

Service Manual Trucks

Group **37**

Electrical Schematic:

Engine ECU,

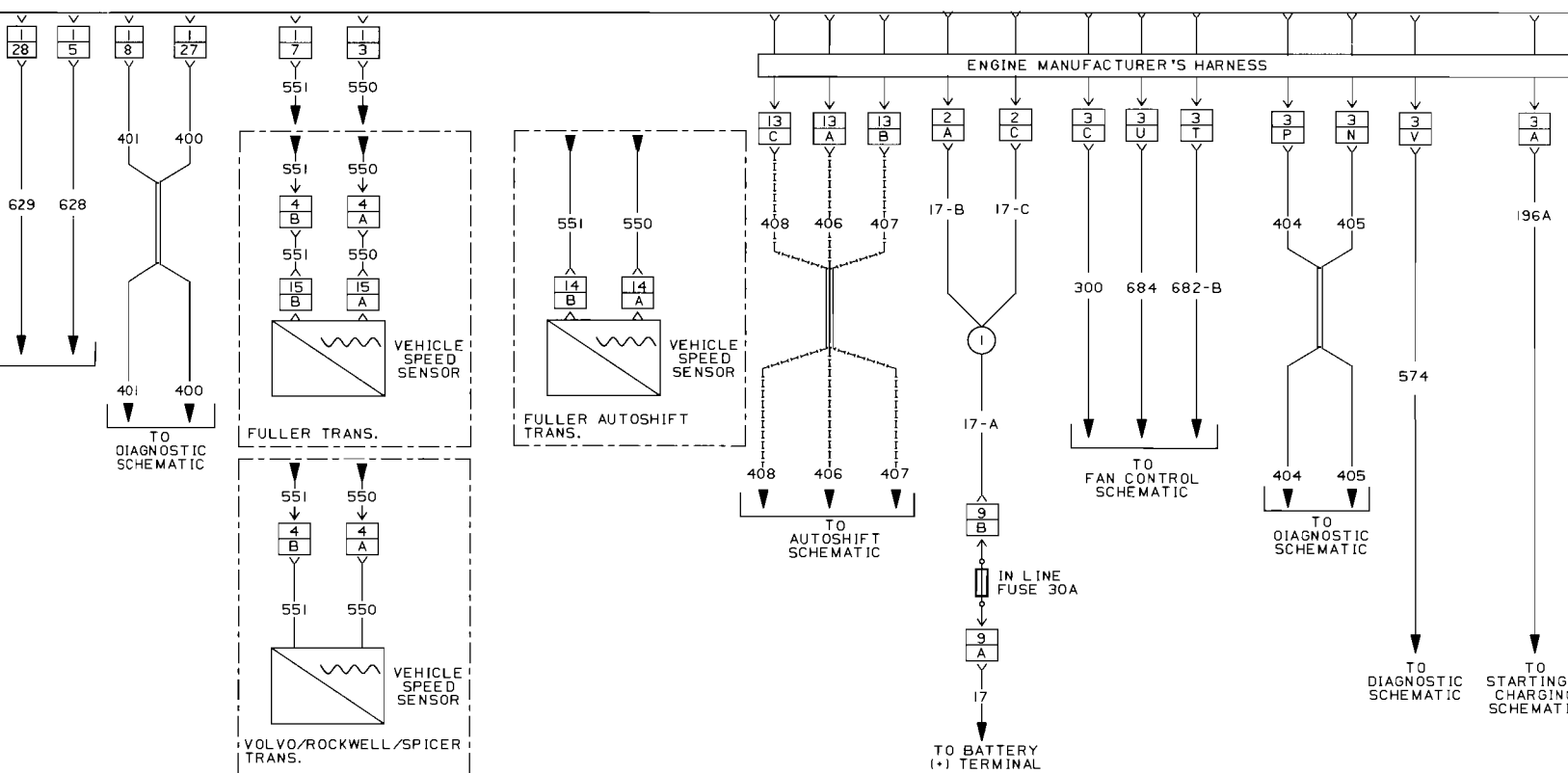
Cummins M11/N14 Plus

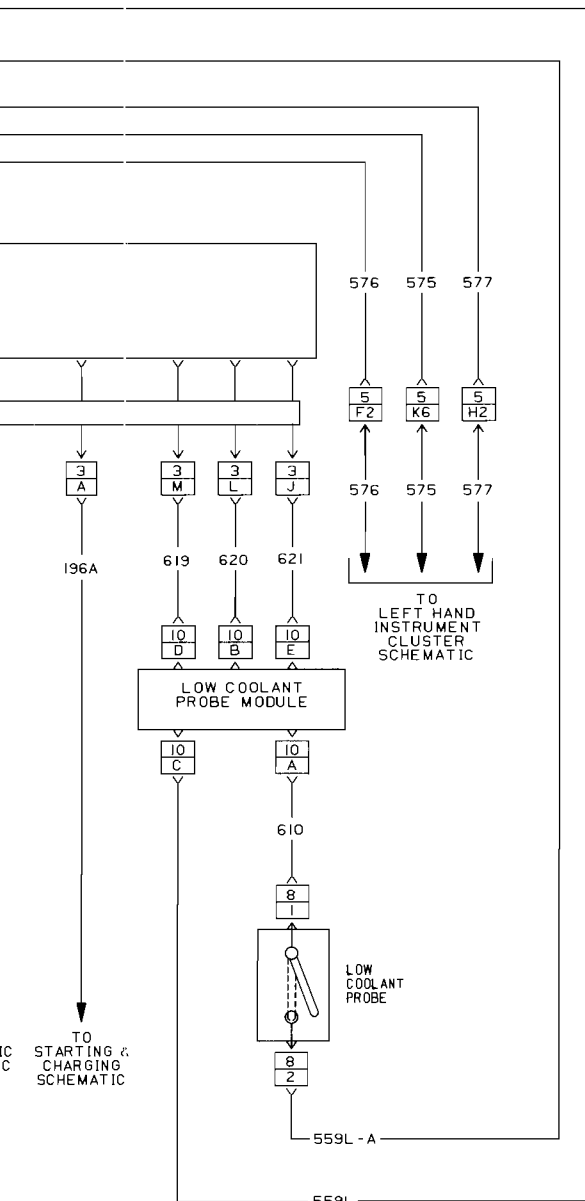
VN

From Build Date 2.98



ELECTRONIC CONTROL UNIT





——— DENOTES TWISTED PAIR
 ——— DENOTES J1939 SHIELDED CABLE
 ——— DENOTES CUIII ENGINE ONLY
 DENOTES CUI4 ENGINE ONLY
 - - - - - DENOTES AUTOSHIFT ONLY

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 AUTON LAMP
27	400	J1708 NONINVERTED
28	629	ENGINE BRAKE - MEDIUM

CAVITIES NOT SHOWN HAVE A PLUG

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
N	405	J1922 INVERTED
P	404	J1922 NONINVERTED
T	682-B	HIGH REF. SWITCH
U	684	ON/OFF FAN SOL.
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

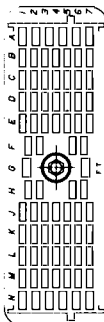


TABLE OF CONTENTS

CAVITY	CIRCUIT	FUNCTION
D4	552	THROTTLE POSITION SUPPLY
D5	553	THROTTLE POSITION INPUT
D6	554	THROTTLE POSITION RETURN
D7	555	IDLE VALIDATION
D8	567	ECM BRAKE INPUT
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

CONNECTOR 6 THROTTLE POSITION SENSOR

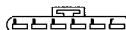


TABLE OF CONTENTS

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

EFFECTIVE DATE

10/98 AD

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	DASH ILLUMINATION

CONNECTOR 8 LOW COOLANT PROBE

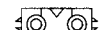


TABLE OF CONTENTS

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 OPTION CONNECTOR



TABLE OF CONTENTS

CAVITY	CIRCUIT	FUNCTION
B	0D	GROUND

CONNECTOR 12 SPLICE PACK 559

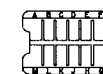


TABLE OF CONTENTS

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
H	559-G	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	DATA LINK HIGH SAE J1939
B	407	DATA LINK LOW SAE J1939
C	408	SHIELD SAE J1939

