

Service Manual Trucks

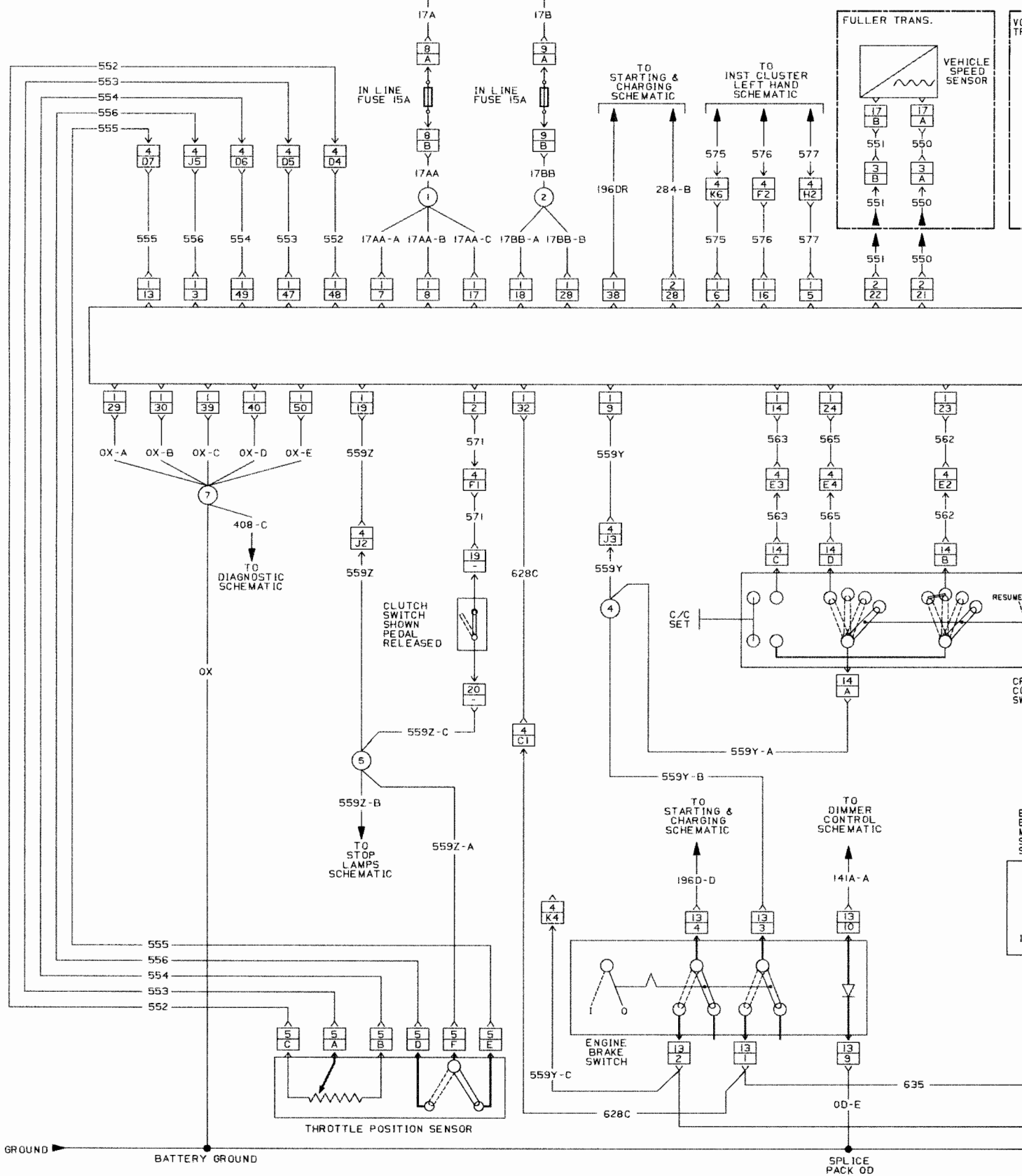
Group **37**

Electrical Schematic:
