

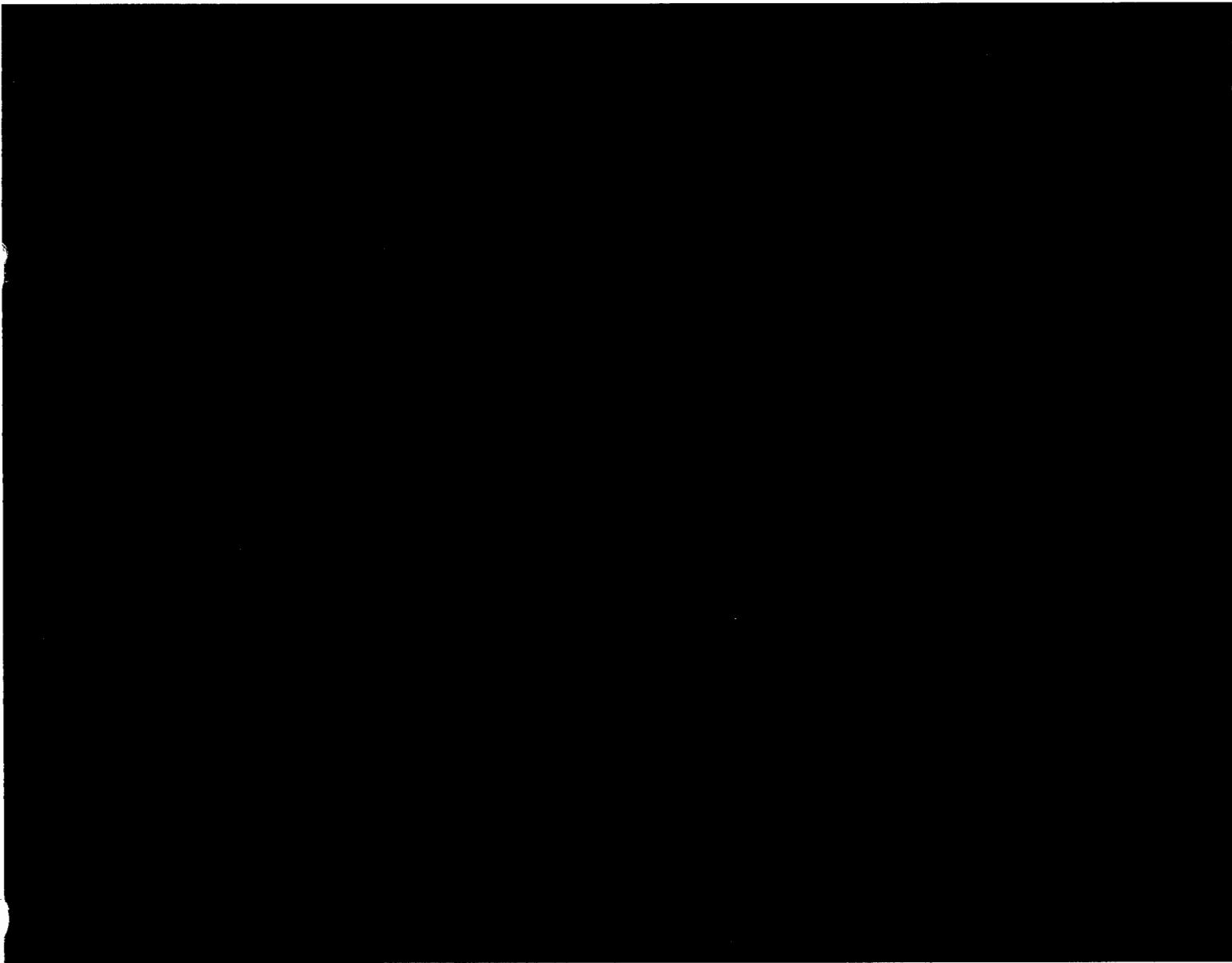
Service Manual Trucks

Group **37**

Electrical Schematic:
Engine ECU, Cummins ISM

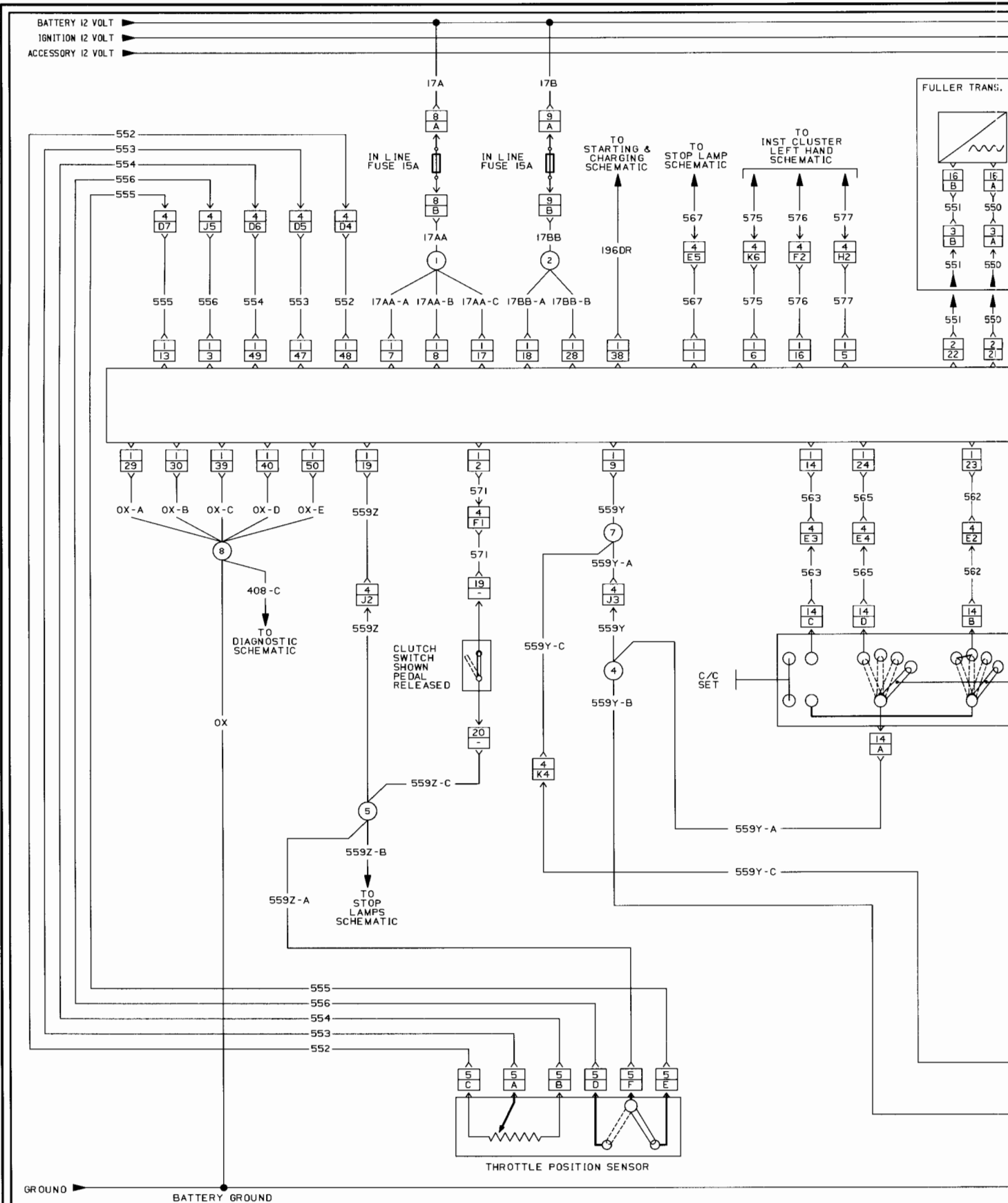
VN

From Build Date 9.98



PV776-370-98197/2

VOLVO



Engine ECU, Cummins ISM - VN

EFFECTIVE DATE	DESCRIPTION
10/98	ADDED FULLER AUTO

CONNECTOR AND SPLICE INFORMATION
CONNECTORS VIEWED FROM CABLE ENTRY

CONNECTOR 1
ENGINE ECU

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	628D	OI 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	628E	IO 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 -5V SUPPLY
49	554	THROTTLE -5V RETURN
50	OX-E	ECU GROUND



CONNECTOR 7
LOW COOLANT PROBE

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

CONNECTOR 8
INLINE FUSE

CAVITY	CIRCUIT	FUNCTION
A	17A	12 VOLT SUPPLY
B	17AA	12 VOLT SUPPLY

CONNECTOR 9
INLINE FUSE

CAVITY	CIRCUIT	FUNCTION
