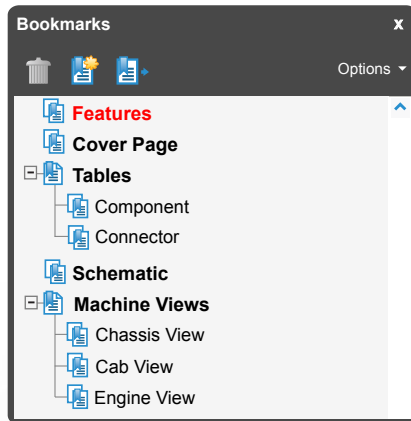


# INTERACTIVE SCHEMATIC



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

***\*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**.

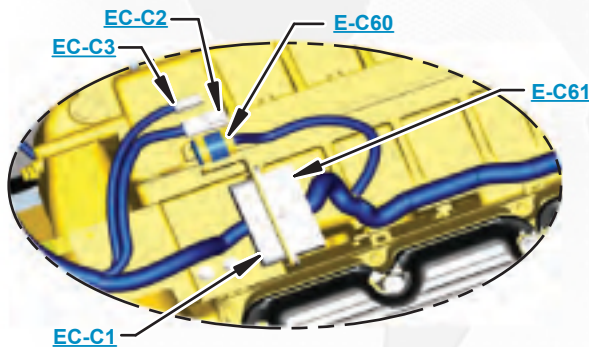
Select **PROPERTIES**.

**CLICK** the **SETTINGS TAB**.

**MOVE THE SLIDER** under **SCREEN RESOLUTION** until it shows **1024 X 768**.

**CLICK OK** to apply the resolution.

*\*Due to different monitor sizes and PDF reader preferences there may be some variance in linked schematic locations*



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



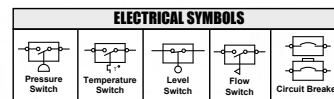
[Click here to save a copy of this interactive schematic to your desktop](#)

**VIEW ALL CALLOUTS**

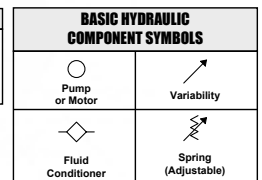
When only one callout is showing on a machine view, clicking on this button will make all of the callouts visible. This button is located in the top right corner of every machine view page.

## 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"



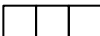



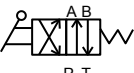
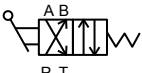







[Click here to view the Schematic Symbols and Definitions page](#)



SCHEMATIC SYMBOLS AND DEFINITIONS



VALVES			
ENVELOPES			
			
One Position	Two Position	Three Position	
PORTS			
			
Two-way	Three-Way	Four-Way	
CONTROL			
			
Normal Position	Shifted Position	Infinite Position	
CHECK			
			
Basic Symbol	Spring Loaded	Shuttle	Pilot Controlled

INTERNAL PASSAGEWAYS			
Infinite Positioning	Two Position	Three Position	Cross Flow

CYLINDERS	
Single Acting	Double Acting

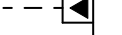




ACCUMULATORS	
Spring Loaded	Gas Charged

PUMPS	
FIXED DISPLACEMENT	
Unidirectional	Bidirectional
VARIABLE DISPLACEMENT NON- COMPENSATED	
Unidirectional	Bidirectional

MOTORS	
FIXED DISPLACEMENT	
Unidirectional	Bidirectional
VARIABLE DISPLACEMENT NON- COMPENSATED	
Unidirectional	Bidirectional

ROTATING SHAFTS	
Unidirectional	Bidirectional

BASIC HYDRAULIC COMPONENT SYMBOLS	
Pump or Motor	Variability
Fluid Conditioner	Spring (Adjustable)
Spring	Pressure Compensation
Control Valves	Line Restriction (Variable)
Restriction	Line Restriction (Fixed)
Line Restriction Variable and Pressure Compensated	2-Section Pump
Attachment	Pump: Variable and Pressure Compensated
Hydraulic Pneumatic Energy Triangles	

PILOT CONTROL		
RELEASED PRESSURE		
		
External Return	Internal Return	
REMOTE SUPPLY PRESSURE		
		
Simplified	Complete	Internal Supply Pressure









COMBINATION CONTROLS						
Solenoid	Solenoid or Manual	Solenoid and Pilot	Solenoid and Pilot or Manual	Servo	Thermal	Detent

LINES	
Crossing	Joining

MEASUREMENT		
Pressure	Temperature	Flow

MANUAL CONTROL					
Push-pull Lever	Manual Shutoff	General Manual	Push Button	Pedal	Spring

FLUID STORAGE RESERVOIRS			
Vented	Pressurized	Return Above Fluid Level	Return Below Fluid Level

HYDRAULIC SYMBOLS - ELECTRICAL							
							
Transducer (Fluid)	Transducer (Gas / Air)	Generator	Electric Motor	Pressure Switch	Pressure Switch (Adjustable)	Temperature Switch	Electrical Wire

ELECTRICAL SYMBOLS				
Pressure Switch	Temperature Switch	Level Switch	Flow Switch	Circuit Breaker

BASIC ELECTRICAL COMPONENT SYMBOLS	
	<b>Fuse:</b> A component in an electrical circuit that will open the circuit if too much current flows through it.
	<b>Switch (Normally Open):</b> A switch that will close at a specified point (temp, press, etc.). The circle indicates that the component has screw terminals and a wire can be disconnected from it.
	<b>Switch (Normally Closed):</b> A switch that will open at a specified point (temp, press, etc.). No circle indicates that the wire cannot be disconnected from the component.
	<b>Ground (Wired):</b> This indicates that the component is connected to a grounded wire. The grounded wire is fastened to the machine.
	<b>Ground (Case):</b> This indicates that the component does not have a wire connected to ground. It is grounded by being fastened to the machine.
	<b>Reed Switch:</b> A switch whose contacts are controlled by a magnet. A magnet closes the contacts of a normally open reed switch; it opens the contacts of a normally closed reed switch.
	<b>Sender:</b> A component that is used with a temperature or pressure gauge. The sender measures the temperature or pressure. Its resistance changes to give an indication to the gauge of the temperature or pressure.
	<b>Relay (Magnetic Switch):</b> A relay is an electrical component that is activated by electricity. It has a coil that makes an electromagnet when current flows through it. The electromagnet can open or close the switch part of the relay.
	<b>Solenoid:</b> A solenoid is an electrical component that is activated by electricity. It has a coil that makes an electromagnet when current flows through it. The electromagnet can open or close a valve or move a piece of metal that can do work.
	<b>Magnetic Latch Solenoid:</b> An electrical component that is activated by electricity and held latched by a permanent magnet. It has two coils (latch and unlatch) that make electromagnet when current flows through them. It also has an internal switch that places the latch coil circuit open at the time the coil latches.

