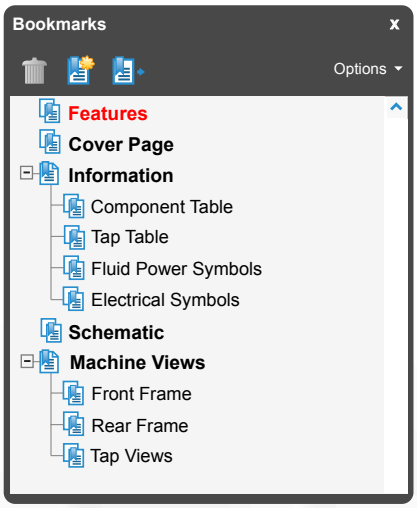
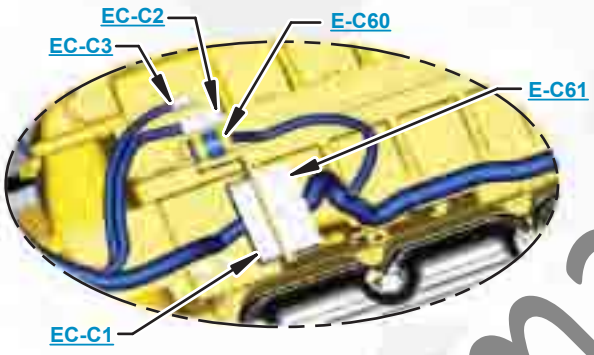
INTERACTIVE SCHEMATIC



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.



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"

CATERPILLAR®

KENR8916-09
July 2014

Schematic

D6T Track-Type Tractor Electrical System

KSB1-UP
ZJB1-UP
JZC1-UP
DTD1-UP
EJJ1-UP
SLJ1-UP
GMK1-UP
RRK1-UP
TSM1-UP
WLM1-UP
PLR1-UP
JRW1-UP
RCW1-UP

Volume 1 of 2: Engine
Volume 2 of 2: Cab

Printed in U.S.A.

COMPONENT LOCATION
Volume 1 of 2 - ENGINE

Component	Schematic Location	Machine Location
Alternator	I-8	1
Arc Suppressor - Refrigerant Compressor	B-7	2
Battery 1	J-11	3
Battery 2	J-10	4
Block GP - Junction (Battery)	J-9	5
Camera GP - 115°, Color	C-13	6
Coil AS - ARD Fuel Pressure 1	I-6	7
Coil AS - ARD Fuel Pressure 2	H-6	7a
Coil AS - Ignition (ARD)	I-6	8
Compressor GP - Refrigerant	B-7	9
Control AS - Monitor ATCH	C-14	10
Control GP - ARD Air Flow	J-5	11
Control GP - Engine	F-7	12
Control GP - Gateway Communication ATCH	F-12	13
Control GP - Handle (Implement)	B-10	14
Control GP - Handle (Winch Control)	J-2	15
Control GP - Joystick (Implement, Rear)	B-10	16
Control GP - Joystick (Winch Control)	J-2	17
Control GP - Winch	I-4	18
Electronics GP - Product Link SR121 ATCH	E-13	19
Ground - ARD Head	I-5	20
Ground - Case	J-11	21
Ground - CEM	I-6	22
Ground - Chassis	I-2	23
Ground - Engine	I-6	24
Ground - Engine Block	I-9	25
Ground - Frame 1	I-9	26
Ground - Frame 2	I-8	27
Ground - Platform	J-12	28
Injector 1	G-3	29
Injector 2	G-3	30
Injector 3	F-3	31
Injector 4	F-3	32
Injector 5	F-3	33
Injector 6	F-3	34
Module AS - Aftertreatment ID	J-6	35
Pump GP - Fuel Injection	E-5	36
Pump GP - Fuel Priming (Primary)	D-1	37
Radio AS - GPS/AccuGrade ATCH	H-13	38
Receiver AS - GPS/AccuGrade ATCH	H-13	39
Relay AS - ARD Fuel Nozzle Heater	H-6	40
Resistor AS - CAN Data Link	C-7	41
Resistor AS - CAN Data Link B ATCH	G-13	42
Resistor AS - CAN Data Link D 1 ATCH	G-13	43
Resistor AS - CAN Data Link D 2	H-7	44
Resistor AS - CAN Data Link D 3	C-3	45
Sensor AS - Position (Implement Control)	B-10	46
Sensor AS - Position (Winch)	J-2	47
Sensor AS - Temperature (Charge Air Cooler Outlet)	D-3	48
Sensor AS - Temperature (Fuel)	E-1	49
Sensor AS - Temperature (NOX Reduction System)	B-3	50
Sensor AS - Temperature (Torque Converter Oil)	C-7	51
Sensor GP - Pressure (Air Filter Restriction)	G-6	52
Sensor GP - Pressure (ARD Combustion Air)	I-6	53
Sensor GP - Pressure (ARD Fuel Pressure) 1	I-6	54
Sensor GP - Pressure (ARD Fuel Pressure) 2	H-6	54a
Sensor GP - Pressure (Atmospheric)	D-5	55
Sensor GP - Pressure (Crankcase Breather)	E-5	56
Sensor GP - Pressure (DFP Delta)	H-6	57
Sensor GP - Pressure (DFP Inlet)	H-6	58
Sensor GP - Pressure (Engine Oil)	D-5	59
Sensor GP - Pressure (Fuel Filter) (After)	E-1	60
Sensor GP - Pressure (Fuel Filter) (Before)	E-1	61
Sensor GP - Pressure (Fuel Rail)	E-5	62
Sensor GP - Pressure (Hydraulic Pump)	H-9	63
Sensor GP - Pressure (Intake Manifold Air)	C-3	64
Sensor GP - Pressure (NOX Reduction System)	C-3	65
Sensor GP - Pressure (NRS Intake)	C-3	66
Sensor GP - Soot	H-7	67
Sensor GP - Speed (Engine Timing)	F-5	68
Sensor GP - Speed (Torque Converter Output)	C-7	69
Sensor GP - Speed (Transmission Output 1)	D-13	70
Sensor GP - Speed (Transmission Output 2)	D-13	71
Sensor GP - Temperature (Air Inlet)	G-7	72
Sensor GP - Temperature (Coolant)	C-3	73
Sensor GP - Temperature (DPF)	J-5	74
Solenoid AS - Demand Fan	H-7	75
Solenoid AS - Steering (Left)	B-7	76
Solenoid AS - Steering (Right)	B-7	77
Spark Plug	I-6	78
Starting Motor GP - Electric	I-9	79
Strap AS - Ground	I-8	80
Stud	J-11	81
Switch AS - Engine Compartment Lights	G-6	82
Switch AS - Pressure (Refrigerant Compressor)	B-6	83
Switch GP - Disconnect	J-11	84
Switch GP - Disconnect (Auxiliary)	J-11	85
Valve GP - Air Control (ARD Combustion)	J-6	86
Valve GP - Clutch (First Gear)	D-13	87
Valve GP - Clutch (Forward)	D-13	88
Valve GP - Clutch (Reverse)	D-13	89
Valve GP - Clutch (Second Gear)	D-13	90
Valve GP - Clutch (Third Gear)	D-13	91
Valve GP - Solenoid (ARD Fuel Flow Diverter Actuator)	D-1	92
Valve GP - Solenoid (Implement Pilot Oil)	A-11	93
Valve GP - Solenoid (NOX Reduction System)	E-5	94
Valve GP - Solenoid (NRS Flow Balance)	C-3	95
Valve GP - Solenoid (Reversing Fan)	G-5	96
Wire AS - Heater	I-7	97
Wire AS - Ignition	I-6	98

COMPONENT LOCATION
Volume 2 of 2 - CAB

Component	Schematic Location	Machine Location
Actuator - Water Valve	I-5	100
Air Compressor GP - Seat	J-13	101
Alarm AS - Backup	C-17	102
Alarm GP - Action	L-6	103
Block AS - Junction	L-18	104
Buzzer ATCH	L-2	105
Control GP - Blade	D-10	106
Control GP - Handle (Ripper)	E-10	107
Control GP - Implement	F-11	108
Control GP - Joystick (Steering and Transmission)	G-9	109
Control GP - Powertrain	K-11	110
Control GP - Product Link	F-18	111
Converter - Power (24V To 12V) 1	F-13	112
Converter - Power (24V To 12V) 2	L-13	113
Display GP - Monitor (CD610) ATCH	L-1	114
Display GP - Monitor (CD700) ATCH	I-1	115
Fan AS - Condenser 1	D-18	116
Fan AS - Condenser 2	D-18	117
Fan GP - Defroster - Not Shown	F-7	118
Ground - Control Harness 1	K-13	119
Ground - Control Harness 2	K-13	120
Ground - Defroster Fan - Not Shown	F-7	121
Ground - Headliner	F-6	122
Ground - Module 1	F-14	123
Ground - Module 2	F-14	124
Ground - Module 3	J-10	125
Ground - Module 4	J-10	126
Ground - Platform	A-14	127
Horn AS - High Tone	F-3	128
Horn AS - Low Tone	E-3	129
Kit - Air Valve (Suspension Seat)	J-13	130
Lightbar - Left ATCH	H-1	131
Lightbar - Middle ATCH	H-1	132
Lightbar - Right ATCH	H-1	133
Mast LH ATCH	H-3	134
Mast RH ATCH	H-3	135
Meter GP - Service	G-9	136
Monitor GP - Operator	L-6	137
Motor AS - Blower	I-4	138
Motor GP - Window Wiper (Door, LH)	D-4	139
Motor GP - Window Wiper (Door, RH)	D-4	140
Motor GP - Window Wiper (Front)	D-4	141
Motor GP - Window Wiper (Rear)	F-6	142
Panel AS - A/C, Heater Control	E-6	143
Panel GP - Circuit Breaker	G-18	144
PM400	B-18	145
Precleaner ATCH	L-11	146
Pump Gp- Fuel Transfer	I-10	232
Pump - Washer (Front)	F-4	147
Pump - Washer (Left)	F-4	148
Pump - Washer (Rear)	F-4	149
Pump - Washer (Right)	F-4	150
Receiver - GPS (LH)	E-1	151
Receiver - GPS (RH)	D-1	152
Receiver - Laser (LH) ATCH	H-3	153
Receiver - Laser (RH) ATCH	G-3	154
Relay AS - Condenser Fan Motor 1	D-18	155
Relay AS - Condenser Fan Motor 2	C-18	156
Resistor AS - Blower	I-4	157
Resistor AS - CAN Data Link	D-14	158
Resistor AS - CAN Data Link B	C-2	159
Resistor AS - CAN Data Link C 1	B-11	160
Resistor AS - CAN Data Link C 2	G-9	161
Resistor AS - CAN Data Link D	C-2	162
Sensor - Inclination	D-1	163
Sensor AS - Liquid Level (Fuel)	C-16	164
Sensor AS - Position (Joystick) (Bulldozer Control Handle)	C-10	165
Sensor AS - Temperature (Hydraulic Oil)	A-10	166
Sensor AS - Temperature (Transmission Sump)	A-10	167
Sensor GP - Position (Decelerator)	L-7	168
Sensor GP - Position (Service Brake)	L-7	169
Sensor GP - Position (Steering)	F-9	170
Sensor GP - Pressure (Operator Present)	J-13	171
Sensor GP - Speed (Steering Motor)	E-16	172
Socket - Auxiliary Power (12 Volt) 1	E-14	173
Socket - Auxiliary Power (12 Volt) 2	D-14	174
Strap E	L-18	175
Strap F	L-18	176
Strap G	L-18	177
Switch AS - Automatic Kickdown	L-6	178
Switch AS - Bi-Directional Shift	L-5	179
Switch AS - DPF Regeneration	K-5	180
Switch AS - Front Work Lights	J-5	181
Switch AS - Hydraulic Lockout	C-10	182
Switch AS - Limit (Service Brake Pedal)	L-7	183
Switch AS - Liquid Level, Fuel Tank Shutoff	I-10	233
Switch AS - Multi-Velocity Program	J-5	184
Switch AS - Parking Brake On, Off	F-9	185
Switch AS - Pressure (Power Train Oil)	A-10	186
Switch AS - Rear Work Lights	K-5	187
Switch AS - Reversing Fan	L-5	188
Switch AS - Throttle	C-10	189
Switch AS - Wiper (Front)	E-7	190
Switch AS - Wiper (Left)	E-7	191
Switch AS - Wiper (Rear)	F-7	192
Switch AS - Wiper (Right)	F-7	193
Switch GP - A/C	D-6	194
Switch GP - Access Lights	H-9	195
Switch GP - Ground Level Shutdown	H-9	196
Switch GP - Horn	B-10	197
Switch GP - Main Relay	L-18	198
Switch GP - Pressure (Oil Filter Bypass)	H-9	199
Switch GP - Start	J-5	200
Thermostat (HVAC)	I-4	201
Valve GP - Solenoid (Brake)	F-15	202
Valve GP - Solenoid (Hydraulic Lockout)	A-10	203
Valve GP - Solenoid (Parking Brake)	F-15	204
Valve GP - Solenoid (Blade Lower) (L/T)	B-6	205
Valve GP - Solenoid (Blade Raise) (L/T)	B-6	206
Valve GP - Solenoid (Blade Tilt Left) (L/T)	A-6	207
Valve GP - Solenoid (Blade Tilt Right) (L/T)	B-6	208
Valve GP - Solenoid (Blade Lower) (L/T ATCH)	B-4	209
Valve GP - Solenoid (Blade Raise) (L/T ATCH)	B-4	210
Valve GP - Solenoid (Blade Tilt Left) (L/T ATCH)	A-4	211
Valve GP - Solenoid (Blade Tilt Right) (L/T ATCH)	A-4	212
Valve GP - Solenoid (Ripper Lower) (L/T ATCH)	B-4	213
Valve GP - Solenoid (Ripper Raise) (L/T ATCH)	B-4	214
Valve GP - Solenoid (Blade Lower) (L/T/A)	C-6	215
Valve GP - Solenoid (Blade Raise) (L/T/A)	C-6	216
Valve GP - Solenoid (Blade Tilt Left) (L/T/A)	C-6	217
Valve GP - Solenoid (Blade Tilt Right) (L/T/A)	C-6	218
Valve GP - Solenoid (Left Angle) (L/T/A)	C-6	219
Valve GP - Solenoid (Right Angle) (L/T/A)	C-6	220
Valve GP - Solenoid (Blade Lower) (L/T/A ATCH)	C-4	221
Valve GP - Solenoid (Blade Raise) (L/T/A ATCH)	C-4	222
Valve GP - Solenoid (Blade Tilt Left) (L/T/A ATCH)	C-4	223
Valve GP - Solenoid (Blade Tilt Right) (L/T/A ATCH)	C-4	224
Valve GP - Solenoid (Left Angle) (L/T/A ATCH)	C-4	225
Valve GP - Solenoid (Right Angle) (L/T/A ATCH)	B-4	226
Valve GP - Solenoid (Ripper Lower) (L/T/A ATCH)	C-4	227
Valve GP - Solenoid (Ripper Raise) (L/T/A ATCH)	C-4	228
Valve GP - Solenoid (Secondary Brake)	F-15	229
Valve GP - Solenoid (Steering Load Sense Pressure)	E-15	230
Valve GP - Start Aid	L-8	231

CONNECTOR LOCATION
Volume 1 of 2 - ENGINE

Connector Number	Schematic Location
CONN 1	H-14
CONN 2	C-13
CONN 3	C-13
CONN 4	E-13
CONN 5	D-12
CONN 6	C-12
CONN 7	A-12, B-12
CONN 8	A-12, B-12
CONN 9	C-11
CONN 10	D-10
CONN 11	D-10
CONN 12	A-10
CONN 13 - NOT SHOWN	A-10
CONN 14	A-10, J-2
CONN 15	E-9
CONN 16	I-9
CONN 17	G-7
CONN 18	G-7
CONN 19	H-7
CONN 20	F-5
CONN 21	F-5
CONN 22	J-4
CONN 23	J-4
CONN 24	D-3
CONN 25	D-3
CONN 26	J-2
CONN 27	I-2
CONN 28	I-1

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 2 of 2 - CAB

Connector Number	Schematic Location
CONN 1	B-14
CONN 2	I-9
CONN 4	E-17
CONN 6	C-16
CONN 7	D-15
CONN 8	C-15
CONN 9	C-15
CONN 10	G-14
CONN 11	F-14
CONN 13	E-9
CONN 14	E-13
CONN 15	K-4
CONN 26	D-14
CONN 27	E-14/ E-13
CONN 28	D-9
CONN 29	B-17/ B-14
CONN 30	B-17/ B-14
CONN 31	C-17
CONN 32	I-16
CONN 33	C-15
CONN 34	E-15
CONN 35	I-15
CONN 36	E-14
CONN 37	C-14
CONN 38	C-14

Connector Number	Schematic Location
CONN 39	A-14
CONN 40	C-13
CONN 41	G-13
CONN 42	G-13
CONN 43	I-13
CONN 44	J-13
CONN 45	K-13
CONN 46	K-12
CONN 47	A-12
CONN 48	A-11
CONN 49	L-10
CONN 50	K-10
CONN 51	K-10
CONN 52	K-10, I-9
CONN 53	J-10
CONN 54	I-10
CONN 55	L-8
CONN 56	J-8
CONN 57	I-8
CONN 58	I-8
CONN 59	A-8, B-6, C-6, C-8
CONN 60	A-8
CONN 61	F-6
CONN 62	E-6
CONN 63	E-5

CONNECTOR LOCATION
Volume 2 of 2 - CAB
Page 3 of 3

Connector Number	Schematic Location
CONN 64	E-5
CONN 65	G-5
CONN 66	G-5
CONN 67	H-5, K-3, H-2
CONN 68	H-5, K-3, I-2
CONN 69	I-5
CONN 70	H-4, E-2
CONN 71	H-4, D-2
CONN 72	C-3
CONN 73	F-3, F2
CONN 74	K-2
CONN 75	H-2
CONN 76	E-2
CONN 77	D-2
CONN 78	I-9
CONN 79	I-9

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
Volume 1 of 2 - ENGINE

Component Identifiers (CID[1]) Module Identifier (MID[2])	
Engine Control (MID No. 036)	
CID	**Component**
0001	Cylinder #1 Injector
0002	Cylinder #2 Injector
0003	Cylinder #3 Injector
0004	Cylinder #4 Injector
0005	Cylinder #5 Injector
0006	Cylinder #6 Injector
0041	8 Volt DC Supply
0042	Injector Actuation Valve
0091	Incorrect Throttle Switch
0094	Fuel Pressure
0100	Engine Oil Pressure Sensor
0110	Engine Coolant Temperature
0164	Injector Actuation Pressure
0168	System Voltage
0172	Intake Manifold Air Temperature
0190	Engine Speed
0247	J1939 Data Link
0253	Personality Module
0261	Engine Timing
0262	5 Volt Sensor DC Power Supply
0264	Decel Throttle Position
0266	Incorrect Crank
0268	Check Programmable Parameters
0274	Atmospheric Pressure
0291	Engine Cooling Fan Solenoid
0296	Unable to communicate with Transmission ECM
0342	Secondary Engine Speed
0544	Engine Cooling Fan Speed
1589	Turbo Inlet Air Pressure Sensor
1599	Engine Fan Pull Solenoid
1600	Engine Fan Push Solenoid
1639	Machine Security System Module
1785	Intake Manifold Pressure Signal
Product Link SR121 (MID No. 122)	
CID	**Component**
0168	Electrical System
0254	Electronic Control Module
0269	Sensor Power Supply
1250	Remote Communication Module
1251	Alternator R-Terminal

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 Product Link SR121	
Event Code	**Condition**
E0630	Switched Sensor #1 Trip Condition Is Activated
E0631	Switched Sensor #2 Trip Condition Is Activated
E0632	Switched Sensor #3 Trip Condition Is Activated
E0633	Switched Sensor #4 Trip Condition Is Activated
E0861	Synchronized Clock Notification Of Manual Synch Required
E2131	Inclusion Geo-fencing Boundary Violated
E2132	Exclusion Geo-fencing Boundary Violated
E2133	Time-fencing Boundary Violated

CID / MID / FMI
Volume 2 of 2 - CAB

CAT®

Component Identifiers (CID[1])
Module Identifier (MID[2])

Caterpillar Monitoring System (MID No. 030)

CID	Component
0096	Level Sensor (Fuel)
0100	Pressure Sensor (Engine Oil)
0110	Temperature Sensor (Engine Coolant)
0177	Temperature Sensor (Transmission Oil)
0248	Data Link
0263	Sensor Power Supply
0271	Alarm (Action)
0280	Temperature Sender (Transmission Oil)
0324	Lamp (Action)
0600	Temperature Sensor (Hydraulic Oil)
0819	Display Data Link
0821	Display Power Supply
0826	orque Converter Oil Temperature
1045	Temperature Sensor (Power Train Oil)
1425	Temperature Sensor (Implement Tank Oil)

Implement Control (MID No. 082)

CID	Component
0096	Fuel Level Sensor
0168	Electrical System Voltage
0247	SAE J1939 Data Link
0248	Cat Data Link
0262	5 V Power Supply
0296	Transmission Control
0490	Implement Lockout Switch
0497	Tilt Right Solenoid
0498	Tilt Left Solenoid
0590	Engine Control Module
0600	Hydraulic Oil Temperature Sensor
0874	Mode Select Switch
0875	Manual Select Switch
0880	Ripper Raise/Lower Lever Position Sensor
0882	Implement Lockout Solenoid
0888	Ripper Shank Lower Solenoid
0889	Ripper Shank Raise Solenoid
1078	Blade Control Handle Lift Position Sensor
1079	Blade Control Handle Tilt Position Sensor
1197	Blade Lower Solenoid
1198	Blade Raise Solenoid
1298	All Implement Solenoids
1326	ECM Location Code
1450	Main Hydraulic Pump Oil Pressure Sensor
1482	10 V Power Supply
1870	Blade Control Handle Thumb Rocker Position Sensor
1933	Blade Angle Left Solenoid
1934	Blade Angle Right Solenoid
2114	Blade Control Handle Trigger Switch
2204	Auxiliary Lever #1 Position Sensor
2205	Auxiliary Lever #2 Position Sensor
2206	Auxiliary Lever #3 Position Sensor
2211	Auxiliary Valve #1 Port B Solenoid
2212	Auxiliary Valve #1 Port A Solenoid
2213	Auxiliary Valve #2 Port B Solenoid
2214	Auxiliary Valve #2 Port A Solenoid
2234	Hydraulic Pump Boost Pressure Solenoid
3441	Auxiliary Valve #2 Diverter Solenoid

AccuGrade CD700 (MID No. 114)

CID	Component
0168	Electrical System Voltage
0248	Cat Data Link
0262	5 Volt Sensor Power Supply
0497	Tilt Right Solenoid
0498	Tilt Left Solenoid
0874	Mode Select Switch
0875	Manual Select Switch
1197	Blade Lower Solenoid
1198	Blade Raise Solenoid
2114	Blade Control Handle Trigger Switch
2233	Blade Lower Pilot Pressure
2234	Hydraulic Pump Boost Pressure Solenoid
2235	Counterbalance Valve Bypass Solenoid
2324	Counterbalance Valve.

