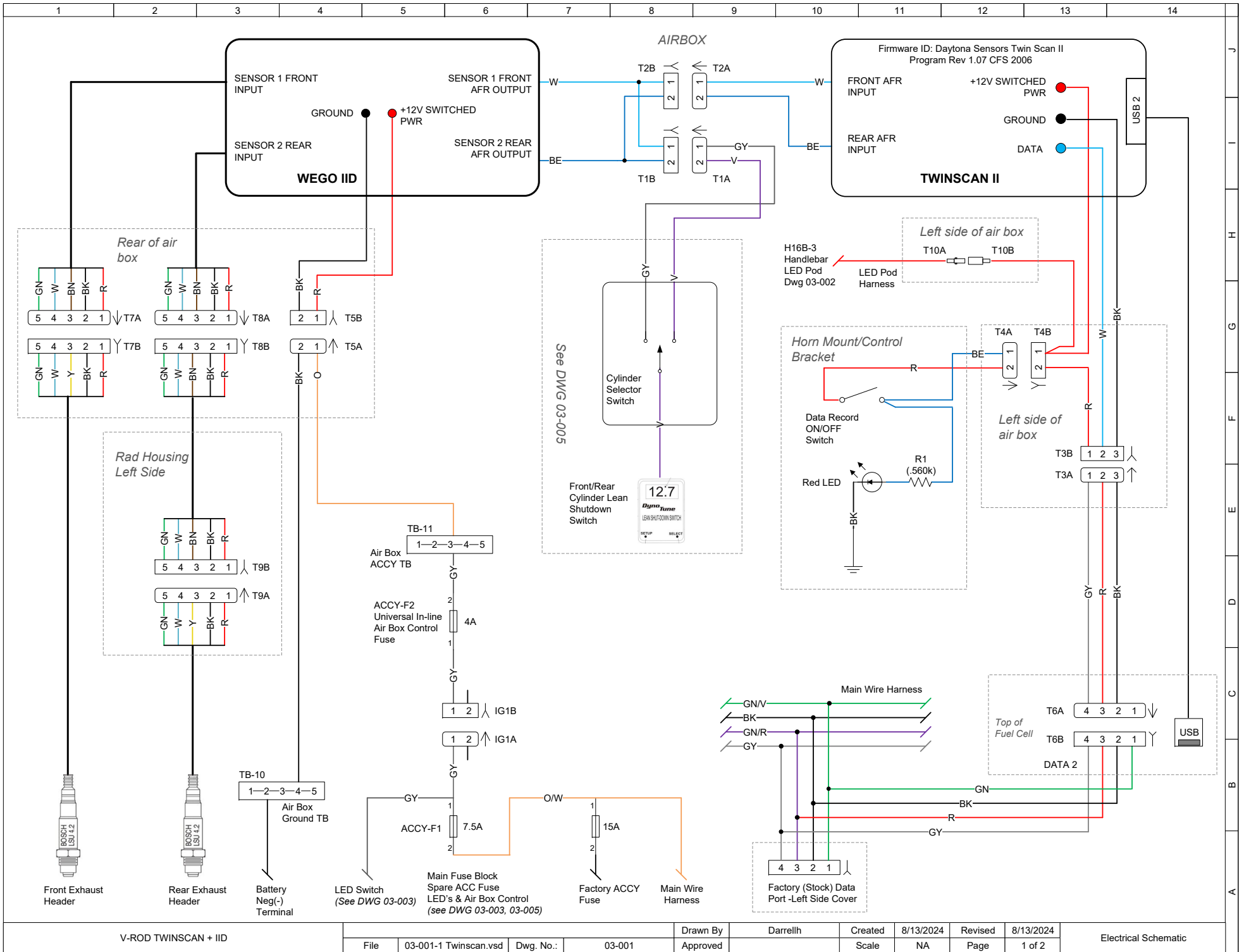


V-ROD DRAWING INDEX

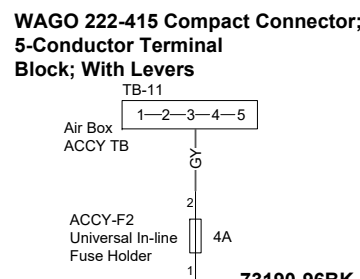
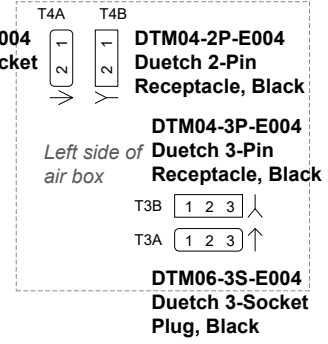
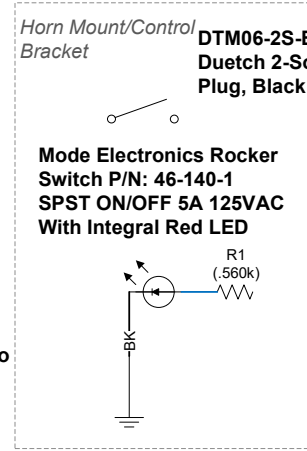
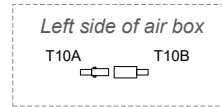
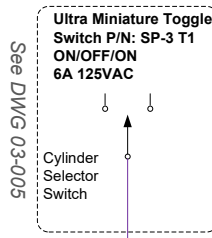
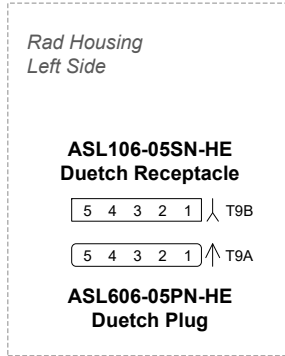
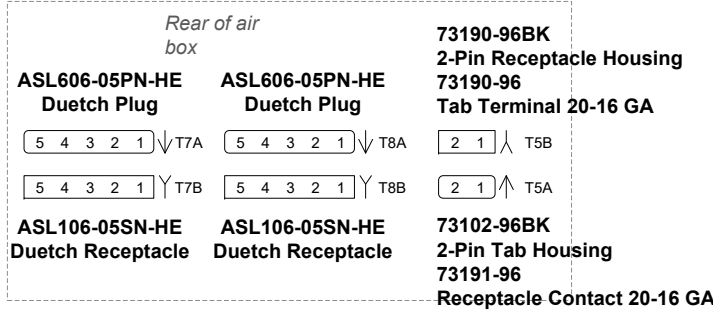
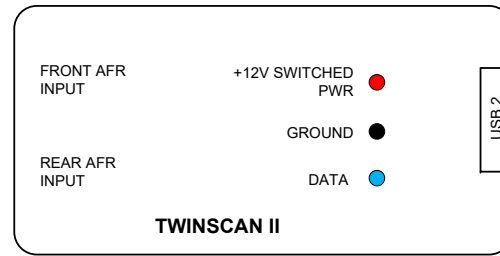
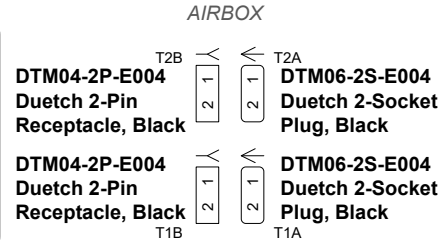
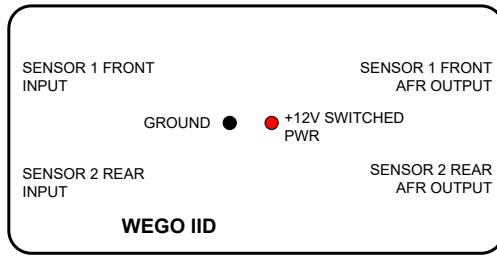
Drawing #	Title	Contents
03-001	V-Rod TwinScan + IID	Sht 1 - Electrical Schematic Sht 2 - Component ID
03-002	V-Rod Handlebar Controls	Sht 1 - Electrical Schematic Sheet 1 of 2 Sht 2 - Component ID Sheet 1 of 2 Sht 3 - Instrument Cluster
03-003	V-Rod LED	Sht 1 - Electrical Schematic Sht 2 - Component ID-1 Sht 3 - Component ID-2
03-004	V-Rod Air Suspension	Sht 1 - Arnott Kit 9022 System Schematic
03-005	V-Rod NOS Control	Sht 1 - Electrical Schematic Sht 2 - Electrical Component ID Sht 3 - Plumbing Sht 4 - Rear Bottle Positions Sht 5 - Front Bottle Positions
03-006	V-Rod Battery Charger	Sht 1 - Schematic
03-007	V-Rod Rear Lighting	Sht 1 - Electrical Schematic
03-008	V-Rod Front / Rear Brake Control	Sht 1 - Front Brake Control Sht 2 - Rear Brake Control Sht 3 - Caliper Dwg
03-009	V-Rod Clutch Control	Sht 1 - Clutch Control
03-011	V-Rod Airbox Layout	Sht 1 - Left Side Sht 2 - Right Side Sht 3 - Front Sht 4 - Rear Sht 5 - Top
03-012	V-Rod Coolant Hoses	Sht 1 - Water Temp Gauge
03-013	V-Rod Oil Pressure Gauge	Sht 1 - Oil Pressure Gauge
03-015	V-Rod Throttle Control	Sht 1 - Throttle Assembly
03-016	V-Rod Speed Shift	Sht 1 - System Schematic Sht 2 - Component ID
03-018	V-Rod Gear Indicator	Sht 1 - System Schematic Sht 2 - Component ID
03-019	V-Rod DC Distribution	Sht 1 - Positive Distribution Sht 2 - Negative Distribution
03-020	V-Rod Jiffy Stand / Clutch Interlocks	Sht 1 - System Schematic
03-021	V-Rod Temp Sensor Override	Sht 1 - System Schematic
03-022	V-Rod Keyless Ignition	Sht 1 - Electrical Schematic Sht 2 - Component ID
03-024	V-Rod Front Fork/Wheel Lighting	Sht 1 - Electrical Schematic Sht 2 - Component ID
03-025	V-Rod Controls & Indicators	Sht 1 - Controls Indicators Sht 2 - Service Note 1 - Functions

		Sht 3 - Service Note 2 – Functions Sht 4 – Service Note 3 – Functions
03-026	V-Rod Fuse & TB Tables	Sht 1 – Fuse Table Sht 2 – TB Table
03-027	V-Rod Stator Change	Sht 1 – Stator
03-028	V-Rod Injectors	Sht 1 – System Schematic Sht 2 – Bypass

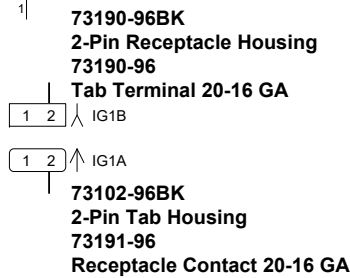


**Daytona Twin Tec
TSCAN2-PLUS-KIT Twin
Scan II+ Kit**

(includes Twin Scan II, WEGO IID Interface, two Bosch LSU 4.2 wide-band oxygen sensors, two 18 x 1.5 mm weld nuts, two 18 x 1.5 mm hex socket plugs, USB cable, and software on CDROM)



**DynoTune P/N: 021 - Air/Fuel Ratio
Lean Shut-Down Switch**
See DWG 03-005



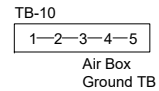
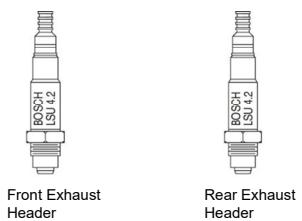
All DTM 2-Socket Plug Use:
0462-201-20141 Solid Nickel, 18-24 AWG
All DTM 2-Socket Receptacle Use:
0460-202-20141 Solid Nickel, 18-24 AWG

**DT06-4S Plug Assembly
Deutsch DT Series 4-Socket
Plug Assembly**

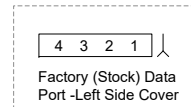


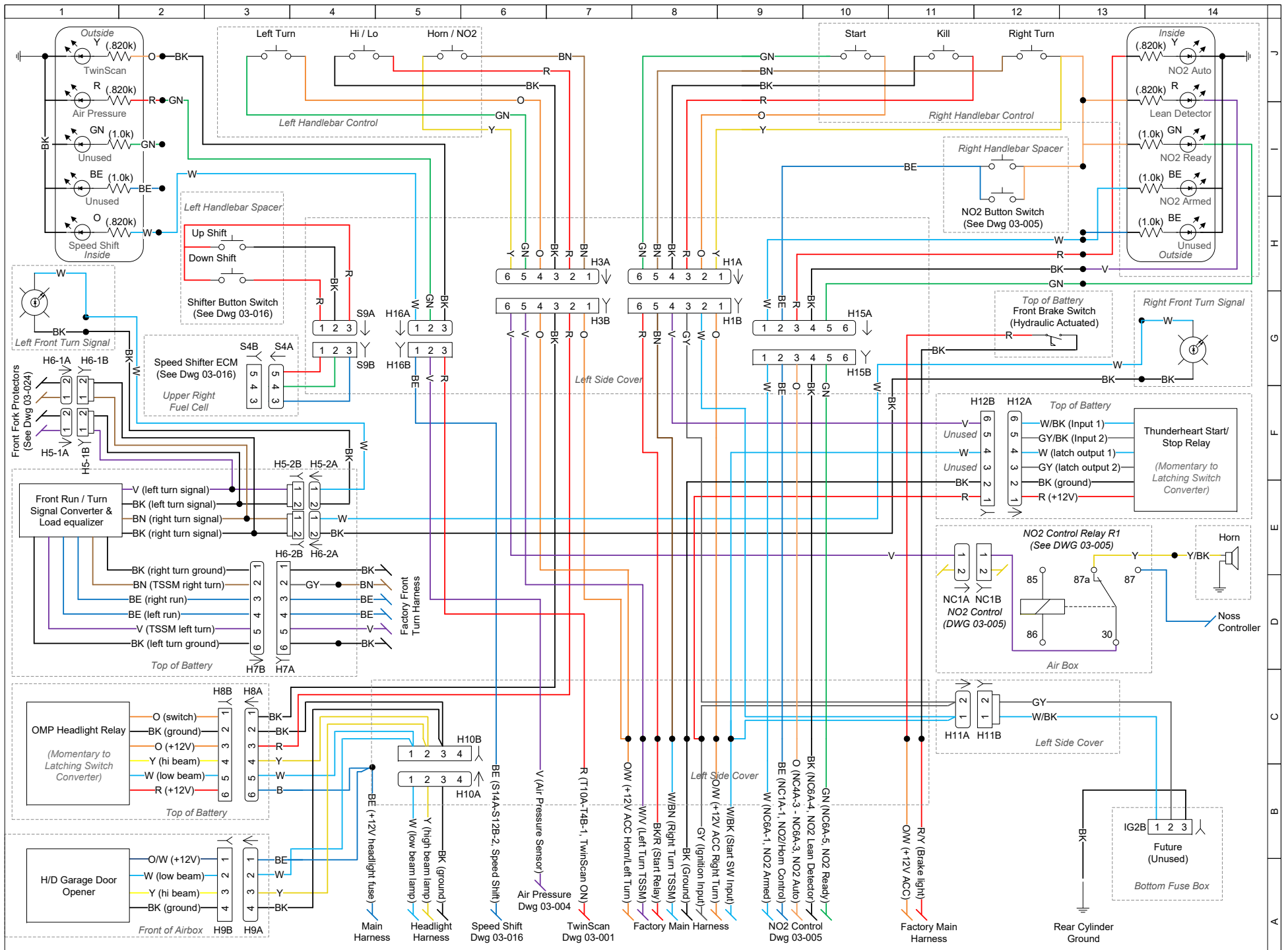
**DT04-4P Receptacle Assembly
Deutsch DT Series 4-Pin
Receptacle Assembly**

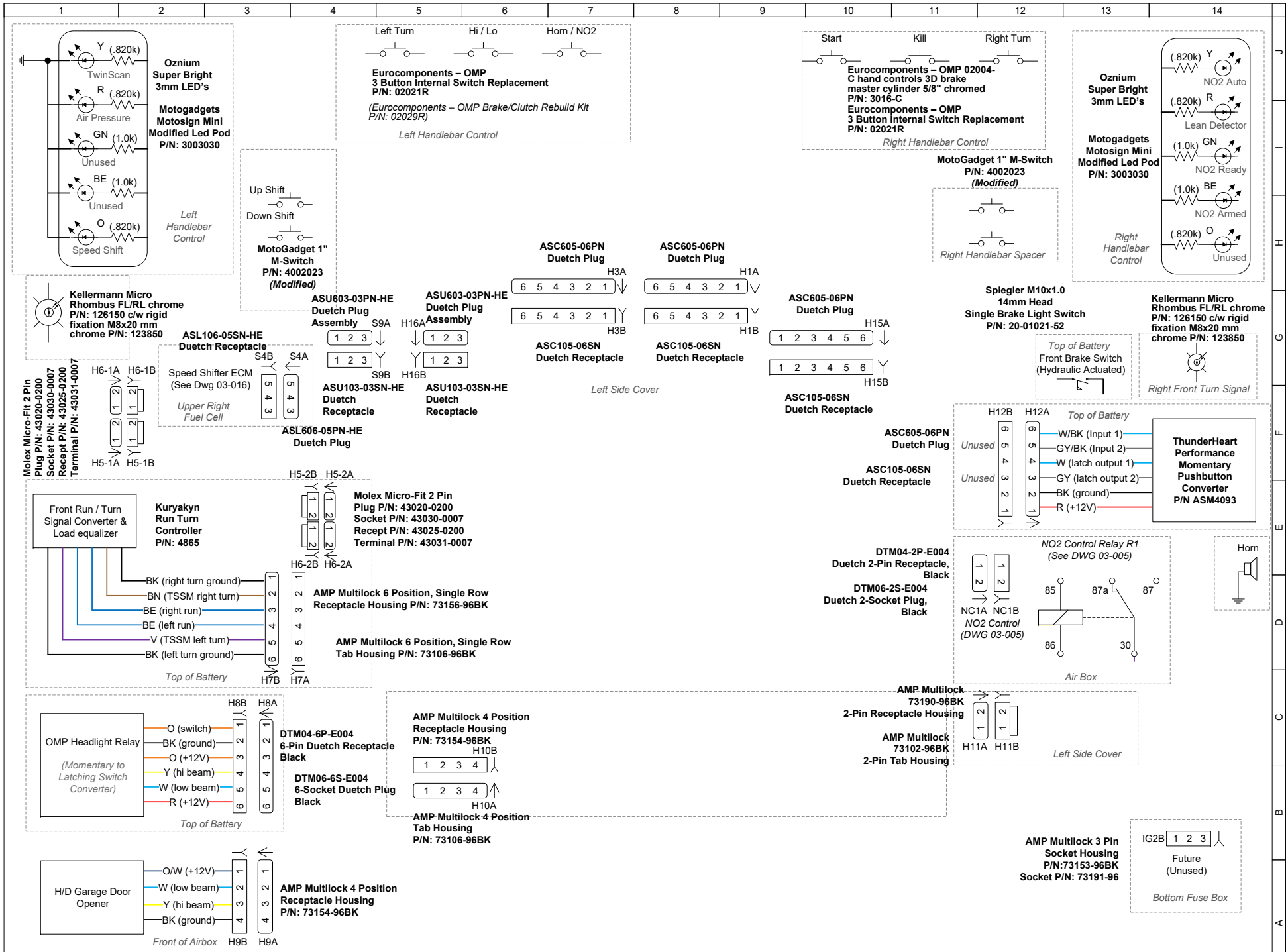
**Daytona Twin Tec USB
Interface
P/N USB-INTF**

