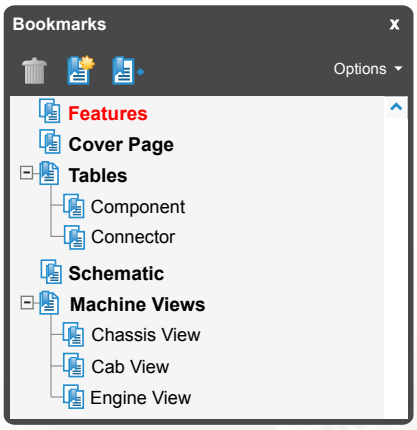
INTERACTIVE SCHEMATIC

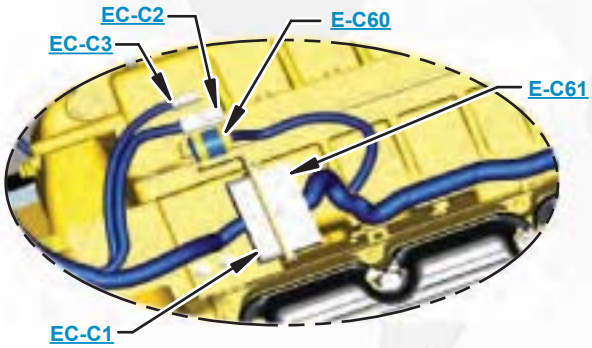


The Bookmarks panel will allow you to quickly navigate to points of interest.

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*



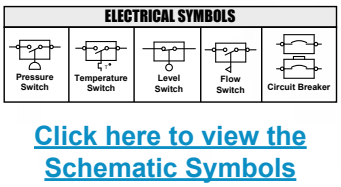
Click on any text that is BLUE and underlined. These are hyperlinks that can be used to navigate the schematic and machine views.

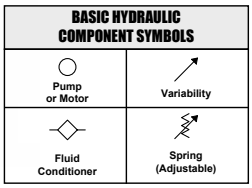
Click here to save a copy of this interactive schematic to your desktop

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 (A B / P T) | Shifted Position (A B / P T) | Infinite Position

CHECK

Basic Symbol | Spring Loaded | Shuttle | Pilot Controlled

INTERNAL PASSAGEWAYS

FLOW IN ONE DIRECTION	FLOW ALLOWED IN EITHER DIRECTION	PARALLEL FLOW / CROSS FLOW
Infinite Positioning	Two Position	Three Position

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

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	MAIN AUX. 2-Section Pump
Attachment	Pump: Variable and Pressure Compensated
Hydraulic Energy Triangles	Pneumatic Energy Triangles

PILOT CONTROL

RELEASED PRESSURE

External Return | Internal Return

REMOTE SUPPLY PRESSURE

Simplified | Complete | Internal Supply Pressure

ROTATING SHAFTS

Unidirectional | Bidirectional

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

Fuse: A component in an electrical circuit that will open the circuit if too much current flows through it.

Switch (Normally Open): 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.

Switch (Normally Closed): A switch that will open at a specified point (temp, press, etc.). No circle indicates that the wire cannot be disconnected from the component.

Ground (Wired): This indicates that the component is connected to a grounded wire. The grounded wire is fastened to the machine.

Ground (Case): This indicates that the component does not have a wire connected to ground. It is grounded by being fastened to the machine.

Reed Switch: 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.

Sender: 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.

Relay (Magnetic Switch): 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.

Solenoid: 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.

Magnetic Latch Solenoid: 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

Wire, Cable, or Harness Assembly Identification: Includes Harness Identification Letters and Harness Connector Serialization Codes (see sample).

AG-C4 111-7898 | L-C12 3E-5179

Part Number: for Connector Plug

1 2

Plug | Receptacle Pin or Socket Number

Harness Identification Letter(s): (A, B, C, AA, AB, AC, ...)

Harness Connector Serialization Code: The "C" stands for "Connector" and the number indicates which connector in the harness (C1, C2, C3, ...)

L-C12 3E-5179

5A

Fuse (5 Amps)

9X-1123 Component Part Number

325-AG135 PK-14

Harness identification code: This example indicates wire group 325, wire 135 in harness "AG".

Wire Gauge | Wire Color

1 2

Deutsch connector: Typical representation of a Deutsch connector. The plug contains all sockets and the receptacle contains all pins.

1 2

Sure-Seal connector: Typical representation of a Sure-Seal connector. The plug and receptacle contain both pins and sockets.

CATERPILLAR®

UENR2320
September 2013

Schematic

432F and 444F Backhoe Loader Electrical System

432F:
PXR1-UP

444F:
JXR1-UP

Volume 1 of 3: Cab Wiring
Volume 2 of 3: Chassis Wiring
Volume 3 of 3: Engine Wiring

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COMPONENT TABLE

Component Location (Volume 1)		
Component	Machine Location	Schematic Location
Alarm - Action	1	B-16
Cluster - Instrument	2	C-16
Control - FNR (Auto)	64	G-9
Control - FNR (Manual)	3	G-9
ECM - MSS	4	D-8
ECM - XSMN	5	J-7
Flasher	6	G-1
Fuse Block - Switched	7	D-3
Fuse Block - Unswitched	8	F3
Ground - Control	9	D-6
Ground - Lower Cab	10	C-6
Handle - Machine (Right)	11	H-15
Joystick - Loader (3rd Function)	12	B-8
Joystick - Loader (Return To Dig)	13	C-8
Module - Power Relay #1	14	I-4
Module - Power Relay #2	15	I-3
Module - Power Relay (Engine)	16	I-3
Module - Power Relay (HVAC)	17	I-2
Motor - Seat	18	F-1
Port - Power #1	19	D-12
Port - Power #2	20	H-9
Relay - Fuel Lift Pump	21	C-4
Relay - Neutral Start	22	C-4
Relay - Stabilizer	23	I-14
Relay - Start	24	G-1
Resistor - CAN Terminating	25	B-4
Sensor - Throttle Pedal (Analog)	26	D-9
Solenoid - Hoe Auxiliary Valve #1	27	G-16
Solenoid - Hoe Auxiliary Valve #2	28	F-16
Switch - Auto/Manual	29	I-8
Switch - Automatic Engine Speed Control (AESC)	30	A-15
Switch - AWD	31	I-8
Switch - Beacon	32	F-8
Switch - Brake (LH)	33	H-9
Switch - Brake (RH)	34	H-9
Switch - Bucket Position	35	C-8
Switch - Column (Multi-Function)	36	E-9
Switch - Continuous Flow 7-8	37	E-15
Switch - Differential Lock	38	H-9
Switch - Front Work Lamp	39	E-16
Switch - Front Work Lamp (ATCH)	40	B-15
Switch - Hazard	41	F-9
Switch - Horn	42	E-15
Switch - Implement Lockout	43	A-15
Switch - Key	44	B-16
Switch - Loader Lock	45	H-8
Switch - Navigation	46	B-15
Switch - Navigation Select	47	C-15
Switch - Neutral (Loader Handle)	48	E-1
Switch - Neutral (XMSN Handle)	49	F-1
Switch - Parking Brake	50	C-13
Switch - Pattern Control	63	I-9
Switch - Power Side Shift	51	D-16
Switch - Rear Fog	52	G-8
Switch - Rear Work Lamp	53	D-16
Switch - Rear Work Lamp (ATCH	54	C-15
Switch - Ride Control	55	H-8
Switch - Ride Control Loader Lock	56	H-8
Switch - Roading	57	G-8
Switch - Side Shift Lock	58	C-15
Switch - Wiper (Rear)	59	D-15
Switch - XSMN Lockout	60	J-8
Throttle - Remote Hand	61	C-11
Valve - Stabilizer	62	I-16

COMPONENT TABLE

Component Location (Volume 2)

Component	Machine Location	Schematic Location	Component	Machine Location	Schematic Location
Alarm - Backup	65	F-15	Solenoid - Quick Coupler	110	C-7
Control - AWS	66	B-11	Solenoid - Ride Control #1	111	D-4
Diode - Blocking #1	67	H-12	Solenoid - Ride Control #2	112	D-4
Diode - Blocking #2	68	H-12	Solenoid - Safety	113	J-8
Diode - Reverse Solenoid (Standard)	69	A-5	Solenoid - Side Shift (Left)	114	F-11
Diode - Sideshift #1	70	E-11	Solenoid - Side Shift (Right)	115	F-11
Diode - Sideshift #2	71	E-11	Solenoid - Side Shift Lock	116	H-16
Fuse - Rear Quick Coupler (10A)	72	J-11	Solenoid - Wedge	117	J-8
Ground - Cab (RF)	73	G-5	Solenoid - XMSN Forward, High (Auto)	118	C-13
Handle - Machine (Left)	74	J-16	Solenoid - XMSN Forward, Low (Auto)	119	C-13
Horn - Rear	75	G-15	Solenoid - XMSN Forward, Low (Standard)	120	A-5
Module - Quick Coupler Control (Rear)	76	I-12	Solenoid - XMSN Reverse (Auto)	121	C-13
Motor - Blower	77	C-3	Solenoid - XMSN Reverse (Standard)	122	B-5
Motor - Wiper (Front)	78	F-4	Solenoid - XMSN Speed Clutch #1	123	D-13
Motor - Wiper (Rear)	79	E-8	Solenoid - XMSN Speed Clutch #2	124	D-13
Radio - Product Link	80	H-3	Solenoid - XMSN Speed Clutch #3	125	C-13
Relay - A/C Compressor	81	D-1	Suppressor - Load Check Disable Suppressor #1	126	H-9
Relay - Dead Engine Lower Command	82	G-9	Suppressor - Load Check Disable Suppressor #2	127	H-9
Relay - Dead Engine Lower Enable	83	G-9	Suppressor - Lockout Solenoid	128	E-11
Relay - High Speed	84	C-1	Suppressor - Quick Coupler #3	129	D-8
Resistor - Motor Speed	85	B-4	Suppressor - Quick Coupler #4	130	D-8
Sender - Converter Temperature (Auto)	86	C-14	Suppressor - Quick Coupler #5	131	D-8
Sender - Convertor Temperature (Standard)	87	A-5	Suppressor - Ride Control	132	D-4
Sensor - Axle Position (Front)	88	A-15	Suppressor - Side Shift (Left)	133	F-11
Sensor - Axle Position (Rear)	89	A-9	Suppressor - Side Shift (Right)	134	F-11
Sensor - Hydraulic Load (Auto)	90	C-16	Suppressor - Side Shift Lock	135	H-16
Sensor - Hydraulic Load (Standard)	91	A-8	Switch - AWS	136	B-15
Sensor - Ride Control	92	D-7	Switch - Blower Speed	137	C-3
Sensor - XMSN Out Speed (Auto)	93	A-8	Switch - Broom Angle	138	C-11
Sensor - XMSN Speed (Out)	94	C-16	Switch - Continuous Flow	139	D-11
Solenoid - AWD (Auto)	95	D-13	Switch - Crab Circle	140	B-15
Solenoid - AWD (Standard)	96	B-5	Switch - External Power	141	D-10
Solenoid - Differential Lock (Auto)	97	D-13	Switch - Float Detent Pressure	142	H-9
Solenoid - Differential Lock (Standard)	98	B-5	Switch - Heater A/C	143	D-3
Solenoid - Hoe Auxiliary Valve #1	99	J-16	Switch - Loader Quick Coupler Pins	144	D-10
Solenoid - Hoe Auxiliary Valve #2	100	I-16	Switch - Rear Quick Coupler #1	145	J-8
Solenoid - Hydraulic Torque Limit (Auto)	101	E-14	Switch - Rear Quick Coupler #2	146	I-8
Solenoid - Hydraulic Torque Limit (Standard)	102	B-5	Switch - Stability Pressure	147	I-9
Solenoid - Implement Lock Out	103	G-16	Switch - Stability Warning	148	I-5
Solenoid - Loader Auxiliary Valve #1	209	G-16	Switch - Thermostat	149	C-3
Solenoid - Loader Auxiliary Valve #2	210	G-16	Switch - Vent	150	D-2
Solenoid - Lock Valve (LH)	104	I-9	Valve - AWS	151	B-8
Solenoid - Lock Valve (RH)	105	H-9	Solenoid - 2 Wheel Steering	205	B-8
Solenoid - Lockout	106	E-11	Solenoid - 4 Wheel Steering	206	B-8
Solenoid - Lockup Clutch	107	D-13	Solenoid - Circle Steering	207	B-8
Solenoid - Pattern Changer #1	108	H-16	Solenoid - Crab Steering	208	B-8
Solenoid - Pattern Changer #2	109	H-16			

COMPONENT TABLE

Component Location (Volume 3)		
Component	Machine Location	Schematic Location
Alternator	152	B-3
Batteries	153	A-3
ECM - Engine	154	F-1
Ground - Engine	155	A-7
Ground - Strap (Frame to Cab)	156	A-3
Ground - Strap (Frame to Engine)	157	A-2
Harness - Injector #1	158	F-7
Harness - Injector #2	159	F-7
Horn - Forward	160	F-3
Motor - Fuel Priming	161	B-4
Motor - Starter	162	A-4
Motor - Washer (Front)	163	F-4
Motor - Washer (Rear)	164	E-4
Plugs - Glow	165	B-4
Resistor - CAN C Terminating #1	166	C-4
Resistor - CAN C Terminating #2	167	C-1
Resistor - CAN Terminating	168	C-4
Sendor - Fuel Level	169	F-4
Sensor - Aftertreatment ID	170	D-4
Sensor - Ambient Air Temperature	171	D-4
Sensor - Barometric Pressure	172	F-7
Sensor - CAM Speed	173	C-7
Sensor - Crank Speed	174	C-7
Sensor - Engine Coolant Temperature	175	C-7
Sensor - Engine Intake Manifold Pressure	176	E-7
Sensor - Engine Intake Manifold Temperature	177	C-7
Sensor - Engine Oil Pressure	178	F-7
Sensor - Fuel Pressure	179	E-7
Sensor - Fuel Temperature	180	C-7
Sensor - Hydraulic Oil Temperature	181	E-4
Sensor - Inlet CCEM Temperature	182	D-4
Sensor - NRS Intake Pressure	183	D-7
Sensor - NRS Intake Temperature	184	D-7
Sensor - NRS Outlet Pressure	185	D-7
Sensor - Soot	186	D-4
Sensor - Water In Fuel	187	F-4
Solenoid - A/C Compressor Clutch	188	C-2
Solenoid - Fuel Pump Control Valve	189	D-7
Solenoid - Smart Wastegate	190	D-7
Solenoid - Start Aid	191	C-4
Stud - Cab Power	192	A-3
Stud - Power	193	A-3
Suppressor - HVAC	194	C-2
Switch - A/C Refrigerant (High Pressure)	195	C-2
Switch - A/C Refrigerant (Low Pressure)	196	C-2
Switch - Air Filter	197	F-4
Switch - Battery Disconnect	198	A-3
Switch - Hydraulic Oil Filter Bypass	199	E-4
Valve - Back Pressure	200	E-7
Valve - NRS	201	E-7

CONNECTOR TABLE

Connector Location (Volume 1)	
Connector Number	**Schematic Location**
CONN 1	A-12
CONN 2	A-12
CONN 3	B-12
CONN 4	B-12
CONN 5	C-12
CONN 6	D-12
CONN 7	D-12
CONN 8	G-14
CONN 9	H-15
CONN 10	H-15
CONN 11	B-9
CONN 12	C-9
CONN 13	A-4
CONN 14	A-4
CONN 15 Service Connector	B-4
CONN 16	E-1
CONN 17	F-1
CONN 18	H-1
CONN 19	I-1
CONN 20	J-1
CONN 21	J-1
CONN 38	C-8

The connectors shown in this chart are for harness to harness connectors. Connectors that join a harness to a component are generally located at or near the component. See the Component Location Chart.

CONNECTOR TABLE

Connector Location (Volume 2)	
Connector Number	**Schematic Location**
CONN 1	I-8
CONN 5	D-1
CONN 6	G-8
CONN 7	F-8
CONN 9	F-8
CONN 10	I-12
CONN 11	B-14
CONN 13	H-12
CONN 14	C-8
CONN 16	J-8
CONN 17	D-7
CONN 19	B-7, D-16
CONN 20	B-7, D-16
CONN 21	G-3
CONN 22	A-14
CONN 23	F-13
CONN 24	B-10
CONN 25	C-8
CONN 26	C-6
CONN 27	E-7
CONN 28	C-4
CONN 29	C-4
CONN 30	I-4
CONN 31	I-3
CONN 32	F-1
CONN 33	G-1
CONN 34	I-2
CONN 35	E-15

The connectors shown in this chart are for harness to harness connectors. Connectors that join a harness to a component are generally located at or near the component. See the Component Location Chart.

Connector Location (Volume 3)	
Connector Number	**Schematic Location**
CONN 18	B-7
CONN 35	A-7
CONN 36	C-4
CONN 37	F-4

The connectors shown in this chart are for harness to harness connectors. Connectors that join a harness to a component are generally located at or near the component. See the Component Location Chart.

