

MACHINE HARNESS CONNECTOR AND COMPONENT LOCATIONS

Off Machine Switch Specification				
Part No.	Function	Actuate	Deactuate	Contact Position
3E-6425	Coolant Temp (St Aid)	38.0 ± 3.0°C (100.0 ± 5.0°F)	27.0°C MIN (81.0°F MIN)	Normally Closed
3E-7504	Trans Oil Temp	107.0 ± 3.0°C (225.0 ± 5.0°F)	96.0°C MIN (206.0°F MIN)	Normally Open
3E-7674	Differential Lube Pressure	90.0 kPa MAX (13.0 psi MAX)	35.0 ± 2.0 kPa (5.0 ± 3.0 psi)	A-B, Normally Open A-C, Normally Closed
101-3780	Engine Oil Pressure	80.0 kPa MAX (12.0 psi MAX)	38.0 ± 1.0 kPa (5.5 ± 1.5 psi)	Normally Closed
103-4076	Transmission Pressure	310.0 kPa MAX (45.0 psi MAX)	262.0 ± 20.0 kPa (38.0 ± 3.0 psi)	Normally Closed
107-4658	Engine Coolant Temp	108.0 ± 3.0°C (226.0 ± 5.0°F)	100.0°C MIN (212.0°F MIN)	Normally Open *
107-4927	Hydraulic Oil Temp	82.0 ± 3.0°C (180.0 ± 5.0°F)	74.0°C MIN (165.0°F MIN)	Normally Open *

\* To check contact position of switch measure from Contact 2 to case.

RESISTOR AND SOLENOID SPECIFICATIONS		
Component	Part No.	Resistance (Ohms)†
Resistor - Blower Speed	7T-3828	Overall 1.0 ± 0.1 Tap 0.5 ± 0.05
Resistor - Flasher Load	3E-0108	9.0 ± 0.4
Solenoid - A/C Clutch	3E-1907	3.50 ± 0.15
Solenoid - Dual Horsepower	104-9257	5.40 ± 0.50
Solenoid - Hitch	100-3915	6.2
Solenoid - Start Aid	3E-6331	1.5

† At room temperature.

Related Electrical Service Manuals	
Title	Form No.
Alternator (21 ST) Consist No. 9X-8096	SENR4757
Starting Motor (42 MT) Consist No. 3E-7854	SENR3561