HARNESS AND WIRE SYMBOLS	
<p><b>Wire, Cable, or Harness Assembly Identification:</b> Includes Harness Identification Letters and Harness Connector Serialization Codes (see sample).</p> <p><b>Part Number:</b> for Connector Plug</p> <p><b>Plug</b></p> <p><b>Receptacle Pin or Socket Number</b></p>	
<p><b>Harness Identification Letter(s):</b> (A, B, C, AA, AB, AC, ...)</p> <p><b>Harness Connector Serialization Code:</b> The "C" stands for "Connector" and the number indicates which connector in the harness (C1, C2, C3, ...)</p> <p><b>L-C12 3E-5179</b></p>	
<p><b>Fuse (5 Amps)</b></p> <p><b>Component Part Number</b></p> <p><b>9X-1123</b></p>	
<p><b>Harness identification code:</b> This example indicates wire group 325, wire 135 in harness "AG".</p> <p><b>325-AG135 PK-14</b></p> <p><b>Wire Gauge</b></p> <p><b>Wire Color</b></p>	
<p><b>Deutsch connector:</b> Typical representation of a Deutsch connector. The plug contains all sockets and the receptacle contains all pins.</p> <p><b>Sure-Seal connector:</b> Typical representation of a Sure-Seal connector. The plug and receptacle contain both pins and sockets.</p>	

# Schematic

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## **950H and 962H Wheel Loader Hydraulic System**

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**950H:**  
**MXL1-UP**  
**JLX1-UP**

**962H:**  
**SSA1-UP**  
**PCW1-UP**

# COMPONENT TABLE



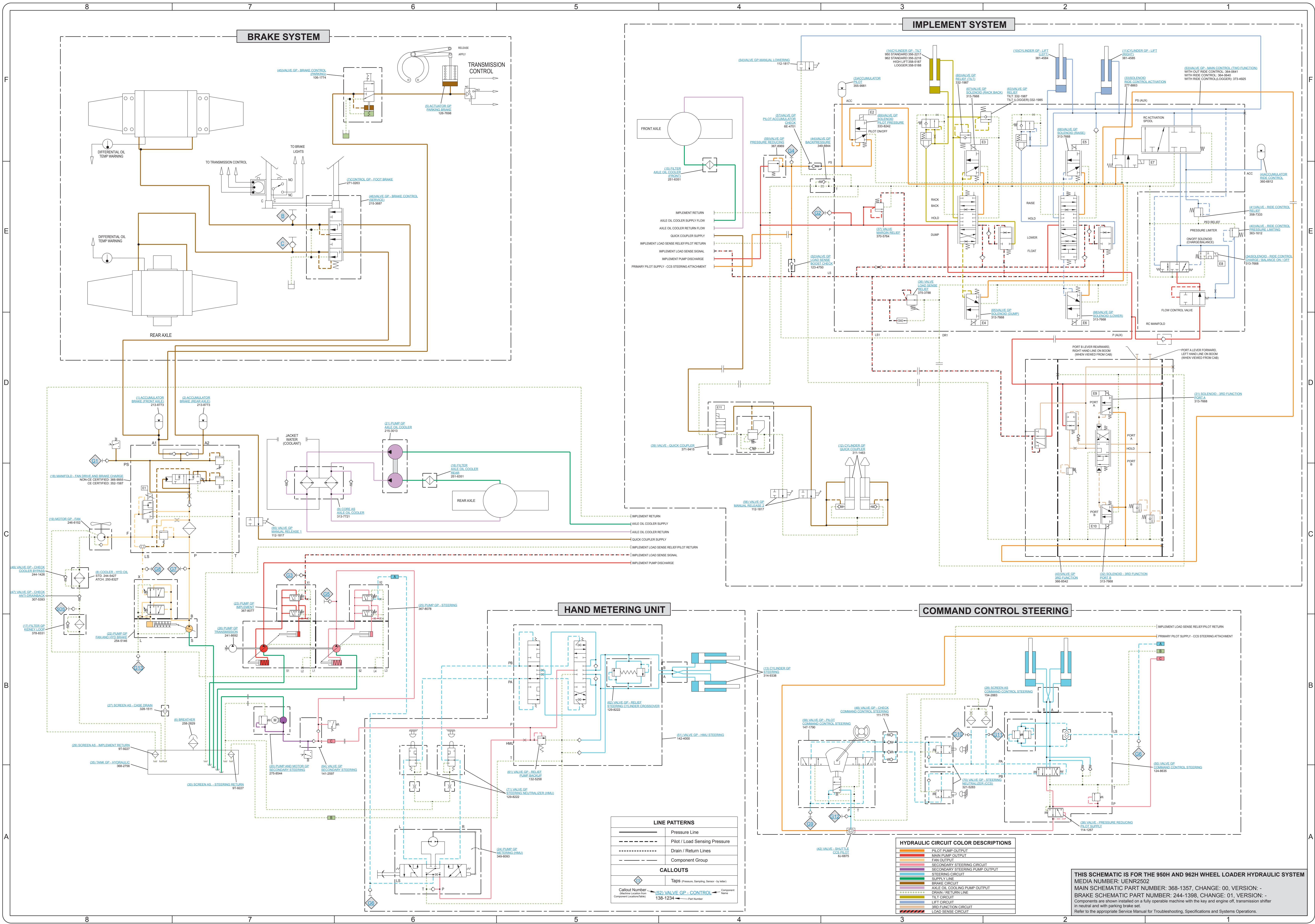
Component Location			
Description	Part Number	Machine Location	Schematic Location
Accumulator - Brake (Front Axle)	213-8773	<a href="#">1</a>	<a href="#">D-8</a>
Accumulator - Brake (Rear Axle)	213-8773	<a href="#">2</a>	<a href="#">D-7</a>
Accumulator - Pilot	355-9981	<a href="#">3</a>	<a href="#">E-3</a>
Accumulator - Ride Control	360-6812	<a href="#">4</a>	<a href="#">F-1</a>
Actuator GP - Parking Brake	126-7698	<a href="#">5</a>	<a href="#">F-6</a>
Breather	258-2829	<a href="#">6</a>	<a href="#">B-7</a>
Control GP - Foot Brake	217-0263	<a href="#">7</a>	<a href="#">E-6</a>
Cooler - Hyd Oil Standard Attachment	244-5427 250-8327	<a href="#">8</a>	<a href="#">C-8</a>
Core AS - Axle Oil Cooler	313-7721	<a href="#">9</a>	<a href="#">C-7</a>
Cylinder GP - Lift (Left)	381-4584	<a href="#">10</a>	<a href="#">F-2</a>
Cylinder GP - Lift (Right)	381-4585	<a href="#">11</a>	<a href="#">F-2</a>
Cylinder GP - Quick Coupler	311-1463	<a href="#">12</a>	<a href="#">C-3</a>
Cylinder GP - Steering	314-9338	<a href="#">13</a>	<a href="#">B-4</a>
Cylinder GP - Tilt 950 Standard 962 Standard High Lift Logger	356-2217 356-2218 358-5187 358-5188	<a href="#">14</a>	<a href="#">F-3</a>
Filter - Axle Oil Cooler Front	251-6351	<a href="#">15</a>	<a href="#">D-4</a>
Filter - Axle Oil Cooler Rear	251-6351	<a href="#">16</a>	<a href="#">C-6</a>
Filter GP - Kidney Loop	378-8331	<a href="#">17</a>	<a href="#">B-8</a>
Manifold - Fan Drive and Brake Charge Non-CE Certified CE Certified	366-9955 352-1587	<a href="#">18</a>	<a href="#">C-8</a>
Motor GP - Fan	246-6152	<a href="#">19</a>	<a href="#">C-8</a>
Pump and Motor GP - Secondary Steering	275-8544	<a href="#">20</a>	<a href="#">B-7</a>
Pump GP - Axle Oil Cooler	215-3013	<a href="#">21</a>	<a href="#">D-6</a>
Pump GP - Fan and Hyd Brake	254-5146	<a href="#">22</a>	<a href="#">B-8</a>
Pump GP - Implement	367-8077	<a href="#">23</a>	<a href="#">C-7</a>
Pump GP - Metering (HMU)	349-6093	<a href="#">24</a>	<a href="#">A-6</a>
Pump GP - Steering	367-8078	<a href="#">25</a>	<a href="#">B-6</a>
Pump GP - Transmission	241-8692	<a href="#">26</a>	<a href="#">B-7</a>
Screen AS - Case Drain	328-1511	<a href="#">27</a>	<a href="#">B-8</a>
Screen AS - Command Control Steering	154-2883	<a href="#">28</a>	<a href="#">B-3</a>
Screen AS - Implement Return	9T-9227	<a href="#">29</a>	<a href="#">B-8</a>
Screen AS - Steering Return	9T-9227	<a href="#">30</a>	<a href="#">B-7</a>
Solenoid - 3rd Function Port A	313-7668	<a href="#">31</a>	<a href="#">D-1</a>
Solenoid - 3rd Function Port B	313-7668	<a href="#">32</a>	<a href="#">C-2</a>
Solenoid - Ride Control Activation	277-8863	<a href="#">33</a>	<a href="#">F-2</a>
Solenoid - Ride Control Charge / Balance On / Off	313-7668	<a href="#">34</a>	<a href="#">E-1</a>
Tank GP - Hydraulic	368-2756	<a href="#">35</a>	<a href="#">A-8</a>

