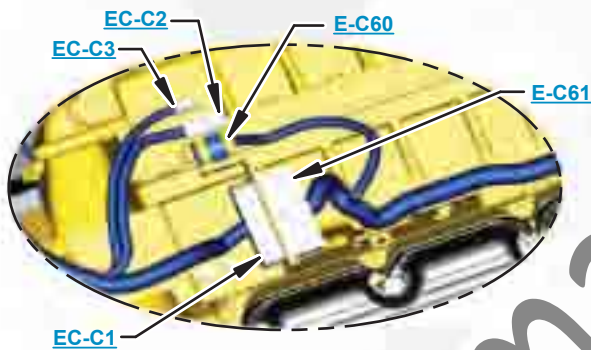


This document is best viewed at a screen resolution of 1024 X 768.

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

938K Wheel Loader Hydraulic System

SWL1-UP
XXT1-UP
HFW1-UP

SchematicCat.com

Volume 1 of 2: Drive Circuits

Volume 2 of 2: Implement Circuits

COMPONENT LOCATION

Volume 1 of 2 - DRIVE CIRCUITS



Description	Part Number	Machine Location	Schematic Location
Accumulator Gp - Brake	360-9207	1	E-7
Accumulator Gp - Charge	373-6953	2	E-6
Cooler Gp - Hydraulic Oil	354-8742	7	B-4
Cooler Gp - Transmission Oil	383-7596	8	D-3
Filter Gp - Gearbox	349-3667	15	E-3
Filter Gp - Hydraulic Oil	368-0754	16	E-4
Manifold Gp - Brake Accumulator	349-9089	17	E-7
Manifold Gp - Hystat Interlock Valve	347-0785	18	E-5
Manifold Gp - Hystat Loop	356-8633	19	D-3, B-2
Motor Gp - Hystat (115cc)	307-3077	22	C-3
Motor Gp - Hystat (170cc)	341-7648	23	C-1
Motor Gp - Radiator/Hydraulic Fan	307-3054	24	B-7
Motor Gp - Radiator/Hydraulic Fan (Reversing)	307-3064	25	B-7
Orifice Gp - Motor Flushing Connector	9X-2614	26	D-2
Pedal Gp - Brake	342-0157	28	E-8
Pump Gp - Charge/Lube	307-3079	29	D-4
Pump Gp - Fan/Brake (W/Brake Charging Valve)	307-3058	30	B-8
Pump Gp - Hystat	307-3065	33	D-6
Sensor Gp - Pressure (Brake Charge)	344-7391	36	D-8
Sensor Gp - Pressure (Hystat Loop FWD)	349-1178	37	E-6
Sensor Gp - Pressure (Hystat Loop REV)	349-1178	38	C-5
Sensor Gp - Pressure (Park Brake)	344-7391	41	E-7
Transmission Ar - Gearbox	358-3002	43	E-2
Valve Gp - Accumulator (Fan/Brake Charge)	347-3251	45	D-7
Valve Gp - Check (Hyd Oil Cooler Bypass)	348-2078	50	C-6
Valve Gp - Check (Hystat Flushing)	370-2280	51	C-1
Valve Gp - Check (Pilot Supply)	123-4750	53	E-5
Valve Gp - Check (Xmsn Oil Cooler Bypass)	385-9391	58	D-3
Valve Gp - Park Brake	357-0377	61	E-7
Valve Gp - Solenoid (Hystat Interlock)	366-8955	65	D-5

COMPONENT LOCATION

Volume 2 of 2 - IMPLEMENT CIRCUITS



Description	Part Number	Machine Location	Schematic Location
Accumulator Gp - Pilot	373-7014	3	E-4
Accumulator Gp - Ride Control	373-6960	4	E-2
Accumulator Gp - Ride Control	373-6962	5	E-2
Breather - Hydraulic Tank	258-2829	6	B-4
Cylinder Gp - Fusion Coupler	375-0724	9	D-6
Cylinder Gp - Wide Coupler	353-9375	10	D-5
Cylinder Gp - High Lift Tilt	351-8515	11	F-3
Cylinder Gp - Lift	347-3853	12	E-3
Cylinder Gp - Steering	347-3852	13	D-2
Cylinder Gp - Tilt	347-3854	14	F-3
Manifold Gp - Rear Frame Return	347-8096	20	D-7
Manifold Gp - Steering	346-5095	21	C-3
Orifice Gp - Ride Control PC	366-8973	27	E-2
Pump Gp - Hand Metering	341-7623	31	C-2
Pump Gp - Hand Metering (W/Dual Mode Steering)	341-7639	32	C-2
Pump Gp - Implement Pump	341-7662	34	B-7
Pump Gp - Secondary Steering (W/Integrated Relief)	307-3051	35	C-1
Sensor Gp - Pressure (Implement Pump Discharge)	344-7391	39	D-7
Sensor Gp - Pressure (Primary Steering)	344-7391	41	C-3
Tank Gp - Hydraulic	349-8199	42	A-4
Tube As - Front Frame Return	349-7843	44	D-3
Valve Gp - Bank 2 (Implement)	347-3852	46	F-7
Valve Gp - Bank 3 (Implement)	347-3853	47	F-7
Valve Gp - Bank 4 (Implement)	347-3854	48	F-7
Valve Gp - Ball (Dead Engine Lower)	112-1817	49	F-4
Valve Gp - Check (Implement Backpressure)	352-1045	52	E-7
Valve Gp - Check (Ride Control Supply)	9T-1013	54	E-2
Valve Gp - Check (Secondary Steering)	9T-1013	55	C-3
Valve Gp - Check (Steering Backpressure)	192-2684	56	D-7
Valve Gp - Check (Steering Inlet)	175-0447	57	C-3
Valve Gp - Differential Lock	365-6860	59	E-8
Valve Gp - Dual Mode	247-4503	60	B-3
Valve Gp - Quick Coupler	352-1108	62	D-6
Valve Gp - Ride Control	280-9978	63	E-2
Valve Gp - Shutoff (Petcock)	6V-7238	64	D-7

TAP LOCATION

Volume 1 of 2 - DRIVE CIRCUITS



Tap Number	Description	Schematic Location
P7	Charge Pressure	E-4
P8	Charge Fill	D-4
P9	Gearbox SOS Gauge	E-3
P10	Hystat Forward Drive Pressure	D-3
P11	Hystat Reverse Drive Pressure	B-2
P12	Hydraulic SOS Gauge	B-4
P13	Gearbox Pressure	E-3
P14	Lube Pressure	E-3
P15	Clutch Pressure	E-2
P16	Front Service Brake Pressure	E-8
P17	Rear Service Brake Pressure	E-8
P19	Fan/Brake Discharge Pressure	C-8
P20	Brake Charging Pressure	E-8
P21	Fan/Brake LoadSense Pressure	C-7

