

Engineering Release Notice (ERN)	Location	Change Description	A = Added D = Deleted	W = Was	Document Release Status
D-17543-16		A: 8x4 and 10x4 lift axles			RELEASED
				Date	Modification Count

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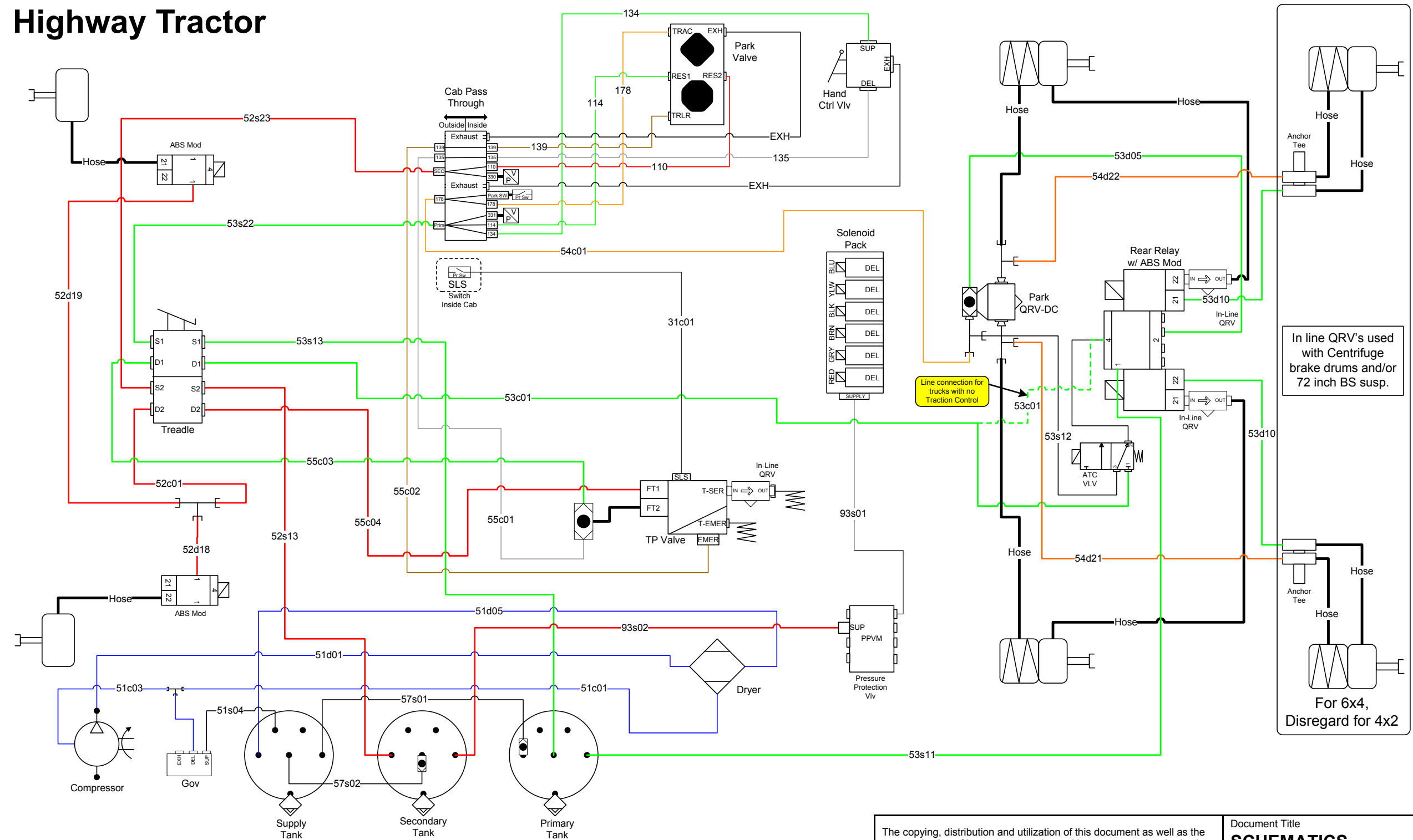
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1 Highway Tractor



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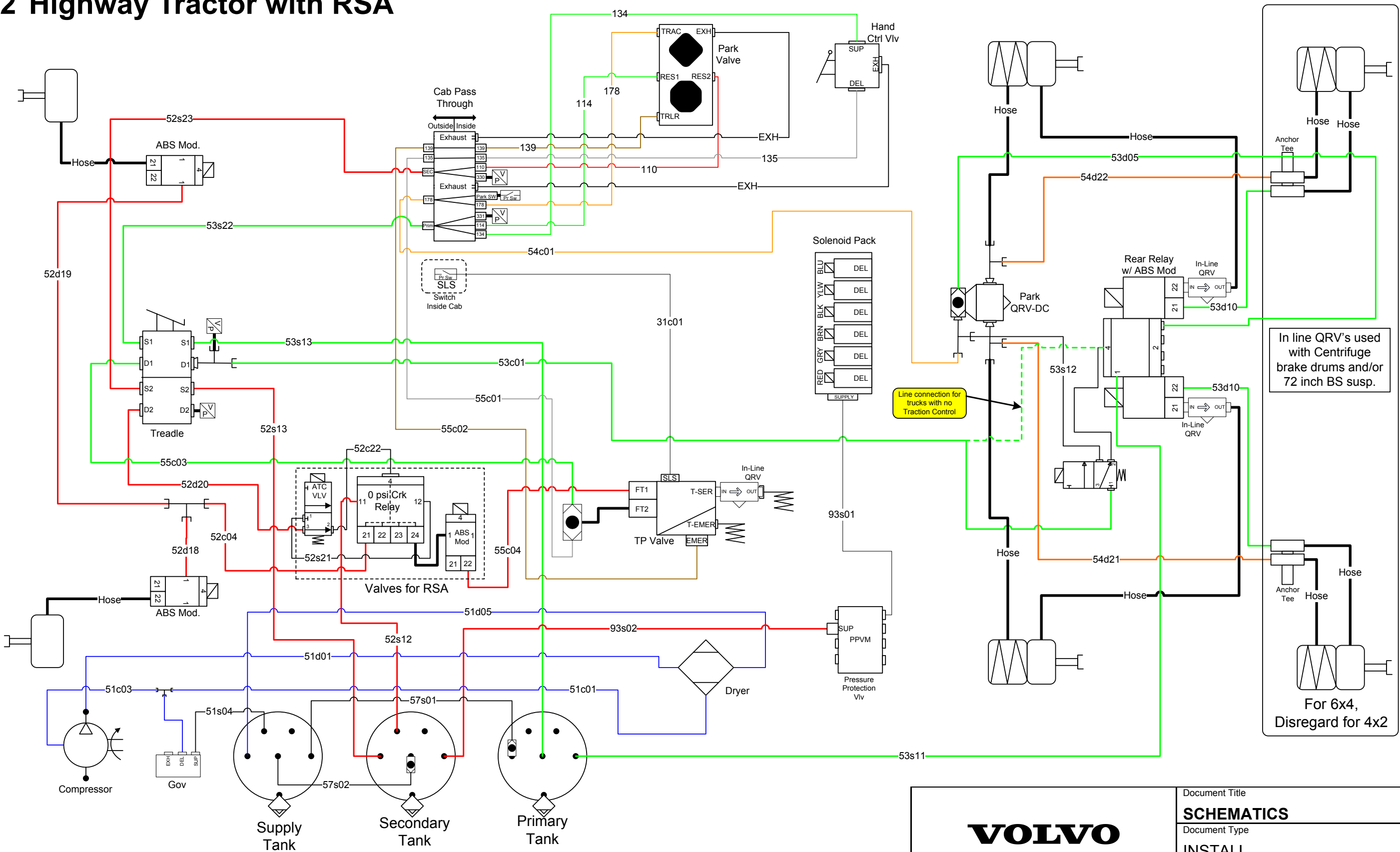
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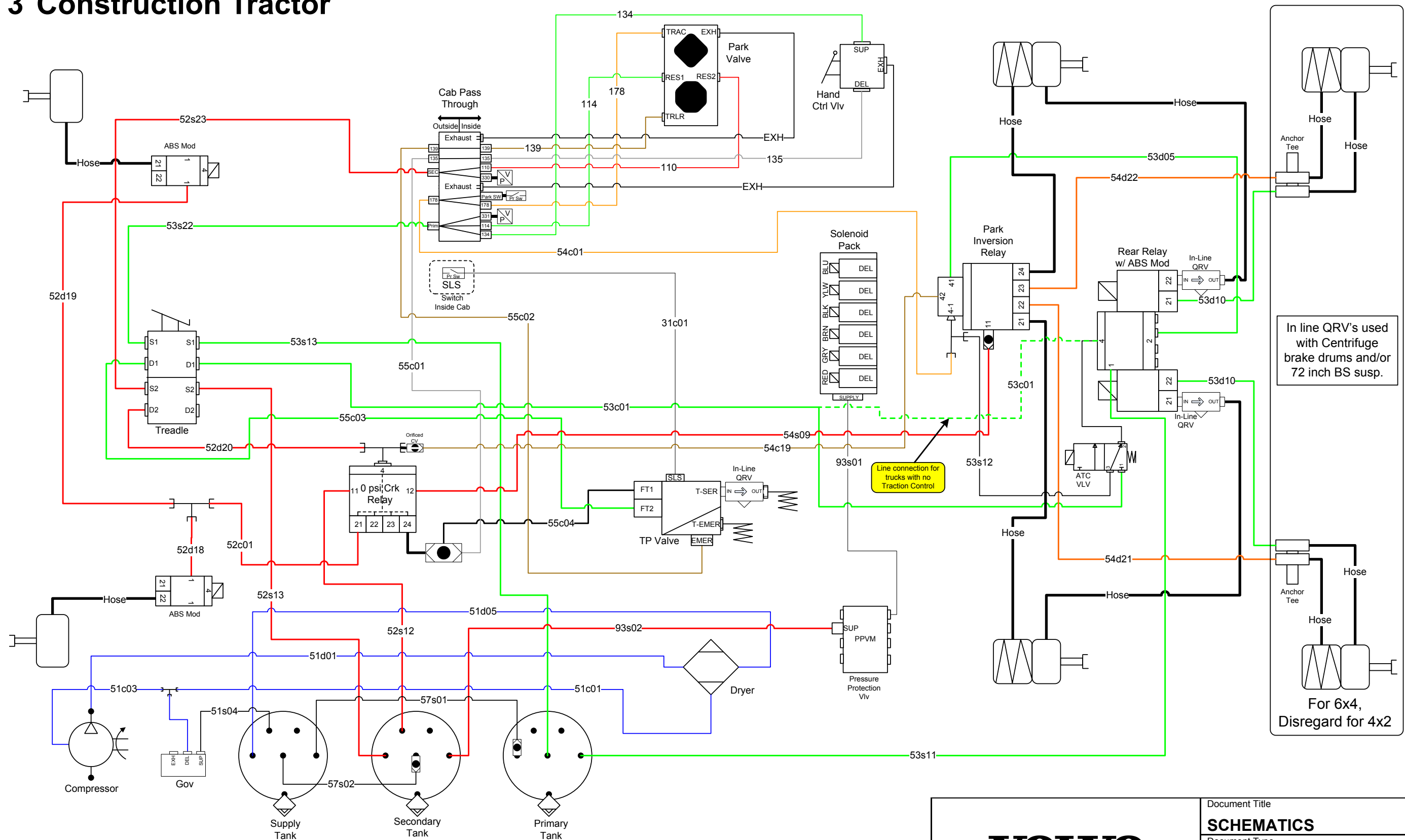
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2 Highway Tractor with RSA



