

FORD: 1993 PROBE

This TSB is being republished in its entirety to update the Service Procedure.

ISSUE: The "Check Engine" light may flash during warm-up after a cold soak. This may be caused by the Powertrain Control Module (PCM) logic allowing the system to go into closed loop.

ACTION: Perform EEC Quick Test. Refer to the 1993 Powertrain Control/Emissions Diagnosis Manual (PC/ED), Section 5B, for service details. If EEC Codes 17 and/or 24 were displayed and no driveability concerns are present, install Control Unit Service Kit (F32Z-12B528-A) to resolve the codes and the "Check Engine" light condition. If other EEC codes are retrieved (other than 17 and/or 24), diagnosis and repair must be performed to eliminate these codes prior to the installation of the Control Unit Service Kit.

NOTE: ONLY UNDER UNIQUE CONDITIONS WILL THIS CONCERN BE PRESENT. IF CODES 17 AND/OR 24 ARE PRESENT AND THERE ARE NO DRIVEABILITY CONCERNS, INSTALL THE CONTROL UNIT KIT. HOWEVER, IF THERE IS A DRIVEABILITY CONCERN, PERFORM DIAGNOSIS AS OUTLINED IN THE PC/ED MANUAL, SECTIONS 5B AND 6B.

REPAIR PROCEDURE

Obtain a Control Unit Service Kit (F32Z-12B528-A). Refer to the following procedure for installation instructions.

1. Disconnect the negative battery cable.
2. Remove the center console. Refer to the Powertrain Control Module (PCM) removal section in the 1993 Probe Service Manual, Page 03-04A-25.
3. Disconnect PCM Connectors C248, C247, and C246. Take the winding black electrical tape off the PCM main harness, Figure 1.

4. Using the solder/splice procedure (Figure 2), connect the kit harness (six wires) according to the following procedure. Refer to Figures 3 and 4 for pin locations (discard the Scotchlocks included in the kit).

a. 4-1 Series Connection:

- Find the PCM wire (blue) at terminal 1E of Connector C248.
- Cut this blue wire approximately 70mm (2.76 in) away from terminal 1E of Connector C248.
- Connect the control unit wire (blue/yellow) to the main harness side of the above cut wire (blue) using the solder/splice procedure (Figure 2).
- Connect the control unit wire (blue) to the connector side of the cut wire (blue) using the solder/splice procedure (Figure 2).

b. 4-2 Parallel Connection:

- Find the PCM wire (black) at terminal 3B of Connector C246.
- Cut this black wire approximately 70mm (2.76 in) away from terminal 3B of Connector C246.
- Connect the control unit wire (black) to the module wire (black) using the solder/splice procedure (Figure 2).

c. 4-3 Parallel Connection:

- Find the PCM wire (red/black) at terminal 1B of Connector C248.
- Cut this red/black wire approximately 70mm (2.76 in) away from terminal 1B of Connector C248.
- Connect the control unit wire (red/black) to the module wire (red/black) using the solder/splice procedure (Figure 2).

LAMP—"CHECK ENGINE" LIGHT COMES ON INTERMITTENTLY WITH CODES 17 AND/OR 24 IN MEMORY—VEHICLES WITH 2.5L ENGINE

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- d. 4-4 Parallel Connection:
- Find the PCM wire (red/white) at terminal 11 of Connector C248.
 - Cut this red/white wire approximately 70mm (2.76 in) away from terminal 11 of Connector C248.
 - Connect the control unit wire (red/white) with the PCM wire (red/white) using the solder/splice procedure (Figure 2).

- e. 4-5 Parallel Connection:
- Find the PCM wire (blue/black) at terminal 20 of Connector C247.
 - Cut this blue/black wire approximately 70mm (2.76 in) away from terminal 20 of Connector C247.
 - Connect the control unit wire (blue/white) with the PCM wire (blue/black) using the solder/splice procedure (Figure 2).

NOTE: BE SURE THAT WIRE COLOR OF THE PCM WIRE AND CONTROL UNIT WIRE IS BLUE/BLACK AND BLUE/WHITE, RESPECTIVELY.

