Service Bulletin

Mazda North American Operations
Irvine, CA 92618-2922

Subject:	Bulletin No:	05-007/14
SHIFT SHOCK - TRANSMISSION CONTROL MODULE (TCM) REFLASH	**Last Issued:**	04/30/2014

BULLETIN NOTE

- This bulletin supersedes the previous bulletin 05-001/04 issued 5/20/04 and 05-008/07 issued on 09/05/07. The REPAIR PROCEDURE has been revised.
- Changes are noted below beside the change bar in Red.

APPLICABLE MODEL(S)/VINS

All 2002 - 2003 MPV with VINs up to JM3LW28**30367821

DESCRIPTION

The vehicle's automatic transaxle (ATX) may exhibit shift shock while the engine warms from cold to normal operating temperature. The symptom is intermittent, it does not occur all the time. The shift shock usually occurs during 1-2 or 2-3 upshifts, or 3-2 part throttle downshifts.

In most cases, the cause of the shift shock is from the TRANSMISSION CONTROL MODULE (TCM) software calibration. An updated software calibration is available on the **Mazda Service Support System (MS3)** to correct the shifting concerns.

Customers having this concern should have their vehicle repaired according to the following repair procedure.

VEHICLE PRE-INSPECTION

Inspect the vehicle for a "Port Campaign" rework sticker affixed to the underside of the hood.

NOTE:
- If a "Port Campaign" rework sticker with the number "04/B0/02" is affixed to the hood, the TCM Reflash has already been performed at the port. DO NOT re-flash the TCM. Use M-MDS to check for DTCs and repair the ATX according to the workshop manual.
- If there is no "Port Campaign" rework sticker affixed to the hood, perform the TCM Re-flash. Proceed to the "REPAIR PROCEDURE".

PORT REWORK STICKER
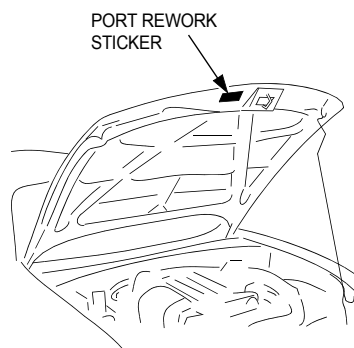
REPAIR PROCEDURE

1. Check transaxle fluid level and add fluid as needed.

2. Road test the vehicle to confirm the concern.

3. Use M-MDS to check for DTCs.
   - If DTC(s) are retrieved, follow the troubleshooting procedures in the Workshop Manual for specific DTCs. If the shift shock concern is still present after repairs are made, proceed to Step 4.

4. Write down the customer's radio station pre-sets.

5. **Disconnect the negative battery cable.**

6. Remove the TRANSMISSION CONTROL MODULE (TCM) from the vehicle according to the Workshop Manual (Section 05-17 TCM REMOVAL/INSTALLATION).

7. Re-flash the TCM according to the following procedures:

   NOTE: M-MDS WILL NOT BE USED to perform TCM reflash. A desktop PC with internet access and one available serial port is required.

   - If PC does not already have flashing software installed, proceed to **"PROCEDURE 1: INSTALLING FLASHING SOFTWARE".** Flashing software only needs to be installed one (1) time on the PC.

   - If using flash kit and flashing software for the first time (after software has been installed), proceed to **"PROCEDURE 2: FIRST TIME TCM RE-FLASH".**

   - If PC has flashing software installed and "PROCEDURE 2: FIRST TIME TCM RE-FLASH" has been competed at least one (1) time, proceed to **"PROCEDURE 3: QUICK RE-FLASH"** for fast re-flashing.

   NOTE: Complete Steps 8 -16 below, **AFTER** the TCM has been reflashed.

8. Reinstall the reprogrammed TCM according to the Workshop Manual (Section 05-17 TCM REMOVAL/ INSTALLATION).

9. Reconnect the negative battery cable.

10. Road test the vehicle and allow the transaxle to shift through all gears up and down with light throttle, then 1/2 throttle, then full throttle.

11. Bring the vehicle to a stop.

12. Place the gear selector in the "3" position and confirm a 2nd gear start and upshift to 3rd gear; stop again.

13. Place the gear selector in "2" position and confirm that 2nd gear is held and no upshift occurs.

14. Verify the repair by repeating Step 10, five to six additional times.

15. Reset the customer's radio station pre-sets.

16. Return the vehicle to the customer.

PART(S) INFORMATION

Part Number	Description	Qty.	Notes
MT02-K2-001	TCM Flash Kit	1	Additional TCM Flash kits can be purchased from MStore

WARRANTY INFORMATION

NOTE:
- Repairs performed outside the 48 month/50,000 mile New Vehicle Limited Warranty will require DCSM or DSA authorization.
- Additional diagnostic time cannot be claimed for this repair.

Warranty Type	A
Symptom Code	26
Damage Code	9J
Part Number Main Cause	AJ51-18-9E1N
Quantity	0
Operation Number / Labor Hours	XX531XRX / 0.7 Hrs.

PROCEDURE 1: INSTALLING FLASHING SOFTWARE:

1. Turn the PC **"ON"**.

2. From **"Web Security Logon (WSL)"**, enter your **"Username"** and **"Password"**.

3. Select **"Service"**.

4. Select **"Mazda Service Support System (MS3)"** .
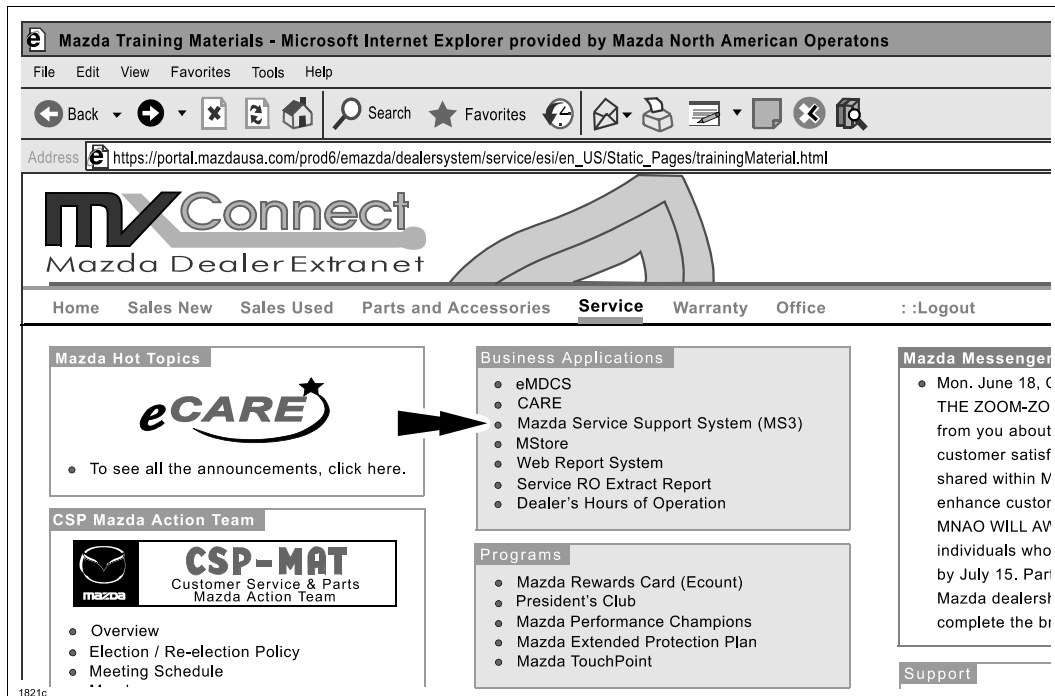
5. Select IDS/Infotainment -> IDS/MMDS Updates.
6. Right click **"2002-2004 MPV TCM Reflash Program"**.
7. Select **"Save Target as...".**
8. Save to **"Desktop"**.
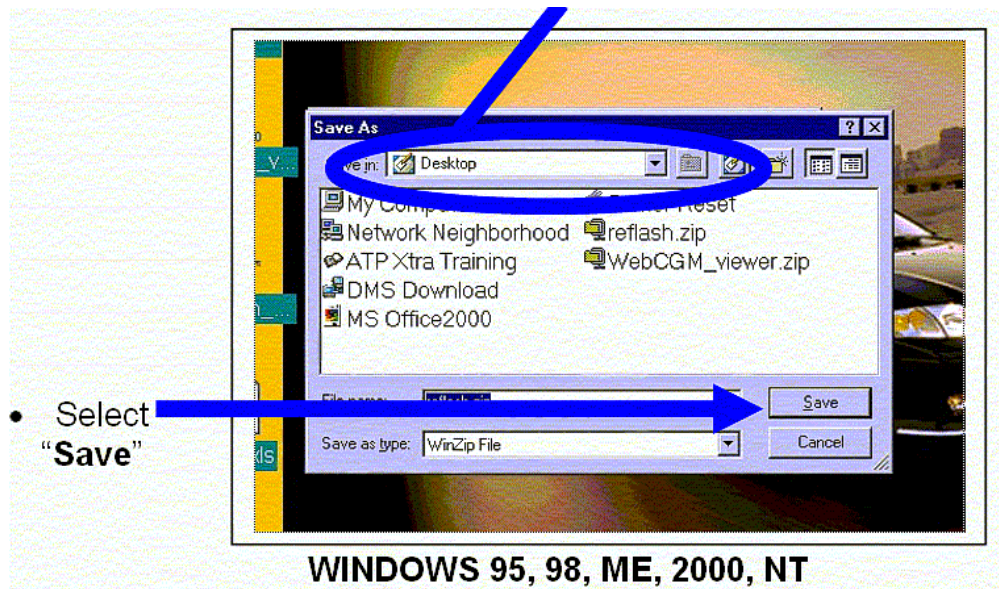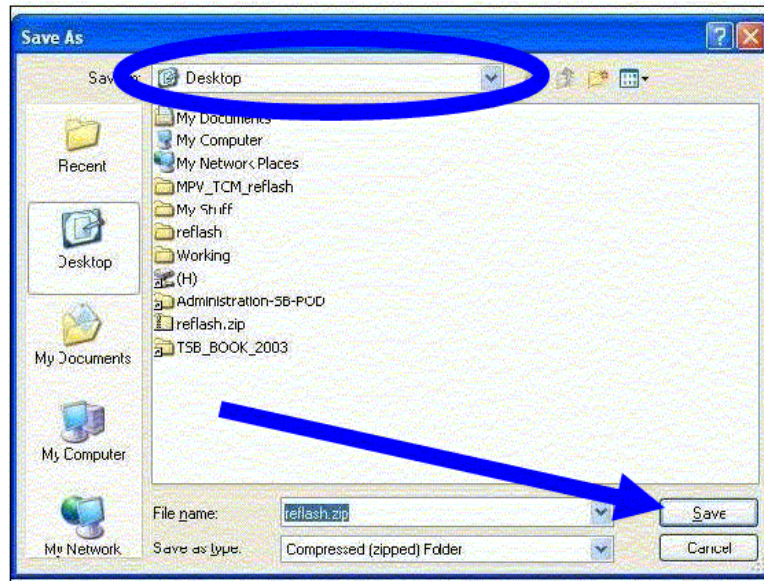
WINDOWS XP