Component Location			
Description	Part Number	Machine Location	Schematic Location
Valve - Load Sense Relief	375-3788	<a href="#">36</a>	<a href="#">E-3</a>
Valve - Margin Relief	370-5764	<a href="#">37</a>	<a href="#">E-3</a>
Valve - Pressure Reducing Pilot Supply	114-1267	<a href="#">38</a>	<a href="#">A-2</a>
Valve - Quick Coupler	371-9415	<a href="#">39</a>	<a href="#">D-4</a>
Valve - Ride Control Pressure Limiting	363-1612	<a href="#">40</a>	<a href="#">E-1</a>
Valve - Ride Control Relief	358-7333	<a href="#">41</a>	<a href="#">E-1</a>
Valve - Shuttle CCS Pilot	8J-6875	<a href="#">42</a>	<a href="#">A-3</a>
Valve GP - 3rd Function	366-8542	<a href="#">43</a>	<a href="#">C-2</a>
Valve GP - Backpressure	349-8844	<a href="#">44</a>	<a href="#">E-4</a>
Valve GP - Brake Control (Parking)	106-1774	<a href="#">45</a>	<a href="#">F-6</a>
Valve GP - Brake Control (Service)	215-3687	<a href="#">46</a>	<a href="#">E-6</a>
Valve GP - Check Anti-Drainback	307-5393	<a href="#">47</a>	<a href="#">C-8</a>
Valve GP - Check Command Control Steering	111-7775	<a href="#">48</a>	<a href="#">B-3</a>
Valve GP - Check Cooler Bypass	244-1426	<a href="#">49</a>	<a href="#">C-8</a>
Valve GP - Command Control Steering	124-8635	<a href="#">50</a>	<a href="#">A-2</a>
Valve GP - HMU Steering	142-4000	<a href="#">51</a>	<a href="#">B-4</a>
Valve GP - Load Sense Boost Check	123-4750	<a href="#">52</a>	<a href="#">E-4</a>
Valve GP - Main Control (Two Function) With Out Ride Control With Ride Control With Ride Control (Logger)	364-0641 364-0640 373-4925	<a href="#">53</a>	<a href="#">F-1</a>
Valve GP - Manual Lowering	112-1817	<a href="#">54</a>	<a href="#">F-4</a>
Valve GP - Manual Release 1	112-1817	<a href="#">55</a>	<a href="#">C-7</a>
Valve GP - Manual Release 2	112-1817	<a href="#">56</a>	<a href="#">C-4</a>
Valve GP - Pilot Accumulator Check	6E-4701	<a href="#">57</a>	<a href="#">E-4</a>
Valve GP - Pilot Command Control Steering	147-1790	<a href="#">58</a>	<a href="#">A-3</a>
Valve GP - Pressure Reducing	367-8969	<a href="#">59</a>	<a href="#">E-4</a>
Valve GP - Relief (Tilt)	332-1987	<a href="#">60</a>	<a href="#">F-3</a>
Valve GP - Relief Pump Backup	132-5258	<a href="#">61</a>	<a href="#">B-5</a>
Valve GP - Relief Steering Cylinder Crossover	129-8222	<a href="#">62</a>	<a href="#">B-5</a>
Valve GP - Relief Tilt Tilt (Logger)	332-1987 332-1985	<a href="#">63</a>	<a href="#">F-2</a>
Valve GP - Secondary Steering	141-2597	<a href="#">64</a>	<a href="#">B-7</a>
Valve GP - Solenoid (Dump)	313-7668	<a href="#">65</a>	<a href="#">D-3</a>
Valve GP - Solenoid (Lower)	313-7668	<a href="#">66</a>	<a href="#">E-2</a>
Valve GP - Solenoid (Rack Back)	313-7668	<a href="#">67</a>	<a href="#">F-3</a>
Valve GP - Solenoid (Raise)	313-7668	<a href="#">68</a>	<a href="#">F-2</a>
Valve GP - Solenoid Pilot Pressure	333-8242	<a href="#">69</a>	<a href="#">F-3</a>
Valve GP - Steering Neutralizer (CCS)	321-5283	<a href="#">70</a>	<a href="#">A-3</a>
Valve GP - Steering Neutralizer (HMU)	129-8222	<a href="#">71</a>	<a href="#">B-6</a>

