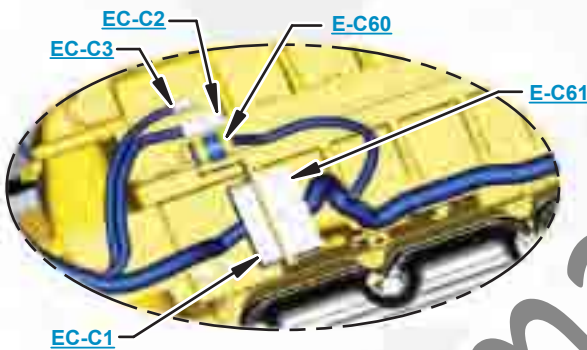


***This document is best viewed at a screen resolution of 1024 X 768.***

To set your screen resolution do the following:  
**RIGHT CLICK** on the **DESKTOP**.  
 Select **PROPERTIES**.  
**CLICK** the **SETTINGS TAB**.  
**MOVE THE SLIDER** under **SCREEN RESOLUTION** until it shows **1024 X 768**.  
**CLICK OK** to apply the resolution.

The Bookmarks panel will allow you to quickly navigate to points of interest.



Click on any text that is BLUE and underlined. These are hyperlinks that can be used to navigate the schematic and machine views.

**VIEW ALL CALLOUTS**

When only one callout is showing on a machine view this button will make all of the callouts visible. This button is located in the top right corner of every machine view page.

HOTKEYS (Keyboard Shortcuts)		
	FUNCTION	KEYS
	Zoom In	"CTRL" / "+"
	Zoom Out	"CTRL" / "-"
	Fit to Page	"CTRL" / "0" (zero)
	Hand Tool	"SPACEBAR" (hold down)
	Find	"CTRL" / "F"



# Schematic

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## **777G Off-Highway Truck Hydraulic System**

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GT71-UP  
T5A1-UP  
T4Y1-UP  
TNM1-UP  
RDR1-UP

**Volume 1 of 3: Steering System and Rear Axle Lube System**

**Volume 2 of 3: Hoist and Brake Cooling System**

**Volume 3 of 3: Service Brakes, Parking Brakes and Traction Control System**

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# COMPONENT LOCATION

## Volume 1 of 3 - STEERING AND REAR AXLE LUBE SYSTEMS



COMPONENT LOCATIONS (VOLUME 1)			
Description	Part Number	Machine Location	Schematic Location
SWITCH AS-PRESSURE (SECONDARY STEERING LOAD SENSING)	9X-4455	<a href="#">1</a>	<a href="#">D-4</a>
PUMP GP-ELECTRIC 2 SECTION (STEERING)	319-5405	<a href="#">*2</a>	<a href="#">D-4</a>
TANK GP-HYDRAULIC	331-7128	<a href="#">3</a>	<a href="#">B-3</a>
VALVE AS - VACUUM RELIEF BREATHER (STEERING)	358-9476	<a href="#">4</a>	<a href="#">C-4</a>
FILTER GP-OIL (STEERING PUMP RETURN)	158-3491	<a href="#">5</a>	<a href="#">C-3</a>
VALVE GP-STEERING DISABLE CHECK	346-6351	<a href="#">6</a>	<a href="#">D-3</a>
PUMP GP-HAND METERING UNIT (STEERING)	195-6617	<a href="#">7</a>	<a href="#">E-3</a>
CYLINDER GP - STEERING (POSITION SENSING)	334-8703	<a href="#">8</a>	<a href="#">E-3</a>
CYLINDER GP - STEERING	105-2440	<a href="#">9</a>	<a href="#">E-2</a>
SENSOR GP-PRESSURE (MAIN STEERING PUMP)	344-7391	<a href="#">*10</a>	<a href="#">D-2</a>
PUMP GP-LOAD SENSING CONTROL WITH HIGH PRESSURE CUTOFF	261-5630	<a href="#">11</a>	<a href="#">C-1</a>
FILTER GP-OIL (STEERING CASE DRAIN)	249-2334	<a href="#">12</a>	<a href="#">B-2</a>
SENSOR AS-FLUID LEVEL MONITORING	330-9321	<a href="#">*13</a>	<a href="#">B-2</a>
* = (2) See also Volume 3			
* = (10) See also Volume 3			
* = (13) See also Volume 2 and Volume 3			

COMPONENT LOCATIONS - REAR AXLE LUB ATTACHMENT (VOLUME 1)			
Description	Part Number	Machine Location	Schematic Location
MANIFOLD GP - REAR AXLE CONTROL	333-0362	<a href="#">42</a>	<a href="#">E-7</a>
PUMP and MOTOR GP - REAR AXLE LUBE	249-7012	<a href="#">43</a>	<a href="#">E-6</a>
MANIFOLD AS - REAR AXLE	327-0361	<a href="#">44</a>	<a href="#">E-6</a>
FILTER GP - REAR AXLE	192-3841	<a href="#">45</a>	<a href="#">D-5</a>

# COMPONENT LOCATION

## Volume 2 of 3 - HOIST AND BRAKE COOLING



COMPONENT LOCATIONS (VOLUME 2)			
Description	Part Number	Machine Location	Schematic Location
SENSOR GP - LEVEL	*13	330-9321	A-6
SENSOR GP - TEMPERATURE	14	134-2252	D-1
			F-1
			D-7
			F-7
BRAKE GP - SERVICE and PARK	*15	308-9208	C-6, F-6
CORE AS - OIL COOLER	16	200-5975	E-5
TANK GP (HYD)	17	331-7060	A-3
PUMP GP - 4 SECTION PUMP (CCW)	18	350-9965	B-5
PUMP GP - 3 SECTION PUMP (CCW)	19	375-0678	B-4, B-3
FILTER - BREATHER	20	8X-4575	B-4, B-3
CYLINDER GP - TELESOPING (HOIST)	21	296-0608	B-3, C-3
PLATE - ORIFICE (HOIST)	22	8X-7224	B-3, C-3
VALVE GP - CONTROL (HOIST)	23	245-1668	F-4
PLATE AS - BRAKE COOLING ORIFICE	24	382-9203	D-2
BRAKE GP - SERVICE	25	330-9471	B-3
* = (13) See also Volume 1 and Volume 3			
* = (15) See also Volume 3			
* = (17) See also Volume 3			

