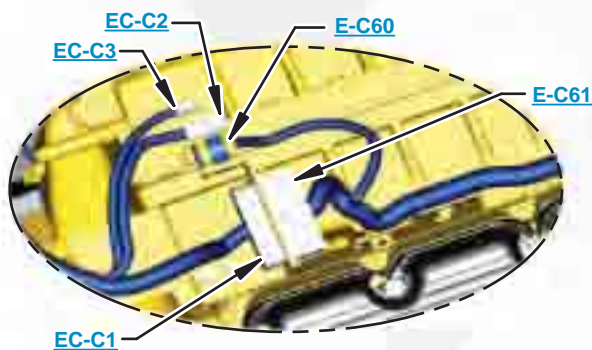


***This document is best viewed at a screen resolution of 1024 X 768.***

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”



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# Schematic

## **320D, 321D, 323D, 324D, 325D, 329D, 330D, 336D, 336D<sub>2</sub> and 336D MHPU Excavator Hydraulic System - Attachment**

<b>320D:</b>	<b>323D:</b>	<b>324D:</b>	<b>329D:</b>	<b>330D:</b>	<b>336D:</b>
A6F1-UP	RAC1-UP	EJC1-UP	XDB1-UP	GGE1-UP	J2F1-UP
A8F1-UP	SDC1-UP	MND1-UP	BFC1-UP	B6H1-UP	LMG1-UP
A9F1-UP	WGC1-UP	T2D1-UP	CZF1-UP	THJ1-UP	MYG1-UP
KGF1-UP	CYD1-UP	JJG1-UP	JBF1-UP	LRM1-UP	KDJ1-UP
MCH1-UP	SED1-UP	BTK1-UP	WDK1-UP	ERN1-UP	WRK1-UP
TDH1-UP	YSD1-UP	SYM1-UP	EBM1-UP	JLP1-UP	PPN1-UP
FAL1-UP	NDE1-UP	JAT1-UP	TPM1-UP	MWP1-UP	MYP1-UP
KLM1-UP	WNE1-UP		YFW1-UP	RAS1-UP	JWR1-UP
SPN1-UP	ZMF1-UP	<b>325D:</b>	SCY1-UP	EDX1-UP	DTS1-UP
WBN1-UP	JLG1-UP	GPB1-UP	DTZ1-UP	T2Y1-UP	WET1-UP
GDP1-UP	BYM1-UP	PKE1-UP			PGW1-UP
PCX1-UP	PBM1-UP	LAL1-UP			
PHX1-UP	NES1-UP	MCL1-UP			
	DKW1-UP	AZP1-UP			
	SBZ1-UP	A3R1-UP	<b>336D MHPU:</b>	<b>336D<sub>2</sub>:</b>	
<b>321D:</b>		GBR1-UP	M3M1-UP	WDC1-UP	
TXA1-UP		T2S1-UP	M3N1-UP	YCF1-UP	
PBD1-UP		CYW1-UP		XBH1-UP	
NAS1-UP				TLY1-UP	