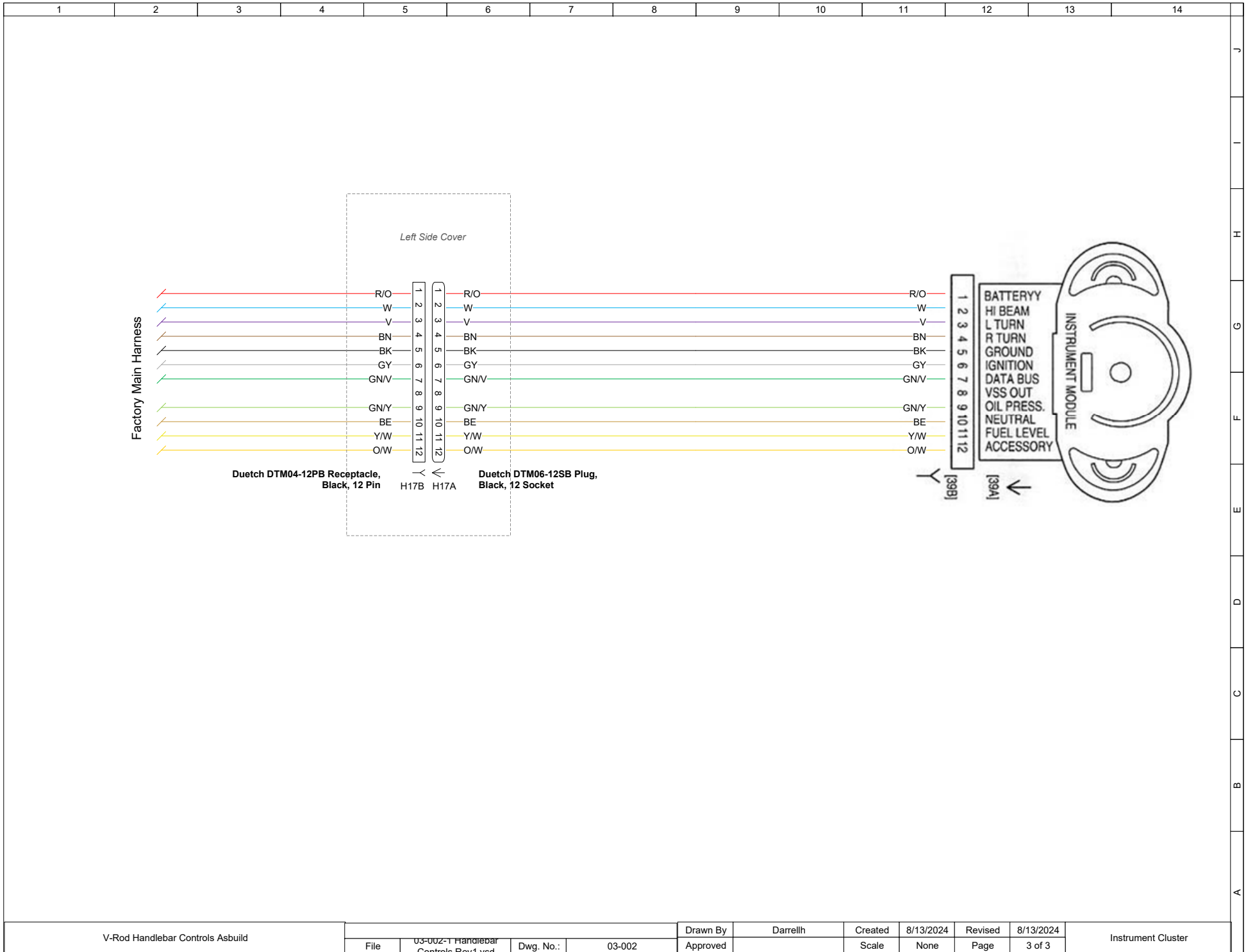


**WAGO 222-415 Compact
Connector; 5-Conductor
Terminal
Block; With Levers**

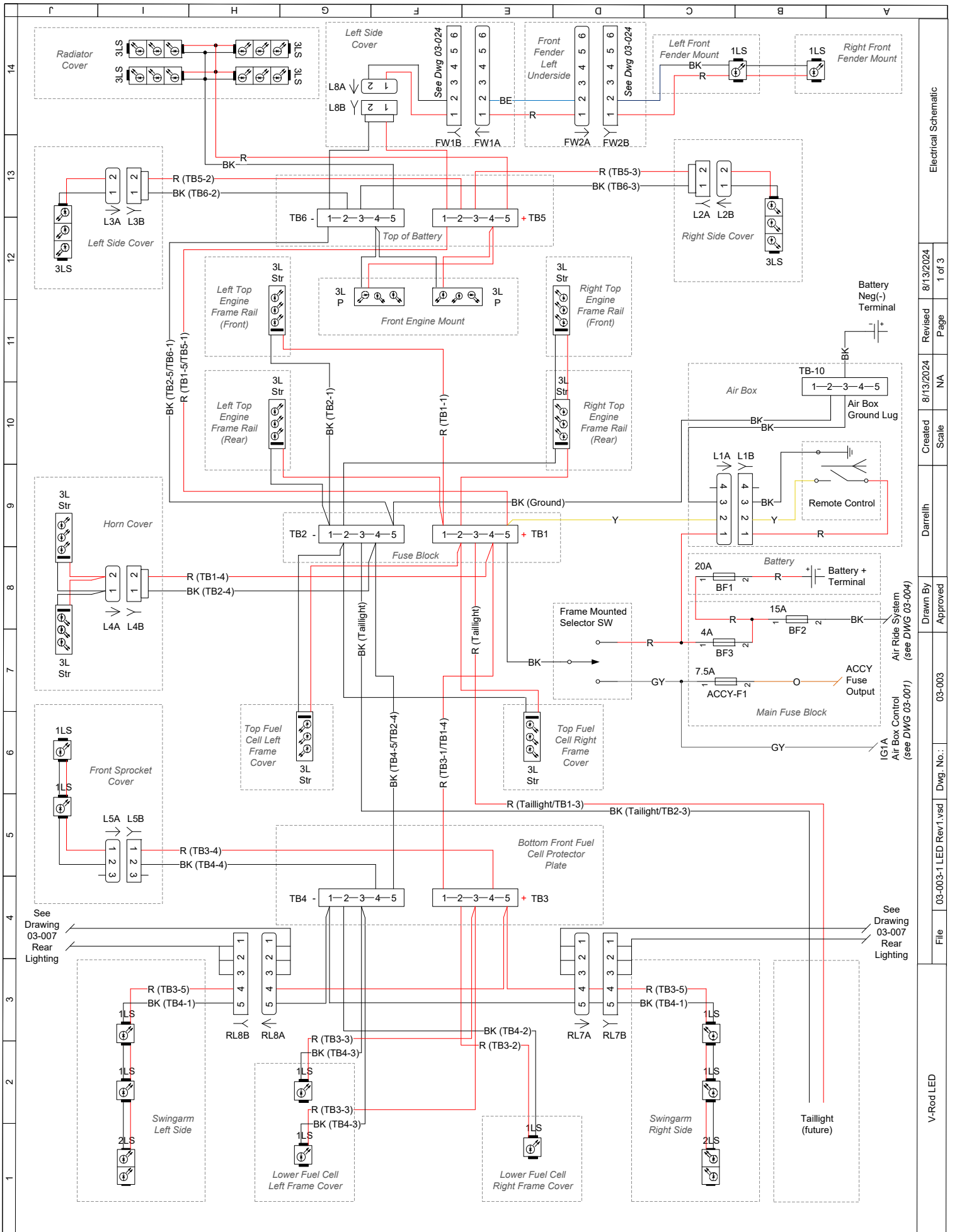


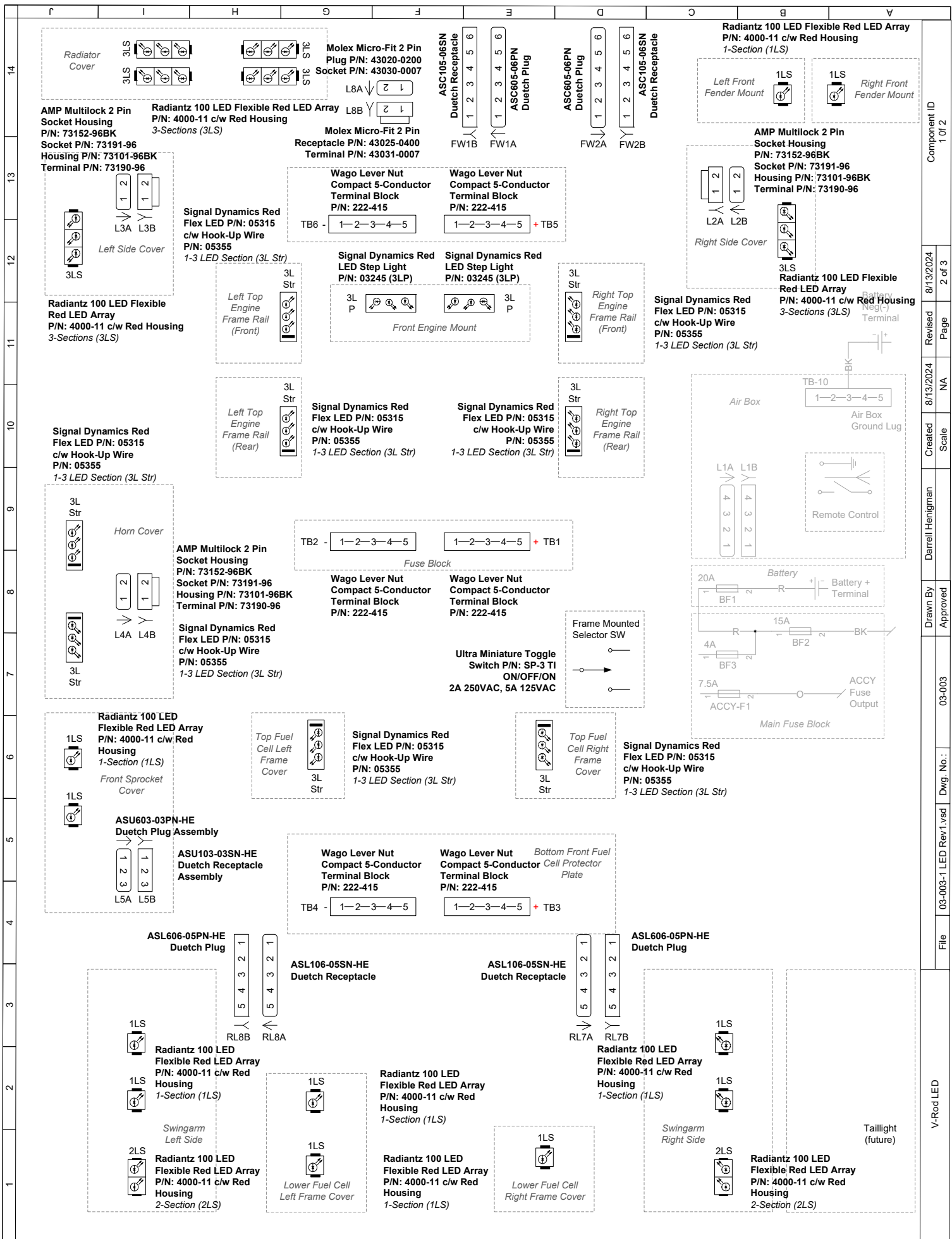


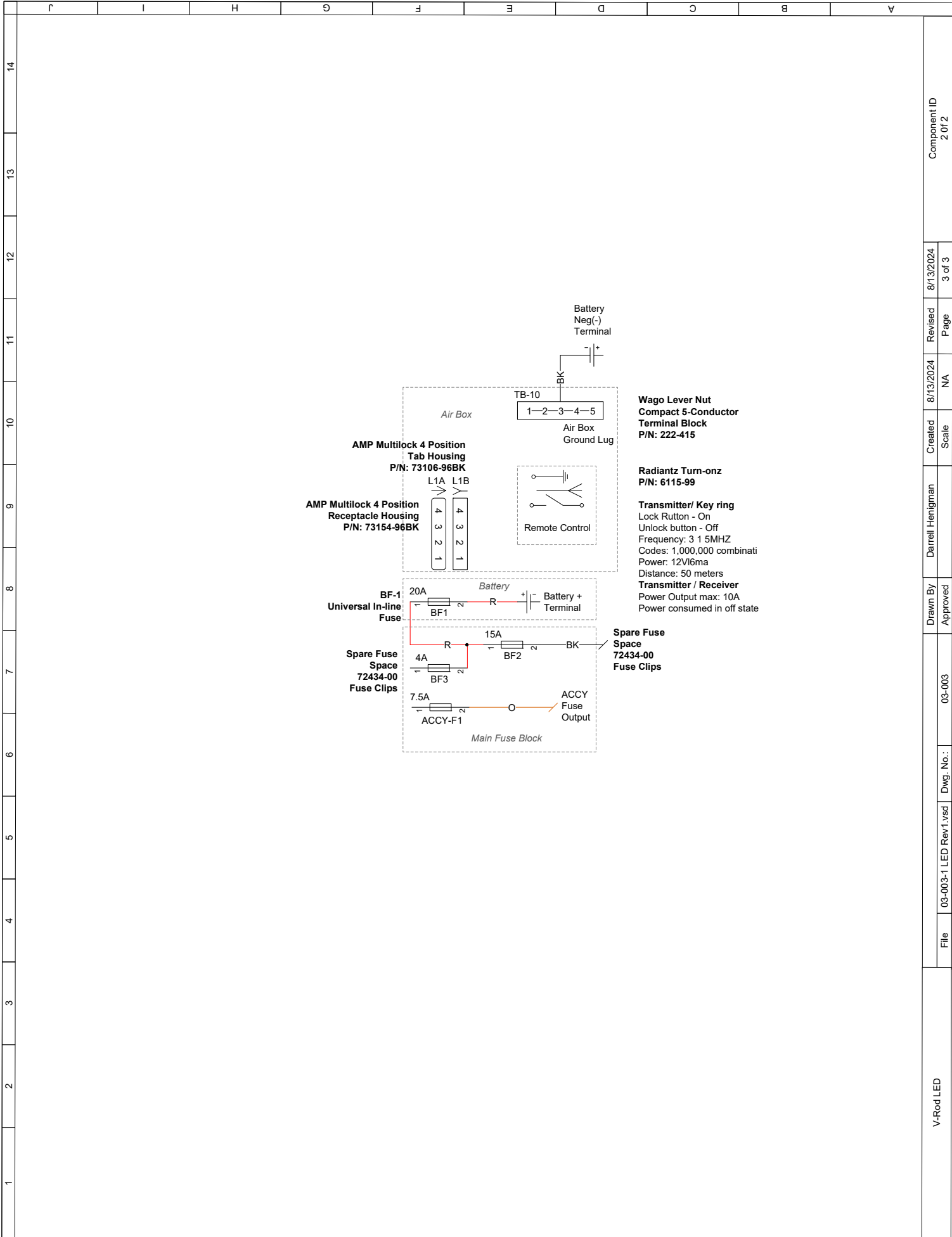


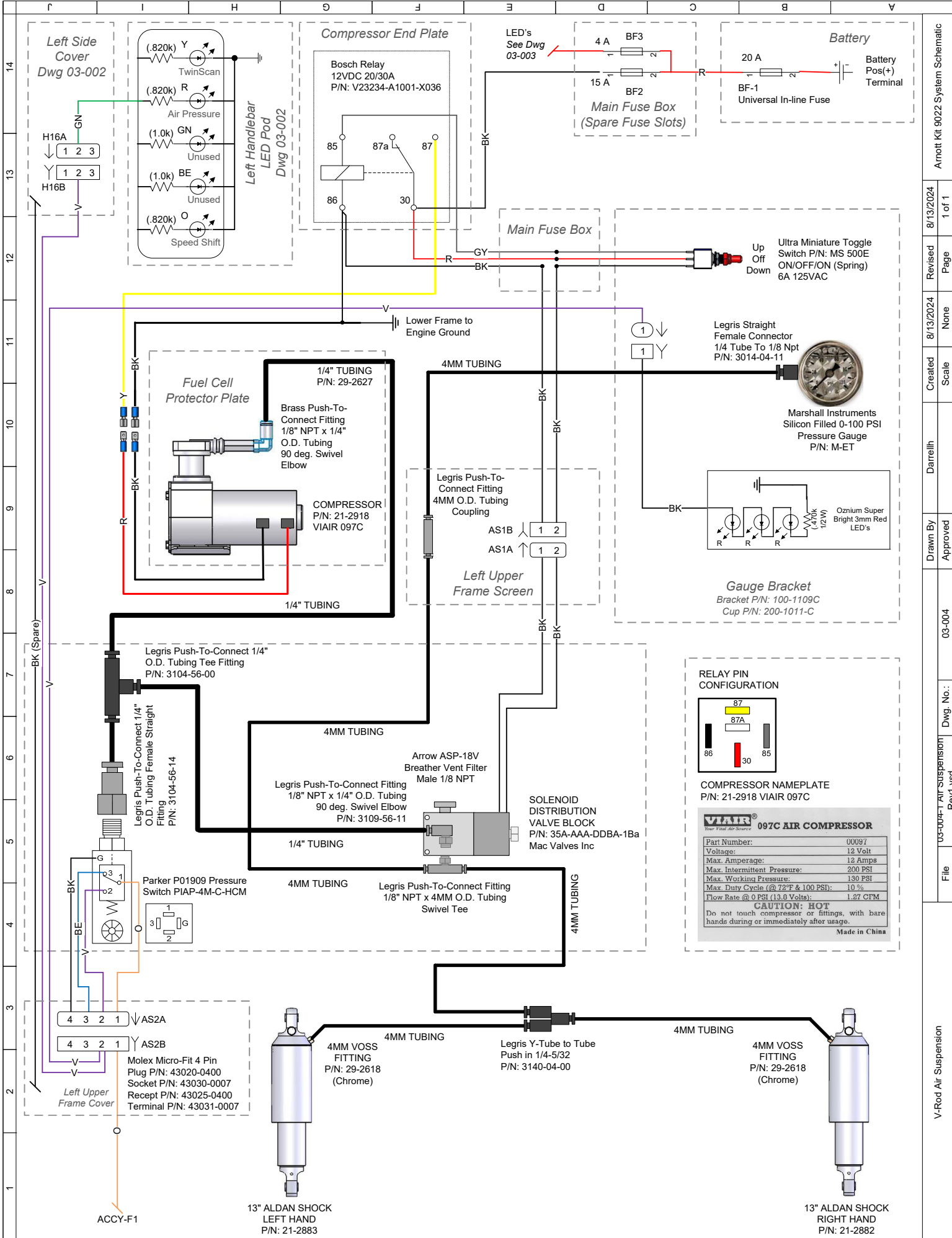


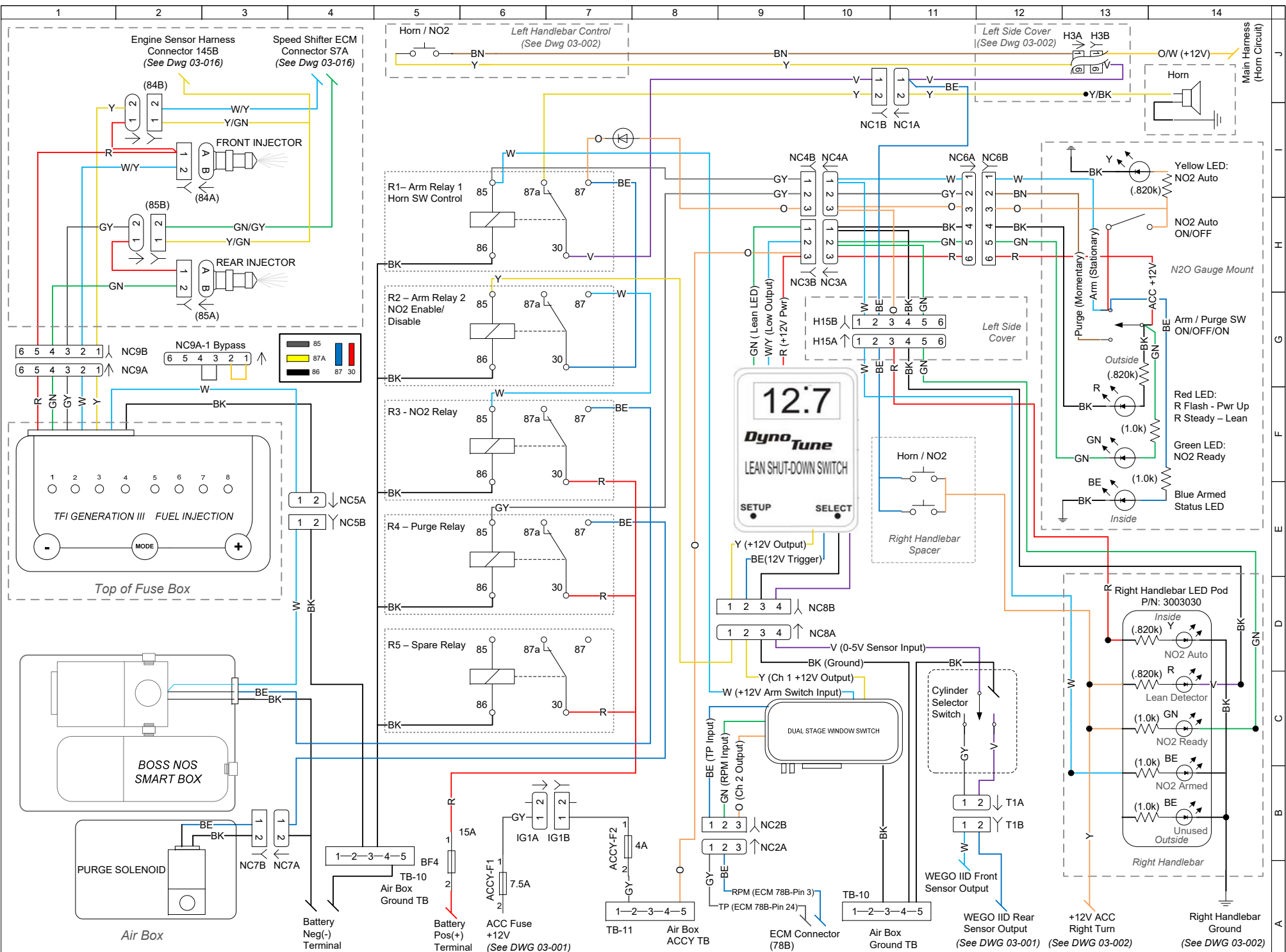
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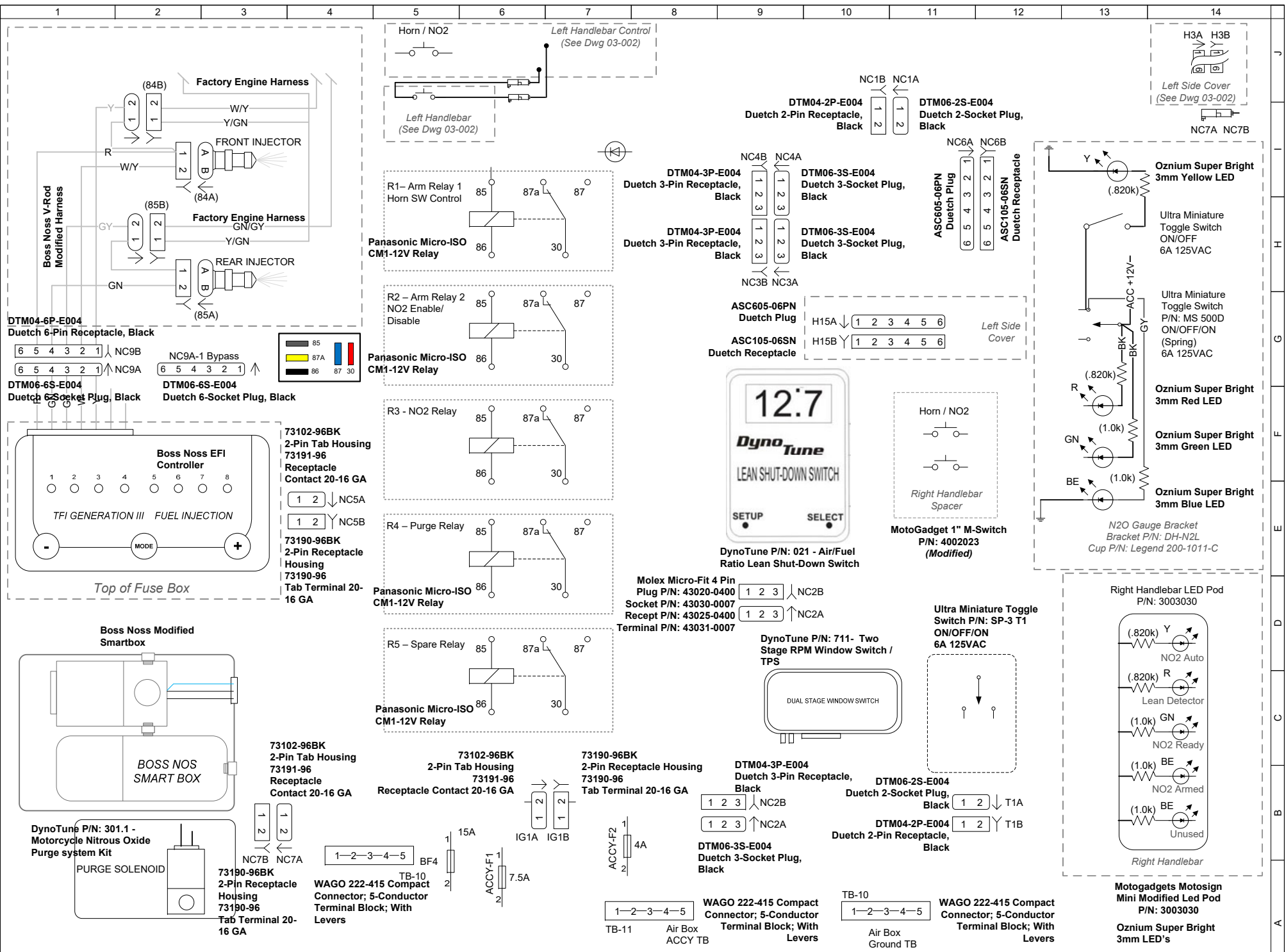






