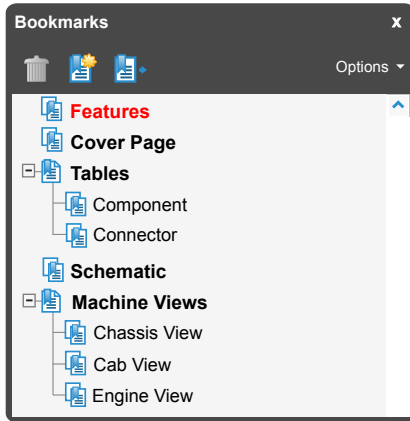


INTERACTIVE SCHEMATIC



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**.

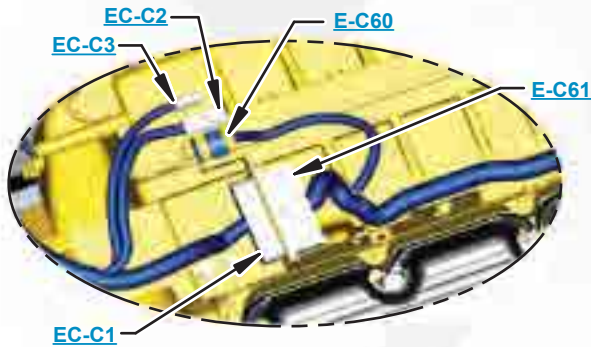
Select **PROPERTIES**.

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”
	Search	“CTRL” / “SHIFT” / “F”

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

BASIC HYDRAULIC COMPONENT SYMBOLS	
Pump or Motor	Variability
Fluid Conditioner	Spring (Adjustable)

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





Schematic

C11 and C13 On-highway Truck Engines Electrical System

KCA1-UP
KCB1-UP
JAM1-UP

SCHEMATIC SYMBOLS AND DEFINITIONS



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

INTERNAL PASSAGEWAYS			
Flow in One Direction	Flow Allowed in Either Direction	Parallel Flow	Cross Flow
Infinite Positioning	Two Position	Three Position	

PUMPS	
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	2-Section Pump
Attachment	Pump: Variable and Pressure Compensated
Hydraulic Energy Triangles	Pneumatic Energy Triangles

CYLINDERS	
Single Acting	Double Acting

ACCUMULATORS	
Spring Loaded	Gas Charged

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

ROTATING SHAFTS	
Unidirectional	Bidirectional

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

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

LINES	
Crossing	Joining

MEASUREMENT		
Pressure	Temperature	Flow

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

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

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

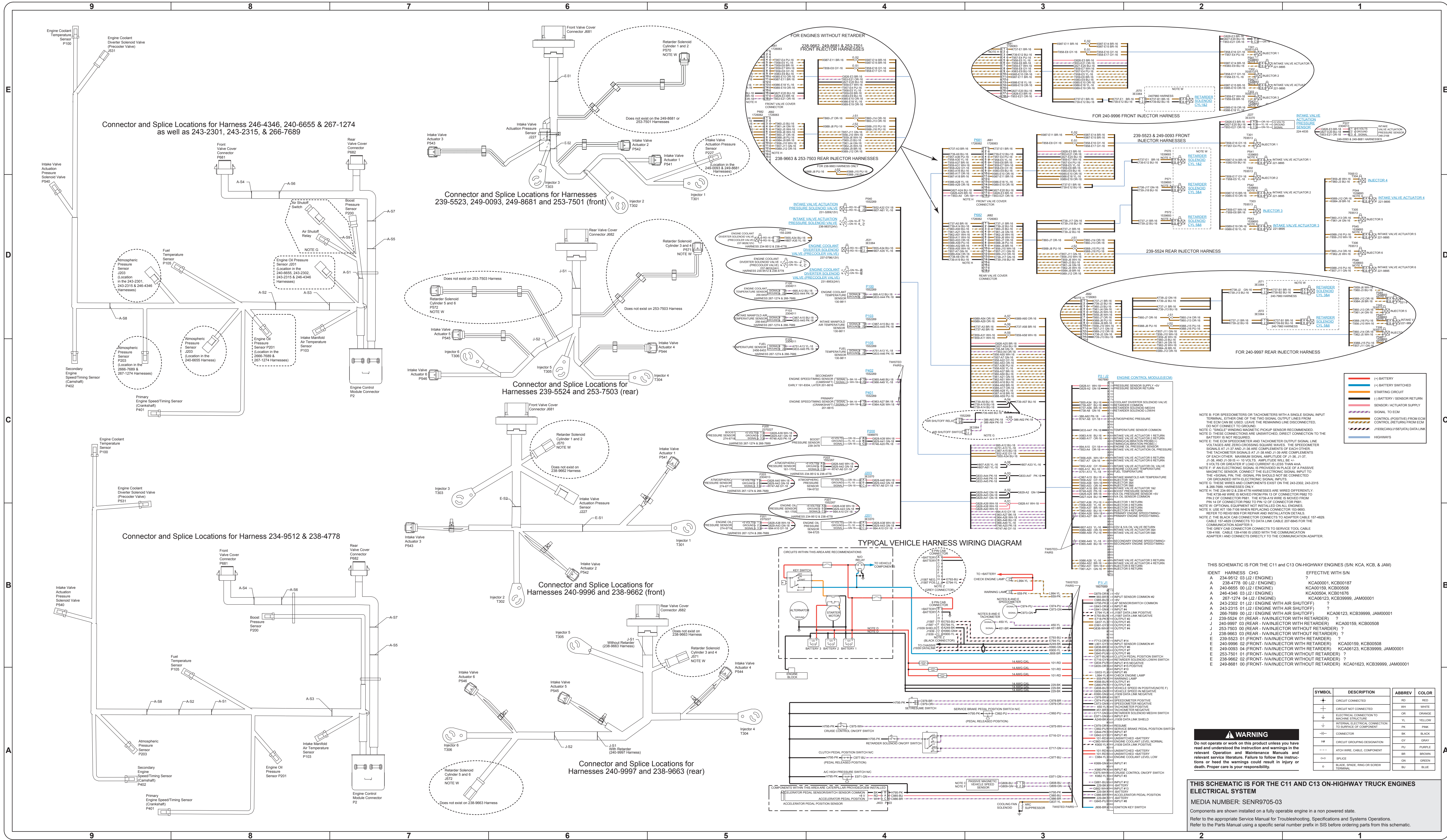
ELECTRICAL SYMBOLS				
Pressure Switch	Temperature Switch	Level Switch	Flow Switch	Circuit Breaker

BASIC ELECTRICAL COMPONENT SYMBOLS	
	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.

HARNES AND WIRE SYMBOLS	
Wire, Cable, or Harness Assembly Identification: Includes Harness Identification Letters and Harness Connector Serialization Codes (see sample).	
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, ...)	
Harness identification code: This example indicates wire group 325, wire 135 in harness "AG".	
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.	