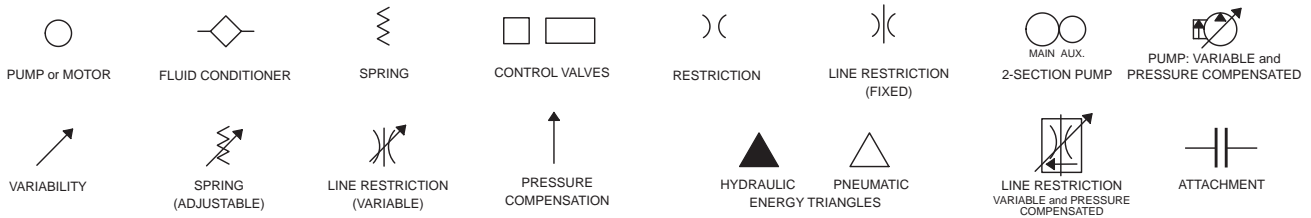
Universal Quick Coupler

Description	Part Number	Machine Location	Schematic Location
<b>Attachment: Universal Quick Coupler</b>			
Connector As - Quick Coupler	148-8321	<a href="#">1</a>	<a href="#">E-2</a>
Valve Gp - Check (Quick Coupler)	123-4750	<a href="#">2</a>	<a href="#">B-2</a>
Valve Gp - Shuttle (Quick Coupler)	123-2549	<a href="#">3</a>	<a href="#">C-5</a>
Valve Gp - Quick Coupler	254-3080	<a href="#">4</a>	<a href="#">E-2</a>
Valve Gp - Solenoid (Quick Coupler)	258-6749	<a href="#">5</a>	<a href="#">E-2</a>
<b>Standard Machine</b>			
Accumulator Gp	164-6981	<a href="#">20</a>	<a href="#">B-4</a>
Block	187-6716	<a href="#">21</a>	<a href="#">D-7</a>
Cylinder Gp - Boom	Note A	<a href="#">22</a>	<a href="#">E-6</a>
Cylinder Gp - Bucket	Note A	<a href="#">23</a>	<a href="#">E-7</a>
Cylinder Gp - Stick	Note A	<a href="#">24</a>	<a href="#">E-7</a>
Filter Gp - Case Drain	126-2075	<a href="#">25</a>	<a href="#">A-6</a>
Filter Gp - Pilot Hydraulic	188-2084	<a href="#">26</a>	<a href="#">A-3</a>
Filter Gp - Return Oil	188-4140	<a href="#">27</a>	<a href="#">A-6</a>
Manifold Gp - Control	215-5037	<a href="#">28</a>	<a href="#">B-5</a>
Motor Gp - Swing	158-8986	<a href="#">29</a>	<a href="#">F-5</a>
Motor Gp - Travel Left	215-9952	<a href="#">30</a>	<a href="#">F-4</a>
Motor Gp - Travel Right	215-9952	<a href="#">31</a>	<a href="#">F-3</a>
Pump GP - Main Hydraulic	272-6955	<a href="#">32</a>	<a href="#">B-2</a>
Sensor As - Left Pump Pressure	221-8859	<a href="#">33</a>	<a href="#">B-3</a>
Sensor As - Right Pump Pressure	221-8859	<a href="#">34</a>	<a href="#">A-3</a>
Switch As - LH Travel Pressure	167-3466	<a href="#">35</a>	<a href="#">D-7</a>
Switch As - Pilot Pressure	167-3466	<a href="#">36</a>	<a href="#">B-7</a>
Switch As - RH Travel Pressure	167-3466	<a href="#">37</a>	<a href="#">D-6</a>
Swivel Gp	234-4440	<a href="#">38</a>	<a href="#">E-4</a>
Tank Gp - Hydraulic Oil	245-5141	<a href="#">39</a>	<a href="#">A-4</a>
Valve Gp - Cooler Bypass	173-4672	<a href="#">40</a>	<a href="#">B-7</a>
Valve Gp - Heavy Lift Solenoid	121-6303	<a href="#">41</a>	<a href="#">B-3</a>
Valve Gp - LH Joystick	232-4100	<a href="#">42</a>	<a href="#">C-7</a>
Valve Gp - Load Control Boom Cylinder	255-5683	<a href="#">43</a>	<a href="#">D-2</a>
Valve Gp - Load Control Stick Cylinder	255-5680	<a href="#">44</a>	<a href="#">D-5</a>
Valve Gp - Main Control	259-7602	<a href="#">45</a>	<a href="#">C-4</a>
Valve Gp - Pilot Travel	158-8250	<a href="#">46</a>	<a href="#">D-7</a>
Valve Gp - Press Reducing Boom/Swing	232-4102	<a href="#">47</a>	<a href="#">B-3</a>
Valve Gp - Press Reducing Boom/Swing	232-4102	<a href="#">48</a>	<a href="#">B-4</a>
Valve Gp - RH Joystick	225-4813	<a href="#">49</a>	<a href="#">C-6</a>
Valve Gp - Shuttle	185-0462	<a href="#">50</a>	<a href="#">C-7</a>
Valve Gp - Swing Cushion	322-8716	<a href="#">51</a>	<a href="#">E-5</a>
Valve Gp - Travel LT Counterbalance	204-2819	<a href="#">52</a>	<a href="#">E-4</a>
Valve Gp - Travel RT Counterbalance	204-2819	<a href="#">53</a>	<a href="#">E-3</a>

NOTE A: Check the parts manual for the correct cylinder part number.

Tap Number	Description	Schematic Location
<a href="#">EE</a>	Left Pump Delivery Pressure	<a href="#">B-2</a>
<a href="#">FF</a>	Right Pump Delivery Pressure	<a href="#">A-2</a>
<a href="#">GG</a>	Pilot Pump Delivery Pressure	<a href="#">A-3</a>
<a href="#">HH</a>	Left Pump Power Shift Pressure	<a href="#">B-2</a>
<a href="#">JJ</a>	Case Drain Pressure	<a href="#">B-2</a>
<a href="#">KK</a>	Right Pump Power Shift Pressure	<a href="#">A-2</a>
<a href="#">LL</a>	Quick Coupler Unlock Pressure	<a href="#">F-3</a>
<a href="#">MM</a>	Quick Coupler Lock Pressure	<a href="#">F-2</a>
<a href="#">SOS</a>	Hydraulic Oil Sampling Port	<a href="#">A-3</a>

