

NOTES:

- 1. All dimensions given in [] and () are in inches.
- 2. Dimensions given in [] contain no splices between source to destination.
- 3. Dimensions given in () contain either one splice to multiple splices. The dimension indicates from source to the nearest splice.

NOT FINAL DRAFT – DOCUMENT STILL IN
PROGRESS

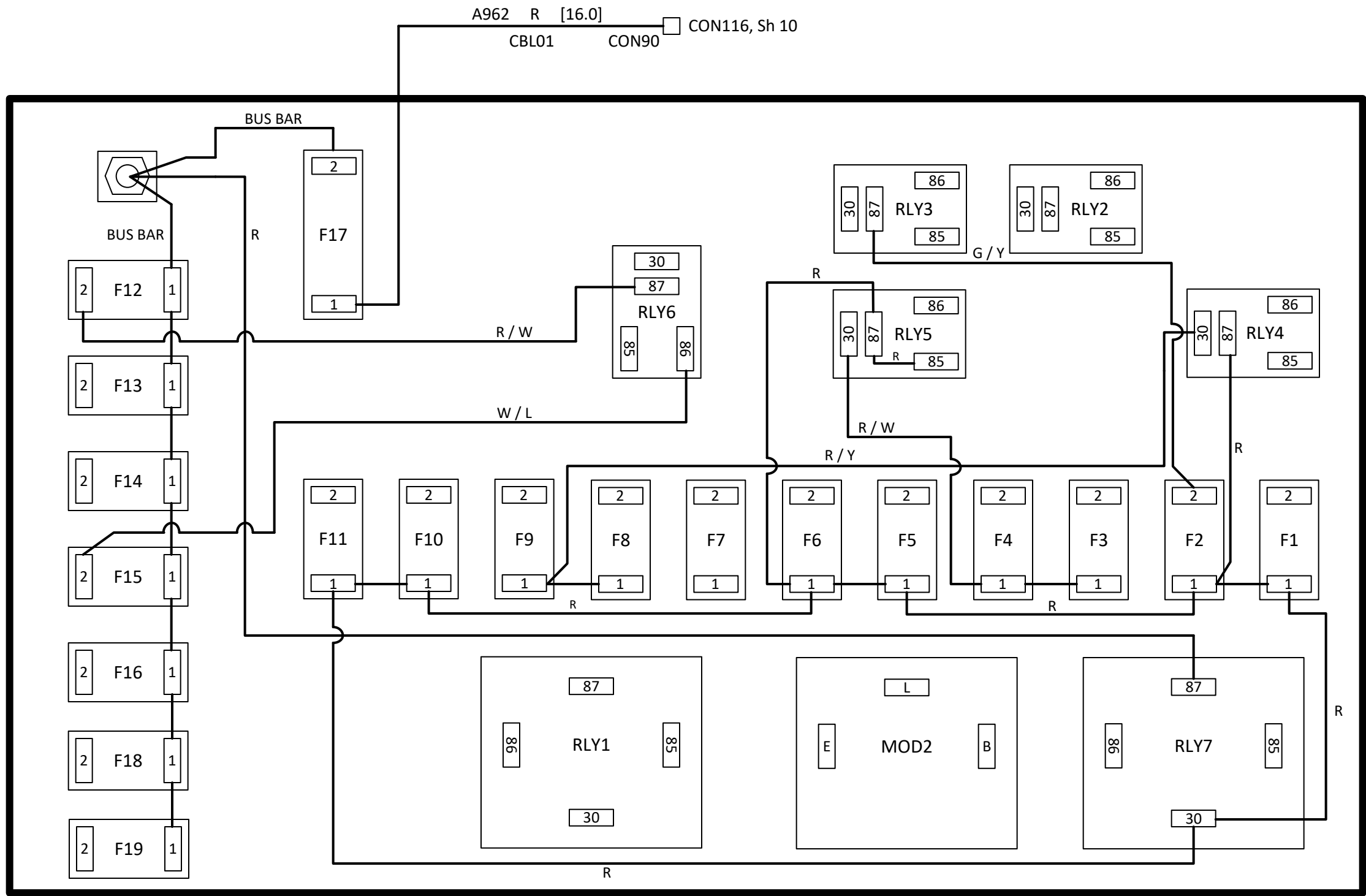
	ABLE XR			
	Electrical Diagram			
	SIZE	FSCM NO	DWG NO	REV
	B		190120020	0
	SCALE	A. WAN	SHEET	1 OF 14

Ref Name	Component Name	Ref Name	Component Name
ACSP	12V Accessory Port (Cig Lighter)	SW1	Key Switch
BT1	12V Battery	SW2	Headlamp/Rear Fog/Parking/Day Run/Blinkers/Horn Switch
BT2	72V Battery Assembly	SW3	Wiper Control Switch
CHR1	72V to 12V DC-DC Charger	SW4	Hazard Lamp Switch
CHR2	72V Battery Charger	SW5	Fan Control Switch
CHRP	Main Charging Port	SW6	Heater Switch
D1	Hazard Left Blinker Diode	SW7	Brake Switch
D2	Hazard Right Blinker Diode	SW8	Parking Brake Switch
DISP	Vehicle Display	SW9	Brake Oil Level Sense
EPSC	Electric Power Steering (EPS) Controller	SW10	Dome Lamp Switch
F18	EPS Power Cable Fuse	SW11	Door Switch
HRN	Horn	SW12	Vehicle Drive Selector Switch
LMP1	Daytime Running Lamp - Left	THRT	Throttle Pedal
LMP2	Daytime Running Lamp - Right	VCTR	Motor Controller
LMP3	Headlamp- Left	VDM	Vehicle Display Module
LMP4	Headlamp - Right	VFP	Vehicle Fuse Panel
LMP5	Dome Lamp	VPDB	Vehicle Power Distribution Box
LMP6	Brake Lamp - Left		
LMP7	Brake Lamp - Right		
LMP8	Reverse Lamp		
LMP9	Rear Fog Lamp		
LMP10	License Lamps		
LMP11	Front Left Turn Signal Lamp		
LMP12	Front Right Turn Signal Lamp		
LMP13	Rear Left Turn Signal Lamp		
LMP14	Rear Right Turn Signal Lamp		
MOD1	Door Lock Circuit Board		
MOD2	Blinker Device		
MOD3	Right Door Actuator		
MP5	Media Player		
MTR1	Vehicle Electric Motor		
MTR2	EPS Motor		
MTR3	Wiper Motor		
MTR4	Windshield Fluid Pump Motor		
PTC	Fan/Heater Assembly		
RCAM	Rearview Camera		
RLY9	Intermittent Wiper Relay		
SPK1	Left Speaker for Radio		
SPK2	Right Speaker for Radio		

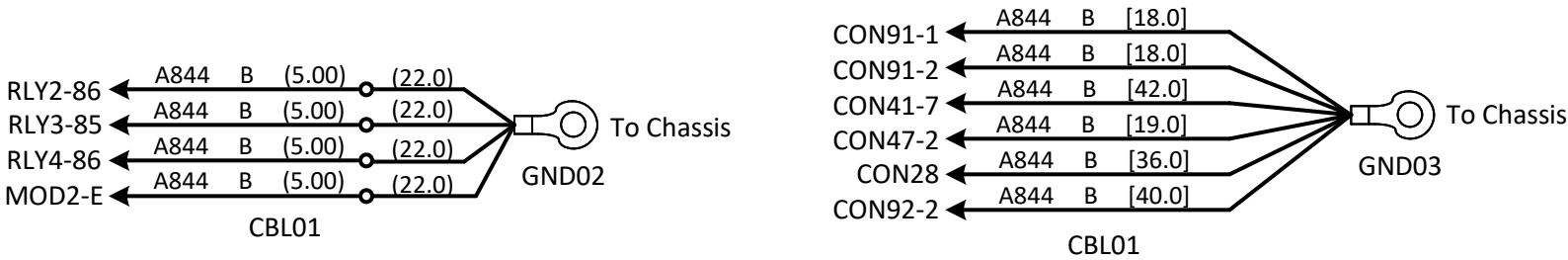
Centtro Part #	Description	ELECTRICAL DIAGRAM REF
	Media Player to Main Harness	ACBL1
	Main Harness to Wiper Motor and Wiper Relay	ACBL2
1001040601140010	72V Battery Box - Internal Cable to connect batteries	BCBL1
1001040601150010	72V Battery Box - Internal Cable to connect batteries	BCBL2
1001040601120010	72V Battery Box - Cable from battery to bulkhead connector	BCBL3
1001040601130010	72V Battery Box - Cable from battery to bulkhead connector	BCLB4
1001040601490020	Main 12V Vehicle Harness (attached to fuse panel)	CBL01
1004040601060020	Goes from 12V Battery to EPS	CBL02
1001040601260010	Motor Controller Cable to EPS Controller	CBL03
1001040601520020	Motor Controller Cable	CBL04
1001040601220020	72V battery charger output to VPDB (Short Cable)	CBL05
1001040601210010	VPDB to 12V Battery Charger Input	CBL06
1001040601110010	12V battery charger output cable	CBL07
	72V Charger CAN to Mtr Controller Cable	CBL08
1001040601160010	Battery Box Pos to VPDB	CBL09
	72V Battery Ground to VPDB and Mtr Ctrlr B-	CBL10
1001040601030010	Intermittent cable from main harness to rear lamp harness	CBL11
1001040601170010	VPDB to Mtr Controller B+	CBL12
1001040601200010	VPDB to Main Mtr Controller Harness	CBL13
1001040601190010	VPDB to PTC	CBL14
1001040601250020	Goes from Media Player to Rear Camera	CBL15
1001040601770020	Main Charging Port Plug and Harness	CBL16
1001040601470010	Rear Lamp Harness	CBL17
1001040601480010	12V Batt- to chassis ground	CBL18
1001040601530010	From Parking Brake switch to main harness	CBL19
1001040601060010	This cable is inside the door.	CBL20
1001040601070010	This cable is inside the door.	CBL21
1001040601690010	Goes from VPDB to 72V charger (Long Cable)	CBL22
	Antenna	CBL23