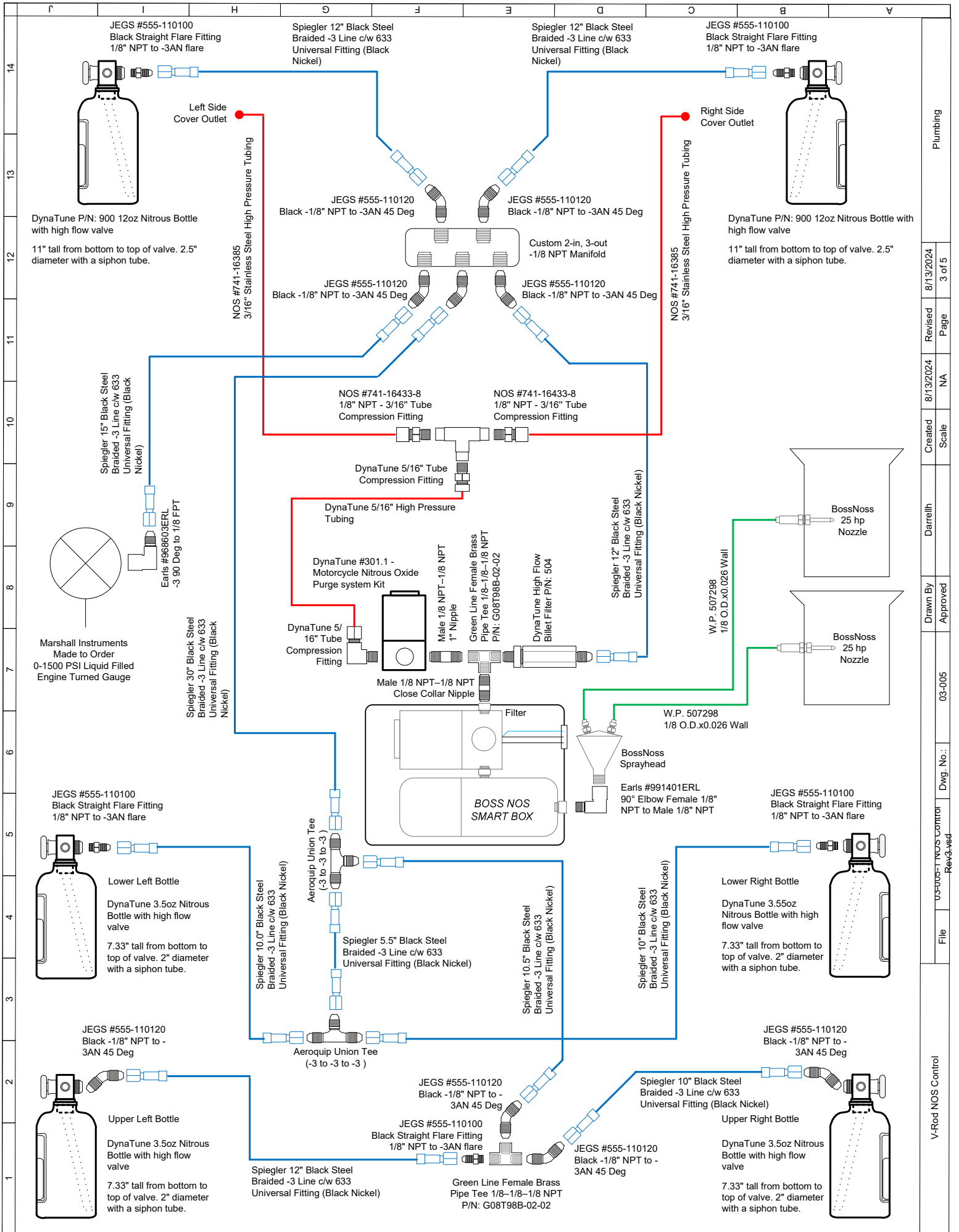




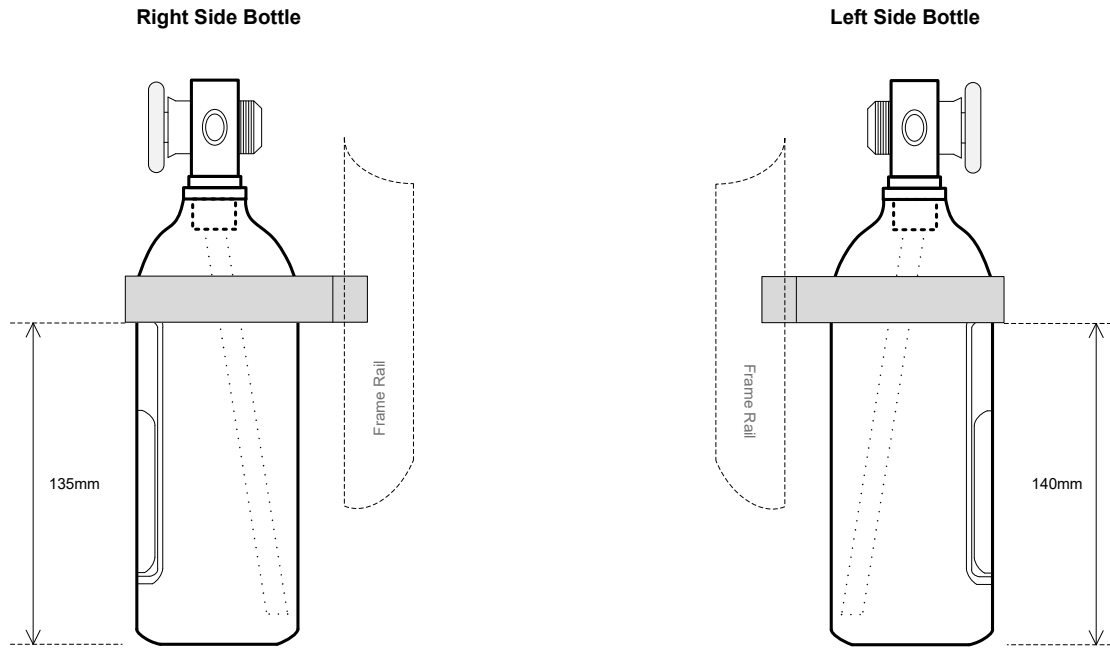


V-Rod NOS Control

File	03-005-1 NOS Control Rev3.vsd	Dwg. No.:	03-005	Drawn By	Darrellh	Created	8/13/2024	Revised	8/13/2024	Electrical Component ID
Approved		Scale		Page	2 of 5					



Plumbing	8/13/2024	3 of 5
Revised	8/13/2024	Page
Created	Scale	NA
Drawn By	Approved	03-005
Dwg. No.:	U3-005-1 NOS Control	Rev3.ved
File		
V-Rod NOS Control		

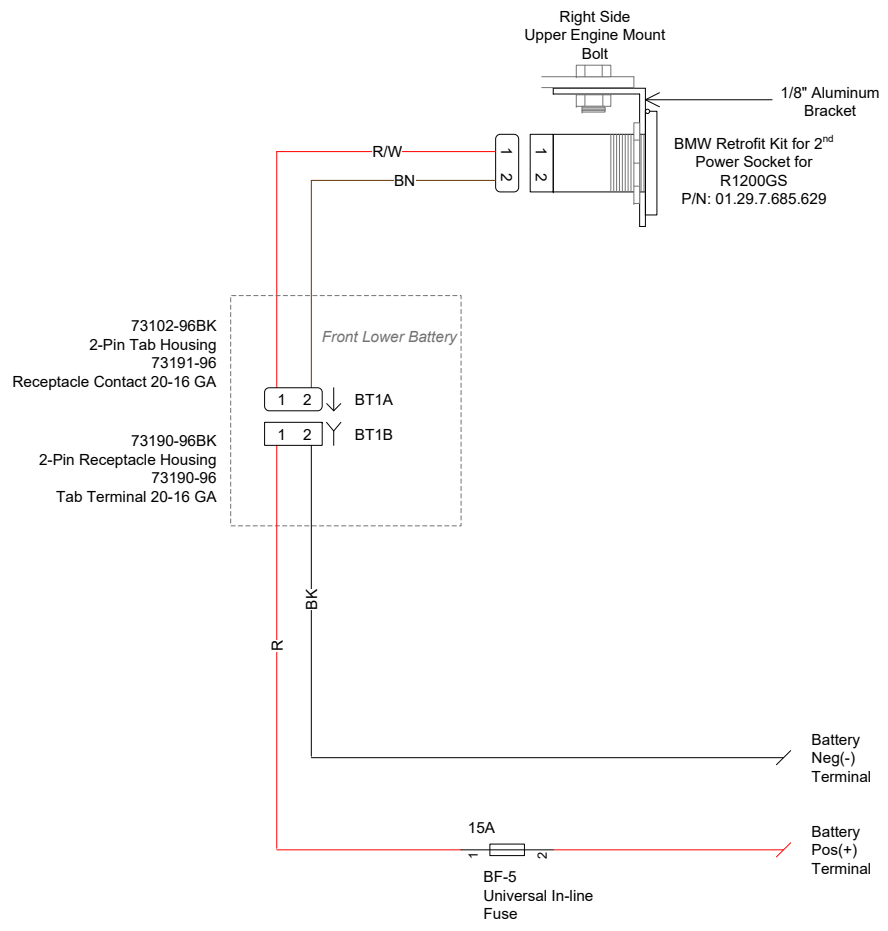


NOTES:

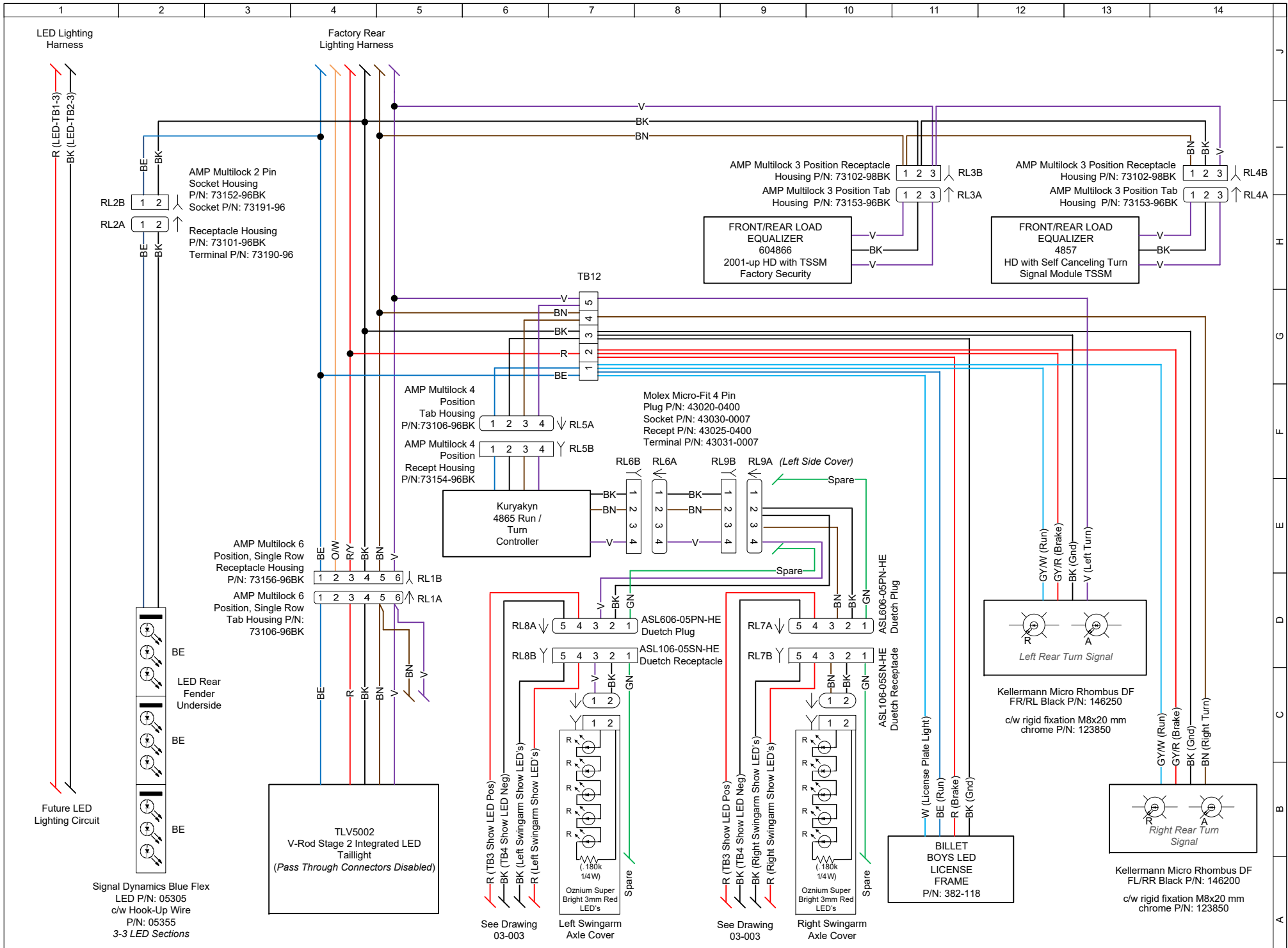
1. Bottle bracket mounting hardware (2 bolts per side) replace original lower frame rail bolts. If removing bottle bracket DO NOT remove both bolts at the same time, follow the bottle bracket installation / removal procedure exactly as listed.
2. The right side bottle bracket bolts that secure the bottle in the bracket also secure the oil pressure gauge cup. Support the oil pressure gauge when removing bottle from bracket.
3. The left side bottle bracket bolts that secure the bottle in the bracket also secure the ECT fan override switch. Move the switch to the side when removing bottle from bracket.
4. Do not mount bottle lower in bracket than shown on the drawing or the bottle will contact the shift brake lever on up shift and/or the brake lever.
5. Before removing bottles from brackets mark the bottle position with masking tape to ensure bottle angle And height is maintained.

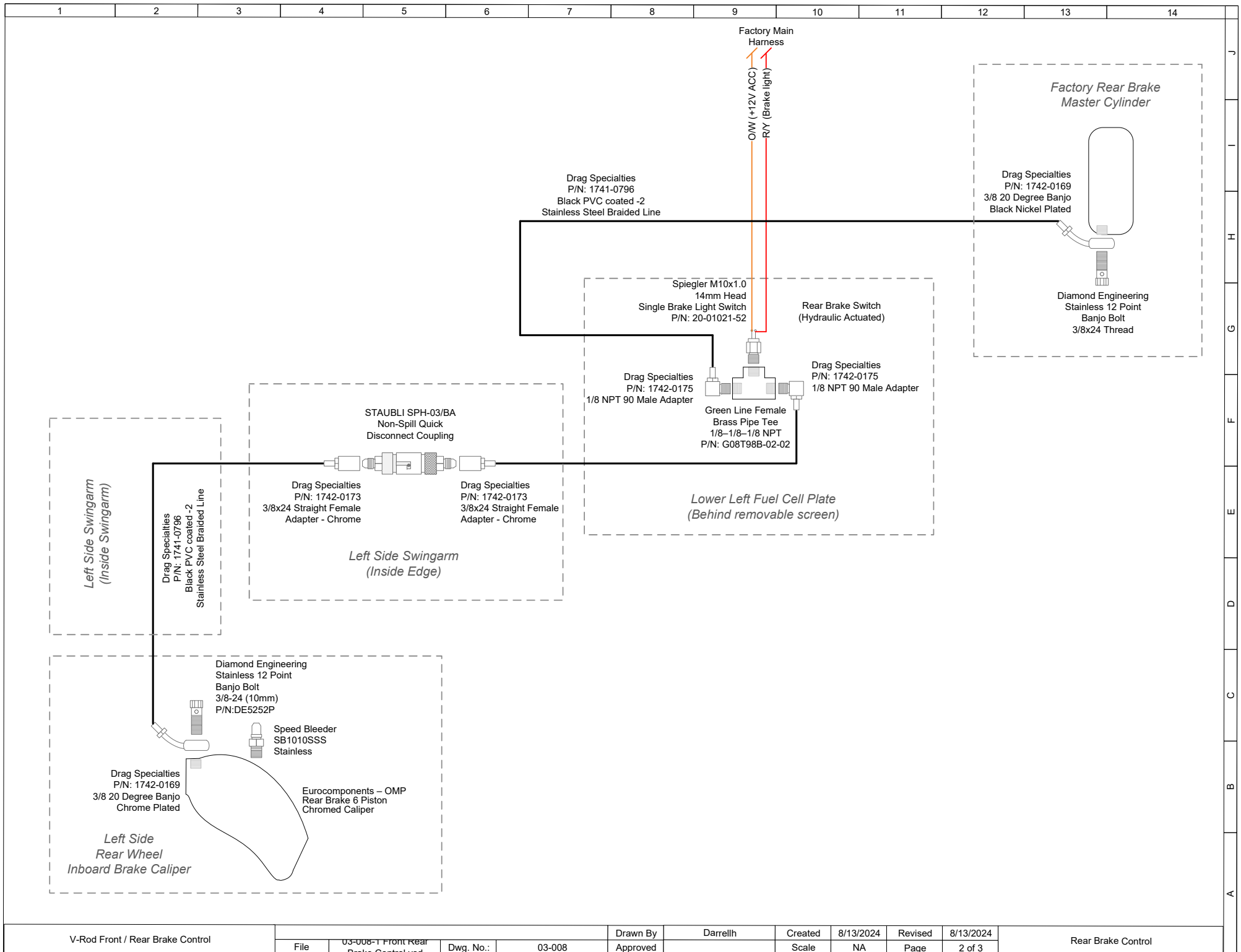
Bottle Bracket Installation / Removal:

