

## SECTION 16

### Electric/Electronic system

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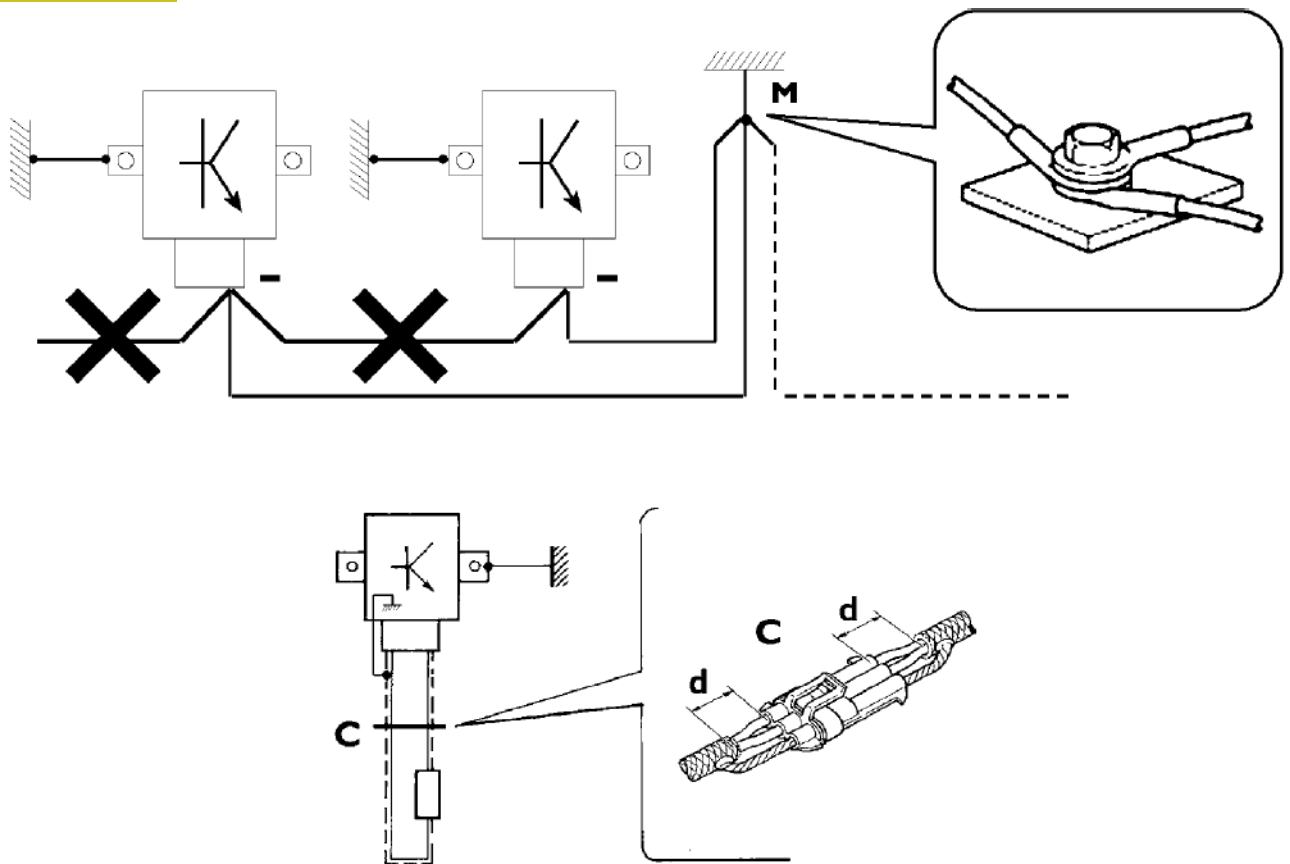
## Practical tips

The negative leads connected to a system grounding point must be as short as possible and connected to one another in "star" configuration; make sure that they are tightened in an orderly and adequate manner (Figure 1, ref. M).

Furthermore, for electronic components, the instructions to be followed very carefully are:

- ECU's must be connected to the system ground if they are provided with a case.
- ECU negative cables must be connected both to a system grounding point, such as for instance the dash compartment ground (with no "serial" or "chain" connections) and to the negative terminal(s) of the battery/batteries.
- Even though they are not connected to the system ground/battery negative terminals, analogue ground elements (sensors) must have excellent insulation. As a result, special care must be devoted to the eddy resistances of the cable terminals: oxidation, seam-folding defects, etc.
- The metal braid of shielded circuits must be in electrical contact at either end with system components.
- Only one end of the shielding braid must be connected to the system ground.
- In the presence of jointing connectors, the non-shielded portion, d, must be as short as possible in the proximity of the connectors (Figure 1).
- The cables must be arranged so as to run parallel to the reference plane, i.e., as close as possible to the frame/body structure.
- Additional electromechanical systems must be connected with the greatest care to the system ground and must not be placed alongside the cables of electronic components.