# COMPONENT LOCATION

## Volume 3 of 3 - SERVICE AND PARKING

## BRAKES AND TRACTION CONTROL



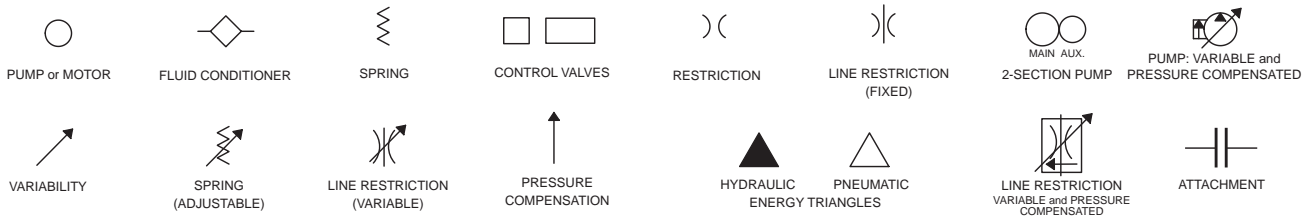
COMPONENT LOCATIONS (VOLUME 3)			
Description	Part Number	Machine Location	Schematic Location
PUMP GP - ELECTRIC 2 SECTION PUMP	319-5405	*2	B-4
SENSOR AS. - PRESSURE (LOW BRAKE SUPPLY)	344-7391	*10	D-3
SENSOR GP - FLUID LEVEL MONITORING	330-9321	*13	A-5
BRAKE GP - SERVICE and PARK (REAR)	308-3208	*15	A-7, E-7
TANK GP - HYDRUALIC	331-7060	*17	A-3
PUMP GP - 3 SECTION PUMP (CCW)	375-0678	*19	B-3
FILTER - BREATHER (HOIST TANK)	8X-4575	20	A-4
BRAKE GP - SERVICE (FRONT)	330-9471	25	C-1, E-1
ADJUSTER GP - SLACK ADJUSTER (REAR BRAKES)	319-6291	26	B-7, D-7
VALVE GP - ARC/TCS	340-6409	27	C-7
SWITCH AS. - PRESSURE (SECONDARY BRAKE DEACTIVATION INDICATOR)	180-2609	28	F-6
VALVE GP - SECONDARY BRAKE (ACCUMULATOR BLEED DOWN)	361-2239	29	F-5
APAPTER AS. - ORIFICE	357-4342	30	B-6, D-6
MANIFOLD GP - TOW VALVE (BRAKE)	309-1615	31	C-4
ACCUMULATOR GP - PARK BRAKE	360-3828	32	D-3
ACCUMULATOR GP - PARK BRAKE (PED CERTIFIED) (ATTACHMENT)	330-7828	32	D-3
ACCUMULATOR GP - SERVICE BRAKE	356-3346	33	D-2
ACCUMULATOR GP - SERVICE BRAKE (PED CERTIFIED) (ATTACHMENT)	318-2532	33	D-2
VALVE GP - CAB MANIFOLD (FRONT BRAKE)	334-8054	34	B-4
VALVE GP - ACCUMULATOR CHARGING	341-2634	35	B-3
VALVE GP - ACCUMULATOR CHARGING (PED CERTIFIED) (ATTACHMENT)	320-5075	35	B-3
SWITCH AS - BRAKE FILTER BYPASS SWITCH	156-1382	36	B-4
FILTER GP - BRAKE CHARGE	335-0980	37	C-4
PEDAL GP - SERVICE BRAKE PEDAL VALVE	342-9078	38	F-3
ADJUSTER GP - SLACK ADJUSTER (FRONT BRAKES)	8X-7921	39	D-2
* = (2) See also Volume 1 * = (10) See also Volume 1 * = (13) See also Volume 1 and Volume 2 * = (15) See also Volume 2 * = (17) See also Volume 2 * = (19) See also Volume 2 * = (20) See also Volume 2			

TAP LOCATIONS Pressure, Sampling, Sensor		
Tap Number	Description	Schematic Location
<a href="#">A</a>	REAR PARKING BRAKES (VOL. 3)	<a href="#">F-7</a>
<a href="#">B</a>	LEFT REAR SERVICE BRAKE (VOL. 3)	<a href="#">D-7</a>
<a href="#">C</a>	RIGHT REAR SERVICE BRAKE (VOL. 3)	<a href="#">B-7</a>
<a href="#">D</a>	BRAKE ACCUMULATOR CHARGE (VOL. 3)	<a href="#">D-3</a>
<a href="#">E</a>	BRAKE CHARGE PUMP OUTPUT (VOL. 3)	<a href="#">B-4</a>
<a href="#">F</a>	FRONT SERVICE BRAKES (VOL. 3)	<a href="#">D-1</a>
<a href="#">G</a>	LEFT REAR BRAKE COOLING OUT (VOL. 2)	<a href="#">F-7</a>
<a href="#">H</a>	LEFT REAR BRAKE COOLING IN (VOL. 2)	<a href="#">F-6</a>
<a href="#">I</a>	RIGHT REAR BRAKE COOLING OUT (VOL. 2)	<a href="#">D-7</a>
<a href="#">J</a>	RIGHT REAR BRAKE COOLING IN (VOL. 2)	<a href="#">D-6</a>
<a href="#">K</a>	BRAKE COOLER OUT (SOS) (VOL. 2)	<a href="#">E-5</a>
<a href="#">M</a>	HOIST PUMP OUTPUT (VOL. 2)	<a href="#">B-4</a>
<a href="#">N</a>	HOIST CYLINDER HEAD END (VOL. 2)	<a href="#">C-3</a>
<a href="#">O</a>	HOIST CYLINDER ROD END (VOL. 2)	<a href="#">C-3</a>
<a href="#">P</a>	HOIST LOWER PILOT (VOL. 2)	<a href="#">E-3</a>
<a href="#">Q</a>	HOIST RAISE PILOT (VOL. 2)	<a href="#">D-3</a>
<a href="#">R</a>	FRONT BRAKE COOLING IN (VOL. 2)	<a href="#">E-2</a>
<a href="#">S</a>	FRONT BRAKE COOLING OUT (VOL. 2)	<a href="#">C-1</a>
<a href="#">T</a>	STEERING RETURN (SOS) (VOL. 1)	<a href="#">C-3</a>
<a href="#">U</a>	HMJ INPUT (VOL. 1)	<a href="#">D-2</a>
<a href="#">V</a>	STEERING LOAD SENSE (VOL. 1)	<a href="#">D-1</a>
<a href="#">W</a>	REAR AXLE LUBRICATION (VOL. 1)	<a href="#">E-6</a>

