



COLUMBIA

Parts Manual

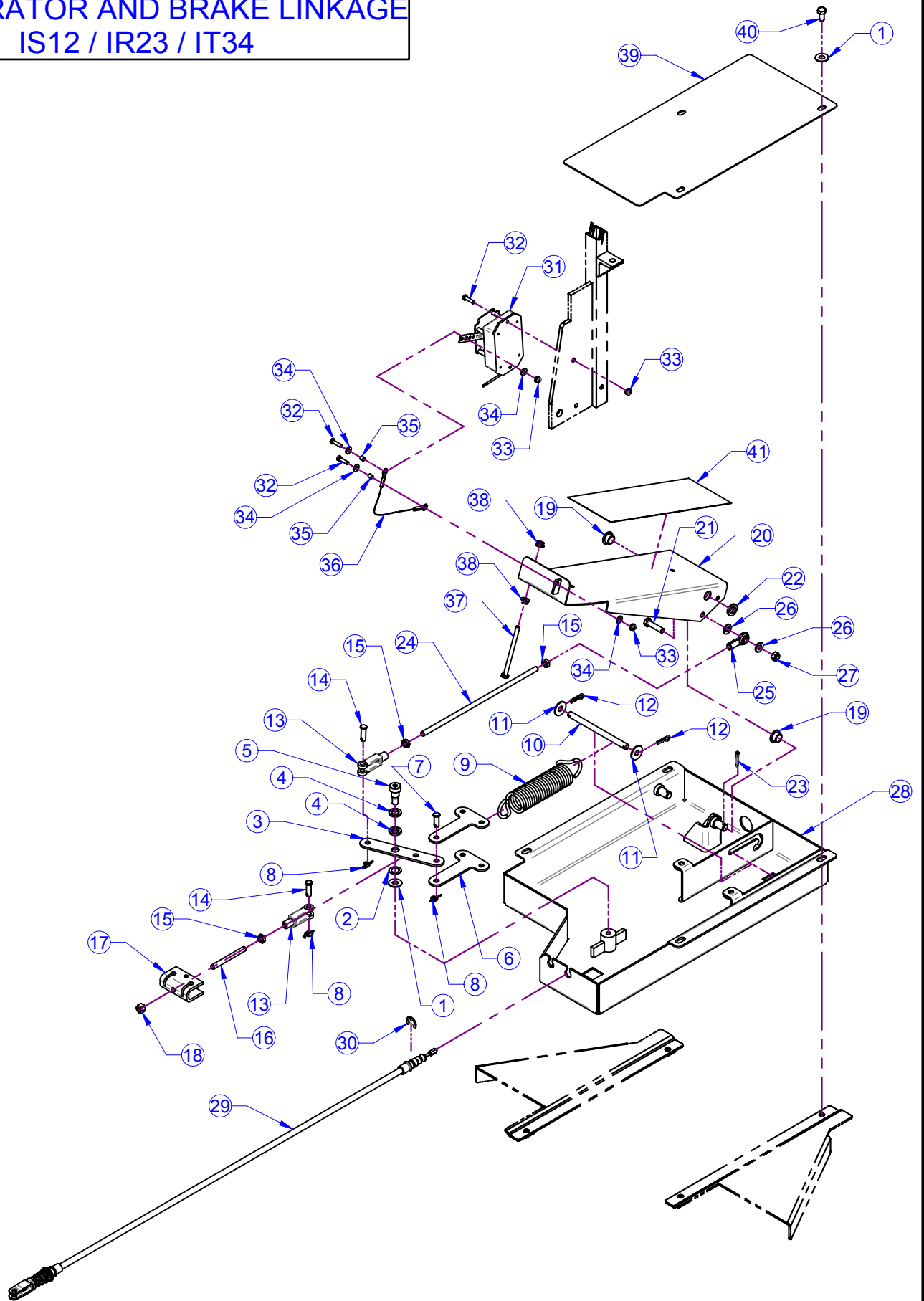
Stockchaser (IS12)
ROVR (IR23)
TUGR (IT34)

Parts Manual

Section 1

Accelerator and Brake Linkage

ACCELERATOR AND BRAKE LINKAGE IS12 / IR23 / IT34



REV 01

ACCELERATOR AND BRAKE LINKAGE

IS12 / IR23 / IT34

ITEM	CPC PART #	DESCRIPTION	QTY	SI PART #
1	6000-B	WASHER, 5/16", STD FW, BLK HC ZC	6	719771
2	6566	WASHER FLT STL YWZC .515 X .812 X .031	1	719800
3	42566-02	ARM, BRAKE-JAG	1	508786
4	6568-B	WASHER FLT STL YWZC .515 X .812 X .134	2	719802
5	2645	SCREW, 1/2 X 1/2 STNLS SOC SHOULDER	1	719580
6	42567-02	ARM - SPRING	2	508747
7	497	CLEVIS PIN, 5/16 X 7/8 YELLOW/ZINC	1	719713
8	552	COTTER RING ZINC PIVOT POINT #RUE 10	3	719752
9	11809	SPRING, ACCELERATOR ACTUATOR	2	709573
10	42568-02	BAR, GUIDE - SPRINGS	1	508893
11	6416	WASHER FLT STL BLK ZNC 3/8 STD	2	719796
12	500	HAIR PIN CLIP, #13 ZINC/CLEAR	2	719716
13	73059-96	CLEVIS #52 5/16-24 ADJ YOKE END CLR	2	719852
14	494	CLEVIS PIN, Ø5/16 X 1 ZINC/CLEAR	2	719709
15	7744	NUT, 5/16-24 GR 2 HEX JAM YWZC	3	719895
16	24820-96	STUD, 5/16-24 X 3 FULL THDED	1	719558
17	42402-89	BRAKE EQUALIZER (PLATED)	1	509154
18	7725	NUT, 5/16-24, NYLOCK, GA, YWZC	1	719888
19	10516	BEARING, FLANGED, .50" ID X .625" BORE	2	719147
20	42577-02	WELDM'T, PEDAL - BRAKE/ACCL	1	306944
21	2871-W	SCR, 5/16-18 X 1-1/4 GRD 5 HHC	1	719592
22	6568-B	WASHER FLT STL YWZC .515X.812X.134	1	719802
23	520-W	PIN, COTTER 1/8 X 1 YELLOW/ZINC	1	719728
24	X01-389	ROD, 5/16-24 UNF X 11" FULLY THDED	1	709931
25	57019-00	ROD END - 5/16 (KPF-5-G)	1	709450
26	6702-B	WASHER FLT STL 5/16 BLK MAXCOAT	2	719810
27	7739	NUT, 5/16-18, NE, NYLON INSERT, GA, YWZC	1	719892
28	42570-02	WELDM'T, MOUNTING BASE - BRAKE/ACCLERATO	1	306941
29	42401-89B	CABLE ASS'Y, BRAKE 39.00"	1	709081
30	11040	E-RING, .562 REINFORCED PHOS	2	719515
31	70061-00B	SPEED SWITCH ASSEMBLY	1	709369
32	2339	SCR, #10-24 X 3/4" HEX HD MACH	4	719551
33	7624	NUT, #10-24 GR A NM MACH NYLON LOCK	4	719870
34	6716	WASHER, #10, SAE FW, HC BLACK	4	719812
35	5760	SPACER BRASS, .192 ID X .25 OD X .25THK	2	719769
36	40826-02	LANYARD, 7-3/4" LONG	1	709929
37	3861-B	SCREW, 1/4-20 X 3.50 HHCS	1	719638
38	7724-B	NUT 1/4-20 GR A SERRATED FLNG LOCK	2	719887
39	42571-02	COVER - JAG	1	508801
40	2882-W	SCREW, 5/16-18 X 5/8 GRD 5 HHC	5	719595
41	42579-02	MAT, PEDAL, BRAKE/ACCEL	1	467285