TAP LOCATION

Volume 2 of 2 - IMPLEMENT CIRCUITS



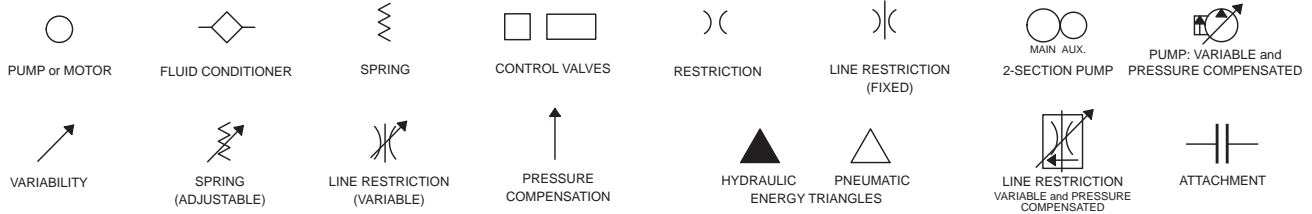
Tap Number	Description	Schematic Location
P1	Steering Discharge Pressure	C-3
P2	Steering Loadsense Pressure	C-5
P3	Implement Discharge Pressure	E-4
P4	Implement Loadsense Pressure	C-6
P5	Implement Pilot Pressure	F-4
P6	Quick Coupler Pressure	D-5
P18	Differential Lock Pressure	E-7

SchematicCat.com

FLUID POWER SYMBOLS



BASIC COMPONENT SYMBOLS



VALVE ENVELOPES

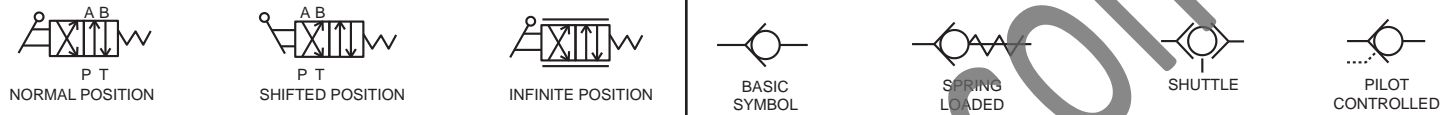
VALVES

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

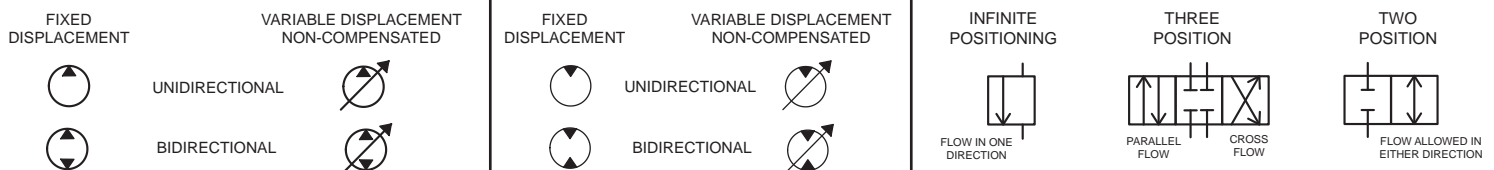
HYDRAULIC AND PNEUMATIC CYLINDERS



HYDRAULIC PUMPS

HYDRAULIC MOTORS

INTERNAL PASSAGEWAYS



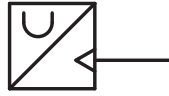
ELECTRICAL SYMBOLS



Hydraulic Symbols (Electrical)



Transducer
(Fluid)



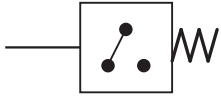
Transducer
(Gas / Air)



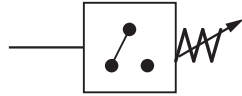
Generator



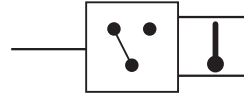
Electric Motor



Pressure Switch



Pressure Switch
(Adjustable)

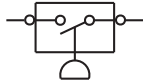


Temperature Switch

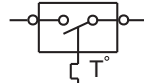


Electrical Wire

Electrical Symbols (Electrical)