# FLUID POWER SYMBOLS



## BASIC COMPONENT SYMBOLS



## VALVE ENVELOPES

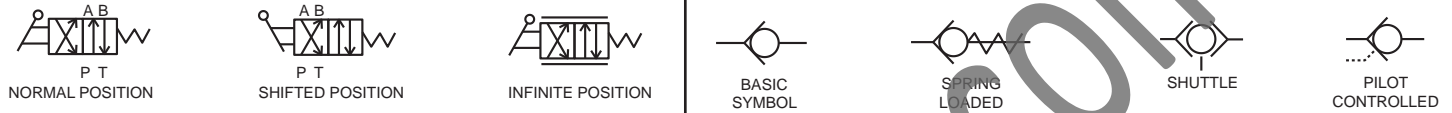
## VALVES

## VALVE PORTS



## CONTROL VALVES

## CHECK VALVES



## FLUID STORAGE RESERVOIRS



## MEASUREMENT

## ROTATING SHAFTS



## COMBINATION CONTROLS



## MANUAL CONTROL SYMBOLS



## RELEASED PRESSURE

## PILOT CONTROL SYMBOLS

## REMOTE SUPPLY PRESSURE



## ACCUMULATORS

## CROSSING AND JOINING LINES

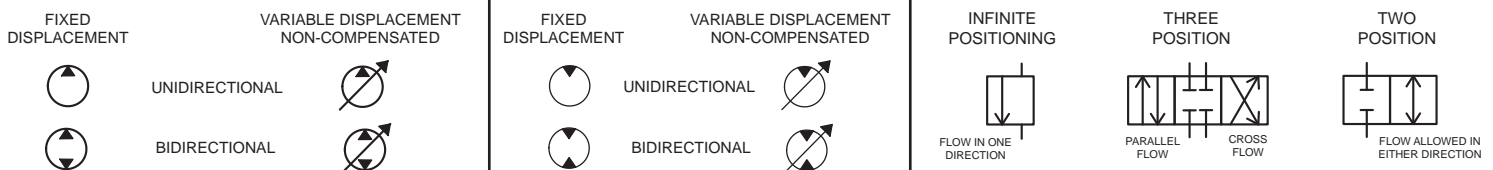
## HYDRAULIC AND PNEUMATIC CYLINDERS



## HYDRAULIC PUMPS

## HYDRAULIC MOTORS

## INTERNAL PASSAGEWAYS



# ELECTRICAL SYMBOLS



## Hydraulic Symbols (Electrical)



Transducer  
(Fluid)



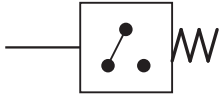
Transducer  
(Gas / Air)



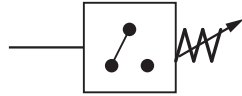
Generator



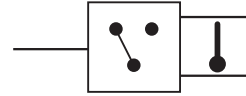
Electric Motor



Pressure Switch



Pressure Switch  
(Adjustable)

