

# Technical BULLETIN

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## SAFETY RECALL

This modification has top priority. This bulletin must be performed immediately to ensure customer safety.

NOTE: Bulletins that announce a recall will have an "R" at the end of the bulletin number.

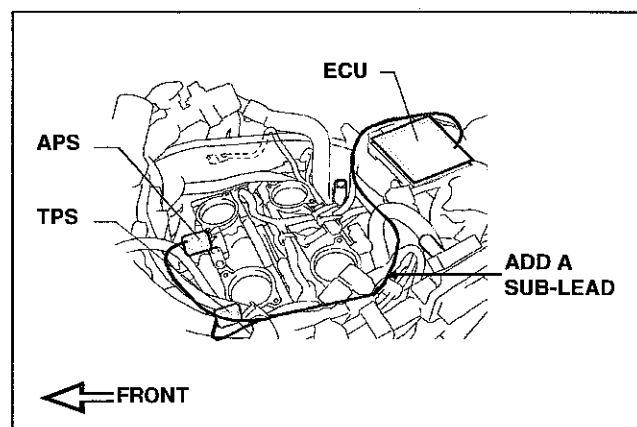
### 2009 VMX17Y/YC

### FACTORY MODIFICATION CAMPAIGN – APS/TPS Wiring



#### INTRODUCTION

Yamaha Motor Corporation, U.S.A. has decided that a defect which relates to motor vehicle safety exists in certain 2009 VMAX (VMX17Y/YC) model motorcycles. In affected motorcycles, there could be excessive electrical resistance in the ground wire for the Accelerator Position Sensor (APS) and Throttle Position Sensor (TPS) due to an insufficiently crimped connection. Excessive resistance can cause incorrect signals to be sent to the Engine Control Unit (ECU) which could lead to unstable engine idle speed and/or keep idle speed from falling below about 3000 rpm when the throttle is released, preventing a proper return to idle that could result in an accident with injury or death.



To correct this defect, Yamaha is initiating a Factory Modification Campaign. Affected motorcycles must have an additional sub-lead wire installed that bypasses the problem area of the wire harness to prevent the excessive resistance.

Yamaha is notifying all registered owners of affected motorcycles by mail. A copy of this letter is included in this bulletin. The customer should take the letter along with the affected motorcycle to an authorized Yamaha dealer for the modification.

A computer report listing all affected motorcycles invoiced to your dealership is included with this bulletin. Use the list to help ensure all motorcycles are modified. All sold motorcycles that have been registered with Yamaha will show the customer's name and address. Your dealership must notify the owner of any affected motorcycle that was actually sold but is listed as "unsold" in the report.

You must modify all affected motorcycles in your inventory as well as all customer-owned motorcycles brought to you for this service. Any affected motorcycle that you purchase from Yamaha in the future will also require modification. If you purchase a motorcycle from another dealer, check to see if the procedures in this bulletin have already been performed before you sell the motorcycle.

**Motorcycles that are affected should not be operated until they are modified. It is a violation of Yamaha policy for your dealership to deliver any affected motorcycles to customers until the procedures in this bulletin are performed.**

When the modification on each motorcycle is performed, follow the Warranty Information section of this bulletin to receive reimbursement. Be sure to use the Factory Modification Campaign procedures in Chapter 7 of the **Warranty and Y.E.S. Handbook (LIT-11760-00-08)**.



## DEALER ACTION SUMMARY

### **Sold**

**Units:** Install the additional sub-lead wire during PDI service.

### **Unsold**

**Units:** Install the additional sub-lead wire. Check first to be sure the modification has not already been performed (see *Identification Procedure* section in this bulletin).

**Parts:** Yes, order a Sub-Lead Kit for each affected unit. See the *Parts Information* section for details.

**Warranty:** Factory Modification Campaign. See the *Warranty Information* section of this bulletin. This modification applies to all affected units regardless of ownership or warranty status.

### **Notify**

**Customers:** Yes. You must immediately contact any customer whose motorcycle shows as unregistered on the enclosed report. Yamaha has sent letters to customers whose motorcycles were registered for warranty as of xx/xx/10.



## AFFECTED RANGE

VMX17Y  
VP29E-0000013~0000611

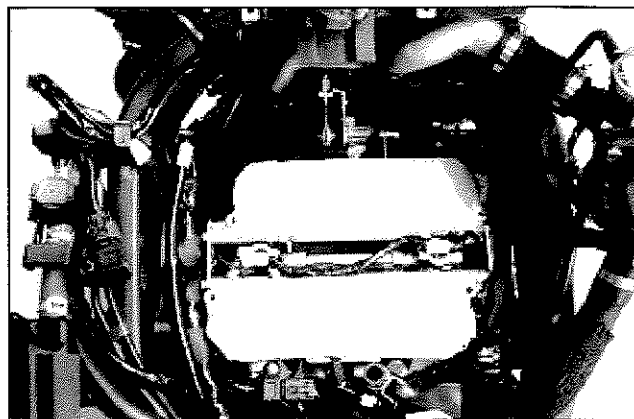
VMX17YC  
VP29Y-0000033~0000132



## SERVICE PROCEDURES

### **Preparation**

1. Set the engine stop switch to the stop position to prevent engine starting. Check the malfunction code history with the diagnostic system mode D:61 (the malfunction code will be deleted in a later step).
2. Remove the parts below:
  - Rider seat
  - Meter assembly 2 cover
  - Top cover
  - Meter assembly 2
  - Main switch cover
  - Intake duct assembly
  - Battery leads
  - ECU tray (Battery cover)
  - Air filter case (disconnect and remove with Intake funnel servo motor)

