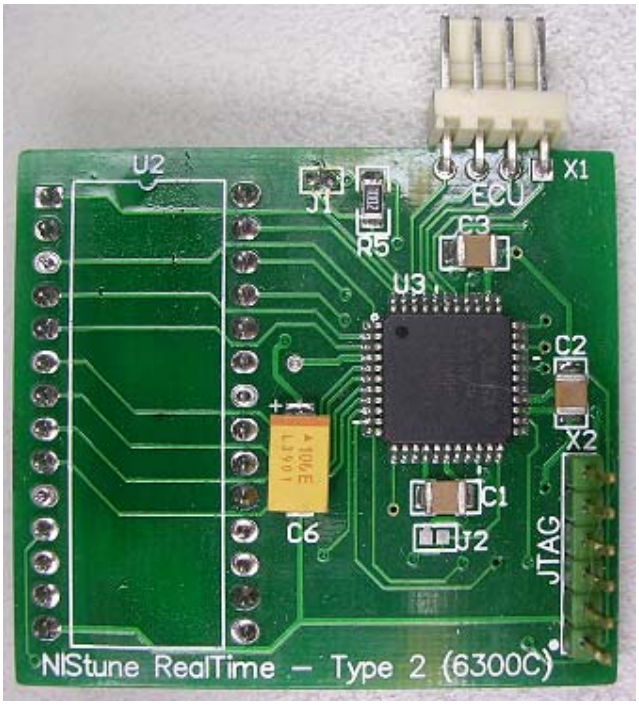
NISTUNE

REALTIME ECU TUNING

TYPE#2



6303 Consult Hardware Installation Manual V1.3
Type 2 Boards

(JECS 1990-1993 Consult Enabled Hitachi Engine Control Units)

Type 2 Boards are applicable to the following vehicles:

M30 Infiniti (VG30DE)
Z32 Fairlady 300ZX (VG30DETT)
HCR32 Skyline (RB20DET)
BNR32 Skyline (RB26DETT)
U12 Bluebird (KA24E)

INTRODUCTION

Welcome to NIStune.

The NIStune hardware and software solution provides a means for the car enthusiast to retune their vehicle whilst retaining their factory ECU and its default programming.

This solution provides many advantages over aftermarket ECUs in that the

- Factory default tuning is maintained once the NIStune board is installed. Upon installation of the board, vehicle will be operational as usual.

- Additional tuning can then be made against the factory maps for modifications made to the vehicle. There is no need to tune the car to get it running from scratch, reducing time and costs of tuning required on dyno.

- There is no need for wiring loom modifications.

NIStune provides realtime tuning and maptracing. It provides the ability to make changes on the fly to the factory ECU and then the desired results are achieved, save these permanently in non-volatile memory on the programmable board.

NIStune also provides data logging and playback facilities using the Nissan Consult Port. Consult interfaces are purchased separately. NIStune software also provides a user friendly responsive graphical interface to perform modifications.

Contained in this manual are the instructions for installing a NIStune board into the Hitachi 6303 consult enabled series of ECUs

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1. HCR32/BNR32 Skyline Installation

Remove the ECU from the passenger kick panel and then remove four screws which hold the top lid.

Next remove the four screws which hold the knock sensor board

Next desolder the factory EPROM and the four pads near the EPROM silkscreen markings. Use Acetone to clear conformal coating from the PCB prior to desoldering on the bottom side of the ECU

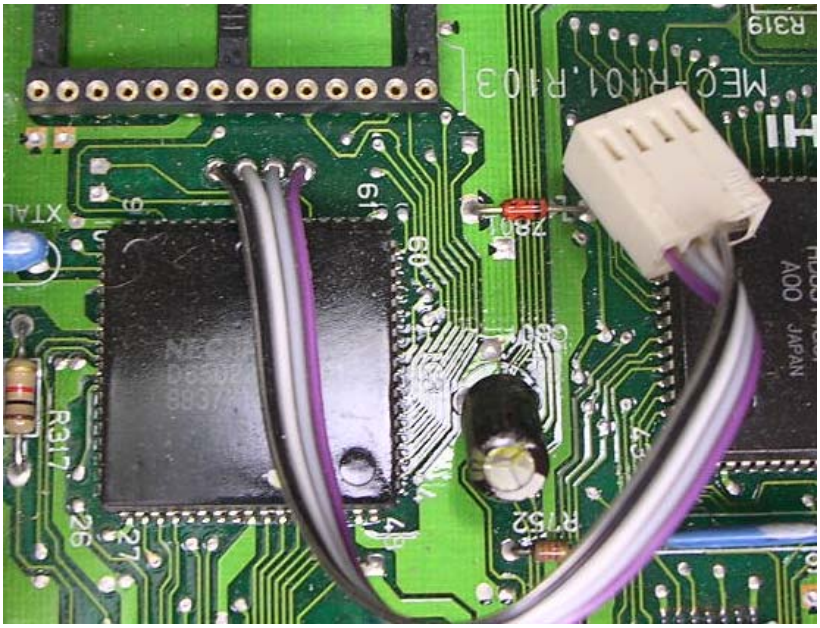
Use Acetone to clean conformal coating from the top side of the ECU prior to installing the EPROM socket and supplied connector cable.