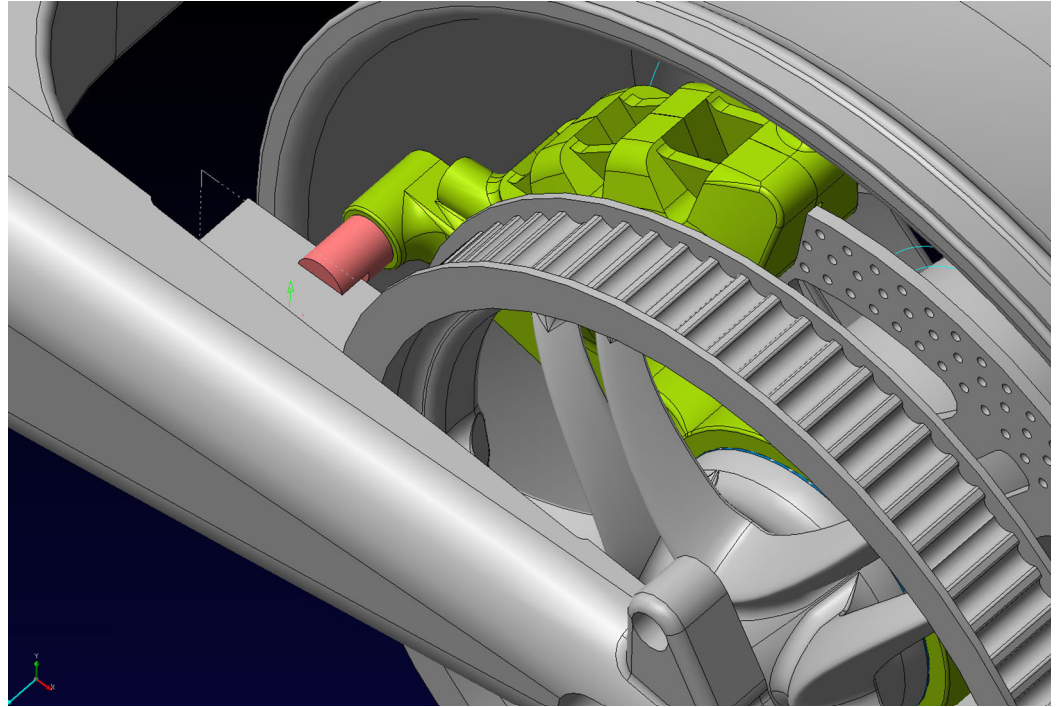
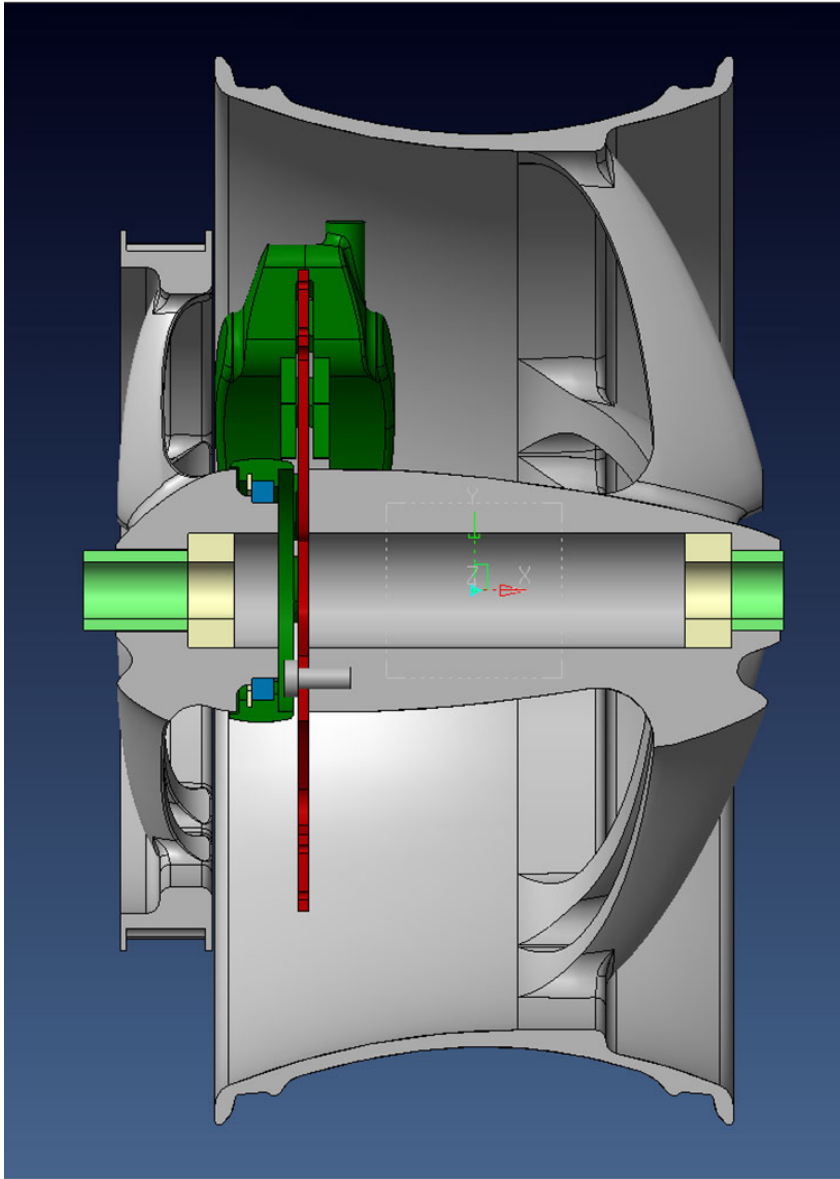
1. Bottle bracket mounting hardware (2 bolts per side) replace original lower frame rail bolts. When removing either the original frame rail bolts or the bottle bracket mount bolts that replace the original hardware DO NOT remove both bolts at the same time, follow the procedure listed below exactly as listed.
2. Install the brackets on one side of the bike at a time.
3. There are two spacers for each bottle bracket. One is attached to the top side of each bracket, the other is loose. Both Spacers will fit into the bolt recess of the frame rail.
4. Remove the original upper frame rail bolt leaving the original bottom bolt installed.
5. Separate each bottle bracket into two pieces at the hinge point. Set the sides without the mounting plate aside.
6. Using one of the supplied bracket mounting bolts, attach the bracket to the frame rail upper bolt position by placing the side of the bracket with the spacer attached inside the frame rail bolt recess and inserting the bolt through the bracket, attached spacer and into the frame. Pivot the bracket up and towards the rear of the bike so that the bottom bolt in the frame rail remains exposed. Tighten the Upper bolt but do not final torque.
7. Remove the original lower frame rail bolt with the top bracket bolt installed and insert the loose spacer into the bottom frame rail bolt recess.
8. Loosen the upper bolt securing the bracket to the frame only enough to allow the bracket to pivot. Line up the bottom hole in the bracket with the bottom frame rail hole and install the supplied bracket mounting bolt through the bracket, loose spacer and into the frame.
9. Final torque the two frame rail / bracket bolts to factory specifications.
10. Install the other half of each bracket at the hinge point.



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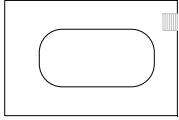






Left Handlebar Control

Drag Specialties
P/N: 1742-0171
3/8 90 Banjo
Black Nickel Plated



Diamond Engineering
Stainless 12 Point
Banjo Bolt
M10x1.0 Thread

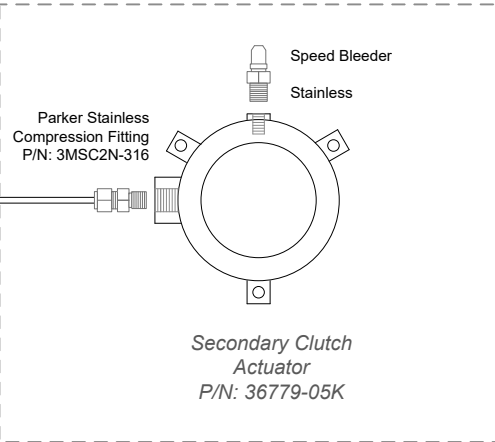
Eurocomponents – OMP
02001-C hand controls 3D
hydraulic clutch master
cylinder 5/8" chromed
P/N: 3020-C

(Eurocomponents – OMP Brake/
Clutch Rebuild Kit
P/N: 02029R)

Drag Specialties
P/N: 1741-0796
Black PVC coated -2
Stainless Steel Braided Line

Left Side Cover

Upper Tree



Parker Stainless
Compression Fitting
P/N: 3MSC2N-316

Speed Bleeder
Stainless

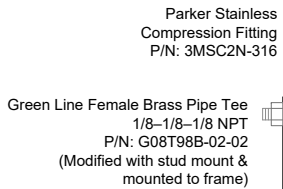
Secondary Clutch
Actuator
P/N: 36779-05K

Unified Alloys
3/16 O.D. 0.035 Wall
Seamless Stainless
Tubing

Drag Specialties
P/N: 1741-0796
Black PVC coated -2
Stainless Steel Braided Line

**Lower Left Fuel Cell Plate
(Behind removable screen)**

Safety Interlock
See Dwg 03-020
Speed Shift
See Dwg 03-016



Parker Stainless
Compression Fitting
P/N: 3MSC2N-316

Spiegler M10x1.0
14mm Head
Single Brake Light Switch
P/N: 20-01021-52

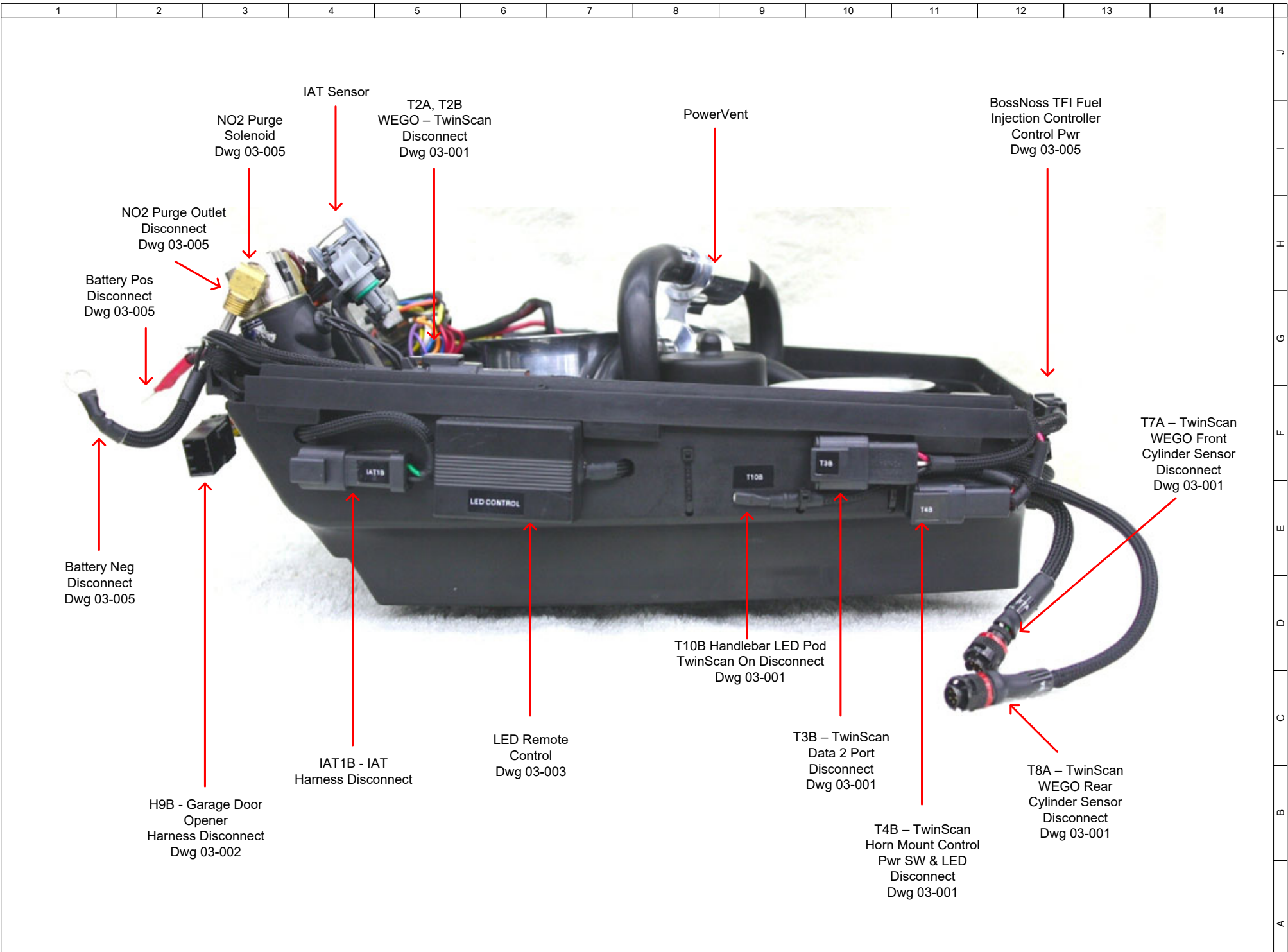
Green Line Female Brass Pipe Tee
1/8-1/8-1/8 NPT
P/N: G08T98B-02-02
(Modified with stud mount &
mounted to frame)

Safety Interlock Switch
(Hydraulic Actuated)

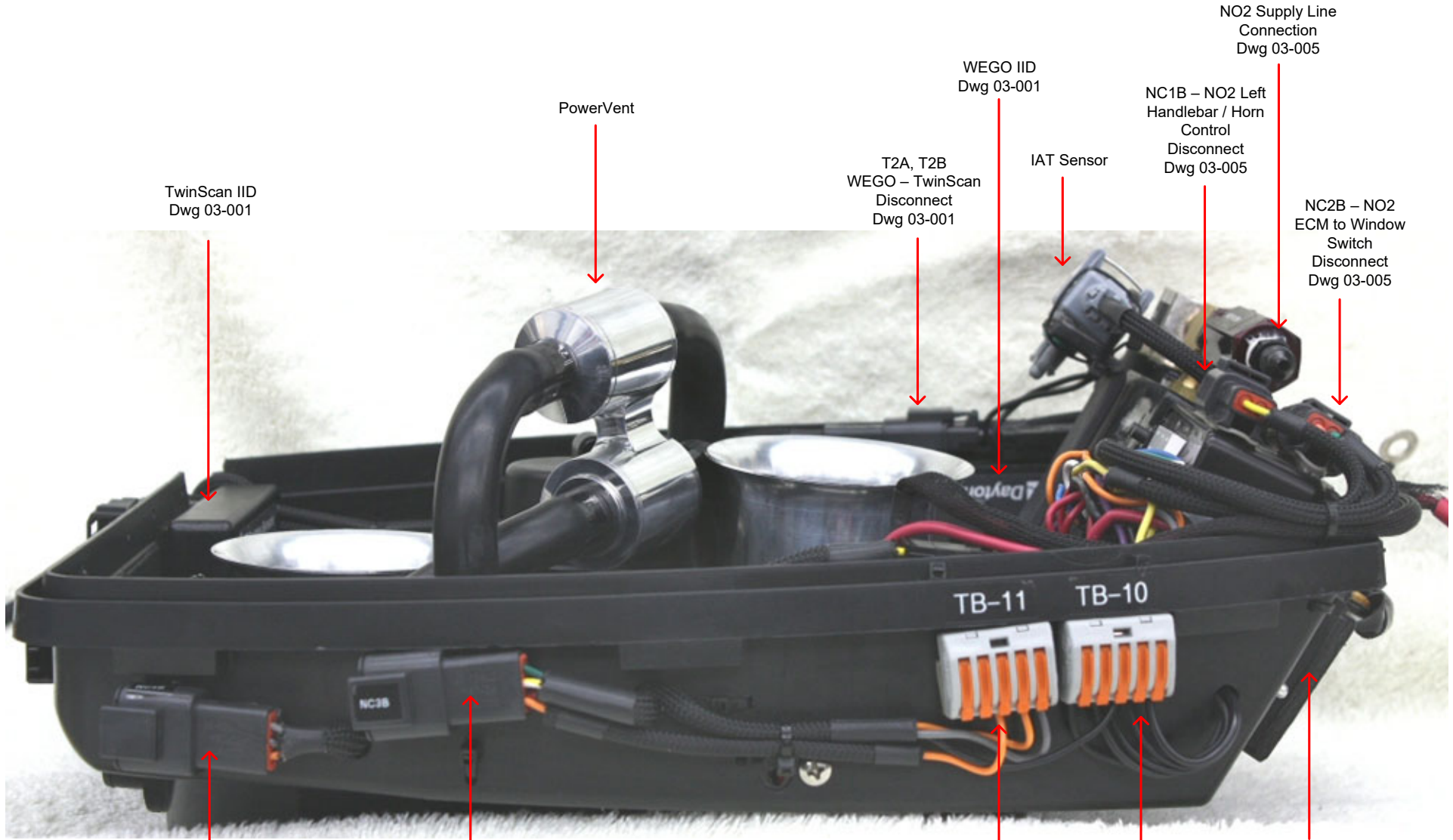
Drag Specialties
P/N: 1742-0175
1/8 NPT 90 Male Adapter

Drag Specialties
P/N: 1741-0796
Black PVC coated -2
Stainless Steel Braided Line

Bottom Right Frame Rail Stud



V-Rod Airbox Layout				File	03-011-1 Airbox Layout.vsd	Dwg. No.:	03-011	Drawn By	Darrellh	Created	8/13/2024	Revised	8/13/2024	Left Side
				Approved		Scale	NA	Page	1 of 6					



TwinScan IID
Dwg 03-001

PowerVent

T2A, T2B
WEGO - TwinScan
Disconnect
Dwg 03-001

WEGO IID
Dwg 03-001

IAT Sensor

NC1B - NO2 Left
Handlebar / Horn
Control
Disconnect
Dwg 03-005

NO2 Supply Line
Connection
Dwg 03-005

NC2B - NO2
ECM to Window
Switch
Disconnect
Dwg 03-005

TB-11 TB-10

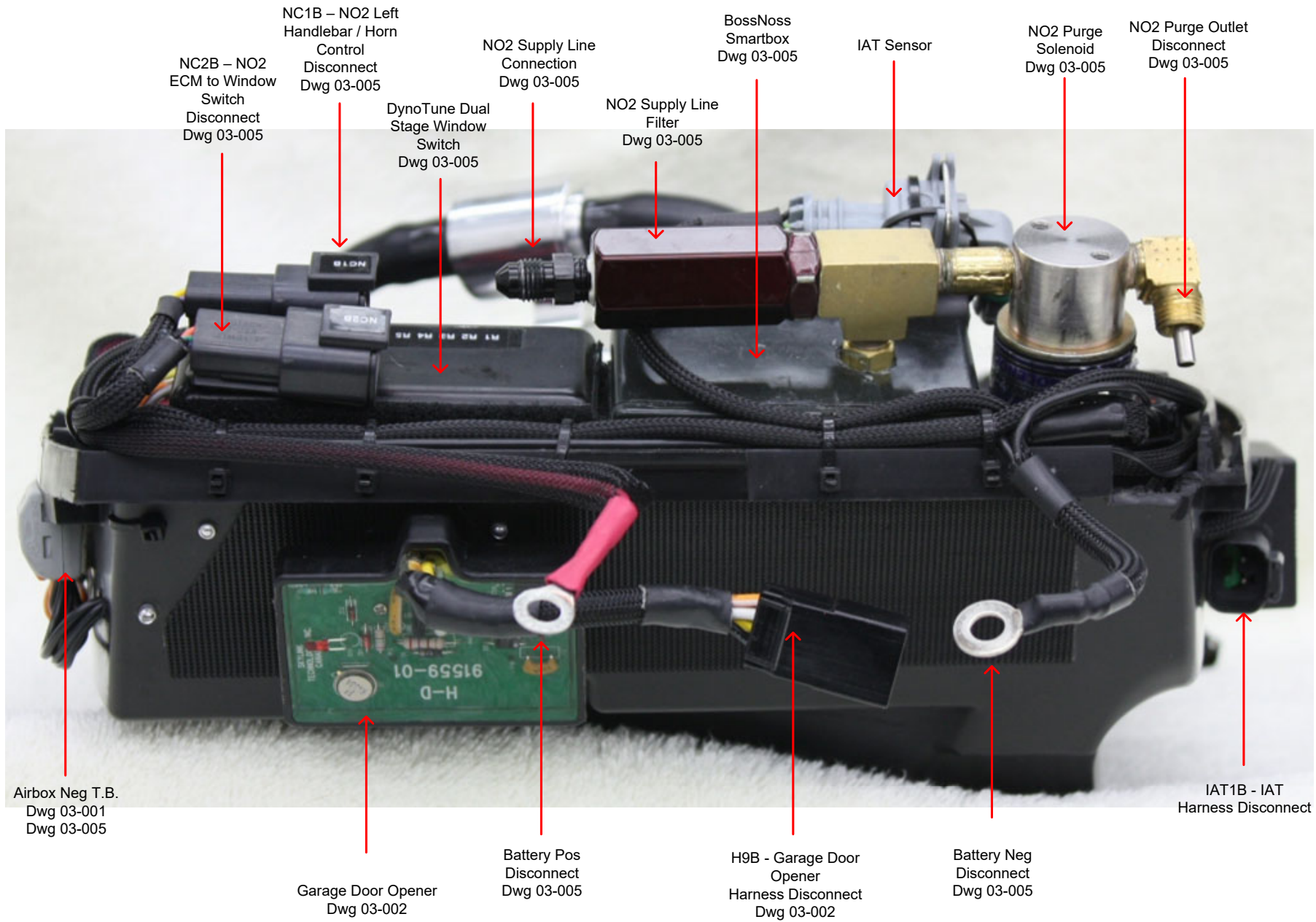
NC4B - NO2
Purge/Arm SW
Disconnect
Dwg 03-005

