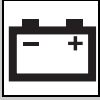


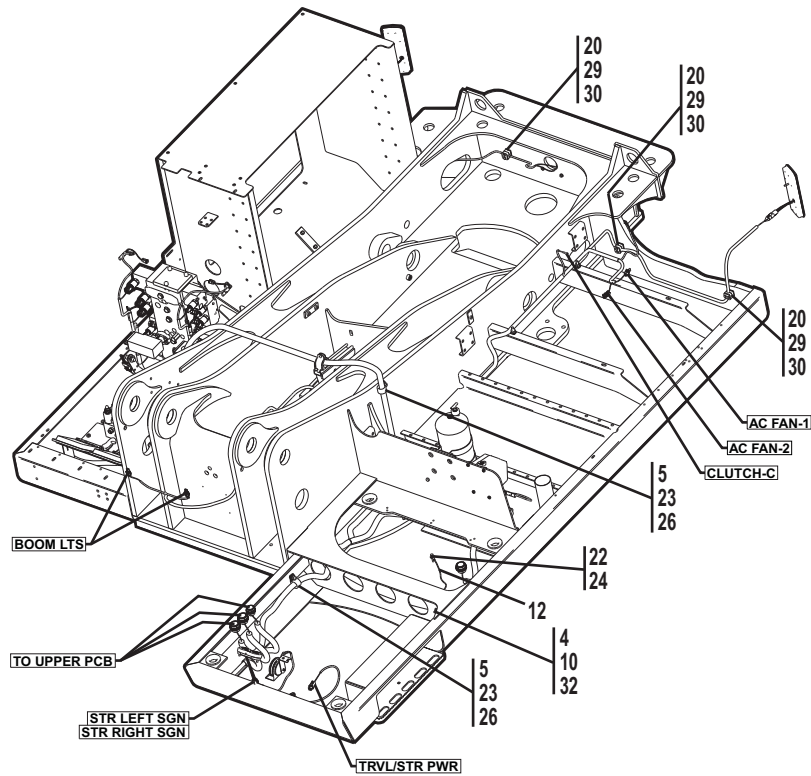
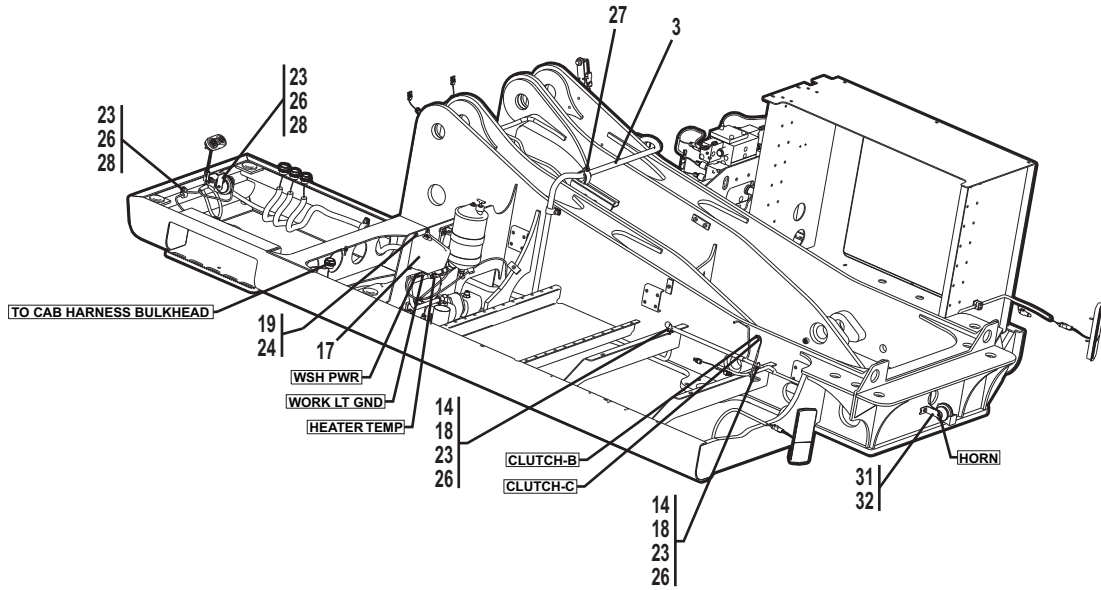
# SECTION 10 - ELECTRICAL

