

Service Manual Trucks

Group **37**

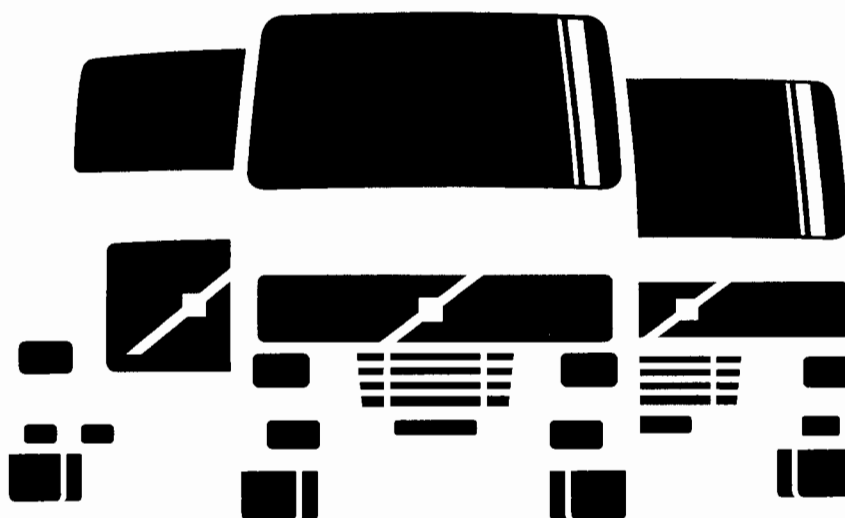
Electrical Schematic:

