

FORD: 1997 PROBE, THUNDERBIRD
1997-2000 CONTOUR
1997-2002 ESCORT
1997-2003 CROWN VICTORIA, MUSTANG, TAURUS
2000-2003 ESCORT ZX2, FOCUS
2002-2003 THUNDERBIRD
1997 AEROSTAR, F SUPER DUTY
1997-2003 E SERIES, EXPEDITION, EXPLORER, F-150, RANGER, WINDSTAR
1999-2003 SUPER DUTY F SERIES
2000-2003 EXCURSION
2001-2003 ESCAPE, EXPLORER SPORT TRAC, EXPLORER SPORT
1999-2003 F-650, F-750

LINCOLN: 1997-1998 MARK VIII
1997-2002 CONTINENTAL
1997-2003 TOWN CAR
2000-2003 LS
1998-2003 NAVIGATOR
2002-2003 BLACKWOOD
2003 AVIATOR

MERCURY: 1997 COUGAR
1997-1999 TRACER
1997-2000 MYSTIQUE
1997-2003 GRAND MARQUIS, SABLE
1999-2003 COUGAR
1997-2002 VILLAGER
1997-2003 MOUNTAINEER

ISSUE

Wire harness repairs have generally been supported through the availability of complete harnesses and/or the availability of individual components - wire, terminal, connectors, splices and heat shrink. Wiring Pigtail Kits, which contain a loaded connector, splices, heat shrink and an instruction sheet are now available. Additional service information detailing wire folding, soldering and crimping techniques may be helpful to some Service Technicians.

ACTION

Refer to the Service Information section for repair techniques that can be used with the Wiring Pigtail Kits and other wiring repairs.

SERVICE INFORMATION

Refer to applicable model year wiring diagrams for circuit information.

Twisted Wire Circuits

For "Twisted Wire" circuit repair (Figure 1), the twisting must not be disrupted for more than 2". Twist the repaired wires in the same direction and with the same general twist rate as the original wiring. Reapply the shielding on shielded circuits.

Stagger the repairs to minimize harness diameter and maintain harness length (refer to Figure 2-STAGGER).

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle.

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Any leads that are not going to be used shall be sealed with dual wall heat shrink and stowed (refer to Figure 2-SEAL). Silicone must not be used.

Excess wire from the harness can be folded back on itself to maintain harness length.

Reapply any convolute and tape that was removed to make the repair.

For 16 AGW And Smaller Diameter Wire

1. Strip 1-1/2" of insulation from Wire #1 and 3/4" of insulation from Wire #2 taking care not to nick or cut wire strands (Figure 3). Pull wire straight from stripper. If wire is pulled at an angle, wire strands may be cut off. If more than one (1) strand is cut off during stripping, cut off the end and re-strip.
2. Install heat shrink tubing at least 1" away from one of the stripped ends being spliced. Twist wires together. Solder wires together (Figure 4).

NOTE

USE ROSIN CORE MILDLY ACTIVATED (RMA) SOLDER. DO NOT USE ACID CORE SOLDER FOR WIRE REPAIR.

3. Bend Wire #1 back in a straight line for sealing (Figure 4). Inspect solder joint bond.

NOTE

WAIT FOR SOLDER TO COOL BEFORE MOVING WIRES.

4. Evenly position heat shrink tubing over wire repair (Figure 5).

NOTE

OVERLAP TUBING ON BOTH WIRES.

5. Use a shielded heat gun to heat the entire length of the heat shrink tubing until the hot melt appears from both ends of the tubing. Durability of a heat shrink tubing splice is dependent on the hot melt that will appear from both ends of the tube. The hot melt forms an adhesive seal between the wire insulation and the heat shrink tubing, which prevents air and moisture from entering the solder point (Figure 5).

For 14 AGW And Larger Diameter Wire

1. Strip 1/4" (6.35mm) of insulation from pigtail wire end once the wire lengths are sized so repairs can be staggered. Take care not to nick or cut wire strands. Pull wire straight from stripper. If wire is pulled at an angle, wire strands may be cut off. If more than one (1) strand is cut off during stripping, cut off the end and re-strip.