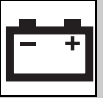




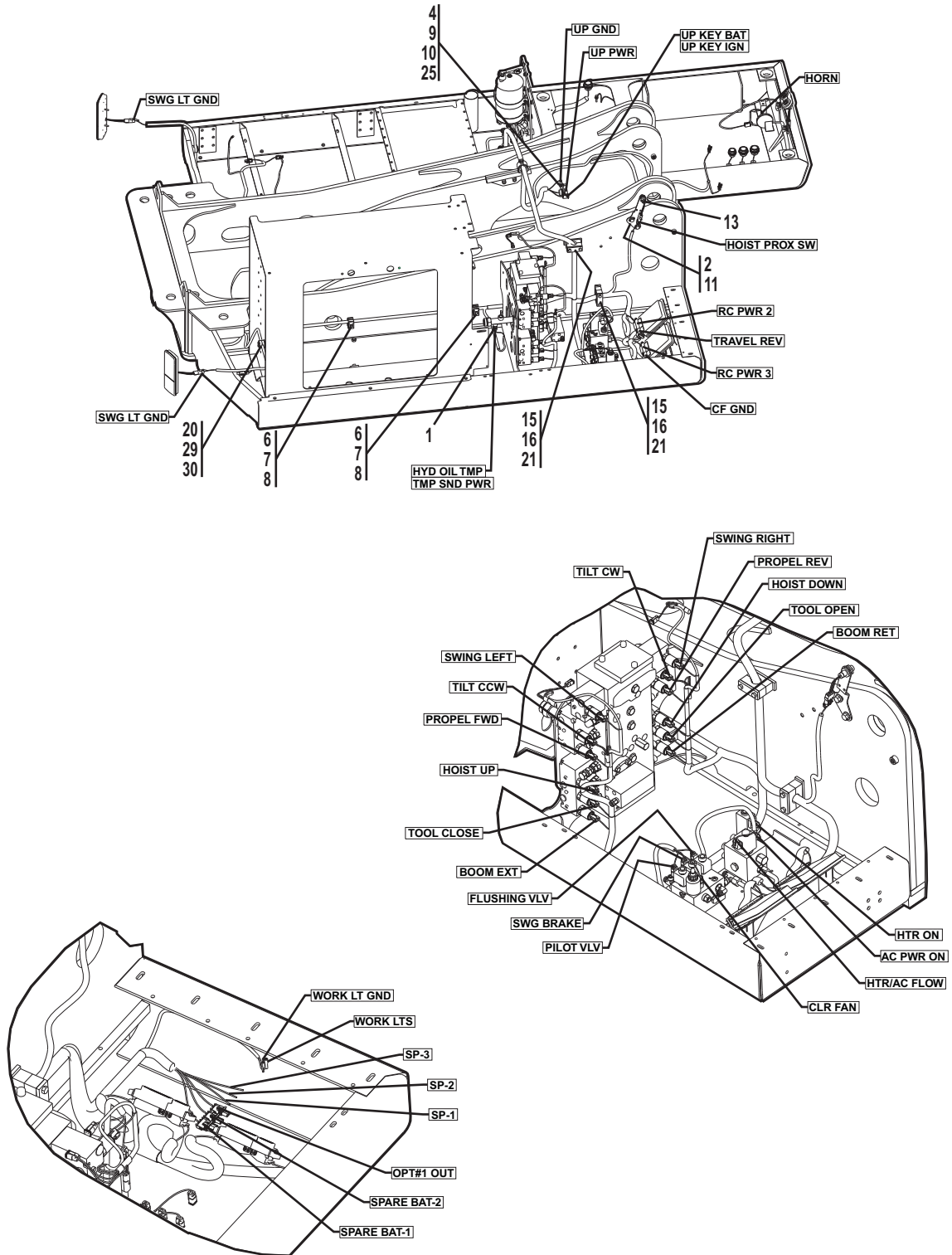
# ELECTRICAL

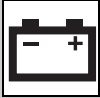
## Electrical Components, Upperstructure





## Electrical Components, Upperstructure

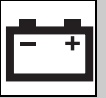




## ELECTRICAL

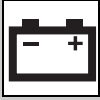
### Electrical Components, Upperstructure

Item	Part Number	Qty.	Description	Rev.
1	4000012	1	TEMPERATURE SENSOR	
2	4341189	1	SWITCH SUPPORT	
3	4923465	1	REMOTE UPPER HARNESS	
4		A/R	DI-ELECTRIC GREASE	
5	24601710	2	SUPPORT CLAMP	
6	77133140	2	COVER PLATE	
7	77133168	2	CLAMP SET	
8	77133177	2	HEX HD CAPSCREW, 5/16-18X1-3/8	
9	77143004	1	WHIZ-LOK SCREW, 5/16-18X1-1/4	
10	77143006	2	WHIZ-LOK NUT, 5/16-18	
11	80223034	2	WHIZ-LOCK SCREW, 1/2-13X3/4	
12	80263042	1	GROUND STRAP CABLE	
13	80363166	1	PROXIMITY SENSOR	
14	80973096	2	WHIZ-LOK SCREW, 3/8-16X1-1/2	
15	83251289	2	CLAMP SET	
16	83251291	2	COVER PLATE	
17	83683085	1	WASHER FLUID BOTTLE, (includes pump)	
18	85941016	2	SUPPORT CLAMP, 1/2	
19	88201003	4	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
20	88201006	8	HEX HD CAPSCREW, 1/4-20X1/4, GR5	
21	88201042	4	HEX HD CAPSCREW, 3/8-16X2-3/4, GR5	
22	88501004	1	HEX NUT, 1/4-20	
23	88521206	6	HEX LOCKNUT, 3/8-16	
24	88561002	5	FLAT WASHER, 1/4	
25	88561003	1	FLAT WASHER, 5/16	
26	88561004	6	FLAT WASHER, 3/8	
27	90205793	1	CUSHION CLAMP, 1-1/2	
28	91043147	2	SUPPORT CLAMP, 3/4	
29	91063039	4	COVER PLATE CLAMP	
30	91063040	4	CLAMP SET, 3/8	
31	91143357	1	HORN	
32	91363018	2	SCREW, 5/16-18X1	