NC3B - NO2 Lean
Detector Output &
Gauge LED
Disconnect
Dwg 03-005

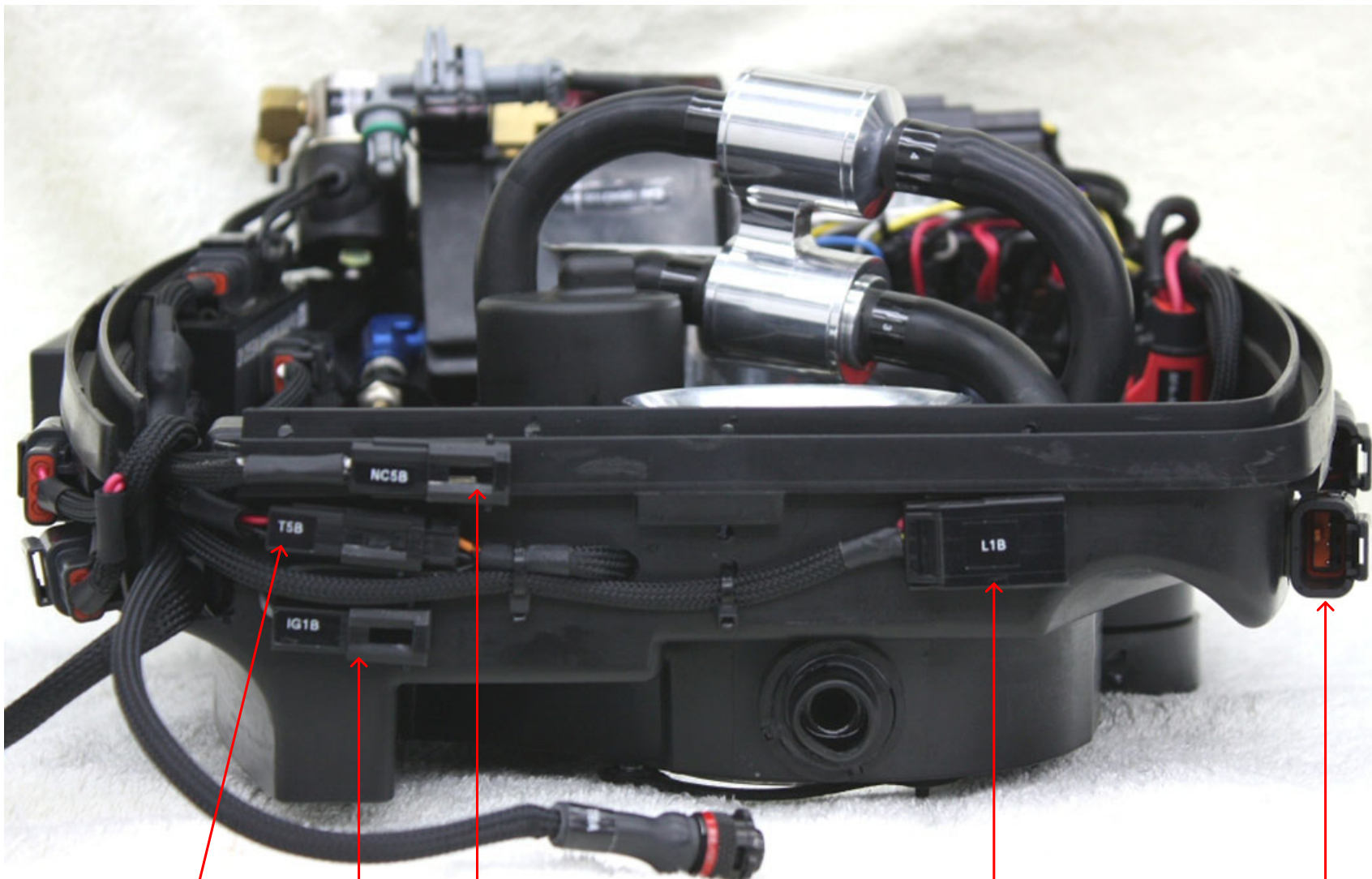
Airbox Pos T.B.
Dwg 03-001
Dwg 03-005

Airbox Neg T.B.
Dwg 03-001
Dwg 03-005

Garage Door Opener
Dwg 03-002



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T5B – WEGO
+12V Control Pwr
Disconnect
Dwg 03-001

IG1B – Airbox
+12V ACCY Pwr
T.B. Input
Disconnect
Dwg 03-001

NC5B - BossNoss TFI
Fuel Injection Controller
Control Pwr
Dwg 03-005

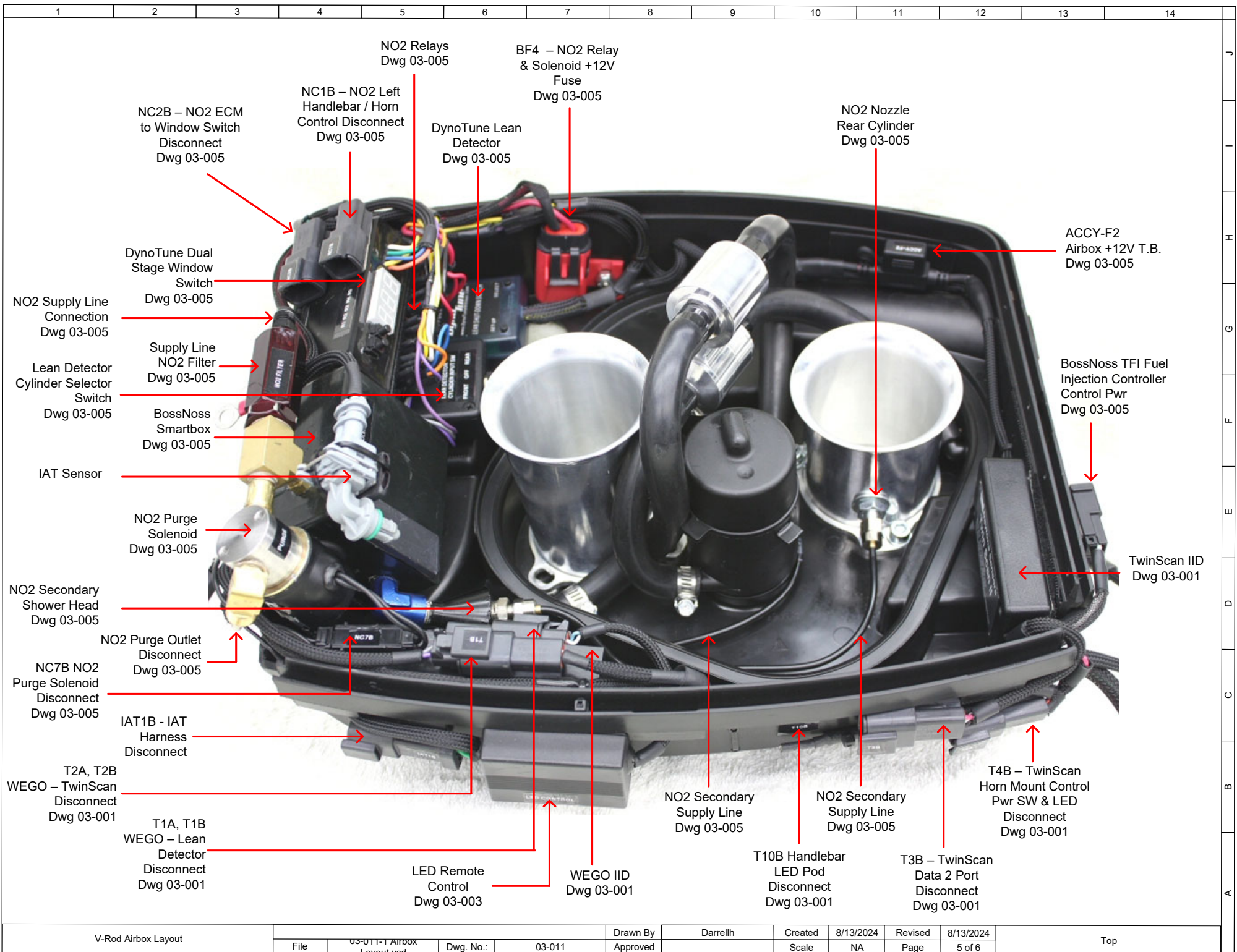
T8A – TwinScan
WEGO Rear
Cylinder Sensor
Disconnect
Dwg 03-001

LED Remote
Control Disconnect
Dwg 03-003

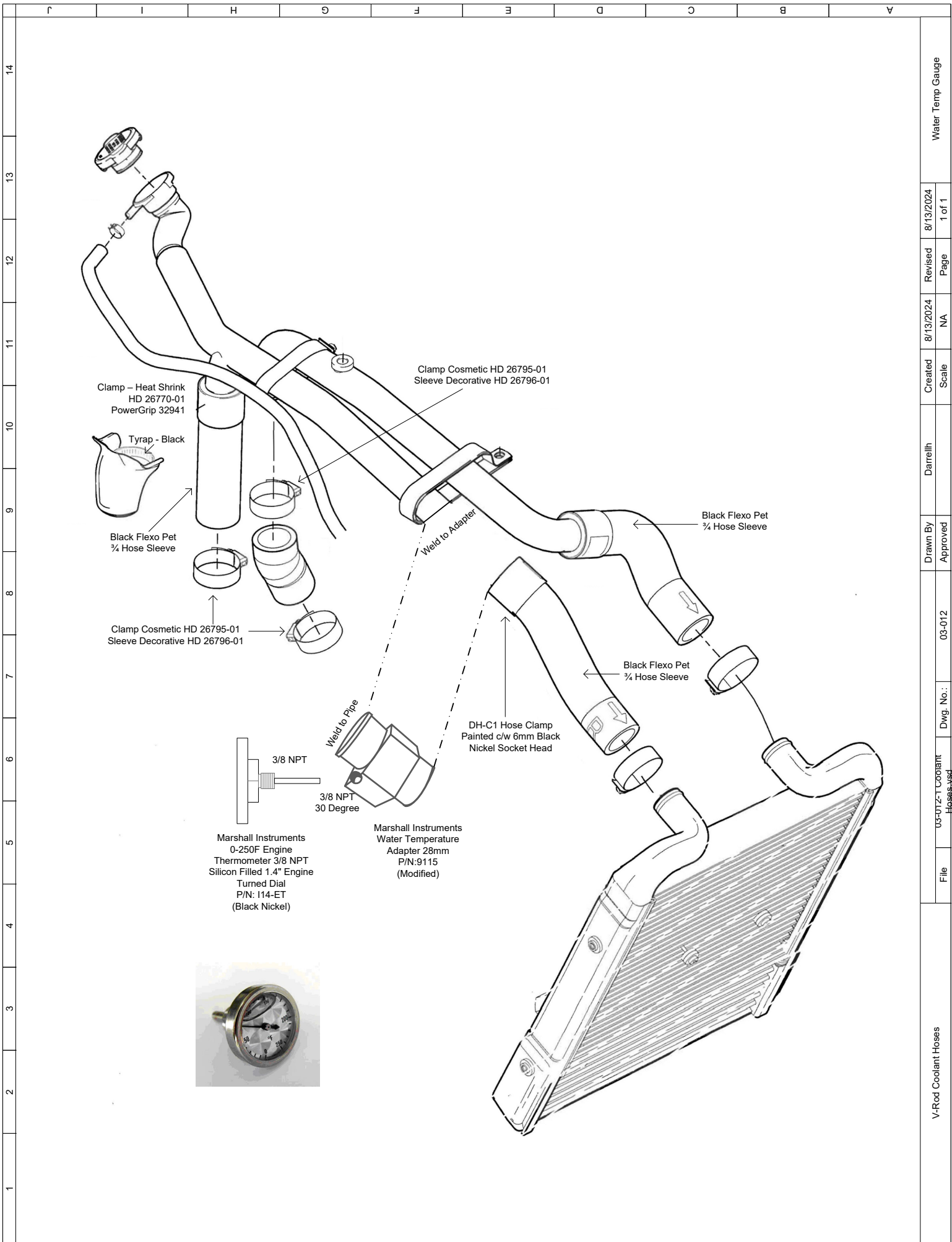
NC4B – NO2
Purge/Arm SW
Disconnect
Dwg 03-005

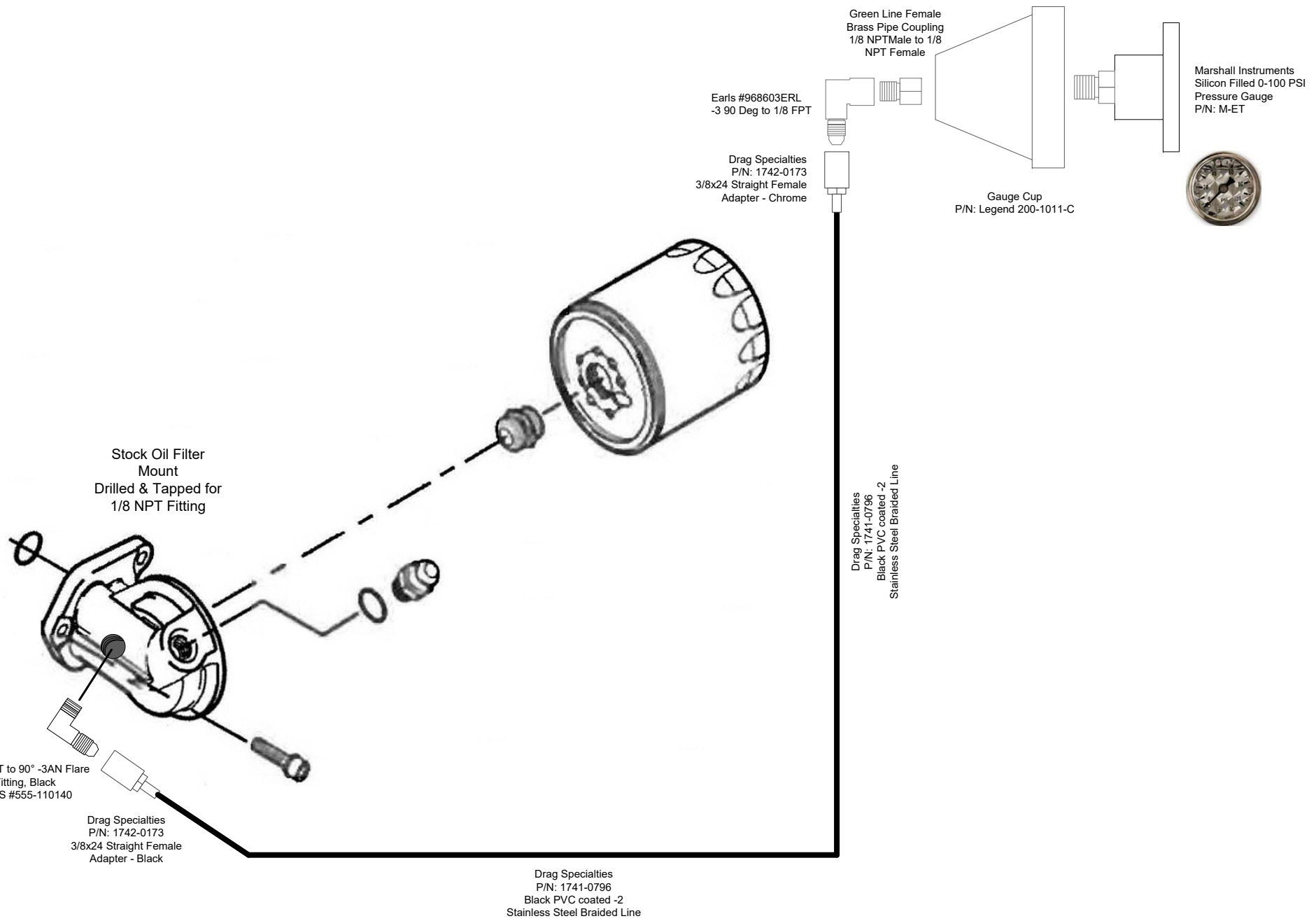
V-Rod Airbox Layout	File	03-011-T-Airbox Layout.vsd	Dwg. No.:	03-011	Drawn By	Darrellh	Created	8/13/2024	Revised	8/13/2024	Rear
					Approved		Scale	NA	Page	4 of 6	

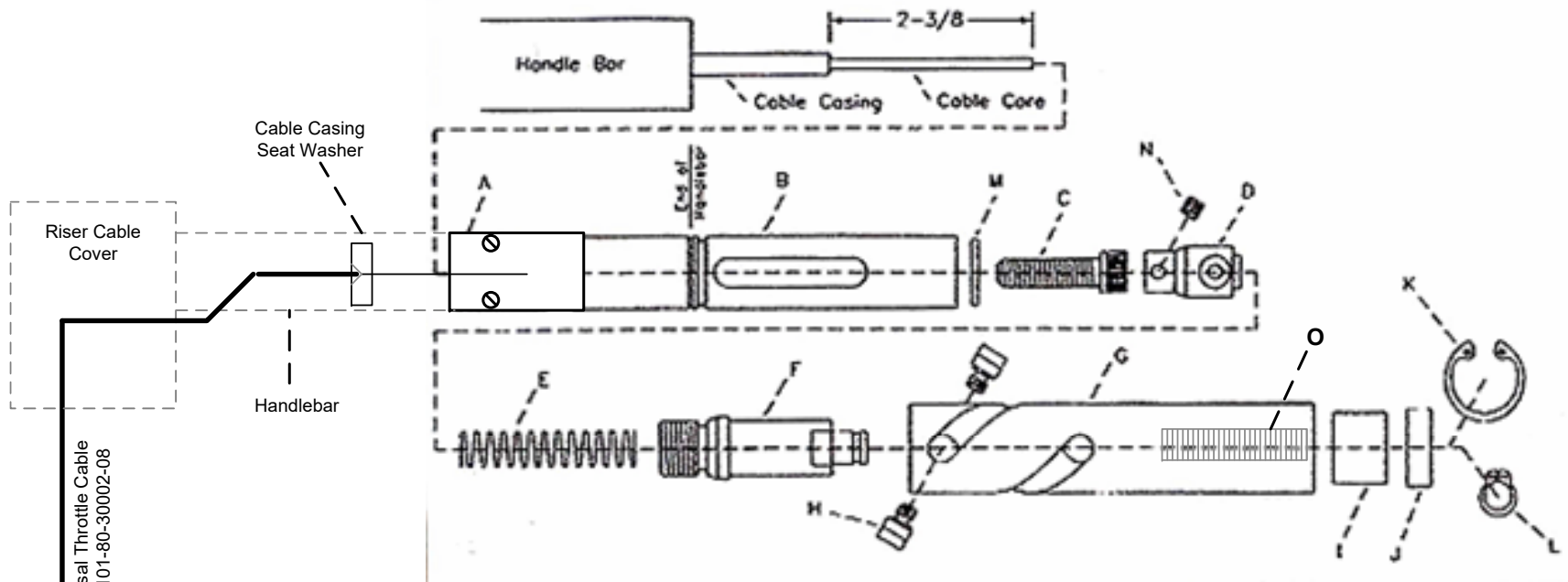
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V-Rod Airbox Layout		File	03-011-1 Airbox Layout.vsd	Dwg. No.:	03-011	Drawn By	Darrellh	Created	8/13/2024	Revised	8/13/2024	Top	
						Approved		Scale	NA	Page	5 of 6		