CID MID FMI / EVENT CODES

Component Identifiers (CID[1]) Module Identifier (MID[2]) Machine Control (MID No. 039)	
CID	**Component**
0041	8 Volt DC Supply
0168	Electrical System Voltage
0191	Transmission Output Speed Sensor
0268	Programmed Parameter Fault
0367	Ride Control Switch
0368	Transmission Auto/Manual Switch
0490	Implement Lockout Switch
0517	All Wheel Drive Switch
0590	Engine Control Module
0597	Main Hydraulic Pump Discharge Pressure Sensor
0600	Hydraulic Oil Temperature Sensor
0626	Steering/Transmission Lock Switch
0629	Neutralizer Switch
0637	Backup Alarm
0679	Torque Converter Lockup Clutch Solenoid
0702	Transmission Gear Lever Selector Sensor (Switch)
0769	Lift Cylinder Rod End Pressure Sensor
0882	Implement Lockout Solenoid
1401	Transmission Solenoid 1
1402	Transmission Solenoid 2
1403	Transmission Solenoid 3
1404	Transmission Solenoid 4
1405	Transmission Solenoid 5
1406	Transmission Solenoid 6
1529	Quick Coupler Switch
1960	Ignition Key Reader
2236	Hoe Auxiliary Valve #1 Port A Solenoid
2237	Hoe Auxiliary Valve #1 Port B Solenoid
2242	Loader Auxiliary Valve Port A Solenoid
2243	Loader Auxiliary Valve Port B Solenoid
2244	Hoe Auxiliary Valve #2 Port A Solenoid
2245	Hoe Auxiliary Valve #2 Port B Solenoid
2529	Loader Joystick Thumbwheel Position Sensor
2530	Hoe Left Joystick Thumbwheel Position Sensor
2531	Hoe Right Joystick Thumbwheel Position Sensor
2735	Loader Auxiliary Continuous Flow Switch
2736	Hoe Auxiliary Continuous Flow Switch
2977	Low Idle Switch
3084	AESC Enable Switch
3709	All Wheel Drive (AWD) Solenoid
3742	Main Hyd Pump Displacement Limit Sol

[1] The CID is a diagnostic code that indicates which circuit is faulty.

[2] The MID is a diagnostic code that indicates which electronic control module

Failure Mode Identifiers (FMI)[1]	
FMI No.	**Failure Description**
0	Data valid but above normal operational range.
1	Data valid but below normal operational range.
2	Data erratic, intermittent, or incorrect.
3	Voltage above normal or shorted high.
4	Voltage below normal or shorted low.
5	Current below normal or open circuit.
6	Current above normal or grounded circuit.
7	Mechanical system not responding properly.
8	Abnormal frequency, pulse width, or period.
9	Abnormal update.
10	Abnormal rate of change.
11	Failure mode not identifiable.
12	Bad device or component.
13	Out of calibration.
14	Parameter failures.
15	Parameter failures.
16	Parameter not available.
17	Module not responding.
18	Sensor supply fault.
19	Condition not met.
20	Parameter failures.

[1]The FMI is a diagnostic code that indicates what type of failure has occurred.

Event Codes Machine Control	
Event Code	**Condition**
E153	High Speed Directional Shift
E282	Implement Hydraulic Oil Filter Restricted
E627	Parking Brake Applied With Machine In Motion
E861	Clock Manual Alignment Required
E875	Low System Voltage
E876	High System Voltage
E878	High Hydraulic Oil Temperature
E979	Stabilizer Raised While Transmission In Gear

Event Codes Machine Control	
Event Code	**Condition**
E119	Low Fuel Level
E155	High Torque Converter Oil Temperature
E861	Clock Manual Alignment Required

CID MID FMI / EVENT CODES

Component Identifiers (CID[1]) Module Identifier (MID[2]) Product Link Module (MID No. 122)	
CID	**Component**
0168	Data Valid But Below Normal Operating Range
1250	Abnormal Update Rate

[1] The CID is a diagnostic code that indicates which circuit is faulty.

[2] The MID is a diagnostic code that indicates which electronic control diagnosed the fault.

Failure Mode Identifiers (FMI)[1]	
FMI No.	**Failure Description**
0	Data valid but above normal operational range.
1	Data valid but below normal operational range.
2	Data erratic, intermittent, or incorrect.
3	Voltage above normal or shorted high.
4	Voltage below normal or shorted low.
5	Current below normal or open circuit.
6	Current above normal or grounded circuit.
7	Mechanical system not responding properly.
8	Abnormal frequency, pulse width, or period.
9	Abnormal update.
10	Abnormal rate of change.
11	Failure mode not identifiable.
12	Bad device or component.
13	Out of calibration.
14	Parameter failures.
15	Parameter failures.
16	Parameter not available.
17	Module not responding.
18	Sensor supply fault.
19	Condition not met.
20	Parameter failures.

[1]The FMI is a diagnostic code that indicates what type of failure has occurred.

SPECIFICATIONS AND RELATED MANUALS

Related Electrical Service Manuals	
Title	**Form Number**
Cross Reference for Electrical Connectors:	REHS0970
Machine Control:	UENR2311

UENR2320 VOL 1 of 3

42 Page, (Dimensions: 56 inches x 35 inches)

- AUTO UP STABILIZERS - ATCH -

- REAR AUX -

- SIDE CONSOLE (PILOT & MECH AUTO) -

- AUTOSHIFT OPTION -

- FRONT DASH PANEL -

- STEER COLUMN DASH PANEL -

- MSS - ATCH -

- RETURN TO DIG -

- 3RD FUNCTION - ATCH -

- POWER RELAY MODULES -

- (8) FUSE BLOCK (UNSWITCHED) -

- (7) FUSE BLOCK [SWITCHED] -

WIRE GROUP COLOR DESCRIPTIONS

- GROUND CIRCUIT
- WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS OFF
- WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS ON
- PULSE CONVERTER OUTPUT CIRCUIT
- STARTING CIRCUIT
- CHARGING CIRCUIT
- MACHINE CONTROL CIRCUIT
- AWD CIRCUIT
- MACHINE SECURITY CONTROL CIRCUIT
- ENGINE CONTROL CIRCUIT
- HEATER, AIR CONDITIONER CIRCUIT
- WINDSHIELD WIPER AND WASHER CIRCUIT
- CAT DATA LINK
- CAN DATA LINK

OTHER COLOR DESCRIPTIONS

- HIGHWAYS

CALLOUTS

Callout Number — Electrical Location Point — Component Location Point — (52) VALVE GP - CONTROL — Component Name — 138-1234 — Part Number

SYMBOL	DESCRIPTION
+	CIRCUIT CONNECTED
+	CIRCUIT NOT CONNECTED
⏚	ELECTRICAL INTERCONNECTION TO CHASSIS GROUND
⏚	ELECTRICAL INTERCONNECTION TO ENGINE GROUND
CONN	CONNECTOR
DR	CIRCUIT GROUPING DESIGNATION
ECM	ELECTRONIC CONTROL COMPONENT
⋈	SPLICE
⏚	BLADE, SPADE, RING OR SCREW
⏚	GROUND

ABBREV	COLOR
RD	RED
WH	WHITE
OR	ORANGE
YL	YELLOW
PK	PINK
BK	BLACK
GY	GRAY
PU	PURPLE
BR	BROWN
GN	GREEN
BU	BLUE

NOTE	DESCRIPTION
NOTE A:	ASSEMBLE TERMINALS TO DESIGNATED STUD
NOTE C:	WIRES ARE TWISTED, ONE TWIST PER 25mm. WIRES TO BE TWISTED AS ARE: 892-BR AND 893-GN F711-GN AND F712-GY E900-WH AND E901-GN
NOTE E:	CLOSED WHEN BRAKE IS DEPRESSED
NOTE G:	OPTION BASED ON MACHINE CONFIGURATION
NOTE H:	NOT USED ON PILOT MACHINES
NOTE J:	ATTACHMENT
NOTE L:	WHEN LOADER LOCKS ARE INSTALLED, REMOVE JUMPER AND CONNECT PL-C46 TO LN-C2
NOTE L1:	STD FRONT AND REAR WORK SWITCHES ARE FOR THE 4 LAMP ARRANGEMENTS. ATCH FRONT AND REAR WORK SWITCHES ARE FOR THE 8 LAMP ARRANGEMENTS.
NOTE P:	FOR MACHINES WITH RIDE CONTROL AND LOADER LOCKS REPLACE RIDE CONT SW WITH RIDE CONT LL SW. FOR MACHINES WITH LOADER LOCKS ONLY REPLACE RIDE CONT SW WITH LOADER LOCK SW.
NOTE T:	FOR HVAC OPTION CONNECT 122-BU FROM HVAC HARN TO HVAC PWM MODULE SB STUD
NOTE W:	FOR POWER SIDESHIFT OPTION, REPLACE SIDE SHIFT LOCK SW WITH POWER SS SW
NOTE Y:	8TH FUNCTION (HOE AUX) IS A DEALER FIT OPTION ONLY.

HARNESS AS.

IDENT	PART NO.	CHG	NOTE	DESCRIPTION
HJ	357-3250	00	J,Y	REAR AUX (8TH FUNCTION)
HK	225-7988	01	G	HORN JUMPER
MC	290-6741	01		MACHINE SECURITY SYSTEM
PL	420-2934	01		PLATFORM
PW	357-3222	04	G	RETURN TO DIG - PARALLEL LIFT (WITH LOCKS)(NON-EST)
PW	357-3225	01	G	RETURN TO DIG - PARALLEL LIFT (WITH LOCKS)(EST ONLY)
PW	385-0058	01	G	RETURN TO DIG - PARALLEL LIFT (WITHOUT LOCKS)
RH	420-2940	01		CONSOLE - SIDE

THIS SCHEMATIC IS FOR THE 432F/444F BACKHOE LOADER ELECTRICAL SYSTEM

VOLUME 1 of 3: CAB WIRING

MEDIA NUMBER: UENR2320

SCHEMATIC PART NUMBER: 394-8751, CHANGE: 00, VERSION: S

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.

Note: Refer to the Parts Manual using a specific serial number prefix in SIS before ordering parts from this schematic.

UENR2320 VOL 2 of 3

42 Page, (Dimensions: 56 inches x 35 inches)

- E-STICK (7TH FUNCTION) - ATCH -

NOTE
FOR MACHINES WITHOUT E-STICK (7TH FUNCTION)
USE MACHINE LEFT JOYSTICK 271-3095
(NO ELECTRICAL CONNECTIONS)

[74] MACHINE LEFT HANDLE 271-3096 — RP-C23 1552252

RV PWR
RV RETURN
ROLLER SIGNAL
CALIBRATION

X909-RP1 OR-18
Z764-RP2 BR-18
W965-RP3 GN-18

X973-RP4 PK-18
X974-RP5 PU-18
Z878-RP6 YL-18

[99] HOE AUX VALVE SOL #1 342-3212 — RP-C8 1552269
PORT B: T969-RP11 YL-18, H802-RP12 GY-18

[100] HOE AUX VALVE SOL #2 342-3212 — RP-C7 1552269
PORT A: T971-RP13 OR-18, H802-RP14 GY-18

[108] PATTERN CHANGER SOL #1 240-6866 — RP-C4 1552269
Z762-RP7 GY-18, R763-RP8 BU-18

[109] PATTERN CHANGER SOL #2 240-6866 — RP-C5 1552269
Z762-RP9 GY-18, R763-RP10 BU-18

[209] LOADER AUX VALVE #1 342-3212 — RP-C9 1552269
E543-RP15 WH-18, H801-RP16 PU-18

[215] LOADER AUX VALVE #2 342-3212 — RP-C8 1552269
E544-RP17 WH-18, H801-RP18 PU-18

[116] SIDE SHIFT LOCK 257-5476 — RP-C10 1552269
H771-RP19 BR-18, H802-RP20 BK-18

[130] SIDE SHIFT LOCK SUPPRESSION 189-3158 — RP-C11 1552269
H771-RP21 BR-18, Z00-RP22 BK-18

[103] IMPLEMENT LOCKOUT SOL 342-3215 — RP-C12 1552269
G962-RP23 OR-18, H803-RP24 BU-18

E543-RP15 WH-18, E543-RP17 OR-18
G962-RP25 OR-18
H771-RP23 BR-18
H801-RP26 PU-18
H802-RP27 GY-18
H803-RP24 BU-18
Z764-RP2 BR-18, Z878-RP6 YL-18
W965-RP3 GN-18, X909-RP1 OR-18
Z762-RP7 GY-18, R763-RP8 BU-18
T969-RP11 YL-18, T971-RP13 OR-18
X800-RP1 OR-18, Z00-RP22 BK-18
Z00-RP20 BK-18, Z00-RP22 BK-18
Z00-RP22 BK-18, Z00-RP24 BK-18

RP-C1 2253854
X800-RP1 OR-18, E543-RP15 WH-18
E543-RP17 OR-18, G962-RP25 OR-18
Z764-RP2 BR-18, Z878-RP6 YL-18
W965-RP3 GN-18, Z762-RP7 GY-18
Z762-RP9 GY-18, R763-RP10 BU-18
T969-RP11 YL-18, T971-RP13 OR-18
X800-RP1 OR-18, Z00-RP22 BK-18
Z00-RP22 BK-18, Z00-RP24 BK-18
Z00-RP24 BK-18, Z00-RP26 BK-18
H801-RP26 PU-18, E543-RP15 WH-18
E543-RP17 OR-18, G962-RP25 OR-18
G962-RP23 OR-18, H803-RP24 BU-18
Z764-RP2 BR-18, Z878-RP6 YL-18
W965-RP3 GN-18, Z762-RP7 GY-18
Z762-RP9 GY-18, R763-RP10 BU-18
T969-RP11 YL-18, T971-RP13 OR-18
X800-RP1 OR-18, Z00-RP22 BK-18
H801-RP26 PU-18, E543-RP15 WH-18
E543-RP17 OR-18, G962-RP25 OR-18
H803-RP24 BU-18, Z878-RP6 YL-18
T969-RP11 YL-18, T971-RP13 OR-18
Z00-RP22 BK-18, Z00-RP24 BK-18
Z00-RP24 BK-18, Z00-RP26 BK-18
H771-RP25 BR-18

CONNECTS PL-C26 (VOLUME 1, H-15) — CONN 10

[90] HYDRAULIC LOAD SENSOR 344-7391 — XA-09 2304013
X800-XA14 OR-18, H801-XA15 PU-18
Z764-XA17 PK-18, J984-XA17 PK-18

[94] XMSN OUT SPEED SENSOR 191-8304 — XA-12 1552269
X800-XA20 WH-18, E601-XA19 BU-18

NOTE C

XA-07 1907612
X800-XA20 WH-18, E601-XA18 BU-18
X700-XA30 BR-18, H801-XA31 PU-18
Z762-XA32 GY-18, Z879-XA29 GN-18
X800-XA14 OR-18, Z764-XA15 BU-18
Z00-XA16 YL-18, Z764-XA17 PK-18

XA-C7 1907612 — NOTE C
E900-XA20 WH-18, E601-XA18 BU-18
X700-XA30 BR-18, H801-XA31 PU-18
Z762-XA32 GY-18, Z879-XA29 GN-18
X800-XA14 OR-18, Z764-XA15 BU-18
Z00-XA16 YL-18, Z764-XA17 PK-18

CONNECTS TO PL-C16 (VOLUME 1, I-1) — CONN 19

975-XA13 WH-18 — 975-XA2 WH-18, 975-XA4 WH-18, 975-XA6 WH-18, 975-XA8 WH-18
E900-XA20 WH-18
H705-XA50 BR-18
H801-XA25 PU-18
H803-XA16 BU-18
Z764-XA15 BU-18
J832-XA28 YL-18
J879-XA26 GN-18
J984-XA17 PK-18
X800-XA14 OR-18
X800-XA20 WH-18
452-XA18 PU-18

[95] CONVERTER TEMPERATURE SENDER 46-9972

XA-C14 1552269
Y705-XA30 BR-18, Z879-XA31 GN-18
J832-XA28 YL-18, Z764-XA15 BU-18
X800-XA14 OR-18, Z764-XA17 PK-18
X800-XA20 WH-18, E601-XA18 BU-18
H801-XA25 PU-18, H803-XA16 BU-18
Z764-XA15 BU-18, J832-XA28 YL-18
Z879-XA29 GN-18, J984-XA17 PK-18
X800-XA14 OR-18, X800-XA20 WH-18
452-XA18 PU-18

XA-C15 1552269
Y705-XA30 BR-18 — [99] HOE TORQUE LIMIT SOL 345-8202
J832-XA28 YL-18 — [107] LOCKUP CLUTCH (AUTO) 345-8202
X324-XA22 BU-18 — [97] DIFFERENTIAL LOCK SOL 345-8202
Z00-XA24 BK-18
XA-C6 1552269
X552-XA33 WH-18 — [98] 4WD SOL 345-8423
X553-XA34 YL-18
XA-C1 1552269
Z751-XA1 OR-18 — [128] SPEED CLUTCH #1 SOL (ET SOL 4)
Z975-XA2 BR-18
XA-C2 1552269
X003-XA3 GY-18 — [124] SPEED CLUTCH #2 SOL (ET SOL 5)
Z975-XA4 BR-18
XA-C3 1552269
X902-XA5 BR-18 — [125] SPEED CLUTCH #3 SOL (ET SOL 6)
Z975-XA6 BR-18
XA-C4 1552269
X900-XA7 PU-18 — [126] 2ND HIGH SOL (ET SOL 2)
Z975-XA8 BR-18
XA-C5 1552269
Z754-XA12 BU-18 — [121] REVERSE SOL (AUTO) 274-0205 (ET SOL 3)
H801-XA11 PU-18
XA-C13 1552269
Z752-XA9 YL-18 — [119] 2ND LOW SOL (AUTO) 274-0205 (ET SOL 1)
H801-XA11 PU-18

