

# Service Manual Trucks

Group **37**

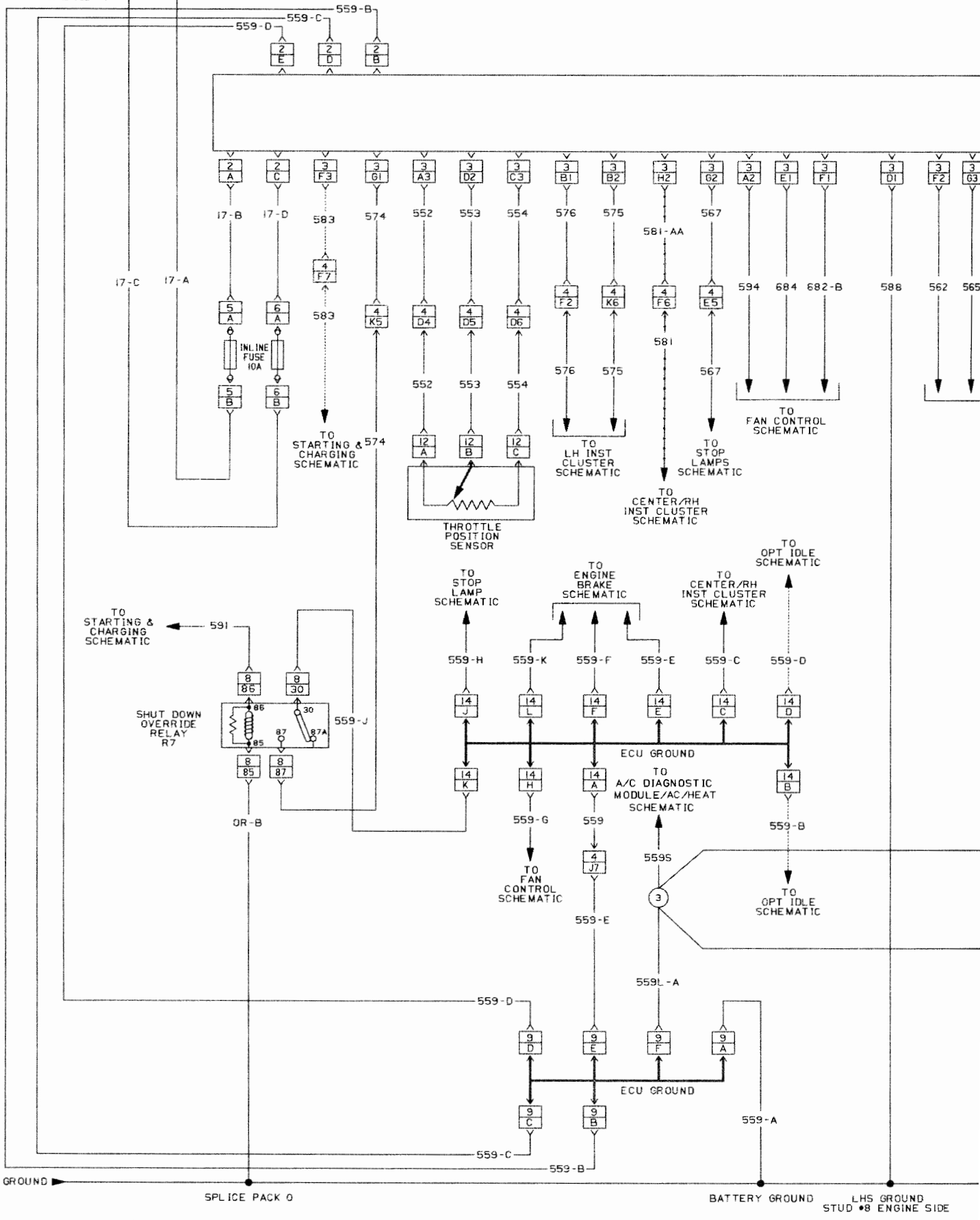
Electrical Schematic:

Engine ECU, Detroit Diesel Series 60 11.1/12.7

**VN**

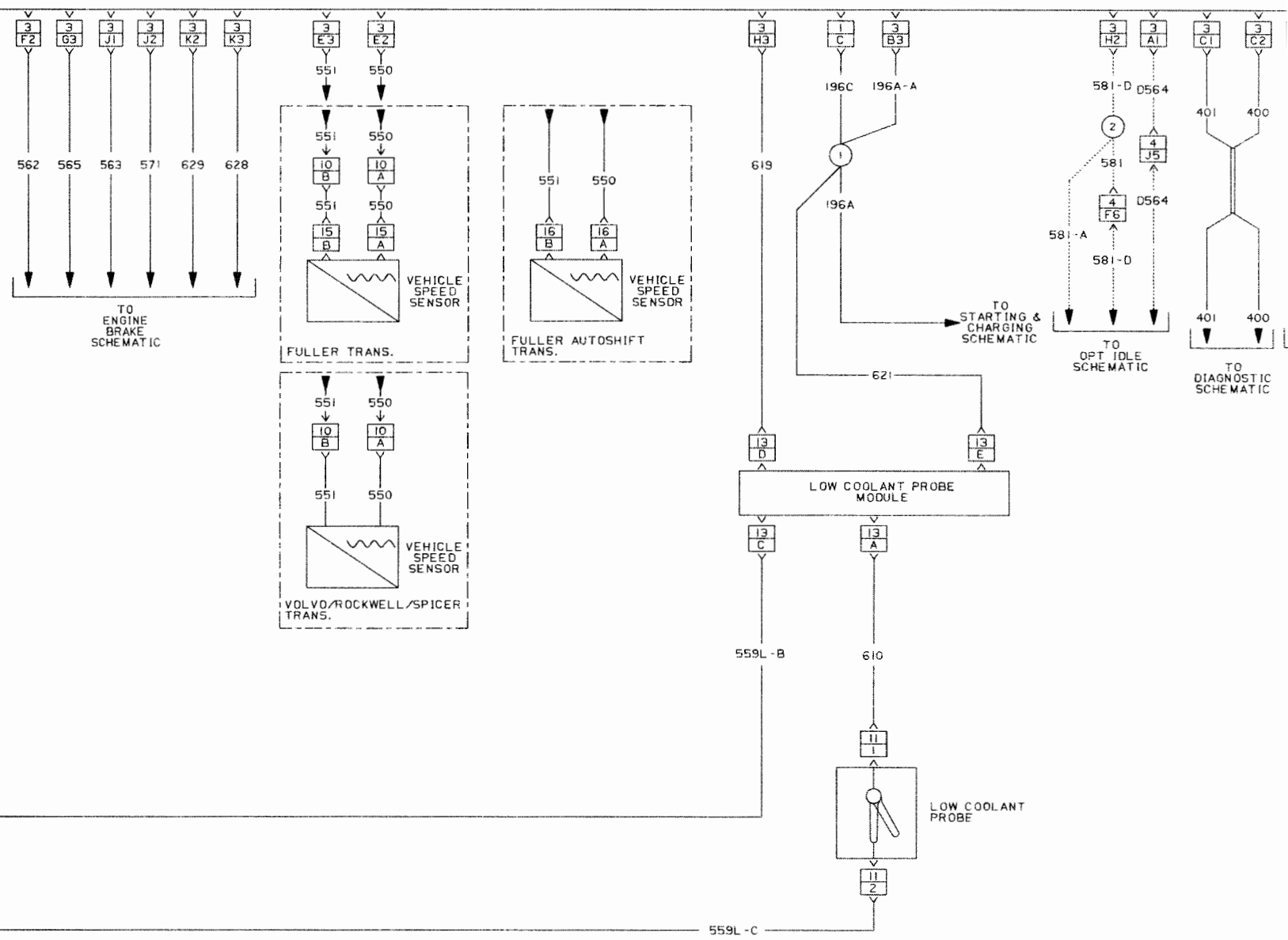
From Build Date 2.98

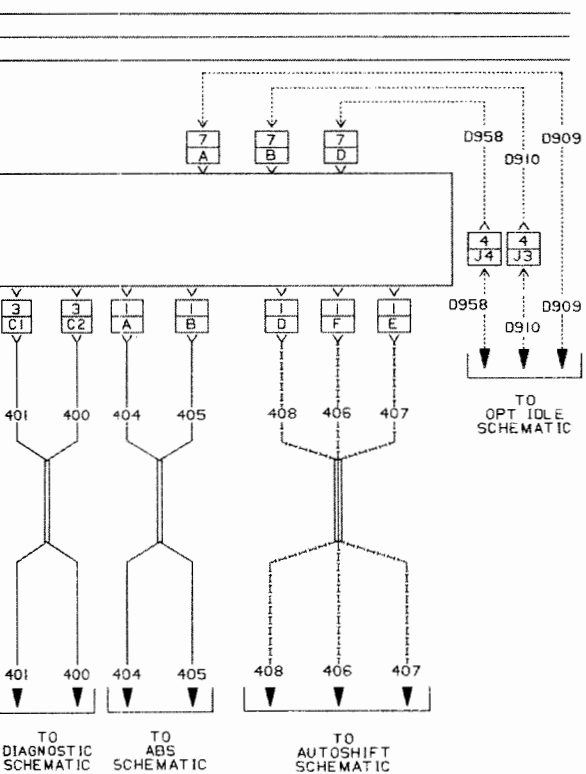
BATTERY 12 VOLT  
IGNITION 12 VOLT  
ACCESSORY 12 VOLT



Engine ECU, Detroit Diesel Series 60 11.1/12.7 - VN

ENGINE ELECTRONIC CONTROL UNIT





**CONNECTOR AND SPLICE INFORMATION  
CONNECTORS VIEWED FROM CABLE ENTRY**

**CONNECTOR 1  
ECU COMMUNICATION**

CAVITY	CIRCUIT	FUNCTION
A	404	SAE J1922 (+)
B	405	SAE J1922 (-)
C	196C	TO IGNITION SWITCH
D	408	SAE J1939 (SHIELD)
E	407	SAE J1939 (+)
F	406	SAE J1939 (+)

**CONNECTOR 2  
ECU POWER/GROUND**

CAVITY	CIRCUIT	FUNCTION
A	17-B	12 VOLT SUPPLY TO ECU
B	559-B	GROUND TO ECU
C	17-D	12 VOLT SUPPLY TO ECU
D	559-C	GROUND TO ECU
E	559-D	GROUND TO ECU

**CONNECTOR 3  
ECU**

CAVITY	CIRCUIT	FUNCTION