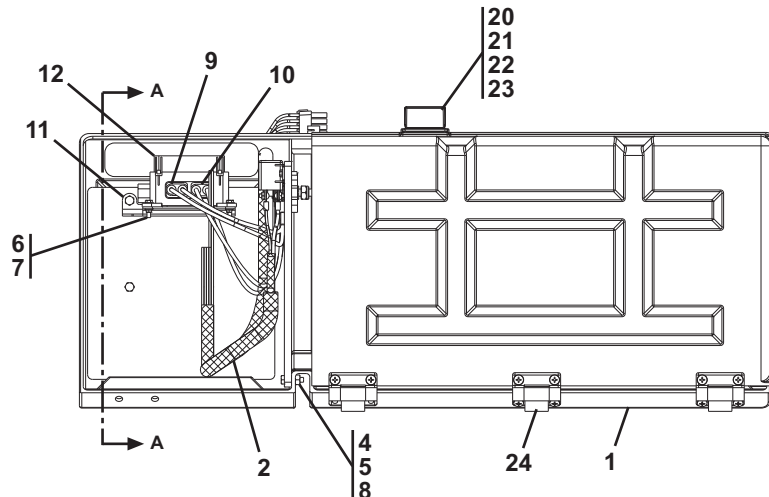
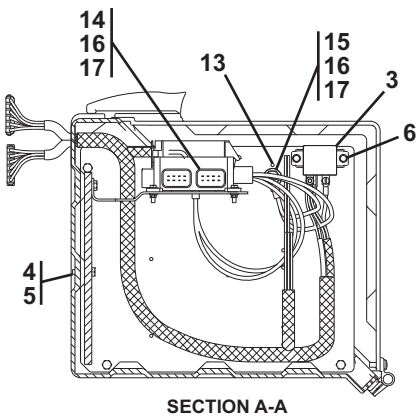
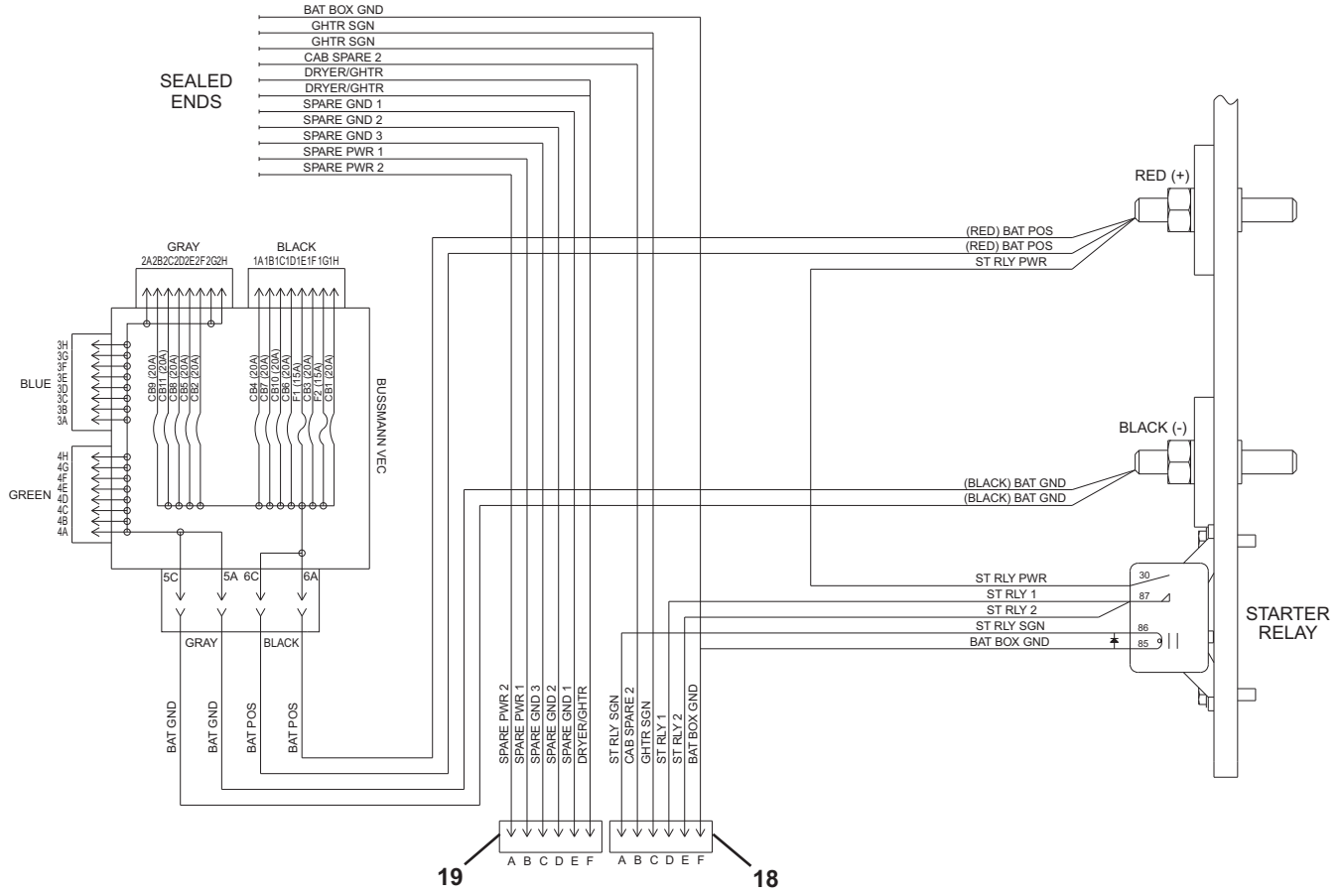
**Electrical Components, Upperstructure**

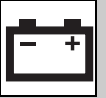
Item	Part Number	Qty.	Description	Rev.



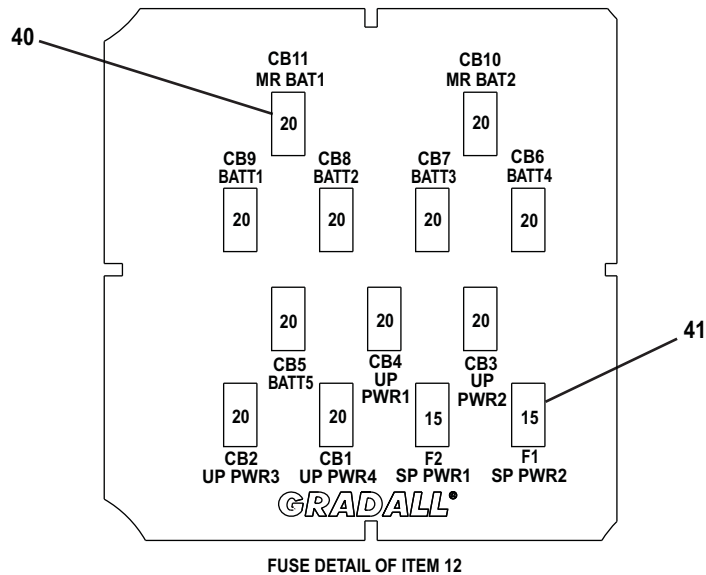
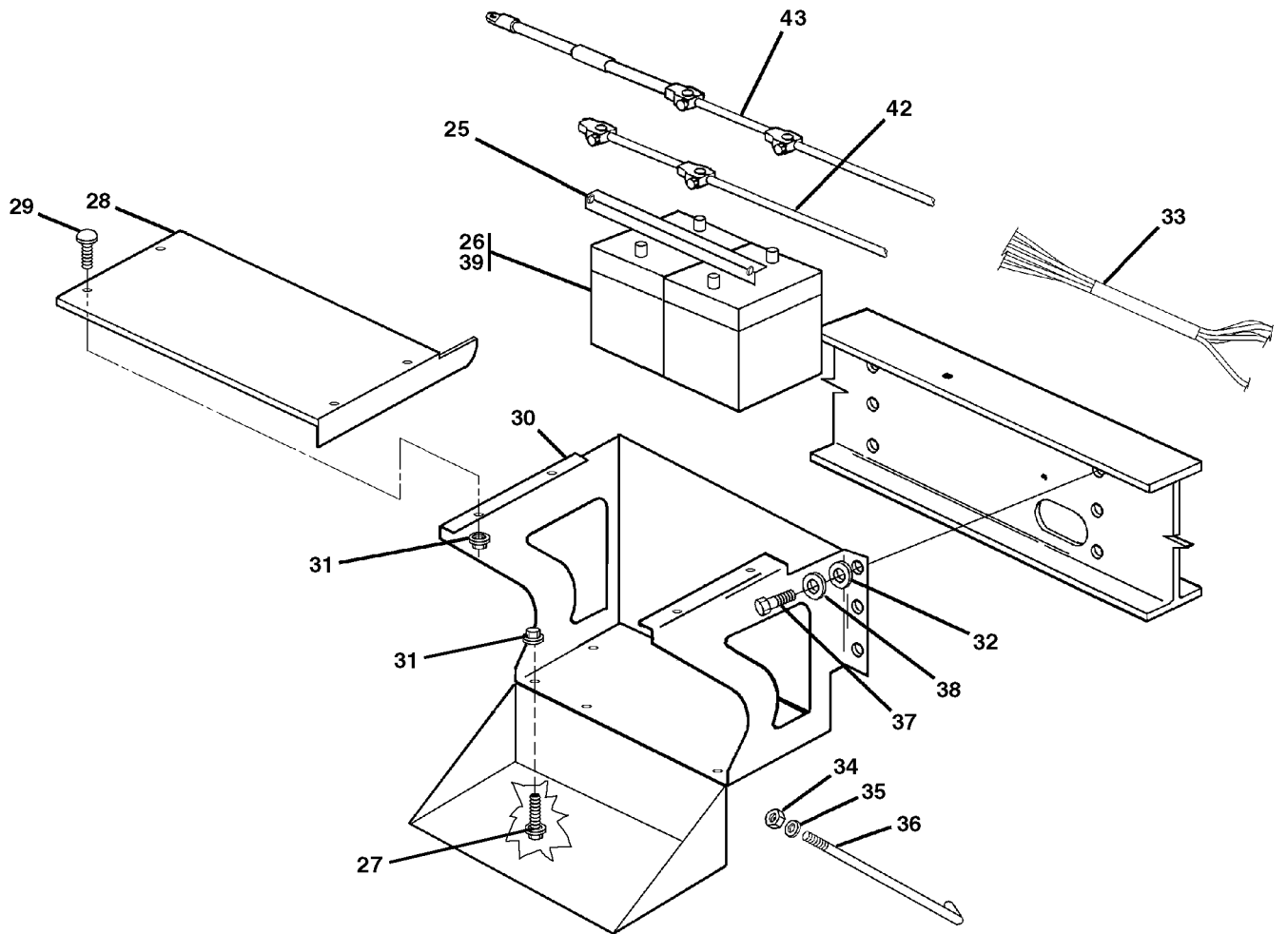
# ELECTRICAL