9. Select **"Close".**
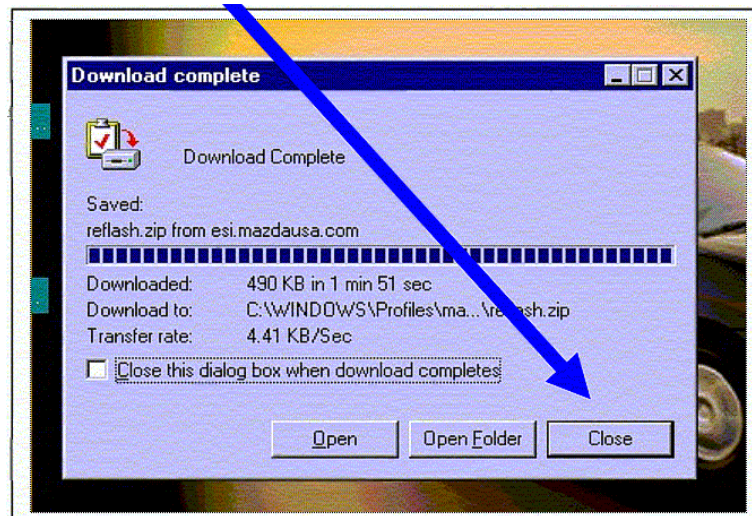
10. **IMPORTANT: If you have a phone dialer program or any other programs open, make sure to close them now.**

11. Click the "right" mouse button on an open area of the desktop.
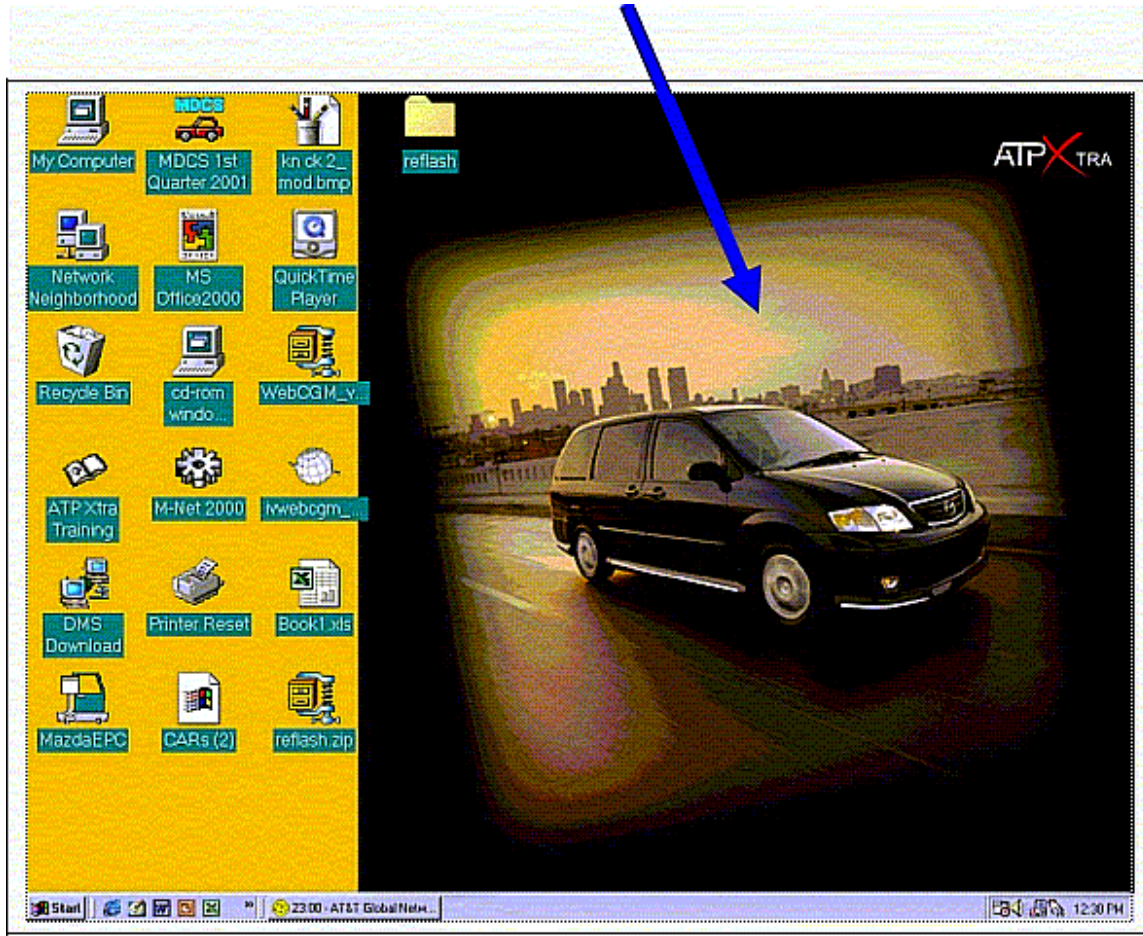
12. Select **"Properties"** from the drop down menu.
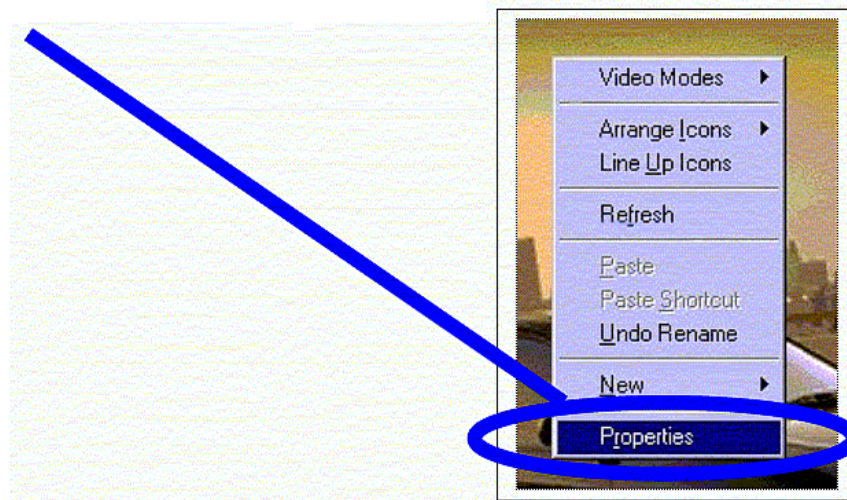
13. Select the **"Screen Saver"** tab.

- Select Screen Saver **"(None)"** with the drop down arrow.

- Select "**Apply**"
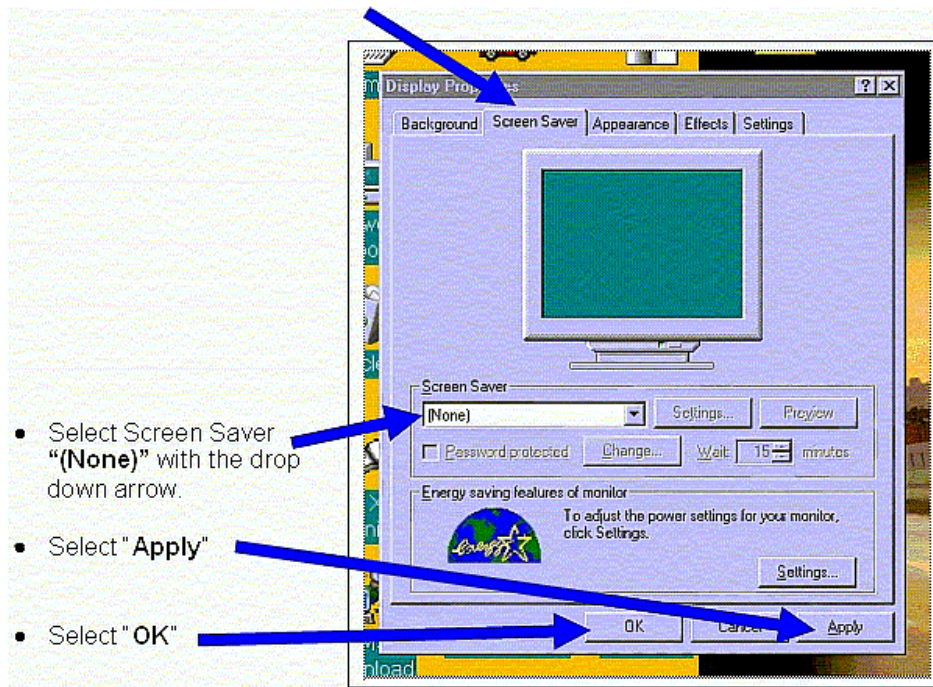
- Select "**OK**"

