

COMMUNICATION TOOLS AND B.U.D.S.

SERVICE TOOLS

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GENERAL

Refer to *PROCEDURES* for instructions on the communication tools.

If communication problems occur, refer to *TROUBLESHOOTING* in this subsection.

TROUBLESHOOTING

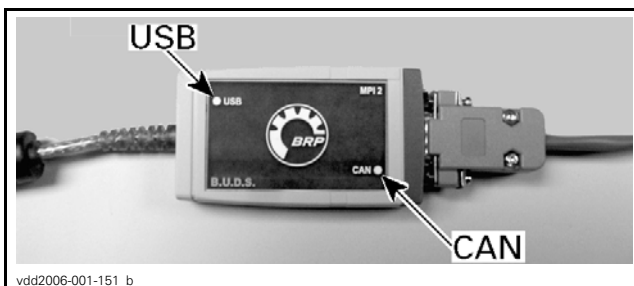
DIAGNOSTIC TIPS

IMPORTANT: Make sure all connections are made and vehicle is powered up **before starting B.U.D.S.** to allow proper communication between the vehicle and B.U.D.S. software.

MPI-2 Connection Troubleshooting

MPI-2 Status Lights

The MPI-2 includes 2 status lights that indicate the connection condition: USB and CAN. **Both lights must be GREEN** for the MPI-2 to function properly. Otherwise, refer to the following charts.



Prerequisite for USB communication:

- PC Computer turned on
- MPI-2 connected to PC computer.

USB LIGHT	
STATUS	WHAT TO DO
Light is OFF	– Check USB connection between MPI-2 and PC computer. – Check USB operation on PC computer (hardware or Windows drivers).
Light is GREEN	– Connections are GOOD. Communication can take place on USB side.

Prerequisite for CAN communication:

- MPI-2 connected to diagnostic connector on vehicle.
- ECM turned on (press the START button).
- Tether cord installed on the vehicle engine cut-off switch.
- B.U.D.S. started and logged on.

CAN LIGHT	
STATUS	WHAT TO DO
Light is OFF	Check connection between MPI-2 and diagnostic connector on vehicle.
Light is RED	Check CAN wires/connectors on vehicle.
Light is GREEN	Connections are GOOD. Communication can take place on CAN side.

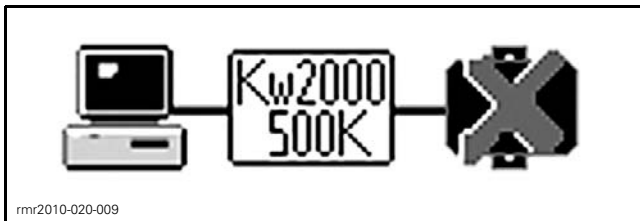
Communication Problems when Using B.U.D.S.

Missing Module

If one or more ECU is not communicating with the MPI, refer to *DIAGNOSTIC AND FAULT CODES* subsection.

No Vehicle Detected

If an "X" is shown in the status bar and the protocol tool is blinking between Kw2000 500K and Kw2000, it means that no ECU is communicating with the MPI.

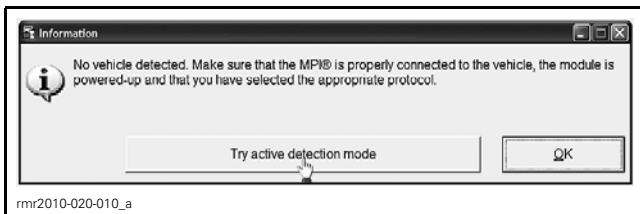


1. Check connections between the PC computer and the vehicle.
2. Ensure the electrical system is powered up.

NOTE: The **tether cord** must be installed.

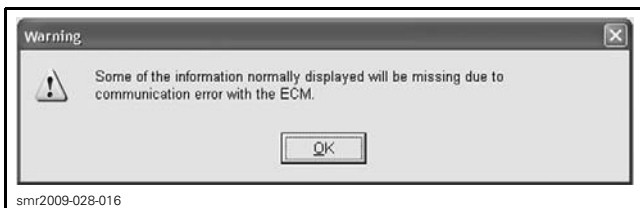
3. Ensure both USB and CAN lights on the MPI-2 are GREEN. Refer to *MPI-2 CONNECTION TROUBLESHOOTING* subsection.

If B.U.D.S. does not automatically exit the following message box, click the **Try active detection mode** button. This will manually establish the communication with the ECUs.



Message Box: "Some of the Information Normally Displayed..."