CONNECTOR 14 SPEED SENSOR



TABLE OF CONTENTS

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

CONNECTOR 15 SPEED SENSOR



TABLE OF CONTENTS

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

SPLICE LOCATION CHART

SPLICE	HARNESS	LOCATION
1	ENGINE	BATTERY BREAKOUT BRANCH
2	ENGINE	705MM FROM BATTERY BREAKOUT

CHANGE HISTORY	
EFFECTIVE DATE	DESCRIPTION
10/98	ADDED FULLER AUTOSHIFT OPTION

ION
REMENT INPUT
D
REMENT INPUT
D
UMINATION

ION
OLANT LEVEL FEED
D

ION
SUPPLY
SUPPLY

DULE

ION
ANT SWITCH SIGNAL
LEVEL NORMAL
D
T LEVEL LOW
LEVEL MODULE FEED

ION
D

ION
NO
NO
NO
NO
NO
NO
NO
NO

ION
NK HIGH SAE J1939
NK LOW SAE J1939
SAE J1939

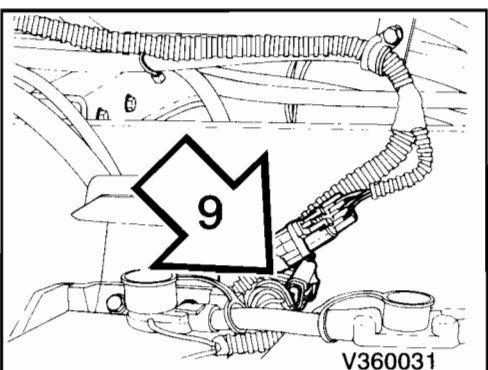
ION
SPEED INPUT
SPEED RETURN

ION
SPEED INPUT
SPEED RETURN

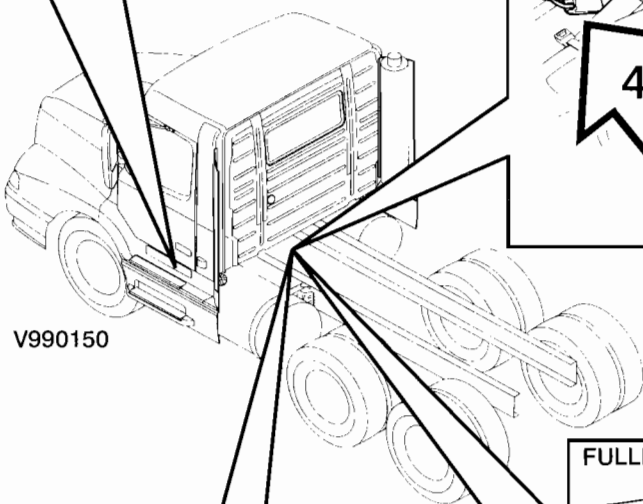
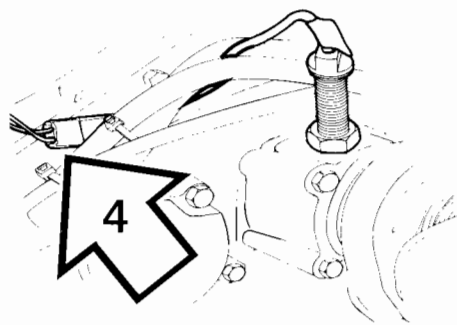
ART
R/T BRANCH
TTERY BREAKOUT