Wire Color Legend	
Abbreviation	Color
B	Black
Br / L	Brown / Blue
Br / W	Brown / White
Br / Y	Brown / Yellow
G	Green
Gr	Gray
Gr / B	Gray / Black
Gr / R	Gray / Red
Gr / Y	Gray / Yellow
L	Blue
L / G	Blue / Green
L / R	Blue / Red
L / W	Blue / White
LG	Light Green
LG / R	Light Green / Red
LG / W	Light Green / White
O	Orange
O / G	Orange / Green
O / L	Orange / Blue
P	Pink
R	Red
R / B	Red / Black
R / Gr	Red / Gray
R / L	Red / Blue
R / O	Red / Orange
R / W	Red / White
V	Violet
V / Y	Violet / Yellow
W	White
W / B	White / Black
W / Br	White / Brown
W / G	White / Green
W / L	White / Blue
W / Y	White / Yellow
Y	Yellow
Y / B	Yellow / Black
Y / G	Yellow / Green
Y / L	Yellow / Blue
Y / R	Yellow / Red

	ABLE XR			
	Electrical Diagram - References			
	SIZE B	FSCM NO	DWG NO 190120020	REV 0
	SCALE	A. WAN	SHEET	2 OF 14



Nomenclature	Function	Specification
F1	MP5 (Radio)	10.0 A
F2	Reverse Light	7.5 A
F3	Right High Beam	7.5 A
F4	Left High Beam	7.5 A
F5	Running/Brake Light	7.5 A
F6	Wiper	15.0 A
F7	Position/License Plate Lights	5.0 A
F8	Left Low Beam	7.5 A
F9	Right Low Beam	7.5 A
F10	Front/Rear Fog Lights	20.0 A
F11	Hazard Light (Not constant)	7.5 A
F12	Horn	7.5 A
F13	Dome Light	15.0 A
F14	Central Door Lock	5.0 A
F15	Hazard Light (Constant Pwr)	20.0 A
F16	12V Accessory Power	15.0 A
F17	Main Fuse	70.0 A
F18	A/C Condenser	30.0 A
F19	Evaporator Fan	20.0 A
RLY1	A/C Condenser	12VDC, 50.0 A
RLY2	Rear Fog Lamp	12VDC, 30.0 A
RLY3	Reverse Lamp	12VDC, 30.0 A
RLY4	Low Beam Lamp	12VDC, 30.0 A
RLY5	High Beam Lamp	12VDC, 30.0 A
RLY6	Horn	12VDC, 30.0 A
RLY7	Main Contactor	12VDC, 80.0 A
MOD2	Used by Hazard and Left/Right Turn Signals	12-24V, Flasher Relay for LED Indicators



ABLE XR			
Electrical Diagram – Fuse Panel (Wire Side)			
SIZE	FSCM NO	DWG NO	REV
B		190120020	0
SCALE	A. WAN	SHEET	3 OF 14

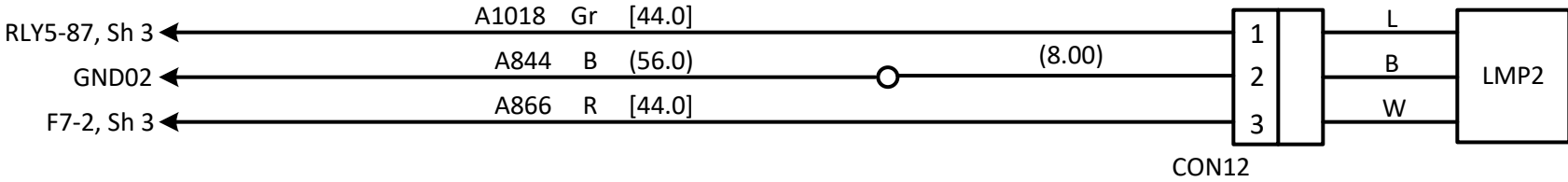
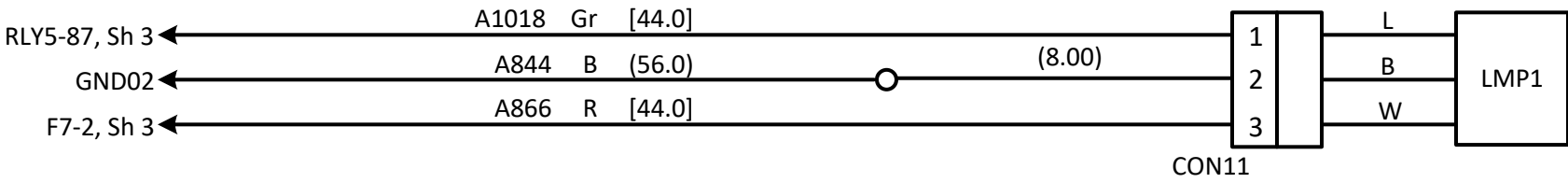
FUSE PANEL / MAIN VEHICLE HARNESS CONNECTION LIST									
Component	Pin Assignment	Signal Name	Wire Color	Destination	Component	Pin Assignment	Signal Name	Wire Color	Destination
F1	1	A894	R	F2-1, RLY8-30	RLY 1	85	A90	V / Y	CON14-B4 (SW2)
	2	A824	W / G	CON36 (MP5)		86	A844	B	GND02
F2	1	A894	R	F1-1, F5-1		87	A896	Y / G	F10-2, RLY2-87
	2	A966	G / Y	RLY3-87		30	A313	W	CON91
F3	1			F4-1	RLY 2	85	A827	Br / W	CON14-B1 (SW2)
	2	A834	Gr / R	CON20 (LMP4)		86	A844	B	GND02
F4	1	A312	R / W	F3-1, RLY6-30		87	A896	Y / G	RLY1-87
	2	A835	Gr / Y	CON19 (LMP3)		30	A314	G	CON05 (VDM), CON41 (LMP9)
F5	1	A894	R	F2-1, F6-1	RLY 3	85	A844	B	GND02
	2	A1018	Gr	RLY5-87		86	A168	L / W	CON05-1 (VDM)
F6	1	A894	R	F5-1, F10-1, RLY6-87		87	A966	G / Y	F2-2
	2	A1040	R / W	CON47 (SW3), CON48 (MTR3)		30	A965	L / R	CON36 (MP5), CON88 (CBL12)
F7	1	A873	R / B	CON02 (SW2), CON05 (VDM)	RLY 4	85	A841	Br / Y	CON02-B1 (SW2)
	2	A866	R	CON11 (LMP1), CON12 (LMP2), CON88 (CBL12)		86	A844	B	GND02
F8	1			F9-1		87	A894	R	F2-1
	2	A846	Gr	CON19 (LMP3)		30	A311	R / Y	F9-1, CON05-13 (VDM)
F9	1	A311	R / Y	F8-1, RLY4-30	RLY 5	85	A844	B	GND02
	2	A847	R / Gr	CON20 (LMP4)		86	A169	L / R	CON03 (SW7), CON04 (VDM)
F10	1	A894	R	F6-1, F11-1		87	A1018	Gr	F5-2, CON11 (LMP1), CON12 (LMP2)
	2	A896	Y / Gr	RLY1-87		30	A994	Y / G	CON88 (CBL12)
F11	1	A894	R	F10-1, RLY8-30, CON26 (SW5)	RLY 6	85	A894	R	RLY6-87
	2	A964	L / W	CON53-1 (SW4)		86	A831	Gr / B	CON14-A1 (SW2)
F12	1			F17-2		87	A894	R	RLY6-85, F6-1
	2	A969	R / W	RLY7-87		30	A312	R / W	F4-1, CON05-16 (VDM)
F13	1			F17-2	RLY 7	85	A971	W / Br	CON14 (SW2)
	2	A815	LG / R	CON13 (LMP5), CON05-10 (VDM), CON36 (MP5)		86	A969	R / W	F15-2
F14	1			F17-2		87	A963	W / L	F12-2
	2	A881	LG / W	CON21-1 (MOD1)		30	A970	W	T1 (HRN)
F15	1			F17-2	RLY 8	85	A306	Y / G	CON35 (SW1), CON04 (VDM), CON92 (CBL13)
	2	A963	W / L	RLY7-86, CON53-3 (SW4)		86	A844	B	GND02
F16	1			F17-2		87	A894, A961	R, R / B	F17-2, CON35 (SW1)
	2	A813	Y / L	CON01 (ASCP), CON89 (CBL13)		30	A894	R	F1-1, F11-1, CON03 (SW7), CON02 (VDM), CON14 (VDM)
F17	1	A962	R	CON90, CON116 (CBL03)	MOD 2	L	A1063	L	CON14 (VDM), CON53-5 (SW4)
	2			Fuse Panel Bus Bar		E	A844	B	GND02
						B	A1055	Br	CON53-2 (SW4)



