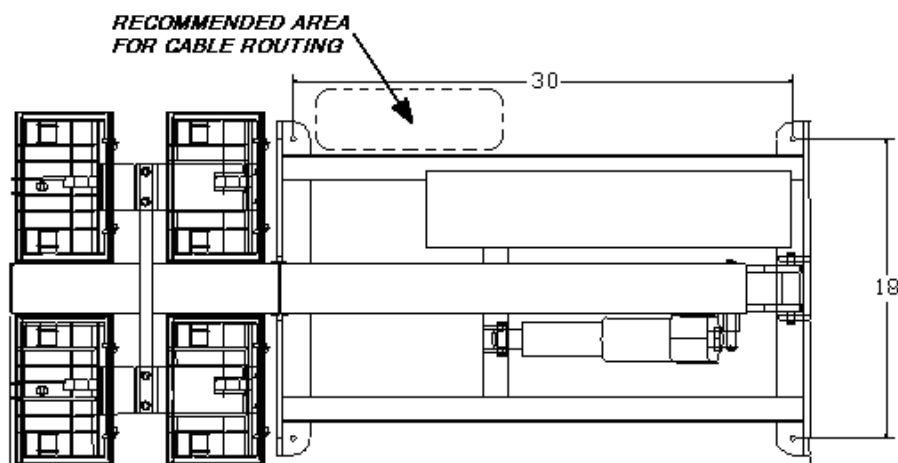
Use the provided fender washers under the mounting surface to distribute the weight load evenly.

When routing the connecting electrical wires take care to avoid sharp bends, hot components or other hazards to the wire.

The **Shadow<sup>RTB</sup>** is not designed to be operated in a raised position while the vehicle is in motion. The **Shadow<sup>RTB</sup>** includes warning circuit wiring to enable a warning device.

## Location Requirements

The standard **Shadow<sup>RTB</sup>** can be mounted on any location that is 34" x 22". The surface should be flat or have only a slight crown. For a recessed installation allow for a minimum of 60" x 38". Consult with factory before construction of recessed installation. Verify all dimensions before installation to assure proper operation of light will not infringe on other installed components. For all other installations refer to the dimensional drawing included in this guide that represents your particular model of light. The drawings reflect the dimensions of the "working envelope" of a typical light. Endure sufficient clearances are incorporated in your installation to allow for variations (vehicle body flex, environmental conditions, future servicing needs, etc.)



Four mounting bolts are required. Additional holes may be drilled in the frame ends if necessary to clear obstructions.

Access holes for the power cord cabling should be in close proximity to the entrance box on the light. Installing the cords with a sweeping 90° or 180° bend will provide better results.

The control box holster should be mounted in an area shielded from the weather. Allow a minimum of 10" clearance above the control box holster mounting location for easy access to the controller.

## Mounting

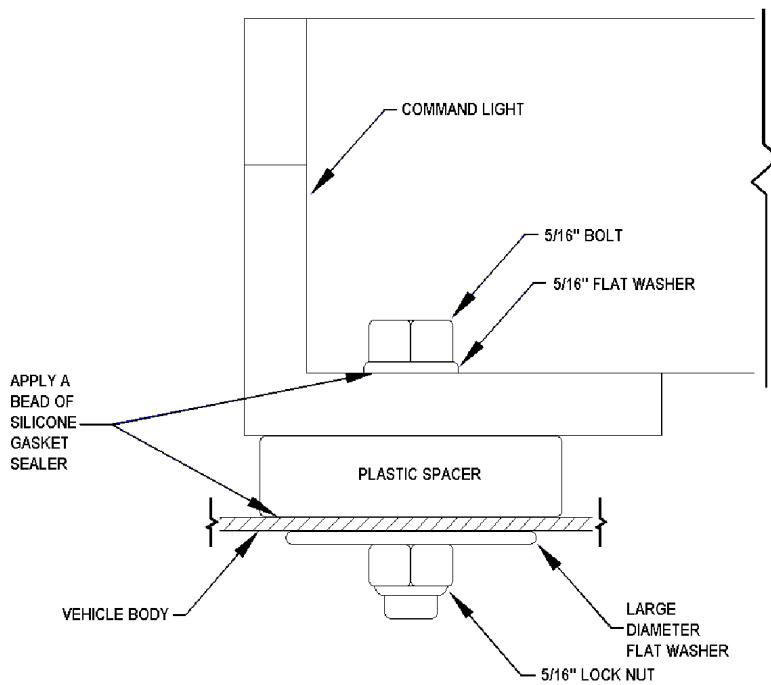
Place the provided spacers in the location of the light mounting holes. The spacers may be modified to conform to the contour of the mounting location.

Remove any obstructions below the mounting surface such as headliners.

Attach any necessary lifting attachments to the *Shadow<sup>RTB</sup>*. The center of gravity (balance point) is slightly below the rotation assembly.

Slowly lift the *Shadow<sup>RTB</sup>* and check for balanced lifting. Lower and make any necessary adjustments to the lift points.

Lift and place the *Shadow<sup>RTB</sup>* into position above the spacers. Before placing the full weight of the light tower on the spacers, align spacers with the holes in the end frame castings.



Drill  $\frac{21}{64}$ " holes in the mounting surface using the end casting holes as a template.

Fasten the light using the provided hardware. To assure a weather-tight installation apply a thin bead of silicone based gasket sealer to the base of the spacer and underside of bolt head.

Remove any lifting straps and devices from the *Shadow<sup>RTB</sup>*.

Locate and drill the wire feed holes.

## Control Box Holster Mounting

Using the holster as a template, mark locations of holes.

Drill  $\frac{17}{64}$ " mounting holes.