5. Connect the control unit wire connector to the control unit.
6. Connect the PCM connector to the PCM.
7. Mount the control unit to the top of the PCM with electrical tape.
8. Reroute the control unit connector wiring to prevent interference to/from other components. Tape or tie-wrap wiring accordingly.
9. Install the center console.
10. Disconnect the negative battery cable and depress the brake pedal for 5-10 seconds to ensure all EEC codes have been erased.
11. Reconnect the negative battery cable.
12. Drive the vehicle to verify the "Check Engine" light does not come on.
13. If the "Check Engine" light comes on again, check the wiring harness of the kit to verify that it has been properly installed.

14. If the "Check Engine" light still comes on and the Control Unit Service Kit is correctly installed, refer to the HO2S diagnostic procedure outlined in the PC/ED Manual, Section 6B.

NOTE: IF THE "CHECK ENGINE" LIGHT DOES NOT COME ON BUT CODES 17 AND/OR 24 REMAIN STORED IN THE PCM, DISREGARD THESE CODES.

Obtain an Authorized Modifications Decal and list the date, dealer number, and summary of modifications performed. Select a prominent place adjacent to the Vehicle Emission Control Information Decal suitable for installing the Authorized Modifications Decal. Clean the area, install the decal, and cover it with a clear plastic decal shield.

		AUTHORIZED MODIFICATIONS	
THE FOLLOWING MODIFICATIONS HAVE BEEN MADE:			
<i>Replaced PCM Control Unit Service Kit per</i>			
<i>TSB 95-21-5</i>			
THESE MODIFICATIONS HAVE BEEN APPROVED, AS APPROPRIATE, BY EPA AND CARB.			
DEALER NUMBER:		DATE:	
CHANGE AUTHORITY:			
FPS 9262 9/78		FORD MOTOR COMPANY PRINTED IN U.S.A.	

CONTROL UNIT SERVICE KIT

The Control Unit Service Kit (F32Z-12B528-A) contains the following:

- One (1) Control Unit
- One (1) Jumper Harness
- Six (6) "Scotchlocks" - discard and use the solder/splice procedure (Figure 2)
- One (1) Instruction Sheet (I.S. #6540A)

PART NUMBER	PART NAME
F32Z-12B528-A	Control Unit Service Kit

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**LAMP—"CHECK ENGINE" LIGHT COMES ON
INTERMITTENTLY WITH CODES 17 AND/OR 24 IN
MEMORY—VEHICLES WITH 2.5L ENGINE**

OTHER APPLICABLE ARTICLES: NONE

SUPERSEDES: 94-9-7

WARRANTY STATUS: Eligible Under The
Provisions Of Bumper To
Bumper Warranty Coverage
And Emissions Warranty
Coverage

OPERATION	DESCRIPTION	TIME
952105A	Install Powertrain Control Module (PCM) Control Unit Service Kit	1.0 Hr.

