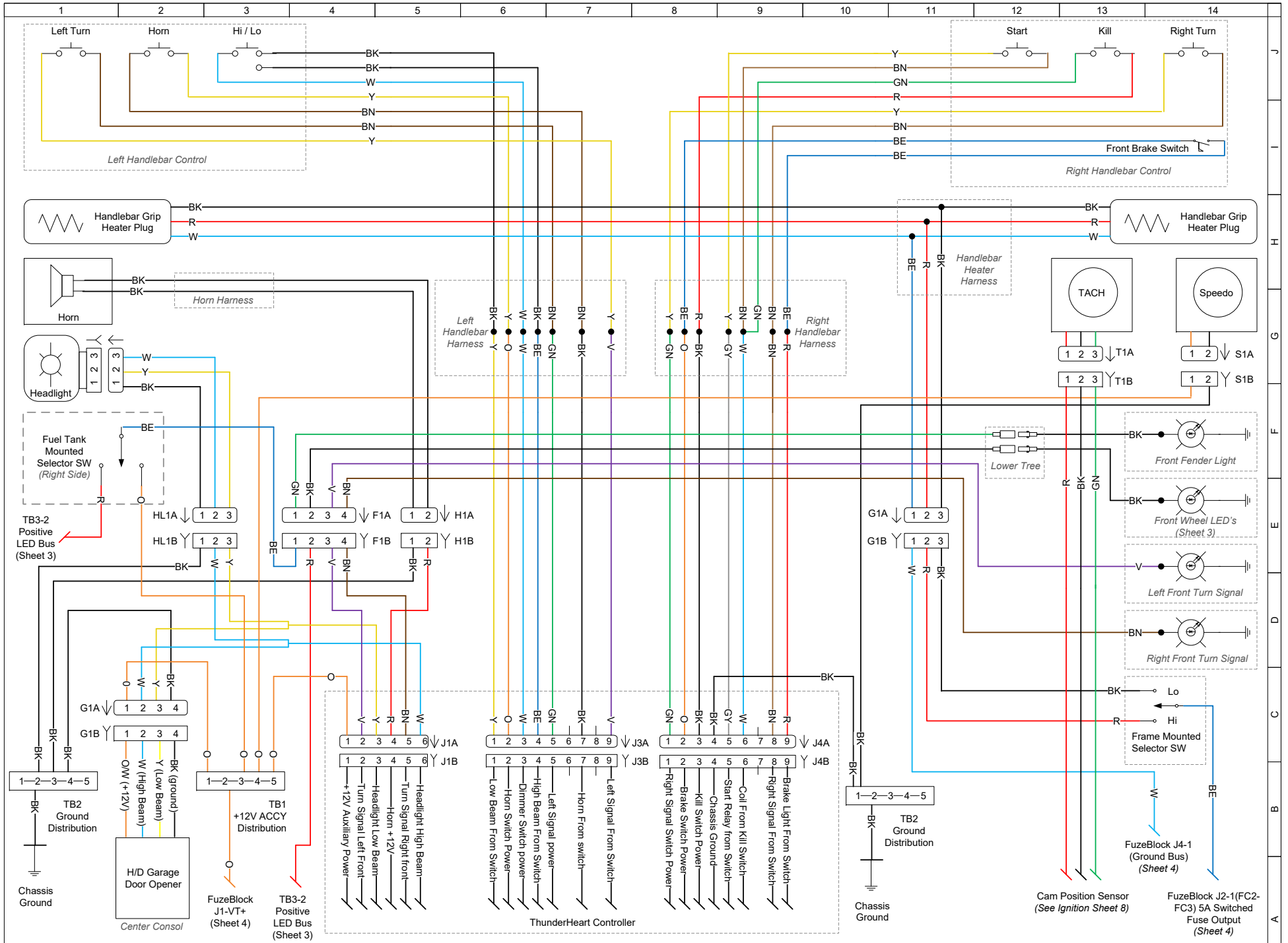
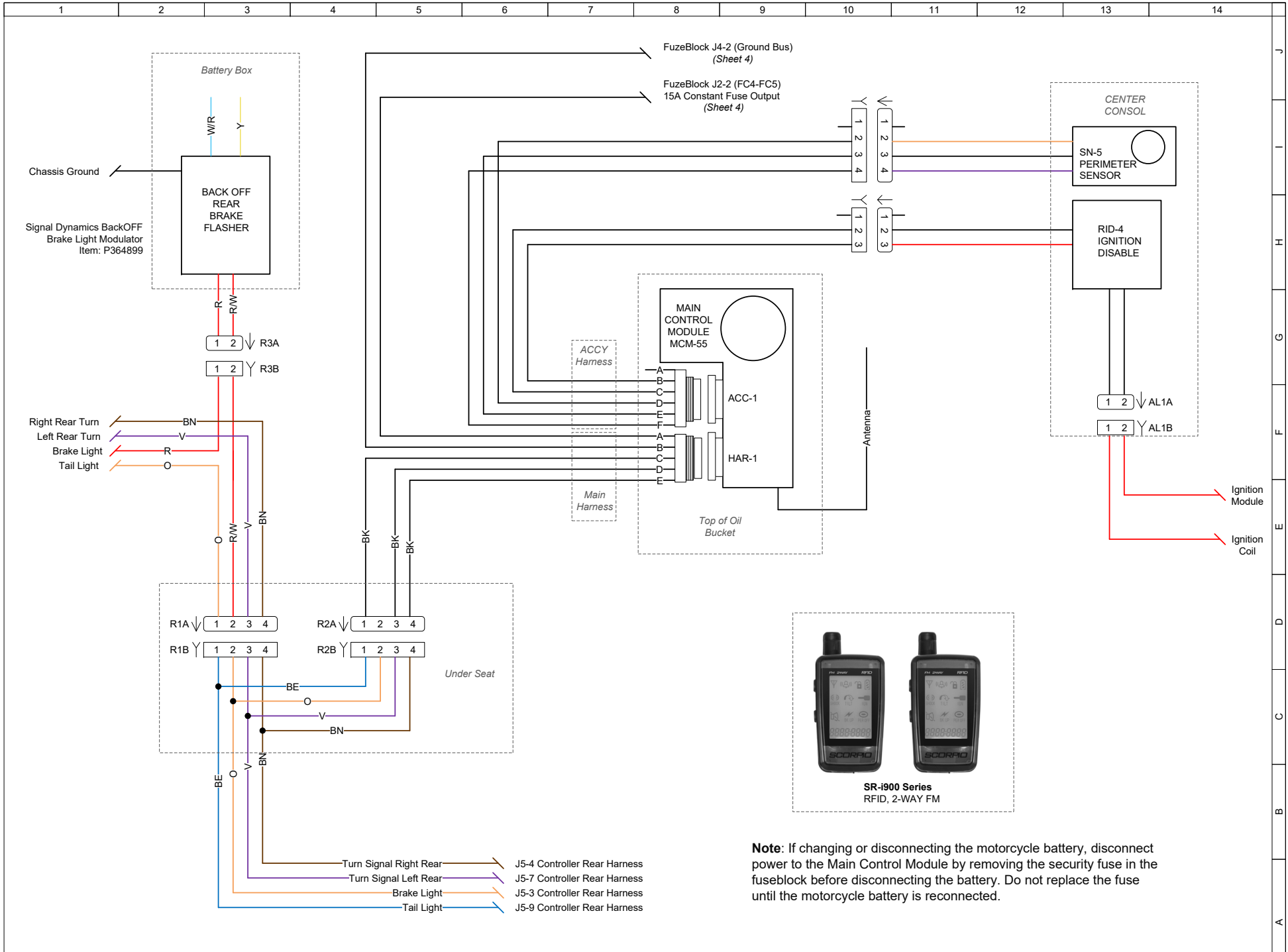