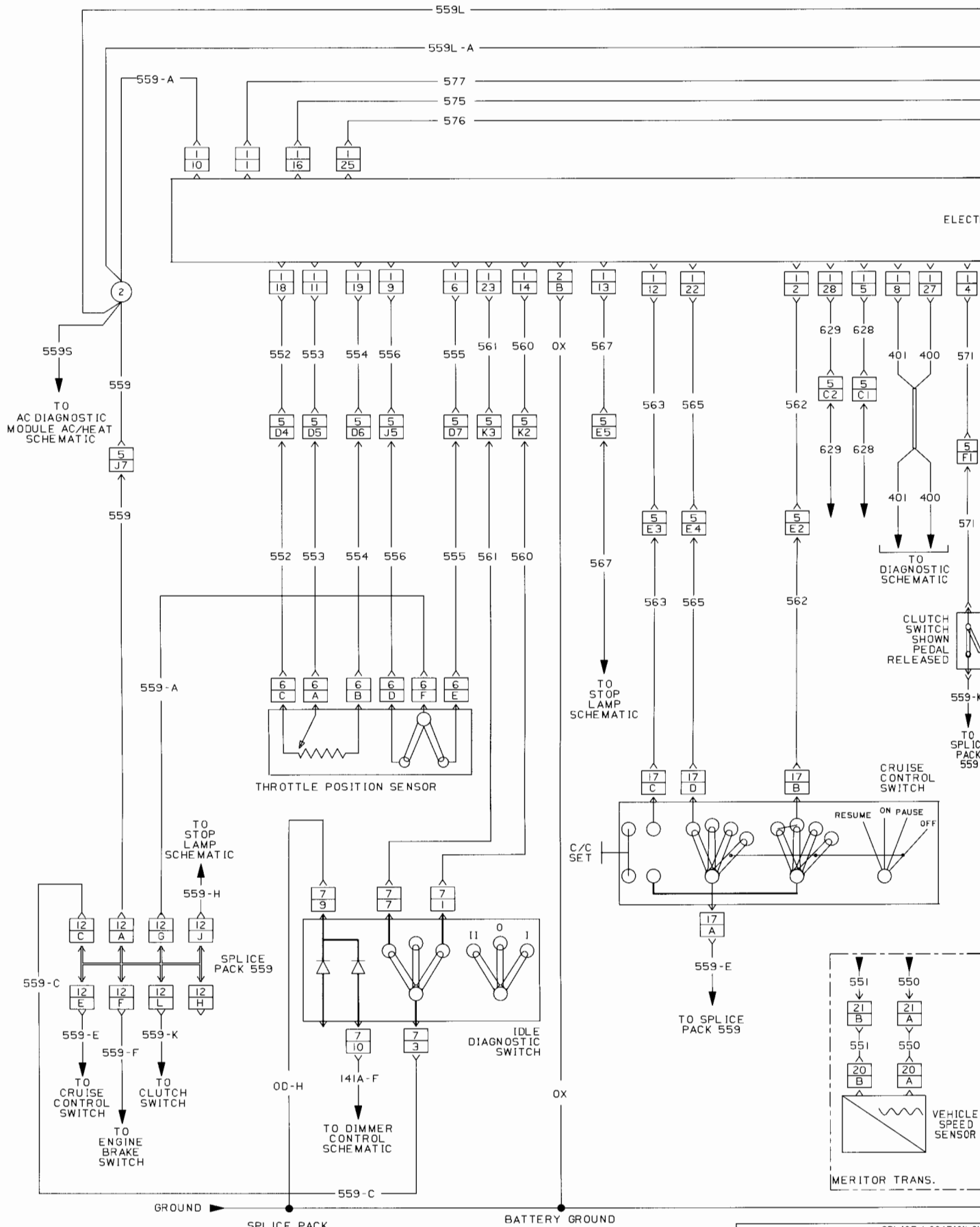
Engine ECU,

Cummins N14 Plus

VN

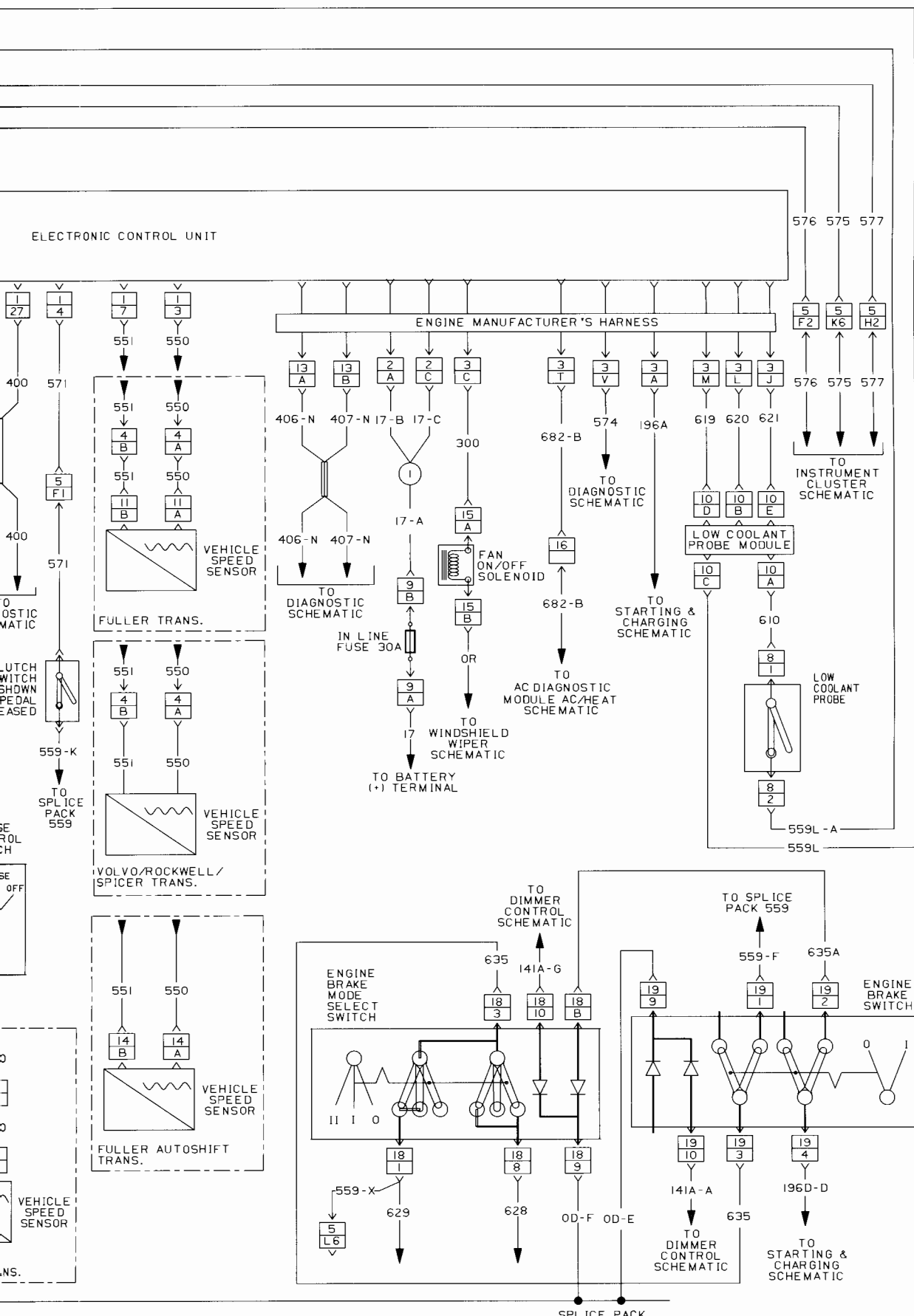
From Build Date 5.99





Engine ECU, Cummins N14 Plus - VN

SPICE	HARNESS	SPICE LOCATION CHA	
		LOCATION	
1	ENGINE	BATTERY BREAKOU	
2	ENGINE	705MM FROM BAT	



LOCATION CHART
INDICATION
BATTERY BREAKOUT BRANCH
5MM FROM BATTERY BREAKOUT

- DENOTES J1939 JACKETED CABLE
- DENOTES TWISTED PAIR

SPLICE PACK
OD

EFFECTIVE DATE	DESCRIPTION

CONNECTOR AND SPLICE INFORMATION
CONNECTORS VIEWED FROM CABLE ENTRY

**CONNECTOR 1
ENGINE ECU**

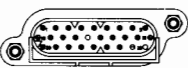


TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
1	577	ENGINE FLUIDS LAMP
2	562	AUX SHUTDOWN INPUT
3	550	VEHICLE SPEED INPUT
4	571	CLUTCH SWITCH
5	628	ENGINE BRAKE - LOW
6	555	IDLE VALIDATION INPUT
7	551	VEHICLE SPEED RETURN
8	401	J1708 INVERTED
