CITROËN

CITROEN C5
DOCUMENT 2

INTERNATIONAL TRAINING CENTRE TRADE

AUTOMOTIVE TECHNOLOGY

61 rue Arago 93585 Saint-Ouen Cedex

Training Centre: .

CITROEN C5
DOCUMENT 2

FACILITATOR

Name:

COURSE DATES

From: To:

PARTICIPANTS

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SYNTHETIC CONTENT OF THE BROCHURE

DOCUMENT 2

This booklet aims to explain some features of BSI on the vehicle Citroën C5 and having a relationship with multiplexed networks.

In this document will address the following topics:

- Interior Lighting,
- Outdoor lighting / signaling
- Mirror,
- Defrost
- Wiper / wash,
- Air Conditioning,
- Cooling.

SUMMARY

SUMMARY

INTERIOR LIGHTING

I-   GENERAL

A - PREAMBLE

The interior lighting is provided by the management of the following:

☐ 1 ceiling before with 2 card readers,

☐ A rear room with 2 card readers,

☐ 2 scouts threshold front

☐ 2 scouts cellar front foot

☐ 2 scouts trunk

☐ A scout box pockets.

B - SUMMARY OF THE INTERIOR LIGHTING SERVICE

Key:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.

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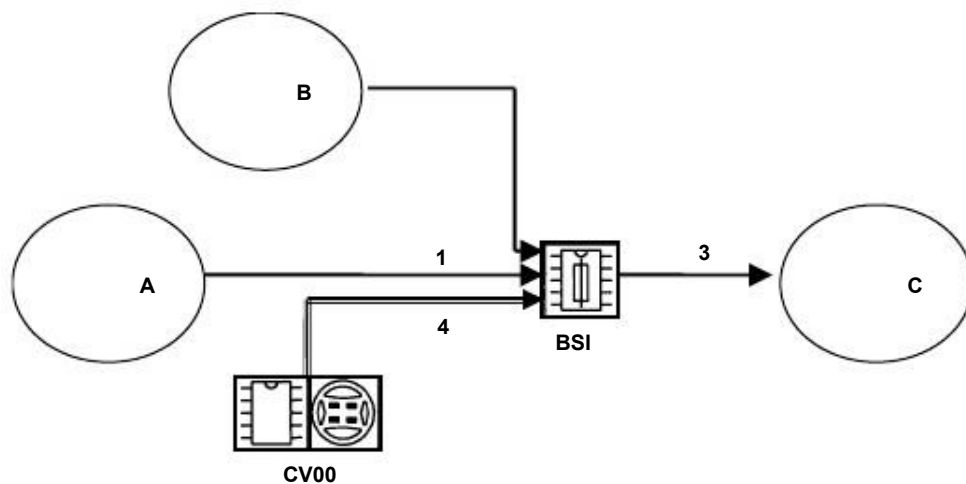
BODIES	
BSI	Box Clever Easement
CV00	Switching module in the steering wheel
A	Opening contactors 5 Switches card readers
B	Pushbuttons Ceiling Front and rear dome Scouts foot cellar
C	Scout boot Scouts vanity mirror Scouts threshold Scout box pockets

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
1	State opening	**ALL OR NOTHING**
2	State switches card readers State of push buttons Ceiling Control on / off timer	**ALL OR NOTHING**
3	Presence and position information of key contact	**ANALOG**
4		**VAN CAR 1**

C - DESCRIPTION OF CEILING
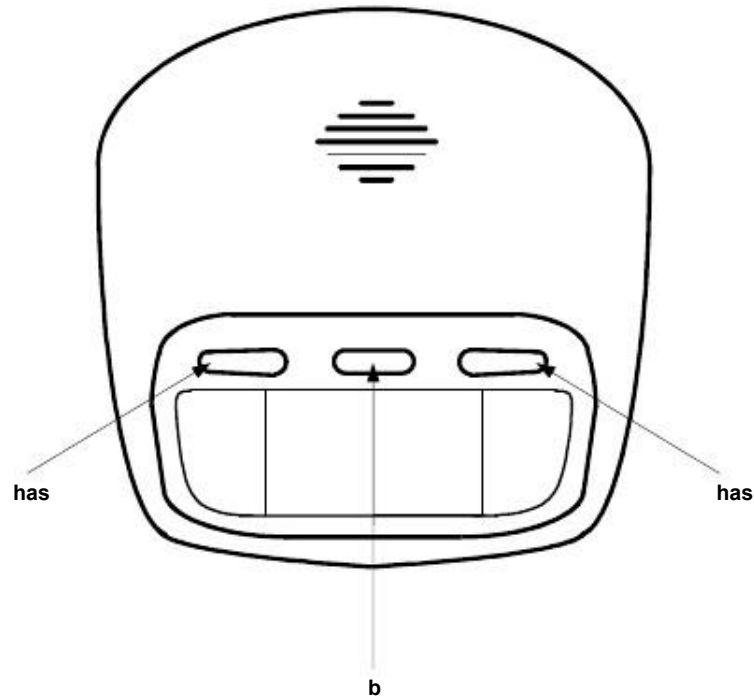
has	Switch Card Reader
b	Pushbutton

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II - PRINCIPLE OF OPERATION

A - CEILING FUNCTION

1 - Benefit

The ceiling function is used to manage the lighting of lamps that:

- 1 lamp W5W the ceiling before,

- 1 lamp W5W the rear room,

- 2 bulbs W5W for scouts cellar feet.

2 - Terms of ignition and extinction

CONDITIONS IGNITION	TIMING	CONDITIONS EXTINCTION	TIMING
IF Pressing the button Push the ceiling Front Center	10mn	**IF** Pressing the button Push the ceiling Front Center	Without
OR open state of at least one of 4 doors (1)	10mn	**OR** After closing the last open door (3)	30s
OR Unlocking the car doors (1)	30s	**OR** Conviction of vehicle	Without
OR Removing the key contact (2)	30s		
OR Find function Vehicle			

(1) Unless the ceiling function is inhibited.

(2) The presence detection key is active for 1 minute after cutoff + ACC. After this delay, the lighting function at Recall key is no longer active.

(3) Immediate Termination engine running.

The ignition and extinction of ceiling are still gradually.

The interior lighting function is divided into 3 states:

- resting state: Ceiling function off,

- Short lighting: lighting delay of 30 seconds,

- lighting throughout: lighting sunset to 10 minutes.

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3 - Cycle on and off the ceiling
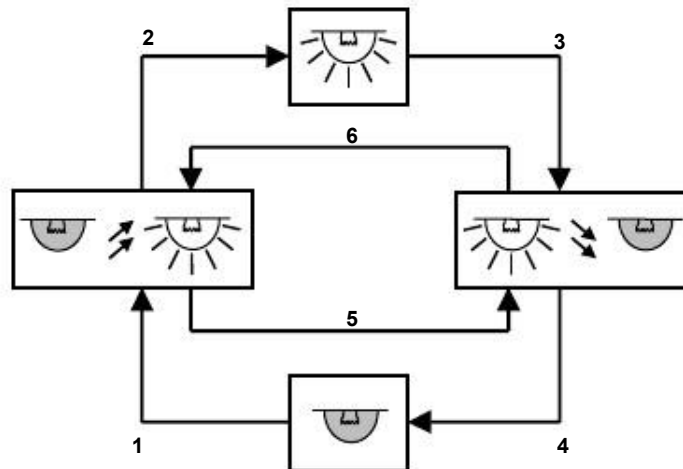
The transtions turned into a state priority.

LEGEND	
1	Fade in 1s
2	Late ignition
3	Fade in 4s
4	End of extinction
5	Extinction
6	Ignition

4 - Undermining the light function inside

The neutralization of the interior lighting is possible with the support
pushbutton front dome, when it is illuminated door
open and key removed. *

This process neutralizes the lighting of the ceiling function, but leaves
free use of card readers by the associated switches.

Pressing only one button push the ceiling function
front door open and key removed, voids the neutralization of the function
ceiling.

* One minute after the cutoff + ACC single door open condition occurs.

*Note: The ceiling panel is functional even if the ceiling function
        is neutralized.*

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5 - Impact of the Economy Mode

If the economy mode is active illumination of overhead functions, threshold is neutralized and safe.

6 - Operation of the rear room

The lighting control of the rear room (double pushbutton positions) can be managed directly by the user or by the BSI.

Note: The rear room is functional even if the ceiling function is neutralized.

B - CARD READER

1 - Benefit

The card reader function is characterized by:

- ☐ 1 lamp W5W for the function card reader right in front all ceiling / players before,

- ☐ 1 lamp W5W for the function card reader in front left all ceiling / players before,

- ☐ 1 lamp W5W for the function card reader right in all Ceiling / players back

- ☐ 1 lamp W5W for the function card reader right back in all ceiling / players back.

The card reader function is controlled by 4 switches specific.

2 - Terms of ignition and extinction

The manual mode of lighting and extinguishing of the 4 Card readers shall be effective only in the presence of CAC + associated with validation of one of four control switches.

+ ACC: Connecting element connected to the positive pole generators electric vehicle unless the ignition is off and during the operating the starter.

Note: The operation is done without card readers smooth transitions when they are ordered by their switches.

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C - LIGHT OF THRESHOLD

1 - Benefit

The lighting function of the thresholds is composed of lamps located in the lower part of door trim.

3 - Terms of ignition and extinction

TERMS OF IGNITION	CONDITIONS OF EXTINCTION
IF open state of at least one of the 4-door * **IF** closed state of the 4 doors	
	AND After the delay of 10 minutes

* Activating a 10min delay to the opening of one of sashes.

Note: The functioning of scouts threshold occurs without gradual transitions.

D - Tidy

1 - Benefit

The light function pockets is provided by a lamp W5W.

2 - Terms of ignition and extinction

TERMS OF IGNITION	CONDITIONS OF EXTINCTION
IF open state of the tray pockets	**IF** closed state of the tray pockets
AND + ACC	

Note: The operation of the lighting is made without pockets gradual transitions.

E - LIGHT OF VANITY MIRROR

1 - Description

The function of illumination vanity mirrors is provided by a device equipped with a lamp W5W.

2 - Terms of ignition and extinction

TERMS OF IGNITION	CONDITIONS OF EXTINCTION
IF open state of the tailgate	**IF** closed state of the tailgate
AND + ACC	

Note: The operation is done without vanity mirrors gradual transitions.

F - TRUNK LIGHT

1 - Benefit

The trunk light function is provided by two devices with W5W bulb.

2 - Terms of ignition and extinction

TERMS OF IGNITION	CONDITIONS OF EXTINCTION
IF open state trunk *	**IF** closed state trunk
	OR After the delay

* Activating a delay of 10 minutes to ignition.

G - SUMMARY OF THE DISTRIBUTION OF ORDERS
   INTERIOR LIGHTING

CONTROLLED FUNCTIONS BY BSI	CONTROLLED FUNCTIONS + BY ACC
Lighting of rear room	Lighting of rear room
Lighting the ceiling before	Lighting for card readers
Threshold Lighting	Illuminating glove
Lighting of the cellar feet	Lighting of the vanity mirror
Trunk Lights	

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III - ELECTRICAL DIAGRAM

Interior Lighting
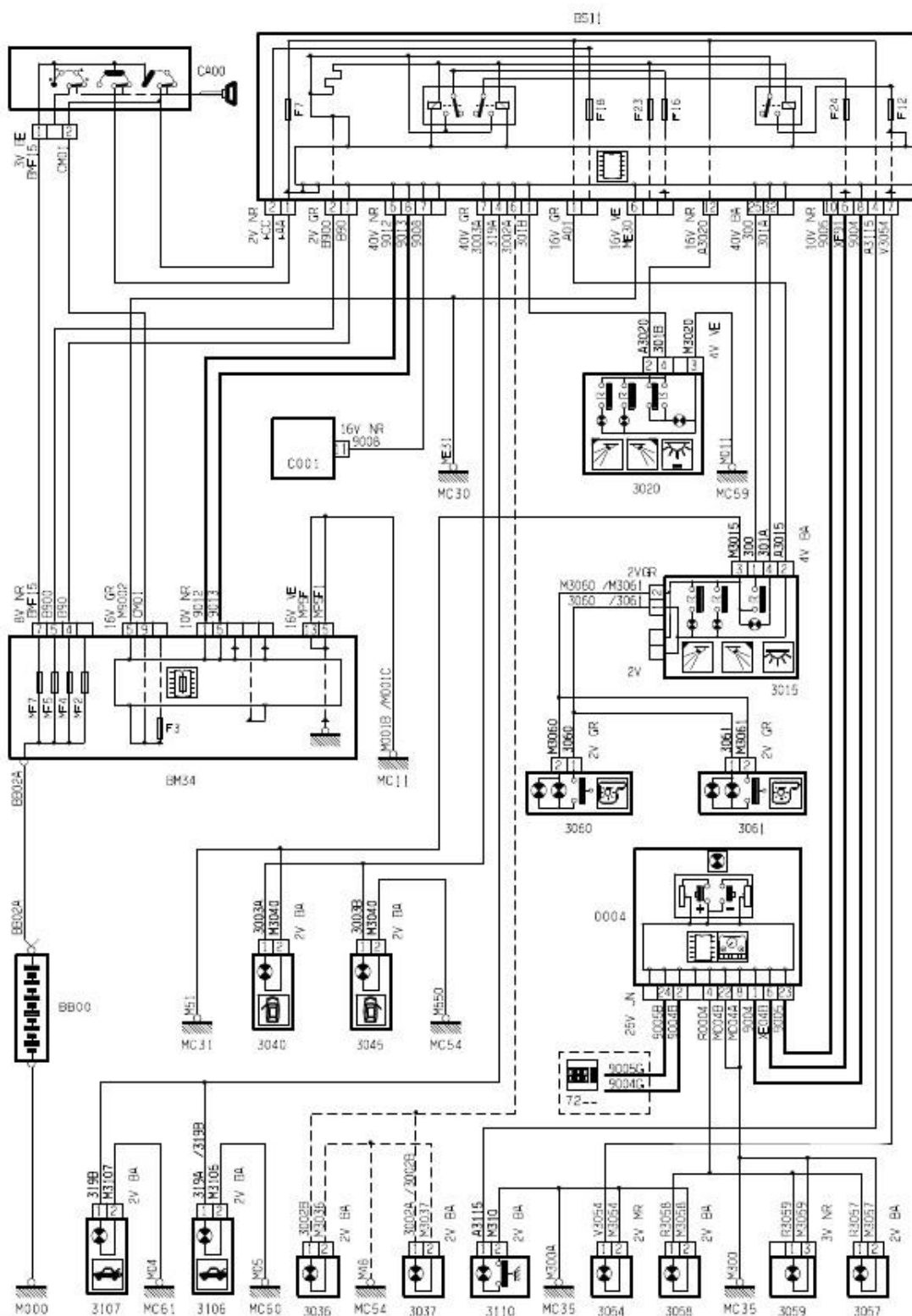
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IV - CLASSIFICATION

BB00   - Battery

BM34 - Housing easement motor 34 fuses

BSI1   - Smart Box easement

C001   - Diagnostic connector

CA00   - Switch Lock

M000   - Mass

MC11 - Mass

MC30 - Mass

MC35 - Mass

MC54 - Mass

MC59 - Mass

MC60 - Mass

MC61 - Mass

0004   - Handset

3015   - Console + pavilion built-in functions

3020   - Ceiling rear

3036   - Scout cellar right foot

3037   - Scout cellar left foot

3040   - Scout bottom left front door

3045   - Scout bottom right front door

3054   - Scout ashtray

3057   - Scout left aerator

3058   - Scout Law aerator

3059   - Scout central aerator

3060   - Scout courtesy mirror driver

3061   - Passenger vanity mirror Scout

3106   - Scout left trunk

3107   - Scout Law trunk

3110   - Light switch glovebox

72 - -   - Function trip computer - shows

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OUTDOOR LIGHTING / SIGNALLING

I-   GENERAL

A - PREAMBLE

The vehicle is equipped with the following new features:

- automatic activation of hazard warning lights,

- xenon lamps with automatic correction of height (depending on version)

- pulse control of fog lamps,

- automatic activation of headlights: management of the brightness by the external light sensor (depending on version)

- switching module in the steering wheel multiplexed

- box bondage Engine multiplexed, which manages the operation of lights at the front of the vehicle.

The exterior lighting and signaling functions provide management operation of various bodies:

OUTDOOR LIGHTING	SIGNALING
Low beam (Xenon lamp, depending on version)	Sidelights
Headlights	Number Plate Lights Police
Fog lamps	Fog lights
	Brake lights
	Reversing lights
	Directional lights
	Buzzer

The ignition or the lights is done in one way following:

- manually: the user activates a command from the module switching under the steering wheel or from a switch.

- automatically: When the automatic mode is selected, ignition and extinction of headlights are made according to the brightness outside.

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The application of ignition or extinction is received by the BSI controls the elements listed in the table below:

☐ either directly

☐ either in case of constraint engine via the network VAN CAR 1.

ITEMS CONTROLLED BY THE BSI	CONTROL ELEMENTS THROUGH BSM
Sidelights / number plate	Dipped / xenon lamps
Directional lights	Headlights
Fog lights	Fog lamps
	Buzzer

Note: The reverse lights and brake lights are powered directly by their respective switches. Information on the status of the contactors is acquired by BSI.

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B - SWITCH MODULE IN STEERING WHEEL
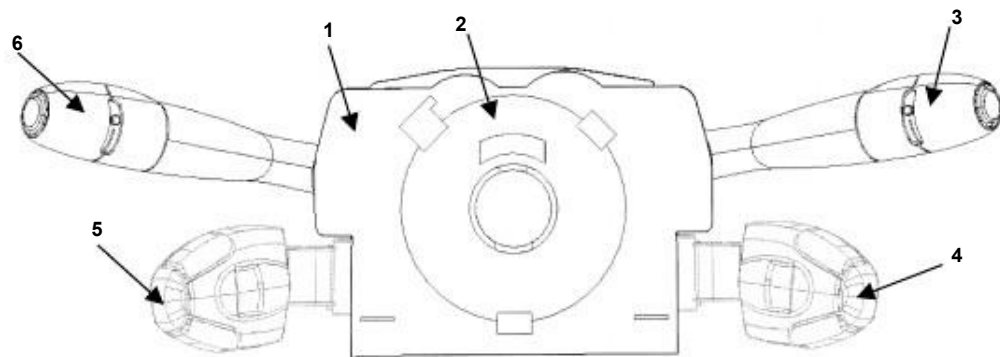
The switch module in the steering wheel is a piece housing which includes the following elements:

☐ joystick support (1),

☐ turning the ignition (2),

☐ wiper switch (3),

☐ control audio system (4) (depending on version)

☐ the speed control switch (5) (depending on version)

☐ The light switch (6).

The switch module in the steering wheel interface makes human machine for audio controls, cruise control, wiper and lighting.

The switch module in the steering wheel transmits the BSI user actions via the multiplexed VAN CAR 1.

The switch module in the steering wheel also provides the following functions:

☐ Steering rattle integrated combiner based support requests issued by the BSI,

☐ HF receiving messages from the plip and transmitters Under-inflation,

☐ communication with the transponder immobilizer coded

☐ retransmit the information from the steering angle sensor.

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C - THE CASE OF MOTOR EASEMENT

The case of constraint engine controls the power relay vehicle
order of the box via the network Servitude Intelligent VAN CAR 1. The
Easement box is located under the engine hood, on the passage of
left front wheel in the cold box.

The case of constraint engine consists of two related modules:

☐ Module 1: Module integrating maxi fuses,

☐ Module 2: Module incorporating an electronic card, fuses and
  relay.

Representation:

Easement motor housing
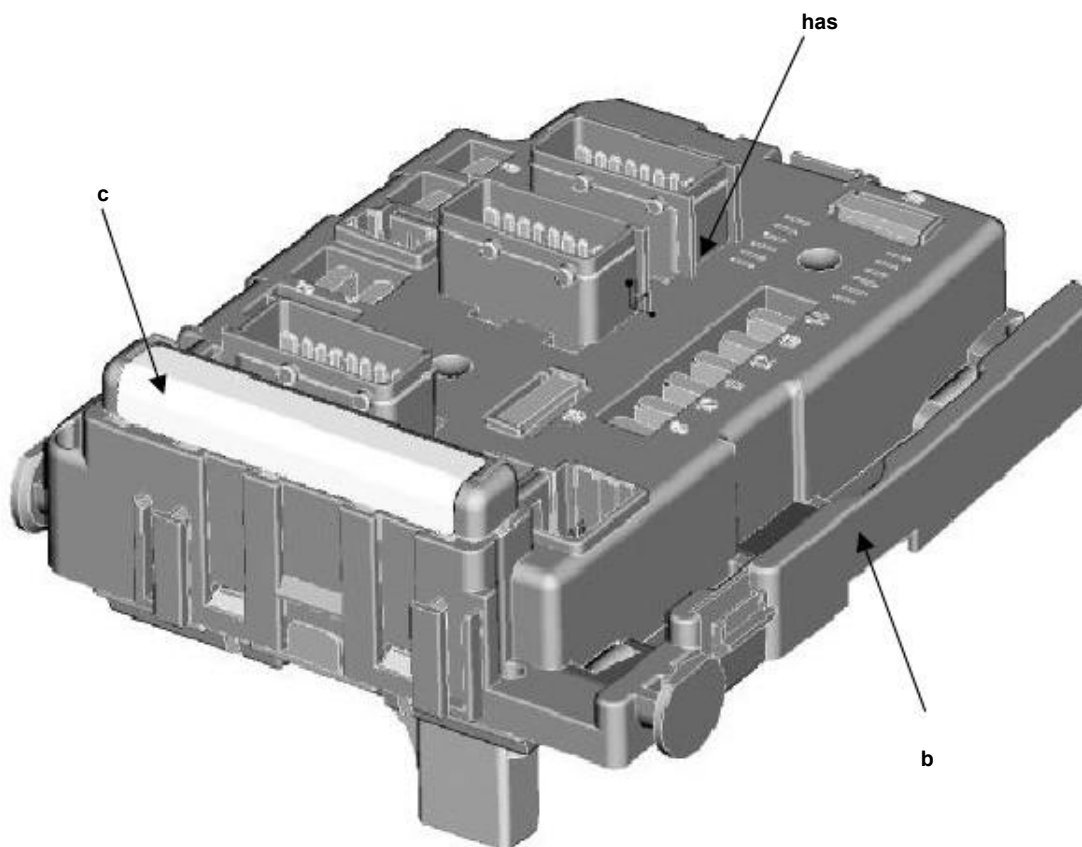
Key:

a: Module 2

b: Module 1

c: product identification label

Case of constraint Engine: Viewed from above (module 2)
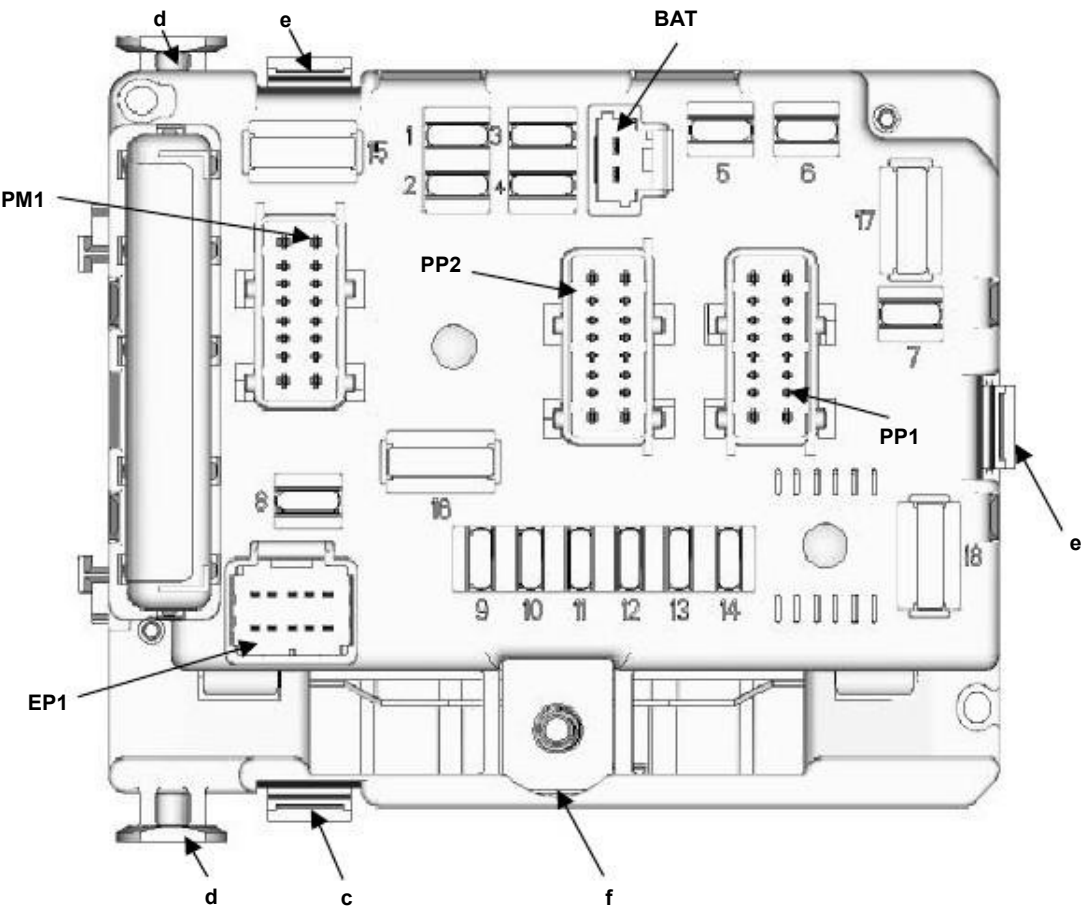
TRACKING FUSES	PROTECTED FUNCTIONS	GAUGE
1	Reversing lights	10 A
2	Fuel pump	30 A
3	APC + ABS ECUs, SUSPIL	10 A
4	+ Ignition Control Engine Electronic calculators, BVA	7.5 A
5	Power + Battery FAP	2A
6	Fog lamps	15 A
7	Washing projectors	20 A
8	Main motor control relay	20 A
9	Low beam left	15 A
10	Right low beam	15 A
11	High beam left	10 A
12	High beam right	10 A
13	Buzzer	15 A
14	Windshield washer pump	10 A
15	Motor Actuators calculator	15 A
16	Air Pump	30 A
17	Wiper front	30 A
18	Air conditioning blower	40 A

Important: Featured mechanics, different from the name of the fuse

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CONNECTORS			
NAME	**BEAM**	**TYPE**	**COLOR**
EP1	Main	10 channels	Black
PP1	Main	16 channels	Green
PP2	Main	16 channels	Grey
PM1	Engine	16 channels	Black
BAT	Battery	2-way	Black

TRACKING	ELEMENT
d	Trunnion
e	Spring latch
f	Visse husk power

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D - XENON LIGHTS WITH CORRECTIVE DYNAMIC SITE PROJECTOR

The vehicle may be equipped with headlights to xenon lamps.