Engine ECU, Cummins ISX

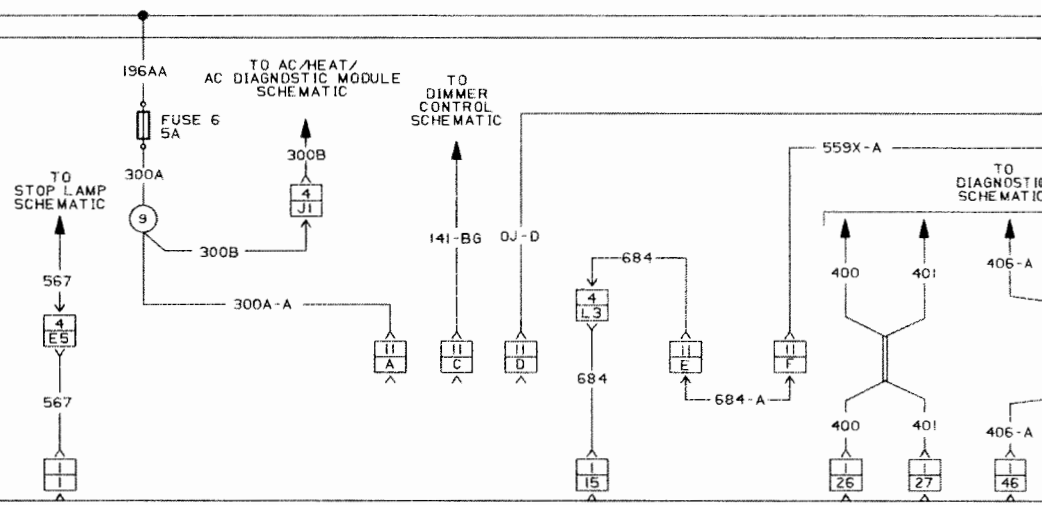
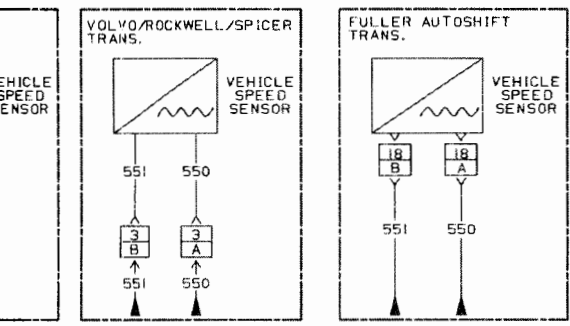
VN