Powertrain Control (MID No. 113)

CID	Component
0070	Parking Brake Switch
0168	Electrical System
0177	Transmission Oil Temperature Sensor (Sump)
0247	SAE J1939 Data Link
0262	5 Volt Sensor Power Supply
0298	Service Brake Pedal Switch
0299	Transmission Direction Lever Position Sensor
0368	Autoshift Switch
0444	Starter Motor Relay
0468	Service Brake Pedal Position Sensor
0490	Hydraulic Lockout Switch
0497	Tilt Right Solenoid
0498	Tilt Left Solenoid
0585	Transmission Output Speed 1 Sensor
0588	Monitoring System Display
0590	Engine ECM
0618	Left Secondary Brake Switch
0621	Downshift Switch
0622	Upshift Switch
0623	Directional Switch
0650	Harness Code
0668	Shift Lever
0672	Torque Converter Output Speed Sensor
0673	Transmission Output Speed 2 Sensor
0681	Parking Brake Solenoid
0689	Left Brake Solenoid
0722	Secondary Brake Solenoid Valve
0874	Mode Select Switch (EH Implement Handle)
0875	Manual Select Switch (EH Implement Handle)
0882	Hydraulic Lockout Solenoid
1078	Blade Control Handle Raise/Lower Position Sensor
1079	Blade Control Handle Tilt Position Sensor
1197	Blade Lower Solenoid
1198	Blade Raise Solenoid
1298	Implement Solenoids
1326	ECM Location Code
1401	Transmission Solenoid Valve 1
1402	Transmission Solenoid Valve 2
1403	Transmission Solenoid Valve 3
1404	Transmission Solenoid Valve 4
1405	Transmission Solenoid Valve 5
1450	Main Pump Hydraulic Pressure Sensor
1482	10 Volt Sensor Power Supply
1488	Implement Lever Float Detent Electromagnet
1582	Transmission Lube Oil Temperature Sensor
1870	Blade Control Handle Thumb Rocker (2)
1933	Blade Angle Left Solenoid (2)
1934	Blade Angle Right Solenoid (2)
1960	nition Key Reader
2114	Blade Control Handle Trigger Switch
2122	Reverse Switch
2359	Blade Float Solenoid
2674	Multi-Velocity Program Enable Switch
1960	nition Key Reader
2114	Blade Control Handle Trigger Switch
2122	Reverse Switch
2359	Blade Float Solenoid
2674	Multi-Velocity Program Enable Switch

Product Link SR522Control (MID No. 122)

CID	Component
0168	Electrical System
0254	Electronic Control Module
0861	Clock Adjust Required
1250	Remote Communication Module
1251	Alternator R-Terminal

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.

Powertrain Control

Event Code	Condition
E0329	Power Train Filter Bypass Switch Closed
E0155	High Torque Converter Oil Temperature
E0179	Alternator Not Charging
E0192	Steering System Malfunction
E0256	Steering in the Wrong Direction
E0257	Steering Output Detected With No Command
E0258	No Steering Detected With Command Given
E0281	Steering Hydraulic Oil Filter Restricted
E0594	High Transmission Lube Oil Temperature
E0875	Low System Voltage
E0876	High System Voltage

Implement Control

Event Code	Condition
E0030	Transmission Oil Temperature
E0116	PTO Filter Bypassed
E0155	High Torque Converter Oil Temperature
E0281	Steering Hydraulic Oil Filter Restricted
E0467	Blade Lift Not In Center
E0468	Blade Tilt Not In Center
E0522	Blade Angle Not In Center
E0594	High Transmission Lube Oil Temperature
E0861	Clock Manual Alignment Required
E0878	Hydraulic Oil Temperature
E0887	Blade Function Disabled Due To System Fault
E2115	Implements Locked Diagnostic

Event Codes Product Link PL522

Event Code	Condition
E0861	Synchronized Clock Notification Of Manual Synch Required
E0630	Switched Sensor #1 Trip Condition Is Activated
E0631	Switched Sensor #2 Trip Condition Is Activated
E0632	Switched Sensor #3 Trip Condition Is Activated
E0633	Switched Sensor #4 Trip Condition Is Activated

SPECIFICATIONS AND RELATED MANUALS
Volume 1 of 2 - ENGINE

Related Electrical Service Manuals		
Title		**Form Number**
Alternator:	226-7683 (STD)	SENR4130
	272-1889 (ATCH)	SENR4130
Starting Motor:	348-3303 (STD)	KENR9689
	349-6530 (ATCH)	SENR3860
Engine Control:		RENR9345
Product Link:		RENR7911

Off-Machine Switch Specification					
Part No.	**Function**		**Actuate**	**Deactuate**	**Contact Position**
114-5333	Refrigerant Compressor Pressure	Low	275 kpa[1]1 (40 psi)	170 ± 55 kPa (25 ± 8 psi)	Normally Open[2]
		High	2800 ± 140 kPa (406 ± 20.3 psi)	1750 ± 200 kPa (254 ± 29 psi)	Normally Closed

[1] With increasing pressure the closed condition can be maintained up to 2800 kPa (405 psi), with decreasing pressure the closed condition can be maintained down to 170 kPa (25 psi).

[2] Contact position at the contacts of the harness connector.

Resistor and Solenoid Specifications			
Part No.	**Component Description**		**Resistance (Ohms)[1]**
134-2540	Resistor	CAN Data Link	120 ± 12
152-8340	Solenoid	Reversing Fan	32.6 ± 1.6
152-8345	Solenoid	Implement Pilot Oil	32.6 ± 1.6
300-3556	Solenoid	ARD Fuel Flow Diverter Actuator	31.1 ± 2.4
344-6043	Solenoid	NRS Flow Balance	235

[1] At room temperature unless otherwise noted.

SPECIFICATIONS AND RELATED MANUALS
Volume 2 of 2 - CAB

Related Electrical Service Manuals	
Title	**Form Number**
AccuGrade CD700:	KENR5966
Caterpillar Monitoring System:	RENR2014
Implement Control:	UENR1248
Product Link PL522:	RENR8143
Powertrain Control:	RENR9867

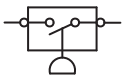
Resistor and Solenoid Specifications			
Part No.	**Component Description**		**Resistance (Ohms)[1]**
134-2540	Resistor	CAN Data Link	120 ± 12
257-5029	Resistor	Blower	Low to Med 1 = 1.3 Med 1 to Med 2 = 0.8 Med 2 to High = 0.4
172-2392	Solenoid	Parking Brake Secondary Brake	41.9 ± 2.1
174-4909	Solenoid	Brake	8.7 ± 0.4
201-0950	Solenoid	Hydraulic Lockout	41.9 ± 2.1
313-7668	Solenoid	Blade Lower Blade Raise Blade Tilt Left Angle Right Angle Ripper Lower Ripper Raise	5 ± 0.3
329-5064	Solenoid	Steering Load Sense Pressure	41.9 ± 2.1

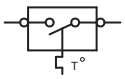
[1] At room temperature unless otherwise noted.

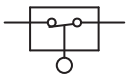
Off-Machine Switch Specification				
Part No.	**Function**	**Actuate**	**Deactuate**	**Contact Position**
253-2673	Oil Filter Bypass Pressure	148 ± 28 kPa 21.47 ± 4.06 psi	69 kPa MIN 10 psi MIN	Normally Closed

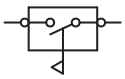
HARNESS and WIRE
Electrical Schematic Symbols

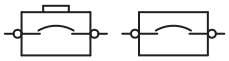
Symbols


Pressure Symbol


Temperature Symbol

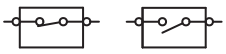

Level Symbol

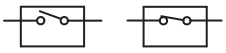

Flow Symbol

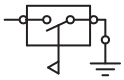

Circuit Breaker Symbol

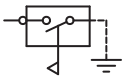
Symbols and Definitions

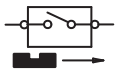

Fuse: A component in an electrical circuit that will open the circuit if too much current flows through it.

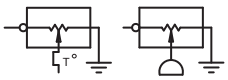

Switch (Normally Open): A switch that will close at a specified point (temp, press, etc.). The circle indicates that the component has screw terminals and a wire can be disconnected from it.

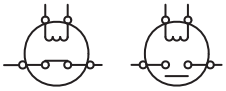

Switch (Normally Closed): A switch that will open at a specified point (temp, press, etc.). No circle indicates that the wire cannot be disconnected from the component.

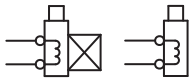

Ground (Wired): This indicates that the component is connected to a grounded wire. The grounded wire is fastened to the machine.

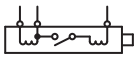

Ground (Case): This indicates that the component does not have a wire connected to ground. It is grounded by being fastened to the machine.


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.

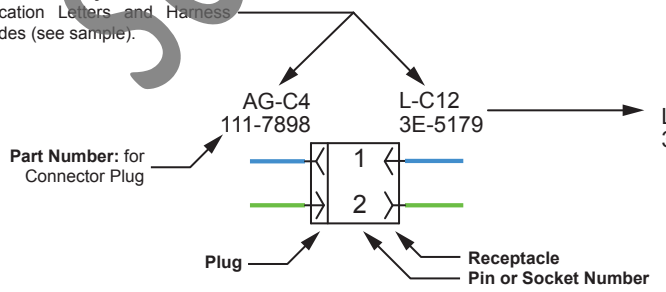

Relay (Magnetic Switch): A relay is an electrical component that is activated by electricity. It has a coil that makes an electromagnet when current flows through it. The electromagnet can open or close the switch part of the relay.

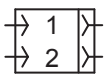

Solenoid: A solenoid is an electrical component that is activated by electricity. It has a coil that makes an electromagnet when current flows through it. The electromagnet can open or close a valve or move a piece of metal that can do work.


Magnetic Latch Solenoid: A magnetic latch solenoid is 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.

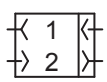
Harness and Wire Symbols

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

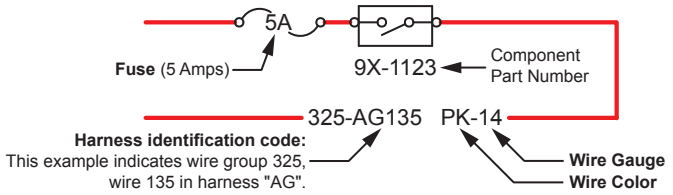


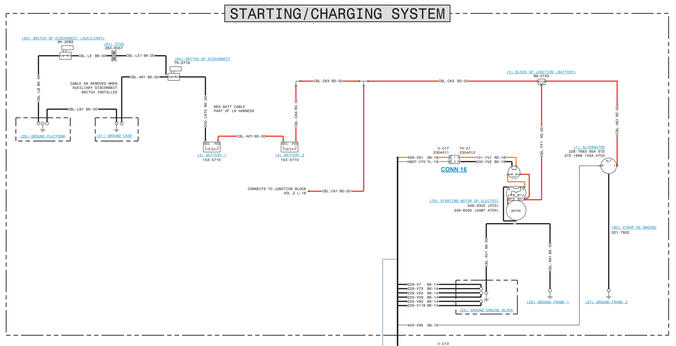


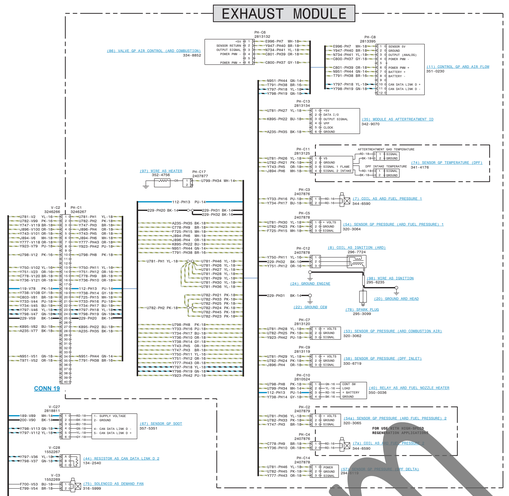
Deutsch connector: Typical representation of a Deutsch connector. The plug contains all sockets and the receptacle contains all pins.



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







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

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

HARNESS	PART NUMBER	CHANGE	LOC	NOTE	DESCRIPTION
AK	338-9219	02	H-14	ATCH	ACCUGRADE
EN	361-2496	00	D-3		BASIC ENGINE
GC	353-5940	00	F-5		INJECTORS
FH	343-9086	02	D-3		FUEL FILTER
JC	367-5064	00	G-7		REVERSING FAN SOLENOID
JJ	349-4566	02	G-7		HOOD
LW	352-0637	00	E-13	ATCH	PRODUCT LINK SR121
MP	239-8155	02	D-10		TRANSMISSION JUMPER
P	353-9828	01	D-12		TRANSMISSION
PH	363-0651	00	I-7		EXHAUST MODULE
TG	339-2058	01	B-12	ATCH	RH BASIC FLOODS
TH	338-1656	02	A-12	ATCH	RH ROPS FLOODS
TK	337-8234	03	B-12	ATCH	LH BASIC FLOODS
TL	338-1656	02	A-12	ATCH	LH ROPS FLOODS
TR	357-6013	00	A-10	ATCH	THIRD FUNCTION AUXILIARY HYDRAULIC
V	333-1238	04	E-9		ENGINE
W	365-8755	00	J-2	ATCH	INTEGRATED PACCAR WINCH
WA	369-5910	00	J-4	ATCH	WINCH CONTROL
XJ	357-5439	00	C-13	ATCH	WAVS
YV	313-3516	01	I-9		STARTING MOTOR RELAY COIL
CABLE AS					
AP	8V-0622	01	J-10		BATTERY 1 POS TO BATTERY 2 NEG
AR	333-2607	03	J-11		CASE GROUND TO DISCONNECT SWITCH
AV	086-9479	01	I-9		STARTING MOTOR GROUND TO ENGINE BLOCK GROUND
CK	333-2605	04	J-10		BATTERY 2 POS TO BATTERY JUNCTION BLOCK
FF	350-4451	03	I-9		STANDARD STARTING MOTOR BATTERY + TO BATTERY JUNCTION BLOCK
FF	354-4075	00	I-9		ATTACHMENT STARTING MOTOR BATTERY + TO BATTERY JUNCTION BLOCK
HG	333-4799	01	I-8		ALTERNATOR TO BATTERY JUNCTION BLOCK
LE	336-6894	02	J-11	ATCH	AUXILIARY DISCONNECT SWITCH TO STUD
LE1	371-1271	00	J-11	ATCH	DISCONNECT SWITCH TO STUD
LM	351-0712	01	J-12	ATCH	AUXILIARY DISCONNECT SWITCH TO PLATFORM GROUND
LM1	300-9498	00	J-11	ATCH	PLATFORM GROUND TO CASE GROUND
NN	7P-6682	01	I-9		STARTING MOTOR GROUND TO FRAME GROUND 1

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
■	POWERTRAIN CONTROL CIRCUIT
■	ENGINE CONTROL CIRCUIT
■	HEATER AND AIR CONDITIONER CIRCUIT
▨	CAT DATA LINK
▨	CAN DATA LINK
▨	PRODUCT LINK
▨	IMPLEMENT CONTROL CIRCUIT
▨	CAN DATA LINK B
▨	CAN DATA LINK D
▨	AFTERTREATMENT SYSTEM
OTHER COLOR DESCRIPTIONS	
■	HIGHWAYS

THIS SCHEMATIC IS FOR THE D6T TRACK-TYPE TRACTOR ELECTRICAL SYSTEM
VOLUME 1 of 2: ENGINE
MEDIA NUMBER: KENR8916-09
SCHEMATIC PART NUMBER: 331-4065, 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.

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

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
- VOLTAGE CONVERTER OUTPUT CIRCUIT
- STARTING CIRCUIT
- START AID CIRCUIT
- POWERTRAIN CONTROL CIRCUIT
- ENGINE CONTROL CIRCUIT
- HEATER AND AIR CONDITIONER CIRCUIT
- TURN SIGNAL / WIPER WASHER CIRCUIT
- IMPLEMENT CONTROL CIRCUIT
- CAT DATA LINK
- CAN DATA LINK
- PRODUCT LINK
- CAN DATA LINK B
- CAN DATA LINK C
- CAN DATA LINK D
- AFTERTREATMENT SYSTEM

OTHER COLOR DESCRIPTIONS

- HIGHWAYS

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

HARNESS	PART NUMBER	CHANGE	LOC	NOTE	DESCRIPTION
A	348-6682	01	K-16		CIRCUIT BREAKER PANEL
AF	350-9275	00	C-5	ATCH	IMPLEMENT VALVE - LIFT/TILT/ANGLE
AG	339-0934	01	K-2	ATCH	ACCUGRADE LASER CD610 DISPLAY
AN	350-9274	00	C-8		IMPLEMENT VALVE - LIFT/TILT/ANGLE
AT	334-9546	03	D-2	ATCH	GPS RECEIVER RH BLADE MOUNT
AW	350-9273	00	B-6	ATCH	IMPLEMENT VALVE - LIFT/TILT
AY	334-0991	03	E-2	ATCH	GPS RECEIVER LH BLADE MOUNT
CG	350-9272	00	B-8		IMPLEMENT VALVE - LIFT/TILT
CR	332-7323	02	A-12		CHASSIS WITHOUT AUXILIARY DISCONNECT
CT	339-0933	01	I-2	ATCH	ACCUGRADE GPS DISPLAY
EE	260-1914	03	I-5		BLOWER
EW	365-3084	00	K-8	ATCH	DASH WITH ACCUGRADE
FC	245-5891	00	C-17	ATCH	A/C CONDENSER MOTORS
GA	337-6805	02	F-3	ATCH	LH CYLINDER FLOOD LAMP
H	334-2674	02	H-5		WIPER MOTORS
HA	169-9636	03	F-6		WIPER SWITCHES
HH	186-4857	03	E-5		WASHER PUMPS
HL	201-8902	01	F-7	ATCH	DEFROSTER FAN POWER
HW	201-8903	01	F-7	ATCH	DEFROSTER FAN GROUND
LA	332-7325	01	A-11		RH FENDER
LJ	334-3760	03	F-14		BRAKE AND SECONDARY STEERING VALVES
LP	331-2622	04	K-15		LH PLATFORM
LR	333-9892	02	K-15		LH FENDER
LV	365-5935	00	E-15		STEERING MOTOR SPEED SENSOR
MJ			B-17	NOTE D	PM400
PJ	365-3181	01	L-8		BRAKE PEDAL
RG	334-3758	02	A-8		RADIATOR GUARD
RJ	337-6805	02	C-3	ATCH	RH CYLINDER FLOOD LAMP
RP	331-2623	05	C-13		RH PLATFORM
TE	338-1655	03	C-3	ATCH	RH CYLINDER LAMPS - PREMIUM
TE	339-2056	02	C-3	ATCH	RH CYLINDER LAMPS - SWEEPS
TF	337-9000	01	C-17	ATCH	FUEL TANK TO A/C CONDENSER JUMPER
TP	338-1655	03	F-3	ATCH	LH CYLINDER LAMPS - PREMIUM
TP	339-2056	02	F-3	ATCH	LH CYLINDER LAMPS - SWEEPS
TW	334-3759	02	C-14		FUEL TANK
X	331-2620	05	I-13		POWERTRAIN CONTROL
XC	253-8323	02	L-10	ATCH	BEACON AND PRECLEANER JUMPER

HARNESS	PART NUMBER	CHANGE	LOC	NOTE	DESCRIPTION
XE	367-3243	00	I-9	ATCH	ACCESSORY POWER
XG	253-8324	01	K-10	ATCH	BEACON JUMPER
XH	248-6965	03	K-9	ATCH	BEACON ONLY ROOF JUMPER
XM	192-7805	00	J-13		SEAT/COMPRESSOR
XN	362-0155	00	K-12		NACD CODE PLUG
XP	362-3291	00	K-12	ATCH	EU CODE PLUG
YP	362-8871	00	I-13		OPERATOR PRESENT SENSOR
YT	354-0703	00	G-18		SATELLITE AND GPS ANTENNA
CABLE AS					
MC	367-5105	00	J-10		MODULE 2 TO MODULE 3 GROUND

NOTE A: THERE ARE TWO VERSIONS OF DASH HARNESS FOR THIS MODEL: HARNESS E AND HARNESS EW. HARNESS E IS THE STANDARD DASH HARNESS. HARNESS EW HAS THE STANDARD WIRING IN ADDITION TO CIRCUITRY NEEDED TO SUPPORT EITHER OF THE TWO ACCUGRADE DISPLAY HARNESSES: HARNESS AG OR HARNESS CT. THIS ADDITIONAL CIRCUITRY IS ROUTED THROUGH CONNECTORS EW-C14 AND EW-C15.

NOTE C: CONNECTORS RP-C25 AND RP-C26 MUST BE CONNECTED TO EACH OTHER WHEN THERE IS NO PM400 LASER ACCUGRADE POWER REGULATOR ATTACHED. IF A PM400 ATTACHMENT IS USED, CONNECTORS RP-C25 AND RP-C26 MUST EACH BE CONNECTED TO THE APPROPRIATE CONNECTOR ON THE PM400 JUMPER.

NOTE D: THIS IS A SUPPLIER PROVIDED ATTATCHMENT JUMPER. IT HAS NO CATERPLLAR INC. PART NUMBER.