3 Construction Tractor



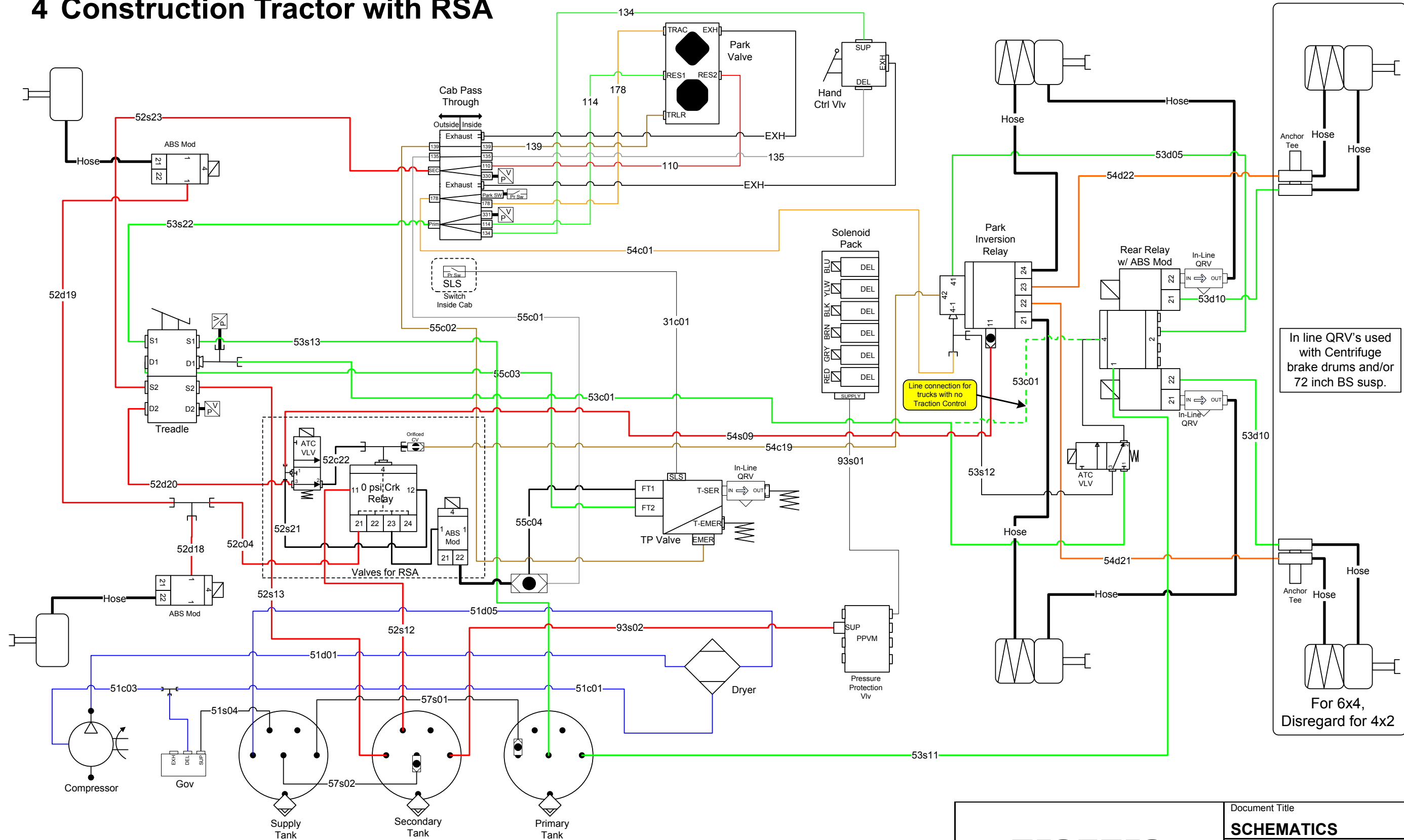
In line QRV's used
with Centrifuge
brake drums and/or
72 inch BS susp.

For 6x4,
Disregard for 4x2

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4 Construction Tractor with RSA



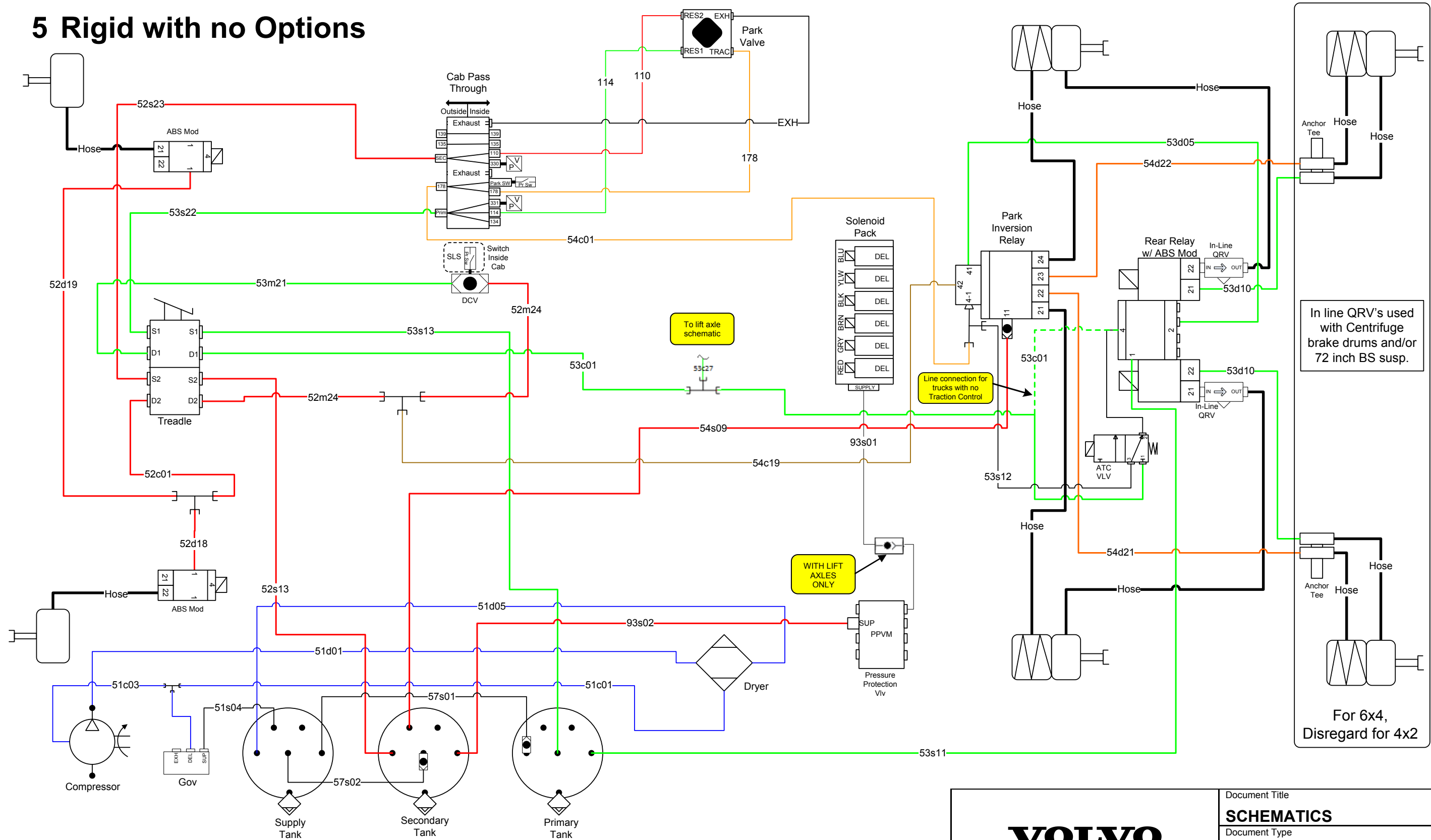
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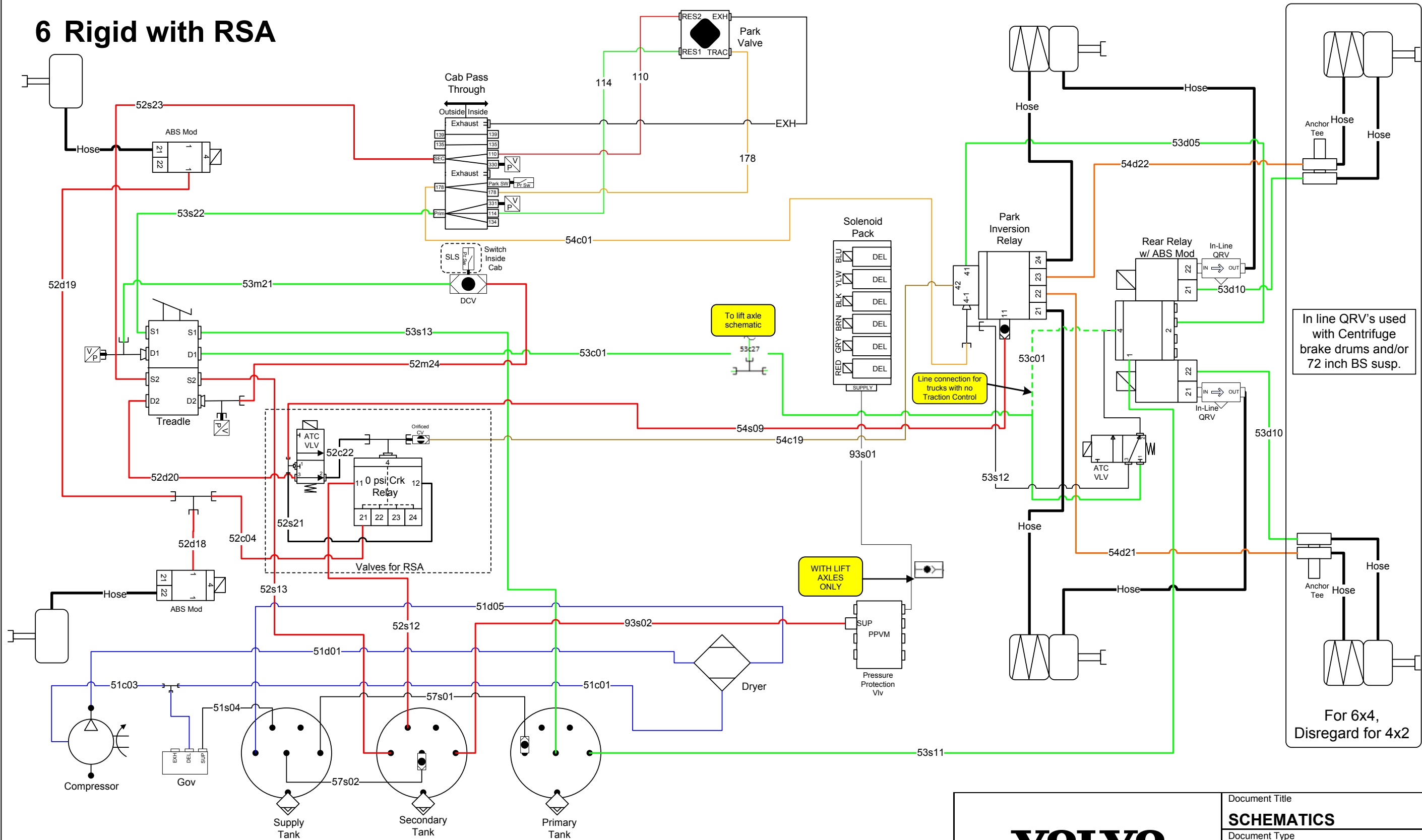
5 Rigid with no Options