- REAR END -

RE-C12 1552272
REAR LH SIT LAMP 336-9096
STOP TURN GND TAIL
RE-C12 1552272
REAR RH SIT LAMP 336-9096
STOP TURN GND TAIL

[79] REAR WORK 184-3426 — RE-C6 1552269
E543-RP15 WH-18, E543-RP17 OR-18
G962-RP23 OR-18, G962-RP25 OR-18
H771-RP23 BR-18, H771-RP25 BR-18
H801-RP26 PU-18, H801-RP18 PU-18
H802-RP12 GY-18, H802-RP14 GY-18
H803-RP24 BU-18, Z764-RP2 BR-18
Z878-RP6 YL-18, Z762-RP7 GY-18
Z762-RP9 GY-18, W965-RP3 GN-18
W965-RP5 GN-18, Z762-RP9 GY-18
Z762-RP7 GY-18, Z878-RP6 YL-18
W965-RP5 GN-18, H803-RP24 BU-18
H802-RP12 GY-18, H802-RP14 GY-18
H801-RP18 PU-18, H801-RP16 PU-18
H771-RP23 BR-18, H771-RP25 BR-18
E543-RP15 WH-18, E543-RP17 OR-18
G962-RP23 OR-18, G962-RP25 OR-18

[65] BACKUP ALARM 154-5428 — RE-C3 1552269
X321-RE4 BR-18, Z00-RE4 BK-18

RE-C4 1552272
X321-RE4 BR-18, Z00-RE4 BK-18
Z00-RE1 BK-18, Z00-RE2 BK-18
Z00-RE2 BK-18, Z00-RE3 BK-18
Z00-RE3 BK-18, Z00-RE4 BK-18
A604-RE17 OR-18, A604-RE6 OR-18
A604-RE6 OR-18, A605-RE7 YL-18
A605-RE7 YL-18, A606-RE8 GY-18
A606-RE8 GY-18, A617-RE9 BR-18
A617-RE9 BR-18, A618-RE10 YL-18
A618-RE10 YL-18, A627-RE11 YL-18
A627-RE11 YL-18, A627-RE15 YL-18

RE-C11 1552272
Z00-RE1 BK-14, Z00-RE2 BK-14
Z00-RE2 BK-14, Z00-RE3 BK-14
Z00-RE3 BK-14, Z00-RE4 BK-14
X321-RE4 BR-14, A604-RE6 OR-14
A604-RE6 OR-14, A605-RE7 YL-14
A605-RE7 YL-14, A606-RE8 GY-14
A606-RE8 GY-14, A617-RE9 BR-14
A617-RE9 BR-14, A618-RE10 YL-14
A618-RE10 YL-14, A627-RE11 YL-14
A627-RE11 YL-14, A627-RE15 YL-14

RE-C13 1552272
Z00-RE1 BK-14, Z00-RE2 BK-14
Z00-RE2 BK-14, Z00-RE3 BK-14
Z00-RE3 BK-14, Z00-RE4 BK-14
X321-RE4 BR-14, A604-RE6 OR-14
A604-RE6 OR-14, A605-RE7 YL-14
A605-RE7 YL-14, A606-RE8 GY-14
A606-RE8 GY-14, A617-RE9 BR-14
A617-RE9 BR-14, A618-RE10 YL-14
A618-RE10 YL-14, A627-RE11 YL-14
A627-RE11 YL-14, A627-RE15 YL-14

RP-C30 1552269
Z00-RP30 BK-14, Z00-RP32 BK-14
Z00-RP32 BK-14, Z00-RP34 BK-14
Z00-RP34 BK-14, Z00-RP36 BK-14
Z00-RP36 BK-14, Z00-RP38 BK-14
Z00-RP38 BK-14, Z00-RP40 BK-14
Z00-RP40 BK-14, Z00-RP42 BK-14
Z00-RP42 BK-14, Z00-RP44 BK-14
Z00-RP44 BK-14, Z00-RP46 BK-14
Z00-RP46 BK-14, Z00-RP48 BK-14
Z00-RP48 BK-14, Z00-RP50 BK-14
Z00-RP50 BK-14, Z00-RP52 BK-14
Z00-RP52 BK-14, Z00-RP54 BK-14
Z00-RP54 BK-14, Z00-RP56 BK-14
Z00-RP56 BK-14, Z00-RP58 BK-14
Z00-RP58 BK-14, Z00-RP60 BK-14

CONNECTS TO PL-C54 (VOLUME 1, B-9) — CONN 11

[88] FRONT AXLE POSITION SENSOR 390-3478 — HE-C2 1552272
PROXIMITY N/C
PROXIMITY N/C
+12V
HE-C1 3539776
HE-C2 1552272
Z00-RP19 BK-16
C853-RP26 GN-16
H765-RP30 BK-16
H765-RP31 BU-16
136-RP1 GN-16
136-RP2 GN-16
FERRITE COIL FRONT 428-8220

CONN 22

[66] AWS CONTROL 388-4690 — RP-C1 1552269
Z00-RP10 BK-16, Z00-RP12 BK-16
Z00-RP12 BK-16, Z00-RP14 BK-16
Z00-RP14 BK-16, Z00-RP16 BK-16
Z00-RP16 BK-16, Z00-RP18 BK-16
Z00-RP18 BK-16, Z00-RP20 BK-16
Z00-RP20 BK-16, Z00-RP22 BK-16
Z00-RP22 BK-16, Z00-RP24 BK-16
Z00-RP24 BK-16, Z00-RP26 BK-16
Z00-RP26 BK-16, Z00-RP28 BK-16
Z00-RP28 BK-16, Z00-RP30 BK-16
Z00-RP30 BK-16, Z00-RP32 BK-16
Z00-RP32 BK-16, Z00-RP34 BK-16
Z00-RP34 BK-16, Z00-RP36 BK-16
Z00-RP36 BK-16, Z00-RP38 BK-16
Z00-RP38 BK-16, Z00-RP40 BK-16
Z00-RP40 BK-16, Z00-RP42 BK-16
Z00-RP42 BK-16, Z00-RP44 BK-16
Z00-RP44 BK-16, Z00-RP46 BK-16
Z00-RP46 BK-16, Z00-RP48 BK-16
Z00-RP48 BK-16, Z00-RP50 BK-16
Z00-RP50 BK-16, Z00-RP52 BK-16
Z00-RP52 BK-16, Z00-RP54 BK-16
Z00-RP54 BK-16, Z00-RP56 BK-16
Z00-RP56 BK-16, Z00-RP58 BK-16
Z00-RP58 BK-16, Z00-RP60 BK-16

- HOE VALVE -

LF-C3 2304011
LF-C1 3539776
LF-C5 1552267
REAR FOG LAMP 262-4727
LF-C2 1552269
LICENSE PLATE LAMP 196-0030
627-LF5 YL-18
627-LF4 BR-18
Z00-LF3 BK-18
617-LF4 BR-18

CONN 35

- REAR FOG & LICENSE PLATE LAMPS - ATCH -

- REAR QUICK COUPLER - ATCH -

TO LOWER CAB GROUND (VOLUME 1, C-5) — Z00-XC15 BK-18

[72] QUICK COUPLER FUSE 100-0600 — KC-C6 1570604
103-XC7 YL-16
106-XC8 WH-14

TO PRM 1 (USB) (VOLUME 1, H-4) — 106-XC6 WH-14

[76] REAR QC CTRL MODULE 361-1560 — KC-C5 1552264
BATT +KE
WEDGE SOL
SAFETY SOL
GND
CONTROL SIG
SAFETY SOL
Z762-XC14 GY-16
Z779-XC12 BK-18
Z762-XC16 BU-18
Z762-XC4 GY-16
Z779-XC2 BK-18
Z763-XC16 BU-18
Z00-XC9 BK-16
Z763-XC18 BU-18
W740-XC5 PK-18

103-XC7 YL-16 — 103-XC2 YL-18, 103-XC18 YL-16
Z00-XC8 BK-18 — Z00-XC1 BK-18
Z00-XC5 BK-16 — Z00-XC11 BK-18
Z779-XC12 WH-18 — Z779-XC12 WH-18
Z780-XC13 PU-18 — Z780-XC13 PU-18
W739-XC4 YL-18 — W739-XC4 YL-18
W740-XC5 PK-18 — W740-XC5 PK-18
Z762-XC14 GY-16 — Z762-XC16 GY-16, Z763-XC18 BU-18
Z763-XC16 BU-18 — Z763-XC16 BU-18

KC-C1 1552269
KC-C2 1552269
KC-C3 2285856
KC-C4 2285856
Z779-XC12 BK-18, W739-XC4 YL-18
[117] SIDE SHIFT SOL 558-2091
Z780-XC13 PU-18, W740-XC5 PK-18
[113] SAFETY SOL 558-2091
Z762-XC10 GY-16, Z762-XC17 GY-18
[105] REAR QUICK COUPLER SW #1 367-3793
Z762-XC14 GY-16, Z779-XC12 BK-18
Z763-XC16 BU-18, Z779-XC2 BK-18
[106] REAR QUICK COUPLER SW #2 367-3794
Z762-XC4 GY-16, Z763-XC18 BU-18
Z00-XC11 BK-18, Z00-XC1 BK-18
Z762-XC4 GY-16

CONNECTS TO PL-C1 (VOLUME 1, F-1) — CONN 16

RL-C1 353888
611-RL12 PU-14, 200-RL3 BK-14
619-RL13 GN-14, 619-RL9 YL-16
619-RL6 YL-18, 606-RL8 GY-18
605-RL9 YL-18

200-RL3 BK-14 — 200-RL2 BK-14, 200-RL4 BK-14
605-RL9 YL-18 — 606-RL8 YL-18
611-RL12 PU-14 — 611-RL4 PU-16, 611-RL11 PU-16
617-RL7 BR-18 — 617-RL7 BR-18, 618-RL6 YL-18
618-RL13 GN-14 — 619-RL5 BK-16, 619-RL10 GN-16

RL-C2 1552272
605-RL9 YL-18, 200-RL2 BK-14
200-RL2 BK-14, 606-RL8 YL-18
611-RL4 PU-16, 611-RL11 PU-16
619-RL10 GN-16
TURN, POSN, HDSW LOW
LH HEADLIGHT ASS. RH DIP 195-0192 LH DIP 195-0182

RL-C3 1552273
606-RL8 GY-18, 200-RL2 BK-14
200-RL2 BK-14, 611-RL4 PU-16
611-RL4 PU-16, 619-RL9 GN-16
TURN, POSN, HDSW LOW
RH HEADLIGHT ASS. RH DIP 195-0189 LH DIP 195-0191

- HEAD (ROADING) LIGHTS -

CONNECTS TO RH-C18 (VOLUME 1, A-12) — CONN 1

TA-C2 2304009
131-TA1 BR-16
E479-TA3 YL-18
200-TA4 BK-16

131-TA1 BR-16 — 200-TA5 BK-18, 200-TA6 BK-16
200-TA4 BK-16 — 614-TA2 PU-18, E479-TA3 YL-18
614-TA2 PU-18 — 200-TA5 BK-18, E479-TA3 YL-18
200-TA5 BK-18 — 200-TA6 BK-16, E479-TA3 YL-18

[124] STABILITY WARNING SW 350-1078 — TA-C1 2285856
F444-TA7 PU-16
E479-TA3 YL-18
200-TA6 BK-16

F444-TA7 PU-16 — TA-C3 2304013, TA-C1 2304014, TE-C2 2304013, TC-C1 2304014
E479-TA3 YL-18 — CONN 30

200-TD2 BK-16 — TE-C2 2304013, TE-C1 2304014
F444-TE1 PU-16 — TE-C1 2304014, TE-C2 2304013
E479-TE7 YL-18 — CONN 31

200-TC1 BK-16 — TC-C2 2304013, TC-C1 2304014
F444-TC6 PU-16 — TC-C1 2304014, TC-C2 2304013
E479-TC4 YL-18 — CONN 34

[127] STABILITY PRESS SW 350-1077 — TF-C2 1552272
GND
+12V
OUT (SMB)

STABILITY PRESS SW		
PART NO.	COLOUR	PRESS
387-9170	GN	130 BAR
387-9171	OR	135 BAR
387-9172	YL	144 BAR
387-9173	RD	155 BAR
387-9174	BR	170 BAR

SEE TABLE

200-TC2 BK-16 — TC-C3 1552269
F444-TC5 PU-16 — NOT CONNECTED OR PILOT MACHINES

- OBJECT HANDLING (STABILITY WARNING) - ATCH -

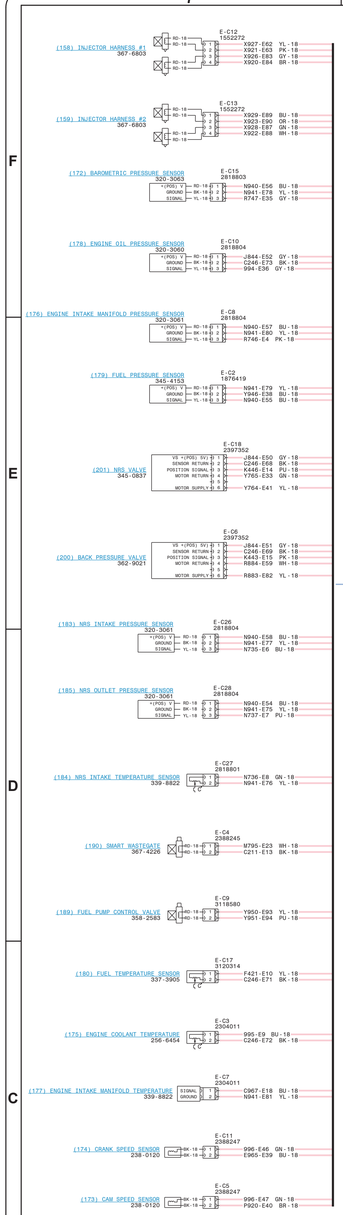
REAR LH FLOOD ATCH 214-2969 — MH-18, MH-18 — 630-TF15 GY-18, 200-TF1 BK-18
REAR LH FLOOD STD 214-2968 — MH-18, MH-18 — 606-TF2 BK-18, 200-TF6 BK-18
REAR RH FLOOD STD 214-2968 — MH-18, MH-18 — 606-TF7 BK-18, 200-TF7 BK-18
REAR RH FLOOD ATCH 214-2969 — MH-18, MH-18 — 630-TF16 GY-18, 200-TF12 BK-18

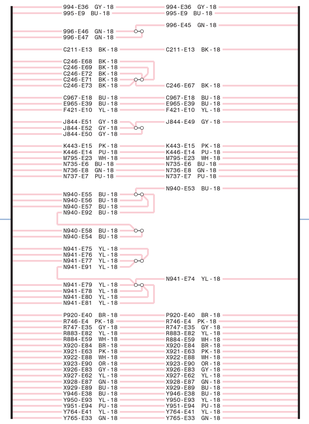
TP-C1 353179 — 603-TP25 PK-16, 603-TP21 PK-18, 607-TP4 PK-16, 607-TP6 PK-18
CONNECTS TO PL-C22 (VOLUME 1, D-12) — CONN 6

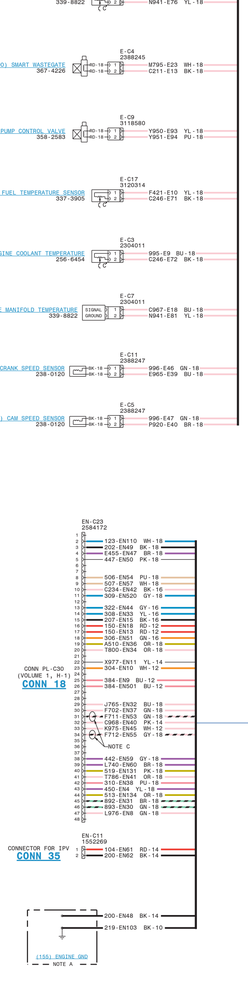
200-TF9 BK-18 — 608-TP2 GN-18, 630-TF15 GY-18, 630-TF16 GY-18
200-TF1 BK-18 — 608-TP3 GN-18, 118-TP29 GY-14
200-TF7 BK-18 — 608-TP2 GN-18, 630-TF15 GY-18, 630-TF16 GY-18
200-TF2 BK-18 — 118-TP29 GY-14, 123-TP31 BN-18
200-TF6 BK-18 — 123-TP31 BN-18, 161-TP38 RD-16
200-TF4 BK-18 — 161-TP38 RD-16, 200-TP37 BK-18
200-TP37 BK-18 — 500-TP32 BK-16, 500-TP33 BK-16
500-TP32 BK-16 — 500-TP34 BK-16, 503-TP35 BK-16
503-TP35 BK-16 — 506-TP49 PU-18, 506-TP50 PU-18
506-TP49 PU-18 — 590-TP23 GY-16, 590-TP24 GY-16
590-TP23 GY-16 — 603-TP68 PK-18, 607-TP5 PK-18
607-TP5 PK-18 — 620-TP19 BR-18, 620-TP20 BR-18
620-TP19 BR-18 — 620-TP20 BR-18, 620-TP21 BR-18
620-TP20 BR-18 — 620-TP22 BR-18, 620-TP23 BR-18
620-TP22 BR-18 — 620-TP23 BR-18, 620-TP24 BR-18
620-TP23 BR-18 — 620-TP24 BR-18, 620-TP25 BR-18
620-TP24 BR-18 — 620-TP25 BR-18, 620-TP26 BR-18
620-TP25 BR-18 — 620-TP26 BR-18, 620-TP27 BR-18
620-TP26 BR-18 —