NOTE F: 12V RADIO (DEALER INSTALLED)

NOTE H: CONNECTOR ASSEMBLED TO THE HARNESS DURING CAB ASSEMBLY AS PART OF WASHER GP - WINDSHIELD

THIS SCHEMATIC IS FOR THE D6T TRACK-TYPE TRACTOR ELECTRICAL SYSTEM

VOLUME 2 of 2: CAB

MEDIA NUMBER: KENR8916-09

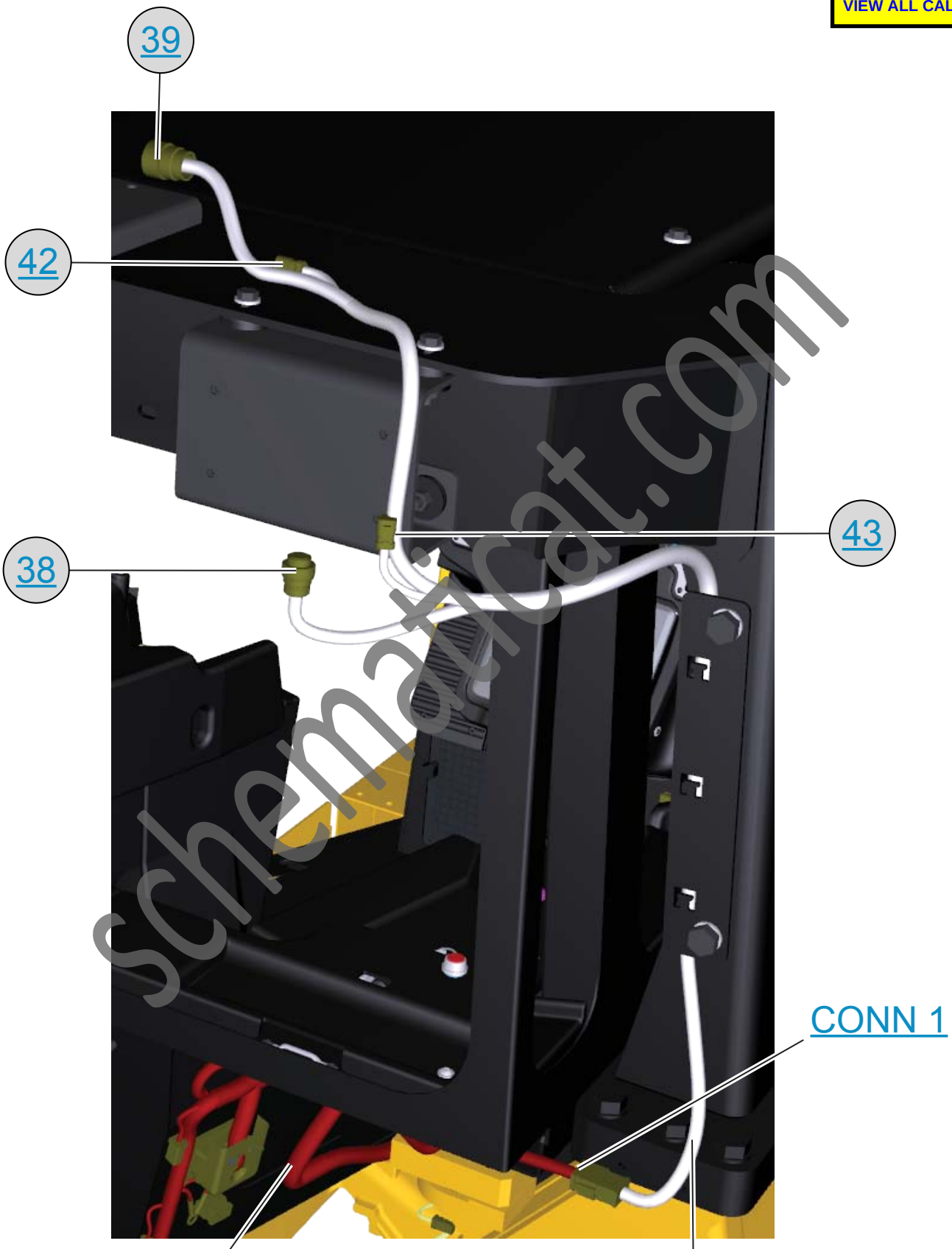
SCHEMATIC PART NUMBER: 331-4065, CHANGE: 00, VERSION: -

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.

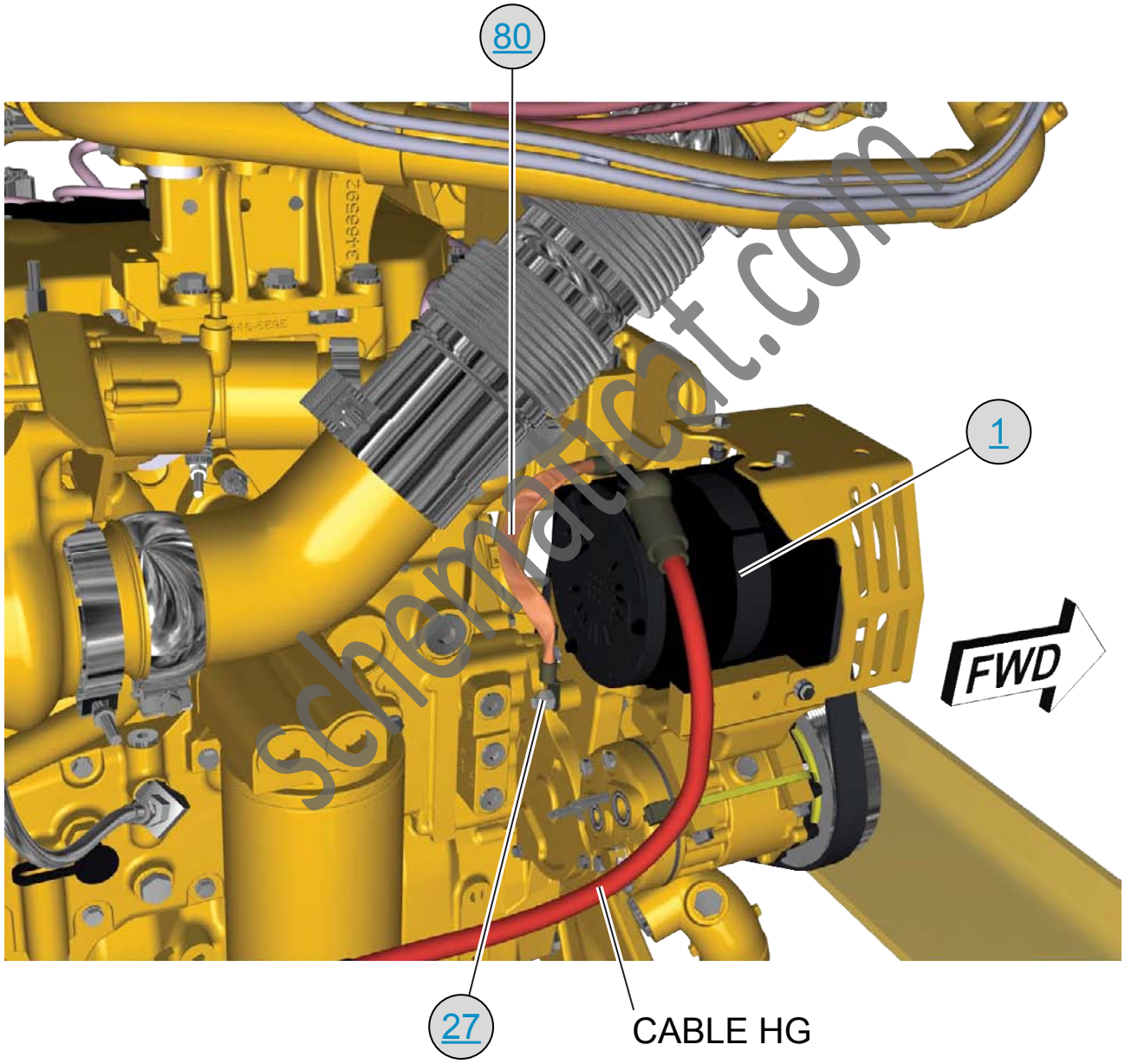
ACCUGRADE ATCH

VIEW ALL CALLOUTS



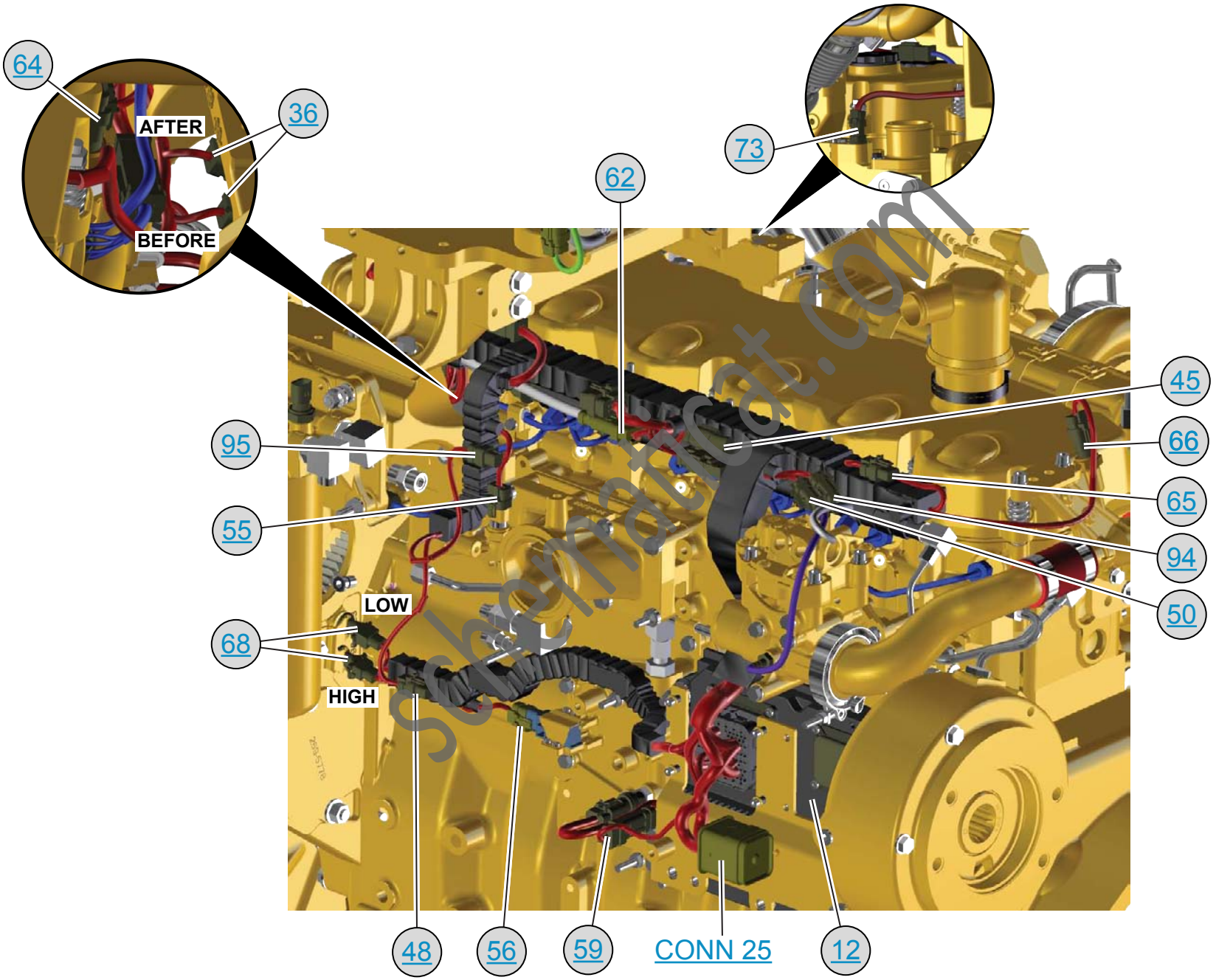
ALTERNATOR

VIEW ALL CALLOUTS



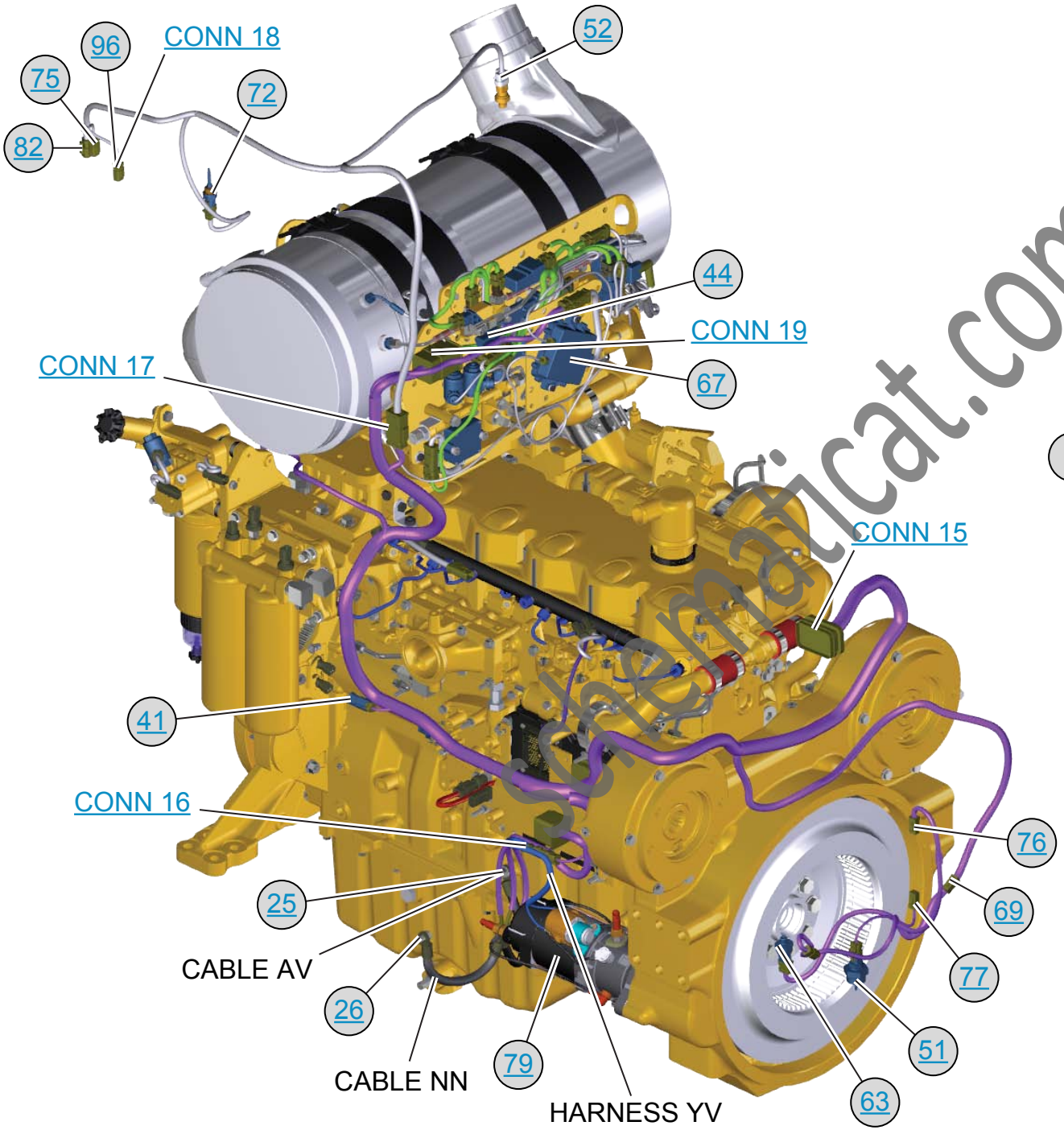
BASIC ENGINE HARNESS (EN)

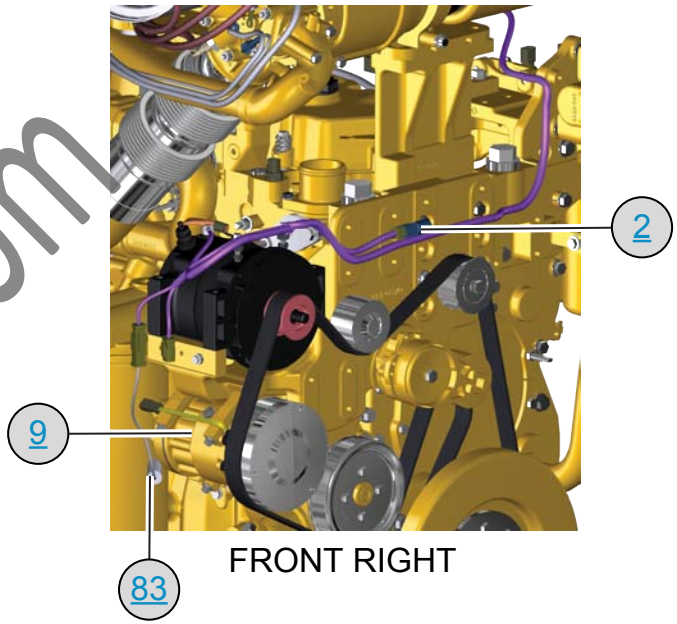
VIEW ALL CALLOUTS



ENGINE HARNESS (V)

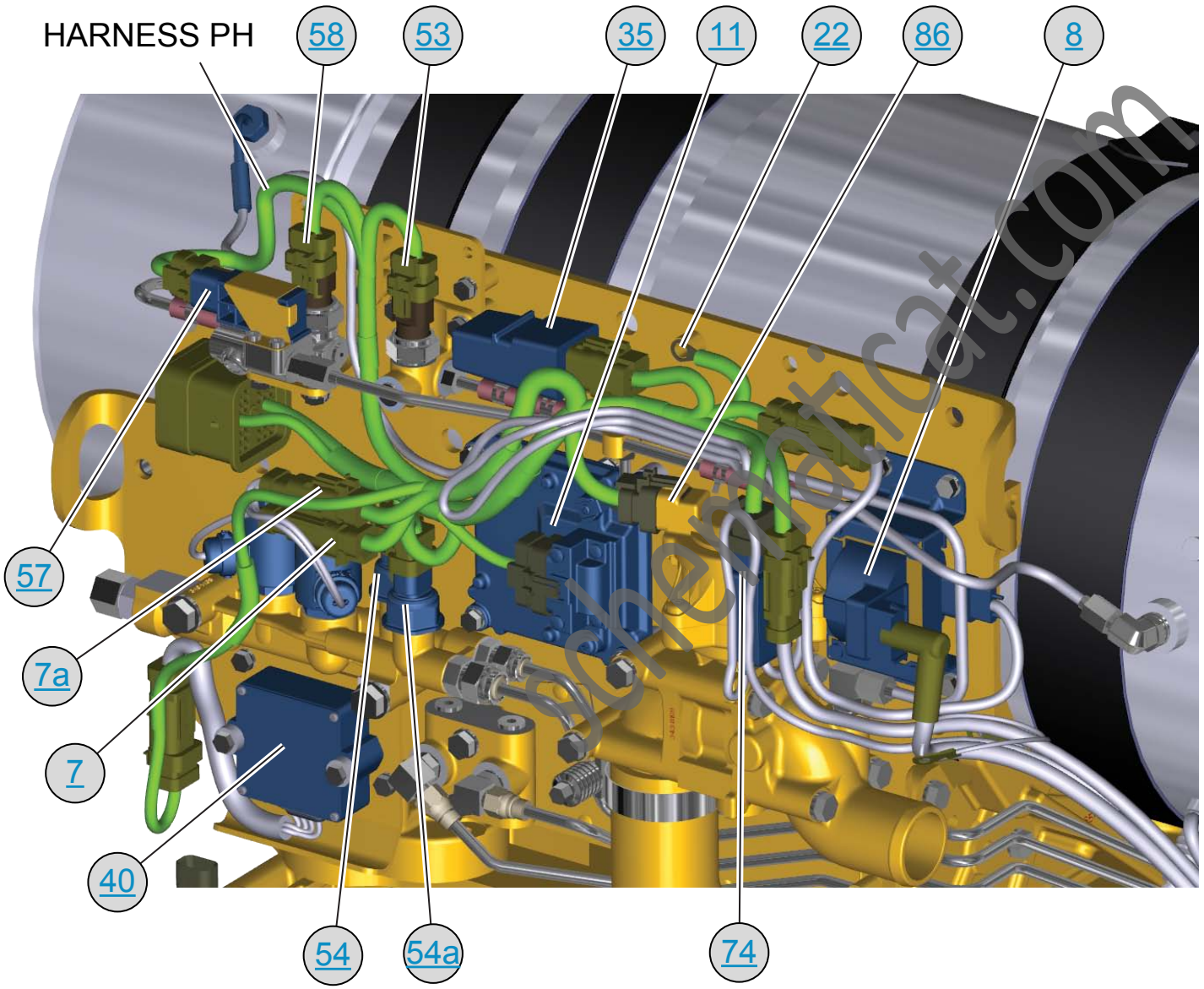
VIEW ALL CALLOUTS

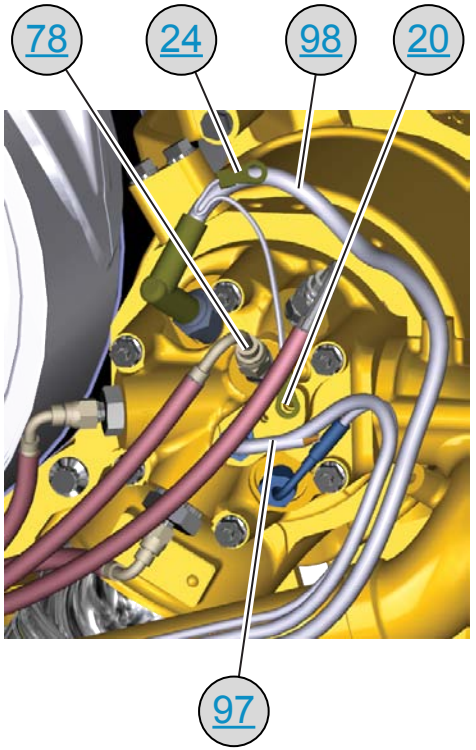




EXHAUST MODULE HARNESS (PH)