9	556	THROTTLE VALIDATION INPUT
10	559-A	GROUND
11	553	THROTTLE POSITION INPUT
12	563	C/C,PTO SET ON
13	567	ECM BRAKE INPUT
14	560	IDLE/DIAGNOSTIC INCREMENT
16	575	STOP ENGINE WARNING LAMP
18	552	THROTTLE POSITION SUPPLY
19	554	THROTTLE POSITION RETURN
22	565	C/C,PTO RESUME ON
23	561	IDLE/DIAGNOSTIC INCREMENT
25	576	C AUTION LAMP
27	400	J1708 NONINVERTED
28	629	ENGINE BRAKE - MEDIUM

**CONNECTOR 2
ECM POWER SUPPLY**



TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	17-B	12 VOLT SUPPLY
B	0X	ELECTRONIC 0 VOLT SUPPLY
C	17-C	12 VOLT SUPPLY

**CONNECTOR 3
ELECTRONIC CONTROL MODULE FEED**

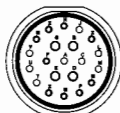


TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	196A	IGNITION SIGNAL
C	300	AIR CLUTCH SOL. VALVE
J	621	COOLANT LEVEL FEED
L	620	COOLANT LEVEL NORMAL
M	619	COOLANT LEVEL LOW
T	682-B	HIGH REF. SWITCH
V	574	DIA. REQUEST OVERRIDE