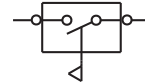
Pressure
Symbol



Temperature
Symbol



Level
Symbol

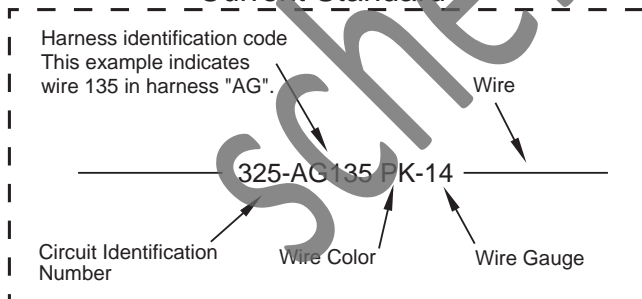


Flow
Symbol

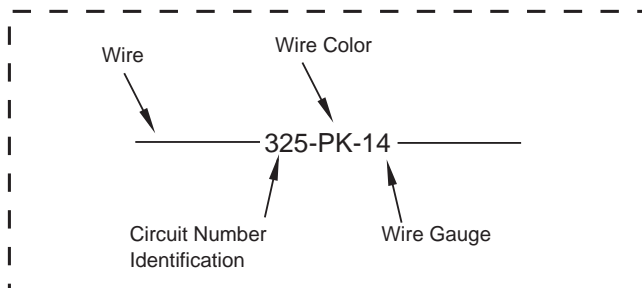
Wire Number Identification Codes

Electrical Schematic Example

Current Standard

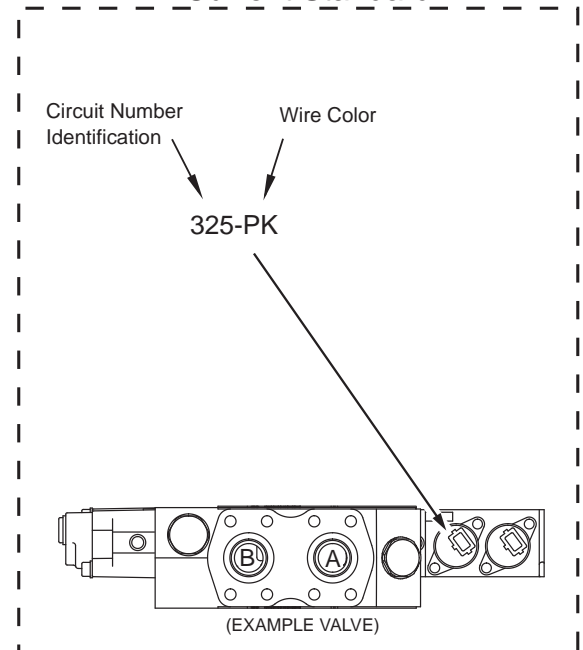


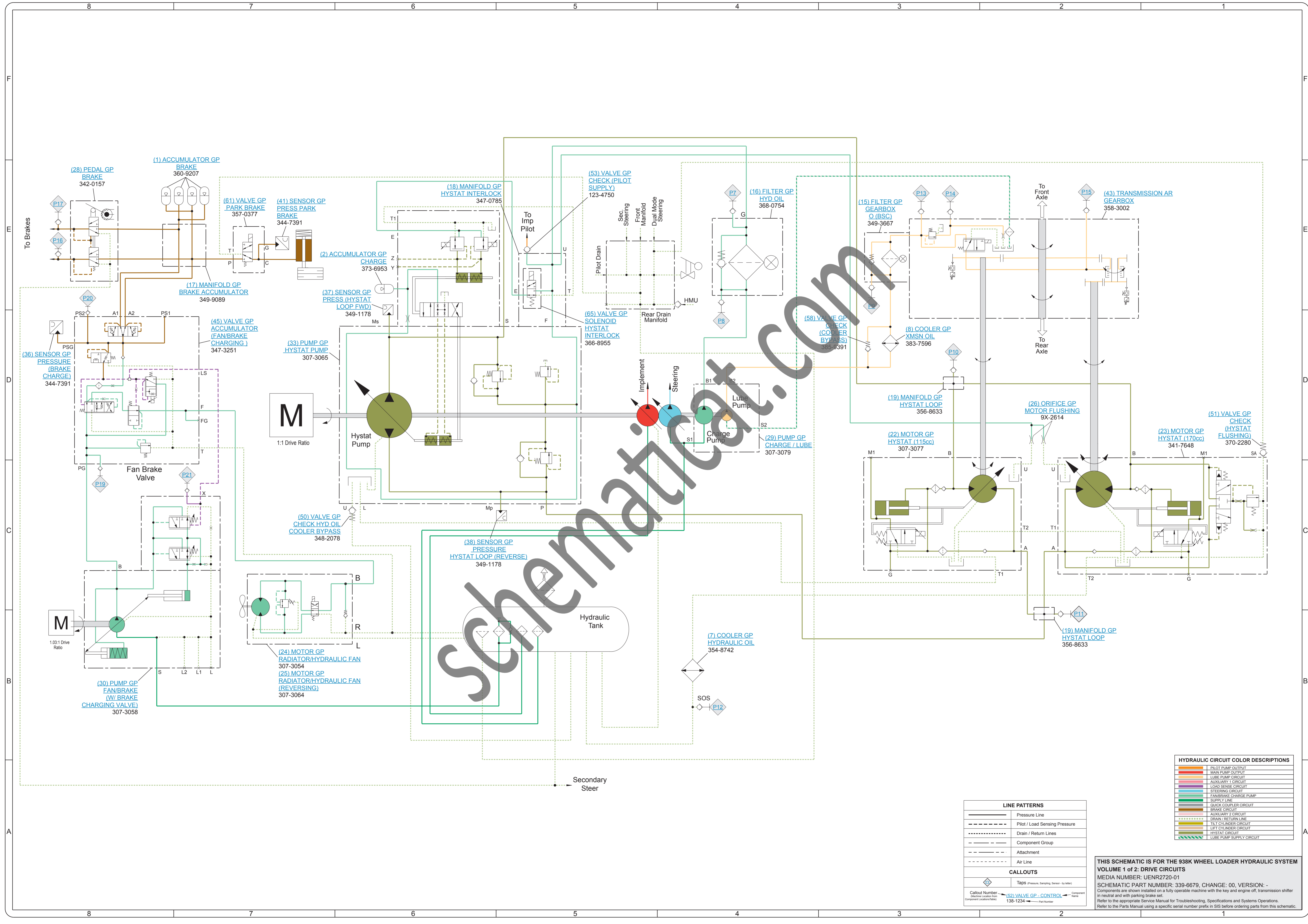
Previous Standard



Hydraulic Schematic Example

Current Standard





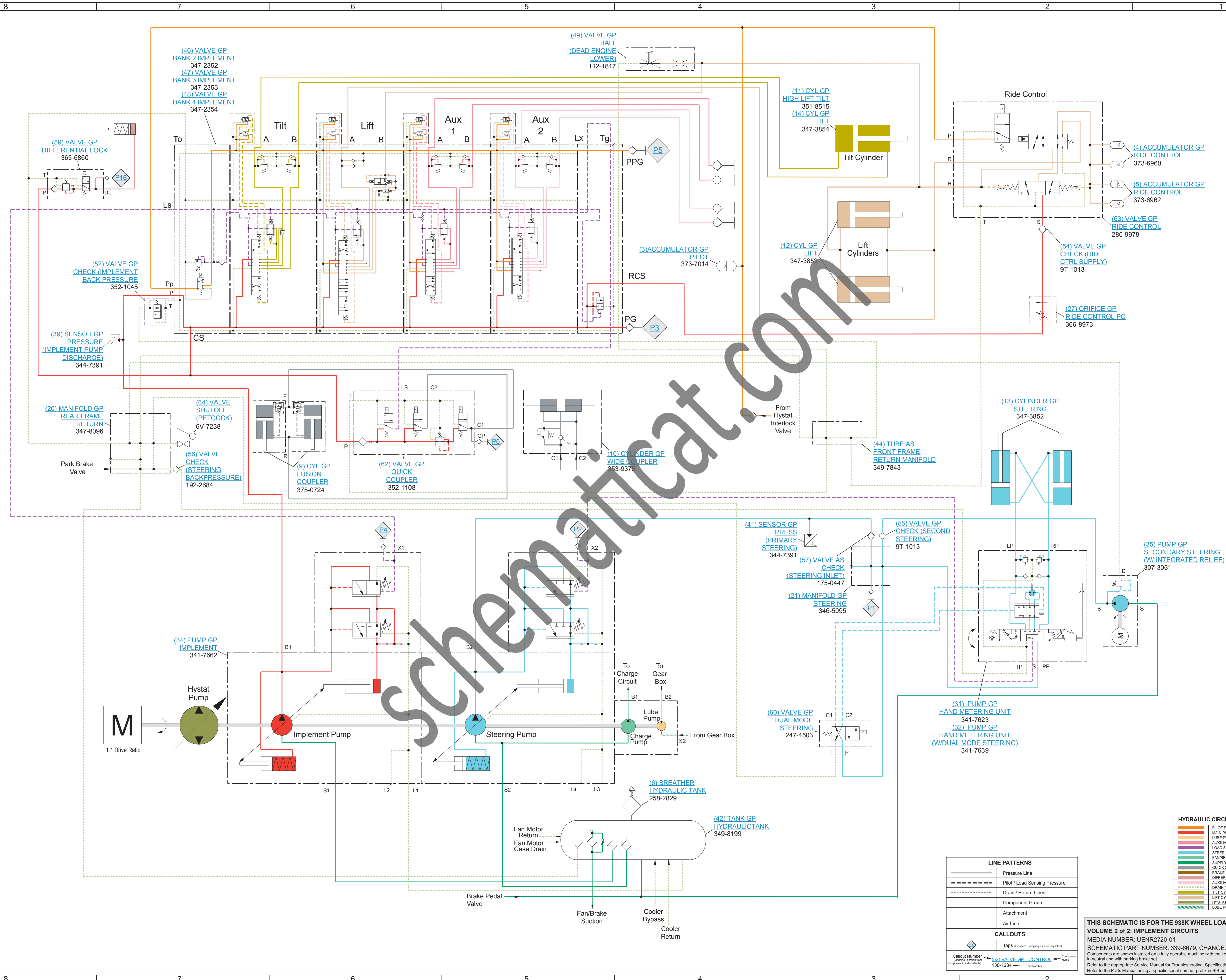
Schematics.com

HYDRAULIC CIRCUIT COLOR DESCRIPTIONS	
Red	PILOT PUMP OUTPUT
Orange	MAIN PUMP OUTPUT
Yellow	LUBE PUMP CIRCUIT
Green	AUXILIARY 1 CIRCUIT
Blue	LOAD SENSE CIRCUIT
Purple	STEERING CIRCUIT
Light Blue	FAN/BRAKE CHARGE PUMP
Light Green	SUPPLY LINE
Light Yellow	QUICK COUPLER CIRCUIT
Light Orange	AUXILIARY 2 CIRCUIT
Light Purple	DRAIN/RETURN LINE
Light Blue-Gray	TILT CYLINDER CIRCUIT
Light Green-Gray	LIFT CYLINDER CIRCUIT
Light Yellow-Gray	HYSTAT CIRCUIT
Light Orange-Gray	LUBE PUMP SUPPLY CIRCUIT

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

CALLOUTS	
◆	Taps (Pressure, Sampling, Sensor, by letter)
◆	Callout Number (Electric Location Item)