14. Locate the file **"reflash.zip"** on your desktop and open it.
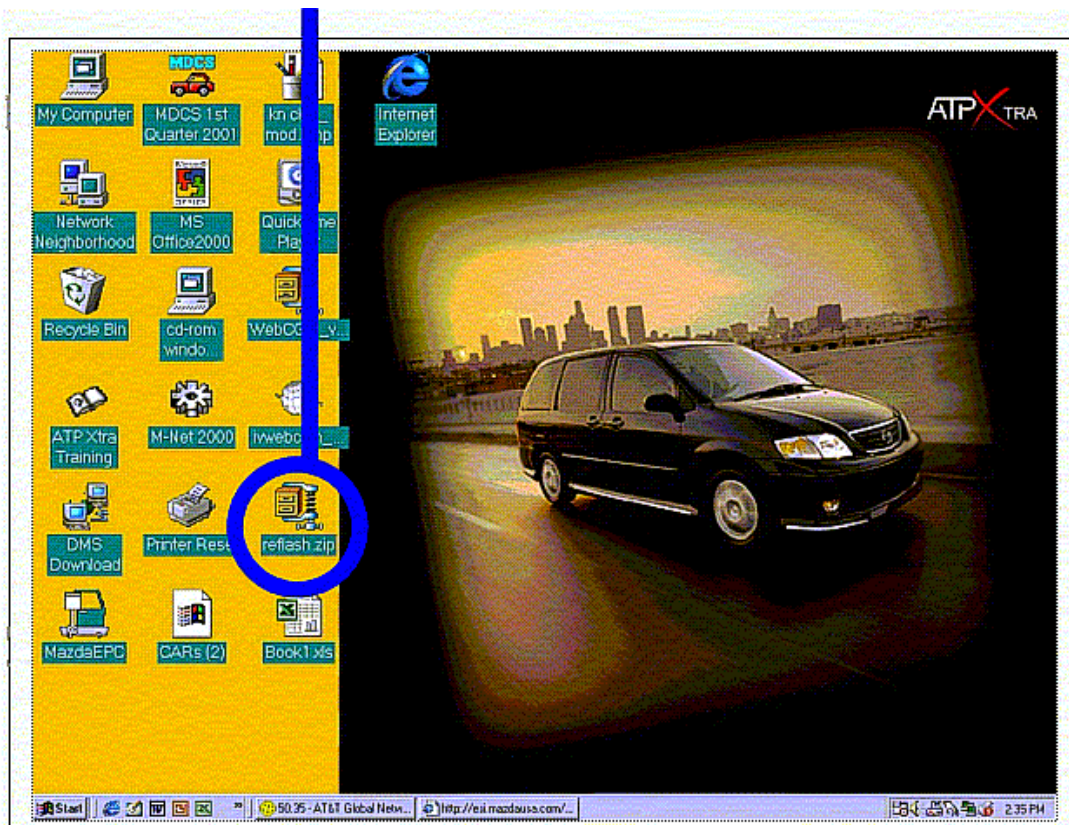
15. On Windows 95, 98, ME, 2000 and NT, select **"Actions"** and **"Select All"**.
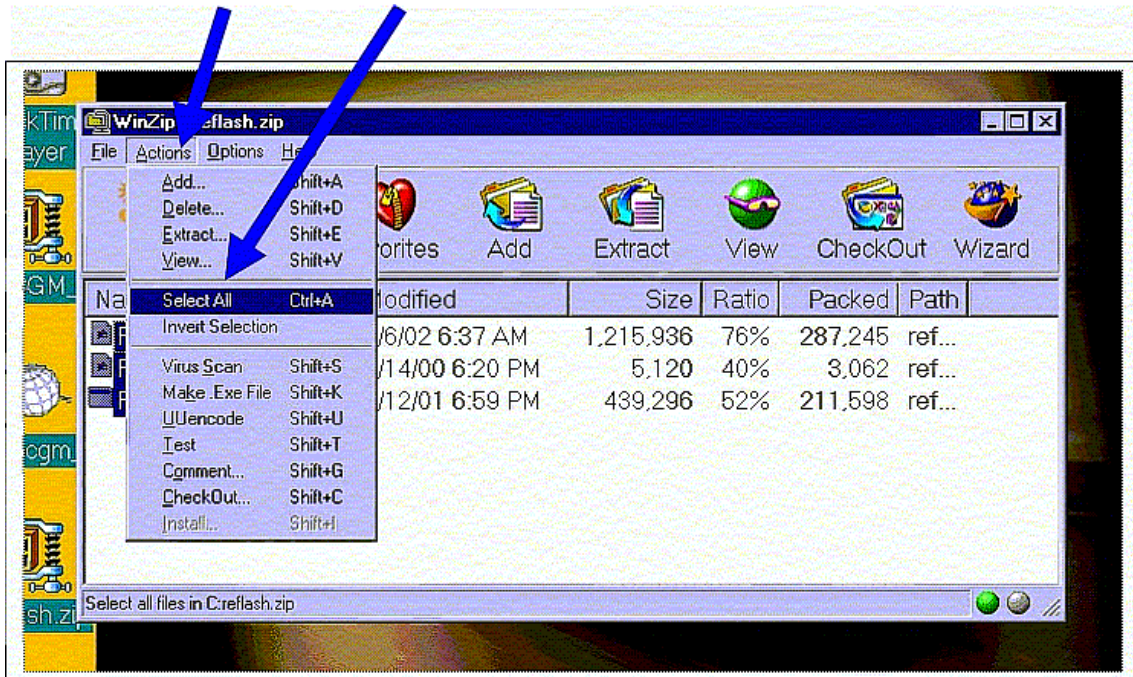
WINDOWS 95, 98, ME, 2000, NT
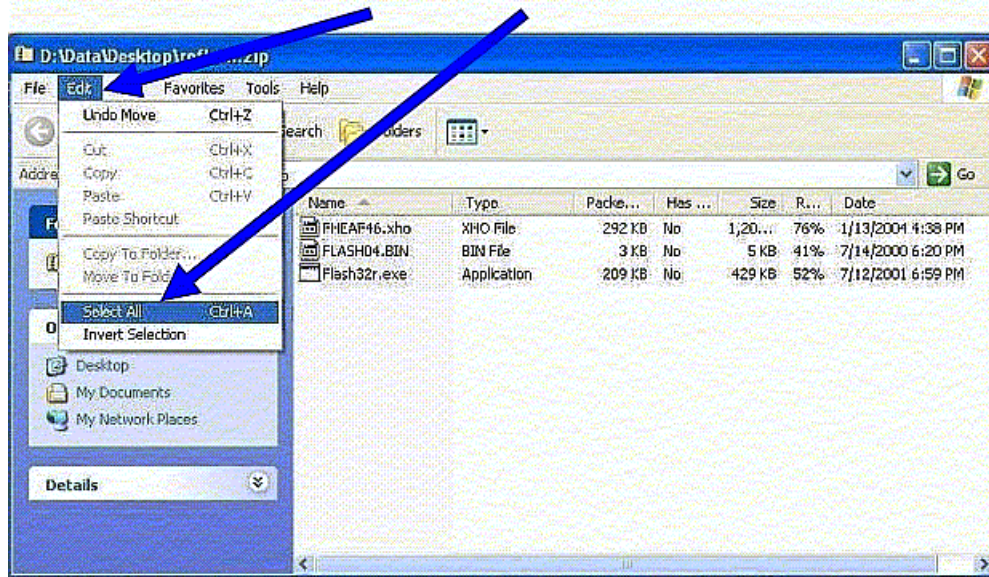
WINDOWS XP

16. On Windows 95, 98, ME, 2000 and NT, select **"Extract"**.
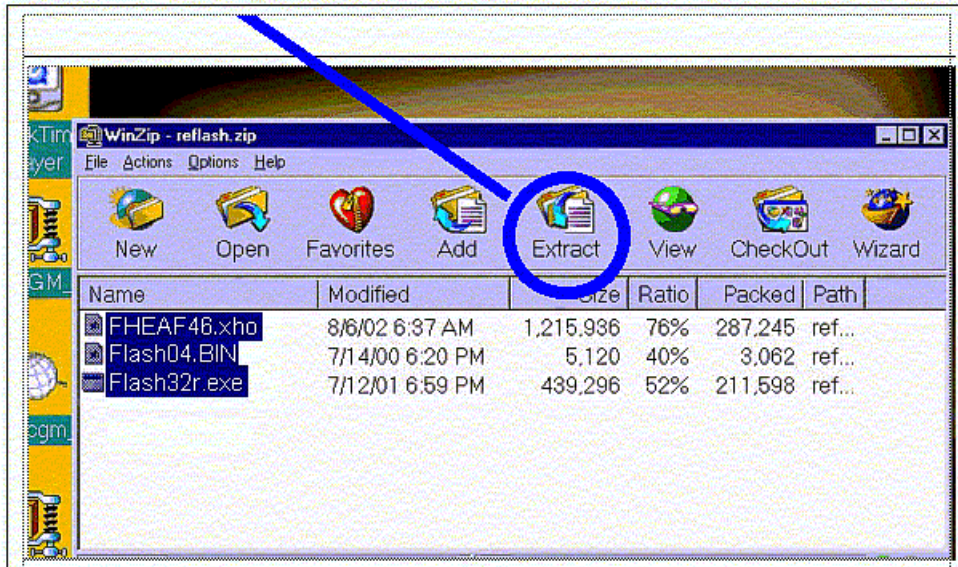
WINDOWS 95, 98, ME, 2000, NT
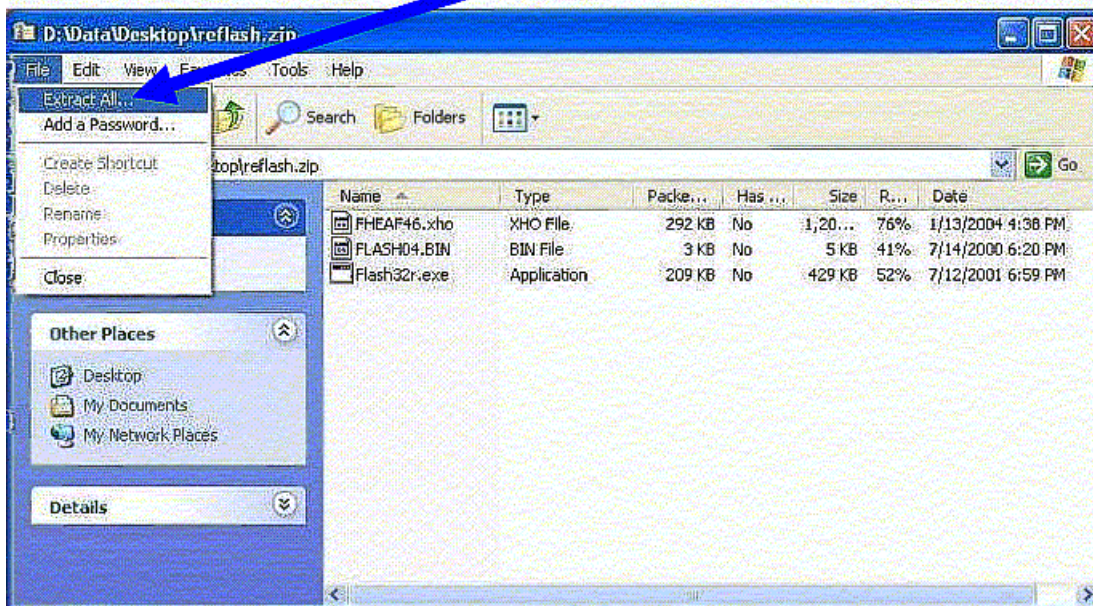
WINDOWS XP

17. On Windows 95, 98, ME, 2000 and NT, select **"Desktop"** and then select **"Extract".**
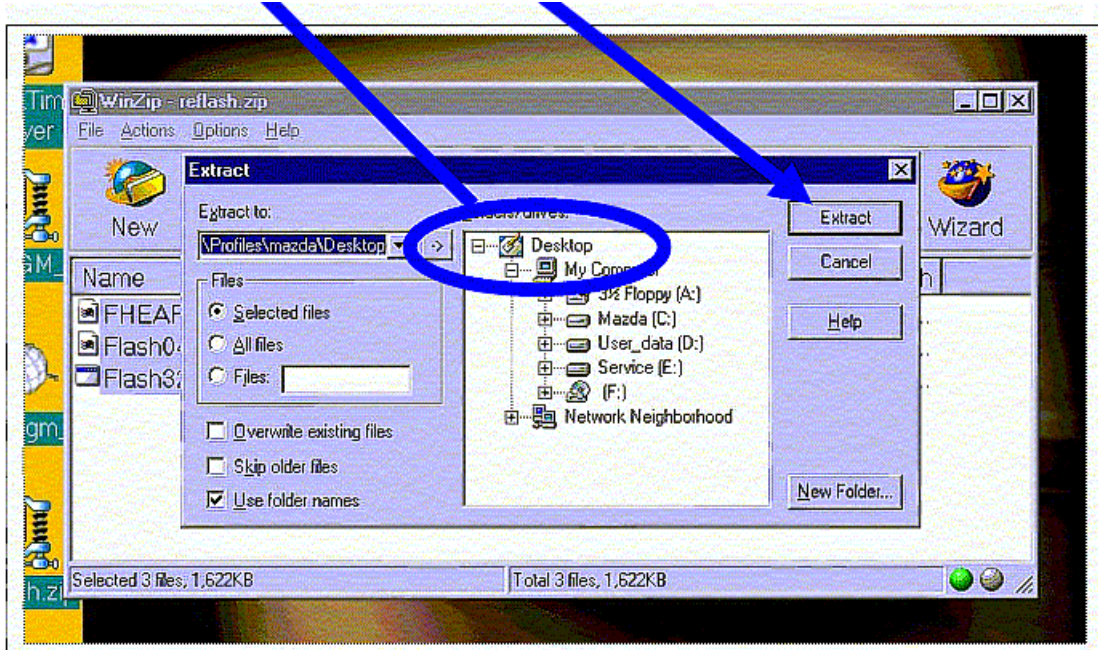
WINDOWS 95, 98, ME, 2000, NT