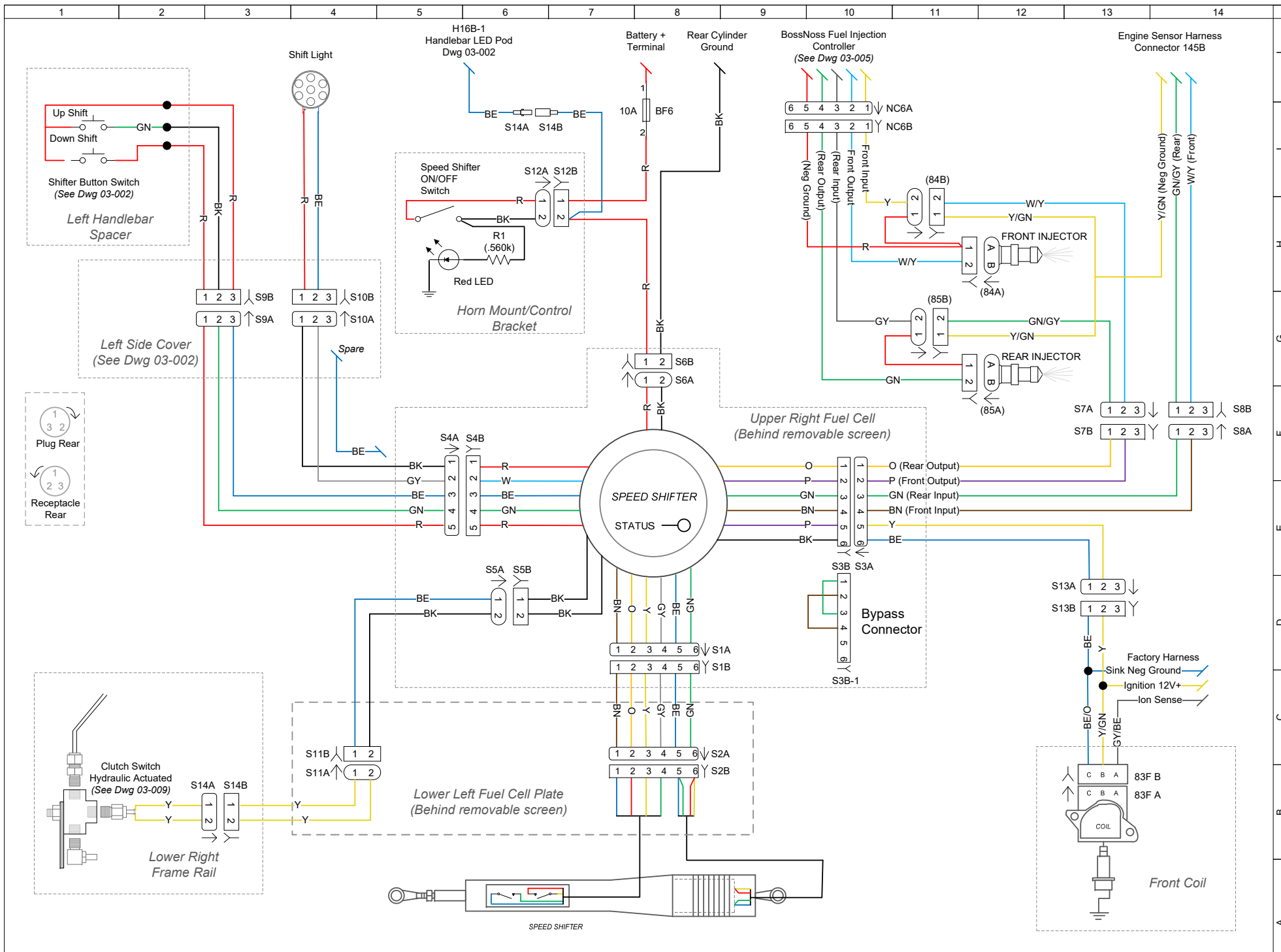
Parts Description

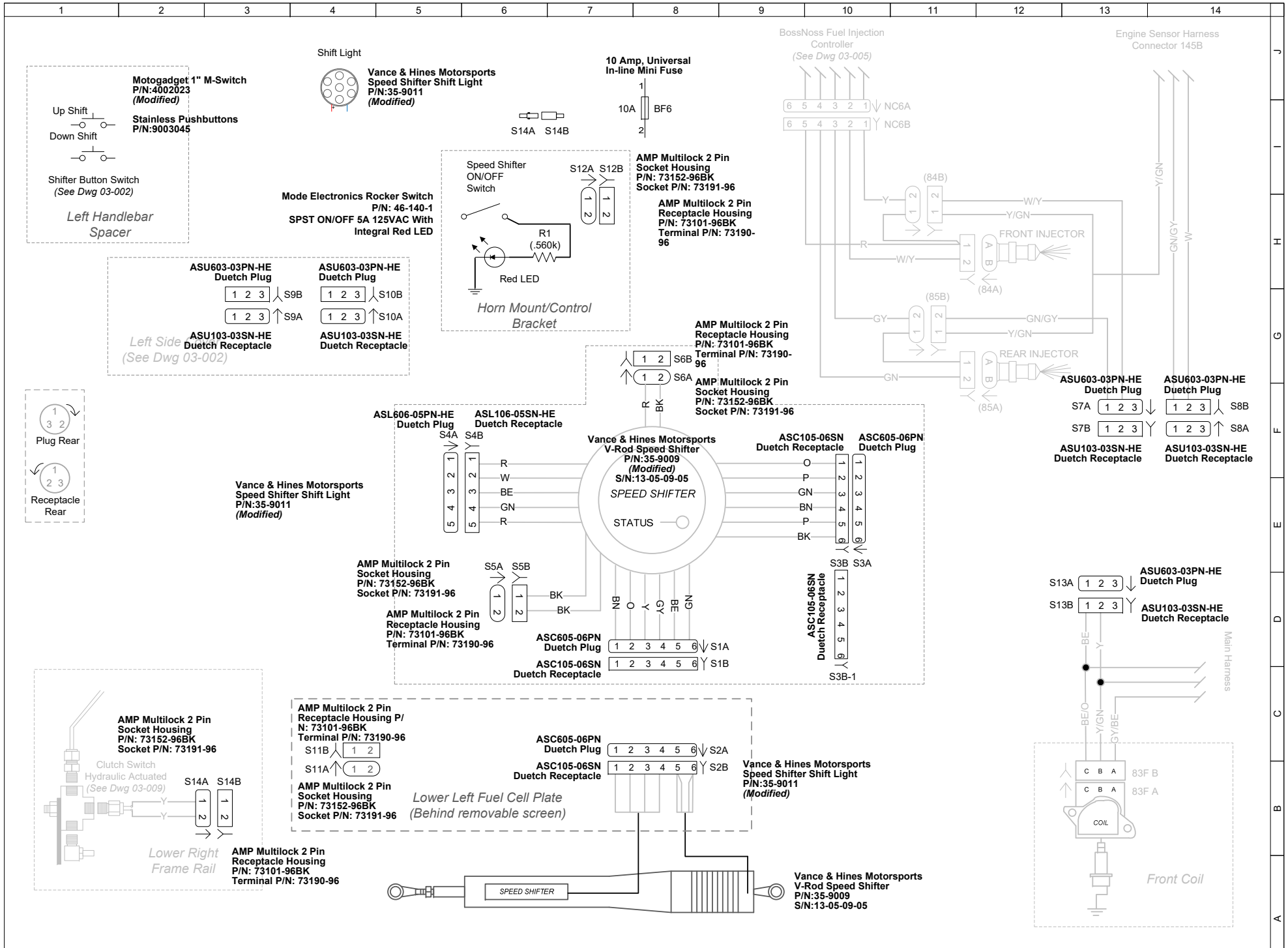
- | | | | |
|---|---------------|---|---------------------------|
| A | Beveled Clamp | H | Cam Bearing |
| B | Inner Sleeve | I | Needle Bearing |
| C | Clamp Screw | J | Ball Bearing |
| D | Slide | K | Inner Retaining Ring |
| E | Spring | L | Outer Retaining Ring |
| F | Spool | M | O-Ring |
| G | Spiral Sleeve | N | #10 32NF x 3/16 Set Screw |
| | | O | Left Hand Threaded Insert |

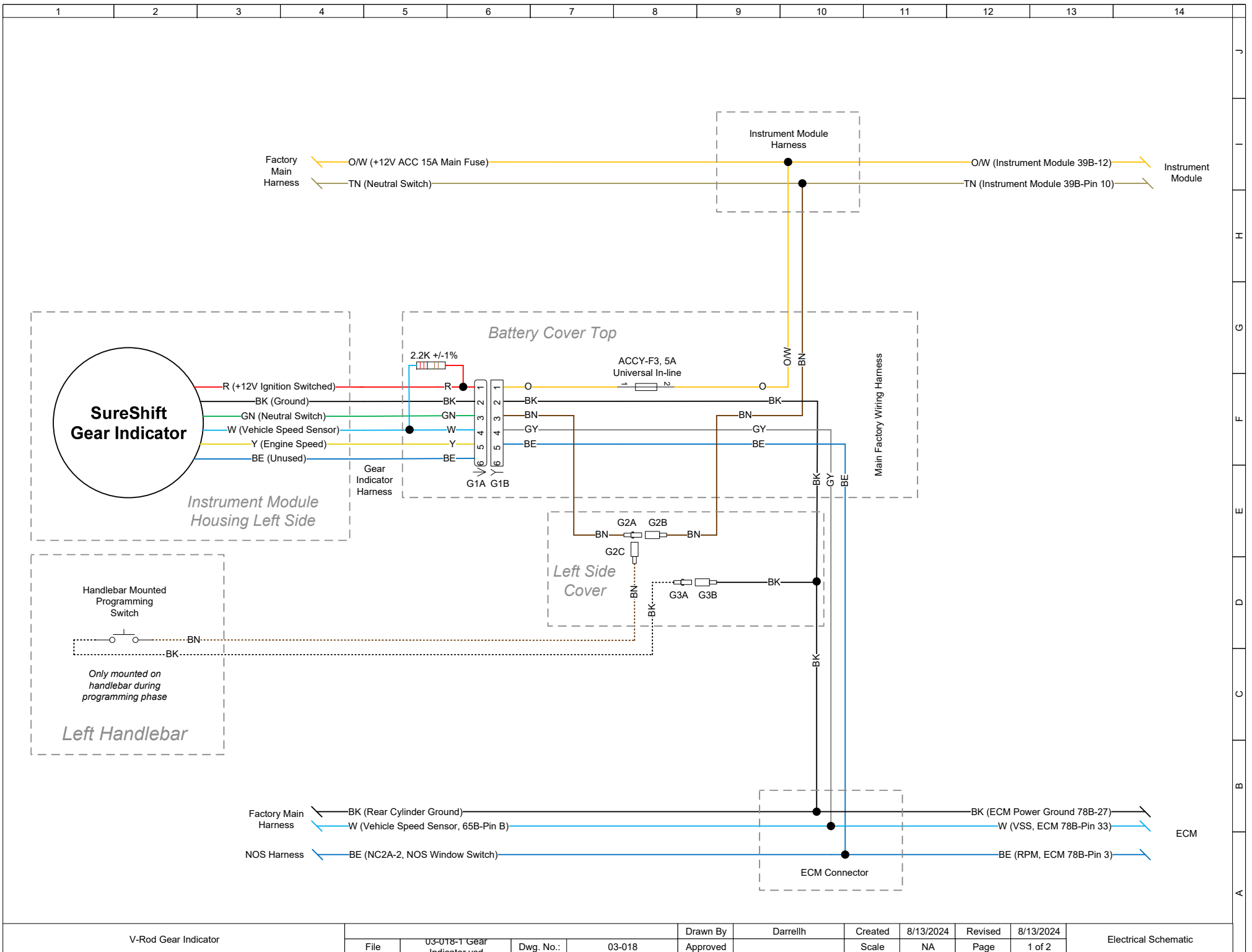
Modified Parts

- A Replaced Beveled Clamp with a welded sleeve c/w 2 set screws
- C Clamp Screw Removed
- O Left Hand Threaded Insert


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Motogadget SureShift Polished
P/N: 4001030
 c/w
SureShift Chrome Bracket
P/N: 4001006

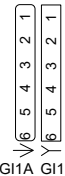


*Instrument Module
 Housing Left Side*


Left Side Cover

ASC605-06PN
Duetch Plug

ASC105-06SN
Duetch Receptacle

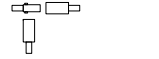


ACCY-F3, 5A
Universal In-line




Left Side Cover

Single Conductor Spade Male/Female Connector



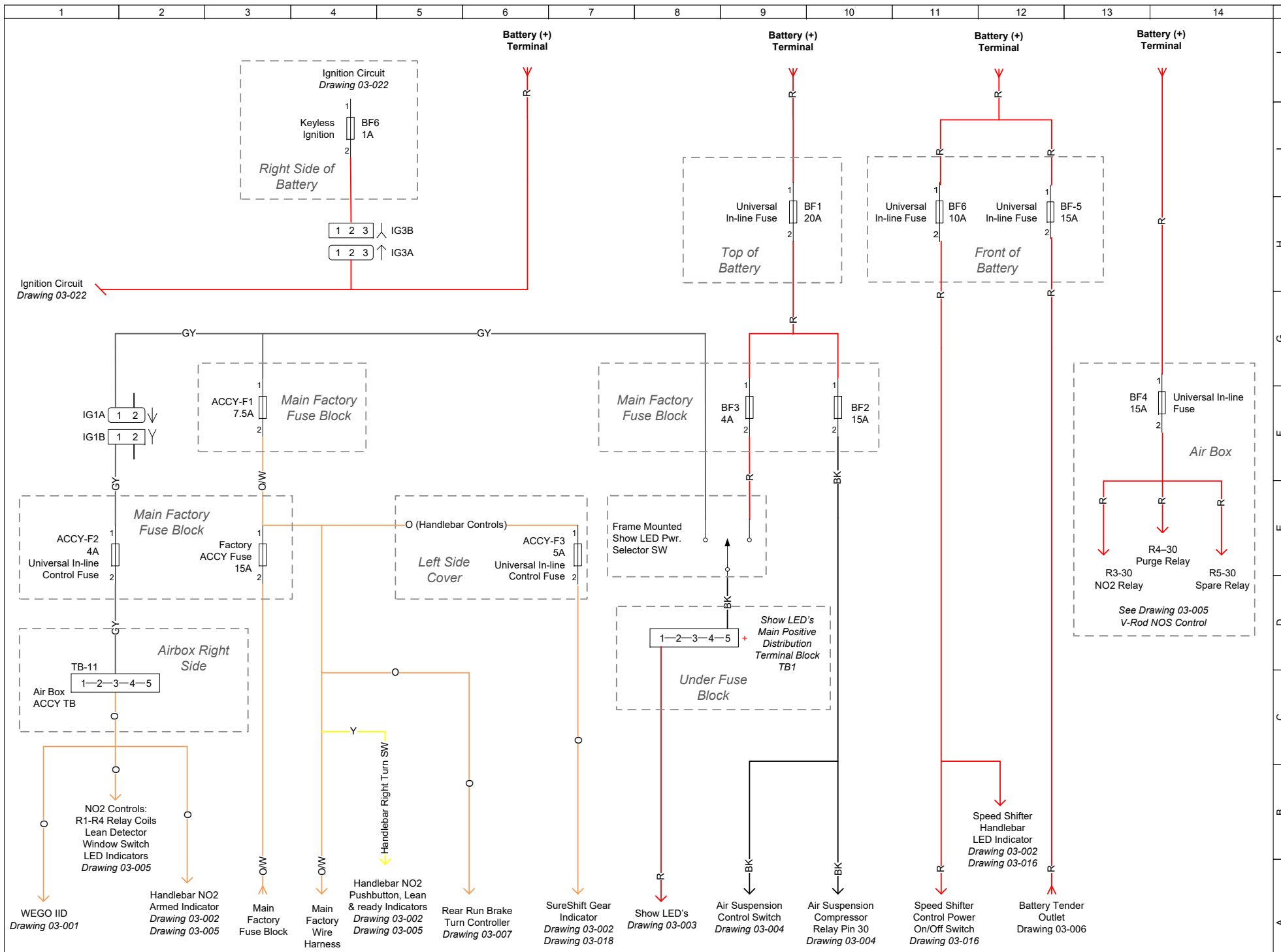
Handlebar Mounted Programming Switch

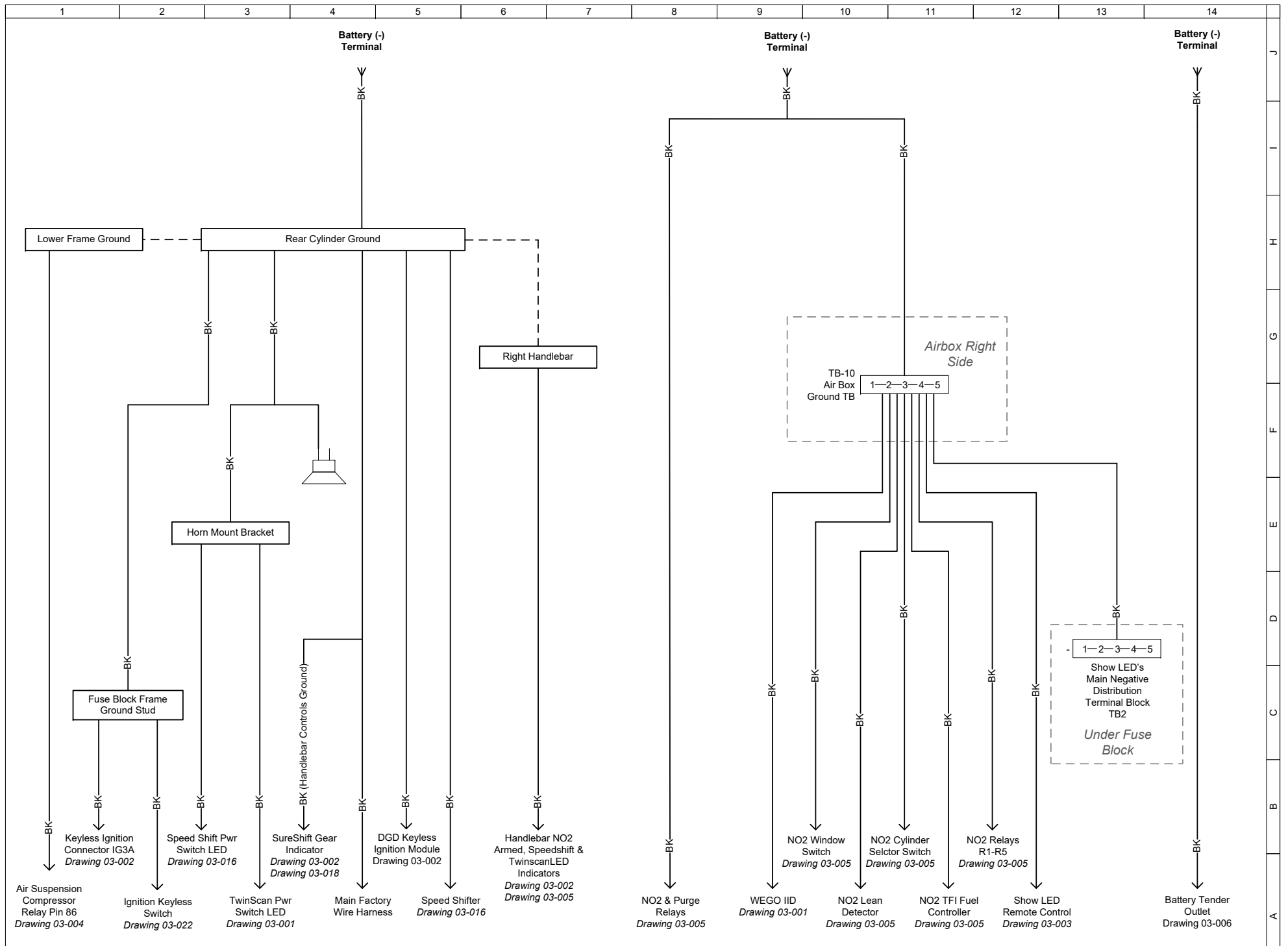


Only mounted on handlebar during programming phase

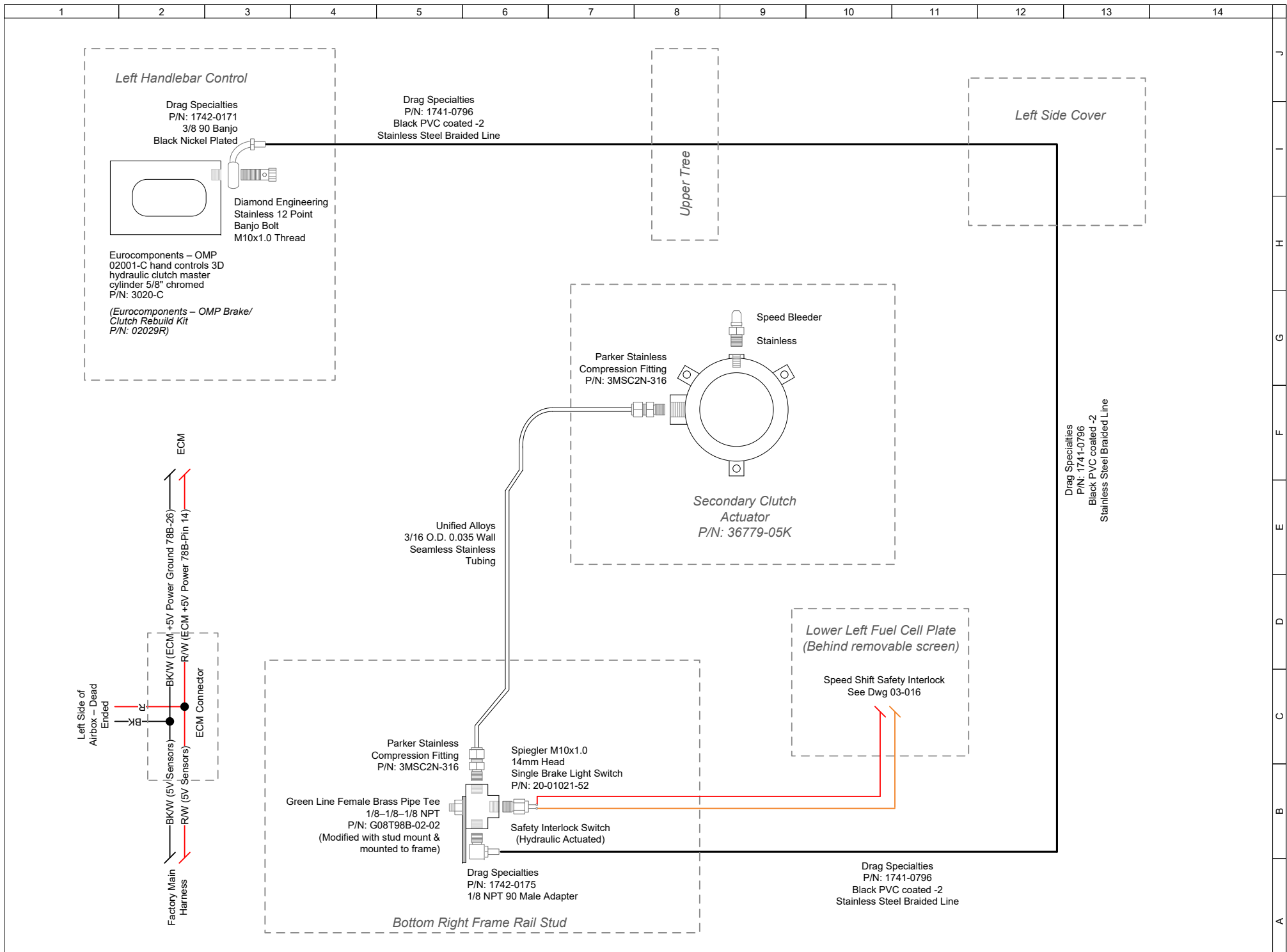
Left Handlebar

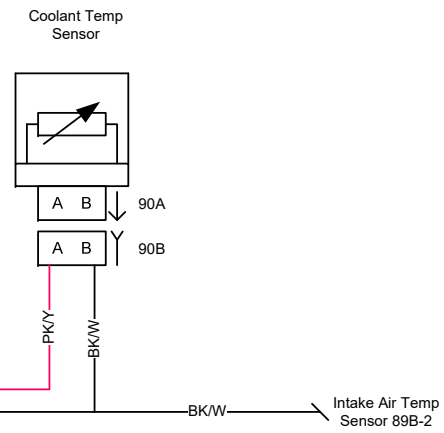
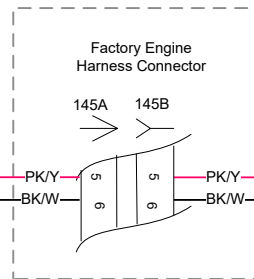
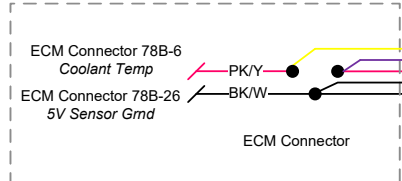
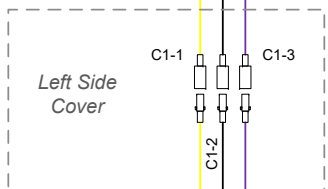
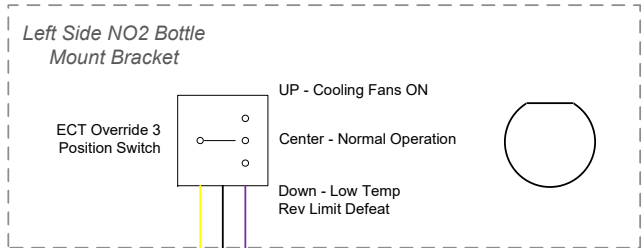
Motogadget SureShift Mini Push Button
P/N: 9003010
 c/w
One of Plastic Mounting Bracket