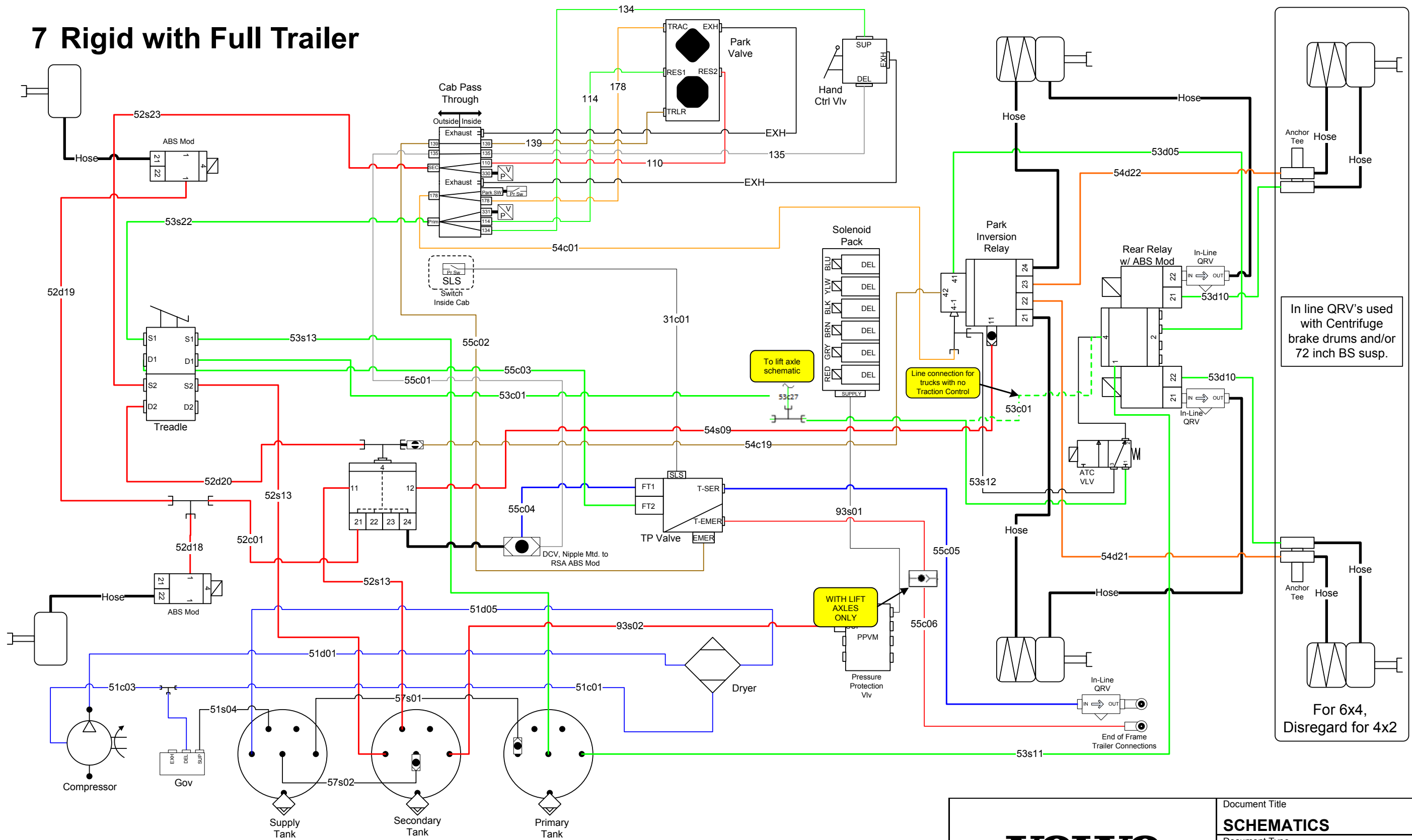
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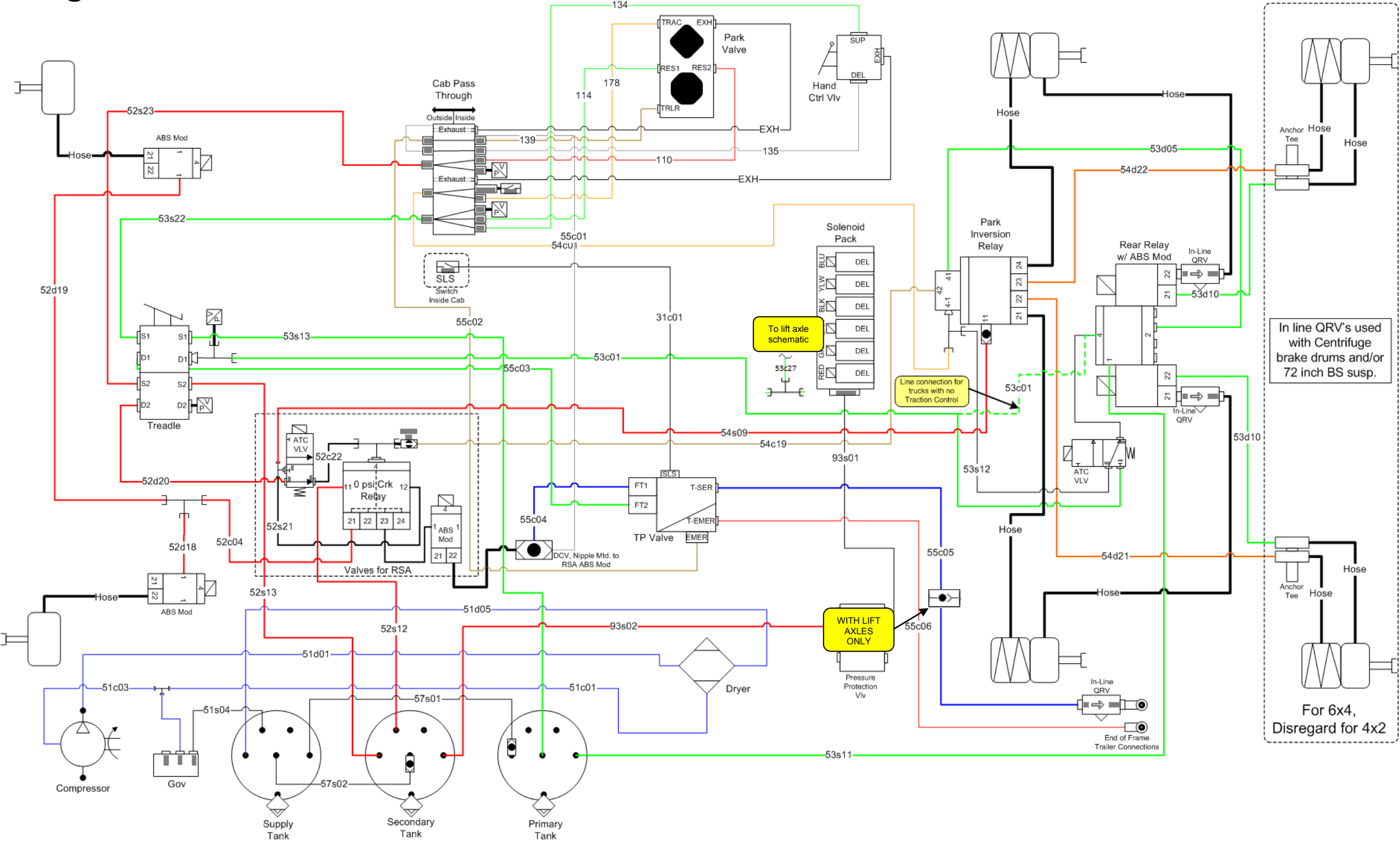
6 Rigid with RSA



7 Rigid with Full Trailer

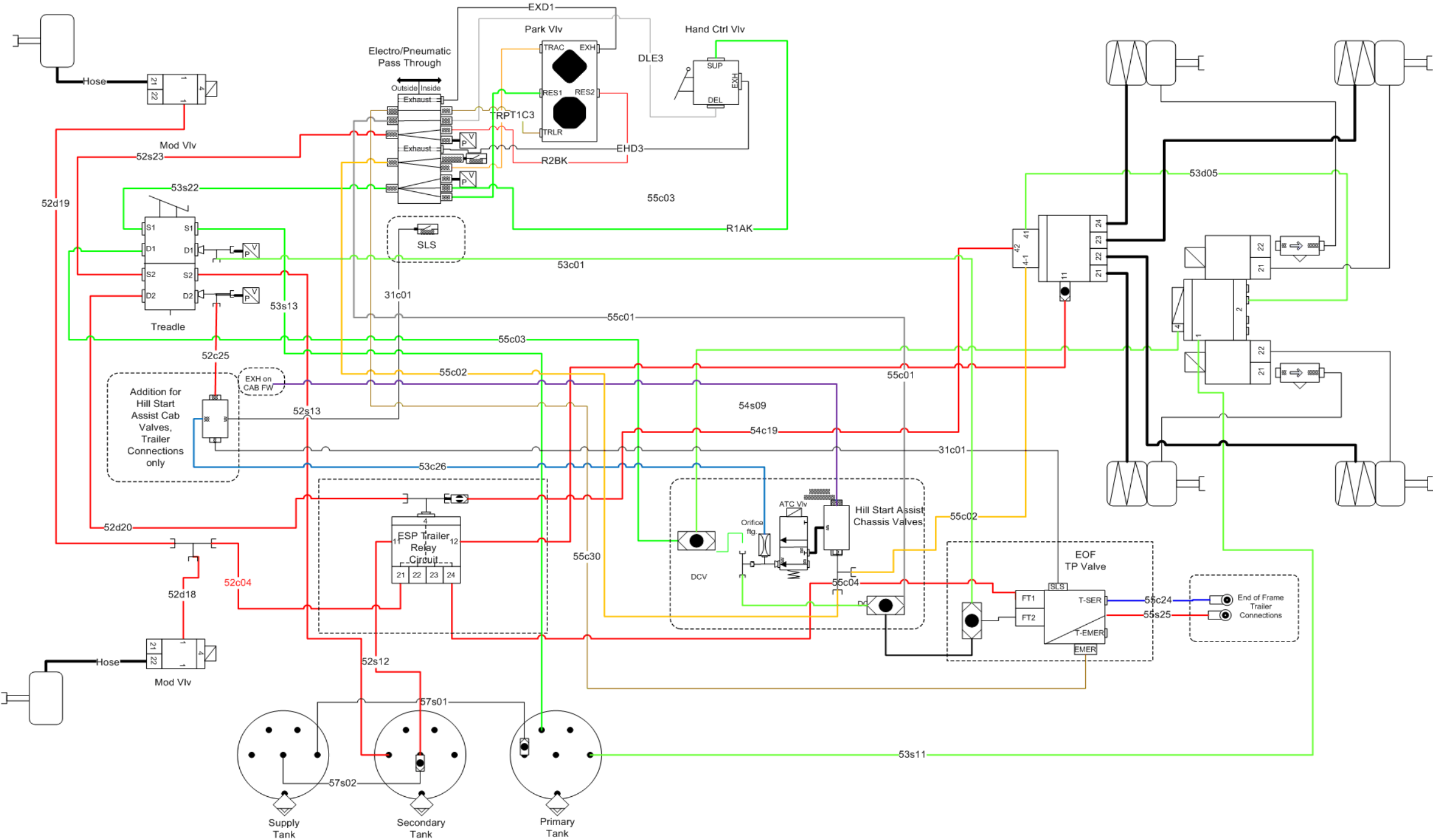


8 Rigid with Full Trailer and RSA



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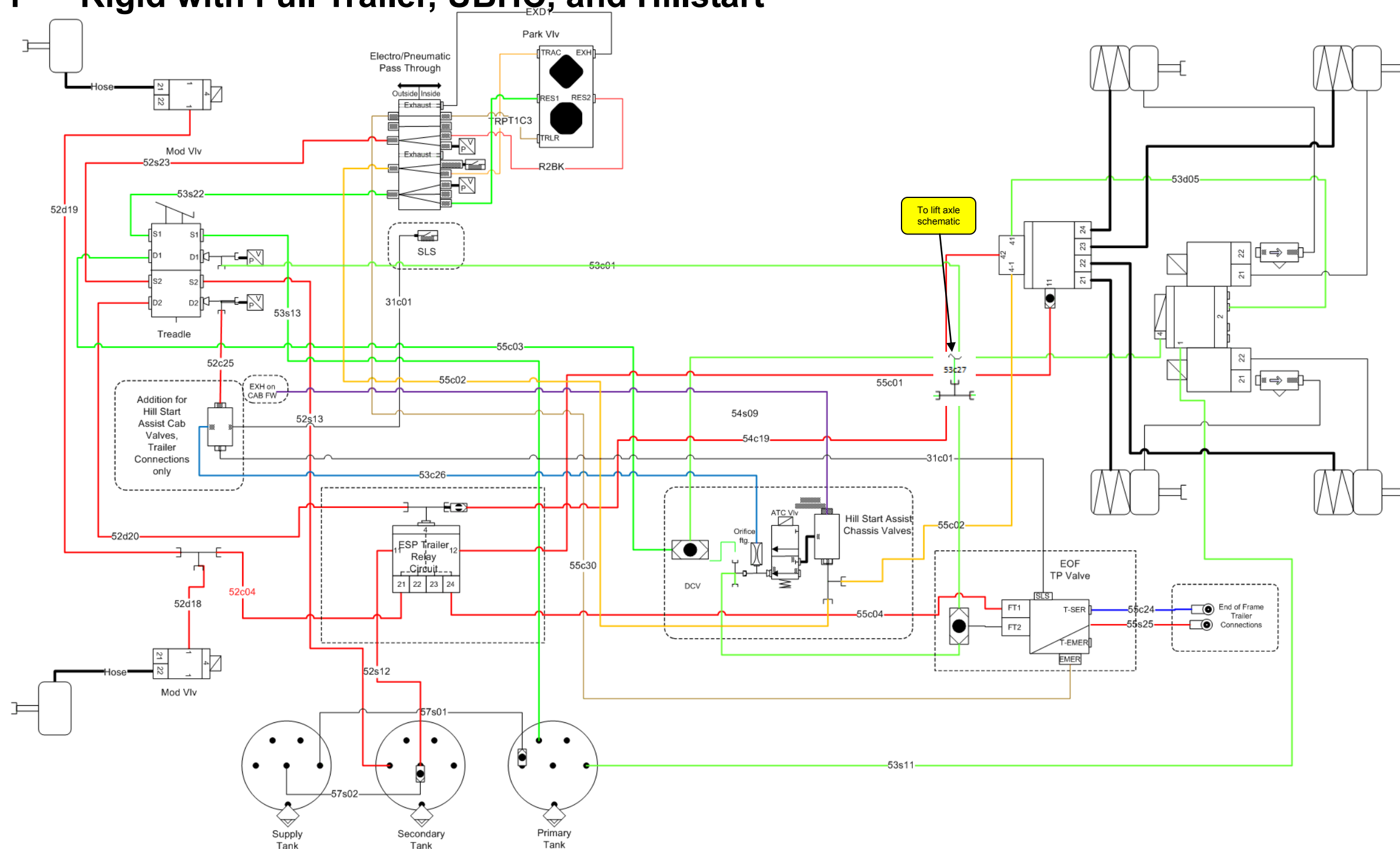
9 Rigid with Full Trailer, SBHC, and Hillstart