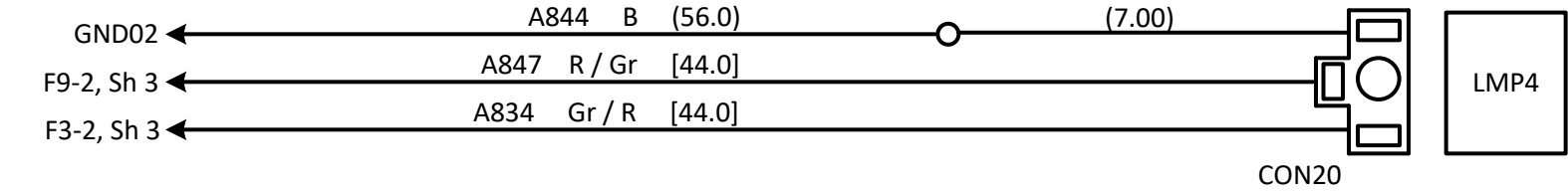
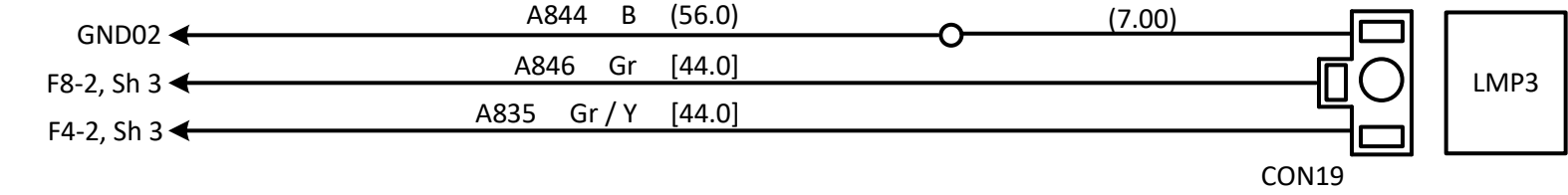
ABLE XR

Electrical Diagram

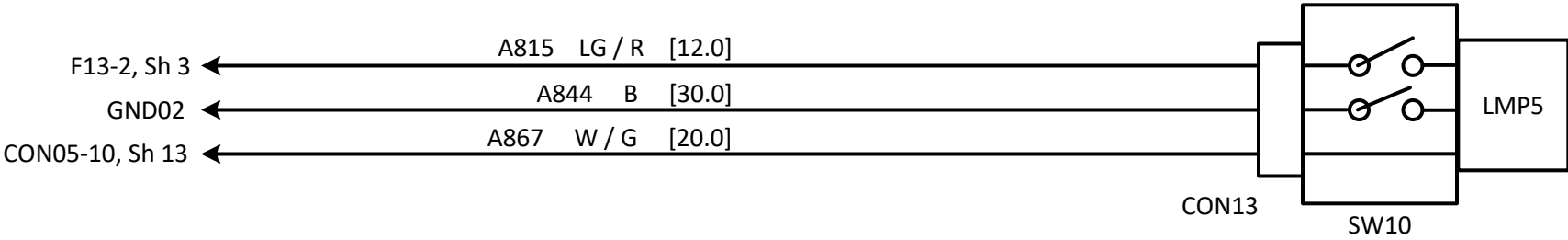
	SIZE B	FSCM NO	DWG NO 190120020	REV 0
	SCALE		A. WAN	SHEET 4 OF 14



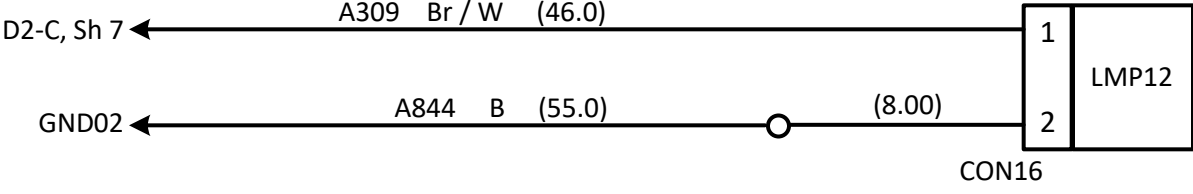
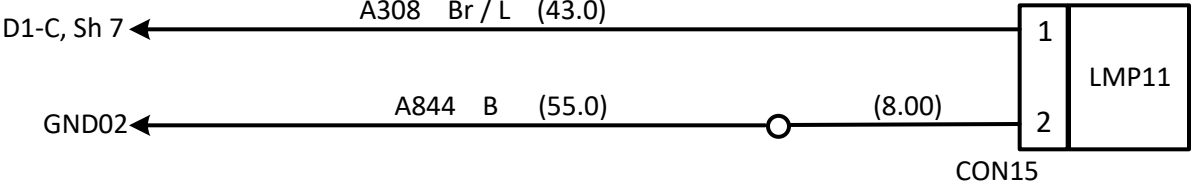
DAYTIME RUNNING LEDs (CBL01)



LEFT & RIGHT FRONT HEAD LAMPS (CBL01)

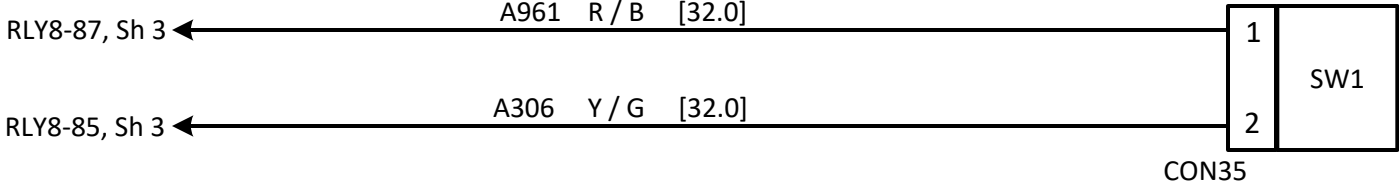


DOME LAMP (CBL01)

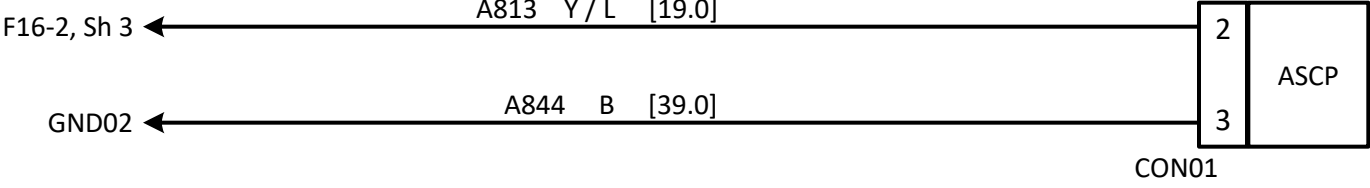


LEFT & RIGHT FRONT BLINKER LAMPS (CBL01)

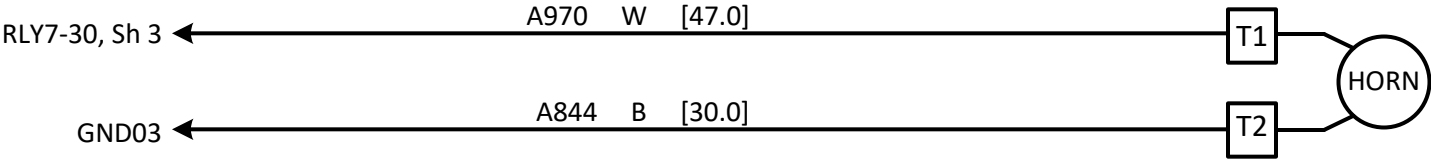
	ABLE XR			
	Electrical Diagram – Head Lamps, Daytime Running LEDs, Dome Lamp, Front Blinkers			
	SIZE B	FSCM NO	DWG NO 190120020	REV 0
	SCALE	A. WAN	SHEET	5 OF 14