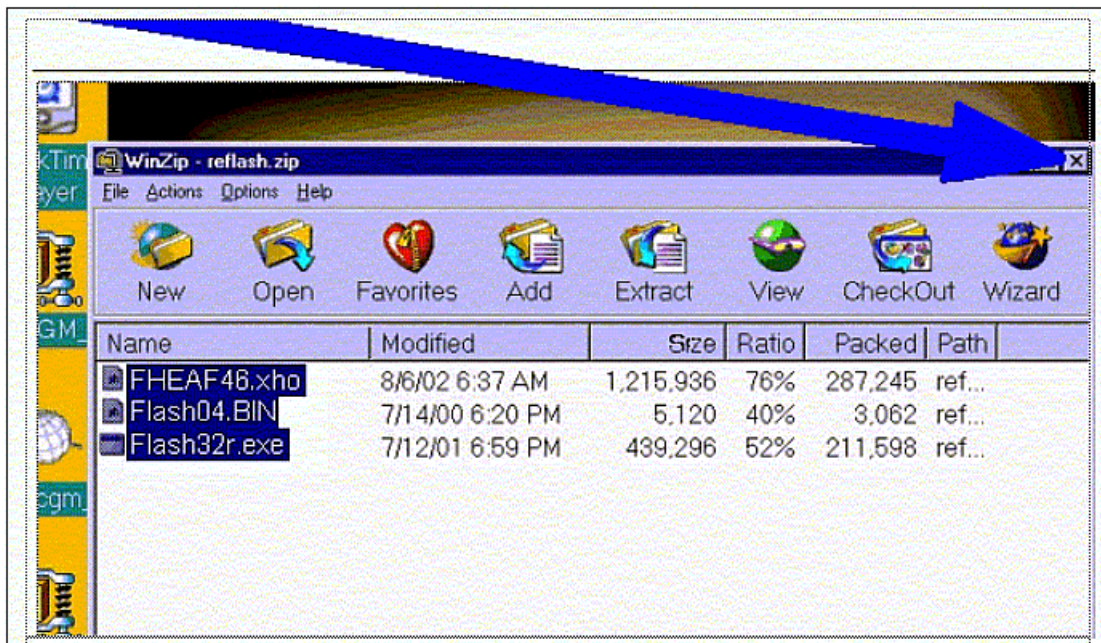On Windows XP, the **"Extraction Wizard"** will begin. Click **"Next>"**.

WINDOWS XP

On Windows XP, locate the "**Desktop**", and then select "**Next>**". The files will automatically be saved in a folder called "**reflash**" on your desktop.
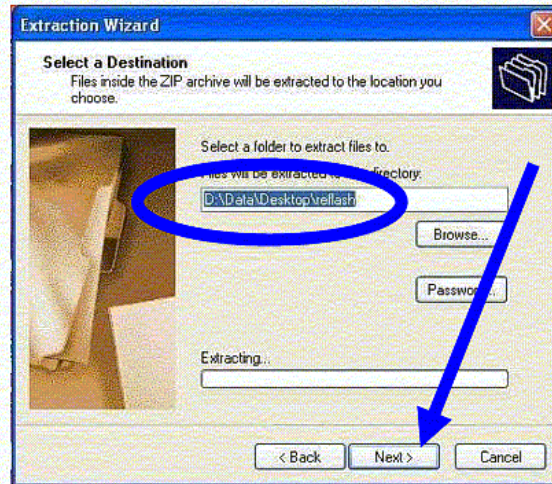
WINDOWS XP

18. On Windows 95, 98, ME, 2000 and NT, select **"X"** to close the window.

WINDOWS 95, 98, ME, 2000, NT

On Windows XP: If the **"Show extracted files"** box is checked when the **"Extraction Complete"** box is displayed, uncheck it.
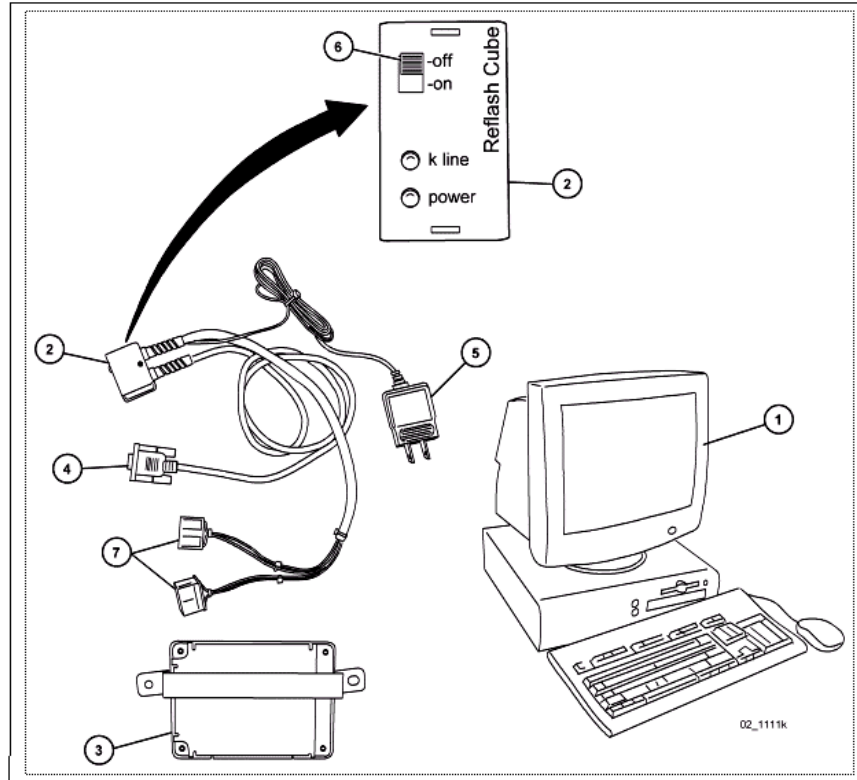

WINDOWS XP

Select **"Finish"**

19. The reflash software is now installed.

20. Proceed to **"PROCEDURE 2: FIRST TIME TCM RE-FLASH"**.

PROCEDURE 2: FIRST TIME TCM RE-FLASH:

The figure below identifies the TCM Flash Kit components:


TCM Flash Kit Part Number: **MT02-K2-001**

NOTE: One kit was previously sent to each dealer. Replacement kits can be purchased on MSTORE.

1	PC equipped with Windows 95, 98, or XP and an RS-232C Serial port
2	Reflash Cube
3	Transmission Control Module (TCM) [not included in kit, remove from vehicle]
4	RS-232C cable
5	110 volt power supply cable
6	On/Off switch
7	TCM connectors

1. Completely **"Shut Down"** the PC.
2. Turn the Reflash Cube **"OFF".**

3. Connect RS-232C cable to the Serial port (often identified with IOIOI) on the back of the PC. Use the following figures for the type of PC you have (due to the many different PC configurations, your PC may not match these figures exactly):
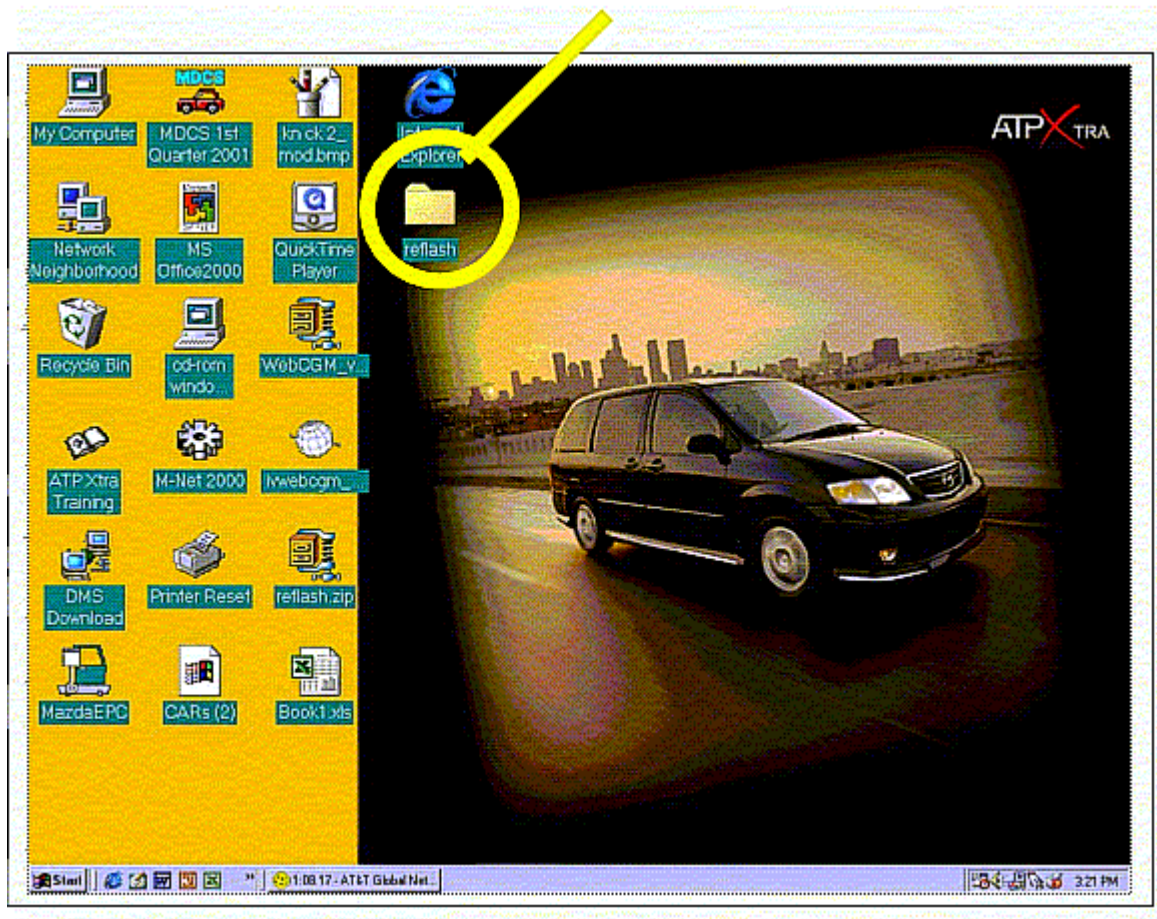
Compaq (connect to Serial Port-B)
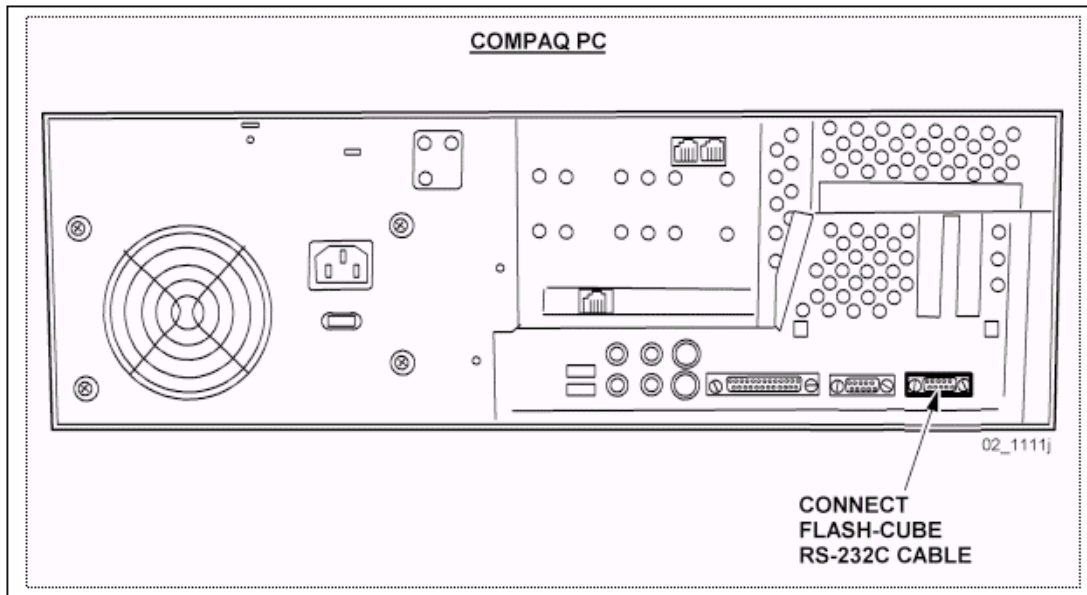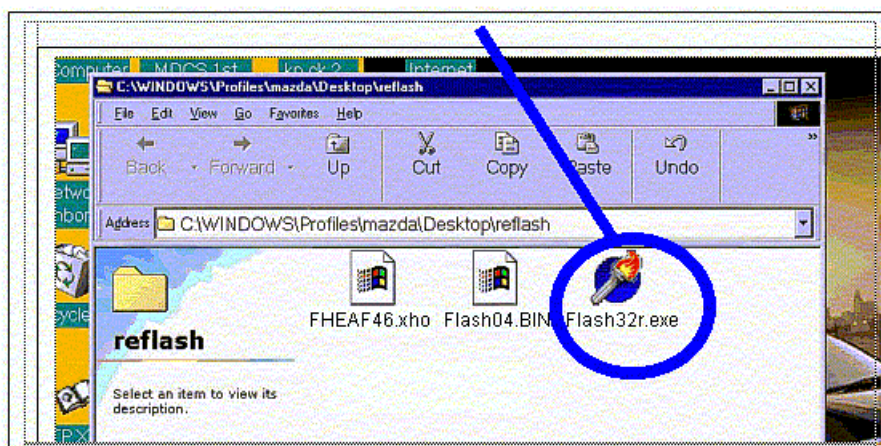