From Build Date 5.99

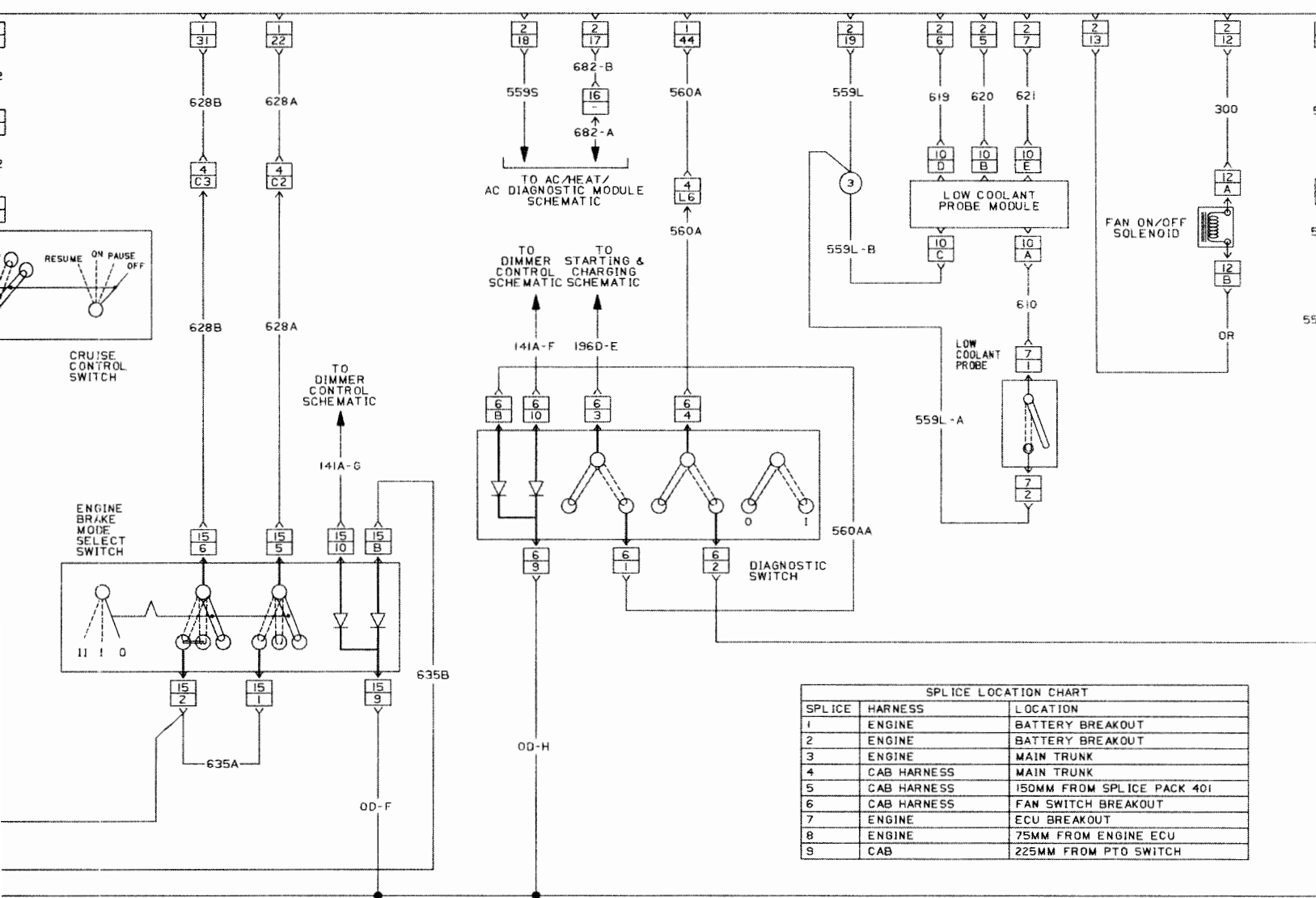
BATTERY 12 VOLT
IGNITION 12 VOLT
ACCESSORY 12 VOLT



Engine ECU, Cummins ISX - VN



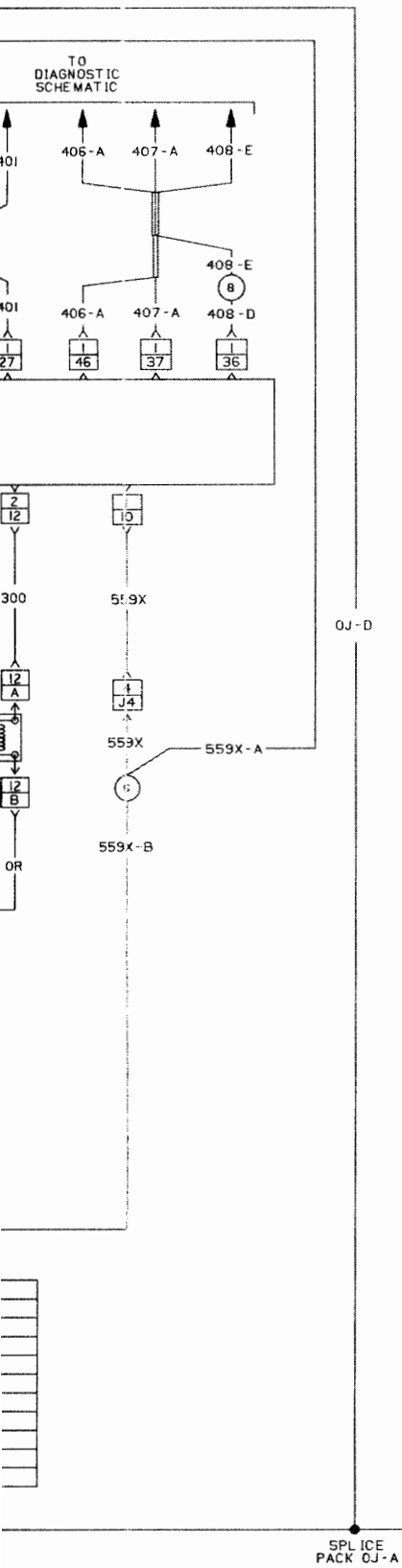
ELECTRONIC CONTROL UNIT



SPlice LOCATION CHART		
SPLICE	HARNESS	LOCATION
1	ENGINE	BATTERY BREAKOUT
2	ENGINE	BATTERY BREAKOUT
3	ENGINE	MAIN TRUNK
4	CAB HARNESS	MAIN TRUNK
5	CAB HARNESS	150MM FROM SPLICE PACK 401
6	CAB HARNESS	FAN SWITCH BREAKOUT
7	ENGINE	ECU BREAKOUT
8	ENGINE	75MM FROM ENGINE ECU
9	CAB	225MM FROM PTO SWITCH

==== DENOTES J1939 SHIELDED CABLE
 --- DENOTES TWISTED PAIR

CONNECTOR AND SPLICE INFORMATION
CONNECTORS VIEWED FROM CABLE ENTRY



CONNECTOR 1
ENGINE ECU

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
1	567	SERVICE BRAKE RELEASED
2	571	CLUTCH SWITCH INPUT TO ECU
3	556	OFF IDLE
5	577	MAINTENANCE LAMP ON
6	575	STOP LAMP ON
7	17AA-A	ECU POWER SUPPLY
8	17AA-B	ECU POWER SUPPLY
9	559Y	DASHBOARD RETURN 2
10	559X	DASHBOARD RETURN 1
13	555	ON IDLE
14	563	CRUISE SET TO ECU