**CONNECTOR 4
SPEED SENSOR**



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

**CONNECTOR 5
ENGINE HARNESS PASS THROUGH**

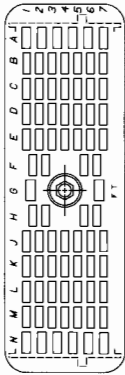


TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
C1	628	LOW FEED
C2	629	MEDIUM FEED
D4	552	THROTTLE POSITION SUPPLY
D5	553	THROTTLE POSITION INPUT
D6	554	THROTTLE POSITION RETURN
D7	555	IDLE VALIDATION
E2	562	CRUISE ON TO ECU
E3	563	CRUISE SET TO ECU
E4	565	CRUISE RESUME TO ECU
E5	567	ECM BRAKE INPUT
F1	571	INPUT TO ENGINE ECU
F2	576	CAUTION LAMP
H2	577	ENGINE FLUIDS LAMP
J5	556	THROTTLE VALIDATION INPUT
J7	559	GROUND
K2	560	IDLE INCREMENT INPUT
K3	561	IDLE DECREMENT INPUT
K6	575	STOP ENGINE WARNING LAMP
L6	559-X	E1 GROUND

**CONNECTOR 6
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 VALIDATION INPUT
E	555	IDLE VALIDATION
F	559-A	GROUND

**CONNECTOR 7
IDLE SWITCH**

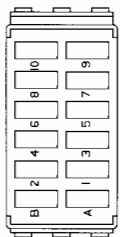


TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
1	560	IDLE INCREMENT INPUT
3	559-C	GROUND
7	561	IDLE DECREMENT INPUT
9	0D-H	GROUND
10	141A-F	ILLUMINATION

**CONNECTOR 8
LOW COOLANT PROBE**



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

**CONNECTOR 9
INLINE FUSE**



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

**CONNECTOR 10
LOW COOLANT PROBE MODULE**

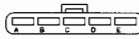


TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	610	ENG. COOLANT SWITCH SIGNAL
B	620	COOLANT LEVEL NORMAL
C	559L	GROUND
D	619	COOLANT LEVEL LOW
E	621	COOLANT LEVEL MODULE FEED

**CONNECTOR 11
SPEED SENSOR**



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

**CONNECTOR 12
SPLICE PACK 559**



TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	559	ECU GROUND
C	559-C	ECU GROUND
E	559-E	ECU GROUND
F	559-F	ECU GROUND
G	559-A	ECU GROUND
J	559-H	ECU GROUND
L	559-K	ECU GROUND

**CONNECTOR 13
J1939 ECU CONNECTOR**



TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	406-N	DATA LINK HIGH SAE J1939
B	407-N	DATA LINK LOW SAE J1939

**CONNECTOR 14
SPEED SENSOR**



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

**CONNECTOR 15
FAN ON/OFF SOLENOID**



TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	300	GROUND
B	0R	GROUND

**CONNECTOR 16
FAN SWITCH OPTION**



TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	682-B	GROUND

**CONNECTOR 17
CRUISE CONTROL SWITCH**



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

**CONNECTOR 18
ENGINE BRAKE MODE SELECT SWITCH**

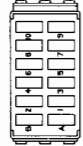


TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
B	635A	12 VOLT SUPPLY
I	559-X/629	MEDIUM FEED
J	635	12 VOLT SUPPLY
8	628	LOW FEED
9	0D-F	GROUND
10	141A-G	ILLUMINATION

**CONNECTOR 19
ENGINE BRAKE SWITCH**

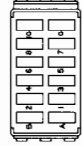


TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
1	559-F	GROUND
2	635A	SW 12 VOLT SUPPLY
3	635	12 VOLT SUPPLY
4	1960-D	12 VOLT SUPPLY
9	0D-E	GROUND
10	141A-A	ILLUMINATION

**CONNECTOR 20
SPEED SENSOR**



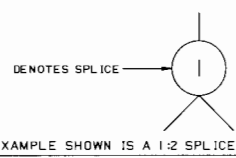
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CAVITY	CIRCUIT	FUNCTION
A	550	VEHICLE SPEED INPUT
B	551	VEHICLE SPEED RETURN