Benefits of Xenon lamps:

☐ wide field of vision doubled,

☐ better perception lateral winding road

☐ performance level of the top night lighting,

☐ improving visibility in low beam position, without dazzling oncoming vehicles.

Xenon bulbs contain no filament.

The light from these lamps is generated from two electrodes in a quartz bulb comprising a high pressure gas (Xenon).
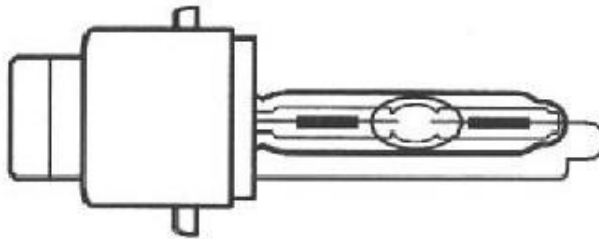
A xenon lamp has a lifespan of more than 4 times that of a lamp filament.

The ignition system of a xenon lamp consists of:

☐ a lamp D2R,

☐ a projector incorporating the correction related to the ballast and lamp housing management.

Vehicles equipped with xenon lamps are equipped with correctors Dynamic Site projectors and lava lights.

Warning: It is necessary to disconnect the battery before doing any
From

☐ installation / removal system xenon lamp,

☐ replacement of a faulty lamp.

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The correction system allows a change in the attitude of the vehicle, keep constant the drawdown of the beam relative to the value of initial set in the factory or in the after-sales network.

The correction system is composed of:

☐ actuator by a projector incorporating a stepper motor,

☐ Electronics Management located at the rear of the projector.

Note: A vehicle equipped with xenon lamps are not equipped Fog lamps

E - automatic headlights DISTRESS

Function automatic headlights distress improves safety automatically noting the strong deceleration or accident.

Function automatic headlights distress is made according following parameters:

☐ strong deceleration,

☐ shocks (triggering a pyrotechnic element).

F - Light sensor

The light sensor provides information representative of the outdoor ambient brightness.

The light sensor also provides information on light infrared system for air conditioning.

The light sensor is placed inside the car, pressed against the windshield. The system ignores a possible tint the windshield. Change the windscreen by the same reference does not affect the functionality of the system and does not alter its characteristics.

Representation
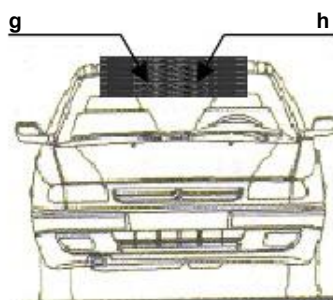
Key:

g: Light sensor,

h: rain sensor.

G - SUMMARY OF SERVICE OUTDOOR LIGHTING
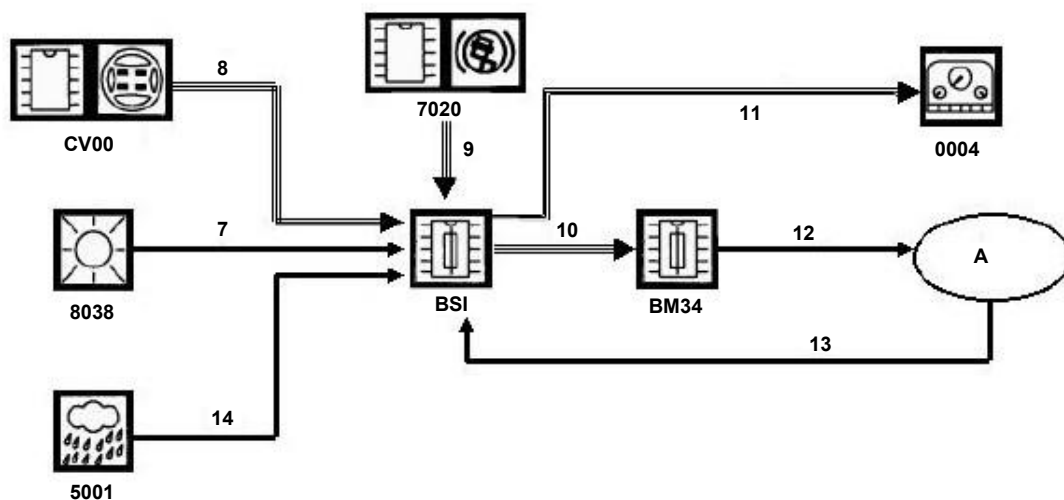
Key:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.

BODIES	
BSI	Box Clever Easement
BM34	Servitude Case Engine
CV00	Switching module in the steering wheel
0004	Combined
5001	Rain sensor
7020	ABS ECU
8038	Light sensor
A	Projector headlights
	Beam headlamps
	Fog lamps

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
7	Light information	**ANALOG**
8	Switch Position	**VAN CAR 1**
9	Information on the vehicle speed	**CAN**
10	Control relays headlights Control relay beam Control relay fog lamps	**VAN CAR 1**
11	Control of the witness beam headlamps Control of the witness beam Control of the witness fog lamps	**VAN COMFORT**
12	Signal control crossing Control beam Control fog lamps	**ALL OR NOTHING**
13	Fault information of xenon lamps (Depending on version)	**ALL OR NOTHING**
14	Information rain	**ANALOG**

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H - SUMMARY OF SERVICE SIGNALING
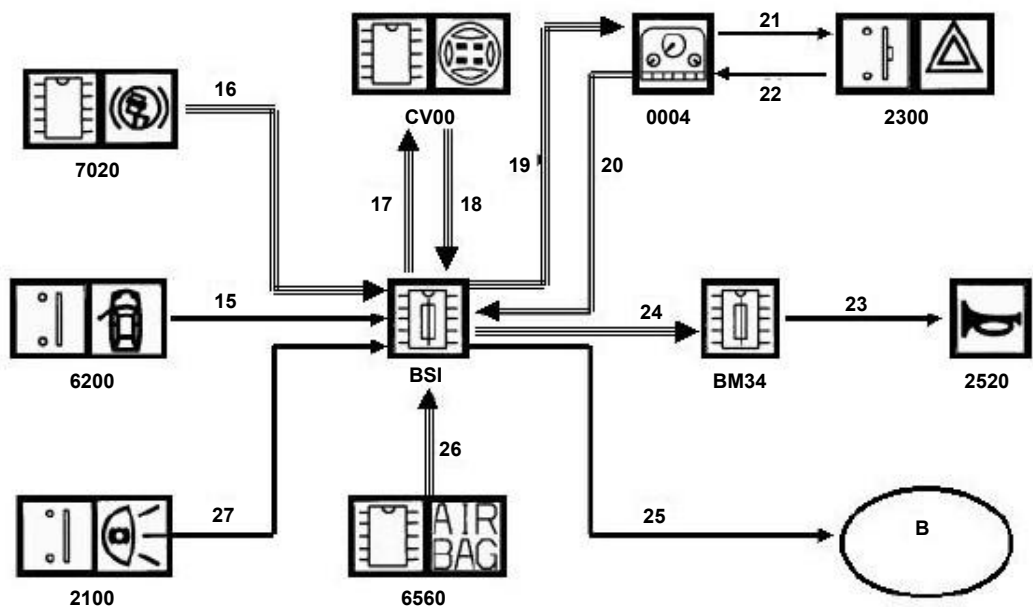
Key:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.

BODIES	
BSI	Intelligent case of constraint
BM34	Case of constraint engine
CV00	Switching module in the steering wheel
0004	Combined
2100	Brake light switch
2300	Hazard lights switch
2520	Buzzer
6200	Door switch driver
6560	Airbag ECU
7020	ABS ECU
B	Directional lights
	Marker lights front and rear
	Number Plate Lights Police

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LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
15	State of the gate driver	**ALL OR NOTHING**
16	Information on the vehicle speed	**CAN**
17	Control the buzzer	**VAN CAR 1**
18	Switch Position State of the position / presence of the ignition	**VAN CAR 1**
19	Control of direction indicators Control indicator flashers Control of the witness fog lamps Information on the status of navigation lights	**VAN COMFORT**
20	Request Information Manual flashers	**VAN COMFORT**
21	Control of LED flashers	**ALL OR NOTHING**
22	State of emergency signal switch	**ALL OR NOTHING**
23	Control of horn	**ALL OR NOTHING**
24	Relay control of horn	**VAN CAR 1**
25	Control of flashing lights and side repeaters Headlamp control position / scouts license plate	**ALL OR NOTHING**
26	Information triggering an pyrotechnic	**VAN CAR 1**
27	Supporting information on the brake pedal	**ALL OR NOTHING**

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I - DESCRIPTION OF LIGHT SWITCH
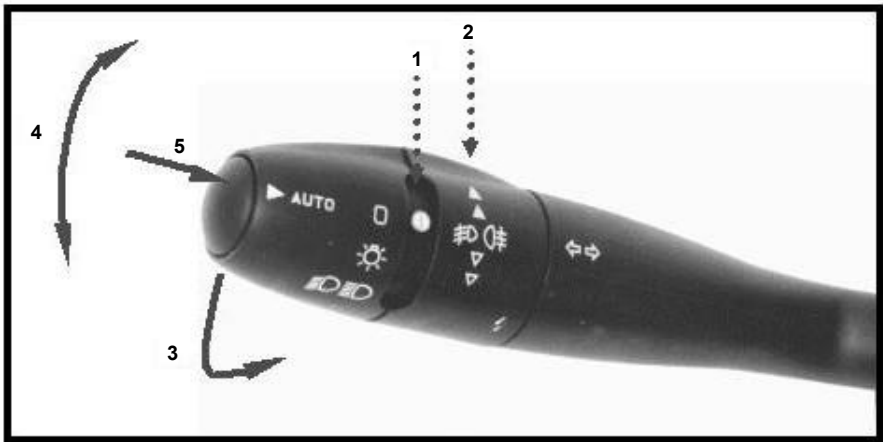
DESCRIPTION OF LIGHT SWITCH	
POSITION	**FUNCTIONALITY**
1	Lighting: 0 / parking lights / low beam.
2	Fog lamps and lights fog by rotating ring impulse.
3	Inverter low beam / high beam.
4	Indicators of left or right direction.
5	Pulse button enabling / disabling the automatic mode ignition fires.

D - OPERATION OF LIGHTS BY THE POSITION OF THE KEY

BODIES	LIVING SITUATION				
	JUDGEMENT	+ACC	+ APC	+ DEM	ROTARY ENGINE
Low beam	X	X	X	X	X
Headlights	X	X	X	X	X
Front fog lights			X	X	X
Daytime running lights					X
Side repeater / Direction indicators			X	X	X
Hazard lights	X	X	X	X	X
Brake lights			X	X	X
Sidelights / scouts Plate Police	X	X	X	X	X
Rear fog lamps			X	X	X
Reversing lights			X	X	X
Buzzer	X	X	X	X	X

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K - SUMMARY OF POWER, CONTROLS, DISPLAYS,
Noisemakers

FUNCTIONS	KEY POSITION CONTACT	CONTROL	DISPLAY	Buzzer
Sidelights	Judgement	Position lantern	Lighting of combined	If ignition key off position and if open door (His type 4)
Fires Crossing	Judgement	Position crossing	V8 + Lighting of combined	If ignition key off position and if open door (His type 4)
Road lights	Judgement	Position + road crossing	V9 + Lighting of combined	No
Call Lighthouse	Judgement	Impulse drive	V9	No
Fires Management	+ APC	Position Right / Left	V6 / V11	Yes (its type 6 and 7)
Projectors Fog	+ APC	Pulse rotation st 1 race	V7	No
Fires Fog	+ APC	Pulse rotation th 2course	V10	No
Fires Distress	Judgement	Contactor Distress	V6 / V11 + distress	Yes (its type 6 and 7)
Reversing lamps	+ APC	Contactor reverse	X	No
Stop lights	+ APC	Pedal switch brake	X	No

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II - PRINCIPLE OF OPERATION: EXTERIOR LIGHTING

A - LOW BEAM FUNCTION

1 - Overview: function headlights
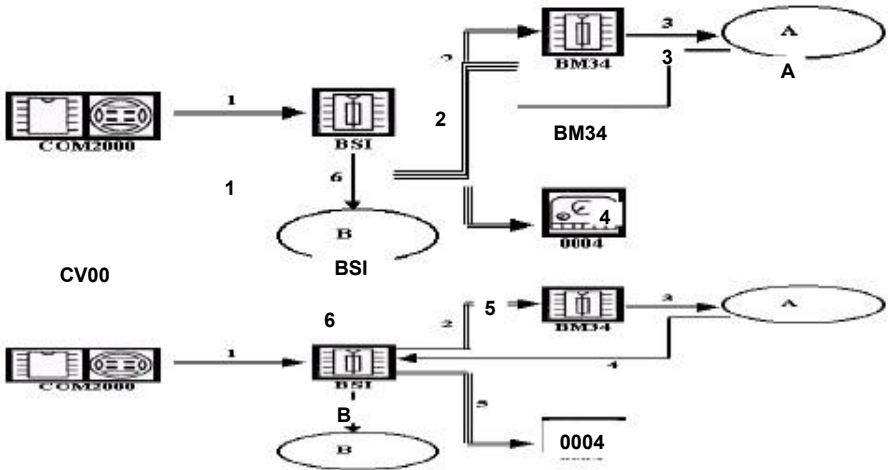
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BODIES	
BSI	Box Clever Easement
BM34	Servitude Case Engine
CV00	Switching module in the steering wheel
0004	Combined
A	Projector headlights or xenon lamps
B	marker lights front and rear

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
1	Switch Position	**VAN CAR 1**
2	Control relays headlights	**VAN CAR 1**
3	Signal control crossing	**ALL OR NOTHING**
4	Fault information from xenon lamps	**ALL OR NOTHING**
5	Control of the witness beam headlamps	**VAN COMFORT**
6	Signal control front and rear position	**ALL OR NOTHING**

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2 - Functional Description: function headlights

STEP	DETAILS
1	Driver action on the light switch: position lights crossing
2	Acquisition and filtering the position of the light switch by the switching module in the steering wheel
	Transmission of the switch lighting the BSI via the VAN network CAR1
3	The ISB knows the status of lights.
	Control relay for low beam at BSM by BSI via VAN network CAR1
	Control the indicator lights to low beam combined with the BSI via the VAN COMFORT

B - BASED AUTOMATIC SWITCHING OF PASSING LAMPS

1 - Benefit

In automatic mode, the lighting of lamps is made from following parameters:

☐ Information on lowering the brightness outside,

☐ activation of wiping the windows.

The function of the light sensor is to provide information representative of the ambient light level outside the vehicle and before it.

The light sensor is composed of:

☐ LED light receiving face upwards to give a Information on outdoor ambient light,

☐ LED light receiving face forwards to give a light information to the front of the vehicle.

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2 - Enable / neutralizing the function of automatic switching headlights

The activation or neutralization of the function of automatic switching
Fire occurs at position + ACC by holding down two seconds
Push the button at the end of the lever light switch. Each
support long made the push button is accompanied by a beep
confirmation and a message on the multifunction display indicating the state
active function. The function status is stored at each break
contact. The active state is recalled each time the key position
+ ACC.

3 - Terms of automatic ignition / fire suppression crossing

a - For information Outdoor light

The lighting and extinguishing of fires are based on the parameters
following:

☐ ambient lighting (day / dark): the brightness level
outdoor ambient is compared to thresholds programmed into the
BSI

☐ presence of a tunnel or a poorly lit parking lot: A calculation of
distance is made before triggering the ignition of fires,
more than comparing the level of ambient light
outside the thresholds programmed into the BSI. The calculation of
distance is made according to vehicle speed. The
information, vehicle speed and distance, are broadcast by the
ABS ECU via the CAN network.

The system does not require the lighting of fires in the case of a bridge
or a fleeting shadow.

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PARAMETERS	VALUE
Ambient light to illuminate at dusk	270 lux
Ambient for extinction at the dawn	680 lux
Luminosity in the tunnel (front detector)	45 lux
Luminosity after the tunnel (front detector)	60 lux
Luminosity at the tunnel entrance (sensor above)	260 lux
Verification time of declining ambient light	60 s
Verification time of a drop in luminosity	3s
Verification time of increased brightness	60 s
Delay of extinction after tunnel	2s
Verification time of a level of ignition due to sunset	15 min
Speed limit to determine the distance to go before Ignition	20 km / h
Distance before firing in tunnel if the weather is gloomy vehicle speed> speed limit	30 m
Distance before firing in tunnel if the weather is gloomy vehicle speed <speed limit	5m

Note: The automatic switching is active engine running

b - In the state of the wiping system

TERMS OF IGNITION AUTOMATIC	CONDITIONS OF EXTINCTION
IF operating speed 2 s	**IF** no operating system 15 s
OR Low speed operating for 10 s	**OR** Passage of the key to off position
OR intermittent (5 cycles scanning for 40 s	

No deposit ignition fires:

☐ If wiping is requested piecemeal,

☐ if it's a wash.

4 - Overview: function automatic headlights dipped
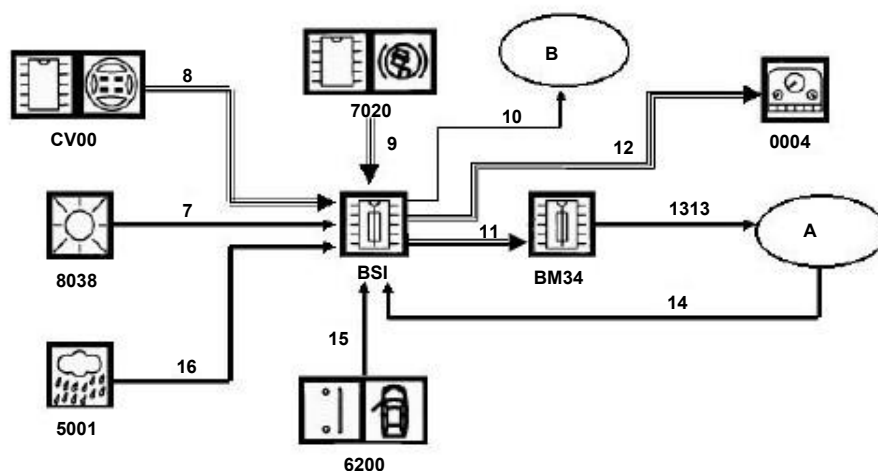
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BODIES	
BSI	Box Clever Easement
BM34	Servitude Case Engine
CV00	Switching module in the steering wheel
0004	Combined
5001	Rain sensor
6200	Driver door contact
7020	ABS ECU
8038	Light sensor
A	Projector headlights or xenon lamps
B	Marker lights front and rear

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
7	Information on the outside light	ANALOG
8	Position of the light switch State of the wiping system Information on the vehicle speed	VAN CAR 1
9	Command position lights front and rear	CAN
10	Control of the low beam relay	ALL OR NOTHING
11	Control of the witness beam headlamps	VAN CAR 1
12	Signal control crossing	VAN COMFORT
13	Fault information from xenon lamps (depending version) State of the gate driver	ALL OR NOTHING
14		ALL OR NOTHING
15		ALL OR NOTHING
16	Information rain	SIGNAL FREQUENCY

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5 - Functional Description: Position automatic headlights passing

<table>
<tr><th colspan="2">AUTOMATIC IGNITION /
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<tr><th>STEP</th><th>DETAILS</th></tr>
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<tr><td>B</td><td>The BSI determines whether one is in terms of on / off automatic (according to lighting)</td></tr>
<tr><td rowspan="3">C</td><td>Headlamp control position by BSI</td></tr>
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The BSI determines how

Scan to adopt according to the

nature of rainfall and
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Control relay for low beam at BSM by BSI via the VAN network CAR1</td><td>The ISB system triggers

wiper according to the position of

wiper switch.</td></tr>
<tr><td>Ignition control of the witness beam headlamps in combination with BSI via the VAN COMFORT</td><td></td></tr>
</table>

Note: The manual control of the ignition system fires are systematically priority automatic ignition. More throughout the manual cancels timers during the ignition time determined in the operating strategy automatically.

Note: The lighting of lamps is maintained for 30 seconds during Passage of the key in the off position if the light level outside is considered inadequate. The timer is reset to opening and closing the driver door.

Note: If the engine is stopped, the neutralization of the ignition automatic shut off lights if they were on.

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C - SERVICE TERMINATION BY ORDER

1 - Benefit

This feature allows the immediate extinction of lights when the vehicle lies in the conditions of automatic headlights.

2 - Functional Description: off function by conviction

STEP	DETAILS
A	The ISB receives an application for condemnation.
B	BSI directly controls the lights out of position. BSI order the lights passing (By the BSM via the VAN CAR 1).

D - DAYTIME LIGHTS

The function is to control daytime running continuously firing low beam position "0" of the light switch, from the + APC position and engine running. These lights go out to the passage of key contact APC at position + + ACC position.

The manual controls remain a priority feature is daytime running lights TELECODE factory.

Important: The vehicle activated traffic lights Daytime sees its functionality " Automatic headlights "inhibited. Moreover, there no extension of lighting for vehicles configured daytime running lights.

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E - BEAM FUNCTION

1 - Overview: Service-beam
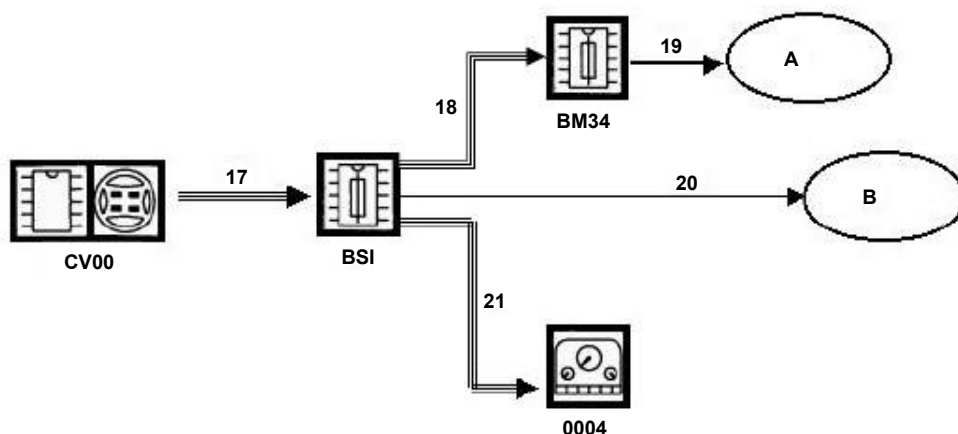
Key:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link

BODIES	
BSI	Box Clever Easement
BM34	Servitude Case Engine
CV00	Switching module in the steering wheel
0004	Combined
A	Beam headlamps
B	Marker lights front and rear

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
17	Switch Position	**VAN CAR 1**
18	Control relay beam	**VAN CAR 1**
19	Control beam	**ALL OR NOTHING**
20	Signal control front and rear position	**ALL OR NOTHING**
21	Control of the witness beam	**VAN COMFORT**

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2 - Functional Description: function beam

STEP	DETAILS
1	Driver action on the light switch: position lights road
2	Acquisition and filtering the position of the light switch by the switching module in the steering wheel Transmission of the switch lighting the BSI via the VAN network CAR1
3	Control relay beam to the WSO by BSI via the VAN network CAR1
	Ignition control of the witness beam in Combined BSI via the VAN COMFORT.

F - CALL FOR HEADLIGHTS

1 - Overview: call function headlights
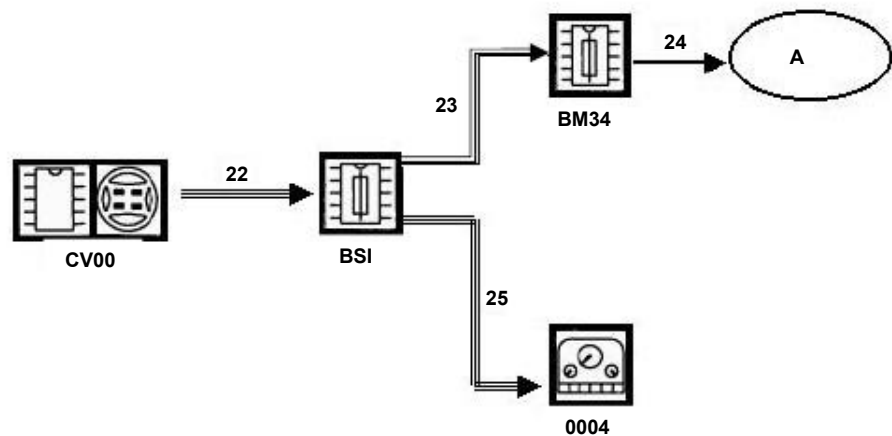
Key:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.