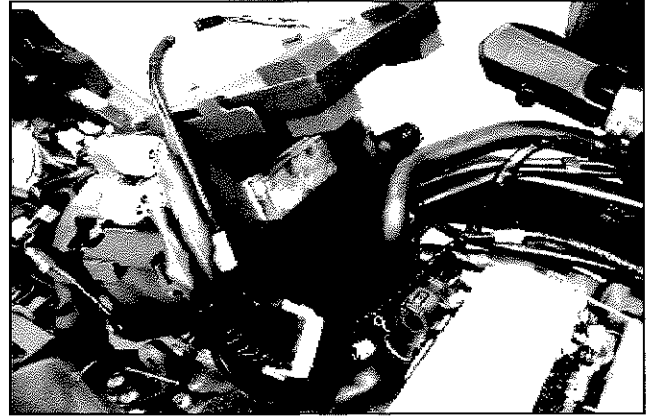


**NOTICE:**

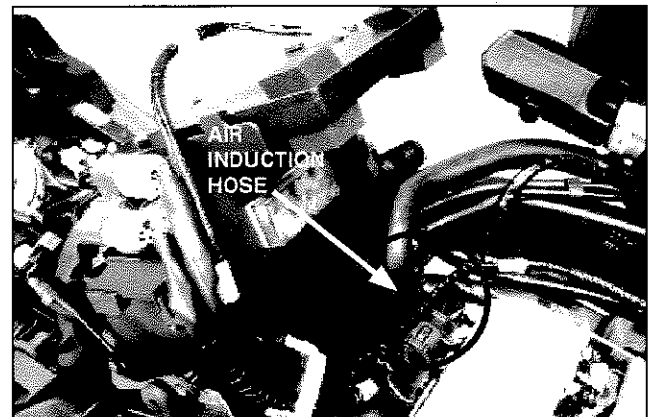
- Be sure to remove the lower case gaskets so they will not be lost.
- Cover the throttle body bore with tape to prevent foreign material from entering the engine.

Routing the sub-lead from ECU to APS/TPS

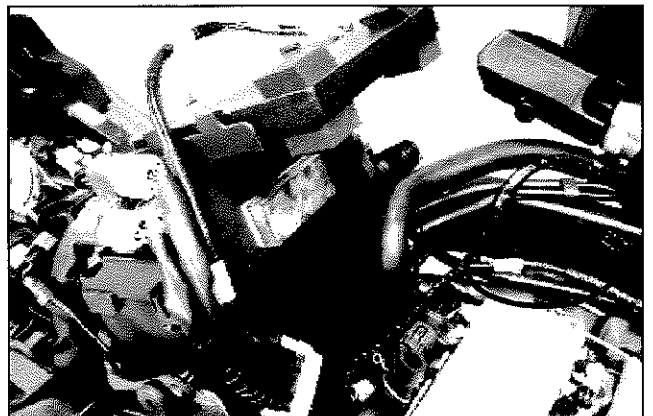
3. Clamp the new sub-lead wire with the plastic clamp at the front of the battery box.



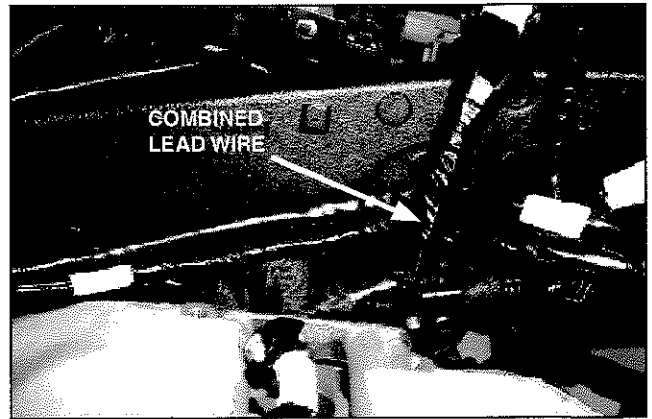
4. Route the sub-lead wire in front of the air induction hose.