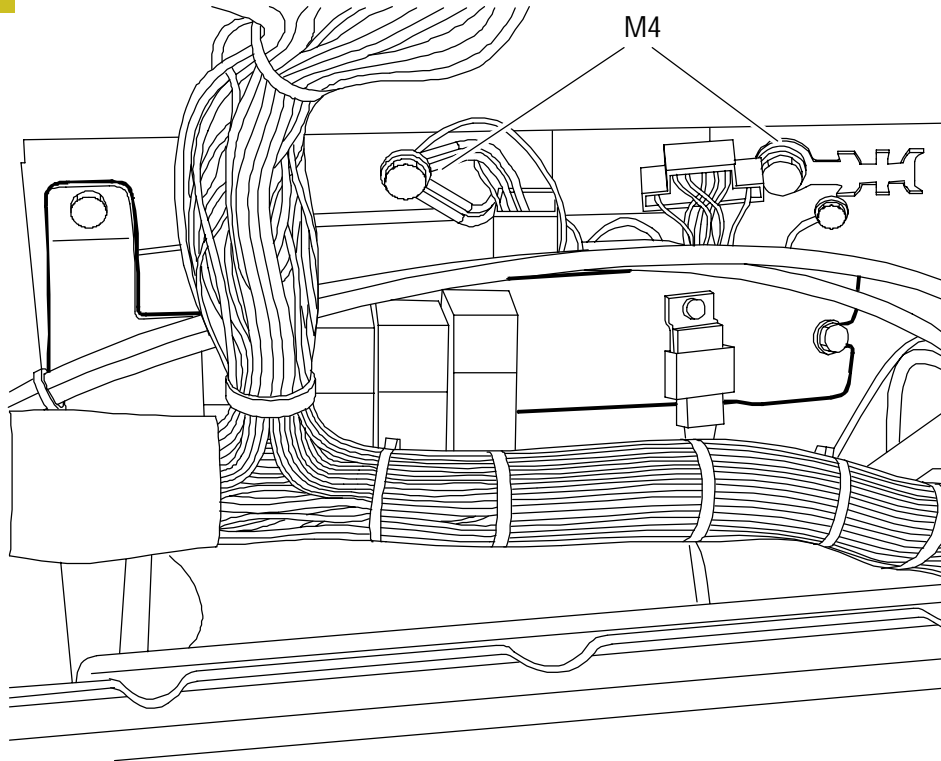
Figure 1



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SHIELDING BY MEANS OF A METAL BRAID OF A CABLE LEADING TO AN ELECTRONIC COMPONENT -  
C. CONNECTOR - d. DISTANCE ! 0.

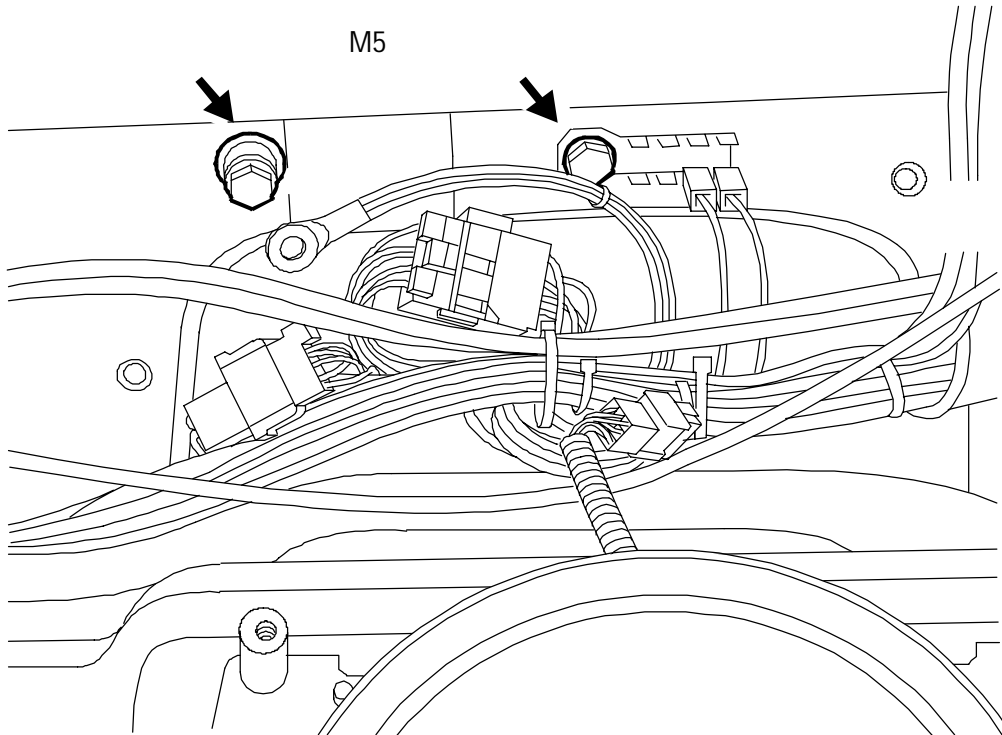
Figure 15



49849

GROUND POINT BEHIND THE BODY COMPUTER

Figure 16

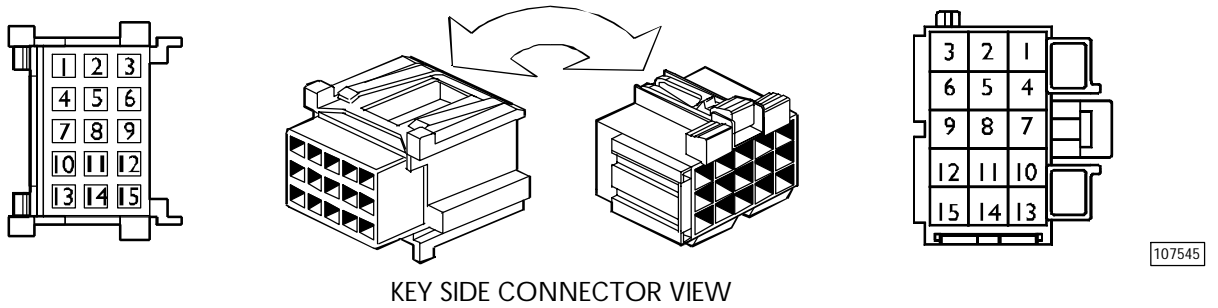


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GROUND POINT BEHIND THE CLUSTER