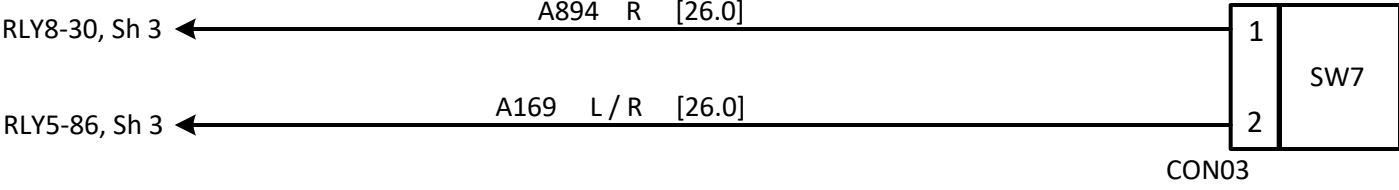
KEY SWITCH (CBL1)



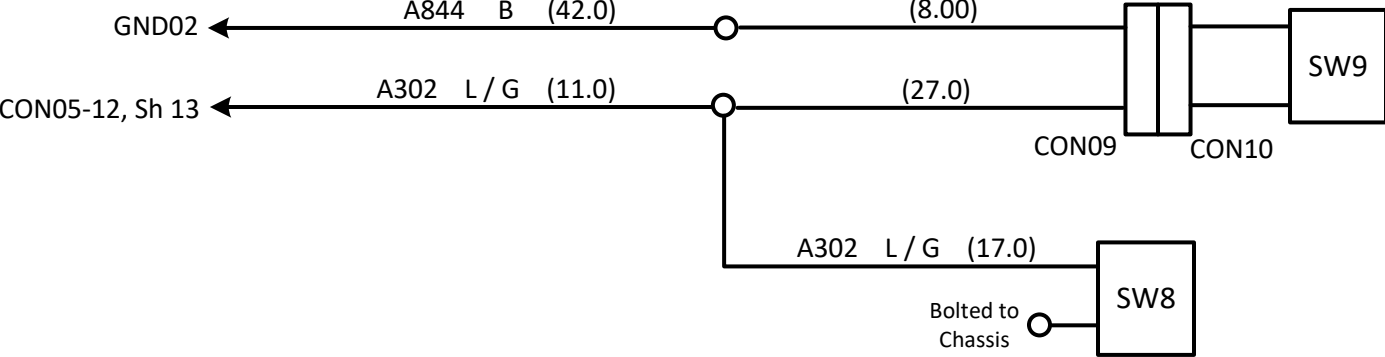
12V ACCESSORY PORT (CBL01)



HORN (CBL01)

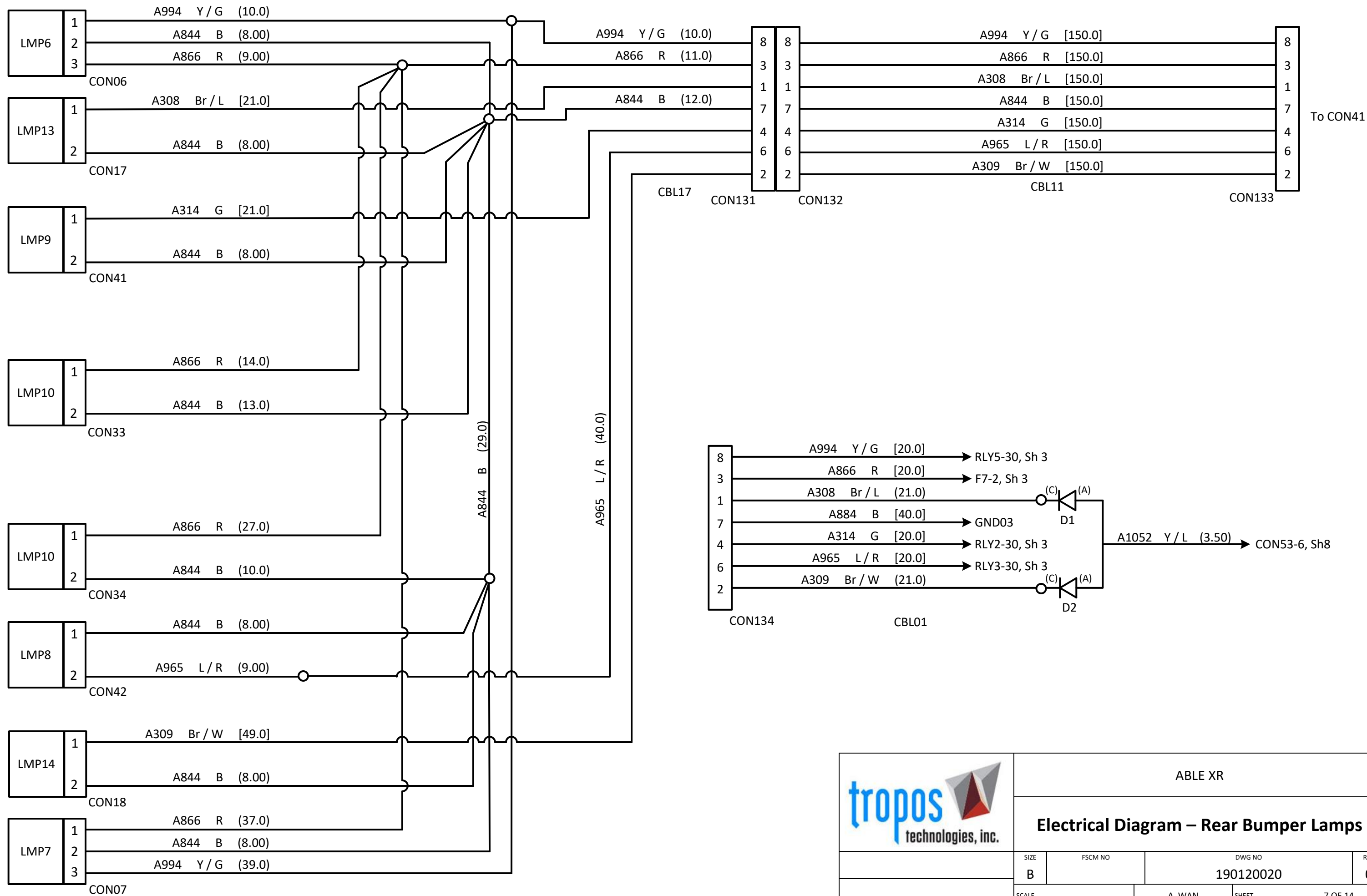


BRAKE SWITCH (CBL01)



BRAKE OIL POT & PARKING BRAKE SW (CBL01)

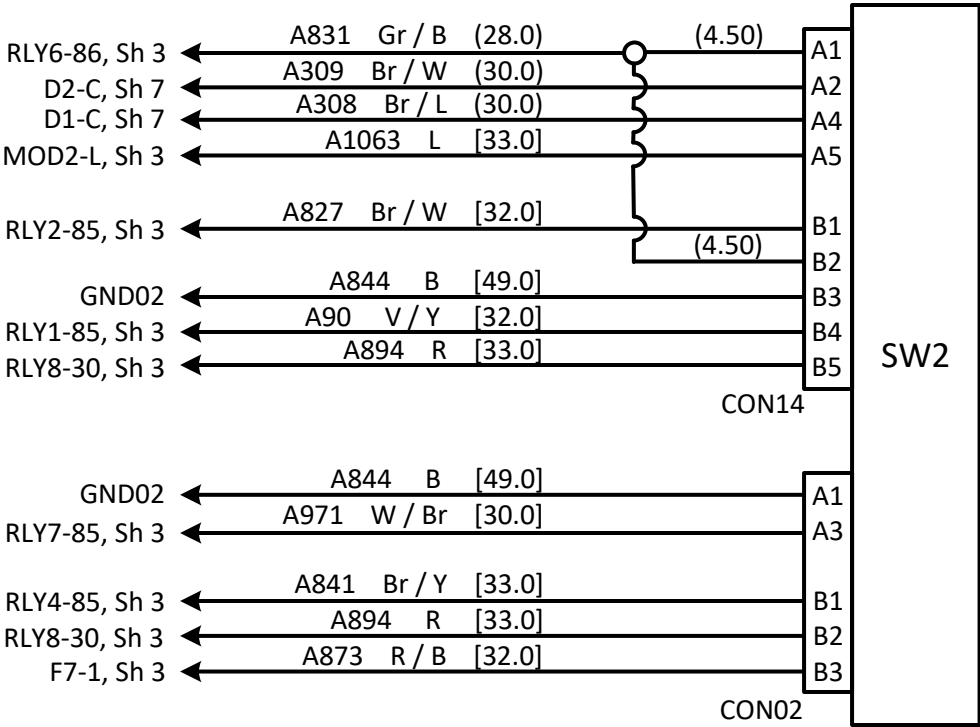
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	Electrical Diagram			
	SIZE B	FSCM NO	DWG NO 190120020	REV 0
	SCALE	A. WAN	SHEET	6 OF 14



