

Frame contained PDF file, click [here](#) to view

- [Contents](#)
- [Abbreviations](#)
- [How to use the wiring diagram](#)
- Electrical distribution
  - [Overview V70](#)
  - [Overview XC90](#)
- Relays/Shunts
  - [Cargo compartment RMA1 - RSH6](#)
- Ground connection
  - [31/6 - 31/53](#)
  - [31/72 - 31/84](#)
  - [31/93](#)
  - [31/94 - 31/99](#)
  - [31/104 - 31/105](#)
- Control modules
  - [Central Electronic Module \(CEM\) V70/ XC70](#)
  - [Central Electronic Module \(CEM\)XC90](#)
  - [Rear Electronic Module \(REM\) V70/ XC70](#)
  - [Rear Electronic Module \(REM\) XC90](#)
  - [Data communication V70/XC70](#)
  - [Data communication XC90](#)
- Group 23
  - [Engine management system B5244S6, B5244S USA](#)
- Group 32
  - [Power supply](#)
- Group 33
  - [Starting system](#)
- Group 35
  - [Fog lights](#)
  - [High and low beam XC90](#)
  - [Daytime running lights and auxiliary light wiring XC90](#)
  - [Brake lights](#)
  - [Parking lights XC90](#)
  - [Tail lights and license plate lighting XC90](#)
  - [Beam length adjustment XC90](#)
- Group 36

- [Horn](#)
- [Wiper/Washer, windshield](#)
- [Rain sensor](#)
- [Electronic immobilizer](#)
- Group 37
  - [Diagnostics system](#)
- Group 38
  - [Seat belt reminder](#)
  - [Driver information module](#)
  - [Driver information module Bifuel](#)
- Group 39
  - [Audio XC90](#)
  - [Infotainment XC90](#)
  - [Mobile telephone V70/XC90](#)
- Group 59
  - [Brake Control Module \(BCM\)](#)
- Group 83
  - [Central locking system V70/XC70](#)
  - [Central locking system XC90](#)
- Group 87
  - [Manual Climate Control \(MCC\)](#)
  - [Electronic Climate Control \(ECC\)](#)
  - [Parking heater, auxiliary heater](#)
- Group 88
  - [SRS Supplemental Restraint System V70/XC70](#)
  - [SRS Supplemental Restraint System XC90](#)
- Connectros
  - [54/43](#)
  - [54/66.1 - 54/109](#)
- [Junction points](#)
- [Component illustrations](#)
- [Contents](#)
- [List of components](#)

# **WIRING DIAGRAM**

## **Section 3 (39) V70/XC70 & XC90 Supplement 2003**

TP 3967202

This manual contains edited and supplementary information which applies to V70, XC70 & XC90 (model year 2003).  
 Service Manual Wiring Diagram V70/XC70 & XC90 2003 can be used for the remainder of the electrical system.

Abbreviations .....	3
How to use the wiring diagram .....	4

## Electrical distribution

Overview V70 .....	6
Overview XC90 .....	8

## Relays/Shunts

Cargo compartment RMA1 - RSH6 .....	10
-------------------------------------	----

## Ground connections

31/6 - 31/53 .....	11
31/72 - 31/84 .....	12
31/93 .....	13
31/94 - 31/99 .....	14
31/104 - 31/105 .....	15

## Control modules

Central Electronic Module (CEM) V70/XC70 .....	16
Central Electronic Module (CEM) XC90 .....	18
Rear Electronic Module (REM) V70/XC70 .....	20
Rear Electronic Module (REM) XC90 .....	22
Data communication V70/XC70 .....	24
Data communication XC90 .....	26

## Group 23

Engine management system B5244S6, B5244S USA .....	28
--	----

## Group 32

Power supply .....	30
--------------------	----

## Group 33

Starting system .....	31
-----------------------	----

## Group 35

Fog lights .....	32
High and low beam XC90 .....	33

Daytime running lights and auxiliary light wiring XC90 .....	33
Brake lights .....	34
Parking lights XC90 .....	35
Tail lights and license plate lighting XC90 .....	35
Beam length adjustment XC90 .....	36

## Group 36

Horn .....	37
Wipers/washers, windshield .....	38
Rain sensor .....	39
Electronic immobilizer .....	40

## Group 37

Diagnostics system .....	41
--------------------------	----

## Group 38

Seat belt reminder .....	42
Driver information module .....	43
Driver information module Bifuel .....	44

## Group 39

Audio XC90 .....	45
Infotainment XC90 .....	46
Mobile telephone V70/XC70 .....	47

## Group 59

Brake Control Module (BCM) .....	48
----------------------------------	----

## Group 83

Central locking system V70/XC70 .....	49
Central locking system XC90 .....	50

## Group 87

Manual Climate Control (MCC) .....	51
Electronic Climate Control (ECC) .....	52
Parking heater, auxiliary heater .....	53

**Order number TP 3967202**

**Group 88**

SRS Supplemental Restraint System V70/XC70 ..... 54  
SRS Supplemental Restraint System XC90 ..... 55

**Connectors**

54/43 ..... 56  
54/66.1 -54/109..... 57

**Junction points ..... 58**

**Component illustrations..... 60**

**Contents ..... 61**

**List of components**

## Groups

Group 23	= Fuel system
Group 26	= Cooling system
Group 27	= Engine controls
Group 32	= Generator and voltage regulator
Group 33	= Starting system
Group 35	= Lighting
Group 36	= Additional electrical equipment
Group 37	= Wiring and fuses
Group 38	= Instruments
Group 39	= Other
Group 43	= Transmission
Group 59	= Brake system
Group 64	= Steering
Group 83	= Doors and openings
Group 84	= Exterior decorative elements etc.
Group 85	= Interior equipment
Group 87	= Climate controls
Group 88	= Internal equipment

## Ignition switch symbols

X	= Accessories (audio position)
S	= Powered upon insertion of key
15	= The switch remains connected during start
15I	= Contact is broken while starting
30	= Constant power from the battery
50	= Start

## Countries/Markets

A	= Austria
AUS	= Australia
B	= Belgium
CDN	= Canada
CH	= Switzerland
D	= Germany
DK	= Denmark
E	= Spain
EU/OS	= Markets outside USA and Canada
FIN	= Finland
GB	= Great Britain
ISR	= Israel
J	= Japan
KOR	= Korea
N	= Norway
NL	= Netherlands

S	= Sweden
USA	= United States of America
WEU	= Western Europe

## Other

ACC	= Accessory
AMP	= Amplifier
AUDIO	= Audio system
AUTO	= Automatic transmission
Bi-X	= Bi-Xenon
CEM	= Central Electronic Module
DRL	= Daytime Running Lights
DSTC	= Dynamic Stability Traction Control
EXC	= Exclusive
EXT.D	= Extended electrical distribution
HISPEED	= High speed data bus
LH	= Left-hand side
LHD	= Left-hand drive
LOSPEED	= Low speed data bus
MAN	= Manual transmission
PCL	= Power Child Lock
REM	= Rear Electronic Module
RH	= Right-hand side
RHD	= Right-hand drive
RTI	= Road Traffic Information
SRS	= Airbag
TELE	= Mobile telephone
T	= Turbo engine
W/O	= Without
5CYL	= 5-cylinder engine
6CYL	= 6-cylinder engine

## Colors

BL	= Blue
BN	= Brown
GN	= Green
GR	= Gray
OR	= Orange
P	= Pink
R	= Red
SB	= Black
VO	= Violet
W	= White
Y	= Yellow

# How to use the wiring diagram

The descriptions below apply in general to all wiring diagram manuals, although not all sections are necessarily contained in this manual.

## A. Component designation

Every component has a component designation that consists of two parts.

The first part is a type number that describes the type of component in question, for example 3/x.

The second part of the designation is a serial number, for example, x/2.

Combined these give a component designation, for example, 3/2.

At the end of the manual is a list of components, where, with the help of the component designation, you can read off the name of the component, for example, 3/2 = light switch.

## List of type numbers

The list shows which type of component that respective type numbers refer to, for example, 3/x = switch, 6/x = electric motor, etc.

1	Battery
2	Relay
3	Switch
4	Control module
5	Driver information module
6	Electric motor
7	Sensor
8	Actuator
9	Heating element
10	Light
11	Fuse
15	Electrical distribution rail/box
16	Audio
17	Service/diagnostics
18	Contact reel
19	Meter
20	Ignition component/shunt
27	Optics
31	Ground connection
53	Junction point
54	Connector

## B. Junction points

The wiring diagrams contain numbered junction points, e.g. 53/352.

This manual contains a section with a list of junction points. This list shows all the components which are connected to each junction point.

The location of the junction points is shown in the "Cable harness routing in vehicle" section.

## C. Connectors

Connectors provide a bridge between two cables harnesses and are described in the "Connectors" section.

## D. Electrical distribution

Operation of the fuses and relays is shown in the "Electrical distribution" section.

## E. Data communication

Today's cars are equipped with a CAN network, which transmits information. Connections to this network are shown in their entirety on the respective wiring diagrams. Complete information on CAN communication is can be found in the section titled "Data communication".

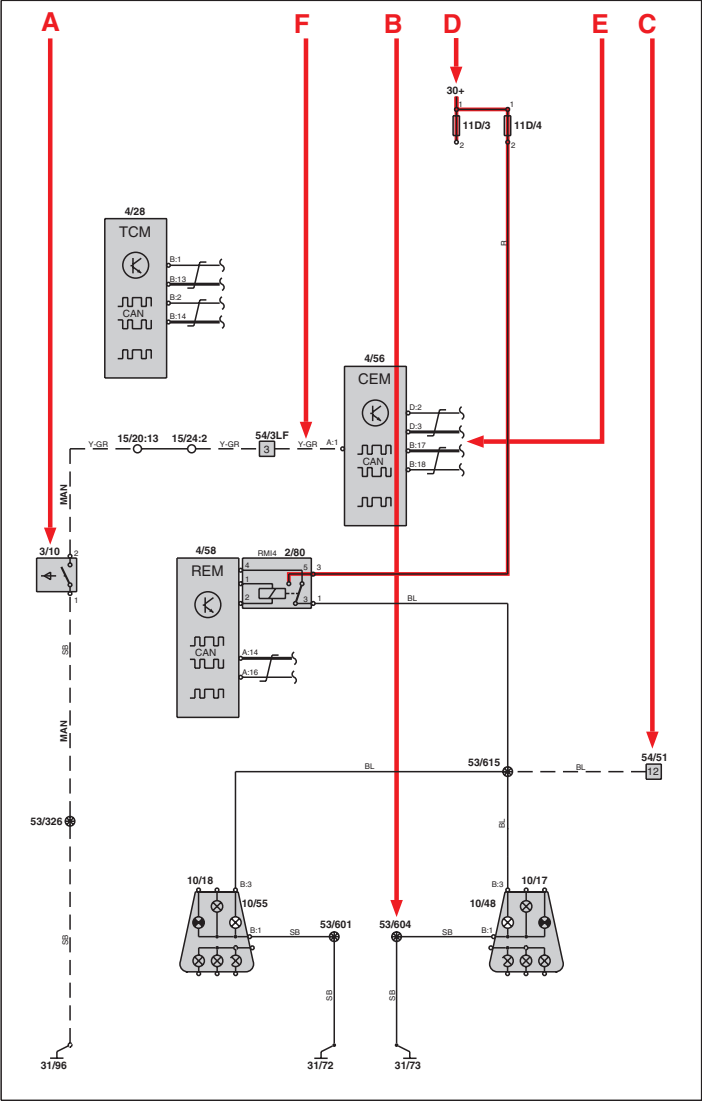
## F. Abbreviations

A number of different abbreviations are used in the manual. These are explained in the section "Abbreviations".