Drill any holes required to route the control wire from the control box to the *Shadow<sup>RTB</sup>*. Mount holster box with provided hardware.

## Electrical Wiring

Please Note: Detailed internal wiring schematic for the light is found in the supplement pages found at the end of this document.

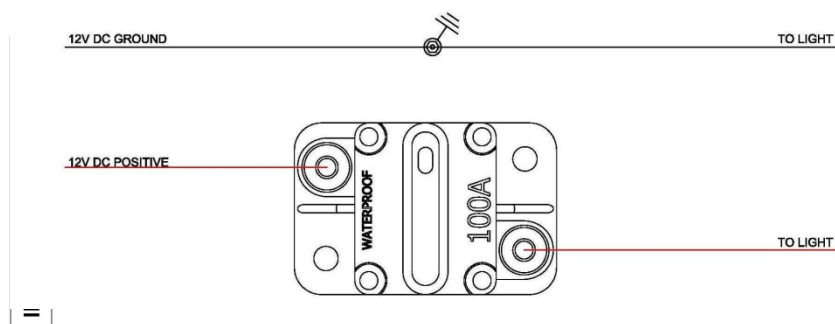
Run the control wire from the control box holster to the **Shadow<sup>RTB</sup>**.

Run the power wire from the breaker box or generator to the **Shadow<sup>RTB</sup>**. A 100 Amp breaker is recommended on DC models.

Make the control cable connections in the **Shadow<sup>RTB</sup>** relay box by matching each control wire to its same color on the connector block of the **Shadow<sup>RTB</sup>** relay box.

The **Shadow<sup>RTB</sup>** model SL442D comes pre-wired to connect to 12 VDC.

### 12 VDC



## Warning Device Installation

The **Shadow<sup>RTB</sup>** nest sensor can be used to activate a warning device when the light is extended. Typically the vehicle will have a light or buzzer that activates when the compartment doors are open.

The connector for hooking up a warning device is located in the holster box that holds the control unit.



## Maintenance

### *Cleaning*

The *Shadow<sup>RTB</sup>* is constructed with corrosion resistant aluminum and stainless steel fasteners. To further enhance corrosion resistance all exposed surfaces receive a powder coated paint finish. To assure years of trouble free service periodically clean all external surfaces with a mild detergent solution and a gentle spray of water. **DO NOT USE A HIGH-PRESSURE WASHER**, which will force water into sensitive electric circuitry.

Lamp lenses may be cleaned with any commercially available glass cleaner.

The lower stage actuator is a sealed unit and does not require adjustment or lubrication. They also have a slip-clutch to compensate for minor stroke tolerances at the limits of its travel as well as internal limit switches. The actuator may produce a ratcheting sound at each end of the stroke which is normal. The actuator should not be made to ratchet excessively, this can lead to premature actuator clutch failure.

All pivot points on the *Shadow<sup>RTB</sup>* are self-lubricating thermal polymer. Periodic cleaning with a moisture displacing cleaner and soft bristle brush, without disassembly, to remove accumulated dirt and debris will minimize wear.

## Power Failure

The *Shadow<sup>RTB</sup>* can be retracted manually if power to the unit is lost. If power loss is temporary, reestablishing power may be easier than manually retracting the light.

Disconnect power source from the *Shadow<sup>RTB</sup>*.

### *Rotate to Center*

Slowly apply pressure to the midplate to manually rotate to the centered position. Trying to rotate the midplate too quickly or with too much pressure can break the rotation motor shaft. Be certain that you rotate the midplate in the proper direction as the lamp tree can rotate only 350°.

### *Retract the Lower Stage*

Locate the silver plug located on the actuator below the actuator's motor. Use the provided hex tool (6mm hex bit) to remove silver plug. Be sure to not lose this plug. Use the same hex tool inserted into the opening to drive the internal gears of the actuator. Be sure to replace the silver plug after this actuator is fully retracted.

## Troubleshooting

<b><i>Problem</i></b>	<b><i>Possible Cause</i></b>	<b><i>Solution</i></b>
Unit will not extend	No power to the unit	Check power input connections. Ensure 100 Amp input breaker has not been tripped.
	Incorrect installation	Refer to installation instructions.
Upper stage will not rotate	Lower stage not raised above 16"	Raise lower stage higher.
	Rotation motor failure.	Consult with factory.
Lights will not illuminate.	Lower stage not raised above 16"	Raise lower stage higher.
	Circuit breaker tripped.	Check circuit breaker at power supply.
	No power to the unit.	Check power supply operation/output.
Unit will not nest	Lamp tree not centered	Raise lower stage higher than 16". Center lamp tree (green light illuminated)
	Unit being operated on a slope >15°	Level Truck. If problem persists, rotate lamp tree to center, using a pike pole, hold unit centered while lowering to nest position.
No lights or rotation	Check safety limit sensor, bad, etc.	Contact factory for replacement part.
Autoparking off Center	Center switch out of adjustment	Contact factory for replacement part.

## Technical Specifications – Standard DC Model (SL422D, SL442D)

**Dimensions** (with strobe and ½" mounting spacers) – May vary by model and options:

	<b>Height(Depth)</b>	<b>Length</b>	<b>Width</b>	
<b>Retracted</b>	8"	54"	34"	
<b>Extended</b>	52"	56"	34"	
<b>Recessed installation</b>	10"	62"	40"	Minimums

**Weight:**

75 pounds

**Wiring:**

<b>Main Power VDC</b>	2/2 SO cord	25' provided
<b>Control wiring</b>	22/20 PVC Jacketed	25' provided

**Relay protection:**

Lights	Cole-Hersey	3055	100 amps
--------	-------------	------	----------

**Current Draw / Power Requirements:**

<b>Fixture</b>	<b>Average</b>
2 x 150 Watt LED	12 VDC/40 amps
4 x 150 Watt LED	12 VDC/60 amps
2 x 220 Watt LED	12 VDC/50 amps
4 x 220 Watt LED	12 VDC/90 amps

Lift actuators and rotation motor will cause higher current draw during use.