Ensure solder flows through the through holes of the EPROM socket to ensure a good connection.

Where you have desoldered the four pads, solder in the supplied connector cable. The plastic connector has a number '1' on it. This corresponds to pin 1 of the connector. Make sure that you solder in the cable in the correct direction

HCR32:

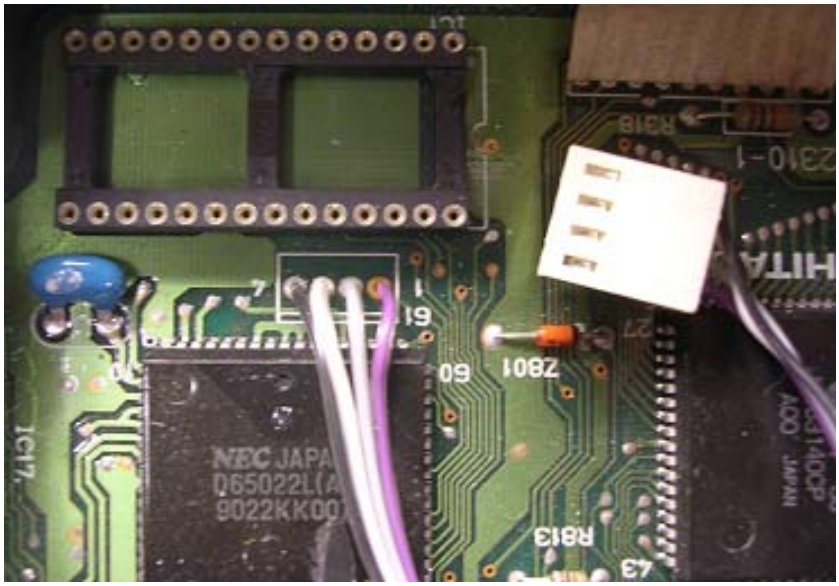
Connector Wire 1 (Marked) Closest pad to '61' on the ECU
Connector Wire 2 .... Next pad
Connector Wire 3 .... Next pad
Connector Wire 4 .... Closest pad to '9' on the ECU.



HCR32 CPU cable installation

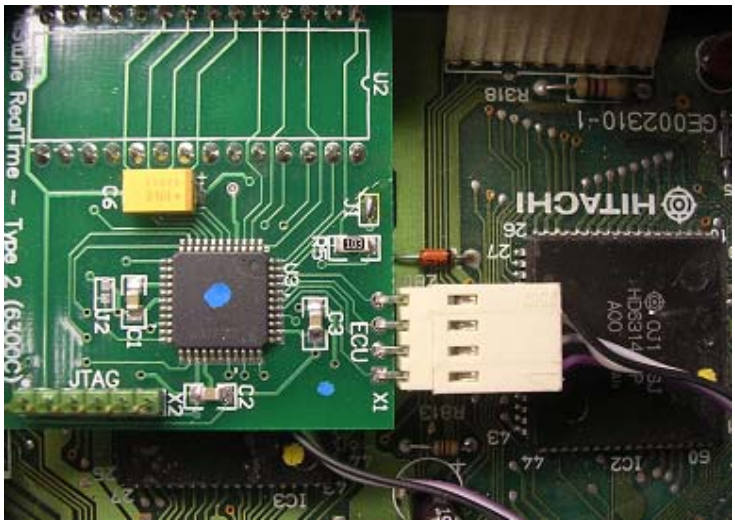
BNR32:

Connector Wire 1 (Marked) - ECU throughhole 1
Connector Wire 2 - ECU throughhole 2
Connector Wire 3 - ECU throughhole 3
Connector Wire 4 - ECU throughhole 4



BNR32 CPU cable installation

Next plug the NIStune Type 2 board into the EPROM socket. Be very careful all the pins on the NIStune are straight and do not bend when pushing this into the socket. Plug the ECU connector into the NIStune board



Hot glue the corners of the board to the ECU and the connector plug. This ensures that the board stays installed the EPROM socket and the connector does not come off when the ECU in the vehicle endures vibration

If the board becomes dismounted or the ECU connector plug comes loose the ECU will enter limp home mode.

