



NANO/COM

DESIGNERS AND MANUFACTURERS OF CUTTING EDGE AUTOMOTIVE DIAGNOSTIC EQUIPMENT.

FUNCTIONS DESCRIPTION MANUAL

Coverage	NANOCOM EVOLUTION
ECU	BECM (P38)
List of Functions	<ul style="list-style-type: none">○ RF Memory○ Outstation Memory○ Settings○ Inputs○ Outputs○ Utility<ul style="list-style-type: none">Odometer SynchronizingService Reset (NAS only)Disarm

DIAGNOSTIC FUNCTIONS OF THE BECM BODY CONTROL UNIT (P38)

WARNING. If the BECM is unlocked, it can inhibit the diagnostic communication with other systems. The solution is to disconnect temporarily the diagnostic bus from the BECM. Remove the fuse box panel (on the side of the driver's seat) and unplug the white connector nearest the front of the vehicle. If The BECM is Locked Communication with the system is not possible while the engine is running.

IMPORTANT NOTICE

If the BECM goes into an ALARMED state you will notice that the reading will be incorrect such as Language will become French and the date will be 1990 something. In this state communication is not possible and can only be resolved by either inputting the EKA code if it is accepted or by someone who can unlock the BECM for you with our specialist software only available on the Faultmate MSV-2 system.

RF Memory

(Automatically reads the RF Memory)

Clear RF memory

This resets the memory, which stays reset until a valid fob code has been received by the BECM. These then stay set until reset with this function.

Save Text

Outstation Memory

(Automatically reads the Outstation Memory)

Clear Outstation memory

This resets the memory to enable new faults to be logged. It is best done with the ignition turned off.

Save Text

SETTINGS FUNCTIONS

The BECM ECU has the READ SETTING and CLEAR SETTING to read and write the settings.

The settings available are many and complex, so we suggest reading carefully the workshop manual to know their meanings. In any case we suggest using any of the functions with the maximum care and only if it is necessary.

LIGHTS WINDOW SETTINGS

Sunroof - This denotes whether an electric sunroof is fitted to the vehicle or not.

Fitted - Not fitted

Fog Lights - This denotes whether front fog lights are fitted to the vehicle or not.

Rear Sidelights

Rear Dipped Beam

Rear Main Beam

Front and Rear Sidelights

Front and Rear Main Beam

Daylight Running - Either headlamps or sidelights can be selected as the daytime running lights or the function can be disabled.

Disabled

Dipped and Sidelights

Sidelights

Service light - In certain markets, legislation requires there to be a reminder light to service the engine after a certain distance has been travelled. Adding this feature also requires the bulb to be fitted to the service reminder position in the instrument pack. This will then illuminate (other than in bulb test) when the vehicle travels over 50,000 miles or 80,500 km from whenever the function was enabled.

Disabled - Enabled

Range Lamp - This is used to enable or disable the hi or low range selector back lamp function.

Disabled

Enabled

Window Cancel - Some markets allow operation of the windows and sunroof for a period of time after the ignition is turned off and the door is opened; some have immediate cancellation of operation when the ignition is turned off and others have no cancellation at all. This allows the desired selection.

Disabled

Enabled

OPTIONS

Trip Computer – This denotes whether a trip computer is installed in the vehicle or not.

Fitted - Not Fitted

CAT AMP/Heater – For markets where catalyst amplifiers and heaters are used, mainly Japan.

Fitted - Not Fitted

Drive - Denotes left hand drive (LHD) or right hand drive (RHD).

Right Hand - Left Hand

Speed Limit – This function changes the maximum limit at which the over speed warning function built in to the trip computer may be set.

100 - 120

Market - This is the flag that the BECM uses to see if it is used / configured. When a BECM is brand new it is not set and the display on the instrument pack will only show the message "Market not set". To stop this happening this value must be changed to set.

Set - Not Set

Gear box - This denotes whether the gearbox is manual or automatic.