**Motor Duty Cycle:**

(All motors thermally protected, specifications are to thermal relay trip):

<b>Lower stage</b>	1:3 (90 seconds maximum per 5 minutes)
<b>Rotation</b>	5-6 Revolutions

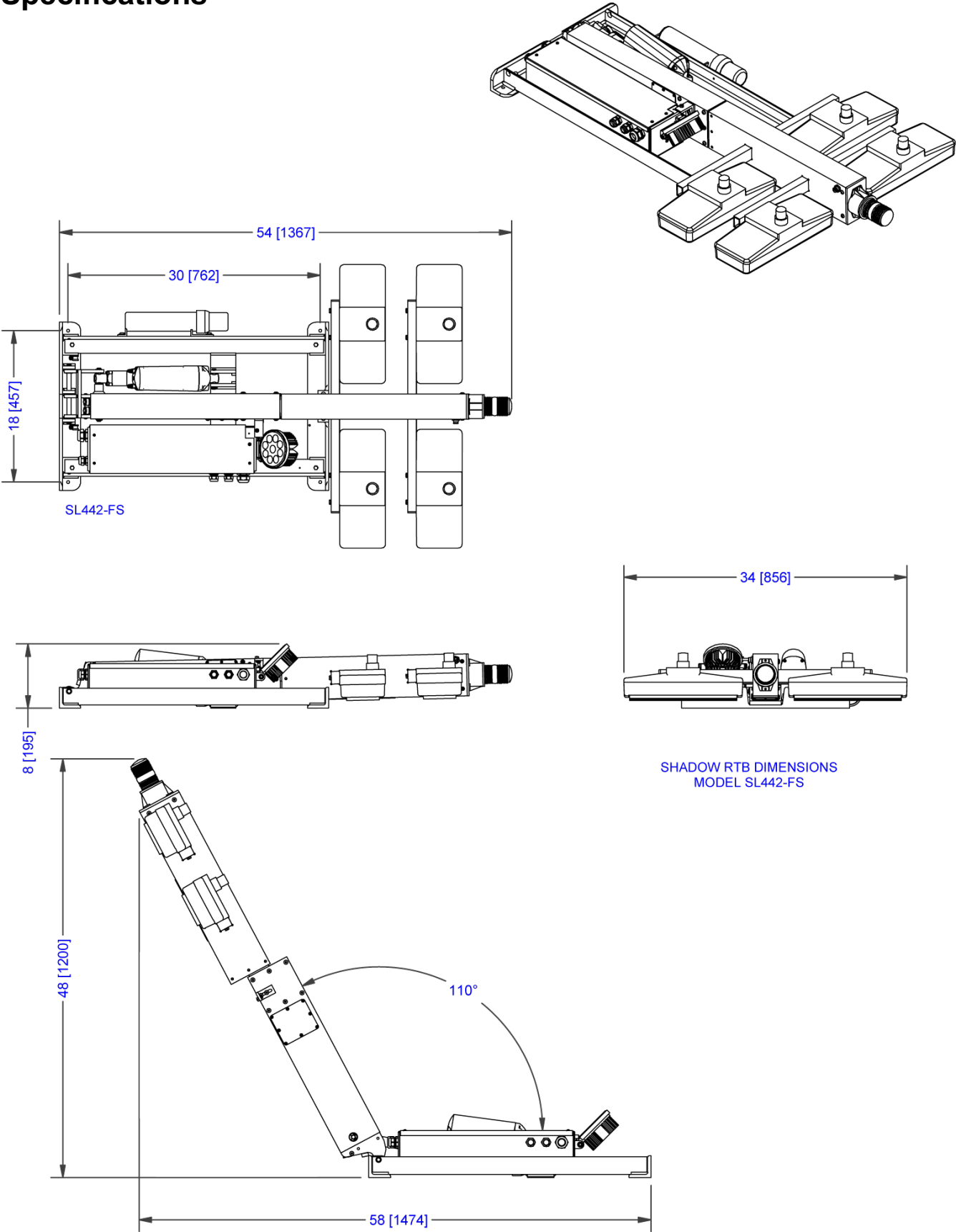
**Motor Speed:**

<b>Lower stage</b>	0.5 inch per second	14 seconds to full extension
<b>Rotation</b>	2.75 RPM at lamp tree	

