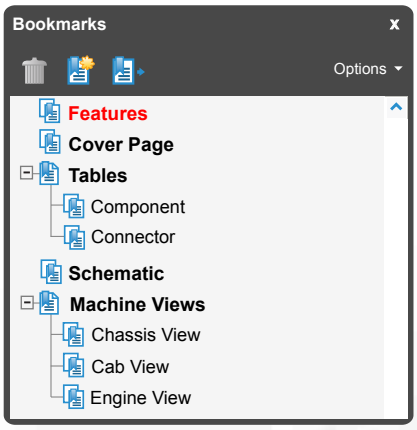
INTERACTIVE SCHEMATIC

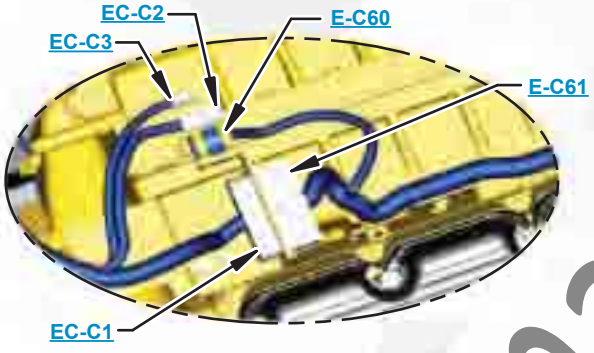


The Bookmarks panel will allow you to quickly navigate to points of interest.

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*



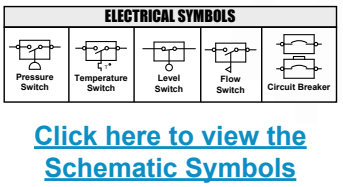
Click on any text that is BLUE and underlined. These are hyperlinks that can be used to navigate the schematic and machine views.

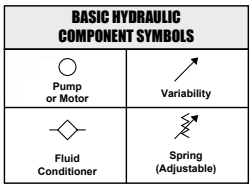
Click here to save a copy of this interactive schematic to your desktop

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

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.

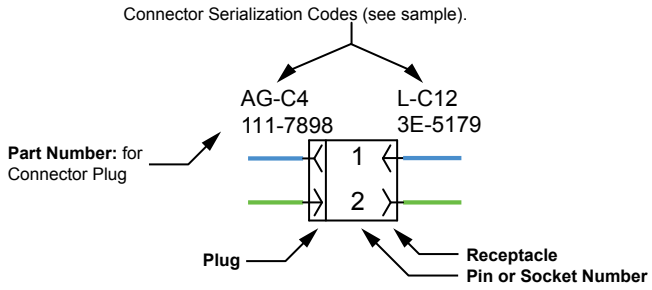
Relay (Magnetic Switch): A relay is an electrical component that is activated by electricity. It has a coil that makes an electromagnet when current flows through it. The electromagnet can open or close the switch part of the relay.

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

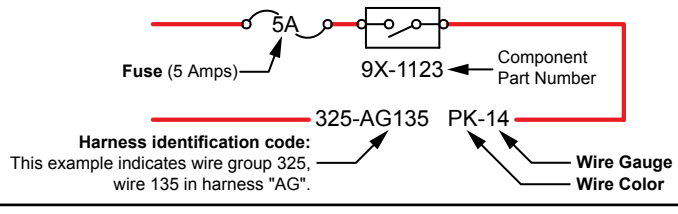
Wire, Cable, or Harness Assembly Identification: Includes Harness Identification Letters and Harness Connector Serialization Codes (see sample).

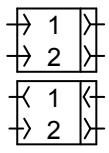


Harness Identification Letter(s): (A, B, C, AA, AB, AC, ...)

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





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.

CATERPILLAR®

UENR3874
December 2012

Schematic

793F APECS Transmission Electrical System

SND1-UP
SSP1-UP

Printed in U.S.A.