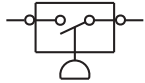


Temperature Switch

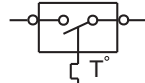


Electrical Wire

## Electrical Symbols (Electrical)



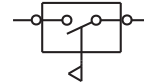
Pressure  
Symbol



Temperature  
Symbol



Level  
Symbol

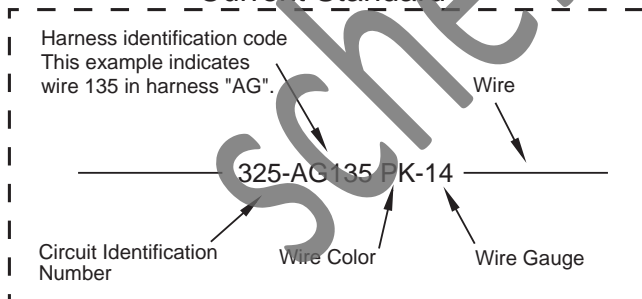


Flow  
Symbol

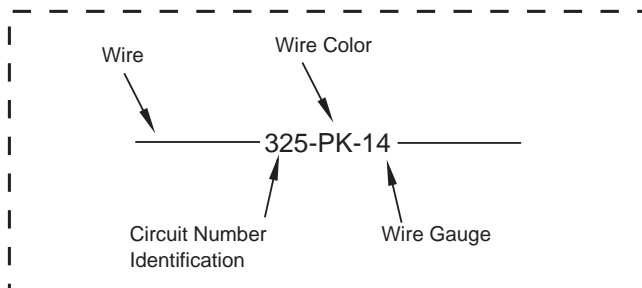
## Wire Number Identification Codes

### Electrical Schematic Example

#### Current Standard

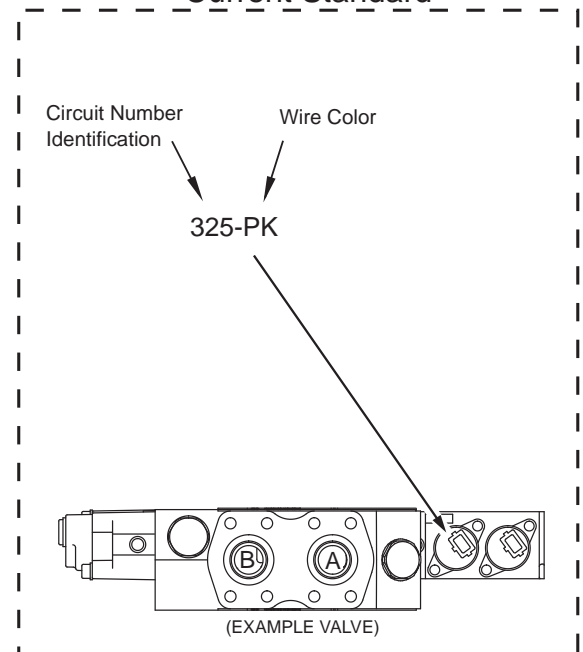


#### Previous Standard

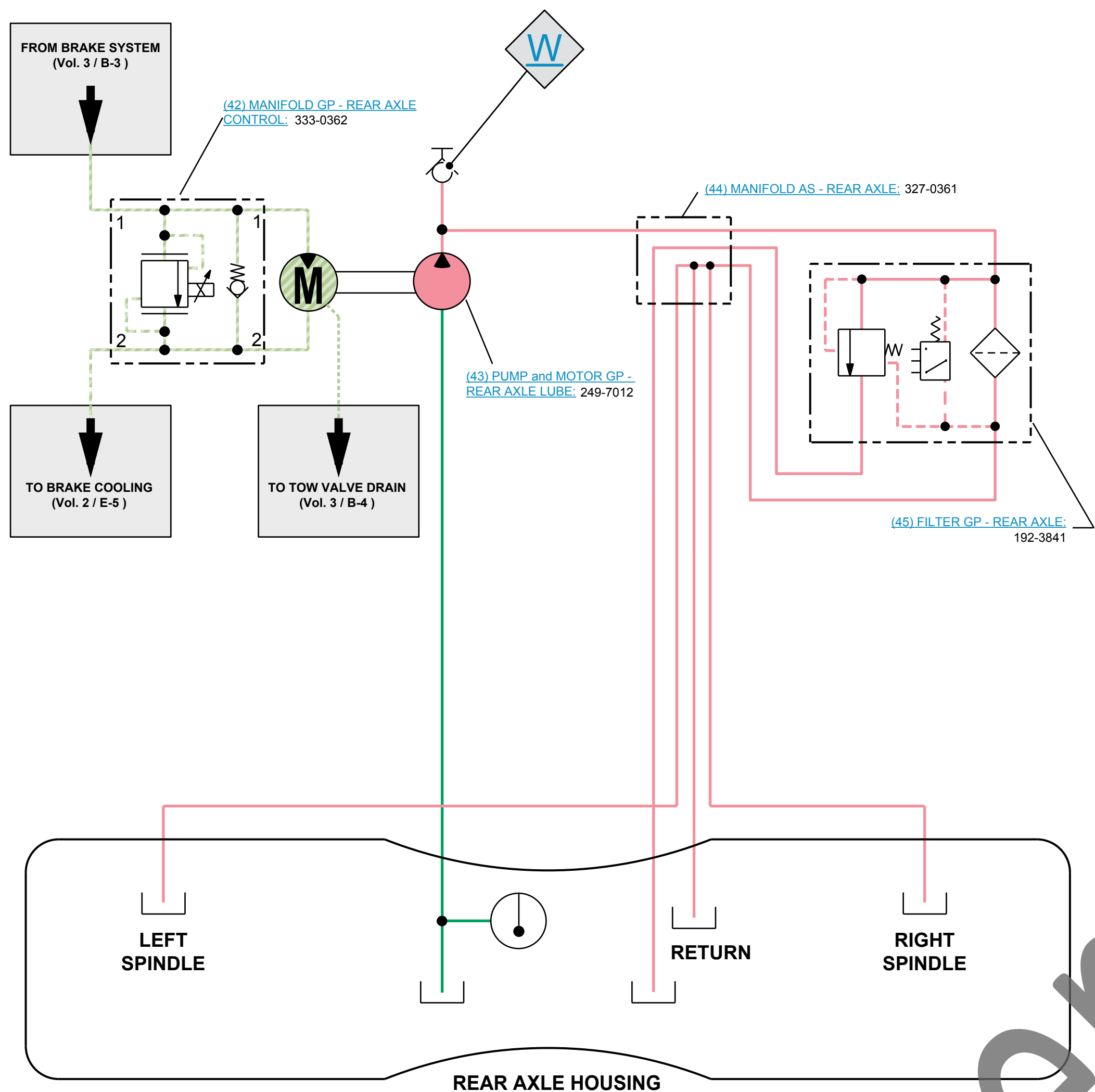


### Hydraulic Schematic Example

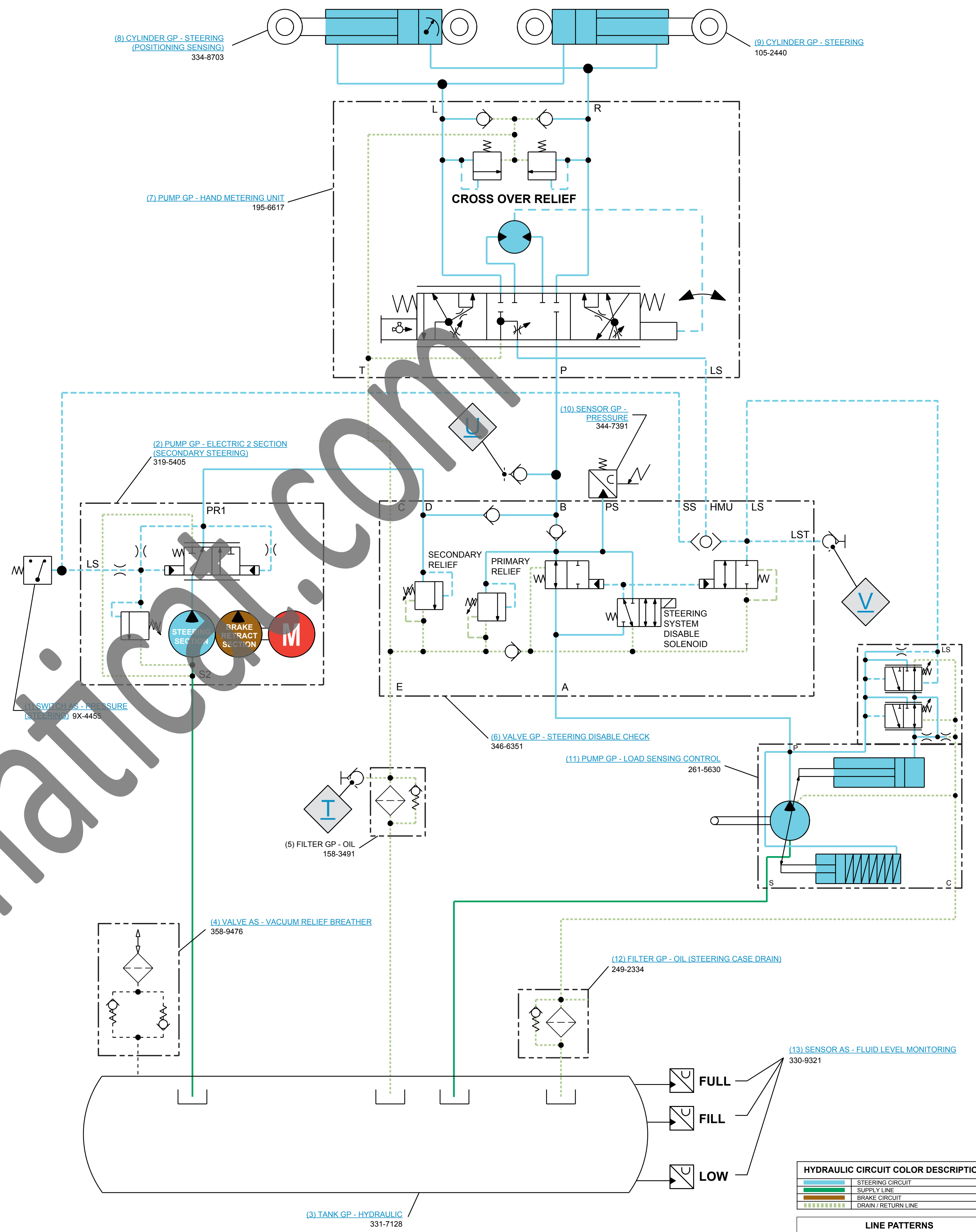