## G. Component location

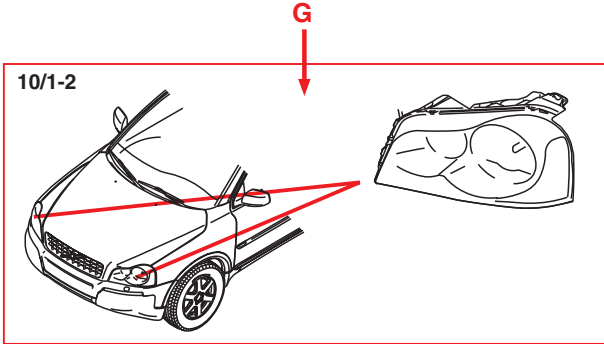
There is a section at the end of the manual in which the appearance and location of components is described in numerical order.

# How to use the wiring diagram



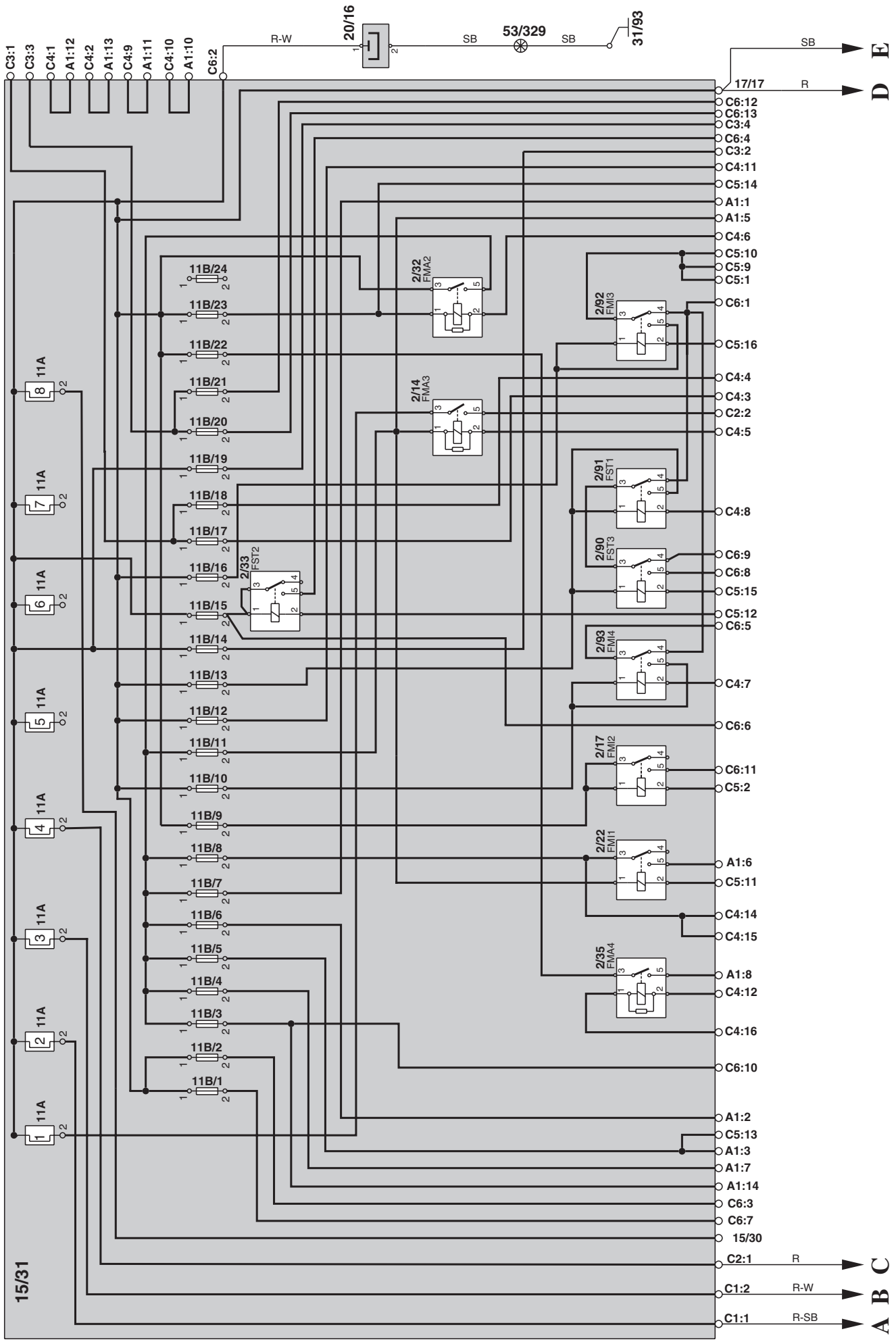
## List of symbols

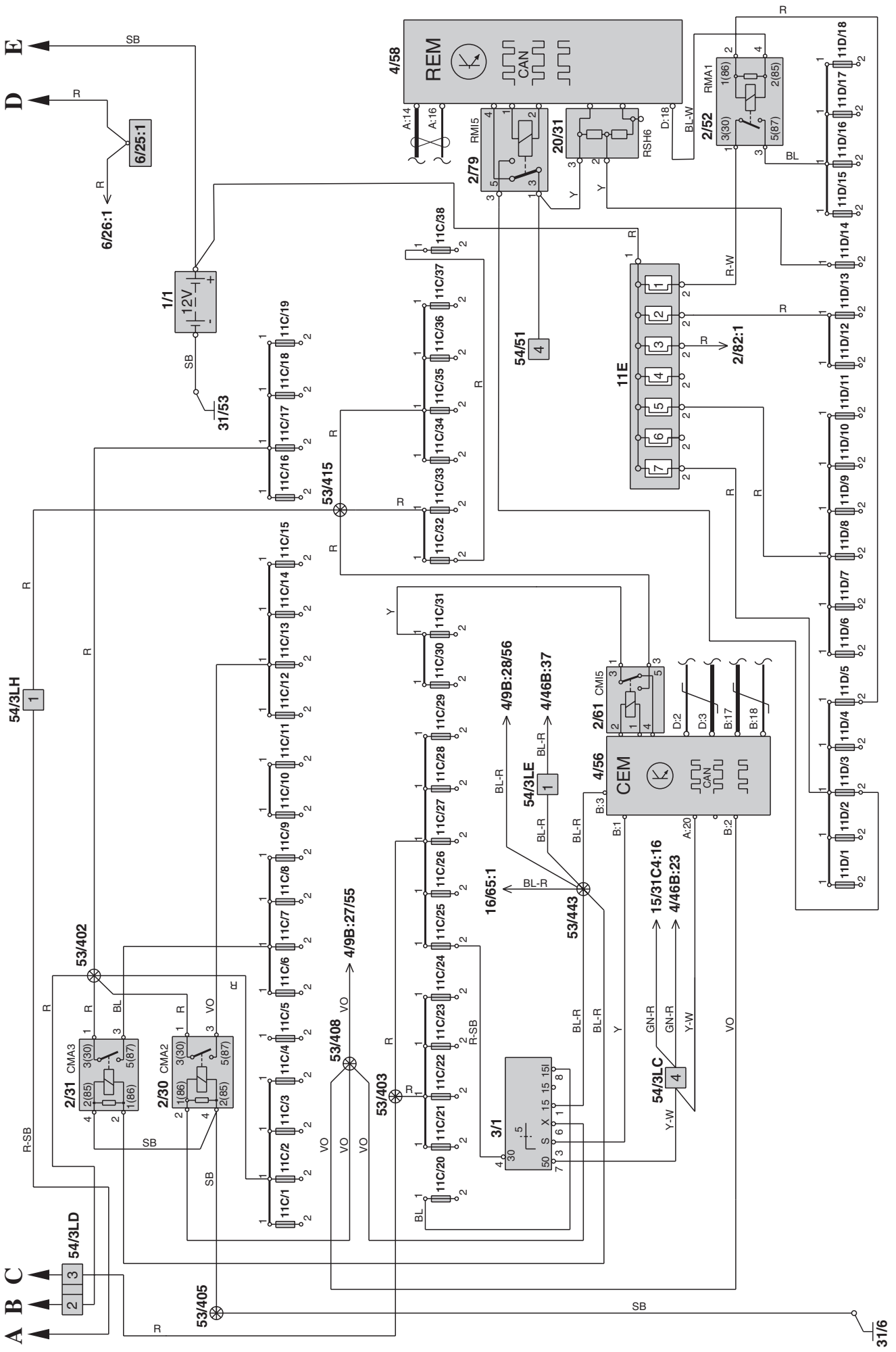
- = System voltage
- = Ground connection via wiring
- = Ground connection on component/chassis
- = Screened wire
- = Junction point
- = Twisted cable
- = Electrical connection
- = Variant
- = CAN communication
- = CAN high data signal (CAN H)
- = CAN low data signal (CAN L)
- = MOST communication
- = Serial communication
- = DIN cable, coaxial cable, etc.
- = Data communication
- = CAN communication
- = Connection with distribution box
- = Further connection to...
- = Connector between wiring harnesses
- = Connector connected to component