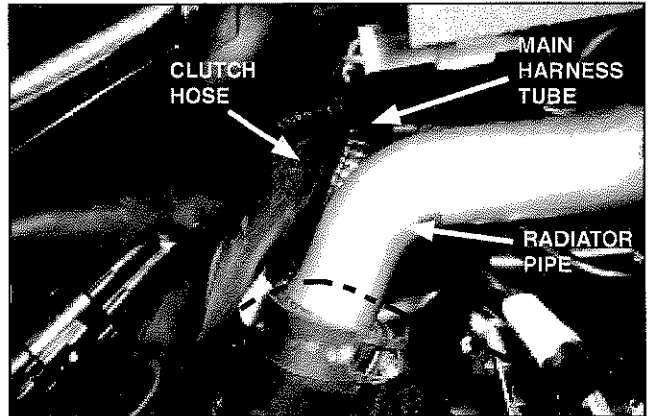
5. Route the sub-lead wire along the starter motor lead.



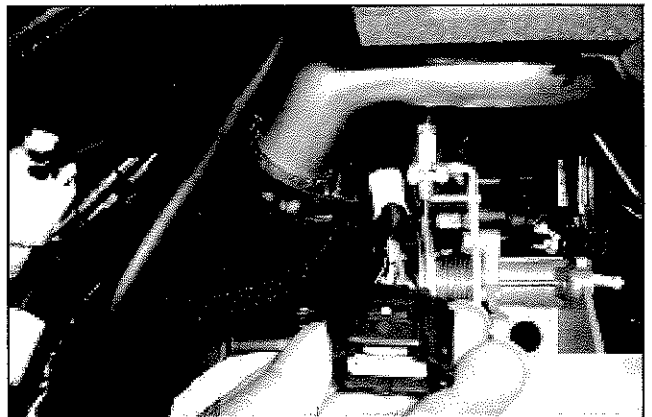
- Route the sub-lead wire between the frame and the combined lead wires for the radiator fan, air induction system, and atmospheric sensor.



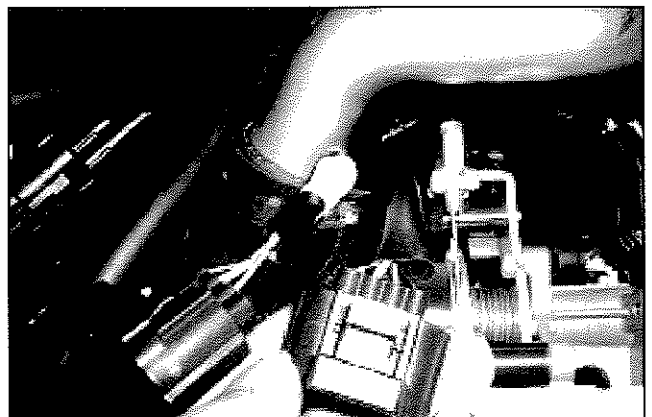
- Route the APS sub-lead behind the clutch hose, main harness tube and radiator pipe.



- Pull the APS coupler of the new sub-lead wire out from between the radiator pipe and throttle cable.



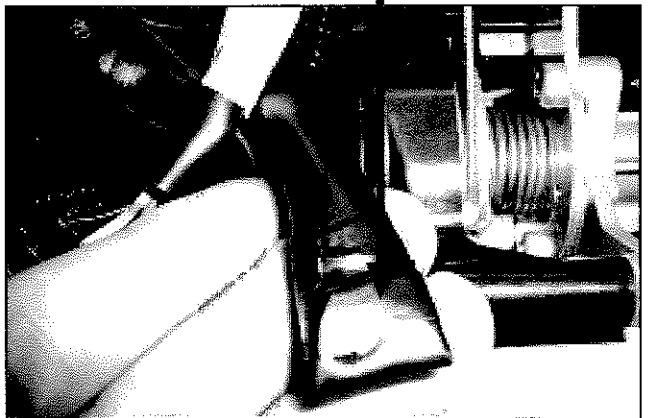
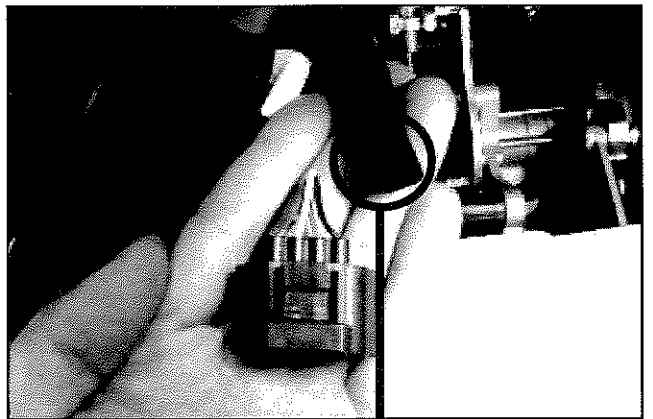
- Disconnect the original APS coupler. Pull it out from between the radiator pipe and throttle cable.