## BASIC COMPONENT SYMBOLS



## VALVE ENVELOPES

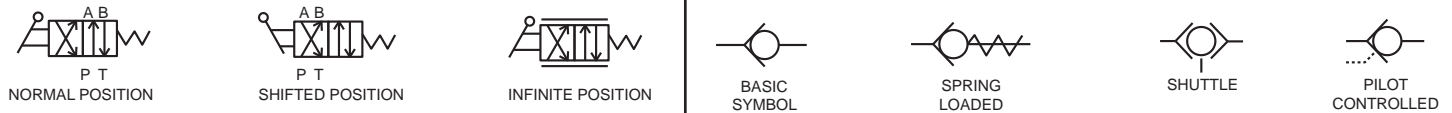
## VALVES

## VALVE PORTS



## CONTROL VALVES

## CHECK VALVES

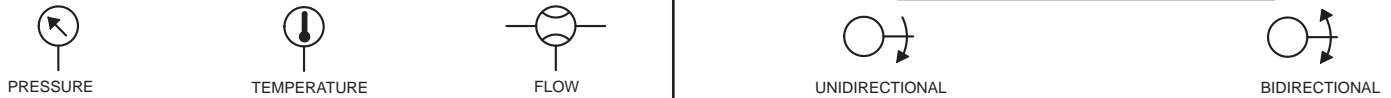


## FLUID STORAGE RESERVOIRS



## MEASUREMENT

## ROTATING SHAFTS



## COMBINATION CONTROLS



## MANUAL CONTROL SYMBOLS



## RELEASED PRESSURE

## PILOT CONTROL SYMBOLS

## REMOTE SUPPLY PRESSURE



## ACCUMULATORS

## CROSSING AND JOINING LINES

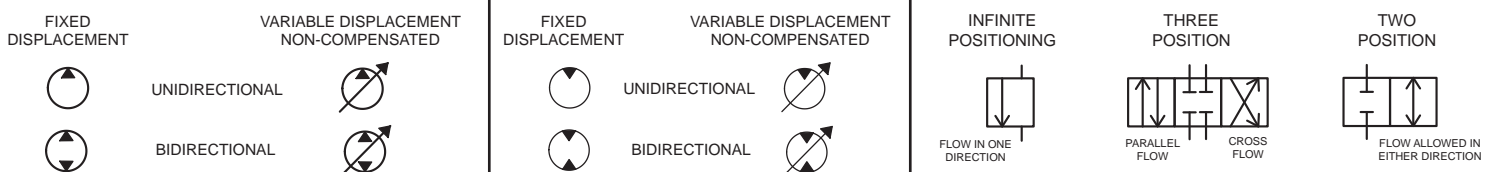
## HYDRAULIC AND PNEUMATIC CYLINDERS



## HYDRAULIC PUMPS

## HYDRAULIC MOTORS

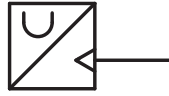
## INTERNAL PASSAGEWAYS



## Hydraulic Symbols (Electrical)



Transducer  
(Fluid)



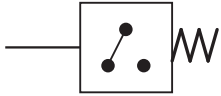
Transducer  
(Gas / Air)



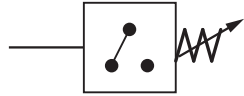
Generator



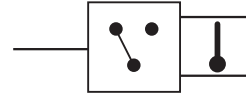
Electric Motor



Pressure Switch



Pressure Switch  
(Adjustable)

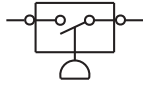


Temperature Switch

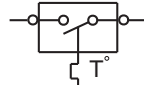


Electrical Wire

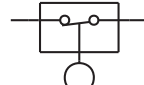
## Electrical Symbols (Electrical)



