

Classification:

EL99-021b

Reference:

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## ENGINE WILL NOT START OR INTERMITTENT NO START / KEY REGISTRATION PROCEDURE AND SYSTEM DESCRIPTION FOR IVIS/NATS

**This bulletin supersedes ITB98-037 / EL98-009. Please discard all paper copies of that bulletin.  
This bulletin amends ITB99-046a / EL99-021a and provides updated Applied Vehicle information.  
Please discard all previous paper copies of that bulletin.**

**APPLIED VEHICLE(S):** 2000 - 2001 I30 (CA33)  
1999 I30 (CA32)  
1999.5 – 2001 QX4 (JR50)  
1997 - 2001 Q45 (FY33)  
2000 - 2001 G20 (P11)

**APPLIED VINS:** All

**APPLIED DATES:** Start of production

### SERVICE INFORMATION

This bulletin describes and introduces new features of the Infiniti Vehicle Immobilizer System/Nissan Anti-Theft System (IVIS/NATS). The system is standard equipment on each of the applied vehicles listed above.

**The IVIS/NATS will not allow the engine to start without the use of a registered ignition key. If a vehicle will not start and the Security lamp is on solid, it may be because the ignition keys were not properly registered into the vehicle's NATS IMMU (Immobilizer control unit). In this case, there will be a "DIFFERENCE OF KEY" code stored in the NATS IMMU.**

When the NATS ignition key, IMMU, 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.

**If the NATS ignition key, vehicle's ECM or NATS IMMU have been replaced, C/U Initialization and Key Registration MUST BE PERFORMED OR THE VEHICLE WILL NOT START.**

THE FOLLOWING POINTS MUST BE FOLLOWED IF C/U INITIALIZATION AND KEY REGISTRATION ARE BEING PERFORMED:

- **Before proceeding with Key Registration all existing ignition keys to the vehicle must be collected from the customer. All prior key IDs will be erased once the process is started and the earlier keys will not start the vehicle. All ignition keys that are going to be used for the vehicle must be present, available and registered during Key Registration or THEY WILL NOT START THE VEHICLE.**

- To prevent transponder interference keep all NATS ignition keys and other transponders away from the key being registered during the Key Registration process (see NOTES ABOUT TRANSPONDER INTERFERENCE, below). This ensures the proper ID code for each key registered is stored into the NATS IMMU memory.

For more details see "NATS C/U Initialization and Key Registration " later in this bulletin. Refer to the specific model and year you are working with.

#### NOTES ABOUT POSSIBLE TRANSPONDER INTERFERENCE:

- If an NATS-equipped vehicle experiences an intermittent no start incident, the cause may be the close proximity of another transponder with a frequency similar to the transponder in the NATS key. Transponders such as the Mobil Speedpass® (see Figure 1) may operate on the same frequency as the NATS transponder in the NATS key head. These transponders may cause frequency interference, putting the vehicle into anti-theft mode and creating a no start condition.

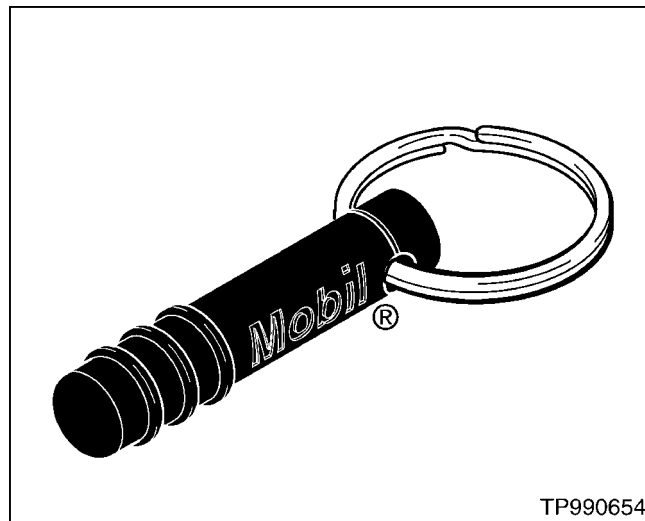


Figure 1

- To cause this no start condition, the incident transponder must be within 2-3 centimeters of the Infiniti key head. For example, a customer may have the Mobil Speedpass® on the same keyring as the NATS key.
- Transponders may be a stand-alone device such as the Mobil Speedpass® or it may be incorporated into the head of another key. In addition to the Mobil Speedpass®, other transponders that may cause this incident are keys (vehicle immobilizers) for: Lexus, Ford, Lincoln, Mercury and Mercedes Benz. A key for a second NATS-equipped vehicle may also cause this incident.
- Once the vehicle is started, transponder interference will not cause the engine to stall. There is no MIL "on" for this incident. CONSULT - will display "Difference of Key".
- To avoid these occurrences advise the customer to keep all other transponders on separate keyrings.