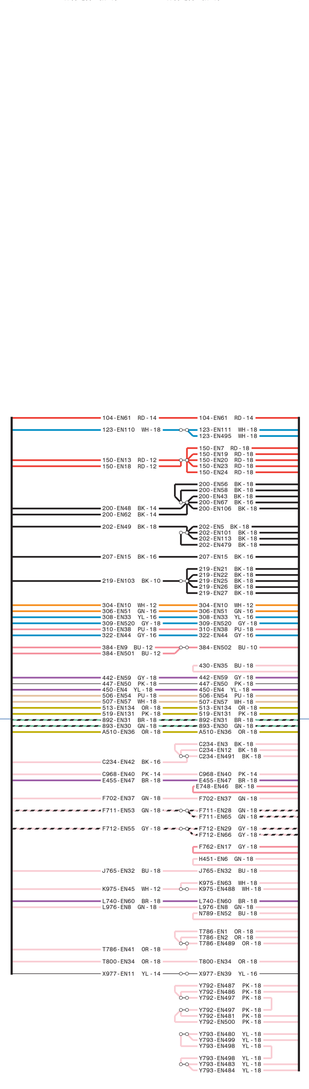
UENR2320 VOL 3 of 3

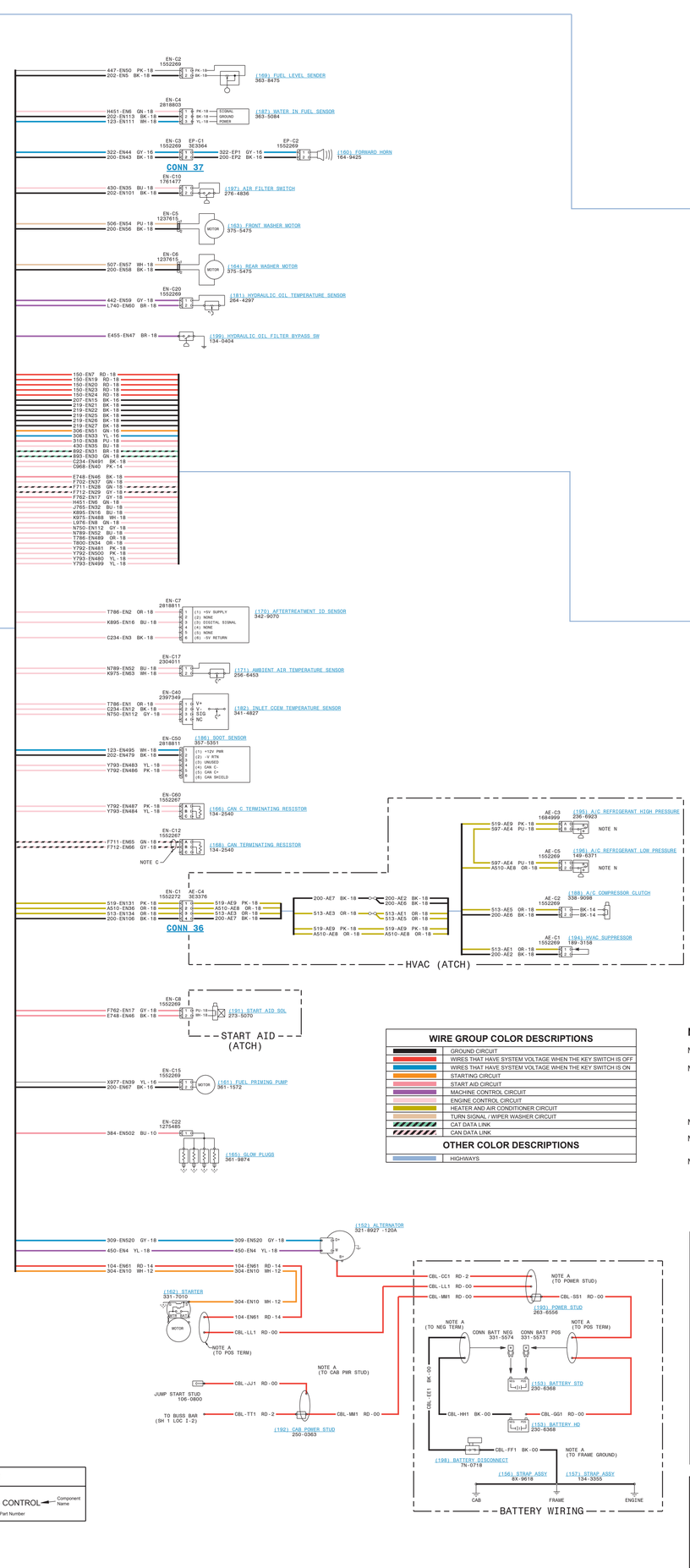
24 Page, (Dimensions: 34 inches x 28 inches)

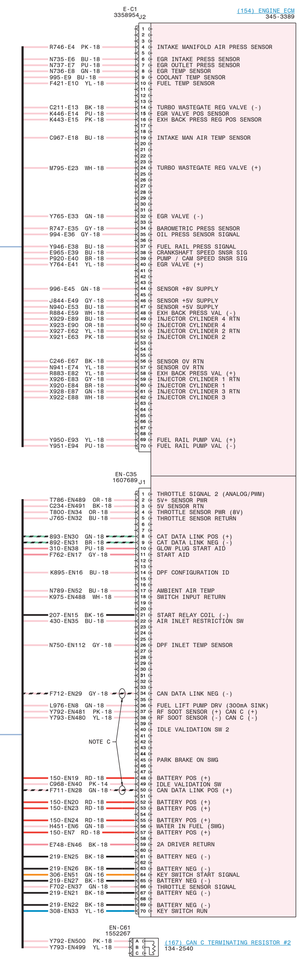












SYMBOL	DESCRIPTION
✦	CIRCUIT CONNECTED
┼	CIRCUIT NOT CONNECTED
⏚	ELECTRICAL CONNECTION TO MACHINE STRUCTURE
⏚	INTERNAL ELECTRICAL CONNECTION TO SURFACE OF COMPONENT
-⊙-	CONNECTOR
H#	CIRCUIT GROUPING DESIGNATION
- - -	ATCH WIRE, CABLE, COMPONENT
○-○	SPLICE
○	BLADE, SPADE, RING OR SCREW TERMINAL

ABBREV	COLOR
RD	RED
WH	WHITE
OR	ORANGE
YL	YELLOW
PK	PINK
BK	BLACK
GY	GRAY
PU	PURPLE
BR	BROWN
GN	GREEN
BU	BLUE

CALLOUTS

Callout Number (Machine Location from Component Locations Table) — (52) VALVE GP - CONTROL — Component Name
138-1234 — Part Number

WIRE GROUP COLOR DESCRIPTIONS

	GROUND CIRCUIT
	WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS OFF
	WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS ON
	STARTING CIRCUIT
	START AID CIRCUIT
	MACHINE CONTROL CIRCUIT
	ENGINE CONTROL CIRCUIT
	HEATER AND AIR CONDITIONER CIRCUIT
	TURN SIGNAL / WIPER WASHER CIRCUIT
	CAT DATA LINK
	CAN DATA LINK

OTHER COLOR DESCRIPTIONS

	HIGHWAYS

NOTE DESCRIPTION

NOTE A: ASSEMBLE TERMINALS TO DESIGNATED STUD

NOTE C: WIRES ARE TWISTED. ONE TWIST PER 25mm.
WIRES TO BE TWISTED ARE:
892-BR AND 893-GN
F711-GN AND F712-GY
E900-WH AND E901-GN

NOTE G: OPTION BASED ON MACHINE CONFIGURATION

NOTE N: CONTACTS CLOSED AT PROPER REFRIGERANT CHARGE

NOTE Z: HARNESS SUPPLIED WITH ENGINE

IDENT	PART NO.	CHG	NOTE	DESCRIPTION
				HARNESS AS.
AE	331-5469	03	J	HVAC AIR CONDITION - ENGINE
E	361-3358	06		ENGINE (PERKINS)
EN	331-5451	06		ENGINE
EP	331-5496	03		FRONT HORN
				CABLE AS.
CC	331-5551	03		POS (MAIN POWER STUD TO ALTERNATOR)(NON-EST)
CC	420-2944	00		POS (MAIN POWER STUD TO ALTERNATOR)(EST)
GG	331-5554	05	G	POS (HEAVY DUTY)
HH	331-5557	05	G	NEG (HEAVY DUTY)
EE	331-5555	04		NEG (BATTERY TO DISCONNECT SWITCH)
FF	331-5556	02	G	NEG (DISCONNECT SWITCH TO FRAME)(NON-EST)
FF	387-6490	02		NEG (DISCONNECT SWITCH TO FRAME)(EST)
JJ	331-5518	00		POS (JUMP START)
LL	331-5510	04		POS (MAIN POWER STUD TO STARTER)(NON-EST)
LL	420-2943	00		POS (MAIN POWER STUD TO STARTER)(EST)
MM	331-5552	03		POS (MAIN POWER STUD TO CAB POWER STUD)(NON-EST)
MM	368-6241	02		POS (MAIN POWER STUD TO CAB POWER STUD)(EST)
SS	331-5550	08		POS (BATTERY TO MAIN POWER STUD)(NON-EST)
SS	369-1751	01		POS (BATTERY TO MAIN POWER STUD)(EST)
TT	363-8477	03		CAB POWER STUD TO POWER DISTRIBUTION

THIS SCHEMATIC IS FOR THE 432F/444F BACKHOE LOADER ELECTRICAL SYSTEM

VOLUME 3 of 3: ENGINE WIRING

MEDIA NUMBER: UENR2320

SCHEMATIC PART NUMBER: 394-8751, CHANGE: 00, VERSION: S

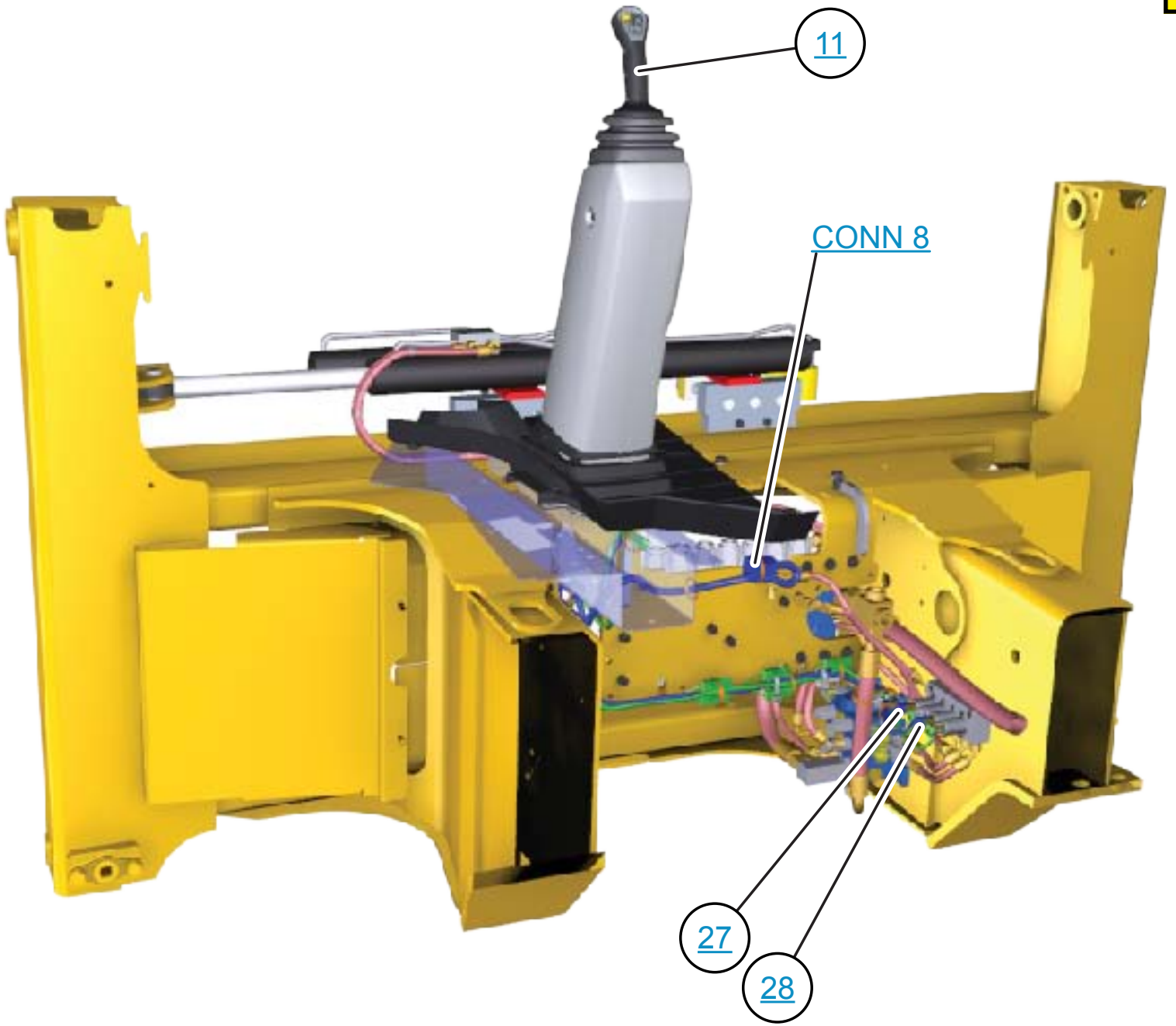
Components are shown installed on a fully operable machine with the key and engine off, transmission shifter in neutral and with parking brake set.

Refer to the appropriate Service Manual for Troubleshooting, Specifications and Systems Operations.

Note: Refer to the Parts Manual using a specific serial number prefix in SIS before ordering parts from this schematic.