NOTE

THE STRIP LENGTH WILL VARY DEPENDING ON THE BUTT SPLICE AND WIRE IN HARNESS. LONGER STRIP LENGTHS ARE REQUIRED WHEN THE WIRE NEEDS TO BE FOLDED TO MATE WITH THE BUTT SPLICE. REFER TO FIGURE 6 CHART FOR STRIP LENGTHS AND FOLDING TECHNIQUES.

2. Slide heat shrink tubing onto one (1) of the wire ends to be crimped, must be at least 1" away from stripped end (Figure 7).
3. Identify the appropriate crimping chamber of the Rotunda 164-R5901 Pro-Crimper (or equivalent) by matching the wire size on the dies with the wire size stamped on the butt splice (Figure 8). Hold the crimping tool so the identified wire sizes are facing you. Squeeze tool handles together until the ratchet releases, then allow the jaws of the tool to open fully.
4. Center one (1) end of the butt splice on the appropriate crimping chamber. If visible, be sure to place the brazed seam of the butt splice toward the indenter (Figure 9).
5. Hold the butt splice in place and squeeze the tool handles together until ratchet engages sufficiently to hold the butt splice in position (typically one (1) or two (2) clicks). DO NOT deform the butt splice.
6. Insert stripped wire into the butt splice, making sure the insulation on wire does not enter the butt splice (Figure 9).
7. Holding the wire in place, squeeze tool handles together until ratchet releases. Allow tool handles to open, then remove crimped butt splice.
8. To crimp the other half of the splice, reposition the uncrimped wire barrel in the same crimping chamber, and repeat Steps 3-8. If splice cannot be turned for crimping the other half, turn the tool around.

9. Check for acceptable crimp.
 - a. Crimp should be centered on each end of the butt splice. It is acceptable for crimp to be slightly off center, but not off the end of the butt splice (Figure 10-A).
 - b. Wire insulation does not enter butt splice. Wire is flush with or extends slightly beyond end of butt splice (Figure 10-B).
 - c. Wire is visible through inspection hole of splices (Figure 10-C).
10. Evenly position heat shrink tubing over wire repair (Figure 5).

NOTE

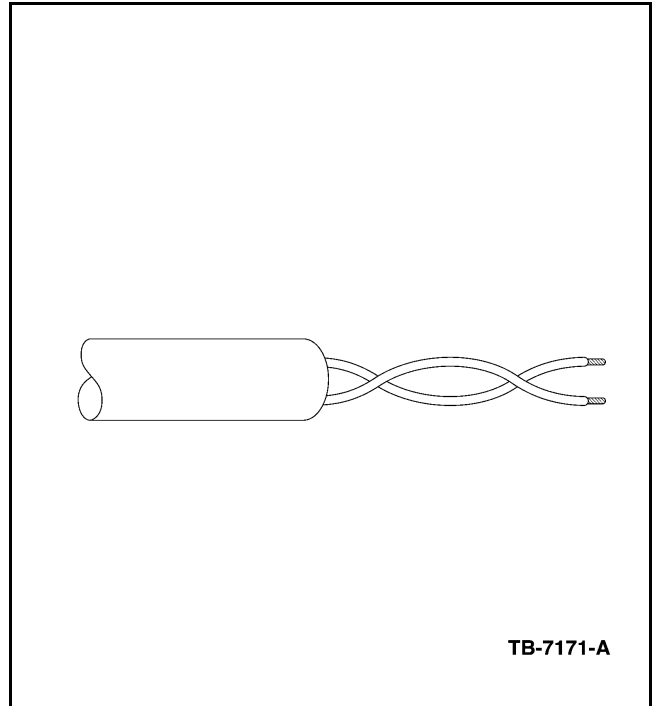
OVERLAP TUBING ON BOTH WIRES.

11. Use a shielded heat gun to heat the entire length of the heat shrink tubing until the hot melt appears from both ends of the tubing. Durability of a heat shrink tubing splice is dependent on the hot melt that will appear from both ends of the tube. The hot melt forms an adhesive seal between the wire insulation and the heat shrink tubing, which prevents air and moisture from entering the solder point (Refer to Figure 5).

