

- **FUEL SYSTEM—FUEL PUMP**  
**“WHINING”/“BUZZING” NOISE COMES THROUGH ENTERTAINMENT OR TWO-WAY RADIO SPEAKER**
- **RADIO—ENTERTAINMENT OR TWO-WAY COMMUNICATION—“WHINING”/“BUZZING” NOISE IN SPEAKERS CAUSED BY FUEL PUMP**
- **NOISE—“WHINING”/“BUZZING”—COMES THROUGH SPEAKERS OF ENTERTAINMENT OR TWO-WAY RADIO**

**Article No.**  
**01-7-3**

**FORD:** 1990-1994 TEMPO  
1990-1997 PROBE, THUNDERBIRD  
1990-1999 ESCORT, MUSTANG, TAURUS  
1990-2001 CROWN VICTORIA  
1997-1999 CONTOUR  
2001 TAURUS  
1990 BRONCO II  
1990-1996 BRONCO  
1990-1997 AEROSTAR, F SUPER DUTY, F-250 HD, F-350  
1990-1999 F-250 LD  
1990-2001 ECONOLINE, F-150, RANGER  
1991-2001 EXPLORER  
1995-2001 WINDSTAR  
1997-2001 EXPEDITION  
1999-2001 SUPER DUTY F SERIES  
2000-2001 EXCURSION  
2001 ESCAPE

**LINCOLN:** 1990-1992 MARK VII  
1990-1999 CONTINENTAL  
1990-2001 TOWN CAR  
1997-1998 MARK VIII  
1998-2001 NAVIGATOR

**MERCURY:** 1990-1994 TOPAZ  
1990-1997 COUGAR  
1990-1999 SABLE  
1990-2001 GRAND MARQUIS  
1991-1999 TRACER  
1997-1999 MYSTIQUE  
1999 COUGAR  
2001 SABLE  
1993-2001 VILLAGER  
1997-2001 MOUNTAINEER

## Article No. 01-7-3 Cont'd.

This TSB article is being republished in its entirety to update the model year vehicles.

### **ISSUE**

A “whining”/“buzzing” noise in the speakers of the entertainment radio or two-way radio on vehicles with an in-tank electric fuel pump may be caused by electrical noise from the fuel pump.

### **ACTION**

Install an electronic noise Radio Frequency Interference (RFI) Filter (F1PZ-18B925-A) on the fuel pump inside the fuel tank. Refer to the following Test Procedure to confirm that the concern exists, then refer to the Service Procedure for repair details.

### **NOTE**

**SOME LIGHT TRUCKS REQUIRE ONE (1) RFI FILTER FOR EACH IN-TANK ELECTRIC FUEL PUMP ON MULTI-TANK VEHICLES.**

### **NOTE**

**THIS TSB DOES NOT INCLUDE TAURUS FLEXIBLE FUEL VEHICLES (FFVs) OR 1999 RANGER 3.0L FFVs.**

### **TEST PROCEDURE**

Fuel pump radio noise is relatively constant and changes only slightly with vehicle speed. If the frequency of the noise varies or the noise comes and goes with the vehicle speed, then it is not the fuel pump and this fix will not be effective. The following procedure will help determine if the fuel pump is the cause of the radio noise:

1. Turn on the radio before the key is turned on (assuming the radio will operate without the ignition key - you may need to put the ignition key in the Accessory position).
2. Turn the ignition key to the Run position (do not start the engine).
3. The fuel pump should run for about 1 second with the key in the Run position with the engine not running. Listen for noise in the radio. If noise is present while the pump is running and stops when the pump stops, then the noise is being generated by the pump and this procedure should help.