## ST07A junction connector (yellow) - roof panel wings devices on the passenger side

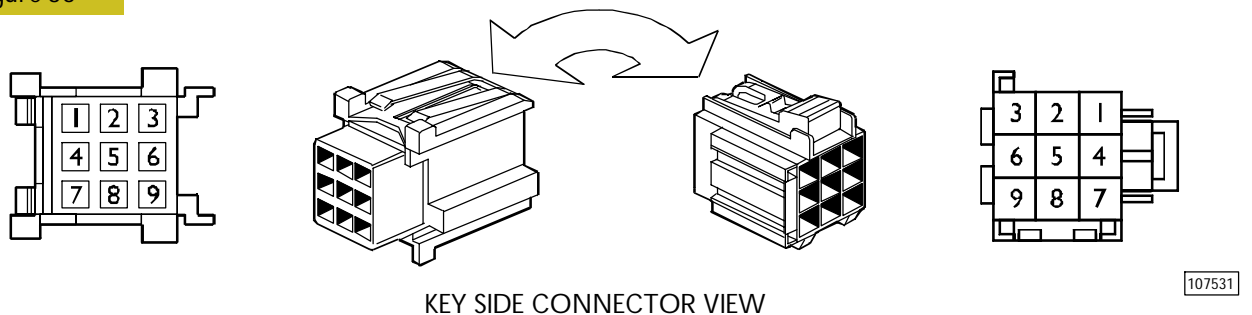
Figure 35



Pin	Function	Cable colour code
1	Positive for front end-outline marker lamps	3339
2	Positive for voltage reducer	7772
3	Loudspeaker signal (preamplifier)	1184
4	Loudspeaker signal (preamplifier)	1183
5	Positive for reading lights (12V)	7712
6	Positive 12V	7712
7	Positive for overhead light (white light)	4423
8	Positive step lighting	4445
9	Positive for overhead light (blue lights)	4410
10	Positive for overhead light (red lights)	4422
11	Negative for sunshade curtain	0974
12	Sunshade curtain closing signal	8065
13	Positive for sunshade curtain motor	8063
14	Positive for sunshade curtain motor	8064
15	-	-

## ST07B junction connector (yellow) - navigation and it tools

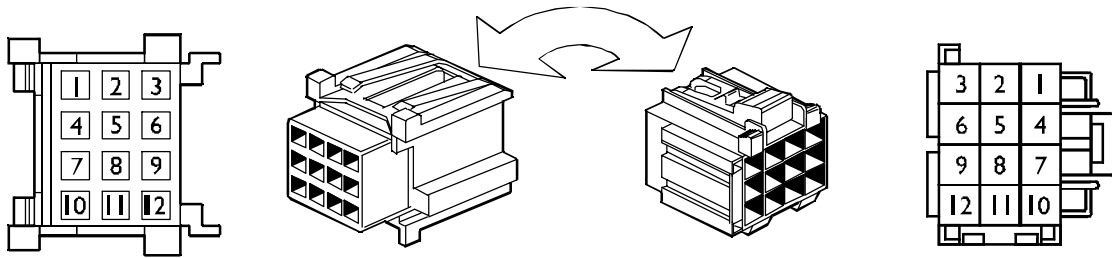
Figure 36



Pin	Function	Cable colour code
1	Positive +30 after TGC	7772
2	Positive +15	8871
3	Speed signal for navigator	5541
4	-	-
5	CAN L line (FMB)	Green
6	CAN H line (FMB)	White
7	Positive for instruments lighting	4442
8	Reverse gear signal	2268
9	-	-

## ST31A junction connector (green) - Cab rear

Figure 60



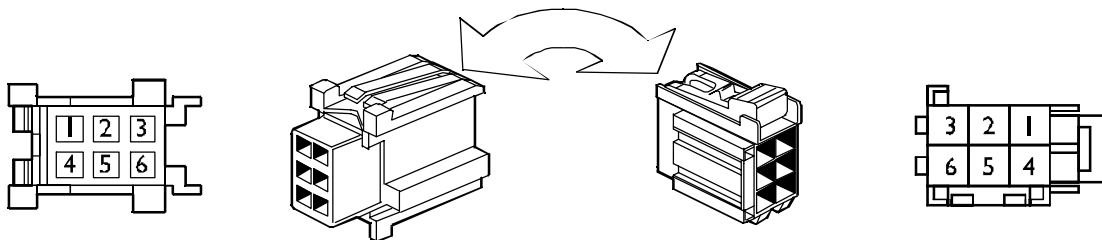
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KEY SIDE CONNECTOR VIEW

Pin	Function	Cable colour code
1	Positive for tool compartment lighting switch	4448
2	Positive for reading over head light	4412
3	Ground	0000
4	Ground for refrigerator	0000
5	Positive for refrigerator (24 V)	7735
6	Positive power supply for Bed Module	7906
7	Ground	0000
8	CAN (H) Line BCB	White
9	CAN Line (L) BCB	Green
10	Positive for telephone plug (12 V)	7712
11	Telephone plug ground	0000
12	Positive for lamp	7772