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BODIES	
BSI	Box Clever Easement
BM34	Servitude Case Engine
CV00	Switching module in the steering wheel
0004	Combined
A	Beam headlamps

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
22	Switch Position	**VAN CAR 1**
23	Relay control beam	**VAN CAR 1**
24	Control beam	**ALL OR NOTHING**
25	Control of the witness beam	**VAN COMFORT**

2 - Functional Description: call function headlights

FUNCTIONAL DESCRIPTION	
STEP	**DETAILS**
1	Driver action on the light switch: position Appeal Headlight
2	Acquisition and filtering the position of the light switch by the switching module in the steering wheel Transmission of the switch lighting the BSI via the VAN network CAR1
3	Control relay beam to the WSO by BSI via the VAN network CAR1
	Ignition control of the witness beam in Combined BSI via the VAN COMFORT

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G - FUNCTION FOG LIGHTS

1 - Overview: function fog lamps
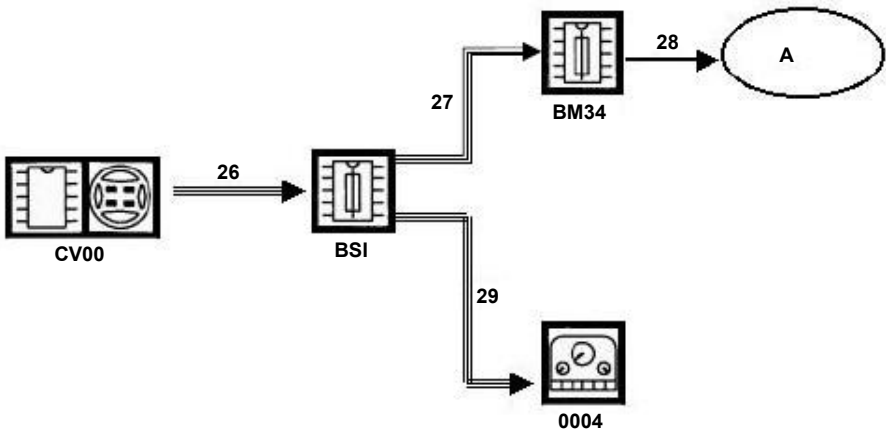
Key:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.

BODIES	
BSI	Box Clever Easement
BM34	Servitude Case Engine
CV00	Switching module in the steering wheel
0004	Combined
A	Fog lamps

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
26	Position commutaeur	**VAN CAR 1**
27	Controlling Relay Fog lights	**VAN CAR 1**
28	Control Fog lights	**ALL OR NOTHING**
29	Order of witness of Projectors anti fog	**VAN COMFORT**

2 - Terms of ignition

TERMS OF IGNITION
IF Key position + APC
AND Running lights on

3 - Terms of extinction

CONDITIONS OF EXTINCTION
IF The switch module in the steering wheel and acquires a new filter Pressing the rotary switch lighting.
OR The switch module in the steering wheel and acquires an application filter fire extinguishing position
OR Key in the off position or + ACC.
OR beam lights

4 - Functional Description: function fog lamps

STEP	DETAILS
1	Driver action on the rotary pulse control of fog lamps.
2	Acquisition and filtering by the switch module switchgear steering wheel Transmission of the switch lighting the BSI via the VAN network CAR1
3	Relay control of fog lamps in the BSM BSI via the VAN network CHAR1. Ignition control of the witness for the fog lamps combined with the BSI via the VAN COMFORT

H - CORRECTIVE DYNAMIC FUNCTION OF SITE SPOTLIGHT

1 - Benefit

The Dynamic EQ site projector maintains the angle
Crimping reflector headlamps according to the inclination
vehicle. Function, active rolling or stationary, can not
dazzle oncoming drivers.

The computer calculates the angle of suspension of drawdown versus
following parameters:

☐ heights front and rear of the vehicle,

☐ reference height of the vehicle (factory programmed)

☐ wheelbase of the vehicle,

☐ longitudinal acceleration.

The correction is active as soon as the headlights (xenon lamps)
are on.

In the event of degraded operation, the reflectors are directed
down automatically.

2 - Overview: Dynamic EQ site function projector

Key:
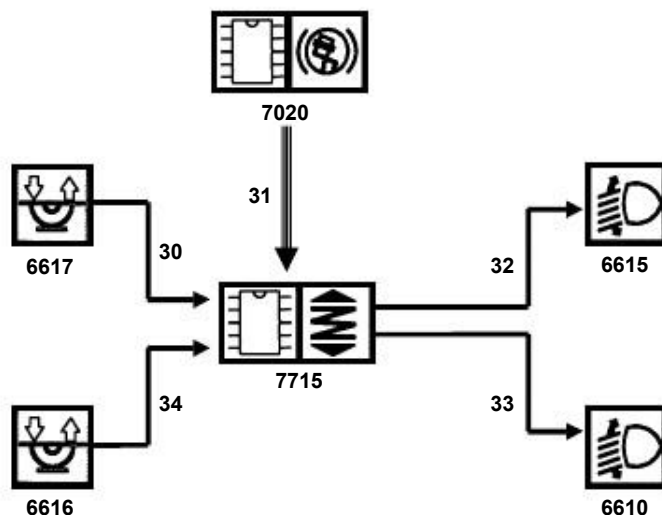
◻ triple arrow: Relation multiplexed

◻ single arrow: wired link.

BODIES	
6610	Corrector left headlamp
6615	Corrector right projector
6616	Height sensor box before
6617	Rear height sensor box
7020	ABS ECU
7715	Suspension Calculator

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
30	Information on the height at the rear of the vehicle	**ANALOG**
31	Information on the longitudinal acceleration	**CAN**
32	Luggage tilt reflector	**Signal frequency**
33	Luggage tilt reflector	**Signal frequency**
34	Height information to the vehicle front	**ANALOG**

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3 - Functional Description: Dynamic EQ feature site Projector

STEP	DETAILS
1	Acquisition of heights before and behind the calculator suspension
	Acquisition by the computer to suspend acceleration Longitudinal transmitted by the ABS computer via the CAN network.
2	The computer knows the suspension height initial vehicle and its wheelbase
	The computer determines the necessity of suspension feeder reflector.
3	Transmission of the set of inclination of the reflector markers left and right projectors.
4	The editors decode the signal from the computer suspension and operate the stepper motors reflectors rights and left.

I - DEGRADED MODES FOR VEHICLES NOT EQUIPPED WITH SENSOR BRIGHTNESS

1 - Loss of network VAN CAR 1 between the switch module in steering wheel and the BSI

In case of failure of communication between the module switching under the steering wheel and the ISB, the ISB applies following conditions:

LIVING SITUATION	ACTION
Position + APC Motor not turning	Ignition position lights
Position + APC engine running	Ignition headlights
Key in off position	Lights out

Direction indicators are no longer functional.

2 - Loss of network VAN CAR 1 between the ISB and the WSO

In case of failure of communication between the ISB and the DSO, the degraded operation of the lighting of fires is described in Table following:

BODIES	LIVING SITUATION			
	JUDGEMENT ACC	+ APC	+ DEM	ROTARY ENGINE
Low beam		X	X	X
Headlights	Loss of function			
Front fog lights	Prohibition of status change			
Buzzer	Loss of function			

Citroën C5 DOCUMENT 2

J - DEGRADED MODE FOR VEHICLES EQUIPPED WITH SENSOR
BRIGHTNESS

1 - Loss of network VAN CAR 1 between the switch module in steering wheel and the BSI

In case of failure of communication between the module switchgear and steering wheel BSI BSI activates the automatic headlights dipped.

2 - Loss of network VAN CAR 1 between the ISB and the WSO

In case of failure of communication between the ISB and the DSO, the degraded operation of the lighting of fires is described in Table following:

BODIES	LIVING SITUATION		
	JUDGEMENT ACC	+ APC + DEM ROTARY ENGINE XXX	
Low beam		Loss of function	
Headlights			
Projectors	Prohibition of status change		
Fog			
Buzzer	Loss of function		

3 - Failure Sensor

Once the sensor is considered to have failed, the strategy is:

If the function automatic headlights is activated:

☐ the detection of a failure, there is lighting fires, they are kept up off the ignition ("off")

☐ if the lights were already on at the time of detection failure, they are kept up off the ignition,

☐ whether the driver disables the automatic headlights after failure detection, the lights do not go out: they are kept up off the ignition.

If the function automatic headlights is neutralized:

☐ sensor failure does no ignition

☐ if the sensor failure was present at the time of activation function automatic headlights, there is immediate ignition fires.

4 - ABS ECU failure or loss of the CAN network

If a failure is detected on the distance traveled or information vehicle speed, the lights are turned on immediately, provided that brightness levels and high instantaneous sensors remain before respectively below thresholds of brightness at the entrance of the tunnel. (See conditions on / off lights automatically).

Citroën C5 DOCUMENT 2

III - OPERATING PRINCIPLE: SIGNALING

A - FIRE SERVICE MANAGEMENT

1 - Overview: Fire Service Management
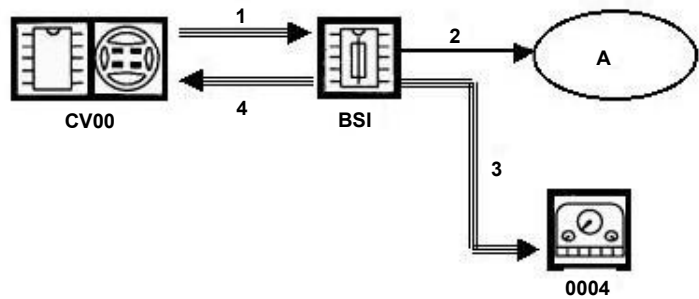
Key:

☐ triple arrow: Relation multiplexed

☐ single arrow: wired link

BODIES	
BSI	Intelligent case of constraint
CV00	Switching module in the steering wheel
0004	Combined
A	Directional lights

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
1	Switch Position	**VAN CAR 1**
2	Headlamp control management	**ALL OR NOTHING**
3	Control of fire control management	**VAN COMFORT**
4	Control the buzzer	**VAN CAR 1**

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2 - Functional Description: Fire Service Management

STEP	DETAILS	
1	Action of the driver switch Surle position indicator direction "left" or "right."	Lighting:
2	Acquisition and filtering by the switch module switchgear steering wheel Transmission of the switch lighting the BSI via the VAN network CAR1	
3	Headlamp control of direction by the BSI	
	Ignition control of the control of direction signals to the handset by BSI via the VAN COMFORT.	
	Control the buzzer by the BSI via the VAN CAR 1.	

*Note: If defective bulb, the frequency of blinking
all directional signals is doubled.*

B - LOCATION BASED

1 - Benefit

The Find function allows to signal the position of the vehicle
the user by flashing lights direction. Function
localization is achieved by pressing the lock command
RF remote control.

2 - Functional Description: Find function

STEP	DETAILS
1	The push button lock on the remote HF activated.
2	The switch module in the steering wheel receives the signal
3	The switch module in the steering wheel transmits the application of ignition of direction indicators and ceiling the BSI via the VAN CAR 1.
4	BSI directly controls the ignition of direction indicators and ceiling for ten seconds.

*Note: This feature is only achievable when the vehicle is
in a range of 30 meters.*

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C - STOP LIGHTS

1 - Overview: Service brake lights

Key:
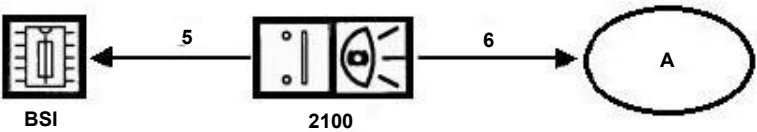
☐ single arrow: wired link.

BODIES	
BSI	Intelligent case of constraint
2100	Switch the brake pedal
A	Brake lights

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
5	State switch the brake pedal	**ALL OR NOTHING**
6	Control of brake lights	**ALL OR NOTHING**

2 - Functional Description: brake lights function

STEP	DETAILS
1	The driver depresses the brake pedal and thus closes the contact.
2	The brake lights are illuminated directly.
3	Acquisition of the state of the switch by BSI Dissemination of this information on the CAN network.

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D - FIRES BACK

1 - Overview: function reverse lights
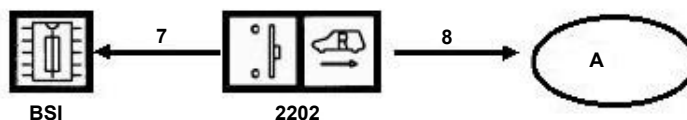
Key:

☐ triple arrow: Relation multiplexed

☐ single arrow: wired link.

BODIES	
BSI	Intelligent case of constraint
2202	Reversing contactor
A	Reversing lights

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
7	State Reversing Contactor	**ALL OR NOTHING**
8	Controlling reverse lights	**ALL OR NOTHING**

2 - Functional Description: function reverse lights

STEP	DETAILS
1	The closing of the reverse switch located on control gearbox, directly supplies the reversing lights.
2	Acquisition of the state reversing contactor by BSI. Dissemination of this information about network VAN COMFORT.

E - FUNCTION FOG LIGHTS

1 - Overview: function fog lights
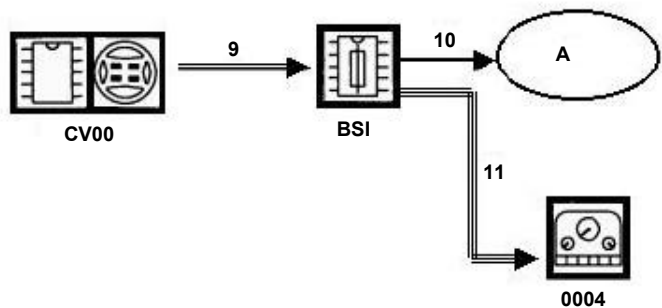
Key:

▢ triple arrow: Relation multiplexed

▢ single arrow: wired link.

BODIES	
BSI	Intelligent case of constraint
CV00	Switching module in the steering wheel
0004	Combined
A	Fog lights

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
9	Switch Position	**VAN CAR 1**
10	Control fog lights	**ALL OR NOTHING**
11	Order witnesses fog lights	**VAN COMFORT**

2 - Functional Description: function fog lights

STEP	DETAILS
1	Driver action on the rotary pulse control fog lights.
2	Acquisition and filtering by the switch module switchgear steering wheel Transmission of the position of the light switch via the ISB VAN network CAR1
3	BSI verifies that the fog lamps are lit.
4	Control fog lights by BSI Ignition control of the witness fog lights combined with the BSI via the VAN COMFORT

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F - FIRE SERVICE POSITION / BOARD OF POLICE

1 - Overview: function sidelights / number plate
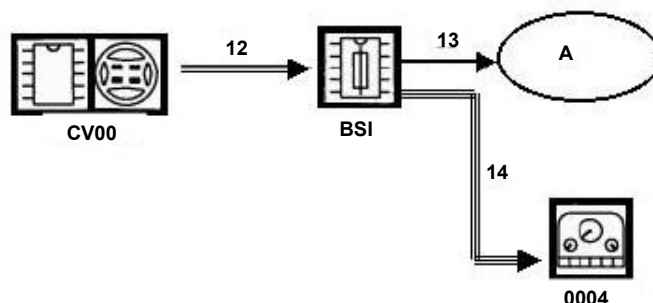
Key:

☐ triple arrow: Relation multiplexed

☐ single arrow: wired link.

BODIES	
BSI	Intelligent case of constraint
CV00	Switching module in the steering wheel
0004	Combined
A	Marker lights front and rear
	Scouts of the license plate

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
12	Switch Position	**VAN CAR 1**
13	Command position lights front and rear scouts plate police	**ALL OR NOTHING**
14	Information side lights on	**VAN COMFORT**

2 - Functional Description: light function / plate
Police

STEP	DETAILS
1	Driver action on the light switch: position lights position.
2	Acquisition and filtering the position of the light switch by the switching module in the steering wheel Transmission of the switch lighting the BSI via the VAN network CAR1
3	Control lights (front and rear) and scouts Police plate by BSI Information Dissemination side lights on the BSI on the COMFORT VAN network for lighting equipment the cockpit.

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G - FUNCTION HORN

1 - Overview: function buzzer
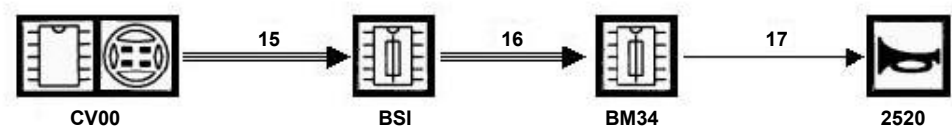
CV00   15   BSI   16   BM34   17   2520

Key:

☐ triple arrow: Relation multiplexed

☐ single arrow: wired link.

BODIES	
BSI	Intelligent case of constraint
BM34	Case of constraint engine
CV00	Switching module in the steering wheel
2520	Buzzer

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
15	State of the horn switch	**VAN CAR 1**
16	Relay control of horn	**VAN CAR 1**
17	Control horn	**ALL OR NOTHING**

2 - Functional Description of the function buzzer

STEP	DETAILS
1	Action of the driver switch on the horn.
2	Acquisition and filtering of the state of the contactor module switchgear steering wheel Transmission of the state of the contactor via the BSI VAN CAR1
3	Relay control the buzzer at the BSM via the BSI network VAN CAR 1

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H - Buzzer FORGETTING FUNCTION OF LIGHTS

1 - Overview: oblivion buzzer function fires
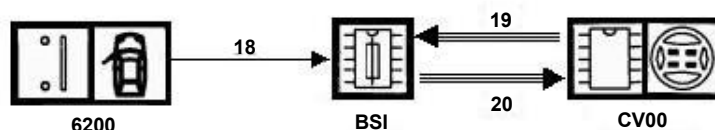
Key:

☐ triple arrow: Relation multiplexed

☐ single arrow: wired link

BODIES	
BSI	Intelligent case of constraint
CV00	Switching module in the steering wheel
6200	Contact Open Door Driver

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
18	state of the driver's door	**ALL OR NOTHING**
19	State of the position of the key contat Switch Position	**VAN CAR 1**
20	Buzzer control (its type 4)	**VAN CAR 1**

2 - Terms of activating the buzzer

IF Key in off position
AND Driver door open
AND Running lights on

3 - Functional Description: function noisemaker oblivion fire

STEP	DETAILS
1	BSI acquires the status of the contact of the driver's door, the key contact and the switch.
2	The BSI determines whether the conditions for activation of the buzzer are met.
3	If yes, the BSI controls the buzzer as the Switch Module steering wheel via the VAN CHAR1.

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I - EMERGENCY LIGHTS

1 - Overview: function warning lights
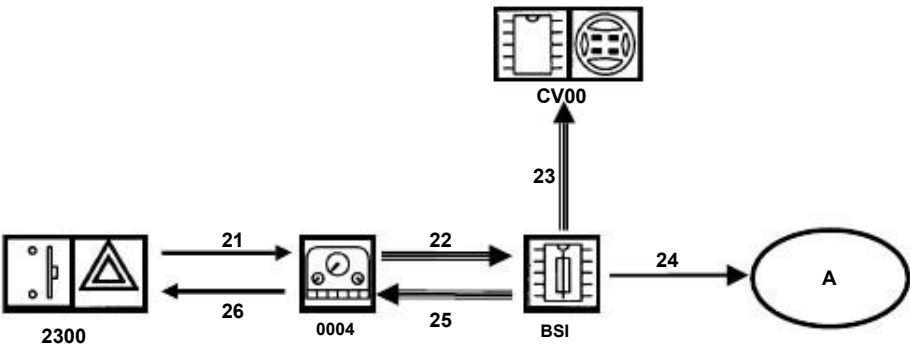
Key:

☐ triple arrow: Relation multiplexed

☐ single arrow: wired link.

BODIES	
BSI	Intelligent case of constraint
CV00	Switching module in the steering wheel
0004	Combined instrumentation
2300	Hazard lights switch
A	Directional lights

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
21	State of emergency signal switch	**ALL OR NOTHING**
22	Acquisition of manual application of fires distress	**VAN COMFORT**
23	Control the buzzer	**VAN CAR 1**
24	Fire control management	**ALL OR NOTHING**
25	Control indicator flashers	**VAN COMFORT**
26	Control of the diode of the switch signal distress	**ALL OR NOTHING**

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2 - Functional Description: function warning lights

STEP	DETAILS
1	Action of the driver switch on the distress signal.
2	Acquisition of the state of the switch signal of distress by the combined
	Transmission of the state of switch distress signal via the ISB COMFORT VAN network.
3	Headlamp control of direction by the BSI
	Ignition control of the control of direction signals to the handset by BSI via the VAN COMFORT.
	Ignition control of the diode of the switch signal distress combined with the BSI via the VAN COMFORT.
	Control the buzzer by the BSI via the VAN CAR 1.

*Note: In economy mode, the ISB does not control the lighting of the
diode of the switch signal of distress and functioning of
buzzer to Switch Module in the steering wheel.*

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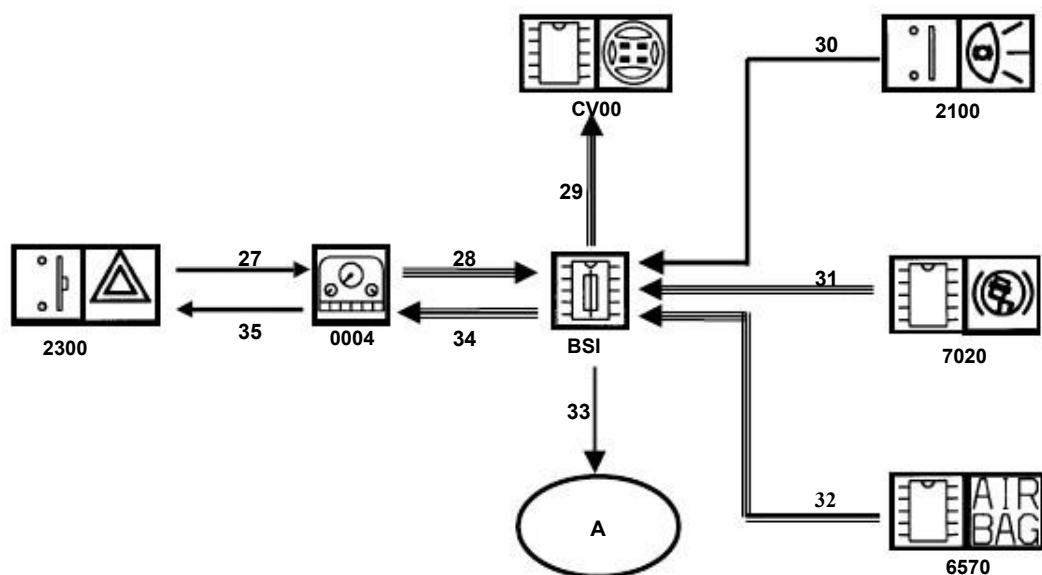
J - SERVICE automatic headlights DISTRESS

1 - Benefit

The function of automatic ignition hazard lights can automatically report:

- strong deceleration,

- shocks (triggering a pyrotechnic element).

2 - Overview: function automatic headlights distress

Key:

- triple arrow: Relation multiplexed

- single arrow: wired link.

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BODIES	
BSI	Intelligent case of constraint
CV00	Switching module in the steering wheel
0004	Combined
2100	Brake switch
2300	Hazard lights switch
6570	Airbag ECU
7020	ABS ECU
A	Directional lights

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
27	State of emergency signal switch	**ALL OR NOTHING**
28	Acquisition of manual application of fires distress	**VAN COMFORT**
29		**VAN CAR 1** Control the buzzer
30	brake pedal	**ALL OR NOTHING** State switch the
31	Information on the vehicle speed	**CAN**
32	Information tripping a element pyrotechnic	**VAN CAR 1**
33	Indicator switch and repeater	**ALL OR NOTHING**
34	side	**VAN COMFORT** Control indicator
35	flashers	**ALL OR NOTHING** Control of LED flashers

3 - Terms of igniting / extinguishing fires distress

BY SUDDEN DECELERATION	
TERMS OF IGNITION AUTOMATIC	**CONDITIONS OF EXTINCTION**
IF Pressing the brake pedal	**IF** Pressing the switch signal distress.
AND deceleration greater than or equal to 7 m / s ²	**OR** Pressing the accelerator pedal (In the case of an outbreak Automatic abrupt deceleration). **OR** disappearance of the BAT + (disconnection battery).
AND speed greater than or equal to 40 km / h	
INFORMATION BY TRIGGERING ELEMENT PYROTECHNIC	
TERMS OF IGNITION AUTOMATIC	**CONDITIONS OF EXTINCTION**
IF Information for triggering an pyrotechnic element from	**IF** Pressing the switch signal distress.
Airbag ECU	**OR** passing the key from 0 to position + APC

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4 - Functional Description: function automatic headlights Distress

STEP	DETAILS	
	BY SUDDEN DECELERATION	**TRIGGERED BY AN Pyrotechnics**
1	Acquisition by BSI information on speed véhiculeetl'accélération disseminated by the longitudinal ABS computer on the network CAN.	Transmission via the BSI réseauVANCAR1de Information release by a pyrotechnic element
2	The BSI determines the need for the airbag computer. the automatic headlights distress. Headlamp control of direction by the BSI.	
3	Ignition control of the control of direction signals to the handset by BSI via the VAN COMFORT. Control the buzzer by the BSI via the VAN CAR 1.	