Auto – Manual

Engine - Select between the later Motronic Petrol engine management which is fitted after 1999 and can be distinguished by the overlapping sausage effect of the intake plenum on the top of the engine. GEMS petrol engine management fitted before 1999 which can be distinguished by the flat topped intake plenum with the engine capacity shown on the top of the engine or the Diesel EDC engine management.

Motronic - GEMS - Early EDC - Late EDC

Language - This defines the language used by the vehicle to signal messages in its information display. The last option refers to a translation book allowing any other language to be added in look up form.

English - French - German - Italian - Spanish - Dutch - Portuguese - Code Book

Wiper speed – These settings enables the windscreen wiper speed functions.

Enabled - Disabled

Cruise - This indicates if cruise control is fitted or not.

Set - Not Set

Moisture Detect - This enables the moisture detected warning facility.

Enabled - Disabled

UK Police - This selection allows the BECM to be configured to police specification. Setting this without the required rewiring of the vehicle and the addition of switches, may have undesirable effects.

Normal - Police

ALARM

Immobilizer - Turns on the passive (self) immobilize function in markets which use it.

Enable – Disabled

Lazy Locking - Changes the situations in which lazy locking is allowed.

1 Shot Key only - 1 Shot Key and FOB - DMH Key Only - DMH Key and FOB

1 touch – This specifies which windows have one touch functionality.

Drivers - Front - All - None

Arm/Disarm - Changes the method of visual notification of alarm arming and disarming.

Hazards - Side and Tail

Alarm - The alarm can be either enabled or disabled if required. Disabling the alarm prevents the alarm from arming and stops all audible and visual activity whenever the vehicle is locked or unlocked. It does not affect the immobilization.

Enabled – Disabled

Mislock - Changes the method of notification of error on alarm arming between using the interior light or the alarm sounder.

Sounder - Interior Light

Alarm Noise - Different markets have different options of alarm sounding when the alarm is activated / triggered.

Single – Pulsed

Sounder - Different markets have different options of alarm sounders fitted that require different outputs from the BECM to operate. This allows correct selection.

Klaxon - BBUS

Alarm Lights - This changes the method of visual output from the BECM used for the alarm activated / triggered.

Hazards - Side and Tail - Dip and Tail

Key Warning - When enabled, the warning gong will sound continuously whilst the keys are in the ignition and the ignition is turned off.

Enabled – Disabled

EKA - For the markets that do not use the Emergency Key Access (EKA) system.

Enabled – Disabled

Immobilization Code

The immobilization code is stored in both the engine management and BECM ECU's. If a valid code is received from the engine ECU compared to the one in the BECM when the key is turned, the engine will start. If the Engine ecu, the BECM or the LOCKSET in the vehicle are replaced then the 2 codes will not match and the engine will not start. It will then become necessary to synchronise the two codes between BECM and engine ecu. For the EDC and Motronic systems you need to open the engine ecu settings page and make a note of the code displayed (EDC - EMS CODE) (MOTRONIC - IMMOBILISATION CODE). Then open the BECM settings page and place this number in the IMMOBILISATION CODE box and click Write settings. For GEMS ecu any number between 0 and 65535 can be input into the IMMOBILISATION CODE box in the BECM, Click on Write settings and then go to GEMS - OTHER and SECURITY LEARN MODE to force the code from the BECM to the GEMS ecu. A valid number for GEMS is between 0 and 65535.

EKA

This is the Emergency Key Access (EKA) Number for this vehicle. Only available on unlocked BECM's (see BECM STATUS). Even if the EKA function is disabled (see PASSIVE EKA) and therefore not used, each BECM still has a number programmed into it. The number has to be 4 characters long, each character can be a number between 1 and 6, and the four numbers cannot be all the same.