### **SERVICE PROCEDURE**

1. Remove the fuel pump sender assembly from the fuel tank. Refer to the appropriate model year Workshop Manual for removal procedure.
2. On vehicles without a fuel delivery module, remove the negative and positive connectors from the fuel pump, Figure 1.
  - a. Cut the wires to the fuel pump 76mm (3") from the flange of the fuel pump and discard the wires.
  - b. Connect the RFI filter connectors to the spade terminal on the fuel pump.
  - c. Cut and solder both the red and black wires of the RFI filter to the red and black wires of the flange. Use Heat Shrink Tubing (F5AZ-14A099-AA) over the solder connections.

### **NOTE**

**HEAT SHRINK TUBING MUST BE USED OVER ALL SOLDERED CONNECTIONS MADE PRIOR TO THIS TSB. USE SUFFICIENT TUBING (ABOUT 50mm (2 ") OF THE SPECIFIED TYPE TO ENTIRELY COVER EACH SOLDERED CONNECTION AND SHRINK APPROPRIATELY TO PREVENT EXPOSURE OF THE CONNECTIONS.**

### **NOTE**

**FOR SOME VEHICLES WITH EXTREMELY LONG FUEL PUMP GROUND WIRE CIRCUITS, IT MAY BE NECESSARY TO SHORTEN THE GROUND WIRE TO A POINT CLOSE TO THE FUEL TANK. IF THE GROUND IS MOVED, BE SURE IT IS SECURE AND PROTECTED FROM CORROSION SINCE IT IS THE OPERATING GROUND FOR THE PUMP. CHECK SERVICE LITERATURE (EVTM, ETC.) FOR GROUND LOCATIONS.**

### **WARNING**

**ALL SOLDERING AND HEAT SHRINKING MUST BE COMPLETED AWAY FROM THE FUEL TANK AREA. USE A SOLDERING IRON ONLY FOR SOLDERING AND HEAT GUN ONLY FOR APPLYING SHRINK TUBING.**

3. On light trucks and compact trucks with a fuel delivery module, cut the fuel pump wires to the fuel delivery module 50mm (2") from the flange and discard the wires, Figure 2.

- a. Cut the connectors from the RFI filter and solder wires to the fuel delivery module (red to red and black to black). Use heat shrink tubing over solder connections.
- b. Solder wires from the RFI filter to the flange wires (red to red and black to black). Use heat shrink tubing over soldered connections.

## NOTE

**HEAT SHRINK TUBING MUST BE USED OVER ALL SOLDERED CONNECTIONS MADE PRIOR TO THIS TSB. USE SUFFICIENT TUBING (ABOUT 50mm (2 ") OF THE SPECIFIED TYPE TO ENTIRELY COVER EACH SOLDERED CONNECTION AND SHRINK APPROPRIATELY TO PREVENT EXPOSURE OF THE CONNECTIONS.**

## NOTE

**FOR SOME VEHICLES WITH EXTREMELY LONG FUEL PUMP GROUND WIRE CIRCUITS, IT MAY BE NECESSARY TO SHORTEN THE GROUND WIRE TO A POINT CLOSE TO THE FUEL TANK. IF THE GROUND IS MOVED, BE SURE IT IS SECURE AND PROTECTED FROM CORROSION SINCE IT IS THE OPERATING GROUND FOR THE PUMP. CHECK SERVICE LITERATURE (EVTM, ETC.) FOR GROUND LOCATIONS.**

## WARNING

**ALL SOLDERING AND HEAT SHRINKING MUST BE COMPLETED AWAY FROM THE FUEL TANK AREA. USE A SOLDERING IRON ONLY FOR SOLDERING AND HEAT GUN ONLY FOR APPLYING SHRINK TUBING.**

4. Secure the RFI filter to the fuel pump and sender assembly with a Bundling Strap (95873-S101) to prevent rattling in the tank, Figures 1 and 2.
5. Reinstall the fuel pump sender assembly into the fuel tank.