5 - Gradient Method

System failure or loss of information deceleration
or speed does not cause the illumination of hazard warning lights and do
not disrupt the operation of hazard lights in manual mode.

While the loss of information acceleration comes as fires
distress were started by the automatic, the lights remain
functional to support the order.

In case of failure of the brake switch, directly controls the ISB
the lighting direction indicators.

K - DETECTION OF DEFECTIVE BULB

This function aims to double the frequency of ignition
directional signals (left or right) if at least one bulb is defective
detected.

The detection is performed during operation of fire management by
Read the current fire control management.

If the current consumed by the BSI is less than the current set, the
normal operation. Otherwise, the firing frequency is doubled.

Any malfunction is registered by BSI to be read
by the diagnostic tool.

*Note: In case of installing a hitch, it takes 2 defective bulbs
for detection.*

L - EFFECT OF SAVING MODE

Functional organs in economy mode:

☐ hazard lights

☐ sidelights,

☐ headlamp flasher

☐ horn.

In economy mode, the ISB does not control the buzzer Module
switching under the steering wheel or ignition of the witnesses to the handset.

IV - OPERATIONS AFTER-SALES

A - SWITCH MODULE IN THE STEERING WHEEL

The switch module in the steering wheel is removable after remove the flywheel (see corresponding range). Secondary controls (Radio and cruise control) are easily removable.

Important: It is imperative to replace the Switch Module in steering wheel controls if a major (Wiper switch or light switch) is damaged. To avoid risk of damage, it is necessary to meet the range of installation / removal appropriate).

B - THE CASE OF MOTOR EASEMENT

1 - Recommendations for use

The case of constraint engine is an electronic product and can not withstand shocks without damage. All housing having suffered a fall and / Or shock should not be mounted on a vehicle without checking.

The case of constraint engine is not a sealed (including splashproof). the introduction of water should be avoided completely.

The operation of the motor housing Easement, module 2 in individual is guaranteed where the product is integrated into housing receptacle and that it is properly closed by its cover.

2 - Fuse Replacement

Replacement fuses of the module 1 can be made after the dismantling of its BSM receptacle housing.

Replacement fuses module 2 can be made after removing the protective cover of the receptacle housing without disassembling or disconnection module 2.

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C - LIGHTS XENON

The system allows automatic correction of the projectors at a
change in the attitude of the vehicle rolling or stationary, to maintain the
drawdown of constant beam relative to the initial set value
in the factory or in the after-sales network.

Warning: It is prohibited to mount a projector equipped with xenon lamp
a version is not designed to receive the device.

Warning: It is necessary to disconnect the battery before doing any
From

☐ installation / removal system xenon lamp,

☐ replacement of a defective lamp.

D - LIGHT SENSOR

The light sensor is composed of:

☐ photodiode facing up,

☐ photodiode facing forward,

☐ an electronic format signals,

☐ a connector socket.

The system ignores a possible tint the windshield. The
change of a window by the same reference does not affect functionality
system and does not alter its characteristics.

The light sensor is directly connected to the ISB that centralizes all
information necessary for the management of the automatic switching of
fires.

The light sensor can be mounted and dismounted. A polarizing right /
left can properly position the light sensor.

*Note: The light sensor is clipped onto a mounting ring located
on the windshield. It is the piece type and is irreparable.*

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E - PARAMETERS TELECODE

The list of parameters TELECODE is described in the table below:

- Optional automatic lighting,

- code and beacon in the same vein,

- Front fog presence,

- Fog and light in the same vein,

- daytime running lights,

- automatic activation of hazard warning lights in case of shock,

- automatic activation of hazard lights in sudden deceleration.

F - READING OF DEFECTS

You can read the following faults using the diagnostic tool:

- Flashing lights Fault Law

- Default flashing lights left

- Default brightness measurement tunnel

- Default brightness measurement twilight

- Rear fog default command

G - TEST ACTUATORS
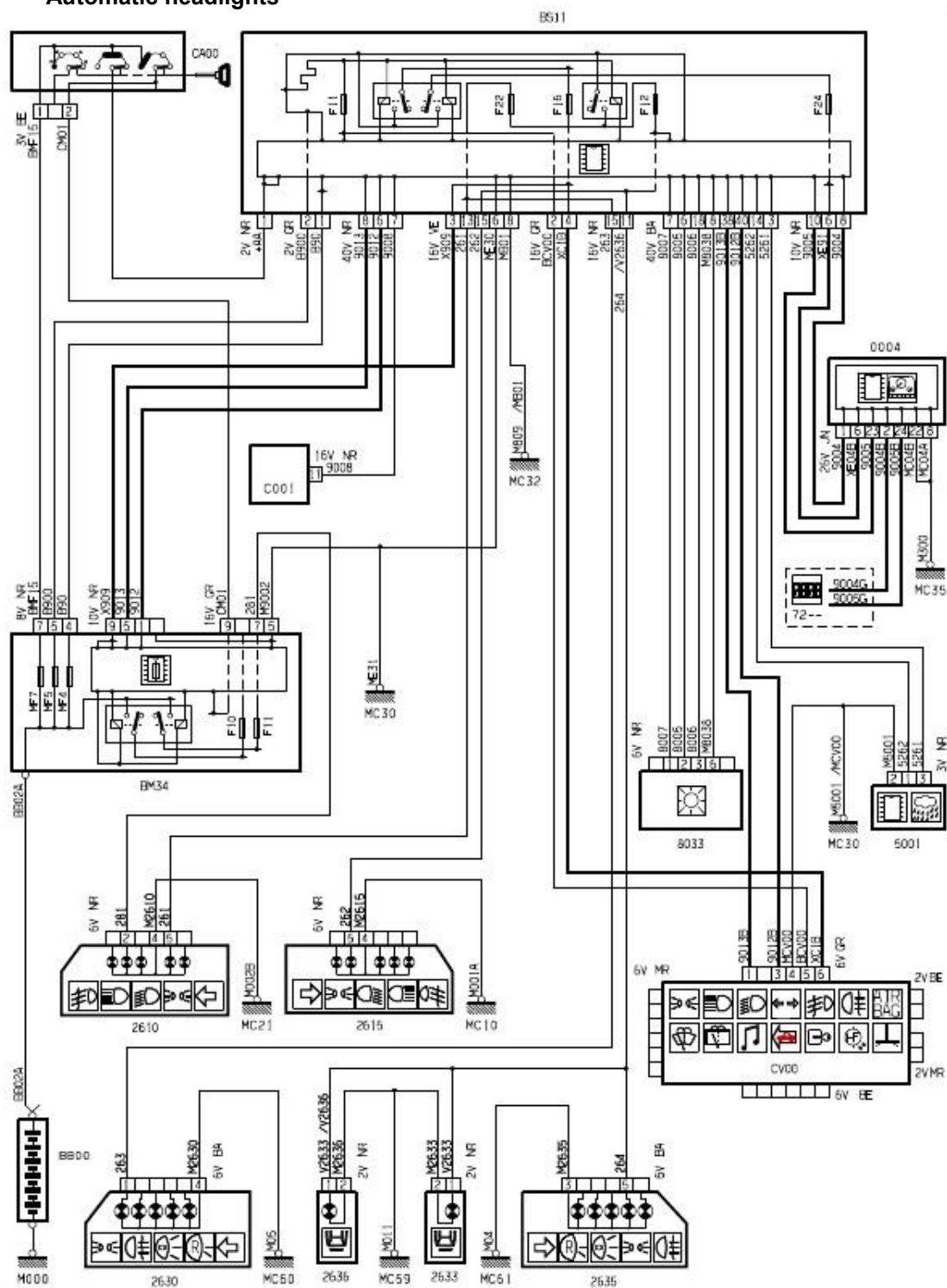
It is possible to perform the following tests using the diagnostic tool:

- Rear fog control

- Command Right Turn

- Control left turn signals

- Alarm control

- Order codes

- Control lights

- Order lanterns ARD

- Order lanterns ARG

- AVD command lanterns

- Order lanterns AVG

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V   WIRING DIAGRAM

Automatic headlights

Citroën C5 DOCUMENT 2

VI - NAMES

BB00   - Battery

BM34 - Housing easement motor 34 fuses

BSI1   - Smart Box easement

C001   - Diagnostic connector

CA00   - Switch Lock

CV00   - Switch Module steering column (COM2000)

M000   - Mass

MC10 - Mass

MC21 - Mass

MC30 - Mass

MC32 - Mass

MC35 - Mass

MC39 - Mass

MC60 - Mass

MC61 - Mass

0004   - Handset

2610   - Projector left

2615   - Right Projector

2630   - Rear lights left on cash

2633   - Scout plate Police Law

2635   - Tail box on right

2636   - Scout plate Police left

5001   - Rain sensor

8033   - Thermistor sunshine

72 - -   - Function trip computer - shows
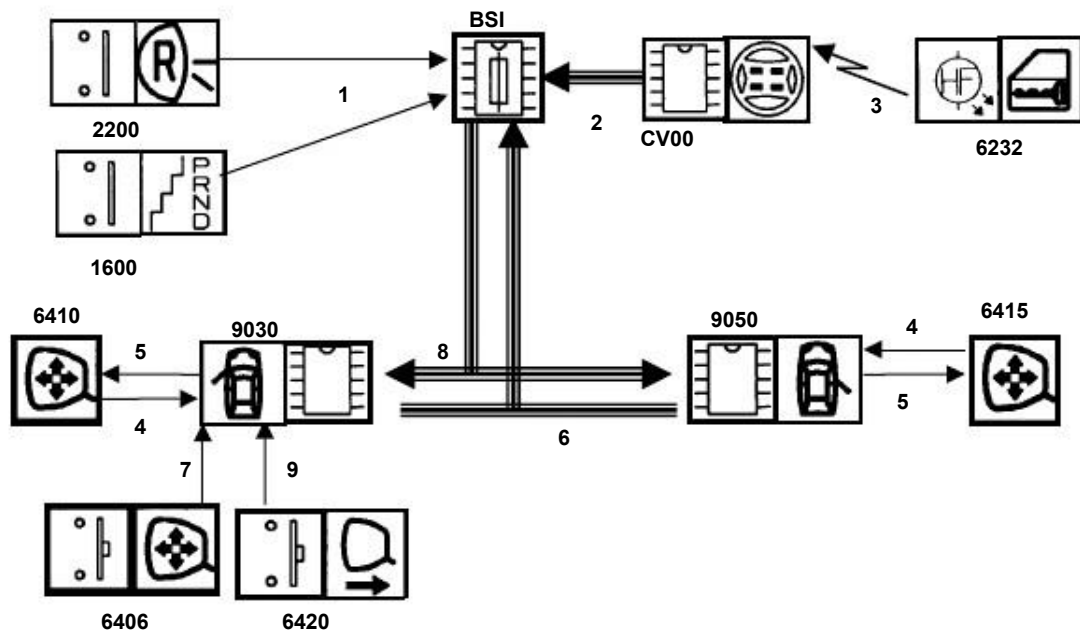
Citroën C5 DOCUMENT 2

EXTERNAL Retrovision

I- GENERAL

A - PREAMBLE

The exterior rearview function manages the following functions:

☐ electric adjustment of the position of the mirror of mirrors,

☐ The electric folding mirrors (depending on version)

☐ the automatic positioning of the mirror during the passage of the reverse (Depending on version).

B - GENERAL OVERVIEW

BODIES	
BSI	Intelligent case of constraint
6410	Mirror driver
9030	Driver door station
9050	Station Passenger Door
6415	Passenger mirror
2200	Reversing light switch (equipped vehicle gearbox mechanical)
1600	Switch position of the selector lever (vehicle equipped box speed automatic)
6406	Mirror adjustment switch
6232	High frequency remote control
CV00	Switching module in the steering wheel
6420	Contactor selection and folding mirrors

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
1	Reverse Information	**ALL OR NOTHING**
2	Information locking sashes Information deadlocking of the doors	**VAN CAR 1**
3	Information locking sashes Information deadlocking of the doors	**HIGH FREQUENCY**
4	Position the mirror of mirrors (depending on version)	**ANALOG**
5	Controlling the movement of mirror mirrors Control feeder / Deployment mirror	**ANALOG**
6	State of the mirror adjustment switch	**VAN CAR 2**
7	Request for moving the mirror Crimping demand / deployment mirrors Switch position selection mirrors	**ANALOG**
8	Controlling the movement of mirror mirrors	**VAN CAR 2**
9	Control feeder / deployment mirrors Selection of the mirror	**ANALOG**

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II - PRINCIPLE OF OPERATION

A - BENEFITS

The switch selection and folding side mirrors driver
selects the mirror glass to settle.

The mirror adjustment switch allows the driver side
adjusting the mirror position of the mirrors.

The mirrors can be folded by moving the switch
selection and folding mirrors to position "drawdown" or
when locking or super locking of the doors (depending on version).

The passage of the reverse automatically positions the mirror
passenger mirror in reverse (depending on version).

B - DESCRIPTION OF THE STAGE DOOR DRIVER

No.	FUNCTION
1	Contactor selection and folding mirrors
2	Mirror adjustment switch

Citroën C5 DOCUMENT 2

C - OPERATING CONDITIONS

The mirror adjustment is functional:

☐ + when the ACC is now

☐ or for 1 minute after the disappearance of the ACC +,

☐ or for 45 seconds after the + ACC (Australia and versions Mercosur)

☐ or until the driver closes the door if the closure occurs before the end of the time delay of 1 minute,

☐ or until the driver opened the door (and Australian versions Mercosur) where the opening occurs before the end of the time delay of 45 seconds.

Note: When the starter is actuated adjusting the mirror is impossible, the folding or unfolding the mirror continues if order is prior to the activation of the starter.

D - FUNCTIONAL DESCRIPTION OF SETUP MANUAL

The driver selects the mirror glass to be settled by a translation Contactor selection and folding mirrors.

The driver activates the switch for mirror adjustment obtain the displacement of the mirror.

The door station acquires the status of the mirror adjustment switch.

The door station transmits the state of mirror adjustment switch the ISB.

BSI transmits a command for moving the mirror to mirror door module.

The door station executes the move command by feeding the 2 motor control of the mirror.

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E - FUNCTIONAL DESCRIPTION OF LOWERING / DEPLOYMENT

The actuation of the switch selection and folding mirrors
alternately control the folding or unfolding of mirrors.

Locking and deadlocking of the doors of the vehicle flap
mirrors automatically.

The deployment of mirrors automatically when passing the key
contact + APC.

If during a folding or deploying the mirror meets a
obstacle mirror stop movement.

Important: During a forced mechanical displacement, the mechanism
drawdown of the mirror is disconnected.

The electrical state of the position of the mirrors is not
more to the mechanical position of the mirrors.

For réembrayer mechanism and matching the electric state
the position of the mirrors to the mechanical position of
mirrors, several orders of folding and
deployment may be necessary (depending on the initial state).

The feeder / automatic deployment can be neutralized by the
driver.

Support more than 3 seconds on the switch down of
mirrors neutralized or active, according to the initial state of automatism.

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F - REVERSE INDEXING

This function positions the passenger mirror glass when passing
reverse a position previously set by the driver.

1 - Operating conditions

The positioning of the mirror glass is in reverse
effective if:

☐ reverse gear is engaged,

☐ and the mirror selection switch selects the mirror
passenger

☐ and the engine is running.

2 - Functional Description

The BSI calculates the position to reach the mirror from the mirror
information received from the position sensors present in the rearview mirror.

The BSI controls the station door.

The fueling station is 2 engines setting up mirrors
that the stored position is reached.

3 - Setting the mirror reverse position indexing

Adjusting the position of the mirror is done using the switch
adjustment of mirrors where the mirror is in position
Indexing reverse.

The position of the mirror in the mirror reverse position indexing
is stored in the BSI.

4 - Return of the mirror in the road position

The mirror reflected the road position where:

☐ the reverse gear is disengaged from more than 20 seconds

☐ or switch selection of the mirror no longer selects the
passenger mirror,

☐ or the engine is turning over,

☐ or vehicle speeds greater than 10 km / h

☐ operation after sale: external rear vision.

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III - OPERATION AFTER SALE

A - READING OF DEFECTS

- ☐ Default output folding mirror: open circuit, short circuit to earth or between son.

- ☐ Default mirror output Left / Right: short circuit between two son.

- ☐ Default output mirror up / down movement: short circuit between two son.

- ☐ Default mirror sensor output high / low: out of range.

- ☐ Default sensor output mirror left / right: out of range.

- ☐ Default mirror common output open circuit, short circuit to ground or between two son.

- ☐ Default mirror power sensors.

B - READING PARAMETERS

PARAMETERS	DEFINITIONS
Mirror command	Switch position adjustment Mirror Mirror
Storing control mirror	Used to store a change of state switch setting of the mirror mirrors
Mirror selection	Switch position selection mirror
Vertical position of the passenger mirror	Vertical position, expressed in percentage, passenger mirror
Horizontal position of the passenger mirror	Positionhorizontale expressed in percentage of passenger mirror

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C - TEST ACTUATORS

It is not possible to test actuators using the tool diagnosis.

D - Télécodage

It is not possible to télécoder using the diagnostic tool

E - DEGRADED MODE

In the event of network failure Van:

☐ adjusting the mirror of the mirror driver is possible,

☐ adjusting the mirror glass passenger is impossible

☐ Indexing reverse positioning is impossible.

mirrors the current feeder to the lowered position will then unfolds.

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IV - CIRCUIT DIAGRAM

Mirrors

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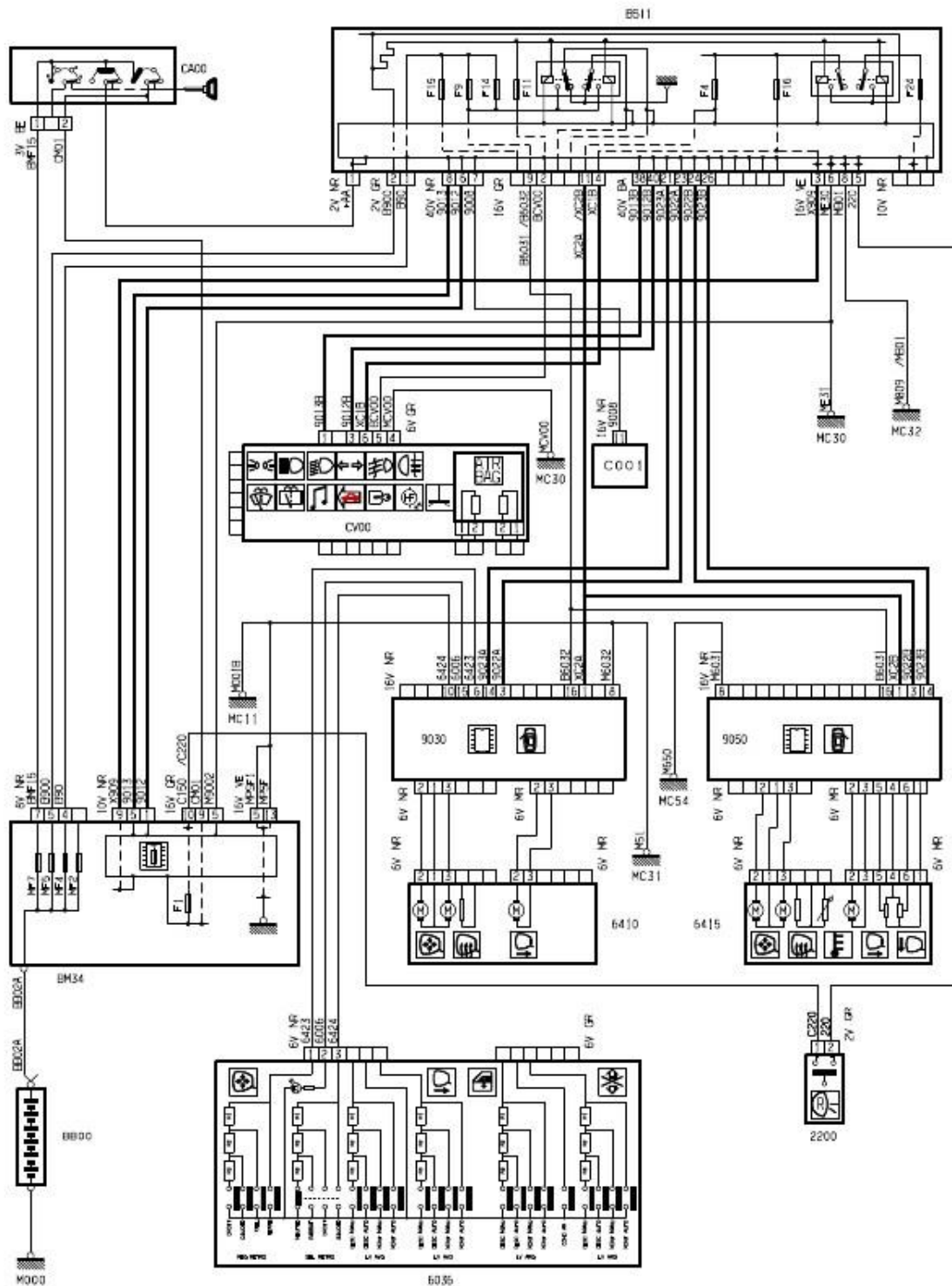
V   NOMENCLATURE

BB00   - Battery

BM34 - Housing easement motor 34 fuses

BSI1   - Smart Box easement

C001   - Diagnostic connector

CA00   - Switch Lock

CV00   - Switch Module steering column (COM2000)

M000   - Mass

MC11 - Mass

MC30 - Mass

MC31 - Mass

MC32 - Mass

2200   - Contactor reversing lights

6036   - Platinum lève-vitre/rétro control gate driver

6410   - Mirror Driver

6415   - Passenger Mirror

9030   - Resort front left door

9050   - Resort front right door

ICING

I-   GENERAL

A - PREAMBLE

The function manages the defrost defrost the rear window and
heated mirrors.

The function is handled differently depending on vehicle equipment:
heating, cooling or simple automatic control.
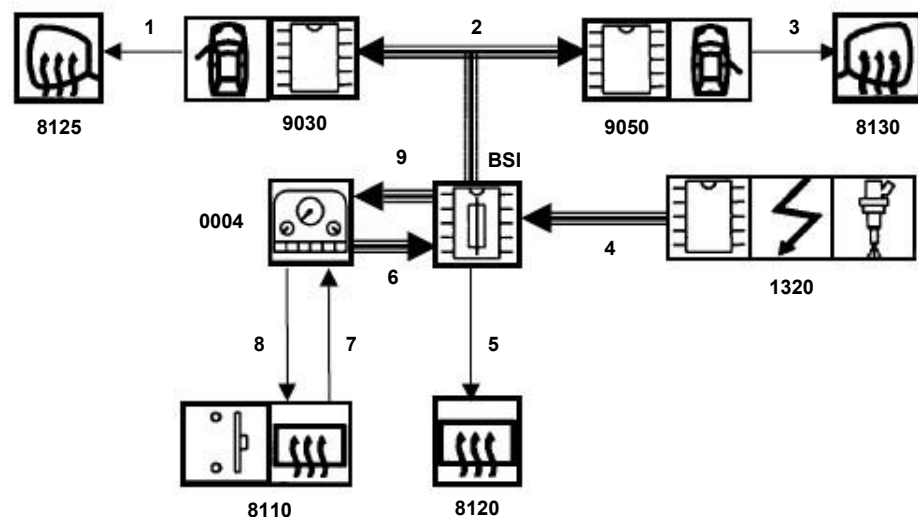
B - SUMMARY: HEATING / COOLING SINGLE

BODIES	
BSI	Intelligent case of constraint
8125	Heated driver mirror
8130	Heated passenger mirror
8120	Heated rear window
0004	Combined
9030	Driver door station
9050	Station Passenger Door
1320	Engine computer
8110	Switch heated rear and indicator activation

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
1	Defrosting mirrors	**ANALOG**
2	Defrost mirrors	**VAN CAR 2**
3	Defrosting mirrors	**ANALOG**
4	Information engine running	**CAN**
5	Defrost the rear window	**ANALOG**
6	Demand defrost	**VAN COMFORT**
7	Acquisition of the state of switch bezel hot	**ANALOG**
8	Defrost indicator lights	**ANALOG**
9	Application of indicator lights Defrost	**VAN COMFORT**

Citroën C5 DOCUMENT 2

C - SUMMARY: AUTOMATIC REFRIGERATION CONTROL
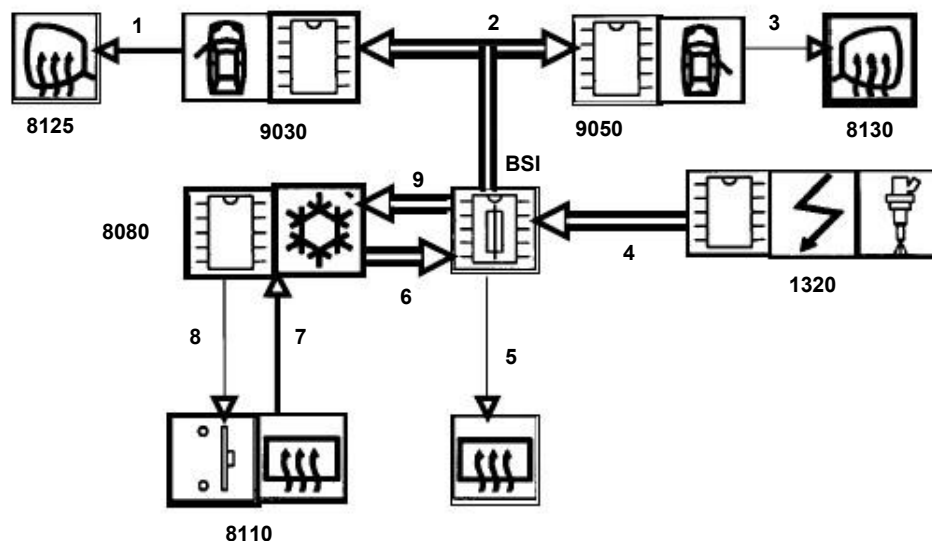
BODIES	
BSI	Intelligent case of constraint
8125	Heated driver mirror
8130	Heated passenger mirror
8120	Heated rear window
8080	Computer cooling
9030	Driver door station
9050	Station Passenger Door
1320	Engine computer
8110	
	Switch heated rear and indicator activation

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
1	Defrosting mirrors	**ANALOG**
2		**VAN CAR 2**
	Defrost mirrors	
3	Defrosting mirrors	**ANALOG**
4	Information engine running	**CAN**
5	Defrost the rear window	**ANALOG**
6	Demand defrost	**VAN COMFORT**
7	Acquisition of the state of switch bezel hot	**ANALOG**
8	Defrost indicator lights	**ANALOG**
9	State of the defrost function Information engine running Level of load shedding	**VAN COMFORT**

Citroën C5 DOCUMENT 2

II -   PRINCIPLE OF OPERATION

A - FUNCTIONAL DESCRIPTION: HEATING / REFRIGERATION SIMPLE

FUNCTIONAL DESCRIPTION
The handset becomes the demand defrost switch heated rear
The handset sends a request icing BSI
BSI verifies that the engine is running and that the level of load shedding is compatible with the application of deicing
BSI order to witness the lighting of the handset defrost
The BSI controls the ignition of the hot seat
BSI transmits to the stations door mirrors defrost
BSI operates a defrost timer (12 minutes) after which the BSI ordering the termination of the hot seat. BSI order to witness the extinction of handset and stop defrosting door mirrors stations

B - FUNCTIONAL DESCRIPTION: REFRIGERATION CONTROL AUTOMATIC

FUNCTIONAL DESCRIPTION
The computer acquires cooling demand defrost switch heated rear
The computer sends a request icing BSI
BSI refers to the calculation of the refrigerator control indicator lights bezel hot
The BSI controls the lighting of the rear window
BSI transmits to the stations door mirrors defrost
BSI operates a defrost timer (12 minutes) after which the BSI ordering the termination of the hot seat. BSI order to witness the extinction of handset and stop defrosting door mirrors stations

Citroën C5 DOCUMENT 2

C - POWER SHEDDING

Load-shedding is a function handled by the ISB.