OTHER APPLICABLE ARTICLES: NONE

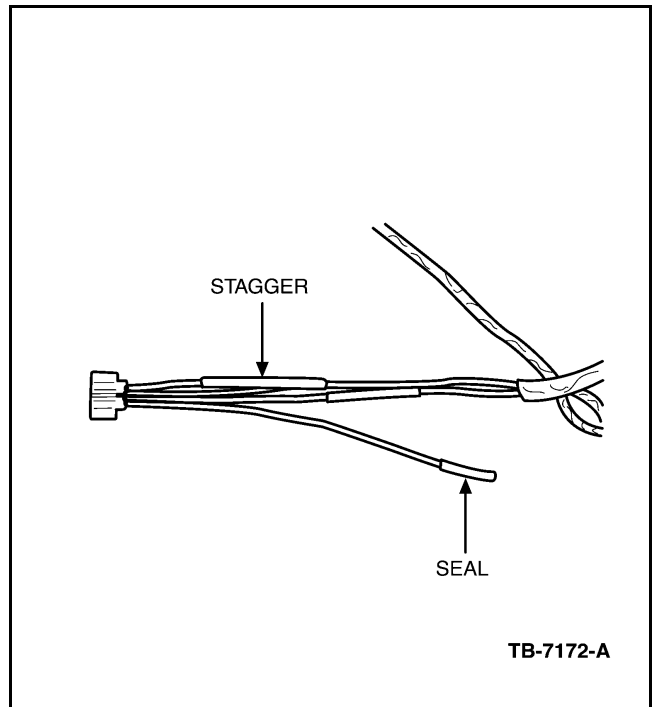
WARRANTY STATUS: INFORMATION ONLY

OASIS CODES: 201000, 201100, 201200, 202000,
203000, 203100, 203200, 204000,
204100, 204200, 205000, 206000,
207000, 208000, 208300, 208999,
290000



TB-7171-A

Figure 1 - Article 03-11-6



TB-7172-A

Figure 2 - Article 03-11-6

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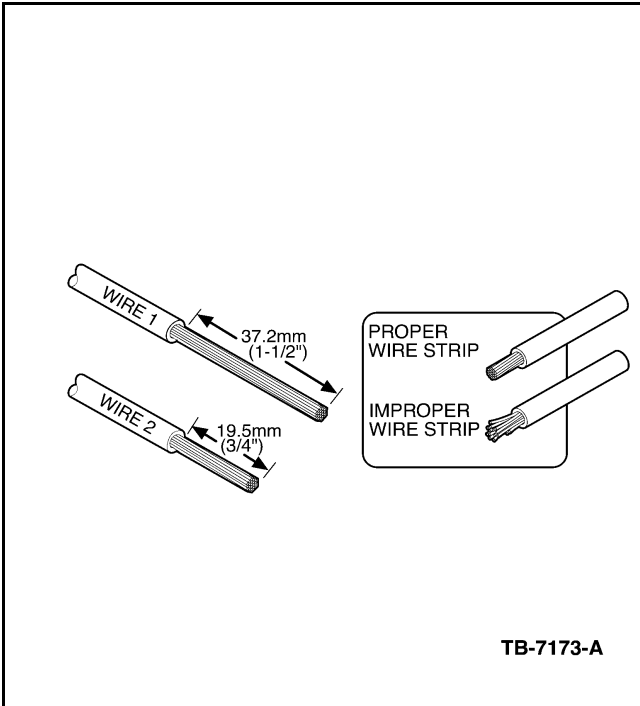