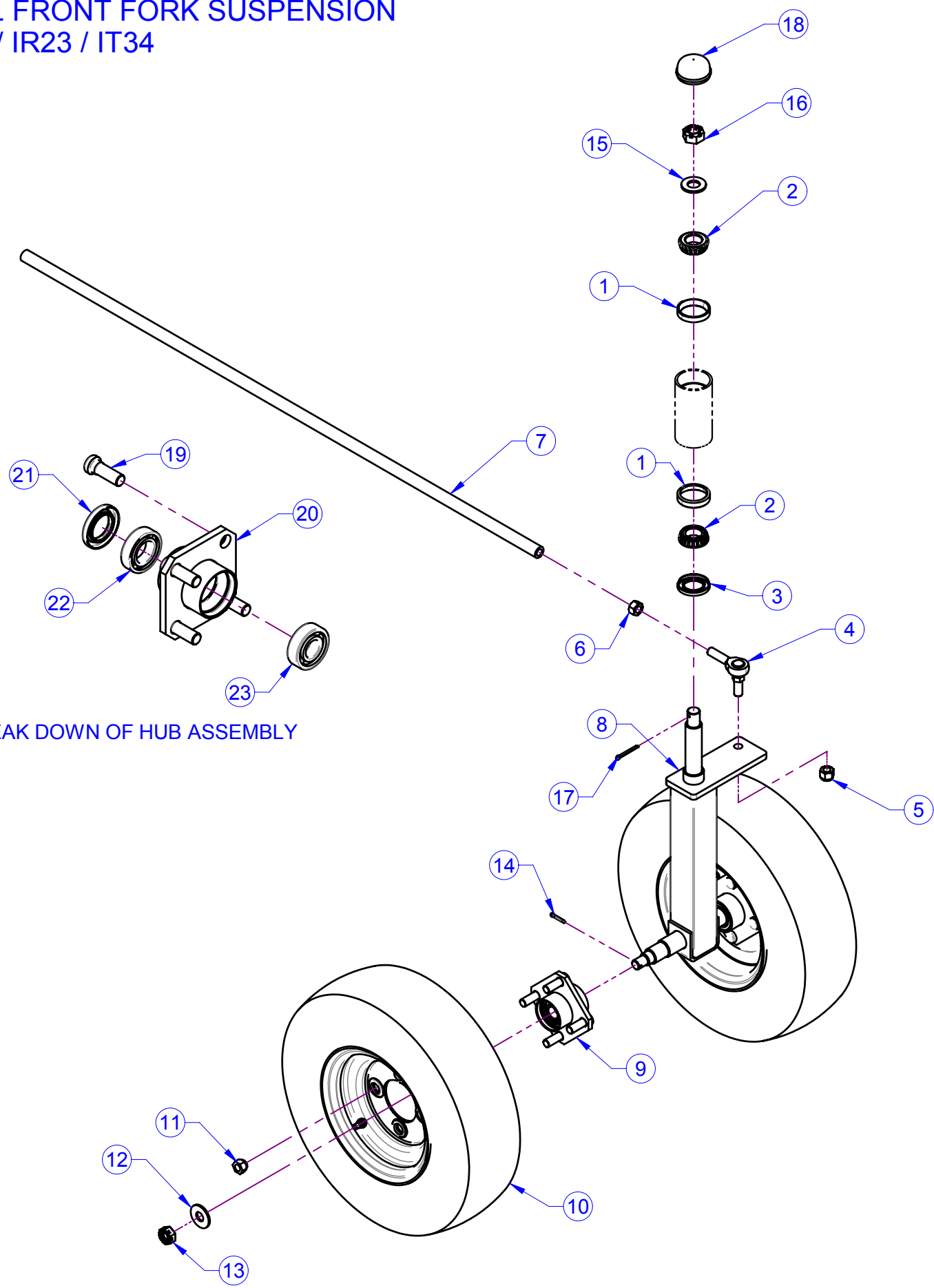
Parts Manual

Section 2

Steering and Front Suspension

DUAL FRONT FORK SUSPENSION
IS12 / IR23 / IT34

BREAK DOWN OF HUB ASSEMBLY



DUAL FRONT FORK SUSPENSION

IS12 / IR23 / IT34

ITEM	CPC PART #	DESCRIPTION	QTY	SI PART #
1	44005-95	RACE BEARING, L44610	2	719686
2	44003-95	ROLLER BEARING, L44643	2	719864
3	44004-95	SEAL BEARING, 125192TB	1	719685
4	58604-04	ASSY, TIE ROD END - 1/2-20 LH THD	1	719343
5	7812-W	NUT, 1/2-20 GR A NE NYLON INSERT YWZ	1	719907
6	5832	NUT, 1/2-20 GR 2 HEX JAM YWZC - LH THD	1	719360
7	57366-04	SHAFT, STEERING - LONG, IS11/ROVR	1	510495
8	57220-05	WELDM'T, DUAL FORK - FRONT, IS/IR/IT	1	307901
9	43481-89	ASSY, HUB FRONT WHEEL	2	461830
10	40988-95	RIM & TIRE, 4.80 X 8.00 LRB	2	709107
*	42109-94	RIM 8.00 X 3.75 4HOLE	1	739032
*	42110-95	TIRE 4.00 X 8.00 LRC	1	739033
11	43152-66	NUT, 1/2-20, TAPERED WHEEL	8	709002
12	6655-B	WASHER FLT STL 9/16 STD UNHARD BLK	2	719808
13	7947-B	NUT, 5/8-18 GR 2 SLOTTED HEX BLK MAX	2	719915
14	520-W	PIN, COTTER 1/8 X 1 YELLOW/ZINC	2	719728
15	5908-B	WASHER, 3/4", STL FLAT, SAE MIL-CARB	1	719770
16	82713-96	NUT, 3/4-16 SLOTTED HEX BLK, G5, YWZC	1	719933
17	561	PIN, 1/8" X 1-1/2", COTTER, ZNC	1	707841
18	43646-79	HUB GREASE CAP	1	709018
19	41199	WHEEL BOLT, 1/2-20 X 1-1/2 G5 YELLOW	4	719655
20	43463-89	HUB FRONT WHEEL WLDMNT	1	303069
21	12030	SEAL, OIL	1	709017
22	9031	BEARING 6005	1	719954
23	9030	BEARING 6204	1	719953

This diagram illustrates the assembly of a bicycle frame. It shows the main frame components (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31) and their assembly sequence. Dashed lines indicate the assembly paths for various components, including the headset, handlebars, seatpost, and wheels. The diagram is a technical illustration of a bicycle frame assembly, showing the main frame, headset, handlebars, seatpost, and wheels. The components are numbered 1 through 31, and dashed lines indicate the assembly sequence and paths for various parts like the headset, handlebars, seatpost, and wheels.

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STEERING WHEEL LINKAGE

IS12 / IR23 / IT 34

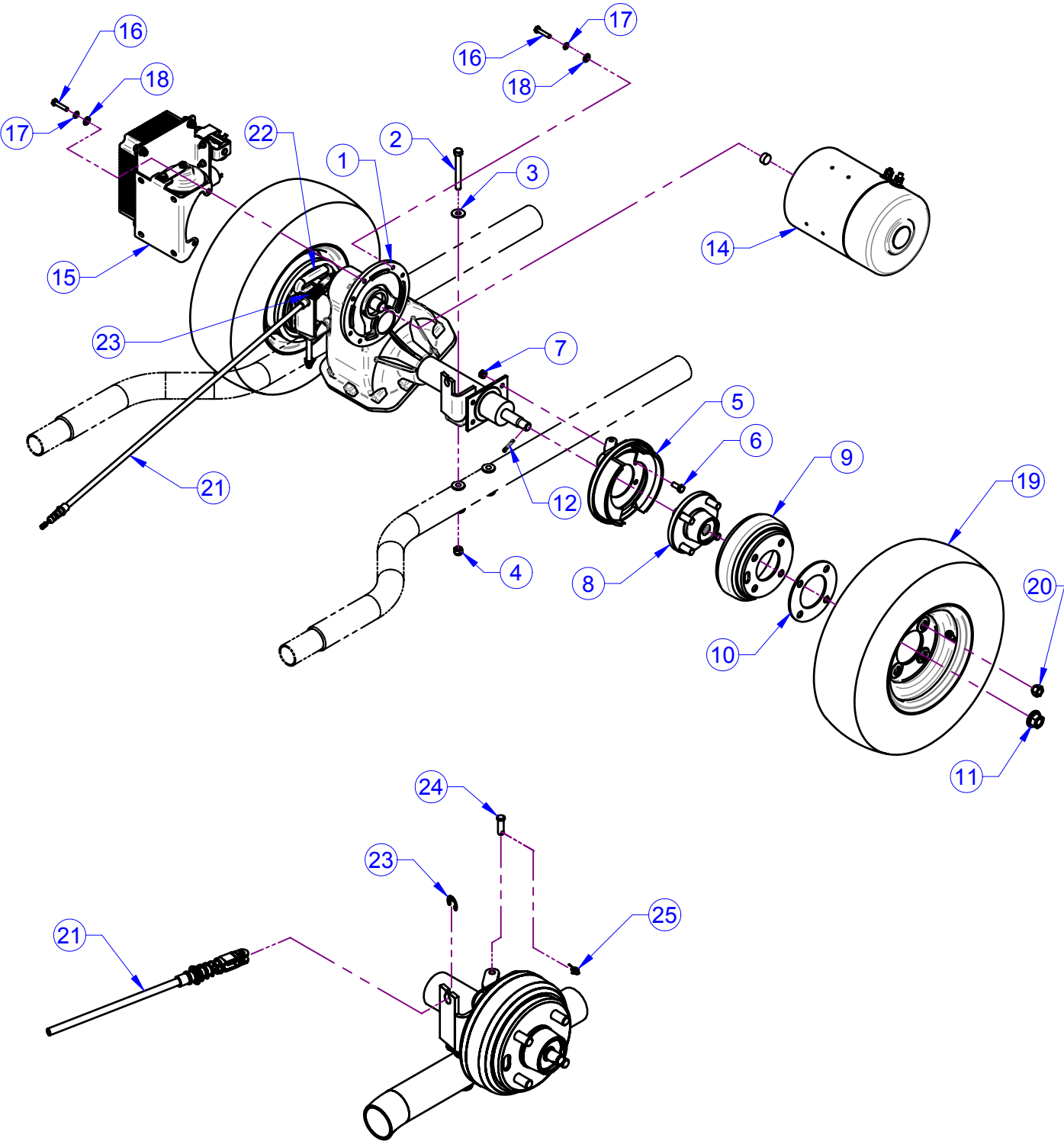
ITEM	CPC PART #	DESCRIPTION	QTY	SI PART #
1	57326-95	UPR HUB WLDMNT	1	303971
2	57351-95	BUSHING NYLON NN1216-20	1	719765
3	2667	SCREW, 5/16-18 X 2" GRD 5 HHC YEL 150	4	719585
4	7525	LOCKNUT, 5/16-18 HEX FLG WHIZ	4	719864
5	57363-95	WASHER FLAT NYLON .76 ID 1.42 OD	7	719767
6	57324-95	STEERG WHEEL SPROCKET WLDMNT	1	303969
7	9800	GREASE FITTING, 1/4"-28, SELF-TAPPING	2	709110
8		WASHER - 2 1/8" OD X 27/32" ID X .03 THK	6	Obsolete
9	57327-95	LWR HUB WLDMNT	1	303972
10	57352-96	BUSHING NYLON NN1216-16	2	719766
11	57325-96	WELDMENT, SPROCKET - LOWER	1	304450
12	561	PIN, COTTER 1/8 X 1.50 YELLOW/ZINC	1	707841
13	57240-95	CHAIN, STEERING WHL - IS11/ROVR	1	463496
14	6702-B	WASHER FLT STL 5/16 BLK MAXCOAT	3	719810
15	7725	NUT, 5/16-24, NYLOCK, GA, YWZC	1	719888
16	57357-95	SHORT STEERING SHAFT	1	510277
17	7644	NUT, 1/2-20 GR 2 HEX JAM YWZC	3	719873
18	57063-96	ASSY, TIE ROD END - 1/2-20 RH THD	3	709761
19	7812-W	NUT, 1/2-20 GR A NE NYLON INSERT YWZ	4	719907
20	57229-02	WELDMENT, BELL CRANK	1	306945
21	57242-95	SHORT SHAFT	1	510300
22	57364-95	BUSHING, FLANGED NYLON - NF0812-16	2	719768
23	6568-B	WASHER FLT STL YWZC .515 X .812 X .134	2	719802
24	520W	PIN, COTTER 1/8 X 1 YELLOW ZINC	2	719728
26	57366-04	SHAFT, STEERING - LONG, IS11/ROVR	1	510495
27	5832	NUT, 1/2-20 GR 2 HEX JAM YWZC - LH THD	1	719360
28	58604-04	ASSY, TIE ROD END - 1/2-20 LH THD	1	719343
30	57099-95	STEERING WHEEL	1	709113
31	388	ROLL PIN, 1/4 X 2"	1	719639