Dell (connect to Serial Port-1)
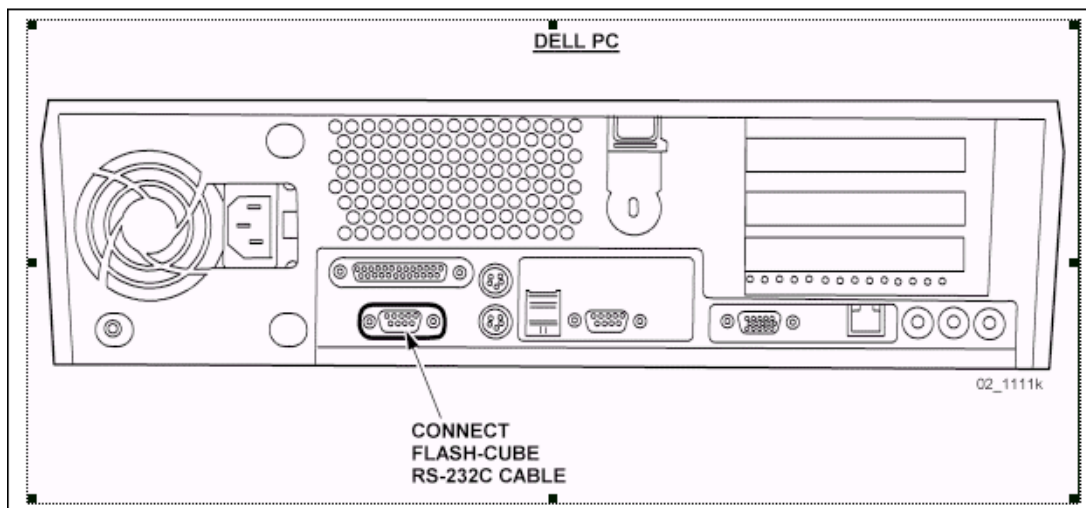
4. Connect the Reflash Cube 110 volt power supply cable.
5. Ensure the Reflash Cube is **"OFF"**, then turn the PC **"ON."**

6. Find the folder on the desktop called **"reflash"** and open it.

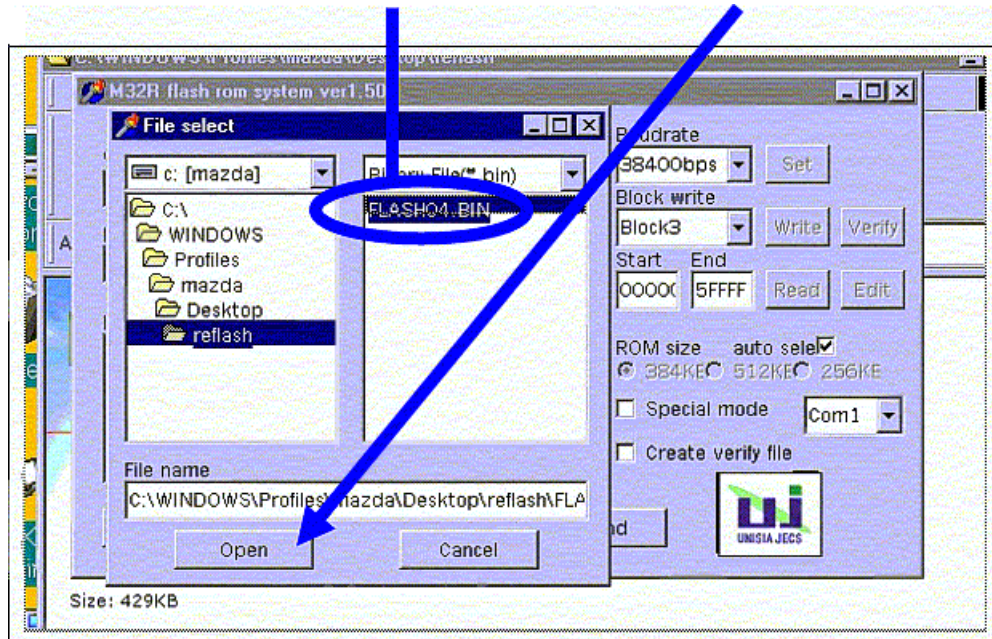7. Open the program called **"Flash32r.exe".**

NOTE: If you receive the following error or one similar to it, click "OK" and proceed to the next step. The program will continue to function. When the correct COM port is selected during the reflash procedure, this error will not come up again.
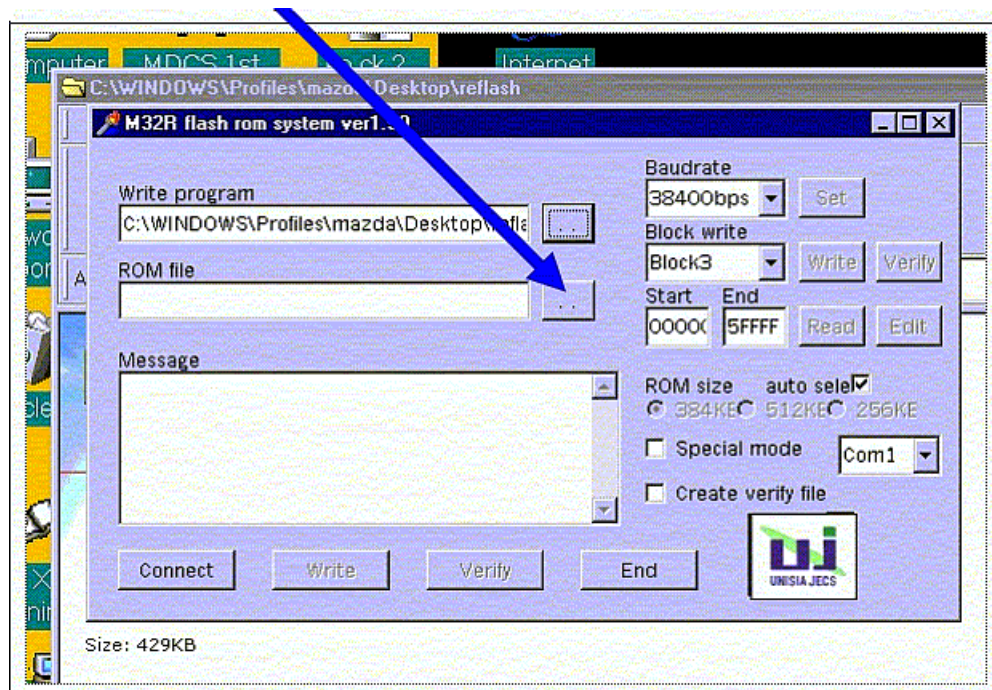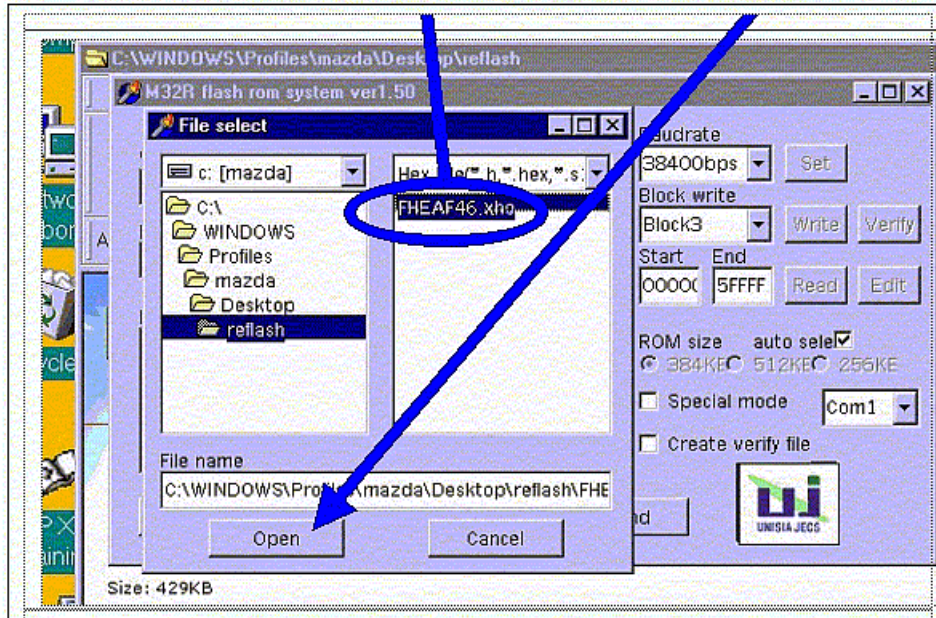