A	17B	12 VOLT SUPPLY
B	17BB	12 VOLT SUPPLY

CONNECTOR 10
LOW COOLANT PROBE MODULE

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
MANUAL FAN CONNECTION

CAVITY	CIRCUIT	FUNCTION
A	300A-A	12 VOLT SUPPLY
C	141-BG	SWITCH ILLUMINATION
D	OJ-D	
E	684	FAN SOLENO. OVERRIDE SW. FEED
F	559X-A	ECU GROUND

CONNECTOR 12
FAN ON/OFF SOLENOID

CAVITY	CIRCUIT	FUNCTION
A	300	FAN SOLENOID FEED
B	OR	FAN SOLENOID GROUND

CONNECTOR 13
ENGINE BRAKE SWITCH

CAVITY	CIRCUIT	FUNCTION
2	559Y-C/635B	ECU GROUND
3	559Y-B	ECU GROUND
5	628E	IO FEED
8	628D	OI FEED
9	OD-E	DASH ILLUMINATION GROUND
10	141A-A	SWITCH ILLUMINATION

CONNECTOR 14
CRUISE CONTROL SWITCH

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
FAN OPTION CONNECTOR

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

CONNECTOR 16
SPEED SENSOR

CAVITY	CIRCUIT	FUNCTION
A	550	VEHICLE SPEED INPUT
B	551	VEHICLE SPEED RETURN