◆	Component Name
◆	Part Number

THIS SCHEMATIC IS FOR THE 938K WHEEL LOADER HYDRAULIC SYSTEM
VOLUME 1 of 2: DRIVE CIRCUITS
 MEDIA NUMBER: UENR2720-01
 SCHEMATIC PART NUMBER: 339-6679, CHANGE: 00, VERSION: -
 Components are shown installed on a fully operable machine with the key and engine off, transmission shifter in neutral and with parking brake set.
 Refer to the appropriate Service Manual for Troubleshooting, Specifications and Systems Operations.
 Refer to the Parts Manual using a specific serial number prefix in SIS before ordering parts from this schematic.



HYDRAULIC CIRCUIT COLOR DESCRIPTIONS

Red	Pilot Pump Output
Orange	Main Pump Output
Yellow	Lube Pump Circuit
Green	Auxiliary 1 Circuit
Blue	Load Sense Circuit
Purple	Steering Circuit
Light Blue	Fans/Breath Charge Pump
Dark Blue	Supply Line
Light Green	Quick Coupler Circuit
Light Orange	Brake Circuit
Light Purple	Differential Lock Circuit
Light Yellow	Auxiliary 2 Circuit
Light Blue-Gray	Drain / Return Line
Light Green-Gray	Tilt Cylinder Circuit
Light Orange-Gray	Lift Cylinder Circuit
Light Purple-Gray	Hystat Circuit
Light Blue-Gray	Lube Pump Supply Circuit