## CAUTION

**INSTALL NEW GASKETS WHEN REINSTALLING SENDER TO PREVENT LEAKS. REFER TO THE PARTS CATALOG FOR PROPER APPLICATIONS.**

6. Check the appropriate Electrical and Vacuum Troubleshooting Manual (EVTM) (or other service literature) for the location of the fuel pump ground. If ground is more than 0.9m (3 ') from the tank, cut wire and ground fuel pump end within 0.9m (3 ') of the tank to prevent ground wire from acting as an antenna. Be sure ground is secure and protected from corrosion since it is the operating ground for the fuel pump.
7. Install the fuel tank in the vehicle as outlined in the appropriate Service or Workshop Manual.

PART NUMBER	PART NAME
F1PZ-18B925-A	Radio Frequency Interference (RFI) Filter
95873-S101	Bundling Strap
F5AZ-14A099-AA	Heat Shrink Tubing

**OTHER APPLICABLE ARTICLES:** 90-18-3,  
91-17-5

**SUPERSEDES:** 99-12-9

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

OPERATION	DESCRIPTION	TIME
010703AA	Diagnose And Install RFI Filter (1990-1995 Thunderbird Super Coupe)	2.1 Hrs.
010703AB	Diagnose And Install RFI Filter (1991-1993 Thunderbird/Cougar 5.0L HO)	2.1 Hrs.
010703AC	Diagnose And Install RFI Filter (1994-1997 Thunderbird/Cougar 4.6L MFI)	2.1 Hrs.
010703AD	Diagnose And Install RFI Filter (1990-1997 Thunderbird/Cougar 3.8L)	1.9 Hrs.
010703BA	Diagnose And Install RFI Filter (1990-1995 Taurus/Sable)	1.4 Hrs.
010703BB	Diagnose And Install RFI Filter (1996-1999 Taurus/Sable)	1.4 Hrs.
010703BC	Diagnose And Install RFI Filter (2001 Taurus/Sable)	1.4 Hrs.
010703CA	Diagnose And Install RFI Filter (1992-1997 Crown Victoria/Grand Marquis, Town Car)	1.2 Hrs.