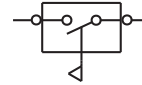
Pressure  
Symbol



Temperature  
Symbol



Level  
Symbol

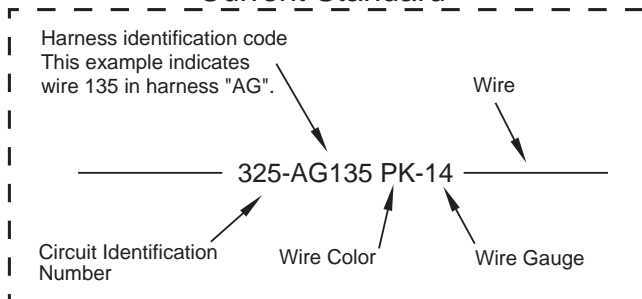


Flow  
Symbol

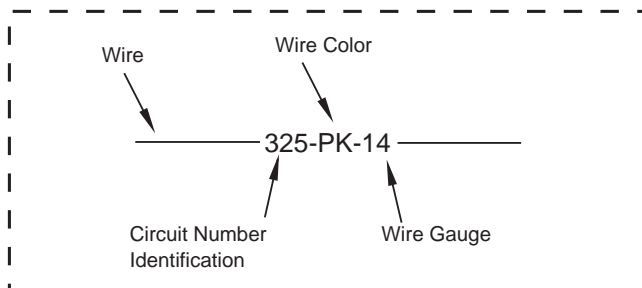
## Wire Number Identification Codes

### Electrical Schematic Example

#### Current Standard

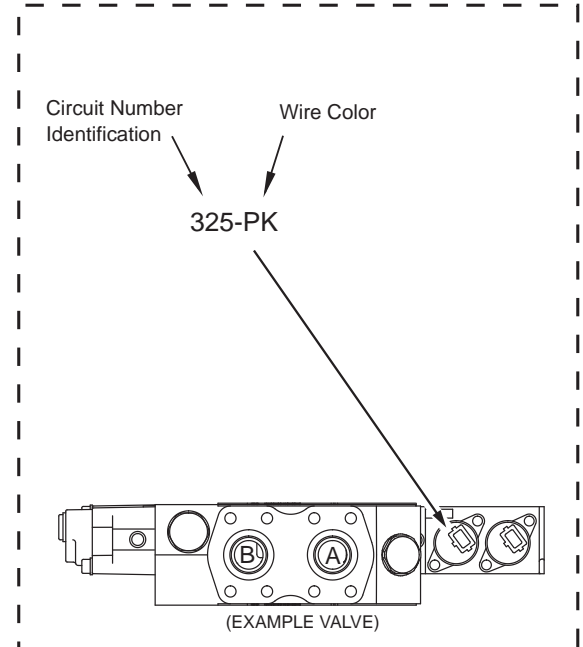


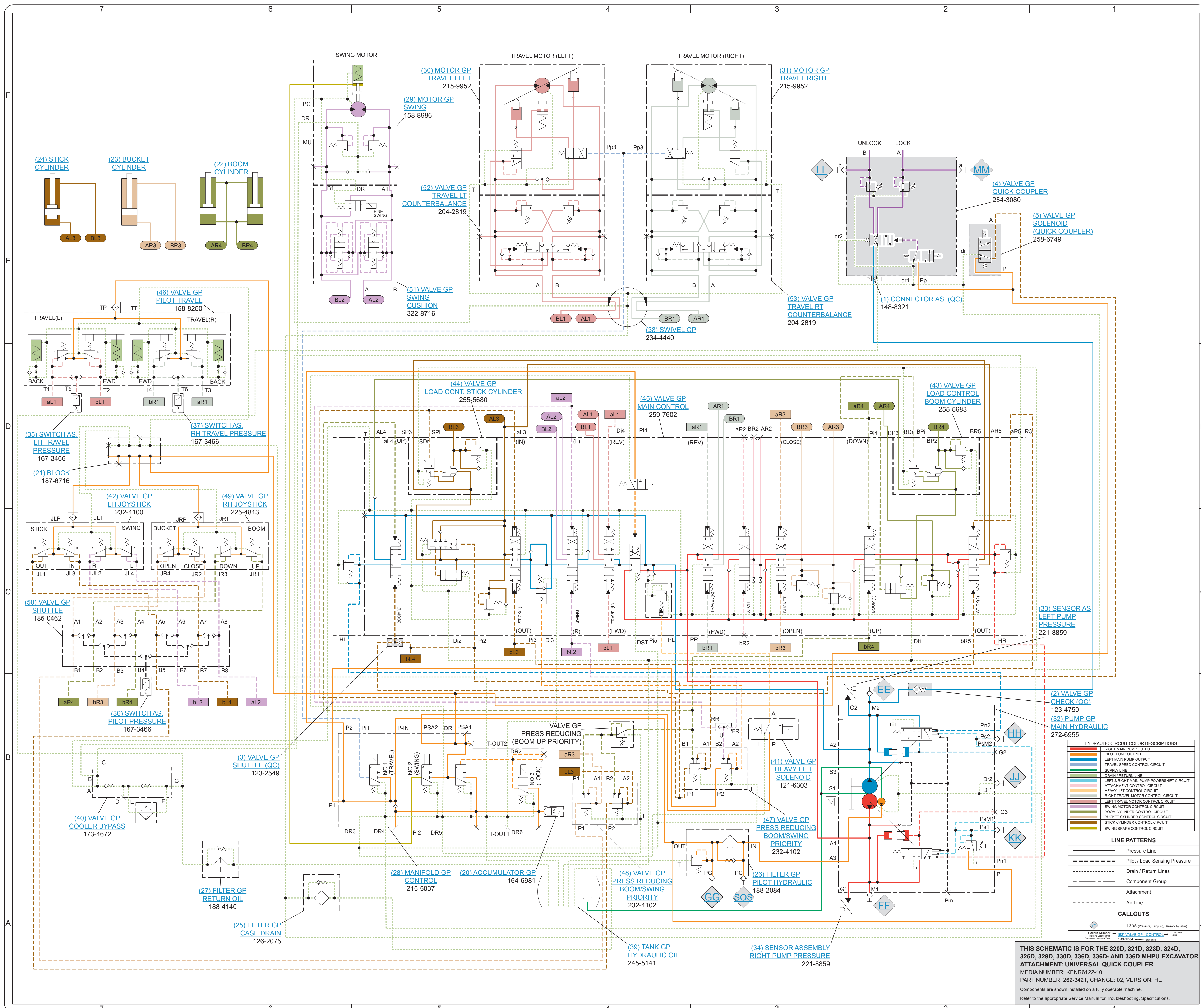
#### Previous Standard



### Hydraulic Schematic Example

#### Current Standard





**HYDRAULIC CIRCUIT COLOR DESCRIPTIONS**

Red	RIGHT MAIN PUMP OUTPUT
