SERVICE BULLETIN

Classification:	Reference:	Date:
EL99-020c	NTB99-063c	November 20, 2002

ENGINE WILL NOT START
NVIS/NATS SYSTEM DESCRIPTION
KEY REGISTRATION

This bulletin amends NTB99-063b updated Applied Vehicle information.

Please discard all paper copies of that bulletin.

APPLIED VEHICLE(S):　　　　2000 - 2001 Altima (L30)
　　　　　　　　　　　　　　　2000 - 2003 Maxima (A33)
　　　　　　　　　　　　　　　1999 Maxima (A32)
　　　　　　　　　　　　　　　1999.5 – 2003 Pathfinder (R50)
　　　　　　　　　　　　　　　2000 - 2003 Sentra (B15)
APPLIED VINS:　　　　　　 All
APPLIED DATES:　　　　　　Start of production

SERVICE INFORMATION

- This bulletin covers two versions of the Nissan Vehicle Immobilizer System/Nissan Anti-Theft System (NVIS/NATS). One of these systems, referred to as either "NATS V 2.0" or "NATS V 5.0", is standard equipment on the Applied Vehicles listed above.

- NATS uses advanced anti-theft functions and requires CONSULT-II or CONSULT (where applicable) for service. This helps prevent "unauthorized access" into the NATS registration procedure.

- When the NATS ignition key, IMMU (Immobilizer control unit), or ECM (ECCS control unit) are replaced, C/U initialization is necessary. It is also necessary when registering keys and as part of many NATS Service Manual diagnostic procedures.

  IMPORTANT: The NATS "C/U Initialization and Key Registration" Procedures in this bulletin are only for the Applied Vehicles listed above. Do not use these procedures on any other NATS-equipped vehicles.

- NATS V 2.0 and NATS V 5.0 are very similar **except for the "C/U Initialization and Key Registration" Procedure. Each Version uses a different Procedure.**

Special Service Notes:

Key Registration Required

- NATS will not allow the engine to start without the use of a registered ignition key. **Nissan models with NATS have a "transponder chip" in the ignition key head.**

- If a vehicle will not start and the Dash Security lamp is ON solid, it is possible that the ignition keys were not properly registered into the vehicle's Immobilizer control unit (IMMU).

- When the NATS ignition key or IMMU are replaced, C/U Initialization and Key Registration MUST BE PERFORMED or THE VEHICLE WILL NOT START. This same procedure is also needed when registering new keys. It is part of many NATS Service Manual diagnostic procedures.

- If any ignition keys need to be added or if any ignition key needs to be re-registered, ALL other ignition keys must be re-registered at the same time or they will no longer start the vehicle.

Other Important Information

- The NATS key code is permanently encoded to the NATS key ID chip at the time of its manufacture and cannot be changed. Recommend only using Nissan service parts (key blanks).

- NATS does not activate the vehicle theft warning system.

- A maximum of five ignition keys can be registered to the NATS.