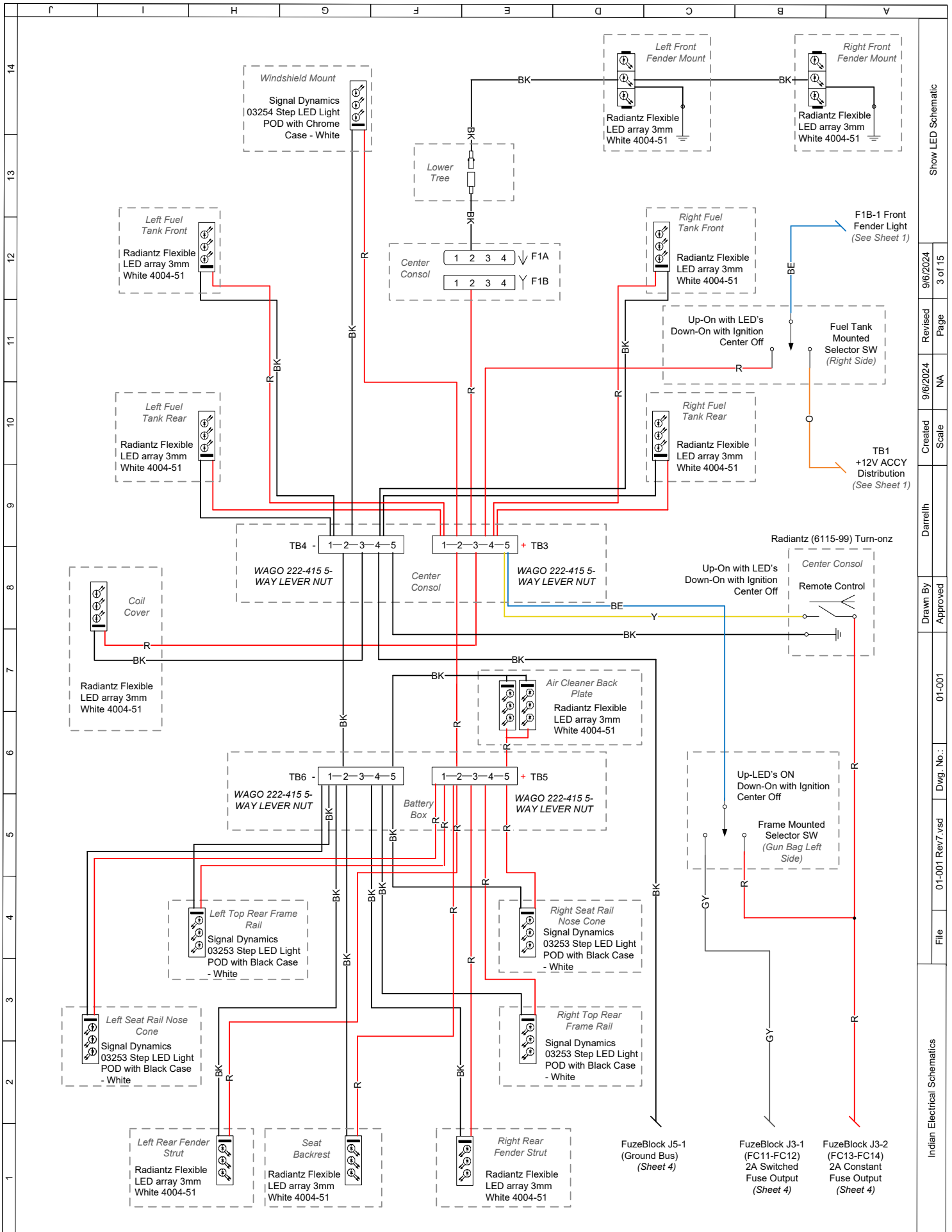
INDIAN DRAWING INDEX

Sheet No.	Title	Contents
1	Handlebar Control Schematic	Handlebar Electrical Schematic Garage Door Opener Heated Grips Show LED Selector Switches EHC Connections
2	Alarm System Schematic	Electrical Schematic RFID Pager
3	Show LED Schematic	Electrical Schematic LED Layout Component ID Remote Control
4	Fuse Block Distribution	Electrical Schematic Fuse Size & Placement Battery Tender
5	Thunder Heart Controller Layout	Electrical Component ID Status Indicators Connectors
6	Thunder Heart Controller Input/Output	Connector Input ID Connector Output ID
7	Start Relay	Electrical Schematic
8	Thunder Heart Controller Ignition	Electrical Schematic Ignition Module Trigger Plate Coil
9	Motogadget MoLock RFID	Electrical Schematic Status Indicators Ratings
10	1999-2001 Schematic	Electrical Schematic Status Indicators
11	EHC Rear Lighting Pinout	Electrical Schematic EHC Connector Pinout Component ID
12	EHC Front Lighting Pinout	Electrical Schematic EHC Connector Pinout Component ID
13	EHC Hand Control Pinout	Electrical Schematic EHC Connector Pinout
14	Handlebar Control Component ID	Component ID
15	Scout/Spirit Harness	Stock Harness Layout





Note: If changing or disconnecting the motorcycle battery, disconnect power to the Main Control Module by removing the security fuse in the fuseblock before disconnecting the battery. Do not replace the fuse until the motorcycle battery is reconnected.



Show LED Schematic

9/6/2024
Page 3 of 15

Revised
NA

Created
Scale

9/6/2024

Drawn By
Approved

Darrellh

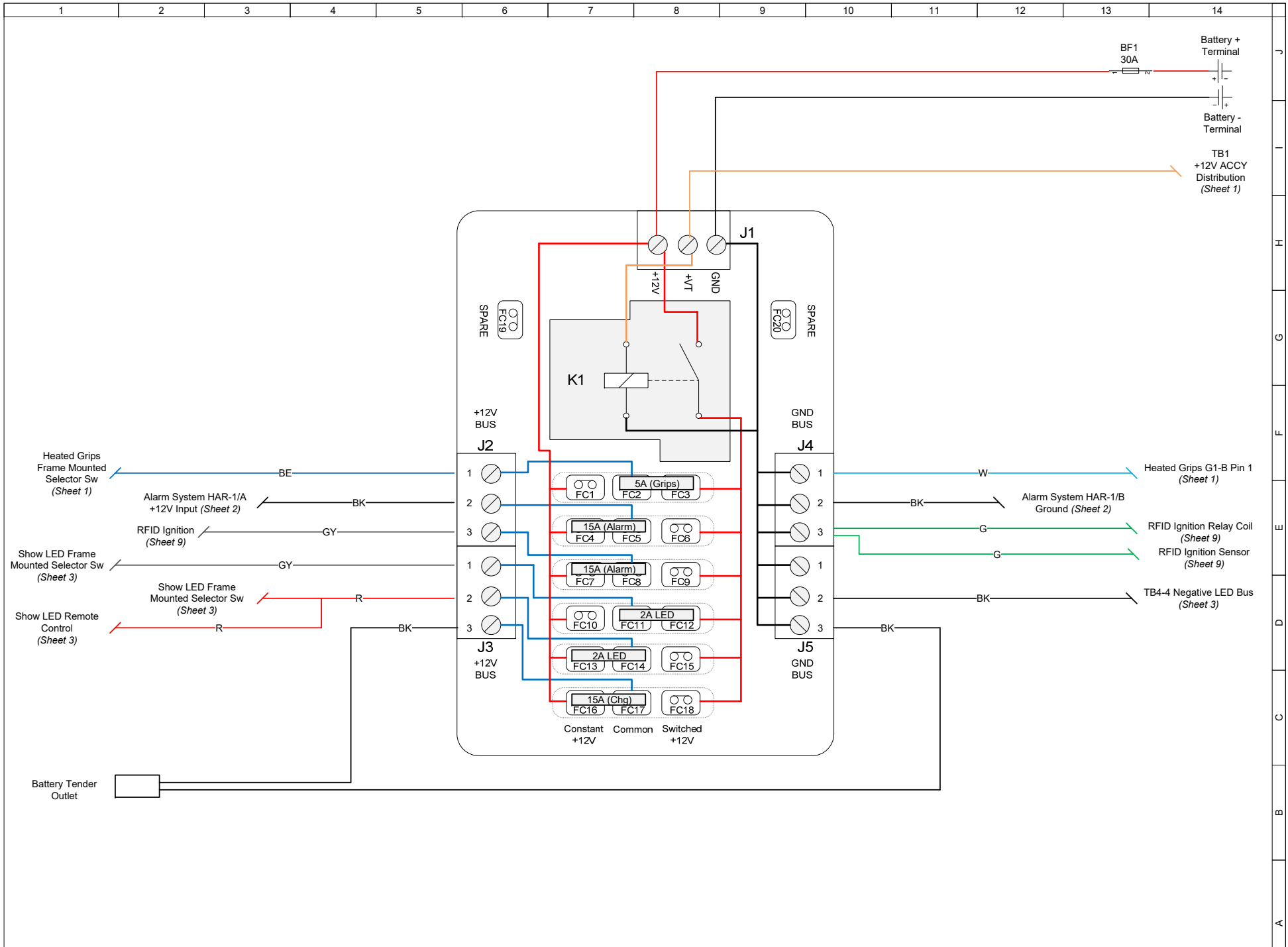
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Dwg. No.:

01-001 Rev7.vsd

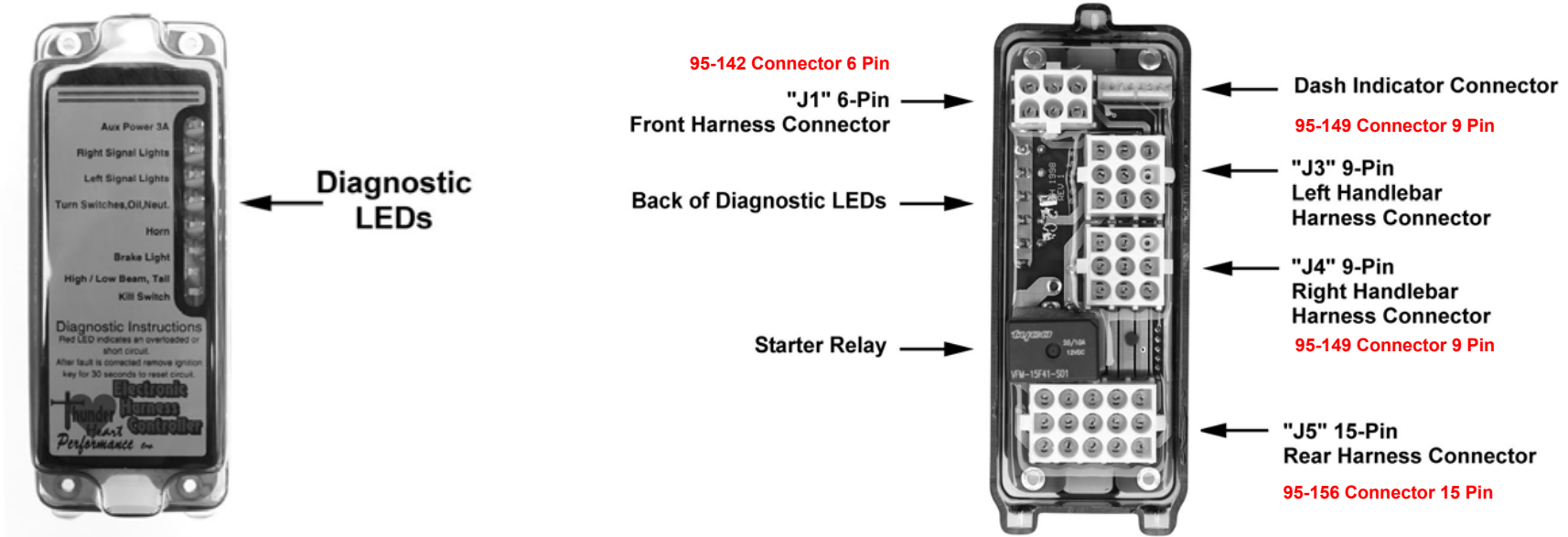
File

Indian Electrical Schematics



Indian Electrical Schematics	File	01-001 Rev7.vsd	Dwg. No.:	01-001	Drawn By	Darrellh	Created	9/6/2024	Revised	9/6/2024	Fuse Block Distribution
	Approved				Scale	None	Page	4 of 15			

Thunder Heart - EA4250D



The TH EA4250D controller works in conjunction with whatever spark timing system you have, whether points, Ignition Control Module or later Engine Control Module. In any case, the TH unit does not control the spark creation or timing but rather simply controls the power to the coil (and ignition module) in order to allow or prevent the engine from running.

DIAGNOSTICS

- KILL SWITCH
- HIGH / LOW, TAIL
- BRAKE LIGHT
- HORN
- TURN SW, OIL, NEUT
- LEFT SIG LIGHTS
- RIGHT SIG LIGHTS
- AUX POWER 3A

When the bike is first powered up, check the diagnostic LEDs on the label side of the EHC. If any of the LEDs are illuminated, the circuit whose label is next to the LED is either shorted to ground, or overloaded.

Always turn the power off after an LED has been activated to reset the protection circuit.

The ASM4250D does not flash the turn signals when the brakes are applied. It can be installed on bikes with and without a center taillight.

Thunderheart EA4250D Electronic Harness Controller

(Pre-1996 wire colors are used throughout)

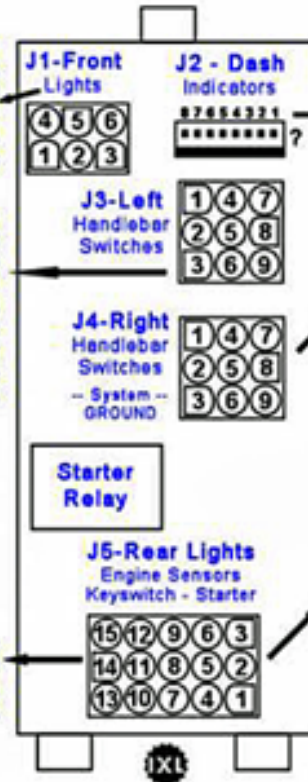
- (Wire: RED) Aux Power - 3A Available Out - 1
- (VIOLET) Power to Lt Frt TS Unit* (Note4). Out - 2
- (YELLOW) Power to LoBeam Headlamp* ... Out - 3
- (YELLOW/black) Power to Horn* Out - 4
- (BROWN) Power to Lt Frt TS Unit* (Note4). Out - 6
- (WHITE) Power to HiBeam Headlamp* ... Out - 6

- (Wire: YELLOW) LowBeam from HiLo Switch - Return - 1
- (ORANGE) Power to Horn Button Out - 2
- (BLUE) Power to HiLo Beam Switch Out - 3
- (WHITE) HiBeam from HiLo Switch ---- Return - 4
- (GREEN) Power to Lt TS Switch Out - 5
- Not Used - Plugged ----- - 6
- (BLACK) From Horn Button Return - 7
- Not Used - Plugged ----- - 8
- (VIOLET) From Lt TS Switch Return - 9

Typical wire gauge is 18 AWG.

Only the lines listed below
require 12 AWG wire!

- (Wire: GREEN) Power to Starter/Solenoid Out - 12
- (BLACK) Power from the Battery +12v In - 13
- (RED) Power to Ignition Keyswitch ... Out - 14
- (RED/black) From Ignition Keyswitch ---- Return - 15



- 1 - Out - Positive for Rt TS Flash (BROWN wire)
- 2 - Out - Positive for HiBeam Headlight (RED)
- 3 - Out - +12v for Oil Pressure Light (ORANGE)
- 4 - Out - +12v for Neutral Sw Light (YELLOW)
- 5 - Out - Grounded when Neutral Trans (GREEN)
- 6 - Out - Positive for Lt TS Flash (BLACK)
- 7 - Out - Grounded when No Oil Pressure ... (BLUE)
- 8 - Comm Ground for both TS & HiBeam (VIOLET)

- 1 - Out - Power to Rt TS Switch (GREEN wire)
- 2 - Out - Power to Frt Brake Switch .. (ORANGE)
- 3 - Out - Power to KILL Switch (GREY)
- 4 - In --- System Ground (Batt/Frame) . (BLACK)
- 6 - In --- From START Button (Note1) .. (BLACK)
- 6 - Return - From KILL Switch (Note1) . (WHITE)
- 7 - ----- Not Used - Plugged
- 8 - Return - From Rt TS Switch (BROWN)
- 9 - Return - From Frt Brake Switch (RED)

- 1 - Out - Aux Power - 3A available (RED wire)
- 2 - Out - Power to Horn* (YELLOW/black)
- 3 - Out - Power to Brake Light* (RED/yellow)
- 4 - Out - Power to Rr Rt Turn Signal* .. (BROWN)
- 6 - Return - From Rr Brake Switch (RED/blue)
- 6 - OUT - Power to COIL (Note2) (WHITE/black)
- 7 - OUT - Power to Rr Lt Turn Signal* .. (VIOLET)
- 8 - Out - Power to Rr Brake Switch (ORANGE)
- 9 - Out - Power to Taillight (Note3) (BLUE)
- 10 - In --- From Neutral Switch* (YELLOW)
- 11 - In --- From Oil Switch* (GREEN)

* These switches or lights must be grounded on their other connection.