## System Components (see Figure 2):

- NATS ignition key.
- NATS antenna amplifier, located around the ignition key cylinder.
- NATS Immobilizer control unit (IMMU): 1997 - 2001 Q45 & 1999 I30; located behind the driver side instrument lower cover. 2000 - 2001 I30, 2000 - 2001 G20 & 1999.5 - 2001 QX4; combined with NATS antenna amplifier.
- Engine Control Module (ECM), located under the console, below the instrument panel.
- Security indicator (Light Emitting Diode, or LED), located on the dash.

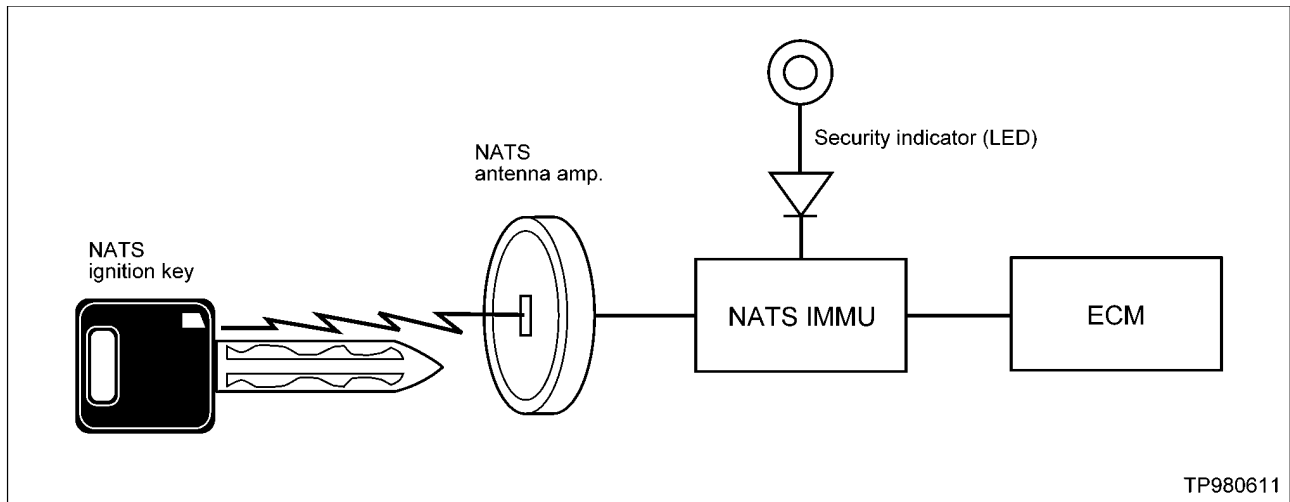


Figure 2

## System Description:

- 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.

**NOTE:** The NATS key code is permanently encoded to the NATS key ID chip at the time of its manufacture and cannot be changed.

- If the correct code is not received, the IMMU will not transmit a valid code to the ECM. The ECM will then prevent the engine from being started.
- NATS does not activate the vehicle theft warning system.
- Each vehicle is supplied with three registered keys.
- A maximum of five ignition keys can be registered to the NATS.
- **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.**

## **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.
- If CONSULT 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 IPPS or registering keys.
- The NATS-E980U CONSULT program card erases other software installed in CONSULT (i.e. UE990 software). Therefore, after using the NATS-E980U CONSULT program card, the UE990 program card must be reloaded and initialized to diagnose other systems.

## **SERVICE PROCEDURE**

### **NATS C/U Initialization and Key Registration Procedure:**

Refer to the section below that applies to the vehicle being serviced.

#### **For 1997 - 2001 Q45, 1999 I30, 1999.5 – 2000 QX4 (NATS V 2.0).**

ASIST users click [here](#). Other users refer to the "C/U Initialization And Key Registration Procedure for NATS V 2.0 Installed in: 1997-2001 Q45, 1999 I30, 1999.5 – 2000 QX4" section in the print copy of this bulletin.

#### **For 2000-2001 I30, 2001 QX4 & 2000-2001 G20 (NATS V 5.0).**

ASIST users click [here](#). Other users refer to the "C/U Initialization And Key Registration Procedure for NATS V 5.0 Installed in: 2000-2001 I30, 2001 QX4, 2000-2001 G20" section in the print copy of this bulletin.