# Schematic

## Challenger 65C & 70C Agricultural Tractors Electrical System

65C:  
2ZJ500-UP

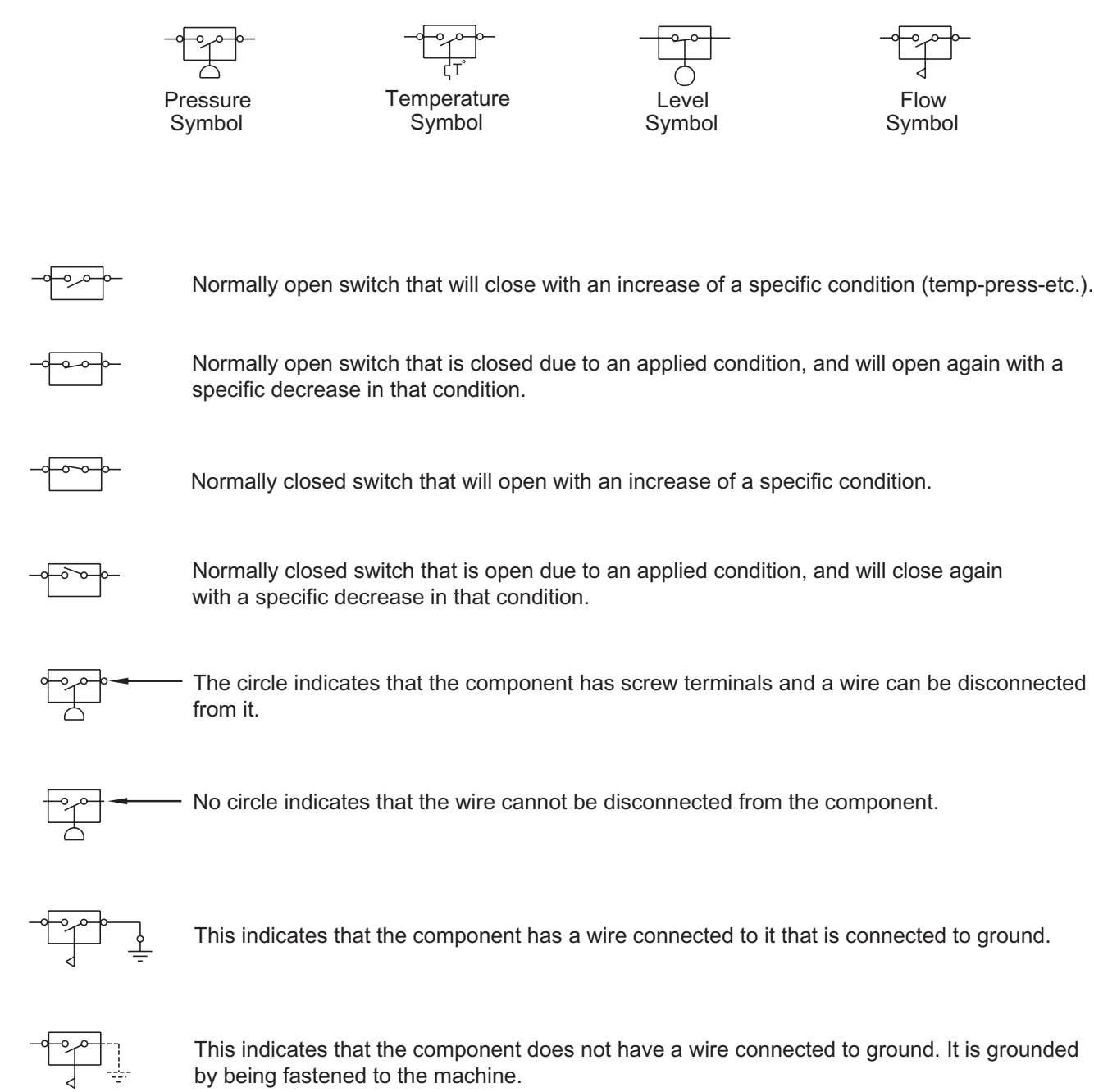
70C:  
2YL1-UP

WIRE DESCRIPTION CHART			
Wire Number	Wire Color	Description	Description
101	RD	BAT	500 BR WIPER - FRONT (PARK)
102	BU	IGN LAMP	501 OR WIPER - FRONT (LO)
104	YL	ALUX CRT	502 OR WIPER - FRONT (HI)
105	BR	KEY SW	503 BR WIPER - REAR (PARK)
106	WH	ALUX CRT	504 YL WIPER - REAR (LO)
107	WH	ENG SHUTDOWN	508 PU RADIO SPEAKER - LEFT
109	OR	ALT OUTPUT (1) TERM	509 WH RADIO SPEAKER - LEFT (COMMON)
112	PU	MAIN POWER RELAY OUTPUT	511 BR RADIO SPEAKER - RIGHT
115	PK	ALUX CRT	512 GN RADIO SPEAKER - RIGHT (COMMON)
116	BR	ALUX CRT	515 GN PRESS. SW
118	OR	ALUX CRT	516 GN BLOWER MOTOR (HS)
119	PK	ALUX CRT	516 GN BLOWER MOTOR (MED/LM)
123	WH	ALUX CRT	518 OR HAZARD FLASHER TO SW
124	GN	AC	521 YL AC SW TO REFRIGERANT SW
130	GN	ALUX CRT	522 WH AC CLUTCH TO THROTTLE AT SW
135	BU	ALUX CRT	539 OR TURN SIGNAL INDICATOR BASIC/RIGHT
150	OR	EU (ADEM)	540 WH TURN SIGNAL INDICATOR LEFT
153	WH	3 FT HITCH CONT	507 YL TRAILER CONNECTOR (LEFT TURN/HAZARD)
165	YL	ALUX CRT	558 GN (RIGHT TURN/HAZARD)
167	OR	ALUX CRT	566 GN ALERT BUZZER TO DOORS
169	PK	ALUX CRT	564 PU FRONT WIPER SW TO HI SPD RELAY COIL (HS)
170	YL	ALUX CRT	565 YL FRONT WIPER SW TO HI SPD RELAY(S) & LO (SPD)
172	GN	ALUX CRT	566 WH FRONT WIPER SW TO HI SPD RELAY(S) TO LO (SPD RELAY(S))
175	PK	ALUX CRT	Lighting Circuits
200	BR	MAIN CHASSIS	604 OR STOP LAMP
201	BR	OPR MON PANEL	605 YL TURN LAMP - LEFT
209	BR	EU CONT	606 GF TURN LAMP - RIGHT
A220	BR	DRAFT CONTROL IDENT CODE 0	607 PK FLOOD LAMP - FRONT
304	WH	STARTER RELAY NO. 1 OUTPUT	610 OR HEAD LAMP BASIC