Reinstall the knock sensor board, being wary of the knock sensor cable. If the JTAG programming pins pointing upwards appear to touch components of the knock sensor board, these can be trimmed back with wire cutters, as these are only used during factory programming.

2. Z32 300ZX Installation

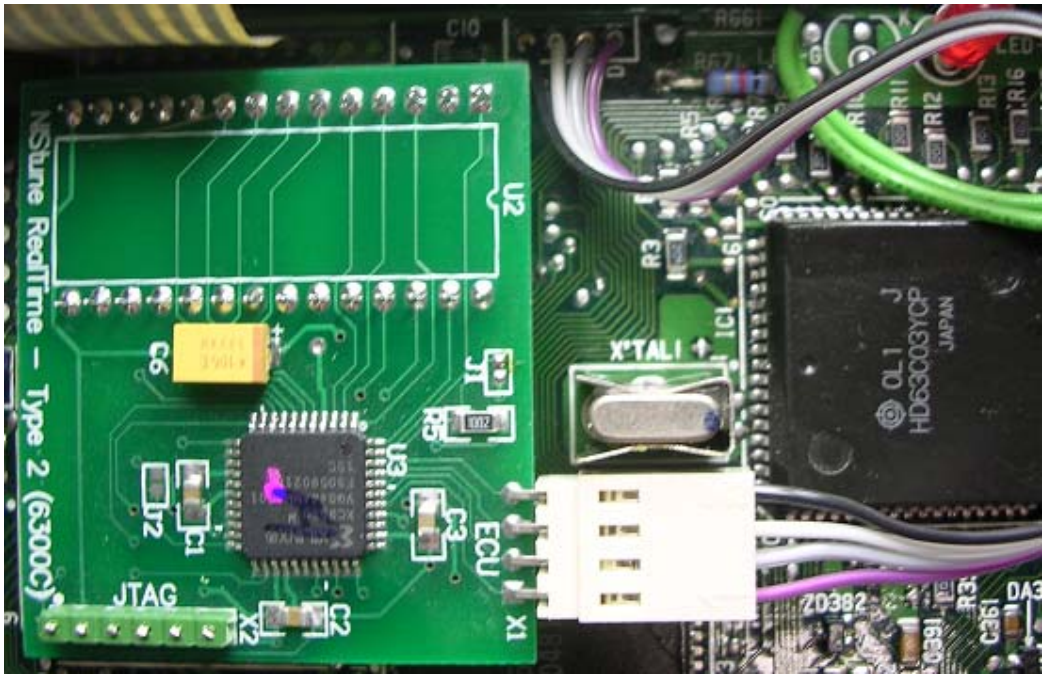
Remove the ECU from the passenger kick panel and then remove four screws which hold the top lid.

Next desolder the factory EPROM and the four pads in the box labeled A - D near the EPROM silkscreen markings. Use Acetone to clear conformal coating from the PCB prior to desoldering on the bottom side of the ECU

Use Acetone to clean conformal coating from the top side of the ECU prior to installing the EPROM socket and supplied connector cable. Ensure solder flows through the through holes of the EPROM socket to ensure a good connection.

Where you have desoldered the four pads, solder in the supplied connector cable. The plastic connector has a number '1' on it. This corresponds to pin D of the connector. Make sure that you solder in the cable in the correct direction

Connector Wire 1 (Marked) - ECU throughhole D
Connector Wire 2 - ECU throughhole C
Connector Wire 3 - ECU throughhole B
Connector Wire 4 - ECU throughhole A



Next plug the NIStune Type 2 board into the EPROM socket. Be very careful all the pins on the NIStune board are straight and do not bend when pushing this into the socket. Plug the ECU connector into the NIStune board

Hot glue the corners of the board to the ECU and the connector plug. This ensures that the board stays installed the EPROM socket and the connector does not come off when the ECU in the vehicle endures vibration

If the board becomes dismounted or the ECU connector plug comes loose the ECU will enter limp home mode.