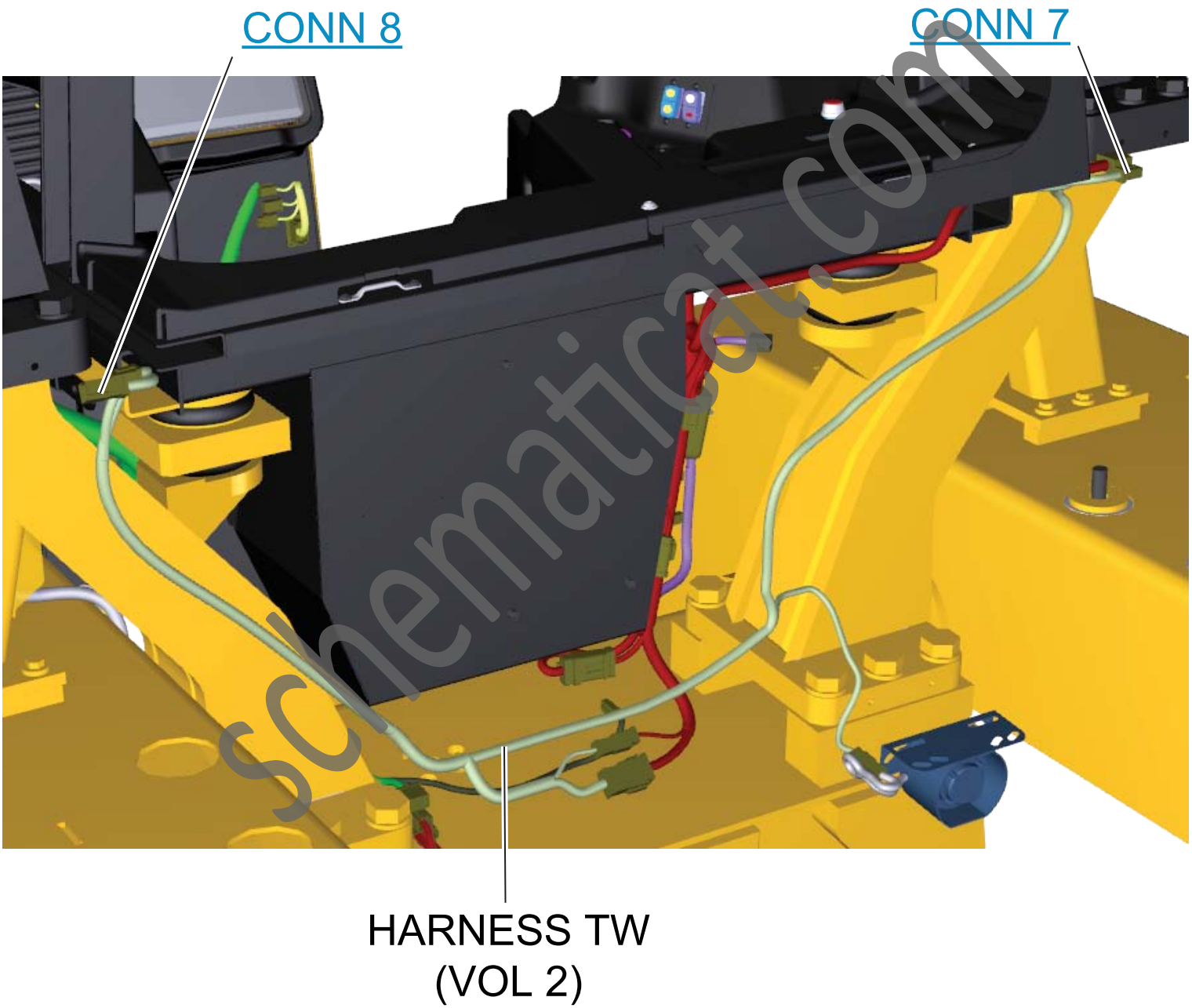
VIEW ALL CALLOUTS





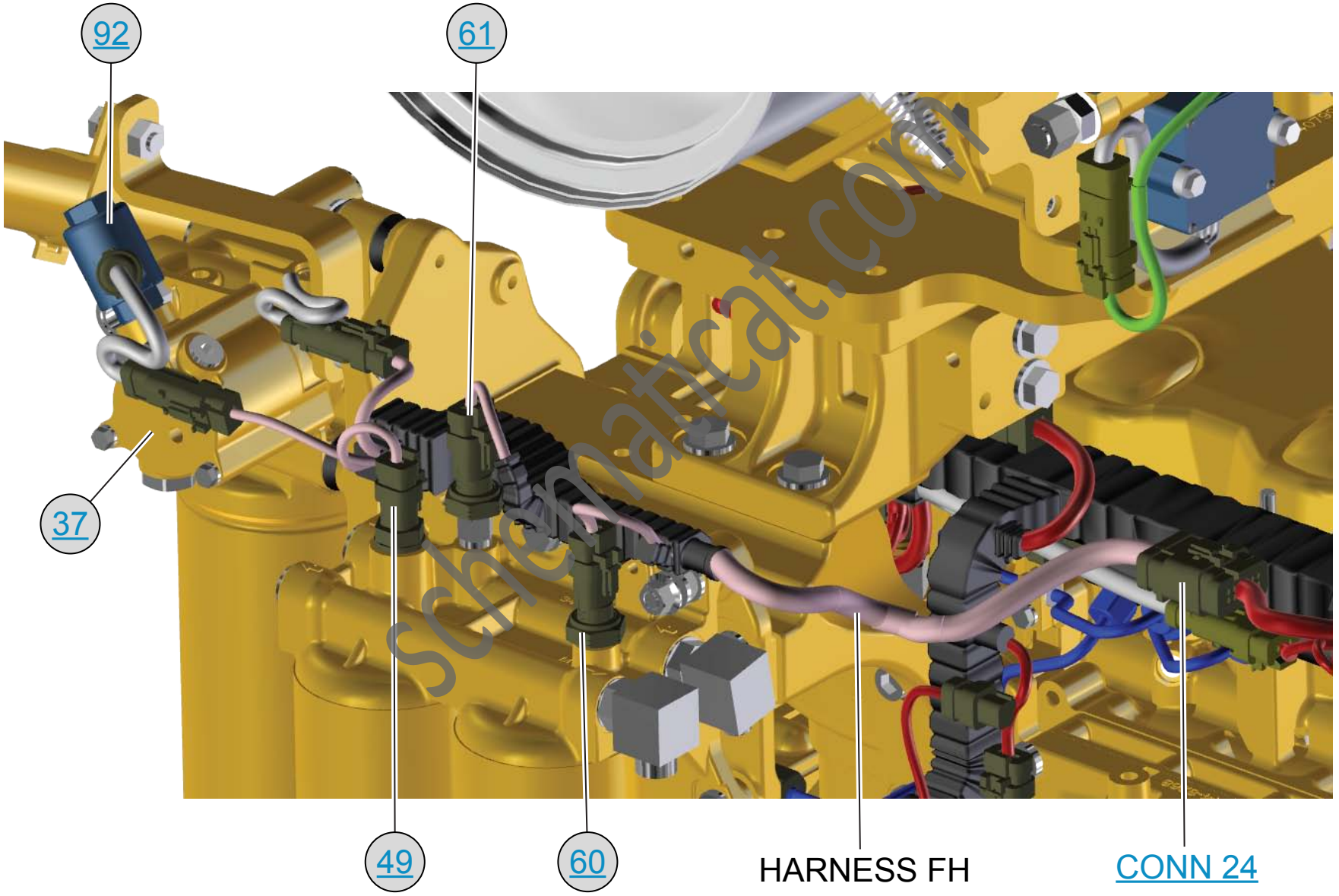
FLOOD LAMP CONNECTORS

VIEW ALL CALLOUTS



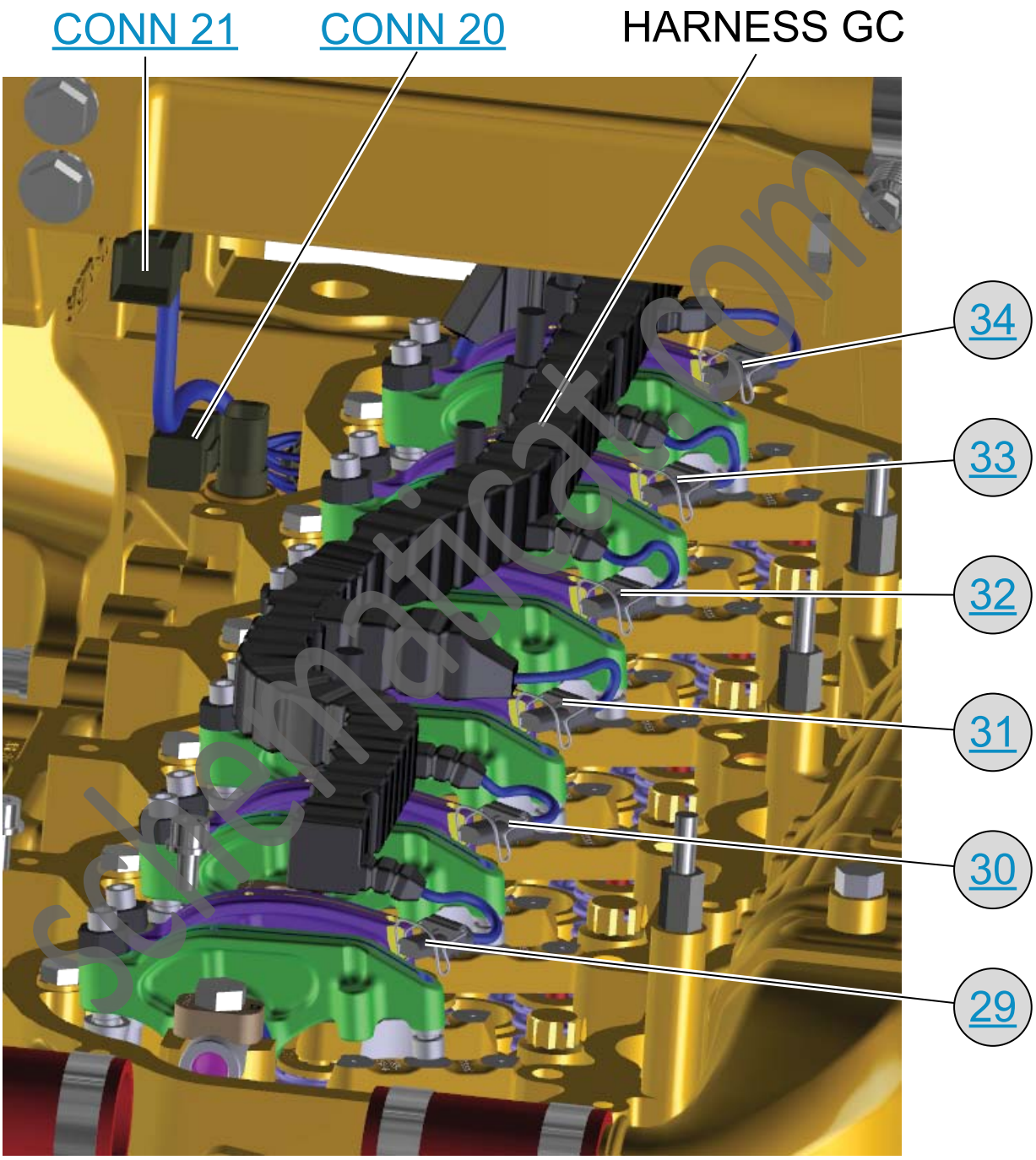
FUEL FILTER HARNESS (FH)

VIEW ALL CALLOUTS



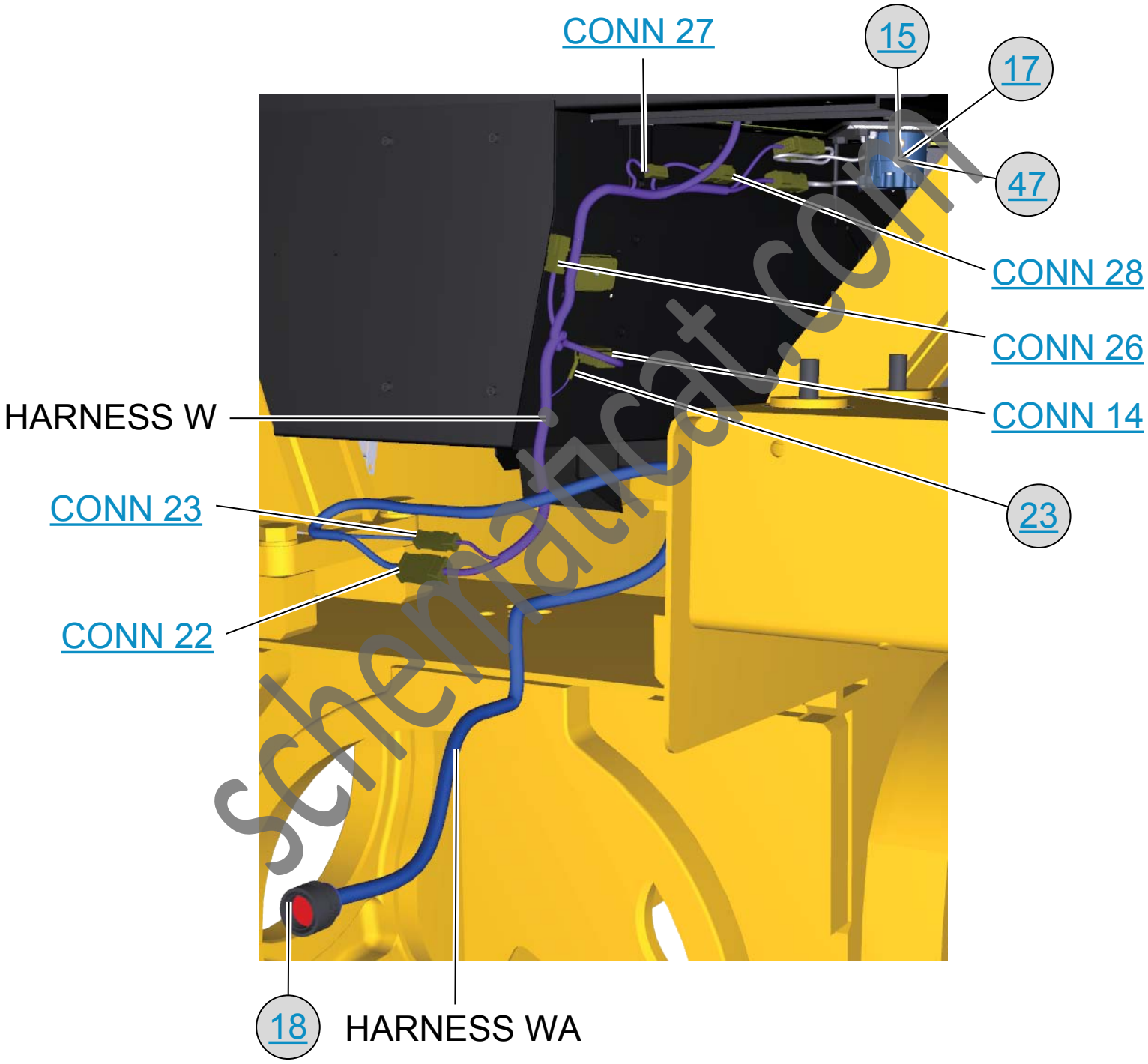
INJECTORS HARNESS (GC)