**CONNECTOR 21
SPEED SENSOR**

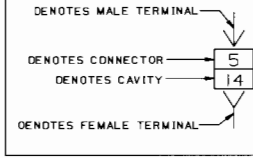


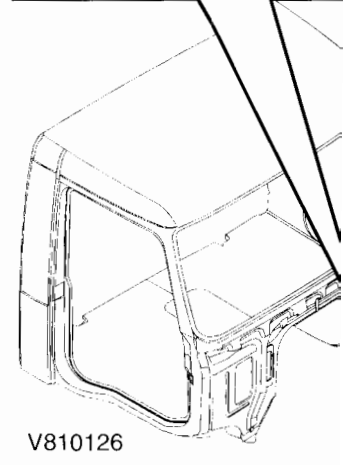
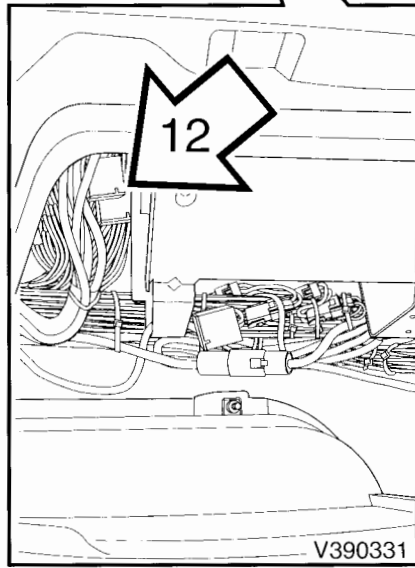
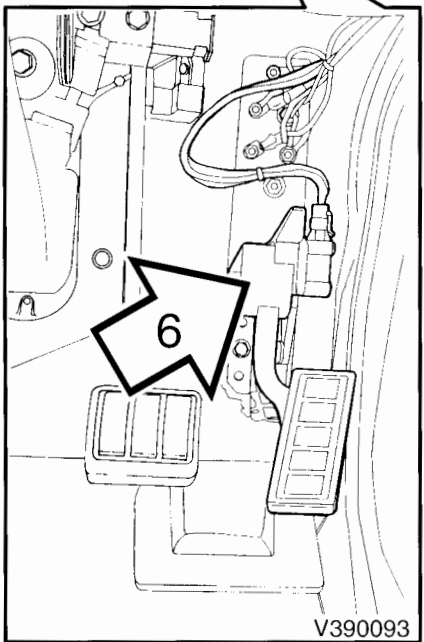
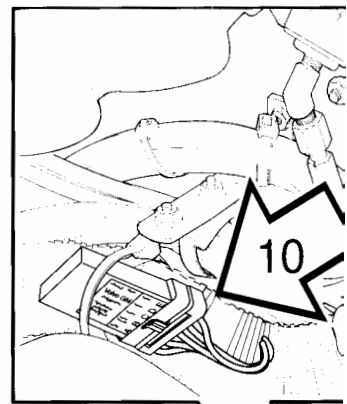