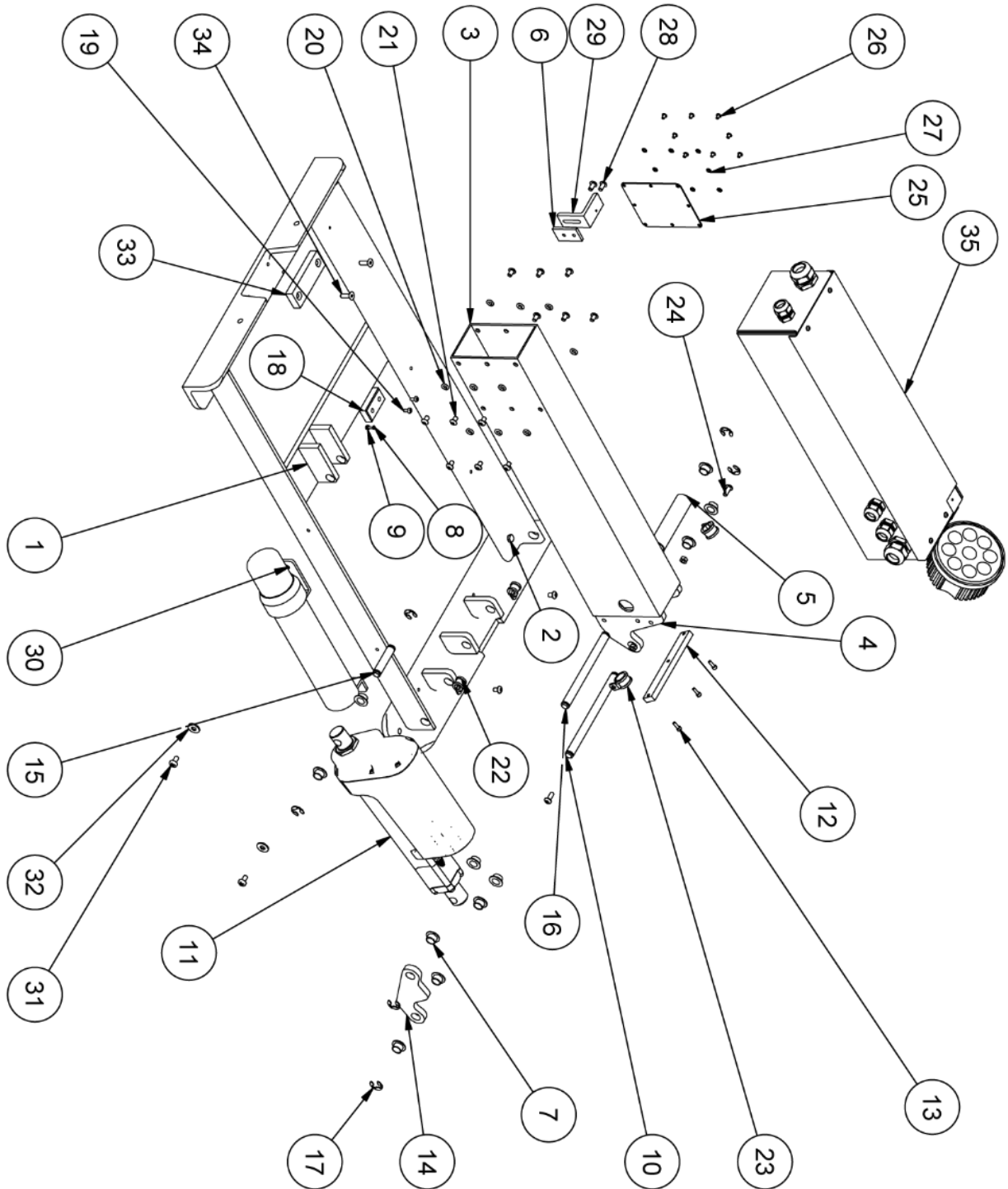
**Operation:**

<b>Angle of vehicle</b>	15° maximum incline
-------------------------	---------------------