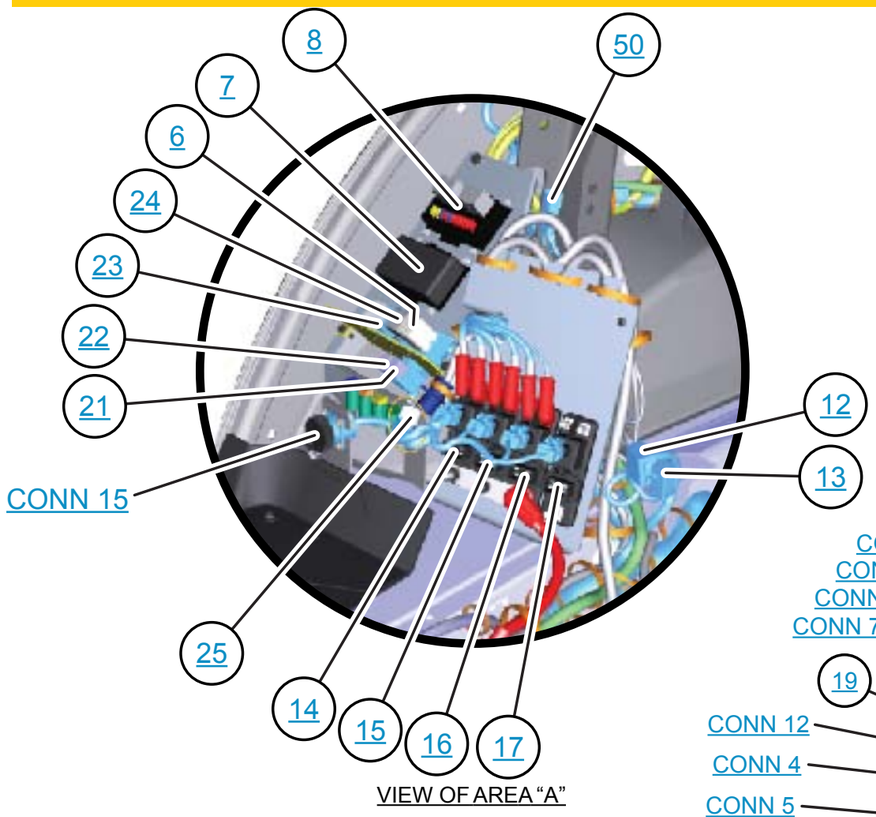
REAR AUXILIARY HANDLE WIRING

VIEW ALL CALLOUTS

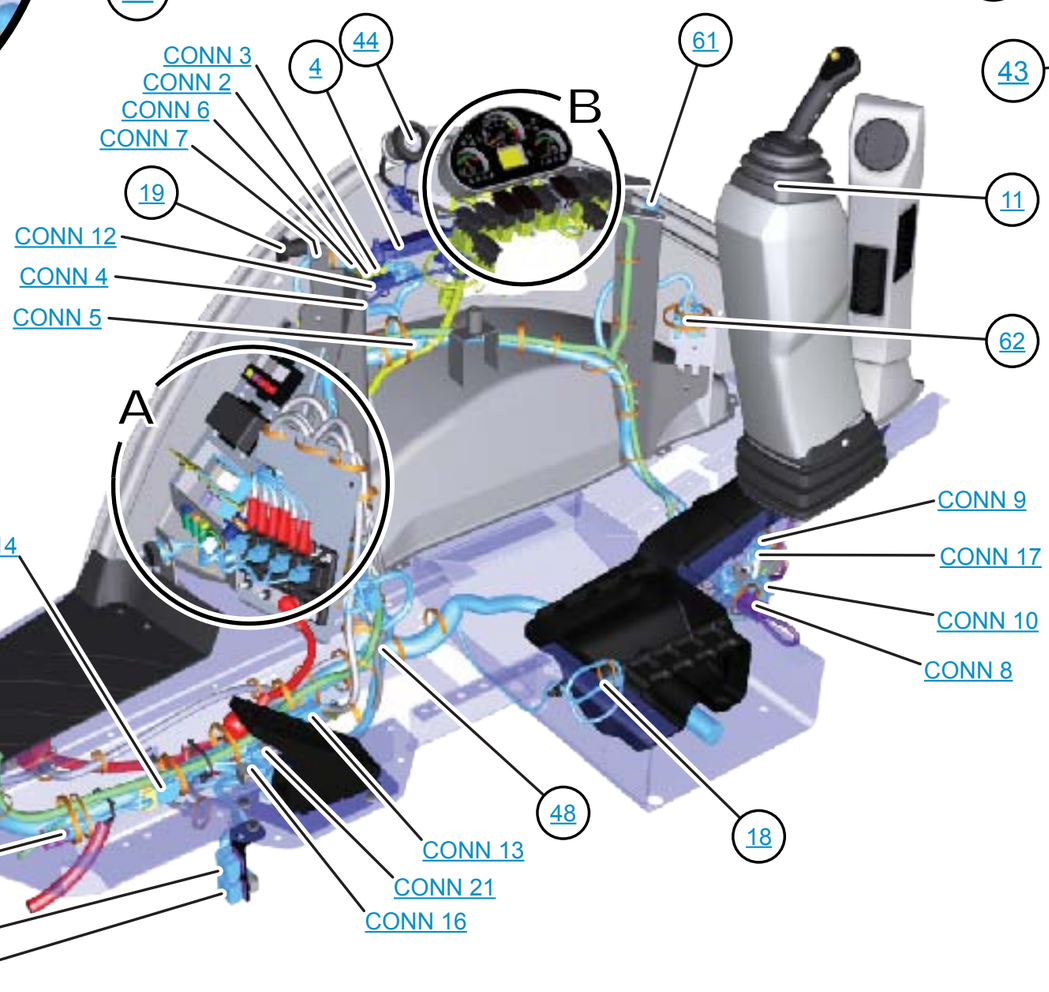


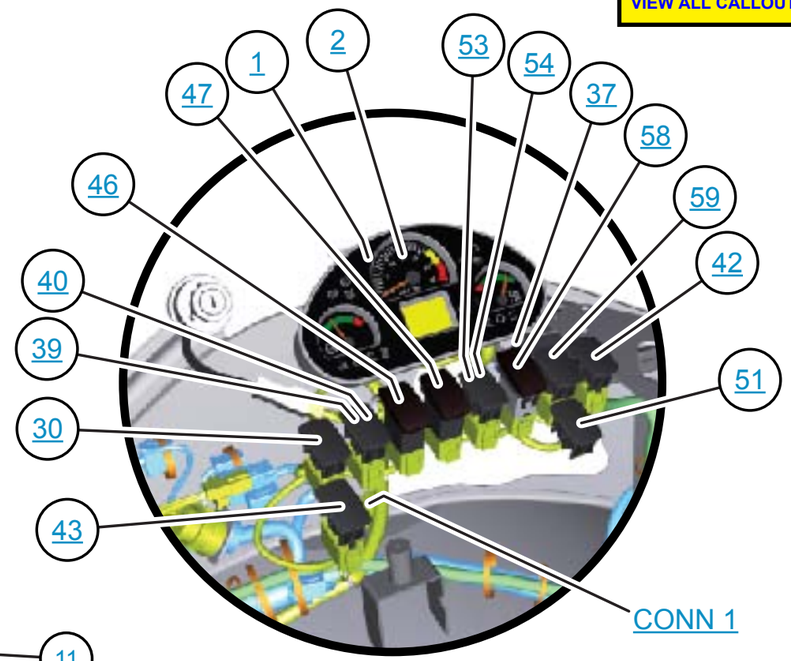
LEFT CONSOLE WIRING

VIEW ALL CALLOUTS



VIEW OF AREA “A”

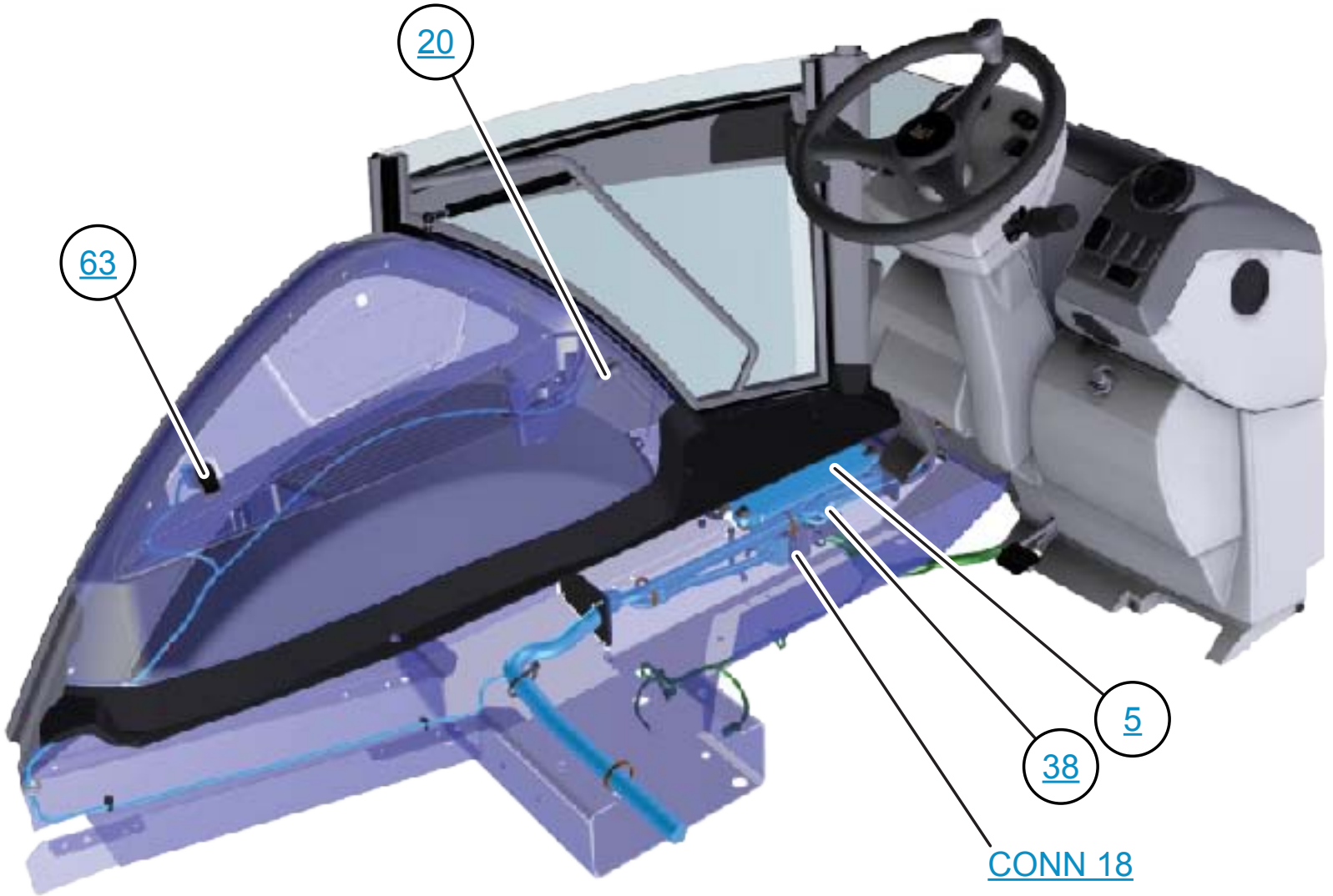




VIEW OF AREA “B”