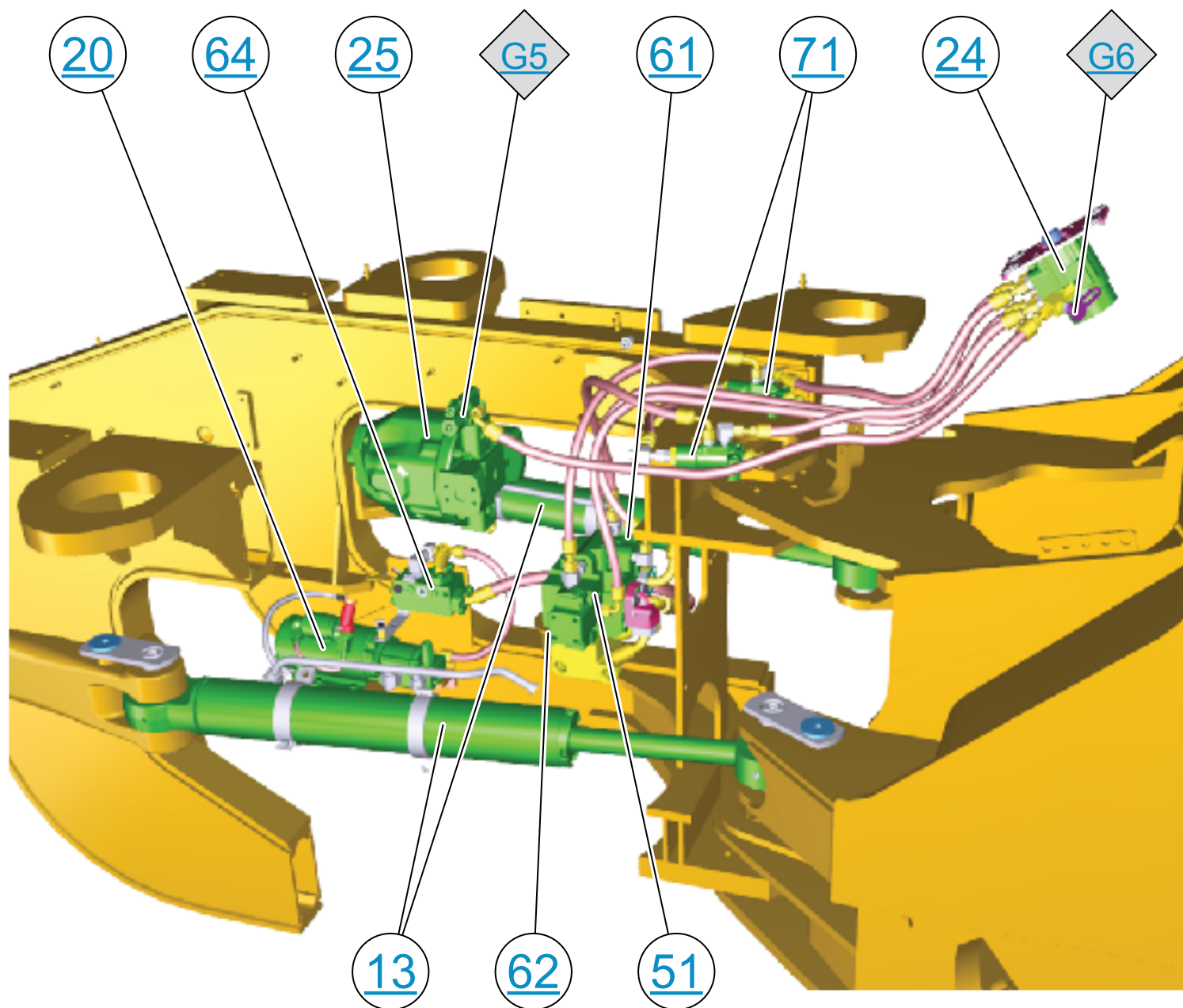
## Tap Location Pressure and Sampling

Tap Number	Description	Schematic Location
<a href="#"><u>G1</u></a>	Brake Accumulator Pressure	<a href="#"><u>D-8</u></a>
<a href="#"><u>G2</u></a>	Implement Pump Discharge Pressure	<a href="#"><u>E-3</u></a>
<a href="#"><u>G3</u></a>	Implement Pump Load Sense Pressure	<a href="#"><u>C-7</u></a>
<a href="#"><u>G4</u></a>	Implement Pilot Pressure	<a href="#"><u>E-4</u></a>
<a href="#"><u>G5</u></a>	Steering Pump Discharge Pressure	<a href="#"><u>C-7</u></a>
<a href="#"><u>G6</u></a>	Steering Pump Load Sense Pressure	<a href="#"><u>B-2</u></a> , <a href="#"><u>A-6</u></a>
<a href="#"><u>G7</u></a>	Fan Pump Discharge Pressure	<a href="#"><u>C-7</u></a>
<a href="#"><u>G8</u></a>	Fan Pump Load Sense Pressure	<a href="#"><u>C-7</u></a>
<a href="#"><u>G9</u></a>	CCS Steering Neutral Pilot Pressure	<a href="#"><u>A-2</u></a>
<a href="#"><u>G10</u></a>	CCS Steering Left Pilot Pressure	<a href="#"><u>B-3</u></a>
<a href="#"><u>G11</u></a>	CCS Steering Right Pilot Pressure	<a href="#"><u>B-2</u></a>
<a href="#"><u>G12</u></a>	CCS Steering Resolved Pilot Pressure	<a href="#"><u>A-3</u></a>
<a href="#"><u>G13</u></a>	Case Drain Air Bleed	<a href="#"><u>B-8</u></a>
<a href="#"><u>B</u></a>	Front Brake Pressure	<a href="#"><u>E-7</u></a>
<a href="#"><u>C</u></a>	Rear Brake Pressure	<a href="#"><u>E-7</u></a>
<a href="#"><u>SOS</u></a>	Scheduled Oil Sampling	<a href="#"><u>C-8</u></a>