## ST31B junction connector (blue) - auxiliary air heating

Figure 61



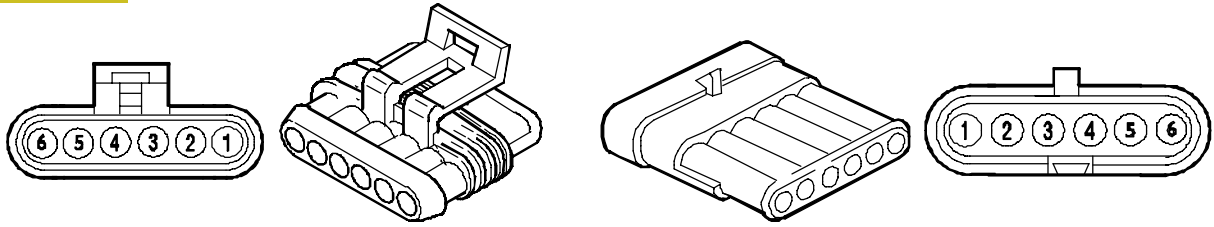
107188

KEY SIDE CONNECTOR VIEW

Pin	Function	Cable colour code
1	Auxiliary air heater warning light	6655
2	Positive +30	7708
3	Ground	0000
4	Power supply to auxiliary fuel pump for air heater	7783
5	Auxiliary heater K line	2295
6	Power supply to ambient temperature sensor for auxiliary sensor	7512

## ST80 junction connector (black) - mechanical gearbox

Figure 94



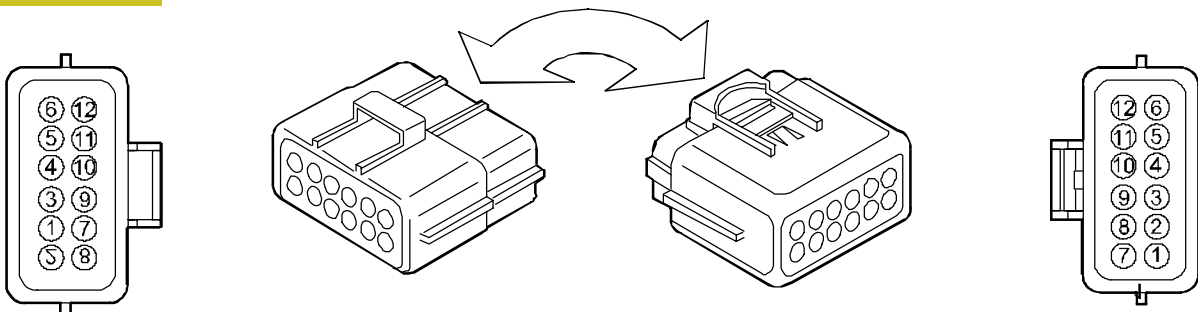
KEY SIDE CONNECTOR VIEW

105334

Pin	Function	Cable colour code
1	Signal for reverse lights light up switch	2268
2	Ground for reverse lights lighting up switch	0000
3	Ground for anti-start system with gears engaged switch and for reverse light light up switch	0000
4	Ground for anti-start system with gears engaged switch and for reverse light light up switch	8050
5	Signal for reduced gears engaged signalling switch	9992
6	Ground for reduced gears engaged signalling switch	0000