Note(1): The KILL Switch may be a momentary, normally-closed, switch or it may be a two position switch providing ON-OFF functions (like a rocker or toggle switch). It gets power from the TH unit from J4-Pin3 (GREY wire). It MUST provide power to the TH unit on J4-Pin6 (WHITE) when not pressed and prevent power there when it is pressed. (Also see Note(2)) That WHITE wire must also be connected to one side of the START Button.

The START Button (a momentary, normally-open switch) output MUST NOT send power unless it is pressed. When pressed, it returns power to the TH unit at J4-Pin5 (BLACK) to activate the internal STARTER Relay.

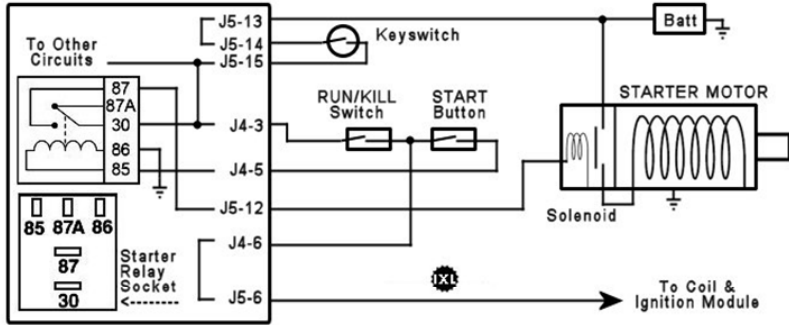
When activated, the internal STARTER Relay sends high current power to the Starter/Solenoid using J5-Pin12 (GREEN).

Note(2): Power from the KILL Switch (WHITE wire) comes into the TH on J4-Pin6 and feeds power to the J5-Pin6. The WHITE/black wire of J5-Pin6 then feeds power to the Ignition COIL. But, the coil trigger signal (connected to the other side of the coil) MUST come from the ignition points or an electronic timing module.

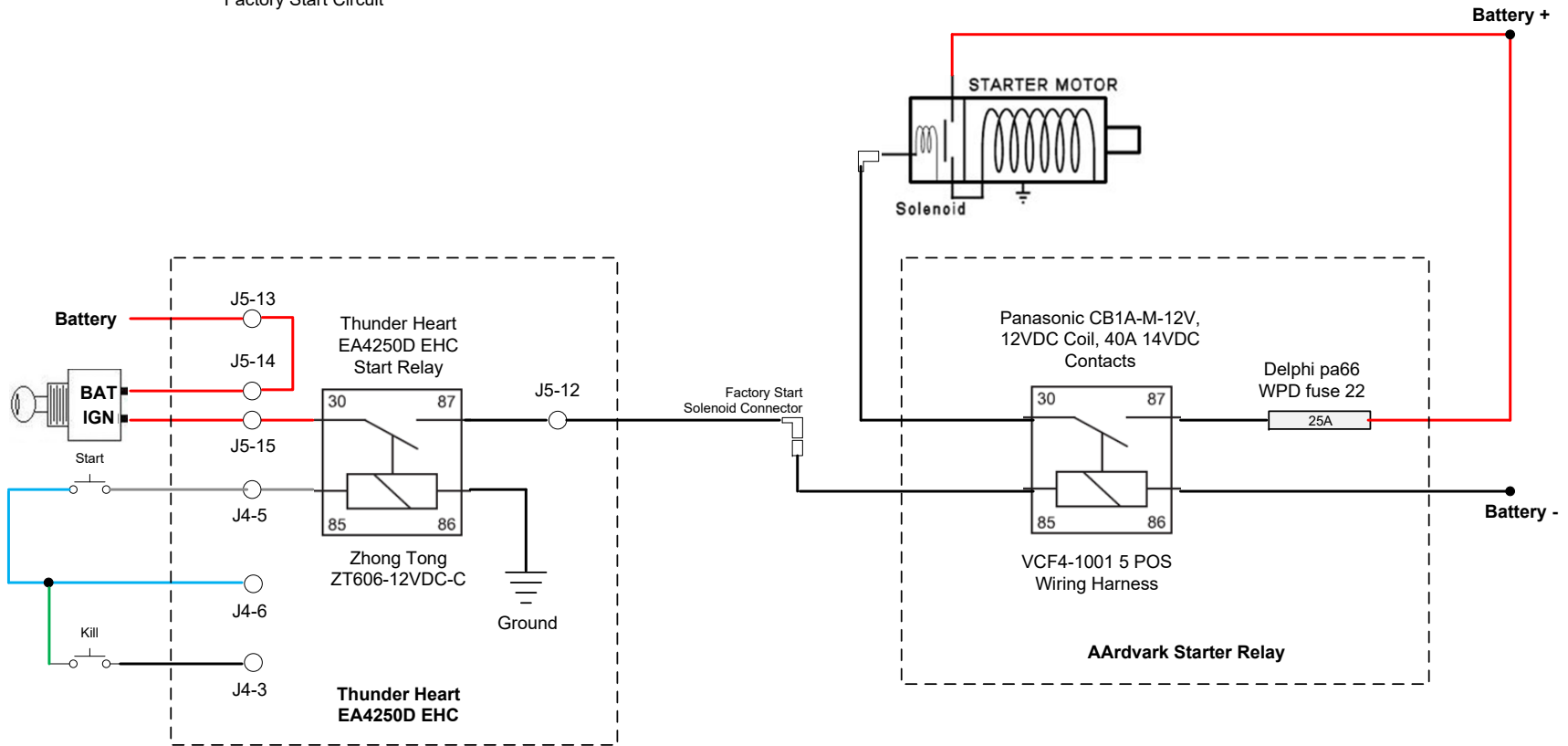
Note(3): The taillight power can be used for a center tail light or for the dim element of Turn Signal units that use an 1157 bulb or can be used to power both center & TS running lights.

Note(4): If you have dual-element front TS units, you may make them running lights by providing power to the dim element of the 1157 bulbs using the AUX Power from J1-Pin1 or you may run a separate wire to feed power from J5-Pin9.

Thunderheart EA4250D Switches & Ignition Circuit



Factory Start Circuit

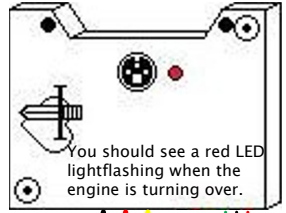


The TH EA4250D controller works in conjunction with whatever spark timing system you have, whether points, Ignition Control Module or later Engine Control Module. In any case, the TH unit does not control the spark creation or timing but rather simply controls the power to the coil (and ignition module) in order to allow or prevent the engine from running.



Thunder Heart - EA4250D
Connector J5, Pin 6

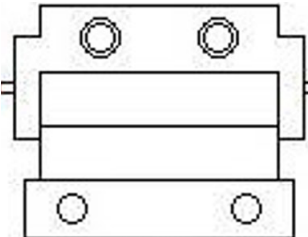
+12V power from the Thunder Heart EA4250D J5-6 coil power wire.



Indian Motorcycle 2001 Scout/
Spirit Ignition Module, 94-032
(Thunderheart ASM5000B-IS)

You should see a red LED lightflashing when the engine is turning over.

The ignition module receives its power from the coil power wire.

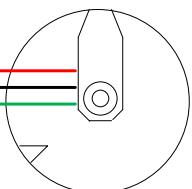


Indian Dual Fire 95-379 OEM Coil
This is the original equipment dual fire ignition coil for 1999-2003 Indians (all). The coils are black instead of red.