ABLE XR

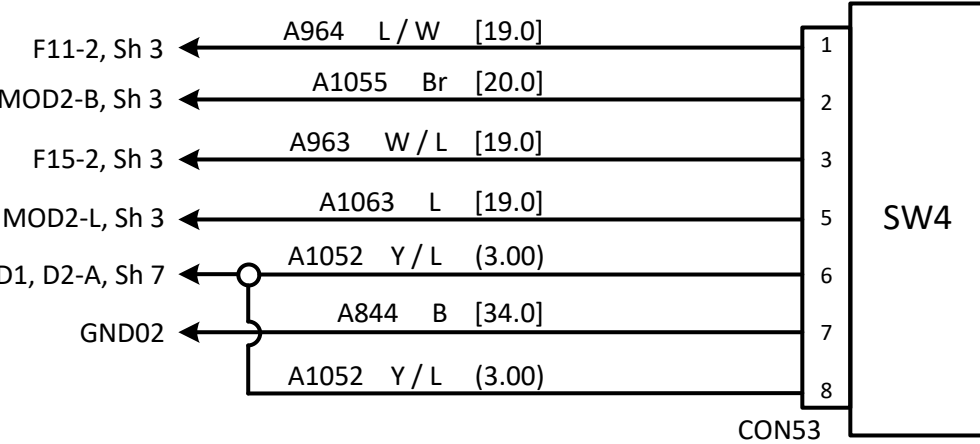
Electrical Diagram – Rear Bumper Lamps

SIZE	FSCM NO	DWG NO	REV
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SCALE	A. WAN	SHEET	7 OF 14

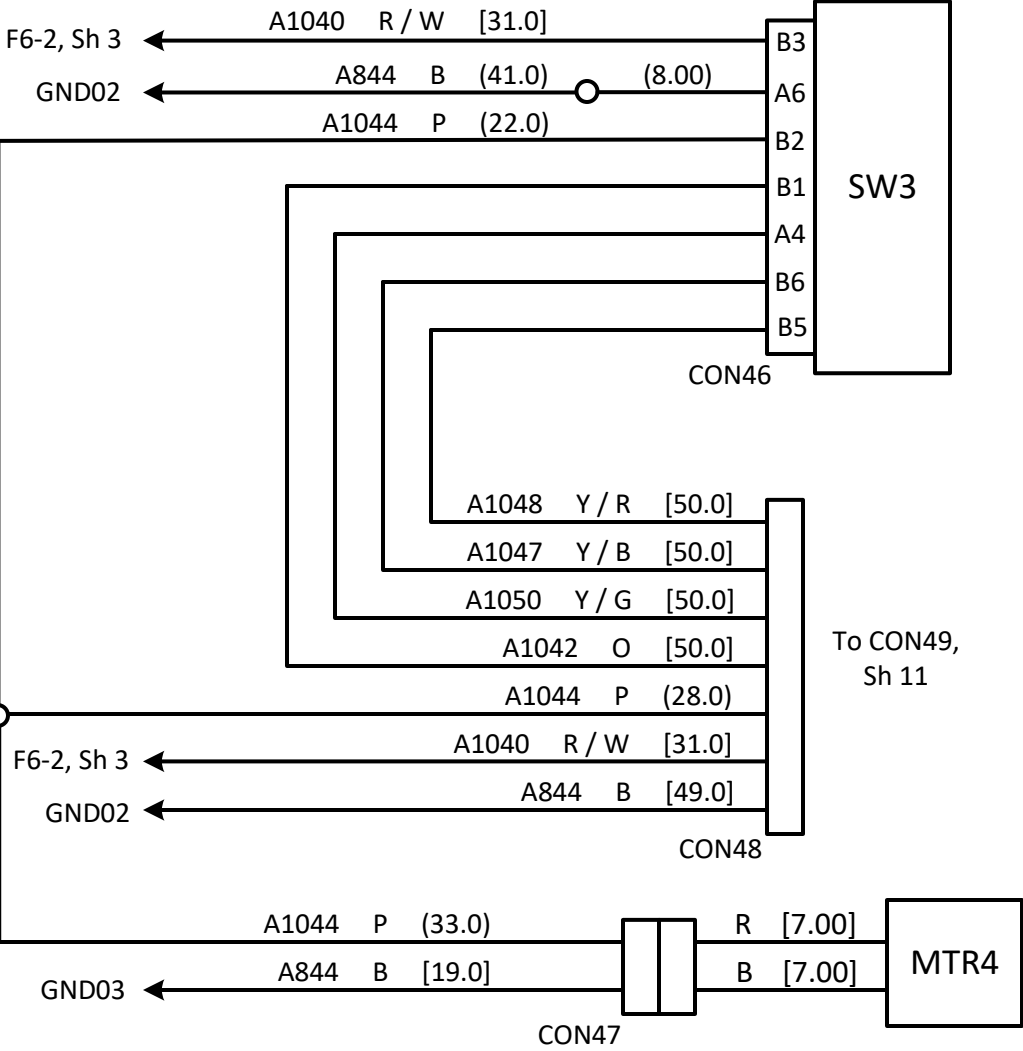


SW2 Connection List		
Function	Connector	Pins
HORN	CON02	A3 to A1
LEFT TURN	CON14	A4 to A5
RIGHT TURN	CON14	A2 to A5
PARKING	CON02	B2 to B3
LOW BEAM	CON02	B2 to B3
	CON02 B1 to CON14 B5	
HIGH BEAM	CON02	B2 to B3
	CON14	B2 to B3
HIGH BEAM (INTER)	CON14	A1 to B3
FRONT FOG	CON02 B3 to CON14 B4	
REAR FOG	CON02 B2 to B3 to CON14 B1 to B4	

SWITCHES FOR HEAD LAMPS, BLINKERS, REAR FOG LAMP (CBL01)