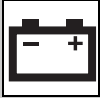
## Battery Box, Batteries & Cables





Battery Box, Batteries & Cables



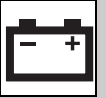


# ELECTRICAL

## Battery Box, Batteries & Cables

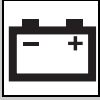
Item	Part Number	Qty.	Description	Rev.
1	1671325	1	BATTERY BOX, (includes items 20 thru 24)	B
2	80483244	1	BATTERY BOX HARNESS	
3	77383377	1	RELAY	
4	88201005	4	HEX HD CAPSCREW, 1/4-20X1, GR5	
5	88521304	4	HEX NUT, 1/4-20	
6	80483093	6	SELF-TAPPING SCREW, #10-24X3/4	
7	77143017	4	WHIZ-LOCK NUT, #10-24	
8	88561107	4	FLAT WASHER, 1/4	
9	80483246	1	NEGATIVE BATTERY CABLE, (black), (from VEC)	
10	80483245	1	POSITIVE BATTERY CABLE, (red), (from VEC)	
11	80481210	1	VEC BRACKET	
12	80483066	1	BUSSMAN VEC, (includes items 40 & 41)	
13	88321030	4	SELF TAPPING SCREW, #10-24X1/2	
14	80483061	1	STUD, FEED-THRU, 3/8, (red)	
15	80483062	1	STUD, FEED-THRU, 3/8, (black)	
16	88521306	4	HEX NUT, 3/8-16	
17	88561109	4	FLAT WASHER, 3/8	
18	80963064	1	WEATHERPACK SHROUD, (6-wire)	
	80963069	6	MALE TERMINAL PIN	
19	80963063	1	WEATHERPACK TOWER, (6-wire)	
	80963068	6	FEMALE TERMINAL PIN	
20	80304765	1	DRAW LATCH, (non-locking)	
	80383234	1	DRAW LATCH, (locking), (uses key 91404275)	
21	88261010	6	SOCKET BUTTON HD CAPSCREW, #10-24x3/4	
22	88521605	6	HEX LOCKNUT, #10-24	
23	88561105	6	FLAT WASHER, #10	
24	80484046	4	HINGE	
25	86841069	1	BATTERY HOLD DOWN ANGLE	
26		1	BATTERY, (purchase locally)	
27	80973025	5	WHIZ-LOK SCREW, 3/8-16X1	
28	80481050	1	BATTERY BOX COVER	
29	88411062	4	ROUND HD CARRIAGE BOLT, 3/8-16X1	
30	80481033	1	BATTERY BOX SUPPORT WELDMENT	
31	77143015	9	WHIZ-LOCK NUT, 3/8-16	
32	88561113	6	FLAT WASHER, 5/8	
33	4923322	1	CHASSIS HARNESS	
34	88521205	2	HEX LOCKNUT, 5/16-18	
35	88561004	2	FLAT WASHER, 3/8	
36	80381114	2	HOLD DOWN STUD	
37	88201097	6	HEX HD CAPSCREW, 5/8-11X2, GR5	
38	88551015	6	LOCKWASHER, 5/8	
39	77383567	4	TERMINAL NUT	
40	80464006	11	CIRCUIT BREAKER, 20AMP	
41	80464004	2	FUSE, 15AMP	
42		Ref	NEGATIVE BATTERY CABLE, (black), (see page 4-2 for details)	
43		Ref	POSITIVE BATTERY CABLE, (red), (see page 4-2 for details)	
	80634083	A/R	VEC REPAIR KIT	