CONNECTOR 17
ENGINE BREAK MODE SELECT SWITCH

CAVITY	CIRCUIT	FUNCTION
B	635B	DASH ILLUMINATION

CONNECTOR 18
SPEED SENSOR

CAVITY	CIRCUIT	FUNCTION
A	550	VEHICLE SPEED INPUT
B	551	VEHICLE SPEED RETURN

CONNECTOR 19
CLUTCH SWITCH

CAVITY	CIRCUIT	FUNCTION
-	571	CLUTCH SWITCH INPUT TO ECU

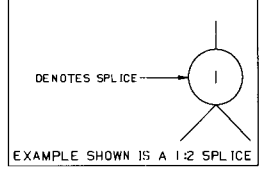
CONNECTOR 20
CLUTCH SWITCH

CAVITY	CIRCUIT	FUNCTION
-	559Z-C	ECU GROUND

SPLICE	HARNESS	LOCATION
1	ENGINE	ECU
2	ENGINE	ECU
3	ENGINE	100
4	CAB	135
5	CAB	150
6	CAB	FAN
7	ENGINE	CAB
8	ENGINE	50-
9	ENGINE	120-
10	CAB	325

== DENOTES J1939 SHIELD
--- DENOTES TWISTED PAIR

SYMBOL DEFINITION



CONNECTOR 2
ELECTRONIC CONTROL MODULE FEED

CAVITY	CIRCUIT	FUNCTION
5	620	COOLANT DETECTED
6	619	COOLANT NOT DETECTED
7	621	COOLANT LEVEL -5V SUPPLY
12	300	FAN SOLENOID FEED
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 (+)
22	551	VEHICLE SPEED (-)