Related Electrical Service Manuals

Title	Form Number
Troubleshooting	SENR9698
Systems Operation / Testing and Adjusting	SENR9703
Electronic PTO Installation and Applications Guide	RENR1282
Operation and Maintenance Manual	SEBU7695



Connector and Splice Locations for Harness 246-4346, 240-6655 & 267-1274 as well as 243-2301, 243-2315, & 266-7689

Connector and Splice Locations for Harnesses 239-5523, 249-0093, 249-8811 and 253-7501 (front)

Connector and Splice Locations for Harnesses 239-5524 and 253-7503 (rear)

Connector and Splice Locations for Harness 234-9512 & 238-4778

Connector and Splice Locations for Harnesses 240-9996 and 238-9662 (front)

Connector and Splice Locations for Harnesses 240-9997 and 238-9663 (rear)

TYPICAL VEHICLE HARNESS WIRING DIAGRAM

THIS SCHEMATIC IS FOR THE C11 AND C13 ON-HIGHWAY ENGINES (SN: KCA, KCB, JAM) IDENTIFY HARNESS CHG EFFECTIVE WITH SN

A	234-9512 02 (J2 / ENGINE)	KCA0001, KCB0018
A	238-4778 00 (J2 / ENGINE)	KCA0019, KCB0058
A	246-4346 02 (J2 / ENGINE)	KCA0054, KCB0167
A	267-1274 04 (J2 / ENGINE)	KCA06123, KCB39999, JAM00001
A	243-2302 01 (J2 / ENGINE WITH AIR SHUTOFF) ?	?
A	243-2315 04 (J2 / ENGINE WITH AIR SHUTOFF) ?	?
J	266-7689 00 (J2 / ENGINE WITH AIR SHUTOFF)	KCA06123, KCB39999, JAM00001
J	239-5524 01 (REAR - I/VA INJECTOR WITH RETARDER) ?	KCA00159, KCB00508
J	240-9997 03 (REAR - I/VA INJECTOR WITH RETARDER)	?
J	253-7503 00 (REAR - I/VA INJECTOR WITHOUT RETARDER) ?	?
J	238-9663 03 (REAR - I/VA INJECTOR WITHOUT RETARDER) ?	?
E	239-5523 01 (FRONT - I/VA INJECTOR WITH RETARDER) ?	?
E	240-9996 02 (FRONT - I/VA INJECTOR WITH RETARDER)	KCA00159, KCB00508
E	249-0093 04 (FRONT - I/VA INJECTOR WITH RETARDER)	KCA06123, KCB39999, JAM00001
E	253-7501 01 (FRONT - I/VA INJECTOR WITHOUT RETARDER) ?	?
E	238-9662 02 (FRONT - I/VA INJECTOR WITHOUT RETARDER) ?	?
E	249-8811 00 (FRONT - I/VA INJECTOR WITHOUT RETARDER)	KCA06123, KCB39999, JAM00001

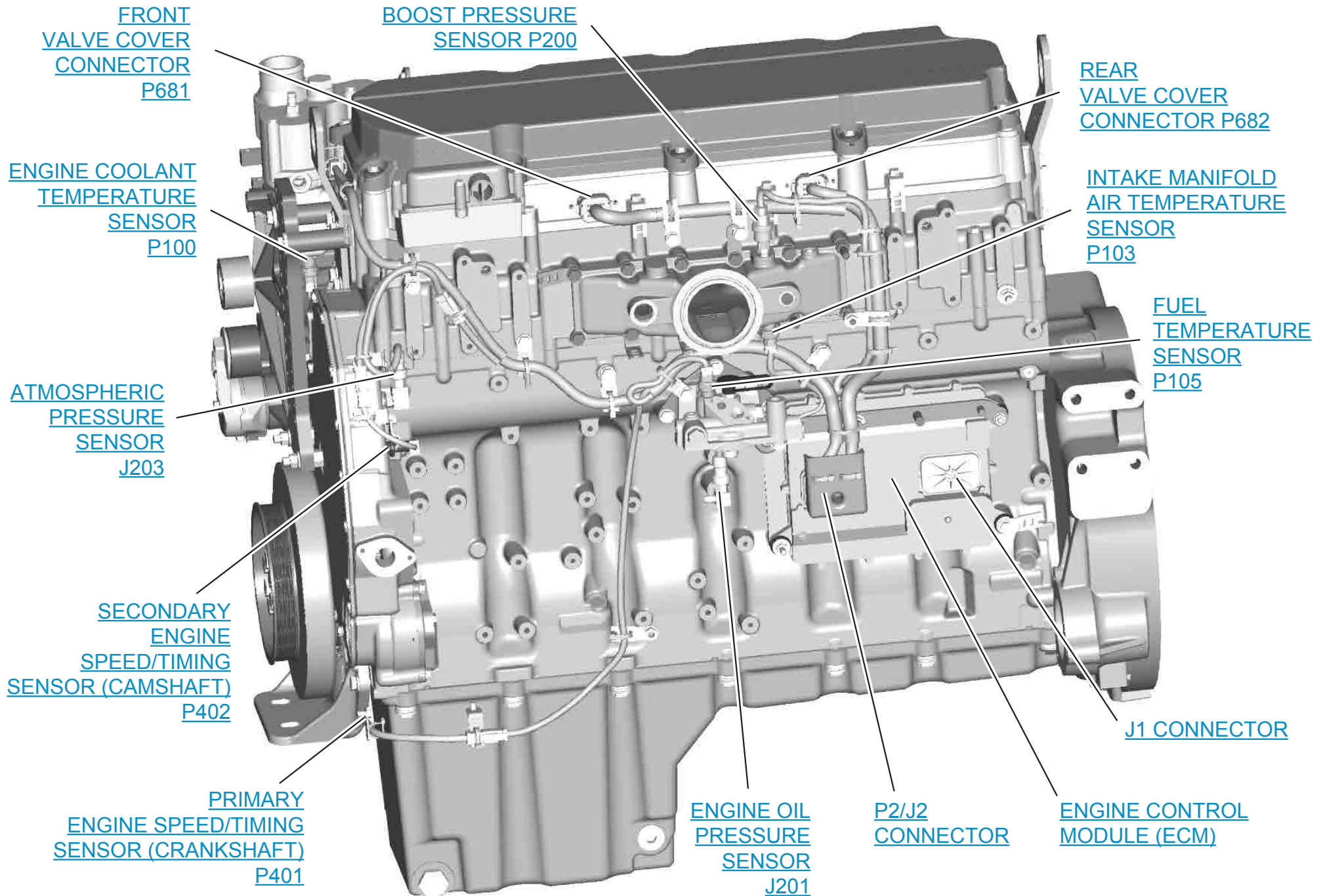
SYMBOL	DESCRIPTION	ABBREV	COLOR
+	CIRCUIT CONNECTED	RD	RED
-	CIRCUIT NOT CONNECTED	WH	WHITE
+	ELECTRICAL CONNECTION TO MACHINE STRUCTURE	OR	ORANGE
+	INTERNAL ELECTRICAL CONNECTION TO BRACKET OF COMPONENT	YL	YELLOW
+	CONNECTION	PK	PINK
+	CONNECTION	BL	BLACK
+	CONNECTION GROUPING DESIGNATION	GY	GRAY
+	ATTACH WIRE CABLE COMPONENT	PV	PURPLE
+	SPLICE	BR	BROWN
+	SLIDE SPACE, RING OR SCREW TERMINAL	GN	GREEN
+	TERMINAL	BU	BLUE