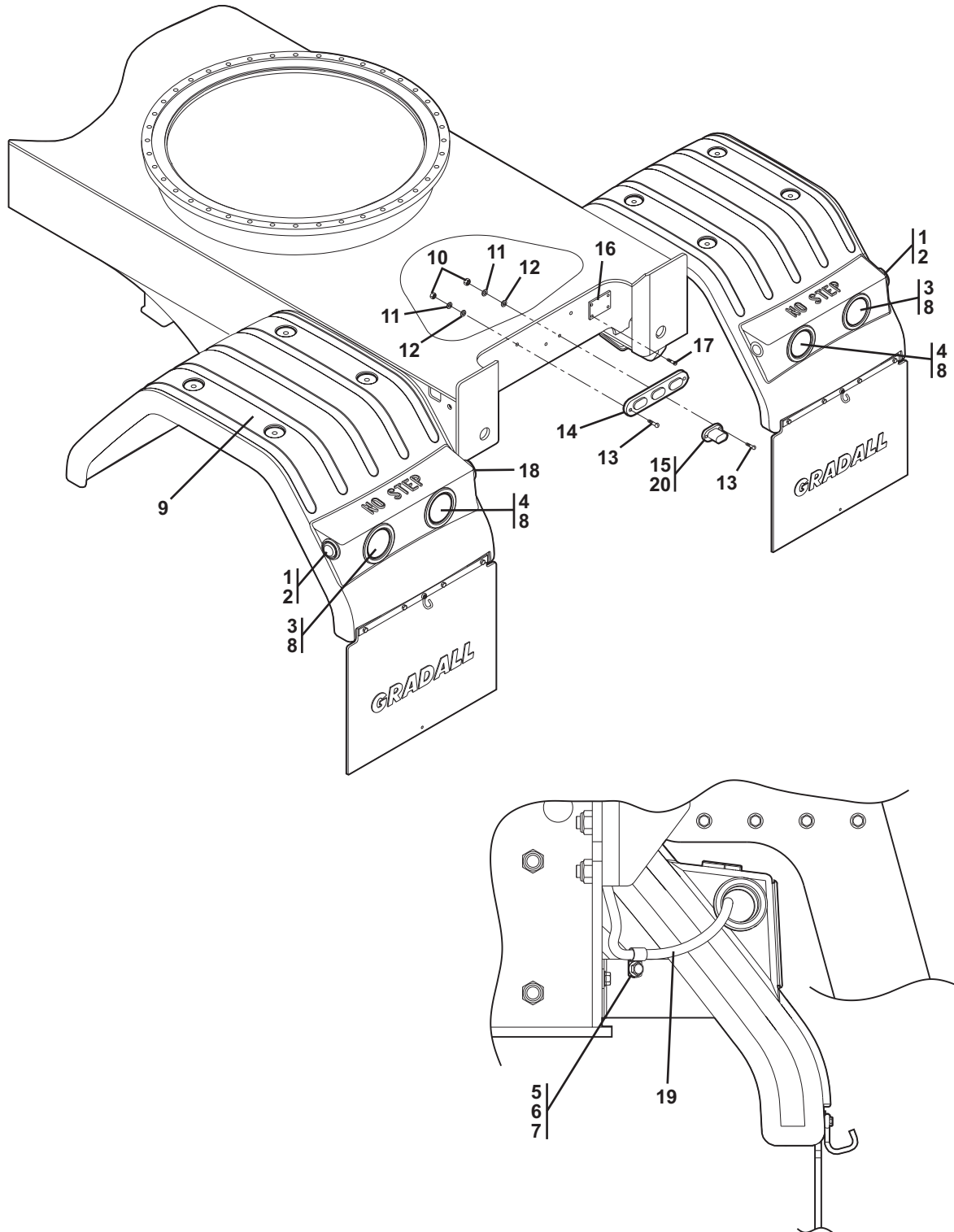
**Battery Box, Batteries & Cables**

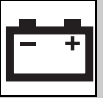
Item	Part Number	Qty.	Description	Rev.