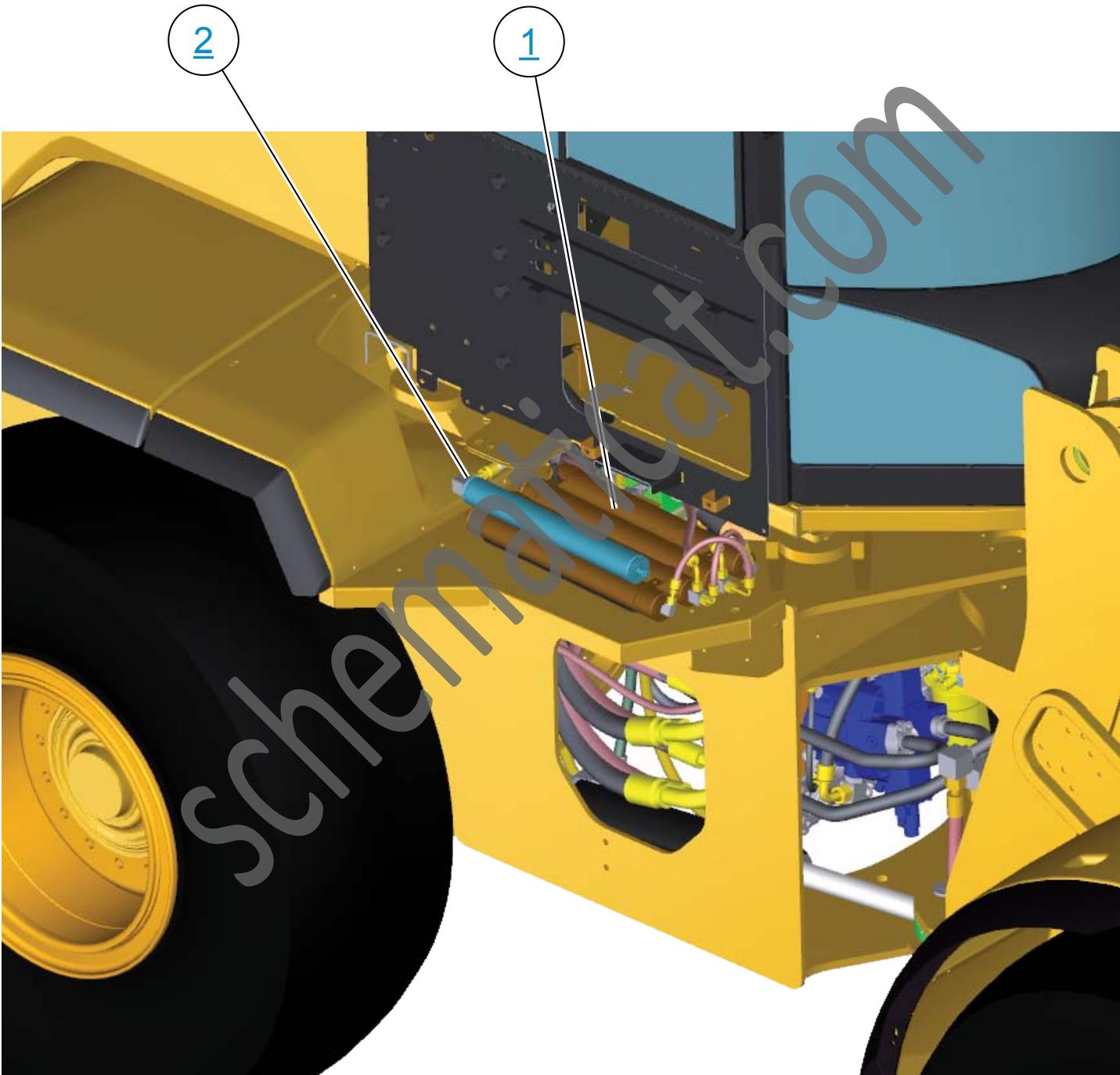
LINE PATTERNS

Solid line	Pressure Line
Dashed line	Pilot / Load Sensing Pressure
Dotted line	Drain / Return Lines
Long-dashed line	Component Group
Short-dashed line	Attachment
Long-dotted line	Air Line