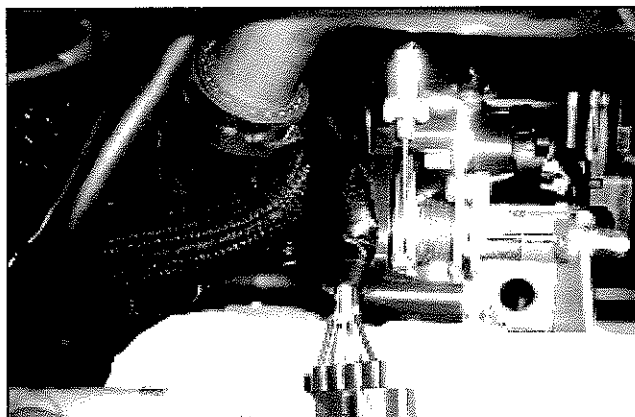
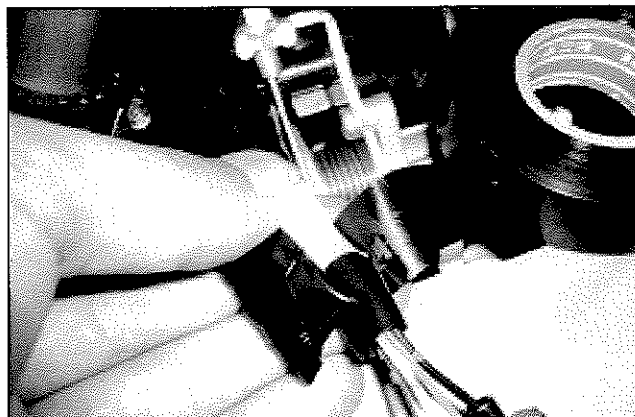
10. Push back the protective tube and cut the original APS coupler wire.



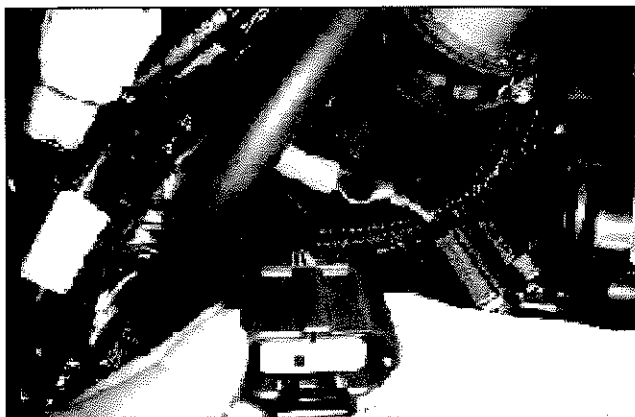
11. Fold over the end of the protective tube and cover it with electrician's tape.



12. Tape the now-unused APS lead and the new APS lead together at the white marking tape.



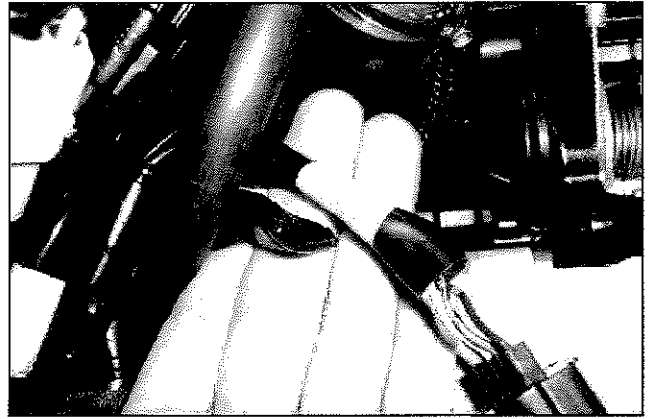
13. Disconnect the original TPS coupler.



14. Push back the protective tube and cut the original TPS coupler wire. As before, fold over the end of the protective tube and cover it with electrician's tape