THIS SCHEMATIC IS FOR THE C11 AND C13 ON-HIGHWAY TRUCK ENGINES ELECTRICAL SYSTEM

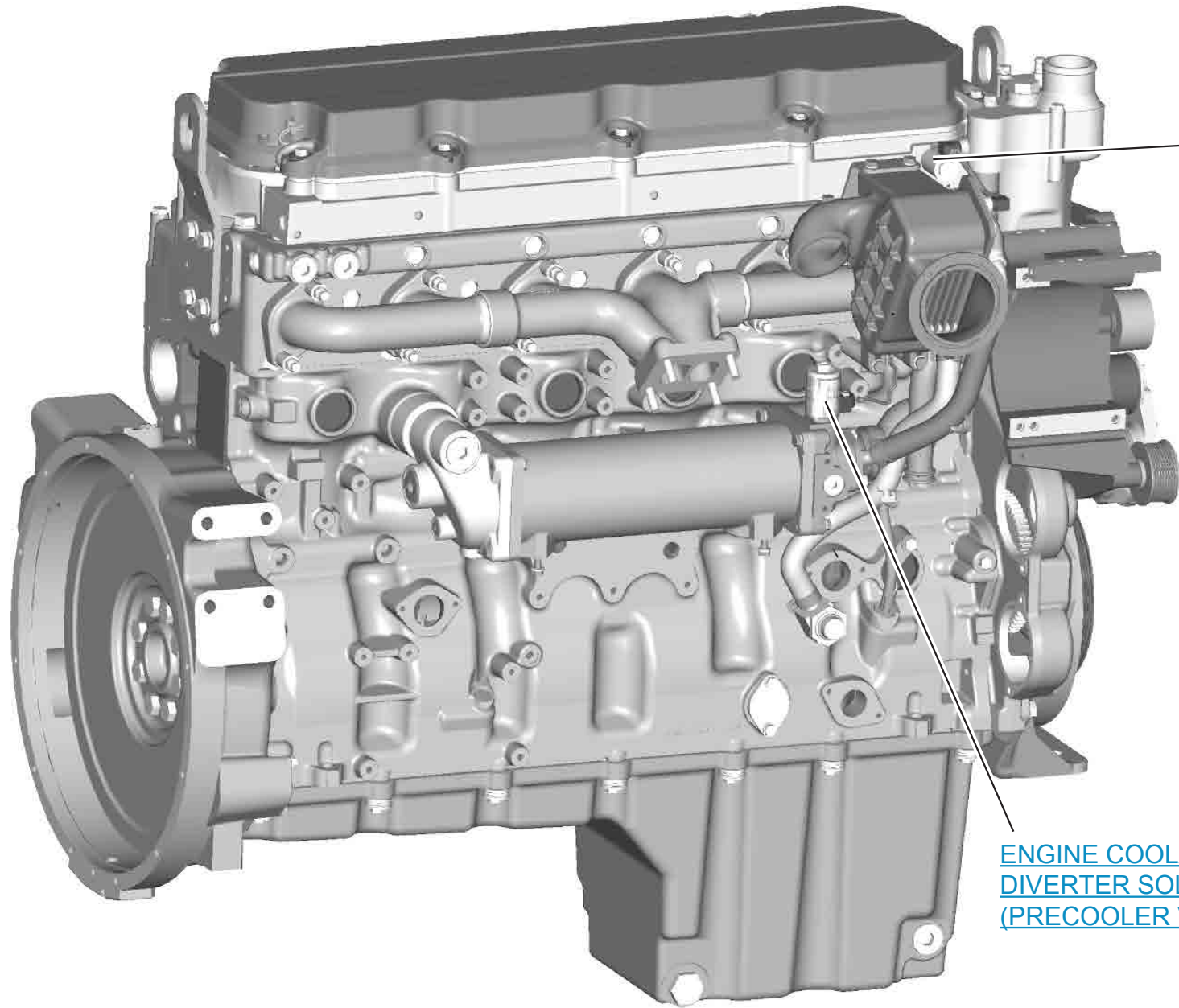
WARNING
Do not operate or work on this product unless you have read and understood the instruction and warnings in the relevant Operation and Maintenance Manuals and relevant service literature. Failure to follow the instructions or heed the warnings could result in injury or death. Proper care is your responsibility.

THIS SCHEMATIC IS FOR THE C11 AND C13 ON-HIGHWAY TRUCK ENGINES ELECTRICAL SYSTEM
MEDIA NUMBER: SENR9705-03
Components are shown installed on a fully operable engine in a non powered state. Refer to the appropriate Service Manual for Troubleshooting, Specifications and Systems Operations. Refer to the Parts Manual using a specific serial number prefix in SIS before ordering parts from this schematic.

LEFT SIDE VIEW



RIGHT SIDE VIEW



INTAKE VALVE
ACTUATION
PRESSURE
SOLENOID VALVE

ENGINE COOLANT
DIVERter SOLENOID VALVE
(PRECOOLER VALVE)