#### Current Standard







HYDRAULIC CIRCUIT COLOR DESCRIPTIONS	
<span style="color: red;">—</span>	REAR AXLE LUBRICATION CIRCUIT
<span style="color: blue;">—</span>	SUPPLY LINE
<span style="color: green;">—</span>	BRAKE CIRCUIT
<span style="color: black;">—</span>	DRAIN / RETURN LINE



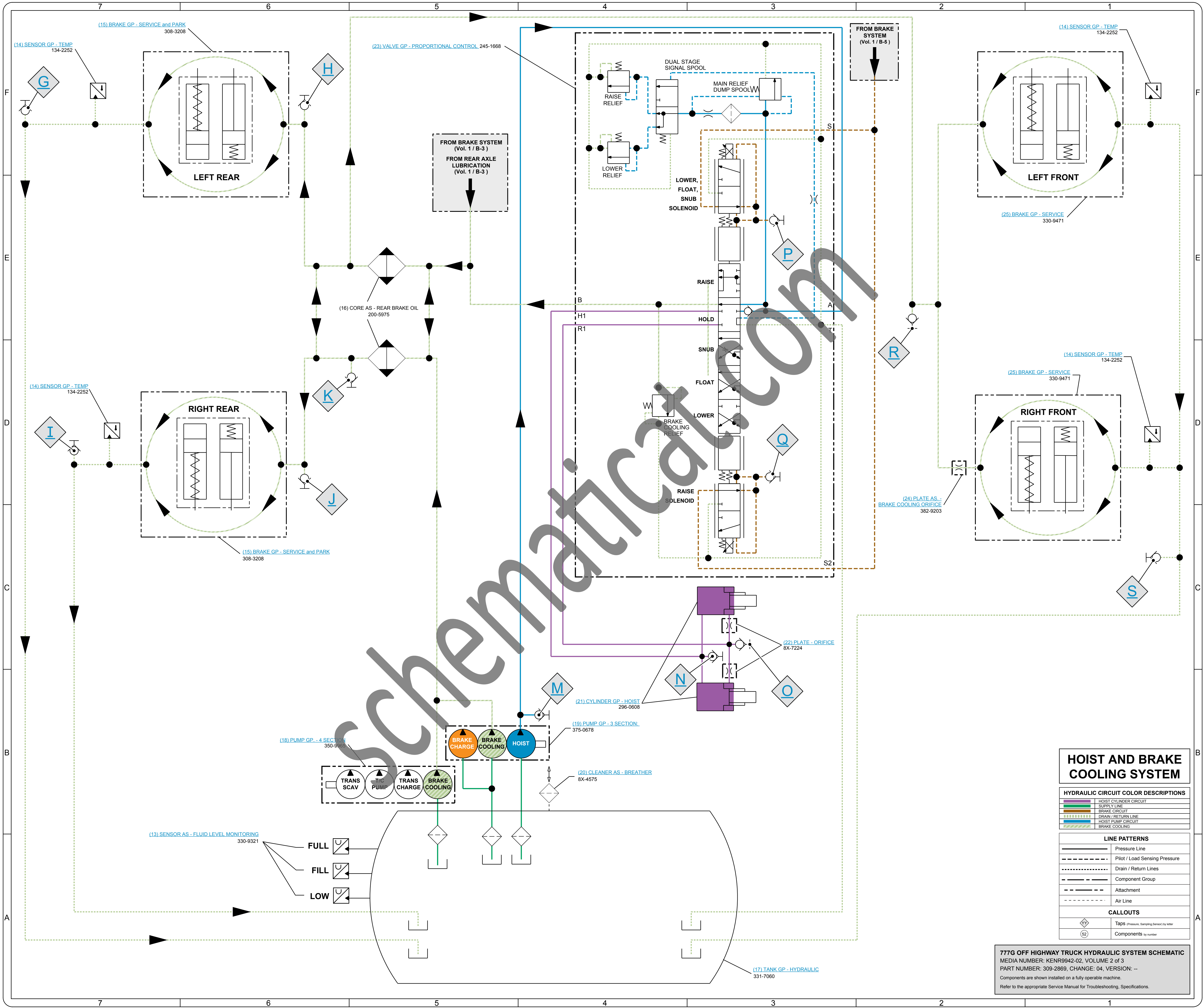
HYDRAULIC CIRCUIT COLOR DESCRIPTIONS	
<span style="color: blue;">—</span>	STEERING CIRCUIT
<span style="color: red;">—</span>	SUPPLY LINE
<span style="color: green;">—</span>	BRAKE CIRCUIT
<span style="color: black;">—</span>	DRAIN / RETURN LINE