VIEW ALL CALLOUTS



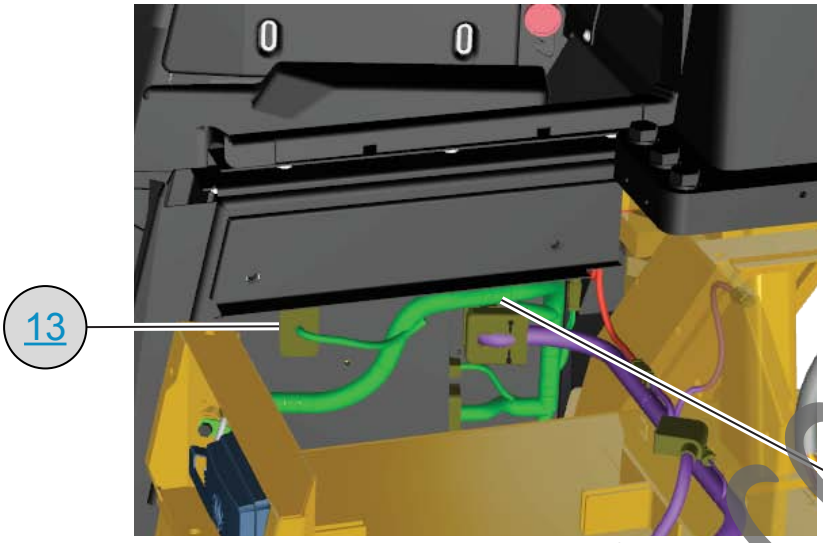
INTEGRATED PACCAR WINCH ATCH

VIEW ALL CALLOUTS

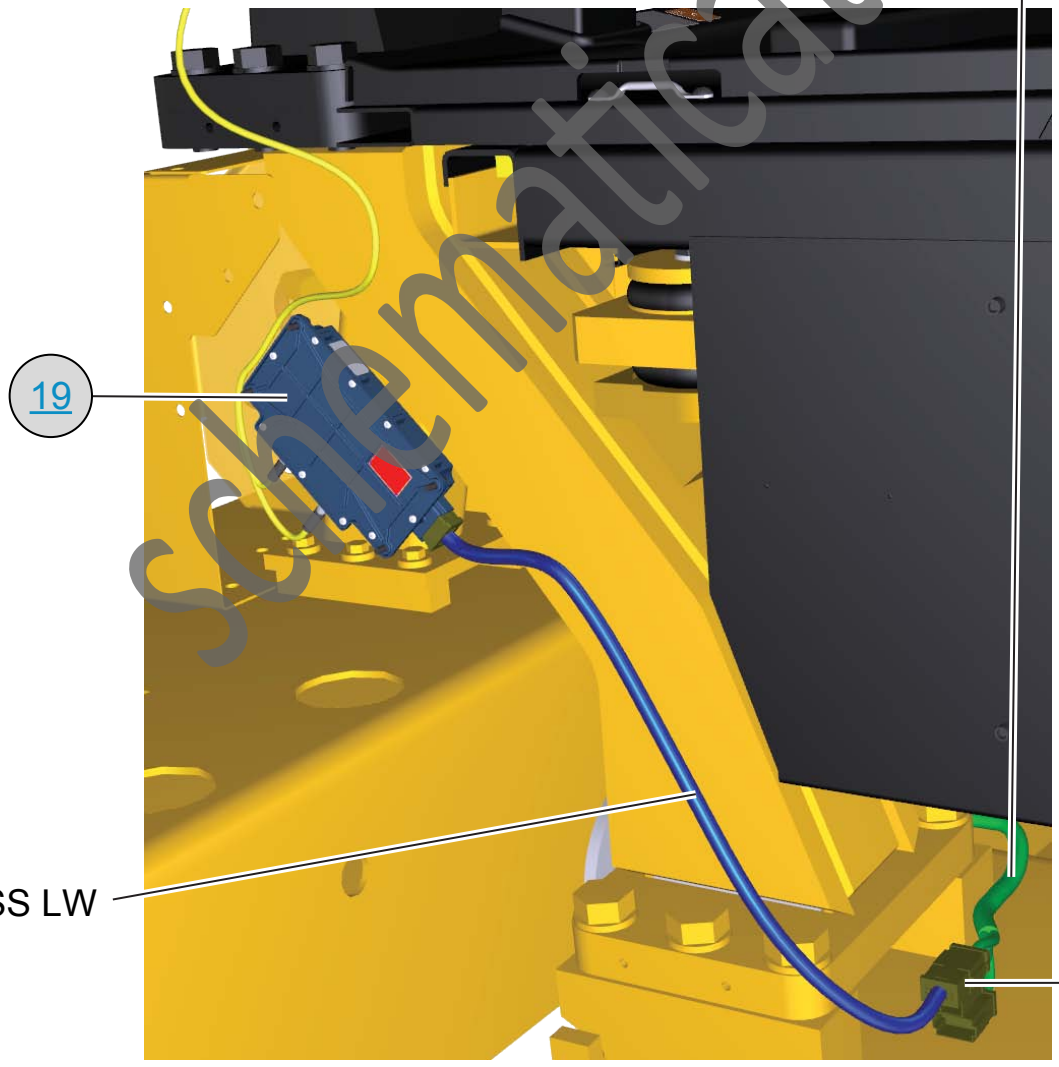


PRODUCT LINK ATCH

VIEW ALL CALLOUTS

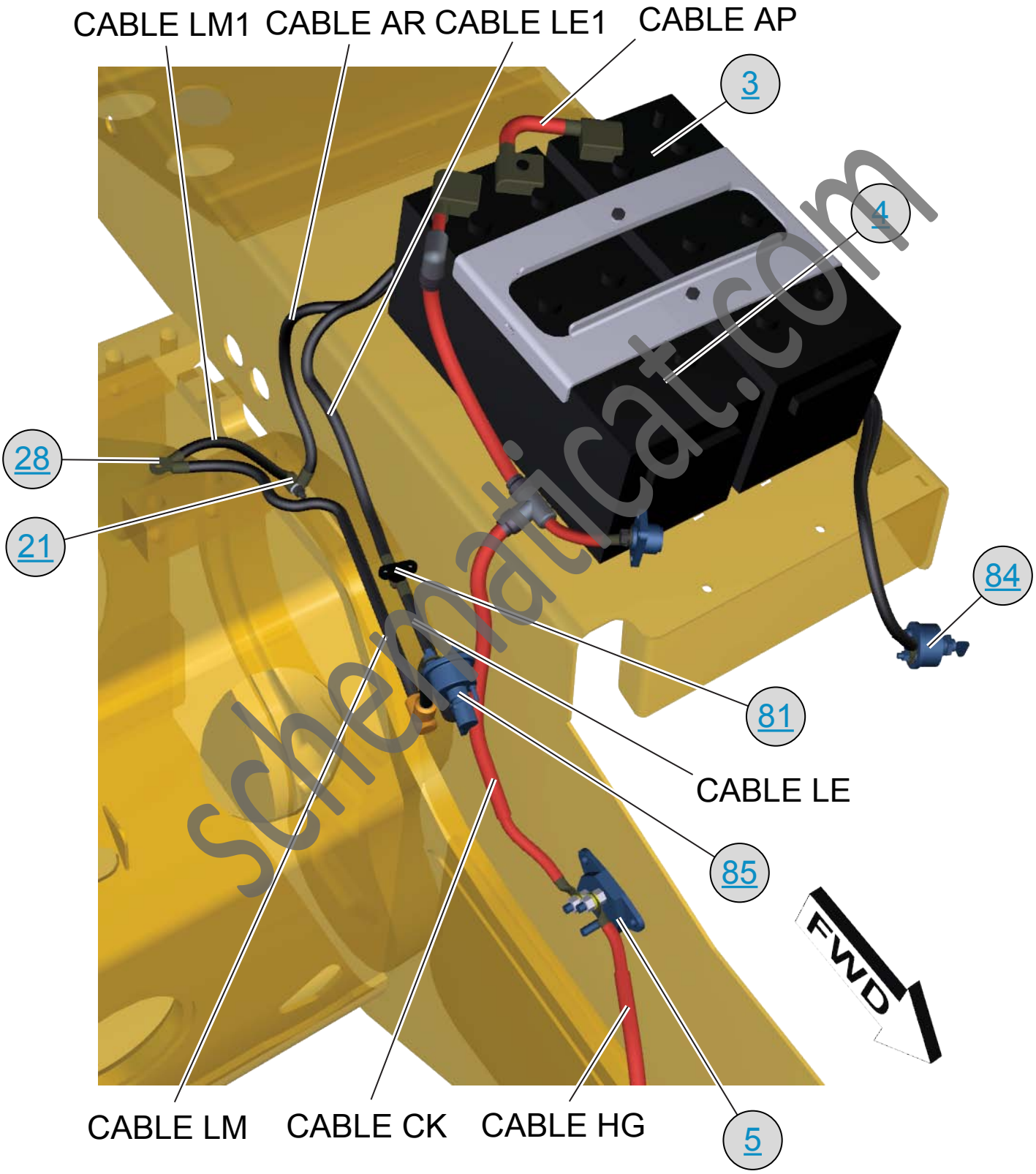


LEFT SIDE OF CAB



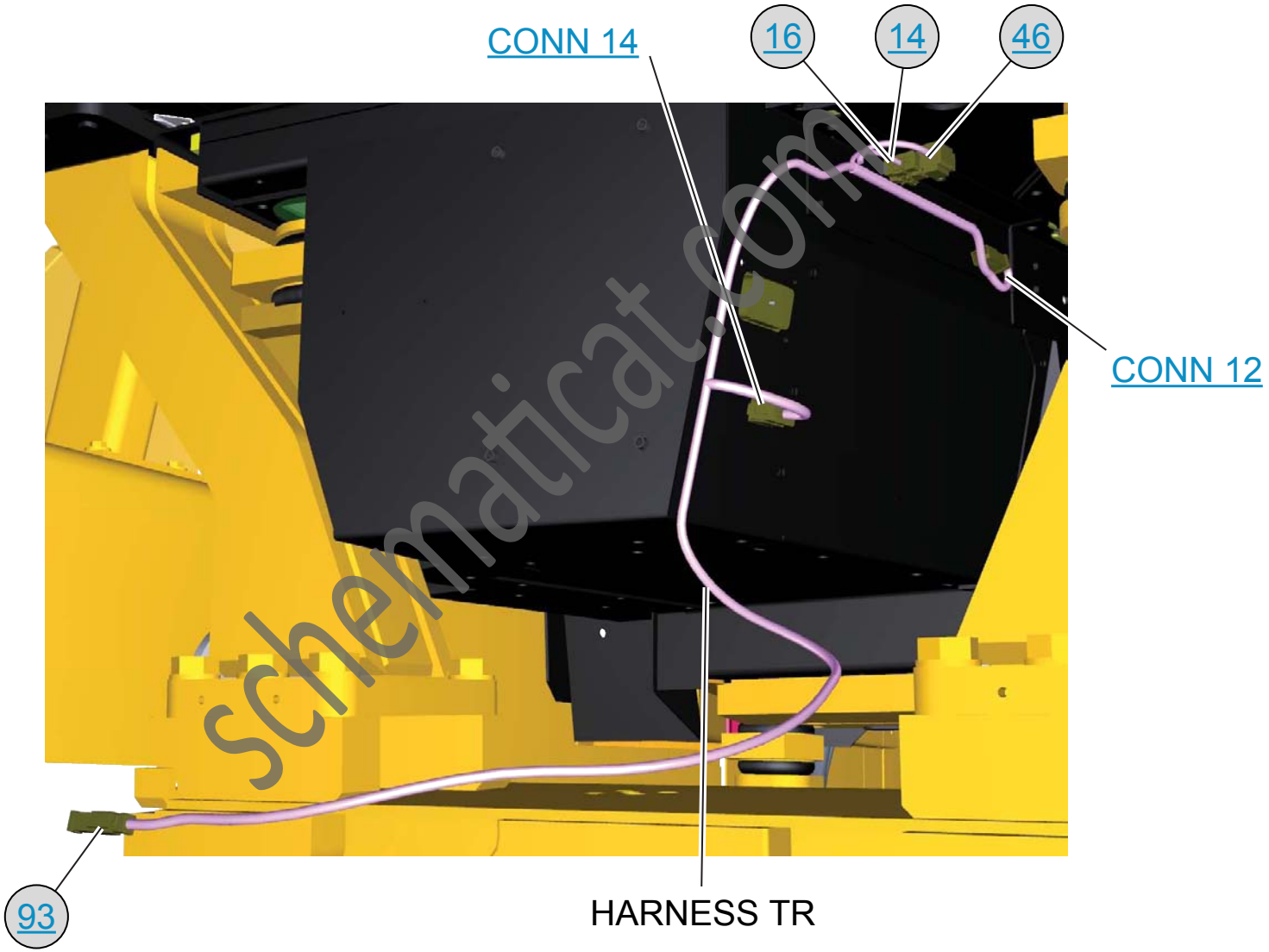
STARTING/CHARGING SYSTEM

VIEW ALL CALLOUTS

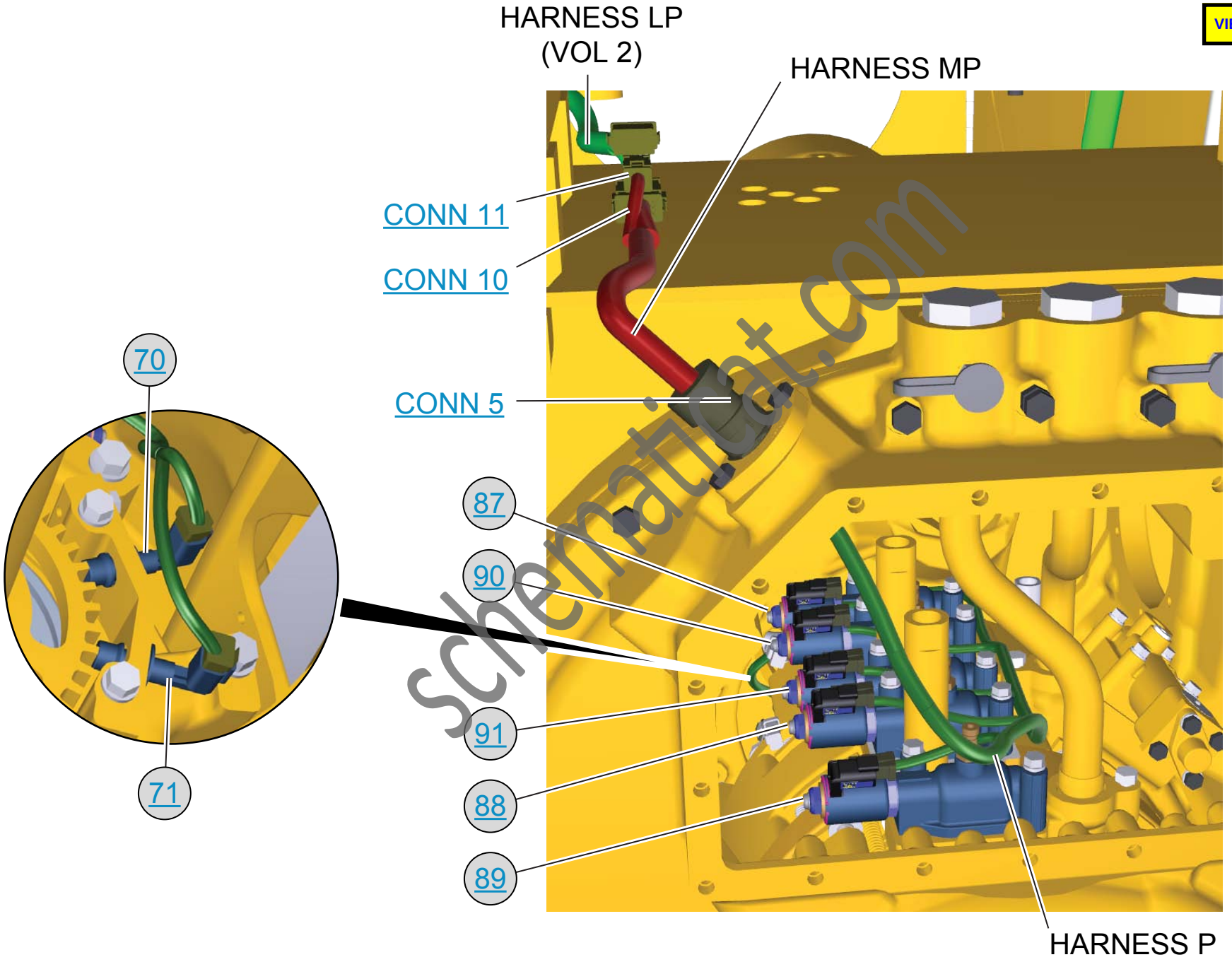


THIRD FUNCTION AUXILIARY HYDRAULIC

VIEW ALL CALLOUTS

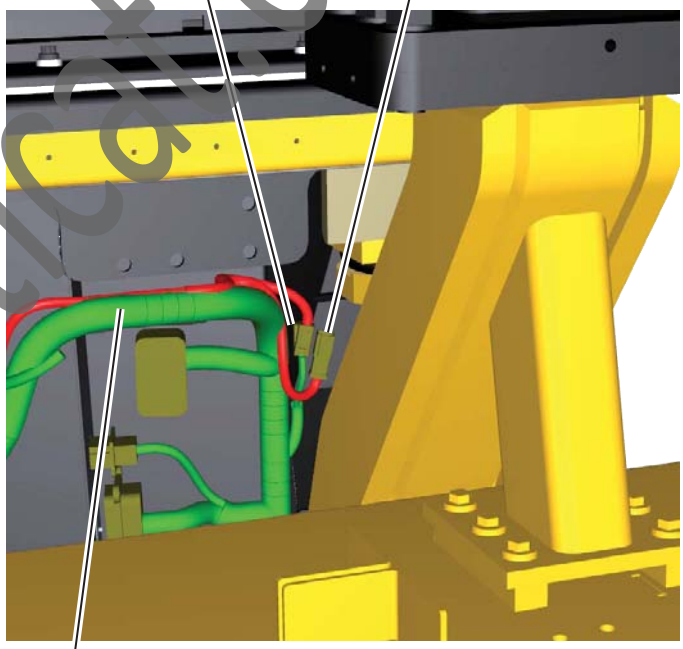


VIEW ALL CALLOUTS



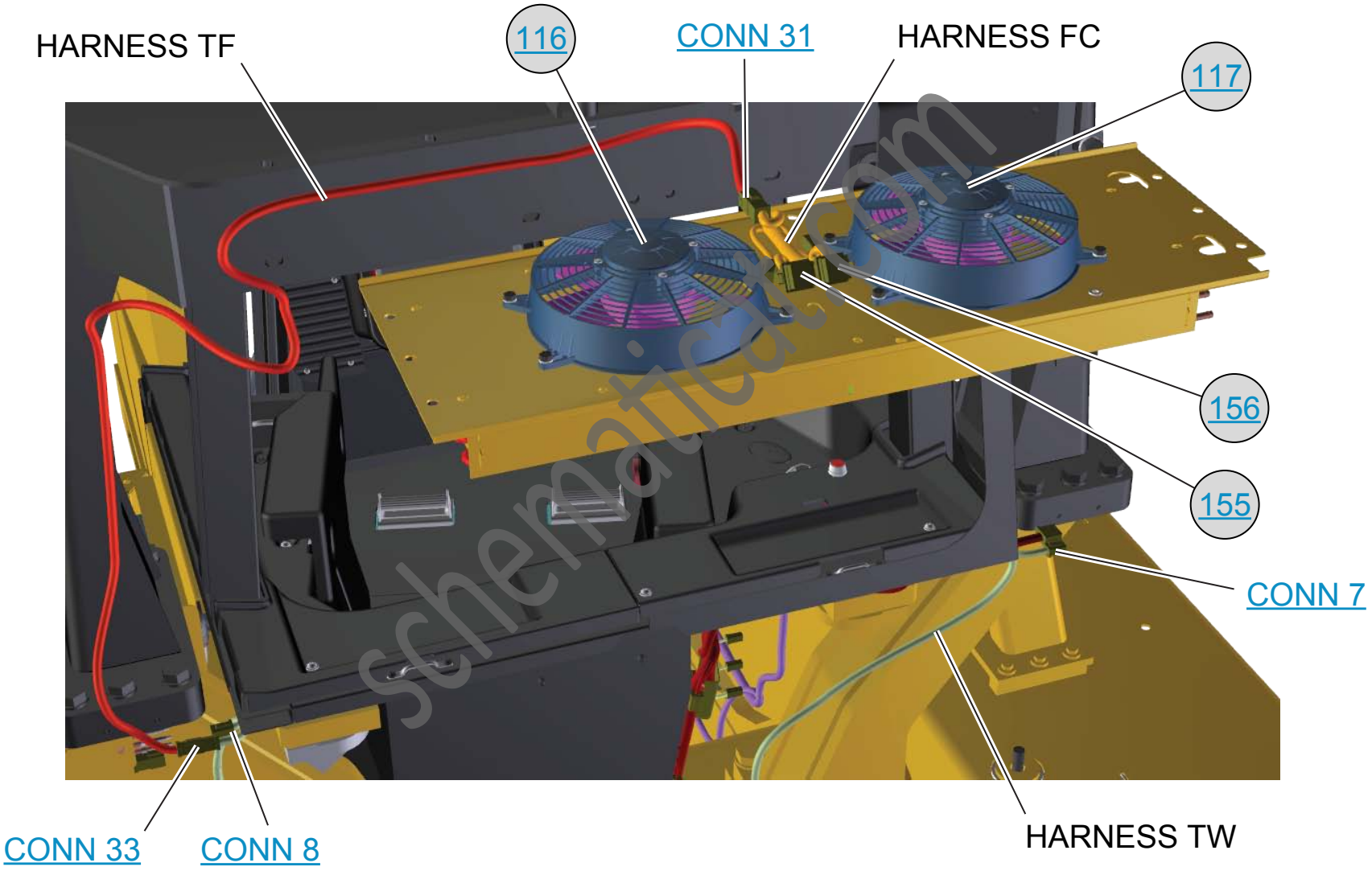
WAVS ATCH

VIEW ALL CALLOUTS



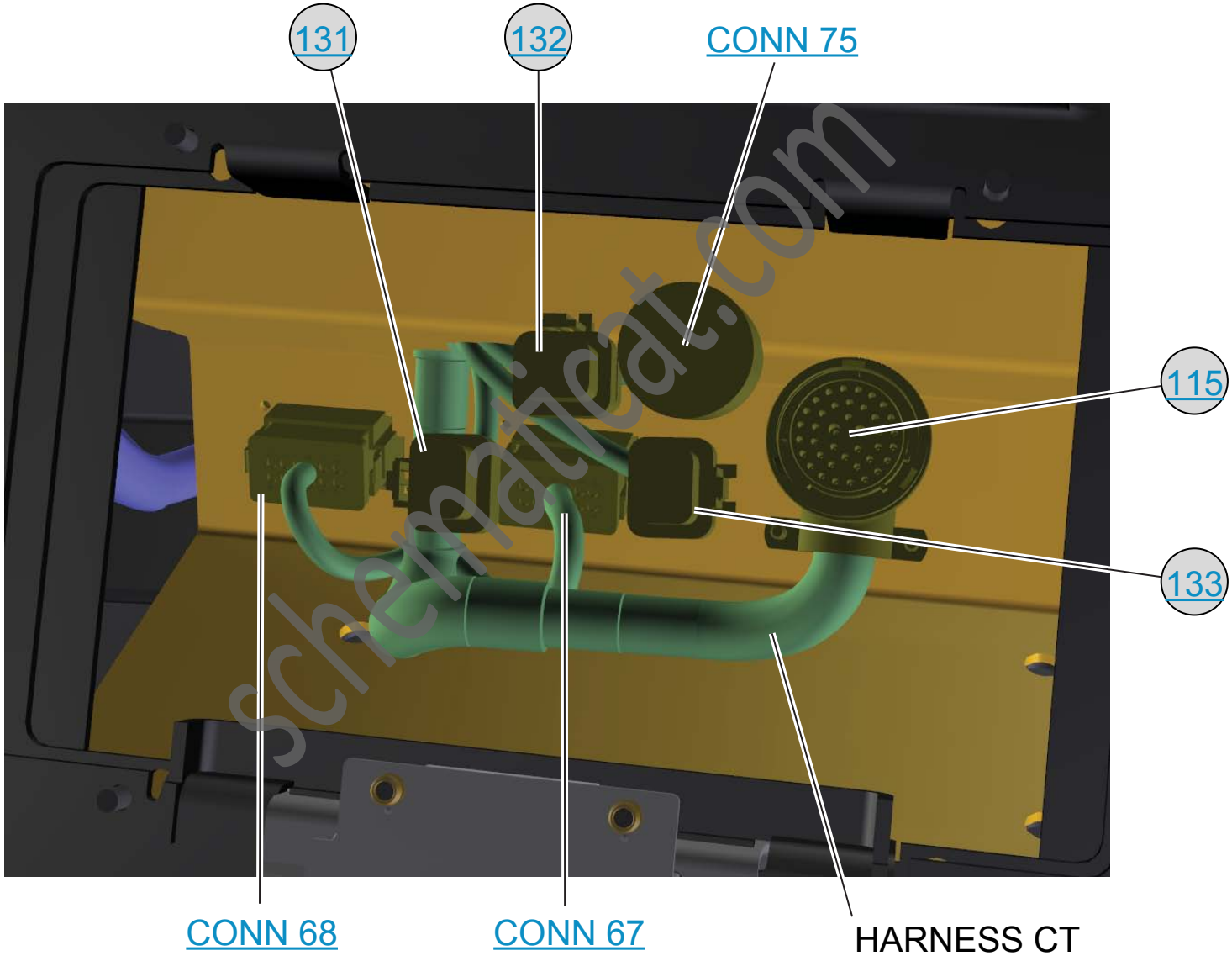
A/C CONDENSERS