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Section 3

Rear Suspension

REAR AXLE / WHEEL / BRAKES
IS12 / IR23 / IT34



MECHANICAL BRAKES					
ITEM	DESCRIPTION	QTY.		PARCAR P/N	SEATS P/N
46	BACKING PLATE ASSY., LH, ENHANCED FRICTION	1		41813-86B	709171
47*	BACKING PLATE ASSY., RH, ENHANCED FRICTION	1		41814-86B	709170
64	ADJUSTER, LH	1		---	---
64	ADJUSTER, RH	1		---	---
65	PUSH ROD	1		---	---
66	WASHER, FLAT	2		---	---
67	SHIM	A/R		---	---
68	LEVER, ACTUATOR	1		---	---
69	PIN, PIVOT	1		---	---
70*	WASHER, WAVE, ACTUATOR PIVOT	1		---	---
71*	WASHER, FLAT, ACTUATOR PIVOT	1		---	---
72	E-CLIP	1		---	---
73	PROTECTOR BOOT	1		41822-86B	739007 (Del)
74	SELF ADJUSTER, LH	1		---	---
74	SELF ADJUSTER, RH	1		---	---
75	SET, SHOE & LINING ASSY., ENHANCED FRICTION (2 SHOES)	1		41819-86C	759746
76	SPRING, RETURN	1		(SEE ITEM 82)	
77	SPRING, SELF ADJUSTER	1		(SEE ITEM 82)	
78	SPRING, SHOE RETAINING	1		(SEE ITEM 82)	
79	SPRING CLIP, SHOE RETAINING	2		(SEE ITEM 82)	
80	PIN, SHOE RETAINING	2		(SEE ITEM 82)	
81	SHIELD, DUST	1		---	---
82*	KIT, SPRING (INCLUDES ITEMS 76 - 80)	1		41816-86B	729999

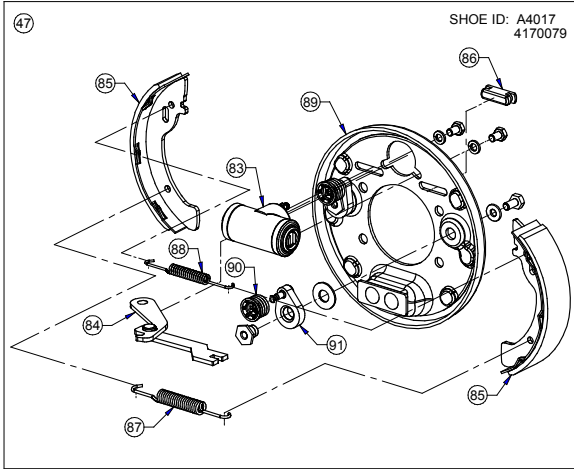
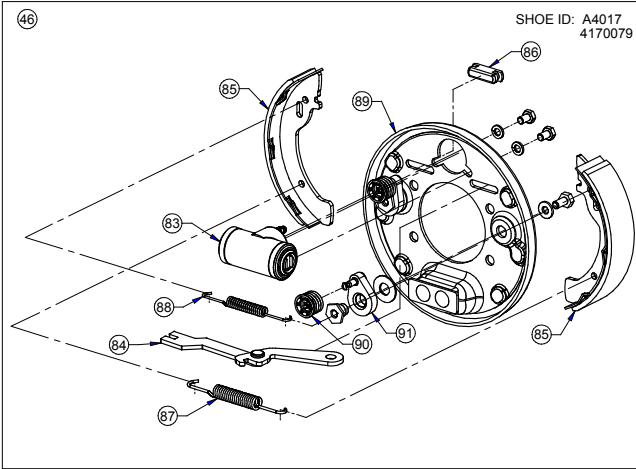
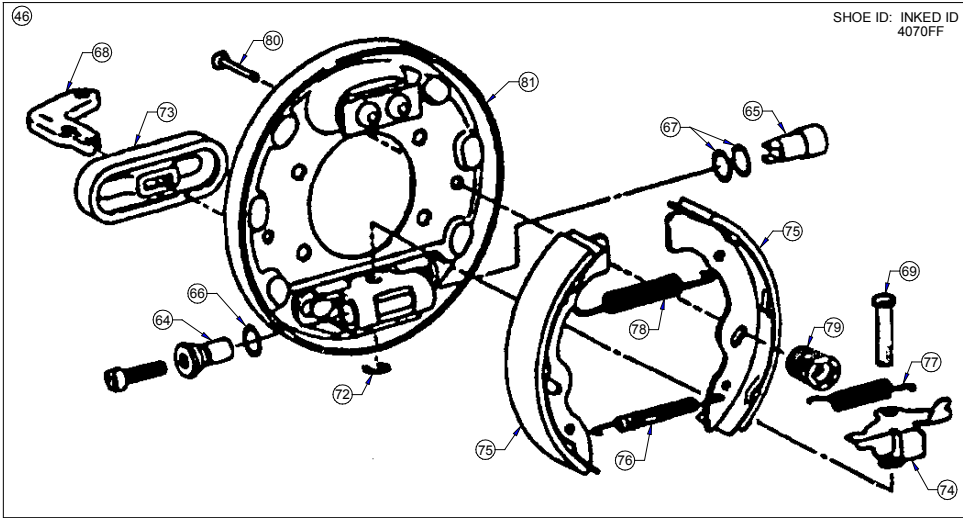
*ITEM NOT SHOWN

HYDRAULIC BRAKES					
ITEM	DESCRIPTION	QTY.		PARCAR P/N	SEATS P/N
46	BACKING PLATE ASSY., L.H. (INCLUDES ITEMS 83 - 91)	1		41813-02	719137
47	BACKING PLATE ASSY., R.H. (INCLUDES ITEMS 83 - 91)	1		41814-02	719138
83	WHEEL CYLINDER (COMPLETE)	1		41260-02	759795
84	STRUT & LEVER ASSY., PARKING BRAKE, L.H.	1		---	---
84	STRUT & LEVER ASSY., PARKING BRAKE, R.H.	1		---	---
85	KIT, SHOE & LINING ASSY., 160MM (4 SHOES)	1		41818-05	759740
86	COVER, PARKING BRAKE LEVER OPENING	1		---	---
87	SPRING, SHOE RETURN	1		(SEE ITEM 92)	
88	SPRING, SHOE RETAINING	1		(SEE ITEM 92)	
89	SHIELD, DUST	1		(E ITEMS 46 & 47)	
90	SPRING CLIP, SHOE RETAINING	2		(SEE ITEM 92)	
91	ADJUSTER	2		(E ITEMS 92 & 93)	
92*	KIT, HARDWARE (INCLUDES ITEMS 87, 88, 90, 91 - SERVICES TWO BRAKE ASSM'S)	1		---	---
93*	KIT, ADJUSTER (INCLUDES ITEMS 91 & INSTALLATION HARDWARE - SERVICES TWO BRAKE ASSM'S)	1		41732-07	759796

* ITEM NOT SHOWN

NOTES:

- SUPPLIER'S SPECIFICATION OF LEFT AND RIGHT HAND ASSEMBLIES MAY NOT BE REPRESENTATIVE OF POSITION ON VEHICLE.
- UPDATE DRAWING 709211 WHEN REVISING THIS DRAWING