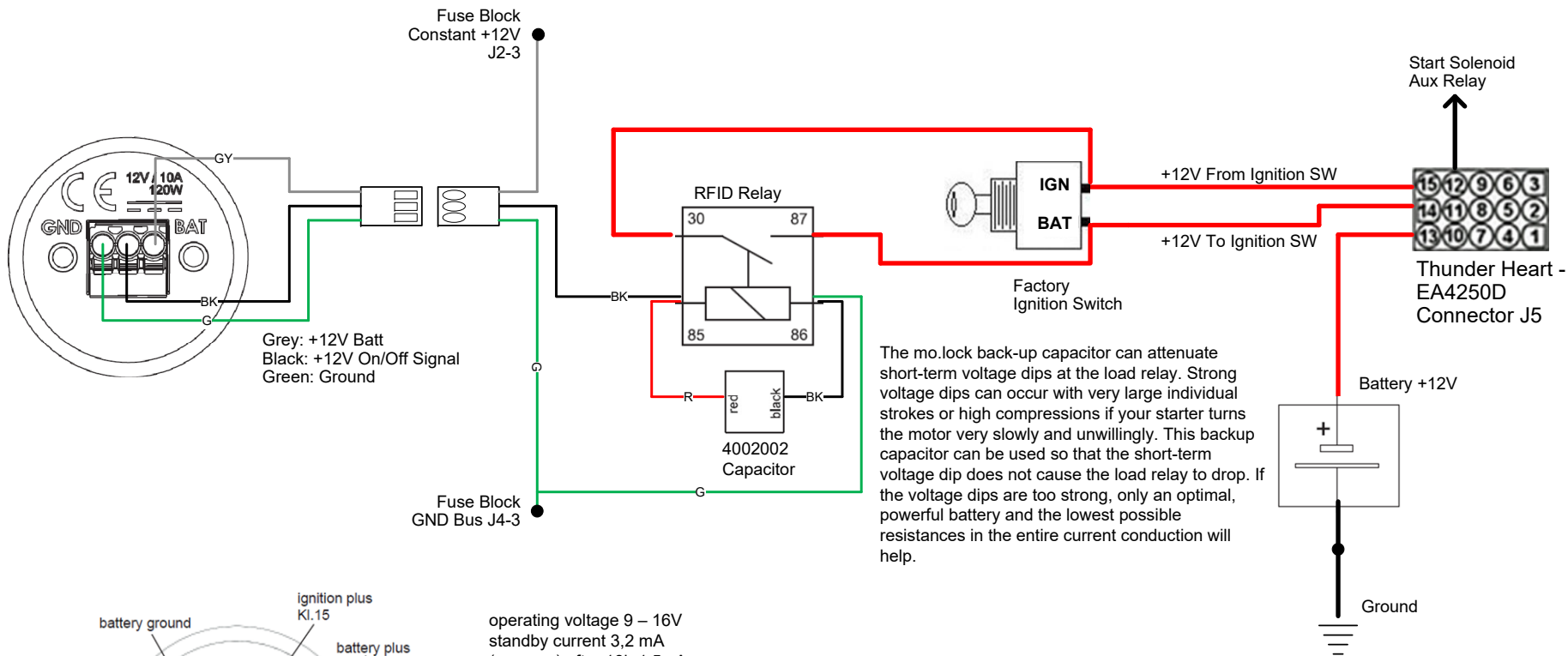


Indian Motorcycle Scout/Spirit
Tachometer, 56-055
1999 to 2001 Chief, 2001 to 2003
Scout/Spirit

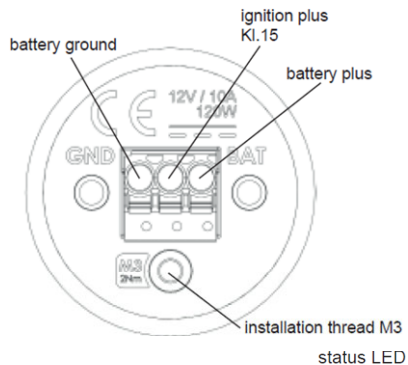
Red - Signal Wire
Black - +12V
Green - Ground



Trigger Plate (CAM Position
Sensor) - Scout
Ignition Trigger Plate. Fits all S&S-
equipped Indians (2000-'01 all, '02-'03
Scout and Spirit)
Indian Part # 94-150
Thunderheart Part# RSE5020-200C

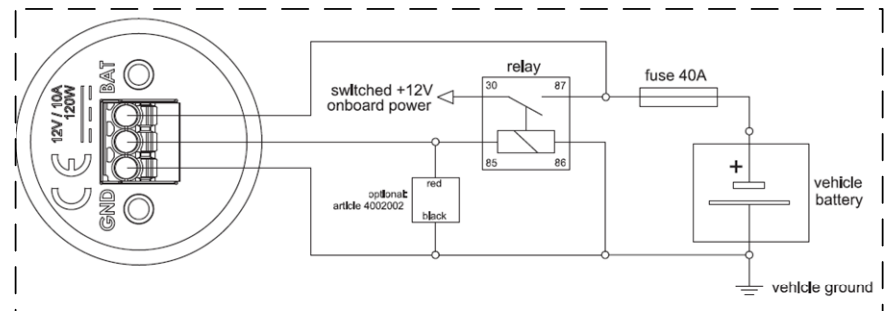
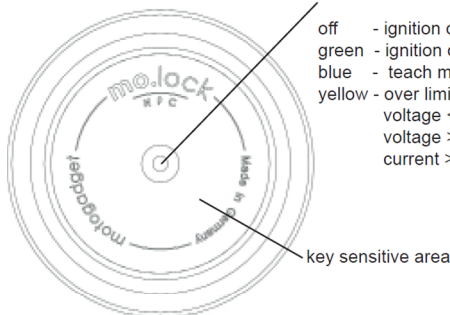


The mo.lock back-up capacitor can attenuate short-term voltage dips at the load relay. Strong voltage dips can occur with very large individual strokes or high compressions if your starter turns the motor very slowly and unwillingly. This backup capacitor can be used so that the short-term voltage dip does not cause the load relay to drop. If the voltage dips are too strong, only an optimal, powerful battery and the lowest possible resistances in the entire current conduction will help.



operating voltage 9 – 16V
standby current 3,2 mA
(average) after 16h 1,5mA
after 8 days 0,75mA
switching current 7A (continuous), maximum 10A for 10s
operating temperature -20... + 80°C
switching distance Teardrop Key (20 – 40mm)
weight ca. 40 g
mounting thread 1 x M3