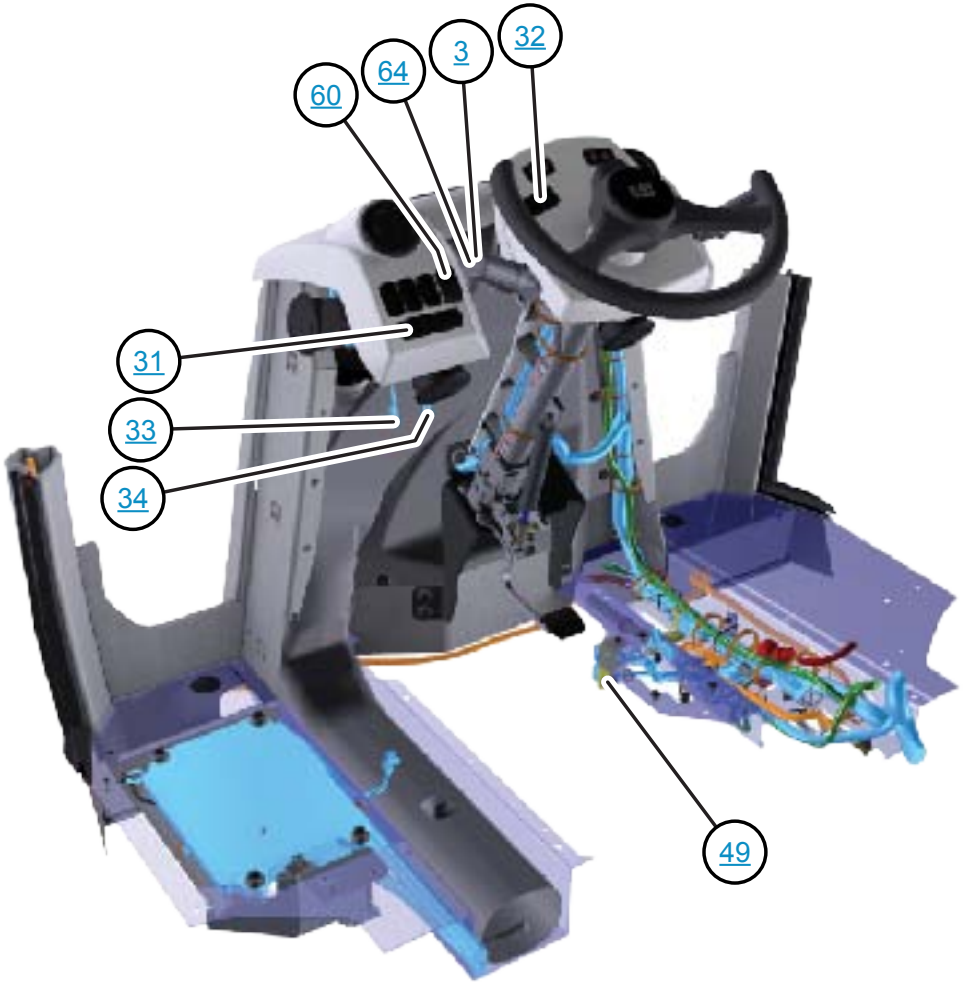
LEFT CONSOLE WIRING

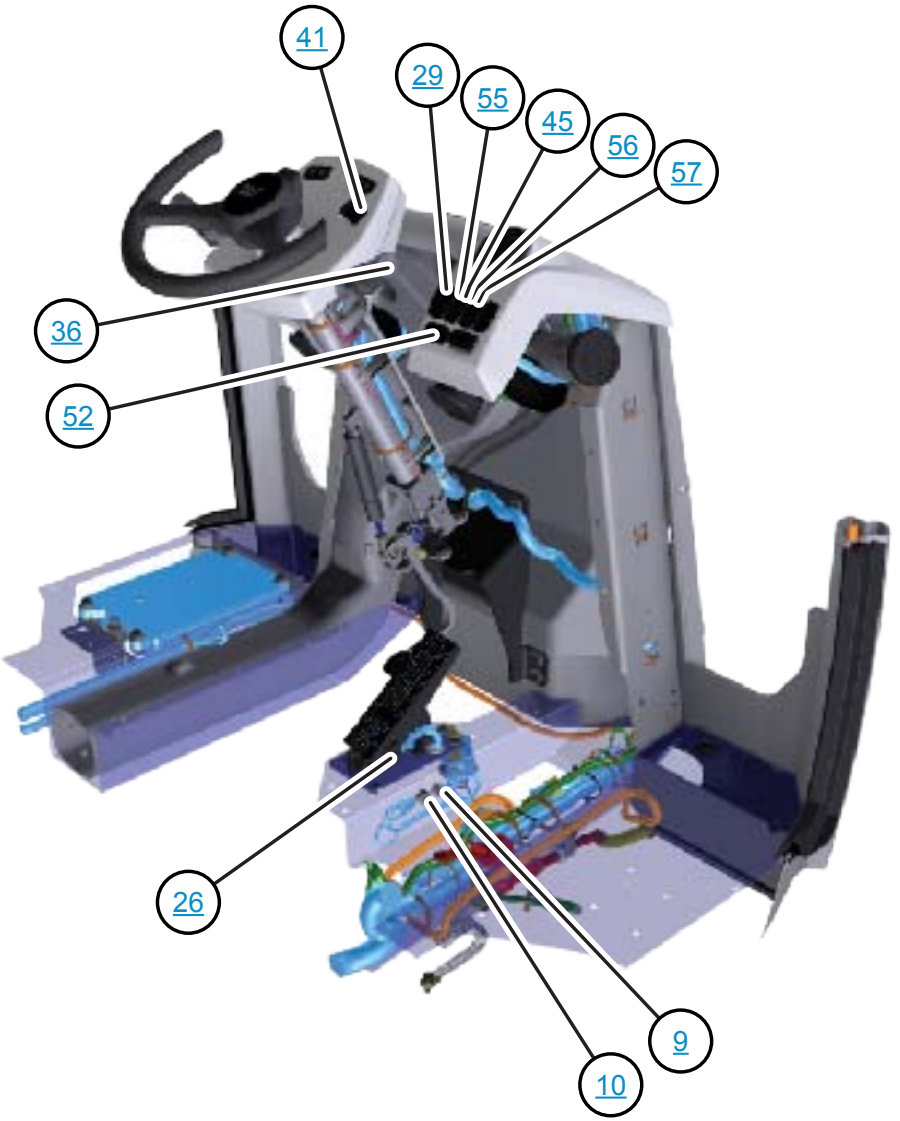
VIEW ALL CALLOUTS



DASH WIRING

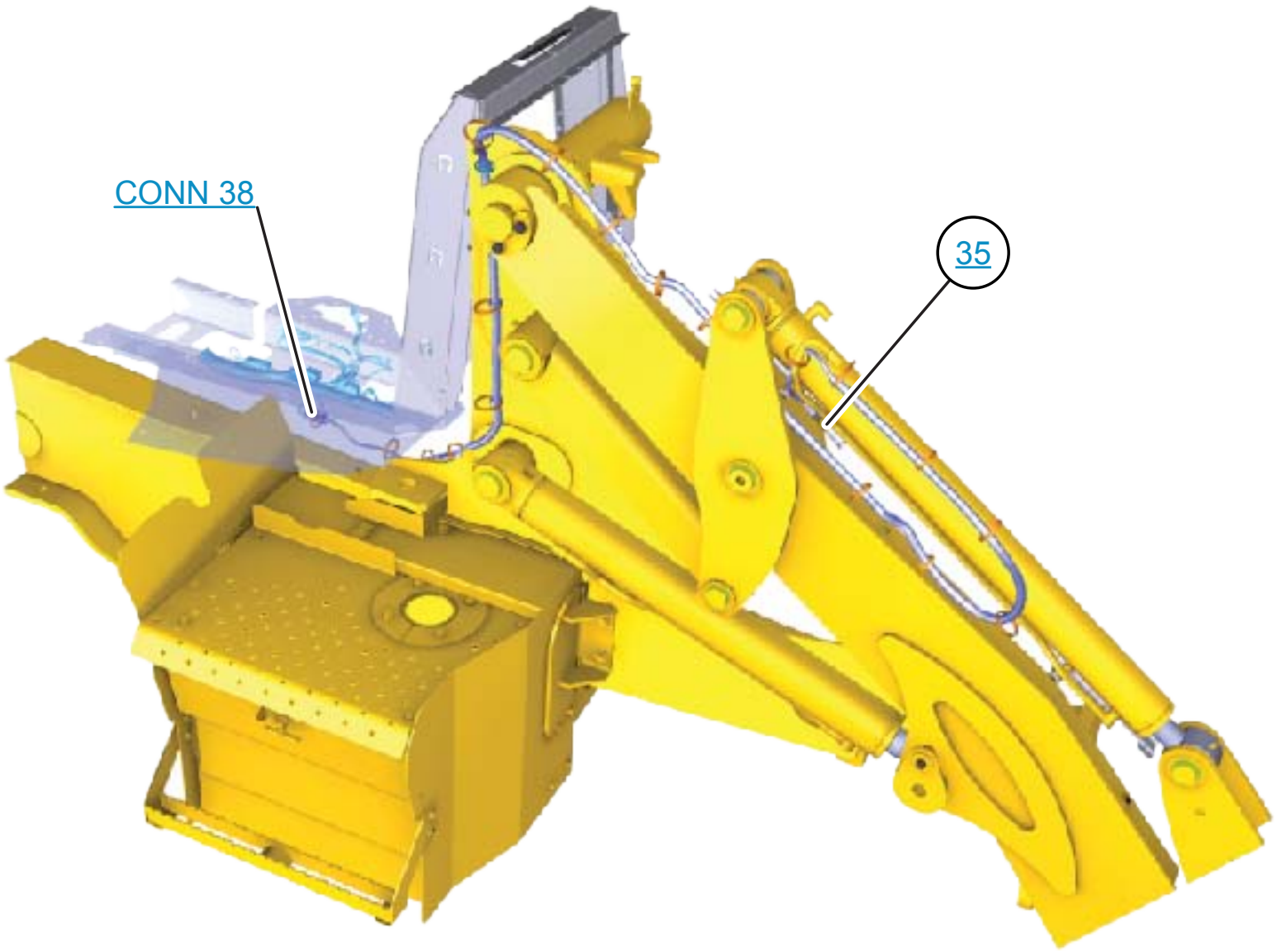
VIEW ALL CALLOUTS





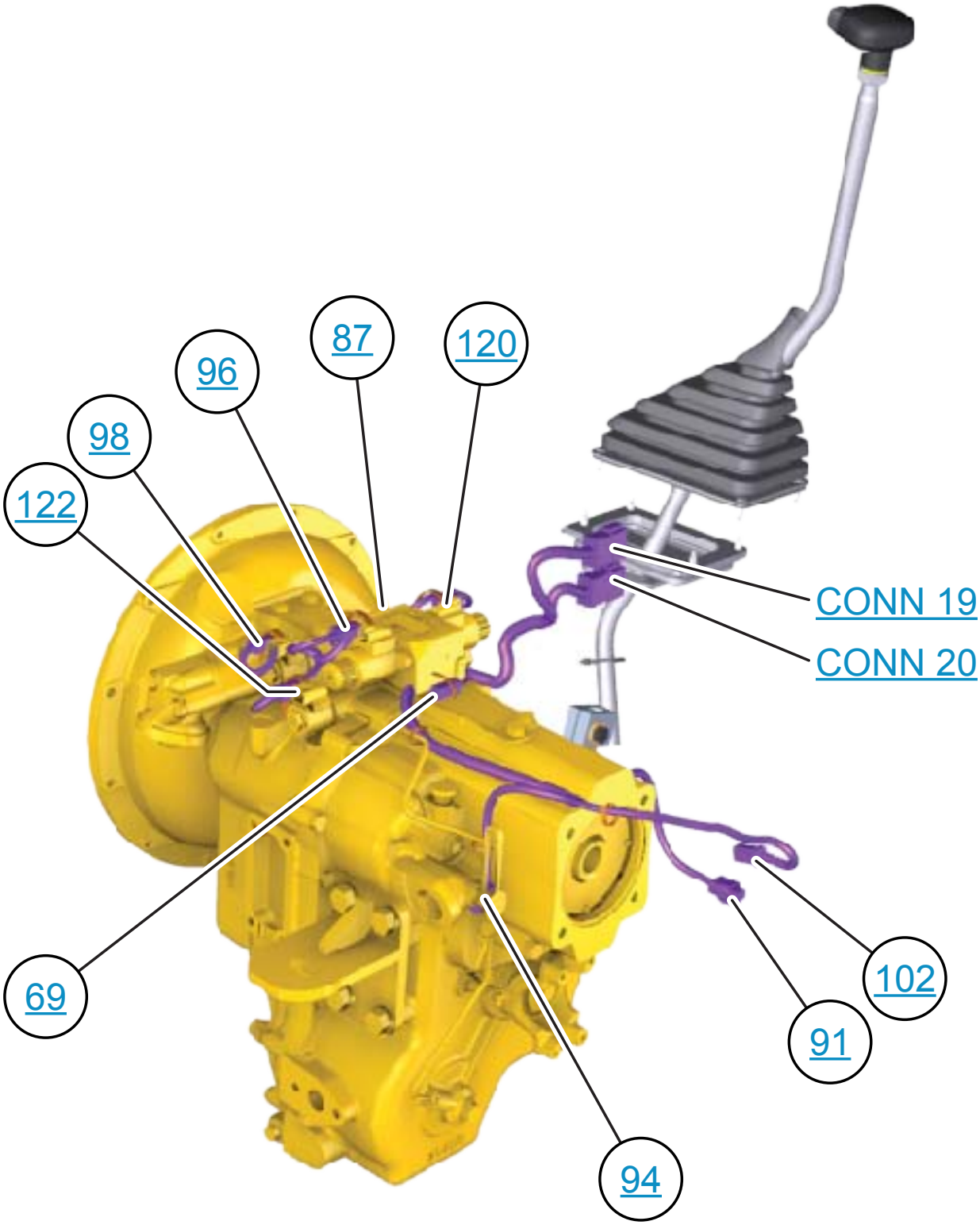
BUCKET POSITION WIRING

VIEW ALL CALLOUTS



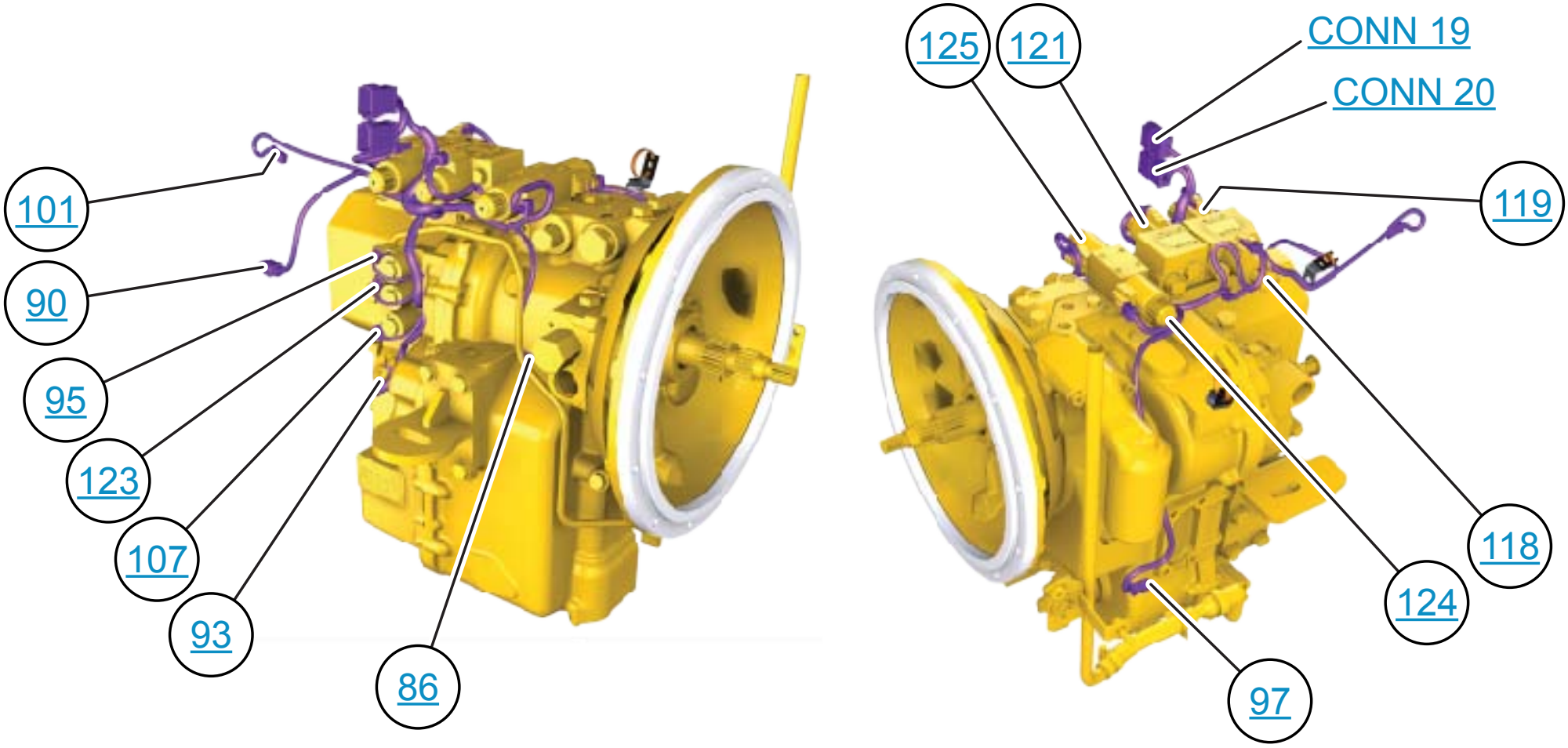
TRANSMISSION WIRING (STANDARD)

VIEW ALL CALLOUTS



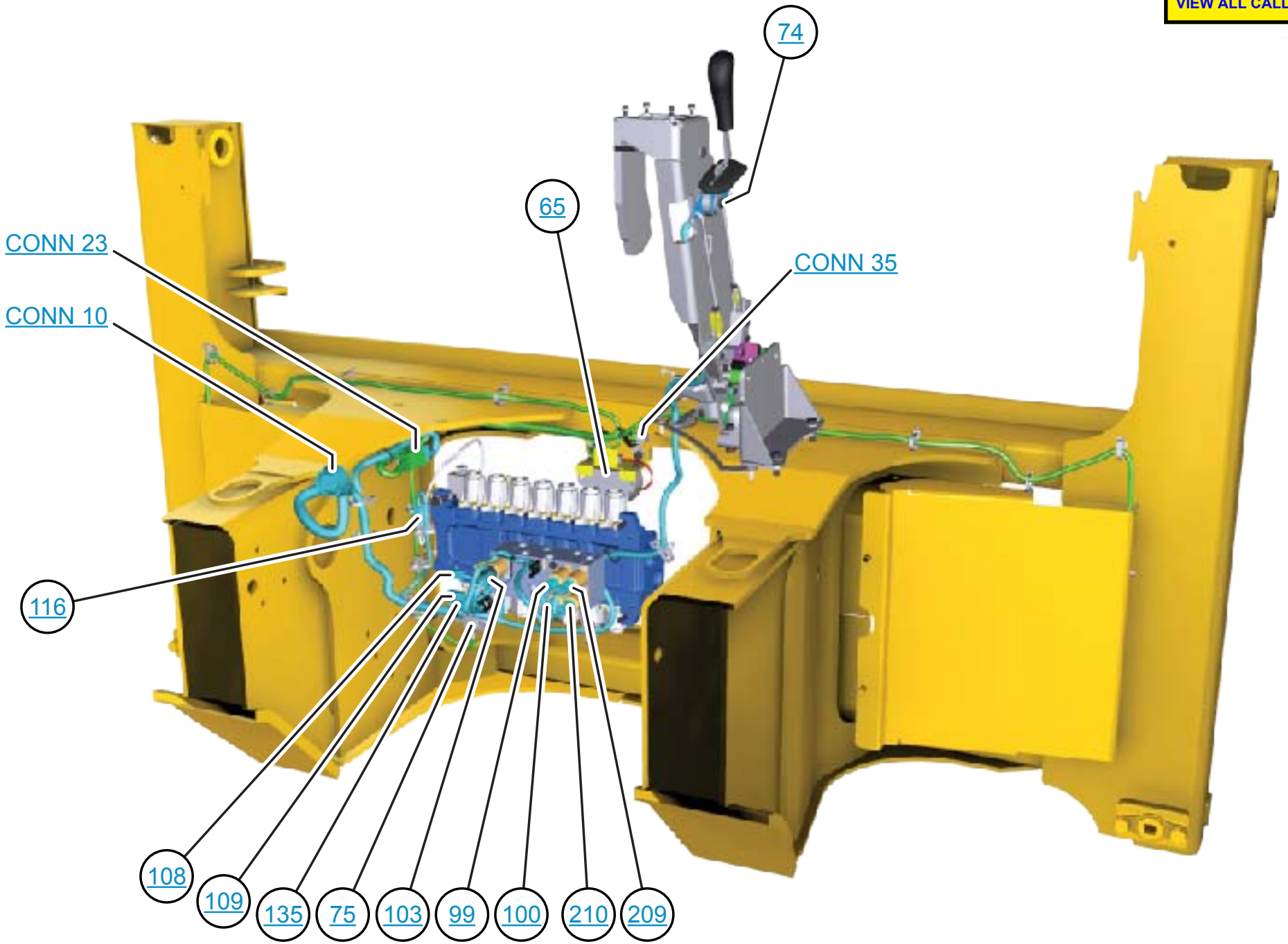
TRANSMISSION WIRING (AUTOMATIC)