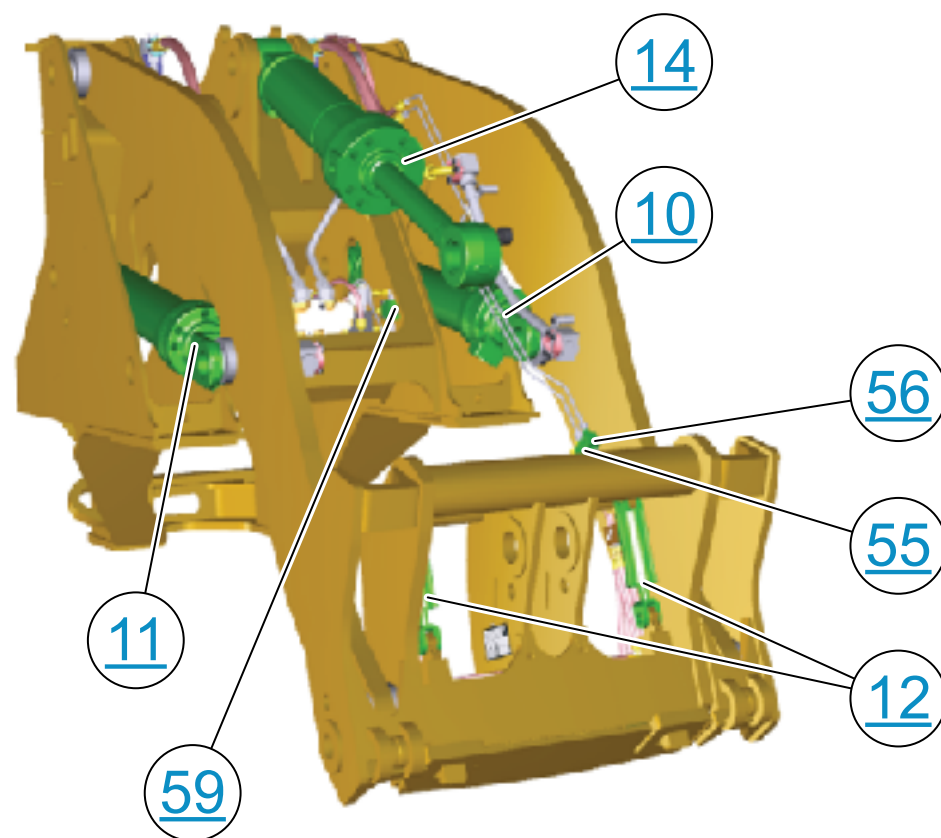
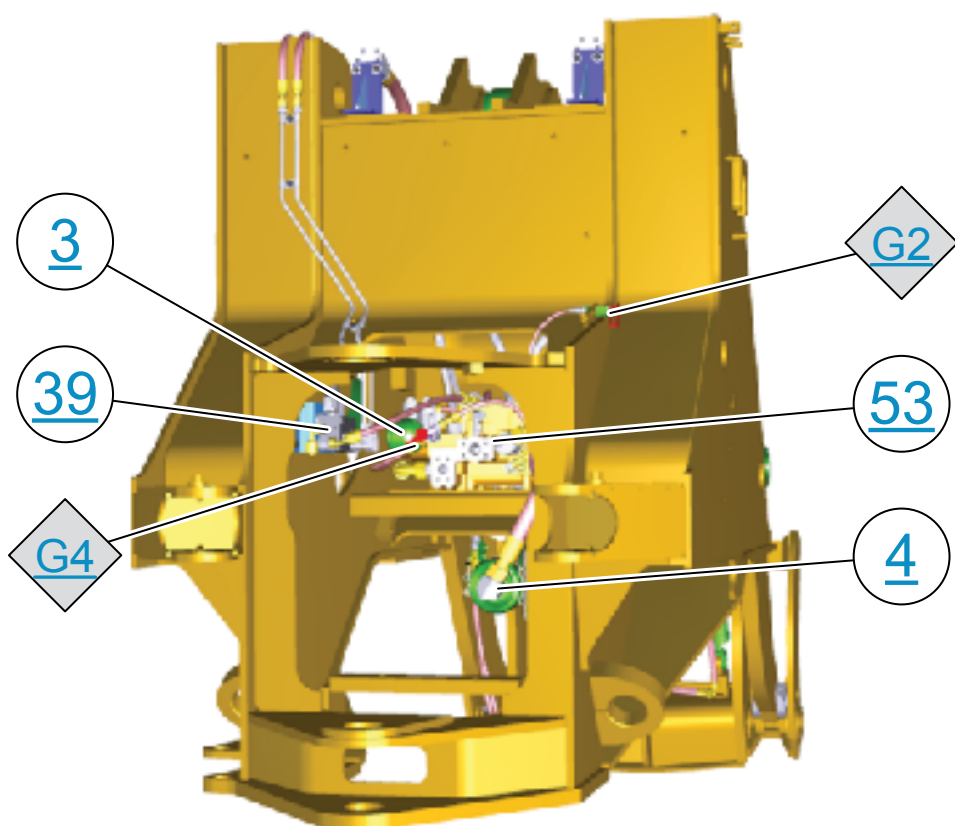