15	684	MANUAL FAN OFF
16	576	WARNING LAMP ON
17	17AA-C	ECU POWER SUPPLY
18	17BB-A	ECU POWER SUPPLY
19	559Z	CAB RETURN
22	628A	ODI FEED
23	562	CRUISE ON TO ECU
24	565	CRUISE RESUME TO ECU
26	400	POS DATA LINK SAE J1708
27	401	NEG DATA LINK SAE J1708
28	17BB-B	ECU POWER SUPPLY
29	OX-A	ECU GROUND
30	OX-B	ECU GROUND
31	628B	ODI FEED
32	628C	ODI FEED
36	408-D	SHIELD SAE J1939
37	407-A	DATA LINK LOW SAE J1939
38	196DR	KEY ON
39	OX-C	ECU GROUND
40	OX-D	ECU GROUND
44	560A	DIAGNOSTICS ENABLE
46	406-A	DATA LINK HIGH SAE J1939
47	553	CAB THROTTLE POSITION
48	552	THROTTLE +SV SUPPLY
49	554	THROTTLE +SV RETURN
50	OX-E	ECU GROUND

CONNECTOR 2
ELECTRONIC CONTROL MODULE FEED

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
5	620	COOLANT DETECTED
6	619	COOLANT NOT DETECTED
7	621	COOLANT LEVEL +SV SUPPLY
12	300	12 VOLT FAN CLUTCH
13	OR	FAN SOLENOID GROUND
17	682-B	AC PRESSURE NOT HIGH
18	559S	AC PRESSURE RETURN
19	559L	COOLANT LEVEL RETURN
21	550	VEHICLE SPEED I-1
22	551	VEHICLE SPEED I-1
28	284-B	START COMMAND