A1	0564	OPT IDLE INDICATOR LAMP
A2	594	ON/OFF FAN ENABLE FROM ECU
A3	552	THROTTLE POSITION SENSOR SUPPLY
B	576	CHECK ENGINE INDICATOR LAMP
B2	575	STOP ENGINE INDICATOR LAMP
B3	196A-A	IGNITION SIGNAL TO ECU
C	401	SAE J1708 (-)
C2	400	SAE J1708 (+)
C3	554	ENGINE SHUTDOWN OVERRIDE
D1	588	ECM BRAKE RELAY COIL FEED
D2	553	PARK BRAKE SWITCH INPUT
E1	684	ON/OFF FAN SOL OVERRIDE
E2	550	VEHICLE SPEED INPUT
E3	551	VEHICLE SPEED RETURN
F1	682-B	HIGH REFRIGERANT PRESSURE SWITCH
F2	562	CRUISE CONTROL PTO SWITCH
F3	583	POWER CONTROL
G1	574	ODD REQUEST SHUTDOWN OVERRIDE
G2	567	SERVICE BRAKE SWITCH
G3	565	CRUISE CONTROL "RESUME"
H2	581-AA	PARKING BRAKE SWITCH
H3	619	COOLANT LEVEL LOW SIGNAL
J1	563	CRUISE CONTROL SET "ON"
J2	571	CLUTCH SWITCH
K2	629	ENGINE BRAKE "MEDIUM" FEED
K3	628	ENGINE BRAKE "LOW" FEED