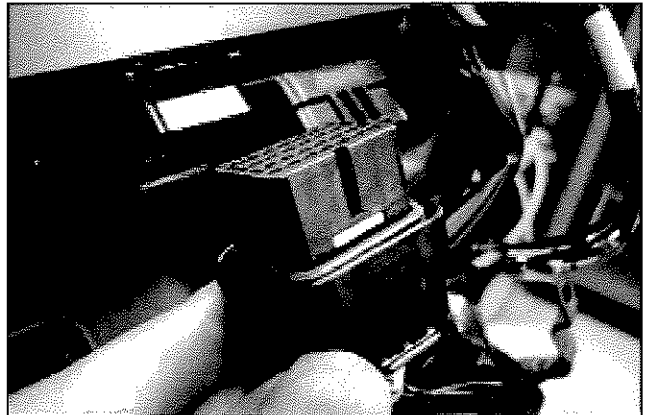


15. Tape the now-unused TPS lead and the new TPS lead together at the yellow marking tape.

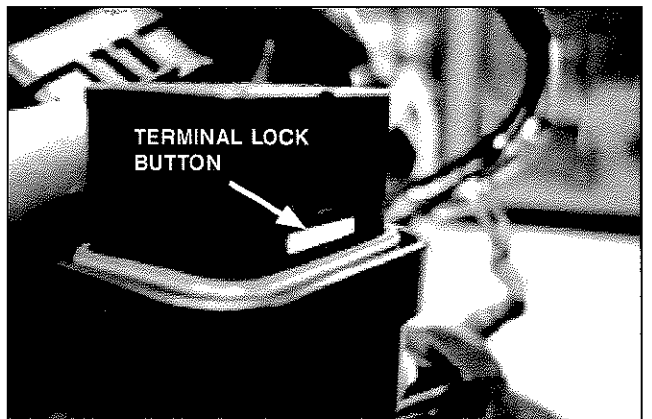


**Modifying ECU coupler terminals for APS**

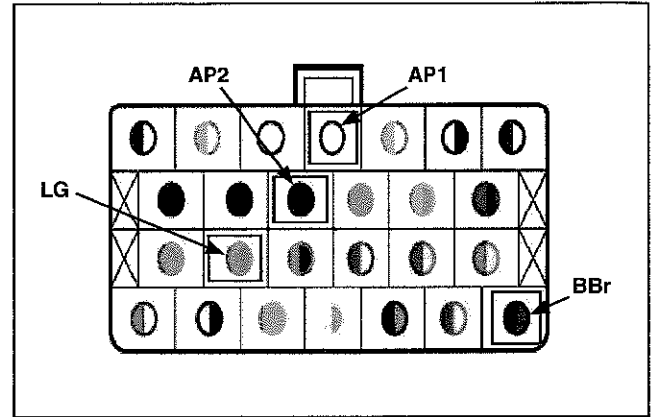
16. Disconnect the 26-pin ECU coupler from the ECU (the 26-pin coupler is the smaller of the two).



17. Push the white button to release the lock of the terminals.

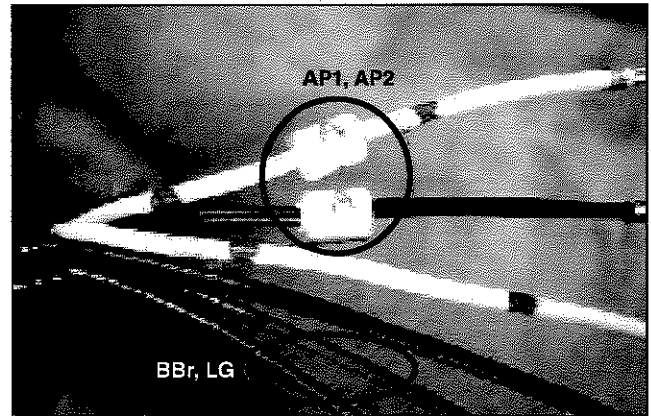


18. Pull out the original B/Br (Black/Brown), L/G (Blue/Green), AP1 (White), and AP2 (Black) terminal wires from the ECU coupler. If the lock is correctly released, the terminals should pull out easily.



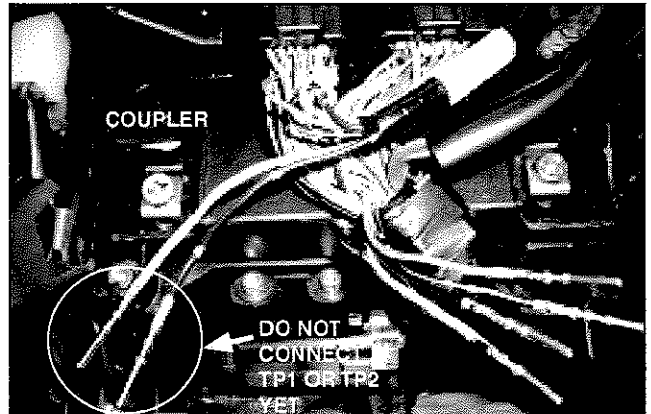
19. Insert the new B/Br (Black/Blue), LG (Blue/Green), AP1 (white), and AP2 (black) terminal of the sub-lead wire to the matching slots in the ECU coupler.

- AP1 and AP2 lead wire have an "A" label.
- Do not insert TP1 and TP2 yet.



20. Lock the terminals by returning the lock button to the locking position. You cannot push the lock button to the locking position if the terminals are incorrectly inserted.

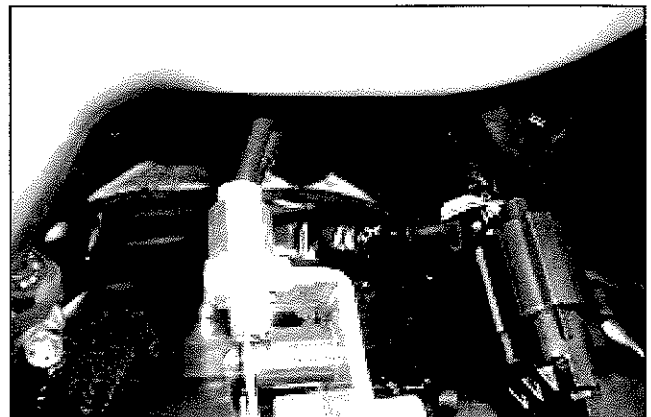
21. Reconnect the ECU coupler to the ECU.