## ST81A junction connector (black) - front lights

Figure 95



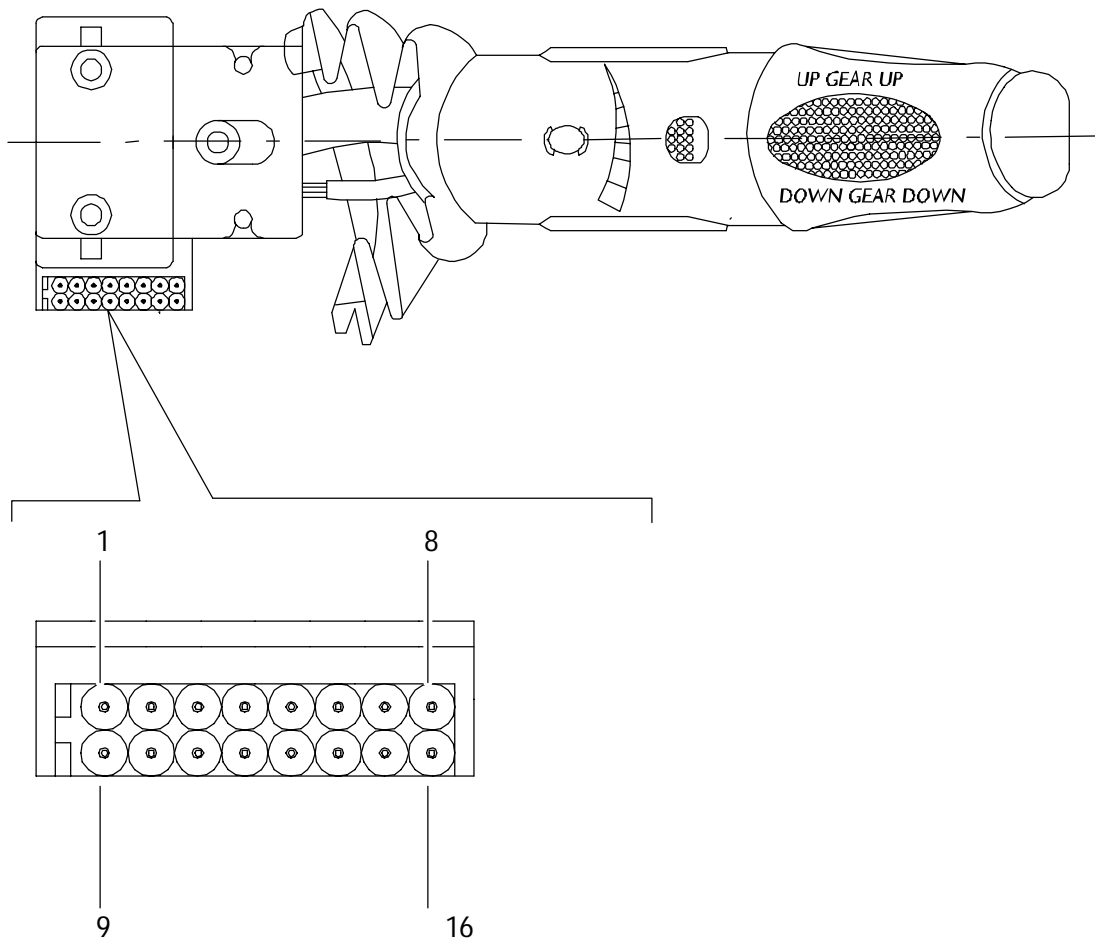
KEY SIDE CONNECTOR VIEW

105251

Pin	Function	Cable colour code
1	Side / left front direction indicator power supply	1129
2	Right / left front side light power supply	3339
3	Left low beam power supply	2231
4	Left high beam power supply	2219
5	Right / left fog lamp power supply	2228
6	-	-
7	Right side / front direction indicator power supply	1123
8	-	-
9	Right low beam power supply	2223
10	Right high beam power supply	2221
11	Head lamp alignment corrector control	9936
12	Supplementary head lamp power supply	2229

# RIGHT LIGHT CONTROL 54030

Figure 123



108919

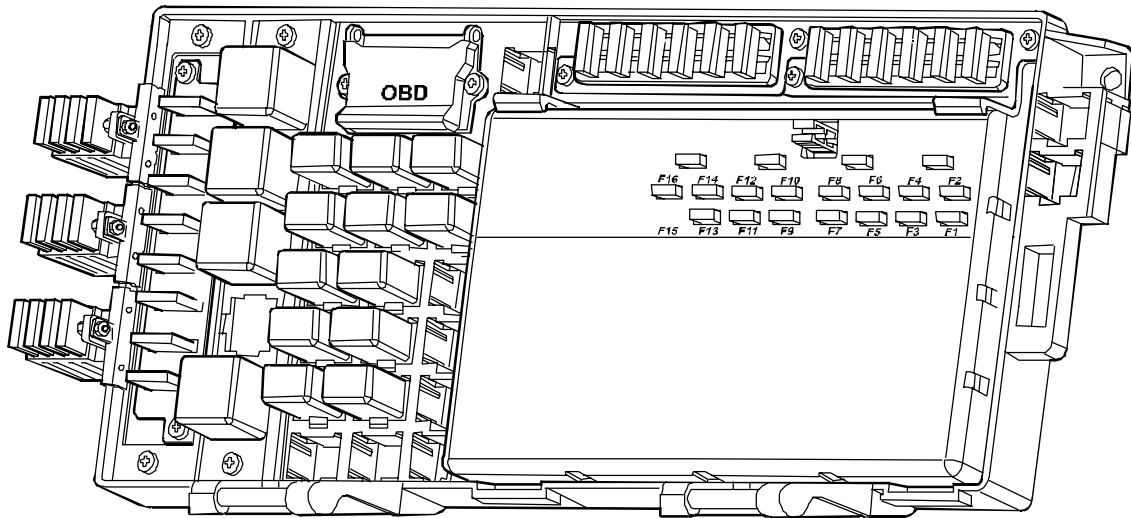
73988

Ref.	Description
1	Intarder (Position 4)
2	Change gear (down)
3	Cruise Control (set/acceleration)
4	Cruise Control (Resume)
5	Intarder (Position 1)
6	Intarder (Position 3)
7	Intarder (Position 2)
8	-
9	Intarder (Position 5)
10	Intarder (Position 6)
11	Cruise Control (deceleration)
12	-
13	-
14	-
15	Change gear (up)
16	Ground (from the SWI)