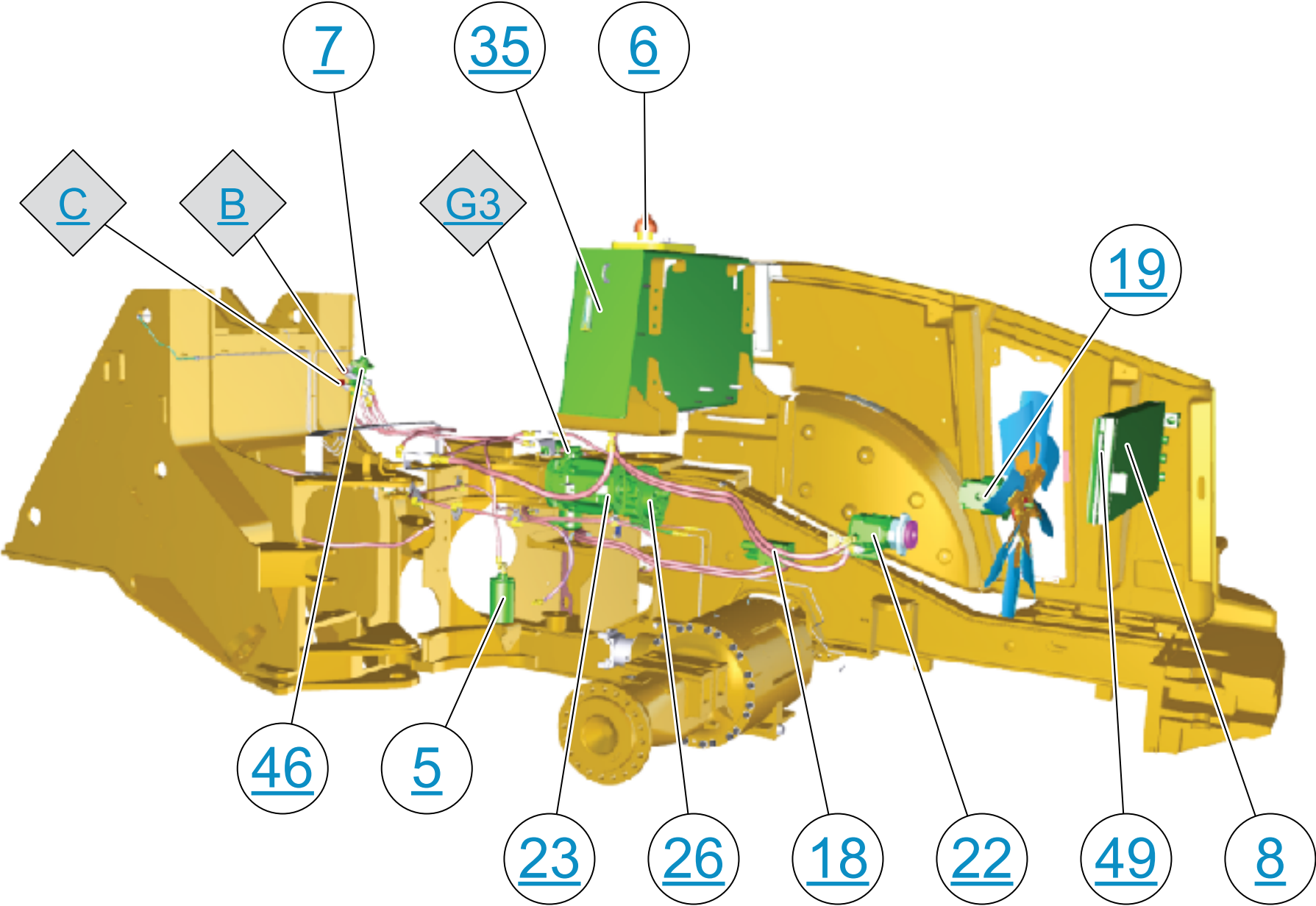
# HAND METERING UNIT



# FRONT OF FRAME

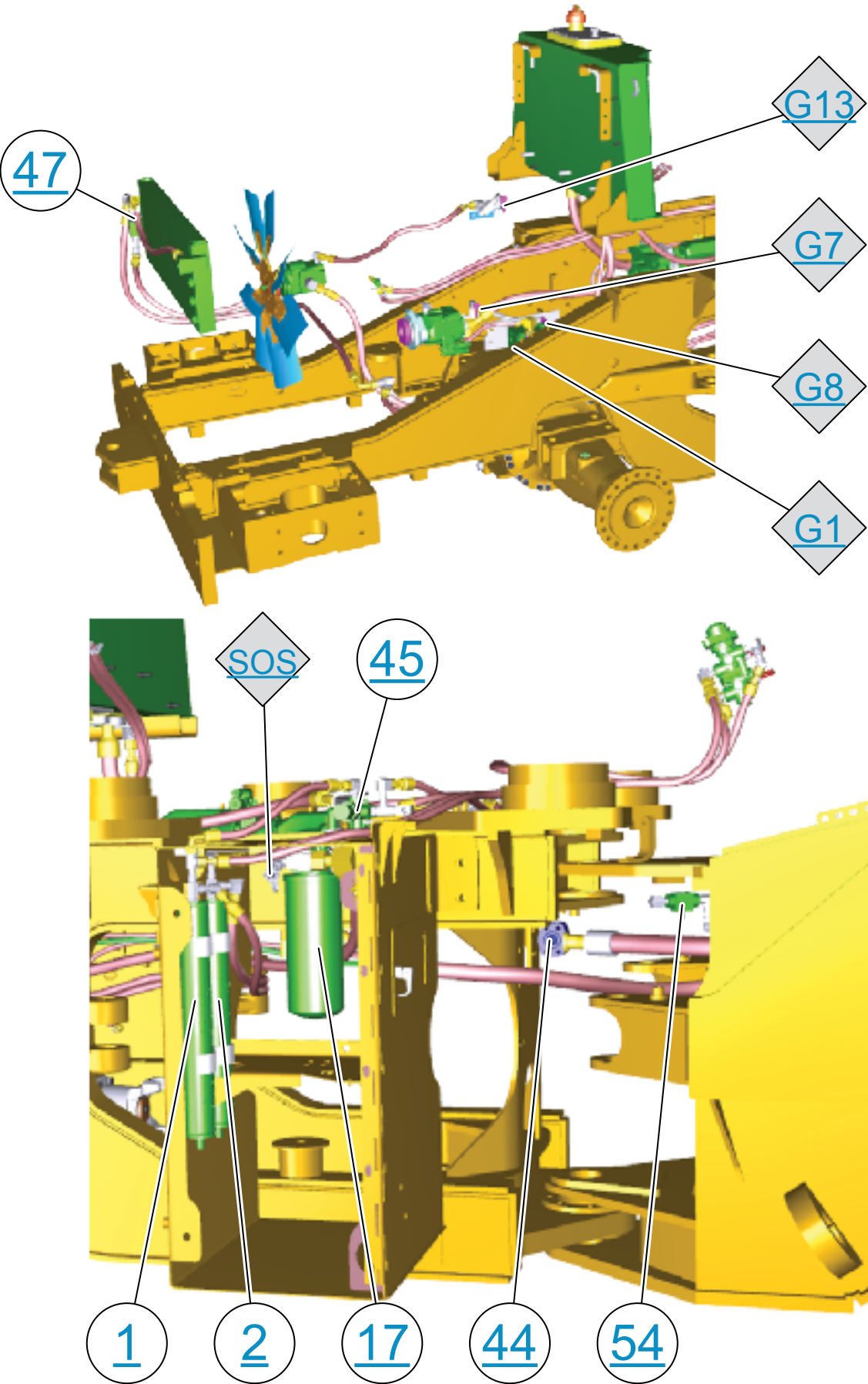