  NOTE: The Owner's Manual for the vehicle you are working on can tell you how many keys came with the vehicle. This number varies from vehicle to vehicle.
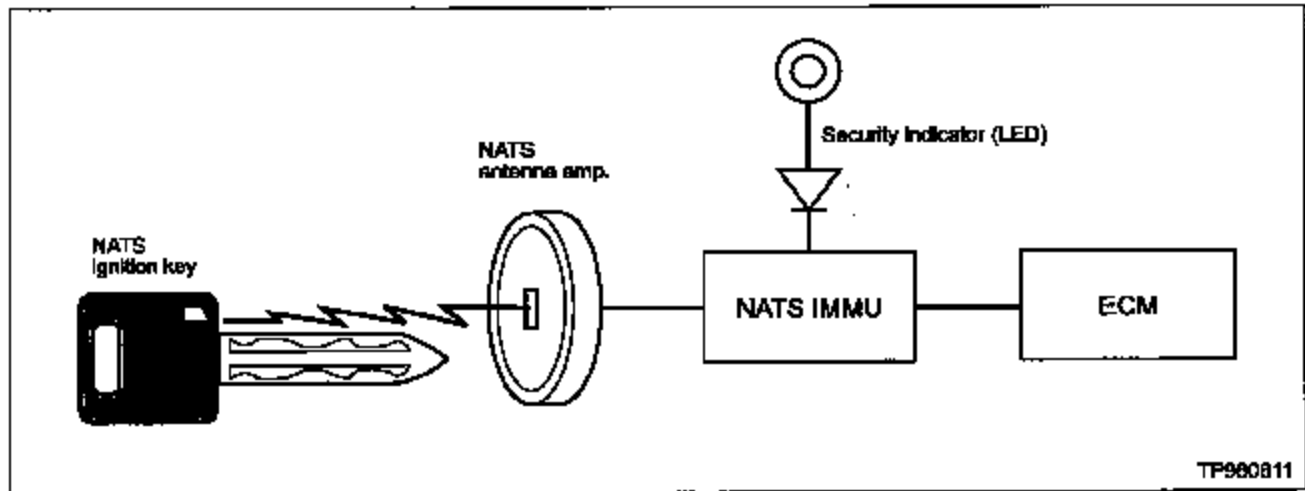
Transponders

- If a NATS-equipped vehicle experiences an intermittent no start incident, interference from another transponder could also be the cause.

- Other vehicle ignition keys that have transponders or transponders such as the Mobil Speedpass® (see right) may be a source of interference. They may be too close (3/4 to 1 inch) to the registered key being used to start the vehicle.

- In these cases, there will be a "DIFFERENCE OF KEY" code stored in the Engine Control Module (ECM). The MIL will not turn "ON" for this.

- Once the vehicle is started, transponder interference will not cause the engine to stall.

- **To avoid transponder interference occurrences, advise the customer to keep all other transponders on separate key rings.**

System Components

- NATS ignition key (with transponder chip).

- NATS antenna amplifier located around the ignition key cylinder.

- NATS immobilizer control unit (works directly with ECM).

- Security Indicator (Light Emitting Diode, or LED), located on the dash.

System Operation

- The NATS uses a digital radio frequency (RF) to transmit a key code between the NATS key ID chip (which is "embedded" in the NATS ignition key) and the IMMU. When a registered NATS key transmits a valid code, the ECM will allow the engine to start.

- If the correct code is not received, the IMMU will not transmit a valid code to the ECM. In which case the ECM will not let the engine start.

CONSULT-II NATS Program Card / NATS-E980U CONSULT Program Card usage:

- For CONSULT-II use the NATS Program Card. CONSULT-II is fully compatible with early and later vehicles. **This is the preferred tool for this procedure.**

- CONSULT is not compatible with some later vehicles. If CONSULT can and is to be used, the NATS-E980U CONSULT program card must be loaded into CONSULT and initialized. The card must remain in CONSULT while servicing and diagnosing the NVIS or registering keys.

SERVICE PROCEDURE

Precautions prior to registration:

- Collect all existing ignition keys from the customer.

  Note: ANY KEYS THAT ARE NOT REGISTERED AT THIS TIME WILL NO LONGER START THE VEHICLE.

- Separate all NATS ignition keys and other transponders away from each other (take them off the key ring). Keep them separate during the whole key registration process.

- Do not "crank" the engine/operate the starter during the Key Registration Procedure.

- <u>Performing C/U initialization and key registration may not erase NATS DTC's stored in the ECM. YOU MUST CLEAR THE DTC's BY PRESSING ERASE IN THE SELF DIAGNOSTIC RESULTS DISPLAY OF CONSULT</u> (step 7 in Key Confirmation, below).

- It is recommended that you read through the **entire** service procedure **before** doing it for the first time.

NATS C/U Initialization and Key Registration Procedures:

This is sections divided into two procedures, NATS V 2.0 and NATS V 5.0.

Use the descriptions below to find which procedure applies to the vehicle being serviced.