CONNECTOR 3
SPEED SENSOR

CAVITY	CIRCUIT	FUNCTION
A	550	VEHICLE SPEED INPUT
B	551	VEHICLE SPEED RETURN

CONNECTOR 4
ENGINE HARNESS PASS THROUGH

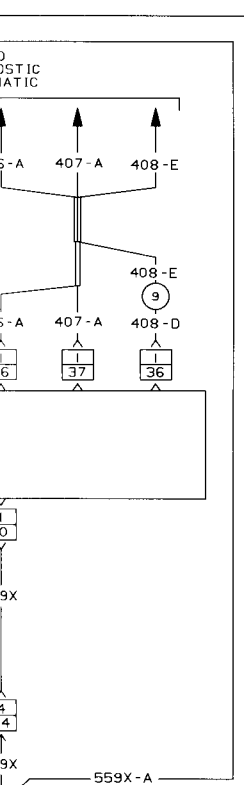
CAVITY	CIRCUIT	FUNCTION
C4	628D	OI FEED
C5	628E	IO FEED
D4	552	THROTTLE POS. SENSOR SUPPLY
D5	553	THROTTLE POS. SENSOR INPUT
D6	554	THROTTLE POS. SENSOR RETURN
D7	555	IDLE VALIDATION
E2	562	CRUISE ON TO ECU
E3	563	CRUISE SET TO ECU
E4	565	CRUISE RESUME TO ECU
E5	567	SERVICE BRAKE RELEASED
F1	571	INPUT TO ENGINE ECU
F2	576	CAUTION LAMP
H2	577	ENGINE FLUIDS LAMP
J1	300B	12 VOLT FANPS
J2	559Z	ECU GROUND
J3	559Y	ECU GROUND
J4	559X	ECU GROUND
J5	556	THROTTLE VALIDATION INPUT
K4	559Y-C	ECU GROUND
K6	575	STOP ENGINE WARNING LAMP
L3	684	FAN SOLENO. OVERRIDE SW. FEED
L6	560A	DIAGNOSTICS ENABLE

CONNECTOR 5
THROTTLE POSITION SENSOR

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

CONNECTOR 6
DIAGNOSTIC SWITCH

CAVITY	CIRCUIT	FUNCTION
B	560AA	DASH ILLUMINATION
1	560AA	DASH ILLUMINATION
2	559X-B	ECU GROUND
3	196D-E	DASH ILLUMINATION 12V SUPPLY
4	560A	DIAGNOSTICS ENABLE
9	OD-H	DASH ILLUMINATION GROUND
10	141A-F	SWITCH ILLUMINATION



SPLICE PACK OJ-A

CHANGE HISTORY

EFFECTIVE DATE	DESCRIPTION
10/98	ADDED FULLER AUTOSHIFT OPTION

CONNECTOR 18 SPEED SENSOR

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



CONNECTOR 19 CLUTCH SWITCH

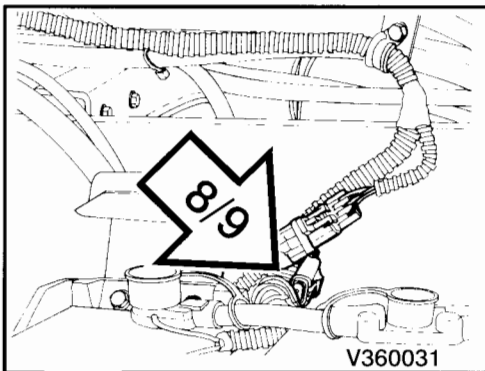
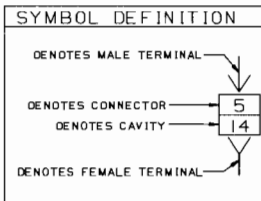
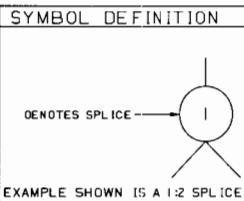
TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
-	571	CLUTCH SWITCH INPUT TO ECU