VIEW ALL CALLOUTS



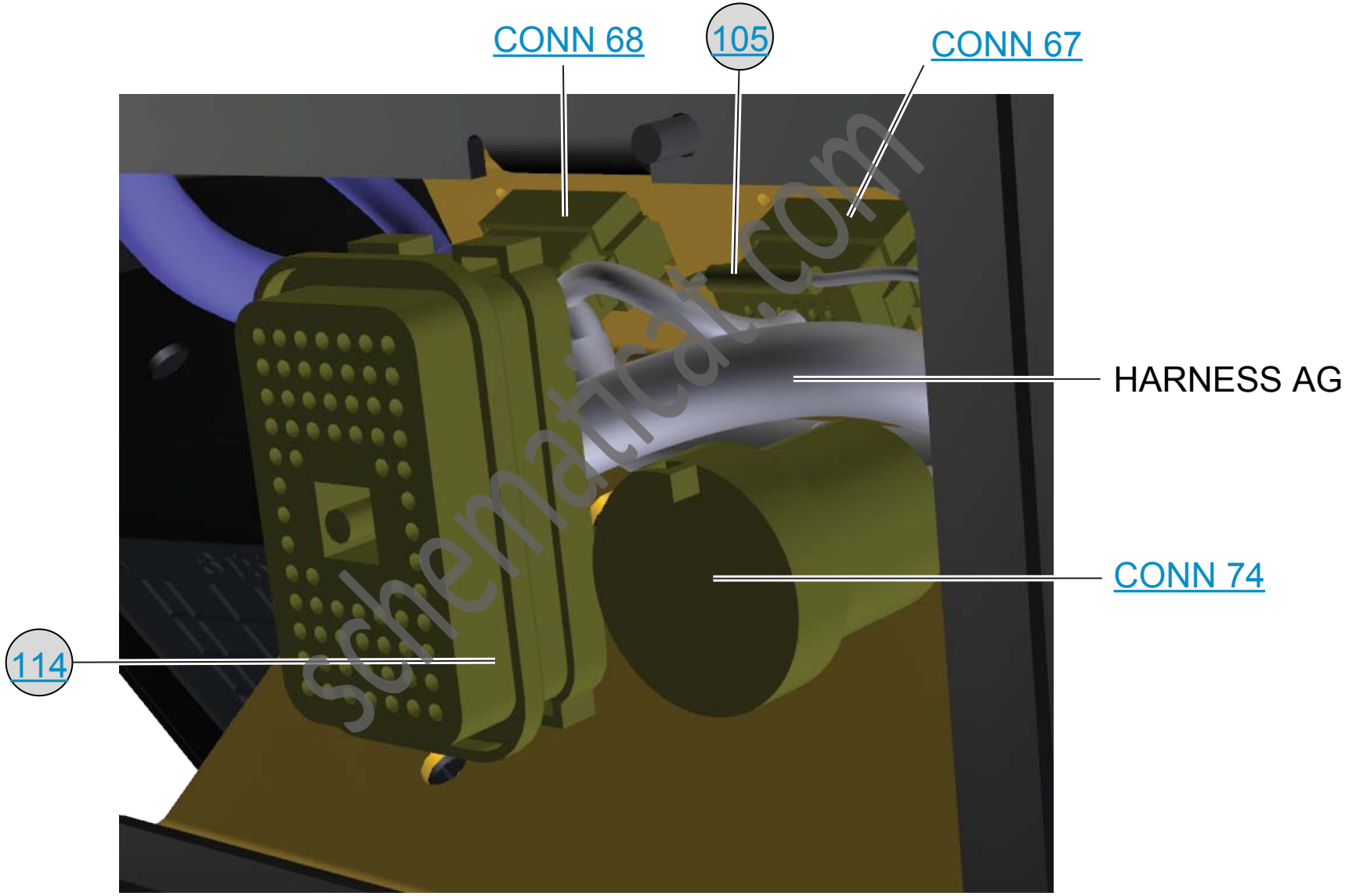
ACCUGRADE GPS DISPLAY ATCH

VIEW ALL CALLOUTS



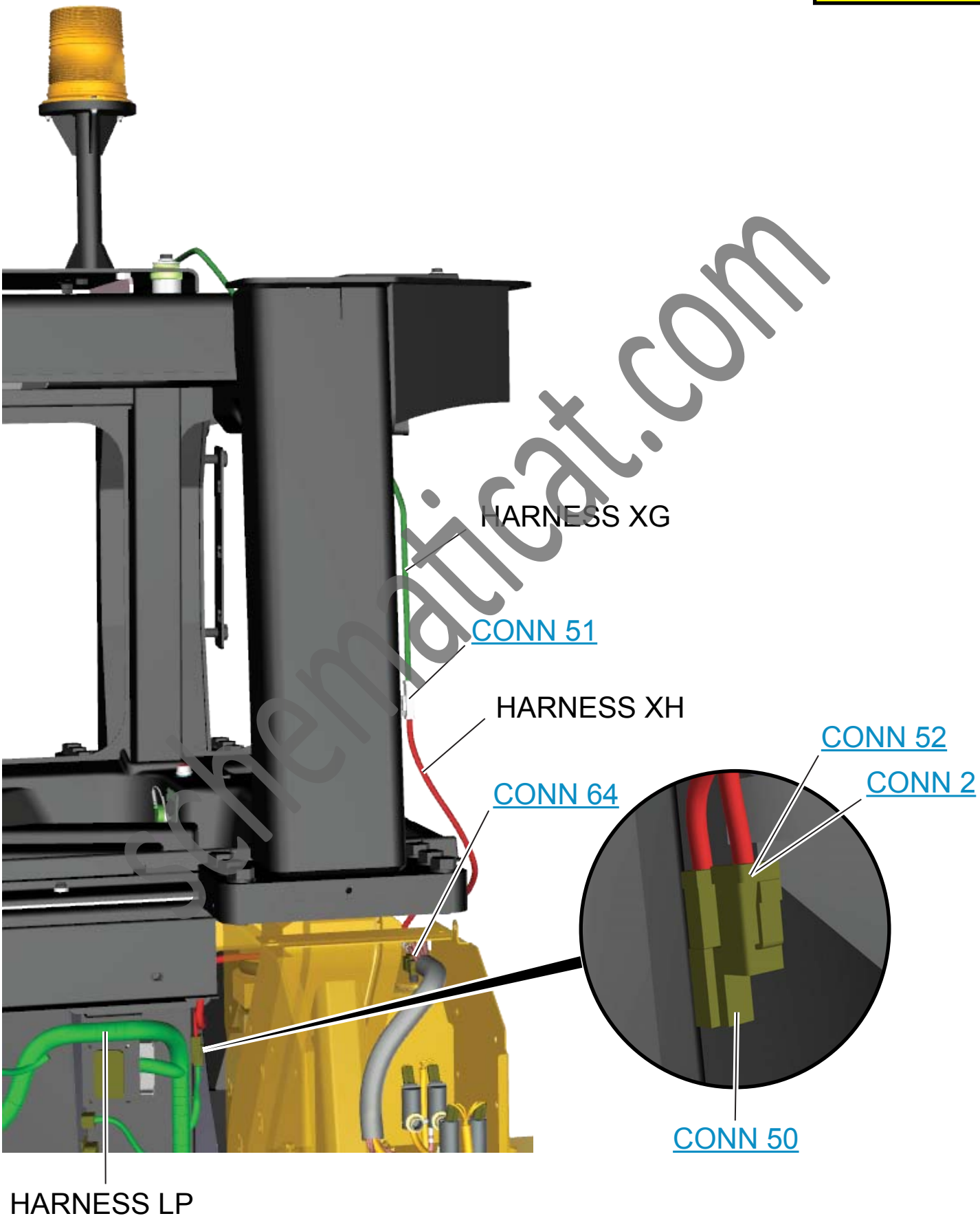
ACCUGRADE LASER CD610 DISPLAY ATCH

VIEW ALL CALLOUTS



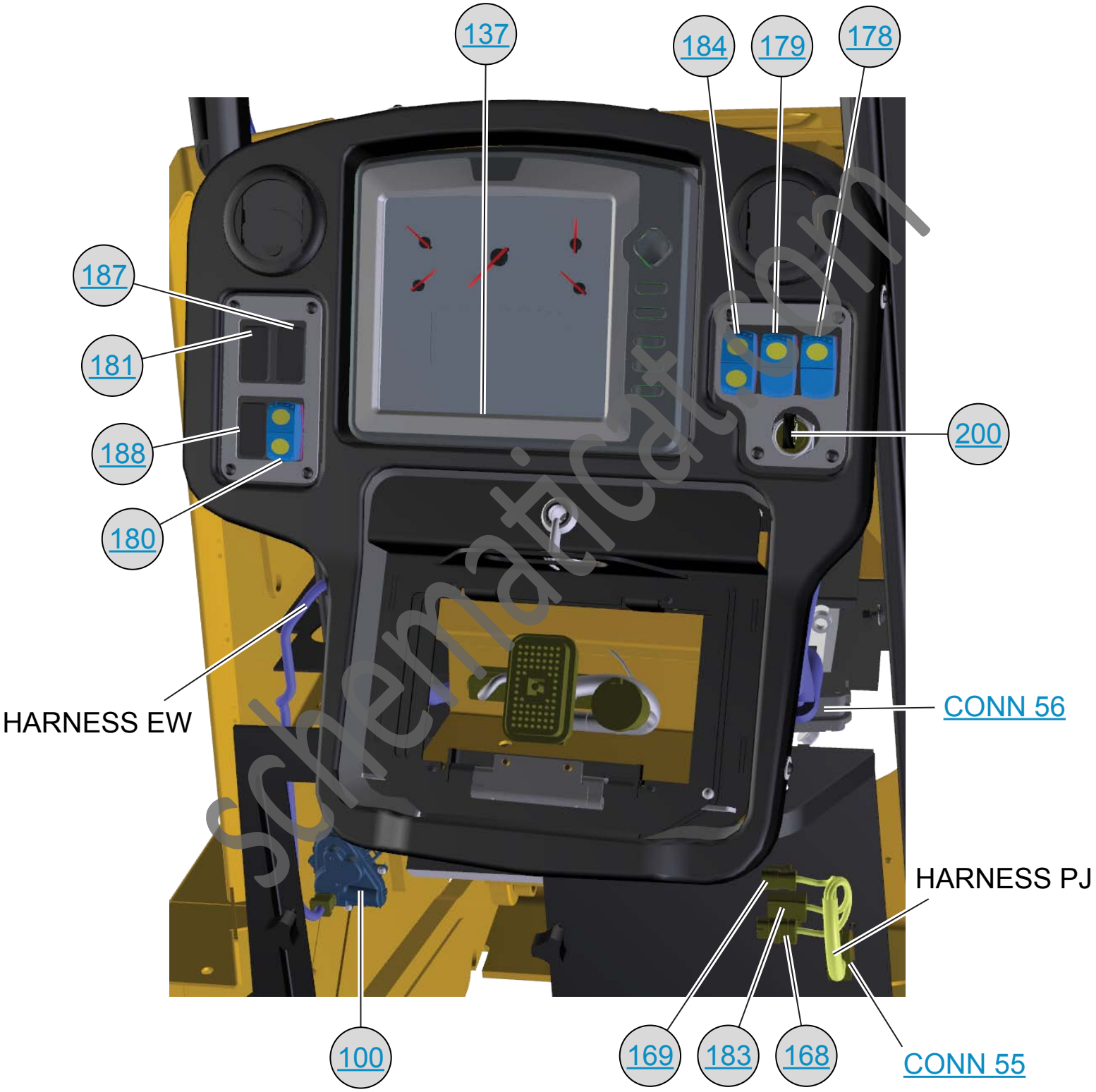
BEACON HARNESS

VIEW ALL CALLOUTS



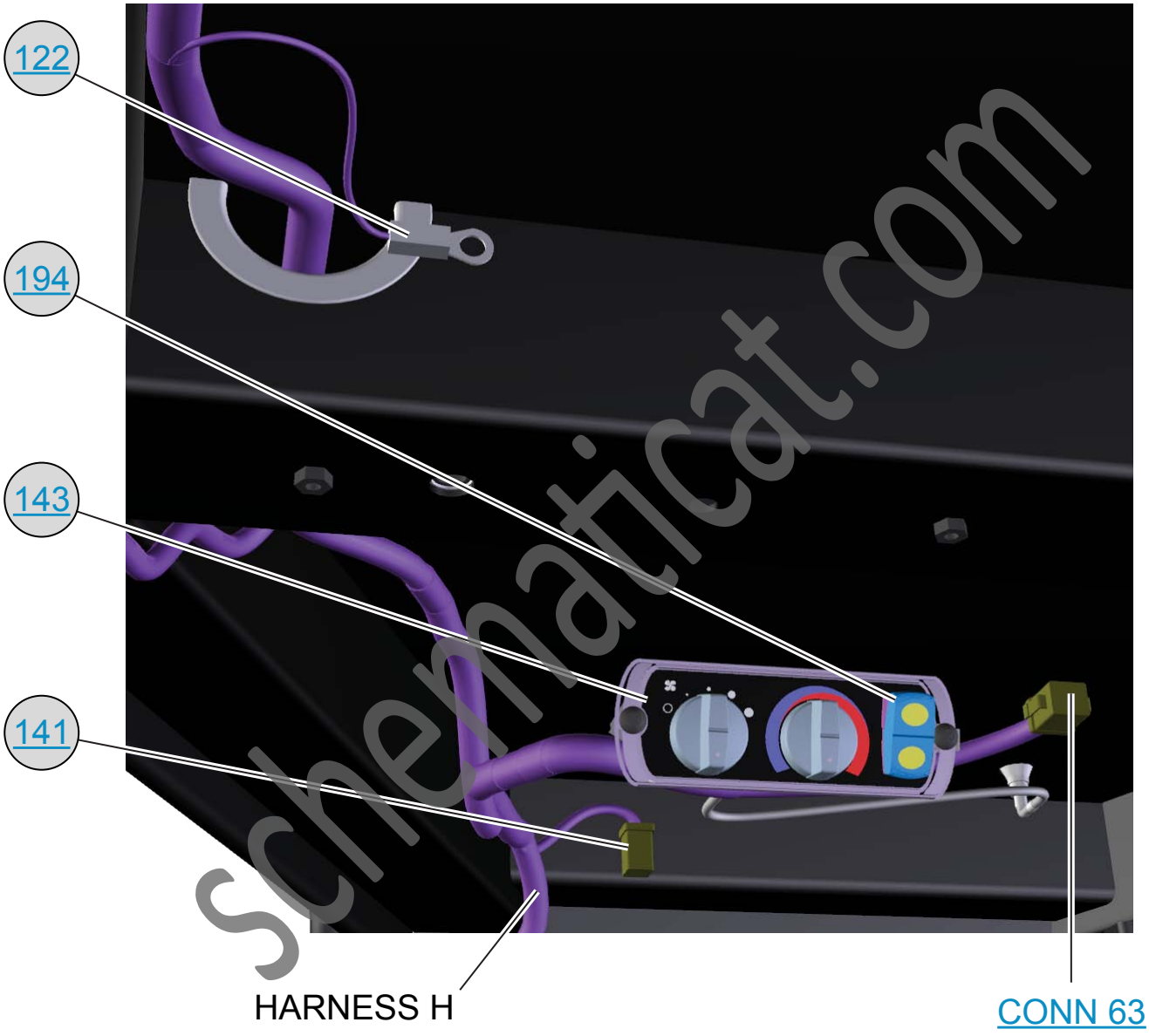
DASH

VIEW ALL CALLOUTS



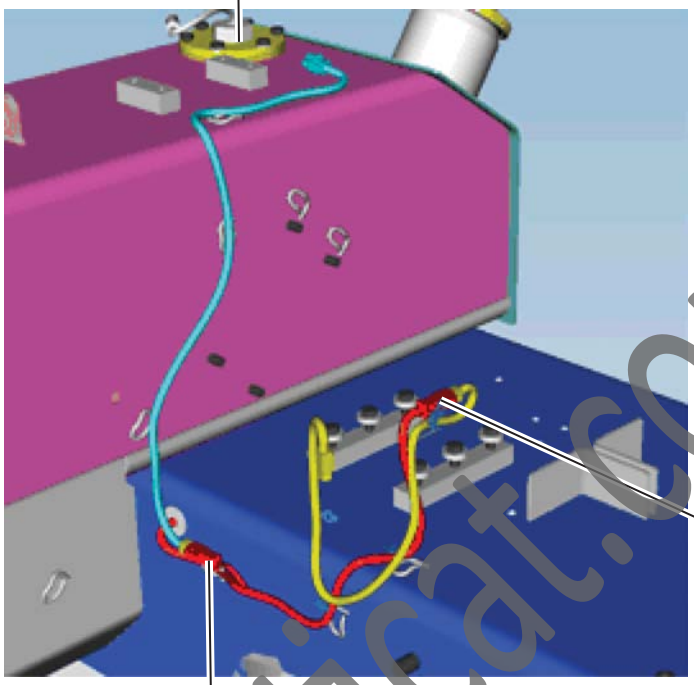
FRONT HEADLINER

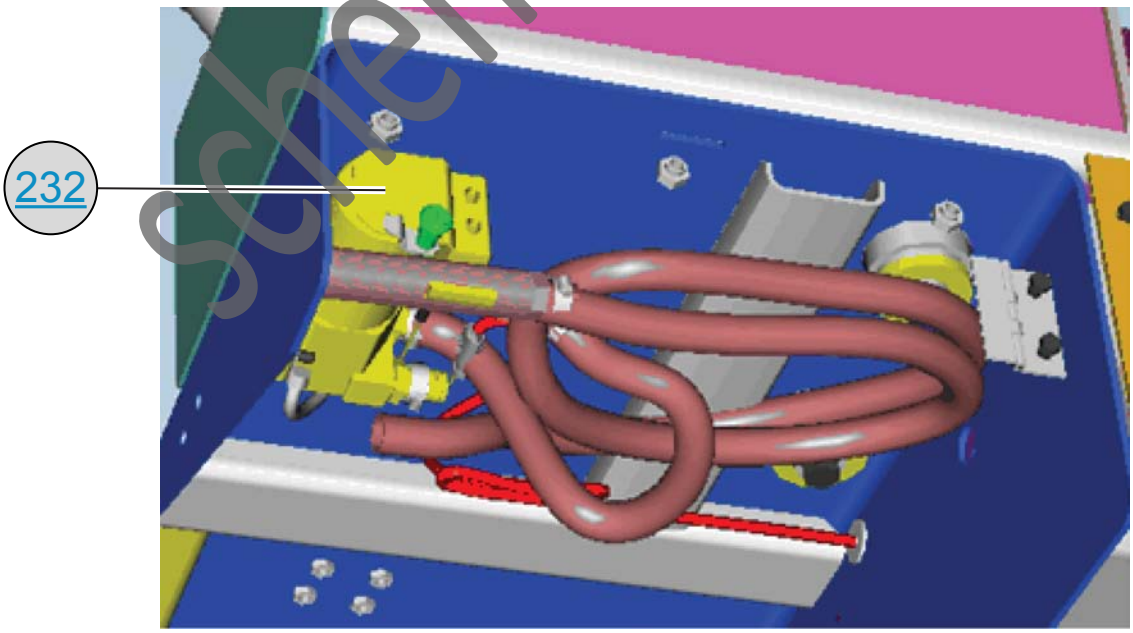
VIEW ALL CALLOUTS



FUEL TRANSFER PUMP

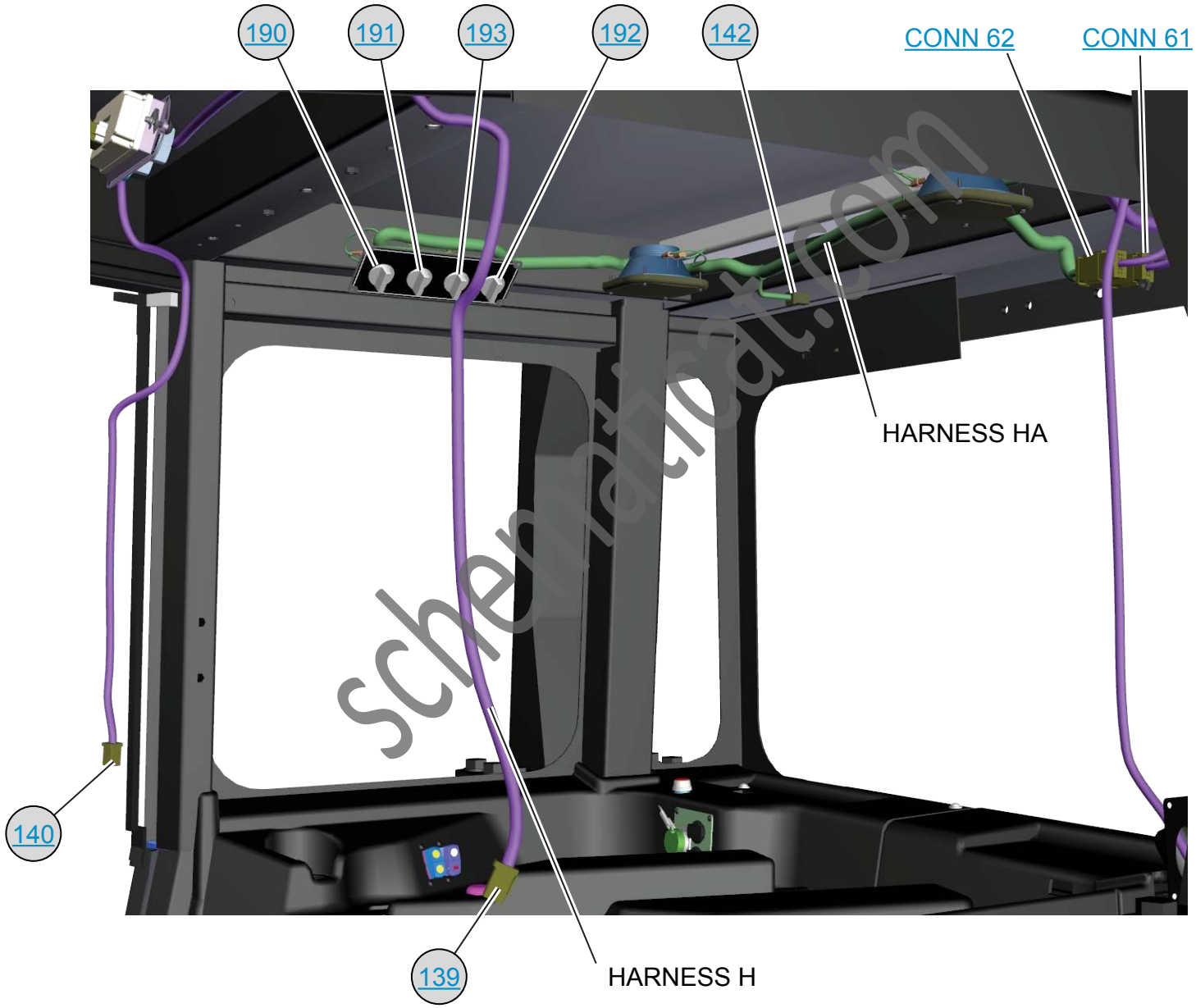
VIEW ALL CALLOUTS





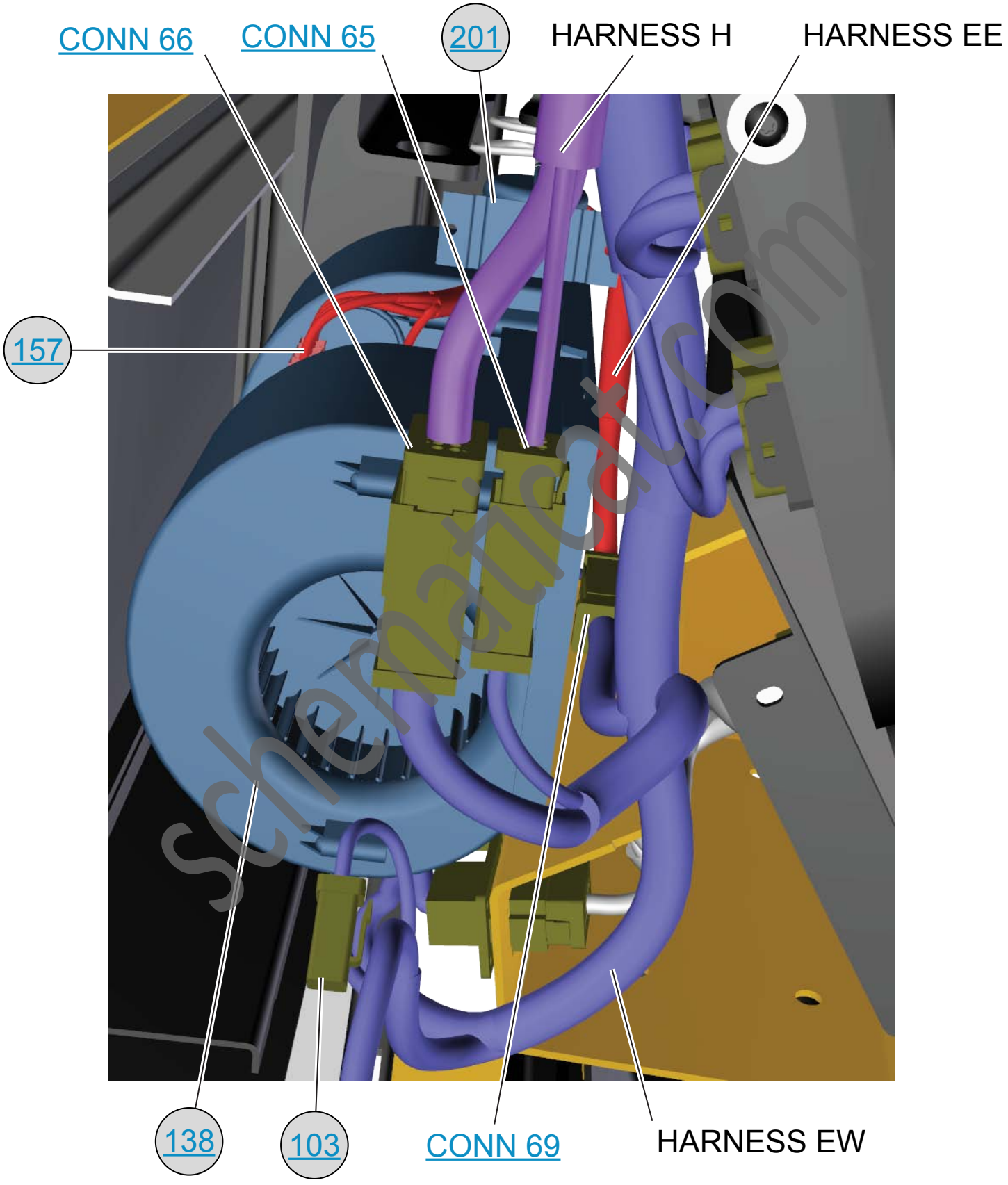
HEADLINER - II

VIEW ALL CALLOUTS