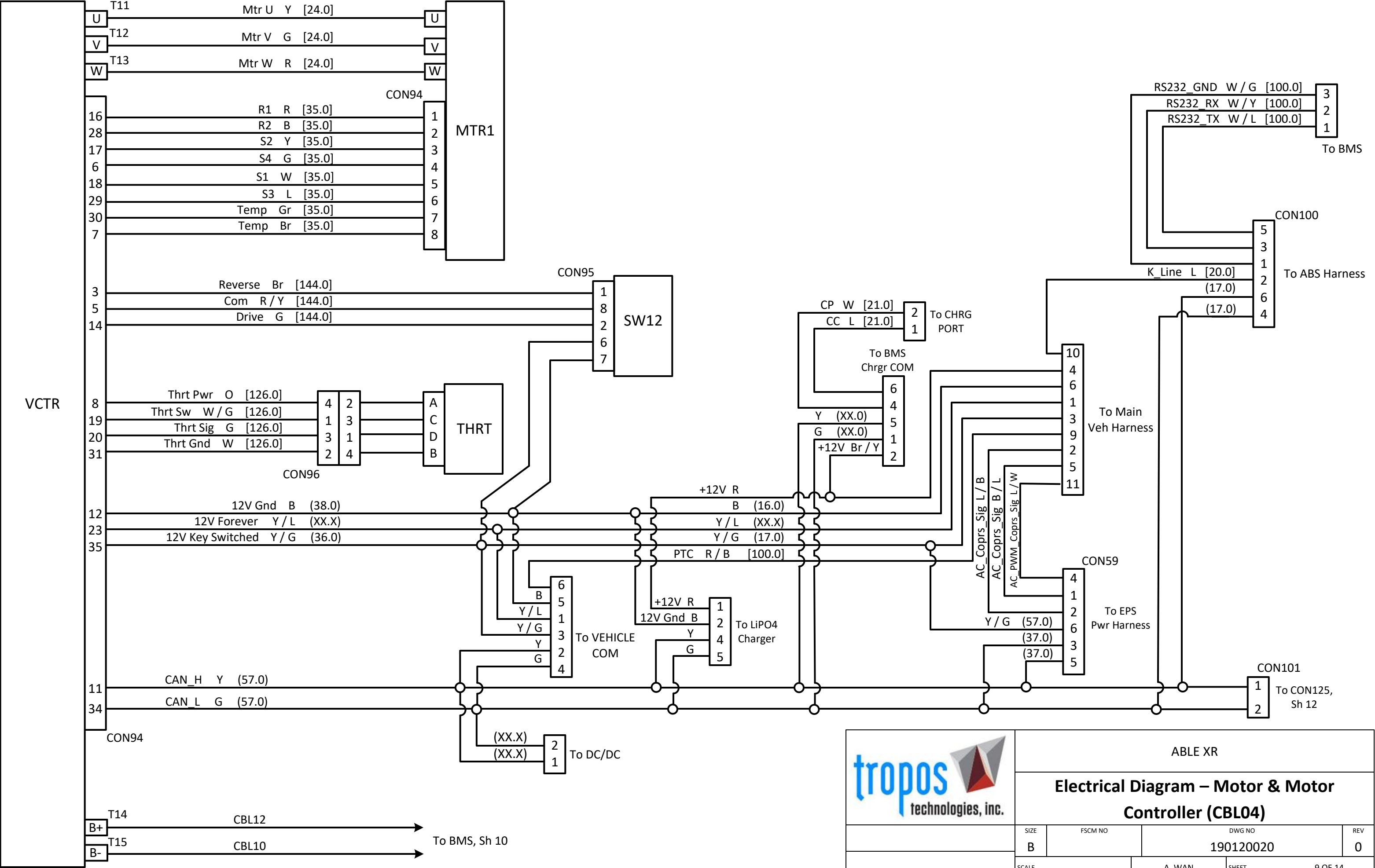


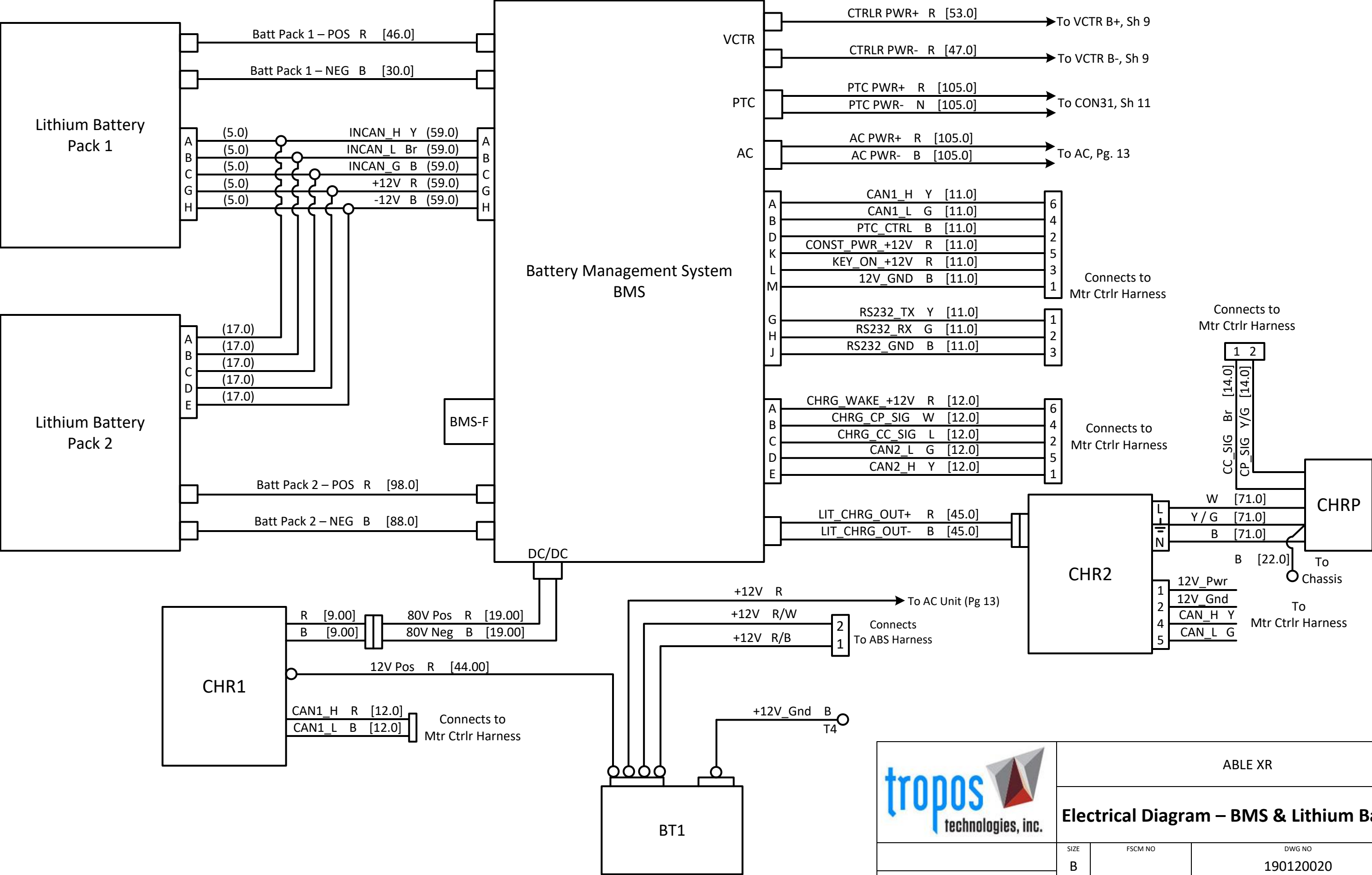
HAZARD LAMPS SWITCH (CBL01)

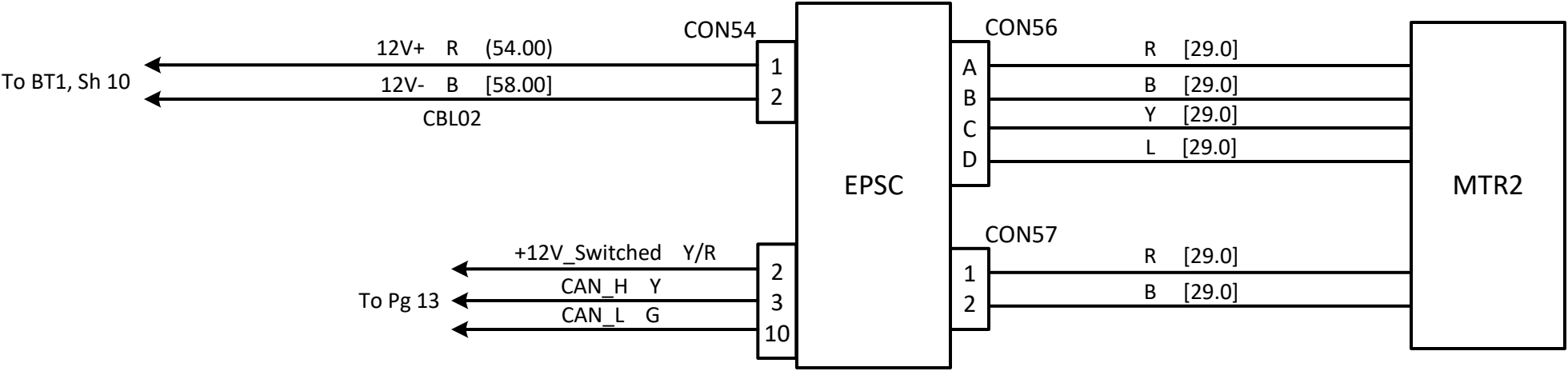


WIPER SWITCH & WINDSHIELD FLUID PUMP (CBL01)