LOCATION : ENGINE LHS

**CONNECTOR 4  
ENGINE HARNESS PASS THROUGH**

CAVITY	CIRCUIT	FUNCTION
D4	552	THROTTLE POSITION SENSOR SUPPLY
D6	554	THROTTLE POSITION SENSOR RETURN
D5	553	THROTTLE POSITION INPUT
E5	567	ECM BRAKE RELAY COIL
F2	576	CHECK ENG LAMP
F6	581	PARK BRAKE INPUT
F7	583	POWER CONTROL
J3	0910	ALARM OUTPUT
J4	0958	START RELAY OUTPUT
J5	0564	CRUISE CONTROL OFF INPUT
J7	559	GROUND TO ECU
K5	574	ENGINE SHUTDOWN OVERRIDE
K6	575	STOP ENG LAMP

**CONNECTOR 5  
INLINE FUSE HOLDER**

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

**CONNECTOR 6  
INLINE FUSE HOLDER**

CAVITY	CIRCUIT	FUNCTION
A	17-D	12 VOLT SUPPLY
B	17-C	12 VOLT SUPPLY

**CONNECTOR 7  
ECM PWM OUTPUTS**

CAVITY	CIRCUIT	FUNCTION
A	0909	ALARM OUTPUT
B	0910	START RELAY OUTPUT
D	0958	THERMOSTAT INPUT

EFFECTIVE DATE	DESC.

**CONNECTOR 8  
SHUT DOWN OVERRIDE RELAY R7**

CAVITY	CIRCUIT	FUNCTION
86	591	12 VOLT SUPPLY
85	OR-B	GROUND
87	574	ENGINE SHUTDOWN OVERRIDE
30	559-J	ECU GROUND

LOCATION : AT ECU BREAKOUT

**CONNECTOR 9  
ECU GROUND**

CAVITY	CIRCUIT	FUNCTION
A	559-A	GROUND
B	559-B	GROUND
C	559-C	GROUND
D	559-D	GROUND
E	559-E	GROUND TO ECU
F	559L-A	GROUND TO ECU

LOCATION : AT ECU BREAKOUT

**CONNECTOR 10  
VEHICLE SPEED SENSOR**

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

**CONNECTOR 11  
LOW COOLANT PROBE**

CAVITY	CIRCUIT	FUNCTION
1	610	LOW COOLANT PROBE FEED
2	559L-C	GROUND TO SENDER

**CONNECTOR 12  
THROTTLE POSITION SENSOR**

CAVITY	CIRCUIT	FUNCTION
A	552	THROTTLE POSITION SENSOR SUPPLY
B	553	THROTTLE POSITION SENSOR INPUT
C	554	THROTTLE POSITION SENSOR RETURN

**CONNECTOR 13  
LOW COOLANT PROBE MODULE**

CAVITY	CIRCUIT	FUNCTION
A	610	LOW COOLANT PROBE FEED
C	559L-B	GROUND TO SENDER
D	619	COOLANT LEVEL LOW SIGNAL
E	621	MODULE FEED

**CONNECTOR 14  
SPLICE PACK 559**

CAVITY	CIRCUIT	FUNCTION
A	559	ECU GROUND
B	559-B	ECU GROUND
C	559-C	ECU GROUND
D	559-D	ECU GROUND
E	559-E	ECU GROUND
F	559-F	ECU GROUND
H	559-G	ECU GROUND
J	559-H	ECU GROUND
K	559-J	ECU GROUND
L	559-K	ECU GROUND