If the following message box is displayed in B.U.D.S.:



1. Click on the **OK** button in the box.
2. Ensure the tether cord is properly installed.

3. Briefly press the vehicle **START** button to activate the ECM. **Do not hold START button to avoid engine starting.**

4. Click on the **Read Data** button in B.U.D.S.

Message Box: "Engine must be Stopped..."

If the following message box is displayed in B.U.D.S.:



1. Click on the **Cancel** button in B.U.D.S.
2. Ensure the tether cord is properly installed.
3. Briefly press the vehicle **START** button to activate the ECM. **Do not hold START button to avoid engine starting.**
4. Continue with the procedure undertaken prior to the appearance of the message box.

PROCEDURES

MPI-2

The MPI-2 (Multi-Purpose Interface-2) in conjunction with the MPI-2 diagnostic cable is used with B.U.D.S. software to communicate with the ECM (engine control module) and other modules.

MPI-2 Power

The MPI-2 interface card uses the power from the PC computer USB port.

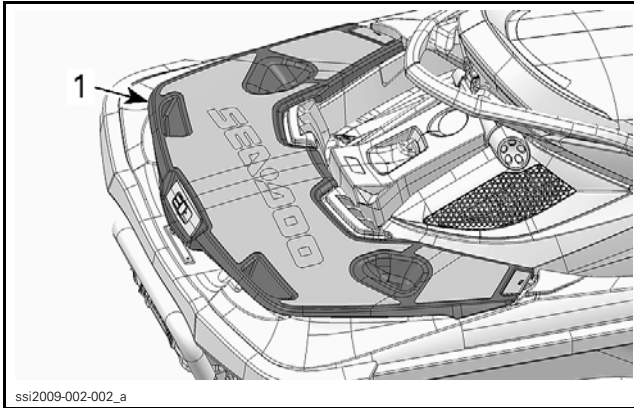
Connecting the PC to the Vehicle

GTS, GTI, GTR, RXP-X Series and Wake

1. Open front storage compartment.
2. Remove storage basket.

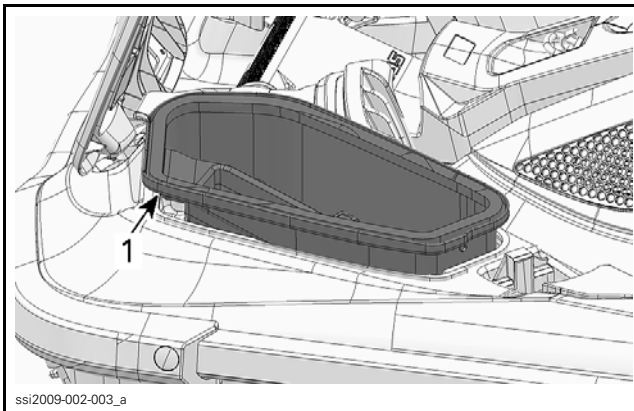
GTX/RXT Models with Suspension

3. Open the boarding platform.



1. Re-boarding platform

4. Remove the RH storage bin.



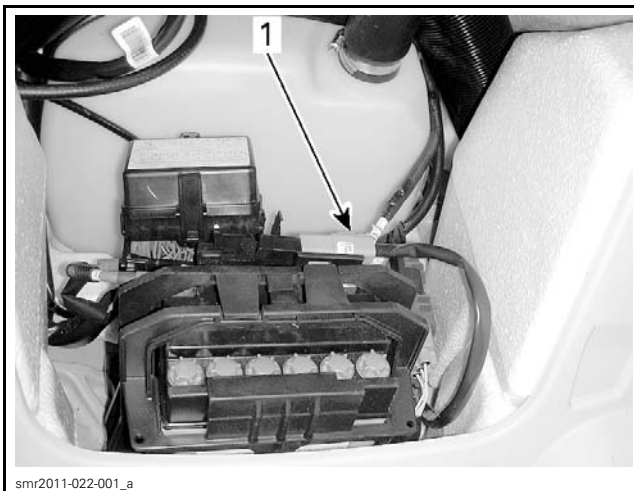
1. RH storage bin

GTX/RXT Models Without Suspension

5. Remove the RH access panel on the boarding platform.

All Models

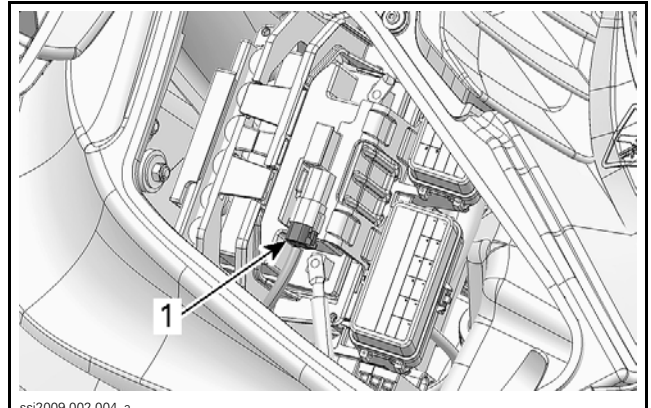
6. Disconnect the 6-pin diagnostic connector from its holder (protective cap).