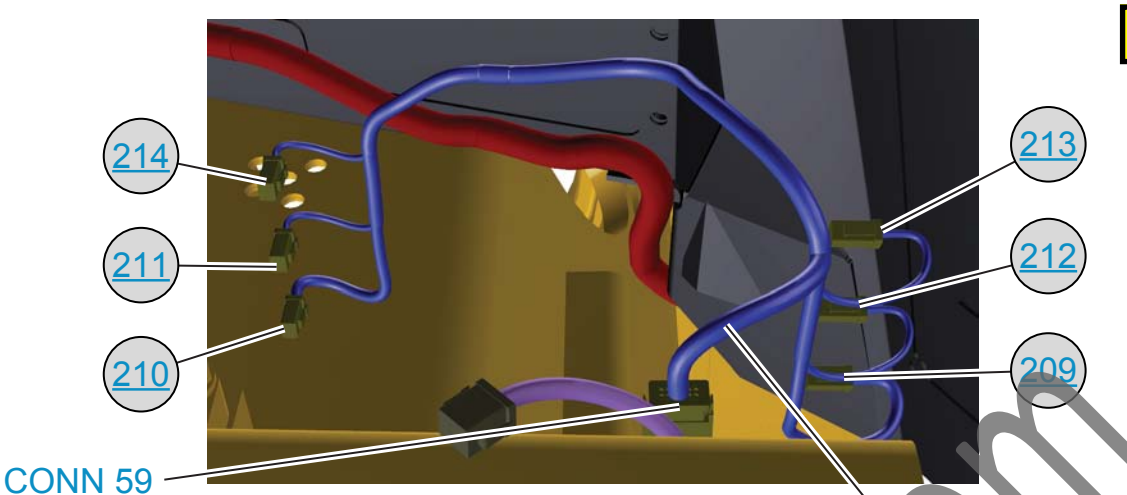
HEADLINER

VIEW ALL CALLOUTS

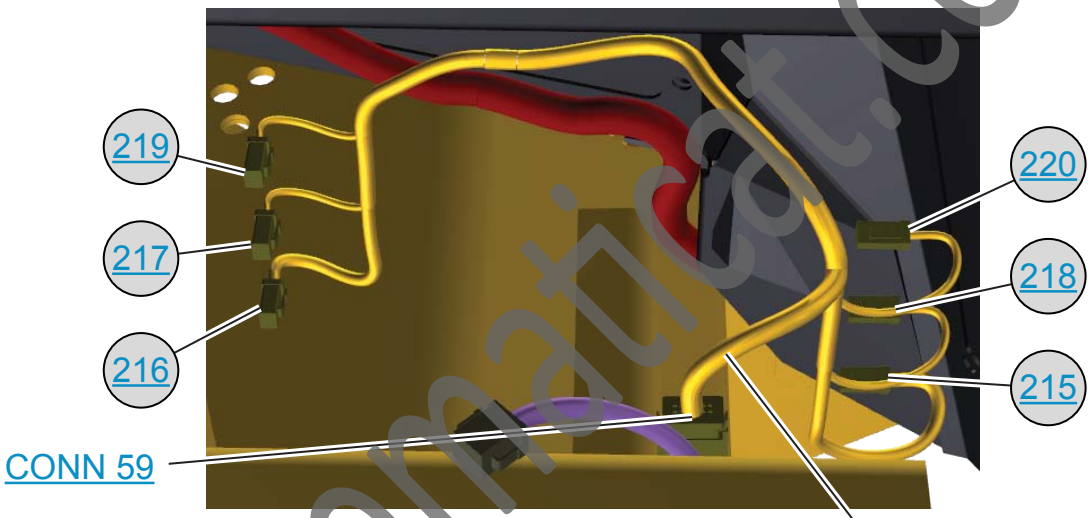


IMPLEMENT VALVE CONFIGURATIONS

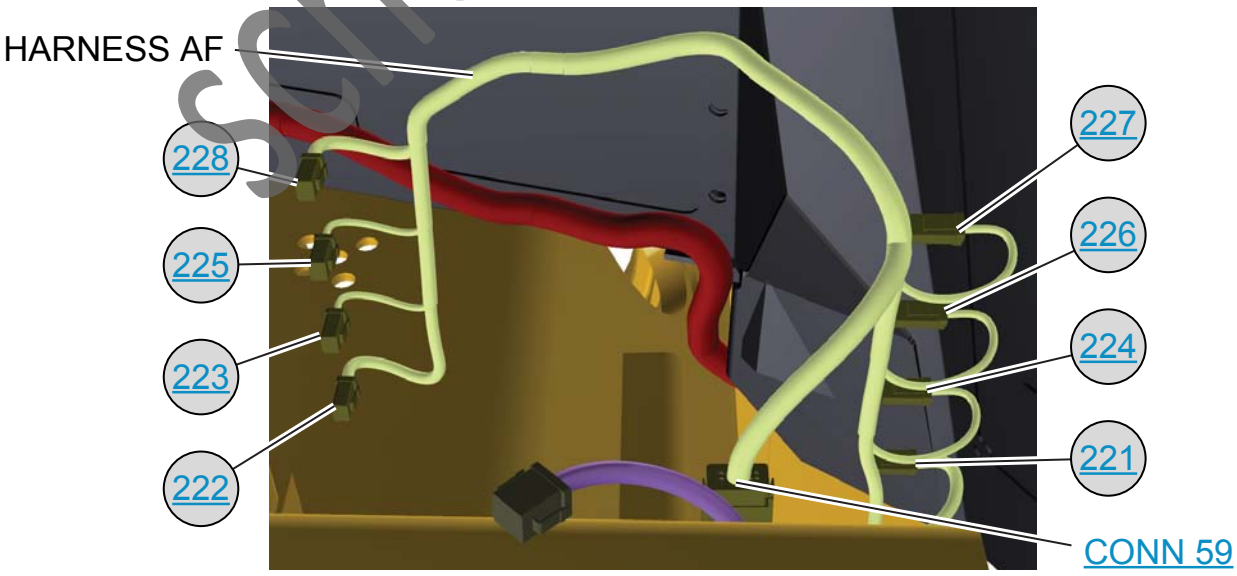
VIEW ALL CALLOUTS



LIFT/TILT ATCH



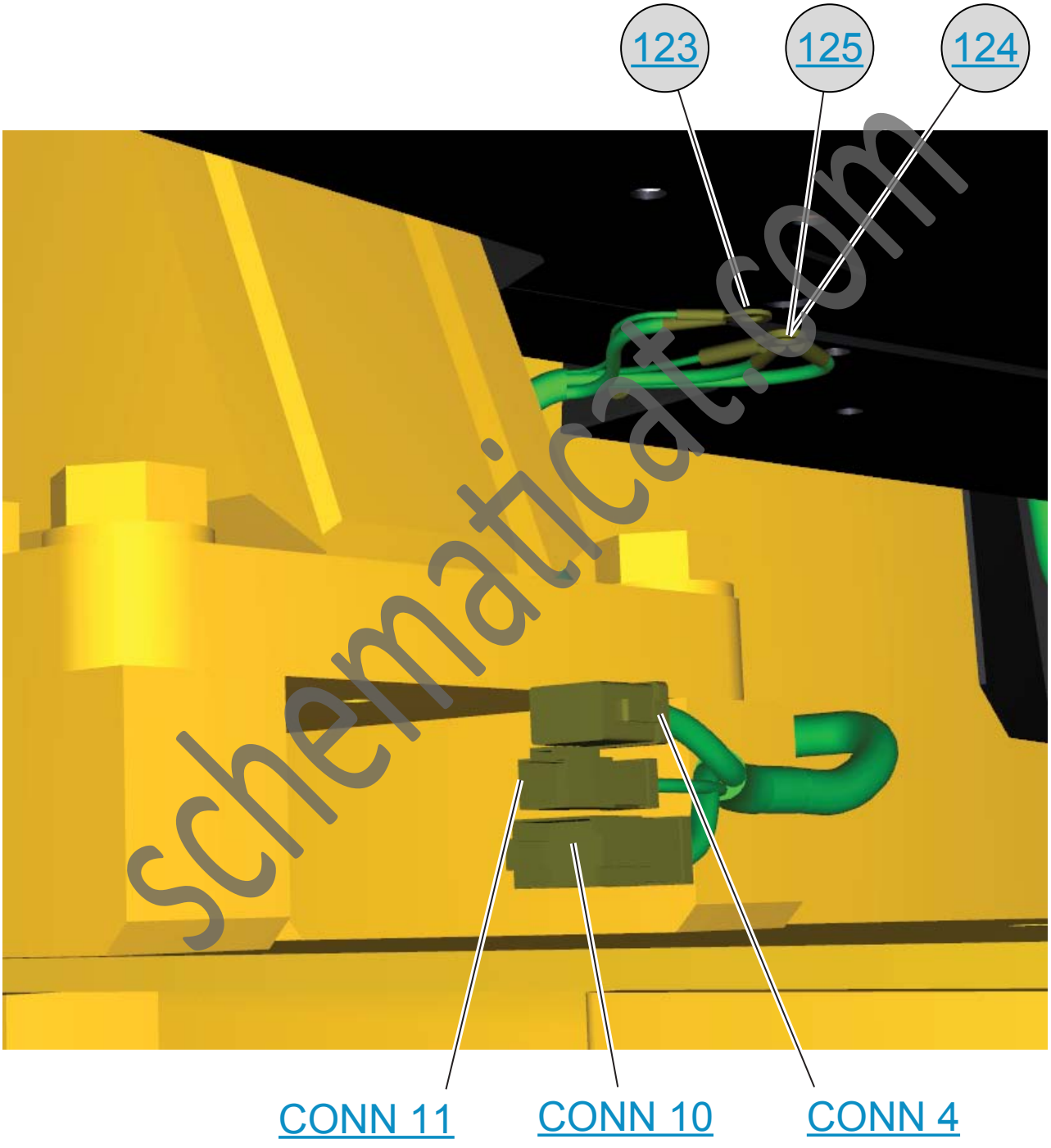
LIFT/TILT/ANGLE



LIFT/TILT/ANGLE ATCH

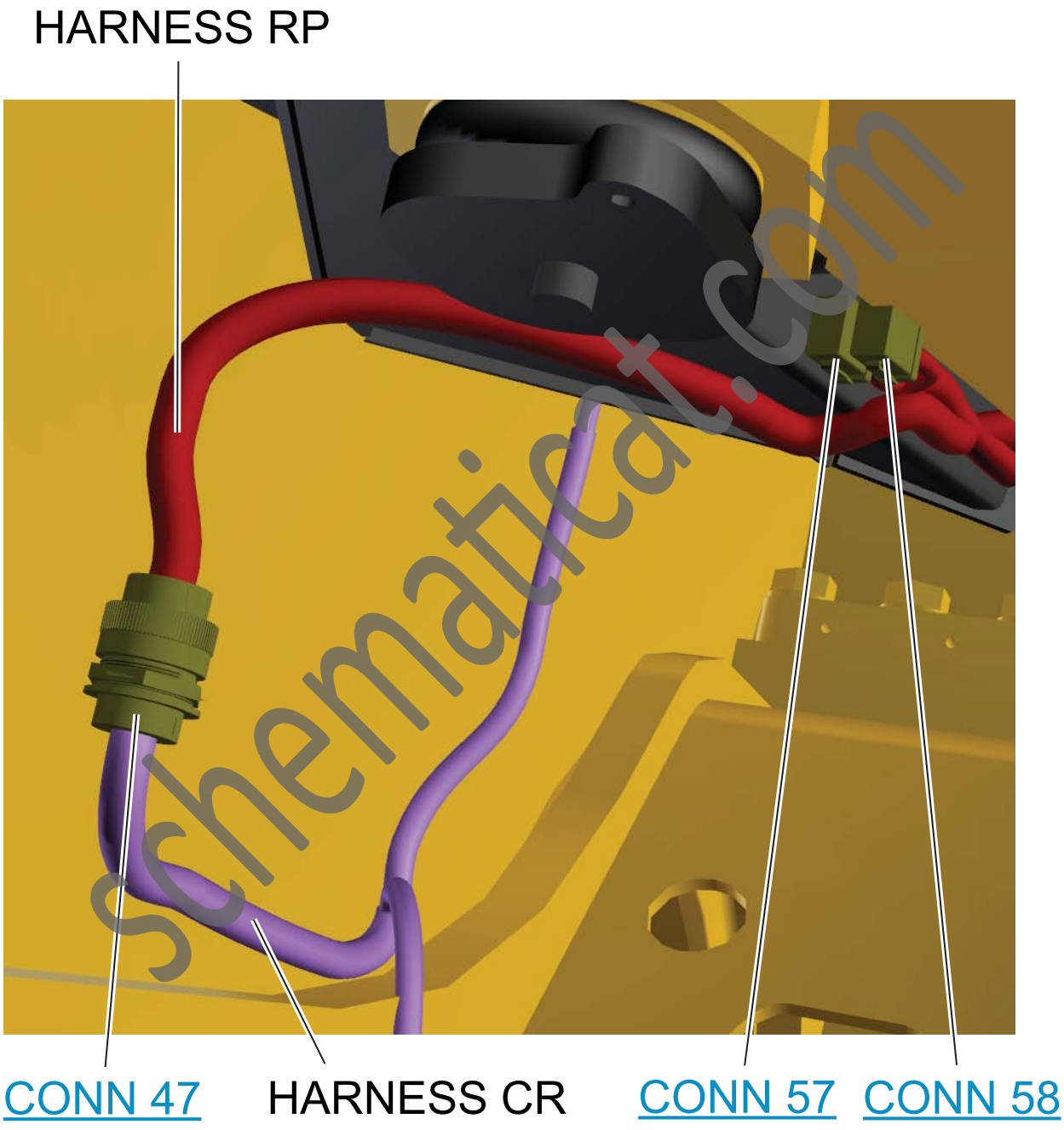
INSIDE RIGHT FRAME - II

VIEW ALL CALLOUTS



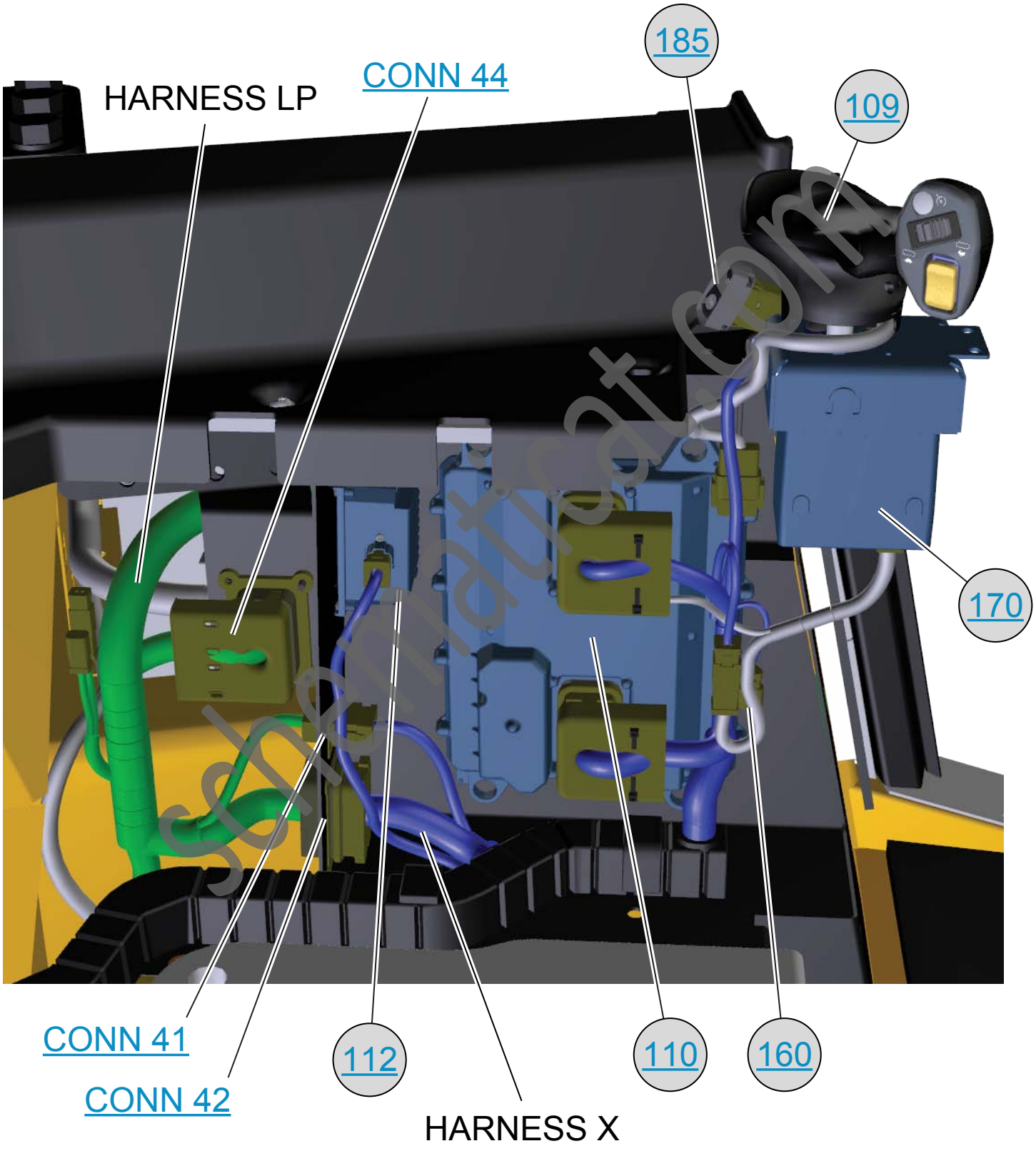
INSIDE RIGHT FRAME

VIEW ALL CALLOUTS



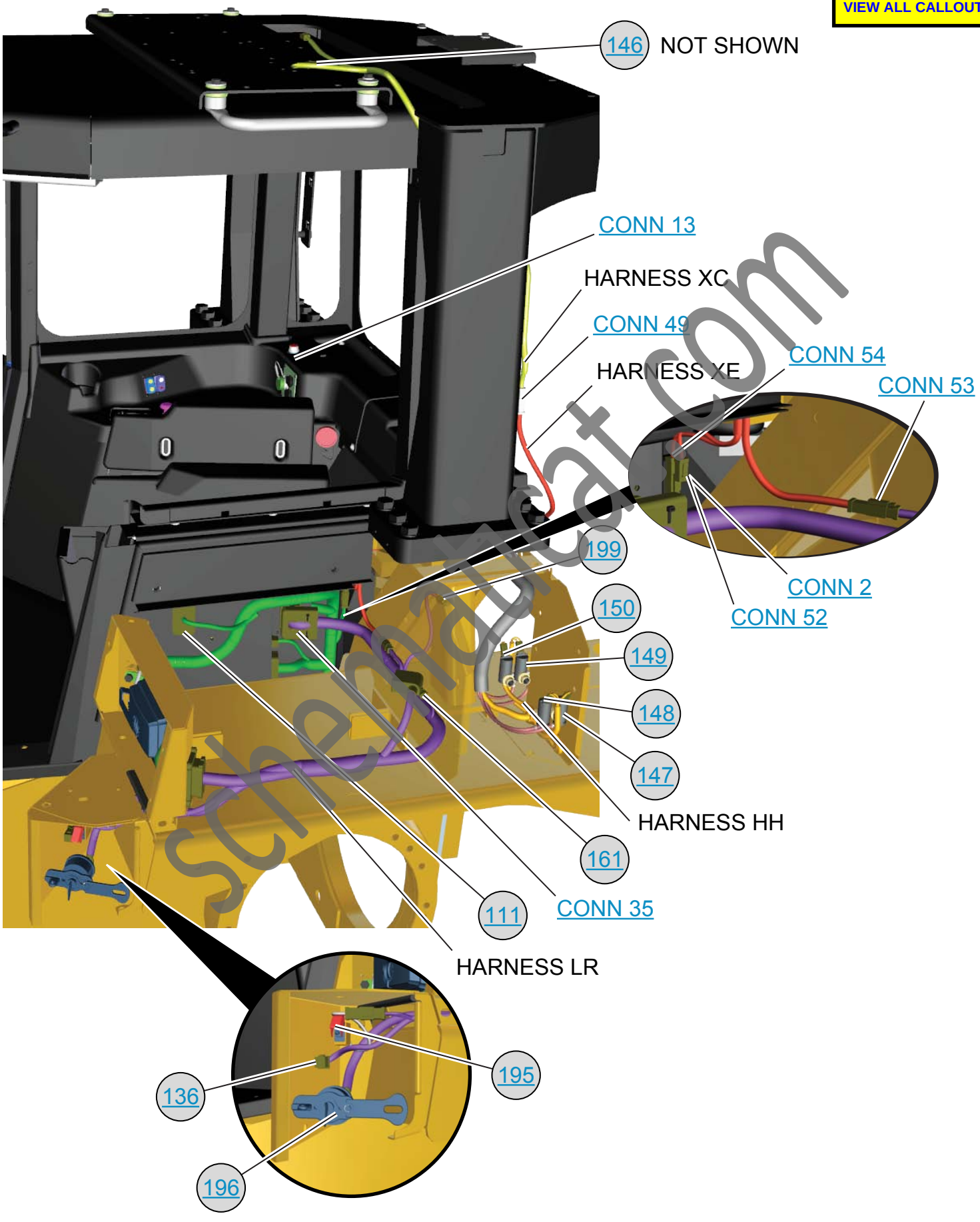
LEFT CAB

VIEW ALL CALLOUTS



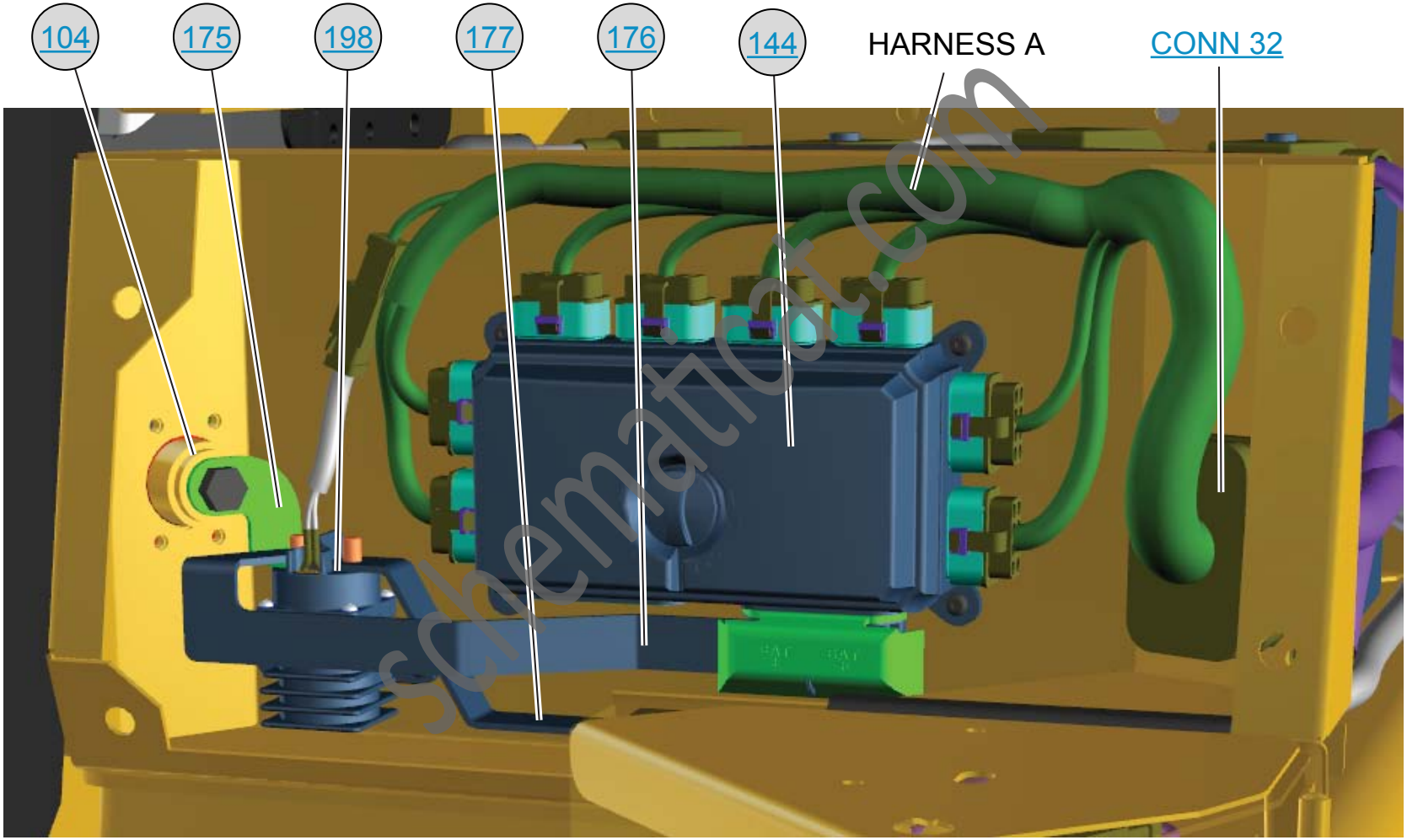
LEFT SIDE CAB WITH ACCESSORY POWER HARNESS (XE)

