



# Installation Instructions

## Sequential Loop 3-Position Electronic Pressure Regulator Kits

This manual provides instructions for Cascade Electronic Pressure Regulator and Indicator System. The kits provide selectable clamp force for the attachment through a driver operated push button sequence switch with indication of the force selected by colored lights on an optional light bar or light tower. The system is standard with four settings (three adjustable and truck relief).

Cascade recommends using a Low Pressure Tank Line Kit for a dedicated return connection to the truck tank.

### Kits without Light Tower/ Light Bar

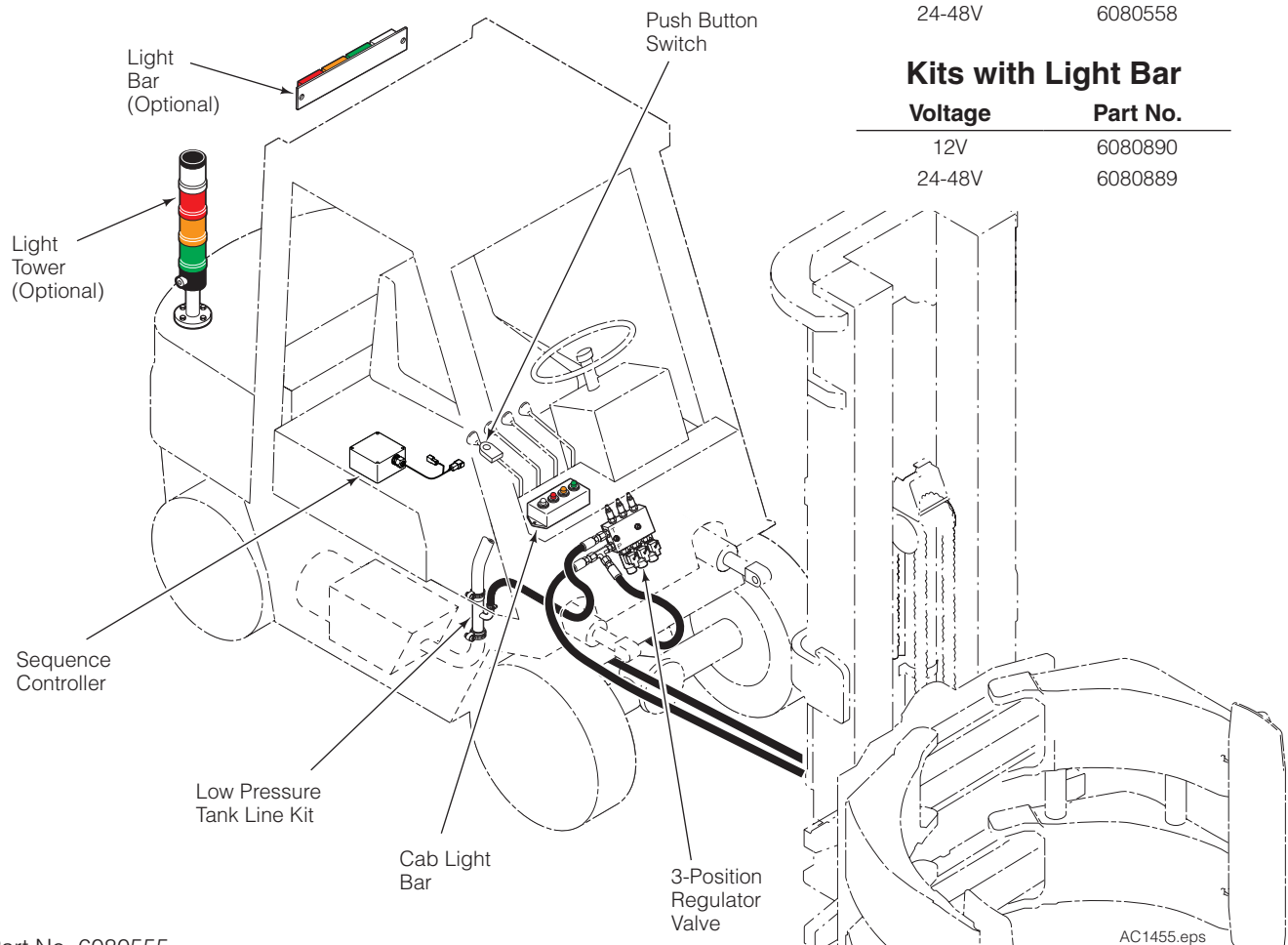
Voltage	Part No.
12V	6080557
24-48V	6080565

### Kits with Light Tower

Voltage	Part No.
12V	6076024
24-48V	6080558

### Kits with Light Bar

Voltage	Part No.
12V	6080890
24-48V	6080889



Part No. 6080555

AC1455.eps

# **cascade**<sup>®</sup> corporation

#### For Technical Support . . .

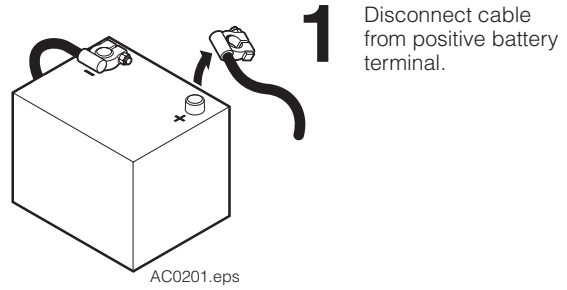
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Internet: [www.cascorp.com](http://www.cascorp.com)  
Write: Cascade Corporation, PO Box 20187, Portland, OR 97294

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Internet: [www.cascorp.com](http://www.cascorp.com)  
Write: Cascade Corporation, 2501 Sheridan Ave., Springfield, OH 45505

# Installation

**1** Disconnect the cable from the positive battery terminal.



**2** Locate and install the regulator valve assembly on the truck cowl or under the floorboard using 3/8 in. capscrews. Watch for clearance when the mast is tilted back if mounting on the cowl. The regulator valve has adjustment screws that need easy access for final adjustment.