8. Select the **"Write program"** button.
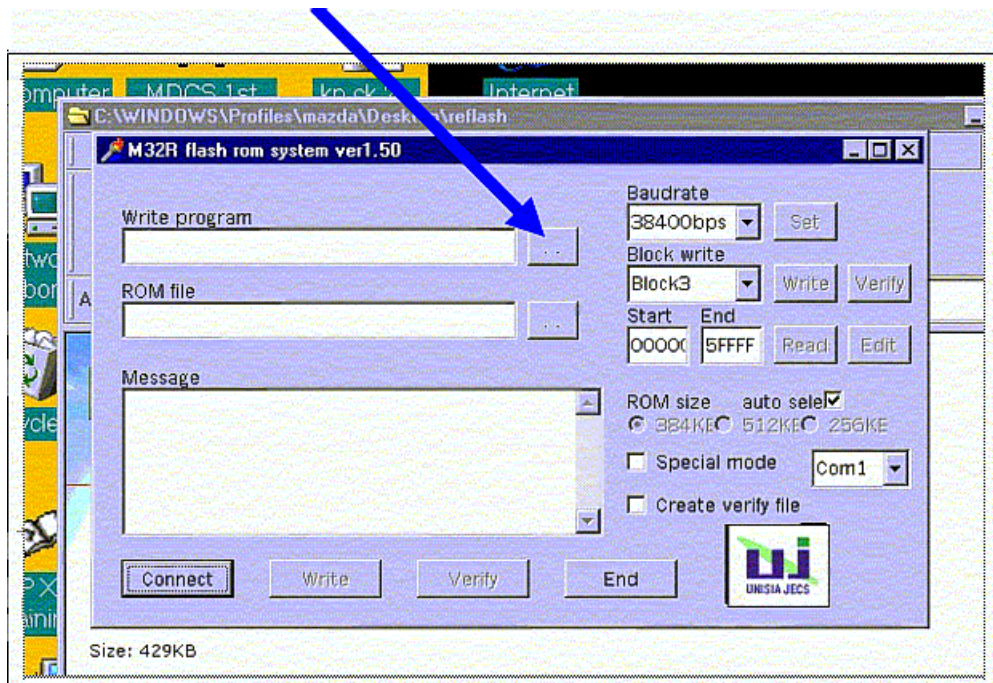
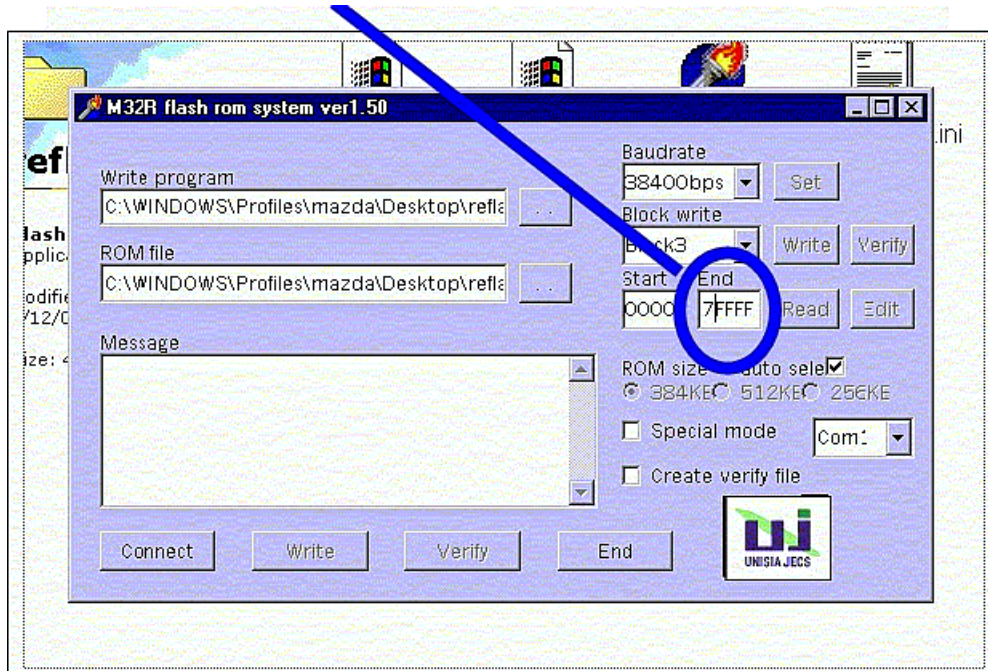9. Select the program file **"FLASH04.BIN"**, then select **"Open".**

10. Select the **"ROM file"** button.

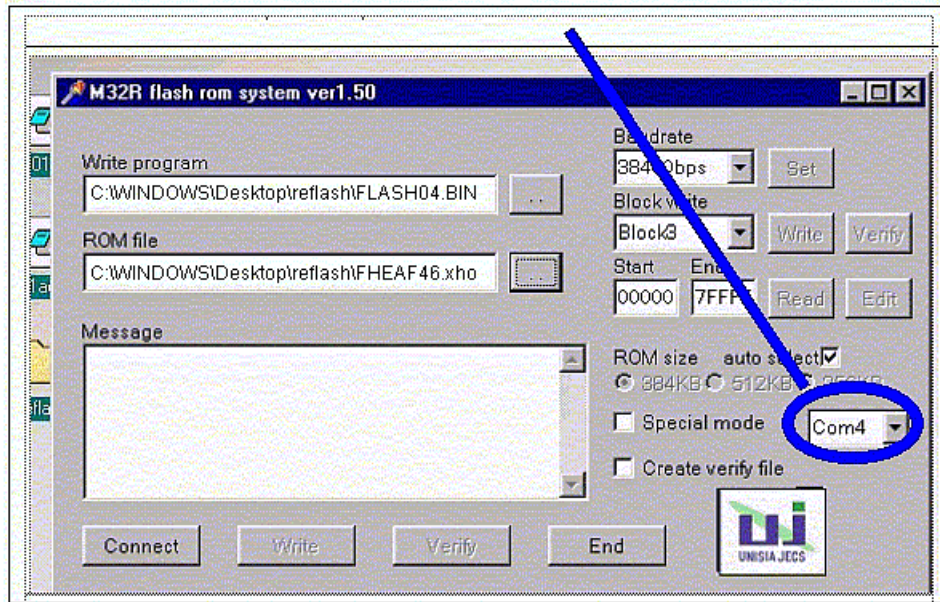11. Select the program file **"FHEAF46.xho"**, then select **"Open"**.
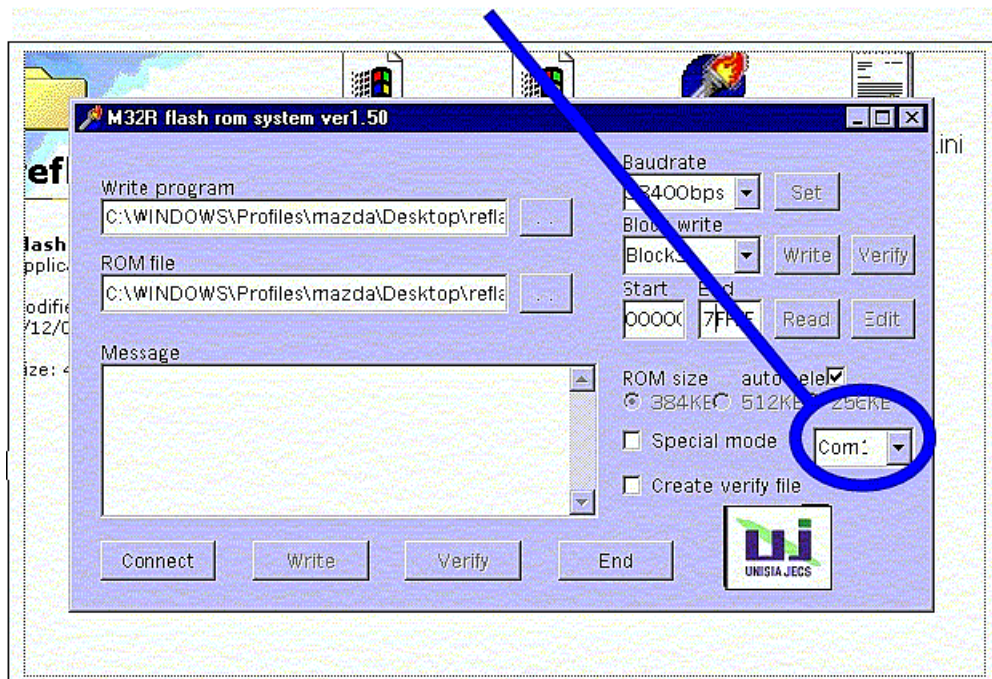

12. Change **"End"** to **"7FFFF".**

13. Select the correct Com port for your type of PC from the drop down menu:

- For Compaq PCs select **"Com4"**

- For Dell PCs select **"Com1"**

NOTE: If you receive an error message for every com port (Com1, Com2, Com3, or Com4), shut off the reflash cube and shut down the PC. Make sure the reflash cube is plugged in securely (or if there are 2 serial ports, try plugging into the other one) and restart the PC and try again. If all the com ports still give an error message, there may be a hardware configuration problem with the PC. Have a computer specialist inspect and repair the PC. Try to perform the procedure using another PC.

NOTE: If you receive the following error or one similar to it, click "OK" and proceed to the next step. The program will continue to function. When the correct COM port is selected during the reflash procedure, this error will not come up again.

14. **IMPORTANT:** Verify the following settings.