**CONNECTOR 15  
VEHICLE SPEED SENSOR**

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

**CONNECTOR 16  
VEHICLE SPEED SENSOR**

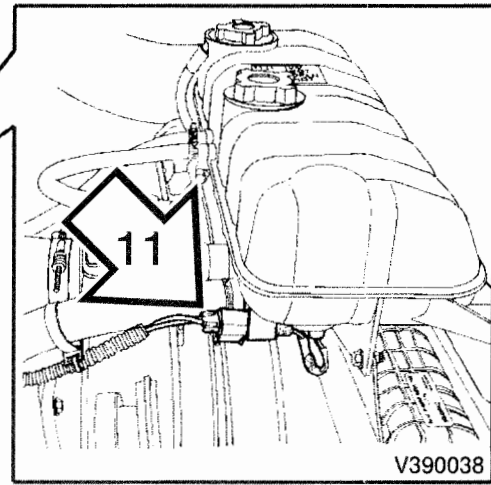
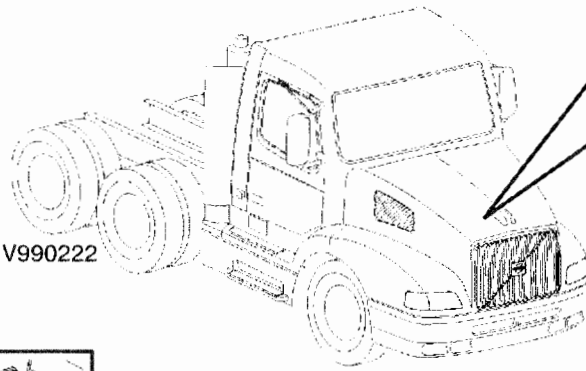
CAVITY	CIRCUIT	FUNCTION
A	550	VEHICLE SPEED INPUT
B	551	VEHICLE SPEED RETURN

- - - - - DENOTES AUTOSHIFT ONLY  
 \_\_\_\_\_ DENOTES NON OPTIMIZED IDLE ONLY  
 ..... DENOTES OPTIMIZED IDLE ONLY  
 == DENOTES TWISTED PAIR  
 == DENOTES J1939 SHIELDED CABLE

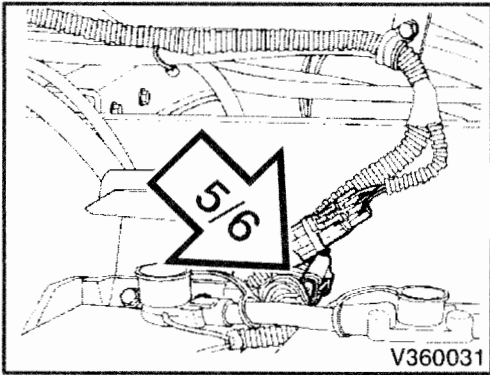
SPLICE	HARNESS	LOCATION
1	ENGINE	175MM FROM WIPER MOTOR BREAKOUT
2	ENGINE	ECU BREAKOUT
3	ENGINE	250MM FROM WIPER MOTOR BREAKOUT