# BODY CONTROLLER

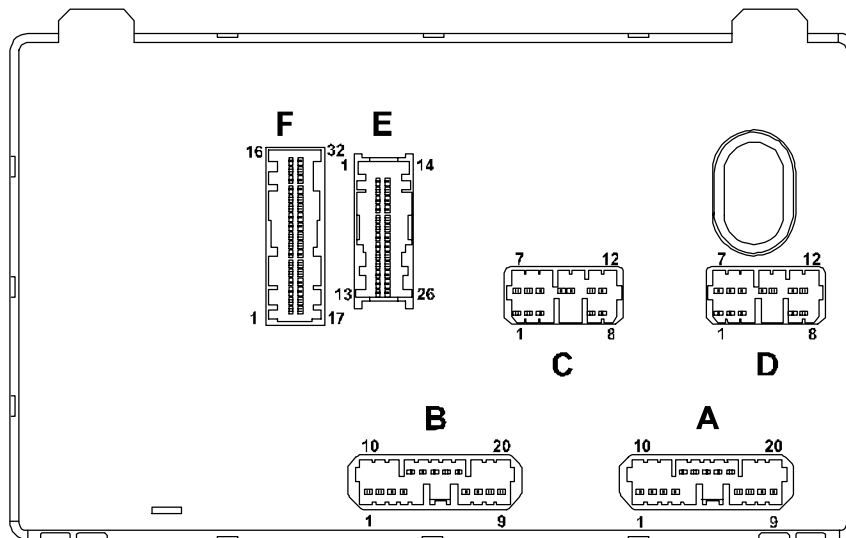
Figure 140



112595

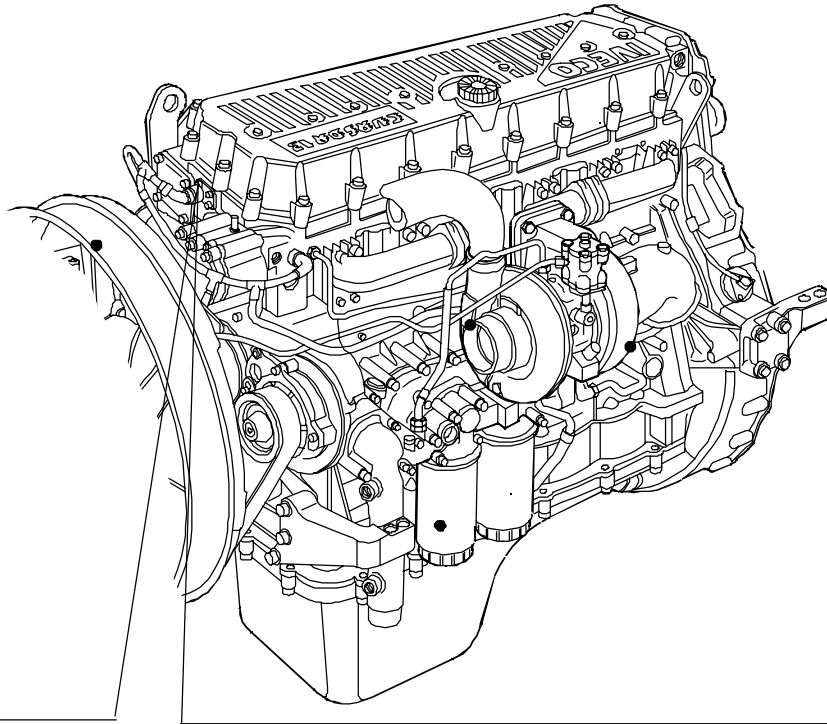
## Linking connectors

Figure 141

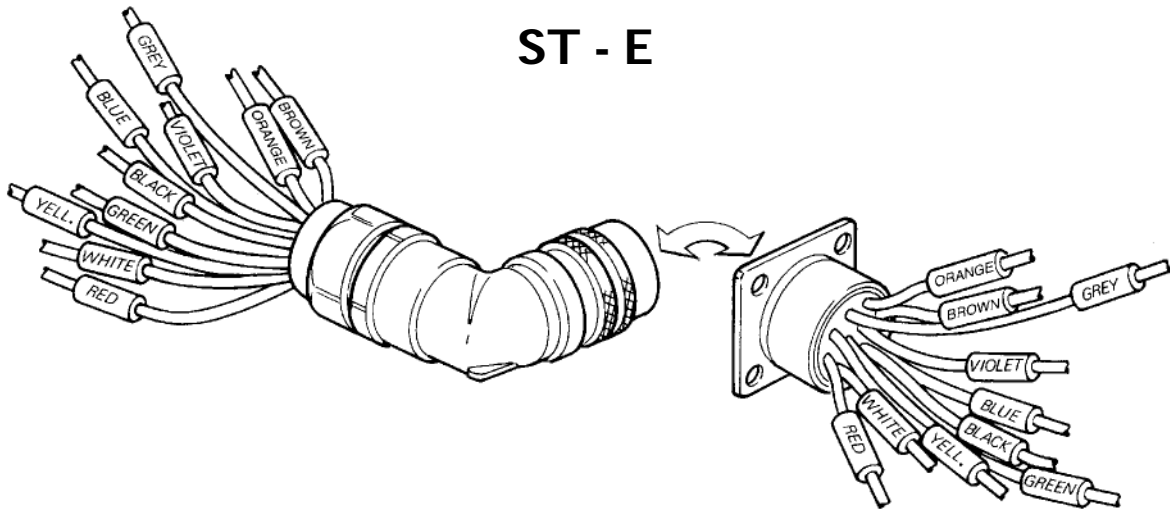


108903

Figure 164

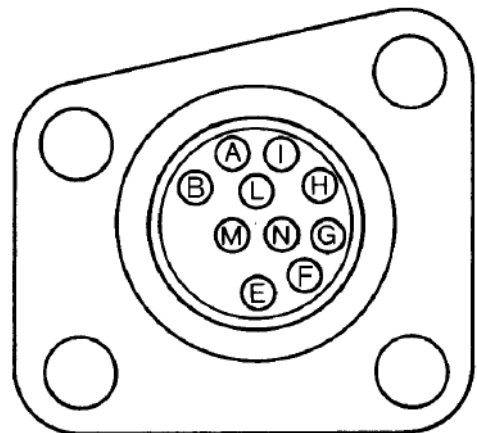


**ST - E**



106980

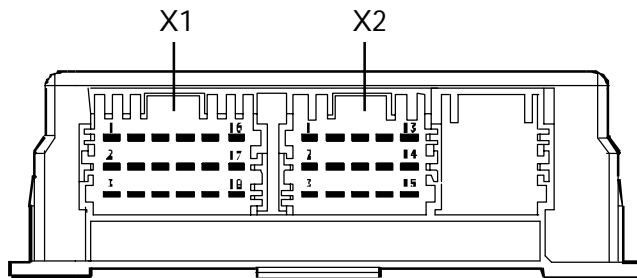
Pin	Cable	Function	Center Pin
A	B	Injector 1 control	A13
B	G	Injector 2 control	A6
C	-	-	-
D	-	-	-
E	V	Injector 3 control	A12
F	R	Injector 1/2/3 supply	A11
G	L	Injector 4 control	A14
H	Z	Engine brake control electro valve	A16
I	M	Engine brake electro valve supply	A8
L	C	Engine brake electro valve supply	A7
M	H	Injector 6 control	A15
N	N	Injector 4/5/6 supply	A3



106981

## Ecac control unit for air suspension system

Figure 214



107054

### Connector X1

Pin	Description	Cable color code
1	CAN L line (VDB)	Green
2	Ground	0000
3	CAN H line (VDB)	White
4	-	-
5	Positive for manual levelling key (ST14 fitters connector)	8445
6	-	-
7	Positive +30	7440
8	CLOCK line on ECAS remote-control set	6402
9	K line(14-pin diagnosis connector)	2294
10	Positive +15	8810
11	Data line on ECAS remote-control set	6403
12	Ground	0000
13	Positive for ECAS remote-control set	8810
14	-	-
15	Ground for ECAS remote-control set	0050
16	-	-
17	-	-
18	-	-

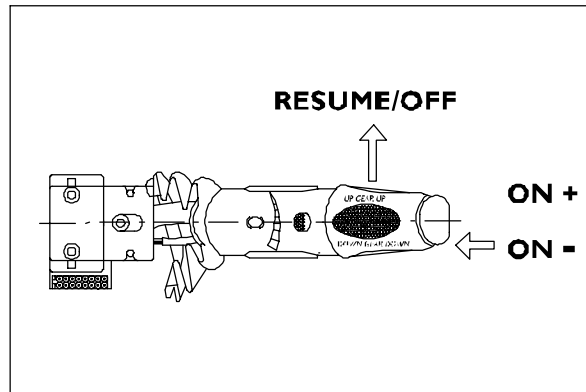
### Connector X2

Pin	Description	Cable color code
1	Positive for load pressure sensors on axles (opt.)	8403
2	Load pressure sensors on axles signal - right axle (opt.)	5443
3	-	-
4	Positive for rear axle electro pneumatic distributor	9400
5	Rear left axle level sensor signal (only truck)	5422
6	Load pressure sensors on axles signal-left axle (opt. - only truck)	5444
7	Ground for load pressure on axles sensors	0400
8	Rear right sensor level signal	5421
9	-	-
10	Ground for electro pneumatic distributor rear axle left valve command (only truck)	9425
11	Ground for electro pneumatic distributor rear axle load/unload valve command	9423