Procedure 1; NATS V 2.0

For 2000 Altima (except CA-spec A/T vehicles built after VIN 1N4DL01D7YC245260),

1999 Maxima,

1999.5 – 2000 Pathfinder.

Procedure 2; NATS V 5.0

For 2000 Altima CA-spec A/T vehicles built after VIN 1N4DL01D7YC245260,

2001 Altima,

2000 - 2003 Maxima,

2000 - 2003 Sentra,

2001-2003 Pathfinder.

Procedure 1; NATS V 2.0
For 2000 Altima (except CA-spec A/T vehicles built after VIN 1N4DL01D7YC245260), 1999 Maxima, 1999.5 – 2000 Pathfinder.

Registration:

1. Verify NATS software card is installed into software slot of the CONSULT-II unit. If CONSULT can and is being used, load and use the E980U (purple) card.

2. Connect CONSULT or CONSULT-II to the data link connector under the dash.

3. Insert the ignition key and turn it to the "ON" position. **Do not start the engine.** CONSULT or CONSULT-II will load the NATS software automatically. Wait for the START box to appear on CONSULT or CONSULT-II before proceeding.

4. Press the START box.

5. Select NATS V 2.0 if using CONSULT-II. If you are using CONSULT proceed to step 6.

6. Select C/U INTIALIZATION.

7. Press the START box on CONSULT or CONSULT-II.

8. When C/U Initialization is completed for IMMU, turn key (1st key) to "OFF/LOCK" position and pull it out. **Keep this first key separate from ALL the other keys for right now.** It will be used later in step 12 below. WAIT AT LEAST 5 SECONDS, then go to step 9.

   NOTE:
   - The key that was just used is automatically registered at this stage.

   - During this process do not mix up the "registered" keys and the "unregistered" keys. Keep them in different piles during this process. Accidentally inserting a key at this point that is already "registered" will drop the system out of the registration mode. If that happens you will have to start all over again and go back to step 3 above.

9. Insert the next key to be registered into the ignition and turn the key to the "ON" position. **Do not start the engine.**

10. Wait at least 5 seconds (for example, until the Air Bag light goes out), turn the key to "OFF/LOCK" and remove it.

11. Repeat steps 9 and 10 for all remaining "unregistered" keys needing to be registered into the system. Remember, a maximum of five keys can be registered.

12. After registering and removing the last key, re-insert the first key registered and turn it to the "ON" position. This will take the system out of the key registration mode.

13. Turn the key to "OFF" and remove the key.

Procedure 1; NATS V 2.0 (cont.)

For 2000 Altima (except CA-spec A/T vehicles built after VIN 1N4DL01D7YC245260), 1999 Maxima, 1999.5 – 2000 Pathfinder.

14. Wait for the Security Lamp to start to blink (approximately 5 seconds). This will indicate that the system has reset. Proceed to **Key Confirmation**.

15. If INITIALIZATION STOPPED or FAILED is displayed on CONSULT or CONSULT-II during the above procedure:

   a. Perform NATS SELF DIAGNOSIS. Repair any codes indicated.
   b. Once NO SELF DIAGNOSIS FAILURE INDICATED is displayed, return to step 3 above.

Key Confirmation:

1. Confirm that the NATS security indicator is blinking. This verifies the completion of the Key ID Registration sequence.

2. Insert each key that was initialized during the Key Registration process and confirm that ALL the keys will successfully start the vehicle. **Wait for the system to reset in between each key check** (see **NOTE**, below). Watch for the Security Lamp to begin blinking (approximately 5 seconds) between each confirmation of key operation, indicating the system has reset.

   NOTE: You **must wait for the system to reset** between each key check or key operation will not be confirmed.

3. Press BACK on the CONSULT or CONSULT-II screen.

4. Press BACK on the CONSULT or CONSULT-II screen again.

5. Put any registered key into the ignition and turn it to the "ON" position.

6. Select SELF-DIAGNOSIS RESULTS to check for DTC's.

7. Press the ERASE box in SELF DIAG RESULTS to clear any DTC's set prior to repairs.

8. Turn ignition key to "OFF/LOCK" and remove it.

9. Turn off the CONSULT or CONSULT-II, disconnect the Data Link Connector and remove CONSULT or CONSULT-II from the vehicle.