LINE PATTERNS	
<span style="color: red;">—</span>	Pressure Line
<span style="color: blue;">—</span>	Pilot / Load Sensing Pressure
<span style="color: green;">—</span>	Drain / Return Lines
<span style="color: black;">—</span>	Component Group
<span style="color: black;">—</span>	Attachment
<span style="color: black;">—</span>	Air Line

CALLOUTS	
<span style="color: blue;">W</span>	TapPS (Pressure Sampling Sensor) by letter
<span style="color: red;">M</span>	Components by number

**777G OFF HIGHWAY TRUCK HYDRAULIC SYSTEM SCHEMATIC**  
 MEDIA NUMBER: KENR9942-02, VOLUME 1 of 3  
 PART NUMBER: 309-2869, CHANGE: 04, VERSION: --  
 Components are shown installed on a fully operable machine.  
 Refer to the appropriate Service Manual for Troubleshooting, Specifications.



**HOIST AND BRAKE COOLING SYSTEM**

HYDRAULIC CIRCUIT COLOR DESCRIPTIONS	
<span style="color: purple;">—</span>	HOIST CYLINDER CIRCUIT
<span style="color: green;">—</span>	SUPPLY LINE
<span style="color: red;">—</span>	BRAKE CIRCUIT
<span style="color: blue;">—</span>	DRAIN / RETURN LINE
<span style="color: yellow;">—</span>	HOIST PUMP CIRCUIT
<span style="color: orange;">—</span>	BRAKE COOLING