# ELECTRICAL

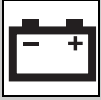
## Tail & Marker Lights





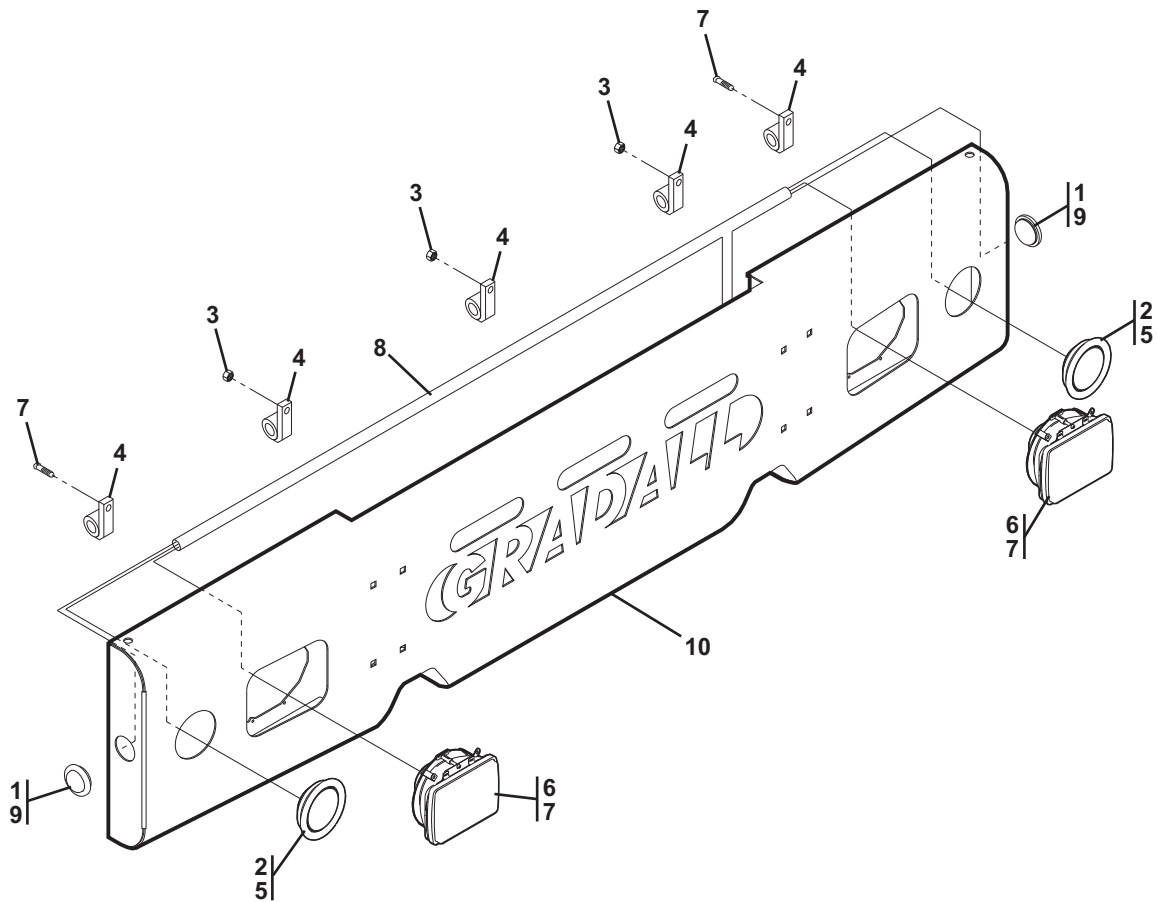
## Tail &amp; Marker Lights

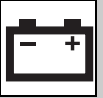
Item	Part Number	Qty.	Description	Rev.
1	77383935	2	CLEARANCE LIGHT, RED	
2	80483117	2	LIGHT GROMMET	
3	80483115	2	STOP, TAIL & TURN LIGHT	
4	80483116	2	BACK-UP LIGHT	
5	77143015	2	WHIZ-LOCK NUT, 3/8-16	
6	85841094	2	SUPPORT CLAMP	
7	80973025	1	WHIZ-LOK SCREW, 3/8-16X1	
8	80483135	4	LIGHT GROMMET	
9		Ref	REAR FENDER, (see page 1-16 for details)	
10	88501610	4	HEX NUT, #8-32	
11	88551006	4	LOCKWASHER, #6	
12	88561104	4	FLAT WASHER, #8	
13	88301077	4	ROUND HD MACHINE SCREW, #8-32X1, GR8	
14	80683251S	1	REAR ID LIGHT	
15	80683226	1	LICENSE PLATE LIGHT	
16	77023029	1	SERIAL PLATE	
17	88341012	4	DRIVE SCREW, #4X5/16	
18	80383374	2	RUBBER GROMMET	
19	80483114	2	TAIL LIGHT HARNESS	
20	85941016	2	SUPPORT CLAMP, 1/2	



# ELECTRICAL

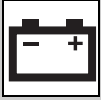
## Head & Marker Lights





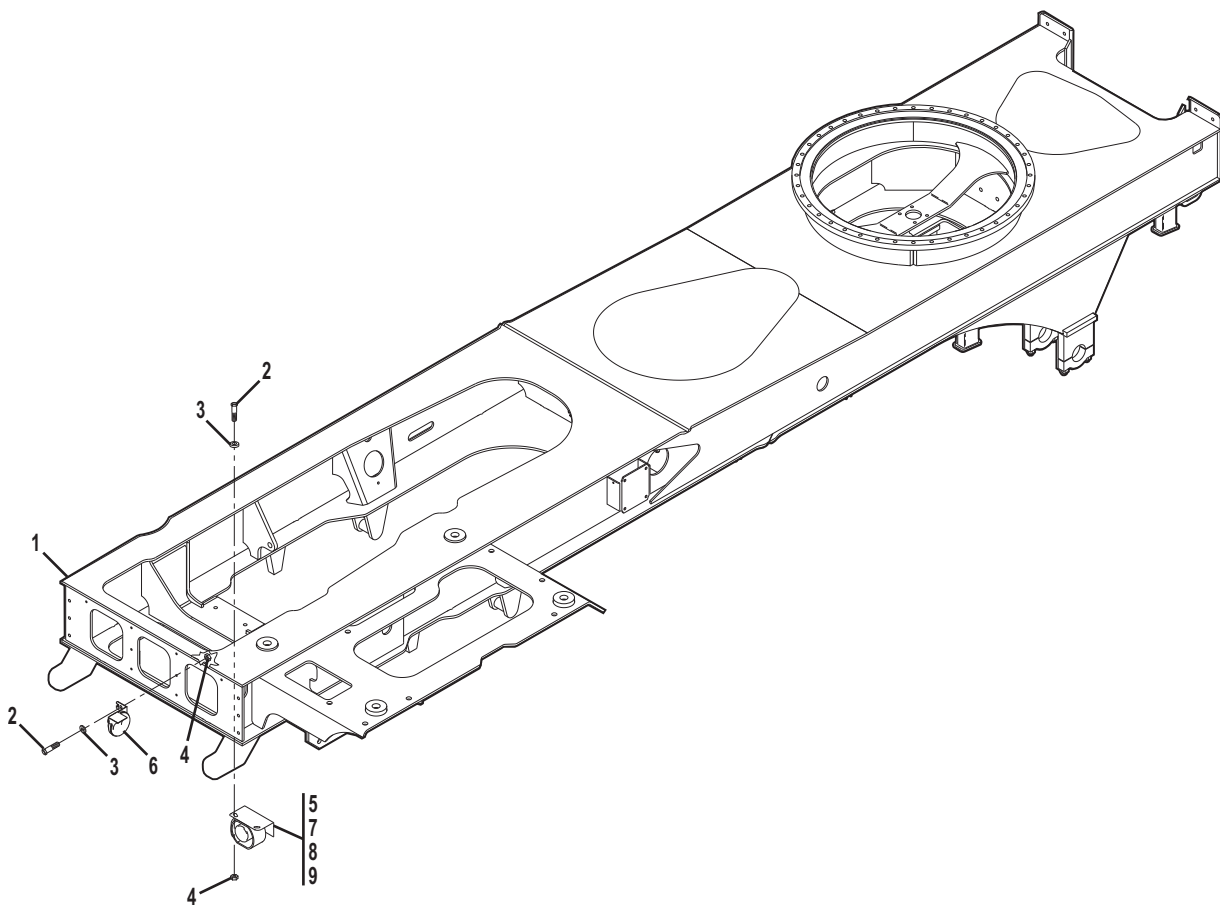
## Head &amp; Marker Lights

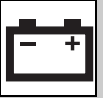
Item	Part Number	Qty.	Description	Rev.
1	77383936	2	CLEARANCE LIGHT, AMBER	
2	80483135	2	GROMMET	
3	77143006	3	WHIZ-LOK NUT, 5/16-18	
4	85941016	5	SUPPORT CLAMP, 1/2	
5	80483071	2	STOP/TURN/TAIL LIGHT, (yellow)	
6	77383717	2	HEADLAMP	
7	90027319	10	SELF TAPPING SCREW, 1/4-20	
8	80483077	1	FRONT BUMPER HARNESS	
9	80483117	2	LIGHT GROMMET	
10		Ref	FRONT BUMPER, (see page 1-2 for details)	