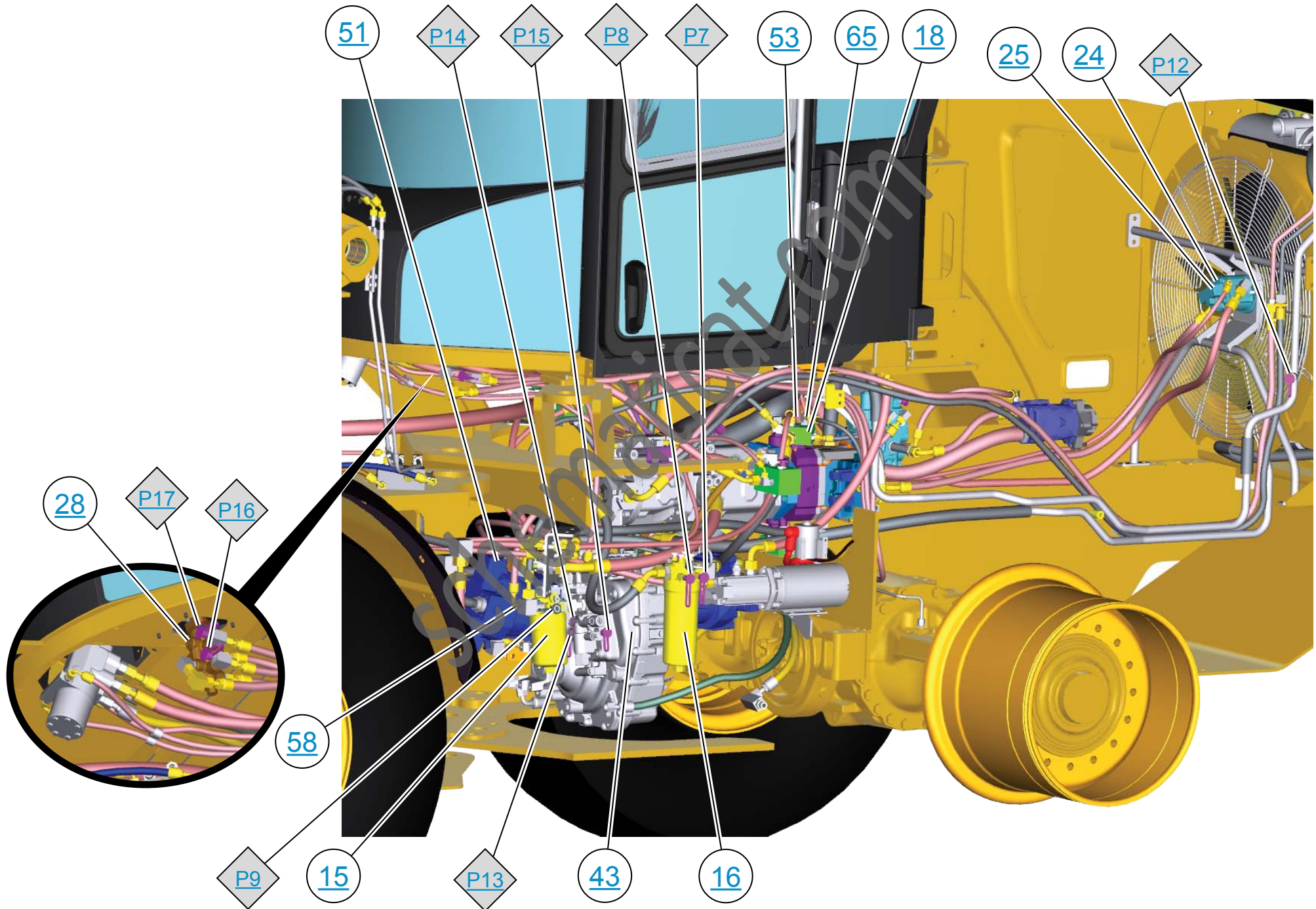
CALLOUTS

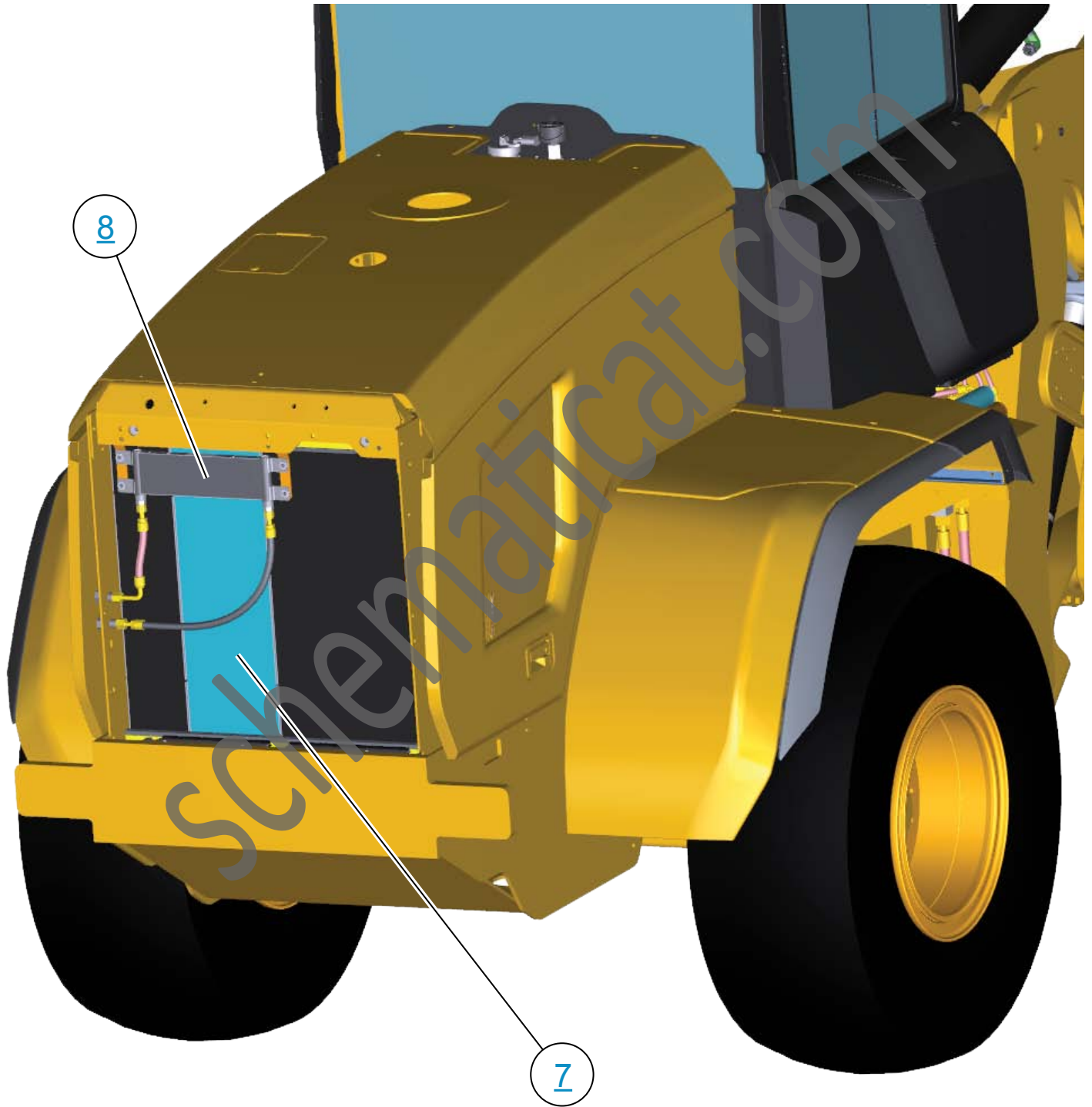
Callout Number	Alternative Location from Component Location (Date)	Component Name
138-1234	(52) VALVE GP - CONTROL	

THIS SCHEMATIC IS FOR THE 938K WHEEL LOADER HYDRAULIC SYSTEM
VOLUME 2 of 2: IMPLEMENT CIRCUITS
 MEDIA NUMBER: UENR2720-01
 SCHEMATIC PART NUMBER: 339-6679, CHANGE: 00, VERSION: -
 Components are shown installed on a fully operable machine with the key and engine off, transmission shifter in neutral and with parking brake set.
 Refer to the appropriate Service Manual for Troubleshooting, Specifications and Systems Operations.
 Refer to the Parts Manual using a specific serial number prefix in SIS before ordering parts from this schematic.