The BSI determines 10 levels of load shedding when consumption
power is greater than the electrical output of the alternator.

Determines the level of the consumer electrical load shedding or
functions neutralized.

Shedding level 6 neutralizes defrost.

Neutralization of defrosting is possible if the defrost is enabled
for at least 6 minutes.

When BSI is applying load shedding, defrosting is neutralized, the
indicator stays on and the defrost timer is operating
freezes.

☐ If the demand load shedding takes less than 1 minute, the defrosting
   reactivated.

☐ If the demand load shedding lasts longer than 1 minute, the defrosting is not
   reactivated, the defrost indicator turns off.

If the user requests the defrost when defrost is relieved, the
Defrosting is reactivated

A new load shedding will be prohibited until the next cutoff + NPV.

D - DEGRADED MODES

1 - Protection against overvoltage

If the battery voltage is greater than or equal to 15 volts, the defrost neutralized.

has - Exceeding the threshold of 15 volts occurring before 6 minutes defrost

BSI does not control the termination of the defrost control.

Demand defrost is still active.

Defrost is activated again if the battery voltage returns to below 14.5 volts and if the time delay of 12 minutes is not completed.

b - Exceeding the threshold of 15 volts occurs after 6 minutes defrost

The BSI controls the termination of the defrost control and neutralize the defrosting.

Defrosting is not activated even if the battery voltage returns below 14.5 volts.

If the user initiates defrost when the battery voltage is greater than or equal to 15 volts, the BSI does not control the defrost.

2 - Loss of engine running information

A loss of engine running information defrost function neutralized, the timer is suspended, the defrost control off.

☐ Engine restarted within 1 minute after turning off the engine: Defrosting is reactivated to finish the timer.

☐ Engine restarted more than 1 minute after turning off the engine: defrosting is not reactivated.

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III - ELECTRICAL DIAGRAM

Defrosting
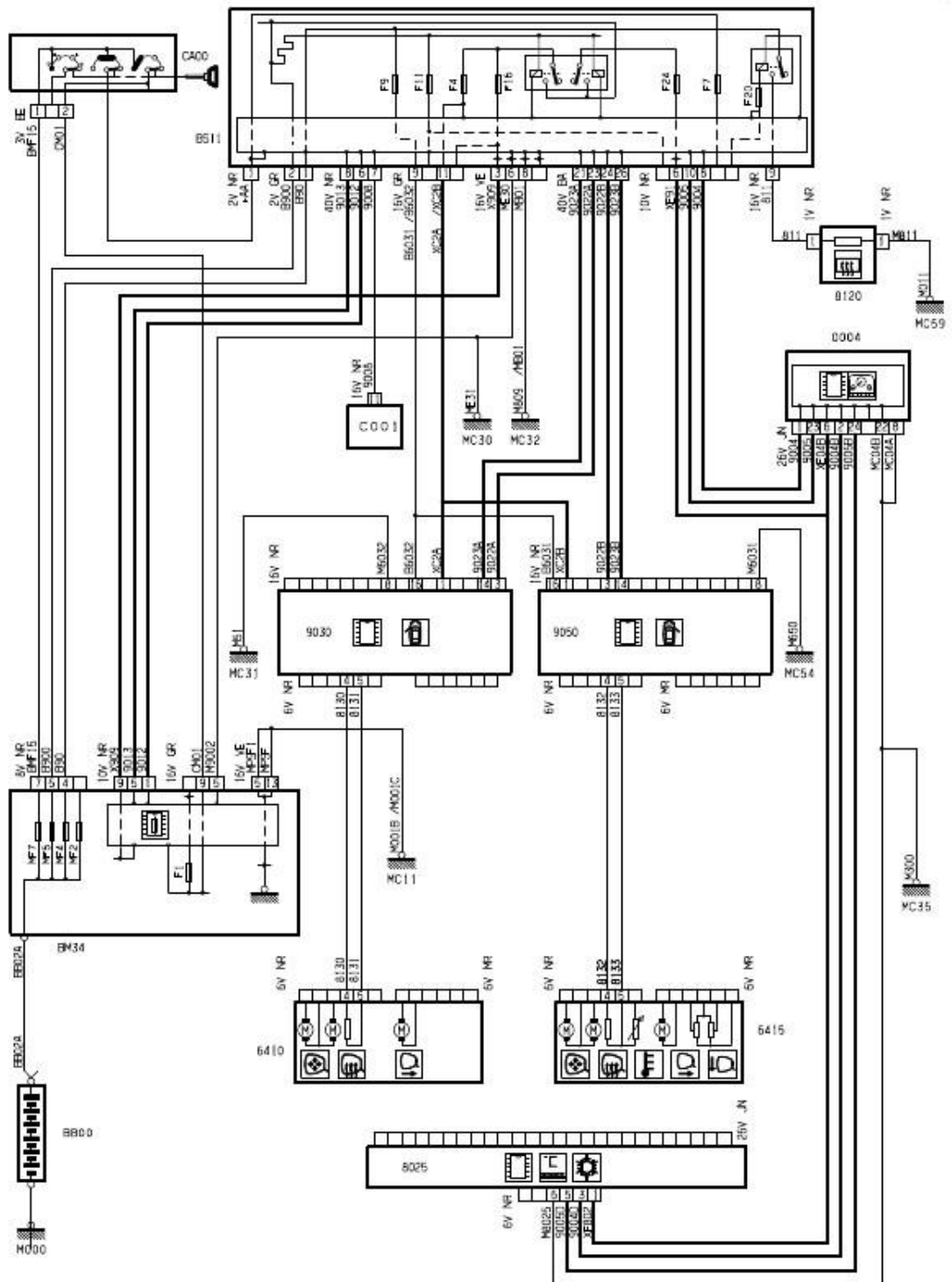
Citroën C5 DOCUMENT 2

IV - CLASSIFICATION

BB00 - Battery

BM34 - Housing easement motor 34 fuses

BSI1 - Smart Box easement

C001 - Diagnostic connector

CA00 - Switch Lock

M000 - Mass

MC11 - Mass

MC30 - Mass

MC31 - Mass

MC32 - Mass

MC35 - Mass

MC54 - Mass

MC59 - Mass

0004 - Handset

6410 - Mirror Driver

6415 - Passenger Mirror

8025 - Front air conditioning

8120 - Heated rear window

9030 - Resort front left door

9050 - Resort front right door

WIPING / WASHING

I-   GENERAL

A - PREAMBLE

Function wiping / washing manages wipers, headlamp wash, the washing windows with the following operating modes:

BODIES	MODES OF OPERATION
Windscreen wiper	Wiping by manual control
	Automatic wiping with rain sensor (depending on version)
Rear wiper	Wiping by manual control
Headlamp washer	Washing headlights
Lava front window	Washing and wiping the front glass
Rear window washer	Washing and wiping the rear window

B - GENERAL OVERVIEW
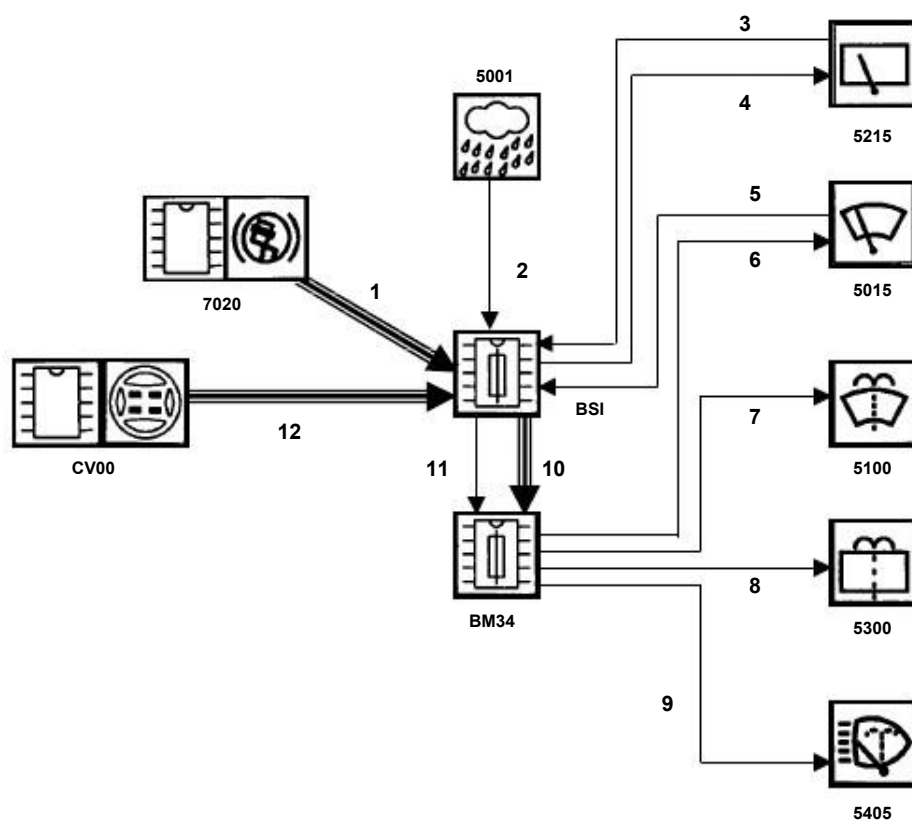
5001

7020

1

12

CV00

2

BSI

11   **10**

BM34

3

4

5215

5

6

5015

7

5100

8

5300

9

5405

Key:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.

BODIES	
BSI	Intelligent case of constraint
BM34	Case of constraint engine
CV00	switching module in the steering wheel
5001	Rain sensor (depending on version)
5215	Rear wiper
5015	Windscreen wiper
5100	Lava front window
5300	Rear window washer
5405	Washing projector (depending on version)
7020	ABS ECU

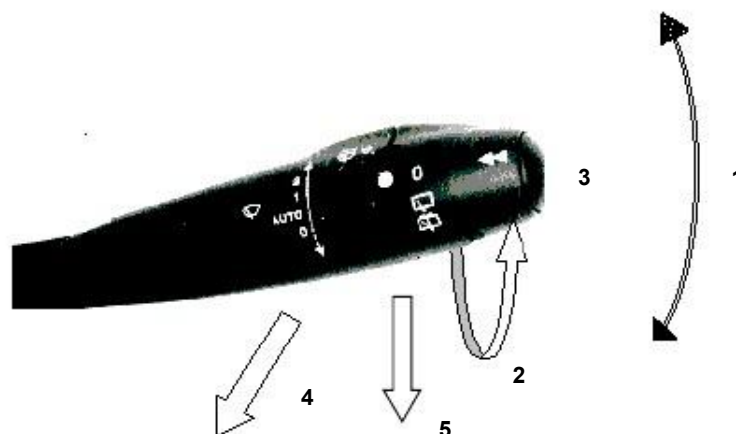| LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
1	The vehicle speed	**CAN**
2	Information rain sensor (depending on version)	**SIGNAL FREQUENCY**
3	Information sets off rear wiper	**VAN CAR 1**
4	Motor control of the rear window wiper	**ALL OR NOTHING**
5	Information sets off the wiper motor front window	**ALL OR NOTHING**
6	Control wiper motor front	**ALL OR NOTHING**
7	Control of windshield washer pump in rotation **ALL OR NOTHING** before	
8	Control of windshield washer pump in rotation **ALL OR NOTHING** back	
9	Pump control lava projectors	**ALL OR NOTHING**
10	Relay control speed front wiper	**VAN CAR 1**
	Relay control pump windshield washer in the direction forward rotation	
	Relay control pump windshield washer in the direction Tail Swing	
	Relay control the headlamp washer pump (Depending on version)	
11	Relay control front window wiper	**ALL OR NOTHING**
12	Application of low speed front wiper	**VAN CAR 1**
	Application of high-speed front wiper	
	Application of intermittent front wiper	
	Application for Automatic wiping	
	Request wiping impulse	
	Application before washing	
	Request rear wash	
	Request washing projectors	
	Information statements projectors	

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II - PRINCIPLE OF OPERATION

A - WINDSHIELD GLASS

The position of the wiper switch is transmitted by the module
switching under the steering wheel to the ISB by the VAN network CHAR1.

BSI registers this position until the next change of position
switch.

The wiping / washing or working in APC + + ACC.

MOVEMENT OF THE RING (1) IN THE DIRECTION OF ARROWS	FUNCTIONS
Position 0	Judgement
Auto position	Wiping in automatic mode for Vehicles with rain sensor Intermittent wipers for vehicles not equipped with rain sensor
Position 1	Wiping small Speed
Position 2	Wiper speed
Rotation of the ring (2) in the sense of arrow	
Cran 1st	Rear window wiper
2th Cran unstable	Wash the rear window
Pressing the button (3)	
Short press	Scrolling menus on-board computer
Long press	Reset
Action on the wiper switch Wiping piecemeal front window **in the direction of the arrow (5)**	
Action on the wiper switch Washing windows before **pulling itself (4)**	

Citroën C5 DOCUMENT 2

1 - windscreen wiper

Wiping the glass front is controlled manually for vehicles not equipped with rain sensor.

Wiping the glass front is controlled manually or automatically for vehicles with rain sensor.

a - Wiper Switch Positions

The switch module in the steering wheel becomes position of the wiper switch.

The switch module in the steering wheel transmits the switch position on the ISB.

BSI acquires the position of the wiper switch.

BSI transmits commands relay activation speed wipers in case of constraint engine on the network VAN CAR 1.

The BSI controls the wiper relay the case of constraint motor wire connection.

The case of constraint engine switches the relay speed front windscreen wipers, low speed or high speed.

POSITION SWITCH WIPING	DESCRIPTION
Piecemeal	Enables scanning of wipers at low speed. If the demand is maintained, the scanning windshield glass is carried out continuously, Low speed.
Automatic	Allows for intermittent wiper at low speed at variable intermittent depending on the vehicle speed for vehicles not equipped with rain sensor
	Automatically selects Scan to adopt according to precipitation for vehicles equipped rain sensor
Order wiper slow speed	Scanning at low speed with intermittent transition to Case vehicle
Order windshield wiper speed	wide sweep with high speed passage at low speed to stop vehicle

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b - How auto scan for vehicles not equipped with
rain sensor

BSI receives the vehicle speed information from the ABS computer
CAN network to determine the mode timings apply
intermittent, for vehicles not equipped with rain sensor.

For the intermittent control according to vehicle speed
the windshield wiper delay varies depending on the graph below:

| | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 |

Vehicle deceleration   Vehicle acceleration

LETTER	DESIGNATION
X	Vehicle speed in km / h
Y	Time delay
B	Long Time 5s
C	Moderately long delay 3s
D	Short Time 1s

c - scan mode for vehicles with automatic sensor
Rain

BSI receives information from the rain sensor and determines how
Scan to adopt according to rainfall for vehicles
equipped with rain sensor.

BSI acquires the signal from rain sensor.

BSI acquires the position of the wiper switch from
switching module in the steering wheel.

The ISB selects a scan mode depending on signal
sensor.

The BSI controls the wiper relay the case of constraint
motor wire connection.

The BSI controls the relay activation speed windscreen wipers with
case of constraint engine on the network VAN CHAR1.

Citroën C5 DOCUMENT 2
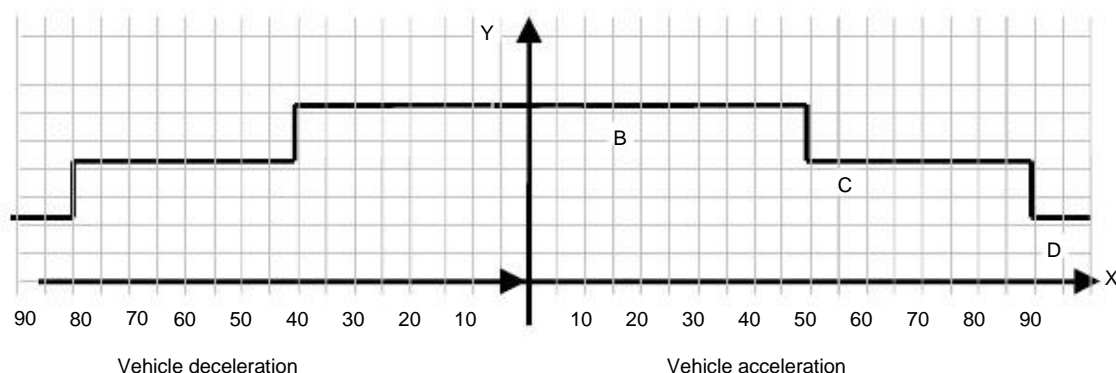
The case of constraint engine switches the relay speed
front windscreen wipers, low speed or high speed.

NATURE OF THE PRECIPITATION	SCAN MODE
No rain	Fixed stop
Low	One shot in low gear
Low to medium	Intermittent low speed
Medium to high	Continuous low speed or high speed
	High speed
Sudden and strong	

Note: After cutting the ACC +, auto scan function
is disabled. It is necessary to reset the position
automatic.

d - Display the automatic activation of windscreen wipers

When switching to automatic mode, the activation is confirmed
following the initial position of the switch by:

INITIAL POSITION	CONFIRMATION
Judgement	One scan cycle at low speed
Low speed	2 cycles of scans

Note: A stealthy passage, from the position at the piecemeal
low speed position on the automatic mode, will trigger
no confirmation.

e - Degraded mode

☐ VAN network failure: the wiping function remains in the state
where it was before the fault occurs.

☐ A loss of APC + windshield glass stops. At the onset of
+ + ACC or APC single low speed is available.

☐ Blocking windshield glass whatever the stop position: a
decoupling of the power relay wiper motor is
achieved.

☐ BSI cut feeding wipers front and rear if
after 12 seconds, the BSI has not received any signal from the off position
fixed windscreen wipers.

☐ Failure of the rain sensor: the system no longer works
automatic mode.

Warning: Lack of cleanliness of the windshield in the area
rain sensor can result in poor
operation of the automatic mode.

Warning: When washing the vehicle, it is imperative to stop
windshield glass or the contact to avoid
onset of the rain sensor.

Citroën C5 DOCUMENT 2

2 - Rear Window Wiper

The position of the wiper switch is interpreted by the module
switchgear steering wheel, the information is sent to the ISB
by the VAN network CHAR1.

BSI receives the vehicle speed. BSI order
directly to the wiper motor rear windows.

The position of the first notch ring allows rear wiper rings
scanning speed-sensitive vehicle.

a - Degraded mode

In the event of network failure VAN CAR 1, the BSI has not received the
position of the wiper switch, there's no rear wiper.

3 - Case management of windscreen wipers front and rear

CONDITION	BENEFIT
Stop request made contact	Began sweeping is completed. The return of the windscreen wipers to off position is systematically low speed.
In the off position	The wipers stop in their position fixed stop
At the ignition	If the wipers are not in a position fixed stop and the switch is off (in case of disconnection battery for example), the ISB control engines in small windscreen wipers speed up the off position fixes brushes. Except where the windshield windows are maintenance position.

4 - Maintenance Position

The wipers can be arrested in order to maintain position
facilitate interventions.

ACTION	BENEFIT
Request windshield glass up to a minute after the disappearance of the ACC + or + APC until the closing of a door if the closure occurs before the end of the minute.	The wipers stop in the middle of windshield
New application with the same conditions and delay in initial maintenance position	wipers return to their position wiper

Citroën C5 DOCUMENT 2

B - WINDOW WASHING

The position of the windshield washer switch is interpreted by the module
switchgear steering wheel, the information is sent to the ISB by
VAN network CHAR1.

There is only one washer pump motor for the rear window and front
the direction of rotation, the front or rear windshield washer is activated.

The projector has its own washer pump motor.

Tank capacity window washer fluid is 4 liters.

The capacity of the washer fluid reservoir for vehicle windows
projectors equipped with dish is 6.5 liters.

1 - Washing front window

BSI transmits commands, windscreen wipers and direction of rotation
pump windshield washer motor in case of constraint by the network
VAN CHAR1.

The BSI controls the relay wiper motor housing of servitude.

The case of constraint engine controls the wash pump and relay
speed activation front windscreen wipers.

When ordering washing, according to the initial position of
switch and the operating condition of windscreen wipers, modes
scan are obtained:

POSITION SWITCH	STATE OF OPERATION The front windscreen wipers	SCAN MODE
Blow by Blow	Low speed	3 cycles sweep low speed
Judgement	Judgement	
Low speed	Low speed	
High speed	High speed	3 cycles sweep high speed
Auto	Judgement	3 cycles sweep low speed
	Intermittent	3 cycles sweep low speed and then 3 cycles scanning large speed
	Low speed	3 cycles sweep high speed
	High speed	

Citroën C5 DOCUMENT 2

2 - Rear Window Washer

BSI transmits commands, windscreen wipers and direction of rotation pump windshield washer motor in case of constraint by the network VAN CHAR1.

The BSI controls the relay wiper motor housing of servitude.

The case of constraint engine controls the wash pump and relay speed activation front windscreen wipers.

When the driver stops to operate the windshield washer control, the broom makes another three roundtrip complete before stopping.