**3** Install a return to tank line to the T port on the side of the valve to connect with the truck tank line. Cascade Low Pressure Return Line Adapter Kits are listed below.

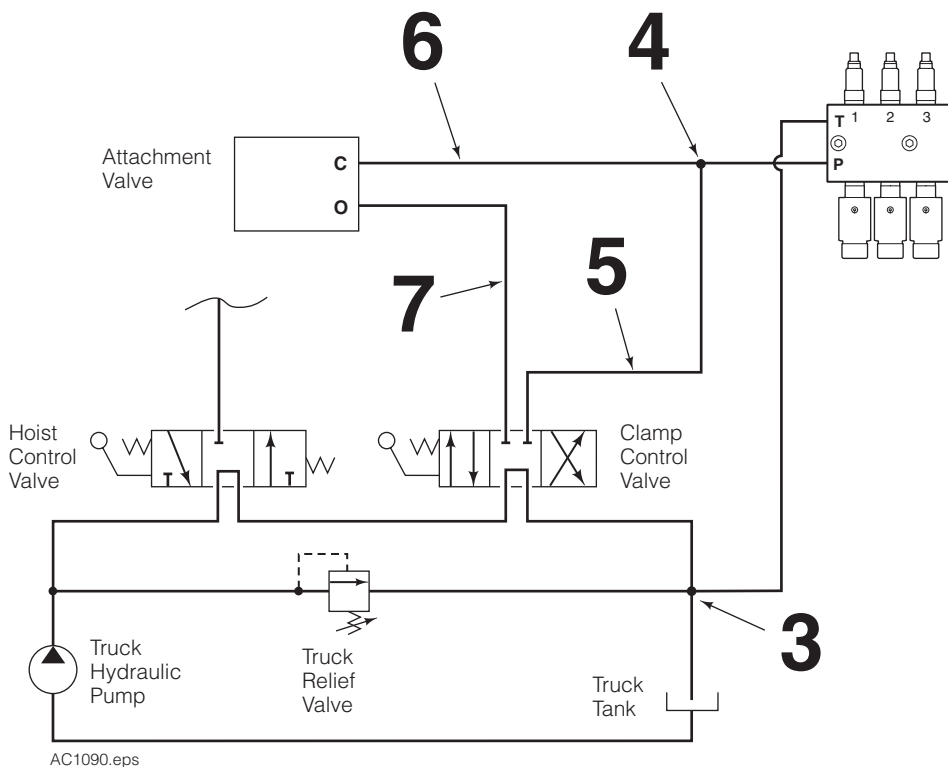
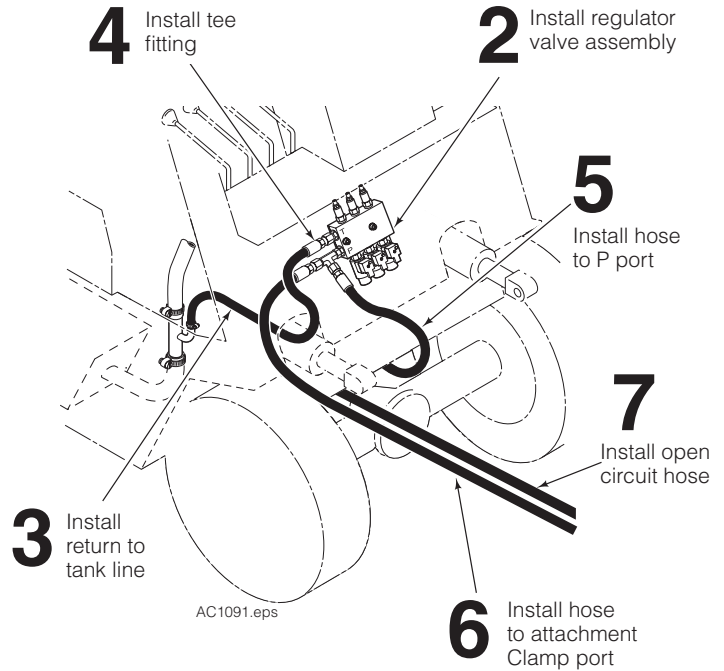
.75 in. (19 mm) ID Tank Hose	<b>Part No. 214062</b>
1.00 in. (25 mm) ID Tank Hose	<b>Part No. 211745</b>
1.25 in. (31 mm) ID Tank Hose	<b>Part No. 214066</b>
1.50 in. (38 mm) ID Tank Hose	<b>Part No. 6037507</b>

**4** Install a No. 8 tee fitting to the P port on the side of the regulator valve.

**5** Install a No. 8 hose from the truck auxiliary valve CLAMP port to the P port tee fitting on the side of the regulator valve.

**6** Install a No. 8 hose from the valve P port tee fitting to the supply circuit for the attachment CLAMP port.

**7** Install a No. 8 hose from the truck clamp auxiliary valve OPEN port to the supply circuit for the attachment Open port.



**8** Locate and mount the Cab Light Bar on the truck dashboard or overhead guard with the velcro provided. Position for best peripheral viewing due to brightness of lights.