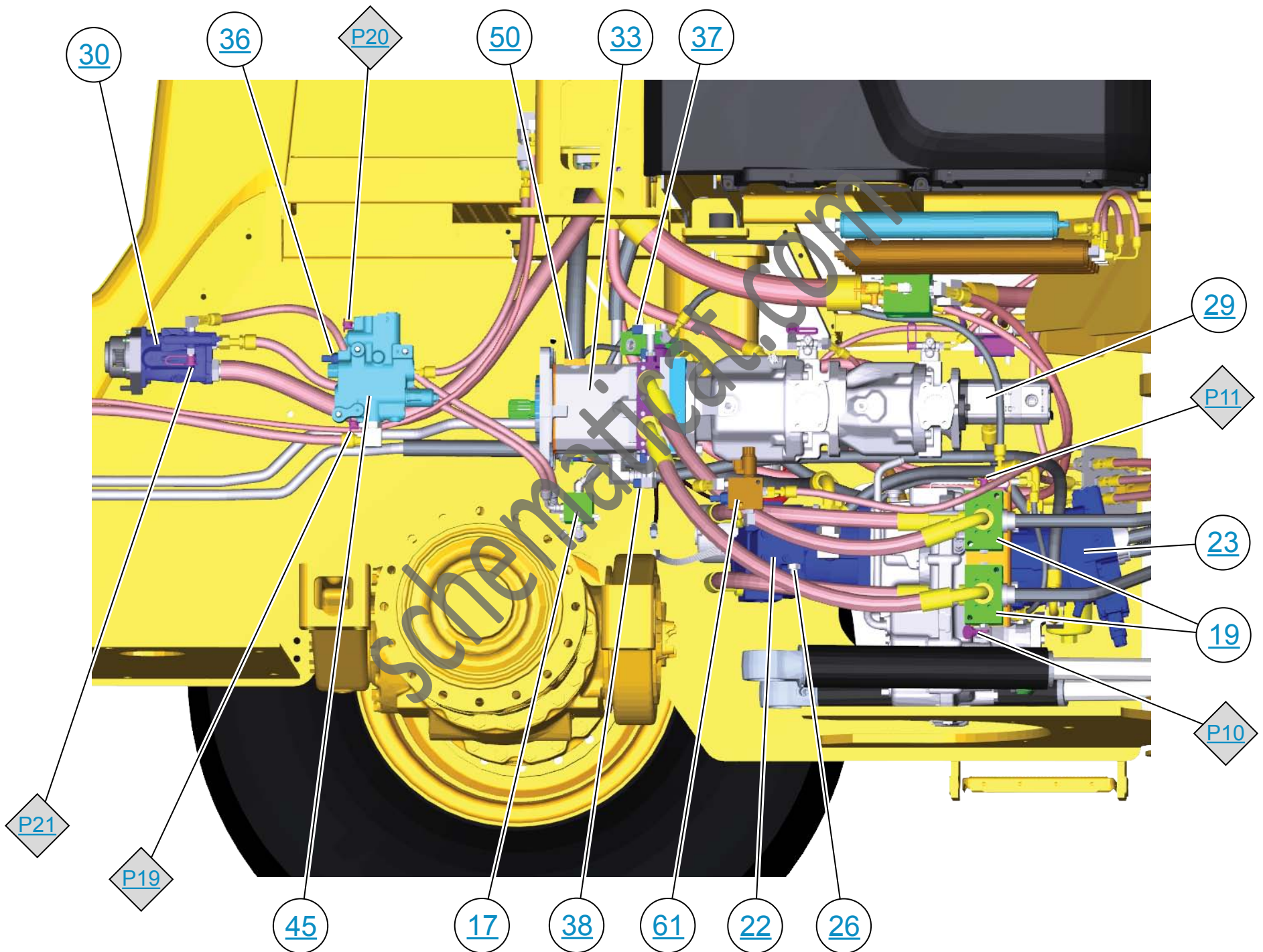


LEFT SIDE VIEW

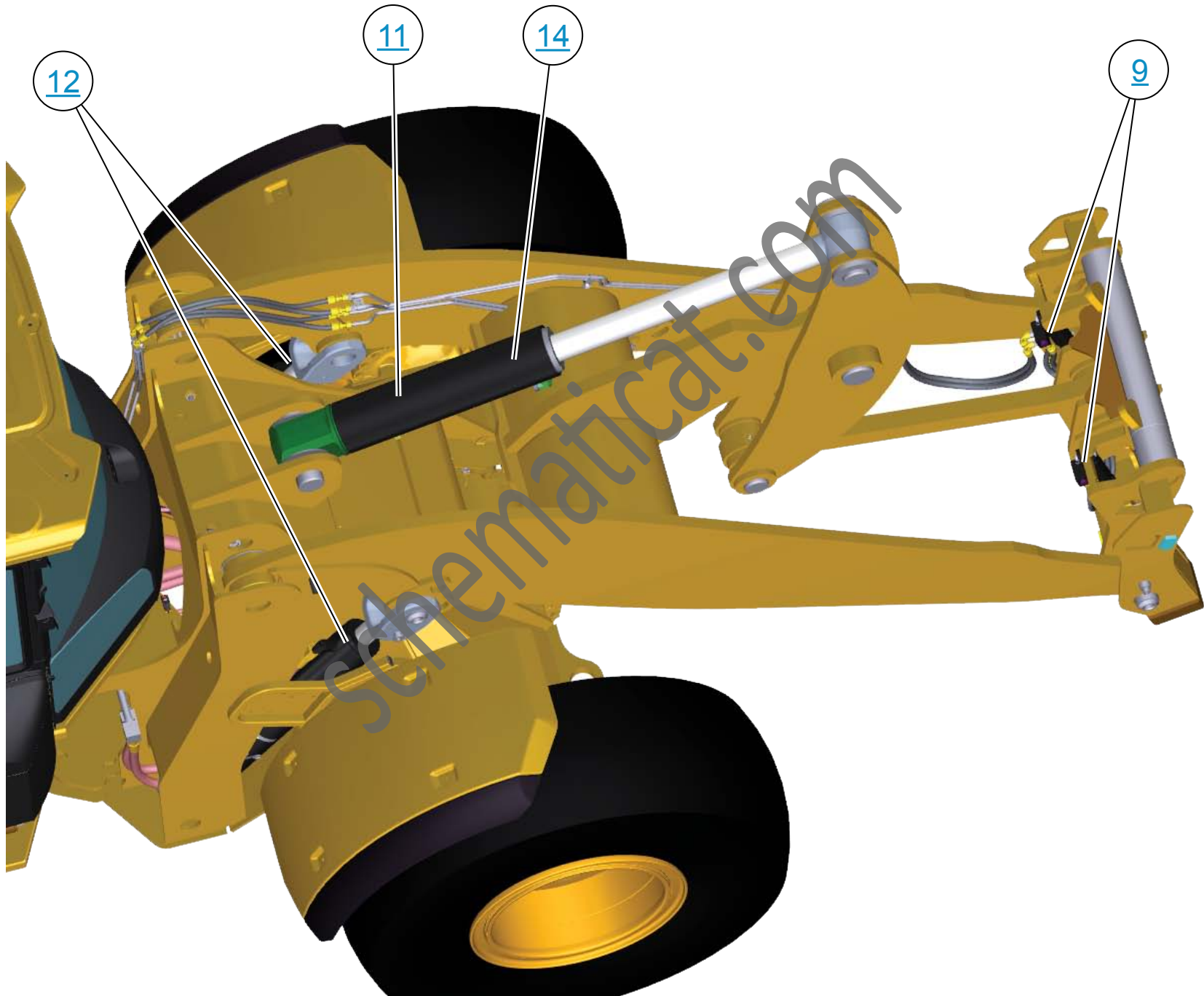




RIGHT SIDE VIEW



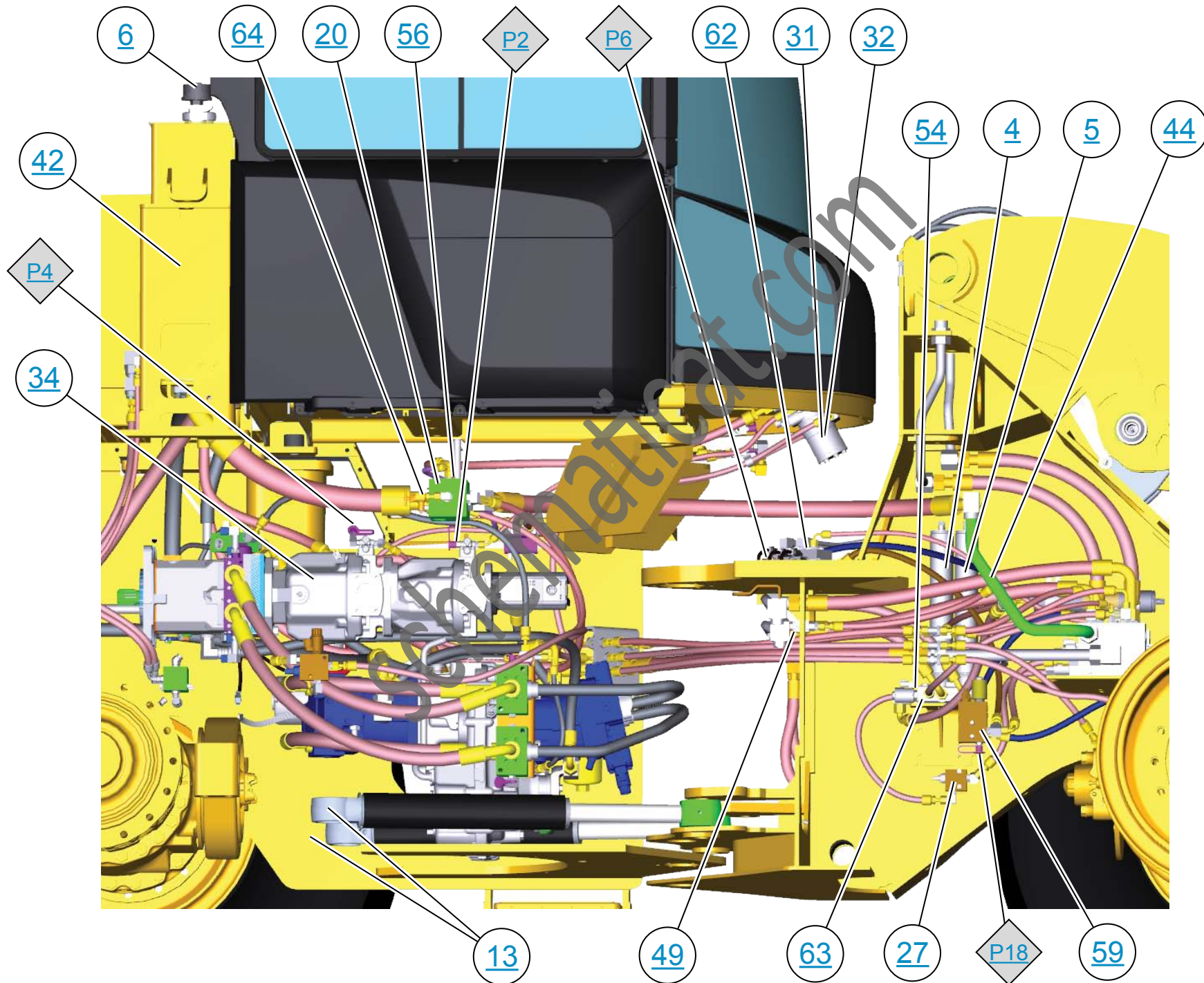