22. Route the APS lead under the throttle cable and connect it to the APS coupler.

23. Temporarily reconnect the meter and the battery. Enter the diagnostic system to check the APS signal.

- With the throttle grip fully closed, check APS signal 1 with diagnostic mode D:14. Closed position value is 15~18.
- With the throttle grip fully closed, check APS signal 2 with diagnostic mode D:15. Closed position value is 14~19.



### Modifying ECU coupler terminals for TPS2

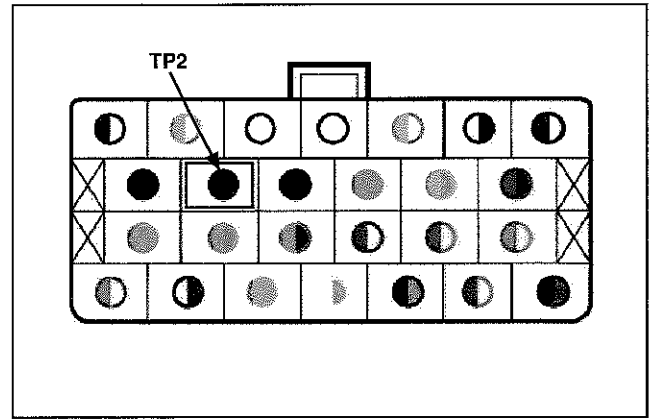
24. Disconnect the battery and the 26-pin ECU coupler again. Release the terminal lock button on the coupler.

Pull out the original TP2 (Black) terminal from ECU coupler. Insert the new TP2 (Black) terminal of the sub-lead wire to ECU coupler. Do not replace TP1 terminal on this step. Lock the terminals again.

25. Reconnect the ECU coupler to the ECU. Connect the TPS coupler to the TPS. Reconnect the battery.

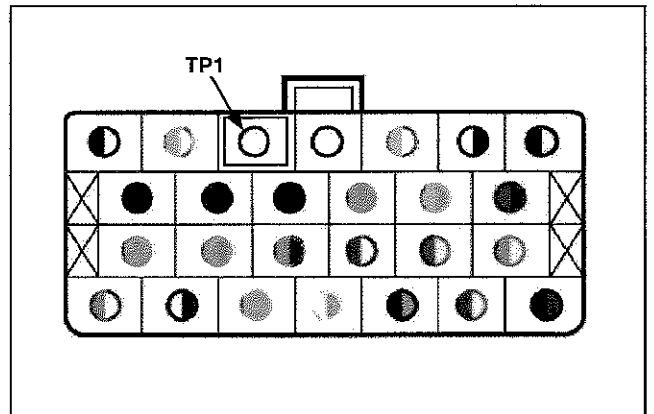
26. Enter the diagnostic system to check the TPS signal. Check the TPS signal 2 with diagnostic mode D:13.

- Closed position value is 12~18 (throttle grip position is not important in this test because TP1 lead wire is not yet connected).



### Modifying ECU coupler terminals for TPS1

27. Pull out the original TP1 (White) terminal from ECU coupler. Insert the new TP1 (White) terminal of the sub-lead wire to ECU coupler. Lock the terminals again.

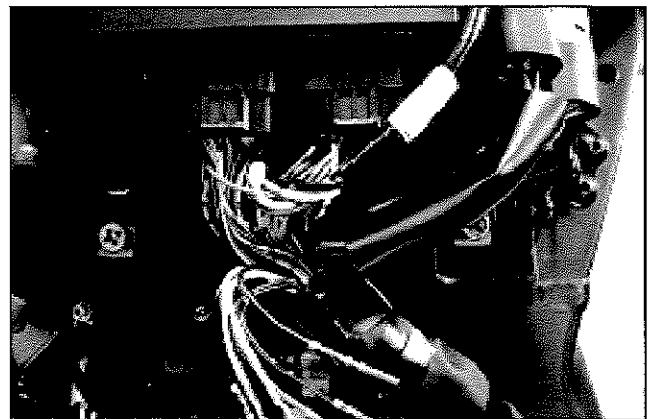


28. Reconnect the ECU coupler to the ECU. Connect the TPS coupler to the TPS. Reconnect the battery.

29. Enter the diagnostic system to check the TPS signal. With the throttle grip closed, Check the TPS signal 2 with diagnostic mode D:01.

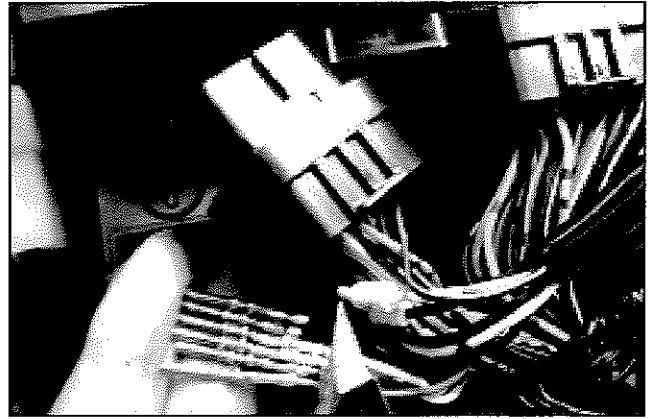
- Closed position value is 14~16.