CONNECTOR 3
SPEED SENSOR

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	550	VEHICLE SPEED INPUT
B	551	VEHICLE SPEED RETURN

CONNECTOR 4
ENGINE HARNESS PASS THROUGH

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
C1	628C	ODI FEED
C2	628A	ODI FEED
C3	628B	THROTTLE POSITION RETURN
D4	552	THROTTLE POSITION SUPPLY
D5	553	THROTTLE POSITION INPUT
D6	554	THROTTLE POSITION RETURN
D7	555	IDLE VAL IDATION
E2	562	CRUISE ON TO ECU
E3	563	CRUISE SET TO ECU
E4	565	CRUISE RESUME TO ECU
E5	567	SERVICE BRAKE RELEASED
F1	571	INPUT TO ENGINE ECU
F2	576	CAUTION LAMP
H2	577	ENGINE FLUID LAMP
J1	300B	12 VOLT APAS
J2	559Z	ECU GROUND
J3	559Y	ECU GROUND
J4	559X	ECU GROUND
J5	556	THROTTLE VAL IDATION INPUT
K4	559Y-C	ECU GROUND
K6	575	STOP ENGINE WARNING LAMP
L3	684	FAN SOLEN. OVERRIDE SW. FEED
L6	560A	DIAGNOSTICS ENABLE

CONNECTOR 5
THROTTLE POSITION SENSOR

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	553	THROTTLE POSITION INPUT
B	554	THROTTLE POSITION RETURN
C	552	THROTTLE POSITION SUPPLY
D	556	THROTTLE VAL IDATION INPUT
E	555	IDLE VAL IDATION
F	559Z-A	THROTTLE POS. SENS. GROUND

CONNECTOR 6
DIAGNOSTIC SWITCH

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
B	560AA	ILLUMINATION
I	560AA	ILLUMINATION
2	559Y-B	ECU GROUND
3	196D-E	ILLUMINATION 12 VOLT SUPPLY
4	560A	DIAGNOSTICS ENABLE
9	OD-H	ILLUMINATION GROUND
10	141A-F	SWITCH ILLUMINATION

CONNECTOR 7
LOW COOLANT PROBE

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
1	610	ENGINE COOLANT LEVEL FEED
2	559L-A	COOLANT PROBE GROUND

CONNECTOR 8
INLINE FUSE

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	17A	12 VOLT SUPPLY
B	17AA	12 VOLT SUPPLY

CONNECTOR 9
INLINE FUSE

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	17B	12 VOLT SUPPLY
B	17BB	12 VOLT SUPPLY

CONNECTOR 10
LOW COOLANT PROBE MODULE

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	610	ENG. COOLANT SWITCH SIGNAL
B	620	COOLANT LEVEL NORMAL
C	559L-B	COOLANT MODULE GROUND
D	619	COOLANT LEVEL LOW
E	621	COOLANT LEVEL MODULE FEED

CONNECTOR 11
FAN OPTION

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	300A-A	12 VOLT SUPPLY
C	141-BG	SWITCH ILLUMINATION
D	OD-D	ILLUMINATION GROUND
E	684	FAN SOL. ON. OVERRIDE SW. FEED
F	559X-A	ECU GROUND

CONNECTOR 12
FAN ON/OFF SOLENOID

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	300	FAN SOLENOID FEED
B	OR	FAN SOLENOID GROUND

CONNECTOR 13
ENGINE BRAKE SWITCH

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
1	635/628C	ODI FEED
2	635B/559Y-C	ILLUMINATION
3	559Y-B	ECU GROUND
4	196D-D	12 VOLT SUPPLY
9	OD-E	ILLUMINATION GROUND
10	141A-A	SWITCH ILLUMINATION

CONNECTOR 14
DRUISE CONTROL SWITCH

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	559Y-A	ECU GROUND
B	562	CRUISE ON TO ECU
C	563	CRUISE SET TO ECU
D	565	CRUISE RESUME TO ECU

CONNECTOR 15
ENGINE BRAKE MODE SELECT SWITCH

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
B	635B	ILLUMINATION
1	635A	ENGINE BRAKE ON
2	635/635A	ENGINE BRAKE ON
5	628A	ODI FEED
6	628B	ODI FEED
9	OD-F	ILLUMINATION GROUND
10	141A-G	SWITCH ILLUMINATION

CONNECTOR 16
FAN OPTION CONNECTOR

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
-	682-B	HIGH REFRIG. PRES. SW. FEED