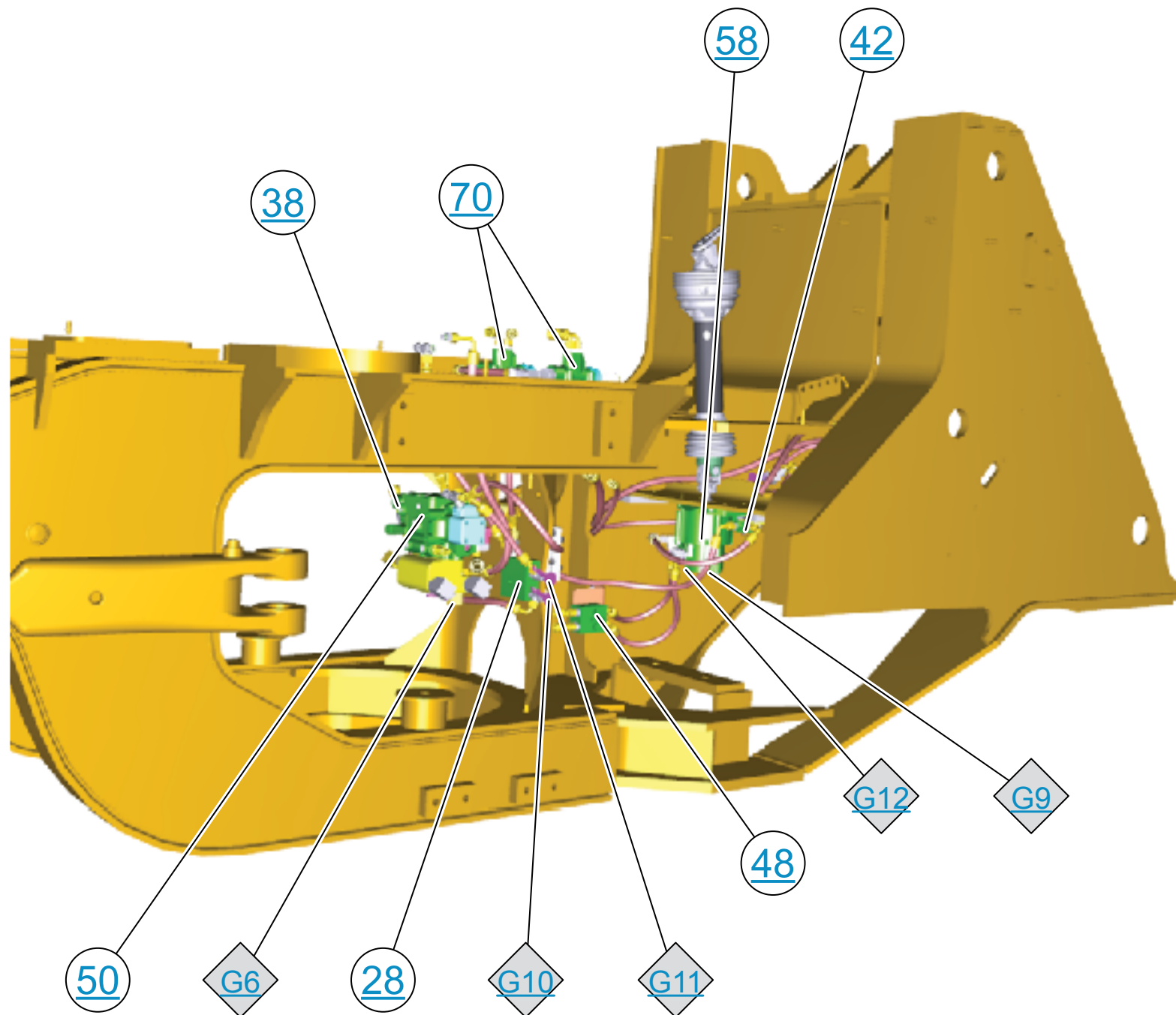


27 29 30

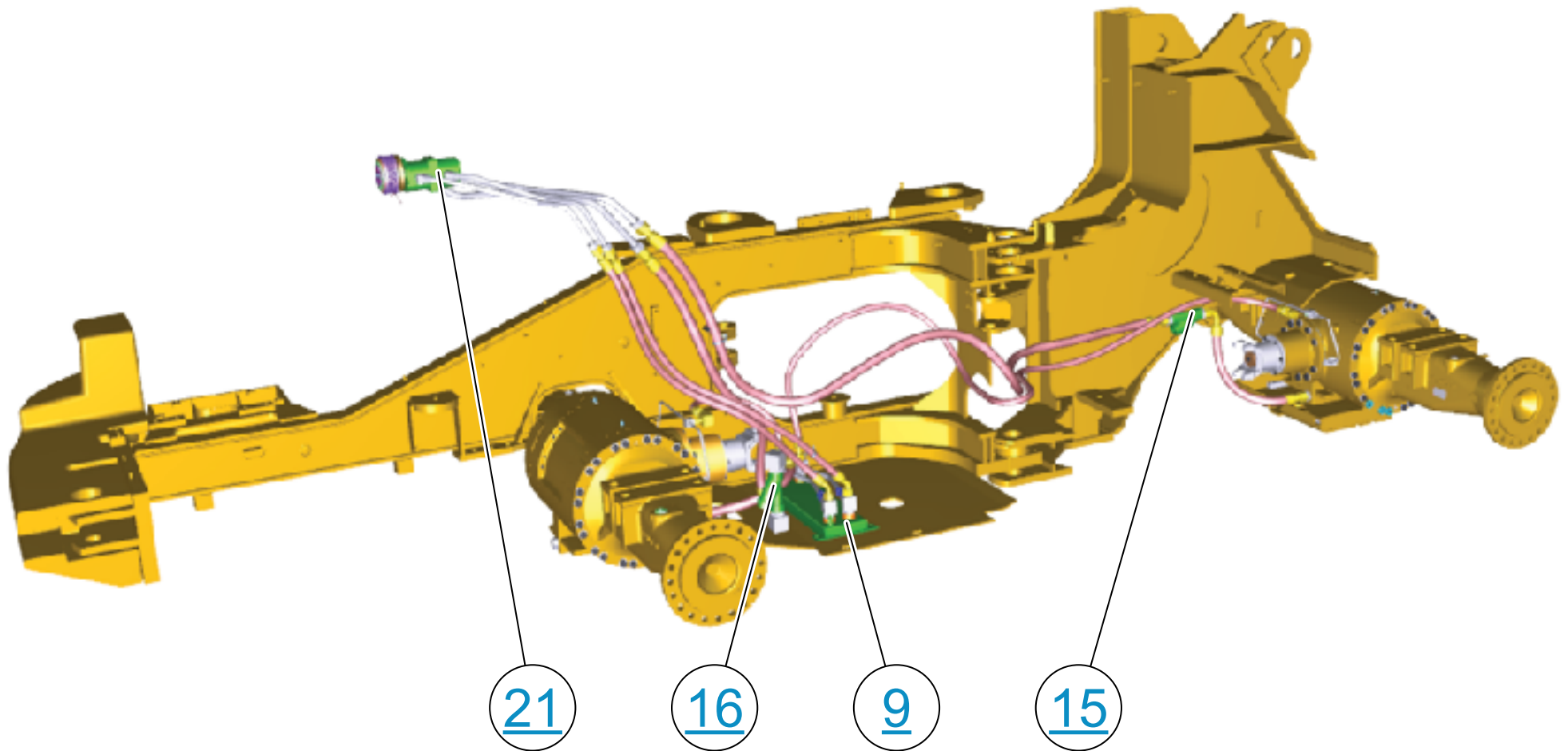
NOT SHOWN  
INSIDE (35) TANK GP - HYDRAULIC