## Article No. 01-7-3 Cont'd.

010703CB	Diagnose And Install RFI Filter (1990-1991 Crown Victoria/Grand Marquis, Town Car)	1.6 Hrs.	010703LF	Diagnose And Install RFI Filter (1990-1991 Econoline - With Dual Tanks (Front))	1.6 Hrs.
010703CC	Diagnose And Install RFI Filter (1998-2001 Town Car)	1.9 Hrs.	010703LT	Diagnose And Install RFI Filter (1990-1991 Econoline - With Dual Tanks (Both))	2.6 Hrs.
010703CD	Diagnose And Install RFI Filter (1998-2001 Crown Victoria/Grand Marquis)	2.2 Hrs.	010703L	Diagnose And Install RFI Filter (1990-1991 Econoline - Single Tank)	1.6 Hrs.
010703DA	Diagnose And Install RFI Filter (1990-1999 Mustang)	1.7 Hrs.	010703MA	Diagnose And Install RFI Filter (1990-1996 Bronco)	2.0 Hrs.
010703EA	Diagnose And Install RFI Filter (1990-1994 Tempo/Topaz)	1.6 Hrs.	010703NA	Diagnose And Install RFI Filter (1991-1994 Explorer)	1.8 Hrs.
010703FA	Diagnose And Install RFI Filter (1990-1992 Mark VII)	1.5 Hrs.	010703NB	Diagnose And Install RFI Filter (1995-2001 Explorer)	1.5 Hrs.
010703FB	Diagnose And Install RFI Filter (1997-1998 Mark VIII LSC)	2.0 Hrs.	010703NC	Diagnose And Install RFI Filter (1997-2001 Mountaineer)	1.5 Hrs.
010703FC	Diagnose And Install RFI Filter (1997-1998 Mark VIII Base)	2.5 Hrs.	010703PA	Diagnose And Install RFI Filter (1995-2001 Windstar)	1.4 Hrs.
010703GA	Diagnose And Install RFI Filter (1990-1994 Continental)	1.5 Hrs.	010703RA	Diagnose And Install RFI Filter (1993-2001 Villager)	1.9 Hrs.
010703GB	Diagnose And Install RFI Filter (1995-1999 Continental)	1.5 Hrs.	010703SA	Diagnose And Install RFI Filter (1997-2001 Expedition)	1.7 Hrs.
010703HA	Diagnose And Install RFI Filter (1990 Escort)	1.6 Hrs.	010703SB	Diagnose And Install RFI Filter (1998-2001 Navigator)	1.7 Hrs.
010703HB	Diagnose And Install RFI Filter (1991-1996 Escort/Tracer)	0.8 Hr.	010703TA	Diagnose And Install RFI Filter (1990-1997 Ranger Standard Cab)	1.3 Hrs.
010703HC	Diagnose And Install RFI Filter (1997-1999 Escort/Tracer)	1.6 Hrs.	010703TB	Diagnose And Install RFI Filter (1990-1997 Ranger Super Cab)	1.8 Hrs.
010703JA	Diagnose And Install RFI Filter (1997 Contour/Mystique)	0.8 Hr.	010703TC	Diagnose And Install RFI Filter (1998-2001 Ranger 4X2)	1.6 Hrs.
010703JB	Diagnose And Install RFI Filter (1998-1999 Contour/Mystique)	1.8 Hrs.	010703TD	Diagnose And Install RFI Filter (1998-2001 Ranger 4X4)	1.8 Hrs.
010703KA	Diagnose And Install RFI Filter (1990-1992 Probe)	0.8 Hr.	010703VA	Diagnose And Install RFI Filter (1990-1997 Aerostar)	1.5 Hrs.
010703KB	Diagnose And Install RFI Filter (1993-1997 Probe)	1.8 Hrs.	010703WA	Diagnose And Install RFI Filter (1990 Bronco II)	1.9 Hrs.
010703LB	Diagnose And Install RFI Filter (1990-1991 Econoline - With Dual Tanks (Rear))	1.5 Hrs.	010703XB	Diagnose And Install RFI Filter (1990-1996 F-150/250/350/Super Duty (Rear) And 1997 F-350/Super Duty (Rear))	1.4 Hrs.
010703LC	Diagnose And Install RFI Filter (1992-2001 Econoline)	1.6 Hrs.	010703XC	Diagnose And Install RFI Filter (2000-2001 Excursion)	1.6 Hrs.

## Article No. 01-7-3 Cont'd.

010703XF Diagnose And Install RFI 1.3 Hrs.  
Filter (1990-1996  
F-150/250/350/Super Duty  
(Front) And 1997  
F-350/Super Duty (Front))  
010703XL Diagnose And Install RFI 0.8 Hrs.  
Filter (2001 Escape)  
010703XT Diagnose And Install RFI 2.1 Hrs.  
Filter (1990-1996  
F-150/250/350/Super Duty  
(Both) And 1997  
F-350/Super Duty (Both))

010703X Diagnose And Install RFI 1.6 Hrs.  
Filter (1999-2001 Super  
Duty F-Series)