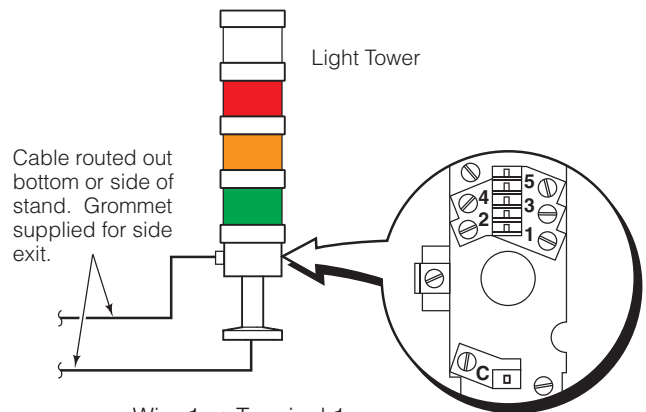
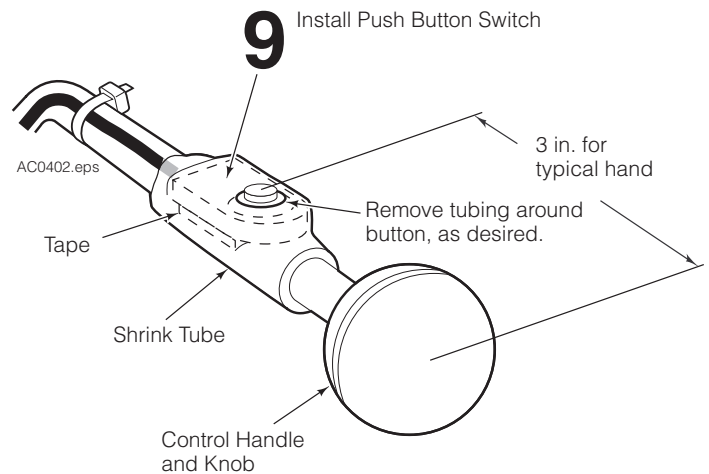
**9** Install the Push Button Switch to the clamp control lever. Remove the control knob. Position switch on the handle in a location for comfortable thumb or index finger operation. Place the double sided tape under the switch to secure the switch in place. Using a heat gun, heat tubing to secure the switch to the handle.

**NOTE:** Remove tubing around button, as desired. Reinstall the knob. Install cable ties as needed for the wires.

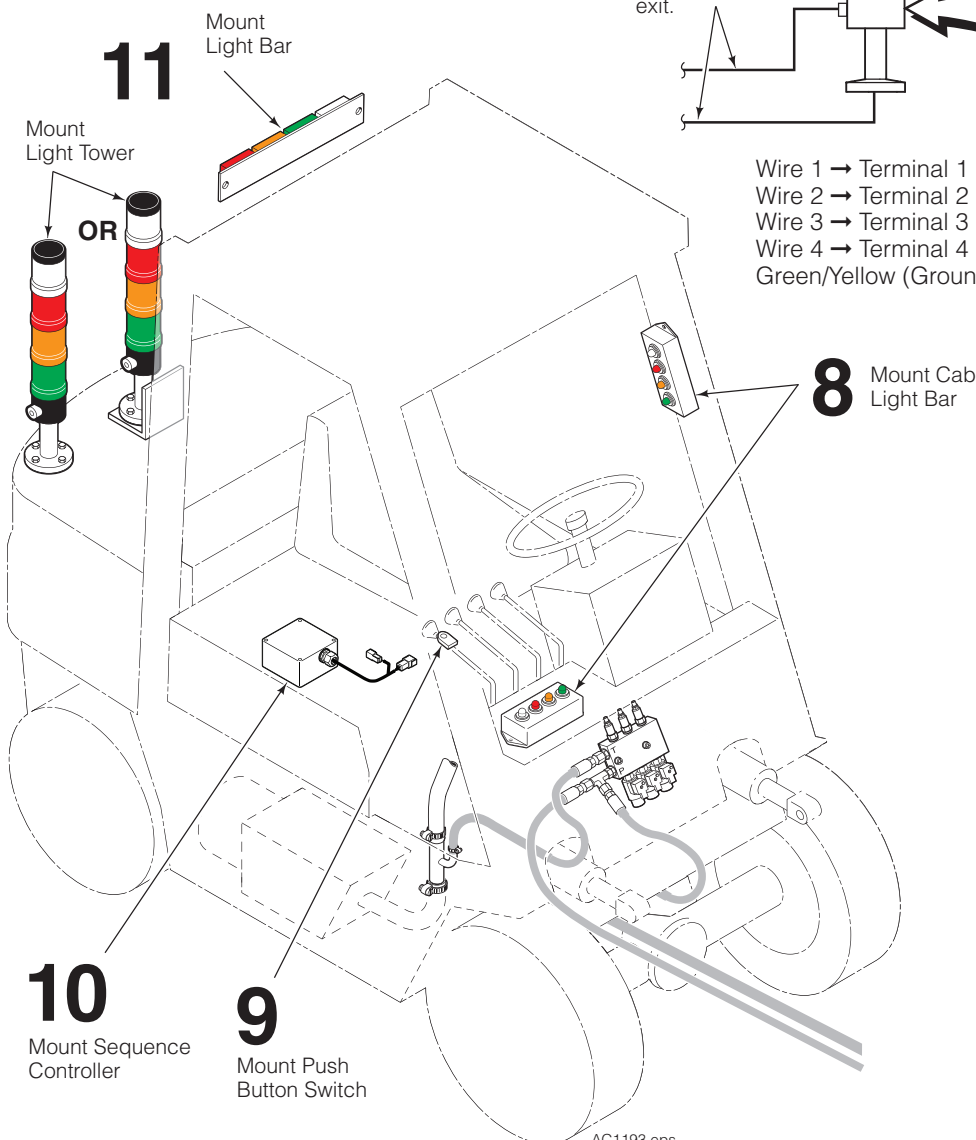
**10** Locate and mount the Push Button Controller on the truck using the provided velcro. Watch for clearance when the mast is tilted back if mounting on the cowl. Connect the Sequence Controller to the Push Button Switch.

**11 Light Tower Option** – Locate and mount the optional Light Tower at the rear of the truck. A simple bracket can be fabricated to mount the Light Tower on the back of the overhead guard. The light tower cable can be routed out the bottom of the stand or out the side of the light assembly using the grommet supplied. See the wire and terminal connections shown.