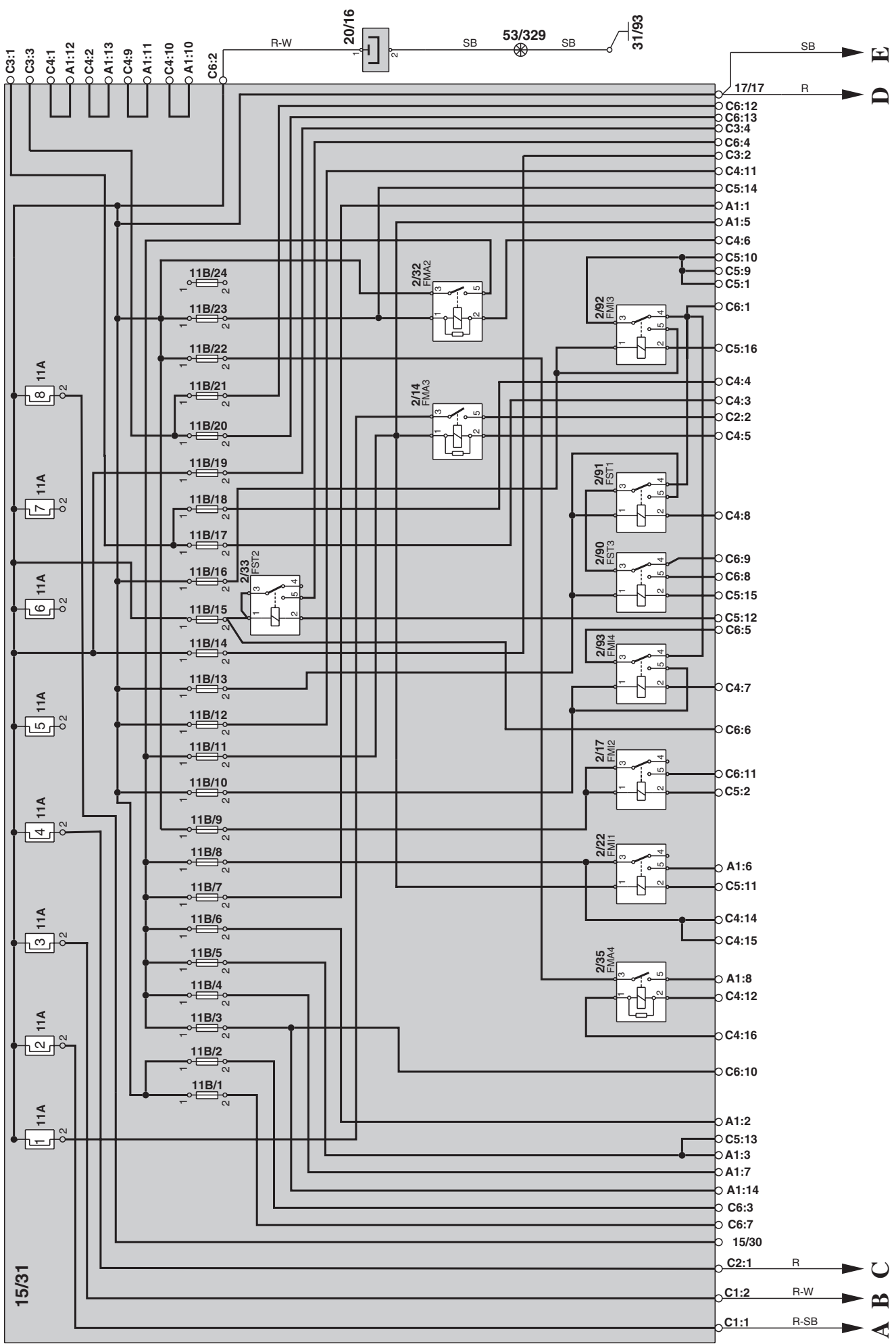


# Electrical distribution Overview V70

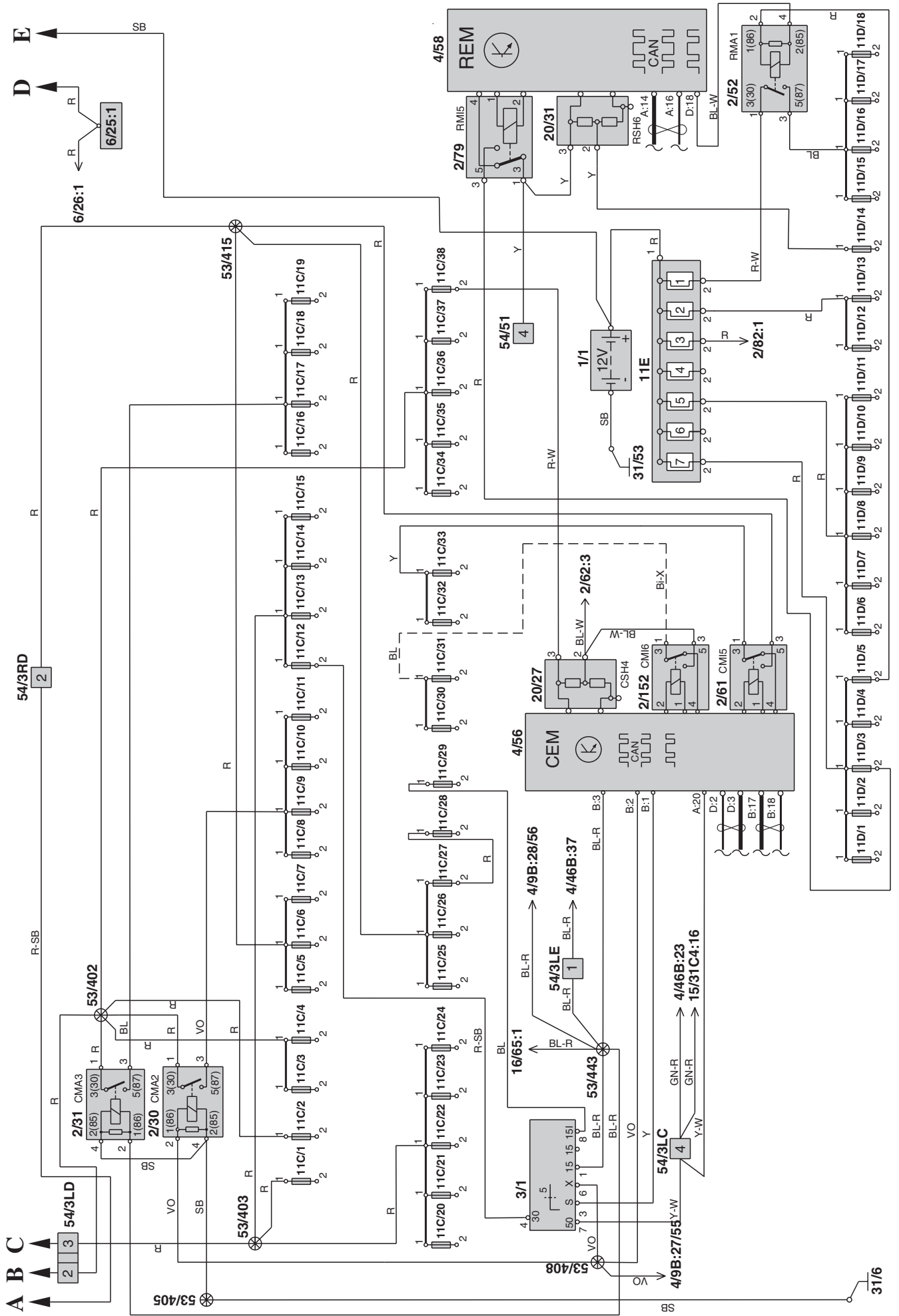




# Electrical distribution Overview XC90

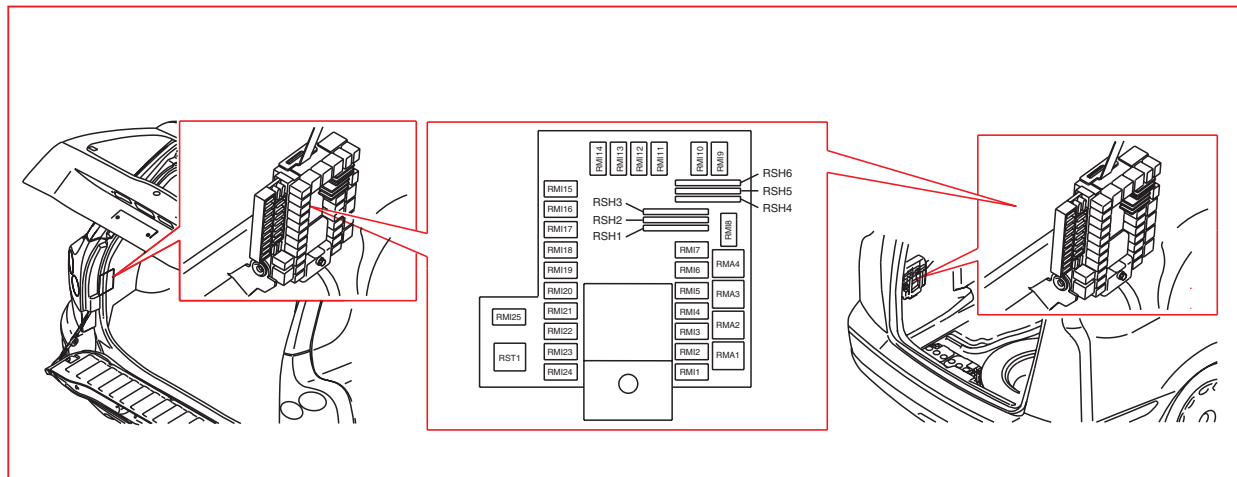


# Electrical distribution Overview XC90



## Relays/Shunts

### Cargo compartment RMA1 - RSH6



### Relays/shunts in the cargo compartment

Pos	Relay function	
RMA1	2/52	Relay, 15l feed, rear
RMA2	2/157	Bass speaker system relay, XC90
RMA3	2/82	Relay, heated rear window
RMI2	2/112	Unlocking relay, left-hand rear
RMI3	2/115	Relay, deadlock, rear doors
RMI4	2/80	Reversing light relay
RMI5	2/79	Brake light relay
RMI6	2/49	Relay, rear fog light
RMI7	2/83	Trailer fog light relay
RMI8	2/142	Relay, preheated fuel filter
RMI13	2/72	Relay, rear window wiper
RMI16	2/16	Relay, intermittent rear window wiping on/off
RMI17	2/140	Relay CNG/LPG
RMI18	2/70	Relay, rear climate control system, XC90
RMI19	2/87	Unlocking relay, tailgate
RMI20	2/158	Locking relay, rear doors, filler flap
RMI21	2/59	Unlocking relay, fuel filler flap
RMI23	2/114	Unlocking relay, right-hand rear
RSH2	20/29	Shunt, fog light REM
RSH3	20/39	Shunt, cargo compartment 12V outlet
RSH4	20/28	Shunt, position/parking/tail lights (REM)
RSH5	20/33	Shunt, position/parking/tail lights (REM)
RSH6	20/31	Shunt, brake light REM

## Ground connections 31/6 - 31/53

<b>31/6</b>	
4/56E:1	Central Electronic Module (CEM), LHD
4/31A:4	Fan control module, RHD V70
53/405	Junction point
-10/29:2	- glove compartment lighting
-2/30:4	- X feed overload relay
-3/6:5	- hazard warning flasher switch
-2/143:1	- relay, fuel leakage control
-16/65:6	- antenna ring/ignition switch lighting
-10/125:4	- left front courtesy lighting
-54/13:22	- connector
-10/126:4	- right front courtesy lighting 1
-17/13:4	- data link connector, XC90
-17/13:5	- data link connector, XC90

<b>31/10</b>	
4/31A:4	Fan control module, LHD V70
4/56E:1	Central Electronic Module (CEM), RHD
53/406	Junction point
-9/1:2	- 12V outlet, front
-9/25A:3	- 12V outlet, rear