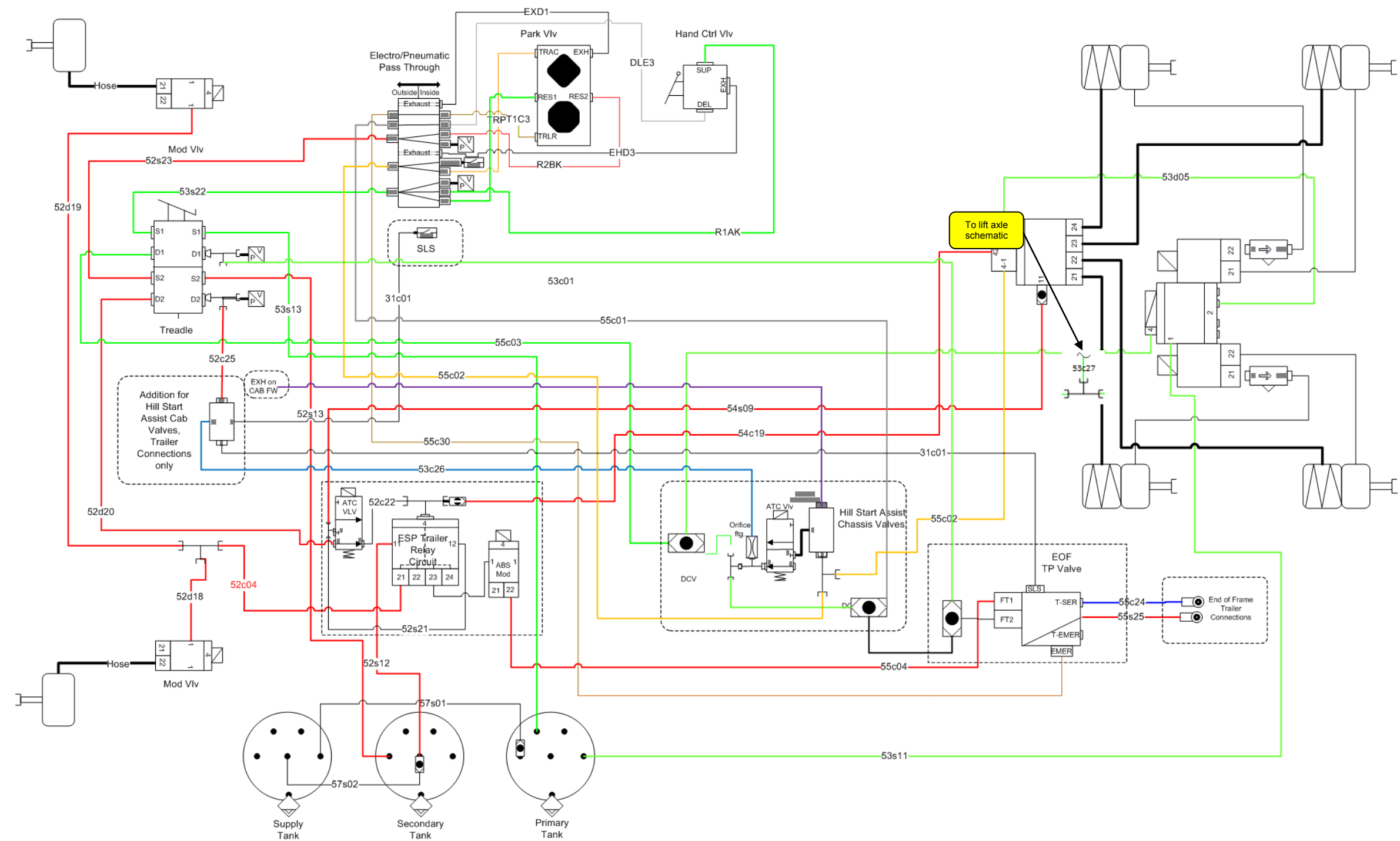


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11 Rigid with Full Trailer, UBHC, and Hillstart

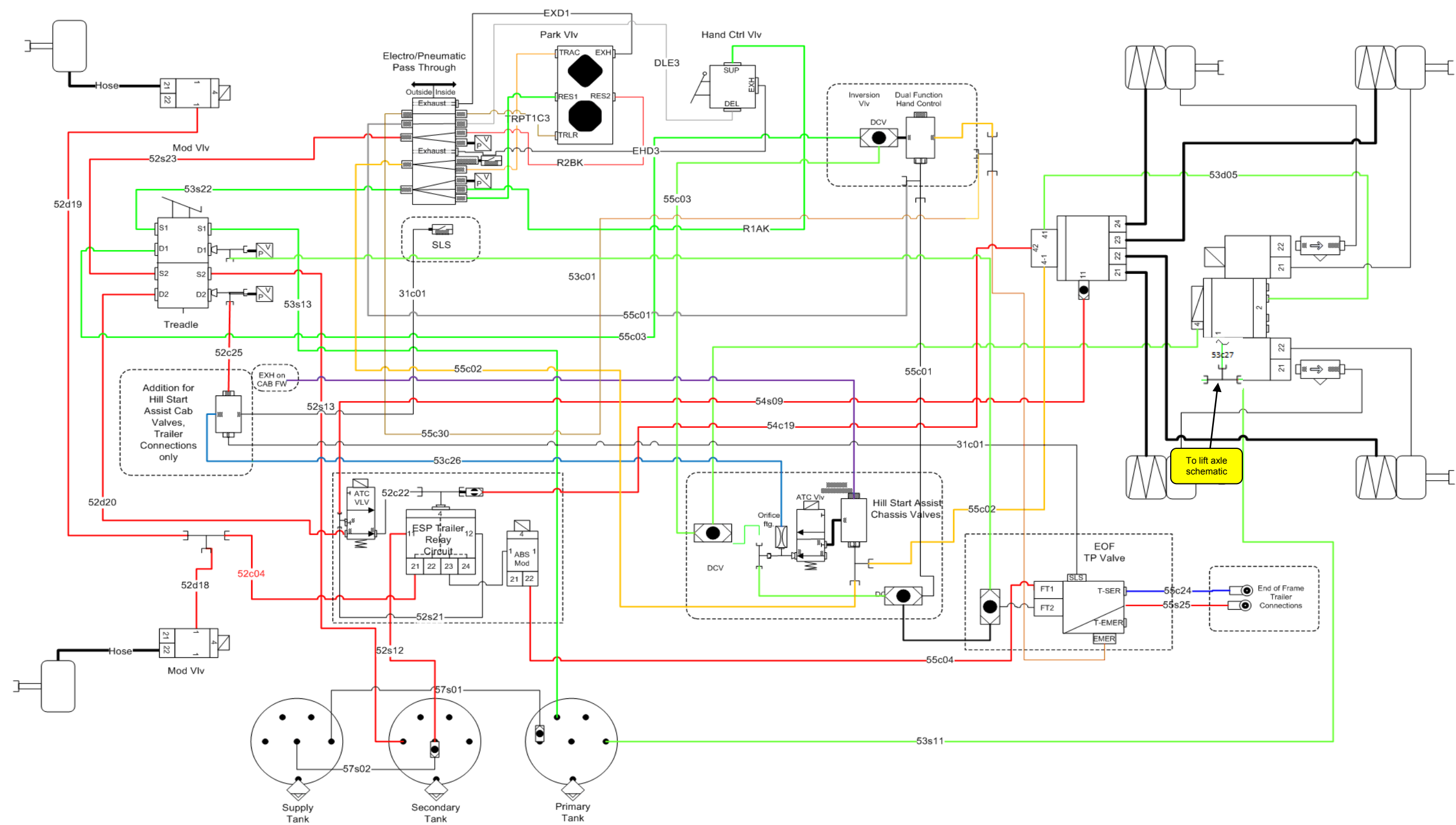


12 Rigid with Full Trailer, SBHC, RSA, and Hillstart

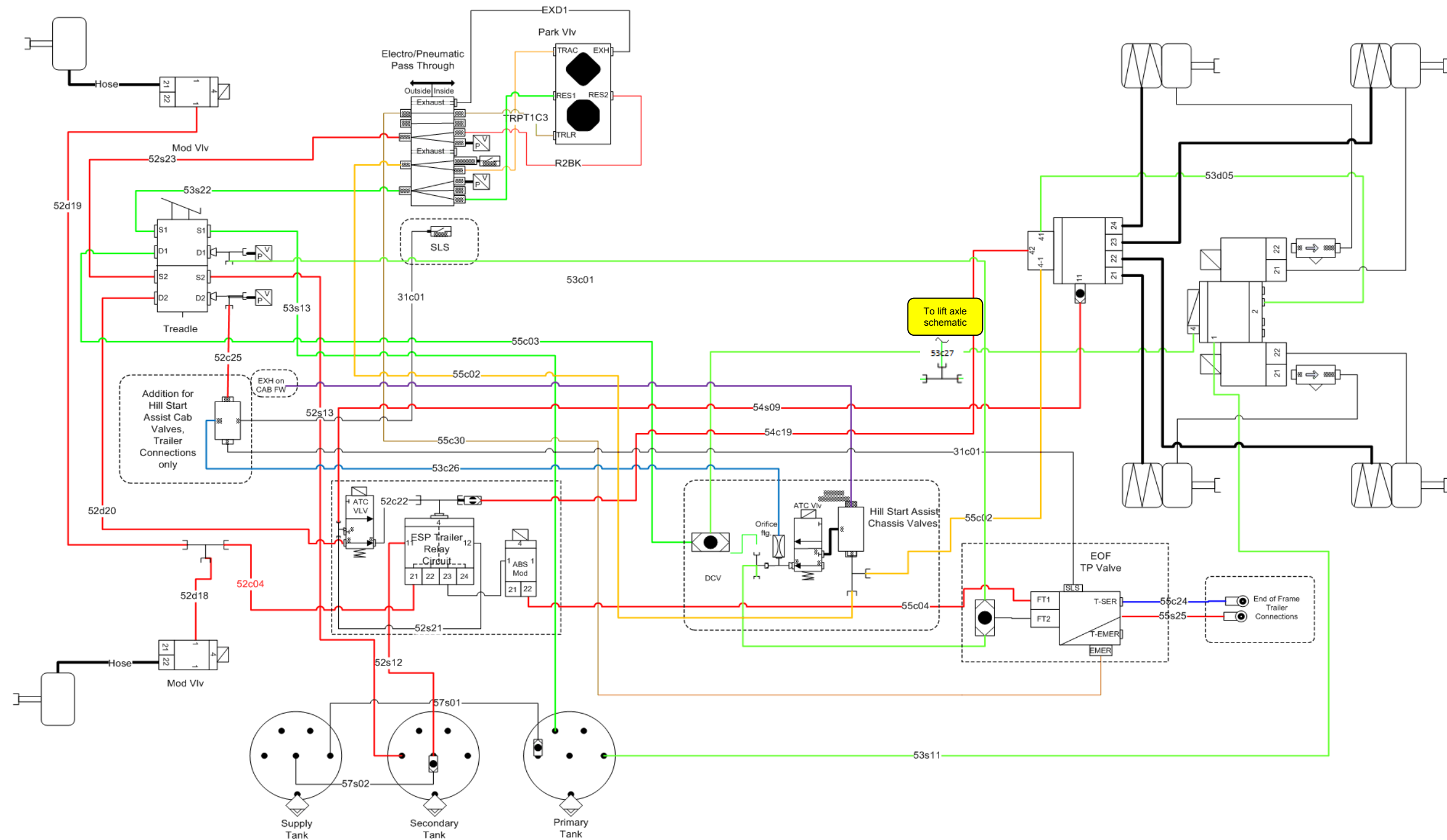


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13 Rigid with Full Trailer, DBHC, RSA, and Hillstart