**Light Bar Option** – Locate and mount the optional Light Bar on the back of the overhead guard.



- Wire 1 → Terminal 1
- Wire 2 → Terminal 2
- Wire 3 → Terminal 3
- Wire 4 → Terminal 4
- Green/Yellow (Ground) → Terminal C



**CAUTION:** Consult the Lift Truck OEM for proper + power source connection.

**12** Connect the cable ends.

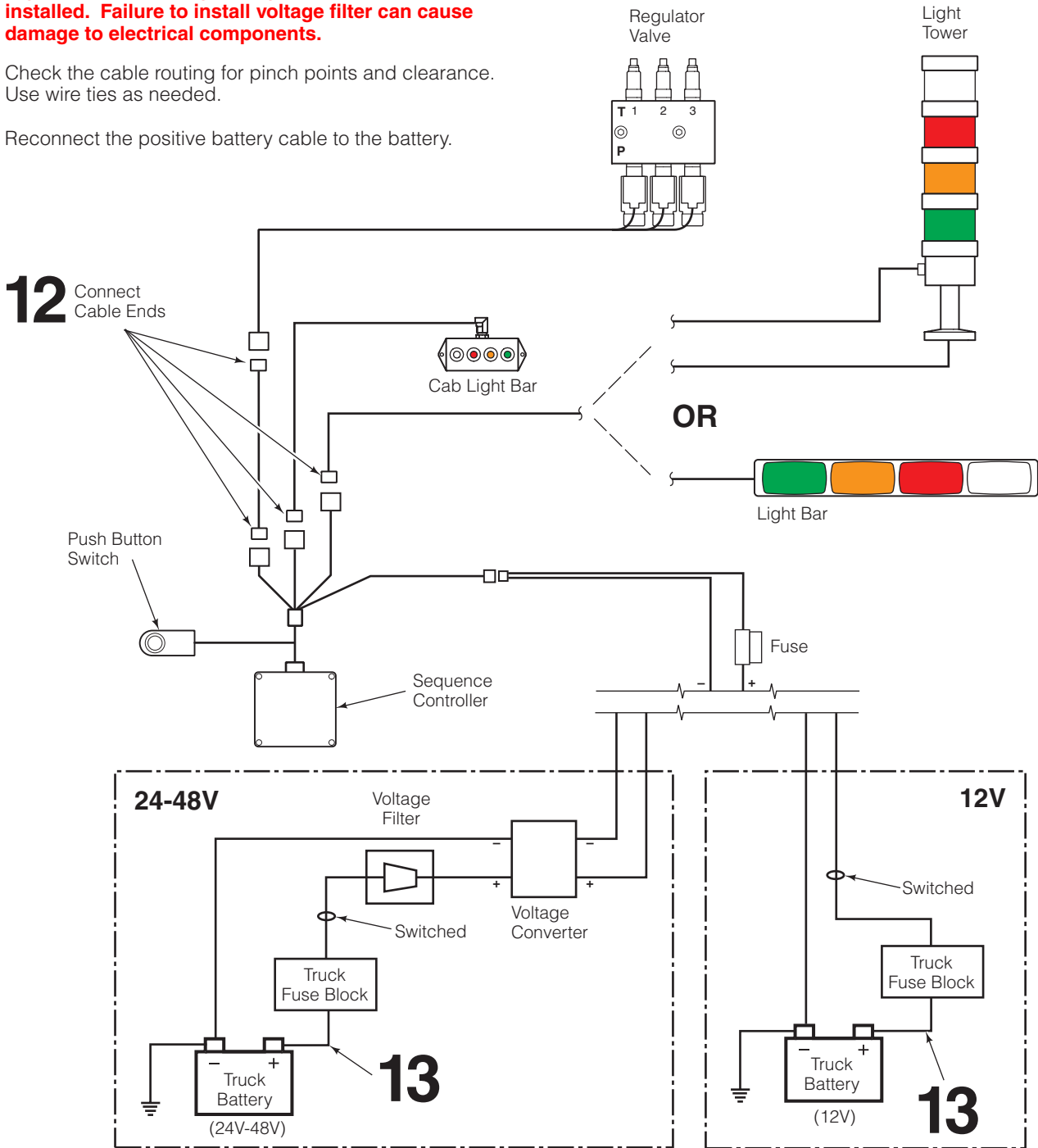
**12V Trucks** – Connect the fused positive wire to a 12V switched power source. Connect the ground wire.

**24V-48V Trucks** – Connect the fused positive wire from the cable harness to the voltage converter supplied. Connect the voltage converter to the voltage filter. Connect the voltage filter to a switched power source. Connect the ground wire.

**NOTE:** When installing on electric trucks with regenerative braking, voltage filter 6061953 must be installed. Failure to install voltage filter can cause damage to electrical components.

Check the cable routing for pinch points and clearance. Use wire ties as needed.