30. Check the malfunction history of the diagnostic system for malfunction code 15 which was caused by this modification procedure. Delete the malfunction history code with the diagnostic mode D:62.

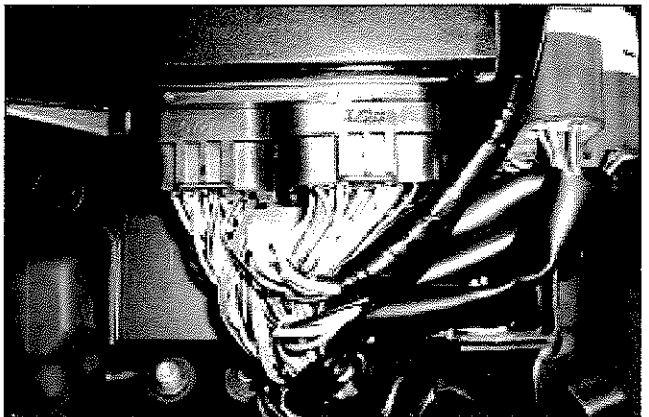
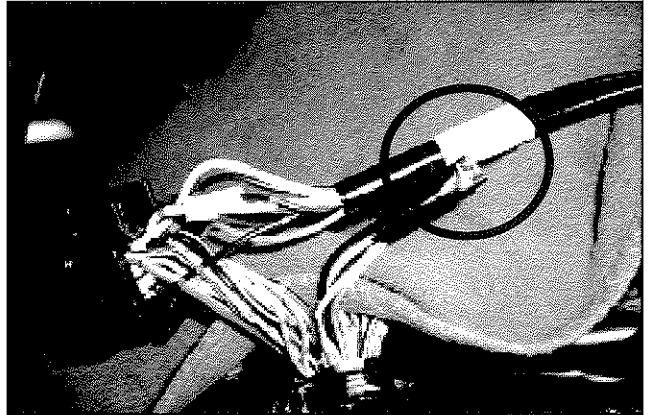


### Completing modification at ECU

31. Cut the terminal ends off the six now-unused lead wires of ECU coupler. Tape the wires together as a bundle.



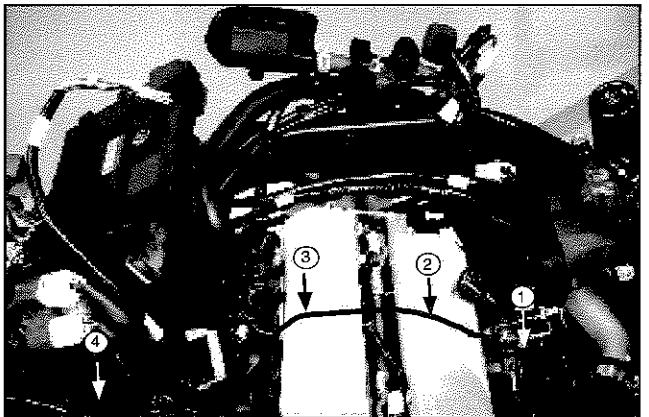
32. Tape the original lead wire bundle and new lead wire together at the white marking tape.



### Securing the sub-lead wire

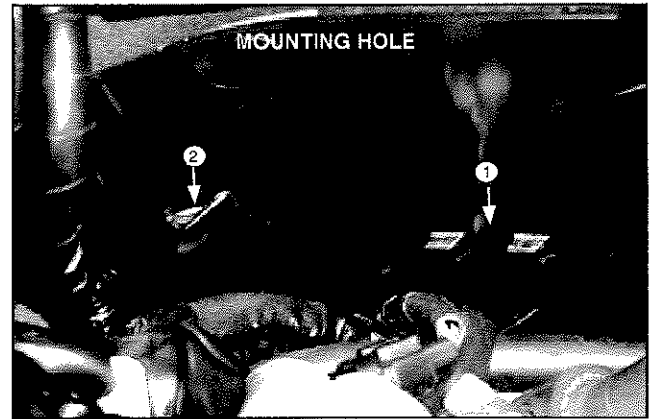
33. Remove the existing plastic clamps from points 1 and 2 of the left side panel described in the above picture.

34. Secure the sub-lead at the four points shown as follows:



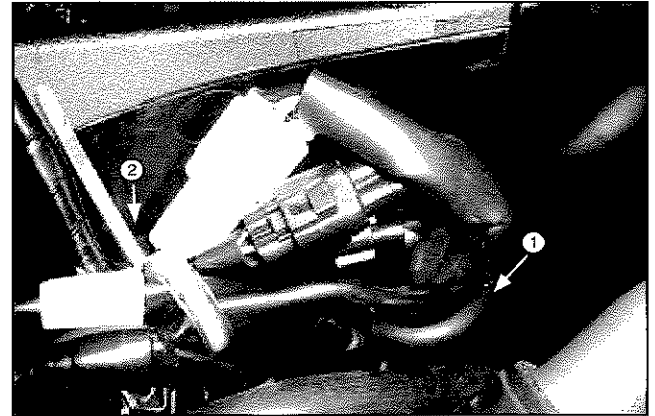
### POINT 1

- Insert a black wire tie from the kit through the black hose from the kit.
- Pass the black wire tie through mounting hole 1.
- Fasten the APS lead with the ignition coil sub-lead, front wheel sensor lead, and cylinder identification sensor lead.
- Cut off the end of the wire tie to 0~3mm.