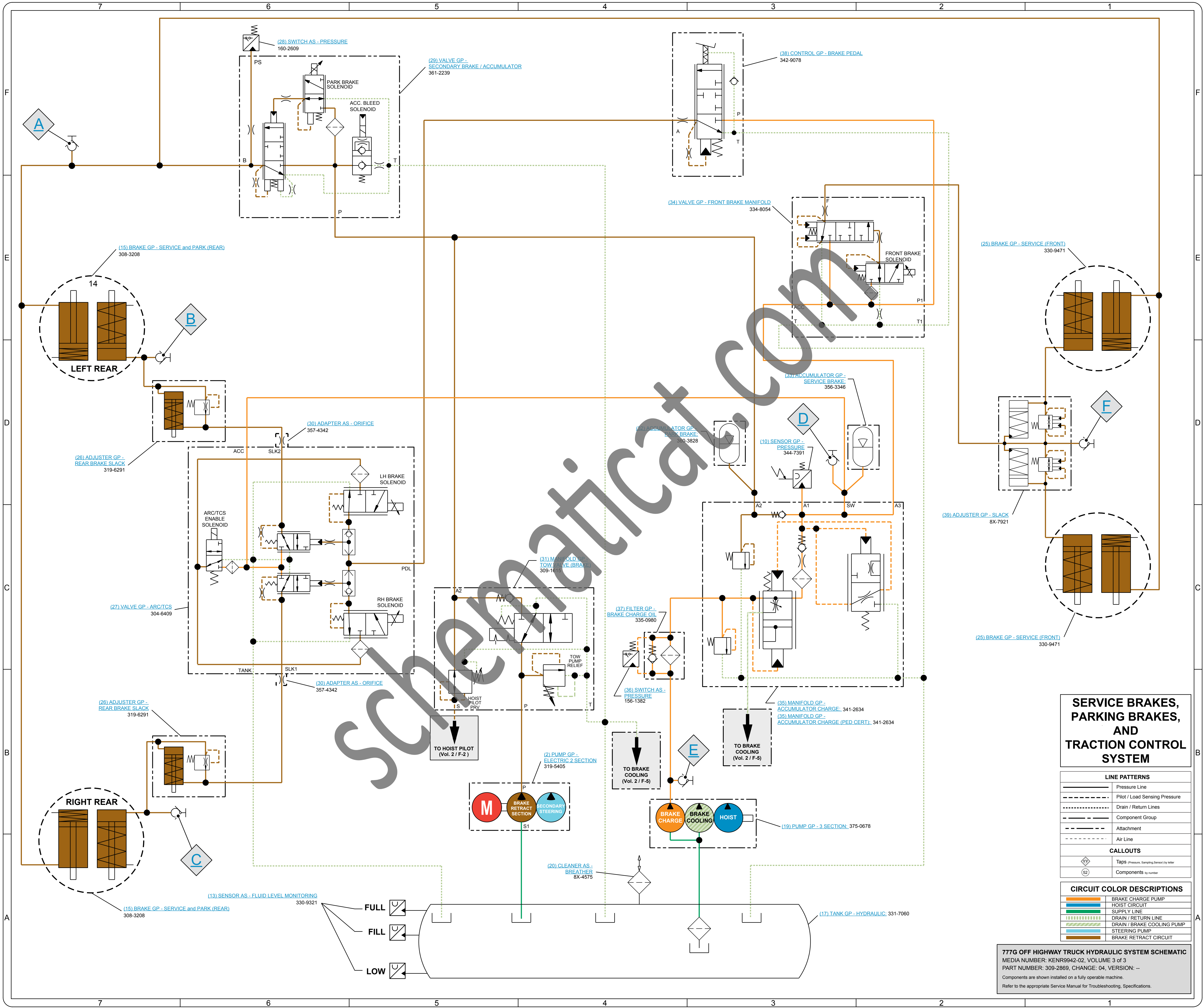
  

LINE PATTERNS	
<span style="border-bottom: 1px solid black; width: 20px; display: inline-block;"></span>	Pressure Line
<span style="border-bottom: 1px dashed black; width: 20px; display: inline-block;"></span>	Pilot / Load Sensing Pressure
<span style="border-bottom: 1px dotted black; width: 20px; display: inline-block;"></span>	Drain / Return Lines
<span style="border-bottom: 1px solid black; width: 20px; display: inline-block; border: 1px solid black; padding: 2px;"></span>	Component Group
<span style="border-bottom: 1px dashed black; width: 20px; display: inline-block; border: 1px solid black; padding: 2px;"></span>	Attachment
<span style="border-bottom: 1px dashed black; width: 20px; display: inline-block; border: 1px solid black; padding: 2px;"></span>	Air Line

CALLOUTS	
<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">P</span>	Taps (Pressure, Sampling, Sensor) by letter
<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">52</span>	Components by number

**777G OFF HIGHWAY TRUCK HYDRAULIC SYSTEM SCHEMATIC**  
 MEDIA NUMBER: KENR9942-02, VOLUME 2 of 3  
 PART NUMBER: 309-2869, CHANGE: 04, VERSION: --  
 Components are shown installed on a fully operable machine.  
 Refer to the appropriate Service Manual for Troubleshooting, Specifications.



**SERVICE BRAKES,  
 PARKING BRAKES,  
 AND  
 TRACTION CONTROL  
 SYSTEM**

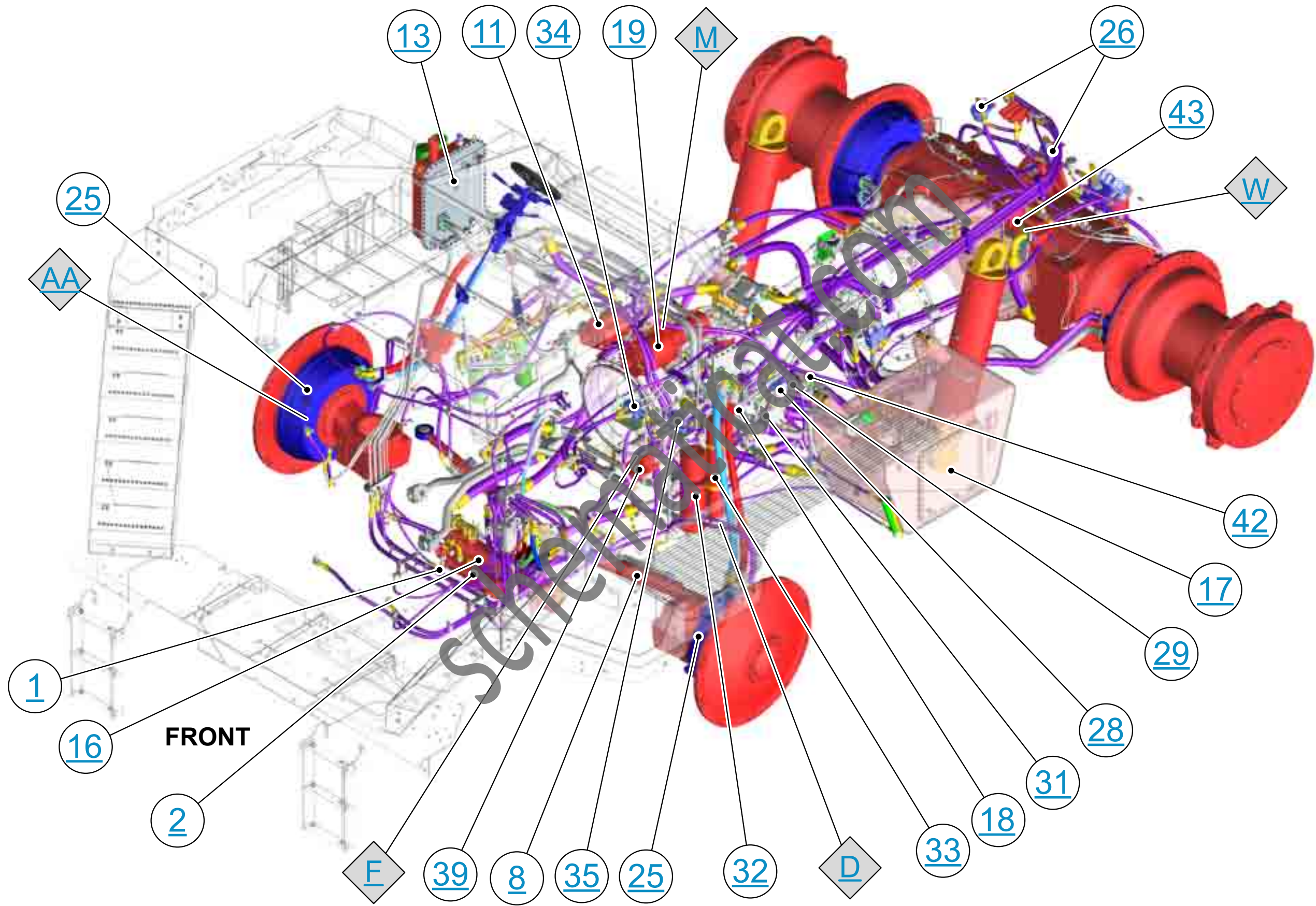
LINE PATTERNS	
	Pressure Line
	Pilot / Load Sensing Pressure
	Drain / Return Lines
	Component Group
	Attachment
	Air Line