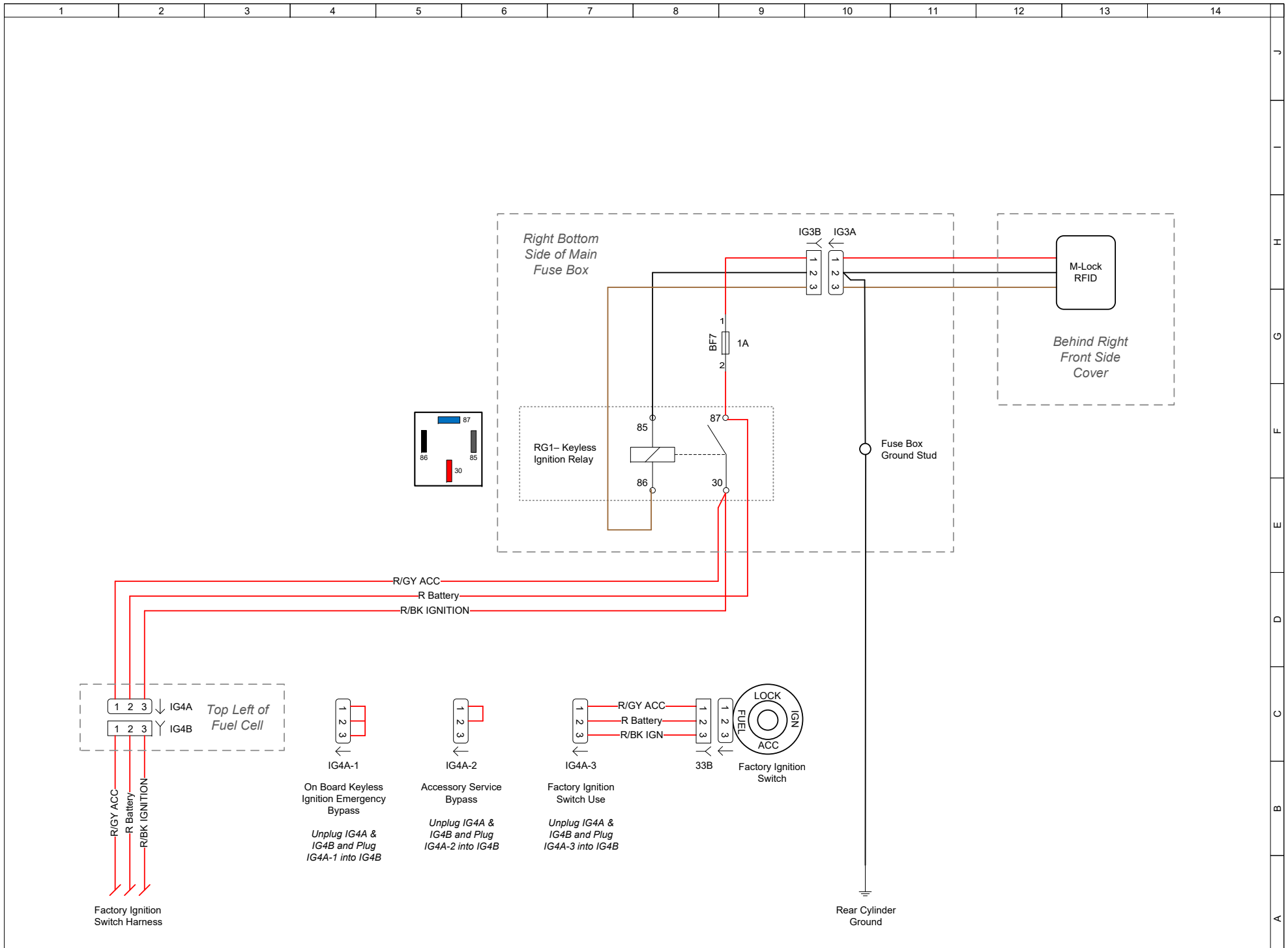


V-Rod DC Distribution				Drawn By	Darrellh	Created	8/13/2024	Revised	8/13/2024	Negative (Grnd) Distribution
File	03-019-1 DC Distribution.vsd	Dwg. No.:	03-019	Approved	Scale	NA	Page	2 of 2		

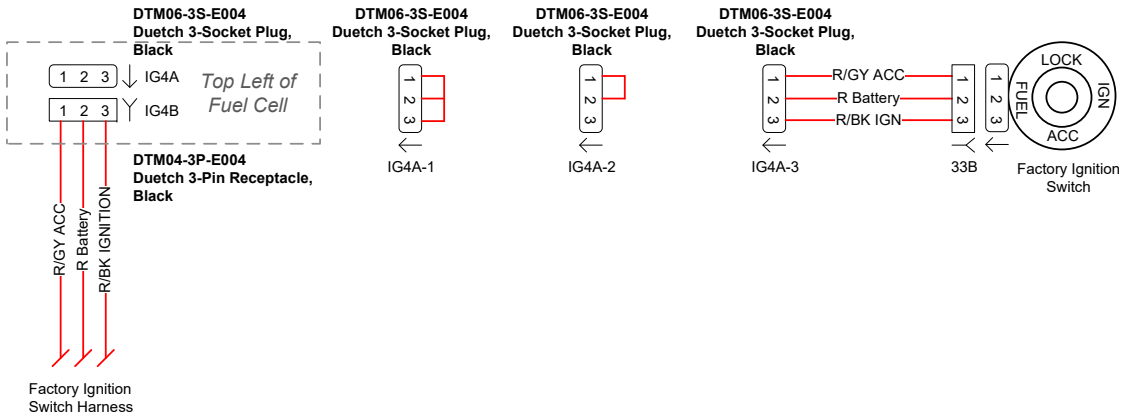
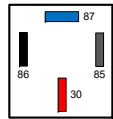
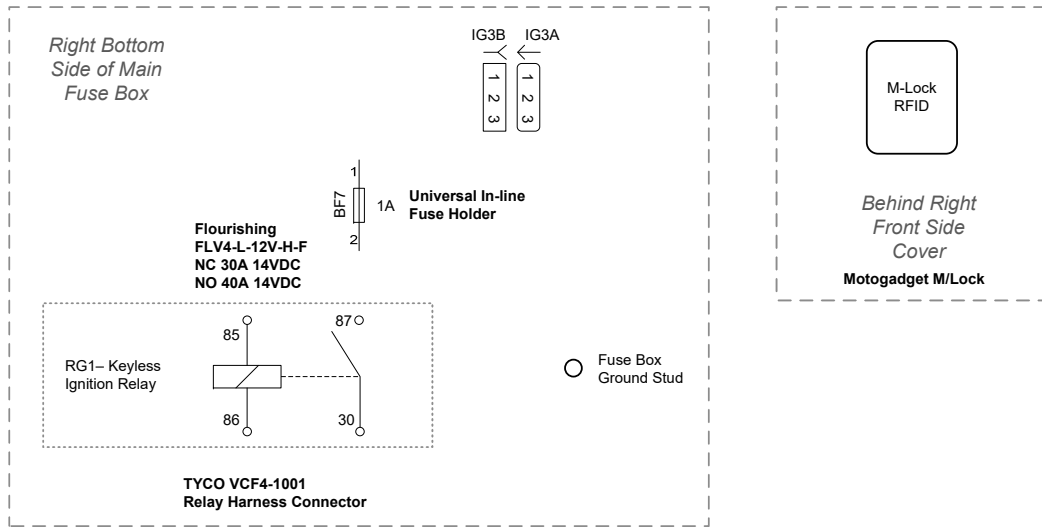


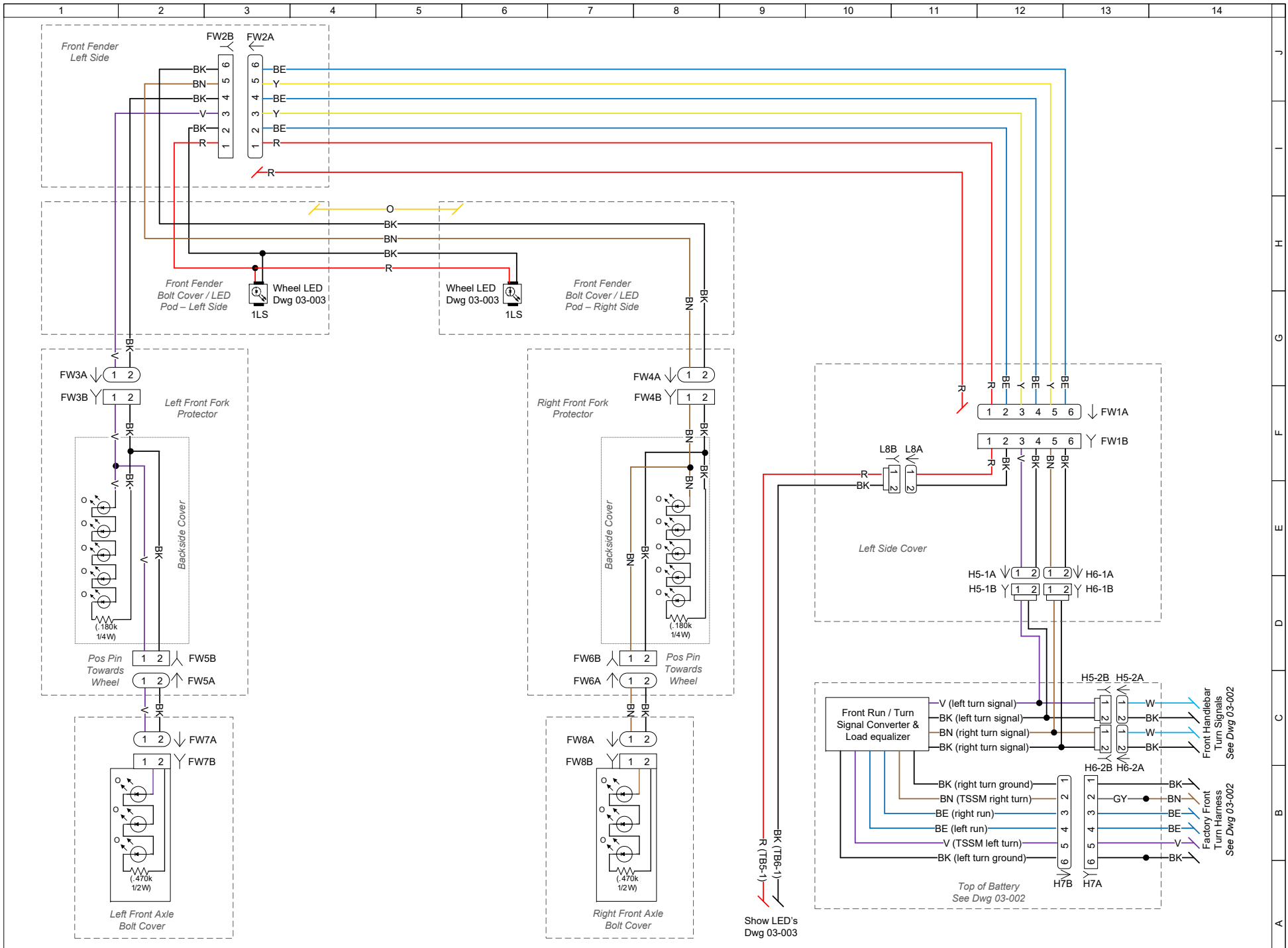


- Notes:**
1. When the switch lever is up (in the position towards the notch in the shaft) the ECU is sent a signal that will represent approx 223F (106C), which is high enough to turn on the fans.
 2. When the switch is in the center position the ECT and ECU operate normally.
 3. When the switch lever is down (in the position away from the notch in the shaft) the ECU is sent a signal that will represent approx 189F (87C), which is high enough to defeat the low temperature rev limit.



**AMP Multilock 3 Pin
Socket Housing
P/N:73153-96BK
Socket P/N: 73191-96
Receptacle Housing P/N:
73103-96BK
Terminal P/N: 73190-96**

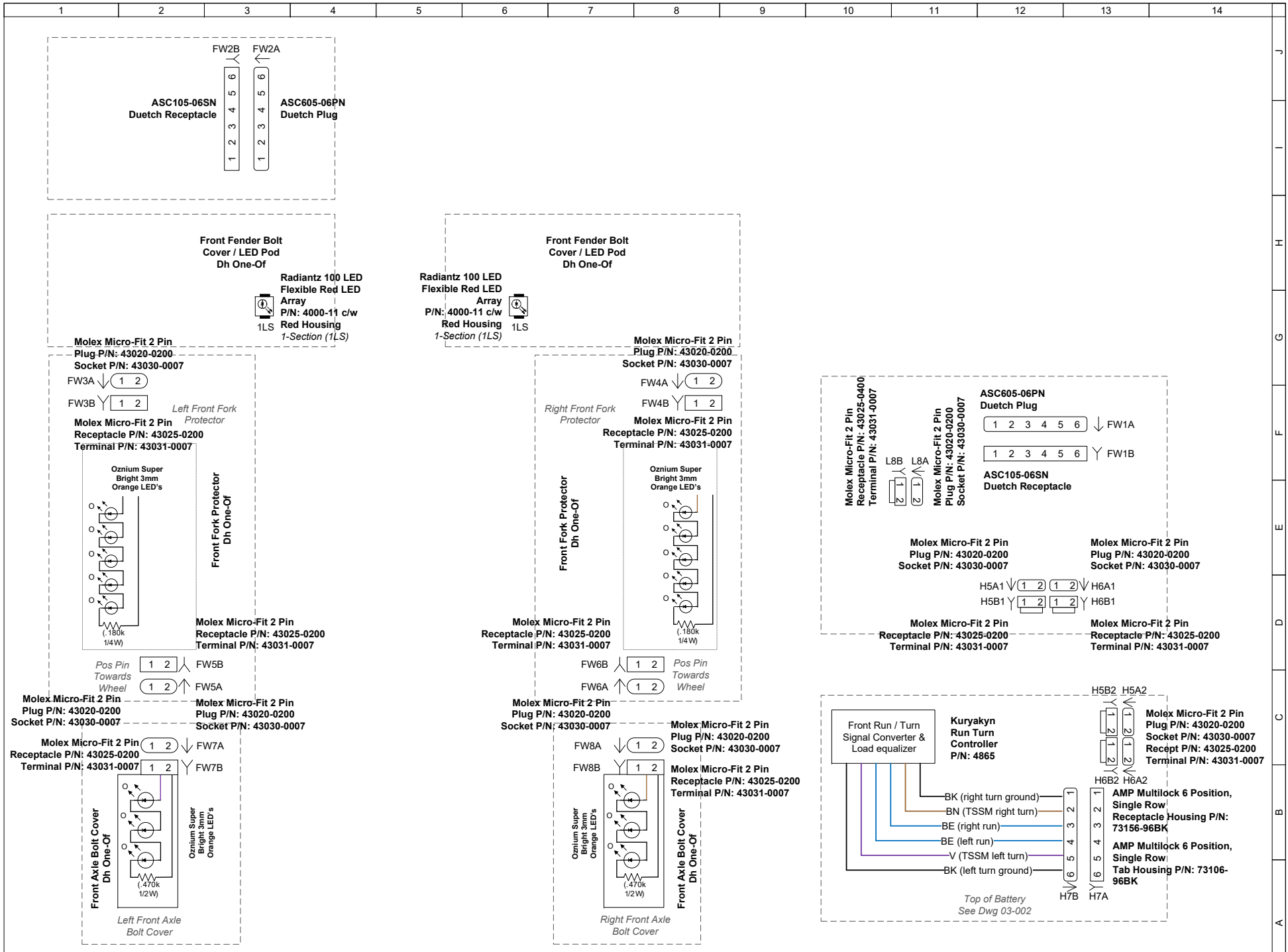


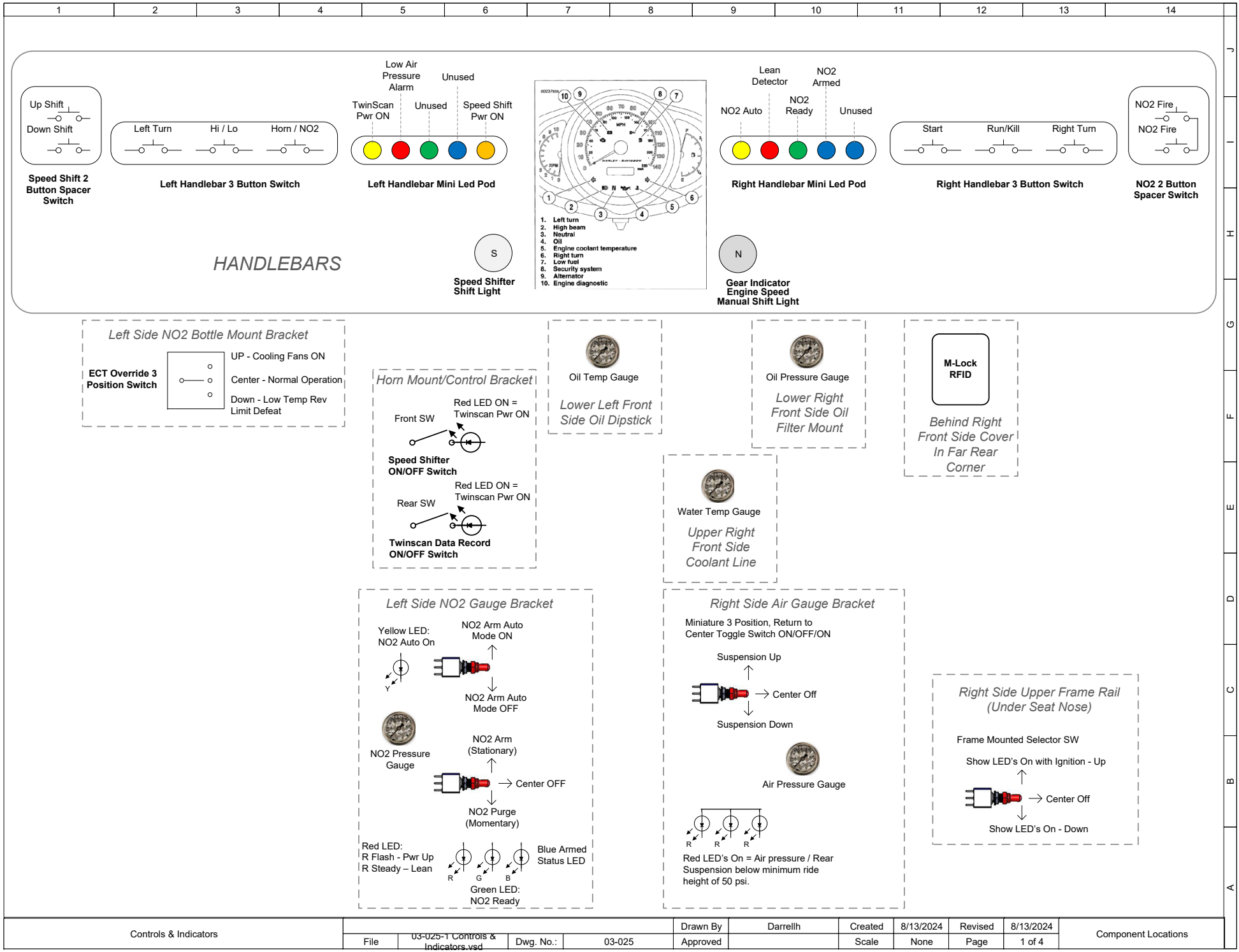


V-Rod Front Fork/Wheel Lighting Asbuid

File	U3-U24-1 Front Fork Wheel Lighting.vsd	Dwg. No.:	03-024	Drawn By	Darrellh	Created	8/13/2024	Revised	8/13/2024	Electrical Schematic
Scale	None	Approved		Page	1 of 2					

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Handlebar LED Indicator Pods: (see drawing 03-002)

Left Pod Functions

From the far right (inside) to the far left (outside) the LED functions are:

1. Orange - Speed Shift is enabled.
2. Blue - unused
3. Green - unused
4. Red - Low Rear Shock Air Pressure
5. Yellow – TwinScan Enabled (see service note "Data Port")

Right Pod Functions

From the far right (outside) to the far left (inside) the LED functions are:

1. Blue - unused
2. Blue - NO2 Armed
3. Green - NO2 Ready
4. Red flashing - lean detector power up; Red solid: lean condition
5. Yellow - NO2 in Auto mode

Handlebar Switch Functions: (see drawing 03-002)

Left 3 Button Control Switch Functions:

From the far left (outside) to the far right (inside):
Left Turn, Headlight Hi/Lo and/or Garage Door Trigger, Horn and/or NO2 Trigger

Left 2 Button Control Switch Functions:

Top - Speed Shift Up Shift
Bottom - Speed Shift Down Shift

Right 3 Button Control Switch Functions:

From the far right (outside) to the far left (inside):
Right Turn, Engine Run/Kill, Engine Start

Engine Run/Kill Button – Pushbutton functions as both a run and kill switch. After ignition is turned ON, press the button once to enable run/engine start. Once Run is enabled or the engine is started the pushbutton will function as a kill switch.