TOP VIEW



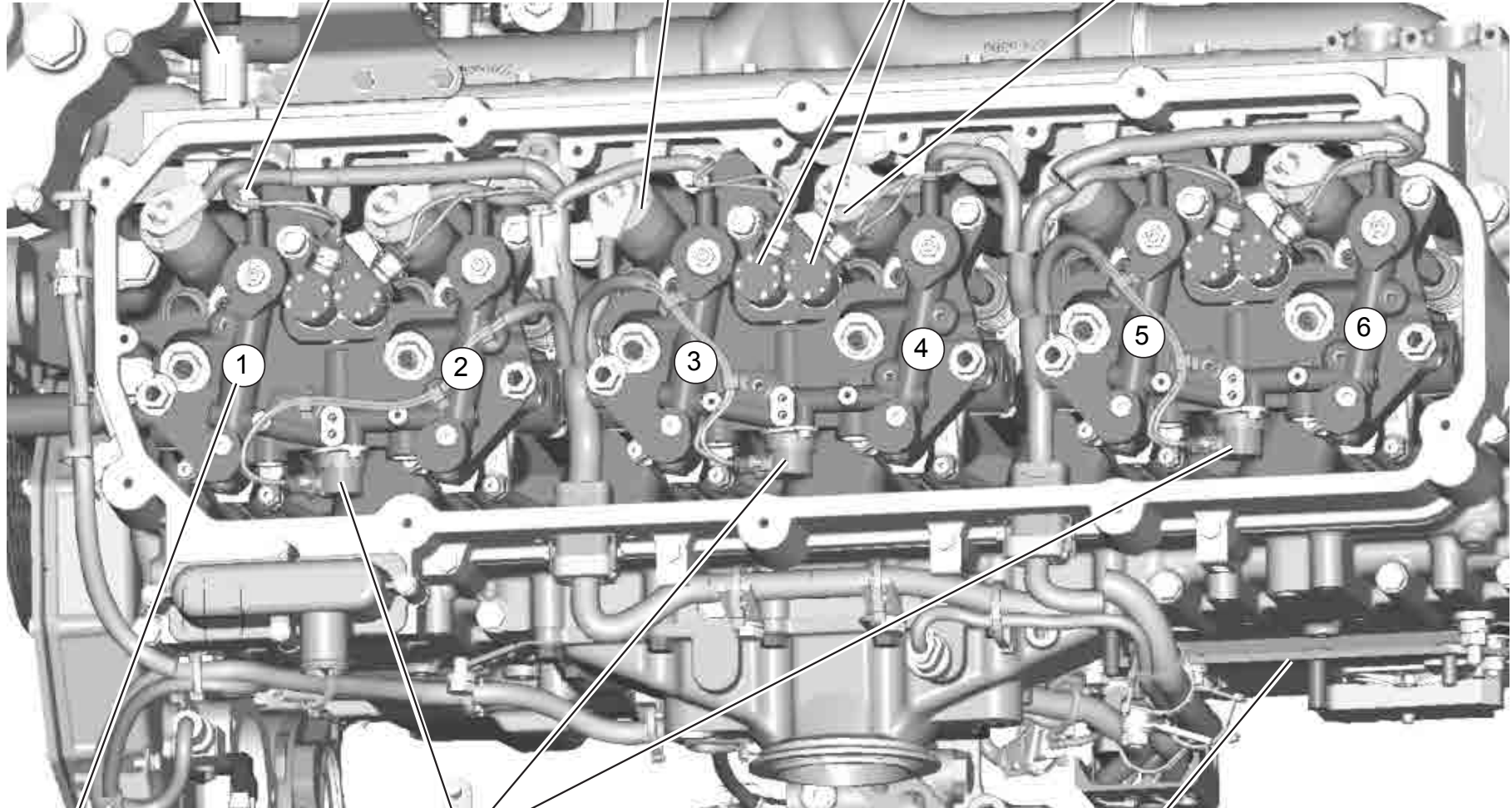
INTAKE VALVE
ACTUATION PRESSURE
SOLENOID VALVE

INTAKE VALVE
ACTUATION PRESSURE
SENSOR VALVE

INTAKE VALVES
ACTUATOR 3,4

INJECTOR 3

INJECTOR 4



CYLINDER
NUMBER

RETARDER
SOLENOIDS
CYLINDERS 1/2,3/4,5/6
NOTE W

ENGINE CONTROL
MODULE (ECM)

NOTE W:
OPTIONAL EQUIPMENT
NOT INSTALLED
ON ALL ENGINES.

CONNECTOR TABLES FOR HARNESSSES 253-7501, & 249-8681 (FRONT - WITHOUT RETARDER)



THIS APPLIES TO
249-8681 ONLY

P227			
CLR-GA	WIRE NAME	POS	TERM/PLUG
BR-16-NW	G826-E3	1	180-9340
BU-16-NW	G827-E20	2	180-9340
OR-16-NW	T853-E21	3	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	230-4013	

J681			
CLR-GA	WIRE NAME	POS	TERM/PLUG
		1	8T-8737
		2	8T-8737
		3	8T-8737
PU-16-NW	T957-E4	4	180-9339
YL-16-NW	T958-E5	5	180-9339
BR-16-NW	T959-E6	6	180-9339
WH-16-NW	T859-E7	7	180-9339
GY-16-NW	T858-E8	8	180-9339
BU-16-NW	X983-E9	9	180-9339
OR-16-NW	X985-E10	10	180-9339
BR-16-NW	X987-E11	11	180-9339
		12	8T-8737
YL-16-NW	X986-E18	13	180-9339
OR-16-NW	X989-E19	14	180-9339
		15	8T-8737
BU-16-NW	G827-E20	16	180-9339
BR-16-NW	G826-E3	17	180-9339
OR-16-NW	T853-E21	18	180-9339
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	RECEPTACLE AS.	172-6063	
1	WEDGE	172-6064	

T301			
CLR-GA	WIRE NAME	POS	TERM/PLUG
GY-16-NW	T858-E16	1	
PU-16-NW	T957-E4	2	
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	CONNECTOR AS	7E-6513	
50mm	TUBE	112-8144	

T302			
CLR-GA	WIRE NAME	POS	TERM/PLUG
GY-16-NW	T858-E17	1	
YL-16-NW	T958-E5	2	
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	CONNECTOR AS	7E-6513	
50mm	TUBE	112-8144	

T303			
CLR-GA	WIRE NAME	POS	TERM/PLUG
WH-16-NW	T859-E7	1	
BR-16-NW	T959-E6	2	
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	CONNECTOR AS	7E-6513	
50mm	TUBE	112-8144	

P541			
CLR-GA	WIRE NAME	POS	TERM/PLUG
BR-16-NW	X987-E14	A	154-2389
BU-16-NW	X983-E9	B	154-2389
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG	153-9693	
1	SEAL	154-0877	
1	CLIP	154-3769	

P542			
CLR-GA	WIRE NAME	POS	TERM/PLUG
BR-16-NW	X987-E15	A	154-2389
OR-16-NW	X985-E10	B	154-2389
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG	153-9693	
1	SEAL	154-0877	
1	CLIP	154-3769	

P543			
CLR-GA	WIRE NAME	POS	TERM/PLUG
OR-16-NW	X989-E19	A	154-2389
YL-16-NW	X986-E18	B	154-2389
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG	153-9693	
1	SEAL	154-0877	
1	CLIP	154-3769	

THIS APPLIES TO
253-7501 & 238-9662 ONLY

J227			
CLR-GA	WIRE NAME	POS	TERM/PLUG
BR-16-NW	G826-E3	A	180-9339
BU-16-NW	G827-E20	B	180-9339
OR-16-NW	T853-E21	C	180-9339
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	RECEPTACLE AS.	3E-3370	
1	WEDGE	3E-3371	