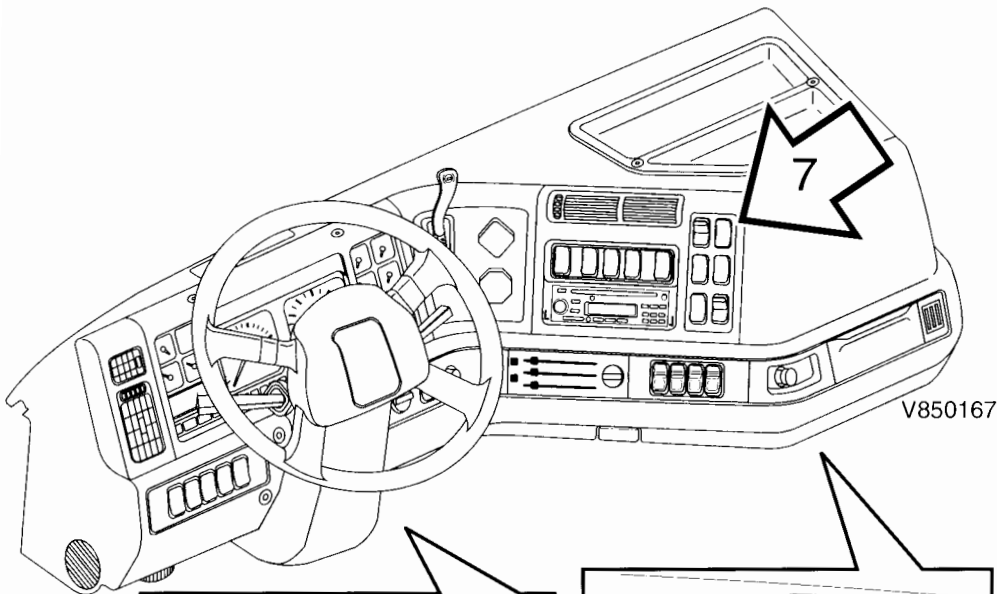
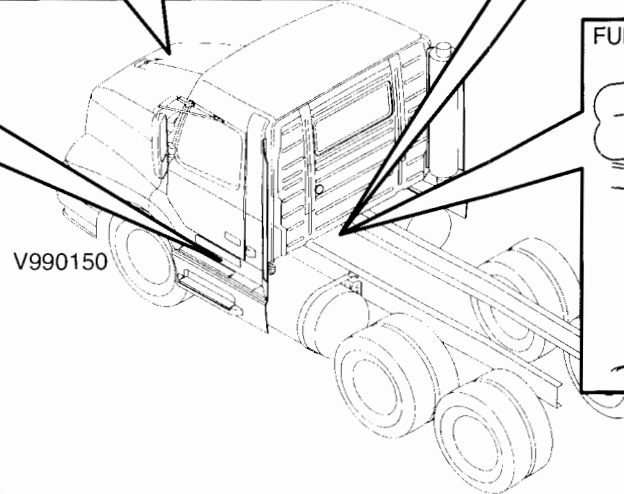
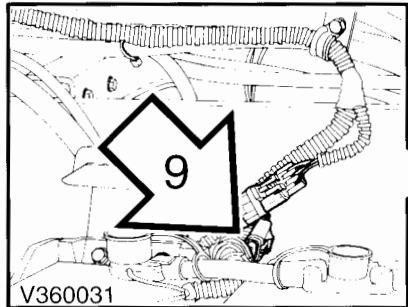
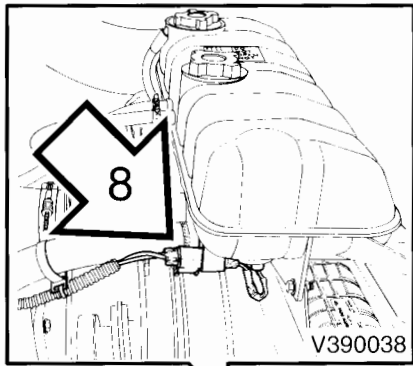
TABLE OF CONTENTS		
CAVITY	CIRCUIT	FUNCTION
A	550	VEHICLE SPEED INPUT
B	551	VEHICLE SPEED RETURN