<b>31/46</b>	
8/66	Left-hand inflatable curtain igniter, shield V70

<b>31/47</b>	
53/605	Junction point
-54/78:14	- connector, SUB
-54/66.1:1	- connector, XC90
-16/79:10	- bass speaker, V70
-16/79:9	- bass speaker, V70
-2/157:2	- bass speaker system relay, XC90
54/78:14	Connector, without SUB
8/66	Left-hand inflatable curtain igniter, shield XC90

<b>31/53</b>	
1/1	Battery

## Ground connection

### 31/72 - 31/84

31/72	
53/601 -4/58E:1 -10/18A:6 -54/78:7 -54/78:6 -10/18B:4 -4/86A:4 -6/76A:2	Junction point - Rear Electronic Module (REM) - rear left lamp housing - connector - connector - rear left lamp housing, V70 - Parking Assistance Module (PAM), XC90 - climate control system, rear XC90
53/602 -7/100:5 -16/45D:5	Junction point, RTI - Inclination Sensor Module (ISM) - Road Traffic Information (RTI)
7/100:5	Inclination Sensor Module (ISM) without RTI

31/83	
16/65:7	Antenna ring/ignition switch lighting, XC90
53/400 -5/1:14 -16/65:7 -54/13:20	Junction point, V70 - Driver Information Module (DIM) - antenna ring/ignition switch lighting - connector
54/13:20	Connector, XC90

31/84	
53/438 -3/111:5 -3/130:16 -3/130:22 -3/112A:16 -4/68:16 -17/13:4 -17/13:5 -16/60:18	Junction point, V70 - Light Switch Module (LSM) - Steering Wheel Module (SWM) - Steering Wheel Module (SWM) - Climate Control Module (CCM) - Steering Angle Sensor module (SAS), DSTC - data link connector - data link connector - Phone Module (PHM)
53/448 -16/1A:12 -16/2A:2	Junction point, V70 - Audio Module (AUM) with amplifier - amplifier
16/1A:12	Audio Module (AUM) without amplifier

31/93	
53/329 -3/10:2 -4/99:3 -6/114:2 -7/4:2 -7/51:3 -7/73:2 -20/16:2 -54/3LA:5 -8/79:1	Junction point - reversing light contact - electronic power steering control module - vacuum pump - brake fluid level sensor - washer fluid level sensor - coolant level sensor - capacitor - connector - LPG valve, V70
53/301 -10/5:2 -6/38:1 -10/1A:1 -10/1B:3 -10/1A:4	Junction point - front left fog light - left-hand headlight level adjustment motor, V70 - front left lamp housing, V70 - front left lamp housing, V70 - front left lamp housing, XC90
53/331 -6/1:4 -8/37B:2 -8/37B:4 -15/31C6:1 -54/58:2 -54/58:4 -6/4:3 -10/15:1 -54/4:4 -3/62:2 -16/10:2 -54/9:3 -6/1:4 -6/1:2	Junction point - windshield wiper motor, V70 - automatic transmission - automatic transmission - engine compartment distribution box - connector - connector - left-hand headlight wiper motor, V70 - direction indicator, left front fender, EU/OS V70 - connector, V70 - hood alarm contact, XC90 - horn 1, XC90 - connector - windshield wiper motor, RHD XC90 - windshield wiper motor, LHD XC90



## Ground connection

### 31/94 - 31/99

31/94	
53/303 -10/6:2 -16/35:3 -6/39:1 -10/2A:1 -10/2B:3 -10/16:1 -10/2A:4	Junction point - front right fog light - Siren Control Module (SCM) - right-hand headlight adjustment motor, V70 - front right lamp housing, V70 - front right lamp housing, V70 - direction indicator, right front fender, EU/OS, V70 - front right lamp housing, XC90
4/28A:53	Transmission Control Module (TCM)

31/98	
10/115:3	Right-hand vanity mirror lighting
53/503 -3/117A:10 -4/33A:5 -4/70:20 -10/114:3 -10/150:4 -54/16:2 -54/13:20 -10/25:4 -7/122:5 -7/158:5 -53/577	Junction point - ceiling light switch unit - Sunroof Control Module (SRM) - Upper Electronic Module (UEM) - left-hand vanity mirror lighting - rear reading light, V70 - connector - connector - ceiling light, cargo compartment, V70 - Mass Movement Sensor (MMS), front - Mass Movement Sensor (MMS), rear XC90 - junction point, XC90

31/99	
7/135B:1	Glass breakage sensor, left-hand, V70

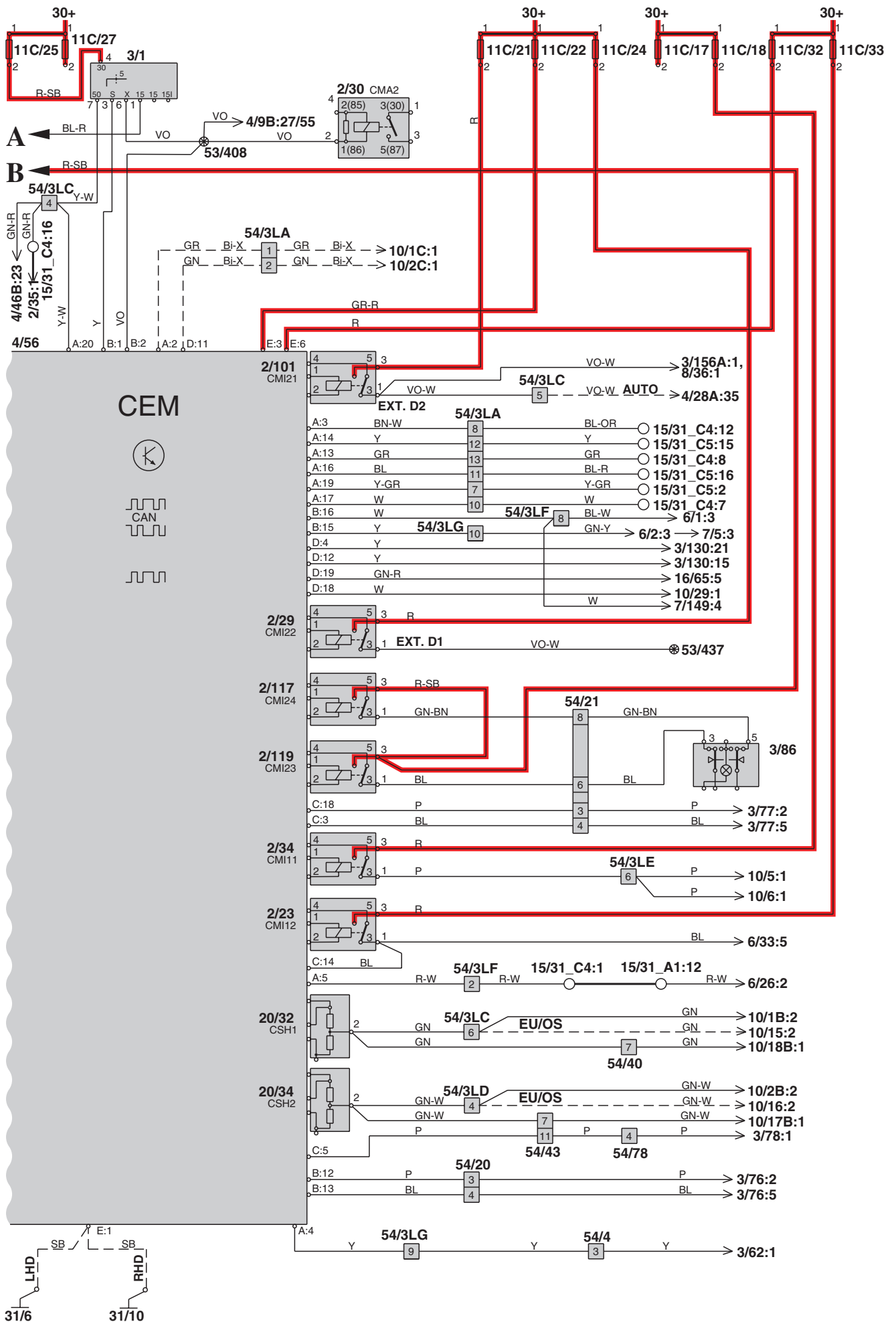
**Ground connection**  
**31/104 - 31/105**

<b>31/104</b>	
53/438 -3/130:16 -3/130:22 -4/68:16 -3/112:16 -3/111:5 -16/60A:1 -16/1A:10 -16/106:4 -16/107:4 -54/112:4 -5/1:14	Junction point, XC90 - Steering Wheel Module (SWM) - Steering Wheel Module (SWM) - Steering Angle Sensor module (SAS), DSTC - Climate Control Module (CCM) - Light Switch Module (LSM) - Phone Module (PHM) - Infotainment Control Module (ICM), XC90 - CD player, MP2 - MD player, MP1 - connector, infotainment accessory wiring - Driver Information Module (DIM)
53/448 -53/423 -16/105A:2	Junction point, XC90 - junction point - Audio Module (AUD), MMM
16/105A:2	Audio Module (AUD), without MMM & MP, XC90