REAR AXLE / WHEEL / BRAKES

IS12 / IR23 / IT34

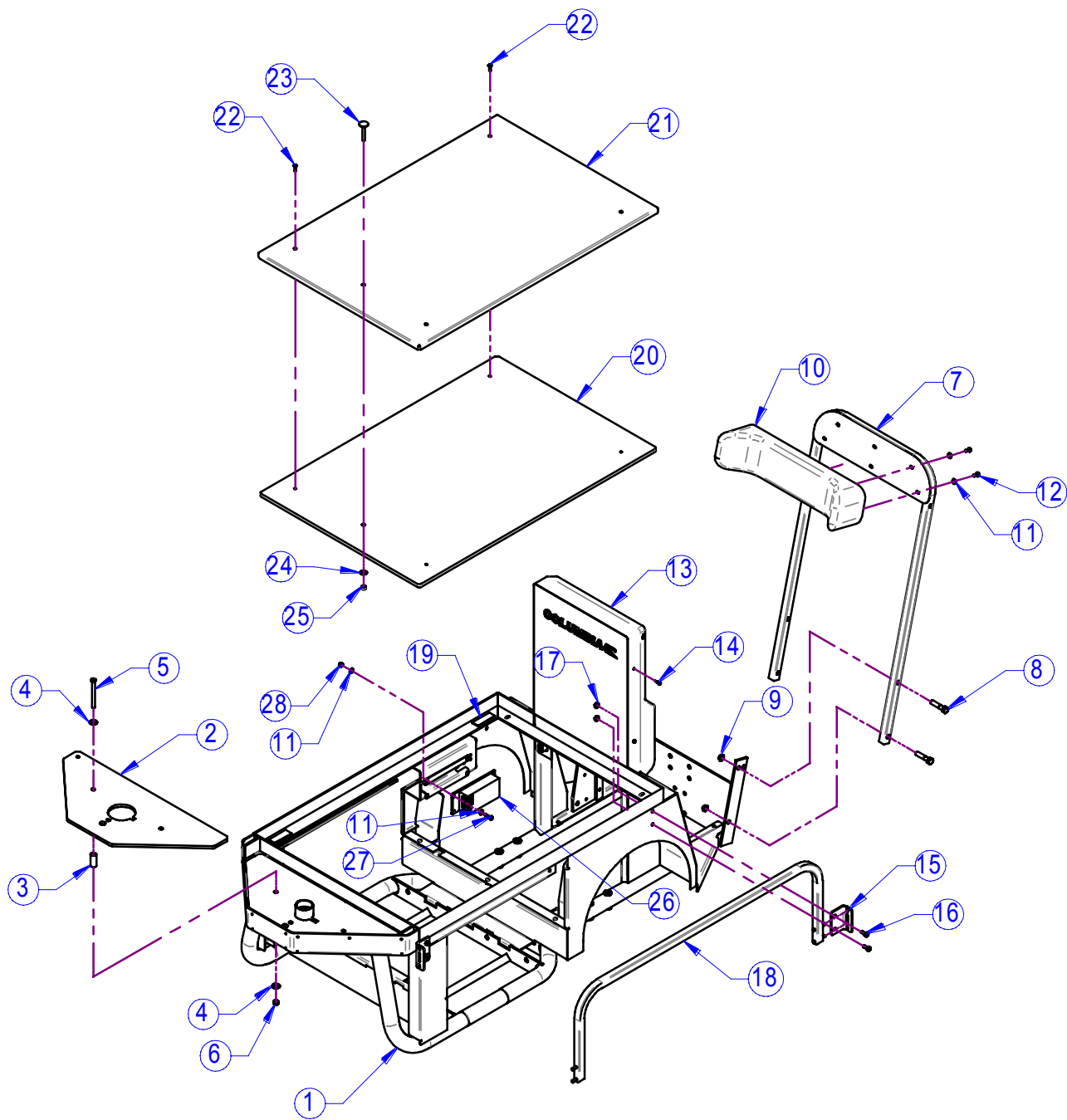
ITEM	CPC PART #	DESCRIPTION	QTY	SI PART #
1	82662-06	WELDMENT, AXLE, 12.44 - IS12	1	467328
*	82663-06	WELDMENT, AXLE, 14.76 - IS12/IR23/IT34	1	467078
*	82664-06	WELDMENT, AXLE, 16.99 - IS12/IR23/IT34	1	467079
2	4434-W	SCREW, HX HD CAP 3/8-24 X 3 1/4 G5	4	719687
3	6416	WASHER, FLAT STL BLK ZINC 3/8 STD	4	719796
4	7775	NUT, 3/8-24 GR A NE NYLON INSERT LOCK	4	719900
5	41814-86B	BRAKE ASSY, RH AUTO ADJ (USED ON LH)	1	709170
6	3987-BS	SCREW, 5/16-18 X 3/4 HHCS, GRADE 5 (SERVICE METRIC)	8	719642
7	7740-B	NUT, 5/16-18, 3-WAY CENTER LOCK (SERVICE METRIC)	8	719893
8	41844-96 KIT	HUB W/ STUDS	2	719220 HUB_STUD
9		DRUM, BRAKE	2	719220 BRAKE DRUM
10	43740-04	SPACER, WHEEL - 4 HOLE	2	509958
11	7538	NUT, 5/8-18, LOCKING FLANGE	2	719044
12	520-W	PIN, COTTER 1/8 X 1 YELLOW/ZINC	2	719728
13	11423	RESILIENT BUMPER-ELEC MOTOR	1	709050
14	69300-03	MOTOR, ELECT., 48V, SEPARATELY EXCITED	1	719135
15	43652-06	PANEL - CONTROLLER MTG	1	510517
16	3993	SCREW, HEX HEAD CAP 1/4-20 X 1-1/4 G5	3	719644
17	7036-B	WASHER, LOCK 1/4 REGULAR BLK ZINC	3	719834
18	6703-B	WASHER, FLAT STL 1/4 SAE UNHARD BLK	3	719811
19	40988-95	RIM & TIRE, 4.80 X 8.00 LRB	2	709107
*	42110-95	TIRE, 4.80 X 8.00 LRB	A/R	739033
*	42109-94	WHEEL, 3.75 X 8 - 4 HOLE	A/R	739032
*	42115-04	RIM & TIRE, 4.80 X 8.00 LRB (FOAM FILLED)	A/R	719349
20	43152-66	NUT, 1/2-20, TAPERED WHEEL	8	709002
21	42401-89B	CABLE ASS'Y, BRAKE 39.00"	2	709081
22	41813-86B	BRAKE ASSY, LH AUTO ADJ (USED ON RH)	1	709171
23	11040	E-RING, .562 REINFORCED PHOS	2	719515
24	494	CLEVIS PIN, Ø5/16 X 1 ZINC/CLEAR	2	719709
25	552	COTTER RING ZINC PIVOT POINT #RUE10	2	719752

* ILLUSTRATION NOT SHOWN

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Section 4

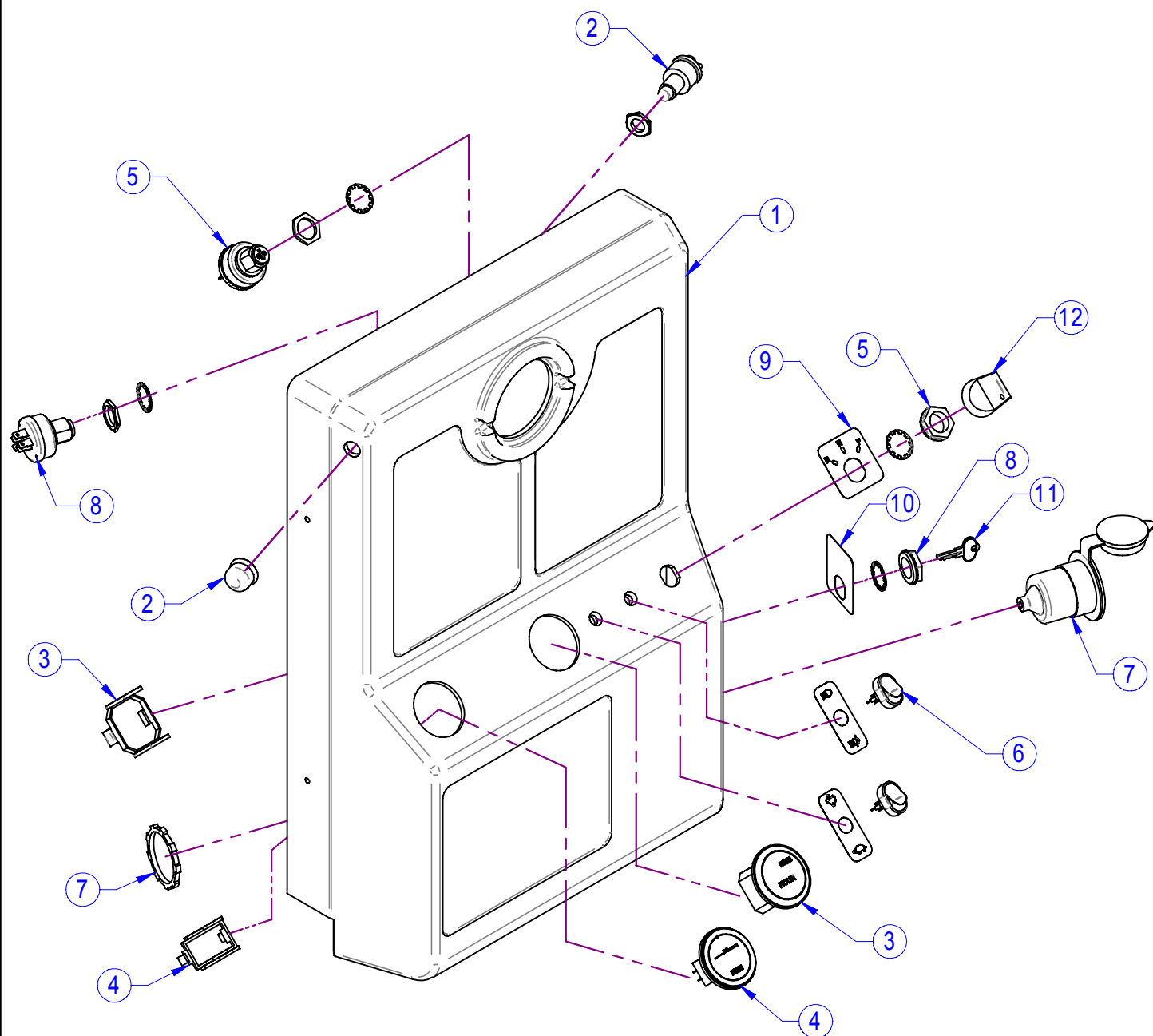
Body, Seating and Console Instrumentation



ITEM	CPC PART #	DESCRIPTION	QTY	SI PART #
1		WELDM'T, CHASSIS - IS12/IR23/IT34	1	307750
2		CTWT W/ 3 1/2" HOLE - JAG	1	508803
3		SPACER, 3/4" OD X .438" ID X 1 3/4" LG - RD	3	510791
4	6416	WASHER FLT STL BLK ZNC 3/8 STD	6	719796
5	4721	SCREW, 3/8-16 X 4 HHCS GR5	3	719697
6	7778	NUT, 3/8-16, GA, NE, NYLON INSERT, YWZC	3	719902
7	44000-02	WELDM'T, SEATBACK	1	306943
8	3407	SCREW 1/2-13 X 2-1/4 HEX CAP	4	719611
9	7685	NUT, 1/2-13 A NTE SYLON LOCK	4	719878
10	44001-02	CUSHION - SEAT BACK, JAG	1	306942
11	6703-B	WASHER, 1/4, SA, FW, STL, HC BLACK	19	719811
12	3767-B	SCREW, HEX HEAD CAP 1/4-20 X 5/8 G5	7	719630
13	47886-96A	CONSOLE, STOCKCHASER	1	709519
14	2653-B	SCREW, #10 X 3/4 HWH TEK #3	4	719583
15		PLATE, MTG - RAIL	4	509344
16	3987-BS	SCREW, 5/16-18 X 3/4 HHCS, GRADE 5	8	719642
17	7525	LOCKNUT, 5/16-18 HEX FLG WHIZ	8	719864
18		WELDM'T, FOLDING RAIL - IS 11/ROVR	2	307900
19	49713-ZZ	FOAM TAPE, 1/8" T X 1" W X 3" L, BLK PVC	5	719543
20		DECK PLYWD W/ T-NUTS - IS 11/ROVR	1	510494
21		DECK PLATE - IS 11/ROVR	1	510493
22	2003-B	SCREW, 1/4-20 X 3/4, POH, M/S, BLK ZC	4	719543
23	1600	SCREW, 5/16-18 X 2 1/2< ELV BOLT, UNPLT	1	709418
24	6000-B	WASHER, 5/16 STD	1	719771
25	7739	NUT, 5/16-18, NE, NYLON INSERT, GA, YWZC	1	719892
26		DC/DC CONVERTER - 12V OUT/INP 36/48V	1	719488
27	2551-W	SCREW, 1/4-20 X 1 GRD 5 HHC YEL 150	4	719564
28	7686	NUT 1/4-20 GR A NE NYLON INSERT LCK	4	719879