CALLOUTS	
	Taps (Pressure, Sampling Sensor) by letter
	Components by number

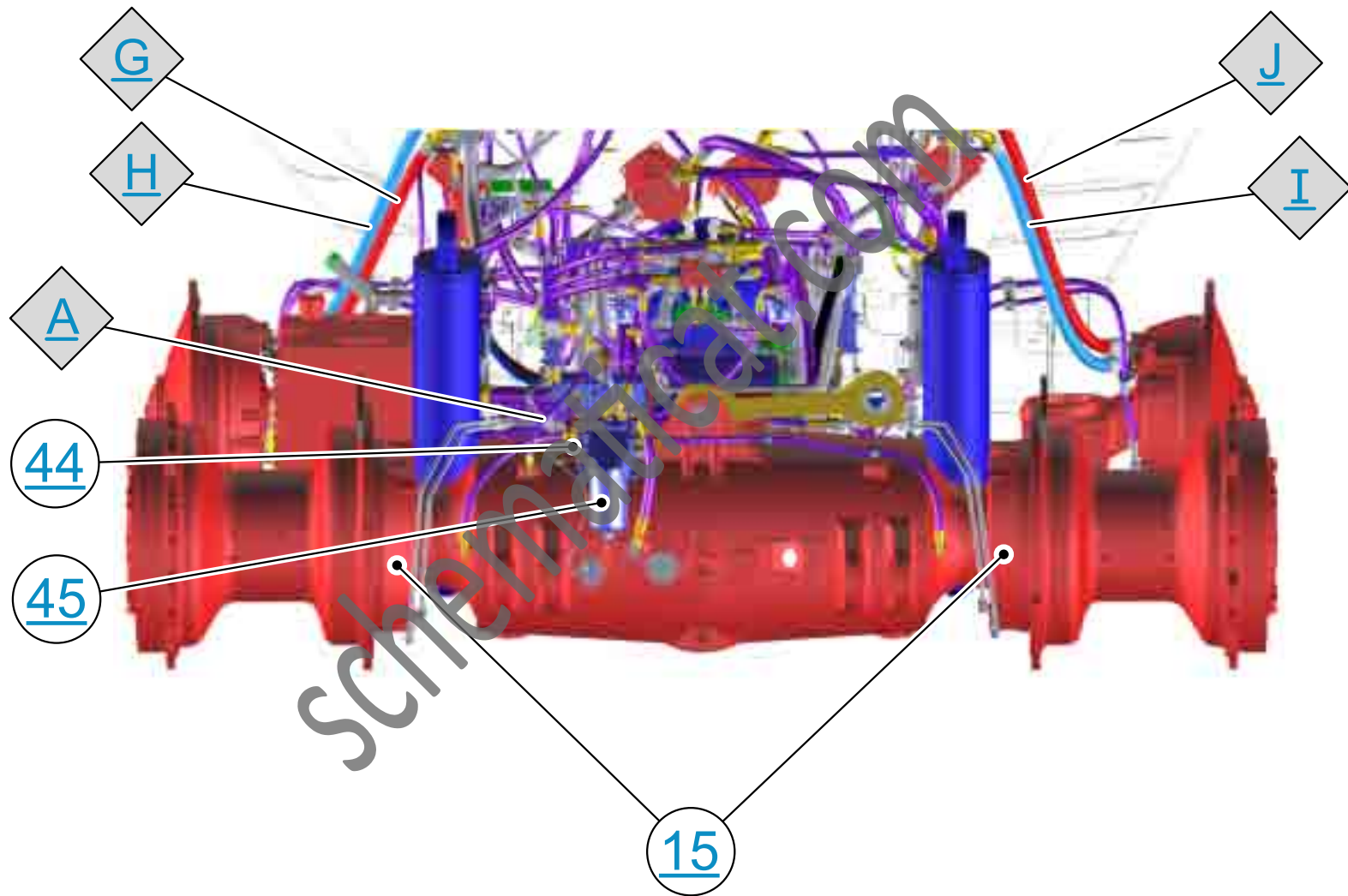
CIRCUIT COLOR DESCRIPTIONS	
	BRAKE CHARGE PUMP
	HOIST CIRCUIT
	SUPPLY LINE
	DRAIN / RETURN LINE
	DRAIN / BRAKE COOLING PUMP
	STEERING PUMP
	BRAKE RETRACT CIRCUIT

**777G OFF HIGHWAY TRUCK HYDRAULIC SYSTEM SCHEMATIC**  
 MEDIA NUMBER: KENR9942-02, VOLUME 3 of 3  
 PART NUMBER: 309-2869, CHANGE: 04, VERSION: -  
 Components are shown installed on a fully operable machine.  
 Refer to the appropriate Service Manual for Troubleshooting, Specifications.





# REAR VIEW



# HOIST CONTROL VALVE