CONNECTOR TABLES FOR HARNESSSES

234-9512, 238-4778, 240-6655, 246-4346, 267-1274, 243-2302, 243-2315 & 266-7689



THE FOLLOWING APPLIES TO 234-9512 & 238-4778

THE FOLLOWING APPLIES TO 243-2302, 243-2315, 246-4346 & 240-6655

THE FOLLOWING APPLIES TO 267-1274 & 2667689

CLR-GA	WIRE NAME	POS	TERM/PLUG
BU-18	995-A12	1	180-9340
PK-18	G833-A44	2	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	155-2269	
1	WEDGE	155-2261	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
BU-18	995-A12	1	180-9340
PK-18	G833-A44	2	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	155-2269	
1	WEDGE	155-2261	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
BU-18	995-A12	1	180-9340
PK-18	G833-A44	2	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	230-4011	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
BU-18	C967-A15	1	180-9340
PK-18	G833-A45	2	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	155-2269	
1	WEDGE	155-2261	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
BU-18	C967-A15	1	180-9340
PK-18	G833-A45	2	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	155-2269	
1	WEDGE	155-2261	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
BU-18	C967-A15	1	180-9340
PK-18	G833-A45	2	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	230-4011	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
YL-18	A751-A13	1	180-9340
PK-18	G833-A46	2	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	155-2269	
1	WEDGE	155-2261	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
YL-18	A751-A13	1	180-9340
PK-18	G833-A46	2	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	155-2269	
1	WEDGE	155-2261	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
YL-18	A751-A13	1	180-9340
PK-18	G833-A46	2	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	230-4011	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
BU-18	C967-A15	1	180-9340
GN-18	G829-A41	B	180-9340
PK-18	R746-A20	C	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	155-2267	
1	WEDGE	155-2276	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
BU-18	C967-A15	1	180-9340
GN-18	G829-A41	B	180-9340
PK-18	R746-A20	C	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	155-2267	
1	WEDGE	155-2276	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
BU-18	C967-A15	1	180-9340
GN-18	G829-A41	B	180-9340
PK-18	R746-A20	C	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	237-0227	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
WH-18	G828-A38	A	180-9340
GN-18	G829-A43	B	180-9340
GY-18	994-A10	C	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	155-2267	
1	WEDGE	155-2276	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
WH-18	G828-A38	A	180-9339
GN-18	G829-A43	B	180-9339
GY-18	994-A10	C	180-9339
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	RECEPTACLE AS.	3E-3370	
1	WEDGE	3E-3371	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
WH-18	G828-A38	1	180-9340
GN-18	G829-A43	2	180-9340
GY-18	994-A10	3	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	237-0227	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
WH-18	G828-A40	A	180-9340
GN-18	G829-A42	B	180-9340
GY-18	R747-A6	C	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	155-2267	
1	WEDGE	155-2276	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
WH-18	G828-A40	A	180-9339
GN-18	G829-A42	B	180-9339
GY-18	R747-A6	C	180-9339
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	RECEPTACLE AS.	3E-3370	
1	WEDGE	3E-3371	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
WH-18	G828-A40	1	180-9340
GN-18	G829-A42	2	180-9340
GY-18	R747-A6	3	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	237-0227	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
BU-16	T855-A34	1	180-9340
YL-16	H807-A35	2	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	155-2269	
1	WEDGE	155-2261	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
BU-16	T855-A34	1	180-9339
YL-16	H807-A35	2	180-9339
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	RECEPTACLE AS.	3E-3364	
1	WEDGE	3E-3365	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
BU-16	T855-A34	1	180-9339
YL-16	H807-A35	2	180-9339
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	RECEPTACLE AS.	3E-3364	
1	WEDGE	3E-3365	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
PK-18	386-A63	1	180-9340
BU-16-HV	K739-A65	2	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	155-2269	
1	WEDGE	155-2261	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
PK-18	386-A64	1	180-9339
BU-16-HV	K739-A65	2	180-9339
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	RECEPTACLE AS.	3E-3364	
1	WEDGE	3E-3365	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
PK-18	386-A64	1	180-9339
BU-16-HV	K739-A65	2	180-9339
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	155-2269	
1	WEDGE	155-2261	
200mm	PAINT/PRO	110-3202	

THE FOLLOWING APPLIES TO 243-2302 243-2315 & 266-7689 ONLY (NOTE G)

CLR-GA	WIRE NAME	POS	TERM/PLUG
BU-16	T855-A34	1	180-9340
YL-16	H807-A35	2	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	155-2269	
1	WEDGE	155-2261	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
BU-16	T855-A34	1	180-9339
YL-16	H807-A35	2	180-9339
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	RECEPTACLE AS.	3E-3364	
1	WEDGE	3E-3365	
200mm	PAINT/PRO	110-3202	

CLR-GA	WIRE NAME	POS	TERM/PLUG
BU-16	T855-A34	1	180-9339
YL-16	H807-A35	2	180-9339
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	RECEPTACLE AS.	3E-3364	
1	WEDGE	3E-3365	
200mm	PAINT/PRO	110-3202	

NOTE G: THESE WIRES AND COMPONENTS EXIST ON THE 243-2302, 243-2315 & 266-7689, HARNESSSES ONLY.

NOTE H: THE 234-9512 & 238-4778 HARNESSSES ARE WIRED DIFFERENTLY: THE K738-A8 WIRE IS MOVED FROM PIN 13 OF CONNECTOR P682 TO PIN 2 OF CONNECTOR P681. THE K739-A19 WIRE IS MOVED FROM PIN 14 OF CONNECTOR P682 TO PIN 12 OF CONNECTOR P681.

CLR-GA	WIRE NAME	POS	TERM/PLUG
WH-18	G828-A1	1	8T-8737
GN-18	G829-A2	3	180-9340
		4	8T-8737
		5	8T-8737
		6	8T-8737
		7	8T-8737
BU-16	T855-A34	8	180-9340
BU-16-HV	K739-A57	9	180-9340
BR-16-HV	K737-A56	10	180-9340
GN-16-HV	K738-A8	11	180-9340
		12	8T-8737
		13	8T-8737
GY-18	R747-A6	14	180-9340
		15	8T-8737
		16	8T-8737
		17	8T-8737
PK-18	G833-A47	18	180-9340
		19	8T-8737
BU-16-HV	X983-A16	20	180-9340
OR-16-HV	X985-A17	21	180-9340
		22	8T-8737
		23	8T-8737
GY-18	994-A10	24	180-9340
OR-18	T853-A4	25	180-9340
		26	8T-8737
		27	8T-8737
WH-16-HV	T856-A55	28	

CONNECTOR TABLES FOR HARNESSSES 239-5524 & 240-9997 (REAR - WITH RETARDER)



THE FOLLOWING APPLIES TO 239-5524 ONLY

J682 FOR 239-5524 HARNESS			
CLR-GA	WIRE NAME	POS	TERM/PLUG
BR-16-NW	K737-J1	1	180-9339
BU-16-NW	K739-J2	2	180-9339
BU-16-NW	T960-J3	3	180-9339
GN-16-NW	T961-J4	4	180-9339
WH-16-NW	T962-J5	5	180-9339
WH-16-NW	T859-J6	6	180-9339
OR-16-NW	T860-J7	7	180-9339
PU-16-NW	X988-J8	8	180-9339
BR-16-NW	X984-J9	9	180-9339
WH-16-NW	T856-J10	10	180-9339
GN-16-NW	T857-J11	11	180-9339
OR-16-NW	X989-J12	12	180-9339
GN-16-NW	K738-J17	13	180-9339
BU-16-NW	K739-J18	14	180-9339
		15	8T-8737
		16	8T-8737
		17	8T-8737
		18	8T-8737
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	RECEPTACLE AS.	172-6063	
1	WEDGE	172-6064	

T305			
CLR-GA	WIRE NAME	POS	TERM/PLUG
OR-16-NW	T860-J13	1	
GN-16-NW	T961-J4	2	
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	CONNECTOR AS	7E-6513	
50mm	TUBE	112-8144	
T306			
CLR-GA	WIRE NAME	POS	TERM/PLUG
OR-16-NW	T860-J14	1	
WH-16-NW	T962-J5	2	
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	CONNECTOR AS	7E-6513	
50mm	TUBE	112-8144	
P544			
CLR-GA	WIRE NAME	POS	TERM/PLUG
OR-16-NW	X989-J12	A	154-2389
BR-16-NW	X984-J9	B	154-2389
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG	153-9693	
1	SEAL	154-0877	
1	CLIP	154-3769	