15. Connect the two (2) Reflash Cube connectors to the Transmission Control Module (TCM).

NOTE: THE SUCCESS OF THE REFLASH PROCEDURE WILL DEPEND ON FOLLOWING STEPS 16-22 EXACTLY.
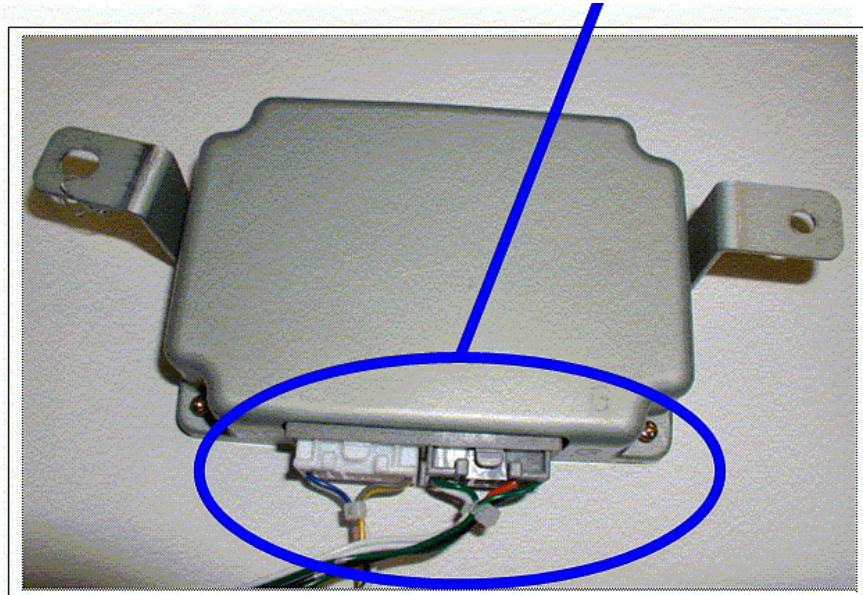

16. Ensure the Reflash Cube is still in the **"OFF"** position.

17. Switch the Reflash Cube to the **"ON"** position.

18. **Wait 1-second, then select the "Connect" button within 10-seconds.**

    NOTE: If you click the "Connect" button too fast or too slow, you may not establish communication.
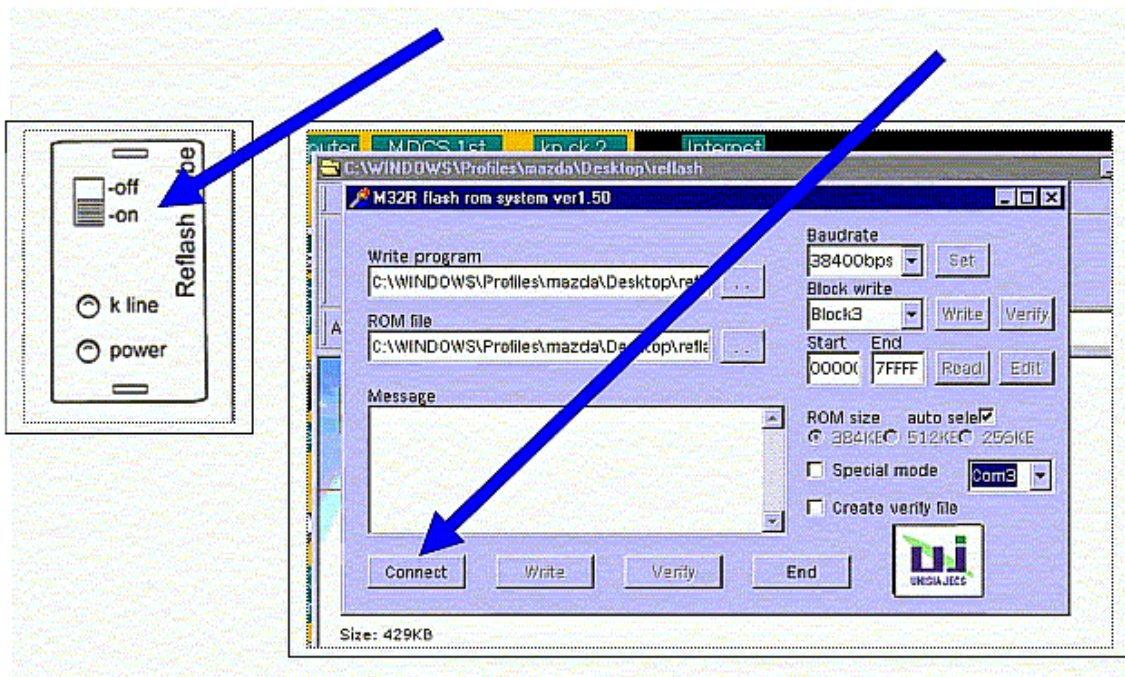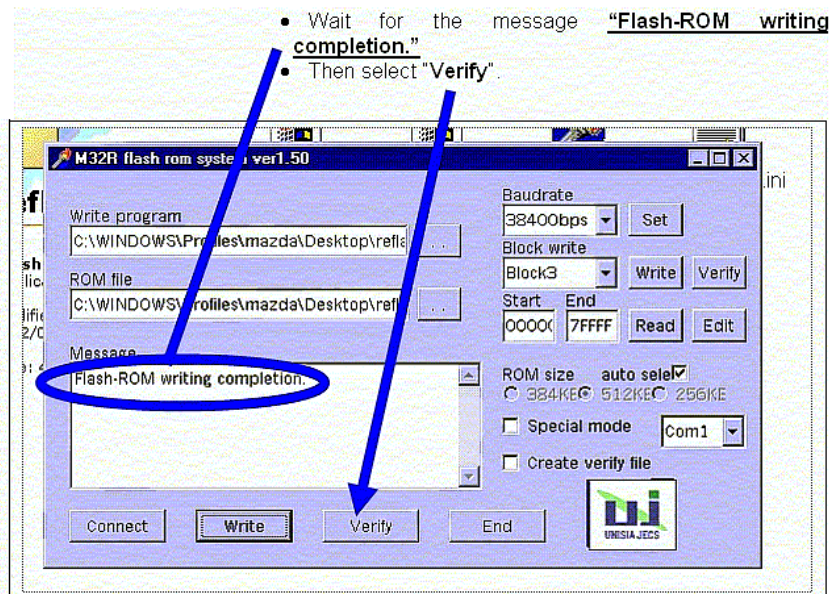
19. After selecting **"Connect"**:

- Wait for the message **"Writing program forwarding completion"**.
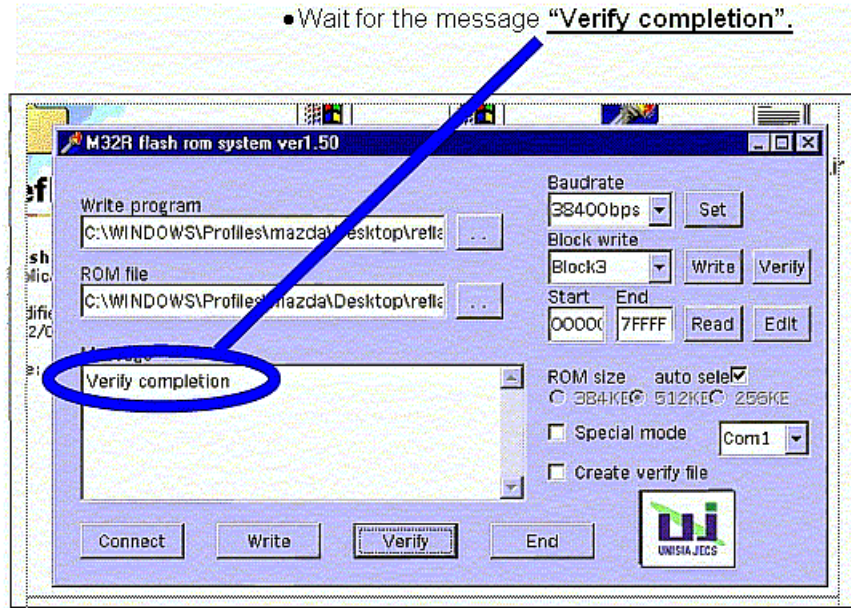- Then select **"Write"**.
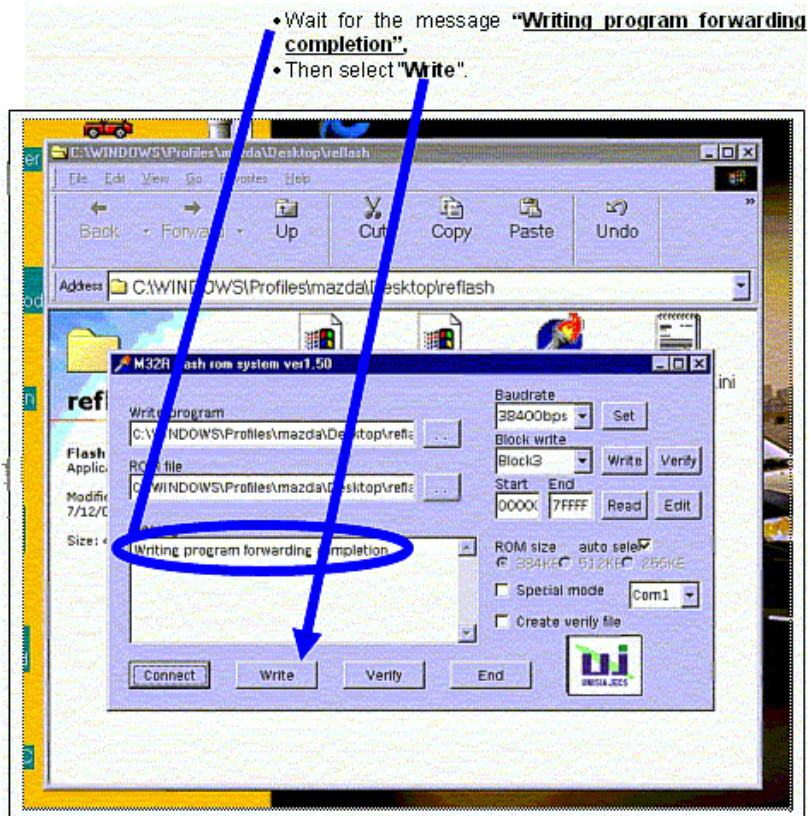
> **NOTE:** If the message "Writing program forwarding failure" is displayed in RED text, turn the Reflash Cube "OFF" and repeat Step 16.
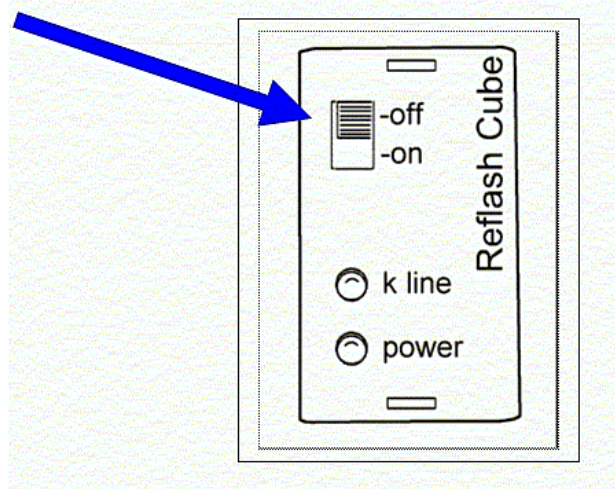
20. After selecting **"Write"**.

- Wait for the message **"Flash-ROM writing completion."**
- Then select **"Verify"**.