Relay:
Zhong Tong ZT603-12VDC-A
Coil: 12VDC
Contacts: 40A 14VDC



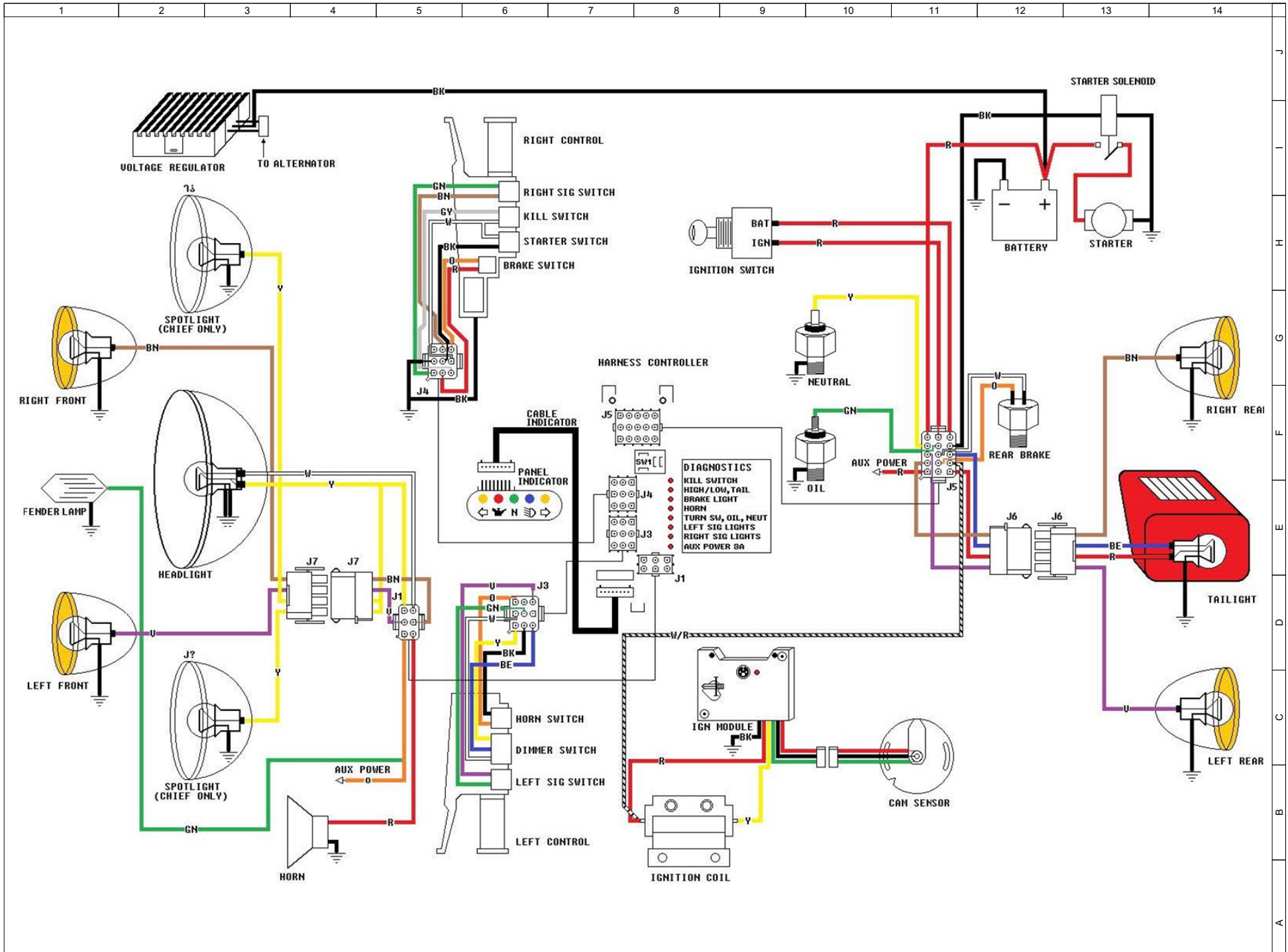
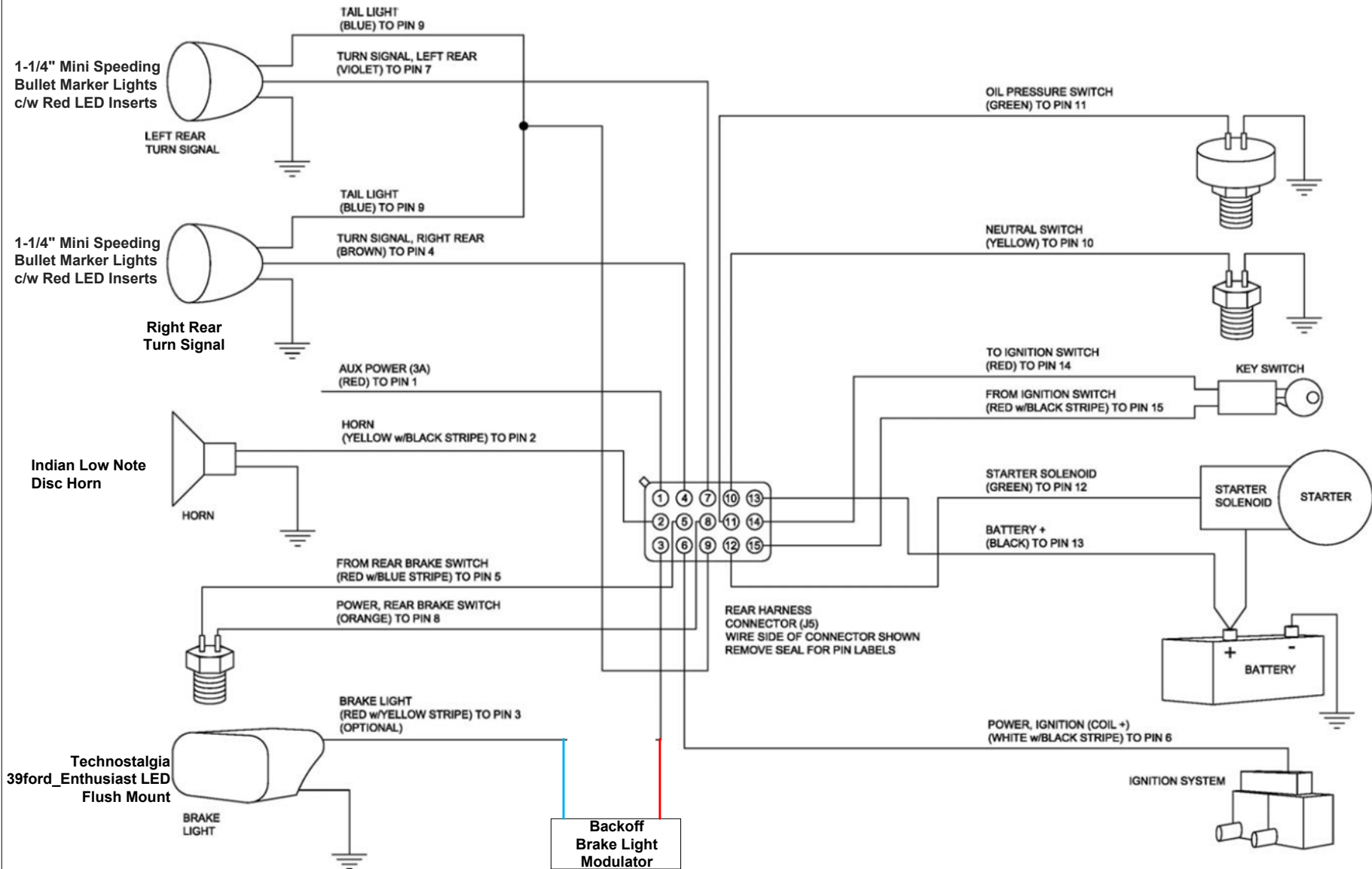


Figure 22—Rear Harness Wiring Diagram, Turn as Brake and Tail Lights (ASM4250D ONLY)
 “Wire Side” of Connector Shown