P546			
CLR-GA	WIRE NAME	POS	TERM/PLUG
PU-16-NW	X988-J15	A	154-2389
GN-16-NW	T857-J11	B	154-2389
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG	153-9693	
1	SEAL	154-0877	
1	CLIP	154-3769	
P545			
CLR-GA	WIRE NAME	POS	TERM/PLUG
PU-16-NW	X988-J16	A	154-2389
WH-16-NW	T856-J10	B	154-2389
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG	153-9693	
1	SEAL	154-0877	
1	CLIP	154-3769	
T304			
CLR-GA	WIRE NAME	POS	TERM/PLUG
WH-16-NW	T859-J6	1	
BU-16-NW	T960-J3	2	
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	CONNECTOR AS	7E-6513	
50mm	TUBE	112-8144	

P571 FOR 239-5524 HARNESS			
CLR-GA	WIRE NAME	POS	TERM/PLUG
GN-16-NW	K738-J17	A	154-2389
BU-16-NW	K739-J18	B	154-2389
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG	153-9693	
1	SEAL	154-0877	
1	CLIP	154-3769	
P572 FOR 239-5524 HARNESS			
CLR-GA	WIRE NAME	POS	TERM/PLUG
BR-16-NW	K737-J1	A	154-2389
BU-16-NW	K739-J2	B	154-2389
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG	153-9693	
1	SEAL	154-0877	
1	CLIP	154-3769	

THE FOLLOWING APPLIES TO 240-9997 ONLY

J572 FOR 240-9997 HARNESS			
CLR-GA	WIRE NAME	POS	TERM/PLUG
BR-16-NW	K737-J1	1	180-9339
BU-16-NW	K739-J2	2	180-9339
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	RECEPTACLE AS.	3E-3364	
1	WEDGE	3E-3365	

J571 FOR 240-9997 HARNESS			
CLR-GA	WIRE NAME	POS	TERM/PLUG
GN-16-NW	K738-E2	1	180-9339
BU-16-NW	K739-E13	2	180-9339
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	RECEPTACLE AS.	3E-3364	
1	WEDGE	3E-3365	

J682 FOR 240-9997 HARNESS			
This connector table is the same as the table for the 239-5524 (see above) except for these differences.			
CLR-GA	WIRE NAME	POS	TERM/PLUG
GN-16-NW	K738-E2	13	180-9339
BU-16-NW	K739-E13	14	180-9339

CONNECTOR TABLES FOR HARNESSSES

253-7503 & 238-9663 (REAR - WITHOUT RETARDER)



J682			
CLR-GA	WIRE NAME	POS	TERM/PLUG
		1	
		2	
BU-16-NW	T960-J3	3	180-9339
GN-16-NW	T961-J4	4	180-9339
WH-16-NW	T962-J5	5	180-9339
WH-16-NW	T859-J6	6	180-9339
OR-16-NW	T860-J7	7	180-9339
PU-16-NW	X988-J8	8	180-9339
BR-16-NW	X984-J9	9	180-9339
WH-16-NW	T856-J10	10	180-9339
GN-16-NW	T857-J11	11	180-9339
OR-16-NW	X989-J12	12	180-9339
		13	
		14	
		15	8T-8737
		16	8T-8737
		17	8T-8737
		18	8T-8737
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	RECEPTACLE AS.	172-6063	
1	WEDGE	172-6064	

T304			
CLR-GA	WIRE NAME	POS	TERM/PLUG
WH-16-NW	T859-J6	1	
BU-16-NW	T960-J3	2	
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	CONNECTOR AS	7E-6513	
50mm	TUBE	112-8144	
T305			
CLR-GA	WIRE NAME	POS	TERM/PLUG
OR-16-NW	T860-J13	1	
GN-16-NW	T961-J4	2	
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	CONNECTOR AS	7E-6513	
50mm	TUBE	112-8144	
T306			
CLR-GA	WIRE NAME	POS	TERM/PLUG
OR-16-NW	T860-J14	1	
WH-16-NW	T962-J5	2	
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	CONNECTOR AS	7E-6513	
50mm	TUBE	112-8144	

P544			
CLR-GA	WIRE NAME	POS	TERM/PLUG
OR-16-NW	X989-J12	A	154-2389
BR-16-NW	X984-J9	B	154-2389
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG	153-9693	
1	SEAL	154-0877	
1	CLIP	154-3769	
P545			
CLR-GA	WIRE NAME	POS	TERM/PLUG
PU-16-NW	X988-J16	A	154-2389
WH-16-NW	T856-J10	B	154-2389
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG	153-9693	
1	SEAL	154-0877	
1	CLIP	154-3769	
P546			
CLR-GA	WIRE NAME	POS	TERM/PLUG
PU-16-NW	X988-J15	A	154-2389
GN-16-NW	T857-J11	B	154-2389
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG	153-9693	
1	SEAL	154-0877	
1	CLIP	154-3769	

CONNECTOR TABLES FOR HARNESSSES 239-5523, 240-9996 & 249-0093 (FRONT - WITH RETARDER)



THIS APPLIES TO
249-0093 ONLY

P227			
CLR-GA	WIRE NAME	POS	TERM/PLUG
BR-16-NW	G826-E3	1	180-9340
BU-16-NW	G827-E20	2	180-9340
OR-16-NW	T853-E21	3	180-9340
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG AS.	230-4013	

THIS APPLIES TO
239-5523 & 240-9996 ONLY

J227			
CLR-GA	WIRE NAME	POS	TERM/PLUG
BR-16-NW	G826-E3	A	180-9339
BU-16-NW	G827-E20	B	180-9339
OR-16-NW	T853-E21	C	180-9339
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	RECEPTACLE AS.	3E-3370	
1	WEDGE	3E-3371	

P541			
CLR-GA	WIRE NAME	POS	TERM/PLUG
BR-16-NW	X987-E14	A	154-2389
BU-16-NW	X983-E9	B	154-2389
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG	153-9693	
1	SEAL	154-0877	
1	CLIP	154-3769	

J681			
CLR-GA	WIRE NAME	POS	TERM/PLUG
BR-16-NW	K737-E1	1	180-9339
		2	8T-8737
BU-16-NW	K739-E12	3	180-9339
PU-16-NW	T957-E4	4	180-9339
YL-16-NW	T958-E5	5	180-9339
BR-16-NW	T959-E6	6	180-9339
WH-16-NW	T859-E7	7	180-9339
GY-16-NW	T858-E8	8	180-9339
BU-16-NW	X983-E9	9	180-9339
OR-16-NW	X985-E10	10	180-9339
BR-16-NW	X987-E11	11	180-9339
		12	8T-8737
YL-16-NW	X986-E18	13	180-9339
OR-16-NW	X989-E19	14	180-9339
		15	8T-8737
BU-16-NW	G827-E20	16	180-9339
BR-16-NW	G826-E3	17	180-9339
OR-16-NW	T853-E21	18	180-9339
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	RECEPTACLE AS.	172-6063	
1	WEDGE	172-6064	