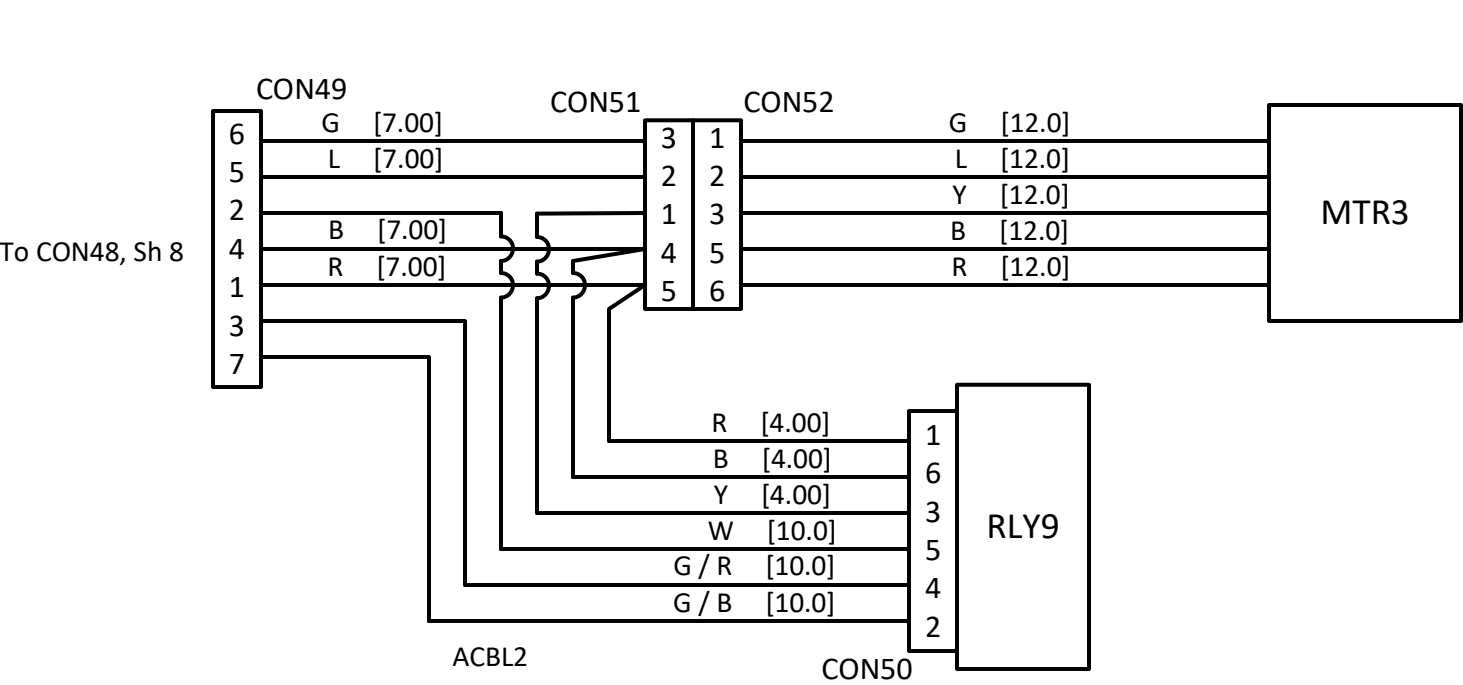
SW3 Connection List		
Function	Connector	Pins
FLUID PUMP	CON46	B2 to B3
SINGLE	CON46	B3 to B5
INTER	CON46	B1 to B3
LOW	CON46	B3 to B5
HIGH	CON46	B3 to B6



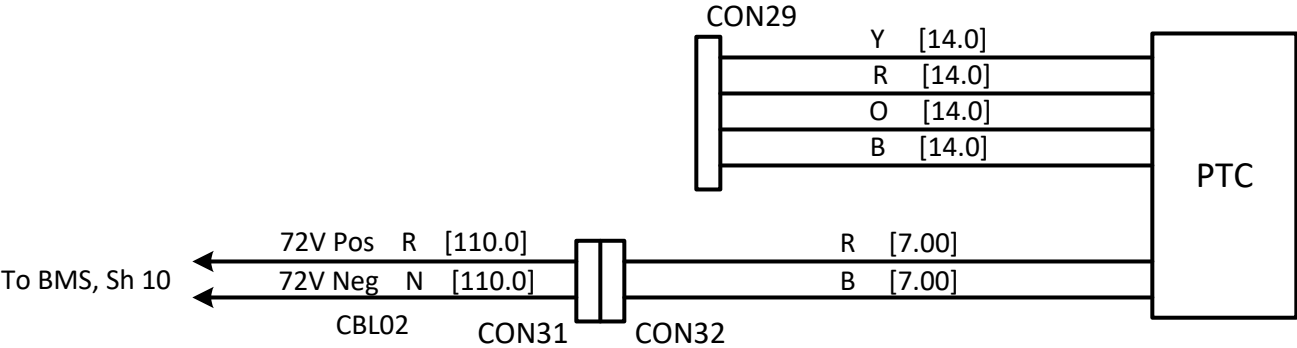




ELECTRIC POWER STEERING (EPS)

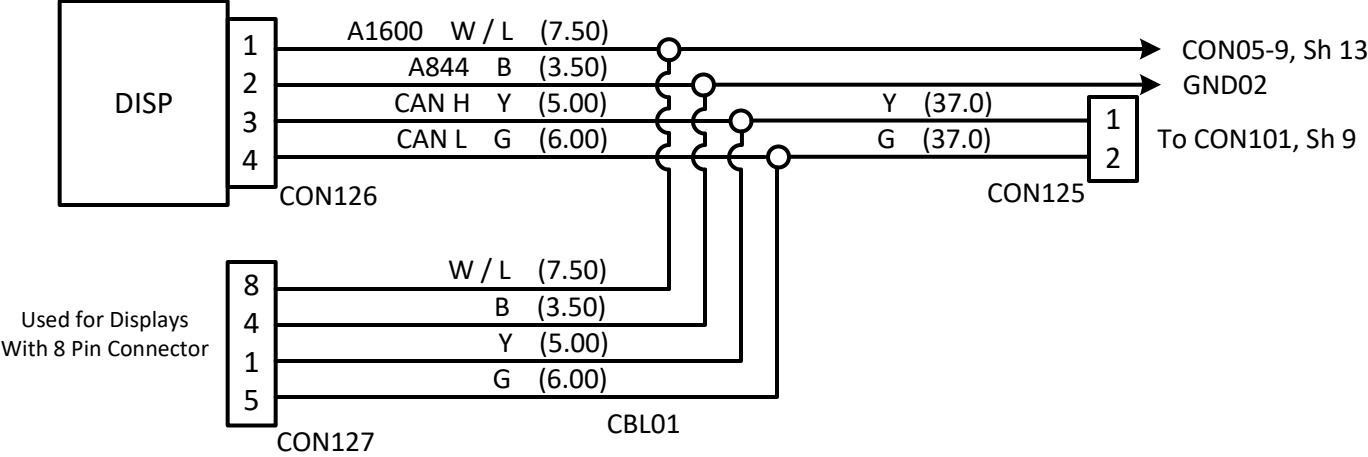


WIPER MOTOR & WIPER RELAY

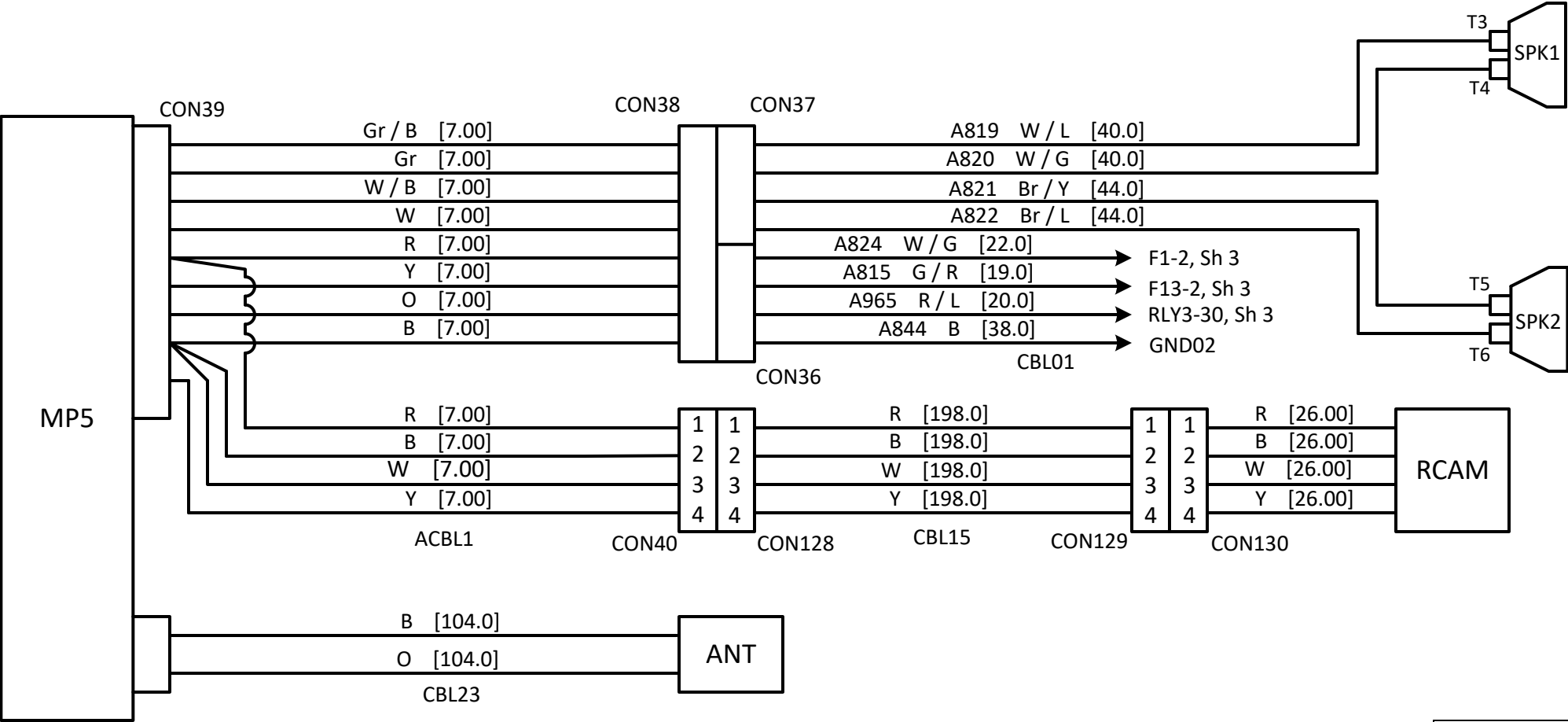


FAN/HEATER (PTC)