3 - Washing projectors
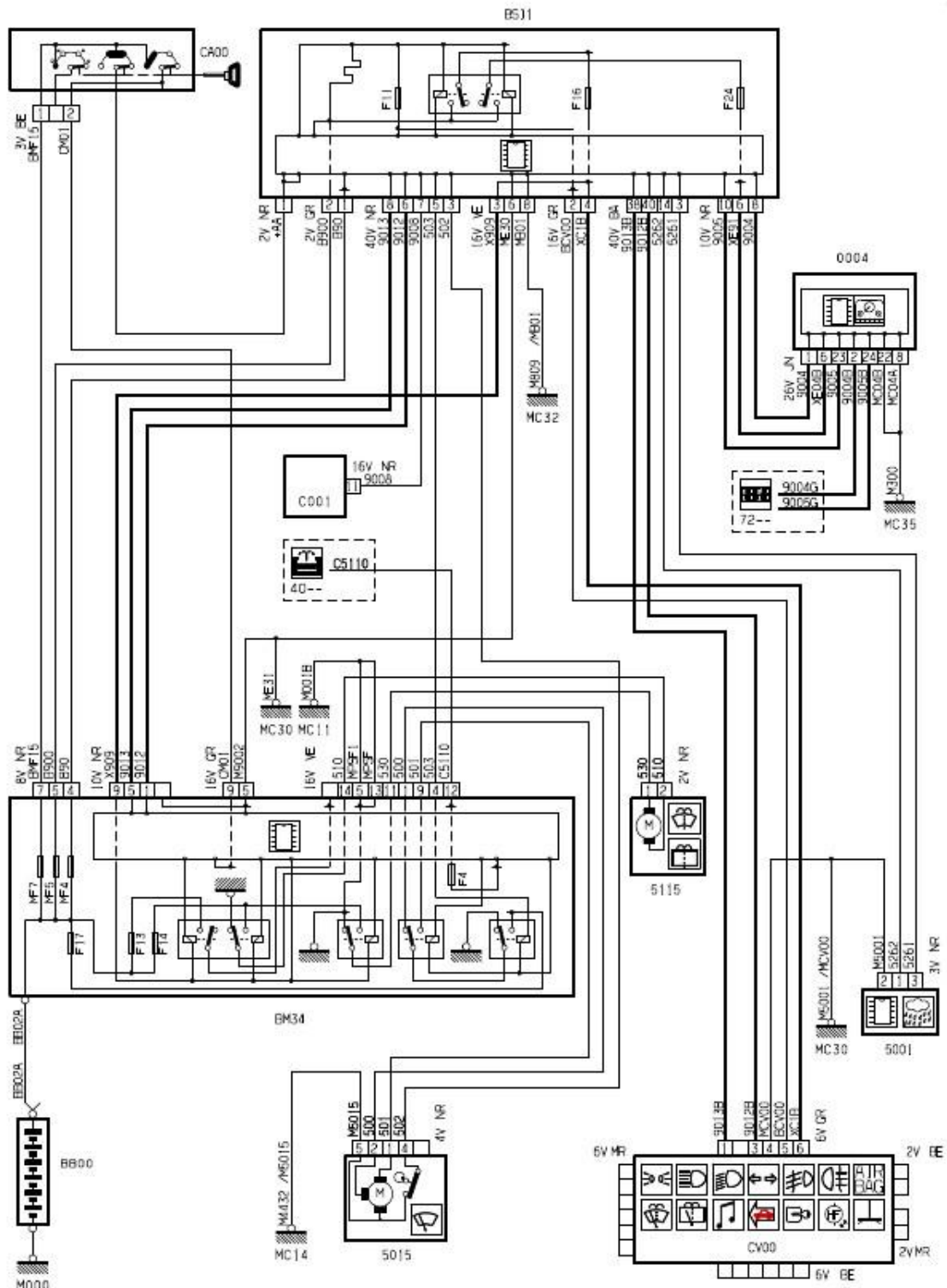
The information processing is identical to that of a request washing windows before.

The lava lights go off if you request a window washing forward with dipped headlights.
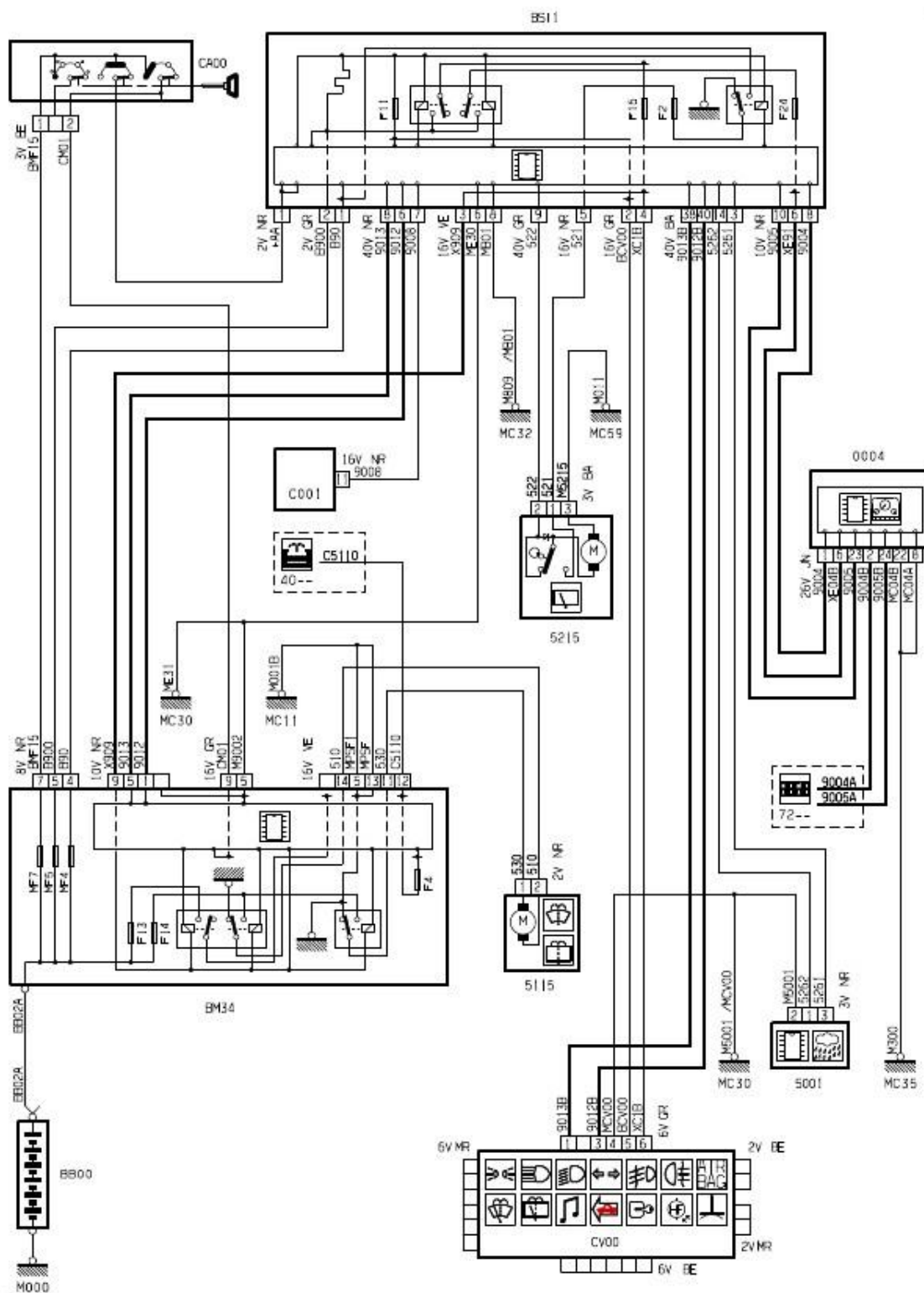
Note: Only vehicles equipped with xenon lamp are equipped washing projector.

III - ELECTRICAL DIAGRAM

A - WIPER - WASH AV

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B - WIPER - WASHER AR

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IV - CLASSIFICATION

BB00   - Battery

BM34 - Housing easement motor 34 fuses

BSI1   - Smart Box easement

C001   - Diagnostic connector

CA00   - Switch Lock

CV00   - Switch Module steering column (COM2000)

M000   - Mass

MC11 - Mass

MC14 - Mass

MC30 - Mass

MC32 - Mass

MC35 - Mass

0004   - Handset

5001   - Rain sensor

5015   - Wiper motor front

5115   - Pump lava front / rear window

5215   - Motor rear wiper

40 - -   - Public information water engine, water and various power generation

72 - -   - Function trip computer - shows

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AIR CONDITIONING

I- GENERAL

A - PREAMBLE

1 - Refrigeration simple

The refrigeration system simply allows the user to request switching the compressor to produce cold air, by pressing simple a dedicated button.

Adjusting the temperature, airflow and airflow distribution is performed manually by the user.

2 - Refrigeration with automatic regulation

The refrigeration system with automatic power control adjusts automatically operating point desired by the user.

Refrigeration to automatic control acts on the following:

☐ airflow,

☐ the indoor air temperature acquired by two sensors (left and right)

☐ airflow distribution in the interior (air distribution)

☐ recycling of air.

The desired temperature is obtained by mixing the cold air and warm air by proper positioning of the mixing driven by a motor Step-by-step.

☐ Heating is provided by the heater of the cooling engine.

☐ Cold is produced by a conventional refrigeration system through an evaporator.

☐ The airflow is achieved by a DC motor (air blower).

☐ Distribution and air intake are regulated by flaps controlled by stepper motors to it.

Note: The control panel also includes controlling the heated rear window, which is totally independent of Other features air conditioning.

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B - SUMMARY

1 - Refrigeration simple

Legend:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.

BODIES	
BSI	Intelligent case of constraint
0004	Combined instrumentation
1220	Water temperature sensor engine
1320	Engine computer
1510	Fan unit
1630	Automatic transmission
6030	Door module
8000	Cooling contactor *
8006	Temperature sensor evaporator
8007	Linear pressure sensor
8020	Refrigeration compressor
8032	Outside temperature sensor
8091	Additional electric heat relay
8098	Additional heating power (*)
8099	Additional burner (*)

(*): On HDi engines, according to versions and countries

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LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
1	Information gearshift	**CAN**
2	Information engine water temperature	**ANALOG**
3	Additional electric heating control (*)	**ALL OR NOTHING**
4	Additional burner control (*)	**ALL OR NOTHING**
5	Refrigeration compressor control	**ALL OR NOTHING**
6	Request activation of the compressor Refrigeration	**VAN COMFORT**
7	Request activation of the compressor Refrigeration	**ALL OR NOTHING**
8	Control the LED control panel	**ALL OR NOTHING**
9	Information evaporator temperature	**ANALOG**
10	Temperature information from the outside air	**ANALOG**
11	Temperature information from the outside air	**VAN CAR 2**
12	Control the average speed of the unit motoventilator	**ALL OR NOTHING**
13	Information fluid pressure refrigeration	**ANALOG**
14	Information speed fan unit	**ANALOG**
15	Controlling the speed of the small group motoventilator	**ALL OR NOTHING**
16	Control of High Speed Group motoventilator	**ALL OR NOTHING**
17	Request permission to snap of refrigeration compressor	**CAN**
18	Authorization switching compressor Refrigeration	**CAN**
	Prohibition of change of state of the compressor Refrigeration	**CAN**
	Information engine running	**CAN**
	Information engine water temperature	**CAN**
	Pressure information of the liquid cooling	**CAN**
	Information speed fan unit	**CAN**

(*): On HDi engines, according to versions and countries

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2 - Refrigeration with automatic regulation
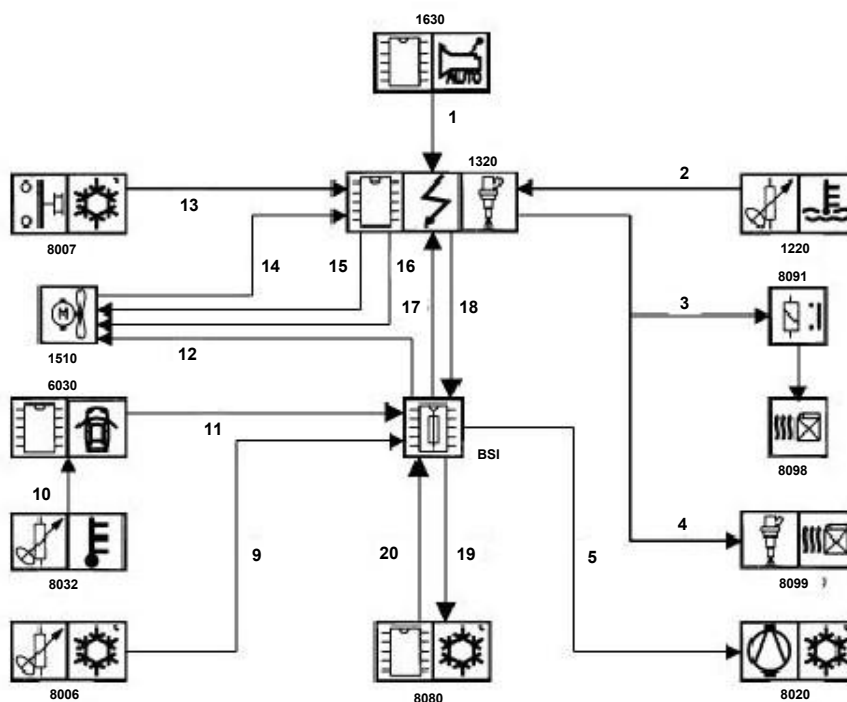
Legend:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.

BODIES	
BSI	Intelligent case of constraint
1220	Water temperature sensor engine
1320	Engine computer
1510	Fan unit
1630	Automatic transmission
6030	Door module
8006	Temperature sensor evaporator
8007	Linear pressure sensor
8020	Refrigeration compressor
8032	Outside temperature sensor
8080	Computer cooling
8091	Additional electric heat relay
8098	Additional heating power (*)
8099	Additional burner (*)

(*): On HDi engines, according to versions and countries

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
1	Information gearshift	CAN
2	Information engine water temperature	ANALOG
3	Additional electric heating control (*)	ALL OR NOTHING
4	Additional burner control (*)	ALL OR NOTHING
5	Refrigeration compressor control	ALL OR NOTHING
9	Information evaporator temperature	ANALOG
10	Temperature information from the outside air	ANALOG
11	Temperature information from the outside air	VAN CAR 2
	Control the average speed of the unit motoventilator	
	Information fluid pressure refrigeration	
12	Information speed fan unit	ALL OR NOTHING
	Controlling the speed of the small group	
13	motoventilator	ANALOG
14	Control of High Speed Group	ANALOG
	motoventilator	
15	Request permission to engagement of refrigeration compressor	ALL OR NOTHING
16	Authorization switching compressor Refrigeration	ALL OR NOTHING
	Prohibition of change of state of the compressor	
17	Refrigeration	CAN
	Information engine running	
	Information engine water temperature	CAN
	Pressure information of the liquid cooling	
	Information speed fan unit	CAN
	State of the refrigeration compressor	
18	Activation of air conditioning	
	State security	CAN
	Operating state of the rear	CAN
	hot	CAN
	Information engine running	CAN
	Outside air temperature	VAN COMFORT
	Evaporator temperature	VAN COMFORT
	Brightness level of the combined	VAN COMFORT
	State day / night	
	State Mode "night driving"	
	Request to activate the compressor Refrigeration	VAN COMFORT
19	State Recirculating	VAN COMFORT
	Request activation of the rear	VAN COMFORT
	hot	VAN COMFORT
		VAN COMFORT
		VAN COMFORT
		VAN COMFORT
		VAN COMFORT
20		VAN COMFORT
		VAN COMFORT

(*): On HDi engines, according to versions and countries

Citroën C5 DOCUMENT 2

C - DIAGRAM

1 - Refrigeration simple
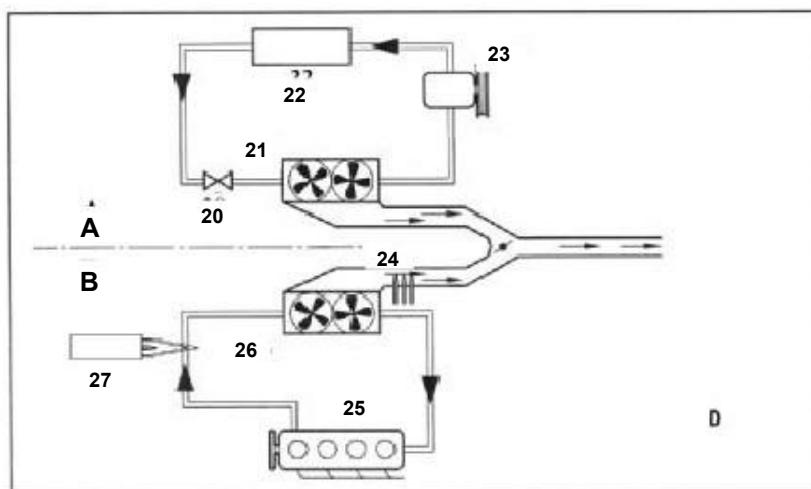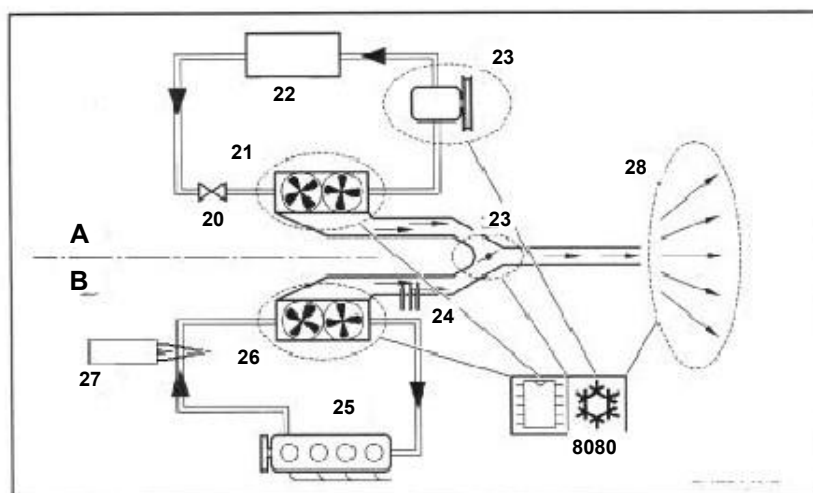

Key:

☐ A: Tour of cold air

☐ B: Circuit of hot air

☐ 20: regulator

☐ 21: Evaporator Air Conditioning

☐ 22: Condenser Cooling

☐ 23: Compressor Cooling

☐ 24: Additional heating power (*)

☐ 25: Engine

☐ 26: heater

☐ 27: Burner Additional (*)

(*): On HDi engines, according to versions and countries

Citroën C5 DOCUMENT 2

2 - Refrigeration with automatic regulation

Key:

- A: Tour of cold air
- B: Circuit of hot air
- 20: regulator
- 21: Evaporator Air Conditioning
- 22: Condenser Cooling
- 23: Compressor Cooling
- 24: Additional heating power (*)
- 25: Engine
- 26: heater
- 27: Burner Additional (*)
- 28: Distribution of air in the cabin
- 29: Adjusting the air temperature
- 8080: Air Conditioning Calculator

(*): On HDi engines, according to versions and countries

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D - DESCRIPTION OF USER CONTROLS AND DISPLAY

1 - Refrigeration simple

Key:

- ☐ 30: Control the temperature setting of air passenger

- ☐ 31: Selection Control the speed of the blower

- ☐ 32: Control mode selection airflow distribution

- ☐ 33: Defrost control of the rear window and
  Heated mirrors

- ☐ 34: Order of interlocking of refrigeration compressor

- ☐ 35: Control of air recirculation

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2 - Refrigeration with automatic regulation

Key:

- 31: Selection Control the speed of the blower

- 32: Control mode selection airflow distribution

- 33: Defrost control of the rear window and
        Heated mirrors

- 34: Order of interlocking of refrigeration compressor

- 35: Control of air recirculation

- 36: backlit LCD display

- 37: Order of activation of the automatic regulation

- 38: Setting Control the temperature setting, right side

- 39: temperature sensor interior air

- 40: Order defogging windshield

- 41: Setting Control the temperature setting, left side

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3 - Display

a - Refrigeration simple

The simple cooling function is not associated with a display specific.

b - Refrigeration with automatic regulation

The display is realized by a display built into the table climate control.

The display provides the following functions:

☐ see the choice of the user and the system state,

☐ provide feedback on actions taken to user

☐ report any system failures.

4 - Lighting control panel

a - Refrigeration simple

The logic panel lighting control air conditioning automatic control is as follows:

CONDITIONS	LIGHTING CONTROL PANEL
Day (lights switched off)	The keys and screen prints are out.
Night (side lights on)	The keys and screen prints are illuminated by brightness level set for the handset.
Mode "night driving"	The keys are illuminated so attenuated.

Note: The LED functions cooling, recycling and defrosting are lit when the respective functions are activated, whatever other conditions.

b - Refrigeration with automatic regulation

The logic panel lighting control air conditioning
automatic control is as follows:

CONDITIONS	LIGHTING CONTROL PANEL
Day (lights switched off)	The display is backlit, but the rheostat brightness. The buttons are off.
Night (side lights on)	The display is backlit, as the level of brightness set to the handset. The buttons are illuminated, depending on the level of brightness set to the handset
Mode "night driving"	The display is active, without backlight. The buttons are illuminated, depending on the level of brightness set to the handset

Other features of the lighting control:

☐ in "night driving", the display does not turn off until the
defrost function and / or visibility function is activated,

☐ the display lights for 16 seconds for any action on the
control panel.

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II -   PRINCIPLE OF OPERATION

A - MANAGEMENT OF A REFRIGERATION COMPRESSOR

The control of refrigeration compressor is provided by the BSI, which takes into account the following:

☐ request activation of the refrigeration compressor (request manual or automatic)

☐ Security icing of the evaporator,

☐ pressure of the cooling fluid,

☐ rpm,

☐ engine water temperature,

☐ dialogue with the engine computer (latching or authorization change of state of refrigeration compressor).

1 - Application for activation of the refrigeration compressor

A - Benefit

There are two types of requests for activation of the compressor Refrigeration:

☐ Application Manual: Press the switch table command (all types of computers)

☐ automatic request: The calculator asks engagement compressor refrigeration needs of the regulating it performs. The application can automatically only with the automatic refrigeration control.

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b - Overview for simple refrigeration
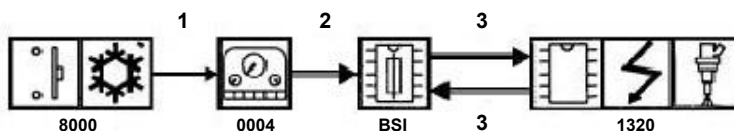
Key:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.

BODIES	
BSI	Box Clever Easement
0004	Combined instrumentation
1320	Engine computer
8000	Cooling contactor

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
1	Request activation of the compressor Refrigeration	All or Nothing
2	Request activation of the compressor Refrigeration	VAN COMFORT
3	Request permission to engagement of refrigeration compressor	CAN
4	Opening or closing switching compressor refrigeration	CAN

Citroën C5 DOCUMENT 2

c - Overview for refrigeration to automatic control
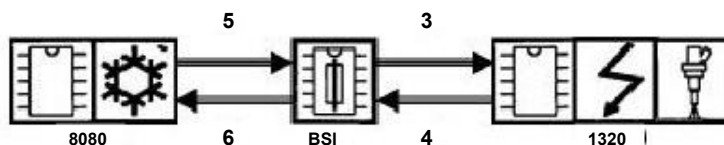
Key:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.

BODIES	
BSI	Box Clever Easement
1320	Engine computer
8080	Computer cooling

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
3	Request permission to engagement of refrigeration compressor	CAN
4	Opening or closing switching compressor refrigeration	CAN
5	Request activation of the compressor Refrigeration	VAN COMFORT
6	State of the refrigeration compressor	VAN COMFORT

d - Functional Description

The air conditioning control panel transmits the request
Switch-compressor refrigeration system via the BSI
VAN Comfort. The request for activation of the compressor can be
made in 2 ways:

☐ at the request of the user, by pressing the request button
engagement of the refrigeration compressor,

☐ at the request of the computer for the automatic regulation of the
temperature.

The request for activation of the refrigeration compressor is
taken into account if these two conditions are met:

☐ the engine is turning,
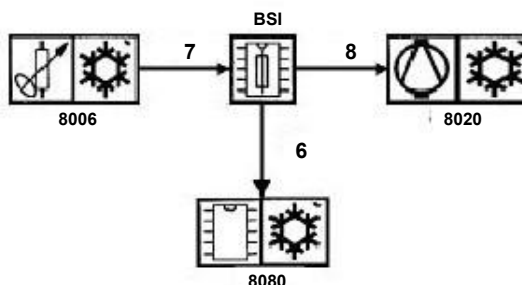
☐ the blower is activated.

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2 - Security icing of the evaporator

A - Benefit

To prevent icing of the evaporator refrigeration prohibits the ISB engagement of the refrigeration compressor in certain temperature conditions.

b - Overview

Key:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.

BODIES	
BSI	Box Clever Easement
8006	Temperature sensor evaporator
8020	Refrigeration compressor
8080	Computer cooling

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
6	State of the refrigeration compressor	VAN COMFORT
7	Evaporator temperature refrigeration	Analog
8	Refrigeration compressor control	All or Nothing

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c - Functional Description: Security icing

Security icing of the evaporator defines the rules
and breaking of the refrigeration compressor
based on the following:

☐ evaporator temperature,

☐ outdoor air temperature.

The function is optimized by the following curve:
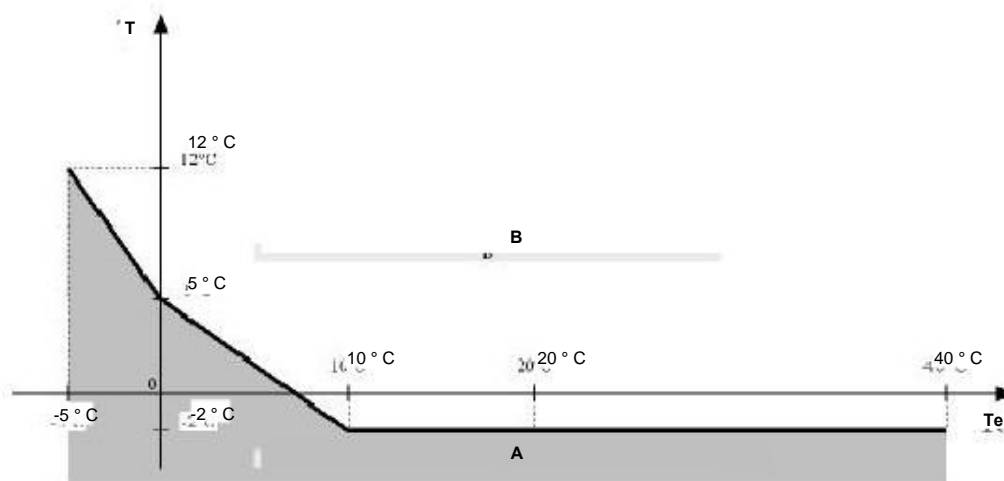
Key:

☐ Te: air temperature outside

☐ T: evaporator temperature

☐ A: No refrigeration compressor

☐ B: refrigeration compressor authorized

The tolerances for the acquisition of temperature sensor evaporator
are:

PROBE	SENSITIVE RANGE	TOLERANCE (+ PROBE ACQUISITION)
Evaporator	0 ° C to +5 ° C	± 1.5 ° C
Outside temperature	-10 ° C to +30 ° C	± 2 ° C

d - Degraded mode

Degraded modes of security icing of the evaporator are follows:

☐ If evaporator temperature sensor failed.