CONNECTOR 17
SPEED SENSOR

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	550	VEHICLE SPEED INPUT
B	551	VEHICLE SPEED RETURN

CONNECTOR 18
SPEED SENSOR

TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	550	VEHICLE SPEED INPUT
B	551	VEHICLE SPEED RETURN

EFFECTIVE DATE DESCR

10/98	ADDED
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SYMBOL D

DENOTES MALE

DENOTES COMMON

DENOTES FEMALE

SYMBOL D

DENOTES SPLICE

EXAMPLE SHOW

CHANGE HISTORY

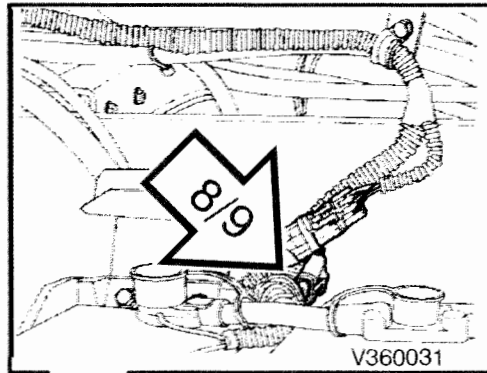
EFFECTIVE DATE	DESCRIPTION
10/98	ADDED FULLER AUTOSHIFT OPTION

CONNECTOR 19 CLUTCH SWITCH

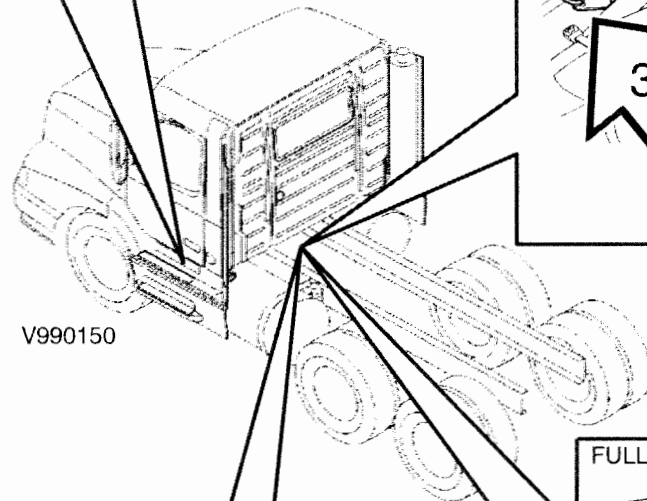
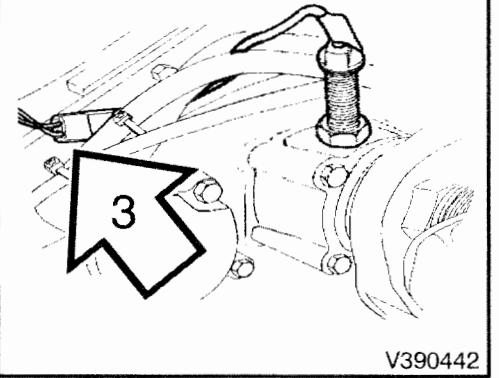
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CAVITY	CIRCUIT	FUNCTION
57		CLUTCH SWITCH INPUT TO ECU

CONNECTOR 20 CLUTCH SWITCH

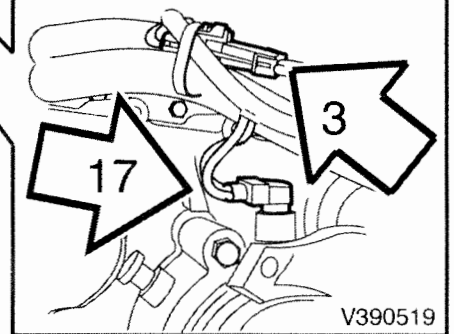
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CAVITY	CIRCUIT	FUNCTION
5597-C		ECU GROUND