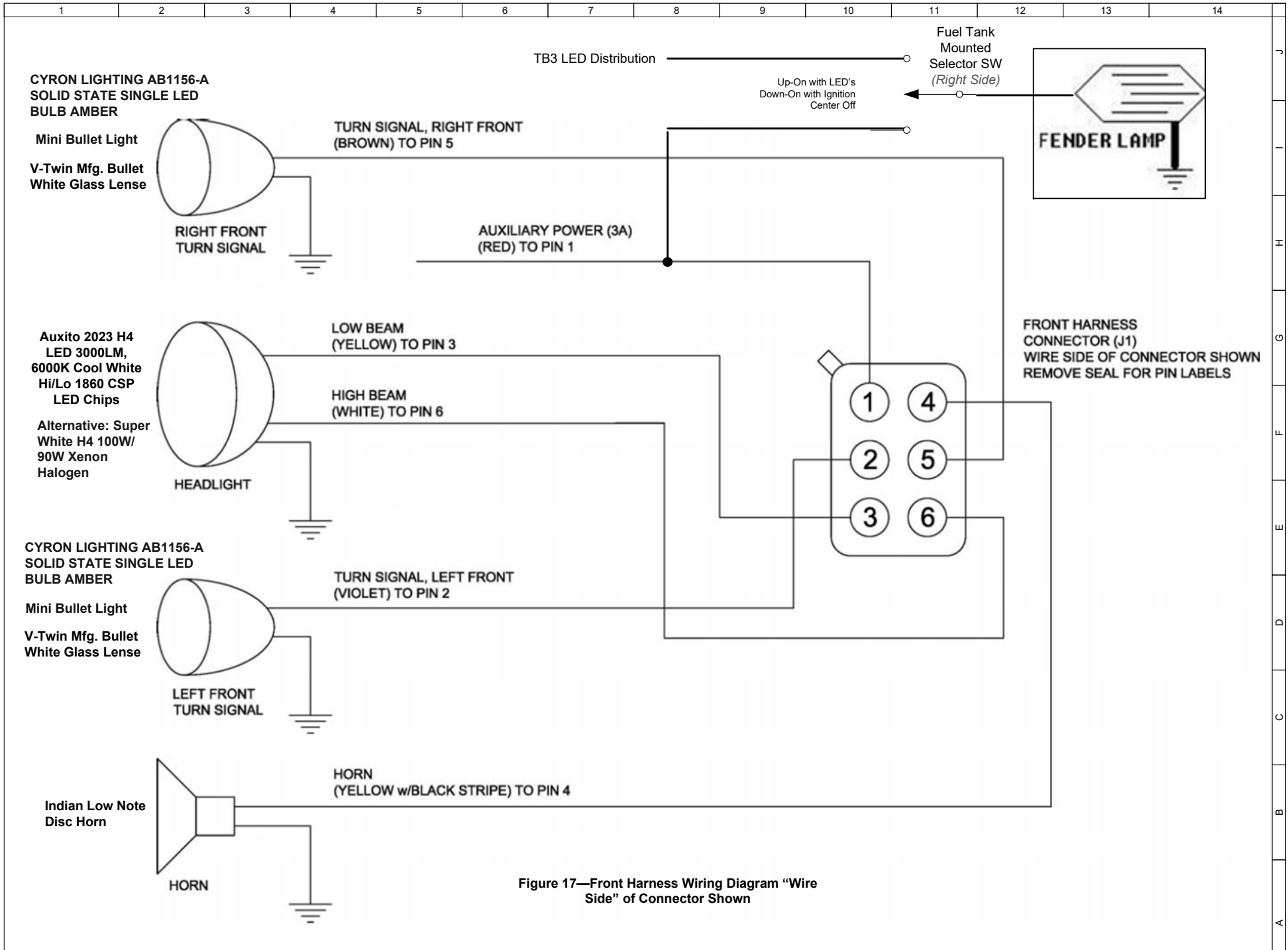
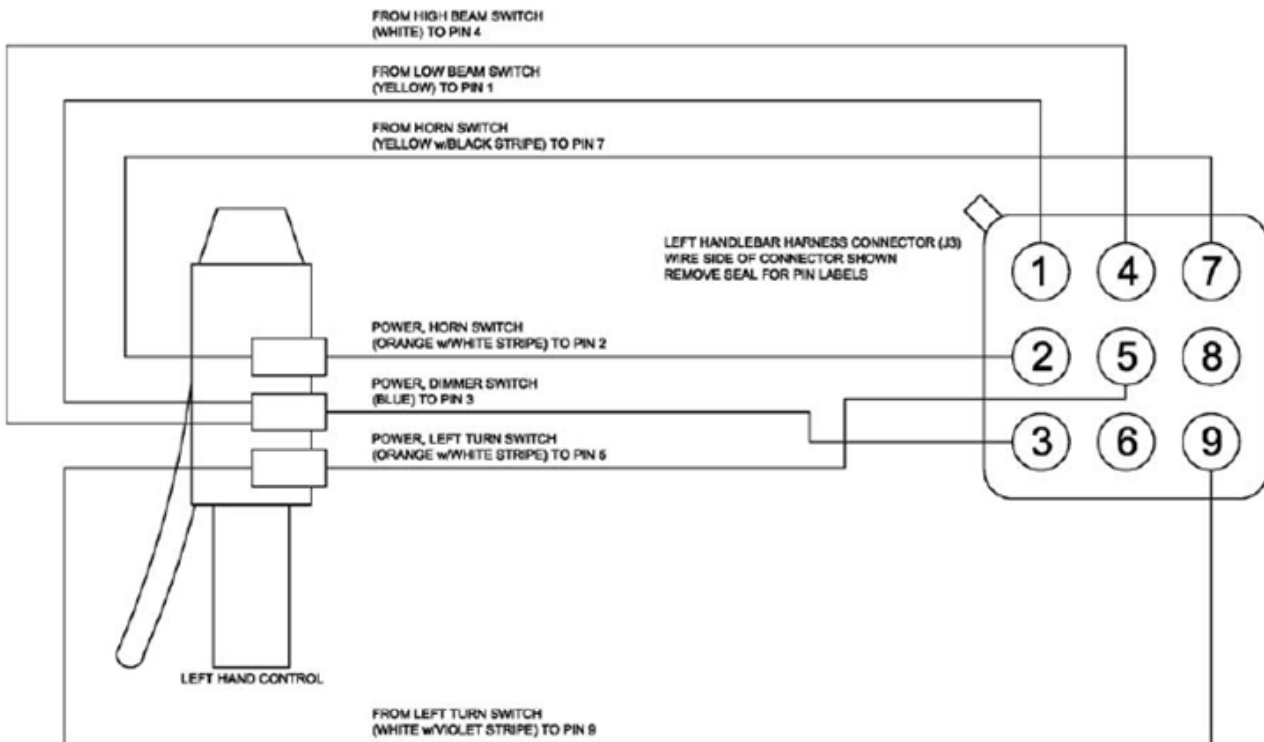
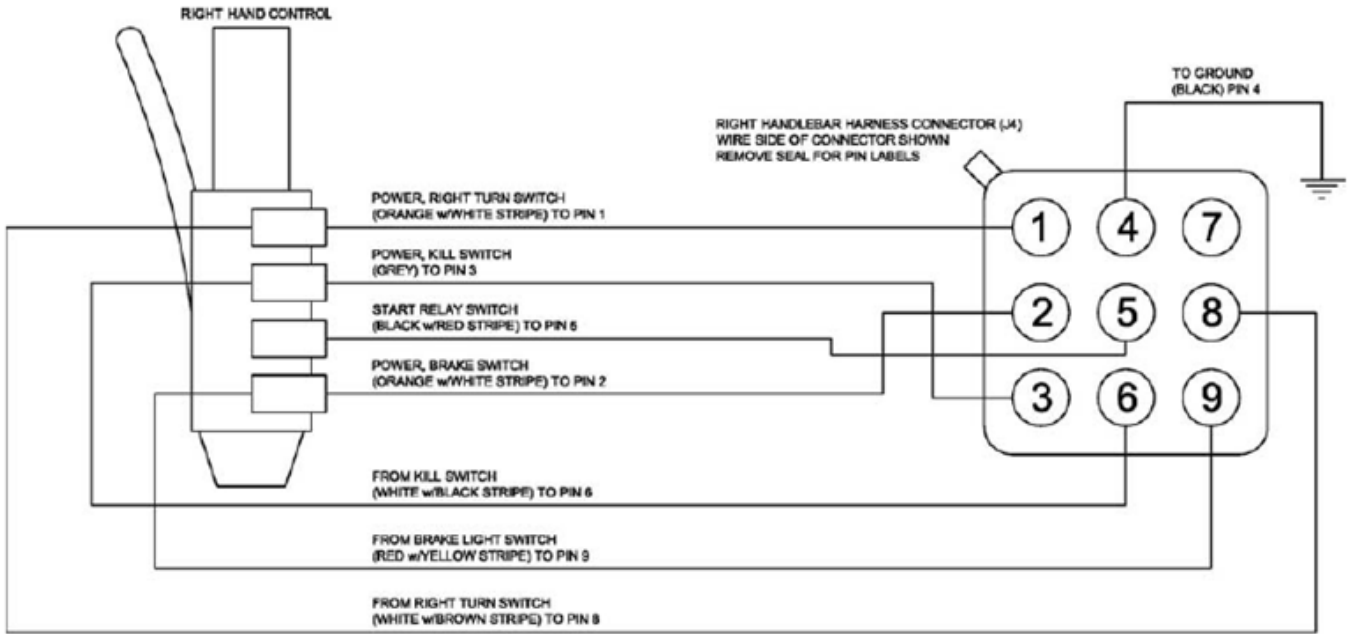
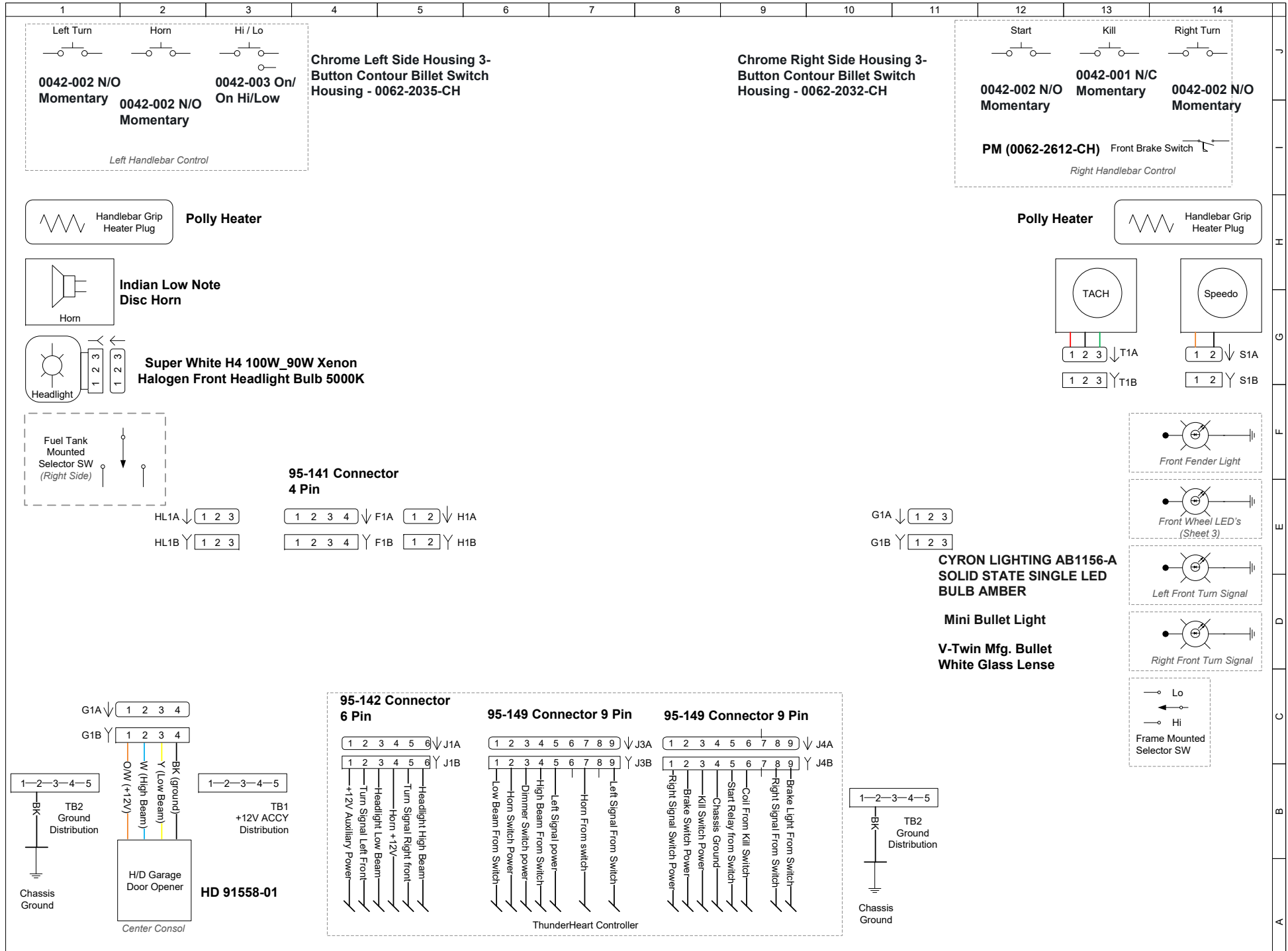