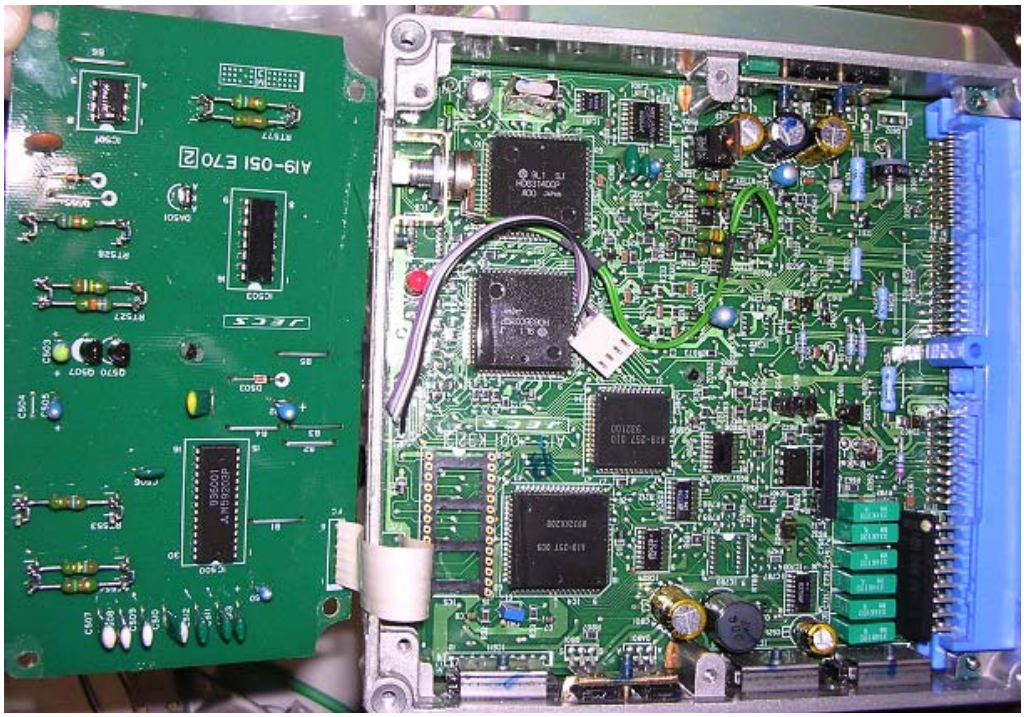
Reinstall the knock sensor board, being wary of the knock sensor cable.

NOTE: Put several layers of insulation tape between the knock sensor cable and the NIStune board so that the socket pins poking through do not protrude through the knock sensor cable.

3. Infiniti M30 Installation

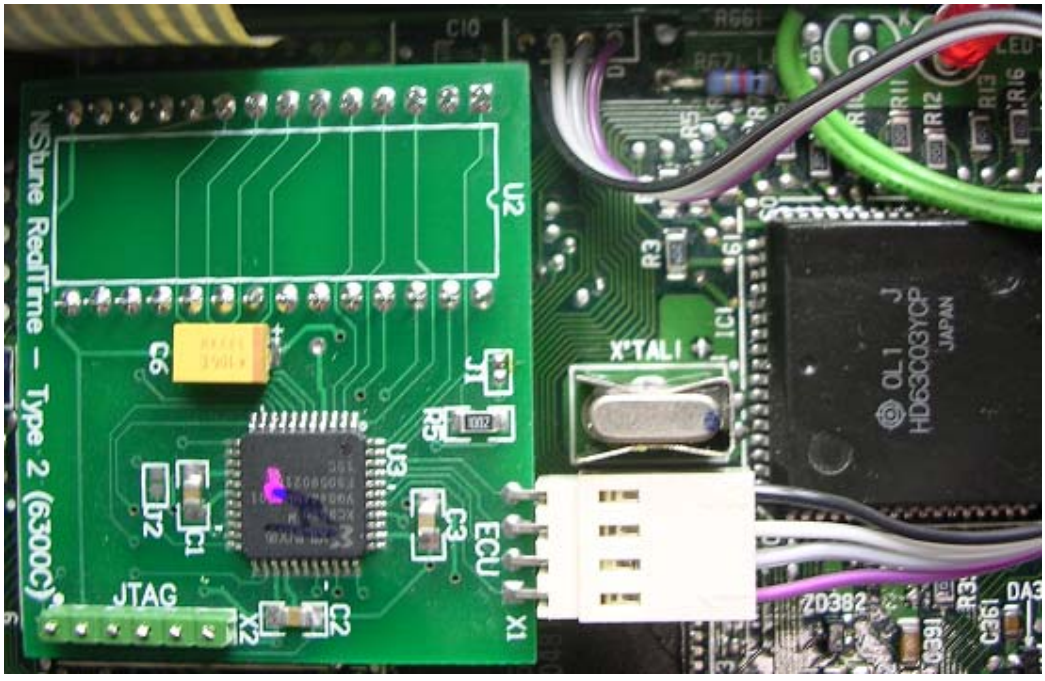
Please Refer to the Z32 300ZX Installation

Figure illustrates installation of installed 28 pin socket and ECU connector.