DEALER CODING

BASIC PART NO.	CONDITION CODE
12B528	79

OASIS CODES: 204000, 206000, 698298

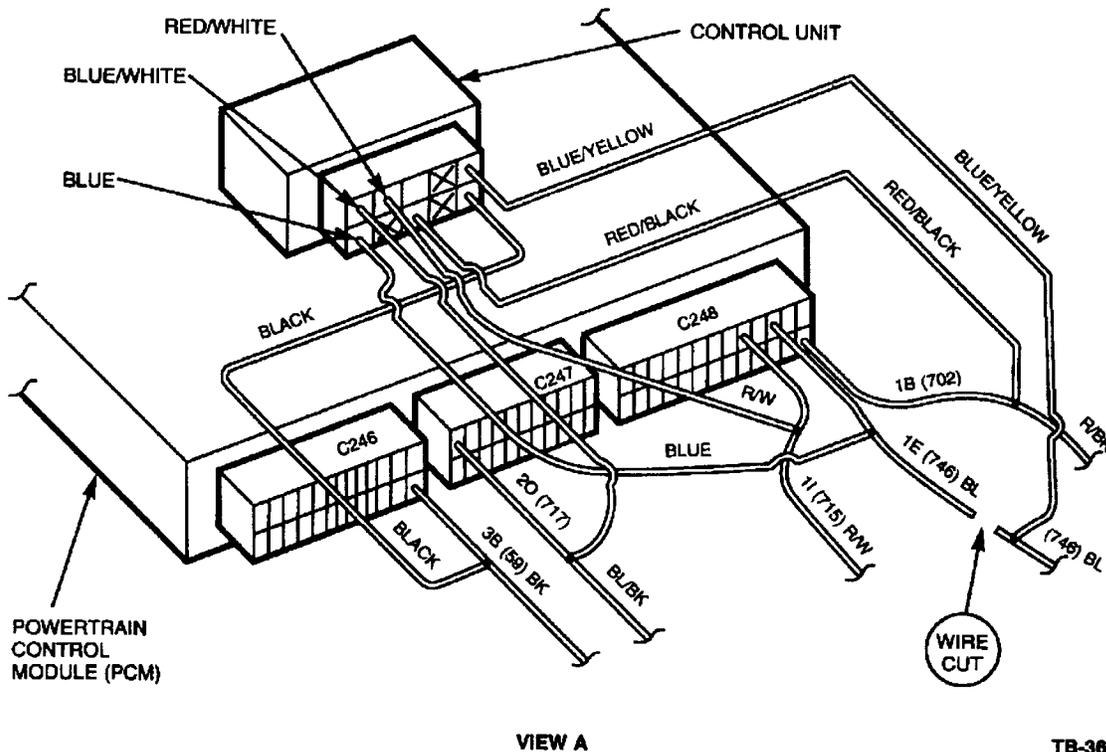
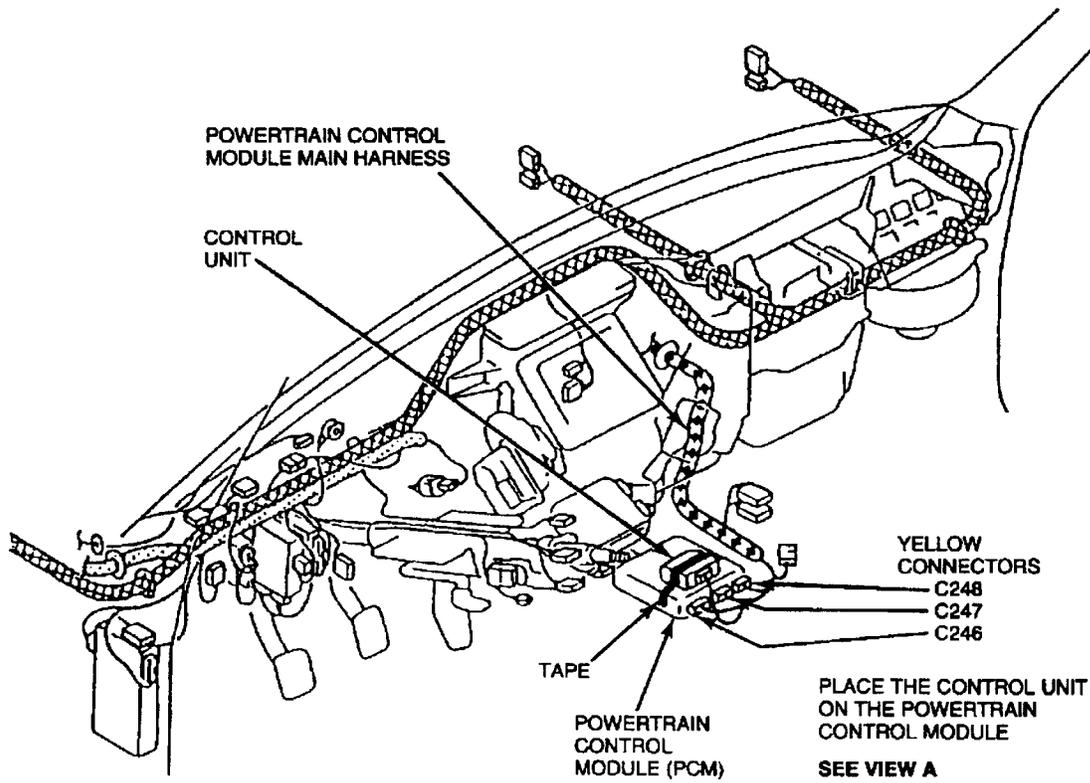
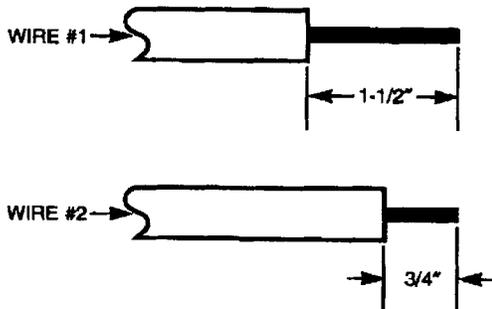