SYMBOL DEFINITION

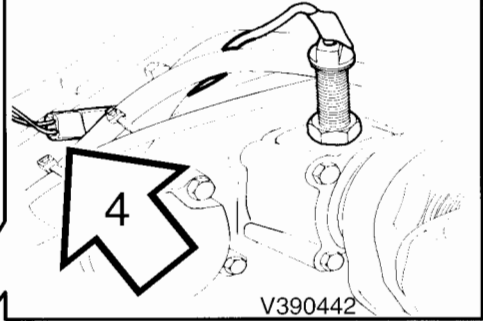


SYMBOL DEFINITION



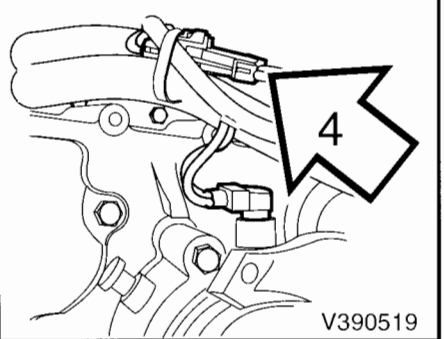


VOLVO/ROCKWELL/SPICER TRANS. ONLY

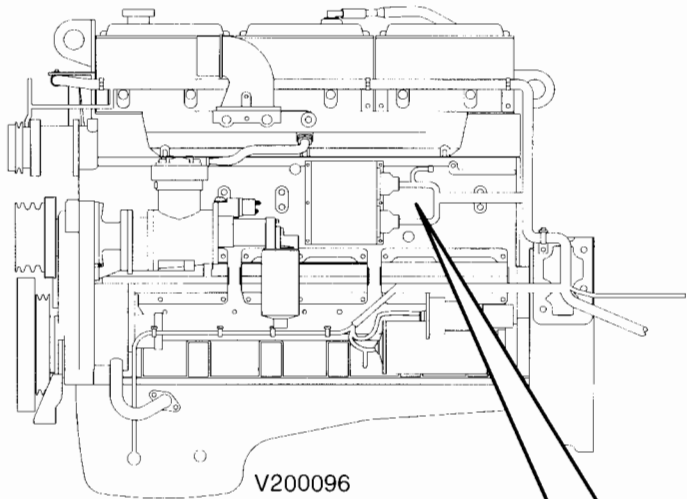


V390442

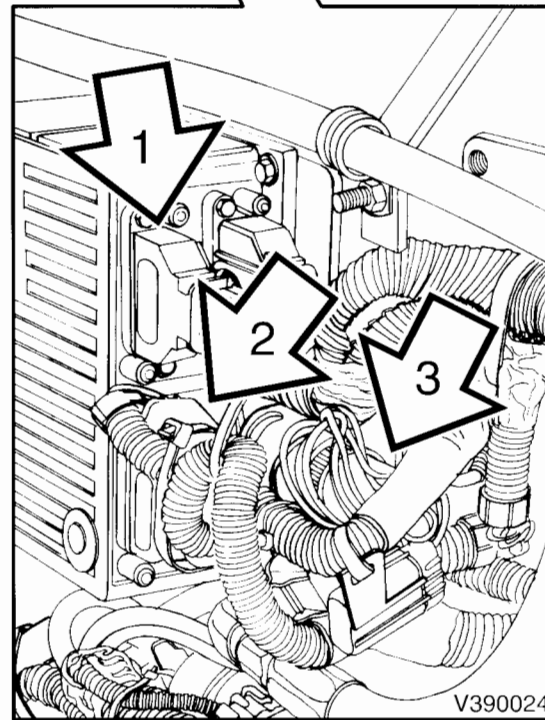
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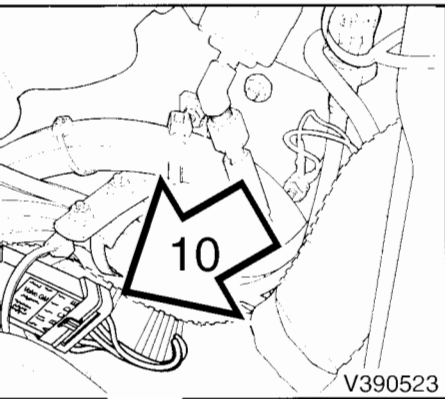
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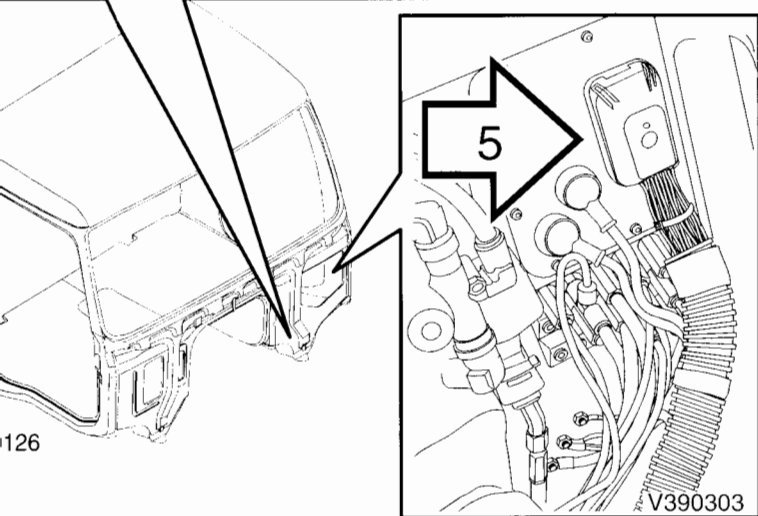
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V390523



V390303