306	GN	STARTER RELAY COIL TO NEUT START SW	611 PU HEAD LAMP HI
307	OR	KEY SW TO NEUT START SW	614 PU PARKING DASH LAMP
310	PU	START AID SW TO START AID SOL	619 GN HEAD LAMP LO
311	WH	START AID SOL TO TEMP SW	630 GF FLOOD LAMP REAR ATTACH
322	GY	WARNING HORN (FORWARD)	636 BR TURN SIGNAL COMMON
404	YL	OPR MON OIL TEMP	647 GN TURN SIGNAL TO REAR FLOOD RELAY
405	GY	OPR MON OIL PRESS. (LO SETTING)	648 BU LIGHT SW TO HEADLAMP BREAKER
406	PU	OPR MON COOLANT TEMP	649 YL LIGHT SW TO PARK/TAIL LAMP BREAKER
410	WH	OPR MON ACTION ALARM	Control Circuits
415	GN	OPR MON TEST SW	710 GN XMSN SPEED PICKUP SIGNAL
419	YL	OPR MON PARKING BRAKE	705 YL DUAL HP SOL
428	OR	OPR MON XMSN OIL TEMP	870 OR 3 FT HITCH CONT - DOWN SOL
441	OR	ENG COOLANT TEMP GAGE	871 BU 3 FT HITCH CONT - SOL COMMON
447	PK	FUEL LEVEL GAGE	872 YL 3 FT HITCH CONT - UP SOL
449	BU	SPDOM SENDER (SIGNAL NO. 1)	888 PK 3 FT HITCH CONT - HITCH POSITION
450	YL	TACH SENDER (1)	889 GY 3 FT HITCH CONT - HANDLE POSITION
457	PU	OPR MON SYSTEM AIR PRESS	890 PU 3 FT HITCH CONT - HOOKUP SW
459	PK	OPR MON PANEL IMPLEMENT POSITION	896 GY 3 FT HITCH CONTROL - DRAFT OFF JCN
464	GY	OPR MON PANEL ENG OIL PRESS. SENSOR	898 PK 3 FT HITCH DRAFT SWITCH TO THROTTLE SWITCH
465	OR	LO CHARGE PRESS. ALERT	899 GY 3 FT HITCH CONTROL - DRAFT OFF
466	WH	OPR MON PANEL STER OIL TEMP	897 PK 3 FT HITCH CONTROL - DRAFT TO THROTTLE SWITCH
471	PK	XMSN NEUT TO PARKING BRAKE	892 GN THROTTLE POSITION
477	YL	SPDOM SENDER (SIGNAL NO. 2)	
487	BU	SENSOR POWER	
A24	WH	PRESS. TRANSDUCER 1 SIGNAL	
A25	YL	PRESS. TRANSDUCER 2 SIGNAL	
A20	OR	EU CONT FAULT OUTPUT	
B402	YL	INDICATOR LAMP OFF LUBE PRESS.	
B437	BR	HYDRAULIC OIL FILTER INDICATOR	