VIEW ALL CALLOUTS



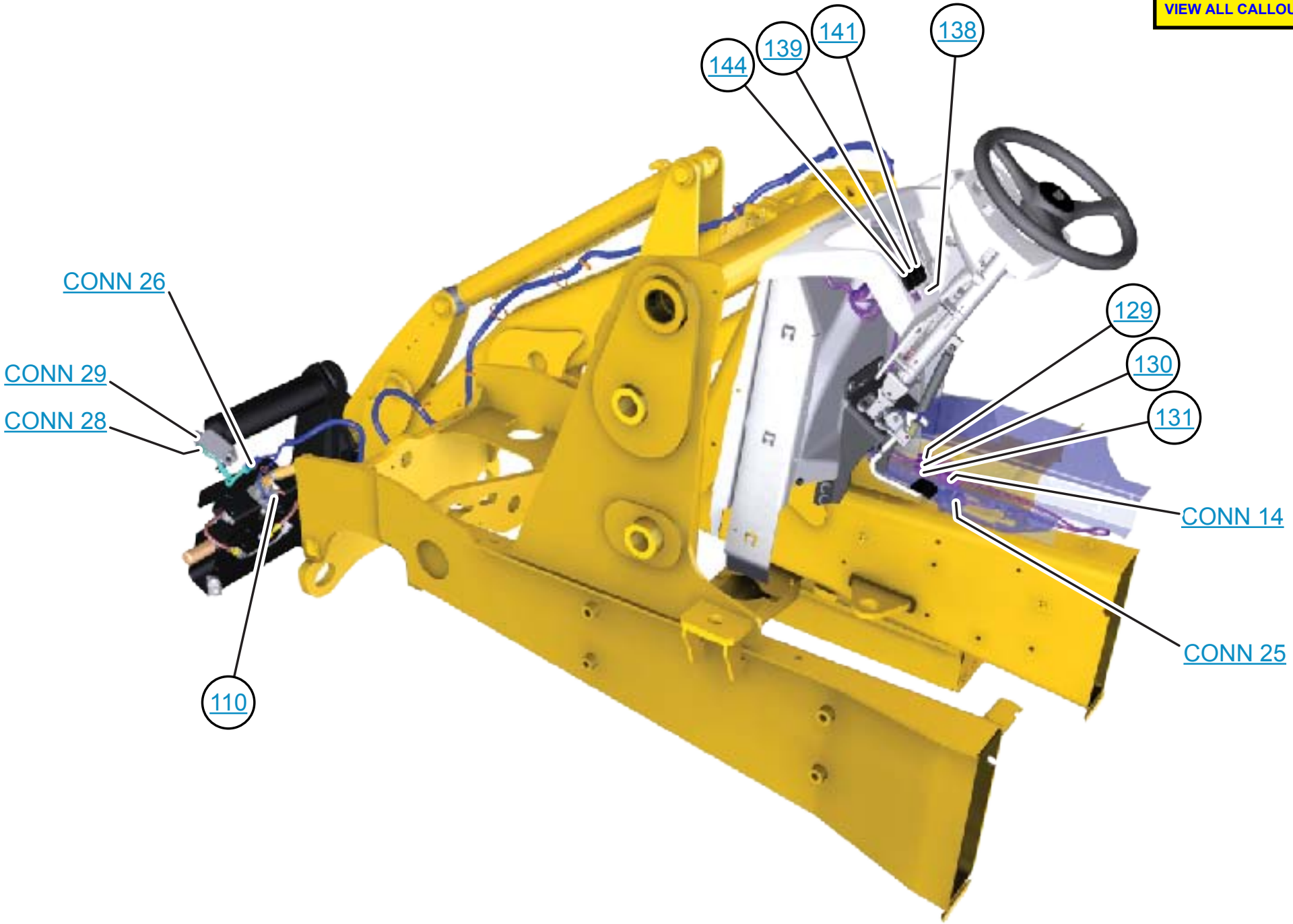
REAR END WIRING

VIEW ALL CALLOUTS



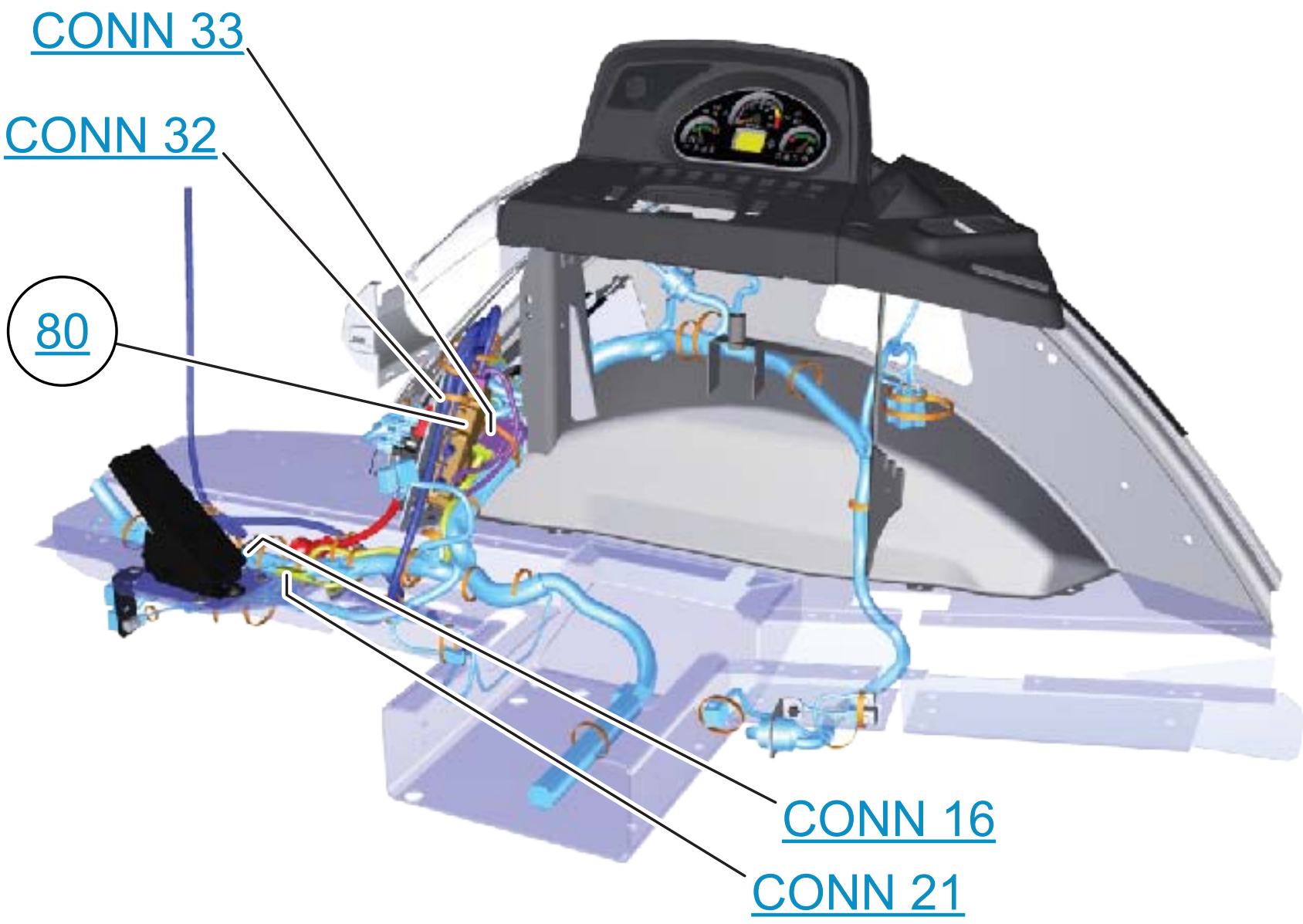
QUICK COUPLER WIRING (LEFT, REAR VIEW)