CONNECTOR 20 CLUTCH SWITCH

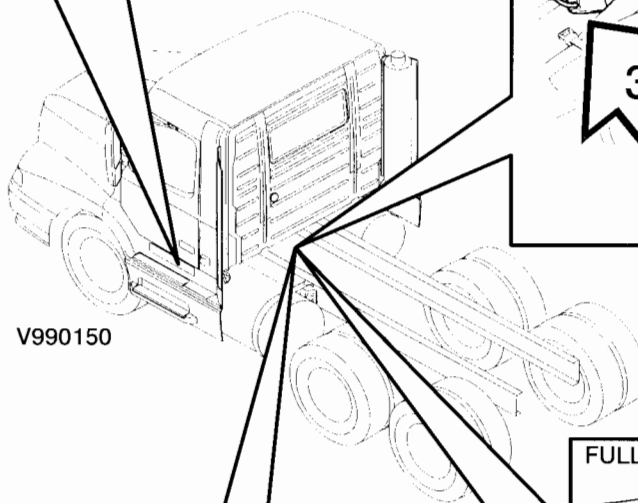
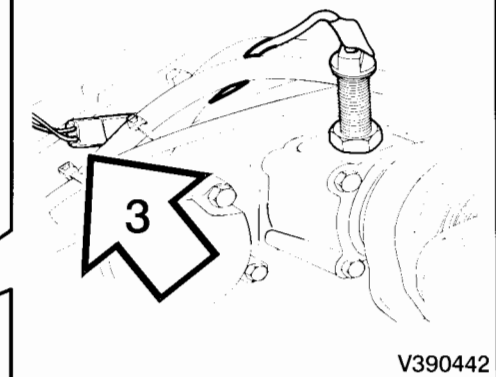
TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
-	559Z-C	ECU GROUND

SPLICE LOCATION CHART		
SPLICE	HARNESS	LOCATION
1	ENGINE	ECU BREAKOUT
2	ENGINE	ECU BREAKOUT
3	ENGINE	100MM FROM STARTER BREAKOUT
4	CAB	135MM FROM SPLICE PACK 06
5	CAB	150MM FROM SPLICE 40J
6	CAB	FAN SWITCH HARNESS BREAKOUT
7	ENGINE	CAB POWER STUD BREAKOUT
8	ENGINE	50-WAY ECU CONNECTOR BREAKOUT
9	ENGINE	120MM FROM ENGINE ECU CONN.
10	CAB	325MM FROM PTO SWITCH