The refrigeration compressor is prohibited.

☐ Case of external temperature sensor missing or faulty.

Disconnection of compressor depends only on temperature evaporator with the following thresholds:

Cutoff	0.4 ° C
Reset threshold	1.1 ° C

E - Self-diagnosis

BSI achieves the open circuit detection and short circuit on the output of temperature sensor evaporator.

**Citroën C5 DOCUMENT 2**

3 - Safety pressure refrigeration

A - Benefit

If too low or too high pressure in the circuit
refrigeration, BSI prohibits the engagement of the compressor
refrigeration.

This strategy helps guard against events
following:

☐ Low pressure: risk of leakage of refrigerant circuit,

☐ pressure too high: the risk of deterioration of the circuit
refrigeration.

b - Overview
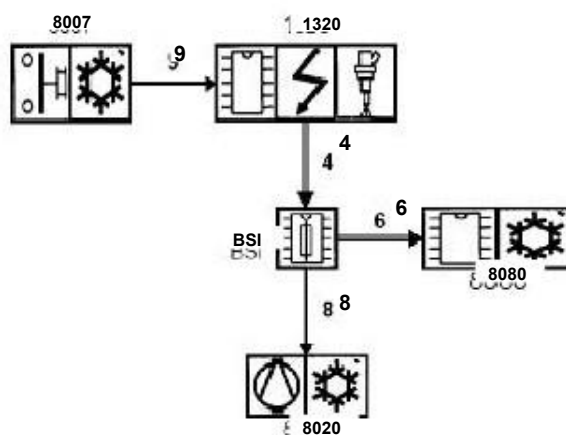
Key:
☐ single arrow: wired link,
☐ triple arrow: multiplexed link.

BODIES	
BSI	Box Clever Easement
1320	Engine computer
8007	Linear pressure sensor
8020	Refrigeration compressor
8080	Computer cooling

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
4	switching	**CAN** Opening or closing
6	compressor refrigeration	**VAN COMFORT** State of the
8	refrigeration compressor	
9	compressor control	**ALL OR NOTHING** Refrigeration
	refrigerant circuit	**ANALOG** Pressure of the

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c - Functional Description: The case of low or high pressure

Safety pressure coolant fluid is managed by BSI.
It uses a linear pressure sensor for measuring the
pressure of the cooling fluid. The acquisition of information
pressure is produced by the engine computer by a wire.

The computer returns to the ISB engine via the CAN network
following information:

☐ mute status of the compressor by security

☐ pressure of the cooling fluid.

The pressure thresholds are:

	LOW PRESSURE	HIGH PRESSURE
Cutoff of compressor	P <3 Bar	P> 27 bar
Threshold reset	P> 3.5 bar and Plan <6250 rpm	P <20 AND Bar Plan <5650 rpm

d - Functional Description: If insufficient charge circuit

Safety load minimum liquid cooling is to
final cut compressor in the following scenario:
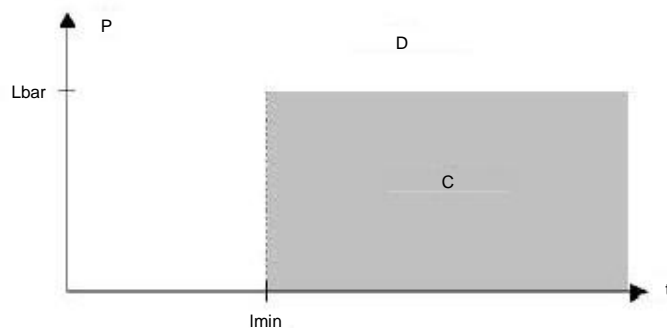
Key:
☐ P: pressure of the fluid cooling
☐ t: time
☐ C: No compressor
☐ D: compressor authorized

If the pressure is less than 1 bar a minute later
engagement of the refrigeration compressor, the BSI prohibited
finally it clicks.

*Note: Safety minimum load is reset every
Start the engine.*

e - Degraded mode

If the pressure sensor is faulty cooling system,
engagement of the refrigeration compressor is prohibited.

Citroën C5 DOCUMENT 2

4 - Security by RPM

A - Benefit

When the engine speed is too large, the BSI prohibited engagement of the refrigeration compressor, so that its speed rotation is not excessive.

b - Overview
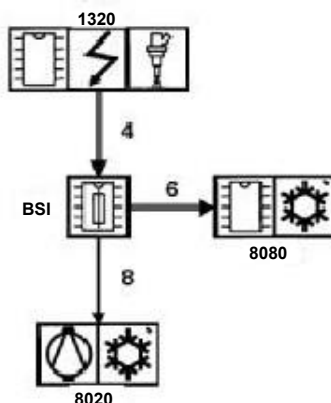
Key:
☐ single arrow: wired link
☐ triple arrow: multiplexed link

BODIES	
BSI	Box Clever Easement
1320	Engine computer
8020	Refrigeration compressor
8080	Computer cooling

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
4	Permission or prohibition of interlocking refrigeration compressor	**CAN**
6	State of the refrigeration compressor	**VAN COMFORT**
8	Refrigeration compressor control	**ALL OR NOTHING**

c - Functional Description

To ensure satisfactory protection, a cutoff refrigeration compressor is required if the engine speed exceed 6250 rpm.

Resetting of refrigeration compressor is allowed if the engine speed falls below 5650 rpm and the pressure is below 24 Bar.

| Cutoff	6,250 rpm
Threshold reset	5650 rpm with a pressure below 24 bar.

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d - Degraded mode

If the information of engine is invalid, the engagement of compressor is allowed.

5 - Security by engine coolant temperature

A - Benefit

When the engine water temperature is too high, the computer discharge motor drives the inertia of refrigeration compressor by prohibiting her engagement.

b - Overview
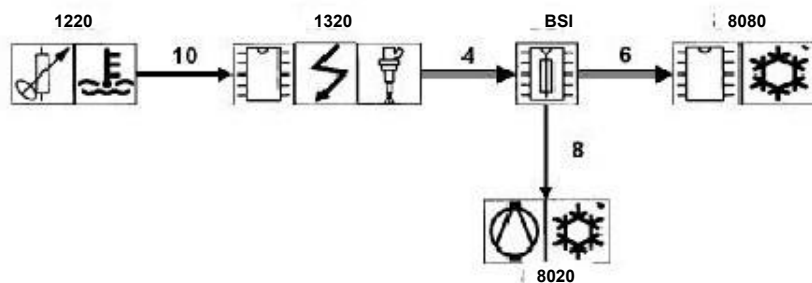
Key:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.

BODIES	
BSI	Box Clever Easement
1220	Water temperature sensor engine
1320	Engine computer
8020	Refrigeration compressor
8080	Computer cooling

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
4	Opening or closing switching compressor refrigeration	**CAN**
6	State of the refrigeration compressor	**VAN COMFORT**
8	Refrigeration compressor control	**ALL OR NOTHING**
10	Information engine water temperature	**ANALOG**

c - Functional Description

The security engine coolant temperature is controlled by the computer engine.

The engagement of the refrigeration compressor is forbidden for a Water temperature above 112 ° C. Resetting of refrigeration compressor is allowed if the water temperature motor is less than 108 ° C and the previous cutoff date less than 1 min.

Dessin issu de C5HP14BD
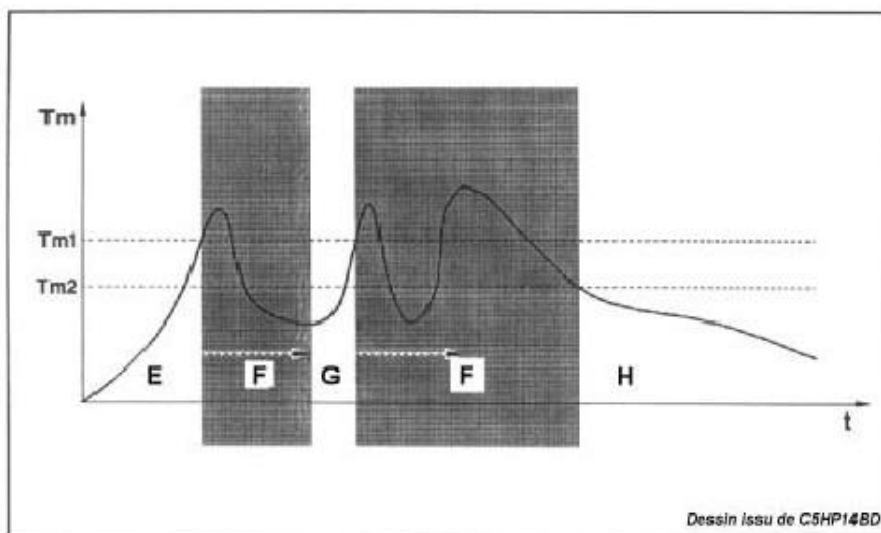
Key:

- t: Time
- Tm: Temperature of water engine
- Tm1: engine water temperature = 112 ° C
- Tm2: engine water temperature = 108 ° C
- E: refrigeration compressor switched
- F: Cutting the refrigeration compressor
- G: The refrigeration compressor is reset because the temperature is valid after the minute of delay
- H: The refrigeration compressor is reset when the temperature returns to normal after more than a minute delay

d - Degraded mode

There is no limp to safety by water temperature engine.

If the information of engine water temperature   is   invalid switching the compressor is allowed.
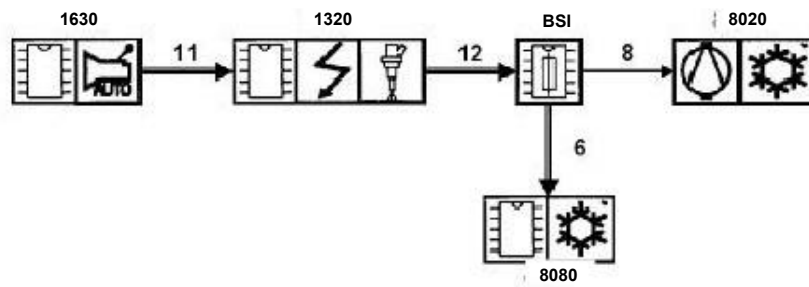
Citroën C5 DOCUMENT 2

6 - Security gearshift

A - Benefit

During a gearshift, automatic transmission prohibits
change of state of the compressor to maximize the approval of
conduct.

b - Overview

Key:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.

BODIES	
BSI	Box Clever Easement
1320	Engine computer
1630	Automatic transmission
8020	Refrigeration compressor
8080	Computer cooling

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
6	State of the refrigeration compressor	**VAN COMFORT**
8	Refrigeration compressor control	**ALL OR NOTHING**
11	Prohibition of status change refrigeration compressor	**CAN**
12	Prohibition of status change refrigeration compressor	**CAN**

c - Functional Description

Safety gear change operates as
follows:

☐ The automatic transmission computer sends a motor
Ban gearshift via the CAN network.

☐ The engine computer sends information to the ISB, which does not change
not the order of the compressor until the report
destination is not engaged.

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B - DEGRADED MODES

Degraded modes of air-conditioning function are:

ORIGIN OF THE FAILURE	CONDUCT ADOPTED BY THE SYSTEM
Temperature sensor evaporator	Prohibition of engagement of the compressor Refrigeration
Temperature sensor outside air	Security icing of the evaporator does not depend more than the temperature of the evaporator with a suitable threshold
Refrigeration pressure transducer	Prohibition of engagement of the compressor Refrigeration
Information temperature of engine water	Prohibition of engagement of the compressor Refrigeration

Citroën C5 DOCUMENT 2

III - OPERATING PRINCIPLE: ADDITIONAL HEATING

A - Space heaters

1 - Benefit

The heaters are designed to improve the growing temperature of the vehicle cabin.

The heating is provided by 3 heating elements on the air (R1, R2 and R3), located in the heating group.

2 - Structural Diagram
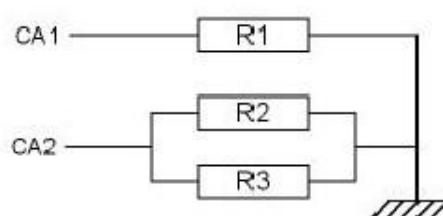
Key:

☐ CA1: 300W Power Control

☐ CA2: 600W Power Control

☐ R1: first heating resistor (power = 300W)

☐ R2: second heating resistor (power = 300W)

☐ R3: third space heater (power = 300W)

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3 - Functional Description

The application of additional heating is managed by BSI.
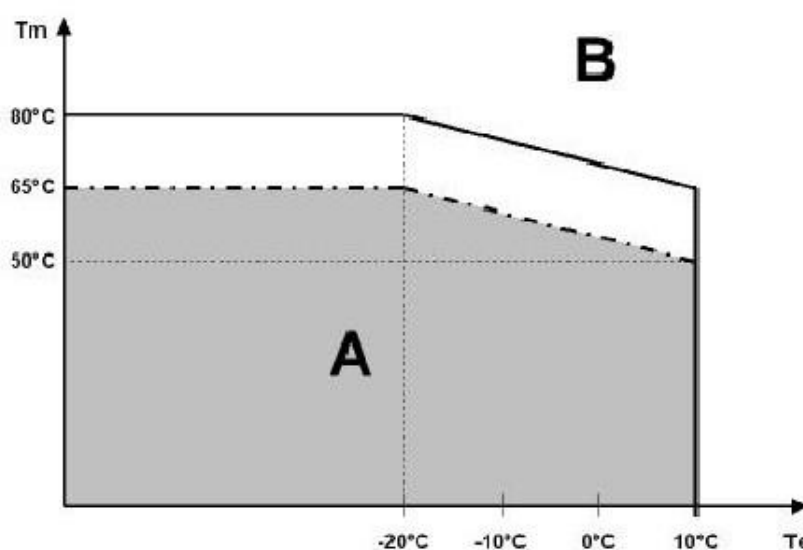
The piloting of heaters is achieved by the computer engine.

The BSI is developing additional heating demand based on following information:

☐ engine water temperature,

☐ outside temperature (from the probe side of the mirror passenger).

Demand for feed heaters is expressed by the following curve:

Key:

☐ Solid line: threshold for stopping the heating
☐ Dotted line: heat activation threshold of
☐ A: Range request to activate the heating
☐ B: Range request to stop the warming
☐ Te: Outdoor Temperature
☐ Tm: Temperature of water engine

BSI then forwards the request to the engine computer via the network CAN, as the table below:

CONTROL	ACTIVE OUTPUTS	CONTROLLED RESISTORS
1 / 3 of the total power	CA1 output	R1 (300W)
2 / 3 of the total power	CA2 output	R2 + R3 (600W)
3 / 3 of the total power	CA1 CA2 + Release Release	R1 + R2 + R3 (900W)

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4 - Time to switch on / off the heaters

To maintain recognition engine and do not overload the network electrical, ignition and shutdown of resistance occurs in steps of 20 seconds.

Note: The information engine running is essential for igniting heaters.
The engine shutdown leads immediately cut output CA1 and CA2.

a - Case of the ignition resistance

Note: At the onset of engine running information, the BSI launches a delay of 60 seconds before stabilizing lighting the heaters.

TIME ELAPSED	STATE OF POWER	
	CA1	CA2
0s	Appearance of the engine running information	
	0	0
60s	1	0
80s	0	1
100s	1	1

b - The case of break resistance

TIME ELAPSED	STATE OF POWER	
	CA1	CA2
0s	1	1
20s	0	1
40s	1	0
60s	0	0

5 - Methods degraded

Degraded modes on heating by additional resistors are follows:

☐ invalid information outside temperature: ignition resistance reheating is prohibited,

☐ engine water temperature information invalid: the ignition heaters is prohibited.

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B - ADDITIONAL BURNER

1 - Benefit

The burner is designed to further improve the temperature rise
the cabin of the vehicle.

The heating is provided by a burner fueled by diesel and for
Heat the water cooling system engine. The burner is located
in the engine compartment.

2 - Functional Description

The application of additional heating is managed by BSI.

The additional pilot burner is made by the engine computer.

The BSI is developing additional heating demand based on
following information:

☐ engine water temperature,

☐ outside temperature (from the probe side of the mirror
  passenger).

Turning off the burner and are defined by two thresholds
following:

☐ activation threshold: engine water temperature <74 ° C

☐ cutoff: engine water temperature> 79 ° C.

*Note: The burner control occurs only if the outside temperature is
      below 10 ° C.*

BSI then forwards the request to additional burner calculator
engine via the CAN network, as the table below:

ACTIVE OUTPUTS	STATE OF THE BURNER
No	Order
CA1 CA2 + Release Release	In operation

*Note: The information engine running is necessary to activate the
      burner.*

*The engine shutdown leads immediately cut output
CA1 and CA2.*

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3 - Delay activation / deactivation of the additional burner

a - Case of the activation of the burner

*Note: At the onset of engine running information, the BSI launches
a delay of 60 seconds before stabilizing
lighting the heaters.*

TIME ELAPSED	STATE OF POWER	
	CA1	CA2
0s	Appearance of the engine running information	
	0	0
60s	1	1
80s	1	1
100s	1	1

b - The case of failure of the burner

TIME ELAPSED	STATE OF POWER	
	CA1	CA2
0s	1	1
20s	0	0
40s	0	0
60s	0	0

c - Break burner crash

During an impact, the airbag computer sends information to the ISB
triggering a pyrotechnic element.

The ISB immediately cut power to the burner.

4 - Degraded mode

Degraded modes related to the additional burner are:

☐ outdoor temperature information invalid: the engagement of
Additional burner is prohibited,

☐ information engine water temperature invalid, the application
Switch-burner is based on additional information
outside temperature by simulating a water temperature of engine
40 ° C.

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IV - OPERATIONS AFTER-SALES

A - READING OF DEFECTS

You can read the following faults using the diagnostic tool:

- ☐ One of the keys on the control panel stuck,
- ☐ information invalid engine water temperature,
- ☐ outdoor air temperature invalid
- ☐ vehicle speed information invalid
- ☐ lack of communication with the BSI,
- ☐ cabin temperature sensor short circuit or open circuit,
- ☐ probe cooling air blown left short-circuit or open circuit,
- ☐ copy of the pulser voltage short-circuit or open circuit,
- ☐ Probe air blown to the foot (left side) in short-circuit or circuit open

  battery voltage + VAN comfort short-circuit between two or son-circuit open

  sunshine sensor short circuit or open circuit,
- ☐ motor control loop recycling open

  motor control distribution in open circuit,
- ☐ mixing engine left open circuit,
- ☐ mixing engine right in open circuit,
- ☐ blower control short-circuit or open circuit,
- ☐ microturbine rotor temperature sensor blocked passenger.
- ☐
- ☐
- ☐

B - TEST ACTUATORS

It is possible to perform the following tests using the diagnostic tool:
- ☐ Steering engine air intake
- ☐ Motor control distribution law
- ☐ Motor control left distribution
- ☐ Motor drive right mix
- ☐ Steering mixing engine left
- ☐ Light control of the display
- ☐ Rheostat lighting
- ☐ Ventilation control

C - Télécodage

It is possible télécoder following settings using the tool diagnosis:
- ☐ driving style (RHD, LHD)
- ☐ type of engine (HDi HDi not, extreme cold, not cold).

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D - READING PARAMETERS

You can read the following settings using the diagnostic tool:

PARAMETER	DETAILS AVAILABLE
Battery voltage	Value in Volts
Cabin temperature	Value in ° C
Temperature of air blown through the ventilation	Value in ° C
Voltage pulser	Value in Volts
Air temperature blown feet	Value in ° C
Brightness measured by the sensor of sunshine	Lux value
Position of the mixing (right side)	% Value
Position of the mixing (left side)	% Value
State of the airflow distribution	Defrosting
	Foot / defroster
	Feet
	Feet / ventilation
	Aeration
	During positioning
	Percentage
	100%
	56%
Position distribution flap aerodynamics	40%
	25%
	0%
	Other
	Outdoor Air
	Recycling
	During positioning
	100%
	0%
State Recirculating	1% to 99%
	More
	Less
	Inactivated
Position of air recirculation	Undetermined
	More
	Less
	Inactivated
Setpoint temperature (left side)	Undetermined
	+ Blower
	- Kicker
	Inactivated
Setpoint temperature (right side)	Undetermined
	Enabled
	Inactivated
	Undetermined
	Inactivated
Demand ventilation	Enabled
	Undetermined
	Auto
	De / visibility
	AC
Application distribution left	Defrosting
	Inactivated
	Undetermined
Application recycling	
Request other keys	

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V   AUTOMATIC AIR CONDITIONING ELECTRIC MOTOR SCHEME DW12
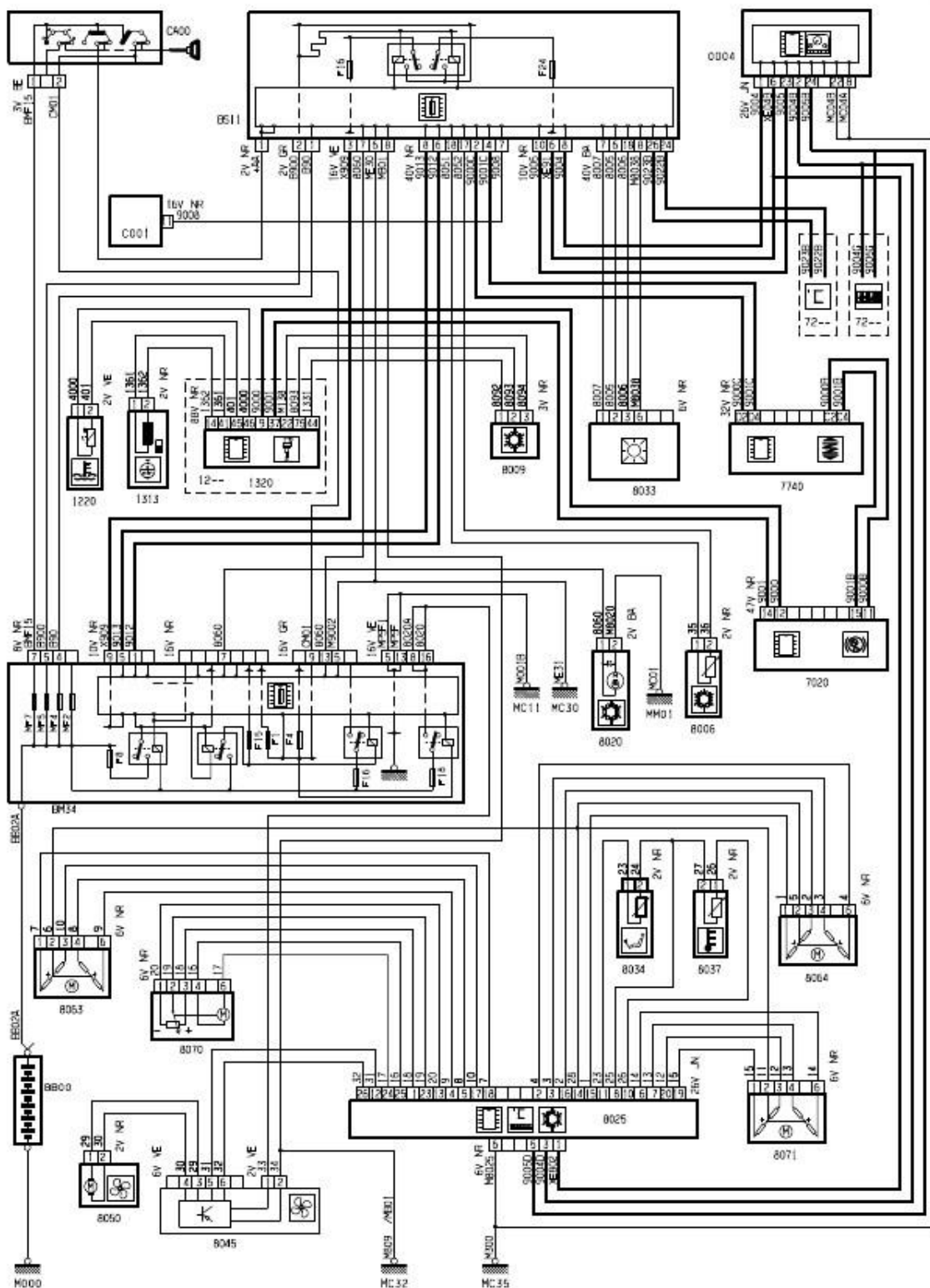
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VI - NAMES

BB00   - Battery

BM34 - Housing easement motor 34 fuses

BSI1   - Smart Box easement

C001   - Diagnostic connector

CA00   - Switch Lock

M000   - Mass

MC11 - Mass

MC30 - Mass

MC32 - Mass

MC35 - Mass

0004   - Handset

1220   - Engine water temperature sensor

1313   - Engine speed sensor

1320   - Calculator motor control

7020   - Calculator Anti lock braking

7740   - Block electrohydraulic suspension

8006   - Evaporator Thermistor

8009   - Pressure Freon

8020   - Air conditioning compressor

8025   - Front air conditioning

8033   - Thermistor sunshine

8034   - Air Temperature feet

8037   - Air Temperature aerator

8045   - Control Module kicker

8050   - Engine blower

8063   - Geared mixing flap right

8064   - Geared mixing flap left

8070   - Geared component inlet

8071   - Geared component distribution

12 - -   - Function carb diet and injection

72 - -   - Function trip computer - shows

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COOLING

I- GENERAL

A - PREAMBLE

The cooling function is integrated into the engine computer (FRIC)

This function controls the fan motor cooling
engine during and after motor operation. This strategy
elaborated according to:

☐ the engine water temperature,

☐ needs from the air conditioning functions,

☐ needs of the automatic gearbox for cooling
   oil from the automatic transmission (the exchanger water / oil).