<b>31/105</b>	
4/31A:4	Fan control module, XC90

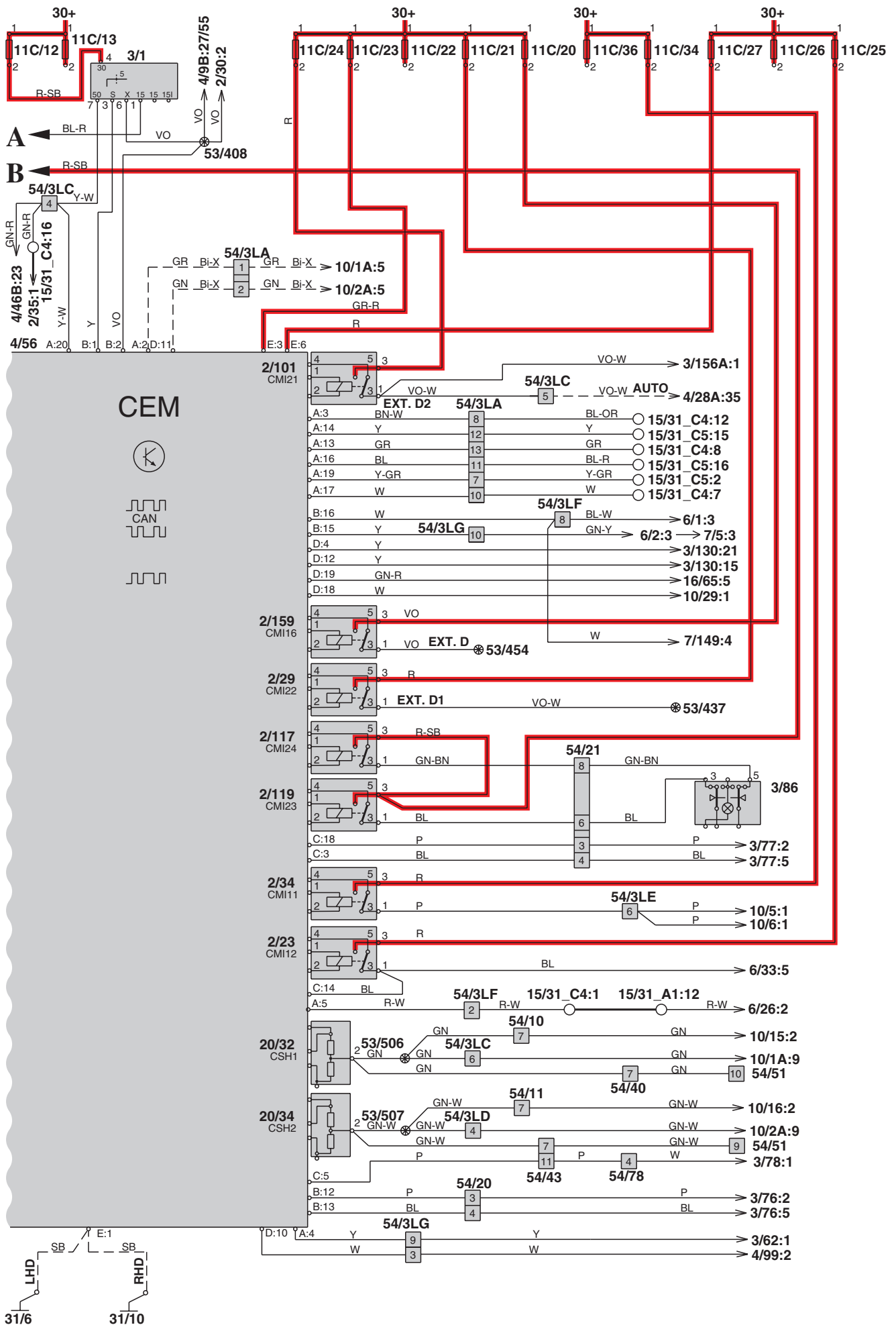


# Control modules Central Electronic Module (CEM) V70/XC70



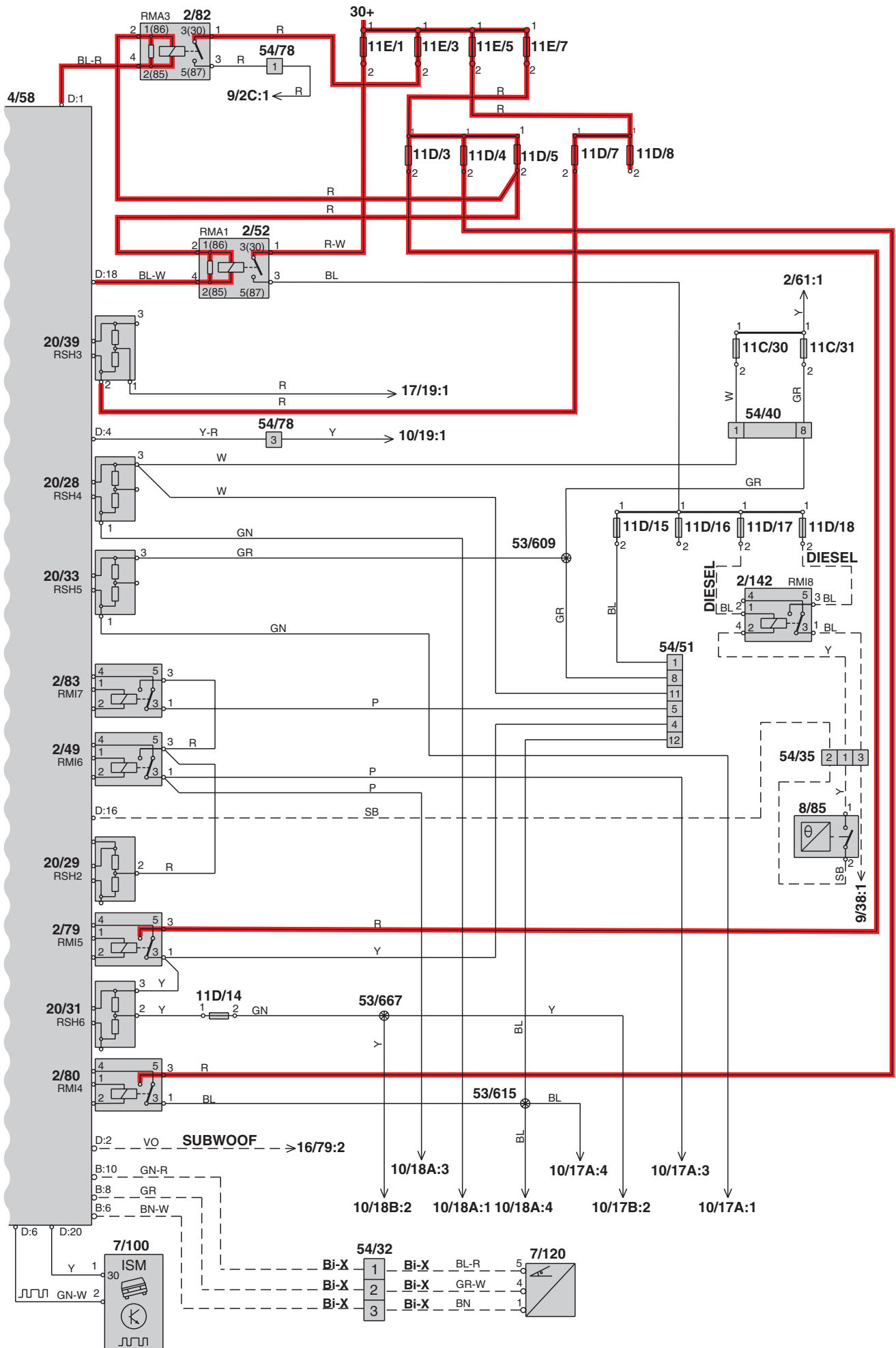


# Control modules Central Electronic Module (CEM) XC90





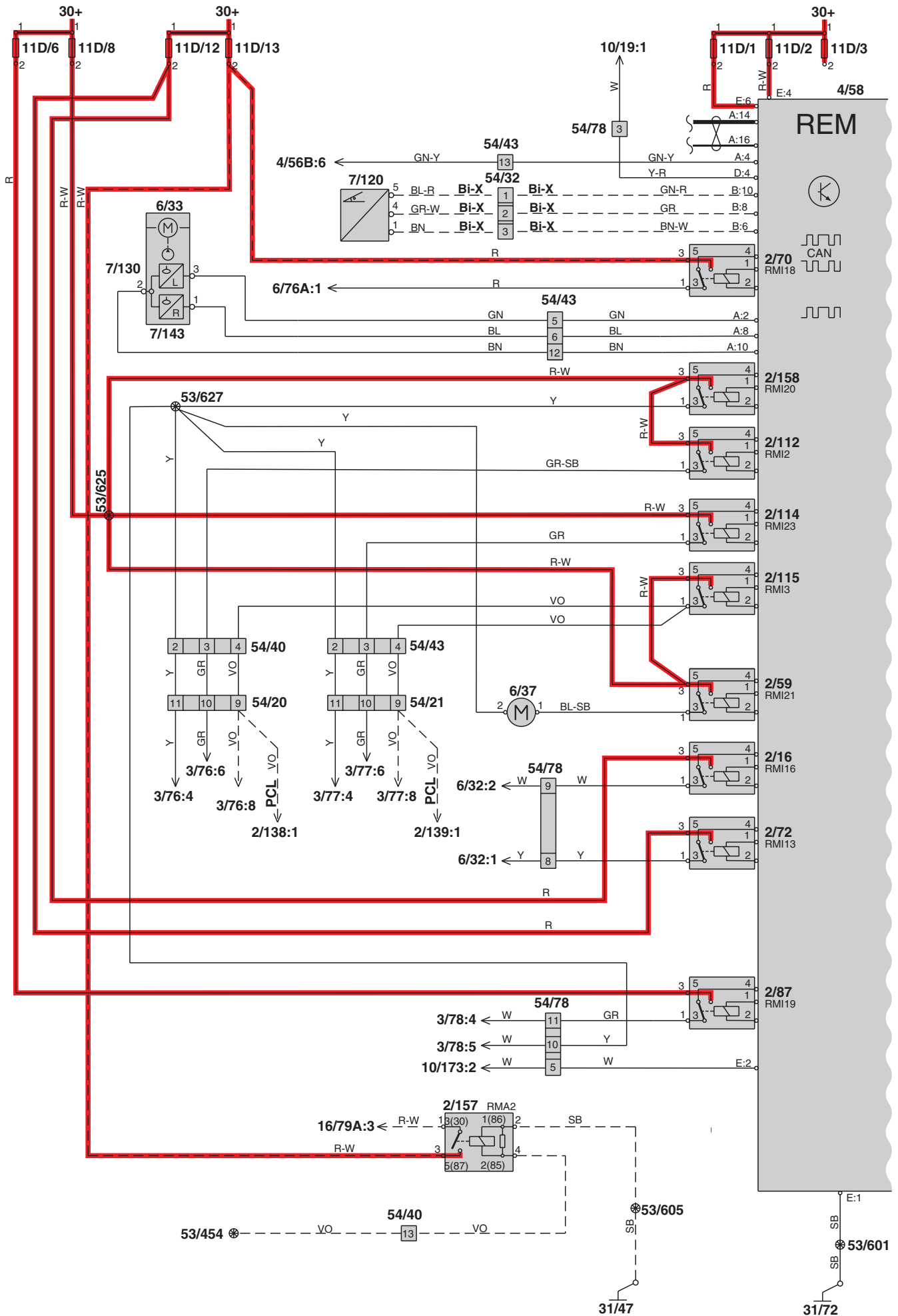
# Control modules Rear Electronic Module (REM) V70/XC70