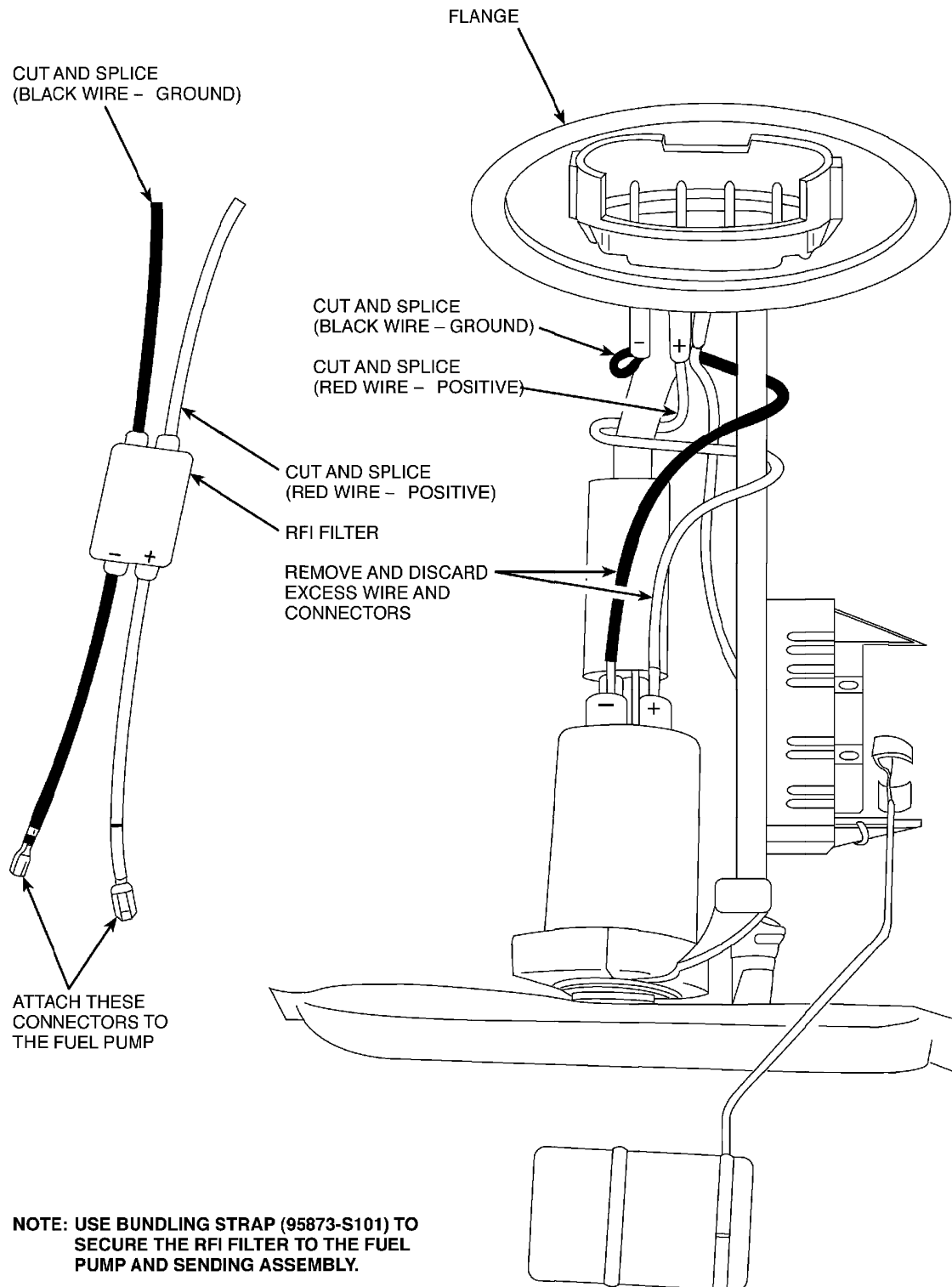
### DEALER CODING

BASIC PART NO.  
18B925

CONDITION  
CODE  
42

**OASIS CODES:** 205000, 207000, 404000, 702000,  
702300

# TYPICAL FUEL PUMP AND SENDER ASSEMBLY



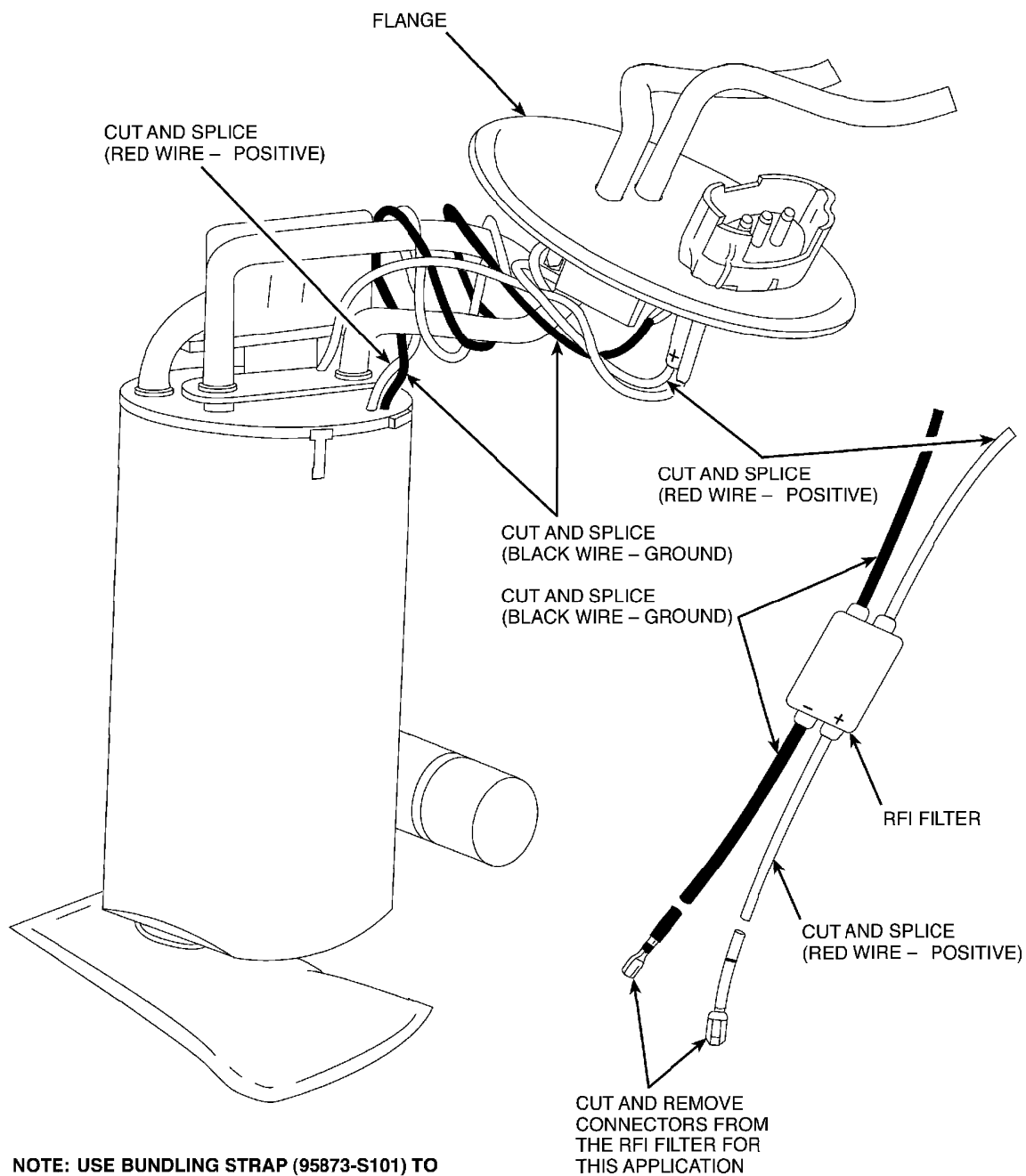
**NOTE: USE BUNDLING STRAP (95873-S101) TO SECURE THE RFI FILTER TO THE FUEL PUMP AND SENDING ASSEMBLY.**

**NOTE: USE HEAT SHRINK TUBING OVER ALL SPLICED CONNECTIONS.**

TB-2388-D

Figure 1 - Article 01-7-3

**TYPICAL FUEL PUMP AND SENDER ASSEMBLY  
WITH FUEL DELIVERY MODULE**



TB-2389-D

Figure 2 - Article 01-7-3