Figure 17—Front Harness Wiring Diagram “Wire Side” of Connector Shown

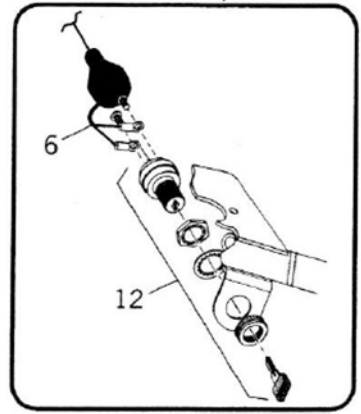
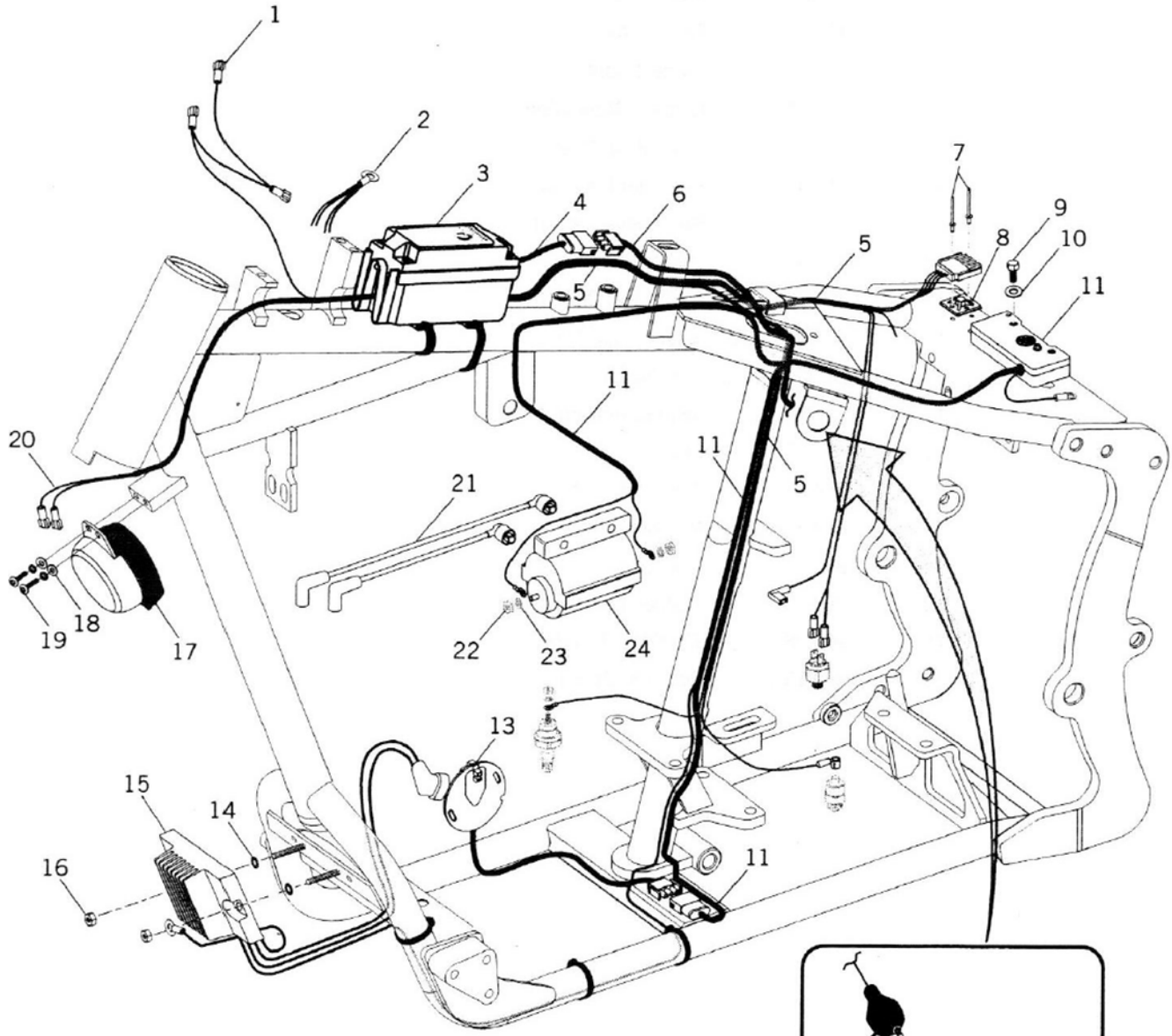
Figure 20—1996-2003 Hand Control Wiring Diagram (Full Diagnostics)
 “Wire Side” of Connector Shown



14
13
12
11
10
9
8
7
6
5
4
3
2
1



	J	I	H	G	F	E	D	C	B	V	
1	94-023	Harness, auxiliary wiring		10	96-916	Washer, flat, 1/4" A.N.		20	94-078	Harness, horn	
2	94-195	4-way ground		11	94-032	Module, ignition		21	94-085	Plug wire set, black	
3	94-076	Harness controller		12	94-255	Switch, ignition		22	96-854	Nut, hex, #10	
4	94-256	Harness, ignition switch adaptor		13	94-150	Trigger plate		23	96-901	Washer, lock, #10	
5	94-031	Harness, main		14	96-906	Washer, star, 1/4"		24	95-379	Coil, ignition	
6	94-072	Harness, ignition switch		15	94-034	Regulator/rectifier		25	99-123	TXIndianRiders.com	
7	96-989	Rivet, 1/8" x 1/4"		16	96-857	Nut, 1/4"-20 hex					
8	96-620	Mount, zip tie		17	94-066	Horn					
9	97-099	Bolt, hex, 1/4"-20 x 1 1/4"		18	96-927	Washer, flat, 1/4", chrome					
				19	96-806	BHSCS, 1/4"-20 x 3/4", chrome					



Updated switch used on '02 models.
Must purchase 4, 6 & 12.