

3 HSV Embedded Security System

3.1 General Information

The new HSV Embedded Security System (ESS) is fitted as standard equipment to all HSV VTII, WH, VY and WK model Vehicles. The ESS is a microprocessor-controlled immobiliser, which automatically interrupts essential electrical circuits when in “armed mode”. The ESS stores the BCM's security code and when the car is started it reads this code from the SCI bus. If this code is different from the stored one the ESS enters armed mode and prevents the vehicle from starting.

3.2 Linking The ESS To A New BCM At The Retailer – BCM In Warranty

If the BCM requires replacement within the BCM warranty period, the Retailer shall be supplied with a replacement BCM programmed with the same BCM security code as the original BCM. In this case, the replacement BCM and new keys are simply fitted to the vehicle. No ESS specific requirements are needed.

3.3 Linking The ESS To A New BCM At The Retailer – BCM Out Of Warranty

When a BCM requires replacement outside the BCM warranty period the Retailer shall need to obtain a replacement BCM and keys from Holden's Service Parts Operation (HSPO). The replacement BCM and Keys will not contain the same BCM Security Code as the original BCM.

When a new BCM with different BCM security code is fitted to the vehicle, the Retailer will have to do the following:

- Program a new key to the BCM.
- Link the BCM and PCM.

TECH 2 must be connected to the vehicle diagnostic connector whilst the key is being programmed and/or ESS is being linked to the vehicle. The Link Enable Procedure is required to be performed twice to allow an all new key to be programmed and also allow the ESS learn to learn the BCM security code. The procedure for programming a new key to a new BCM and linking the ESS to the vehicle is as follows:

1. Fit new BCM to the vehicle.
2. Ensure all doors, boot and bonnet are closed, all doors are unlocked, dome lamp is in the 'doors' position and the radio, headlight and wash-wipe switches are off.
3. Place **new key** into the ignition barrel.
4. Turn ignition on. Verify ESS beeps 5 times.
5. For VT.II / VX Vehicles TECH2 must be operating in the "Normal Mode" submenu of the Body Control Module sub-menu.
For VY / WK Vehicles TECH2 must be operating in the Body Control Module sub-menu only.
6. Perform the Link Enable Procedure (see [Section 3.5](#)). Wait 1 second between each lock unlock to ensure the door lock actuators function correctly during this procedure.
7. Verify that the ESS beeps twice. TECH2 reports ignition is at 12VDC. The ESS has now entered "Key Programming mode".
8. Select Key Programming function – "All New Key" - from the security sub-menu in the body menu of the TECH2. Enter BCM security code as requested by TECH2. Complete key programming as requested by TECH2.
9. Turn ignition off and wait for 2 seconds. Turn ignition on.
10. Verify ESS beeps 5 times. (At this stage the ESS is in "armed mode").
11. For VT.II / VX Vehicles TECH2 must be operating in the "Normal Mode" submenu of the Body Control Module sub-menu.
For VY / WK Vehicles TECH2 must be operating in the Body Control Module sub-menu only.
12. Perform the Link Enable Procedure (see [Section 3.5](#)). Wait 1 second between each lock unlock to ensure the door lock actuators function correctly during this procedure.
13. Verify that the ESS beeps twice. TECH2 reports ignition is at 12Vdc.
14. Link the PCM to the BCM using TECH2. ESS beeps twice (ESS has now learned the BCM security code).
15. Turn ignition off. Wait until TECH2 programming is complete.
16. Turn ignition on.
17. Turn ignition off. Wait 2 seconds.
18. Turn ignition on.
19. Verify ESS beeps once. The ESS is now operating in "normal mode".
20. Crank engine. Verify vehicle starts as normal.

3.4 Key Programming Mode

Once the ESS has been placed into key programming mode the ESS will behave as if in “sleep mode” for one ignition cycle only. This allows for the one ignition cycle that is required to program a new key to a new or existing BCM. The ESS will enter “normal mode” for the next ignition cycle. If the BCM is a new BCM in the vehicle with a new security code, the ESS will then enter “armed mode” as expected.

Programming Extra Keys To The Vehicle

Programming more keys for the vehicle can be achieved using TECH2 once the ESS has been re-linked to the vehicle as described as follows:

1. Ensure all doors, boot and bonnet are closed, all doors are unlocked, dome lamp is in the ‘doors’ position and the radio, headlight and wash-wipe switches are off.
2. Place **new key** into the ignition barrel.
3. Turn ignition on. Verify ESS beeps 5 times.
4. For VT.II / VX Vehicles TECH2 must be operating in the “Normal Mode” submenu of the Body Control Module sub-menu.
For VY / WK Vehicles TECH2 must be operating in the Body Control Module sub-menu only.
5. Perform the Link Enable Procedure (see [Section 3.5](#)). Wait 1 second between each lock unlock to ensure the door lock actuators function correctly during this procedure.
6. Verify that the ESS beeps twice. TECH2 reports ignition is at 12Vdc. The ESS has now entered “Key Programming mode”.
7. Select Key Programming function – “Extra Key” - from the security sub-menu in the body menu of the TECH2. When TECH2 requests ignition to be cycled with the **existing key**, leave the **new key** in the ignition barrel and instead, press the unlock button on the **existing key**. Verify the ESS beeps once and the Theft Deterrent LED stops flashing. Complete key programming as requested by TECH2.
8. Turn ignition off and wait for 2 seconds.
9. Turn ignition on. Verify ESS beeps once. The ESS is now operating in “normal mode”.
10. Crank engine. Verify vehicle starts as normal.

Programming All New Key

Programming an All New Key for the vehicle can be achieved by performing the following procedure:

Ensure all doors, boot and bonnet are closed, all doors are unlocked, dome lamp is in the ‘doors’ position and the radio, headlight and wash-wipe switches are off.

1. Place **new key** into the ignition barrel.
2. Turn ignition on. Verify ESS beeps 5 times.
3. For VT.II / VX Vehicles TECH2 must be operating in the “Normal Mode” submenu of the Body Control Module sub-menu.
For VY / WK Vehicles TECH2 must be operating in the Body Control Module sub-menu.
4. Perform the Link Enable Procedure (see [Section 3.5](#)). Wait 1 second between each lock unlock to ensure the door lock actuators function correctly during this procedure.
5. Verify that the ESS beeps twice. TECH2 reports ignition is at 12VDC. The ESS has now entered “Key Programming mode”.
6. Select Key Programming function – “All New Key” - from the security sub-menu in the body menu of the TECH2. Enter BCM security code as requested by TECH2. Complete key programming as requested by TECH2.
7. Turn ignition off and wait for 2 seconds.
8. Turn ignition on. Verify ESS beeps once and Theft Deterrent LED is off. The ESS is now operating in “normal mode”.
9. Crank engine. Verify vehicle starts as normal.

3.5 Link Enable Procedure

Each ESS has it's own unique Link Enable Code (LEC), programmed into each ESS by HSV. This code corresponds to a unique sequence of 10 vehicle body functions comprising of the following actions:

1. Drivers door. Open then Close
2. Drivers door Snib. Lock then Unlock
3. Wash-Wipe. On then off.

Approximately 60,000 link enable codes are available.

For the Link Enable Procedure contact Australian Arrow Pty Ltd Customer Service quoting ESS PIN and Vehicle Identification / Tag Number.

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