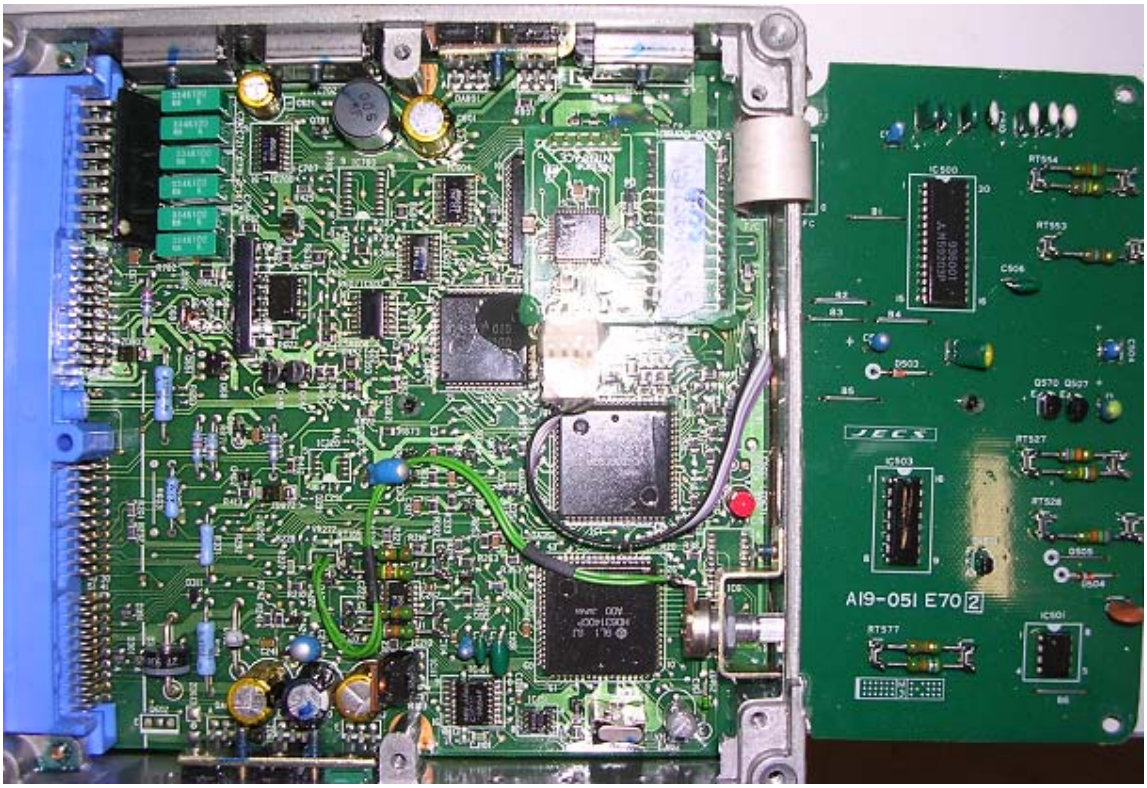


The ECU uses the same ordering of wiring as Z32

Connector Wire 1 (Marked) - ECU throughhole D
Connector Wire 2 - ECU throughhole C
Connector Wire 3 - ECU throughhole B
Connector Wire 4 - ECU throughhole A



Install the board into the 28 pin socket and connect the ECU connector.