FOB Code

For security this information is only available to be read or programmed on unlocked BECM's (see BECM STATUS). The fob code is a 3-part code, which uniquely identifies the family of key fobs (key 1, key 2, etc.) that go with this vehicle. Any key Fob, when pressed, transmits its unique electronic ID code (FOB CODE) in an encrypted format. The BECM of any vehicle within range of that key fob decrypts the received transmission and compares the FOB CODE that was received, against the FOB CODE that is stored here. If the two match, it will accept the key as valid and perform the relevant task (lock, unlock, send mobilize signal to engine ECU, etc). This FOB CODE is derived from converting the manufacturer's Bar Set Lock code. This is a 14 digit alphanumeric number, which is printed on a label that accompanies every new key fob or lockset. When the vehicle was assembled at the factory and was first fitted with its new lock set, the Bar set lock code was recorded along with the vehicles VIN number; this can be obtained from your local

dealership by quoting the Vehicle's VIN number. If the bar set lock code given by the dealer is no longer correct for the vehicle (due to an earlier replacement of the lockset and where the kept records were not updated), there is then no alternative but to replace the lockset and use the bar set lock code that comes with it. When you have the bar set lock code, do not attempt to enter this directly, but send the code to support@blackbox-solutions quoting also your Nanocom ID number who will then convert the bar set lock code into a the 3-part FOB CODE. This FOB CODE is then entered here. The FOB CODE can only be obtained by this method. **Please remember that this can ONLY be entered if the BECM is unlocked.**

OTHER

Software Level - The software level of the BECM. This number can be read as well on the label.

Firmware - The firmware of the microprocessor fitted in BECM. This number can be read as well on the label.

VIN - The last six digits of the Vehicle Identification Number (VIN) that is unique to each vehicle. The designation for the remainder of the VIN is detailed in the relevant manual. An invalid format VIN number will not be accepted. The VIN cannot be changed on a Locked BeCM

Mileage - The value shown on the odometer display (sometimes Kilometres). This value can not be changed.

Date (dd/mm/yyyy) - The date the BECM was built in DD MM YYYY format. ECU accepts only valid values: day between 1 and 31, month between 1 and 12, year between 1991 and 2010.

BECM Status

The BECM has an electronic lock that is designed to prevent access to some of its contents. All BECM's are locked in this way at the vehicle factory after they are programmed with the information specific to the vehicle they have been fitted in. However, replacement BECM's are supplied unlocked and all data can be readily accessed and changed up until the point when the unit is locked. This is currently an irreversible process without special module SM035 so it is important to check the correctness of all information stored in the BECM before considering locking it. The status of the lock has no effect on any other operation of the BECM (i.e. it is perfectly acceptable to leave the status of the BECM unlocked for normal vehicle usage). Attention, if the BeCM is unlocked there might be problems in communicating with HEVAC in diagnostic mode. More details in the HEVAC help page.

(WARNING: this setting is irreversible)

LOCKED - UNLOCKED

INPUTS FUNCTIONS

The BECM ECU has the MIRRORS-WINDOWS, DOOR-LOCKING, LIGHTS, WASH/WIPE-SOUNDERS, DASHBOARD, SEATS and ENGINE-GEARBOX INPUTS function to read dynamically the parameters. The parameters can be analogue-numeric or digital-ON/OFF.

MIRRORS-WINDOWS INPUTS

Heated rear Window - This shows the current logic status of the heated rear window input on pin 11 of C255.

Inhibit Rears - This shows the current logic status of the rear window inhibit switch.

Sunroof Forward - This shows the current logic status of the centre console's sunroof forward switch (when fitted).

Sunroof Backward - This shows the current logic status of the centre console's sunroof backward switch (when fitted)

Sunroof Closed - This shows the current logic status of the centre console's sunroof closed switch (when fitted). This switch is built into the motor and if the motor is rotated whilst physically disconnected from the sunroof mechanism, the switch will become not synchronised to the sunroof's position. In order to re-synchronise this you must first connect the motor and use the forward and backward switches to move the

sunroof to the closed position manually, stopping at the correct point then physically disengage the motor and turn it until the exact point when the switch closes, then refit the motor.