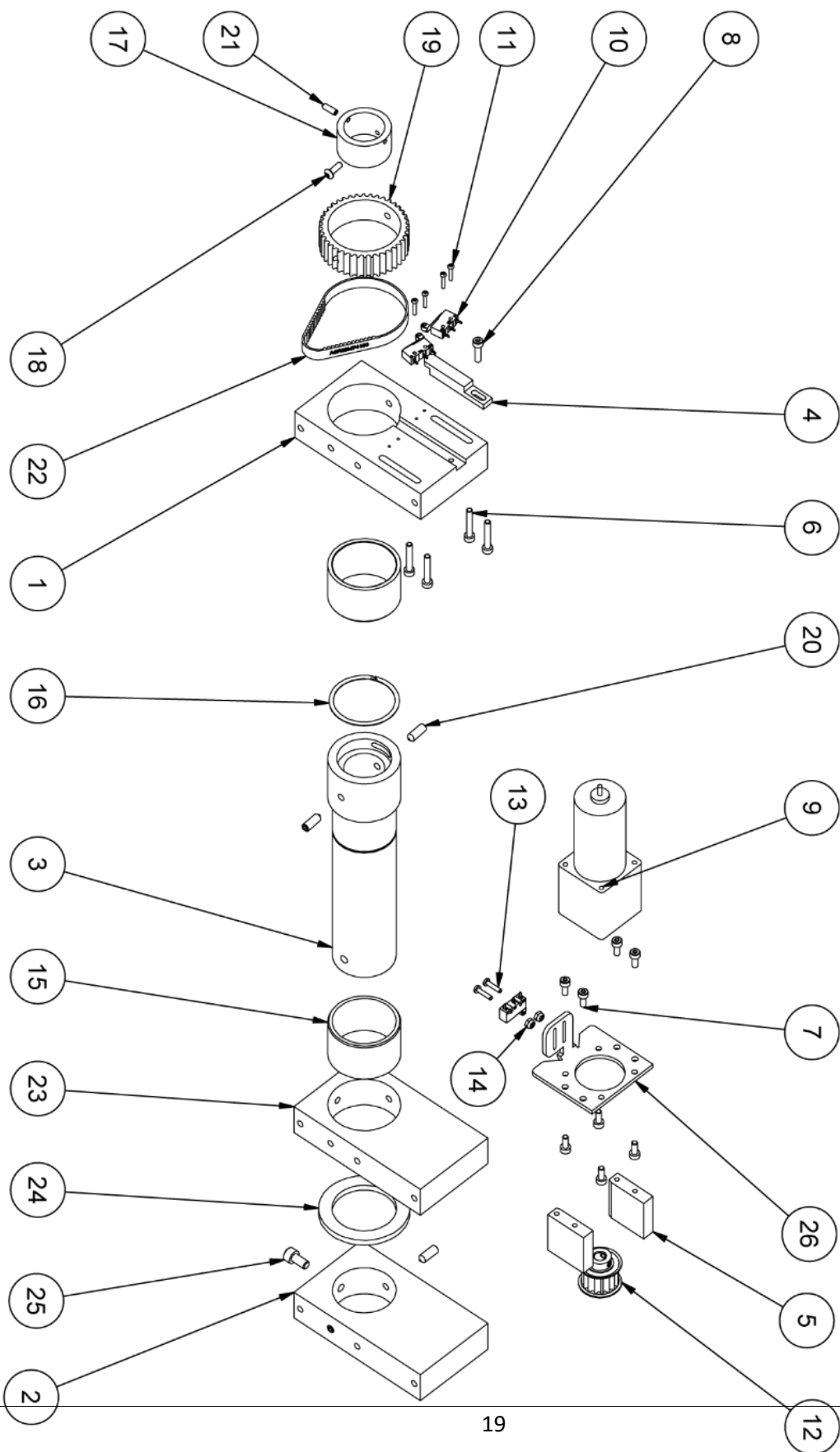
# Specifications



## Parts Lists - Exploded Views

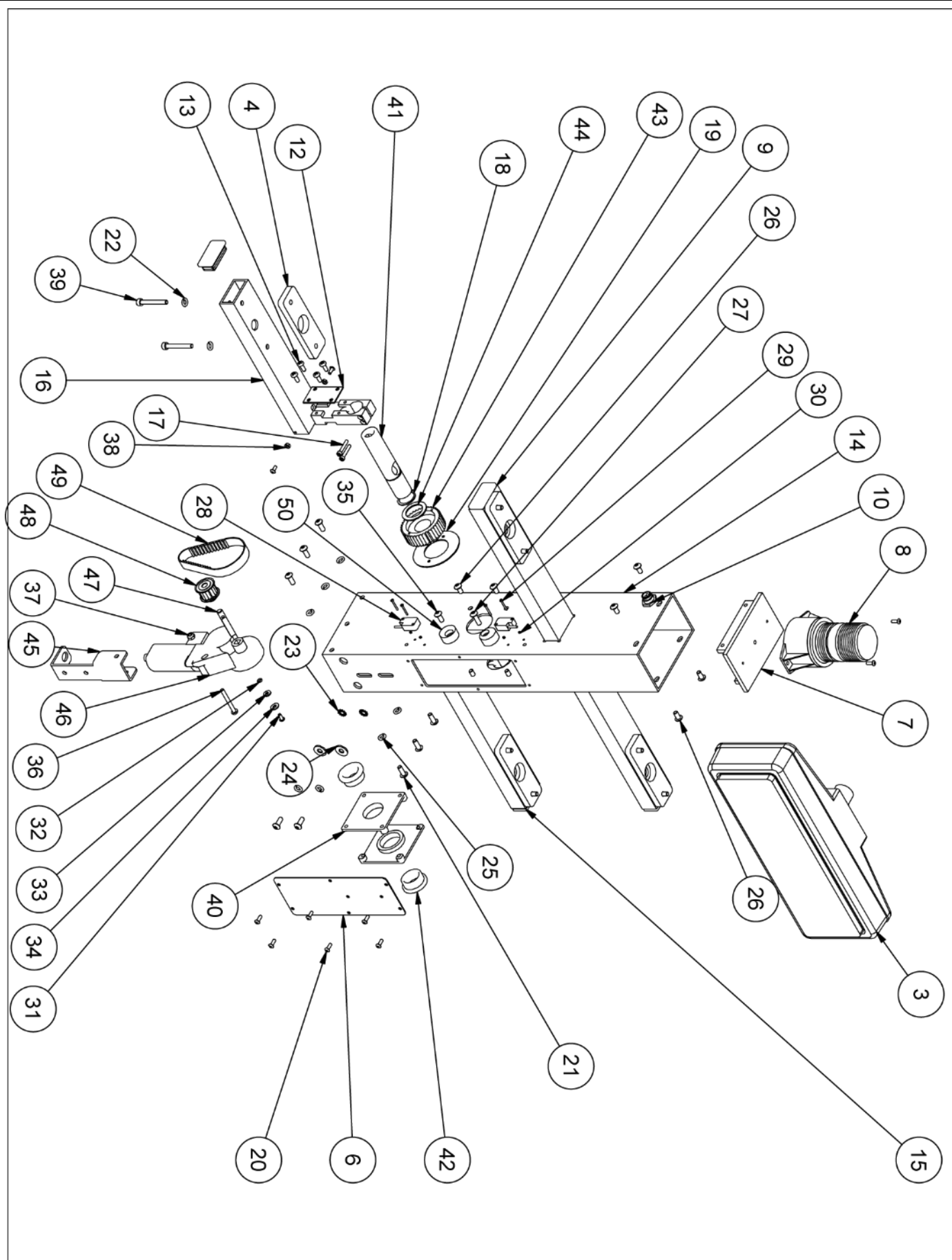


PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	178-01100	FRAME,WELDMENT,SHADOW RTB
2	4	STD HARDWARE-HHCS-04	SCREW,HH,1/4-20x3/4,SS
3	1	178-02100	ARM,MAIN LIFT,SHADOW RTB
4	2	178-02000	PLATE, PIVOT, LIFT ARM, SHADOW RT
5	1	178-02200	BUSHING,PIVOT,LIFT ARM,SHADOW RTB
6	1	178-02098	REINFORCEMENT,NEST,SHADOW RTB
7	9	STD HDW-JFI-0809-06	BEARING,FLANGED,IGLIDE,JFI-0809-06
8	2	STD HARDWARE--15	SCREW,PHP,4-40 UNCx0.5
9	2	STD HARDWARE-11117	NUT,NYLOCK, 4-40 UNC,SS
10	1	178-01502	PIN,LOWER,PIVOT,SHADOW RTB
11	1	069-15407	ACTUATOR,LINEAR,150MM,12VDC,LA36
12	1	178-01007	ARM,CROSS BRACE,LIFT,SHADOW RTB
13	3	STD HARDWARE-SHCSM36	SCREW,SHCS,SHCS M4x0.7x12
14	1	178-01008	ARM,TRAILING,LIFT,SHADOW RTB
15	1	178-01501	PIN,LOWER,ACTUATOR,SHADOW RTB
16	1	178-01500	PIN,UPPER,ACTUATOR,SHADOW RTB
17	6	SSER-22	E-Ring, 5133-50, .044T, SS
18	1	024-10527	PAD, 1/2 X 1 X 2, RUBBER
19	2	STD HARDWARE-PHP-22	SCREW,PHP,MS,8-32UNCx3/8,SS