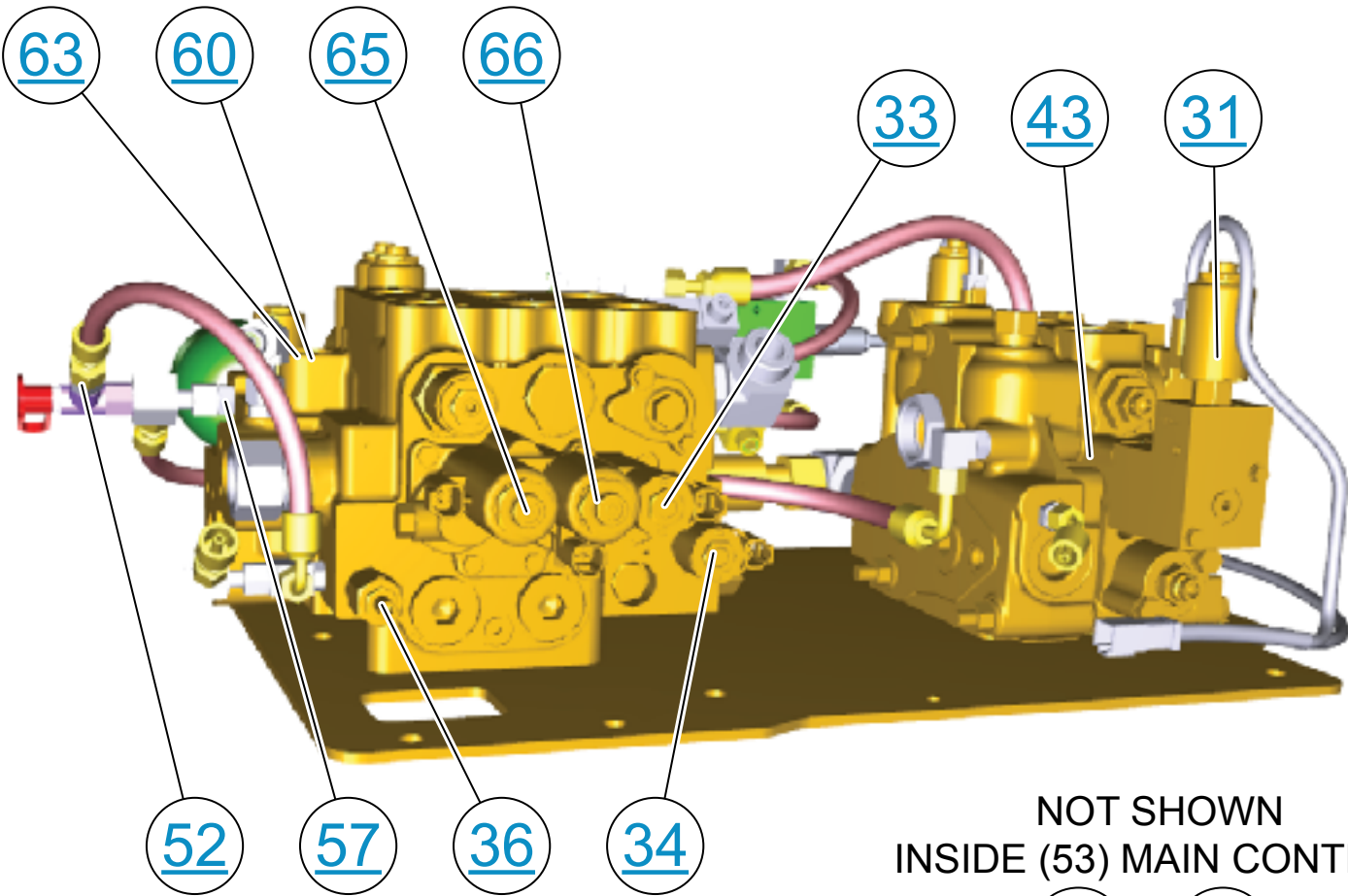
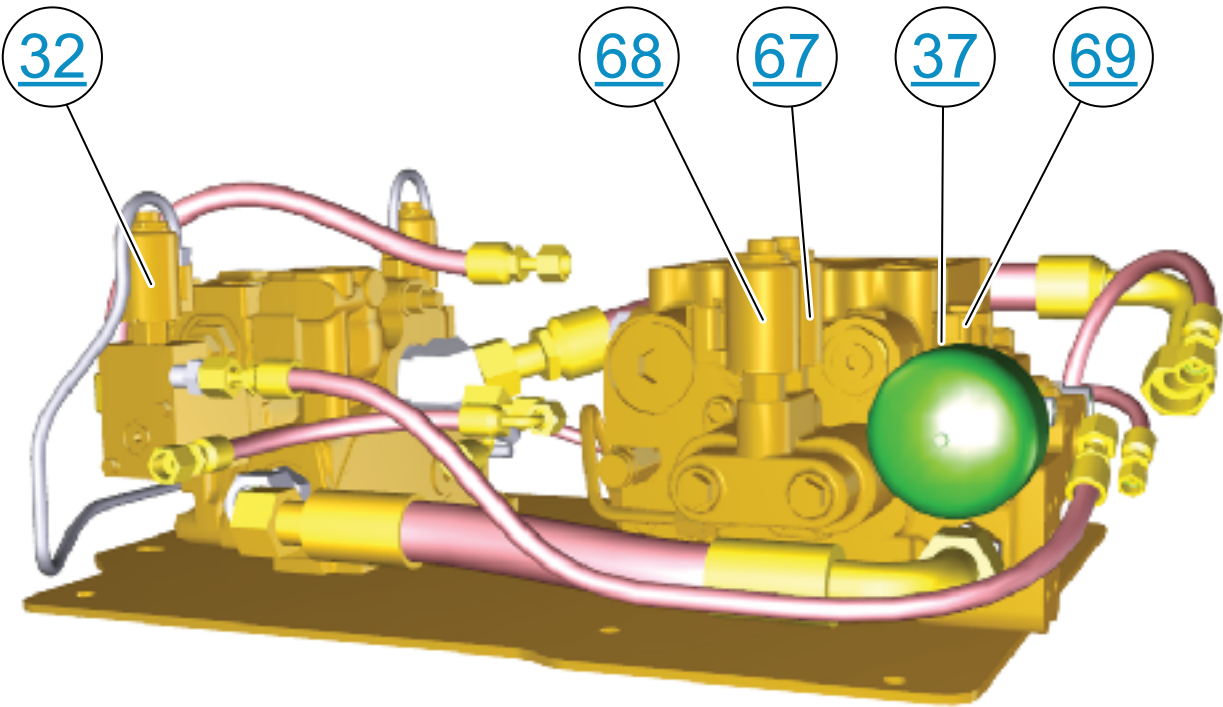
# COMMAND CONTROL STEERING



# AXLE OIL COOLING



# MAIN CONTROL VALVE



NOT SHOWN  
INSIDE (53) MAIN CONTROL