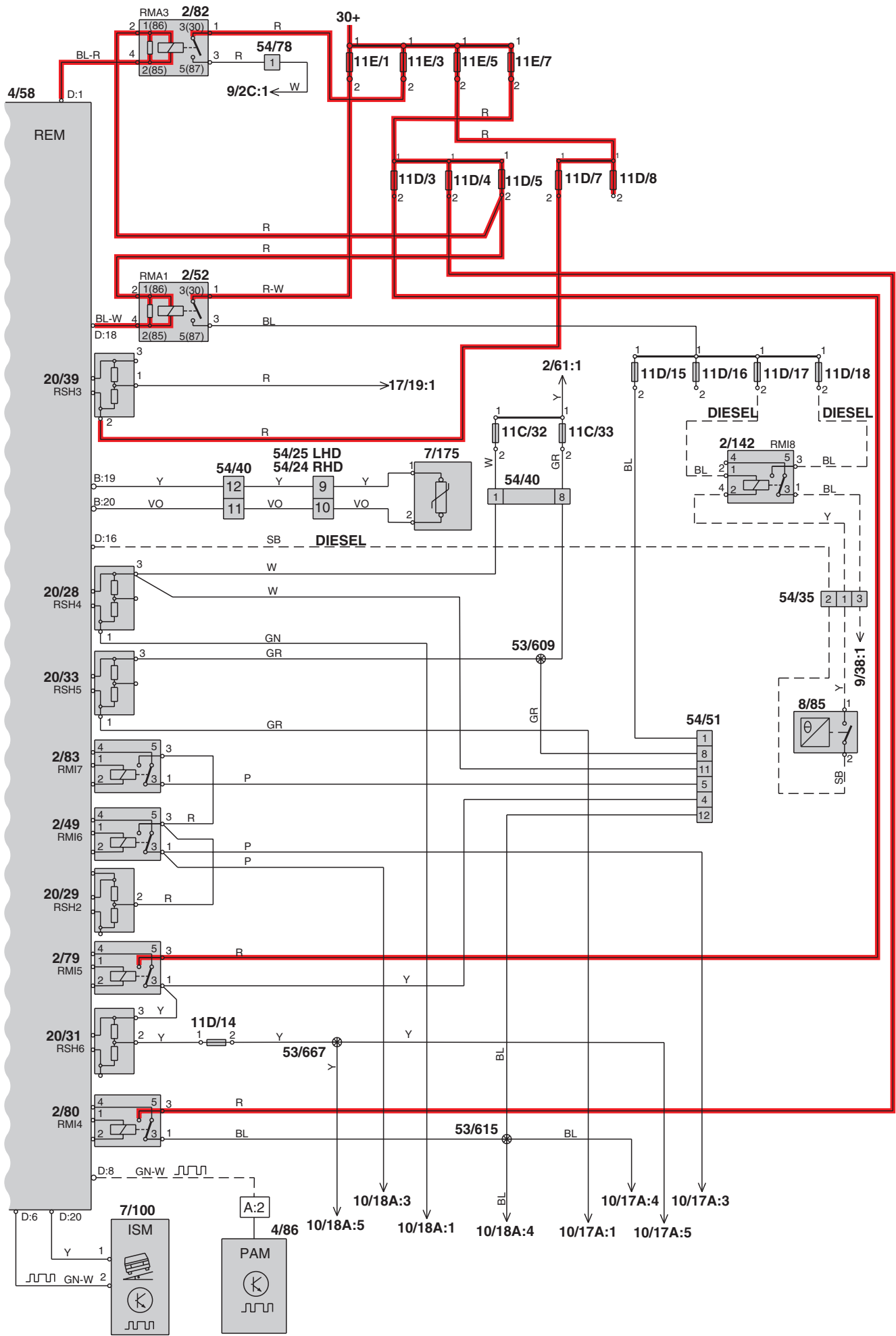


# Control modules

## Rear Electronic Module (REM) XC90

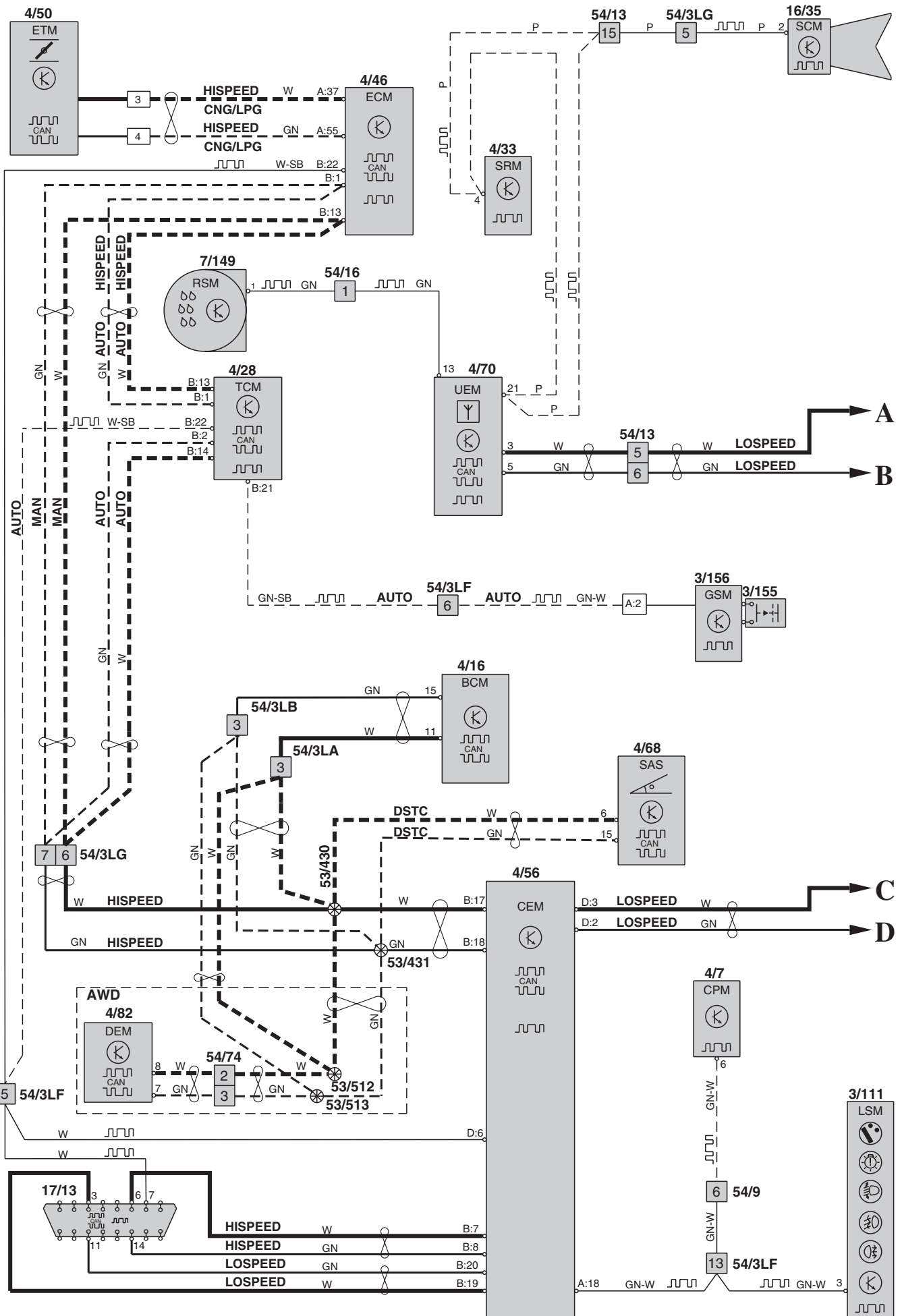


# Control modules Rear Electronic Module (REM) XC90

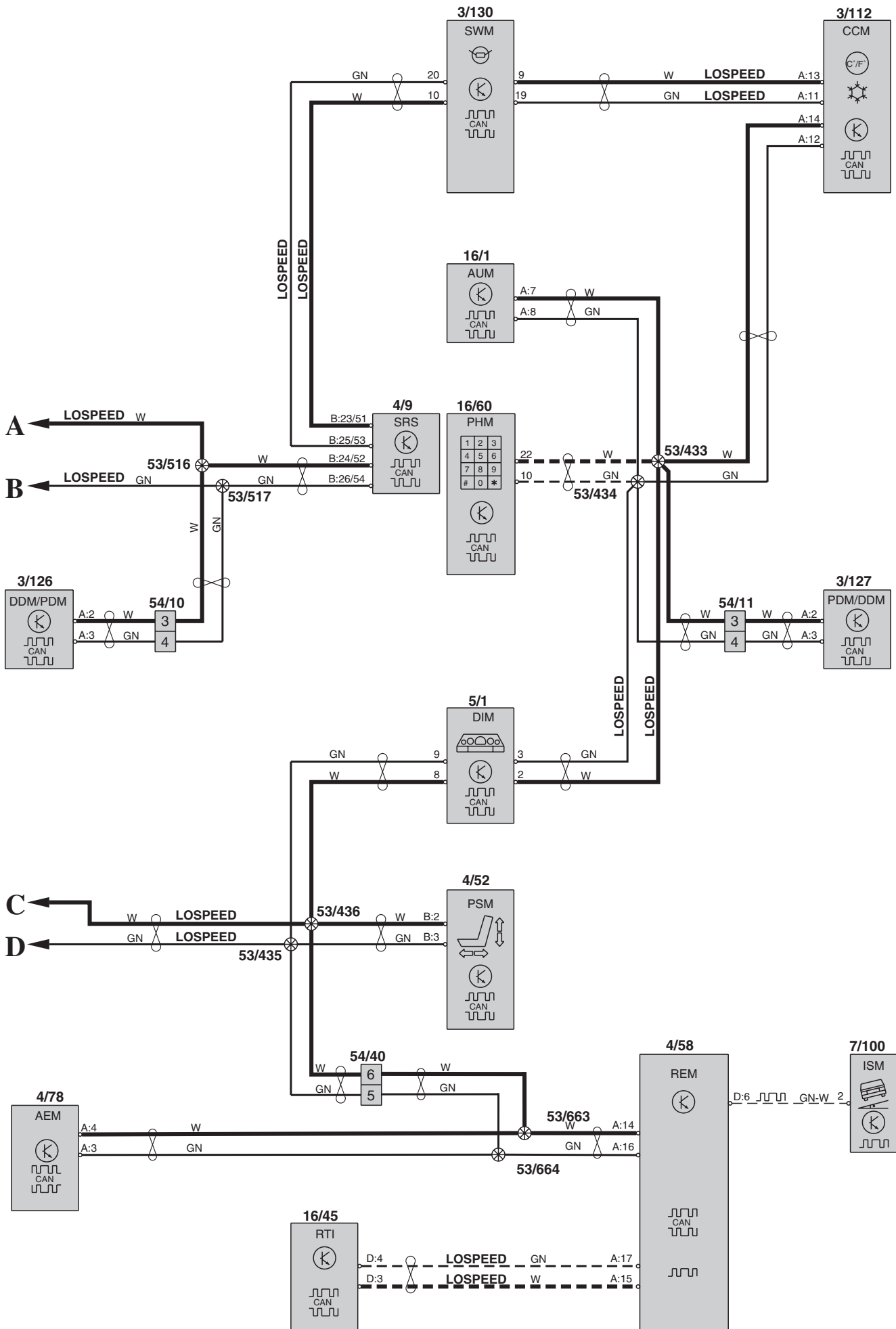


# Control modules

## Data communication V70/XC70

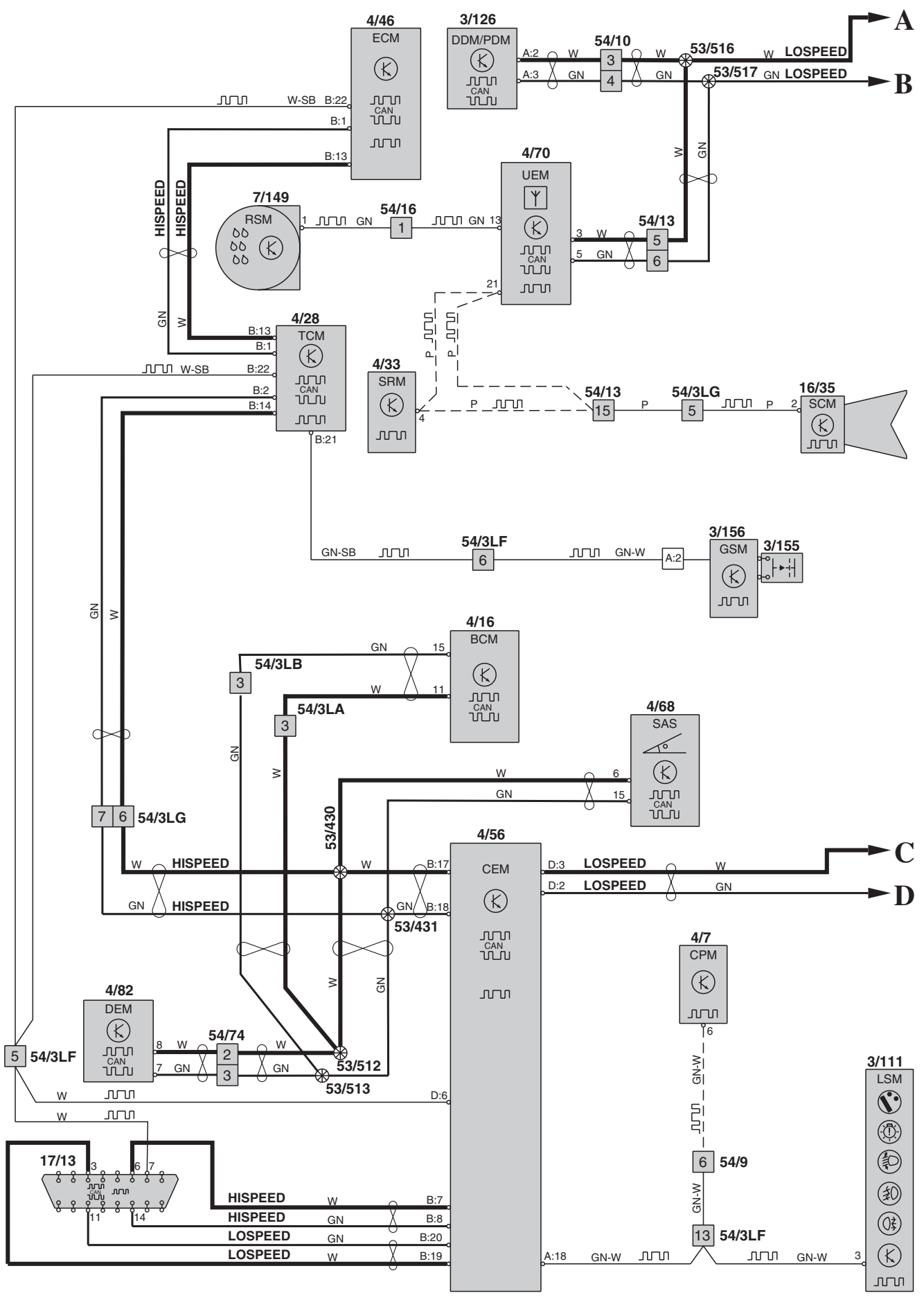