Procedure 2; NATS V 5.0

For 2000 Altima CA-spec A/T vehicles built after VIN 1N4DL01D7YC245260, 2001 Altima, 2000 - 2003 Maxima, 2000 - 2003 Sentra, 2001-2003 Pathfinder.

Registration:

1. Verify NATS software card is installed into software slot of the CONSULT-II unit.

2. Connect CONSULT-II to the data link connector under the dash.

3. Insert the ignition key and turn it to the "ON" position. **Do not start the engine.** CONSULT-II will load the NATS software automatically. Wait for the START box to appear on CONSULT-II before proceeding.

4. Press the START box.

5. Select NATS V 5.0.

6. Select C/U INTIALIZATION.

7. Input Password (PIN Code): 5523 (for North America)

8. Press the START box on CONSULT-II.

9. When C/U Initialization is completed for IMMU, turn key to "OFF/LOCK" position and pull it out. WAIT AT LEAST 5 SECONDS, then go to step 10.

    NOTE: The key that was just used is **NOT yet registered at this stage.**

10. Insert the first key to be registered into the ignition and turn the key to the "ON" position. **Do not start the engine.**

11. Wait at least 5 seconds (for example, until the Air Bag light goes out), turn the key to "OFF/LOCK" and remove it. **Keep this first key separate from ALL the other keys for right now.** It will be used later in step 13 below.

    NOTE: During this process do not mix up the "registered" keys and the "unregistered" keys. Keep them in different piles during this process. Accidentally inserting a key at this point that is already "registered" will drop the system out of the registration mode. If that happens you will have to start all over again and go back to step 3 above.

12. Repeat steps 10 and 11 for all remaining "unregistered" keys needing to be registered into the system. Remember, a maximum of five keys can be registered.

13. After registering and removing the last key, re-insert the first key registered and turn the key to the "ON" position. This will take the system out of the key registration mode.

14. Turn the key to "OFF" and remove the key.

15. Wait for the Security Lamp to start to blink (approximately 5 seconds). This will indicate that the system has reset. Proceed to **Key Confirmation.**

Procedure 2; NATS V 5.0 (cont.)

For 2000 Altima CA-spec A/T vehicles built after VIN 1N4DL01D7YC245260, 2001 Altima, 2000 - 2003 Maxima, 2000 - 2003 Sentra, 2001-2003 Pathfinder.

16. If INITIALIZATION STOPPED or FAILED is displayed on CONSULT-II during the above procedure:

    a. Perform NATS SELF DIAGNOSIS. Repair any codes indicated.
    b. Once NO SELF DIAGNOSIS FAILURE INDICATED is displayed, return to step 3 above.

Key Confirmation:

1. Confirm that the NATS security indicator is blinking. This verifies the completion of the Key ID Registration sequence.

2. Insert each key that was initialized during the Key Registration process and confirm that <u>ALL</u> the keys will successfully start the vehicle. **Wait for the system to reset in between each key check** (see **NOTE**, below). Watch for the Security Lamp to begin blinking (approximately 5 seconds) between each confirmation of key operation, indicating the system has reset.

   NOTE: You **must wait for the system to reset** between each key check or key operation <u>will not be confirmed</u>.

3. Press BACK on the CONSULT-II screen.

4. Press BACK on the CONSULT-II screen again.

5. Put any registered key into the ignition and turn it to the "ON" position.

6. Select SELF-DIAGNOSIS RESULTS to check for DTC's.

7. In rare cases "CHAIN OF ECM-IMMU" is stored during the Key Registration process. Press the ERASE box if it appears in SELF DIAG RESULTS to clear this code or any DTC's set prior to repairs.

8. Turn ignition key to "OFF/LOCK" and remove it.

9. Turn off the CONSULT-II, disconnect the Data Link Connector and remove CONSULT-II from the vehicle.