12	-	-
13	Ground for electro pneumatic distributor rear axle right valve command	9424
14	-	-
15	-	-

## Speed storage and use

By inserting Cruise Control, the system automatically maintains vehicle advance speed without having to use the accelerator pedal. If vehicle speed increases over 2 Km/h more than the speed set, such as when travelling downhill for instance, the engine brake is activated automatically to slow the vehicle down and maintain the speed reached. The intarder is also activated if speed increases by over 3 Km/h.

Figure 229



108931

Its function can only be activated when the following conditions are satisfied:

- engine brake/intarder lever cut out;
- vehicle on the move with gear selected;
- vehicle speed over 20 Km/h;
- brake pedal released;
- clutch pedal released.

Control	Vehicle speed adjustment
ON+	Speed increase
ON-	Speed decrease
RESUME	Last stored speed selection
OFF	Speed adjustment cancellation

Adjustment is cut out when the brake or clutch pedal is actuated. The same applies when the minimum speed set is not reached. Top speed is stored in the programme inside the electronic control module and cannot be changed.

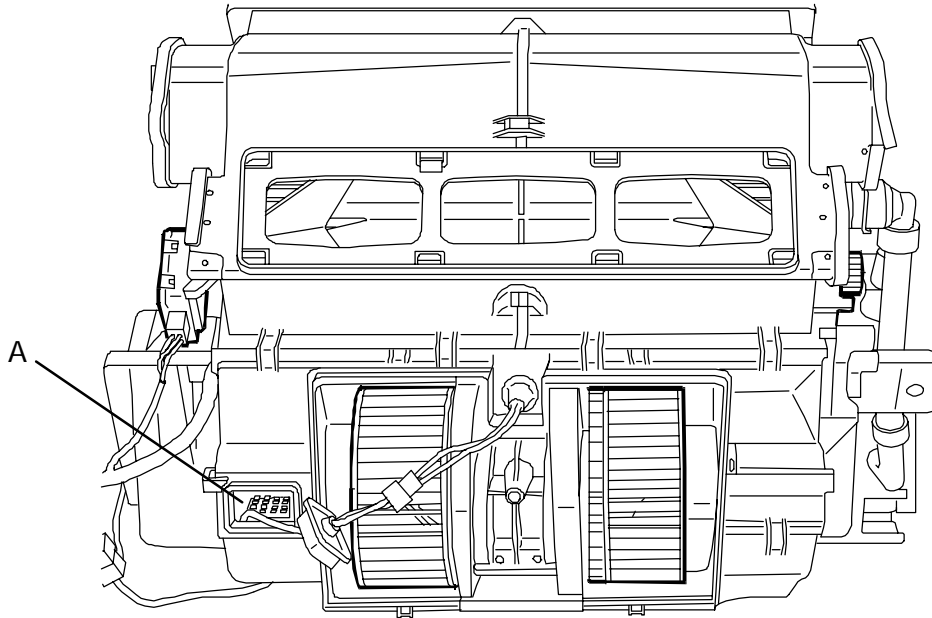
- 1 Basculating push button ON has the following functions:
  - a) when pressed once, it activates the function and keeps the speed set at that moment by the accelerator pedal. The accelerator pedal can then be released and the vehicle keeps moving at the cruise speed set.
  - b) with the function already activated, it increases vehicle speed without having to use the accelerator pedal.
- 2 Basculating push button ON has the following function: with the function activated, it decreases vehicle speed.
- 3 The Cruise Control lever actuated OFF towards the steering wheel deactivates the function (CC display shaded).
- 4 Actuating the steering wheel lever once again (RESUME) the value stored is reactivated (CC display clear).