Orange	PILOT PUMP OUTPUT
Blue	LEFT MAIN PUMP OUTPUT
Green	TRAVEL SPEED CONTROL CIRCUIT
Yellow	SUPPLY LINE
Purple	DRAIN/RETURN LINE
Light Blue	LEFT & RIGHT MAIN PUMP POWERSHIFT CIRCUIT
Light Green	ATTACHMENT CONTROL CIRCUIT
Light Orange	HEAVY LIFT CONTROL CIRCUIT
Light Purple	RIGHT TRAVEL MOTOR CONTROL CIRCUIT
Light Blue-Gray	LEFT TRAVEL MOTOR CONTROL CIRCUIT
Light Green-Gray	SWING MOTOR CONTROL CIRCUIT
Light Orange-Gray	BOOM CYLINDER CONTROL CIRCUIT
Light Green-Gray	BUCKET CYLINDER CONTROL CIRCUIT
Light Purple-Gray	STICK CYLINDER CONTROL CIRCUIT
Light Blue-Gray	SWING BRAKE CONTROL CIRCUIT

**LINE PATTERNS**

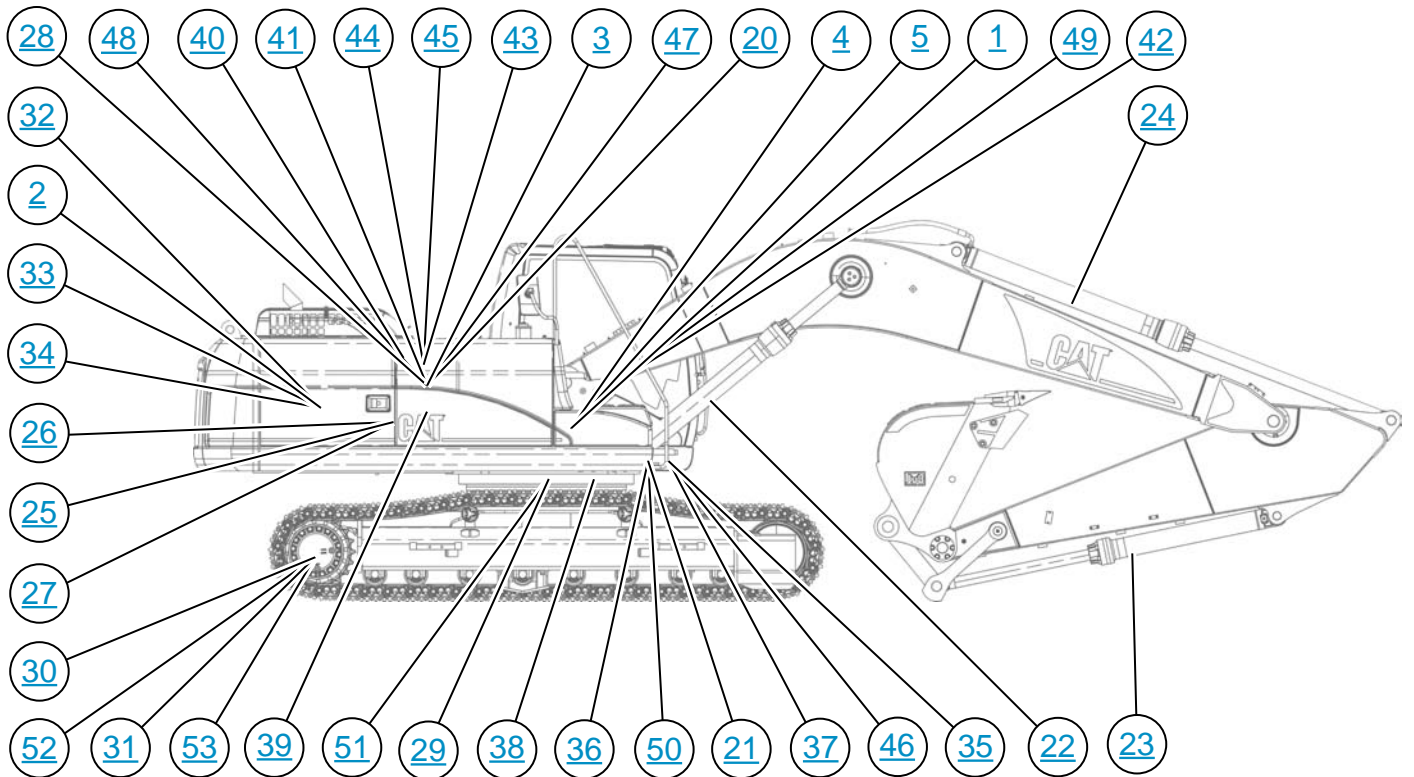
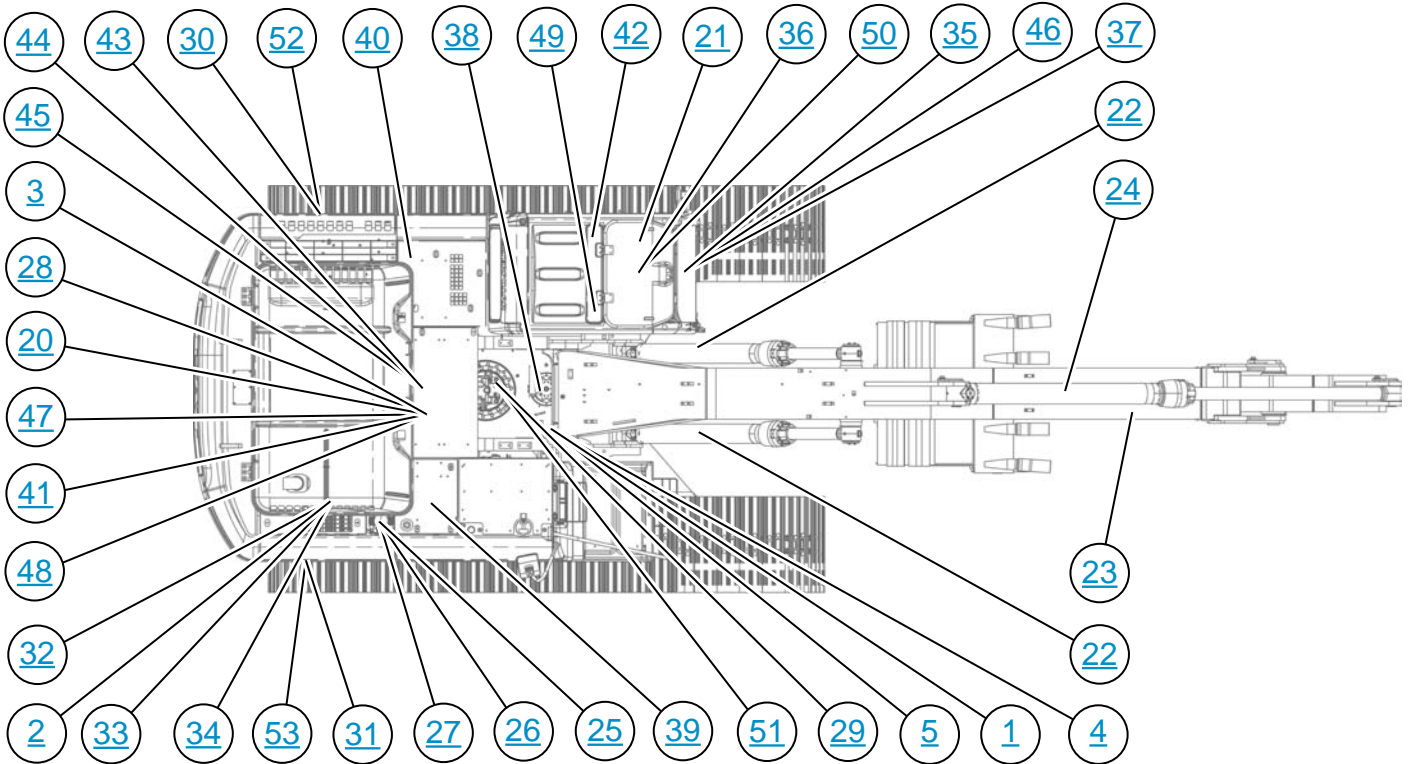
Solid line	Pressure Line
Dashed line	Pilot / Load Sensing Pressure
Dotted line	Drain / Return Lines
Long-dashed line	Component Group
Short-dashed line	Attachment
Thin solid line	Air Line