COMPONENT TABLE

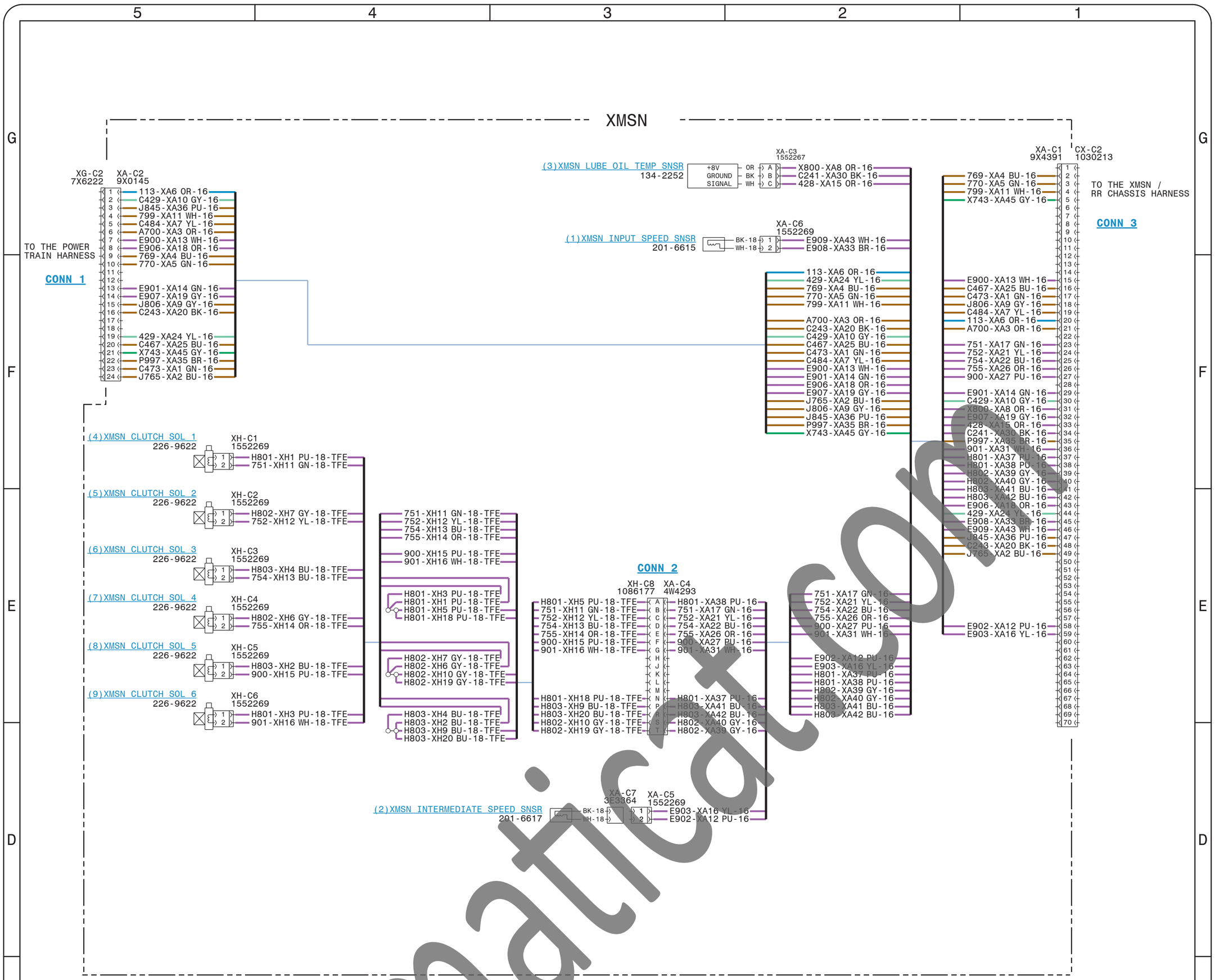
Component Location		
Component	**Schematic Location**	**Machine Location**
Sensor - XMSN Input Speed	G-3	1
Sensor - XMSN Intermediate Speed	D-4	2
Sensor - XMSN Lube Oil Temperature	G-3	3
Solenoid - XMSN Clutch 1	E-6	4
Solenoid - XMSN Clutch 2	D-6	5
Solenoid - XMSN Clutch 3	D-6	6
Solenoid - XMSN Clutch 4	D-6	7
Solenoid - XMSN Clutch 5	D-6	8
Solenoid - XMSN Clutch 6	C-6	9

CONNECTOR TABLE

Connector Location	
Connector Number	**Schematic Location**
CONN 1	G-5
CONN 2	E-3
CONN 3	G-1

SPECIFICATIONS AND RELATED MANUALS

Related Electrical Service Manuals	
Title	**Form Number**
Cross Reference for Electrical Connectors:	REHS0970
Systems Operations:	KENR8392
Troubleshooting:	KENR8394



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

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

WIRE GROUP COLOR DESCRIPTIONS	
	WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS ON
	TRANSMISSION CONTROL CIRCUIT
	MONITOR CIRCUIT
	CHASSIS CIRCUIT
	INTEGRATED BRAKING CONTROL CIRCUIT
OTHER COLOR DESCRIPTIONS	
	HIGHWAYS

IDENT	PART NUMBER	CHANGE	SHEET	LOC	DESCRIPTION	NOTE
HARNESS AS.						
XA	378-1002	00	1	G1	XMSN INPUTS	STD
XH	378-1001	00	1	E3	XMSN OUTPUTS	STD

THIS SCHEMATIC IS FOR THE 793F APECS TRANSMISSION ELECTRICAL SYSTEM

MEDIA NUMBER: UENR3874

SCHEMATIC PART NUMBER: 289-6289, CHANGE: 03, 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.

APECS TRANSMISSION VIEW

VIEW ALL CALLOUTS