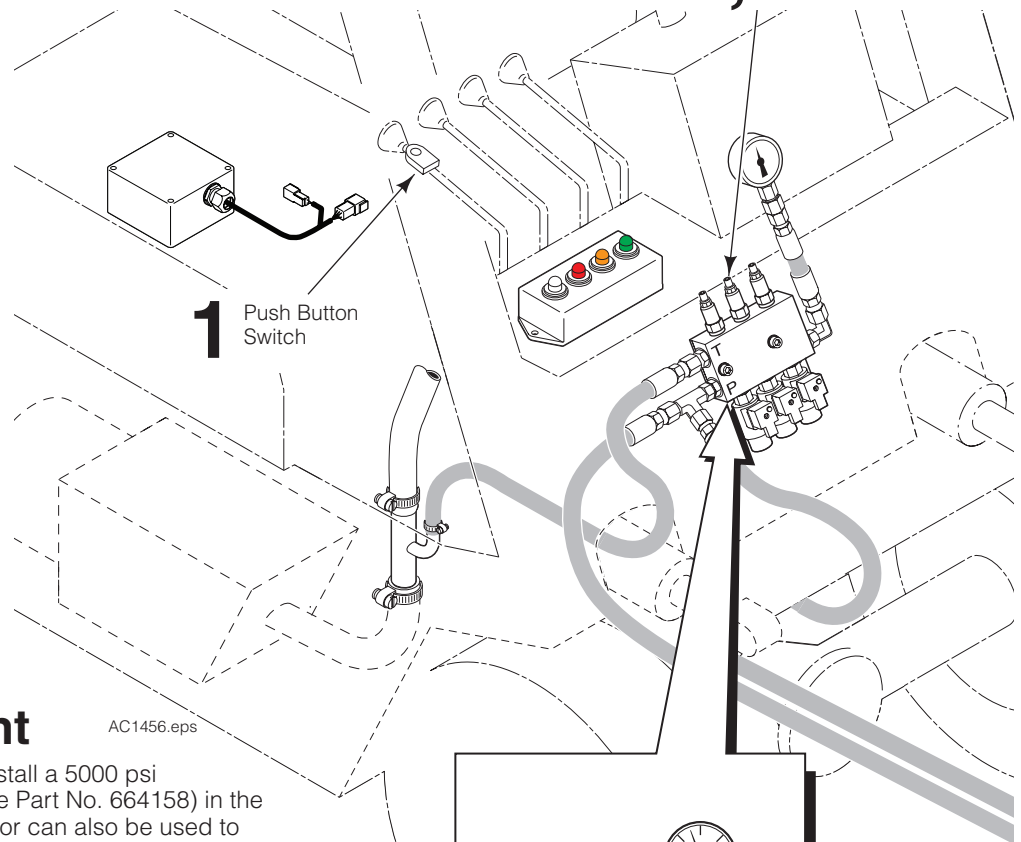
**13** Reconnect the positive battery cable to the battery.



**IC Trucks** – Use chassis ground.  
**Electric Trucks** – Use battery ground.

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## 2,3 Adjust Relief Cartridges



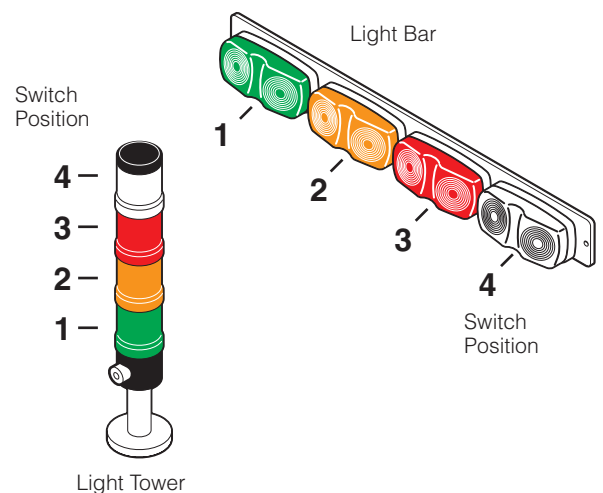
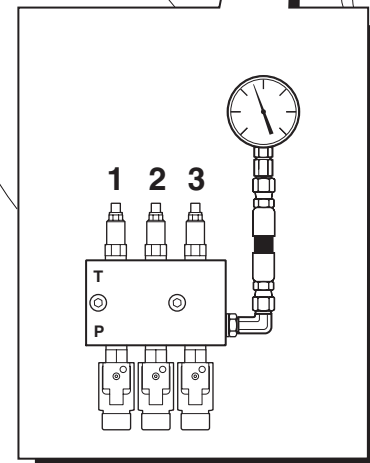
## Relief Adjustment

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To set the valve relief cartridges, install a 5000 psi (345 bar) pressure gauge (Cascade Part No. 664158) in the valve **P** port. A clamp force indicator can also be used to adjust the relief cartridge settings. Refer to Clamp Force Indicator Operator Guide 6053280 for Carton Clamps or 214750 for Paper Roll Clamps.

**IMPORTANT:** All three valve relief cartridges are preset to 2300 psi. Relief pressure for each cartridge must be adjusted for your application.