Mirror Joystick Right - This shows the current logic status of the centre console's electric mirror adjustment joystick right switch.

Mirror Joystick Left - This shows the current logic status of the centre console's electric mirror adjustment joystick left switch.

Mirror Right Left Select - This shows the current logic status of the centre console's electric mirror adjustment right or left selection switch.

Mirror Joystick Down - This shows the current logic status of the centre console's electric mirror adjustment joystick down switch.

Mirror Joystick Up - This shows the current logic status of the centre console's electric mirror adjustment joystick up switch.

Front Right Window Down - This shows the current logic status of the centre console's front right window down switch.

Front Right Window Up - This shows the current logic status of the centre console's front right window up switch.

Front Left Window Down - This shows the current logic status of the centre console's front left window down switch.

Front Left Window Up - This shows the current logic status of the centre console's front left window up switch.

Rear Right Window Down - This shows the current logic status of the centre console's rear right window down switch.

Rear Right Window Up - This shows the current logic status of the centre console's rear right window up switch.

Rear left Window Down - This shows the current logic status of the centre console's rear left window down switch.

Rear Left Window Up - This shows the current logic status of the centre console's rear left window up switch.

REAR DOOR -

Rear Right Window Down - This shows the current logic status of the right rear door's rear right window down switch.

Rear Right Window Up - This shows the current logic status of the right rear door's rear right window up switch.

Rear left Window Down - This shows the current logic status of the left rear door's rear left window down switch.

Rear Left Window Up - This shows the current logic status of the left rear door's rear left window up switch.

DOOR-LOCKING INPUTS

Ignition Key - This shows the current logic status of the key in ignition switch.

Ignition Key Stage 1 - This shows the current logic status of the ignition switch stage I.

Ignition Key Stage II - This shows the current logic status of the ignition switch stage II.

Ignition Key Stage III - This shows the current logic status of the ignition switch stage III (starting).

Front Right Door Ajar - This shows the current logic status of the right front door ajar switch.

Front Left Door Ajar - This shows the current logic status of the left front door ajar switch.

Rear Right Door Ajar - This shows the current logic status of the right rear door ajar switch.

Rear Left Door Ajar - This shows the current logic status of the left rear door ajar switch.

Right Central Door Locking - This shows the current logic status of the front right central door locking (CDL) switch.

Left Central Door Locking - This shows the current logic status of the front left central door locking (CDL) switch.

Right key Switch - This shows the current logic status of the front right door key switch (Right hand drive).

Left Key Switch - This shows the current logic status of the front left door key switch (Right hand drive).

Bonnet - This shows the current logic status of the bonnet open switch.

Tailgate - This shows the current logic status of the tailgate open switch.

Fuel Flap - This shows the current logic status of the fuel flap release switch.

LIGHTS INPUTS

Front Fog Lights - This shows the current logic status of the front fog light switch (when fitted).

Rear Fog Lights - This shows the current logic status of the rear fog light switch (when fitted).

Headlights - This shows the current logic status of the headlight switch.

Sidelights - This shows the current logic status of the sidelight switch.

Right indicator - This shows the current logic status of the right indicator switch.

Left indicator - This shows the current logic status of the left indicator switch.

Panel Dimmer Up - This shows the current logic status of the increase brightness side of the panel dimmer switch.

Panel Dimmer Down - This shows the current logic status of the decrease brightness side of the panel dimmer switch.

Dipped/Main beam - This shows the current logic status of the dipped to main beam change over switch.

Main beam Flash - This shows the current logic status of the main beam flash switch.

Hazards - This shows the current logic status of the hazard switch.

Courtesy Light - This shows the current logic status of the courtesy light switch.

WASH/WIPE-SOUNDERS INPUTS

Wiper Delay Value - This shows the current value of the front wash wipe systems wiper delay resistor.

Front Wiper Park - This shows the current logic status of the front windscreen wipers self park switch.

Low Screen Wash - This shows the current logic status of the low fluid level switch for the windscreen washer bottle.