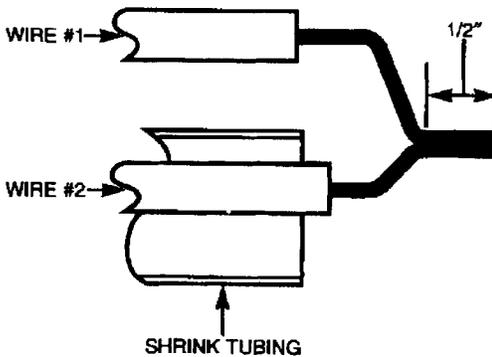
Figure 1 - Article 95-21-5

A DURABLE SPLICE IS A 5-STEP PROCESS
 USE FOR 16 GAUGE WIRE AND SMALLER.
 FOR LARGER THAN 16 GAUGE WIRE, A JIFFY SPLICE MUST BE USED.

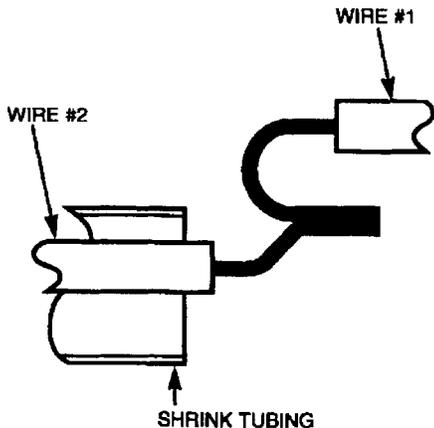
1. Correctly strip the wires.



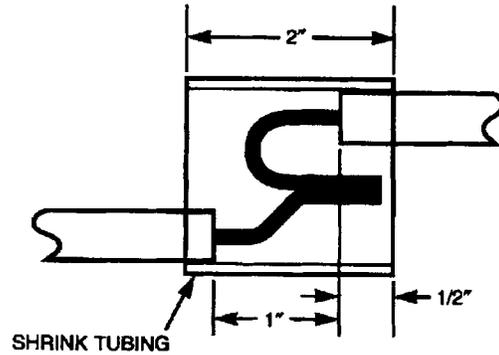
2. Twist and solder the wire (don't forget to install the shrink tubing first). Use rosin core, mildly-activated (RMA) solder. (Do not use acid core.)



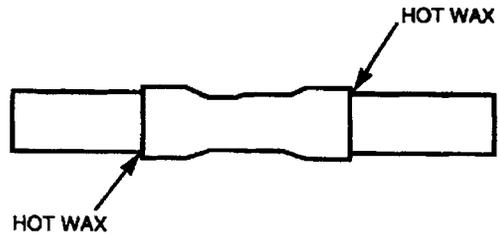
3. Form (bend) the circuit into a shape for sealing, as shown below.



4. Reposition the shrink tubing over the splice.



5. Heat the entire length of the shrink tubing until the "hot wax" comes out of both ends.



NOTE: When the "hot wax" flows out of both ends of the tube, it has been heated long enough.