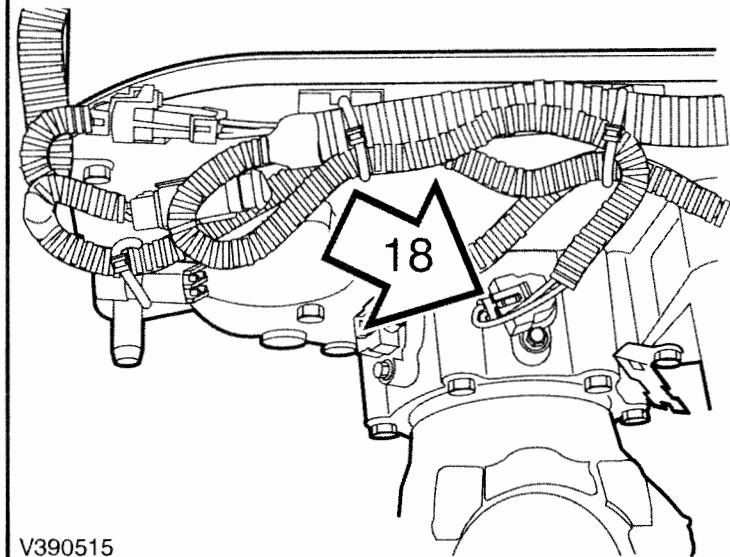
VOLVO/ROCKWELL/SPICER TRANS. ONLY



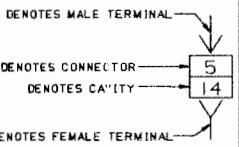
FULLER TRANS. ONLY



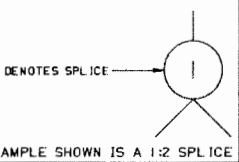
FULLER AUTOSHIFT TRANS. ONLY

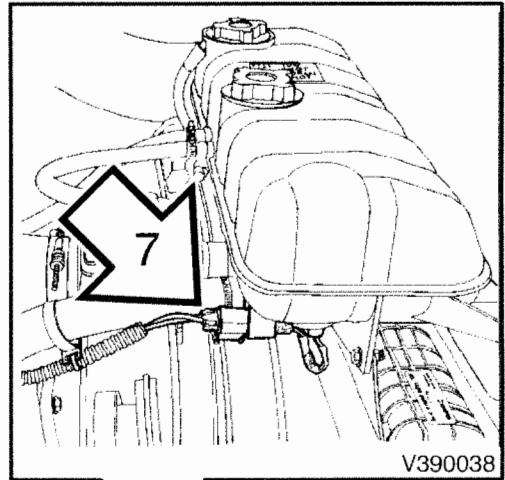
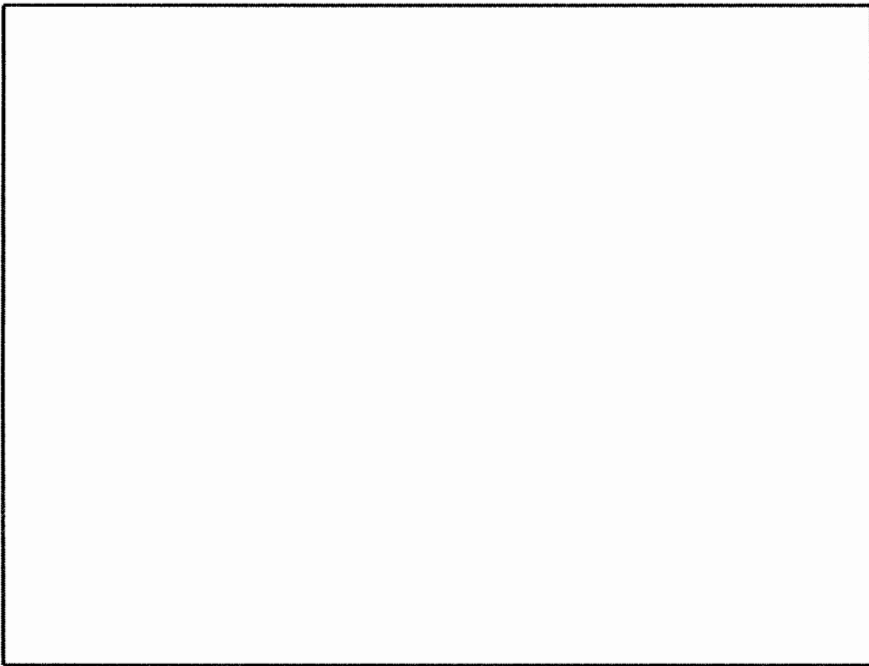