**CALLOUTS**

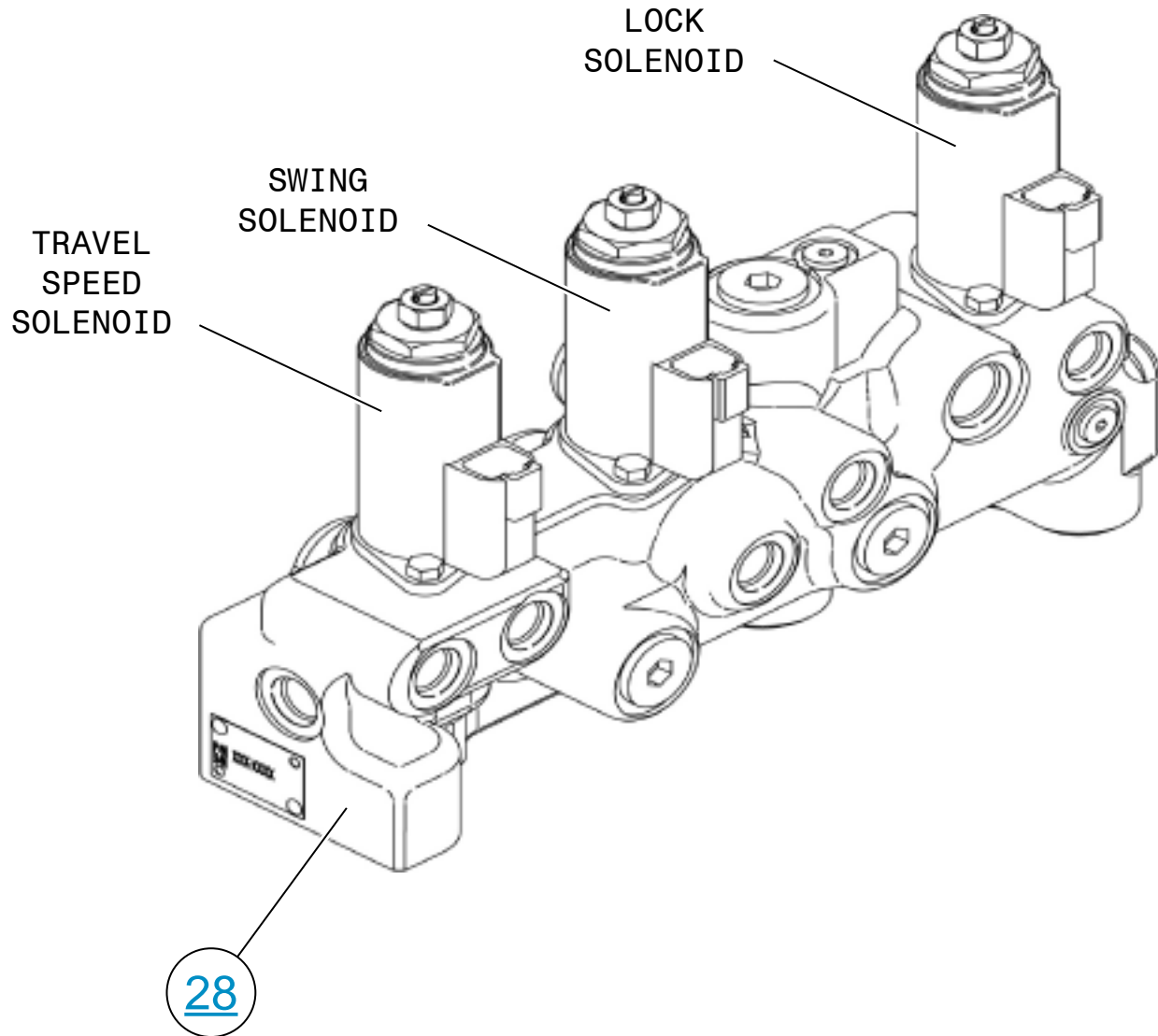
Symbol	Tap/S (Pressure, Sampling, Sensor, Hy. Meter)
Symbol	Callout Number
Symbol	Callout Number

THIS SCHEMATIC IS FOR THE 320D, 321D, 323D, 324D, 325D, 329D, 330D, 336D, 336D<sub>2</sub> AND 336D MHPU EXCAVATOR ATTACHMENT: UNIVERSAL QUICK COUPLER  
 MEDIA NUMBER: KENR6122-10  
 PART NUMBER: 262-3421, CHANGE: 02, VERSION: HE  
 Components are shown installed on a fully operable machine.  
 Refer to the appropriate Service Manual for Troubleshooting, Specifications.