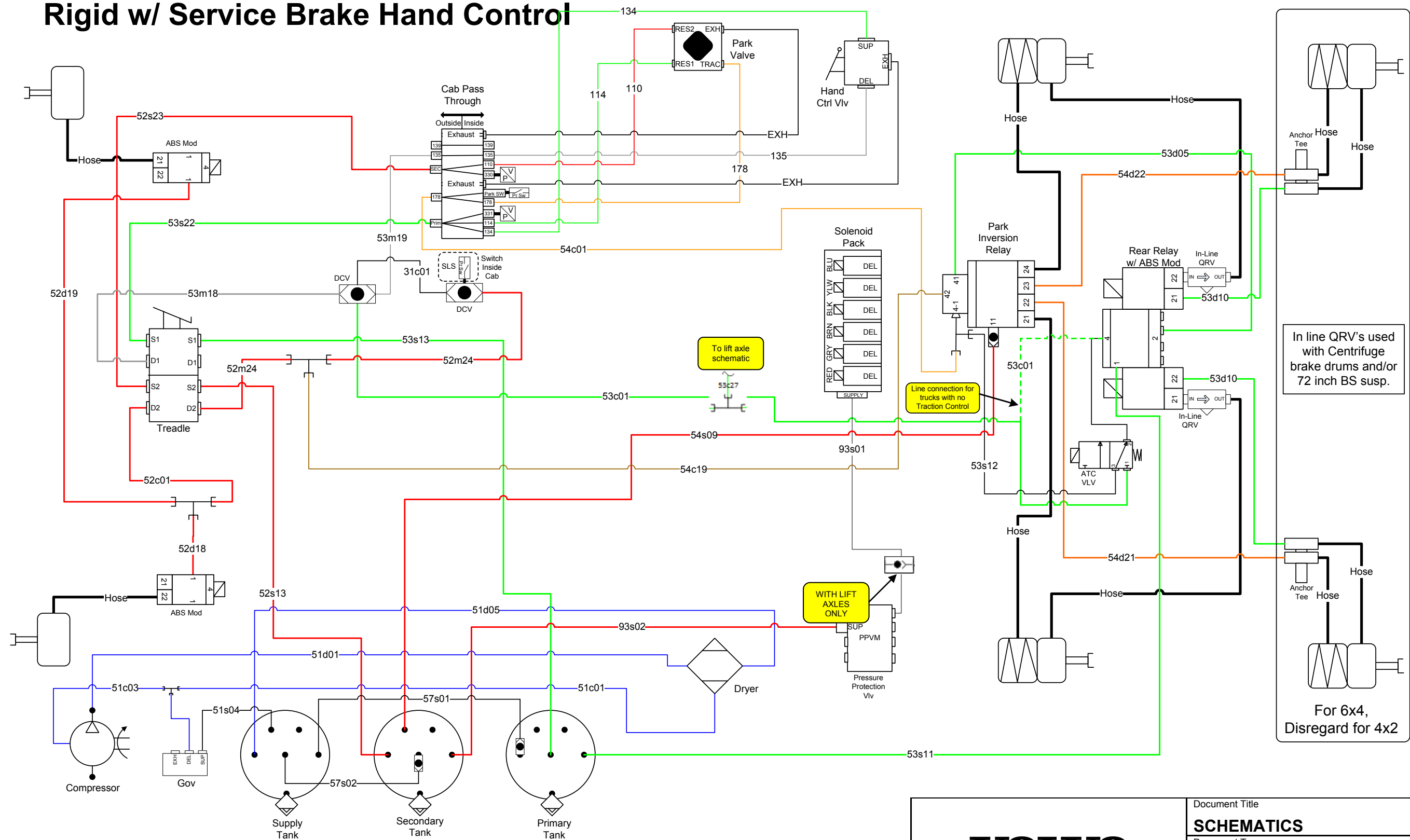
14 Rigid with Full Trailer, UBHC, RSA, and Hillstart



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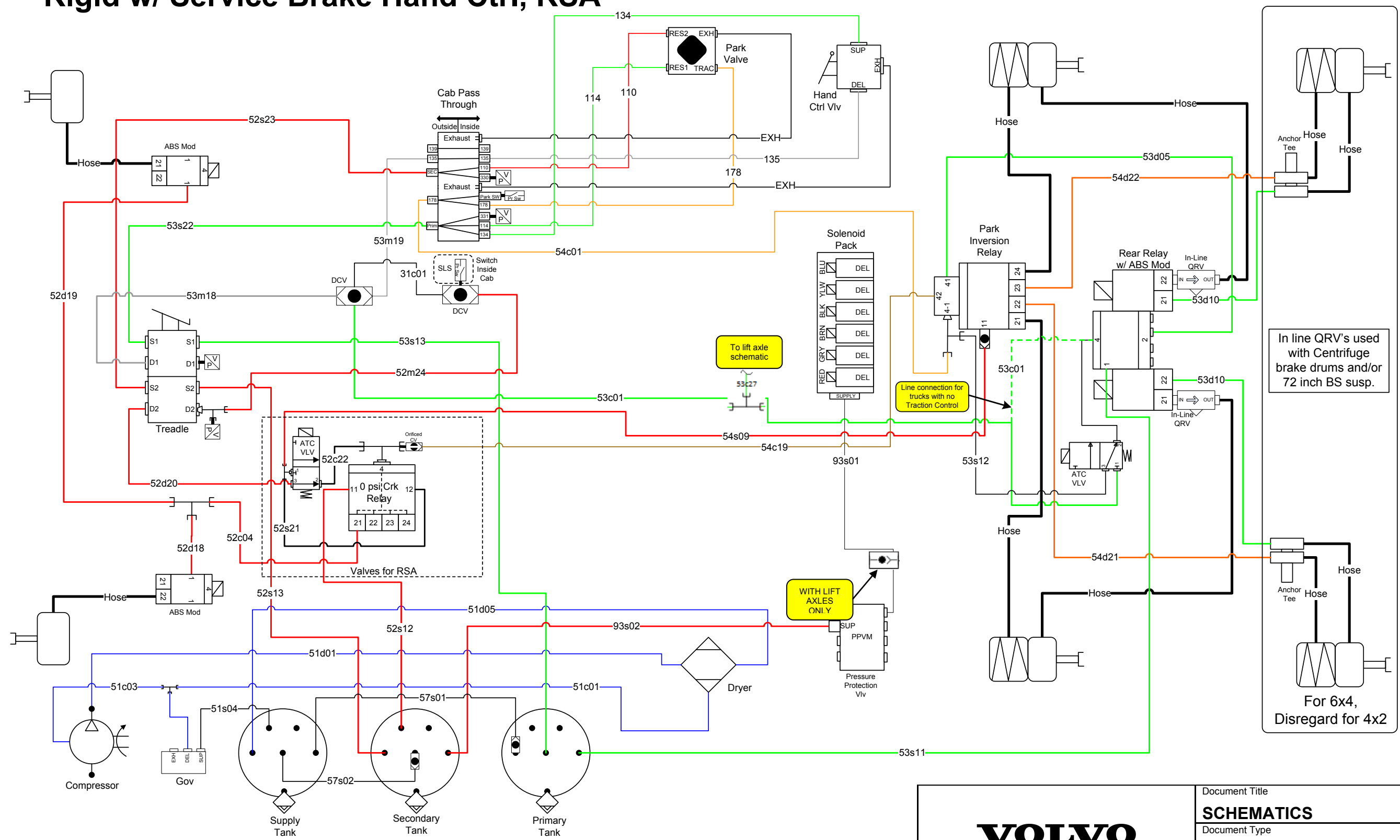
15 Rigid w/ Service Brake Hand Control



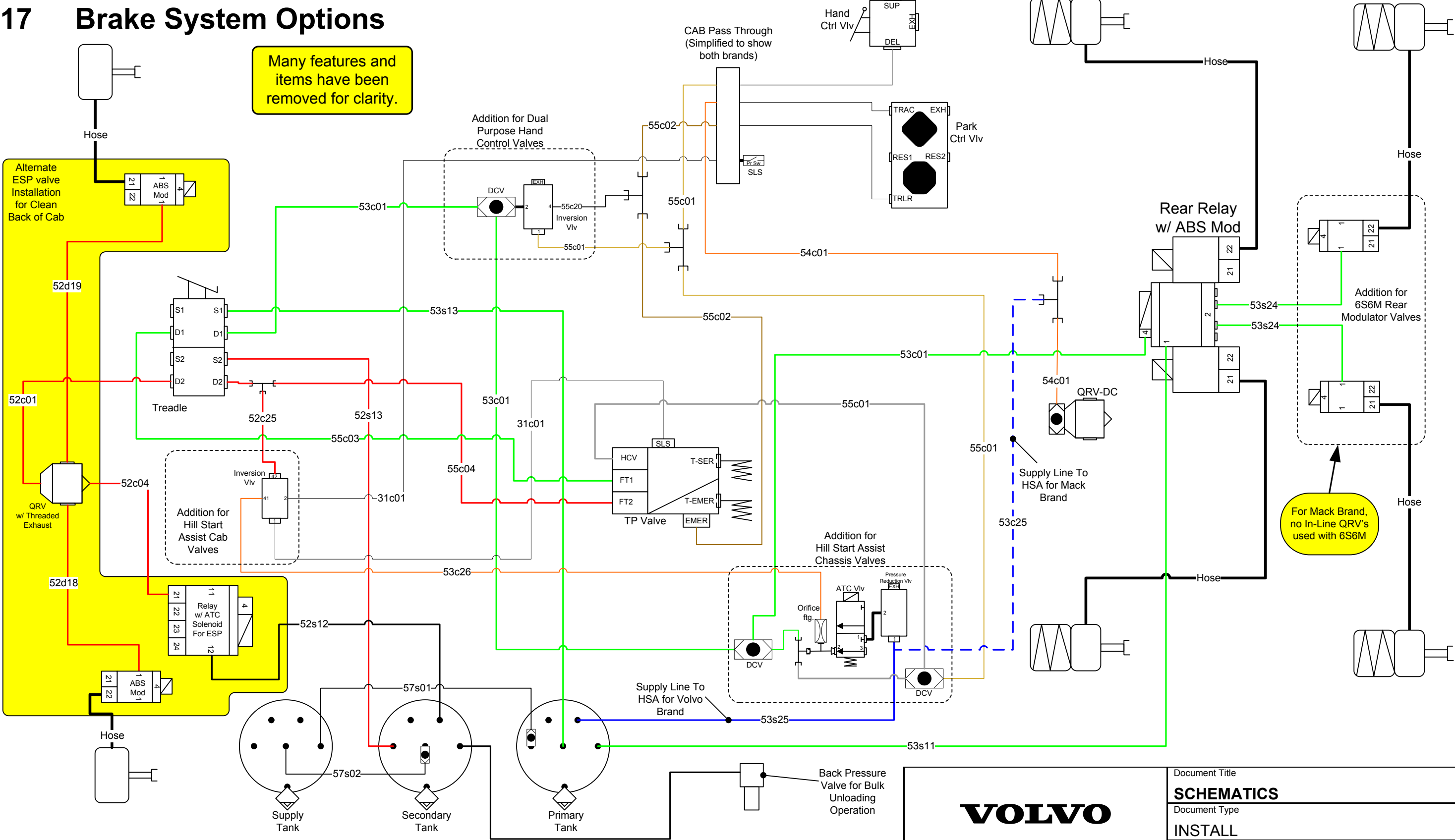
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16 Rigid w/ Service Brake Hand Ctrl, RSA



17 Brake System Options



Many features and items have been removed for clarity.