# ELECTRICAL

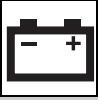
## Horn & Travel Alarm, Undercarriage





## Horn &amp; Travel Alarm, Undercarriage

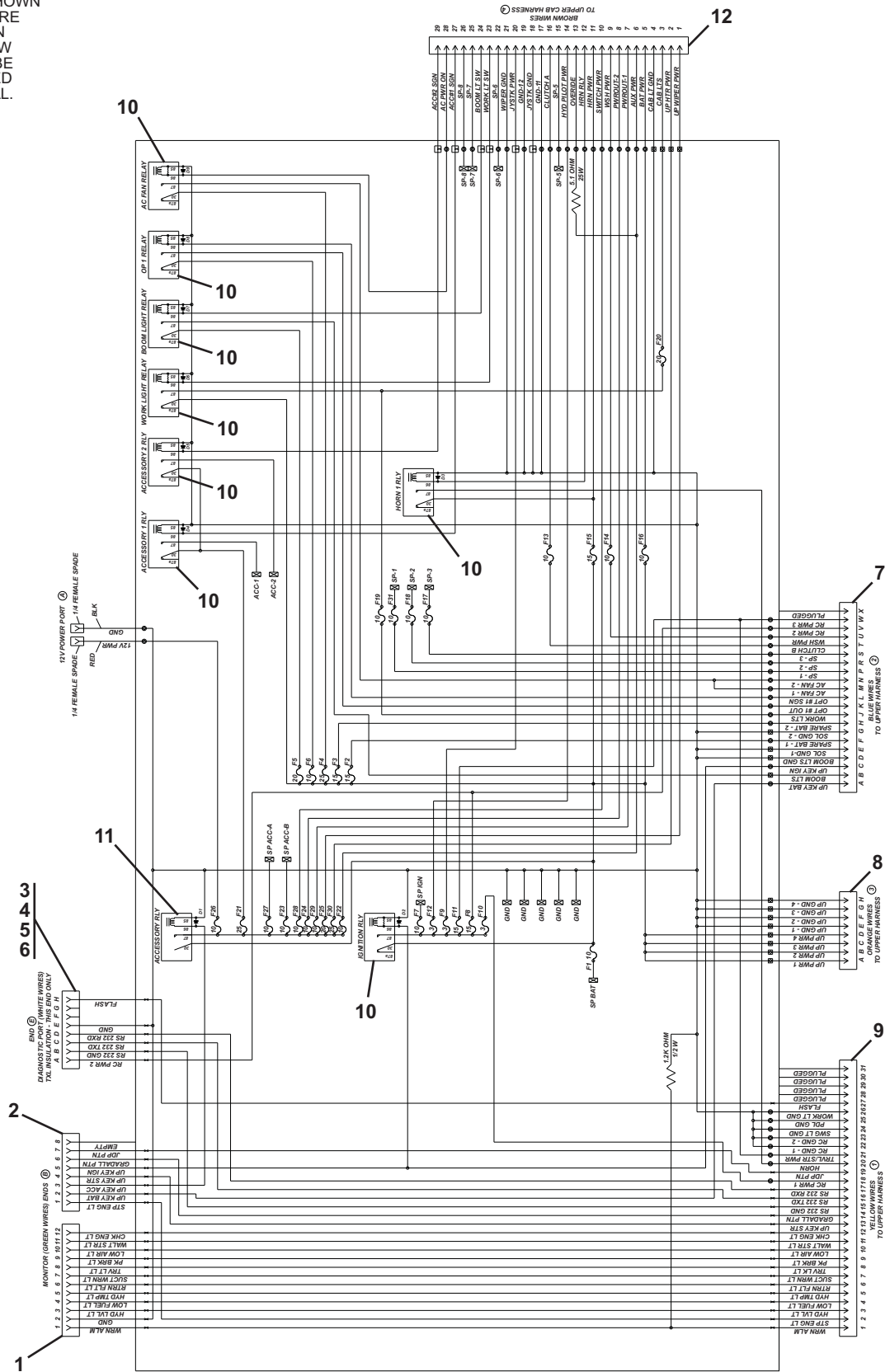
Item	Part Number	Qty.	Description	Rev.
1		Ref	FRAME WELDMENT, (see page 1-2 for details)	
2	88201005	3	HEX HD CAPSCREW, 1/4-20X1, GR5	
3	88561002	3	FLAT WASHER, 1/4	
4	77143013	3	WHIZ-LOCK NUT, 1/4-20	
5	91403420	1	ECCO 830 TRAVEL ALARM, (standard; includes items 7 thru 9)	
	X4103210	1	ECCO 850 TRAVEL ALARM, (optional; requires items 7 thru 9)	
	VA2027-0010	1	GROTE TRAVEL ALARM, (optional; requires items 7 thru 9)	
	77383874	1	ADJUSTABLE TRAVEL ALARM, (optional; requires items 7 thru 9)	
	80883020	1	ECCO 450 TRAVEL ALARM, (optional; requires items 7 thru 11)	
6	91143357	1	HORN, (standard)	
	80863006	1	HIGH NOTE HORN, (optional)	
7	80963066	2	CABLE SEAL, 16GA., (gray)	
8	80963069	2	MALE TERMINAL PIN	
9	80963058	1	WEATHERPACK SHROUD, (2-wire)	
10	80881044	1	ECCO 450 TRAVEL ALARM BRACKET, (not illustrated)	
11	80883021	1	ECCO 450 TRAVEL ALARM GROMMET, (not illustrated)	



# ELECTRICAL

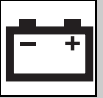
## Cab Console Circuit Board, Upperstructure

**NOTE:** THE SCHEMATIC SHOWN ON THIS PAGE IS FOR SPARE PARTS IDENTIFICATION. AN ENLARGED, DETAILED VIEW OF THE SCHEMATIC CAN BE FOUND IN THE ASSOCIATED MODEL'S SERVICE MANUAL.



PAC2131

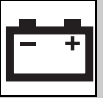




## Cab Console Circuit Board, Upperstructure

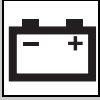
Item	Part Number	Qty.	Description	Rev.
	0610178	1	UPPERSTRUCTURE CAB CONSOLE CIRCUIT BOARD, (includes all items), (The circuit board is stamped with a part number for a 12-volt system and a part number for a 24-volt system. This machine uses a 12-volt system. If ordering a new circuit board, use part number 0610178 only.)	E
1	91504046	1	CONNECTOR	
2	91504100	1	CONNECTOR	
3	80364201	1	HOUSING	
4	80364202	1	STRAIN RELIEF	
5	80364203	1	HOUSING CAP	
6	80364204	1	PIN	
7	80544022	1	CONNECTOR	
8	80544021	1	CONNECTOR	
9	80544020	1	CONNECTOR	
10	77363265	8	RELAY, (12v)	
11	77383377	1	RELAY, (12v)	
12	80544024	1	CONNECTOR	
<p><b>NOTE:</b> When replacing a circuit board with a revision level of A, B, C or D with revision E, a minor wiring change to the seat harness is required. Contact the Gradall part department for instructions.</p>				