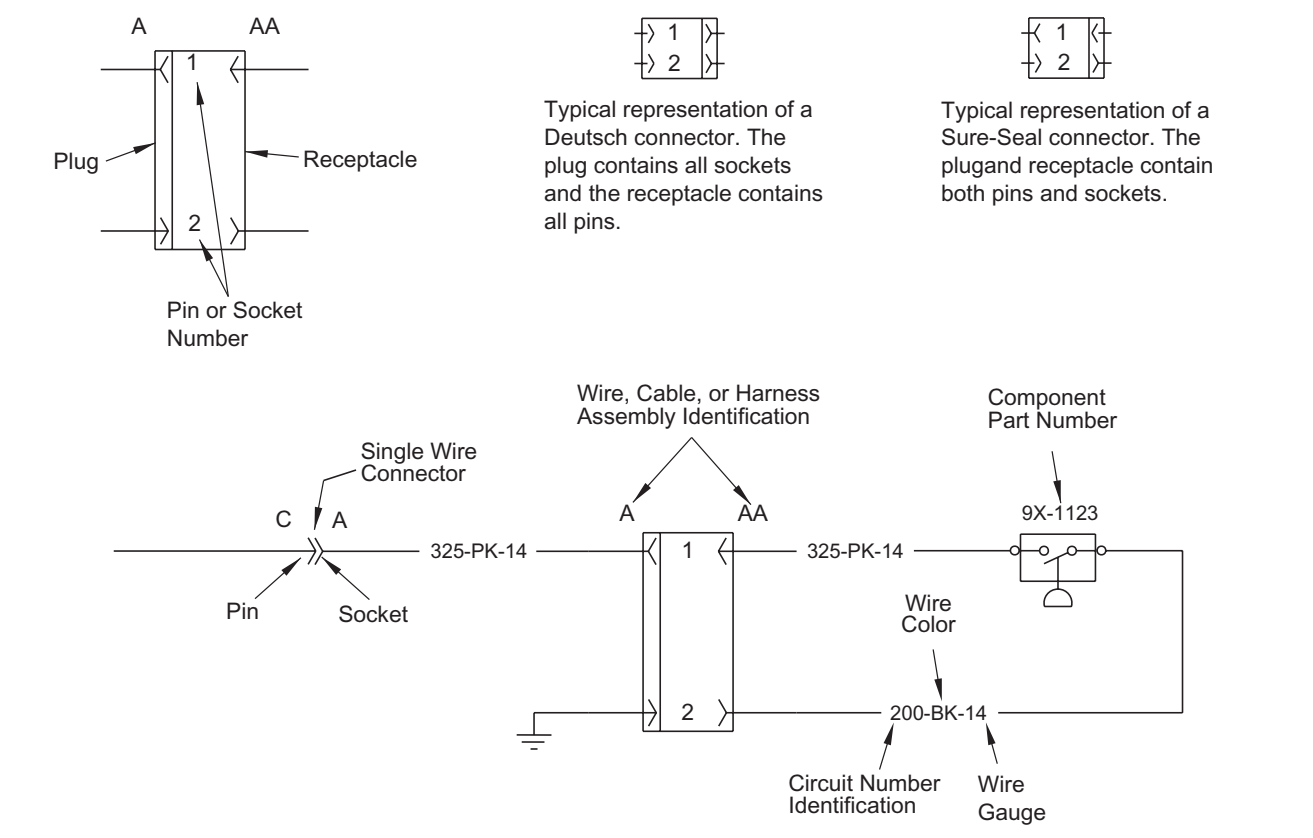
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