Right 2 Button Control Switch Functions:

Top - NO2 Trigger
Bottom - NO2 Trigger
Note: Buttons are in parallel and perform the same function

Air Gauge/Suspension Basic Operation: (see drawing 03-004)

1. Air Pressure Gauge - shows the PSI in the air shock lines. Adjust air spring pressure as desired. Excess pressure will result in a firmer ride, too little pressure will allow the suspension to bottom out. Maximum air pressure is 100 PSI.
2. To increase air pressure and consequently ride height and clearance flip the control switch on the gauge mount up.
3. To decrease air pressure and consequently ride height and clearance flip the control switch on the gauge mount down.
4. The system is functional without the ignition switch on excepting the low air pressure alarm indication.
5. You must have a minimum of 50 PSI before operating the center/display stand.

NOTE: The bike can be ridden with no air pressure in the rear shocks but cornering clearance is greatly affected. The alarm set point should be at a level you choose to notify you that cornering clearance will be affected so that you can ride accordingly.

1. The low air pressure alarm LED's on the left handlebar and the air gauge mount are only active when the ignition is switched on. Switch the ignition on or set to the ignition position before adjusting the alarm set point. When the air pressure drops below the alarm set point the Red LED's on the gauge mount and the left handlebar indicator pod will turn on.

ECT Override 3 Position Switch: (see drawing 03-021)

1. When the switch lever is up (in the position towards the notch in the shaft) the ECU is sent a signal that will represent approx 223F (106C), which is high enough to turn on the fans.

2. When the switch is in the center position the ECT and ECU operate normally.

3. When the switch lever is down (in the position away from the notch in the shaft) the ECU is sent a signal that will represent approx 189F (87C), which is high enough to defeat the low temperature rev limit.

RFID Ignition (Upper Right Front Side Cover) (see drawing 03-022)

There is no factory ignition key switch installed. The original factory ignition harness that was attached to the stock ignition switch has been re-routed around the top of the fuel cell to the left side of the fuel cell without alteration.

The ignition connector IG4-A&B can be accessed through the removable left side upper rear frame cover where a bypass connector is also stored should you lose the RFID tag. (See the service notes in the *Wireless Ignition drawing 03-022*)

The RFID receiver is located in the rear corner of the top right side cover.

To turn the ignition ON or OFF tap the RFID tag against the rear corner of the top right side cover.

Note: The device can operate in a voltage range from 7 V to 18 V DC. The vehicle voltage should larger than 9V. If during cranking the engine the vehicle voltages drop below 6V the relay will release and causes a vehicle power shut down.

Horn Mount Control Switches: (see drawing 03-001, 03-016)

There are two switches with power ON indicators built in on the horn control switch bracket. The forward position control switch turns the Speed Shifter ON/OFF. The rear position control switch turns the Twinscan data logger ON/OFF. Neither switch needs to be turned on for normal riding using traditional shifting. Both should be turned on if using the NO2.

Data Port: (Relocation to Top of fuel cell) (see drawing 03-001)

The factory data port under the left top side cover is extended and access is now on the top of the fuel cell under the seat. The Daytona Sensor TwinScan power/data cable is plugged into the extended data port on the top of the fuel cell. The TwinScan can be disconnected from the secondary data port on the top of the fuel cell so that the same port can be used with the race tuner or the factory service diagnostics.

Controls & Indicators				Drawn By	Darrellh	Created	8/13/2024	Revised	8/13/2024	Service Note 1 - Functions
File	03-025-1 Controls & Indicators.vsd	Dwg. No.:	03-025	Approved		Scale	None	Page	2 of 4	

1	2	3	4	5	6	7	8	9	10	11	12	13	14												
<p>Shifting Gears There are two modes of operation for gear shifting, manual shifting using the clutch and the toe shift like you would on any motorcycle, or pushbutton shifting using the Speed Shifter. Normal manual shifts can be made anytime even if the Speed Shifter is enabled.</p> <p>Speed Shift Power On Switch / Indication (Horn Mount Control Bracket) The speed shift power on switch is located in the forward position in the control switch panel that is part of the horn mount. The switch can be used to enable or disable the speed shift and it's handlebar push buttons without loosing the program settings. The switch when turned on, enabling the speed shifter, will light the red LED inside the switch itself and the orange LED, furthest to the Inside, on the left side handlebar LED pod.</p> <p>Note: The speed shift has been calibrated to allow either traditional manual shifting using the foot controls or the speed-shift push button controls on the left handlebar if the speed shift power switch is turned on. Any changes to the speed shift motor mounting location, or adjustments to the speed shift motor shaft and/or adjustments to the shift linkage will require recalibration. (See <i>service notes in drawing 03-016</i>)</p> <p>Speed Shift Operating Instruction Summary (see drawing 03-016)</p> <p><u>Regular Speed Shifting</u> For regular shifting pressing the UP button once will allow up shift without the need to pull in clutch. Pressing the Down button will allow for downshifting. <i>NOTE: You may need to pull in the clutch on some downshifts to unload the transmission.</i></p> <p><u>Finding Neutral</u> With the motorcycle in 1st gear, give the UP button a quick tap, this allow for neutral. Or with the motorcycle in 2nd gear, give the Down button a quick tap, this will allow for neutral.</p> <p><u>Automatic Up Shifting</u> For automatic shifting, press the Up shift button for your first up shift and continue to hold button in. The motorcycle will shift according to your shift light rpm setting (Default 8700 RPM). (The clutch must be used for downshifts)</p> <p><u>Two-Step Operation</u> To operate the two-step feature, hold the clutch lever in until shift light flashes. At this point, holding the throttle wide open will hold the rpm at the desired setting.</p> <p>Shift Light (see drawing 03-016) The shift light on the left side of the instrument cluster is only active when the speed shifter is powered on via the front hoen mount control panel switch.</p> <p><u>Manual Shifting</u> You can shift gears at any RPM using the speed shifter buttons on the left handlebar or the traditional foot controls. The shift light is set to turn on and flash at 8700 RPM</p> <p><u>Automatic Up Shifting</u> When in auto shift mode the light will flash at 8700 RPM at which point the auto shift will occur.</p> <p><u>Two-Step Operation</u> To operate the two-step feature, hold the clutch lever in until shift light flashes. At this point, holding the throttle wide open will hold the rpm at the desired setting.</p> <p>Gear Indicator (see drawing 03-018) The gear indicator on the right side of the instrument cluster is active when the ignition is enabled.</p>																									
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Controls & Indicators																									
File				03-025-1 Controls & Indicators.vsd				Dwg. No.:		03-002		Drawn By		Darrellh		Created		8/13/2024		Revised		8/13/2024		Service Note 2 - Functions	
												Approved				Scale		None		Page		3 of 4			

Left Side NO2 Gauge Mount / Control: (see drawing 03-005)

Bottom Arm / Purge Switch - Up will arm the system. Down activates the purge solenoid. The Blue LED on the gauge mount next to the switch and the Blue LED on the right handlebar LED pod will illuminate when the switch is in the armed position.

Upper Auto Trigger Switch – Active only if the bottom arm switch is set to the armed position. The Yellow LED next to the switch and the Yellow LED in the right handlebar LED pod indicates the switch has been set to auto and the system is in Auto Trigger mode.

Trigger - The NO2 can be triggered by pressing either of the buttons on the 2 button switch mounted on the right side handlebar, or the horn switch on the left side handlebar, or automatically once all safeties are satisfied if the Auto Trigger Switch on the gauge pod is set to auto. When the NO2 system is armed the horn switch on the handlebars acts as a NO2 trigger switch. When the system is not armed it functions normally as a horn.

Indicators - the right side handlebar LED pod is exclusively used as status indication for the NO2 system. There are also 4 LED status indicators on the pressure gauge mount.

Right Handlebar LED Status Indicators

From the far right (outside) to the far left (inside) the LED functions are:

1. Blue – unused
2. Blue - NO2 armed
3. Green - NO2 ready
4. Red – flashing (5 sec): lean detector power up, steady (20 sec): lean condition
5. Yellow - NO2 in auto mode

Gauge Mount LED Status Indicators

Bottom: From the far right (inside) to the far left (outside) the LED functions are:

1. Blue - NO2 armed
2. Green - NO2 ready
3. Red - flashing (5 sec): lean detector power up, steady (20 sec): lean condition

Top:

1. Yellow - NO2 in auto mode

Nitrous Pressure Gauge – 0-1500 psi gauge that displays the pressure in the line at the front header.

Show LED Control: (see drawing 03-003)

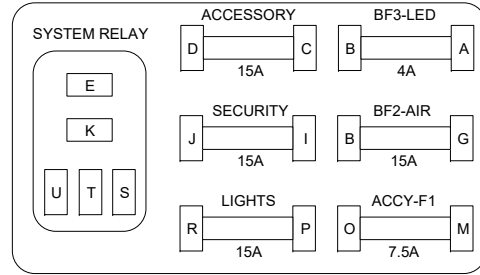
There are three ways to activate the show LED's.

1. The LED's can be turned on or off at any time using the key fob remote control. The ignition does not need to be enabled to use the key fob.
2. Show LED's on or off with the ignition by selecting the forward or up position on the frame mounted selector switch.
3. Show LED's on or off on battery only by selecting the rearward or down position on the frame mounted selector switch.

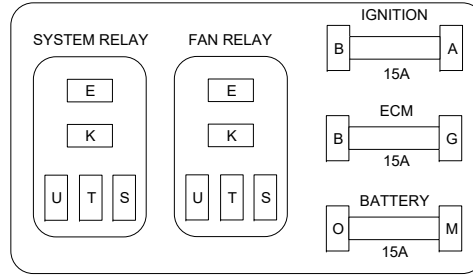
If the frame mounted selector switch is set to the center off position the LED's are off. The LED's can still be turned on or off using the key fob when the selector switch is in the center off position

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FACTORY FUSE BLOCK



(61) TOP VIEW



(62) TOP VIEW

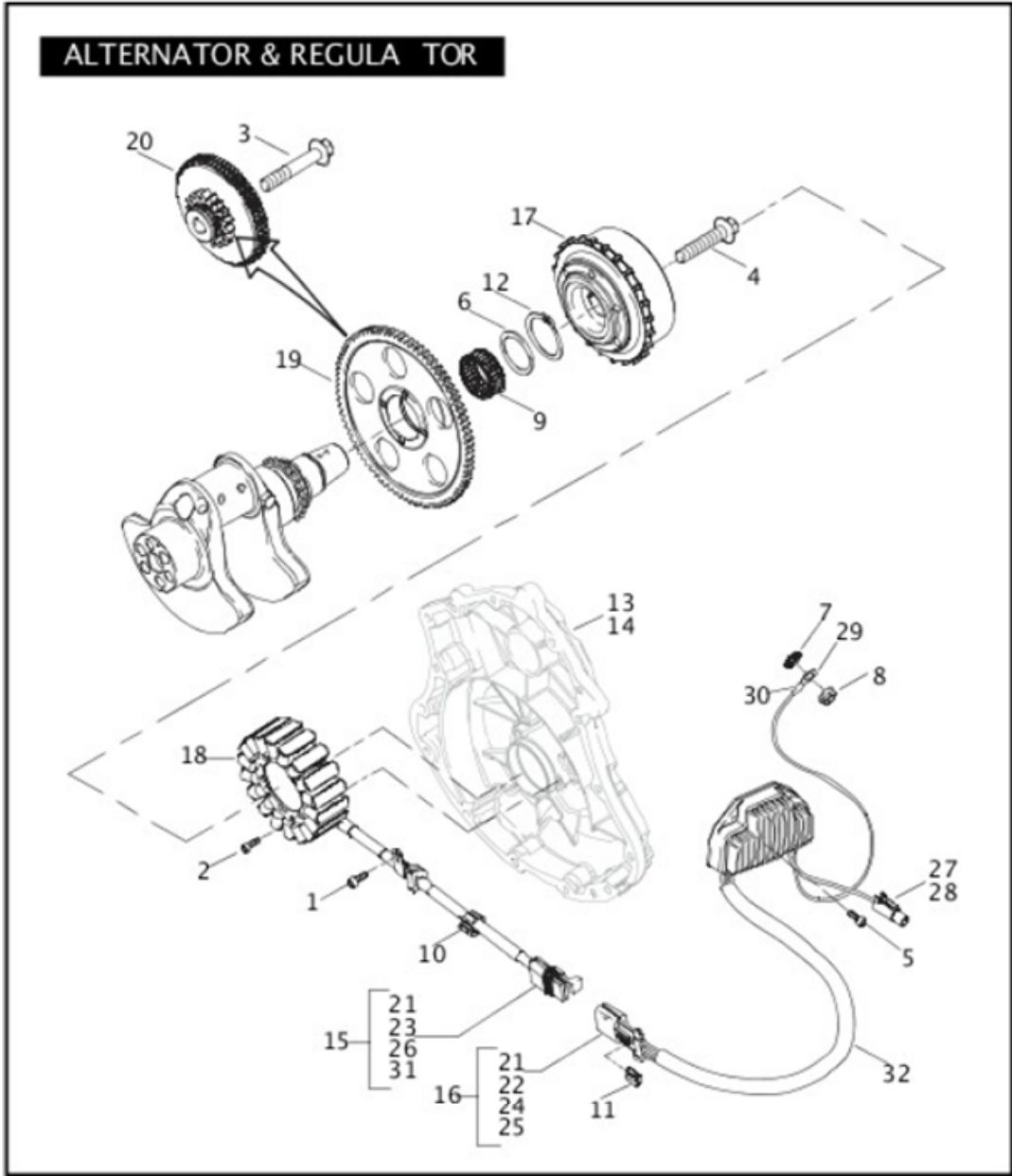
Supplemental Fuse Locations

DESIGNATION	DESCRIPTION	TYPE / RATING	LOCATION	DRAWING
ACCY-F1	Airbox Control Pwr (TB-11) and LED Ignition Switched Pwr. Fed from main ACCY 15A fuse in factory fuse block.	7.5 Amp Mini Fuse	Main Fuse Block – Empty Fuse Slot	03-001, 03-003, 03-005, 03-019
ACCY-F2	Airbox Control Pwr, TB-11	4 Amp, Universal In-line Mini Fuse.	Airbox – Right Rear	03-001, 03-005, 03-019
ACCY-F3	SureShift Gear Indicator	5 Amp, Universal In-line Mini Fuse.	Left Side Cover	03-008, 03-019
BF1	Main battery un-switched accessory power to Spare Fuse Slot 1 & 2 - Air Suspension & LED's.	20 Amp, Universal In-line Mini Fuse	Top of Battery	03-001, 03-003, 03-005, 03-019
BF2	Air Suspension	15 Amp Mini Fuse	Main Fuse Block – Spare Fuse Slot 1	03-003, 03-004 03-019
BF3	Show LED's	4 Amp Mini Fuse	Main Fuse Block – Spare Fuse Slot 2	03-003, 03-004 03-019
BF4	NO2 Fire & Purge Relays and Solenoids	15 Amp Mini Fuse	Airbox – Right Front	03-005, 03-019
BF5	Battery Tender/External Charger	15 Amp, Universal In-line Mini Fuse	Front of Battery	03-006, 03-019
BF6	Speed Shifter	10 Amp, Universal In-line Mini Fuse	Front of Battery	03-016, 03-019
BF7	Keyless Ignition	1 Amp, Universal In-line Mini Fuse	Right Side of Main Fuse Block	03-022

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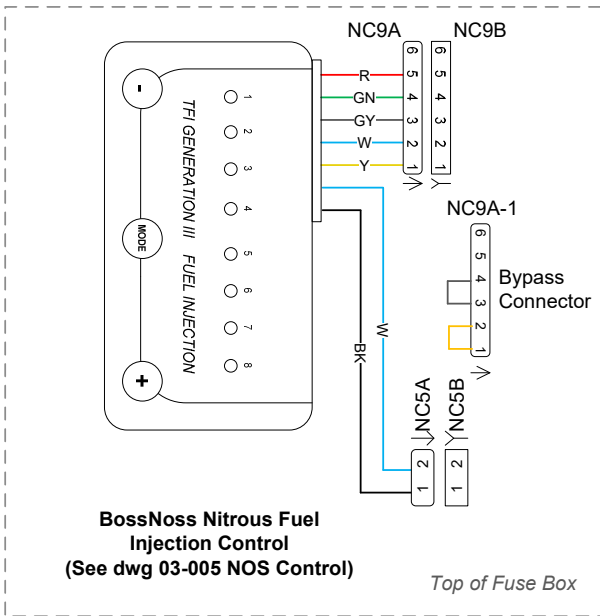
Terminal Block Locations

DESIGNATION	DESCRIPTION	TYPE	LOCATION	DRAWING
TB1	Show LED - Main Positive Terminal Block	Wago Lever Nut Compact 5-Conductor Terminal Block	Under Fuse Block - Right	03-003
TB2	Show LED - Main Negative Terminal Block	Wago Lever Nut Compact 5-Conductor Terminal Block	Under Fuse Block - Left	03-003
TB3	Show LED – Bottom End Positive Terminal Block	Wago Lever Nut Compact 5	Fuel Cell Protector Plate - Right	03-003
TB4	Show LED – Bottom End Negative Terminal Block	Wago Lever Nut Compact 5	Fuel Cell Protector Plate - Left	03-003
TB5	Show LED – Front End Positive Terminal Block	Wago Lever Nut Compact 5	Top of Battery	03-003
TB6	Show LED – Front End Negative Terminal Block	Wago Lever Nut Compact 5	Top of Battery	03-003
TB7	-			
TB8	-			
TB9	-			
TB10	Airbox Negative Terminal Block	Wago Lever Nut Compact 5	Airbox – Right Side	03-003
TB11	Airbox Positive (ACCY) Terminal Block	Wago Lever Nut Compact 5	Airbox – Right Side	03-003
TB12	Rear Aux Lighting Terminal Block	Modified Wago Lever Nut Compact 5	Under Rear Taillight	03-007



INDEX NO.	PART NO.	DESCRIPTION	MODEL(S)
1	965M	SCREW	ALL
2	978M	SCREW (14)	ALL
3	1027M	SCREW	ALL
4	1035M	SCREW	ALL
5	3729M	SCREW (2)	ALL
6	6176MA	WASHER	ALL
7	7229W	LOCKWASHER (2)	ALL
8	7495	NUT	ALL
9	8002K	NEEDLE ROLLER AND CAGE ASSEMBLY	ALL
10	10108	CLIP	ALL
11	10141	CLIP	ALL
12	11328M	RETAINING CLIP	ALL
13	25881-01KA	COVER KIT/STATOR, w/ 1, 2, 14, 18, 23 & 26 (chrome)	ALL
14	25895-04K	ALTERNATOR COVER (chrome)	VRSCA
	25311-04K	ALTERNATOR COVER (polished)	VRSCB
15	25918-04K	STATOR CONNECTOR KIT, w/ 21, 23, 26 & 31	ALL
16	25919-04K	REGULATOR CONNECTOR KIT, w/ 21, 22, 24 & 25	ALL
17	30731-01K	ROTOR ASSEMBLY, w/ ball catch assembly	ALL
18	30734-04K	STATOR ASSEMBLY, w/ plug assembly stator	ALL
19	31301-01K	GEAR, ball clutch	ALL
20	31303-01K	LIMITER ASSEMBLY	ALL
21	72412-97	SEAL CABLE (3)	ALL
22	72088-04	TERMINAL, pin (3)	ALL
23	72089-04	SOCKET HOUSING, 3-way female (black)	ALL
24	72090-04	PIN HOUSING, 3-way male (black)	ALL
25	72091-04	LOCK, secondary 3-way	ALL
26	72092-04	LOCK, secondary 3-way	ALL
27	72171-01	SOCKET TERMINAL, 8-10 AWG.	ALL

2003 VRSCA Stator 30734-01K changed to 2004 VRSCA Stator 30734-04K required for NLC engine cover fit. Rotor change not required.



Injector Control Summary

Stock Setup

Injector control signals are sent from the ECM directly to the Front and Rear injectors.

Speedshifter

The injector signal from the V-Rod ECM is routed through the speed shifter ECM to the Front and Rear Injectors. The injector signal is momentarily interrupted by the speed shifter during shifts to offload the transmission when the speed shifter is powered on and the up or down shift button is pressed to shift gears.

Nitrous Fuel Injector Control

The injector signal from the V-Rod ECM is routed through the speed shifter ECM and then through the Nitrous Fuel Injection Control to the Front and Rear Injectors. The NO2 controller will override the V-Rod ECM injector signal to add additional fuel anytime the NO2 fire button is pressed, otherwise the injector signal from the ECM is passed through. The Speed Shifter ECM will still interrupt the injector signal when needed.

Injector Signal Path

V-Rod ECMM Injector Signal >> Speed Shifter ECM >> NO2 Fuel Injector Control >> Front/Rear Injectors

To Bypass the Nitrous Fuel Injection Control

1. Locate the on-board bypass connector NC9A-1 at the front bottom of the fuse box.
2. Unplug connector NC9A from NC9B disconnecting the controller from the injector loop.
3. Plug the bypass connector NC9A-1 into NC9B. The injector loop is now functional without the controller. The bypass connector passes the injector signal through to the injectors so that you do not have to remove the controller injector harness.

To Bypass the Speed Shifter Injection Control

1. Locate the onboard bypass connector S3B-1 behind the right side upper screen panel where the speed shifter ECM is also located.
 2. Unplug connector S3B from S3A disconnecting the speed shifter controller from the injector loop.
 3. Plug the bypass connector S3B-1 into S3A. The injector loop is now functional without the controller. The bypass connector passes the injector signal through to the injectors so that you do not have to remove the speed shift controller injector harness.
- Note: Do not operate the Speed Shifter in this bypass mode.

Bypass Notes

The bypass connectors are used to assist in troubleshooting by temporarily removing the component from the injector control loop or to return the injector control to the stock configuration for testing. If you intend to permanently remove either the NO2 fuel controller or the speed shifter then it is recommended that you return the injector control wiring harness back to stock configuration.