Figure 3 - Article 03-11-6

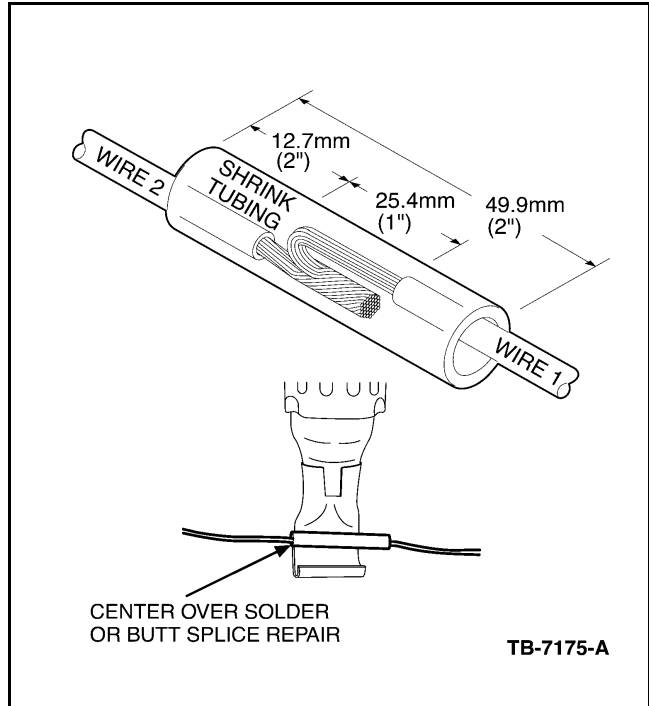


Figure 5 - Article 03-11-6

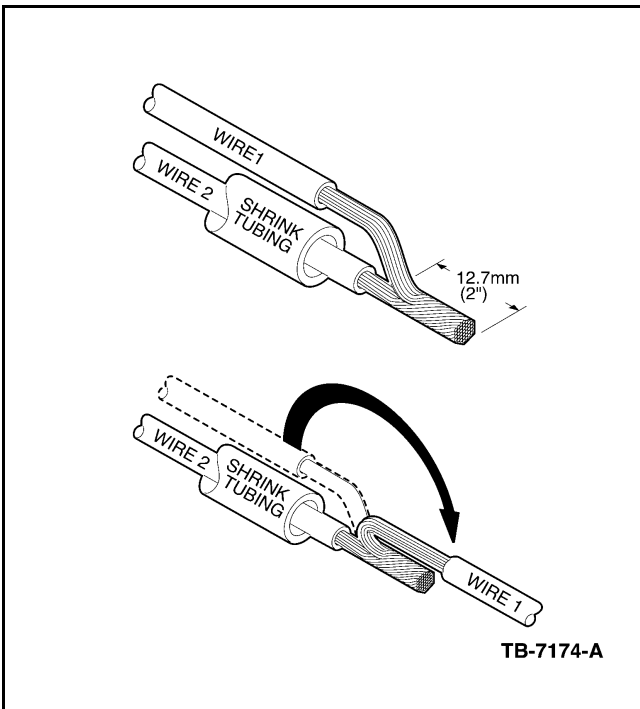
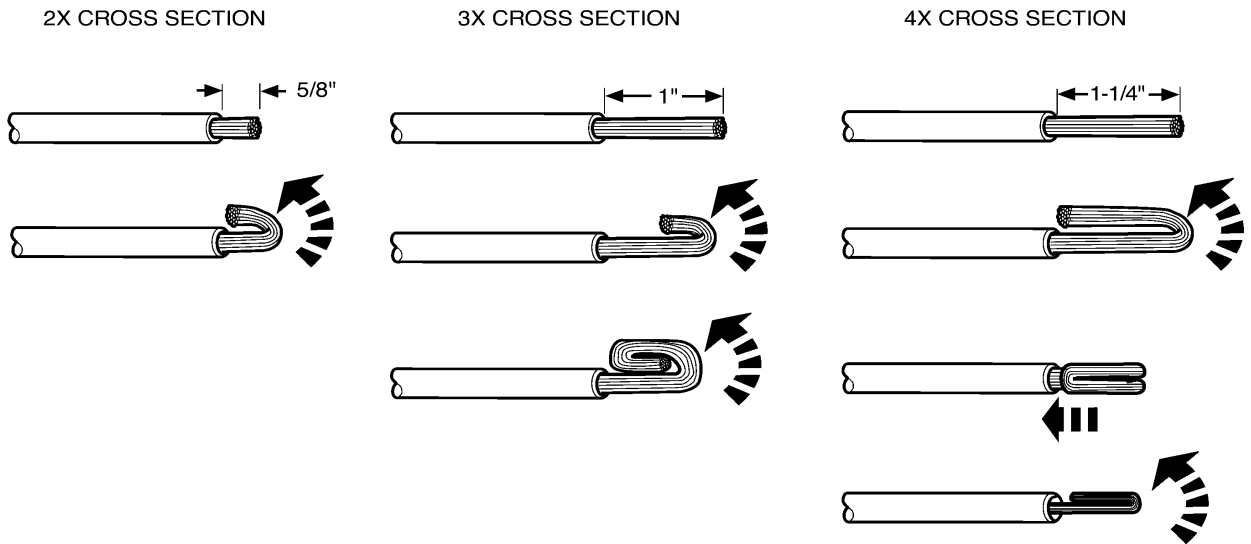