Horn - This shows the current logic status of the horn button.

S1 Mist - This shows the current logic status of the front wash wipe systems S1 mist switch.

S2 Slow Wipe - This shows the current logic status of the front wash wipe systems S2 slow wipe switch.

S3 Fast Wipe - This shows the current logic status of the front wash wipe systems S3 fast wipe switch.

Front Wash - This shows the current logic status of the front windscreen wash switch.

Rear Wiper Park - This shows the current logic status of the rear screen wipers self park switch.

Rear Wiper - This shows the current logic status of the rear wiper switch.

Rear Wash - This shows the current logic status of the rear screen wash switch.

DASHBOARD INPUTS

Fuel Level - This BECM input is not a high or low signal from a switch but a varying voltage from a resistive sensor. The BECM puts this incoming voltage through an internal analogue to digital converter, which gives a numerical value between 0 and 255 which equates to how high the voltage is on the input.

Footbrake - This shows the current logic status of the foot brake switch.

Handbrake - This shows the current logic status of the handbrake switch.

Inertia Cut-off - This shows the current logic status of the inertia cut-off switch which trips in the event of an impact. This switch is located behind the right hand kick panel but can be accessed through a small flap in this panel.

Ultrasonics - This shows the current logic status of the ultrasonic detectors output.

Seatbelt Buckle - This shows the current logic status of the driver's side seat belt buckle switch which is only fitted in some countries.

Cruise Switch - This shows the current logic status of the cruise controls on/ off switch.

Abs Pressure - This shows the current logic status of the ABS pressure switch.

Brake Fluid/Pressure - This shows the current logic status of the ABS pressure switch, which doubles up with the brake fluid level switch.

Abs Warning - This shows the current logic status of the ABS warning message output.

Etc Warning - This shows the current logic status of the Electronic Traction Controls (ETC) warning message output.

Eas Warning 1 - This shows the current logic status of one of the Electronic Air Suspension (EAS) message signalling outputs.

Eas Warning 2 - This shows the current logic status of one of the Electronic Air Suspension (EAS) message signalling outputs.

Eas Warning 3 - This shows the current logic status of one of the Electronic Air Suspension (EAS) message signalling outputs.

SEATS INPUTS

Left Heated Seat - This shows the current logic status of the left heated seat request line from the Hevac ECU which inputs to the BECM on pin 15.

Right heated Seat - This shows the current logic status of the right heated seat request line from the Hevac ECU which inputs to the BECM on pin 15.

Left Seat Forward - This shows the current logic status of the user control which moves the entire left electric memory seat forward (when fitted).

Left Seat Back - This shows the current logic status of the user control which moves the entire left electric memory seat backward (when fitted).

Right Seat Forward - This shows the current logic status of the user control which moves the entire right electric memory seat forward (when fitted).

Right Seat Back - This shows the current logic status of the user control which moves the entire right electric memory seat backward (when fitted).

Left Squab Front Up - This shows the current logic status of the user control which raises the front of the left electric memory seats squab cushion (when fitted).

Left Squab Front Down - This shows the current logic status of the user control which lowers the front of the left electric memory seats squab cushion (when fitted).

Right Squab Front Up - This shows the current logic status of the user control which raises the front of the right electric memory seat's squab cushion (when fitted).

Right Squab Front Down - This shows the current logic status of the user control which lowers the front of the right electric memory seat's squab cushion (when fitted).

Left Squab Rear Up - This shows the current logic status of the user control which raises the rear of the left electric memory seats squab cushion (when fitted).

Left Squab Rear Down - This shows the current logic status of the user control which lowers the rear of the left electric memory seats squab cushion (when fitted).

Right Squab Rear Up - This shows the current logic status of the user control which raises the rear of the right electric memory seat's squab cushion (when fitted).

Right Squab Rear Down - This shows the current logic status of the user control which lowers the rear of the right electric memory seat's squab cushion (when fitted).

Left Backrest Up - This shows the current logic status of the user control which moves the left electric memory seats backrest forward (when fitted).