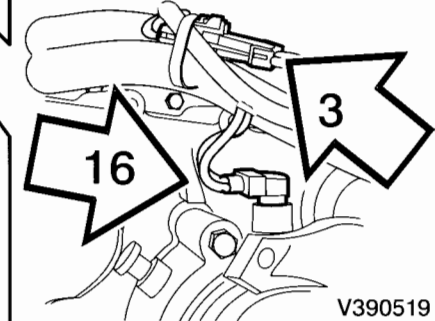
 DENOTES J1939 SHIELDED CABLE
 DENOTES TWISTED PAIR



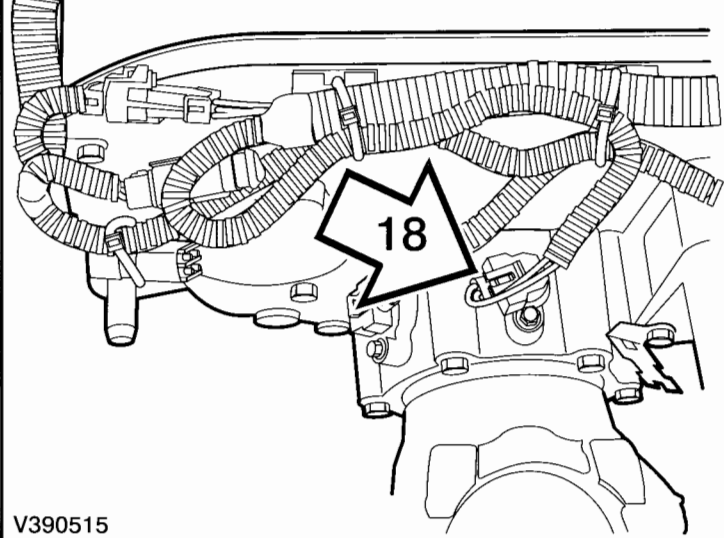
VOLVO/ROCKWELL/SPICER TRANS. ONLY



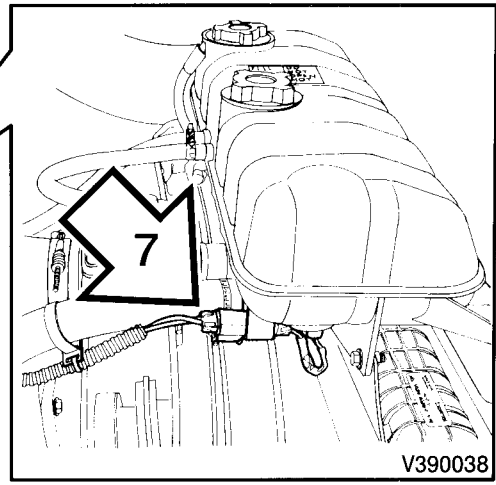
FULLER TRANS. ONLY



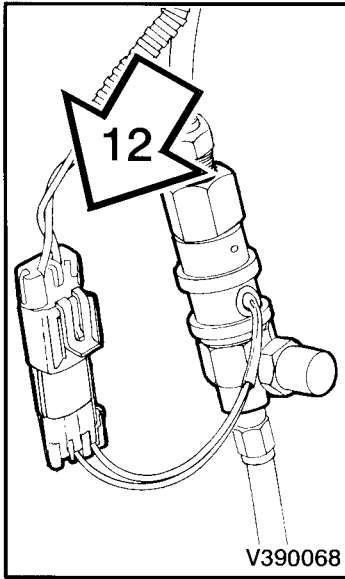
FULLER AUTOSHIFT TRANS. ONLY