* ILLUSTRATION NOT SHOWN

INSTRUMENT CONSOLE - IS12 / IR23 / IT34



INSTRUMENT CONSOLE - IS12 / IR23 / IT34

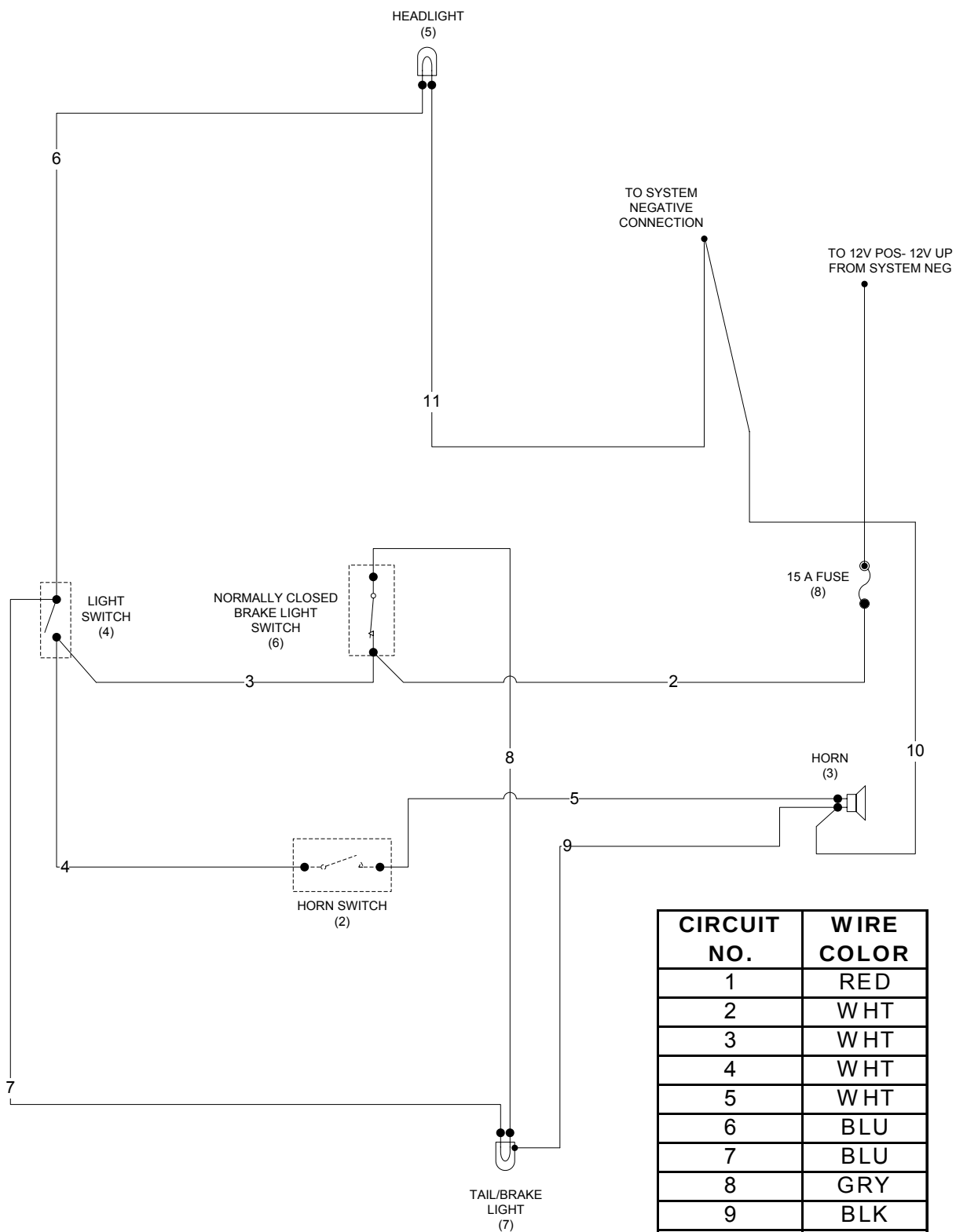
ITEM	CPC PART #	DESCRIPTION	QTY	SI PART #
1	47886-96A	CONSOLE, STOCKCHASER	1	709519
2	71807-80	HORN SWITCH	1	709385
3	75033-91	HOUR METER 10-80 VOLT DC	1	709452
4	75051-01	BDI GAUGE - 24V ENM	1	709762
*	75053-01	BDI METER, 48V DIGITAL	1	709183
5	71730-01	KEYSWITCH, UNIVERSAL W/ HARDWARE	1	709040
6	71511-87A	SWITCH, ROCKER, ILLUMINATED SPST	2	709412
7	66034-02	PLUG, POWER INLET 120V SEALED	1	709558
8	71732-06	KEYSWITCH, POWER, 2 POSITION	1	759706
9	53252-05	DECAL, CONSOLE - IS12/R23/IT34	1	712000
10	53253-05	LABEL, POWER, ON/OFF	1	719435
11	71731-01	KEYSET, 2 KEYS WITH KEYRING (SVC)	1	749184
12	71767-05	ASSY, KEY, NON-REMOVABLE, W/COVER	1	719432
*	53270-95	LABEL, SET - IS 11	1	709845
* ILLUSTRATION NOT SHOWN				

Parts Manual

Section 5

Electrical Systems

12 V ACCESSORY SCHEMATIC DIAGRAM IS12 / IR23 / IT34



CIRCUIT NO.	WIRE COLOR
1	RED
2	WHT
3	WHT
4	WHT
5	WHT
6	BLU
7	BLU
8	GRY
9	BLK
10	BLK
11	BLK

REV 02

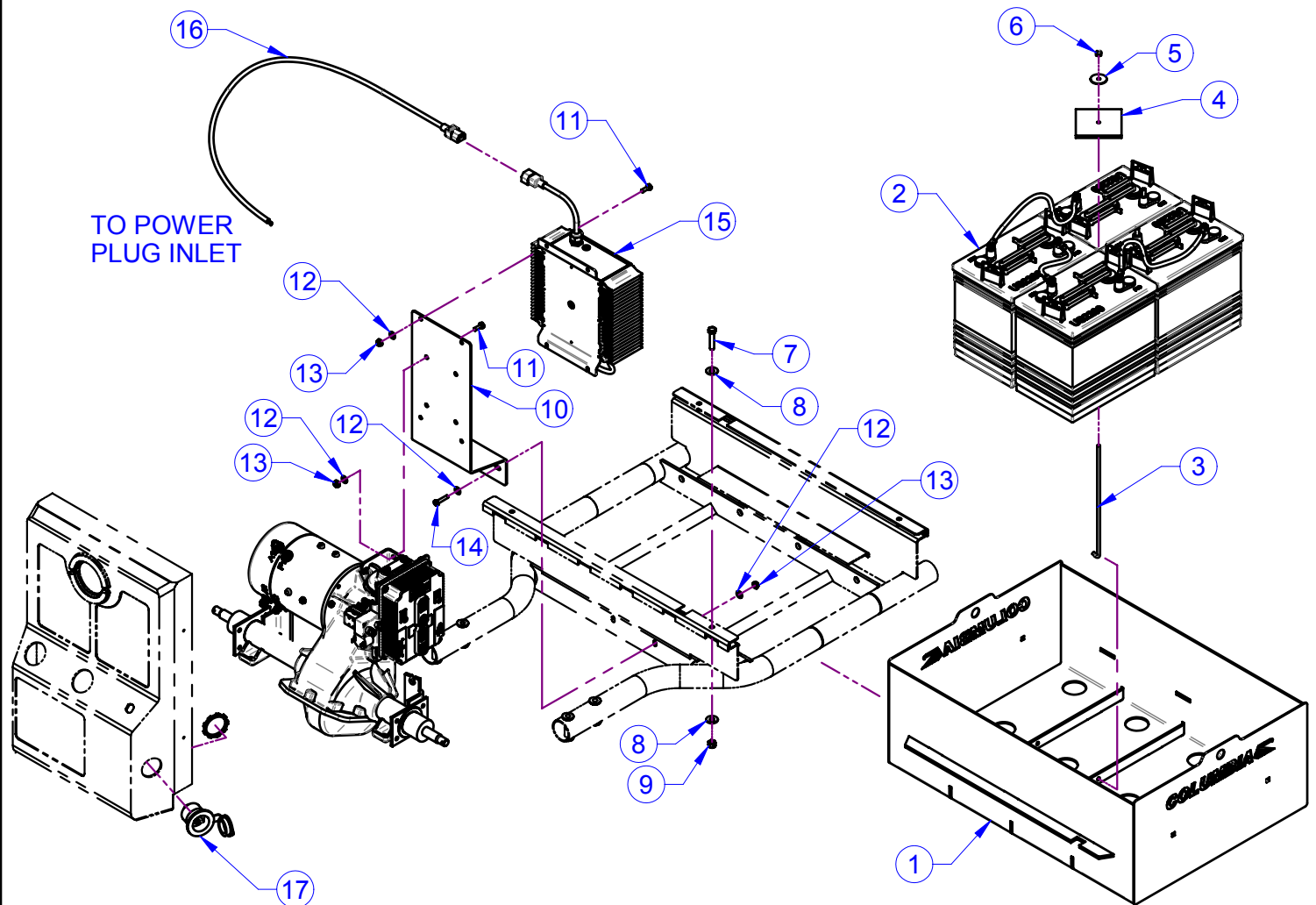
12 V ACCESSORY SCHEMATIC DIAGRAM

IS12 / IR23 / IT34

ITEM	CPC PART #	DESCRIPTION	QTY	SI PART #
1	68874-02	WIRE HARNESS, 12V, ACCESSORY-ROVR	1	709941
2	71807-80	SWITCH, HORN	1	709385
3	69001-76A	HORN, 12V (2 TERMINAL)	1	709089
4	71511-87A	SWITCH, ROCKER, ILLUMINATED SPST	1	709412
5	67724-91	HEADLIGHT	1	709389
6	71512-00	SWITCH, BRAKE	1	464245
7	68020-92	4"RND TAIL LAMP ASSY W/PLUG, SEAL	1	709109
8	74595-01	FUSE, 15 AMP ATO/ATC	1	709255
*	9910	ADAPT 1/4 TAB 2-MALE/1-FEM MOLEX	2	719920