Figure 4 - Article 03-11-6

Wire Gauge Size		Wire Gauge Size							
		10	12	14	16	18	20	22	24
Butt Splice as stamped	22-18		1/4" strip, cut 9 strands	1/4" strip, cut 2 strands	1/4" strip, no fold	1/4" strip, no fold	1/4" strip, no fold	5/8" strip, fold 2x dia.	1" strip, fold 3x dia.
	16-14	1/4" strip, cut 7 strands	1/4" strip, no fold	1/4" strip, no fold	1/4" strip, no fold	5/8" strip, fold 2x dia.	1" strip, fold 3x dia.	1 1/4" strip, fold 4x dia.	
	12-10	1/4" strip, no fold	1/4" strip, no fold	5/8" strip, fold 2x dia.	1" strip, fold 3x dia.	1 1/4" strip, fold 4x dia.			

Pigtail Only
 Both Pigtail and Wire Harness
 Wire Harness Only



TB-7176-A

Figure 6 - Article 03-11-6

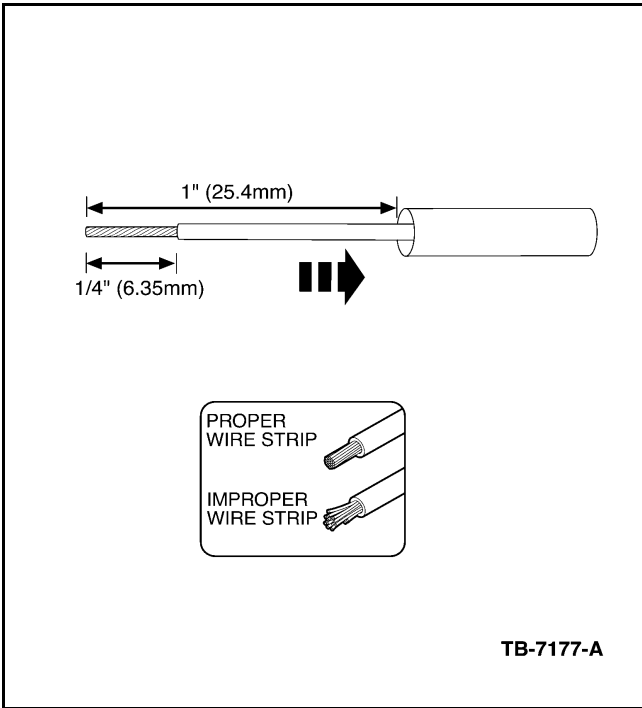


Figure 7 - Article 03-11-6

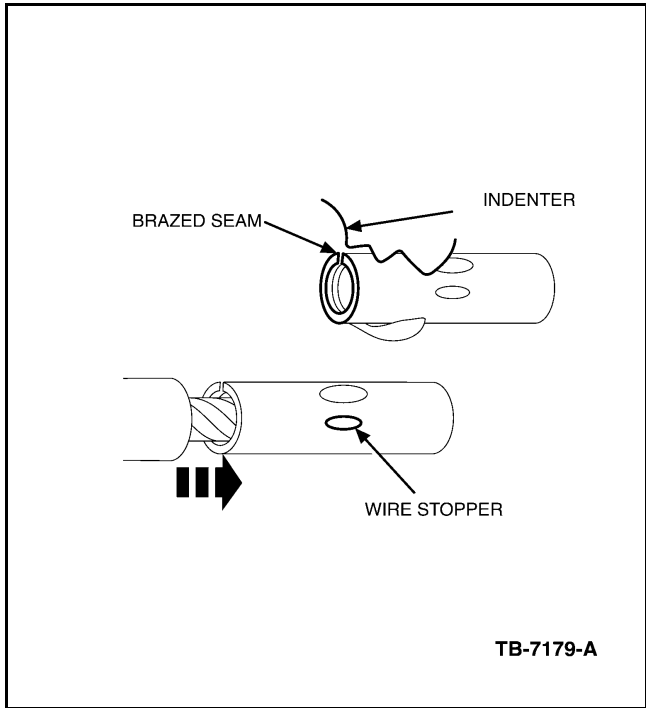


Figure 9 - Article 03-11-6

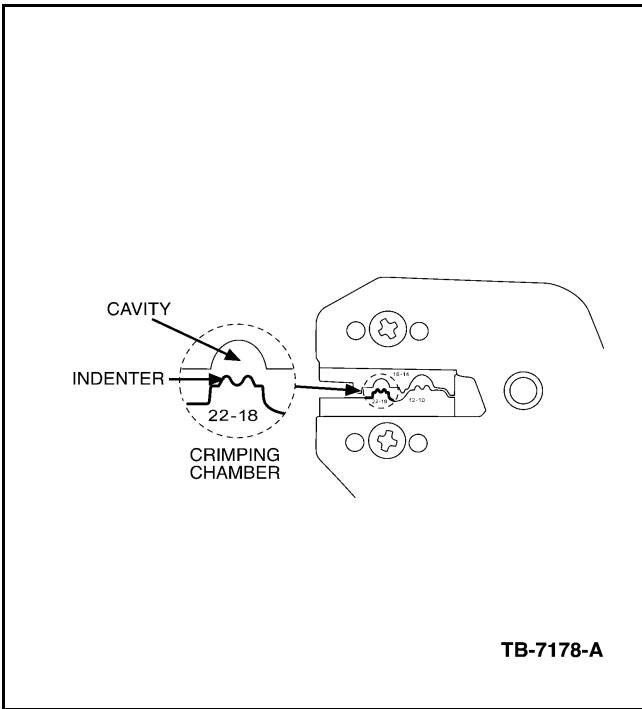


Figure 8 - Article 03-11-6

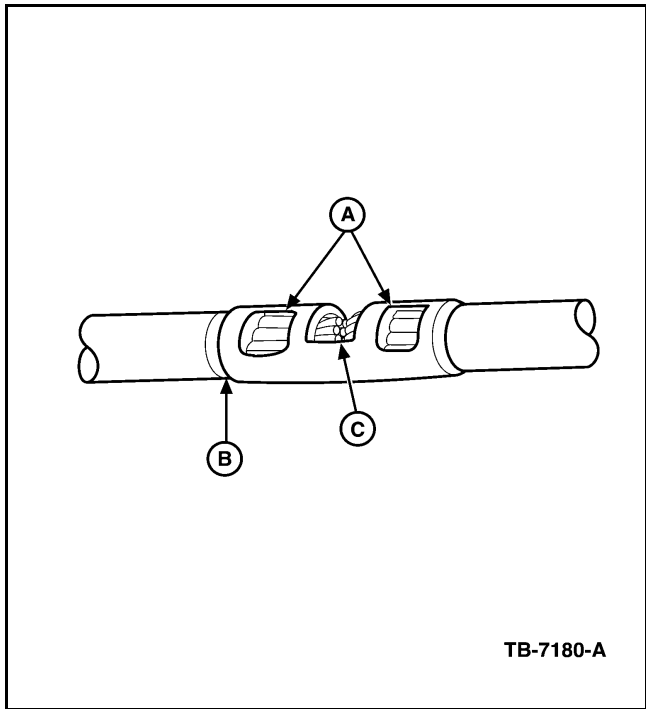


Figure 10 - Article 03-11-6