WARNING: USE A HEAT GUN ONLY. DO NOT USE A HAIR DRYER OR ANY FLAME TO HEAT THE SHRINK TUBING.

A SPLICE THAT CAN BE TRUSTED

Durability of a wire splice is dependent on getting a joint that does not oxidize. Soldering is effective in keeping the air (oxide) out of the joint. Electronic circuits, and the very high current circuits, may fail because of oxidized joints. Oxidation cannot be seen with the naked eye.

Durability of a splice is also dependent on keeping the moisture out of the joint. The heat shrink tubing alone won't do the job. The tubing must contain a "hot wax" which is squeezed from both ends of the tube during heating and forms an adhesive seal between the cable and the tube.

TB-4394-A

Figure 2 - Article 95-21-5

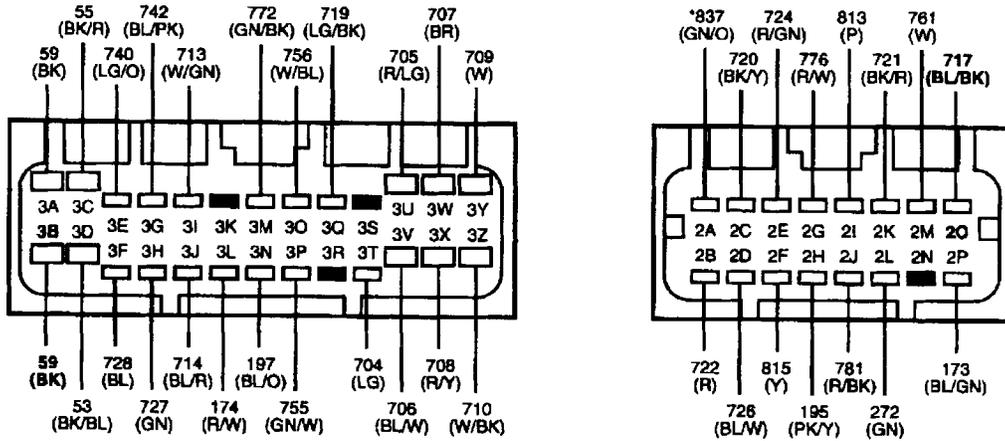
PIN REFERENCE CHART			
Kit Wire Color	Pin (Connector No.)	PCM Wire Color	Function
Blue	1E (C248) at PCM side	Circuit 746 (Blue)	MIL Output
Blue/Yellow	1E (C248) at main harness side	Circuit 746 (Blue)	MIL Output
Black	3B (C246)	Circuit 59 (Black)	Module Ground
Red/Black	1B (C248)	Circuit 702 (Red/Black)	PCM Power
Red/White	1I (C248)	Circuit 715 (Red/White)	Data Link Connector
Blue/White	2O (C247)	Circuit 717 (Blue/Black)	Canister Purge Solenoid Output

TB-3606-B

Figure 3 - Article 95-21-5

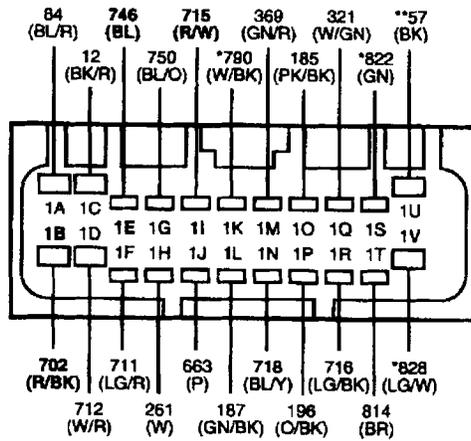
25-9 ELECTRONIC ENGINE CONTROL (2.5L)

1993 PROBE



C246

C247



C248

* AUTOMATIC TRANSAXLE
 ** MANUAL TRANSAXLE

POWERTRAIN CONTROL MODULE (PCM)

TB-3607-B

Figure 4 - Article 95-21-5