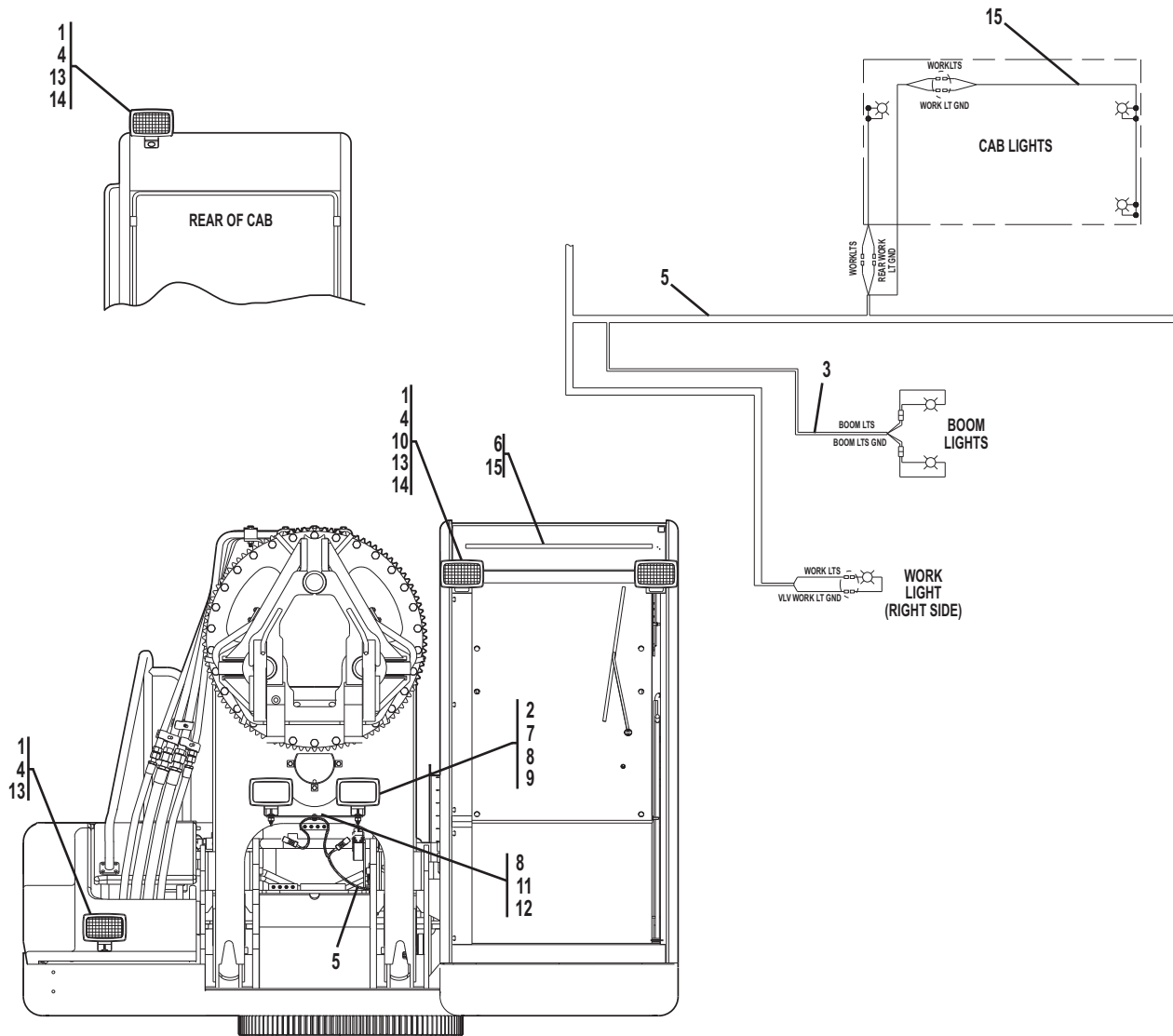
## Cab Console Circuit Board, Undercarriage

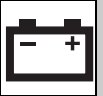
Item	Part Number	Qty.	Description	Rev.
	0610176	1	UNDERCARRIAGE CAB CONSOLE CIRCUIT BOARD, (includes all items)	B
1	86984550	1	CONNECTOR	
2	77363229	4	PIN CONTACT	
3	77363349	5	PLUG	
4	80544017	1	CONNECTOR	
5	80544018	1	CONNECTOR	
6	80963057	1	WEATHERPACK TOWER, (2-wire)	
7	80963068	2	FEMALE TERMINAL PIN	
8	80963066	2	CABLE SEAL, 16GA., (gray)	
9	80963058	1	WEATHERPACK SHROUD, (2-wire)	
10	80963069	2	MALE TERMINAL PIN	
11	80544016	1	CONNECTOR	
12	77383554	2	CONNECTOR\	
13	77363347	1	CONTACT	
14	80604005	1	CONTACT	
15	80544019	1	CONNECTOR	
16	77363228	1	PIN CONTACT	
17	77363345	1	CONTACT	
18	77363346	1	CONTACT	
19	83481286	1	NUT	
20	83481285	1	LOCKWASHER	
21	86984556	1	TERMINAL	
22	86984555	1	CONNECTOR	
23	86984553	1	CONNECTOR	
24	86984554	1	TERMINAL	
25	77363265	10	RELAY, (12v)	



# ELECTRICAL

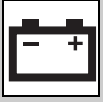
## Work Lights Installation





## Work Lights Installation

Item	Part Number	Qty.	Description	Rev.
1	80963050	4	FLOOD LIGHT, (includes bulb)	
	80964070	1	FLOOD LIGHT BULB	
2	80965011	2	BOOM LIGHT ASSY, (includes the following 5 items)	
	80963051	1	UTILITY BOOM LIGHT, (includes bulb)	
	80964084	1	UTILITY BOOM LIGHT BULB	
	80963058	1	WEATHERPACK SHROUD, (2-wire)	
	80963066	1	CABLE SEAL, 16GA., (gray)	
	80963069	2	MALE TERMINAL PIN	
3	86683122	6	TY-RAP	
4	86983193	4	MALE BULLET TERMINAL	
5		Ref	REMOTE UPPER HARNESS, (see page 10-2 for details)	
6	80363040	1	WIRING DUCT	
7	80361029	1	LIGHT BRACKET	
8	88201033	3	HEX HD CAPSCREW, 3/8-16X3/4, GR5	
9	88551011	2	LOCKWASHER, 3/8	
10	80363038	2	SPACER	
11	77143015	1	WHIZ-LOCK NUT, 3/8-16	
12	86621230	1	SUPPORT CLAMP, 11/32	
13	77163105	4	FEMALE BULLET TERMINAL	
14	14404173	AR	CAULK	
15	80363094	1	CAB WORK LIGHT HARNESS	



## ELECTRICAL

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