SYMBOL DEFINITION

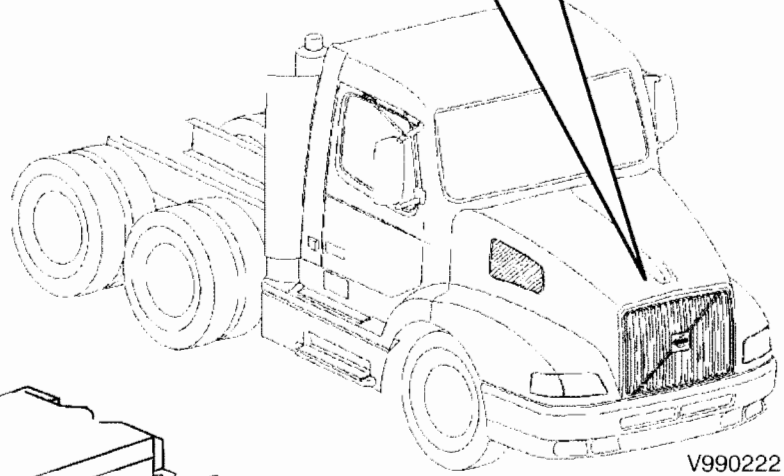


SYMBOL DEFINITION





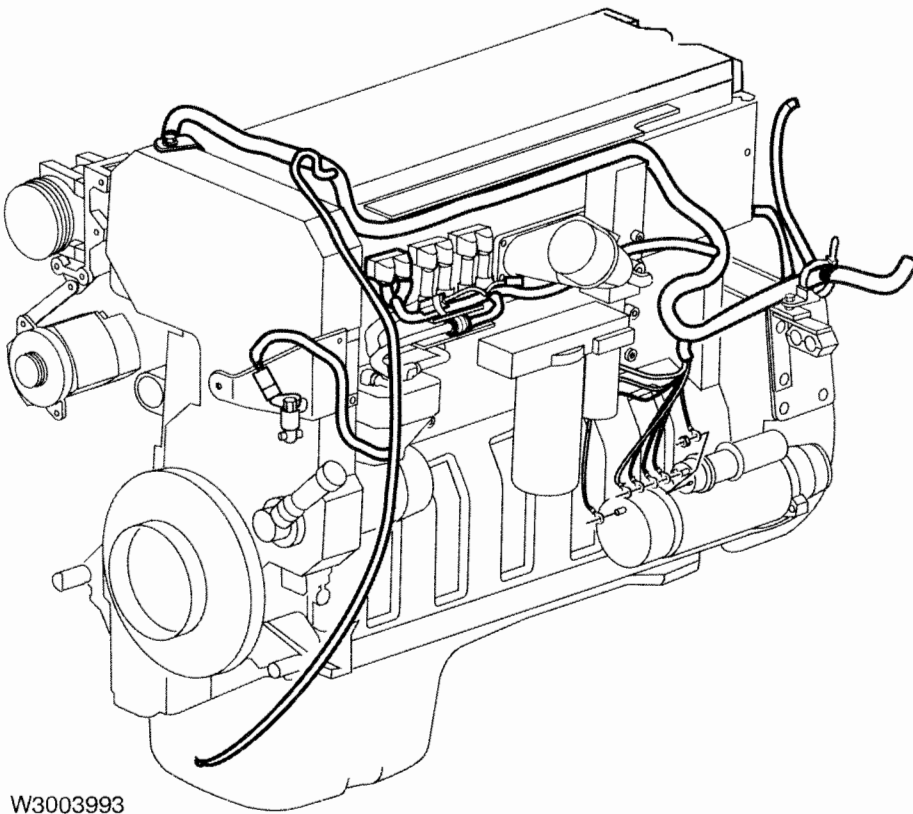
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