20	12	STD HARDWARE LW2	WASHER,LOCK,SPRING,REGULAR, M6, SS
21	14	STD HARDWARE BHM39	SCREW,BH,HEX,6x1x10,SS
22	2	STD HARDWARE-LC	CLAMP,LOOM,#4,SS
23	2	065-12365	CLAMP,LOOM,#6,SS
24	2	STD HARDWARE BHM42	SCREW,BH,HEX,6x1x16,SS
25	1	178-02097	COVER,ACCESS PANEL,LIFT ARM,SHADOW RTB
26	8	STD HARDWARE BHM12	SCREW,BH,HEX,4x0.7x6,SS
27	12	STD HARDWARE LW1	WASHER,LOCK,SPRING,REGULAR, M4, SS
28	2	STD HARDWARE BHM40	SCREW,BH,HEX,6x1x12,SS
29	1	178-02099	BRACKET,NEST SWITCH,SHADOW RTB
30	1	065-15000	CANISTER,DOCUMENT,BLACK
31	2	STD HARDWARE-PHP-74	SCREW,PHP,MS,1/4-20UNCx1/2,SS
32	2	STD HARDWARE W21	WASHER,FLAT,USS, 1/4", SS
33	1	178-04053	PAD, NEST, SHADOW RTB
34	2	STD HARDWARE-FHMS-M057	SCREW,FHSH,M6x1x20
35	1	RTB_Control_Assembly	RELAY AND WIRING HOUSING BOX



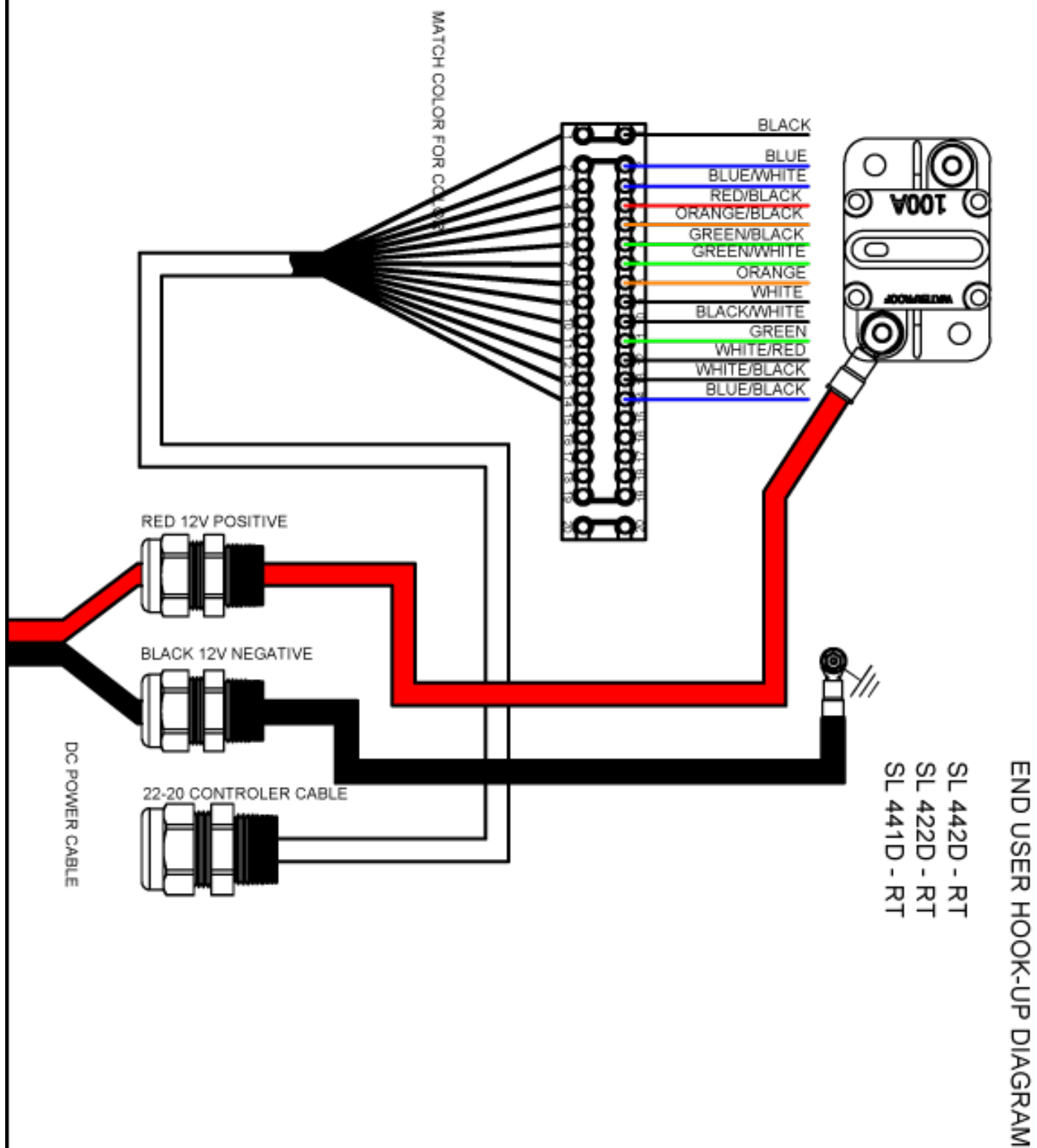
PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	178-03001	PLATE, ROTATION DRIVE, SHADOW RTB
2	1	178-03002	PLATE, ROTATION DRIVEN, SHADOW RTB
3	1	178-03003R2	SPINDLE,ROTATION,SHADOW RTB
4	1	178-03005	STOP,ROTATION LIMIT,SHADOW RTB