J570 FOR 240-9996 HARNESS			
CLR-GA	WIRE NAME	POS	TERM/PLUG
BR-16-NW	K737-E1	1	180-9339
BU-16-NW	K739-E12	2	180-9339
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	RECEPTACLE AS.	3E-3364	
1	WEDGE	3E-3365	

T301			
CLR-GA	WIRE NAME	POS	TERM/PLUG
GY-16-NW	T858-E16	1	
PU-16-NW	T957-E4	2	
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	CONNECTOR AS	7E-6513	
50mm	TUBE	112-8144	

T302			
CLR-GA	WIRE NAME	POS	TERM/PLUG
GY-16-NW	T858-E17	1	
YL-16-NW	T958-E5	2	
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	CONNECTOR AS	7E-6513	
50mm	TUBE	112-8144	

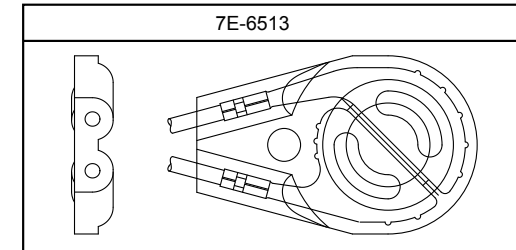
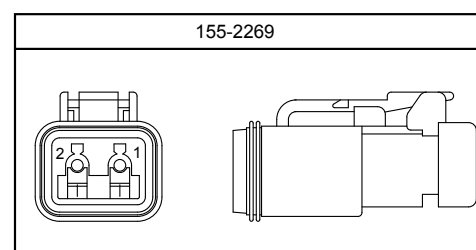
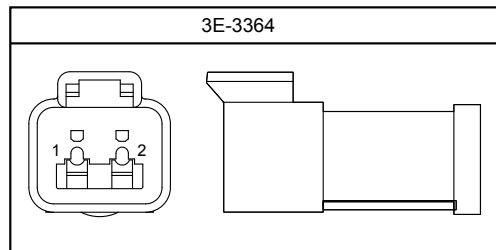
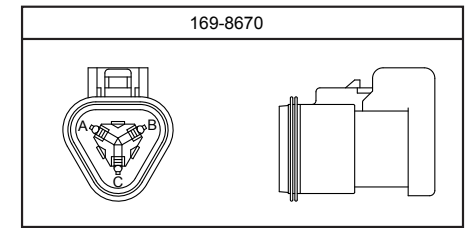
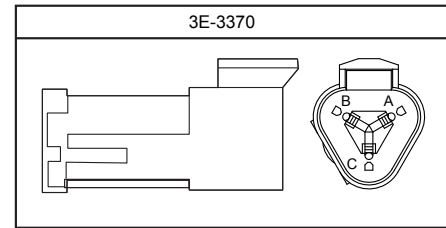
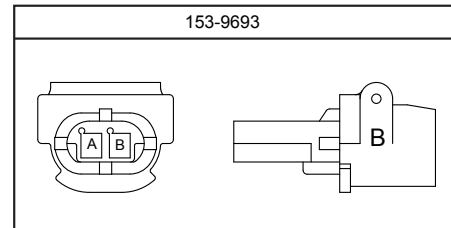
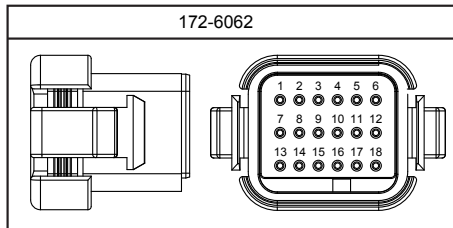
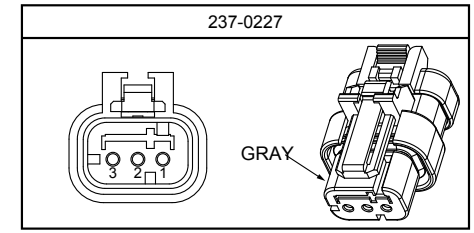
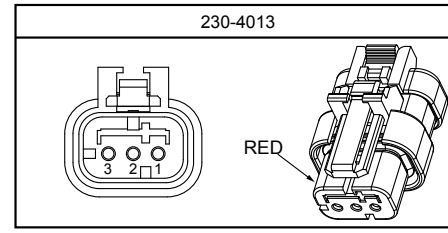
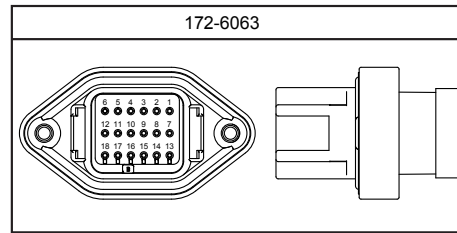
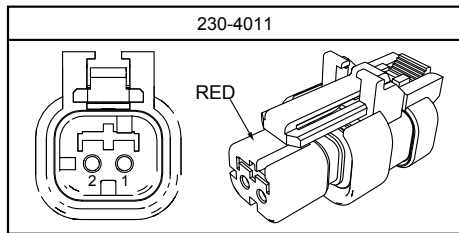
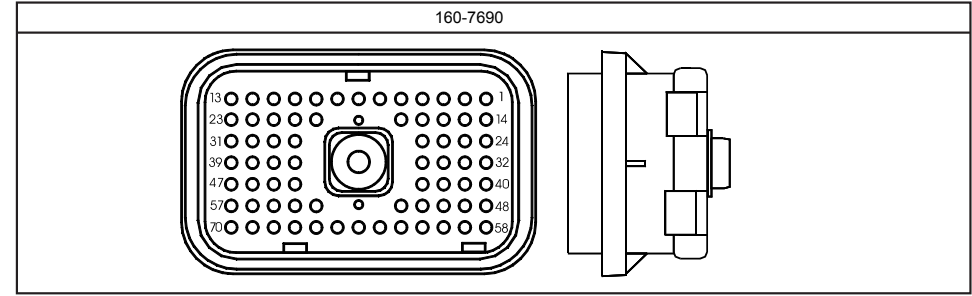
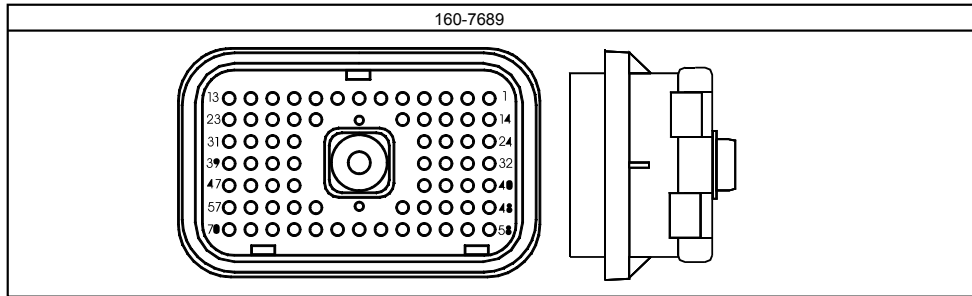
T303			
CLR-GA	WIRE NAME	POS	TERM/PLUG
WH-16-NW	T859-E7	1	
BR-16-NW	T959-E6	2	
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	CONNECTOR AS	7E-6513	
50mm	TUBE	112-8144	