Left Backrest Down - This shows the current logic status of the user control which moves the left electric memory seats backrest backward (when fitted).

Right Backrest Up - This shows the current logic status of the user control which moves the right electric memory seat's backrest forward (when fitted).

Right Backrest Down - This shows the current logic status of the user control which moves the right electric memory seat's backrest backward (when fitted).

Left Headrest Up - This shows the current logic status of the user control which moves the left electric memory seats headrest up (when fitted).

Left Headrest Down - This shows the current logic status of the user control which moves the left electric memory seats headrest down (when fitted).

Right Headrest Up - This shows the current logic status of the user control which moves the right electric memory seat's headrest up (when fitted).

Right Headrest Down - This shows the current logic status of the user control which moves the right electric memory seat's headrest down (when fitted).

Left Memory 1 - This shows the current logic status of the user button which in conjunction with the memory store button, stores the left electric memory seat's current motor positions of all adjustments in memory 1 (when fitted).

Left Memory 2 - This shows the current logic status of the user button which in conjunction with the memory store button, stores the left electric memory seat's current motor positions of all adjustments in memory 2 (when fitted).

Right Memory 1 - This shows the current logic status of the user button which in conjunction with the memory store button, stores the right electric memory seat's current motor positions of all adjustments in memory 1 (when fitted).

Right Memory 2 - This shows the current logic status of the user button which in conjunction with the memory store button, stores the right electric memory seat's current motor positions of all adjustments in memory 2 (when fitted).

Left Memory Store - This shows the current logic status of the user button which in conjunction with one of the memory number buttons, stores the left electric memory seat's current motor positions of all adjustments in the selected memory (when fitted).

Right memory Store - This shows the current logic status of the user button which in conjunction with one of the memory number buttons, stores the right electric memory seat's current motor positions of all adjustments in the selected memory (when fitted).

ENGINE-GEARBOX INPUTS

Engine Temperature - This BECM input is not a high or low signal from a switch but a varying voltage from a resistive sensor. The BECM puts this incoming voltage through an internal analogue to digital converter which gives a numerical value between 0 and 255 which equates to how high or low the voltage is the resulting number is displayed here.

Oil Pressure - This shows the current logic status of the low oil pressure warning switch.

Check Engine (MIL) - This shows the current logic status of the engine ECU'S check engine warning lamp output.

Alternator D+ - This shows the current logic status of the alternator's D+ output.

Autobox Z/ Neutral - This shows the current logic status of the Z switch (for automatic transmission) or for the gear stick in neutral switch (for manual transmission).

Autobox Y - This shows the current logic status of the Y switch for automatic transmission vehicles. It is not used with manual transmission vehicles.

Autobox X / Reverse - This shows the current logic status of the X switch (for automatic transmission) or for the gear stick in reverse gear switch (for manual transmission).

Clutch - This shows the current logic status of the clutch switch.

Gearbox Overheat - This shows the current logic status of the gearbox's overheat warning output.

Gearbox Mes1 - This shows the current logic status of one of the Auto gearbox's operating mode outputs.

Gearbox Mes2 - This shows the current logic status of one of the Auto gearbox's operating mode outputs.

Transfer Box Overheat - This shows the current logic status of the transfer gear box's overheat warning output.

Transfer Box Low Range - This shows the current logic status of one of the transfer gear box's range state outputs.

Transfer Box Hi Range - This shows the current logic status of one of the transfer gear box's range state outputs.

OUTPUTS FUNCTIONS

INSTRUMENT CLUSTER OUTPUTS

Instrument Cluster Lamps - Tests all the lamps and LEDs on the instrument panel.

Chequer board pattern

Malfunction indicating

Oil pressure warning

Heater/service indicator

Coolant high temperature warning - ON - OFF

Fuel Gauge - Tests the gauges. The needle moves quite slowly as it is damped, and it can take 10-30 seconds before any change can be seen. To speed up the procedure, after clicking on the function and while it is still running, remove fuse F1 for one second and replace it. The instrument pack will then reset and on re power move the needle to the requested place immediately.