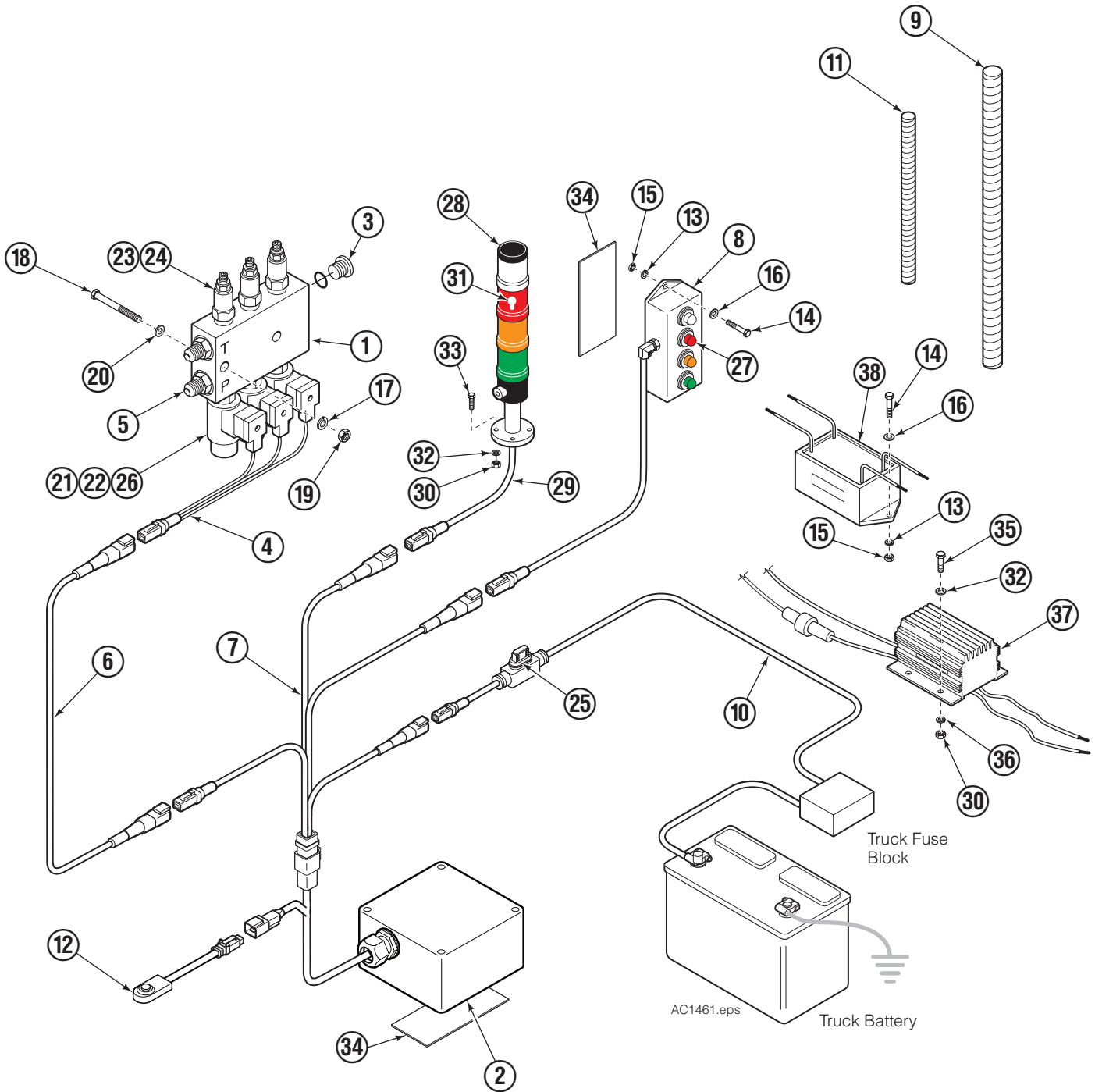
- 1 Press the Push Button Switch until the light indicates green. The solenoid coil also has a small indicator light.
- 2 Loosen the jam nut on the No. 1 relief cartridge. Adjust the relief cartridge (3/16-in. Allen hex wrench) inward (CW) to raise pressure or outward (CCW) to lower the pressure.
- 3 Clamp a load and check the pressure. Readjust as required. Tighten the jam nut.
- 4 Press the Push Button Switch until the light tower indicates Amber. Repeat steps 2 and 3 to adjust No. 2 relief cartridge.
- 5 Press the Push Button Switch until the light tower indicates Red. Repeat steps 2 and 3 to adjust No. 3 relief cartridge.
- 6 When the light tower indicates clear, the relief valve has no effect. Pressure to the attachment is determined by the truck system relief pressure.



Switch Position	Relief Cartridge	Light Tower	Light Bar	Pressure
1	1	Green	Green	Lowest
2	2	Amber	Amber	Higher
3	3	Red	Red	Next Higher
4	None	Clear	Clear	Highest