* ILLUSTRATION NOT SHOWN

BATTERIES AND CHARGER SYSTEM
IS12 / IR23 - 24V OR 48 V
IT34 - 48 V ONLY



BATTERIES AND CHARGE SYSTEM

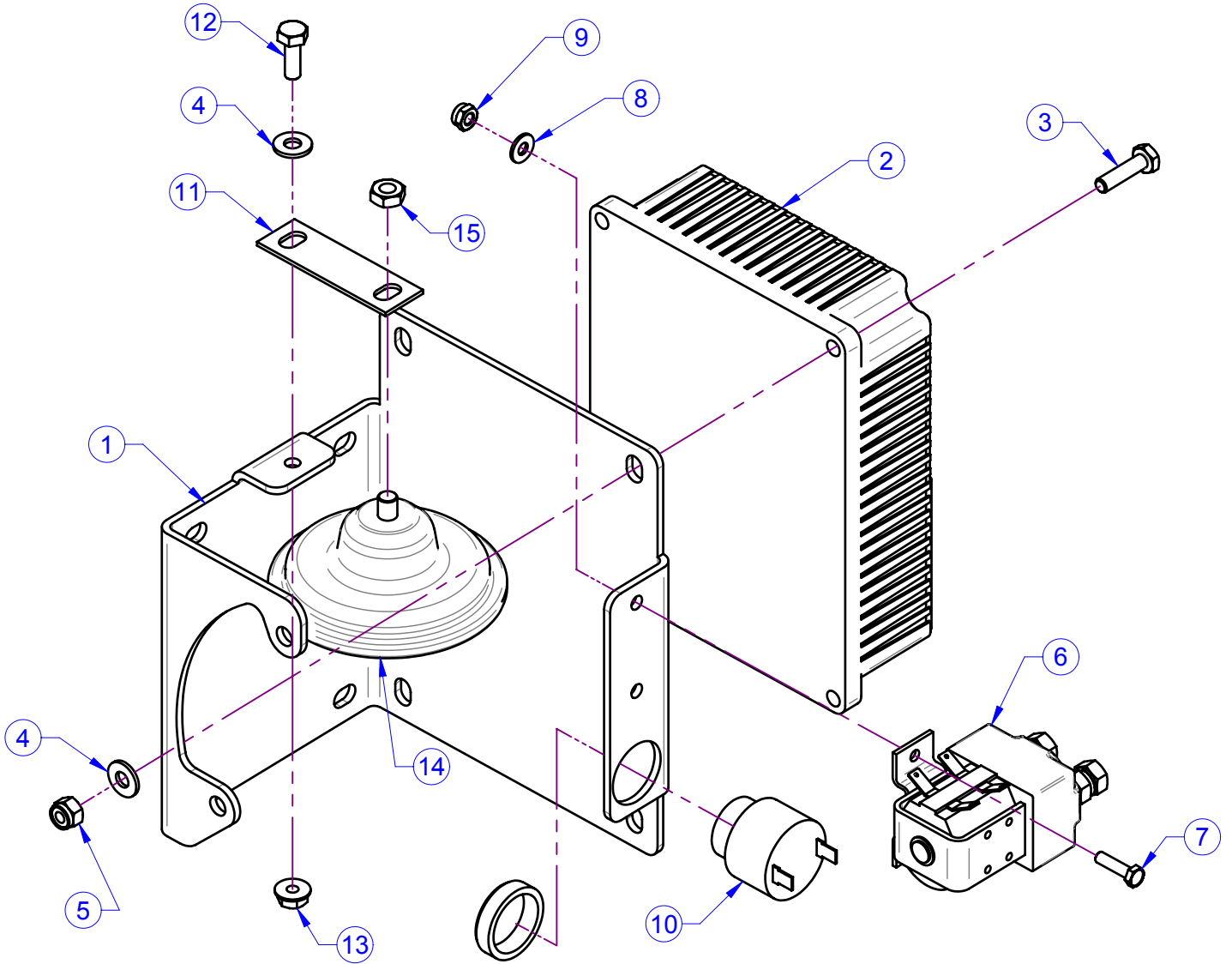
IS12 / IR23 - 24V OR 48V

IT34 - 48V ONLY

ITEM	CPC PART #	DESCRIPTION	QTY		SI PART #
			24V	48V	
1		BTRY BOX, PUSH/PULL - IS12/IR23/IT34	1	1	307876
2	66014-03	BATTERY, 6V, DEEP CYCLE, (US-2000)	4	8	719229
*	66005-03	BATTERY, 6V, DEEP CYCLE, (US-145) OPTIONAL	4	8	719231
3	66561-90A	ROD, BATTERY HOLD DOWN	1	2	709059
4	66362-96	PLATE, BATTERY HOLD DOWN	1	2	709365
5	6256	WASHER FLT STAINLESS .28 X 1.375 X .06	1	2	719786
6	7680	NUT 1/4-20 NE 316 STAINLESS NYLON	1	2	719876
7	4720-B	SCREW, HXHD CAP 3/8-16 X 1-3/4 G5	4	4	719696
8	6416	WASHER FLT STL BLK ZNC 3/8 STD	8	8	719796
9	7778	NUT, 3/8-16 GR A NE NYLON INSERT	4	4	719902
10		BRKT, CHARGER, BTRY - DELTA Q	1	1	510541
11	3787-B	SCREW, HEX HEAD CAP 1/4-20 X 3/4 G5	8	8	719636
12	6703-B	WASHER FLT STL 1/4 SAE UNHARD BLK	12	12	719811
13	7724-B	NUT 1/4-20 GR A SERRATED FLNG LOCK	10	10	719887
14	3993	SCREW, HEX HEAD CAP 1/4-20 X 1-1/4 G5	2	2	719644
15	66583-03	CHARGER, DELTA Q - 48 V SEALED	N/A	1	719249
*	43500-03	CHARGER, DELTA Q - 24 V SEALED	1	N/A	719247
16	70447-90	CHARGER CORD, 6" (L), 14/3 WIRE - BLACK	1	1	719264
17	66034-02	PLUG, POWER INLET 120V SEALED	1	1	709558
*	70105-88	CABLE ASSY, 4 GA X 37 INCH	1	5	709019
*	70099-88	CABLE ASSY, 4 GA X 8.75 INCH	1	1	709004
*	70351-88	CABLE ASSY, 4 GA X 16.75 INCH	2	2	709600
*	50009-04	BOOT, INSULATOR CABLE TERMINAL	4	8	719464

* ILLUSTRATION NOT SHOWN

CONTROL PANEL COMPONENTS



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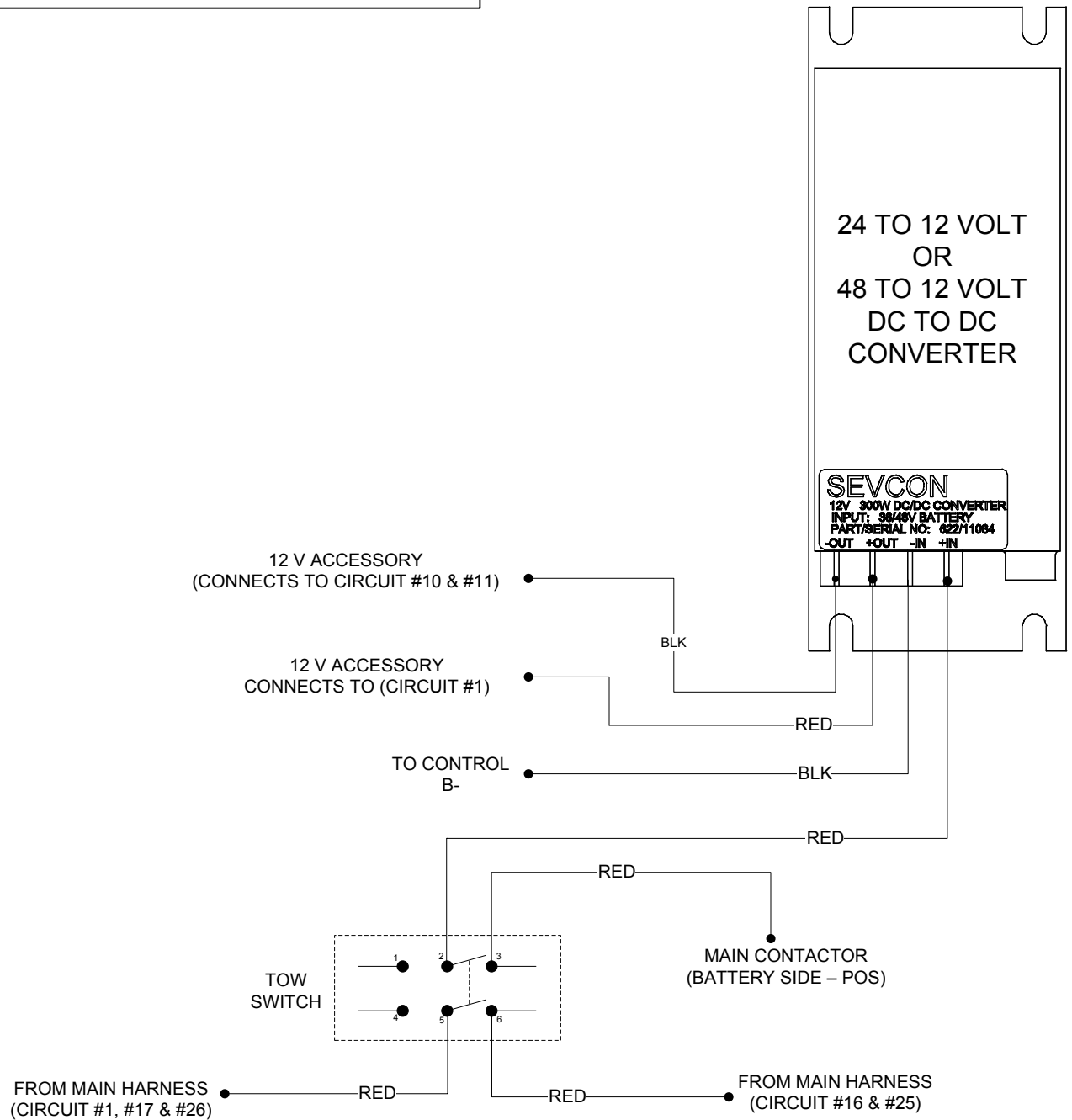
CONTROL PANEL COMPONENTS