CHANGE HISTORY

EFFECTIVE DATE	DESCRIPTION
10/98	ADDED FULLER AUTOSHIFT OPTION

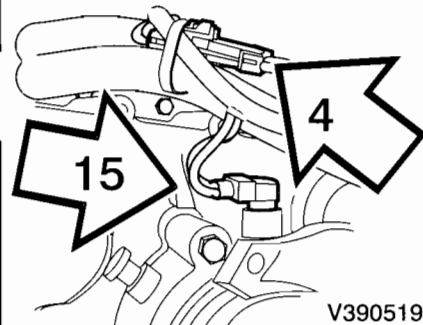


VOLVO/ROCKWELL/SPICER TRANS. ONLY



V990150

FULLER TRANS. ONLY



SYMBOL DEFINITION

DENOTES MALE TERMINAL →

DENOTES CONNECTOR →

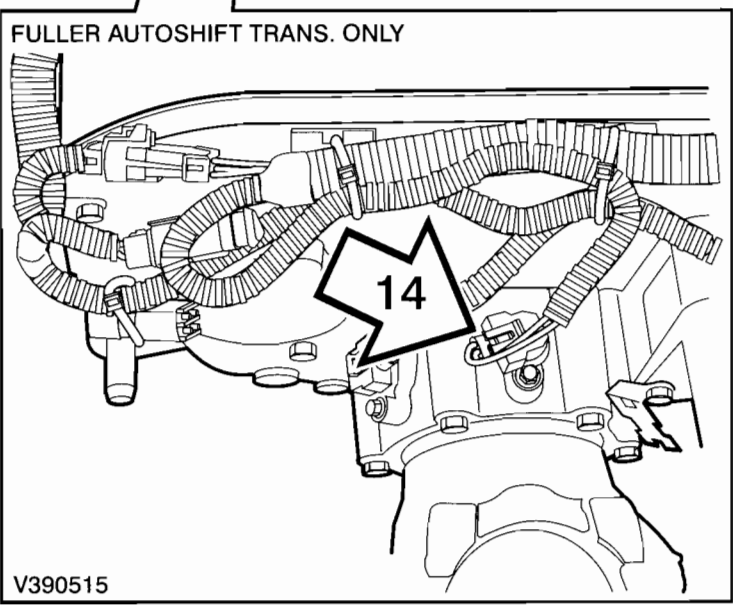
DENOTES CAVITY →

DENOTES FEMALE TERMINAL →