	ABLE XR			
	Electrical Diagram – EPS, Wiper Motor & Relay, PTC			
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	B		190120020	0
	SCALE	A. WAN	SHEET	11 OF 14



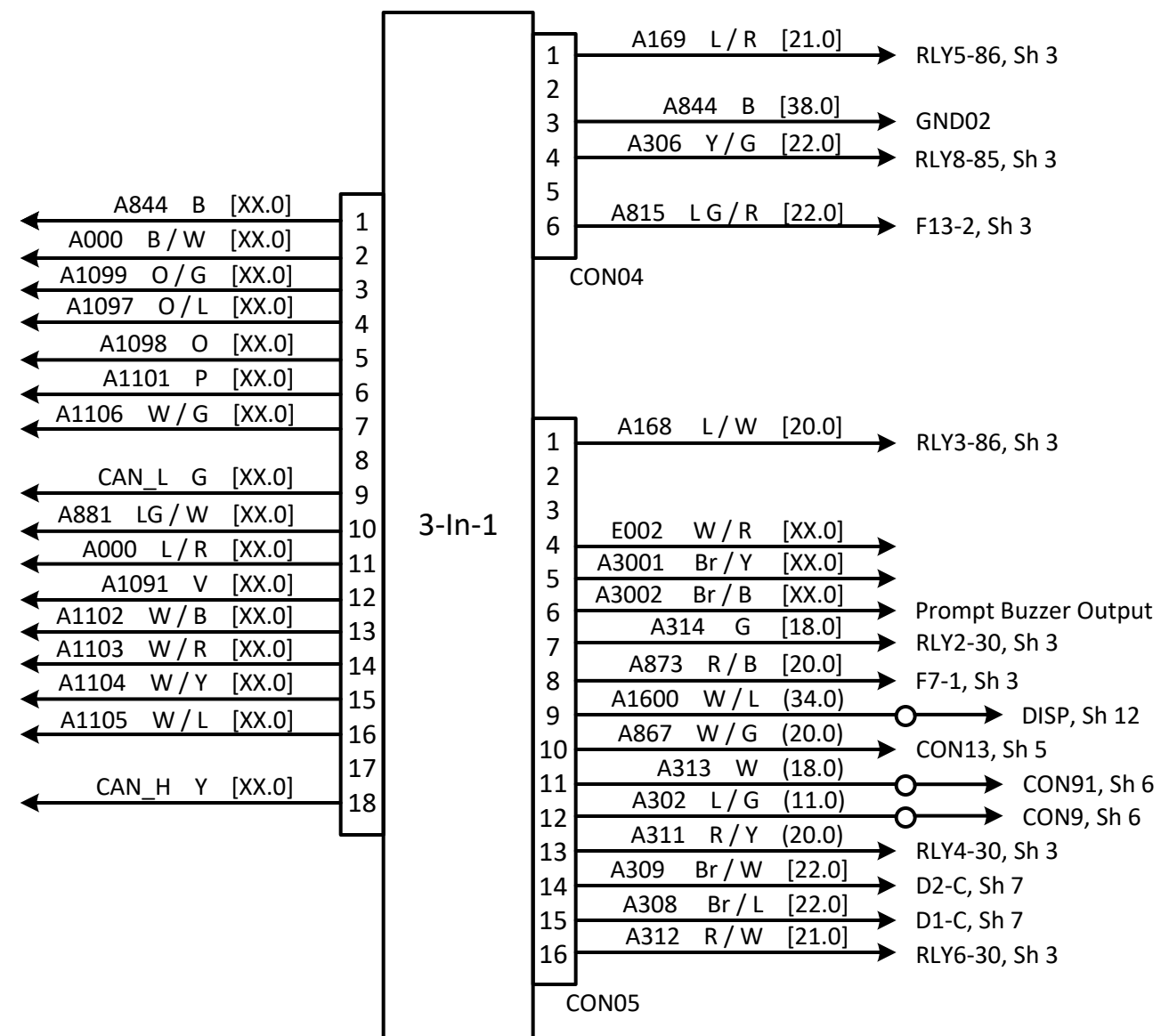
VEHICLE DISPLAY (DISP)



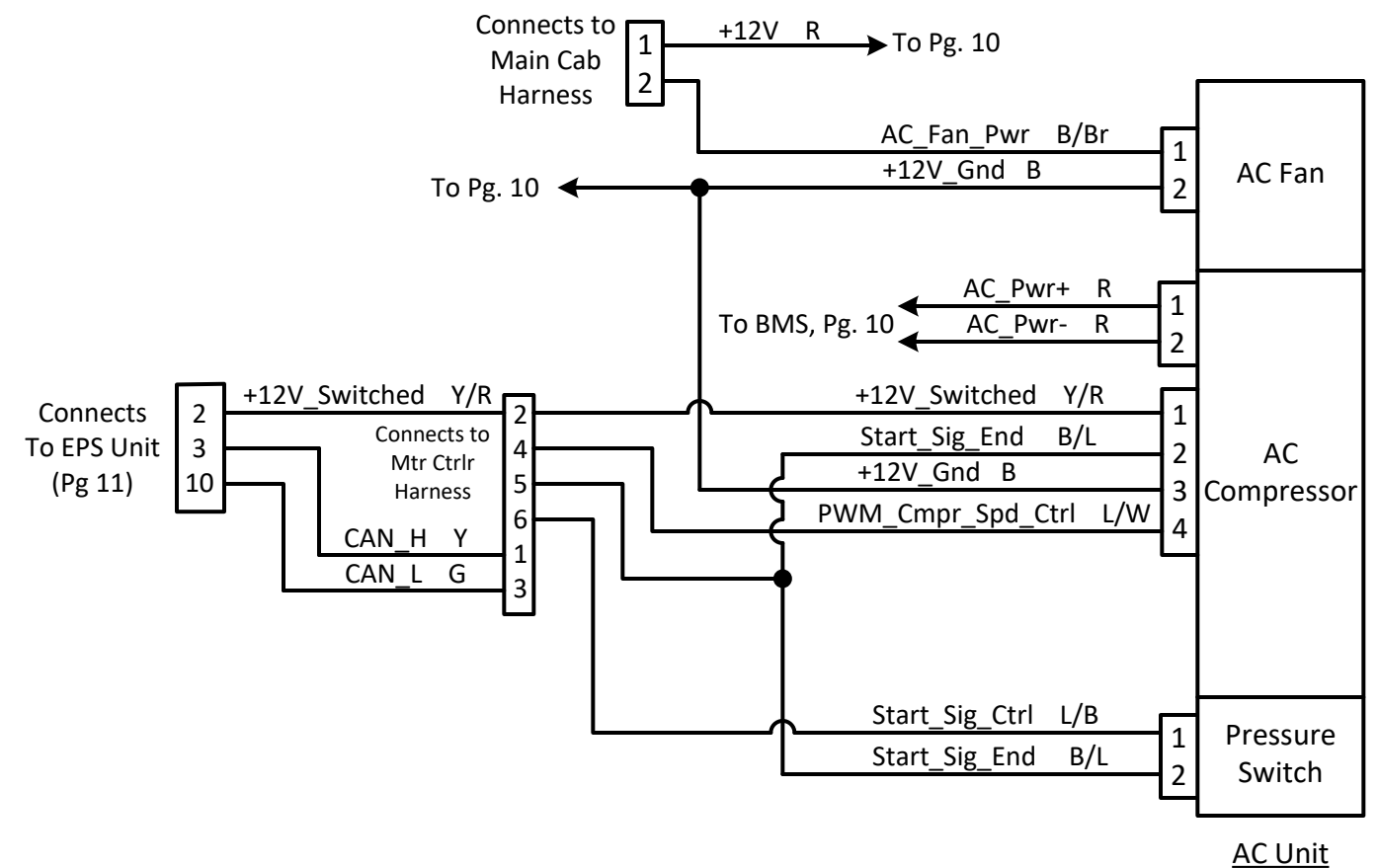
MEDIA PLAYER (MP5)



ABLE XR				
Electrical Diagram – Media Player, Vehicle Display				
SIZE	FSCM NO	DWG NO	REV	
B		190120020	0	
SCALE	A. WAN		SHEET	12 OF 14



3-In-1 Vehicle Module (CBL01)



	ABLE XR			
	Electrical Diagram – 3-in-1, AC Unit			
	SIZE B	FSCM NO	DWG NO 190120020	REV 0
	SCALE	A. WAN	SHEET	13 OF 14