IS12 / IR23 / IT34 VEHICLES

ITEM	CPC PART #	DESCRIPTION	QTY	SI PART #
1	43652-06	MOUNTING BRACKET - PANEL CONTROLLER	1	510517
2	47892-04	CONTROLLER, SEVCON REGEN HP, PRO 24-48 V	1	719293
*	47895-05	CONTROLLER, SEVCON REGEN B, 24-48 V (2005 & LATER)	1	719459
*	74897-02	CONTROLLER, SEVCON PLUG BRAKING, 24-48 V (2005 & LATER)	1	719095
(NOTE: SPECIFY VIN, VOLTAGE, AXLE RATIO, AND CONTROLLER ID WHEN ORDERING)				
3	2551-W	SCREW, 1/4-20 X 1 GRD 5 HHC YEL 150	4	719564
4	6703-B	WASHER FLAT, STL 1/4 SAE UNHARD BLK	5	719811
5	7686	NUT 1/4-20 GR A NE NYLON INSERT LCK	4	719879
6	71455-01	CONTACTOR & MTG BRACKET, 24V (SW80)	1	709166
7	2339	SCREW, #10-24 X 3/4" HEX HD MACH	2	719551
8	6716	WASHER FLAT, STL #10 SAE UNHARD BLK	2	719812
9	7624	NUT 10-24 GR A NM MACH NYLON LOCK	2	719870
10	71408-96	BUZZER, REVERSE - 9/48 V DC	1	709038
11	84067-92	SHIM STRIKER	1	510247
12	3787-B	SCREW, HEX HEAD CAP 1/4-20 X 3/4 G5	1	719636
13	7724-B	NUT 1/4-20 GR A SERRATED FLNG LOCK	1	719887
14	69001-76A	HORN (INCLUDES NUT, ITEM 15)	1	709089
15	82934-96	NUT, M8	1	719936
*	70105-88	CABLE ASSY, 4 GA X 37 INCH	1	709019
*	70351-88	CABLE ASSY, 4 GA X 16.75 INCH	1	709600
*	70112-95	CABLE ASSY, 4 GA X 25.5 INCH	4	709732
*	70475-02	HARNESS, MAIN - IS12/IR23/IT34 (REV 2)	1	709942
*	75594-04	FUSE, 1 AMP (ATC/ATO)	1	719444
*	75593-04	FUSE, 5 AMP (ATC/ATO)	1	719445
*	69300-03	MOTOR, ELECT., 48 V SEPARATELY EXCITED	1	719135

* ILLUSTRATION NOT SHOWN

DC/DC CONVERTER SCHEMATIC DIAGRAM IS12 / IR23 / IT34

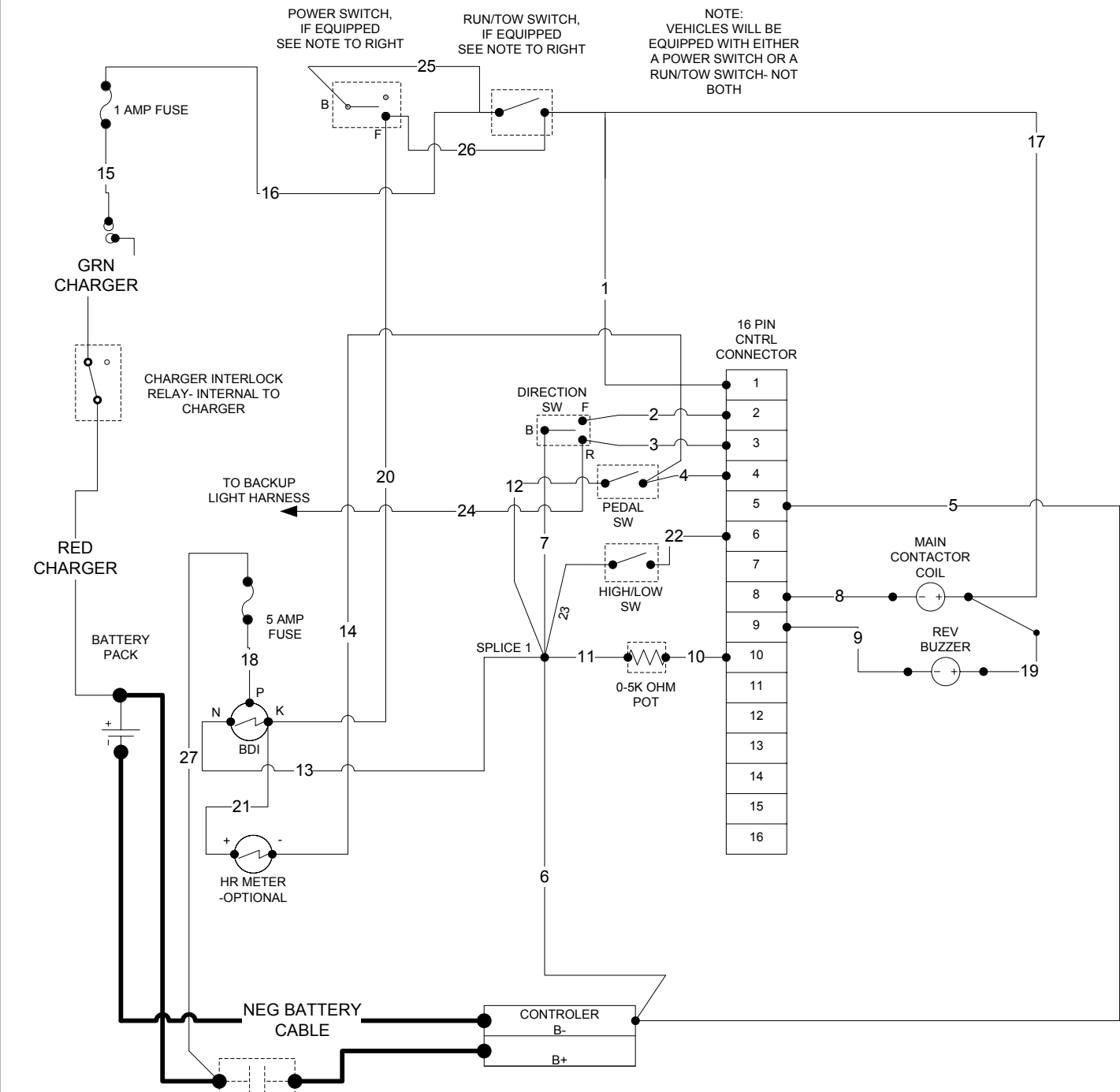


DC/DC CONVERTER SCHEMATIC DIAGRAM
IS12 / IR23 / IT34

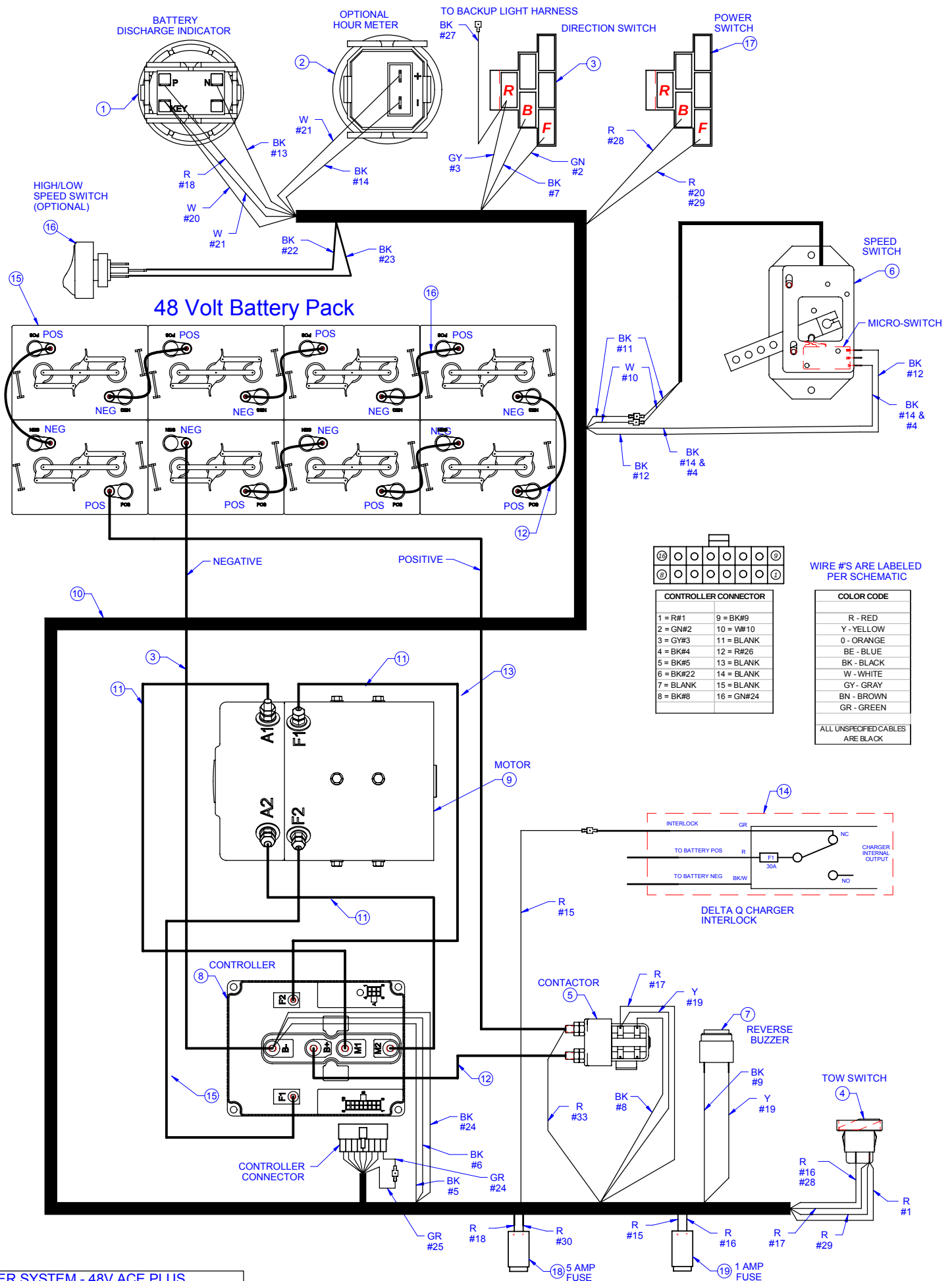
ITEM	CPC PART #	DESCRIPTION	QTY	SI PART #
1		SWITCH, ROCKER-FWD/REV DPDT	1	709391
2		CONVERTER, DC/DC 24V-12V	1	759700
*		CONVERTER, DC/DC 36/48-13.4V	1	719488