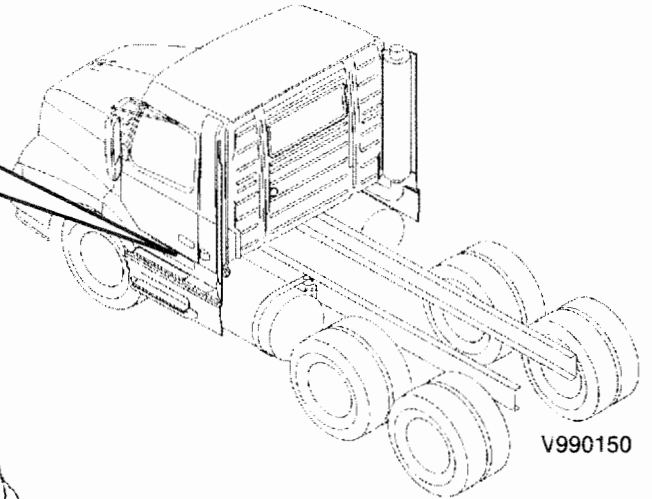
V990222



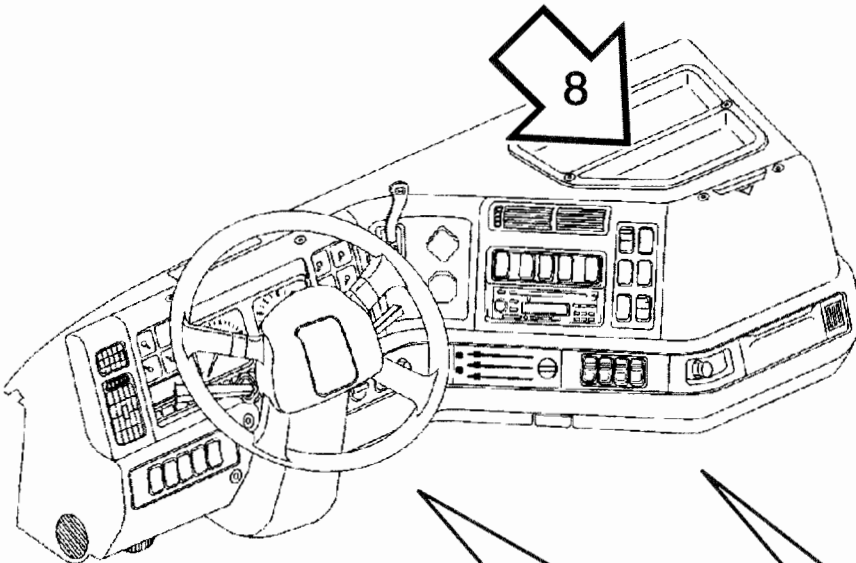
V390038



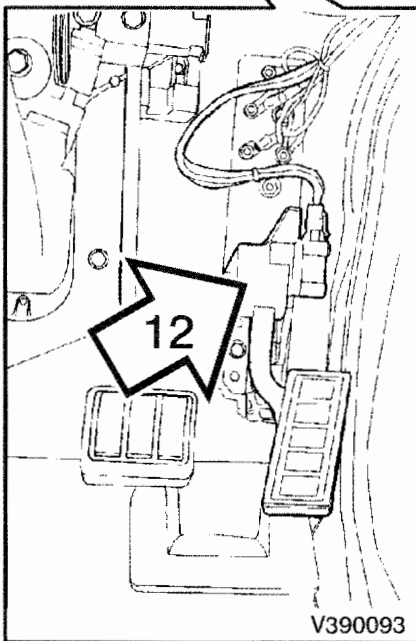
V360031



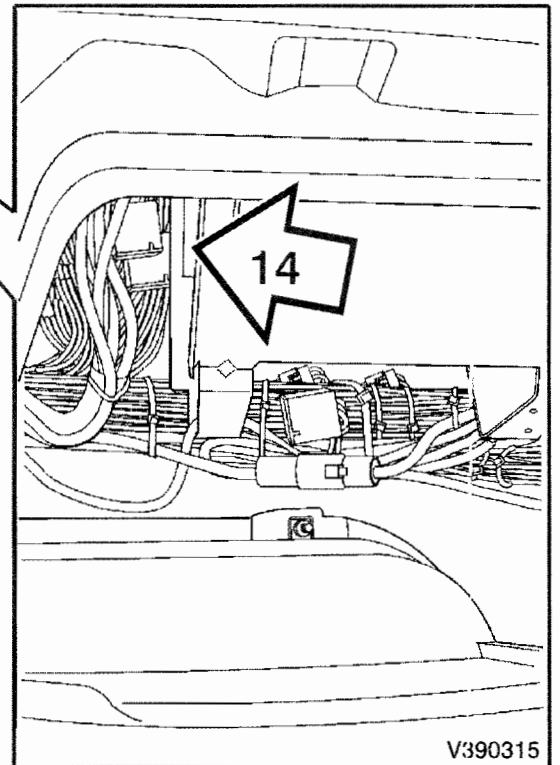
V990150



V850167



V390093



V390315