Alternate ESP valve Installation for Clean Back of Cab

Addition for Hill Start Assist Cab Valves

Addition for Dual Purpose Hand Control Valves

CAB Pass Through (Simplified to show both brands)

Hand Ctrl Vlv

Park Ctrl Vlv

Rear Relay w/ ABS Mod

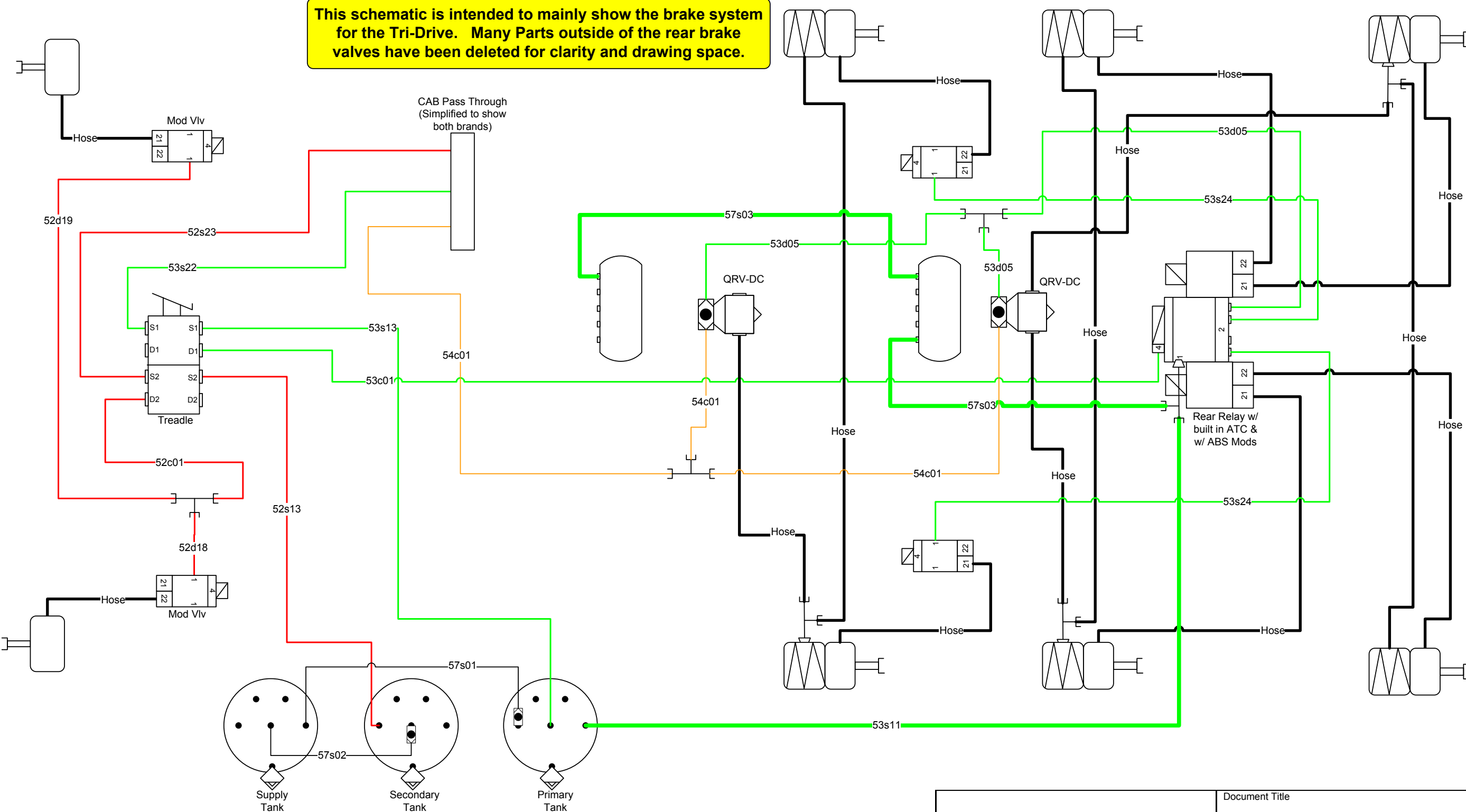
Addition for 6S6M Rear Modulator Valves

For Mack Brand, no In-Line QRV's used with 6S6M

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18 Tri-Drive Brake System, Highway Tractor

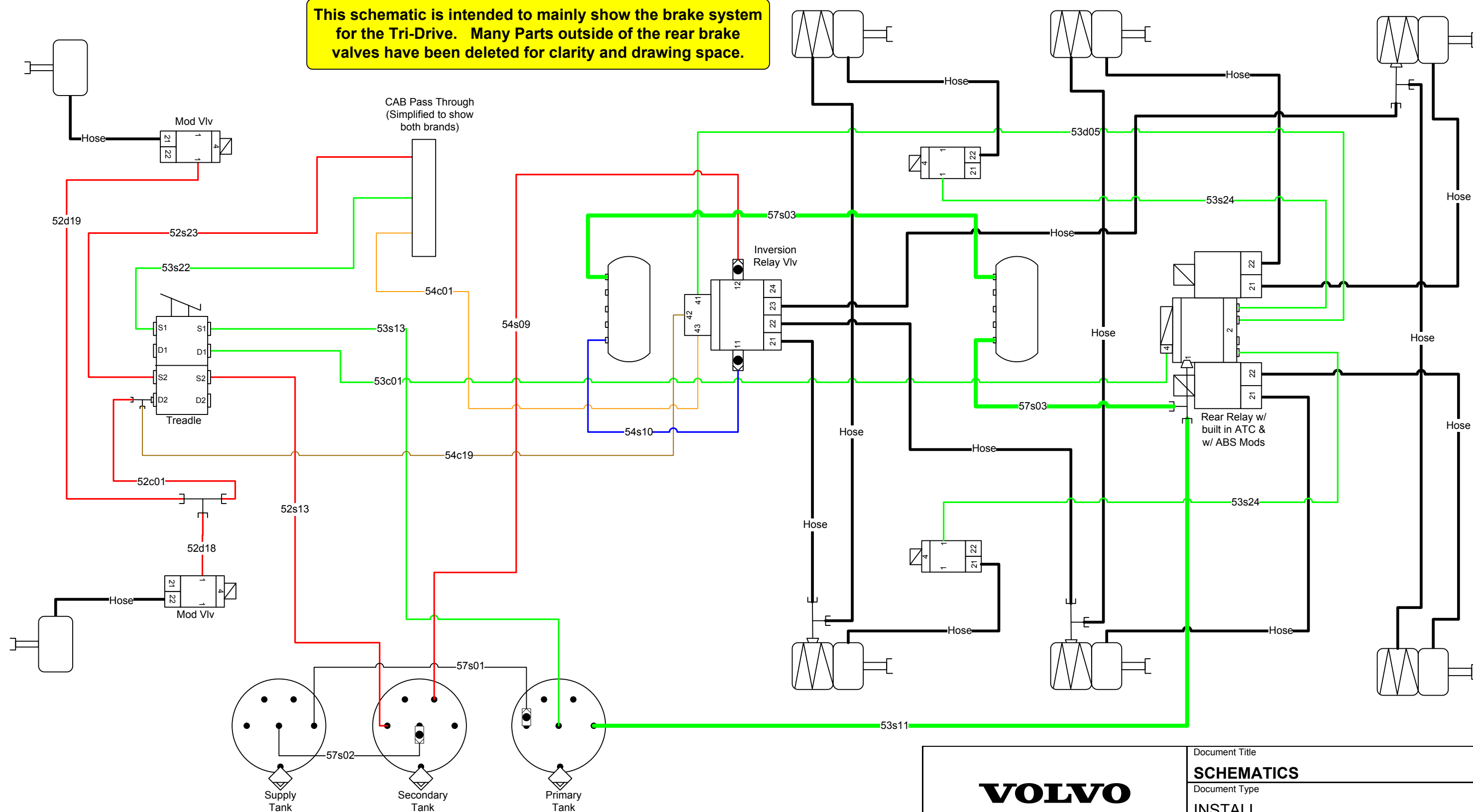
This schematic is intended to mainly show the brake system for the Tri-Drive. Many Parts outside of the rear brake valves have been deleted for clarity and drawing space.



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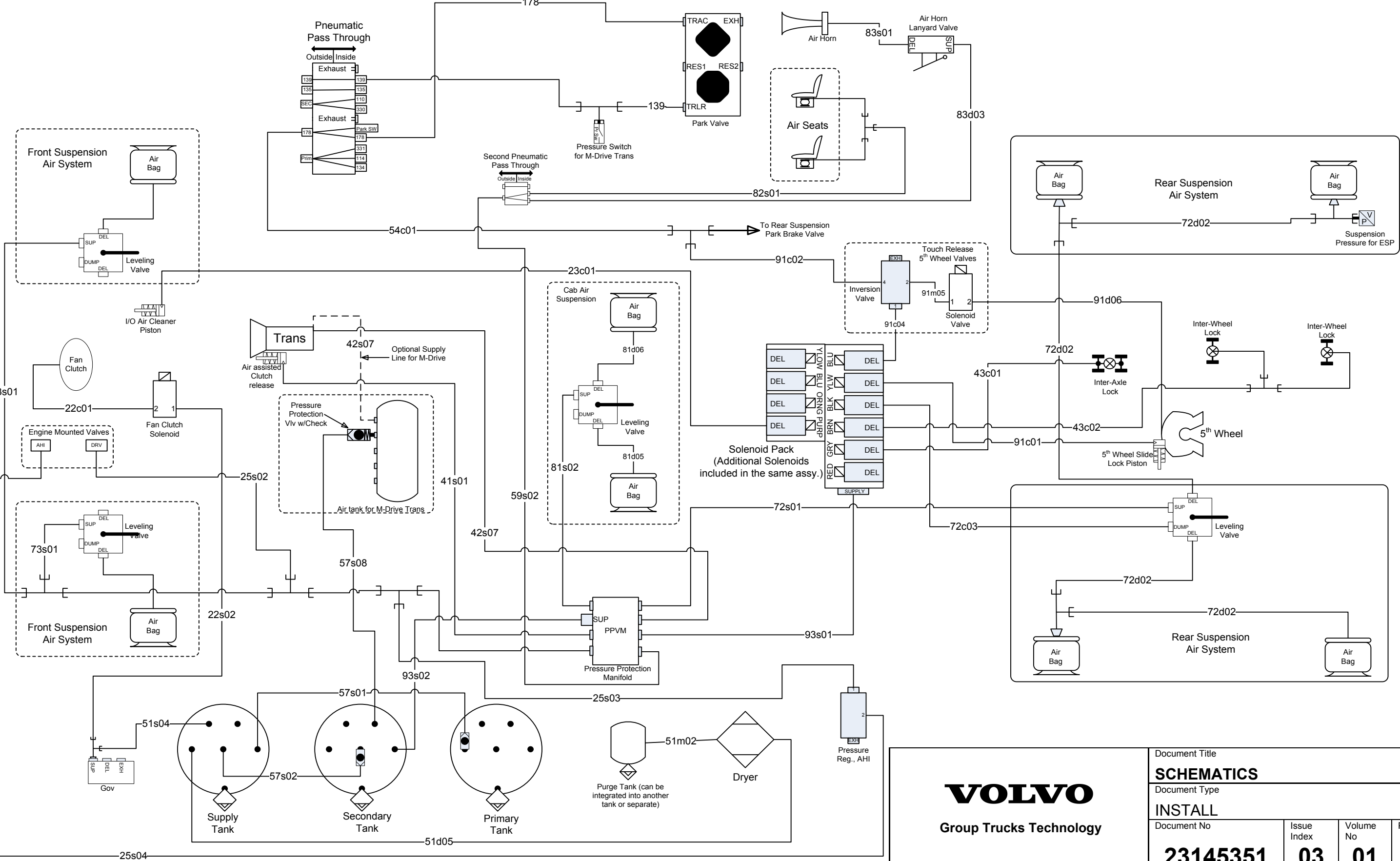
19 Tri-Drive Brake System, Rigid and Construction Tractor

This schematic is intended to mainly show the brake system for the Tri-Drive. Many Parts outside of the rear brake valves have been deleted for clarity and drawing space.