Empty - Half - Full - Normal

Water Temp. Gauge - Tests the gauges. The needle moves quite slowly as it is damped, and it can take 10-30 seconds before any change can be seen. To speed up the procedure, after clicking on the function and while it is still running, remove fuse F1 for one second and replace it. The instrument pack will then reset and on re power move the needle to the requested place immediately.

Cold - Medium - Hot – Normal

MIRRORS OUTPUTS

Can be moved up, down, to the left or to the right, and the heater can be turned on and off.

RIGHT - LEFT

Heater - ON - OFF

DOWN - UP - LEFT - RIGHT

START

WINDOWS-SUNROOF OUTPUTS

Caution: Make sure that nothing obstructs the window.

Front Right electric window down

Front Right electric window up

Front left electric window down

Front left electric window up

Rear right electric window down

Rear right electric window up

Rear left electric window down

Rear left electric window up

Caution: Make sure that nothing obstructs the sunroof.

Open sunroof (move to rear)

Close sunroof (move to front)

START

DOORS-LOCKING OUTPUTS

Test the locks for all doors. **WARNING: Leaving the solenoids energized for long can produce damages.**

Front right door lock

Front right door unlock

Front right door superlock

Front left door lock

Front left door unlock

Front left door superlock

Rear doors lock

Rear doors unlock

Rear doors superlock

Petrol flap

ON

Ignition II - ON - OFF

Ignition III

Ignition III ON

This function engages the output, which drives the vehicle's Starter Motor and should only be used when it has been checked that it is safe to do so. **The Engine may start if it is able to do so, and the vehicle may move if it is in gear. Please stand well clear to avoid any possible injuries.**

LIGHTS OUTPUTS

Tests vehicle's lights.

Main beam lamps
Dipped beam lamps
Driving lamps
Left hand side lights
Right hand side lights
Left hand side indicators
Right hand side indicators
Front fog lights
Rear fog lights
Reversing lights
Number plates lights
Courtesy lamp
Panel lights
ON OFF

WASHWIPES OUTPUTS

Tests the wipers for the windscreen and headlamp.

Front windscreen wiper fast
Front windscreen wiper slow
Front windscreen wash
Headlamp wash and wipe
Rear wiper
Rear screen wash
ON OFF

SOUNDER-DASHBOARD OUTPUTS

Tests all the sounders (horn, alarm, internal warning buzzer).

Horn
Alarm
Internal warning buzzer
Cruise Control warning lamp
Hazard warning lamp
Transfer control warning lamp
Alarm light
Alarm LED
ON OFF

SEATS OUTPUTS

This function works only on electric memory seats. Turns on and off the heater, moves the seat forward and rearward, raise and lower the squab cushion.

RIGHT - LEFT

Heater - ON OFF
Seat forward
Seat rearward
Back rest forward
Back rest rearward
Seat squab cushion rear raising
Seat squab cushion rear lowering
Seat squab cushion front raising
Seat squab cushion front lowering
Head restraint position raising
Head restraint position lowering
START

UTILITY FUNCTIONS

ODOMETER SYNC.

This forces the odometer in the instrument cluster to synchronise or update to display the value stored in the BECM if that value is higher. It stops the display showing ODO UPDATE. The BECM automatically updates to the same value as that stored in any instrument pack that is fitted if the value is higher than the one the BECM already contains.

SERVICE RESET (NAS ONLY)

This only works on NAS or Canadian specification vehicles where the function is normally enabled. This function resets the engine service reminder warning lamp, which illuminates constantly after the vehicle has travelled more than approximately 50,000 miles or 80,500 kilometres.

DISARM

This only applies to a BeCM with a PAM version of V36 or later. This is printed on the label on the BeCM above the fuses. For a vehicle with EKA enabled, is required to type in the EKA code. The function will disarm the BECM.