**NOTE:** To program controller to skip Position 4 (Truck Relief), contact Cascade Corporation Engineering Department.

# Electronic Pressure Regulator Control & Indicator Kits With Light Tower

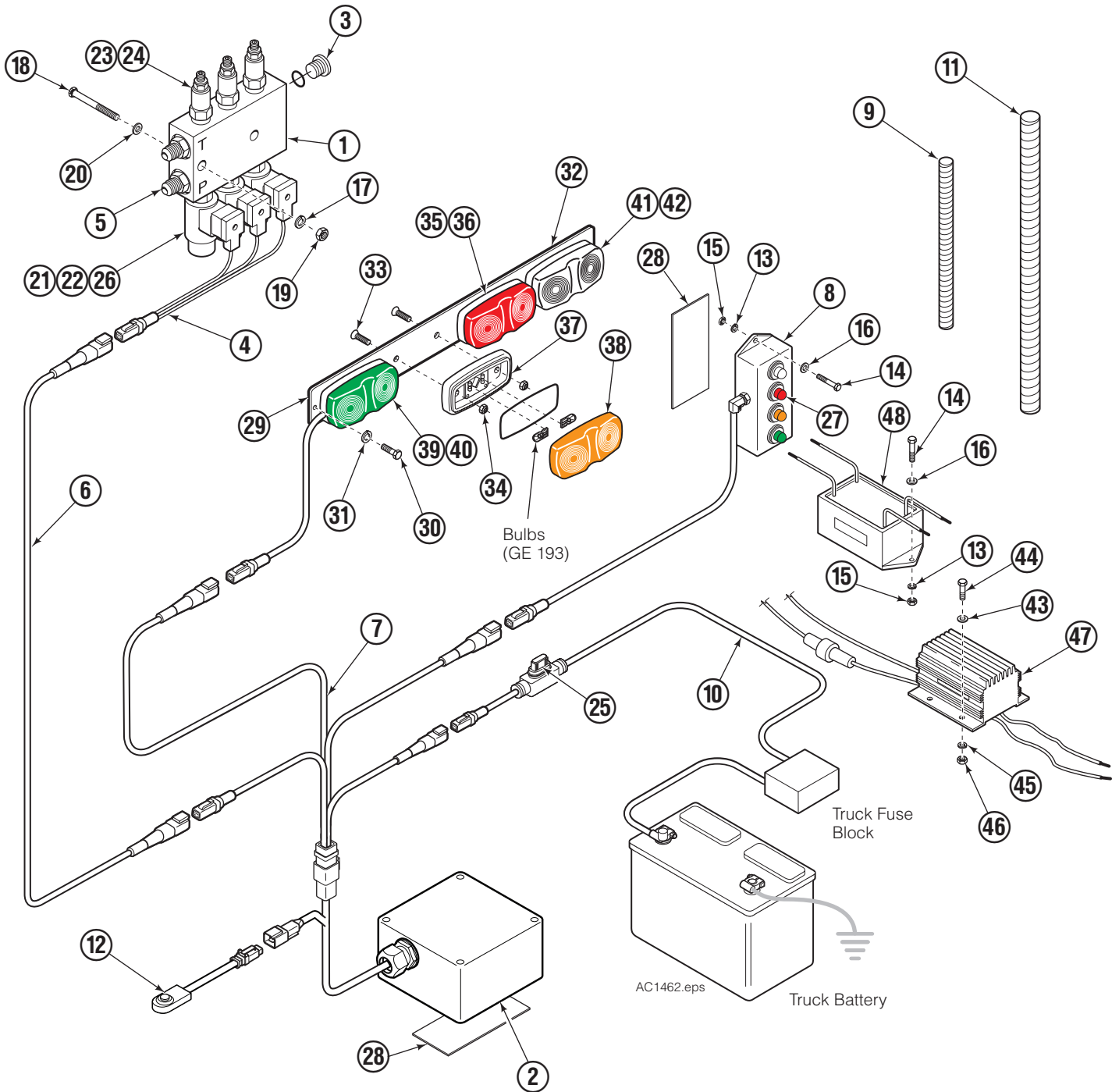


# Electronic Pressure Regulator Control & Indicator Kits With Light Tower

REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
		6080558	Pressure Regulator-12V ■	20	2	787398	Washer, M8
		6076024	Pressure Regulator-24-48V ▲	21	3	6062857	Seal Kit
		217932	Converter & Filter Kit ●	22	3	6002190	Solenoid Coil-12V
1	1	838489	Relief Valve Assembly	23	3	211230	Relief Cartridge
2	1	6075986	Sequence Controller	24	3	661312	Seal Kit
3	2	602580	Plug	25	1	6016993	Fuse, ATM type 7.5 Amp
4	1	6053967	Solenoid Cable Harness	26	3	6002189	Solenoid Cartridge
5	2	601377	Fitting, 8-8	27	1	6011823	Bulb-Red
6	1	6053985	Solenoid Cable		1	6004133	Bulb-Amber
7	1	6053968	Wire Harness		1	6004132	Bulb-Green
8	1	6053986	Cab Light Bar		1	6049981	Bulb-Clear
9	1	6057697	Conduit, 25 mm ID x 1000 mm	28	1	6053982	Light Tower with Cable
10	1	6048139	Power Harness	29	1	6053981	Cable
11	1	6021369	Conduit, 9 mm x 375 mm	30	◆	768202	Nut, M5
12	1	6076077	Push Button Switch	31	4	6057068	Bulb, Square D type DL1BLJ
13	◆	685899	Lockwasher, M4	32	◆	6002107	Washer, M5 x 25
14	◆	768502	Capscrew, M4 x 25	33	4	768782	Capscrew M5 x 25
15	◆	765474	Nut, M4	34	◆	6029665	Velcro
16	◆	686454	Washer, M4	35	4	6405318	Capscrew, M5 x 25
17	2	686119	Lockwasher, M8	36	4	685866	Lockwasher, M5
18	2	768530	Capscrew, M8 x 65	37	1	6064659	Voltage Converter, 24-48V→12V
19	2	767414	Nut, M8	38	1	6061953	Voltage Filter

- Includes items 1 through 34.
- ▲ Includes items 1 through 38.
- Includes items 37 & 38.
- ◆ Quantities as required.

