PRODUCT SERVICE INFORMATION

Document number: P0037

For further technical information regarding testing, repairs or to search for New or Remanufactured

Automotive electronic products, please visit www.injectronics.com.au, call our office on (+613) 8792 6999,

or email sales@injectronics.com.au

Vehicle: Ford Ranger / Mazda BT50

Subject: Installation & security programming

This ECM has been supplied in an unlocked state. Once this ECU is installed in a non-immobiliser type vehicle, the ECU programming contents will change and lock to the non-immobiliser type vehicle on first key ON and car will start and run as normal. This ECU can no longer be used in an immobiliser type vehicle.

If an unlocked ECU is installed in an immobilizer type vehicle, the ECU programming contents will change and lock to the immobiliser type vehicle, and then the ECU can no longer be used as non-immobiliser type, however additional programming will be required to link the ECU to immobiliser system of the car.

Immobiliser Linking

Two valid or working keys are required with immobiliser unit for programming ECU to immobiliser. If only one working key or valid key is available then 8-digit security code is required and also another new key will be needed. Security code is only available from dealers by providing them with serial number from the immobiliser unit as shown in fig 1. If no valid key is available with immobiliser module, programming of new key or ECU is not possible and new immobiliser will be required.

ECU programming with 2 valid keys available

1. Insert key 1 into the steering lock and turn the key to ON position.
    a. Verify that the security light illuminates.
    b. After verifying that the security light goes off, turn the key to LOCK position.

2. Pull out the key for approximately 1 cm and insert it again constantly five times at no more than 1-second-intervals. After the final key insertion verify that the security light illuminates.
    a. This step is very time sensitive and has to be performed precisely. When key is inserted in it activates the key detection switch which sends a signal to the immobiliser. Make sure to wait a bit when key is in i.e. quick to insert key in but slow to pull out.

3. Remove the key from the steering lock. Verify that the security light goes out.

4. Insert key 2 into the steering lock and turn the key to the ON position. Verify that the security light illuminates for 1 to 2 seconds.
    a. When the security light has gone out, turn the key to the LOCK position and remove it from the steering lock.
    b. If the security light doesn't goes out, then ECU status is not virgin and it won't program to the immobiliser.

5. Insert key 1 into the steering lock and turn it to the ON position. Verify that the security light illuminates for 1 to 2 seconds.

6. When the security light has gone out, turn the key to the LOCK position and remove it from the steering lock.

7. Repeat step 7 if you have more than 2 keys available.

8. Wait for 30 seconds and then try to start car, then clear any DTC in the ECU.

ECU programming with only 1 valid key and one new key

There has to be 2 keys available to program ECU, so if only one key is available then second key needs to be cut. 8-digit security code is also required before proceeding.

1. Insert valid key 1 into the steering lock and turn the key to ON position.

    - Verify that the security light illuminates.
    - After verifying that the security light goes off, turn the key to LOCK position.
    - Remove key from lock and wait for 2 seconds or more

2. Insert key 2 (new key) into steering lock and wait for 1 second or more.

3. Pull out the key for approximately 1 cm and insert it again constantly five times at no more than 1-second-intervals. After the final key insertion verify that the security light flashes fast (300ms ON – 300ms OFF).

    - *This step is very time sensitive and has to be performed precisely. When key is inserted in it activates the key detection switch which sends a signal to the immobiliser. Make sure to wait a bit when key is in i.e. quick to insert key in but slow to pull out.*

4. Wait for 5 minutes until security light flashes slow at 1.2 second interval.

5. Input security code word (see procedure below as how to input security code).

6. After verifying the security light has switched from flashing to solid illumination, turn the key to ON position.

7. When the security light has gone out, turn the key to the LOCK position and remove it from the steering lock.

    - *If the security light doesn't goes out, then ECU status is not virgin & it won't program to immobiliser.*

8. Repeat step 7 if you more than 2 keys available.
9. Wait for 30 seconds and then try to start car and clear DTCs in ECM

Security Code Word Input Procedure

- A code word is composed of eight digits from 0 – 9. The manufacturer has programmed it as a unique figure into the immobilizer module.

- When you have entered the mode for inputting the code word with an ***unregistered*** key according to the procedure described on the preceding page, wait for 5 minutes until the security light flashes slowly (flashing frequency changes from 300ms ON / 300ms OFF to 1.2 s ON / 1.2 s OFF).

- Input the code word according to the following procedure as shown in the example for the code word digits "3" and "4"

1. Turn ignition switch to the ON position while the security light is **OFF** and count three illumination cycles. When the light is **OFF** after the third illumination, turn the key to the LOCK position.

2. Wait at least one illumination cycle.

3. Then turn the ignition switch to the ON position (within 30 seconds) while the security light is **OFF** and count four illumination cycle. While the light is **OFF** after the first illumination, turn the key to the LOCK position.

4. Repeat step (2) for the remaining six digits.

5. When the code word is correctly registered in the PCM, the security light stops flashing and illuminates. Carry on with the respective programming step.