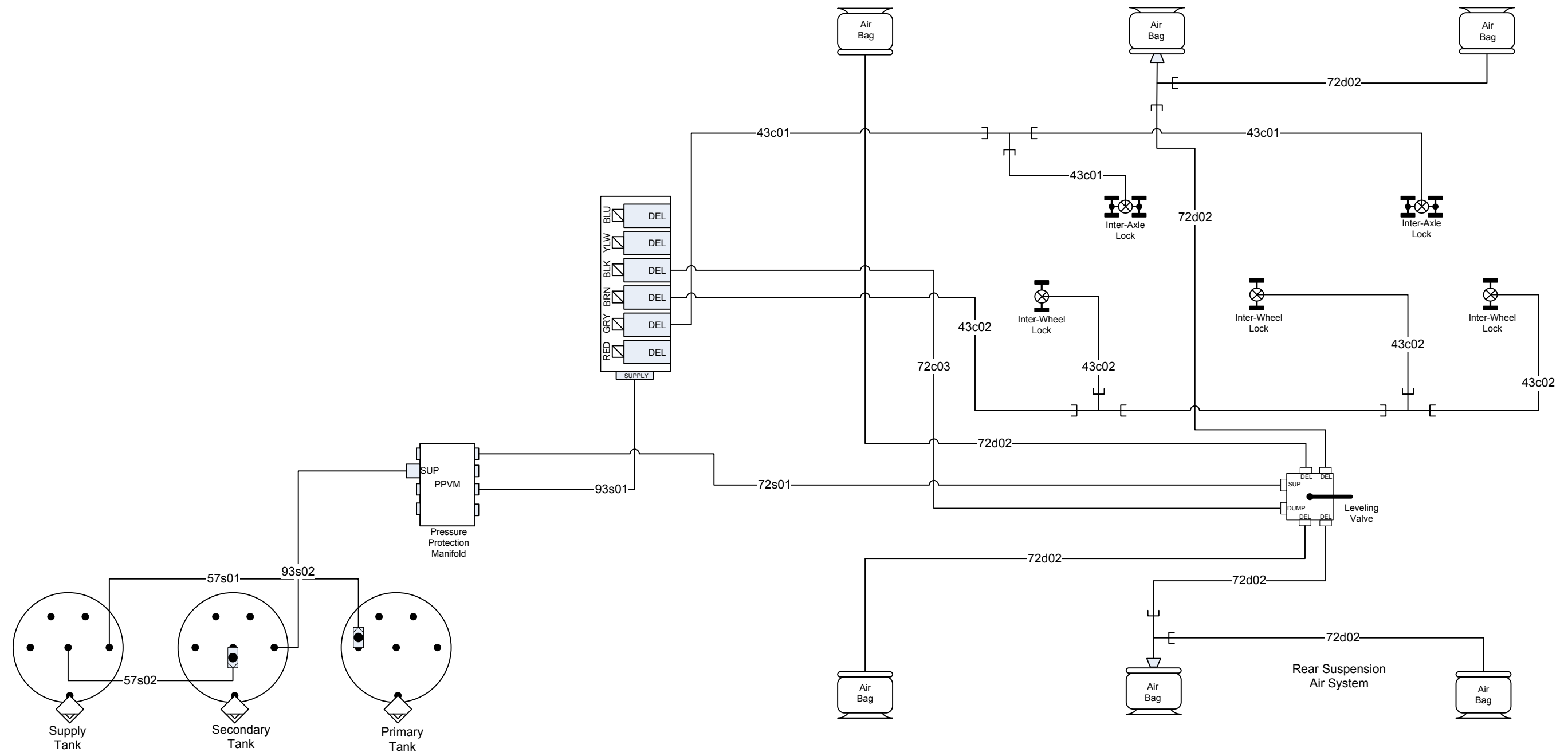


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20 Auxiliary Systems on Pressure Protected Circuits



21 Auxiliary Systems on Pressure Protected Circuits, Tri-Drive Suspension



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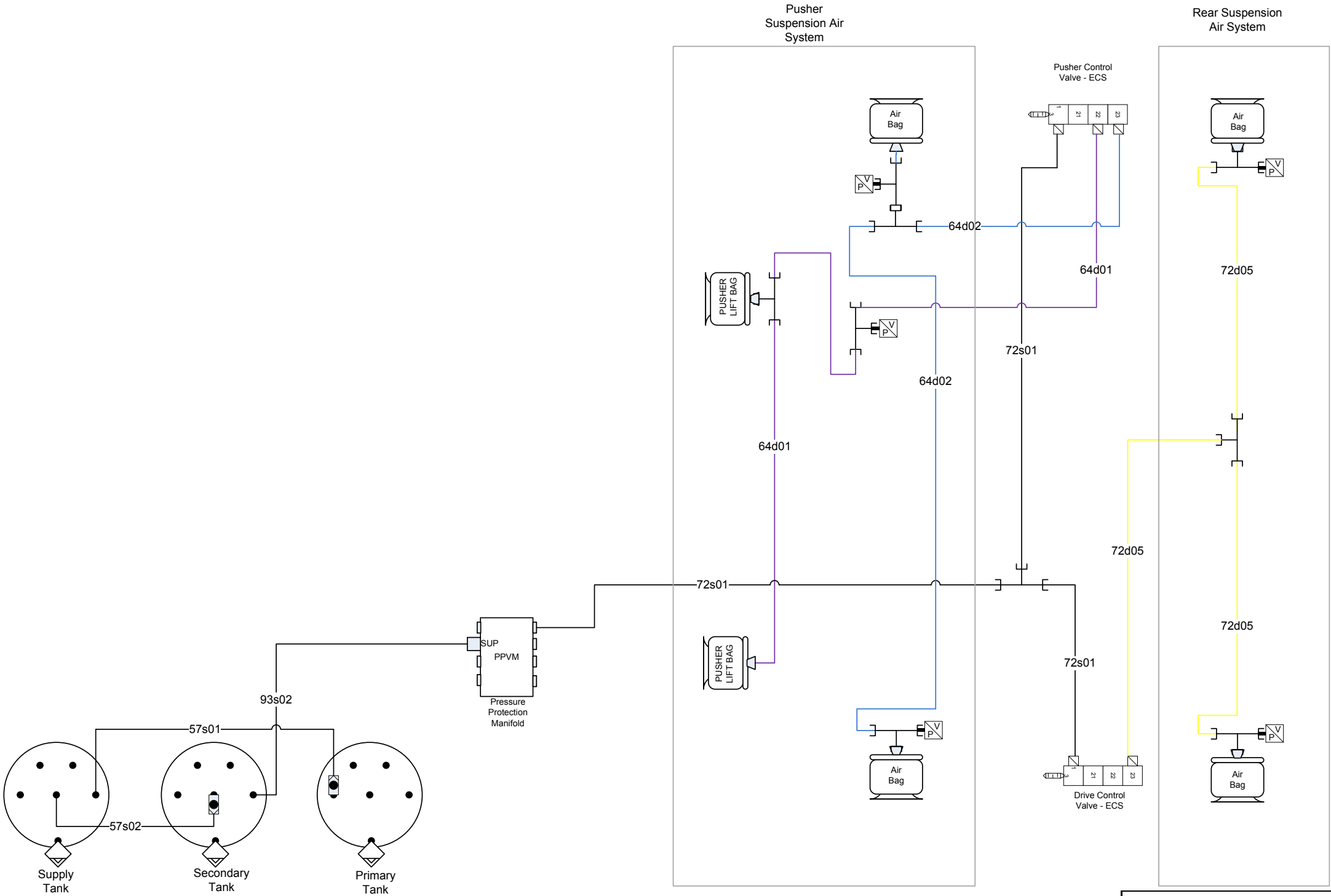
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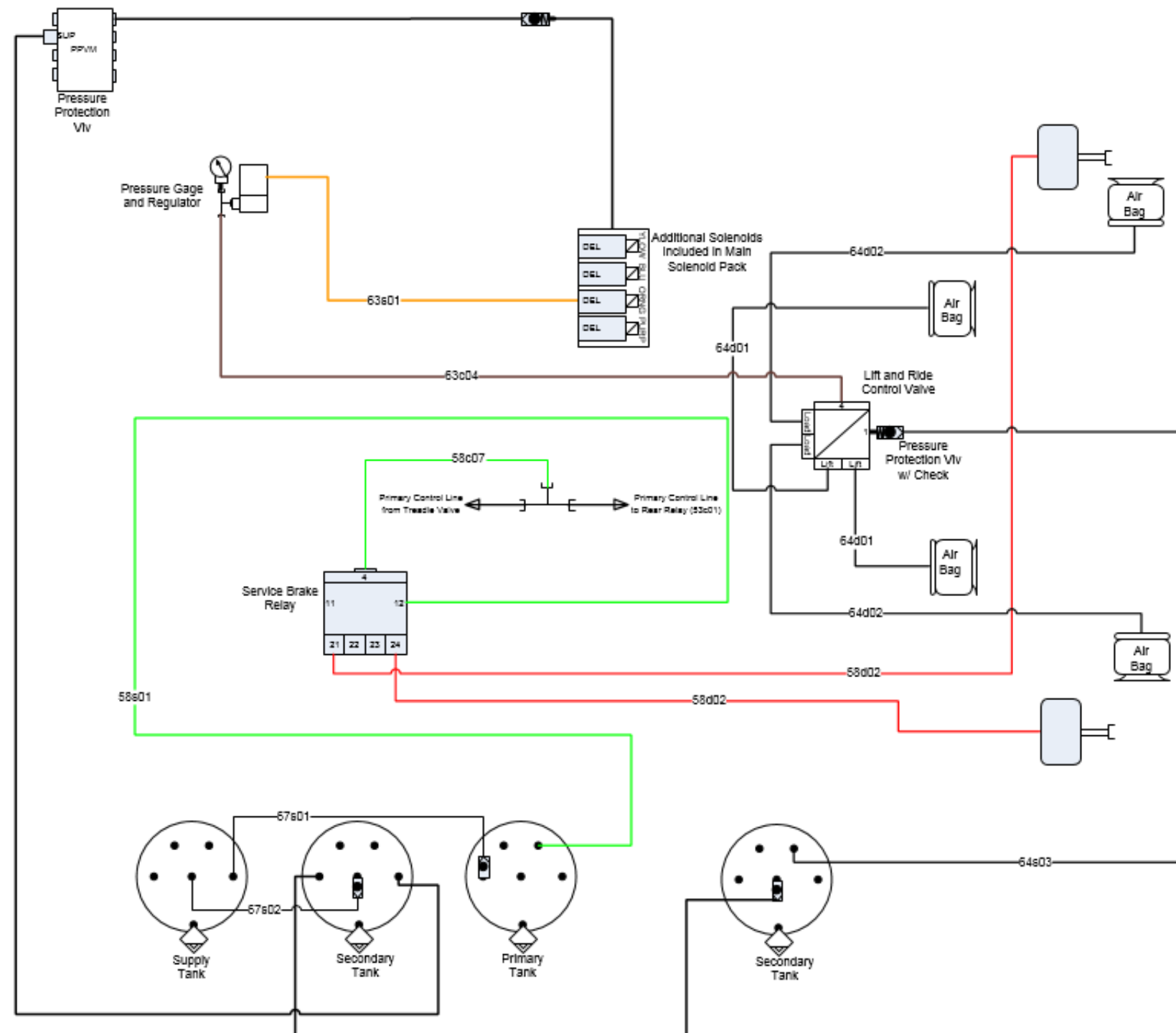
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22 Auxiliary Systems on Pressure Protected Circuits, 6x2 Suspension (Pusher)



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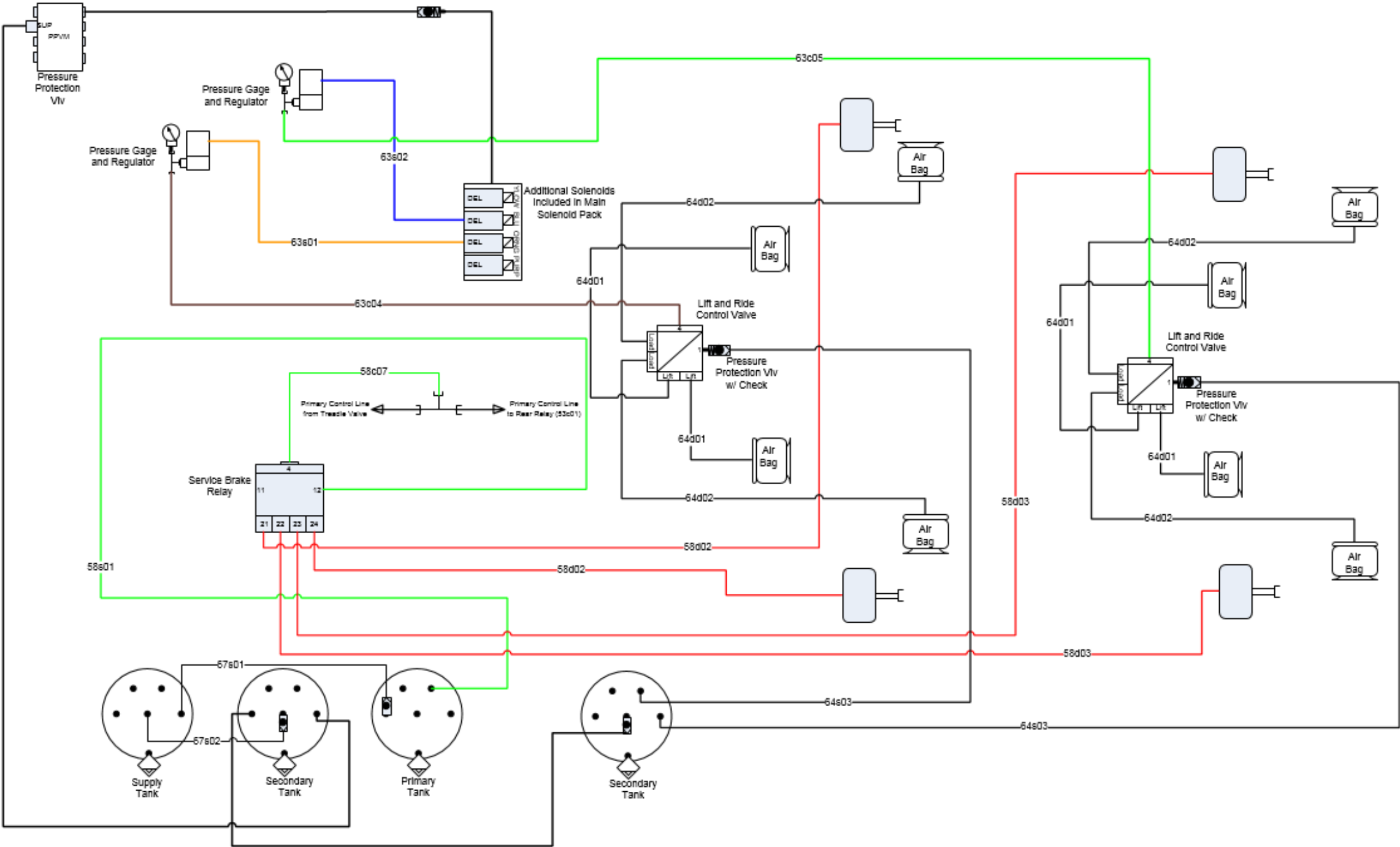
23 8x4 Lift Axle