# Electronic Pressure Regulator Control & Indicator Kits With Light Bar

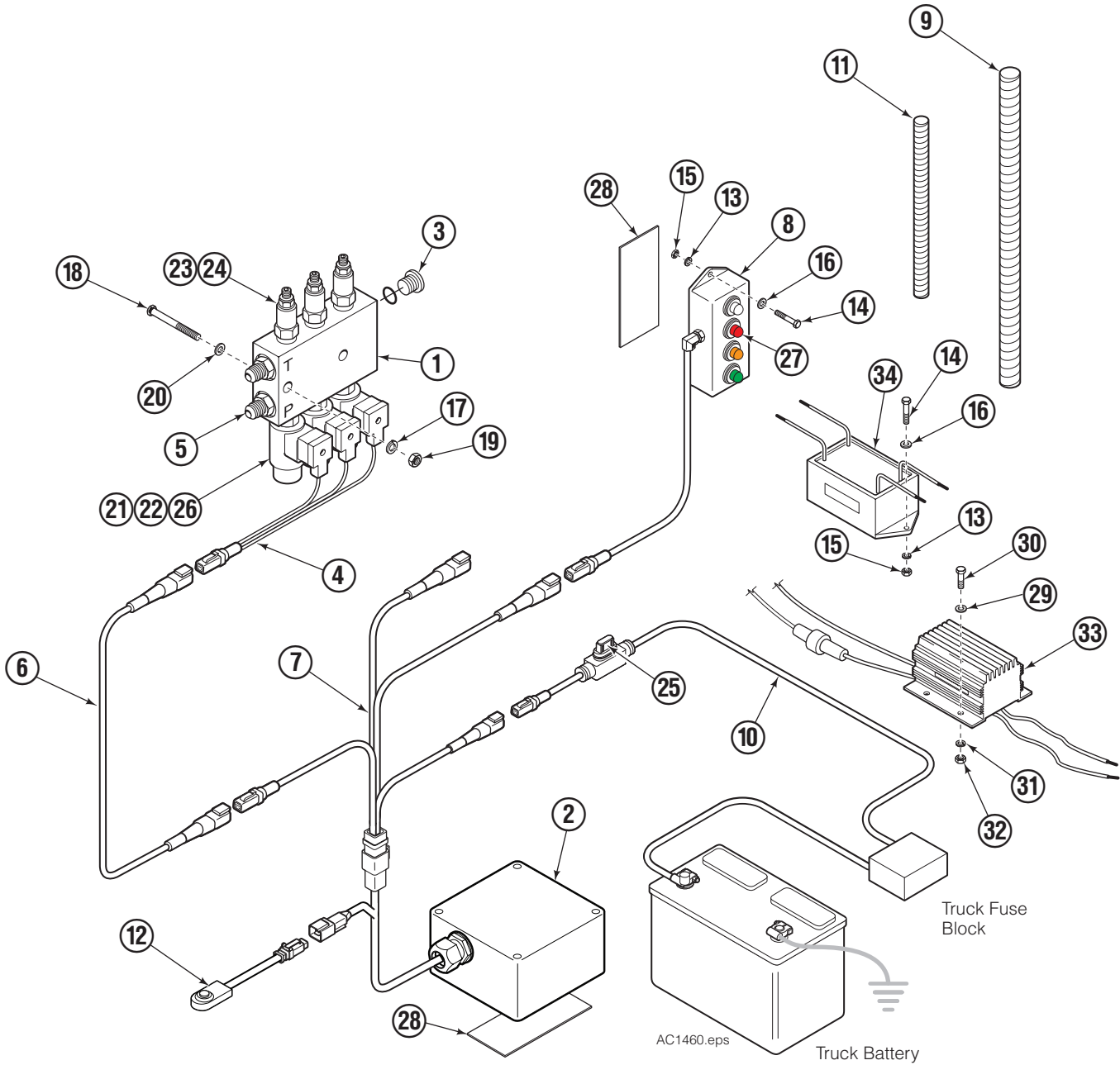


# Electronic Pressure Regulator Control & Indicator Kits With Light Bar

REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
		6080890	Pressure Regulator-12V ■	25	1	6016993	Fuse, ATM type 7.5 Amp
		6080889	Pressure Regulator-24-48V ▲	26	3	6002189	Solenoid Cartridge
		217932	Converter & Filter Kit ●	27	1	6011823	Bulb-Red
1	1	838489	Relief Valve Assembly		1	6004133	Bulb-Amber
2	1	6075986	Sequence Controller		1	6004132	Bulb-Green
3	2	602580	Plug		1	6049981	Bulb-Clear
4	1	6053967	Solenoid Cable Harness	28	◆	6029665	Velcro
5	2	601377	Fitting, 8-8	29	1	6080827	Light Bar Assembly ✖
6	1	6053985	Solenoid Cable	30	2	763169	Capscrew, M6 x 20
7	1	6053968	Wire Harness	31	2	206323	Lockwasher, M6
8	1	6053986	Cab Light Bar	32	1	6076676	Aluminum Bar
9	1	6057697	Conduit, 25 mm ID x 1000 mm	33	8	6405847	Capscrew, M8 x 20
10	1	6048139	Power Harness	34	8	686453	Nut, M8
11	1	6021369	Conduit, 9 mm x 375 mm	35	1	6076821	Red Lamp Assembly
12	1	6076077	Push Button Switch	36	1	217948	Red Lens
13	◆	685899	Lockwasher, M4	37	1	6076820	Amber Lamp Assembly
14	◆	768502	Capscrew, M4 x 25	38	1	217950	Amber Lens
15	◆	765474	Nut, M4	39	1	6076819	Green Lamp Assembly
16	◆	686454	Washer, M4	40	1	217952	Green Lens
17	2	686119	Lockwasher, M8	41	1	6076818	Clear Lamp Assembly
18	2	768530	Capscrew, M8 x 32	42	1	6077910	Clear Lens
19	2	767414	Nut, M8	43	4	6002107	Washer, M5
20	2	787398	Washer, M8	44	4	6405318	Capscrew, M5 x 25
21	3	6062857	Seal Kit	45	4	685866	Lockwasher, M5
22	3	6002190	Solenoid Coil-12V	46	4	768202	Nut, M5
23	3	211230	Relief Cartridge	47	1	6064659	Voltage Converter, 24-48V→12V
24	3	661312	Seal Kit	48	1	6061953	Voltage Filter

- Includes items 1 through 42.
- ▲ Includes items 1 through 48.
- ✖ Includes items 28 through 42
- Includes items 47 & 48.
- ◆ Quantities as required.

# Electronic Pressure Regulator Control & Indicator Kits Without Light Tower/ Light Bar



# Electronic Pressure Regulator Control & Indicator Kits Without Light Tower/ Light Bar

REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
		6080557	Pressure Regulator-12V ■	18	2	768530	Capscrew, M8 x 65
		6080565	Pressure Regulator-24-48V ▲	19	2	767414	Nut, M8
		217932	Converter & Filter Kit ●	20	2	787398	Washer, M8
1	1	838489	Relief Valve Assembly	21	3	6062857	Seal Kit
2	1	6075986	Sequence Controller	22	3	6002190	Solenoid Coil-12V
3	2	602580	Plug	23	3	211230	Relief Cartridge
4	1	6053967	Solenoid Cable Harness	24	3	661312	Seal Kit
5	2	601377	Fitting, 8-8	25	1	6016993	Fuse, ATM type 7.5 Amp
6	1	6053985	Solenoid Cable	26	3	6002189	Solenoid Cartridge
7	1	6053968	Wire Harness	27	1	6011823	Bulb-Red
8	1	6053986	Cab Light Bar		1	6004133	Bulb-Amber
9	1	6057697	Conduit, 25 mm ID x 1000 mm		1	6004132	Bulb-Green
10	1	6048139	Power Harness		1	6049981	Bulb-Clear
11	1	6021369	Conduit, 9 mm x 375 mm	28	◆	6029665	Velcro
12	1	6076077	Push Button Switch	29	4	6002107	Washer, M5
13	◆	685899	Lockwasher, M4	30	4	6405318	Capscrew, M5 x 25
14	◆	768502	Capscrew, M4 x 25	31	4	685866	Lockwasher, M5
15	◆	765474	Nut, M4	32	4	768202	Nut, M5
16	◆	686454	Washer, M4	33	1	6064659	Voltage Converter, 24-48V→12V
17	2	686119	Lockwasher, M8	34	1	6061953	Voltage Filter

- Includes items 1 through 28.
- ▲ Includes items 1 through 34.
- Includes items 33 & 34.
- ◆ Quantities as required.

**Do you have questions you need answered right now?** Call your nearest Cascade Service Department. Visit us online at [www.cascorp.com](http://www.cascorp.com)

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