## Blower control module

This electronic circuit located in the heater/conditioner unit adjusts double fan radial blower speed with some 200 different rates in the automatic mode and 8 in the manual mode.

The module is driven by the unit with a signal from 0 to 5 Volts while fans with a voltage from 0 to 24 Volts.

Figure 244



74244

A. Blower control module

Pin	Cable	Function
1	0000	Negative direct from the battery
2	7555	Centre control positive
3	7551	Positive direct from the battery

Figure 255

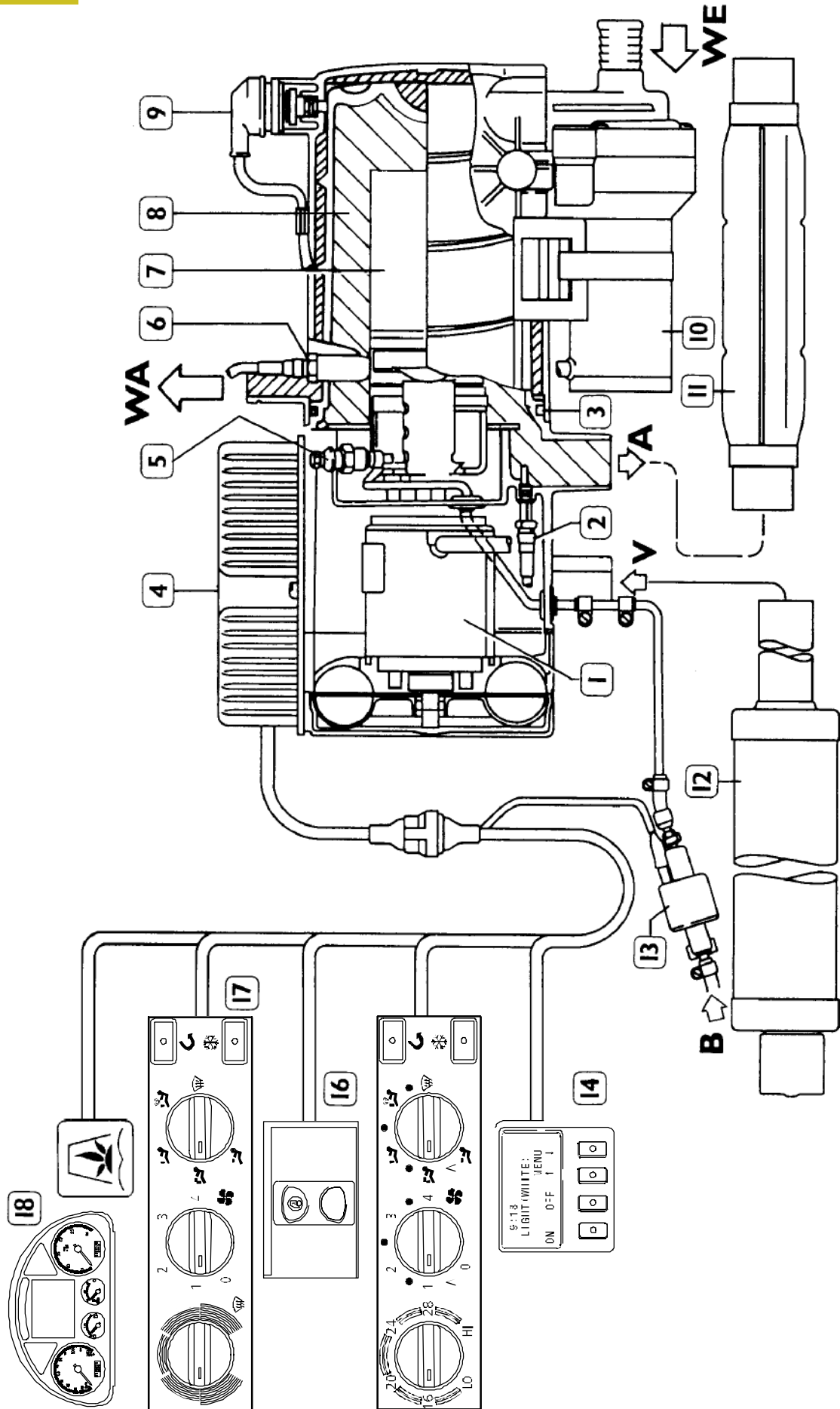


Chart 1: Direct positive to battery