VIEW ALL CALLOUTS



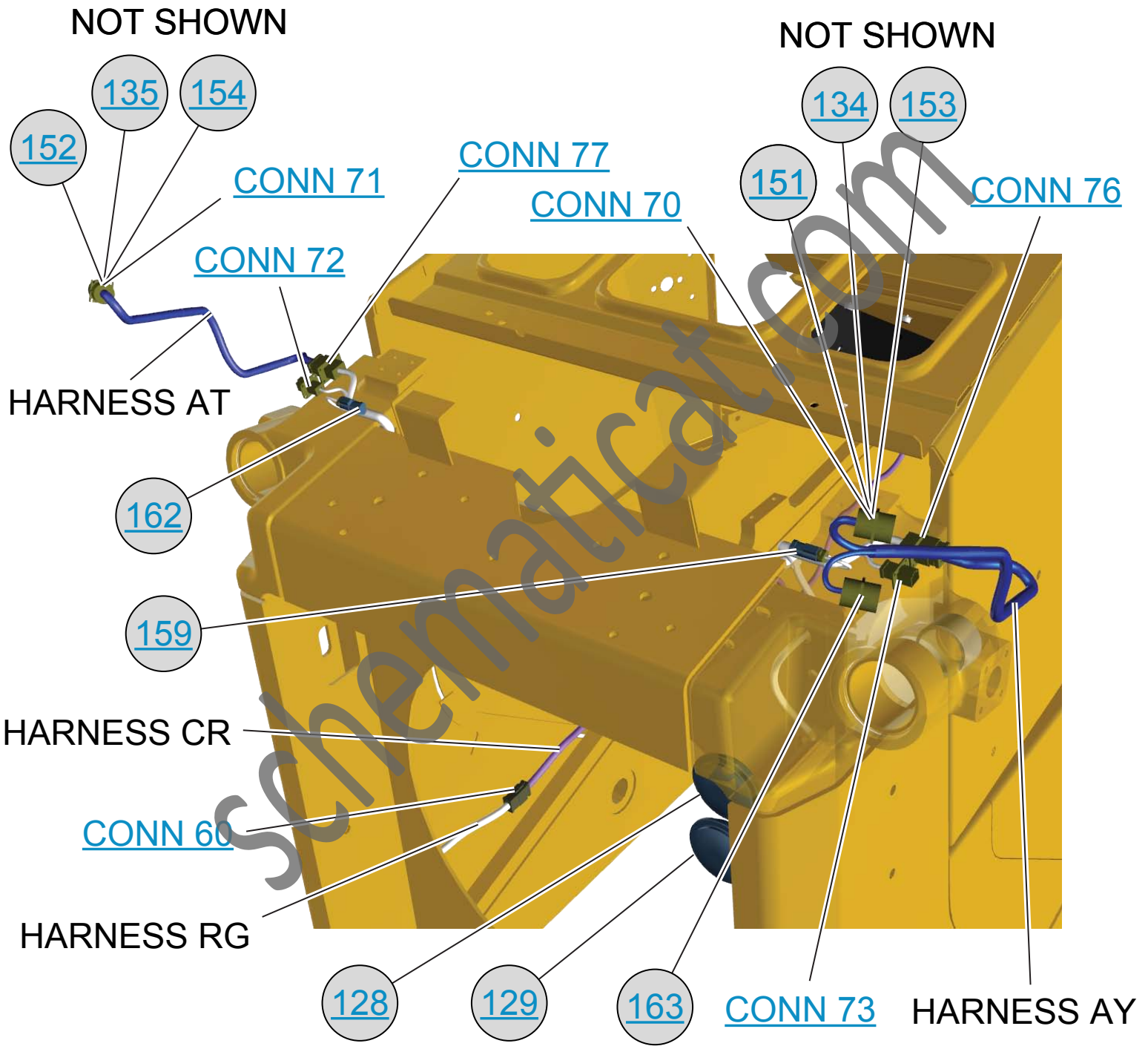
PANEL GP - CIRCUIT BREAKER

VIEW ALL CALLOUTS



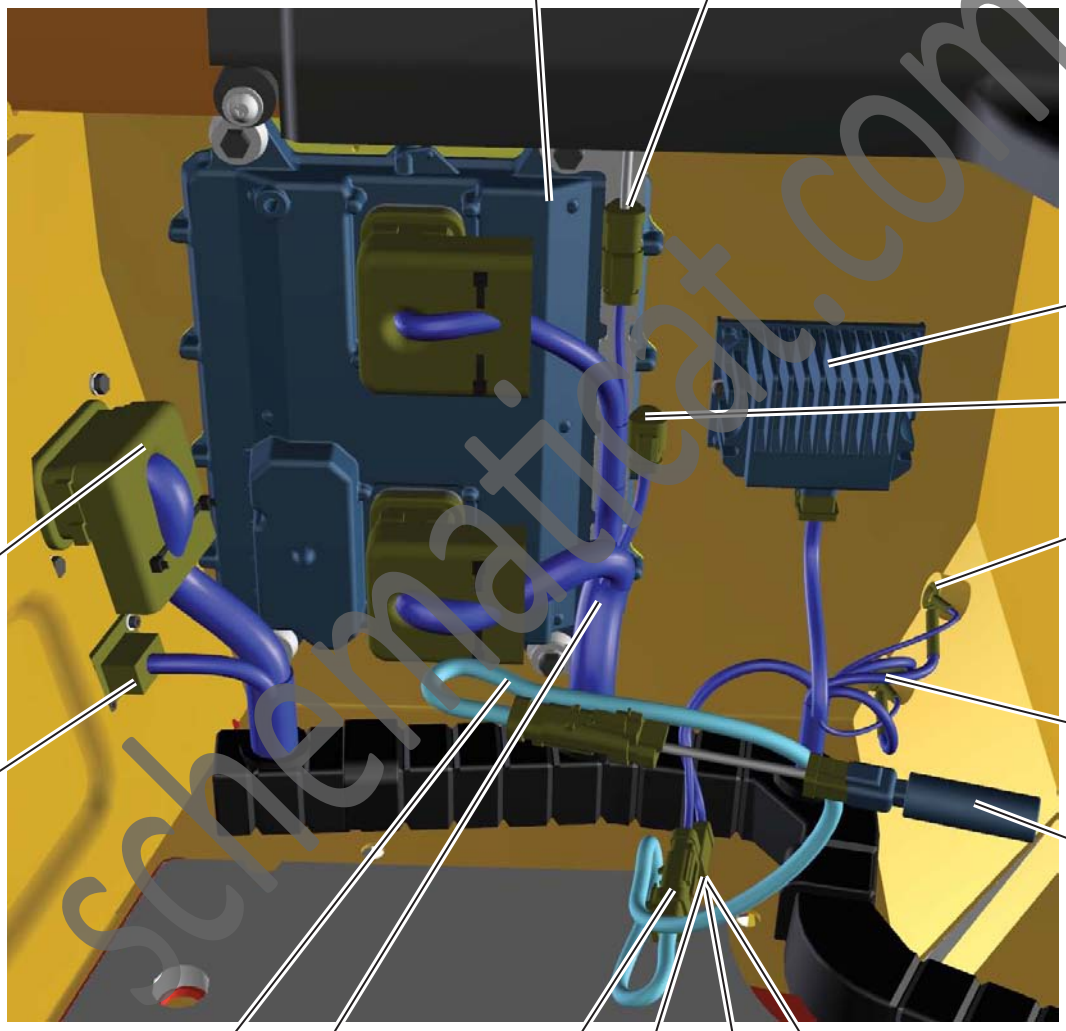
RADIATOR GUARD

VIEW ALL CALLOUTS



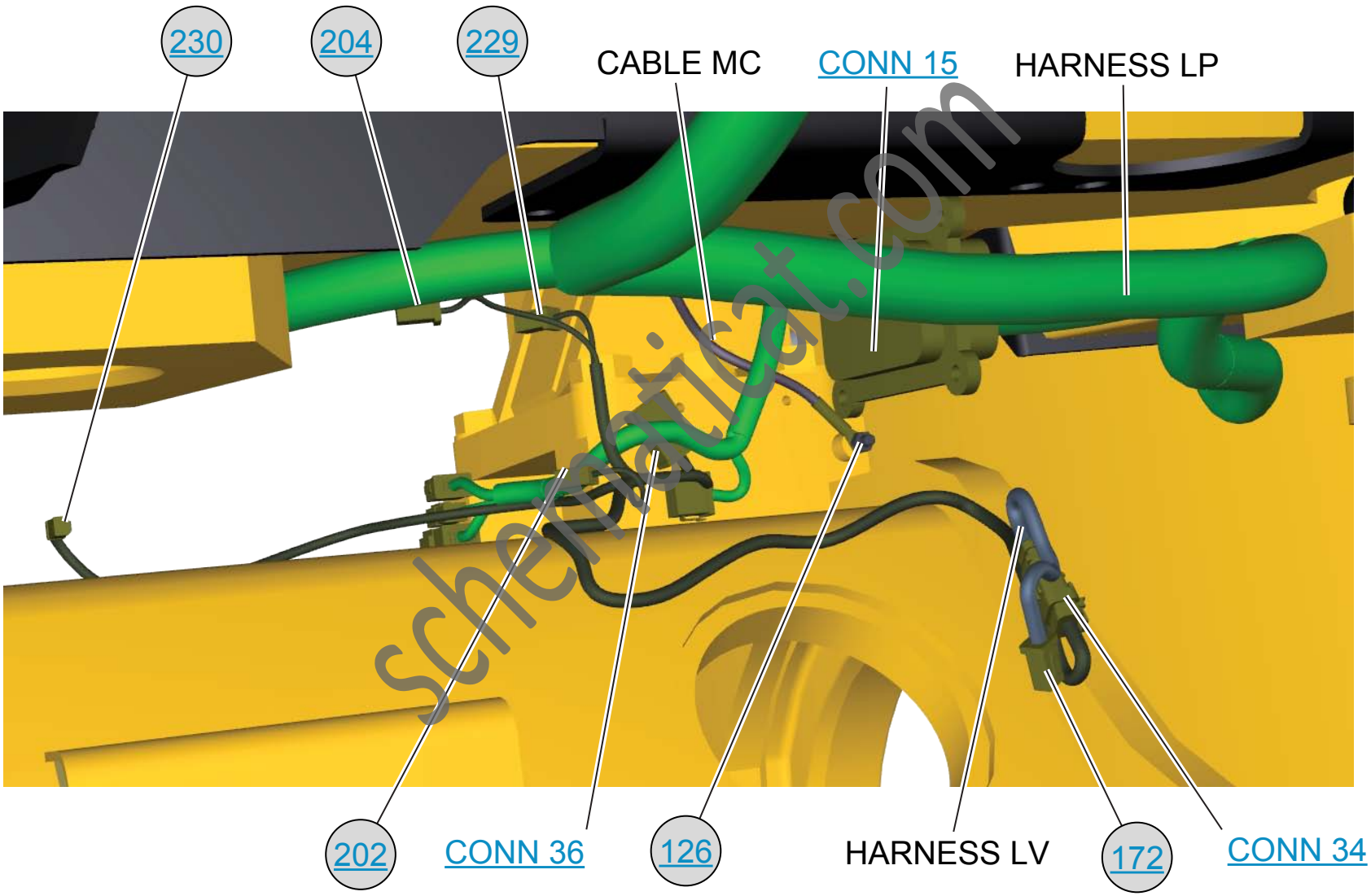
REAR CAB

VIEW ALL CALLOUTS



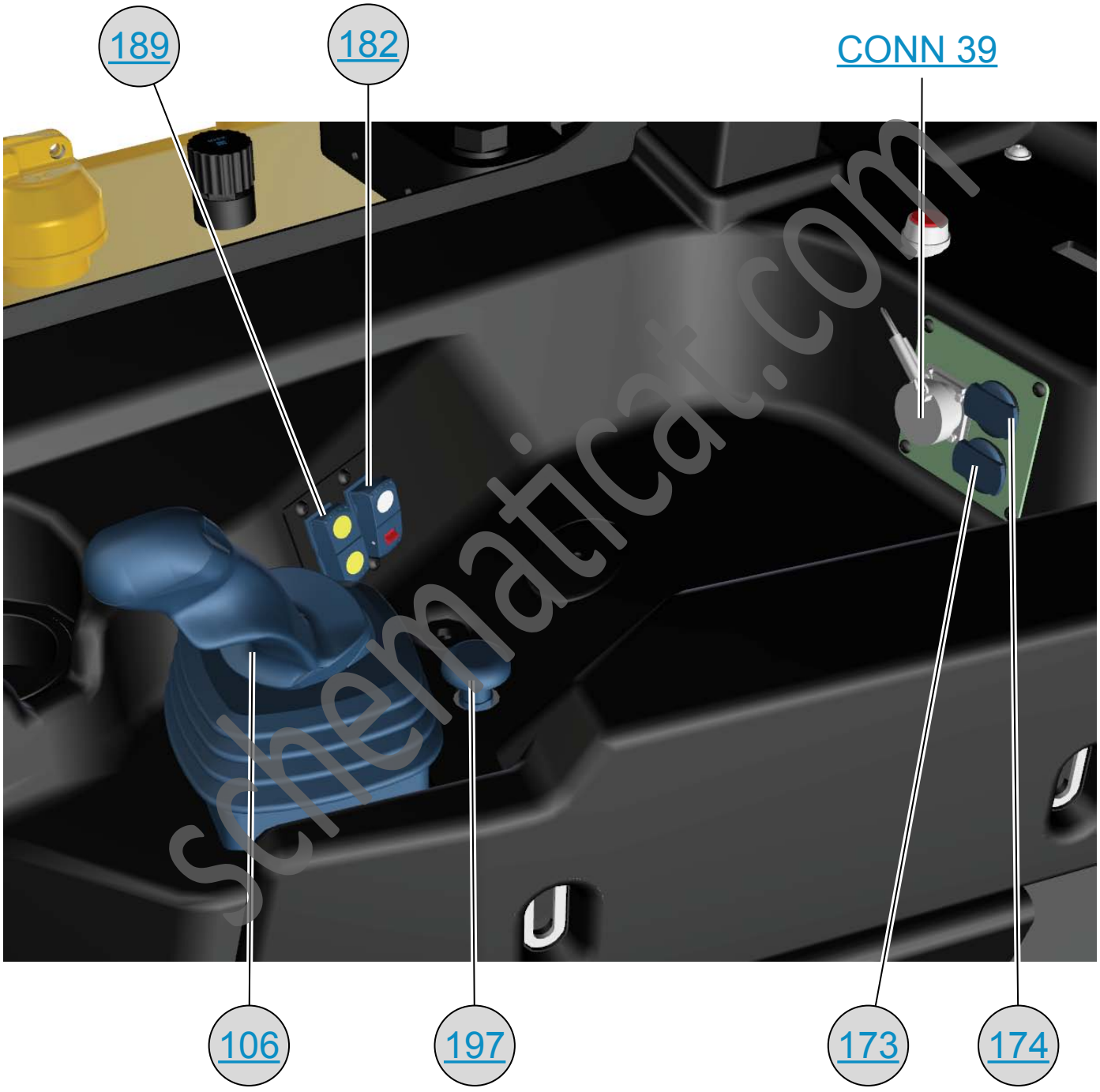
REAR LEFT - UNDER CAB

VIEW ALL CALLOUTS



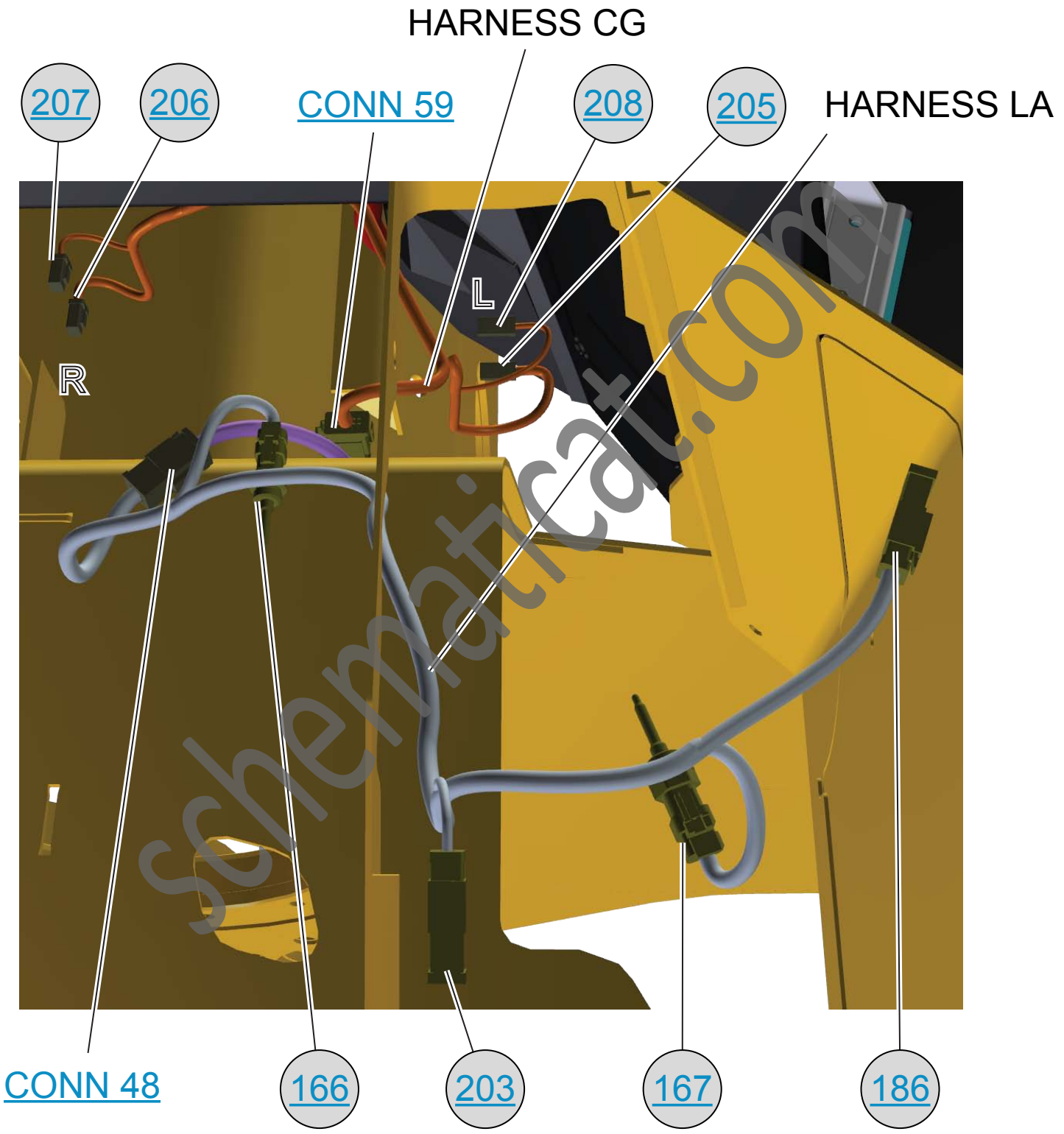
RH CONSOLE

VIEW ALL CALLOUTS



RH FENDER W/ IMPLEMENT VALVE LIFT/TILT

VIEW ALL CALLOUTS



RIGHT REAR CAB

VIEW ALL CALLOUTS