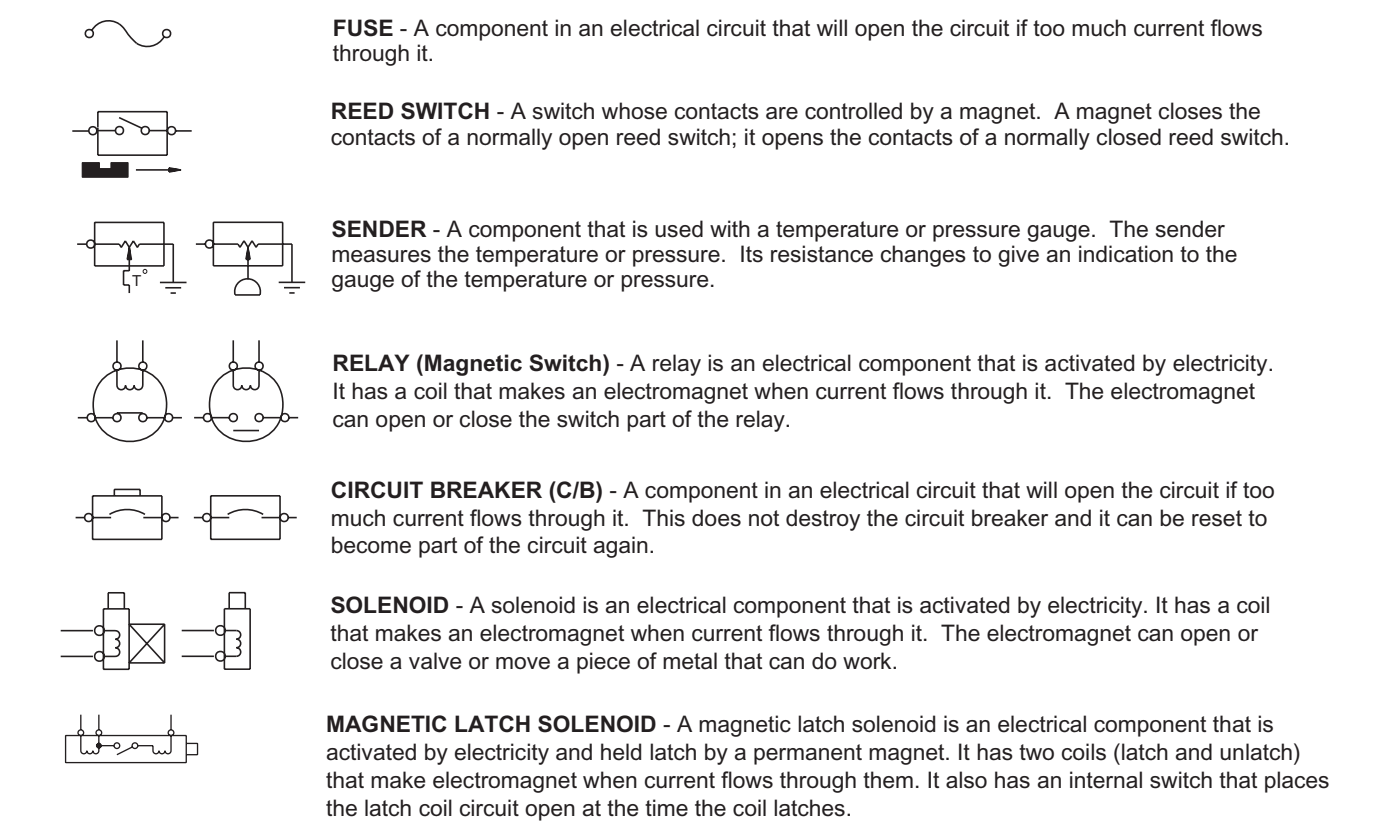
### Electrical Schematic Symbols And Definitions