21. After selecting **"Verify"**.
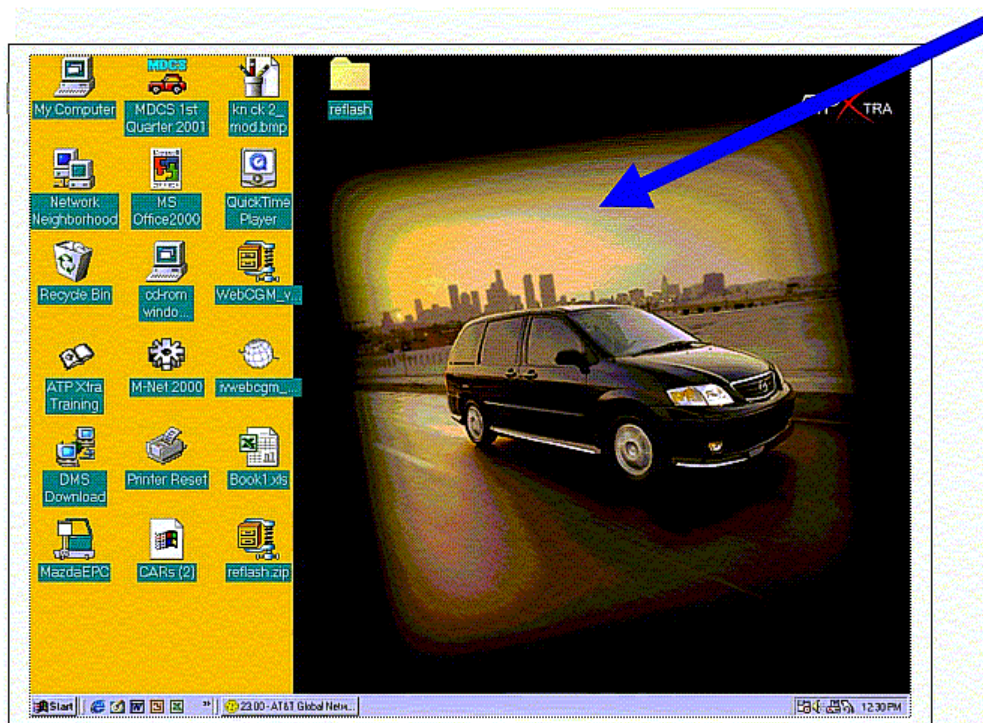

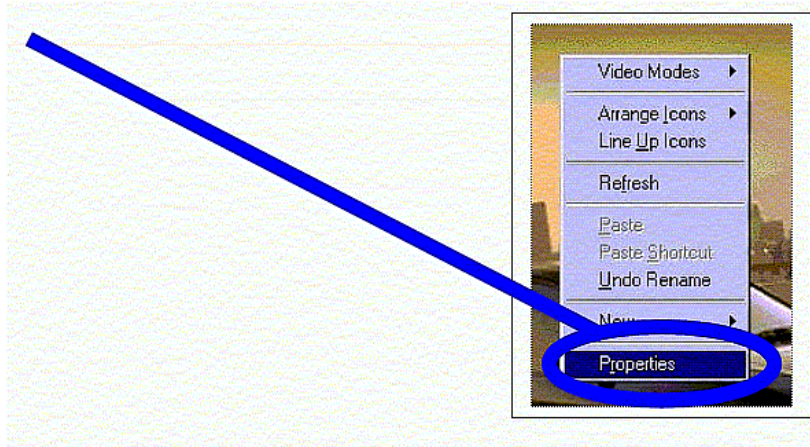22. Turn Reflash Cube **"OFF".**

23. Select **"End".**
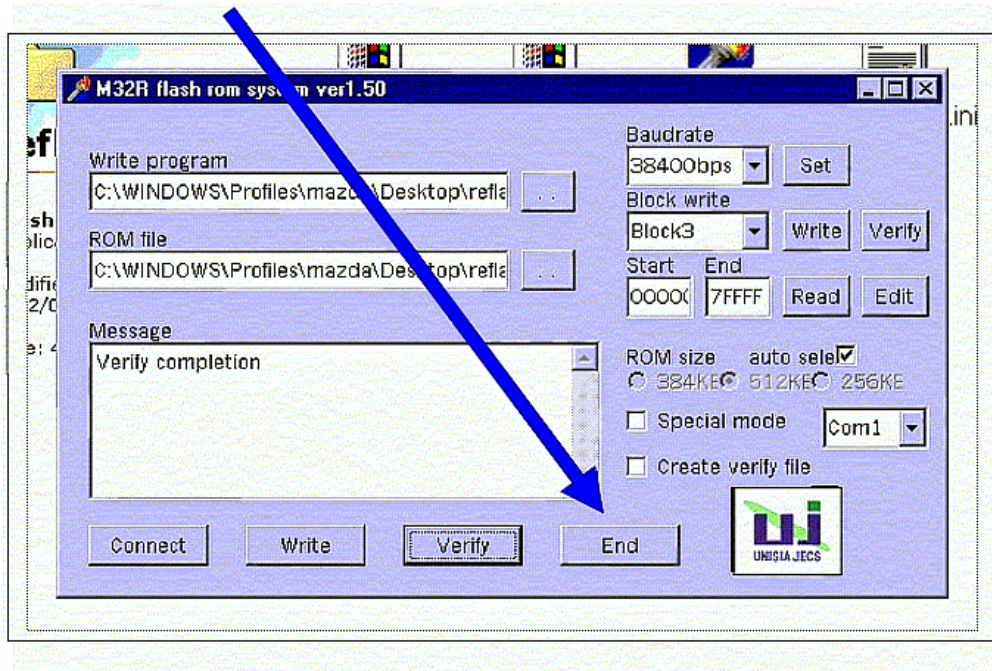
24. Disconnect the TCM.

25. Using a permanent marker, write the letter **"N"** and the **"Date of Reflash"** near the part number found on the TCM to identify the new software calibration level.
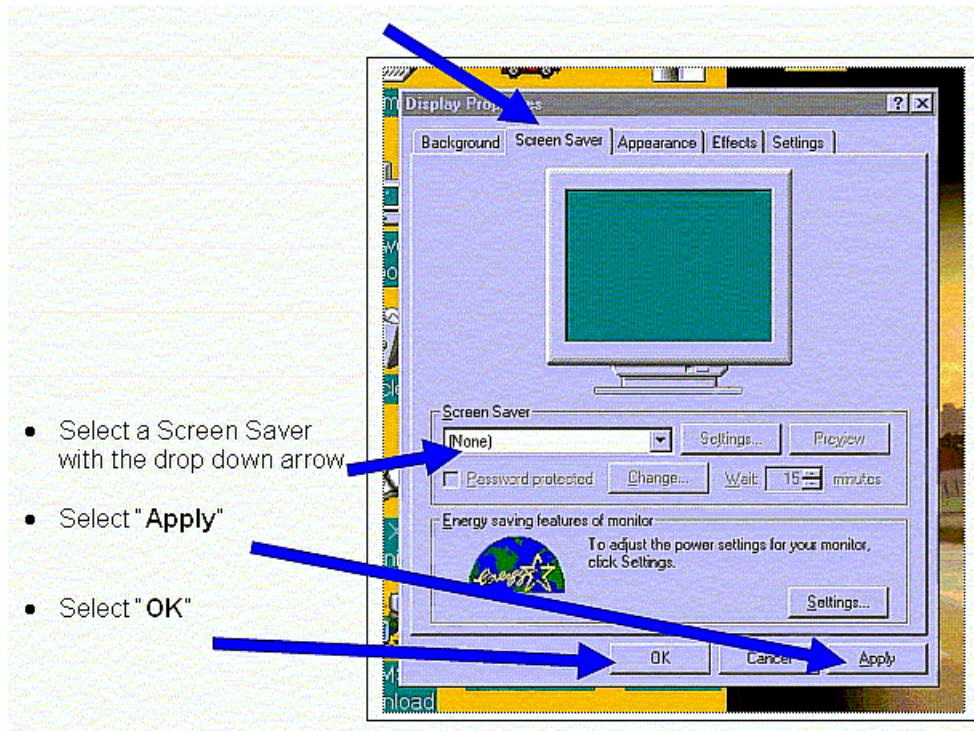
26. Click the "right" mouse button on an open area of the desktop.

27. Select **"Properties"** from the drop down menu.


28. Select **"Screen Saver"** tab.

29. The TCM Reflash is now complete.

30. Return to the Service Bulletin "REPAIR PROCEDURE" section and complete Steps 8 - 15 before returning the vehicle to the customer.

PROCEDURE 3: QUICK RE-FLASH:

1. Turn the screen saver **"OFF"** (See Steps 11-13 under "Procedure 1: Installing Flashing Software").

2. Open the folder on the desktop called **"reflash".**

3. Open the program **"Flash32r.exe".**

4. Verify the following screen settings:
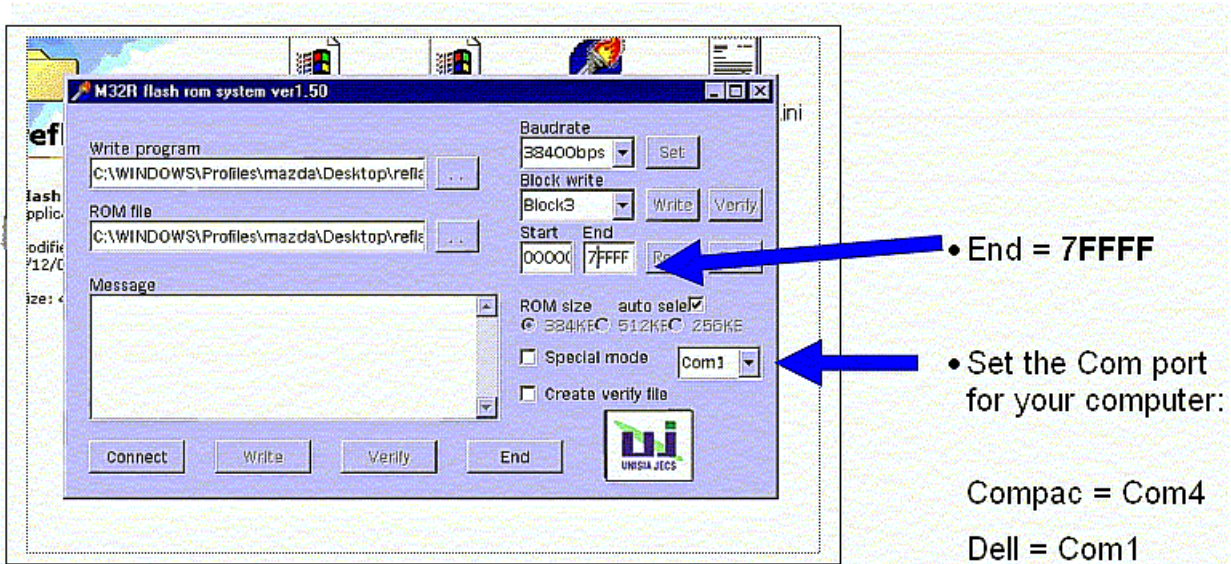
5. Connect the two (2) Reflash Cube connectors to the Transmission Control Module (TCM).

6. Switch the Reflash Cube **"ON"**, wait 1-second, then select **"Connect"** within 10-seconds.

7. Wait for the message **"Writing program forwarding completion"**

8. Select **"Write"**, and wait for the message **"Flash-ROM writing completion".**

9. Select **"Verify"**, and wait for the message **"Verify completion".**

10. Turn the Reflash Cube **"OFF".**

11. Repeat Steps 6 - 10 for additional TCM's.

    NOTE: If the procedure is interrupted, turn the Reflash Cube "OFF" and start again from Step 6.

12. Select **"End".**

13. Disconnect the TCM.

14. Using a permanent marker, write the letter **"N"** and the **"Date of Reflash"** near the part number found on the TCM to identify the new software calibration level.

15. Turn the screen saver back **"ON"** (See Steps 26 - 28 under "Procedure 2: First Time TCM Re-Flash").

16. The TCM Reflash is now complete.

17. Return to the Service Bulletin "REPAIR PROCEDURE" section and complete Steps 8 - 15 before returning the vehicle to the customer.