5	2	178-03006	STANDOFF,MOTOR,ROTATION,SHADOW RTB
6	4	STD HARDWARE-SHCSM39	SCREW,SHCS,SHCS M4x0.7x25
7	8	STD HARDWARE-SHCSM35	SCREW,SHCS,SHCS M4x0.7x10
8	1	STD HARDWARE-SHCSM37	SCREW,SHCS,SHCS M4x0.7x16
9	1	069-01015	MOTOR,TRANSMOTEC,PDS4265-12-864-B F
10	3	069-14233	SWITCH,ROLL LEVER,SS-5GL2
11	4	STD HARDWARE--06a	SCREW,PHP,2-56 UNCx0.5
12	1	178-03008	PULLEY,HTD,P5mm,W15mm,G17,DF,B8mm
13	2	STD HARDWARE--15	SCREW,PHP,4-40 UNCx0.5
14	2	STD HARDWARE-11117	NUT,NYLOCK, 4-40 UNC,SS
15	2	STD_HDW_IG-66	BUSHING,PLAIN,IGLIDE J,JSI-2832-20
16	1	WS-175	RING,SPIROLOX,2-TURN,WS-175
17	1	178-03009	CAM,ROTATION CENTER,SHADOW RTB
18	1	STD HARDWARE BHM15	SCREW,BH,HEX,4x0.7x12,SS
19	1	178-03007	PULLEY,HTD,P5mm,W15mm,G40,NF,B10mm
20	4	STD HARDWARE-SHSS-M25	SCREW,SH SET,M6x1.0 x 16mm,SS
21	1	STD HARDWARE-SHSS-M16	SCREW,SH SET,M4x0.7 x 12mm,SS
22	1	A6R25M053150	BELT,HTD,P5mmW15mmG053
23	1	178-03011	MIDPLATE, ROTATION, SHADOW RTB
24	1	178-03010	BEARING,THRUST,ROTATION,SHADOW RTB
25	1	STD HARDWARE-SHCSM72	SCREW,SHCS,SHCS M6x1x12
26	1	178-03015	MOUNT,MOTOR,ROTATION,SHADOW RTB