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24 10x4 Lift Axles



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25 Air Line Numbers and Description

2 Engine with mounting and equipment		Color	Line Size (inches)
21 Exhaust brake			
21s01	Air Supply to Engine Exhaust Brake	Black	1/4
22 Fan clutch			
22c01	Fan Clutch Control, Solenoid to Clutch	Green	1/4
22s02	Fan Clutch Solenoid Supply	Green	1/4
23 Air cleaner			
23c01	Air Cleaner Intake Control	Purple	1/4
25 Emissions control			
25s01	Diesel Particulate Filter Atomizer Block Supply	Red	1/2
25s02	DRV Valve Supply	Black	1/4
25s03	AHI Regulator Valve Supply	Tan	1/4
25d04	AHI Regulator Valve Delivery to Injector Air Pipe	White	1/4

3 Electrical Lighting and instruments		Color	Line Size (inches)
31 Switches			
31c01	Stop Light Switch Control	Black	1/4
31m02	Primary/Secondary Jumper	Grey	3/8
31m03	Hand control Jumper	Grey	3/8
32 Gauges			
32m01	Rear bellows gauge pressure	Purple	1/4
32m02	Front bellows gauge pressure	Brown	1/4
32m03	Primary Tank Pressure	Green	1/4
32m04	Secondary Tank Pressure	Red	1/4
32m05	Primary brake pressure	Green	1/4
32m06	Secondary brake pressure	Red	1/4
32m07	Rear Rear bellows pressure	Orange	1/4
32m08	ESP Rear suspension pressure	Purple	1/4

4 Power transmission		Color	Line Size (inches)
41 Clutch			
41s01	Clutch release air assist supply	Yellow	3/8
41c02	Neutral Switch	Red	1/4
42 Gearbox			
42s01	Gearbox air shift	Black	3/8
42s07	Transmission Supply	Yellow, Black	3/8, 1/2
43 Rear axle(s)			
43c01	Inter axle lock (Diff axle)	Grey	1/4
43c02	Inner wheel lock (Diff wheel)	Brown	1/4
44 Power take-off (PTO)			
44d01	PTO Solenoid delivery		1/4
44s02	PTO Solenoid supply	ORANGE	1/4

5 Brake		Color	Line Size (inches)
51 Compressor, regulator, anti-freeze unit			
51d01	Delivery from the compressor		Hose
51m02	Air Dryer to Purge Tank	Blue	3/8
51c03	Compressor Unload from Governor	Blue	1/4
51s04	Governor Supply from Wet Tank	Yellow	3/8
51d05	Air Dryer Delivery to Wet Tank	Blue	5/8
51c01	Air Dryer Purge Control from Governor	Blue	1/4
52 Front circuit			
52c01	Foot brake valve to QRV / Tee (BSYS-CON)	Red	1/2
52c03	Redundant Rear Control	Brown	3/8
52c04	ESP Relay to ABS Modulator	Black	1/2
52d04	QRV/Relay to ABS modulator (ABS solenoid valve)	Red	1/2
52d05	ABS modulator to brake chamber	Rubber Hose	1/2
52s12	Front circuit/ESP relay supply	Red	5/8
52s13	Front circuit foot brake valve supply	Red	5/8
52m17	Foot brake valve to front circuit pressure sensor	Red	3/8
52d18	Tee to ABS mod LHS	Red	1/2
52d19	Tee to ABS mod RHS	Red	1/2
52d20	Foot valve to ESP ATC valve/ ESP Relay control port	Red	1/2
52s21	ESP ATC valve supply	Black	3/8, 1/2
52c22	ESP ATC valve control to relay control	Black	3/8
52s23	Foot brake valve to pass through supply to park valve	Red	3/8
52m24	Foot brake valve to SLS DCV, Rigid only	Grey	3/8
52c25	Hill Start Assist Inversion Valve Secondary Control from Treadle	Red	1/4
53 Rear circuit			
53c01	Rear service relay control from Treadle Valve	Green	3/8, 1/2
53c02	SBHC control From Cab to Treadle DCV	Grey	1/4, 3/8
53c03	6S6M QRV Control from Rear Relay	Green	5/8
53d05	Anti-compounding from Rear relay	Green	3/8
53d06	Relay to ABS modulators (ABS solenoid valve)	Green	5/8
53d09	ABS Solenoid Valve to Brake Chambers (ABS)	Green, Rubber	5/8, Hose
53d10	Service Relay Valve to Brake Chambers (Without ABS)	Green, Rubber	5/8, Hose
53s11	Service Relay Supply from Air tank (2 for GU and Titan)	Green	3/4, 5/8
53s12	Traction Control Supply from Park Valve Control	Green	1/4, 3/8
53s13	Treadle Valve Supply for Rear Circuit from Air Tank	Green	5/8
53m18	SBHC Jumper	Grey	3/8
53m19	SBHC Jumper 2	Grey	3/8
53m20	Treadle Valve to Rear Circuit Pressure Sensor	Green	1/4
53m21	Treadle Valve to SLS DCV, Rigid only	Grey	1/4, 3/8
53s22	Treadle Valve to Pass Through Supply to Park Valve	Green	3/8
53s23	Service Brake Hand Control Supply	Green	3/8
53s24	6S6M Rear Axle ABS Modulator Supply	Green	5/8
53s25	Hill Start Assist Supply	Blue	3/8
53c26	Hill Start Assist Control	Orange	1/4

54 Parking brake			
54c01	Spring Brake Control	Orange	3/8
54d03	QRV / Relay Valve to Rear Spring Brake Chambers	Rubber	Hose
54d07	Joint Fitting at Rear Axle to LH Spring Brake Chamber	Rubber	Hose
54d08	Joint Fitting at Rear Axle to RH Spring Brake Chamber	Rubber	Hose
54s09	Inversion Relay Secondary Supply	Red	1/2
54s10	Inversion Relay Primary Supply	Blue	1/2
54m16	Park Control Exhaust from Dash Valve	Yellow	3/8
54c19	Redundant Control Line from Treadle Valve	Brown	3/8
54m20	Park Chamber Jumper Lines, Chambers Left to Right	Black	1/2
54d21	Park Valve to Joint Fitting, LHS	Black	1/2
54d22	Park Valve to Joint Fitting, RHS	Black	1/2
55 Trailer brake			
55c01	Hand control from Cab	Grey, Tan	3/8, 1/4
55c02	Spring brake control from Cab	Brown	3/8
55c03	Primary Control from Treadle Valve	Green, Orange	1/4, 1/2
55c04	Secondary Control From Treadle Valve	Red	3/8
55c05	EOFA Trailer Secondary Service Control from Relay	Blue	3/8, 1/2, 5/8
55c06	EOFA Trailer Park Control from Cab	Red	3/8
55m15	Hand control exhaust	Yellow	1/4
55c20	Trailer Park Control Tee to DFHC Inversion Control	Brown	3/8
55s22	Hand Control Tee to DFHC Inversion Supply	Grey	3/8
55c23	Control from ESP Trailer Modulator to Trailer Secondary Control	Red	3/8
55c24	Trailer Relay Control	Blue	3/8
55s25	Trailer Relay Supply	Red	1/2
55d26	Trailer Relay Delivery to TPV	Black	1/2
56 Hydraulic Retarder			
56s001	Manifold for aux. equipment to retarder	Black	3/8
57 Air Tanks			
57s01	Primary Tank Supply	Black	1/2
57s02	Secondary Tank Supply	Black	1/2
57s03	Rear Primary Tank Supply	Green	5/8, 3/4
57s04	Auxiliary Axle Tank Supply	Black, Red	1/2
57s05	Auxiliary Axle Tank Jumper	Green	5/8
57s06	Tag Axle supply	Black	1/2, 5/8
57m07	Wet tank Jumper	Black	1/2
57s08	Transmission Air Tank Supply	Red	1/2
57s09	Extra Air Tank Supply	Black	1/2
59 Auxiliary Equipment			
59s02	Auxiliary manifold to cab	Black, Grey	1/4

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63 Regulator			
63s01	Regulator Supply	Orange	1/4"
63s02	Regulator Supply	Blue	1/4"
63c04	Lift Axle Control	Brown	3/8"
63c05	Lift Axle Control	Green	3/8"
64 Aux Axle Lift/Ride Control			
64d01	Aux Axle Lift Bag Delivery	Blue	3/8"
64d02	Aux Axle Ride Bag Delivery	Black	1/2"
64s03	Lift and Ride Valve Supply	Black	1/2"

58 Service Brakes			
58s01	Service Brake Relay Supply	Green	5/8"
58c02	Service Brake Relay Control	Green	1/4"
58d02	Aux Axle 1 Brake Hose	Red	1/2"
58d03	Aux Axle 2 Brake Hose	Red	1/2"

7 Frame, springs, damping and wheels		Color	Line Size (inches)
72 Air suspension rear axle(s)			
72s01	Leveling Valve Supply from PPVM	Black	3/8
72d02	Air Bellow Pressure from Tee to Cab	Purple	3/8
72c03	Rear Suspension Dump from Solenoid Pack	Black	1/4
64d02	Front-Rear Bellows Pressure 6x2 to Cab	Blue	3/8
72d05	Rear-Rear Bellows Pressure 6x2 to Cab	Yellow	3/8
72d11	Front Bellows to Rear Bellows	Blue	3/8
73 Air suspension front axle(s)			
73s01	Leveling Valve Supply from PPVM	Black	1/4
73d02	Air bellow pressure (Left) from Leveling Valve	Yellow	1/4
73d08	Air bellow pressure (Left) from Tee to Cab	Yellow	1/4

8 Cab		Color	Line Size (inches)
81 Cab suspension			
81s02	PPV Manifold to Cab Leveling Valve, Rear	Green	1/4
81d05	Cab Leveling Valve (Rear) to Rear Bellows LHS	Black	1/4
81d06	Cab Leveling Valve (Rear) to Rear Bellows RHS	Black	1/4
82 Seat suspension			
82s01	Seat Suspension Supply from PPVM	Black	1/4
83 Air horn			
83s01	Solenoid Valve Pack to Air Horn	Red	1/4
83d03	Auxiliary Manifold to Air Horn Lanyard Valve	Black	1/4

9 Miscellaneous, special functions		Color	Line Size (inches)
91 Fifth wheel			
91c01	5th Wheel Slide from Solenoid Pack	Yellow	1/4
91c02	Touch Release Park Signal from Rear park Control Tee	Orange	1/4
91d03	Touch Release Piston Control from 2nd Solenoid	Grey	3/8
91c04	Inversion Supply form 1st Solenoid	Blue	1/4
91m05	2nd Solenoid jumper from Inversion Valve	Blue	3/8
93 Miscellaneous			
93s01	Solenoid Valve Pack Supply from PPVM	Orange	3/8
93s02	PPV Manifold Supply from Secondary Air Tank	Red	1/2

10 Miscellaneous, Inside Cab		Color	Line Size (inches)
110	Secondary Tank Supply, Cab Pass Through to Dash Valve	Red	3/8
114	Primary Tank Supply, Cab Pass Through to Dash Valve	Green	3/8
134	Supply to Hand Control Valve from Cab Pass Through	Green	3/8
135	Delivery from Hand Control Valve to Cab Pass Through	Grey	3/8
139	Dash valve Delivery to Cab Pass Through, Tractor Spring Brake Control	Brown	3/8
178	Dash valve Delivery to Cab Pass Through, Tractor Spring Brake Control	Orange	3/8

 - Pressure Transducer

 - Pressure Switch

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