P542			
CLR-GA	WIRE NAME	POS	TERM/PLUG
BR-16-NW	X987-E15	A	154-2389
OR-16-NW	X985-E10	B	154-2389
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG	153-9693	
1	SEAL	154-0877	
1	CLIP	154-3769	

P543			
CLR-GA	WIRE NAME	POS	TERM/PLUG
OR-16-NW	X989-E19	A	154-2389
YL-16-NW	X986-E18	B	154-2389
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG	153-9693	
1	SEAL	154-0877	
1	CLIP	154-3769	

P570 FOR 239-5523 HARNESS			
CLR-GA	WIRE NAME	POS	TERM/PLUG
BR-16-NW	K737-E1	A	154-2389
BU-16-NW	K739-E12	B	154-2389
ACCESSORY TABLE			
QTY	PART NAME	P/N	
1	PLUG	153-9693	
1	SEAL	154-0877	
1	CLIP	154-3769	

CONNECTORS



DIAGNOSTIC CODE LISTING



Diagnostic Code Listing

PID-FMI	Description	Flash Codes	PID-FMI	Description	Flash Codes
N/A	No Diagnostic Codes Detected	55	0111-04	Coolant Level voltage low	12
0001-05	Cylinder #1 Injector current low	72	0111-11	Very Low Coolant Level	62
0001-06	Cylinder #1 Injector current high	72	0111-14	Low Coolant Level Warning	
0002-05	Cylinder #2 Injector current low	72	0121-05	Low/High Retarder current low	14
0002-06	Cylinder #2 Injector current high	72	0121-06	Low/High Retarder current high	14
0003-05	Cylinder #3 Injector current low	73	0122-05	Med/High Retarder current low	14
0003-06	Cylinder #3 Injector current high	73	0122-06	Med/High Retarder current high	14
0004-05	Cylinder #4 Injector current low	73	0166-14	Rated Engine Power Special Instructions	
0004-06	Cylinder #4 Injector current high	73	0168-01	Low ECM Battery Power	17
0005-05	Cylinder #5 Injector current low	74	0168-02	ECM Battery Power Intermittent	51
0005-06	Cylinder #5 Injector current high	74	0171-03	Ambient Air Temperature voltage high	
0006-05	Cylinder #6 Injector current low	74	0171-04	Ambient Air Temperature voltage low	
0006-06	Cylinder #6 Injector current high	74	0171-11	Ambient Air Temperature Data Lost	
0022-11	Primary to Secondary Engine Speed Calibration	42	0174-00	High Fuel Temperature Warning	65
0022-13	Engine Speed Signal Calibration Not Performed	42	0174-03	Fuel Temperature voltage high	13
0030-08	PTO Throttle signal invalid	29	0174-04	Fuel Temperature voltage low	13
0030-13	PTO Throttle out of calibration	29	0190-00	Engine Overspeed Warning	35
0041-03	8 Volt Supply voltage high	21	0190-08	Primary Engine Speed Loss of Signal	34
0041-04	8 Volt Supply voltage low	21	0191-07	Transmission Not Responding	68
0043-02	Key Switch Fault	71	0224-11	Theft Deterrent Active	00
0052-11	Air Inlet Shutoff Shutdown	00	0224-14	Theft Deterrent Active with Engine Cranking	00
0054-05	Auxiliary Output #06 current low	66	0231-02	J1939 Data Incorrect	58
0054-06	Auxiliary Output #06 current high	66	0231-12	J1939 Device Not Responding	
0055-05	Auxiliary Output #07 current low	67	0232-03	5 Volt Supply voltage high	21
0055-06	Auxiliary Output #07 current high	67	0232-04	5 Volt Supply voltage low	21
0064-08	Secondary Engine Speed loss of signal	34	0246-11	Brake Pedal Switch #1 Fault	
0071-00	Idle Shutdown Override	01	0247-11	Brake Pedal Switch #2 Fault	
0071-01	Idle Shutdown	47	0252-11	Engine Software Incorrect	59
0071-14	PTO Shutdown	47	0253-02	Check Customer or System Parameters	56
0084-00	Vehicle Overspeed Warning	41	0253-11	Check Transmission Customer Parameters	56
0084-01	Vehicle Speed loss of signal	31	0283-05	Intake Valve Actuation System Oil Pressure Solenoid current low	97
0084-02	Vehicle Speed signal invalid	36	0283-06	Intake Valve Actuation System Oil Pressure Solenoid current high	97
0084-08	Vehicle Speed signal out of range	36	0283-07	Intake Valve Actuation Oil Pres. not responding	91
0084-10	Vehicle Speed signal rate of change	36	0284-05	Engine Coolant Diverter current low	98
0084-14	Quick Stop Occurrence		0284-06	Engine Coolant Diverter current high	98
0091-08	Throttle Position Invalid	32	0285-05	Intake Valve Actuator #1 current low	92
0091-13	Throttle Position out of calibration	32	0285-06	Intake Valve Actuator #1 current high	92
0100-01	Low Oil Pressure Warning	46	0285-07	Intake Valve Actuator #1 not responding	92
0100-03	Oil Pressure voltage high	24	0286-05	Intake Valve Actuator #2 current low	92
0100-04	Oil Pressure voltage low	24	0286-06	Intake Valve Actuator #2 current high	92
0100-11	Very Low Oil Pressure	46	0286-07	Intake Valve Actuator #2 not responding	92
0102-03	Boost Pressure voltage high	25	0287-05	Intake Valve Actuator #3 current low	93
0102-04	Boost Pressure voltage low	25	0287-06	Intake Valve Actuator #3 current high	93
0105-00	High Intake Manifold Air Temperature Warning	64	0287-07	Intake Valve Actuator #3 not responding	93
0105-03	Intake Manifold Air Temperature voltage high	38	0288-05	Intake Valve Actuator #4 current low	93
0105-04	Intake Manifold Air Temperature voltage low	38	0288-06	Intake Valve Actuator #4 current high	93
0105-11	Very High Intake Manifold Air Temperature	64	0288-07	Intake Valve Actuator #4 not responding	93
0108-03	Barometric Pressure voltage high	26	0289-05	Intake Valve Actuator #5 current low	94
0108-04	Barometric Pressure voltage low	26	0289-06	Intake Valve Actuator #5 current high	94
0110-00	High Coolant Temperature Warning	61	0289-07	Intake Valve Actuator #5 not responding	94
0110-03	Coolant Temperature voltage high	27	0290-05	Intake Valve Actuator #6 current low	94
0110-04	Coolant Temperature voltage low	27	0290-06	Intake Valve Actuator #6 current high	94
0110-11	Very High Coolant Temperature	61	0290-07	Intake Valve Actuator #6 not responding	94
0111-01	Low Coolant Level Warning	62	0385-01	Low Intake Valve Actuation System Oil Pres.	
0111-02	Coolant Level signal invalid	12	0385-03	Intake Valve Actuation Sys. Oil Pres. voltage high	95
0111-03	Coolant Level voltage high	12	0385-04	Intake Valve Actuation Sys. Oil Pres. voltage low	95