# Control modules Data communication V70/XC70



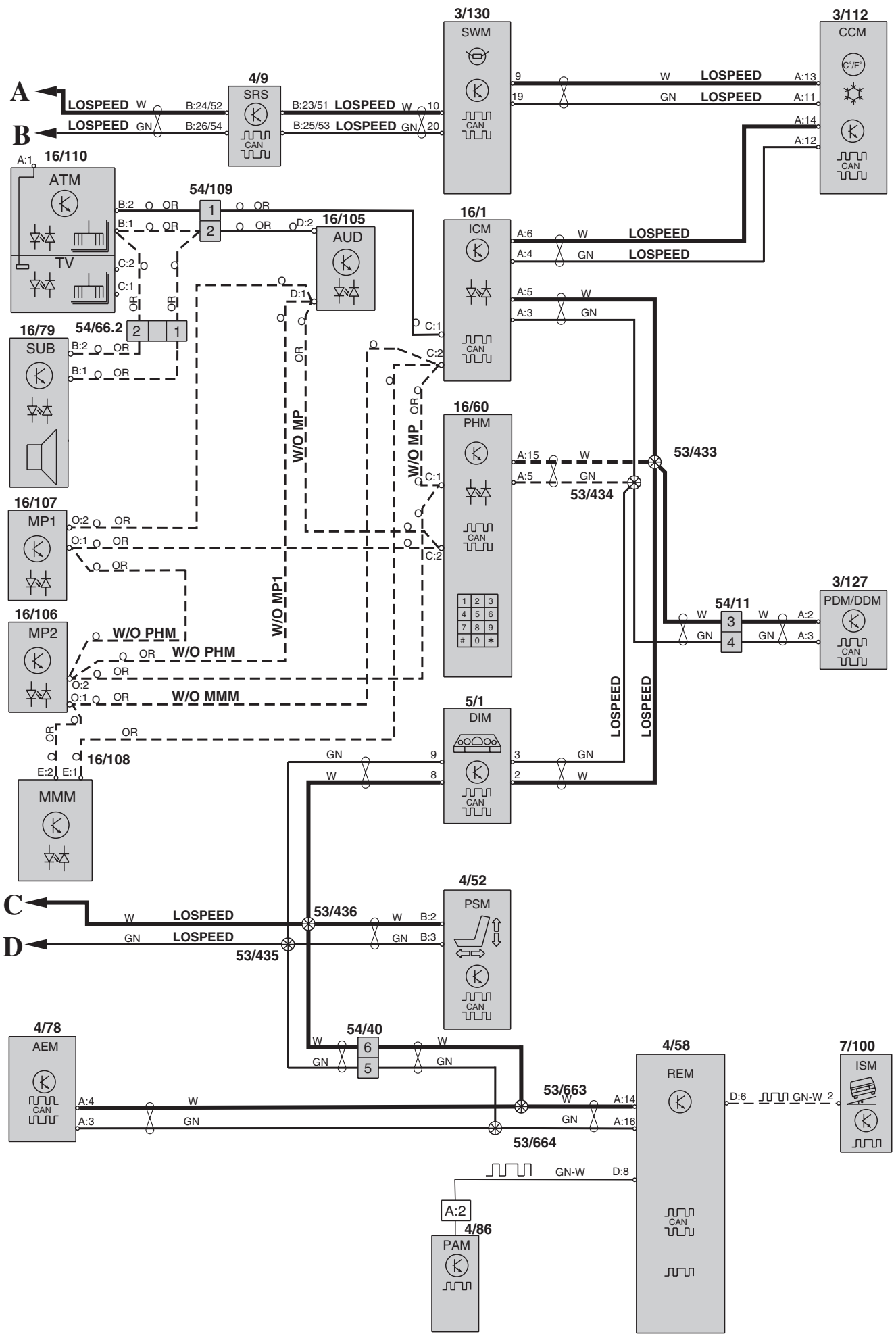
# Control modules

## Data communication XC90



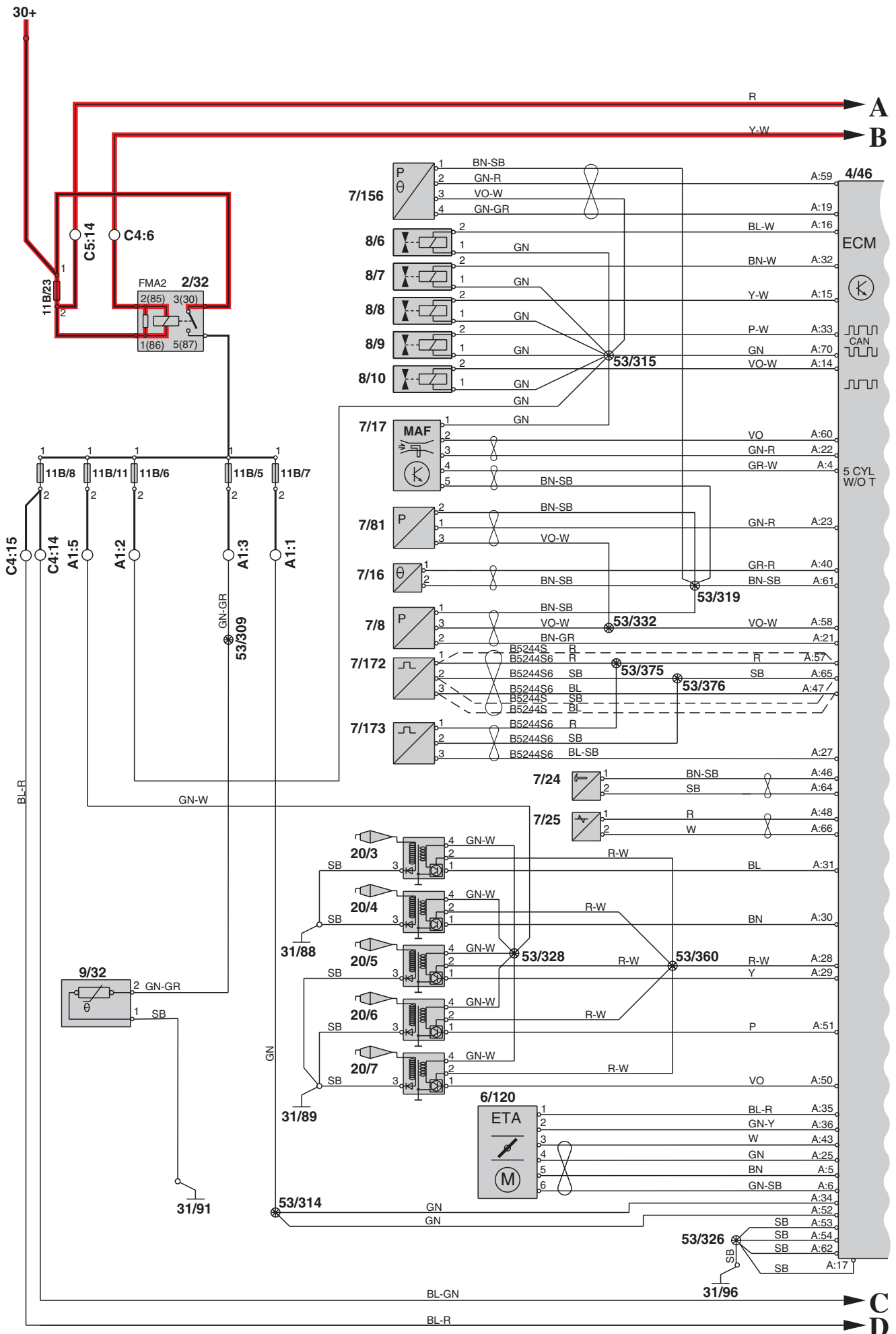
# Control modules

## Data communication XC90

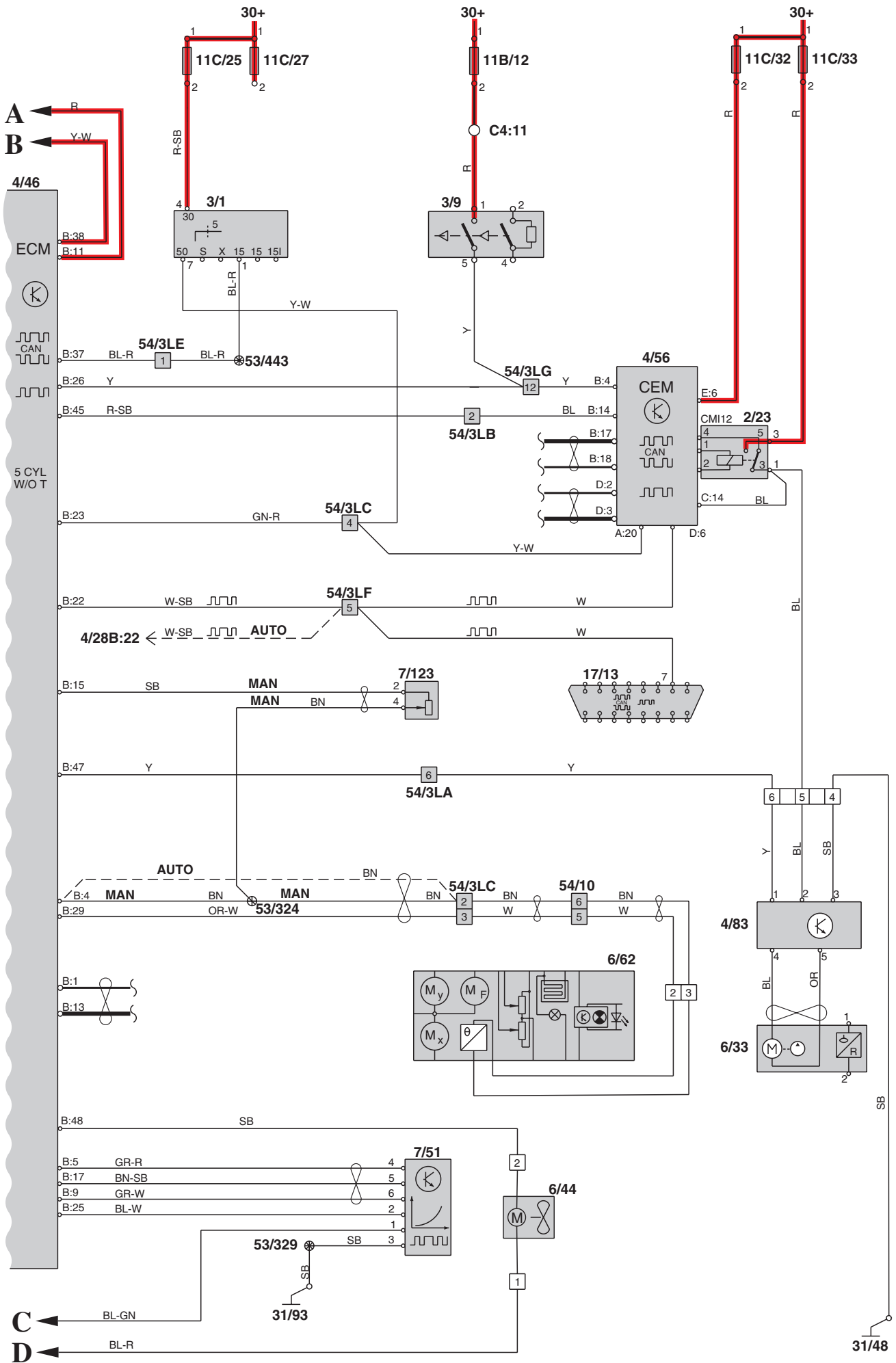