For purposes of this function, the engine computer provides the BSI
following parameters:

☐ engine water temperature,

☐ Information Alert engine water temperature,

☐ pressure of the refrigerant circuit.

The need for cooling in combination with refrigeration is provided by the function
B.R.A.C. (Need for Cooling Air Conditioning), also integrated
in the engine computer. A pressure sensor allows linear
measure the pressure of the refrigerant circuit, which enables the computer
engine to control the small group of high-speed motorcycle
fan. Unlike switches in voltage levels, the sensor
pressure provides a linear voltage proportional to the pressure of the circuit
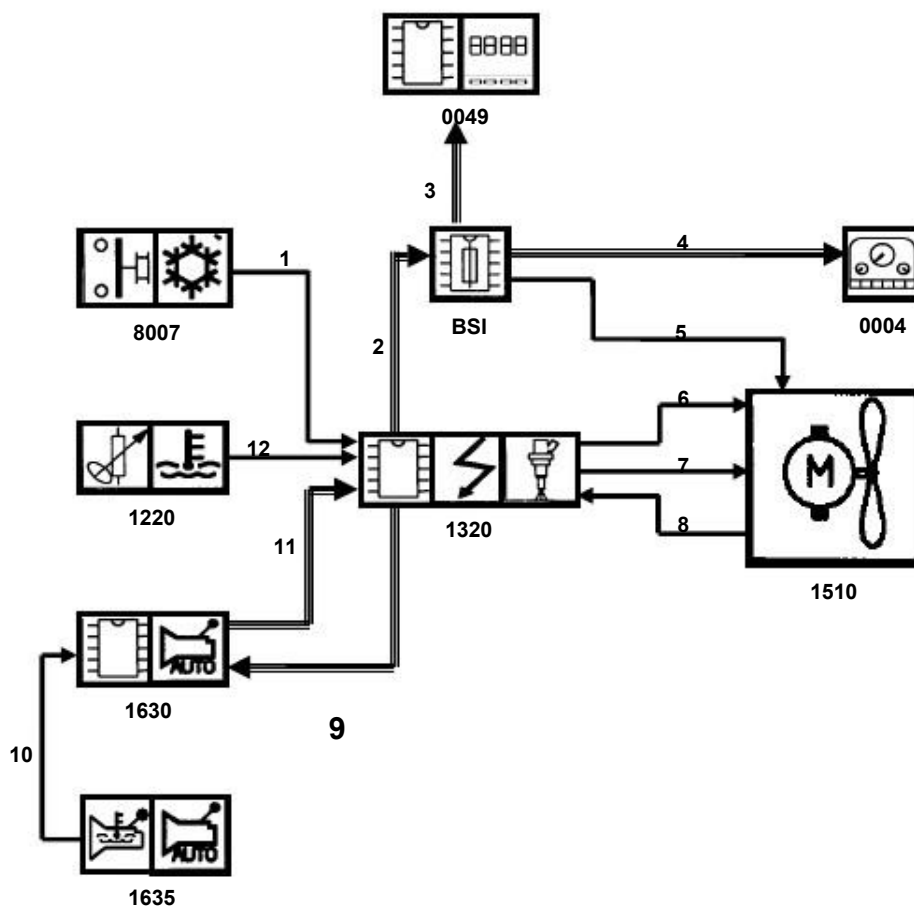refrigeration.

8007

8007: Pressure sensor linear

Important: Moto Fan Group can operate ignition off.

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B - SUMMARY OF THE COOLING FUNCTION

Key:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.

BODIES	
BSI	**INTELLIGENT HOUSING EASEMENT**
0004	Combined
0049	Multifunction Display
1220	Engine water temperature sensor
1320	Engine Calculator
1510	Fan motor
1630	Calculator automatic transmission *
1635	BVA oil temperature sensor *
8007	Linear pressure sensor

* Depending on version

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LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
1	Pressure of the refrigerant circuit	**ANALOG**
2	Engine water temperature information Information Alert Engine water temperature Information System pressure refrigeration Information Failure BVA *	**CAN**
3	Display warning message	**VAN COMFORT**
4	Engine water temperature information Information Alert Engine water temperature Information Failure BVA *	**VAN COMFORT**
5	Order speed average of group Motorcycle fan	**ALL OR NOTHING**
6	Order low speed fan motor	**ALL OR NOTHING**
7	Order high-speed fan motor	**ALL OR NOTHING**
8	Information rotation Group Motorcycle Fan (Diagnosis)	**ALL OR NOTHING**
9	Engine water temperature information	**CAN**
10	Temperature information oil box of speeds Automatic *	**ANALOG**
11	Demanderefroidissement box of speeds Automatic Information Failure BVA *	**CAN**
12	Engine water temperature information	**ANALOG**

* Depending on version

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II - PRINCIPLE OF OPERATION: COOLING

A - THE MOTORCYCLE FAN GROUP

1 - Calculating the speed of the fan motor

The computer determines the engine speed setpoint of the motor fan following parameters:

- water temperature measured by the probe, and pre-programmed tables in the engine computer,

- cooling requirements associated with refrigeration, managed by the internal function B.R.A.C.

2 - Control the speed of the GMV

The cooling fan has 3 speeds.

Calculator Engine controls the low speed and high speed.

The BSI controls the average speed, according to information issued by the engine computer via the CAN network (water temperature engine and cooling system pressure).
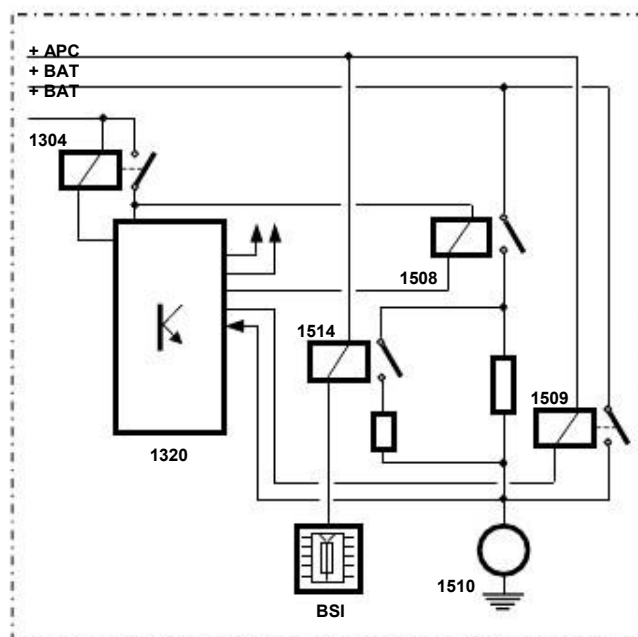
+ APC + After Contact

+ BAT + Battery

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BODIES	
BSI	Box Clever Easement
1320	Engine Calculator
1304	Double injection relay
1508	Control relay low speed
1509	Relay control of high speed
1510	Fan motor
1514	Relay for controlling the average speed

Slow speed is obtained by feeding the fan motor through
a resistor arranged in series on the power circuit.

The average speed is obtained by supplying the motor fan
through two resistors connected in parallel to the circuit
power.

The high speed is achieved by feeding the live motorcycle fan.

The 2 resistors are located on the front, near
air-air exchanger and fan motor.

3 - Post breakdown

It is necessary to continue the breakdown in   the cutoff mode
+ APC engine running if the water temperature   engine measured by
probe is above a set threshold.   The operation of
Fan motor at low speed is   then required for 6
minutes.

Note: Commissioning Group is prohibited Moto Fan
during:

☐   the duration of operation in power-latch,

☐   stopping the engine's electronic calculator,

☐   phase motor starting.

4 - Gradient Method

A fan motor failure (or failure
controls low speed and high speed) causes its
operating speed.

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B - CONTROL OVER THE WATER TEMPERATURE

1 - Principle

Control over water temperature is discrete. Three
temperature ranges allow the operation of the Motorcycle Group
Fan is low speed, medium speed or high
speed.

The temperature sensor, located on the housing water outlet, informs
the calculator engine temperature coolant
engine.

2 - Overview

Key:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.
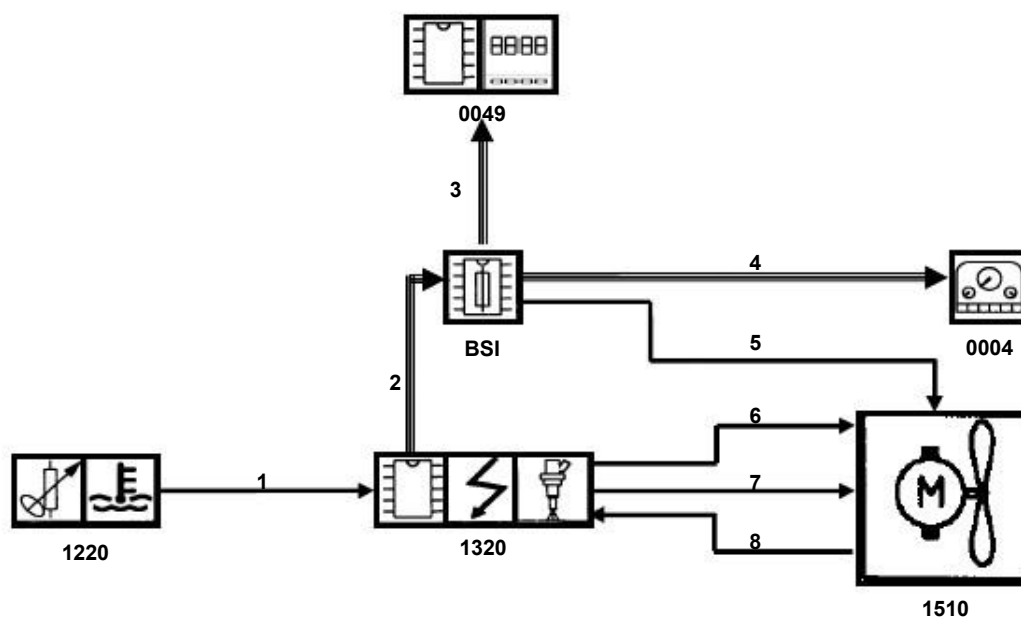
BODIES	
BSI	Box Clever Easement
0004	Combined
1220	Engine water temperature sensor
1320	Engine Calculator
1510	Fan motor
0049	Multifunction Display

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
1	Engine water temperature information	**ANALOG**
2	Engine water temperature information Information Alert Engine water temperature	**CAN**
3	Display warning message	**VAN COMFORT**
4	Engine water temperature information Information Alert Engine water temperature	**VAN COMFORT**
5	Command average speed of the motor fan	**ALL OR NOTHING**
6	Order small speed of group Motorcycle fan	**ALL OR NOTHING**
7	Control speed of the motor fan	**ALL OR NOTHING**
8	Rotation Group Information Moto Fan (Diagnosis)	**ALL OR NOTHING**

3 - Functional Description

STEP	DETAILS
1	The computer acquires motor wire connection from the signal probe the engine water temperature.
	The computer transmits engine on the CAN network information engine coolant temperature and engine water temperature warning.
2	If the temperature is between 94 and 97 ° Calculator Engine Control Group Small Moto Fan speed.
	If the temperature is between 98 and 101 ° BSI Group Motorcycle Fan control the average speed.
	If the temperature is between 102 and 105 ° Calculator Engine Control Group at the Moto Fan high speed.
3	BSI disseminates information engine coolant temperature via the VAN COMFORT.
	BSI transmits information on the alert engine water temperature the handset and the screen via the multifunction VAN COMFORT.

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4 - Alert Engine water temperature

ACTION	ONSET OF THE ALERT ENGINE WATER TEMPERATURE
"IF" condition	The measured temperature exceeds the programmed threshold (118 °)
"OR" condition	Failure of the water temperature sensor
Visualization	Combined ignition and the STOP LED light alert engine water temperature (depending on version)
	Posting a message to Multifunction screen (depending on version)

5 - Gradient Method

A failure of the engine water temperature sensor causes the following actions:

☐ fan motor operating at high speed,

☐ Case refrigeration compressor,

☐ Combined ignition and the STOP LED light alert engine water temperature (depending on version)

☐ Posting a message to Multifunction screen,

☐ recording of a defect in the engine computer.

C - IMPACT OF CLIMATE

1 - Benefit

To cool the condenser, the function BRAC (Need Associated Refrigeration cooling) inside the engine computer provides the function F.R.I.C. a speed depending on the pressure refrigeration circuit.

The linear pressure sensor, located on the condenser provides voltage proportional to the pressure of the refrigerant circuit.

2 - Overview
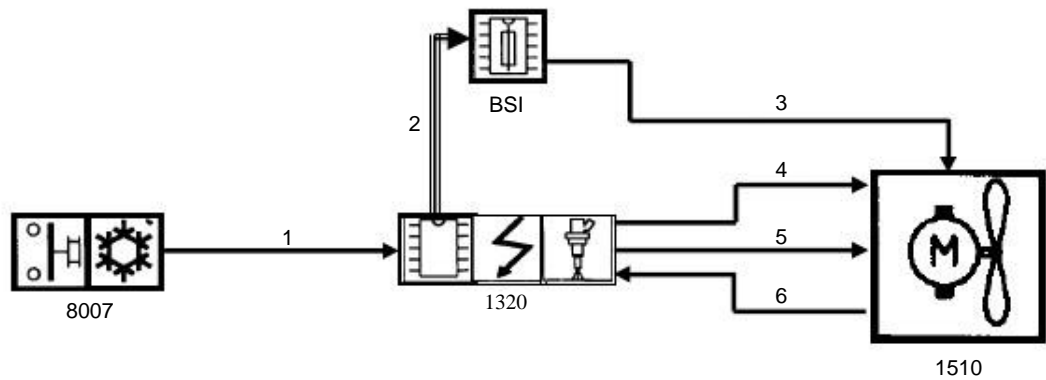
Key:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.

Organs	
BSI	Box Clever Easement
8007	Linear pressure sensor
1320	Engine Calculator
1510	Fan motor

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
1	Pressure of the fluid cooling	**ANALOG**
2	Pressure of the fluid cooling	**CAN**
3	Command average speed of the motor fan	**ALL OR NOTHING**
4	Order small speed of group Motorcycle fan	**ALL OR NOTHING**
5	Order great speed of group Motorcycle fan	**ALL OR NOTHING**
6	Rotation Group Information Moto Fan (Diagnosis)	**ALL OR NOTHING**

Citroën C5 DOCUMENT 2

3 - Functional Description

STEP	DETAILS
A	The computer acquires motor wire connection from the signal linear pressure sensor The engine computer on the network CAN Transmits pressure refrigeration circuit pressure> 10 bar
B	Calculator Engine controls the low speed of the motor Fan PRESSURE> 17 bar the BSI controls the average speed fan motor. PRESSURE> 22 bar Calculator motor controls the speed of the motor Fan
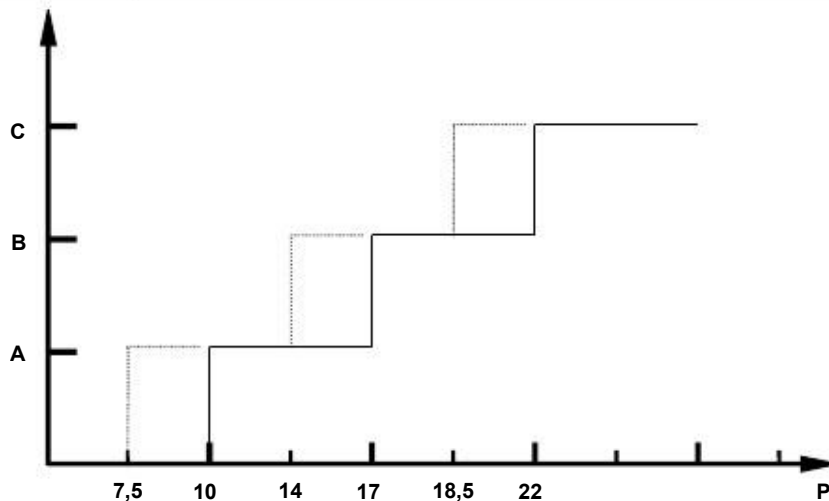
Solid line: threshold switching speeds GMV

Dotted line: thresholds disengagement speeds GMV

A: Low speed
B: Average speed
C: High speed
P: Pressure (bar)

4 - Gradient Method

A pressure sensor failure in the refrigeration cycle
causes the following actions:

☐ Prohibition of engagement of the refrigeration compressor (driven
by BSI for the purposes of air conditioning)

☐ recording of a defect in the engine computer.

The fan motor is no longer functional for the needs of
cooling associated with refrigeration.

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D - THE IMPACT OF AUTOMATIC TRANSMISSION

1 - Benefit

The information delivered by the oil temperature sensor, implanted in
the hydraulic unit of the automatic transmission allows the
BVA computer to force the starting of the motor fan group
via the engine computer to cool the gearbox oil by
through the heat exchanger.

2 - Overview
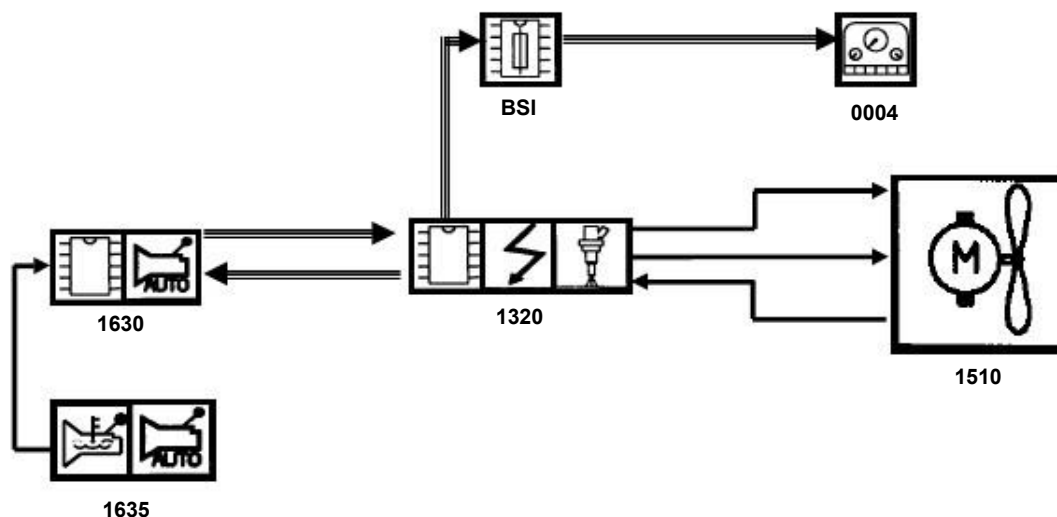
BSI   0004

1630   1320

1510

1635

Key:

☐ single arrow: wired link,

☐ triple arrow: multiplexed link.

Organs	
BSI	Box Clever Easement
1635	BVA oil temperature sensor
1630	Calculator automatic gearbox
1320	Engine Calculator
1510	Fan motor
0004	Combined

LINKS		
NO LINK	**SIGNAL**	**NATURE OF SIGNAL**
1	BVA oil temperature	**ANALOG**
2	Cooling demand	**CAN**
3	Fault information BVA	**CAN**
4	Fault information BVA	**VAN COMFORT**
5	Order low speed fan motor	**ALL OR NOTHING**
6	Order high-speed fan motor	**ALL OR NOTHING**
7	Rotation Group Information Moto Fan (Diagnosis) Temperature water	**ALL OR NOTHING**
8		**CAN**

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3 - Functional Description

STEP	DETAILS
A	Calculator Automatic Gearbox acquires by association wired signal from the probe of the oil temperature BVA.
	Calculator Automatic Gearbox forward to engine computer via the CAN network of a request cooling.
B	Calculator Engine control the small or high speed Fan motor

4 - Gradient Method

Failure of the oil temperature sensor causes the BVA following operation:

☐ the computer takes BVA instructed the temperature value Water engine

☐ if the water temperature sensor engine fails, the computer BVA takes as reference a value of oil temperature BVA stored by default.

The computer transmits BVA on the CAN network the fault information PVA. The BSI takes this information to transmit to the handset via the COMFORT VAN network.

A loss of communication between the CAN network and computer BVA causes the fan motor running at low speed.

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III - LAYOUT ELECTRICAL - COOLING ENGINE COOLING DW12
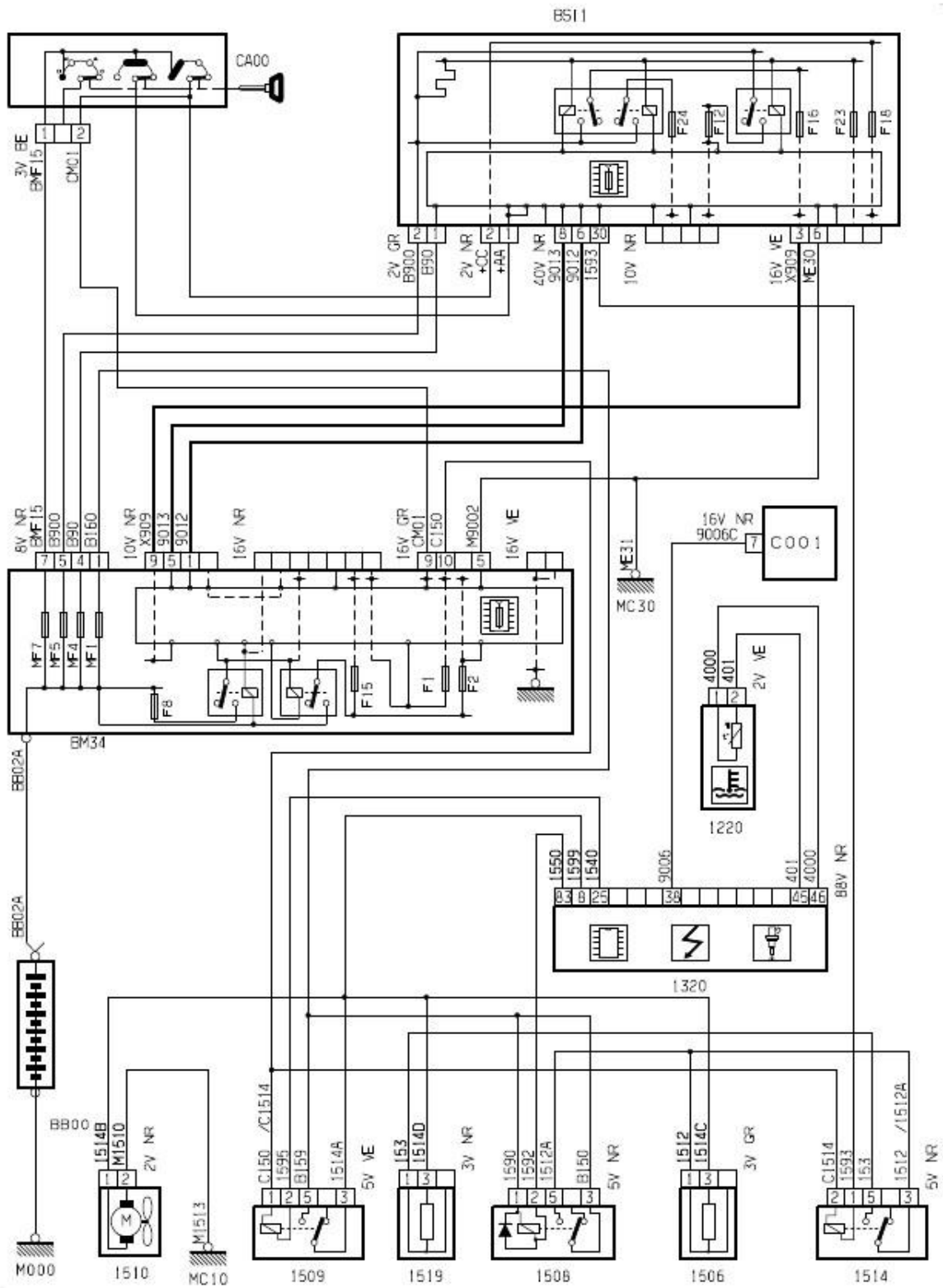
Citroën C5 DOCUMENT 2

IV - CLASSIFICATION

BB00 - Battery

BM34 - Housing easement motor 34 fuses

BSI1 - Smart Box easement

C001 - Diagnostic connector

CA00 - Switch Lock

M000 - Mass

MC10 - Mass

MC30 - Mass

1220 - Engine water temperature sensor

1320 - Calculator motor control

1506 - Resistance dual speed electric fan

1508 - Power relay low speed fan motor

1509 - Relay power high-speed fan motor

1510 - Moto fan

1514 - Power relay medium speed fan motor

1519 - Resistance 2 dual speed fan motor

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