FRONT CYLINDERS



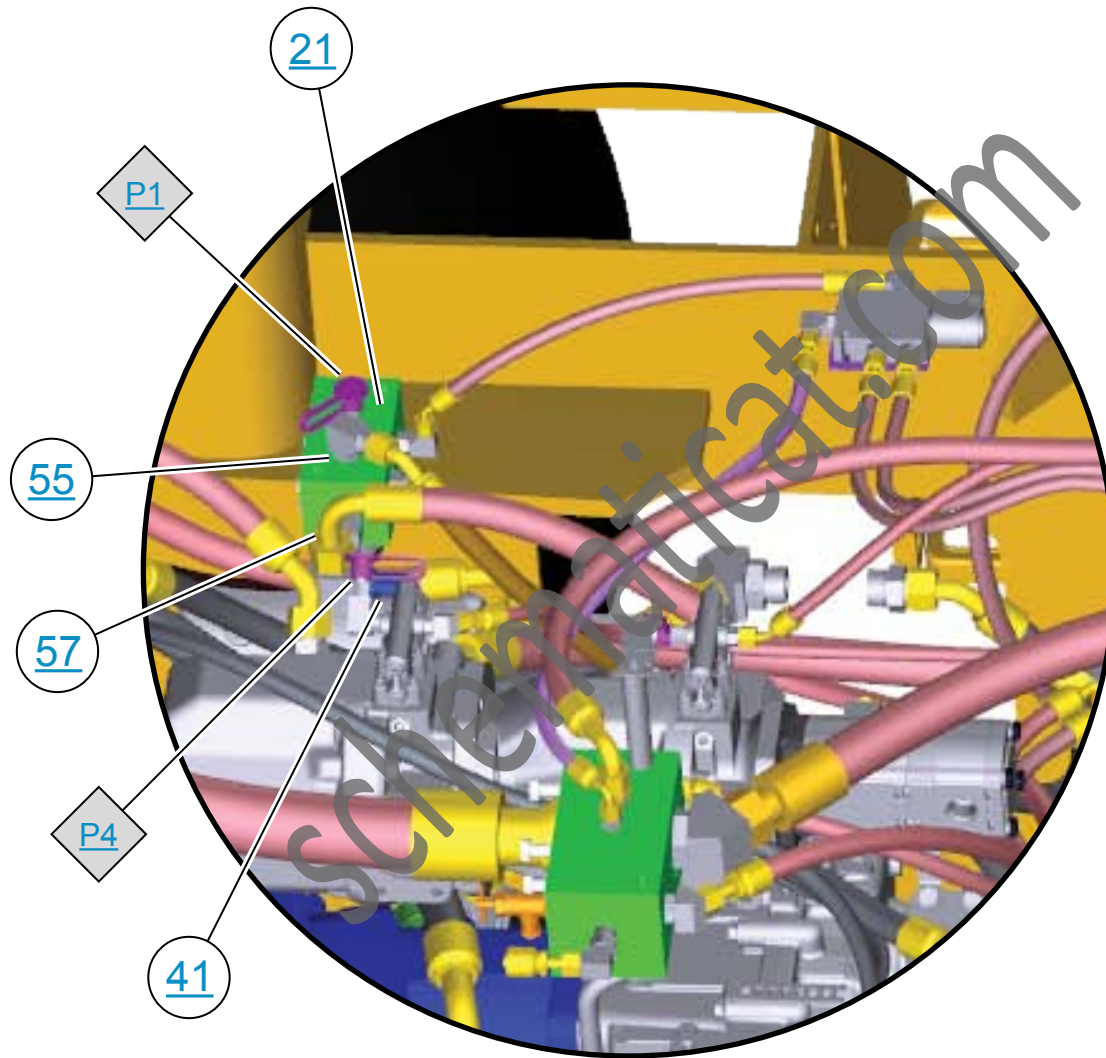
FRONTAL VIEW



RIGHT SIDE VIEW



STEERING MANIFOLD DETAIL



STEERING PUMP DETAIL