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TYPICAL — ACCESS FROM FRONT STORAGE COMPARTMENT

1. Diagnostic connector



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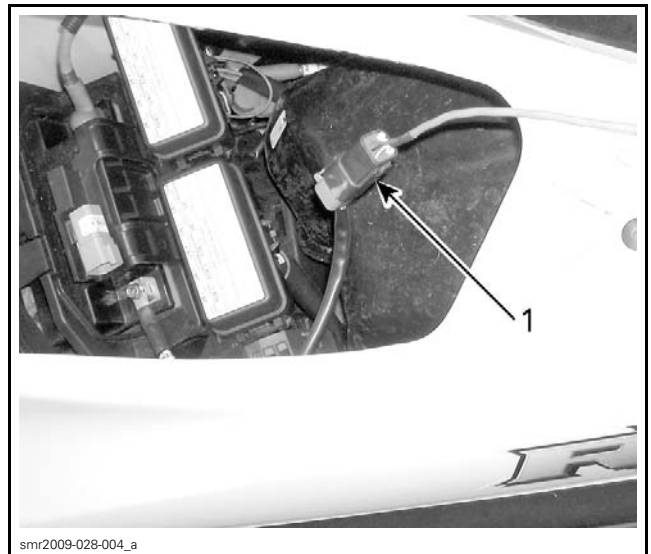
TYPICAL — ACCESS FROM REAR RH PANEL

1. Diagnostic connector

7. Connect one end of the MPI-2 DIAGNOSTIC CABLE (P/N 710 000 851) to vehicle connector.



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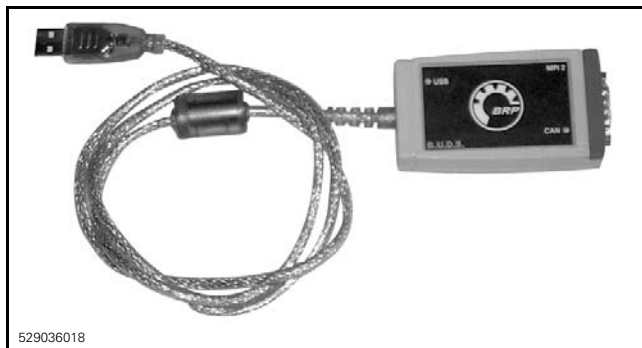
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TYPICAL

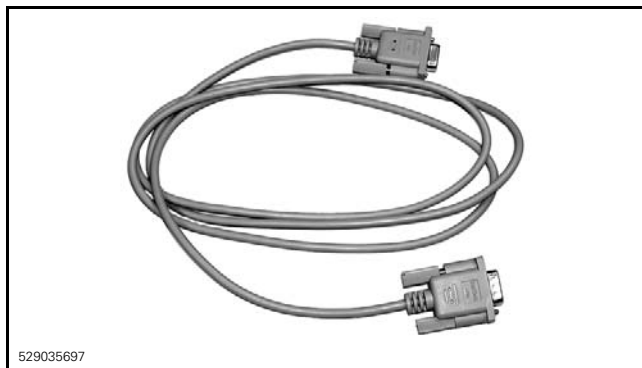
1. Diagnostic cable connected to vehicle

8. Connect the other end of diagnostic cable to the MPI-2 INTERFACE CARD (P/N 529 036 018).

Subsection XX (COMMUNICATION TOOLS AND B.U.D.S.)



NOTE: An optional MALE-FEMALE EXTENSION SERIAL CABLE (P/N DB9) available at electronic retail outlets can be used between diagnostic cable and MPI-2 interface. Do not exceed 7.6 m (25 ft).



OPTIONAL MALE-FEMALE EXTENSION SERIAL CABLE

9. Connect the MPI-2 INTERFACE CARD (P/N 529 036 018) to the USB port of a PC (personal computer).



MPI-2 INTERFACE CARD CONNECTED TO USB PORT

⚠ CAUTION If the computer you are using is connected to a power outlet, there is a potential risk of electric shock when working in contact with water. Be careful not to touch water while working with the computer.