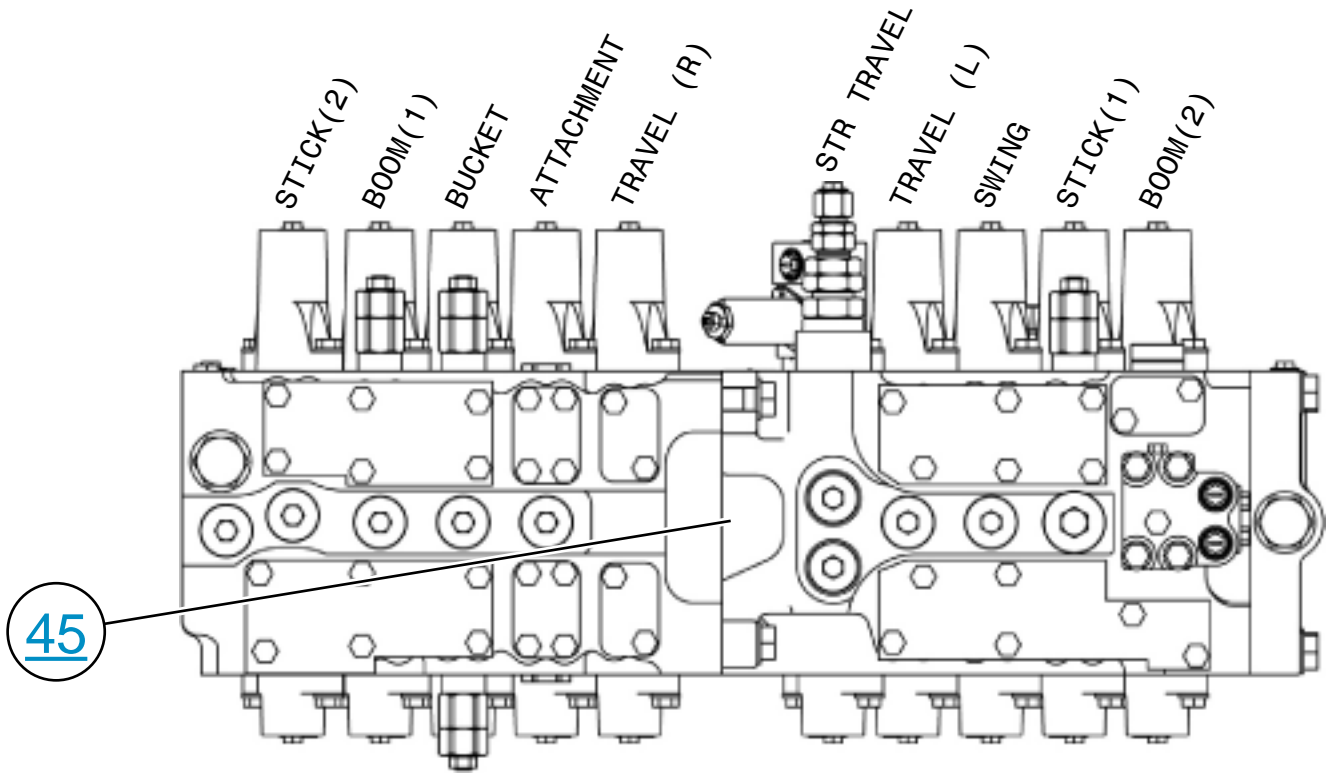
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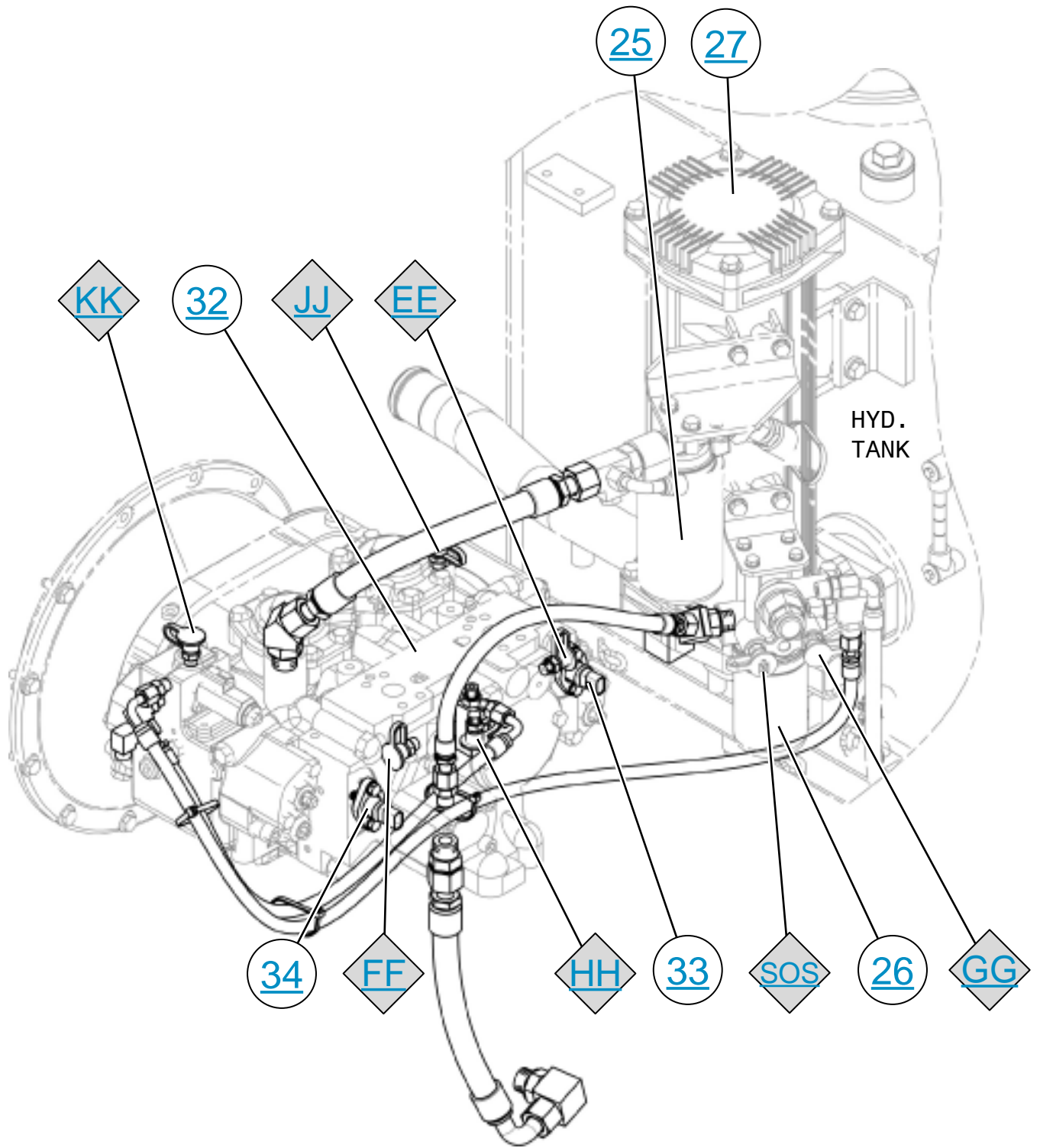


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# MAIN PUMP AND FILTER CIRCUITS



# QUICK COUPLER CIRCUIT