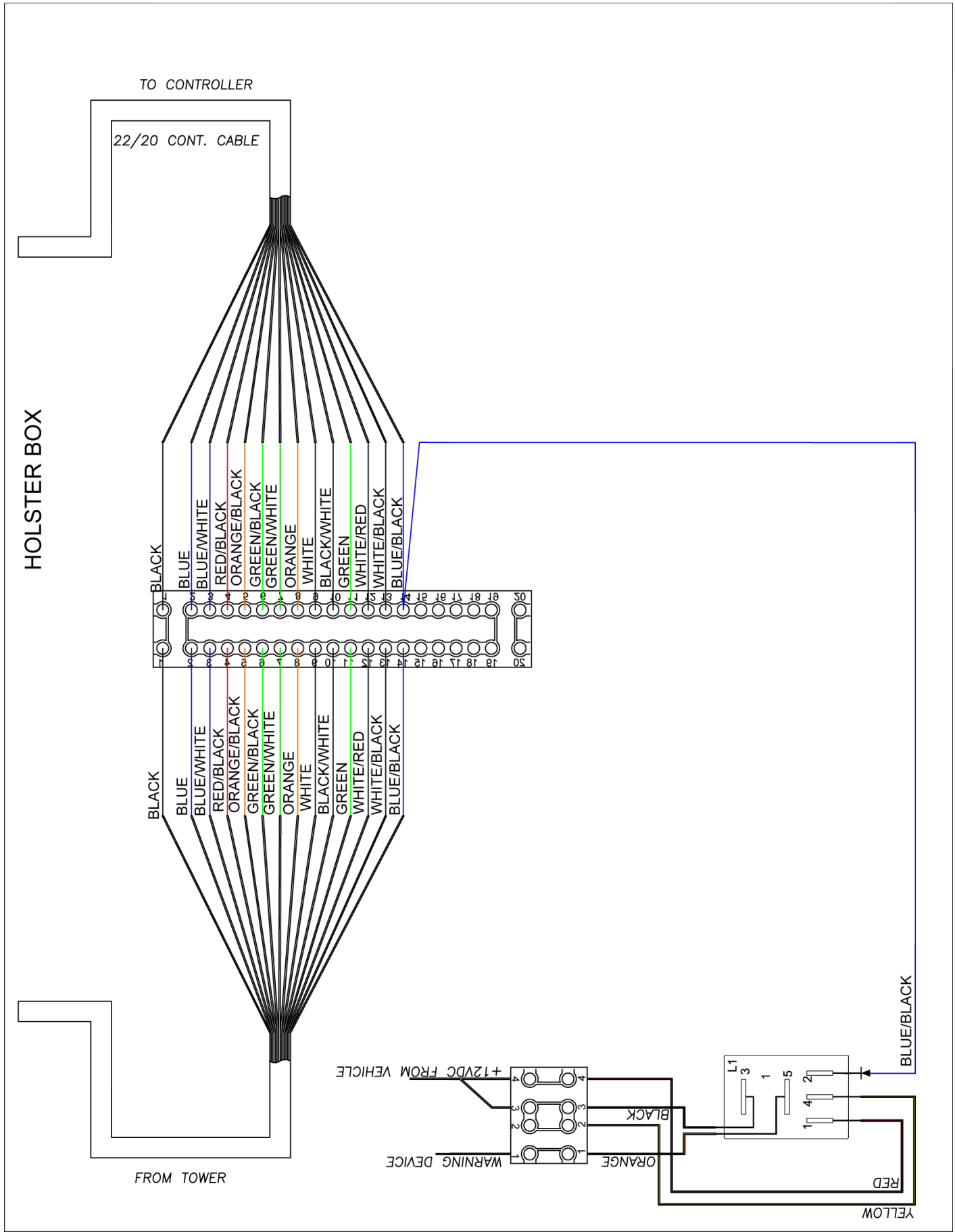




PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	178-04038	TREE,LAMP,FRC SPECTRA, SHADOW RT
3	4	FRC SPECTRA	
4	4	078-05303	SPACER,LAMP,SCENESTAR
5	2	178-04040	MOUNT,LAMP,SCENESTAR,SHADOW RTB
6	1	178-04009	COVER,ACCESS,LAMP TREE,SHADOW RTB
7	1	178-05100	MOUNT, STROBE, SHADOW RTB, WELDMENT
8	1	Strobe	STROBE, PRE-WIRED, INDICATE COLOR
9	4	065-12373	
10	1	069-15352	CONXALL, MINICON, 2 PIN, PANEL
12	2	178-04047	COVER, ARM,BL,LAMP,SHADOW RTB
13	8	STD HARDWARE--57	SCREW,PHP,10-24 UNCx0.5
14	1	178-04048W	TREE,SCENESTAR,WELDMENT,SHADOW RTB
15	1	178-04049W	MOUNT,RIGHT,BACKLIGHT,SCENESTAR, RTB
16	1	178-04050W	MOUNT,LEFT,BACKLIGHT,SCENESTAR, RTB
17	4	STD HARDWARE-SHCSM39	SCREW,SHCS,SHCS M4x0.7x25
18	1	065-12380	RING, RETAINING,1" STAINLESS STEEL
19	1	178-04024	GUARD,BELT,BLIGHT,SHADOW RTB
20	8	STD HARDWARE BHM15	SCREW,BH,HEX,4x0.7x12,SS
21	8	STD HARDWARE BHM42	SCREW,BH,HEX,6x1x16,SS
22	10	STD HARDWARE LW35	WASHER,LOCK,SPRING,REGULAR, 1/4", SS
23	2	STD HARDWARE-IEW-52	WASHER,LOCK,18-8SS,EXTERNAL,1/4in
24	2	STD HARDWARE W21	WASHER,FLAT,USS, 1/4", SS
25	6	STD HARDWARE LW2	WASHER,LOCK,SPRING,REGULAR, M6, SS
26	10	STD HARDWARE BHM40	SCREW,BH,HEX,6x1x12,SS
27	1	STD HARDWARE BHM43	SCREW,BH,HEX,6x1x20,SS
28	2	069-14160	SENSOR,PROXIMITY,4-WIRE
29	4	STD HARDWARE-07	SCREW_PHPMS_2-56 UNC_x_0.75
30	4	STD_HARDWARE-N-001	NUT,MS,HEX1,2-56UNC,SS
31	3	STD HARDWARE BHM14	SCREW,BH,HEX,4x0.7x10,SS
32	1	STD HARDWARE LW24	WASHER,LOCK,SPRING,REGULAR, #8, SS
33	1	STD HARDWARE W14	WASHER,FLAT,SAE, #8, SS
34	1	STD HARDWARE W18	WASHER,FLAT,FENDER, #10, SS
35	1	STD HARDWARE BHM41	SCREW,BH,HEX,6x1x14,SS
36	1	STD HARDWARE-PHP-49	SCREW,PHP,MS,10-24UNCx1-3/4,SS
37	1	034-10981	NUT,NYLOCK, 10-24 UNC,SS
38	2	069-01125	Nut, MS, M8x1.25
39	8	STD HARDWARE-SHCSM79	SCREW,SHCS,SHCS M6x1x45
40	2	178-04002	SUPPORT,SHAFT,PIVOT,SHADOW RTB
41	1	178-04004	SHAFT,DRIVEN,SHADOW RTB
42	2	MFI-1620-10	BUSHING,FLANGED,IGLIDE,MFI-1620-10
43	1	178-04003	PULLEY,HTD,DRIVEN,BL,SHADOW RTB
44	1	178-04016	SHIM,SPACER,BACKLIGHT,SHADOW RTB
45	1	178-04011	MOUNT,MOTOR,DRIVE,AERIAL
46	1	065-12374	MOTOR,THRU HOLE,12 VDC
47	1	178-04010	SHAFT,STUB,DRIVE,SHADOW RTB
48	1	065-12378	PULLEY,HTD,P5mm,W15mm,G17,DF,B8m m
49	1	065-12376	BELT,HTD,P5mmW15mmG55
50	2	178-04007	STOP,ROTATION,BACKLIGHT,SHADOW RTB

## Wiring Schematics





# DC SHADOW RTB RELAY BOX - WIRE SCHEMATIC

09/11/2015

FROM LIFT ARM  
GROUND FROM  
POWER SOURCE