VIEW ALL CALLOUTS



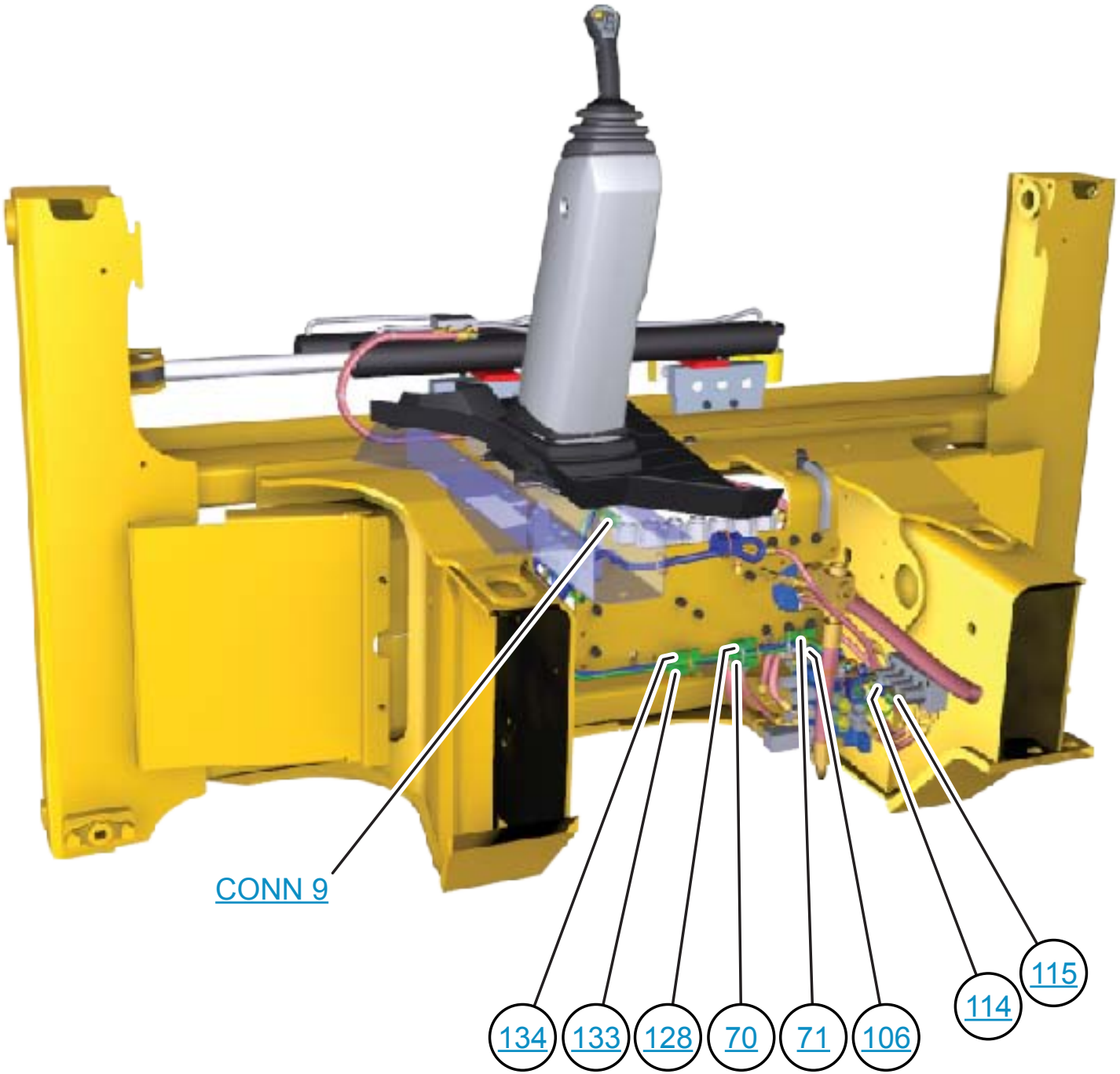
PRODUCT LINK WIRING

VIEW ALL CALLOUTS



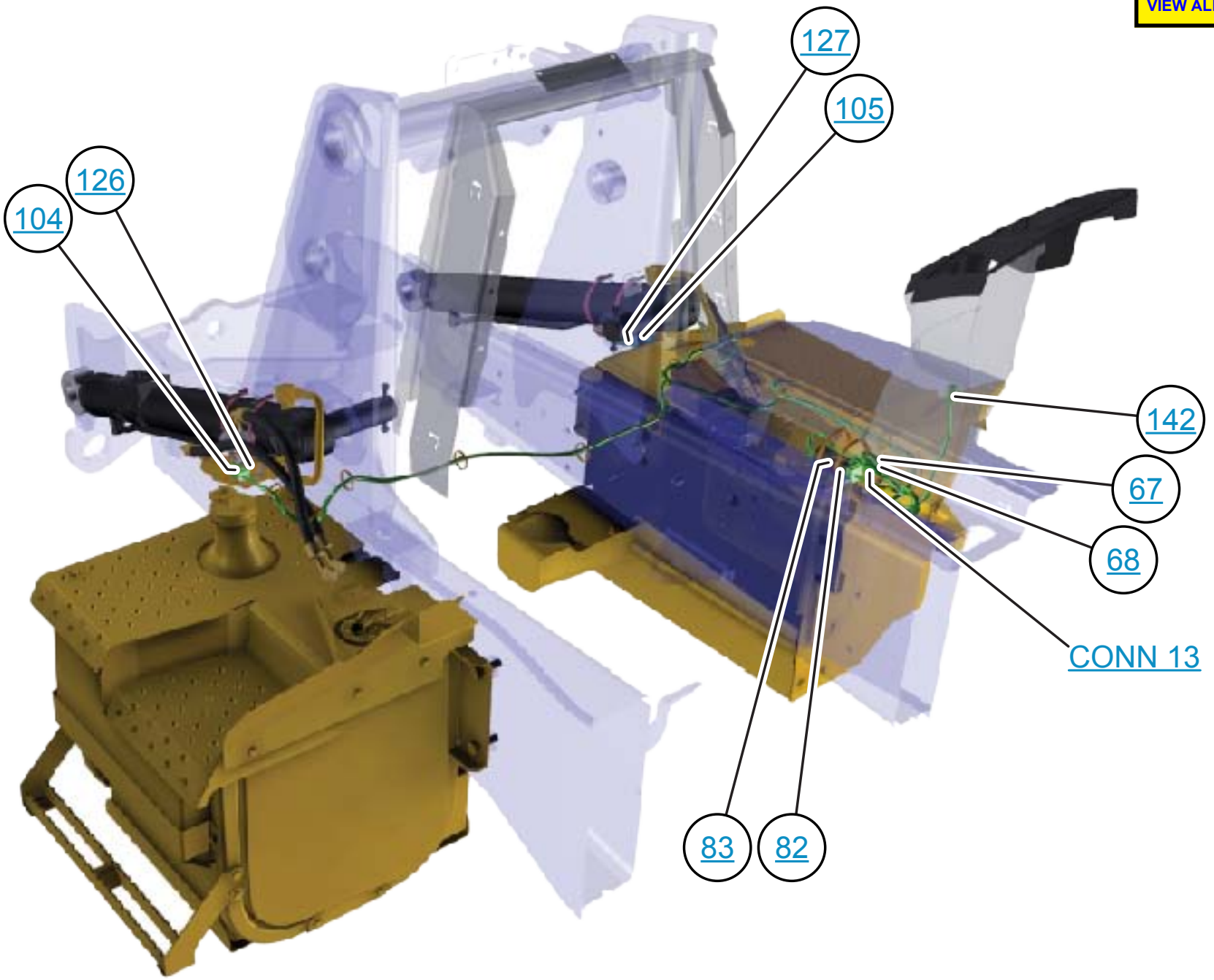
POWERED SIDESHIFT WIRING

VIEW ALL CALLOUTS



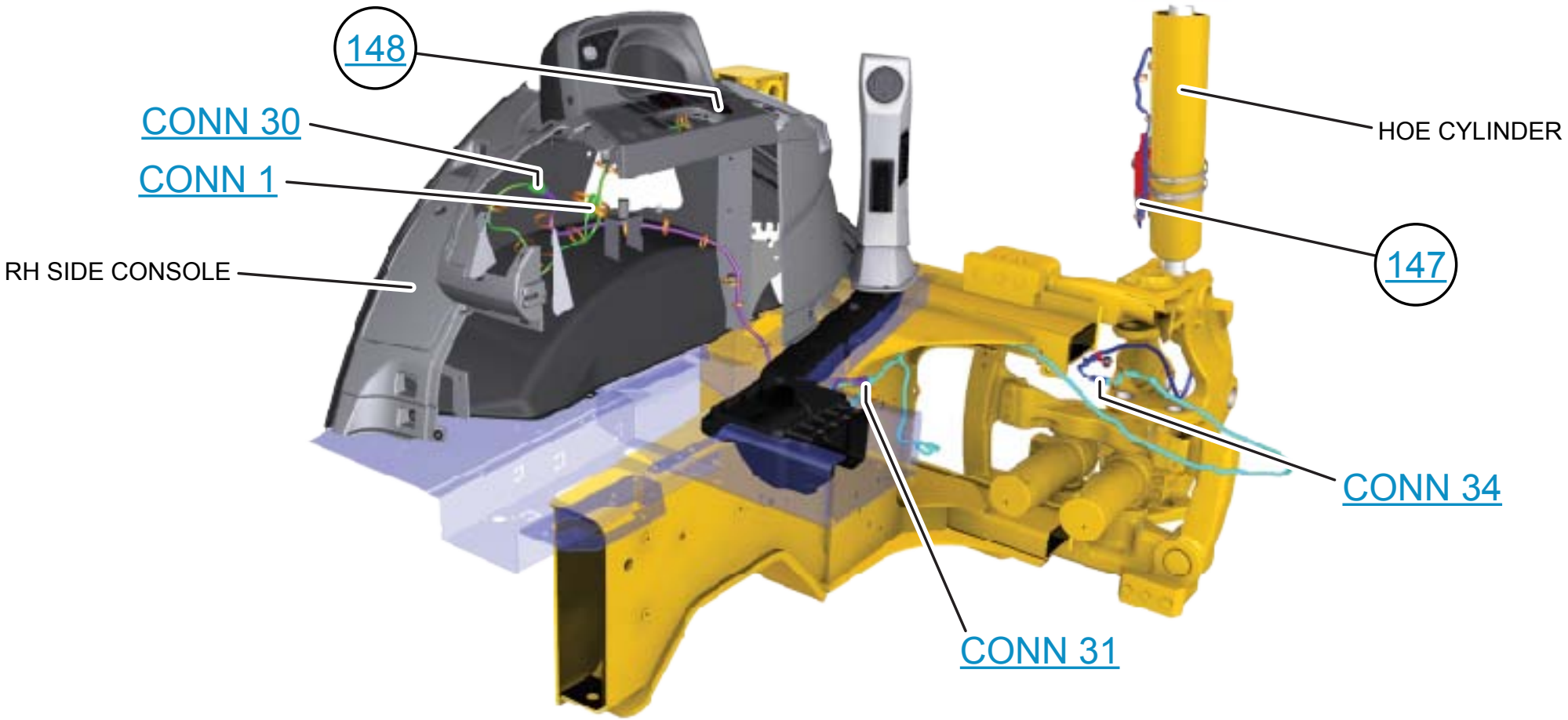
POWERED SIDESHIFT WIRING

VIEW ALL CALLOUTS



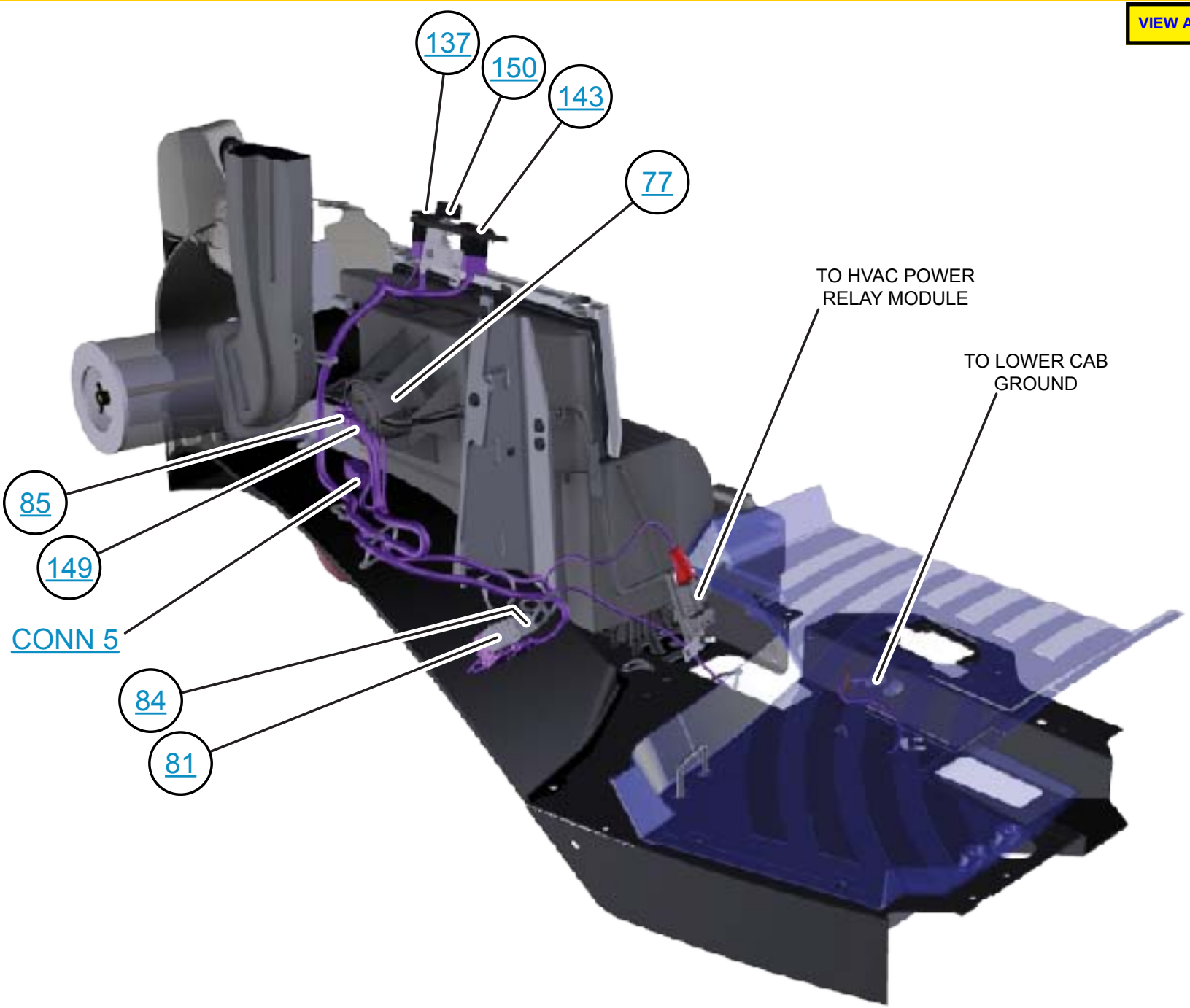
OBJECT HANDLING WIRING

VIEW ALL CALLOUTS



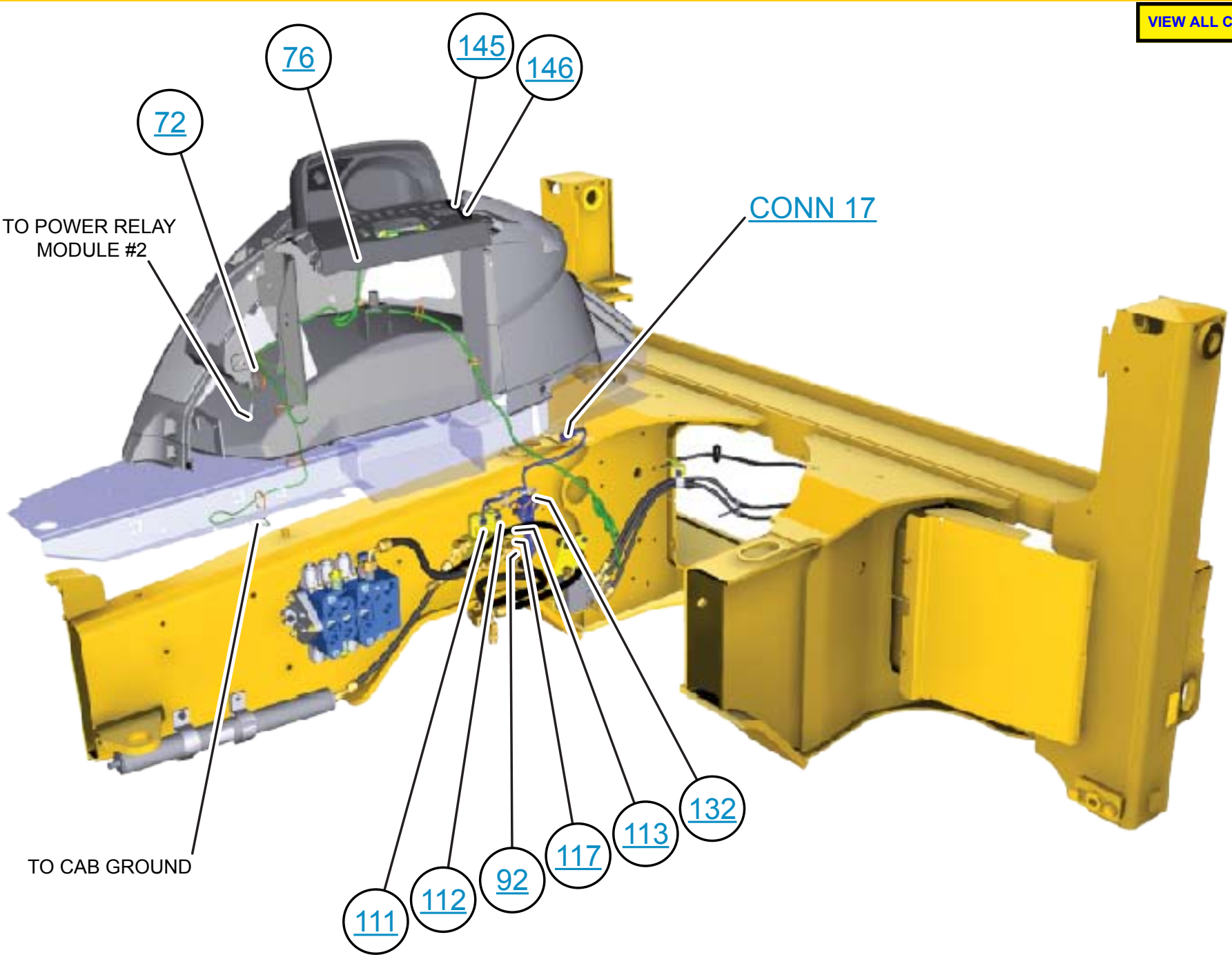
HVAC WIRING (RIGHT CONSOLE)

VIEW ALL CALLOUTS



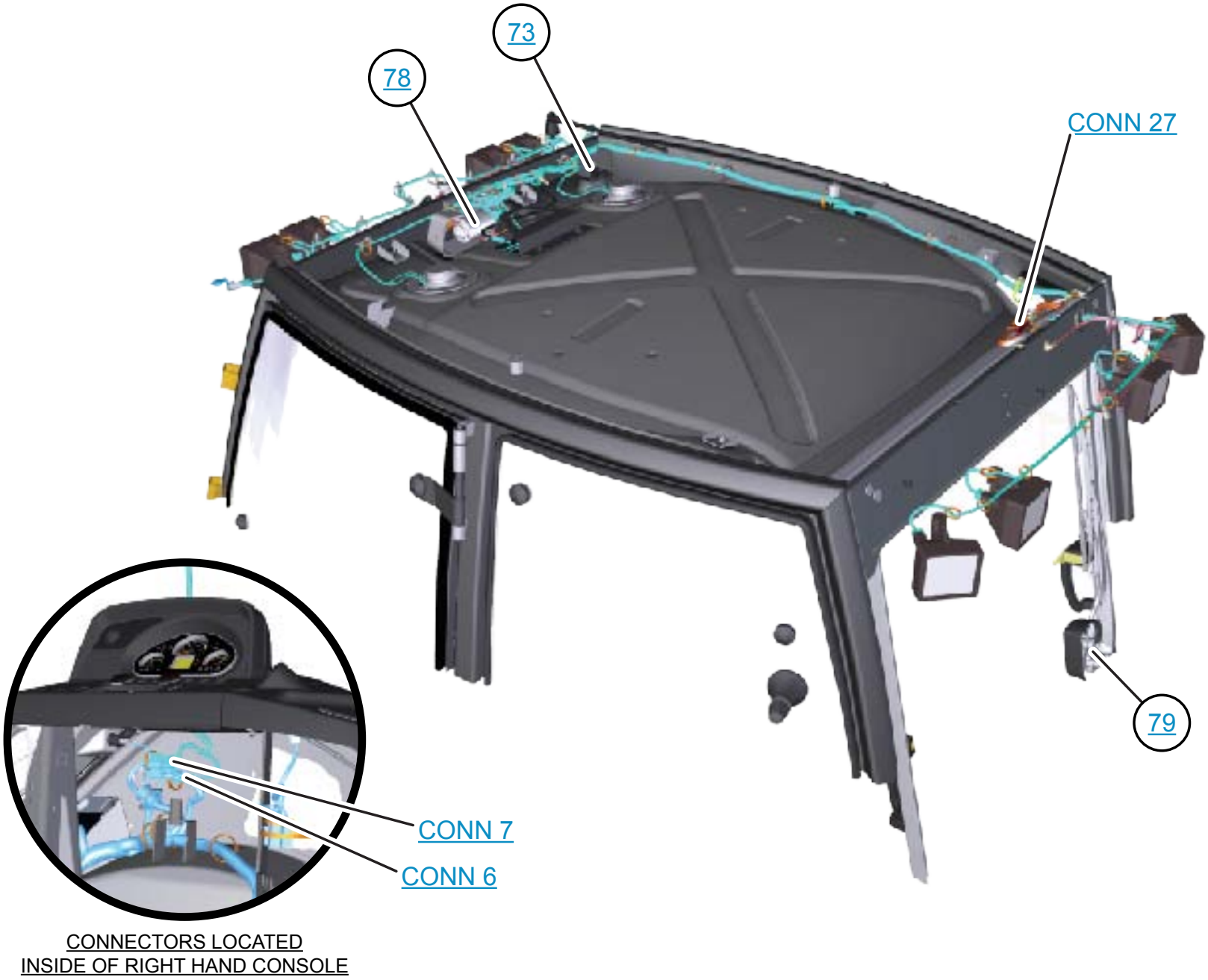
HOE QUICK COUPLER WIRING

VIEW ALL CALLOUTS



HEADLINER WIRING (LEFT, REAR VIEW)

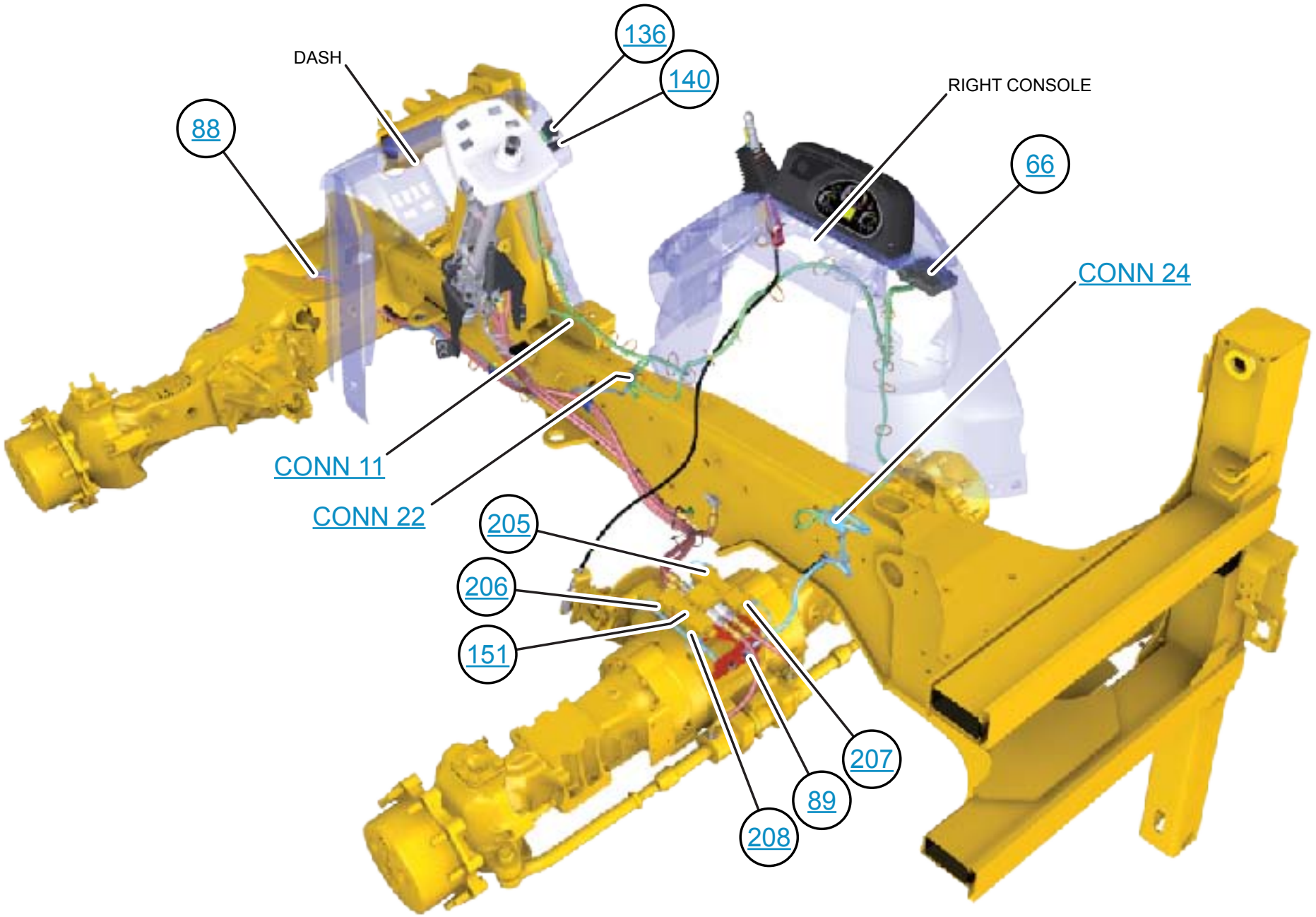
VIEW ALL CALLOUTS



CONNECTORS LOCATED
INSIDE OF RIGHT HAND CONSOLE

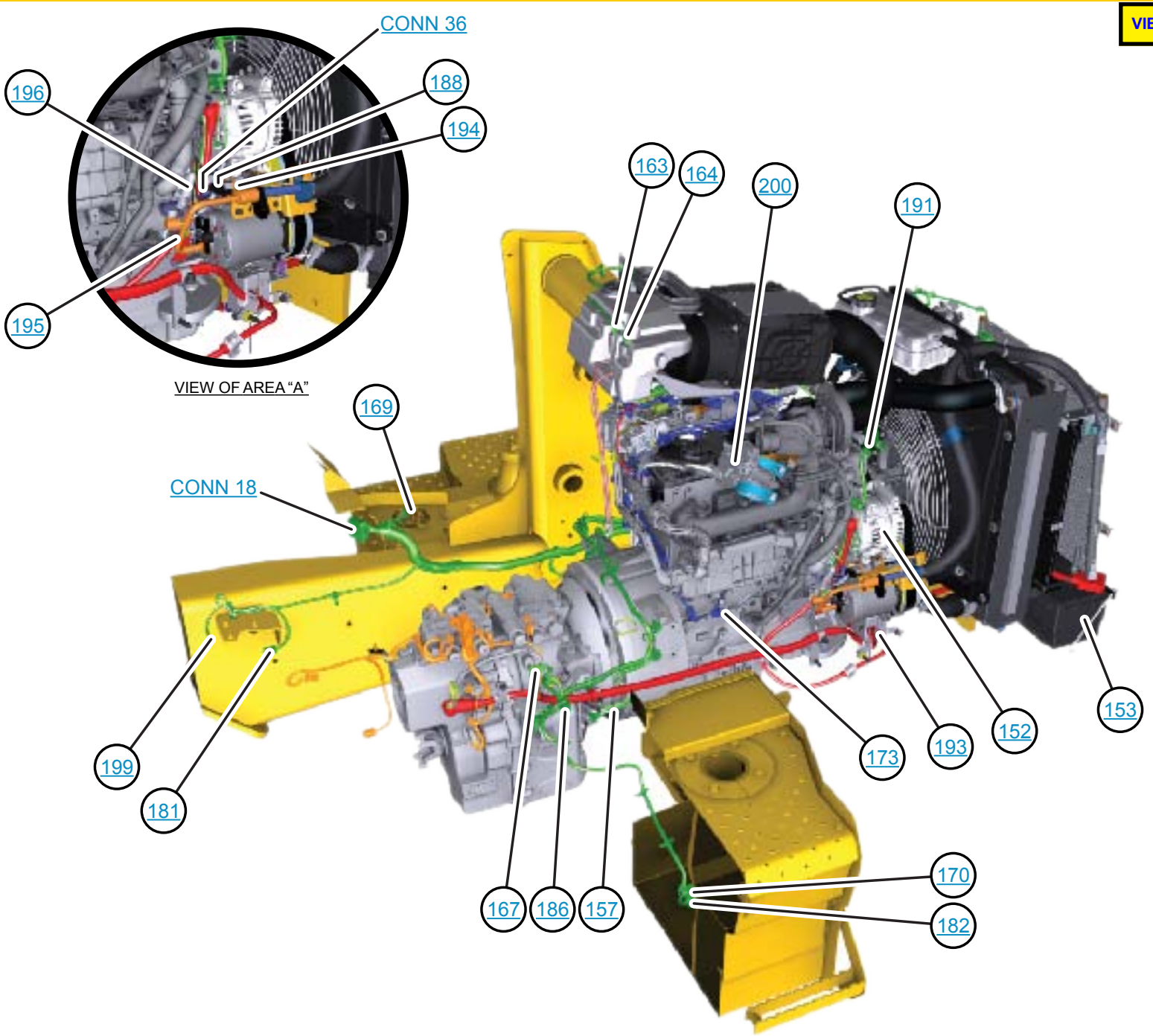
AWS WIRING (LEFT, REAR VIEW)

VIEW ALL CALLOUTS



RIGHT SIDE ENGINE WIRING

VIEW ALL CALLOUTS



LEFT SIDE ENGINE WIRING

VIEW ALL CALLOUTS