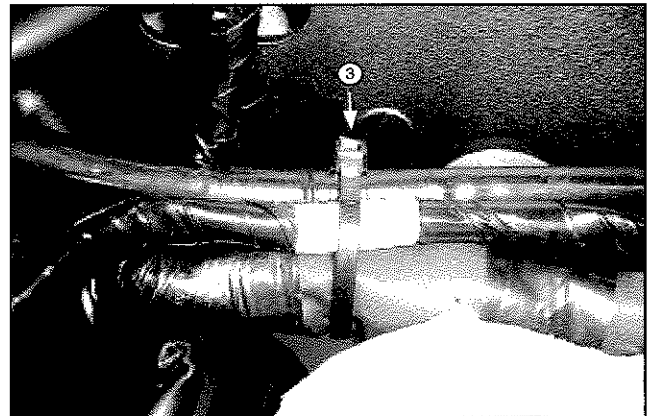
### POINT 2

- Insert the white wire tie from the kit through the clear hose from the kit.
- Pass the white clamp through mounting hole 2.
- Fasten the APS lead (in front of APS/TPS lead separating point) with the starter motor lead, ignition coil sub-lead, front wheel sensor lead, and cylinder identification sensor lead.
- Don't cut off the end of the wire tie.



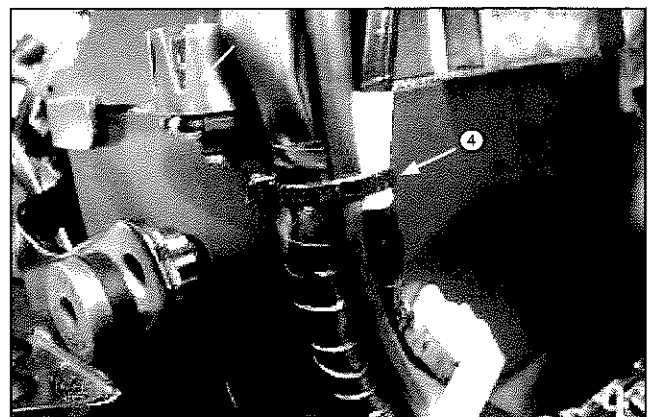
### POINT 3

- Using a black wire tie from the kit, combine the sub-lead wire with the starter motor lead and main harness at point 3 by the white marking tape point of the sub-lead.
- Cut off the end of the wire tie to 0~3mm.



### POINT 4

- Using a black wire tie, combine the sub-lead wire with the ignition coil sub-harness and sub-wire harness at the white tape point of the sub-lead at the right side of the battery box.
- Cut off the end of the clamp to 0~3mm.



## Reassembly

35. Reassemble the unit, reinstalling the components removed in step 3.

### NOTICE:

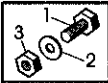
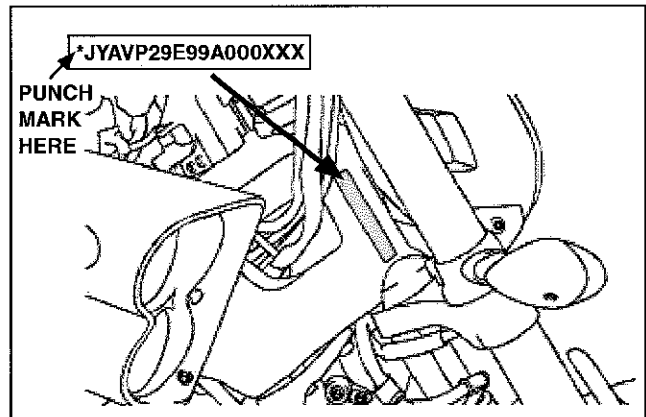
- Be sure to reinstall the lower case gaskets.
- Remove the tape from the throttle body bore after being sure no foreign material will fall into the engine.

36. Confirm proper operation, then put a punch mark next to the VIN on the steering head as described in Identification Procedure below.



## IDENTIFICATION PROCEDURE

When the modification is complete, put a punch mark next to the Primary ID as shown. Check for this punch mark if you encounter an unfamiliar unit. You can also check unit status on YDS or by contacting your Regional Technical Advisor.



## PARTS INFORMATION

Part Number	Description	Qty.	Dealer Cost
90891-30067-00	Sub-Lead Kit Contents: <ul style="list-style-type: none"><li>• Wire sub lead 1</li><li>• Clamp (White) 1</li><li>• Hose (Clear) 1</li><li>• Clamp (Black) 3</li><li>• Hose (Black) 1</li><li>• Tape 1</li></ul>	1	\$25.88