# Group 23

## Engine management system B5244S6, B5244S USA

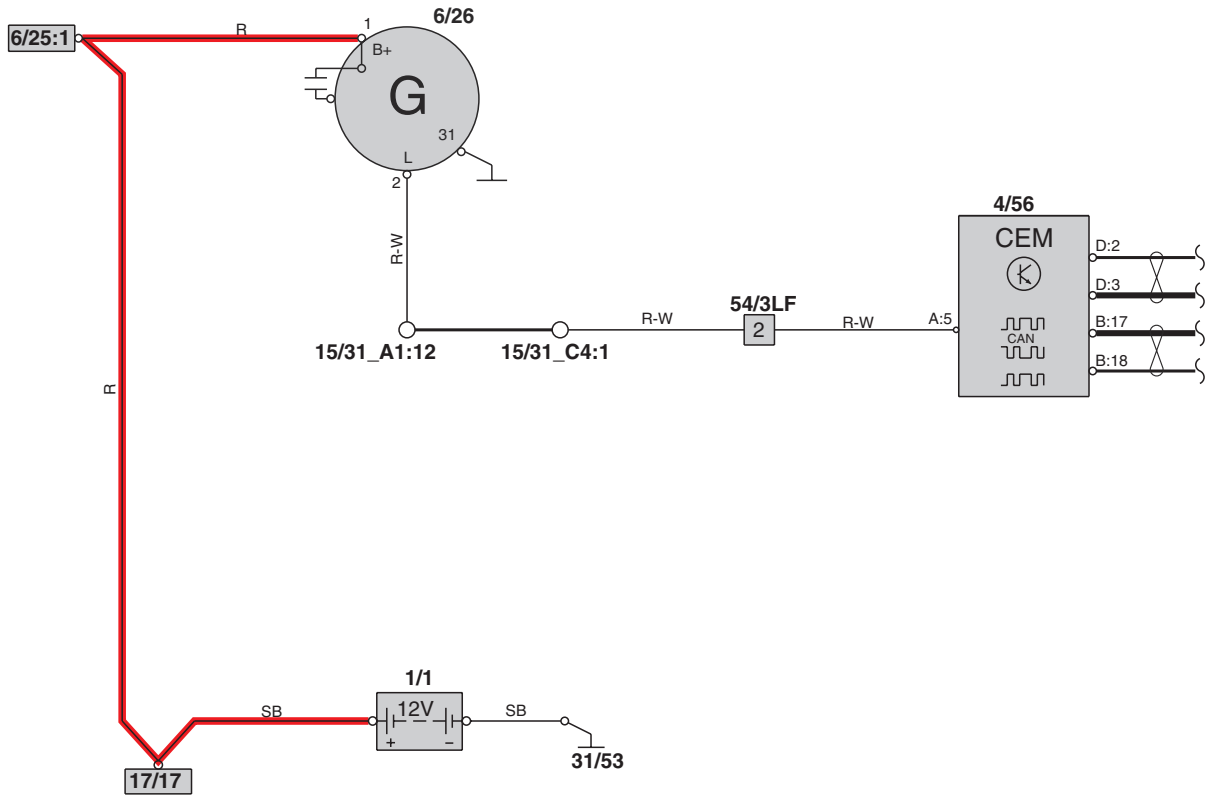


# Engine management system B5244S6, B5244S USA

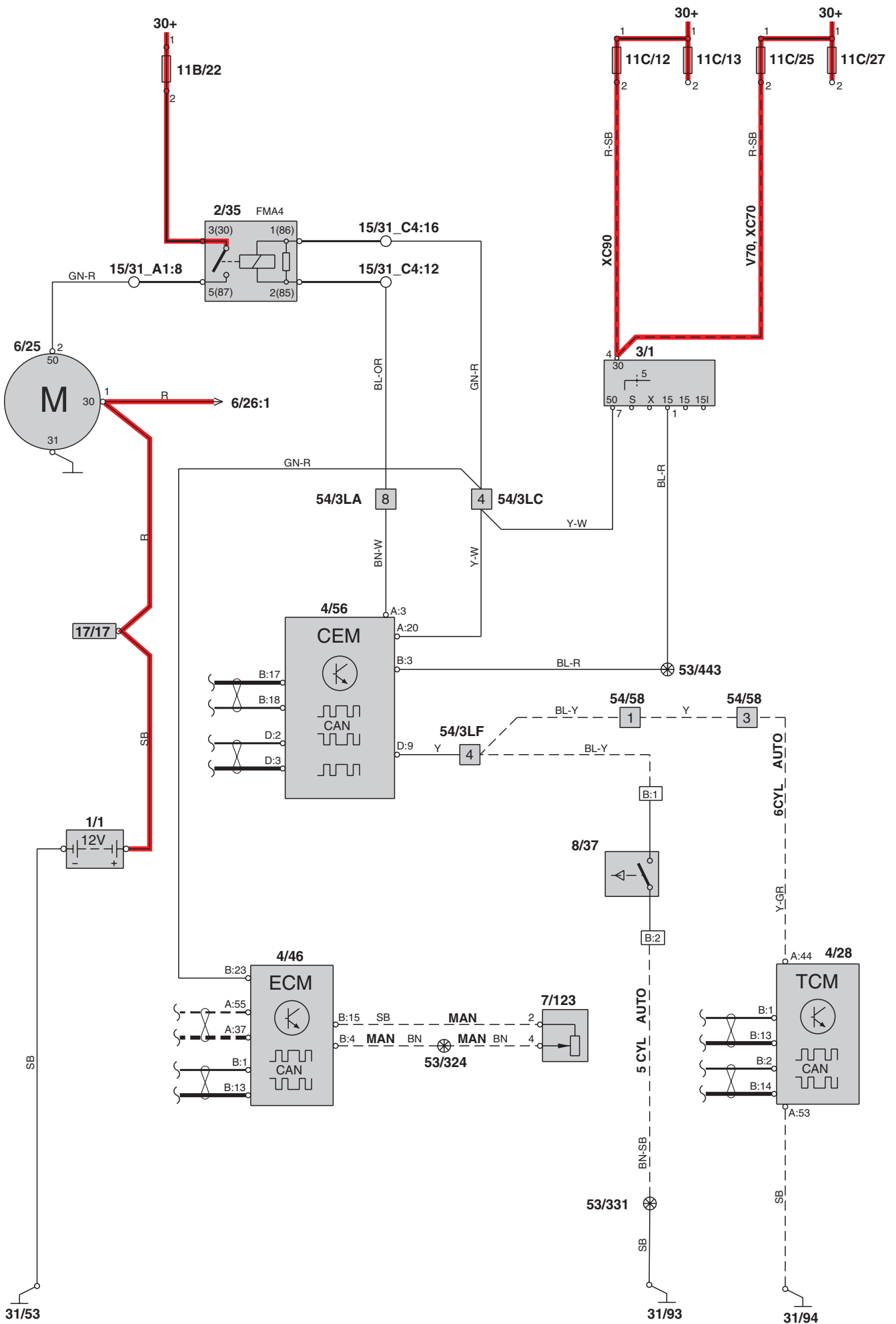




# Group 32 Power supply



# Group 33 Starting system



# Group 35 Fog lights