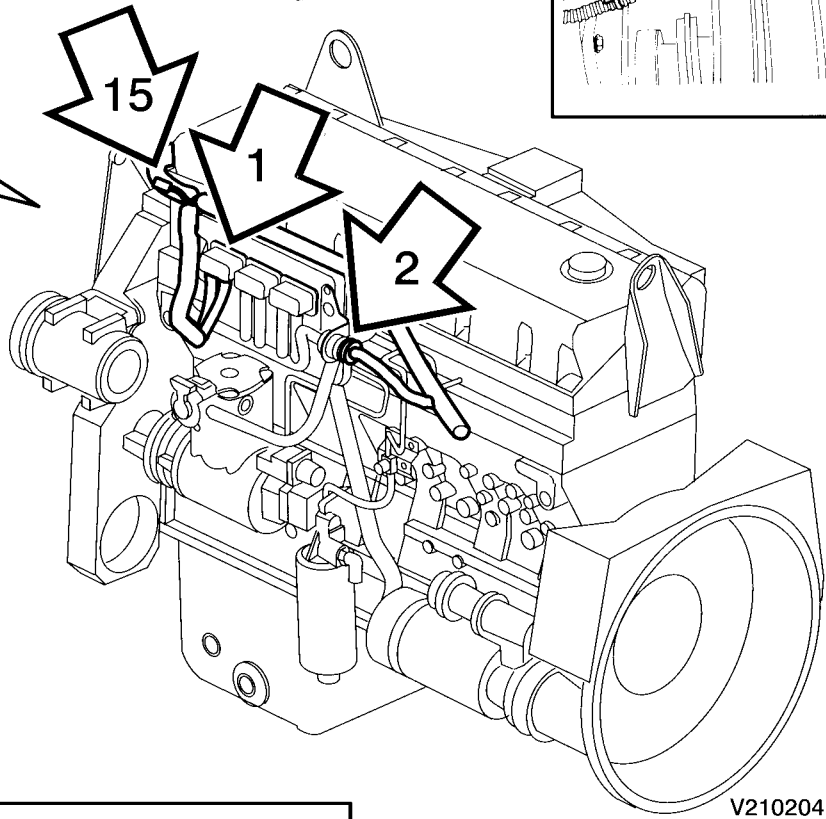
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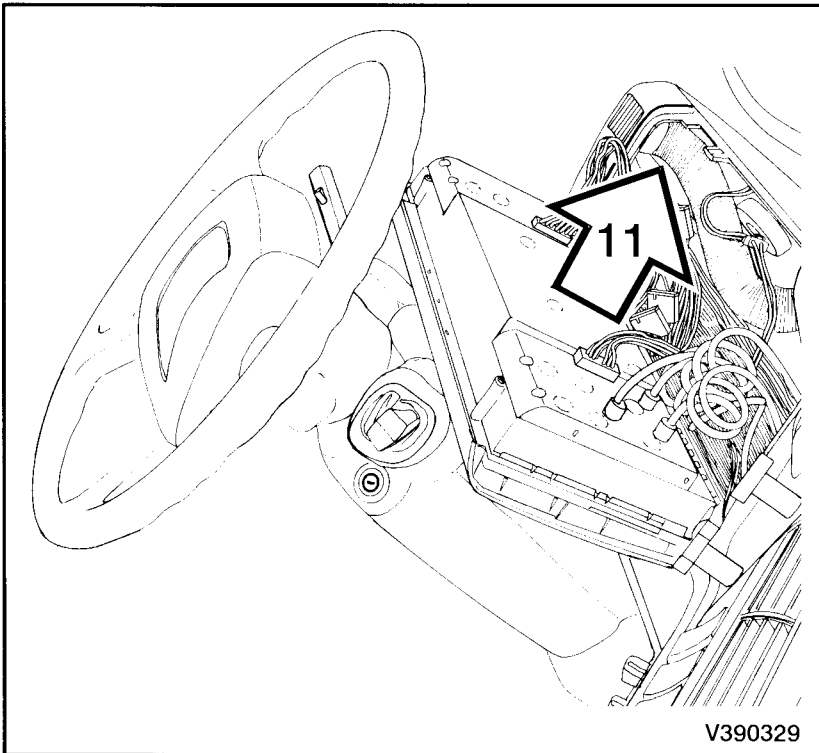
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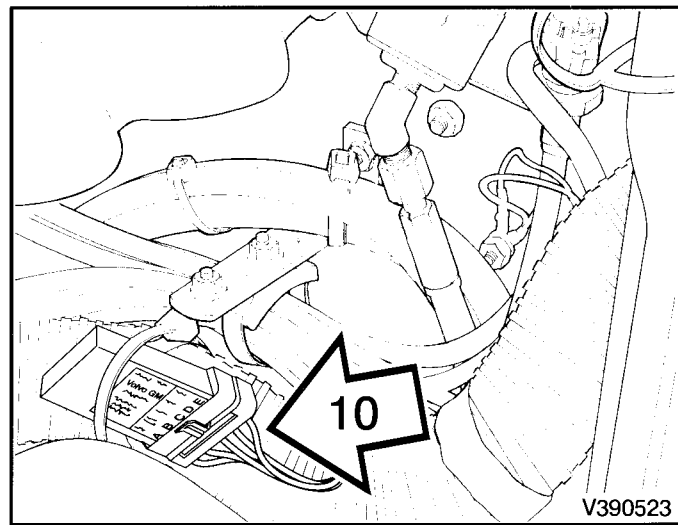
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