The board is hot glued into the ECU to ensure connectivitiy during ECU vibration

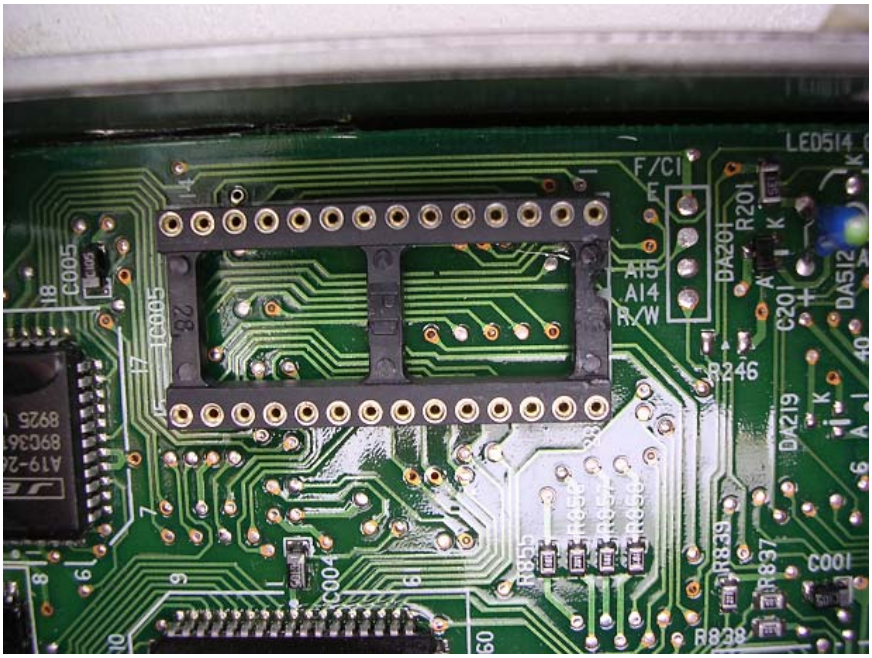
NOTE: Put several layers of insulation tape between the knock sensor cable and the NIStune board so that the socket pins poking through do not protrude through the knock sensor cable.

4. U12 Bluebird KA24DE Installation

Please Refer to the Z32 300ZX Installation

Figure illustrates installation of installed 28 pin socket

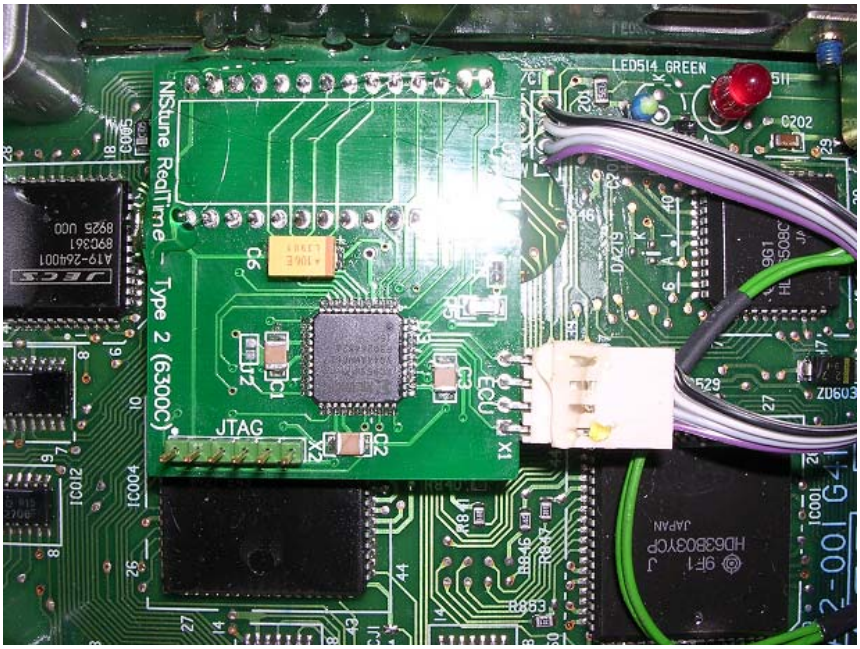
Desolder the four pads next to the EPROM socket where marked F/CI



Where you have desoldered the four pads, solder in the supplied connector cable. The plastic connector has a number '1' on it. This corresponds to pin R/W of the connector. Make sure that you solder in the cable in the correct direction

Connector Wire 1 (Marked) - ECU throughhole R/W
Connector Wire 2 - ECU throughhole A14
Connector Wire 3 - ECU throughhole A15
Connector Wire 4 - ECU throughhole E

Install the board into the 28 pin socket and connect the ECU connector. The board is hot glued into the ECU to ensure connectivity during ECU vibration



Hot glue the corners of the board to the ECU and the connector plug. This ensures that the board stays installed the EPROM socket and the connector does not come off when the ECU in the vehicle endures vibration