* ILLUSTRATION NOT SHOWN

MAIN SCHEMATIC DIAGRAM - IS12 / IR23 / IT34



CIRCUIT NO.	WIRE COLOR	CIRCUIT NO.	WIRE COLOR	CIRCUIT NO.	WIRE COLOR
1	RED	12	BLK	23	BLK
2	GRN	13	BLK	24	BLK
3	GRY	14	BLK	25	RED
4	BLK	15	RED	26	RED
5	BLK	16	RED	27	RED
6	BLK	17	RED		
7	BLK	18	RED		
8	BLK	19	YEL		
9	BLK	20	WHT		
10	WHT	21	WHT		
11	BLK	22	BLK		



POPWER SYSTEM - 48V ACE PLUS
 STANDARD WIRING DIAGRAM - IT34
 OPTIONAL WIRING DIAGRAM - IT12 / IT34

ITEM	CPC PART #	DESCRIPTION	QTY	SI PART
1	75053-01	BDI METER, 48V, DIGITAL	1	709183
2	75033-91	HOUR METER, 10-80VDC	1	709452
3	71730-01	KEYSWITCH, UNIVERSAL W/HARDWARE	1	709040
4	71516-01	SWITCH-TOWRUN	1	709165
*		SWITCH, ROCKER-FWD/REV DPDT	1	719391
5	71455-01	CONTACTOR & MTG BRACKET, 24V (SW80)	1	709166
6	70061-00	SWITCH SPEED ASSY	1	709369
7	71408-96	ALARM, REVERSE - 9/48V DC	1	709038
8	47892-04	CNTRL, SEVCON REGEN HP, 24-48V	1	719293
9	69300-03	MOTOR,ELECT., 48V, SEP EX, STD DUTY	1	719135
10	70475-02	WIRE HARNESS, MAIN, MAIN-ROVR	1	709942
11	70112-95	CABLE ASSY, 4GA X 25.5, 5/16" TERMINALS	4	709732
*	32971-67	WIRE MARKER, "A1", BRADY	2	719601
*	32971-67	WIRE MARKER, F1 BRADY	2	719330
*	32972-04	WIRE MARKER, F2 BRADY	2	719331
*	32970-67	WIRE MARKER, "A2", BRADY	2	719600
12	70351-88	CABLE ASSY, 4GA X 16.75, 5/16" TERMINALS	3	709600
*	71581-84	WIRE MARKER, POSITIVE	7	749180
13	70105-88	CABLE ASSY, 4GA X 37", 5/16" TERMINALS	2	709019
*	71582-84	WIRE MARKER, NEGATIVE	1	749181
14		CHARGER, DELTA Q, 48V SEALED	1	719249
*	70447-90	CHARGER CORD, 6' (L), 14/3 WIRE BLK	1	719264
*	66034-02	PLUG, POWER INLET 120V SEALED	1	709558
15	66014-03	BATTERY, 6V, DEEP CYCLE (US2200)	8	719229
*	66005-03	BATTERY, 6V, DEEP CYCLE (US-145) OPTIONAL	8	719231
16	70099-88	CABLE ASSY, 4 GA X 8.75", 5/16 TERMINALS	5	709004
*	50009-04	INSULATOR BOOT, CABLE TERMINAL	4	719464
*	9990-W	ZIP TIE, .18" X 8-1/2", BLACK	6	719605
17	71511-87A	SWITCH, ROCKER, ILLUMINATED SPST	1	709412
*	66493-67A	EXTENSION CORD, BUILT-IN CHARGER	1	709890
18	75593-04	FUSE, 5 AMP ATO/ATC	1	719445
19	75594-04	FUSE, 1 AMP ATO/ATC	1	719444

* ILLUSTRATION NOT SHOWN

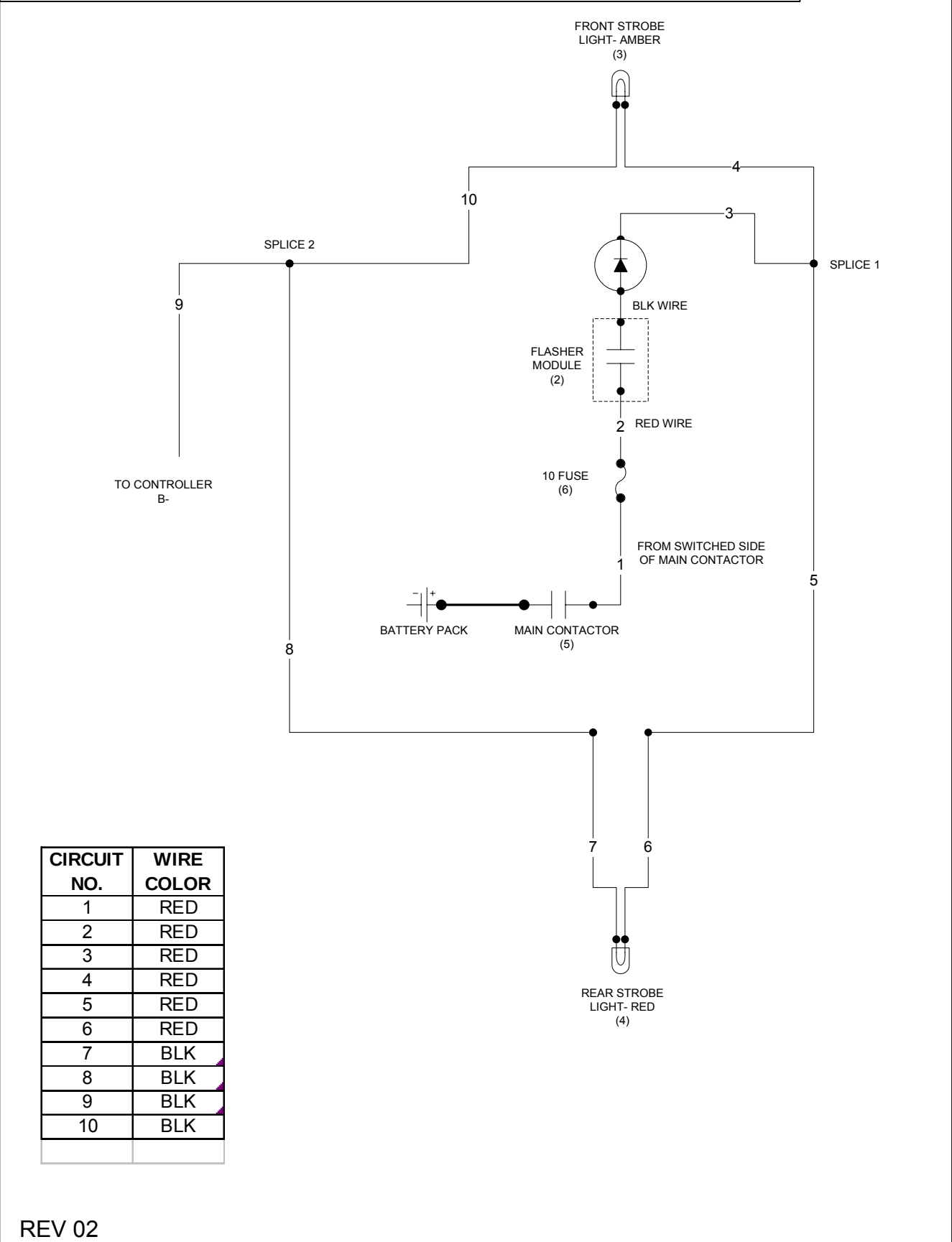
Parts Manual

Section 6

Options

FLASHING FRONT AMBER & REAR RED LIGHT HARNESS SCHEMATIC

IR23



FLASHING FRONT AMBER & REAR RED LIGHT HARNESS SCHEMATIC IR23

ITEM	CPC PART #	DESCRIPTION	QTY	SI PART #
1		WIRE HARNESS, FLASHER - IR23	1	719267
2		ASSY, FLASHER MODULE, 12-48V	1	467306
3		STROBE, AMBER, 12V, RECTANGUALR	1	719255
4		STROBE, RED, 12V, RECTANGULAR	1	719256
5	71455-01	CONTACTOR & MTG BRACKET, 24V (SW80)	1	709166
6	74596-02	FUSE, 10 AMP ATO/ATC	1	709786