10. Use B.U.D.S. software as described further in *B.U.D.S. SOFTWARE*.

B.U.D.S. SOFTWARE

B.U.D.S. (BRP Utility and Diagnostic Software) is designed to allow programming key(s) to the vehicle, allow electrical and electronic component monitoring, activation of certain components for diagnostic purposes, and to carry out settings changes.

For more information pertaining to the use of the B.U.D.S. software, use its help which contains detailed information on its functions.

Always use the latest applicable B.U.D.S. version available on BOSSWeb.

How to Read the Electronic Control Units Using B.U.D.S. Software

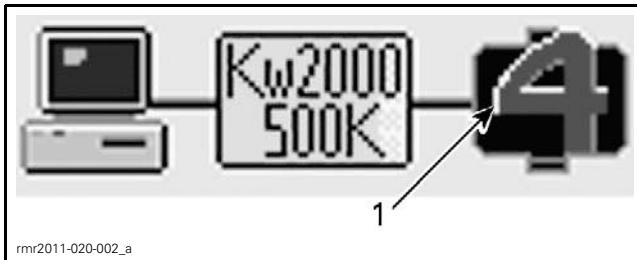
IMPORTANT: Ensure all connections have been made **before starting B.U.D.S.** to allow proper operation. Refer to *MPI-2* in this subsection.

1. Press the START button to wake up the electrical system.
2. Install the tether cord on the engine cut-off switch.
3. Start B.U.D.S. and logon.

NOTE: B.U.D.S. will automatically choose the appropriate MPI 2 protocol.

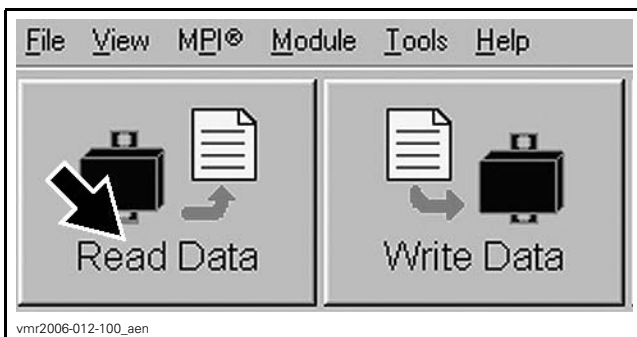
4. Ensure the appropriate number of modules is shown in the status bar.

MODEL	NUMBER OF MODULES	MODULES
GTS	2	ECM and cluster
GTI, GTR, RXP-X and WAKE	3	ECM, cluster and iBR
GTX/RXT models with iS	4	ECM, cluster, iBR and iS
GTX/RXT models without suspension	3	ECM, cluster and iBR



1. Number of modules

- Read electronic modules by clicking the **Read Data** button.



B.U.D.S. is now ready to use.

Electronic Modules ECU Update

NOTICE Failure to strictly follow a procedure to update a module may permanently damage the module.

Whenever B.U.D.S. is started, check for an update icon in the B.U.D.S. status bar.

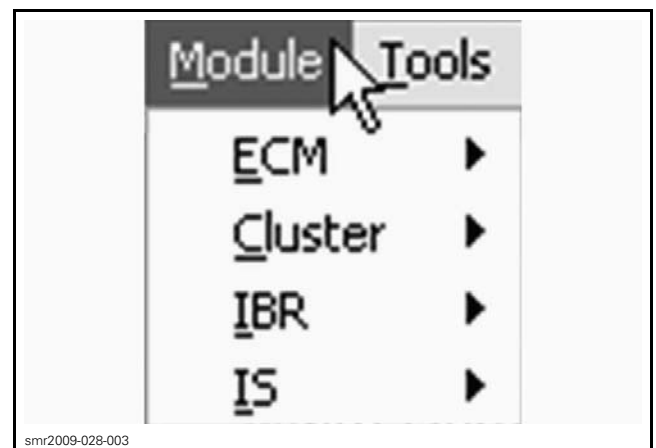


TYPICAL

If the icon is visible, it indicates that a file is available in B.U.D.S. to update at least one of the electronic modules.