### Harness And Wire Electrical Schematic Symbols



### Electrical Schematic Symbols And Definitions



COMPONENT LOCATION CHART					
Machine Location	Component	Schematic Location	Machine Location	Component	Schematic Location
1	Alternator	B-2	C	Resistor - Flasher Load	E-6
2	Batteries	B-1	11	Sender - Engine Oil Press	E-2
3	Breaker - Alternator (135A)	B-2	12	Sender - Fuel Level	C-12
2	Batteries	B-1	13	Sender/Switch - Coolant Temp	E-2
3	Breaker - Main (135A)	B-3	14	Sender/Switch - Hydraulic Oil Temp	C-12
C	Breaker - Running Lamp (20A)	E-6	15	Sensor - Engine Speed	E-2
C	Breaker - Tail Lamp (10A)	E-6	B	Sensor - Hitch Handle Position	C-10
4	Buffer - Belt Tension	C-2	16	Sensor - Hitch Position	B-12
A	Control - Draft	B-10	17	Sensor - LH Belt Tension Press	F-1
C	Flasher	E-5	18	Sensor - RH Belt Tension Press	B-2
C	Fuses	D-5	19	Sensor - Transmission Speed	A-6
C	Fuses	E-6	20	Solenoid - A/C Clutch	D-2
C	Fuses	F-6	D	Solenoid - Air Seat	D-10
A	Gauge - Coolant Temp	D-9	21	Solenoid - Dual Horsepower *	D-3
A	Gauge - Fuel Level	C-9	16	Solenoid - Hitch	A-10
A	Gauge - Hydraulic Oil Temp	C-9	22	Solenoid - Start Aid	D-2
A	Gauge - Engine Oil Press	D-9	A	Switch - A/C	B-9
A	Gauge - Speed/Tach/Ser Hr	D-9	13	Switch - A/C Pressure	D-2
A	Horn - Alarm	D-5	A	Switch - Blower Motor	B-9
5	Horn - Forward Warning	D-7	23	Switch - Differential Lube Press	A-7
5	Horn - Forward Warning	E-1	B	Switch - Draft On/Off	B-10
A	Monitor - Electronic Control Op	C-7	13	Switch - Eng Coolant Temp (St Aid)	D-3
A	Monitor - Performance	E-11	A	Switch - Front Wiper	B-7
6	Motor - Blower	B-4	B	Switch - Hookup	C-11
7	Motor - Front Wiper	D-4	24	Switch - Hydraulic Filter Flow	F-2
8	Motor - Rear Wiper	D-11	D	Switch - Key Start	B-6
9	Motor - Steering	C-3	B	Switch - Neutral Start	B-4
10	Radar (Park Man)	A-5	11	Switch - Oil Press	E-2
D	Radio	C-4	A	Switch - Rear Wiper	E-9
C	Relay - Belt Tension	F-7	A	Switch - Rotary Light	E-10
B	Relay - Dual Horsepower *	B-10	D	Switch - Running Lamp Dimmer	B-7
C	Relay - Forward Horn	E-7	A	Switch - Signal (Gage Cluster)	D-9
C	Relay - Front Flood Lamp	E-7	A	Switch - Signal (Gage Cluster)	D-9
C	Relay - Lamp Test	F-7	C	Switch - Stop Lamp	B-6
C	Relay - Left Turn	E-5	6	Switch - Thermostat	B-4
3	Relay - Main Power	B-3	B	Switch - Throttle	C-11
C	Relay - Rear Flood Lamp	E-7	25	Switch - Transmission Oil Temp	A-6
C	Relay - Right Turn	E-5	19	Switches - Transmission Pressure 1	A-8
3	Relay - Start	A-2	D	Switch - Turn/Hazard/Hi/Low	F-3
C	Relay - Trailer Left Turn	E-5	14	Switch/Sender - Hydraulic Oil Temp	C-12
C	Relay - Trailer Right Turn	F-5	13	Switch/Sender - Coolant Temp	E-2
C	Relays - Front Wiper	D-4	A	Voltmeter	D-9
6	Resistor - Blower Motor Speed	B-4			

\* Components used on Challenger 70C only.  
Machine locations are repeated for components located close together.  
A = Components located in the dash.  
B = Components located in right side console.  
C = Components located under dash near floor level.  
D = Components located in operator's compartment.

HARNESS CONNECTOR LOCATION CHART							
Connectors	Machine Location	Harness And/Or Components	Schematic Location	Connectors	Machine Location	Harness And/Or Components	Schematic Location
40 Contacts	C	E - 1065570 F - 9U3175	E-4	7 Contacts	1	E - 1065570 F - 9U3175	D-12
24 Contacts	*	A - 1015685 Draft Control	B-10	1	D - 1015685 E - 1065570		D-2
15 Contacts	*	D - 9U3645 Monitor Panel	E-11	2	E - 1065570 H - 9U3177		A-12
14 Contacts	*	F - 9U3175 Turn/Horn Sw	F-8	3	E - 1065570 K - 9U3192		F-12
	A	C - 9U3173 F - 9U3175	B-5	4	F - 9U3175 R - 1018767		B-4
	1	D - 1076685 E - 1065570	E-3	*	C - 9U3173 Rear Wiper Motor		D-11
	2	F - 1065570 S - 1065569	C-2	*	F - 9U3175 FH Wiper Sw		B-7
12 Contacts	A	F - 9U3175 P - 9U3174	B-5	*	F - 9U3175 Rotary Light Sw		E-10
	A	F - 9U3175 N - 9U2706	D-8	*	P - 9U3174 FH Wiper Motor		D-4
	A	F - 9U3175 Q - 9U3645	E-10	5	E - 9U3176 J - 9U3179		C-12
	*	F - 9U3175 Monitor Panel	C-7	*	E - 9U3176 Radar Unit		A-5
	*	D - 9U3645 Performance Monitor	E-11				
8 Contacts	3	A - 9U3196 B - 9U3197	A-11				
	*	F - 9U3175 Monitor Panel	C-7				
	*	S - 1065569 Belt Tension Buffer	C-2				
	*	P - 9U3174 Radar	C-4				

Machine locations are repeated for connectors located close together.  
\* = Connector is located at the component.  
A = Connectors located in the dash.  
C = Connectors located under dash near floor level.