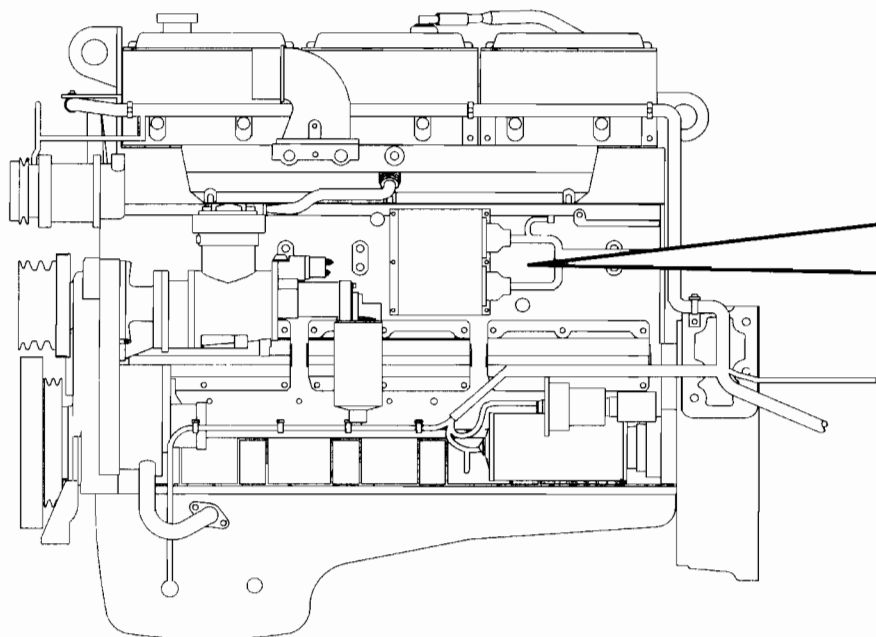
SYMBOL DEFINITION

DENOTES SPLICE →

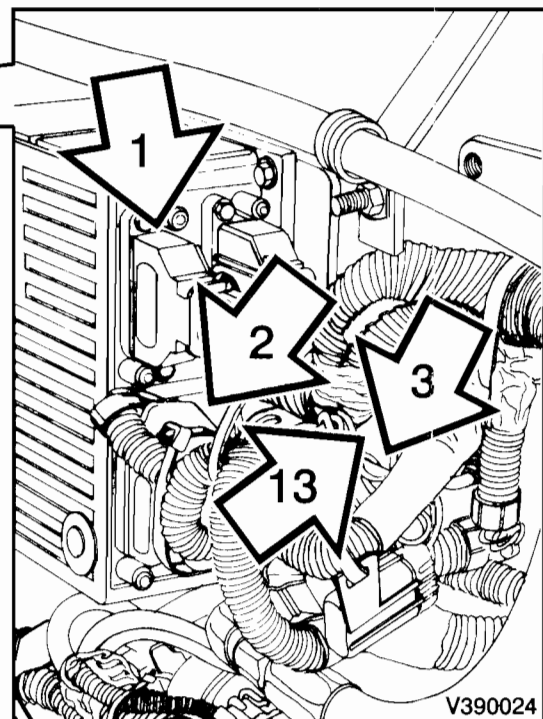
EXAMPLE SHOWN IS A 1-2 SPLICE



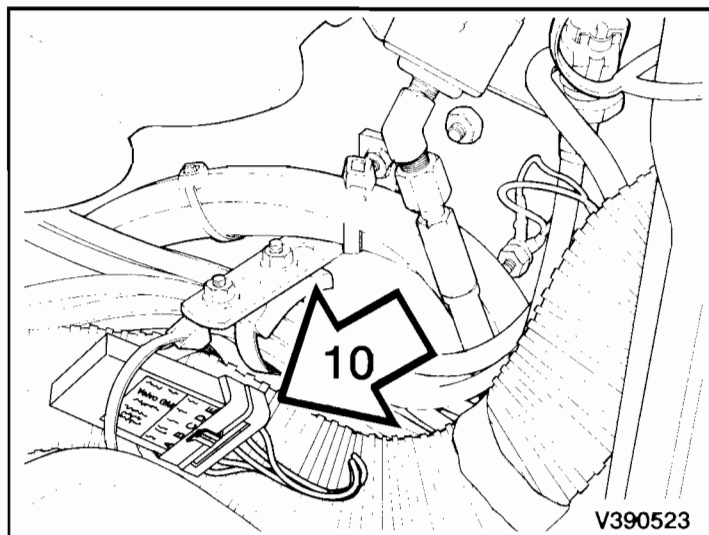
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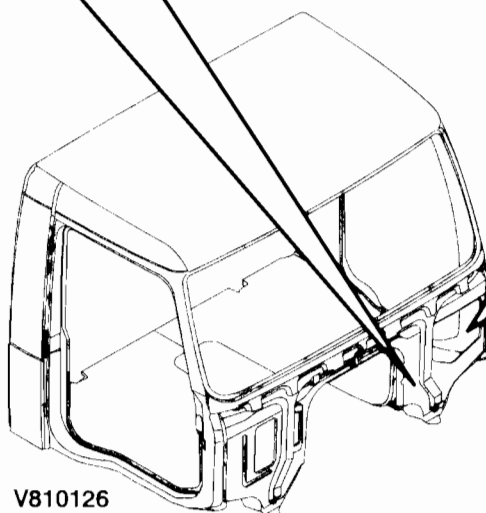
V200096



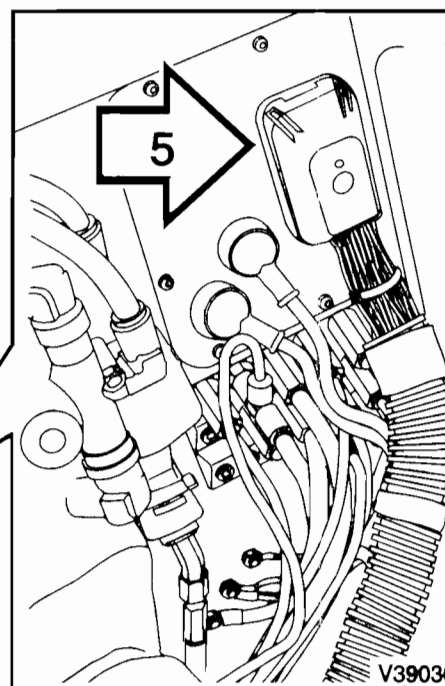
V390024



V390523



V810126



V3903