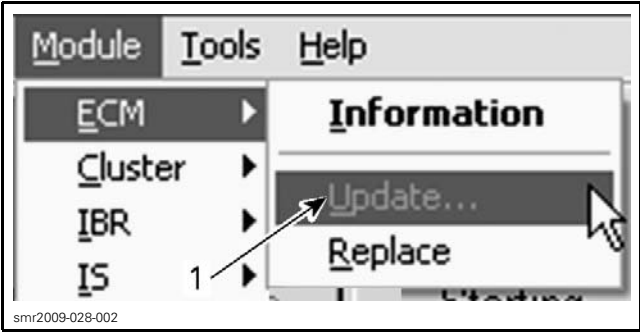
NOTE: If an update file is available on BOSSWeb but the B.U.D.S. software being used is not up to date, the update icon will not appear. Refer to the service bulletins to see if there is an update available.

Use the **Module** submenu and check all modules one at a time to see which module(s) can be updated.



TYPICAL

- If the **Update** option is **greyed out**, no update file is available for this module.
- If the **Update** option is **black**, an update file is available for this module.



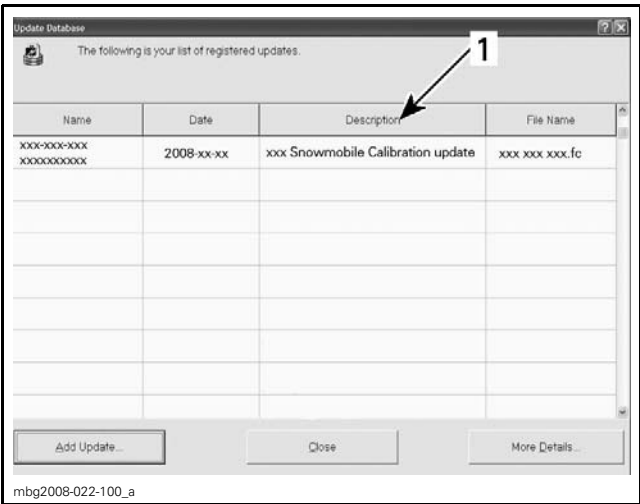
1. Greyed out: No update to perform
Black: Update file available

Before applying an update, log in BOSSWeb and look in **Service** for the **Unit history** to find out if any information or publication related to the vehicle is available. If so, carefully follow the given instructions.



SERVICE, UNIT HISTORY

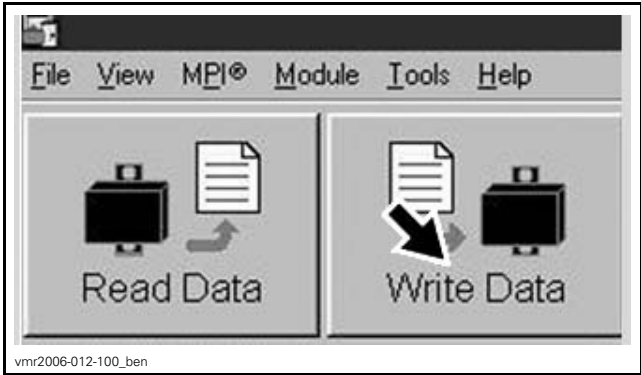
NOTE: When selecting the update menu in B.U.D.S., a dialog box will appear and the update file description may give some clue to finding the vehicle-related information in BOSSWeb.



- TYPICAL**
1. File description

Writing Changes in an ECU

1. When finished, save changes to the related electronic module by clicking the **Write Data** button.

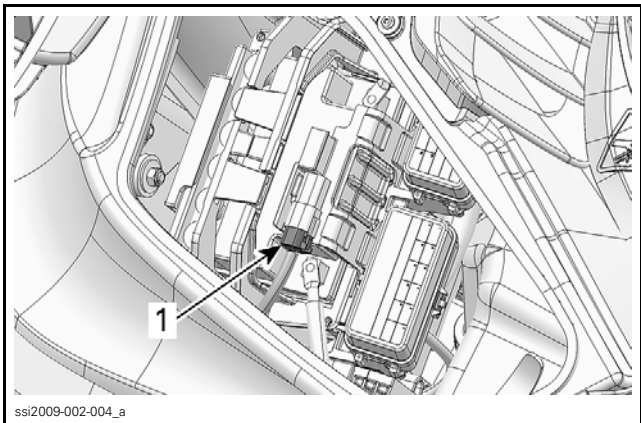


NOTE: A message box will confirm a successful operation.

2. Remove tether cord from the engine cut-off switch.

Disconnect MPI connections and secure the vehicle diagnostic connector in its holder.

NOTE: Holder has a 120 ohm internal resistor. Diagnostic connector must be secured in holder for proper operation.



- TYPICAL**
1. Diagnostic connector secured to holder

NOTICE Failure to secure the diagnostic connector in its protective cap may result in corrosion or other damage to the terminals.

3. Reinstall all removed parts, refer to appropriate subsections.