



97-24, *Publication Date: NOVEMBER 24, 1997*

|   |                                 |
|---|---------------------------------|
| <b>Remote Keyless Entry (RKE) - Diagnostic Service Tips</b> | <b>Article No.<br/>97-24-13</b> |
|---|---------------------------------|

**FORD:**

1993-97 PROBE, THUNDERBIRD  
1993-98 CROWN VICTORIA, TAURUS  
1994-98 MUSTANG  
1995-98 CONTOUR  
1997-98 ESCORT

**LINCOLN-MERCURY:**

1992-98 CONTINENTAL  
1993-97 COUGAR  
1993-98 GRAND MARQUIS, MARK VIII, SABLE, TOWN CAR  
1995-98 MYSTIQUE  
1997-98 TRACER

**LIGHT TRUCK:**

1992-98 ECONOLINE  
1993-98 EXPLORER  
1994-96 BRONCO  
1994-98 F SUPER DUTY, F-150-350 SERIES  
1995-98 RANGER, WINDSTAR  
1996-98 VILLAGER  
1997-98 EXPEDITION, MOUNTAINEER  
1998 NAVIGATOR

This TSB article is being republished in its entirety to include other models and revise procedure.

**ISSUE:**

The Remote Keyless Entry (RKE) system may be inoperative. This may be caused by several different items.

**ACTION:**

Refer to the following Diagnostic Chart and text for tips on servicing customer concerns with the RKE system.

**NOTE:**

WHEN SERVICING THE RKE SYSTEM, THE VEHICLE SHOULD BE IN THE FOLLOWING STATE: THE IGNITION SHOULD BE IN THE OFF POSITION AND ALL LIGHT SWITCHES MUST BE IN THE OFF POSITION. ISOLATE THE VEHICLE SO THAT NO RKE TRANSMITTERS ARE OPERATED WITHIN AN 18 METER (60 FT) RADIUS.

| <b>CROSS REFERENCE PROCEDURES - FIGURES FOR RKE PROGRAMMING</b> |             |             |             |
|---|-------------|-------------|-------------|
| <b>Vehicle</b>  | <b>1992</b> | <b>1993</b> | <b>1994</b> |
| Continental   | H - Fig. 3  | H - Fig. 3  | H - Fig. 3  |
| Contour/Mystique  |             |             |             |
| Escort/Tracer Wagon   |             |             |             |
| Escort/Tracer Sedan   |             |             |             |

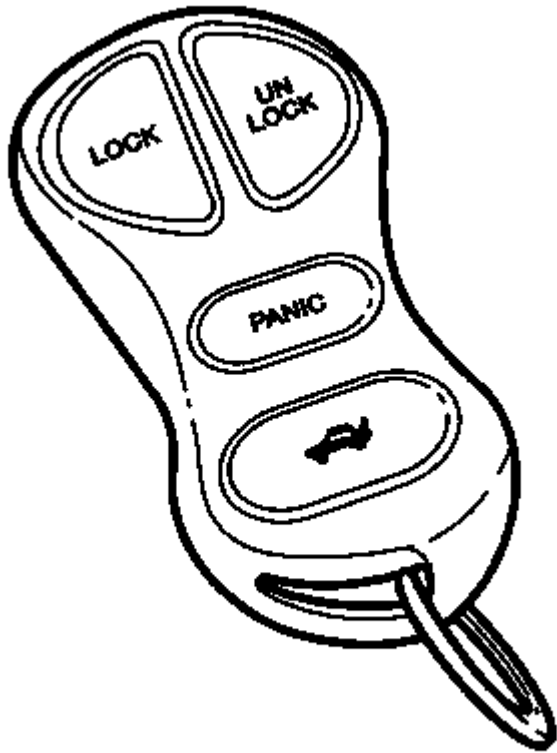
| <b>CROSS REFERENCE PROCEDURES - FIGURES FOR RKE PROGRAMMING</b> |             |             |             |             |
|---|-------------|-------------|-------------|-------------|
| <b>Vehicle</b>  | <b>1995</b> | <b>1996</b> | <b>1997</b> | <b>1998</b> |
| Continental   | C - Fig. 1  | C - Fig. 1  | C - Fig. 1  | C - Fig. 8  |
| Contour/Mystique  | I - Fig. 3  | I - Fig. 3  | I - Fig. 3  | I - Fig. 3  |
| Escort/Tracer Wagon   |             |             | D - Fig. 2  | A - Fig. 5  |
| Escort/Tracer Sedan   |             |             | D - Fig. 3  | A - Fig. 5  |

| <b>CROSS REFERENCE PROCEDURES - FIGURES FOR RKE PROGRAMMING (Continued)</b> |             |             |             |
|---|-------------|-------------|-------------|
| <b>Vehicle</b>  | <b>1992</b> | <b>1993</b> | <b>1994</b> |
| Escort/Tracer Coupe   |             |             |             |
| Crown Vic/Grand Marq  |             | H - Fig. 3  | H - Fig. 3  |
| Mark VIII   |             | H - Fig. 3  | H - Fig. 3  |
| Mustang   |             |             | B - Fig. 3  |
| Probe   |             | G - Fig. 2  | G - Fig. 2  |
| Taurus/Sable  |             | B - Fig. 3  | B - Fig. 3  |
| Thunderbird/Cougar  |             | B - Fig. 3  | B - Fig. 3  |
| Town Car  |             | H - Fig. 3  | H - Fig. 3  |
| Econoline   | F - Fig. 2  | F - Fig. 2  | F - Fig. 2  |
| Expedition  |             |             |             |
| Navigator   |             |             |             |
| Explorer  |             | B - Fig. 2  | B - Fig. 2  |
| Mountaineer   |             |             |             |
| F-Series  |             |             | J - Fig. 2  |
| Bronco  |             |             | J - Fig. 2  |
| Ranger  |             |             |             |
| Villager  |             |             |             |
| Windstar  |             |             |             |

**CROSS REFERENCE PROCEDURES - FIGURES FOR RKE PROGRAMMING  
(Continued)**

| <b>Vehicle</b>       | <b>1995</b> | <b>1996</b> | <b>1997</b> | <b>1998</b>   |
|----------------------|-------------|-------------|-------------|---|
| Escort/Tracer Coupe  |             |             | D - Fig. 3  | D - Fig. 3, or for vehicles built after 8/97 use A - Fig. 5 |
| Crown Vic/Grand Marq | C - Fig. 1  | C - Fig. 1  | C - Fig. 1  | L - Fig. 7  |
| Mark VIII            | H - Fig. 3  | H - Fig. 3  | C - Fig. 1  | C - Fig. 8  |
| Mustang              | B - Fig. 3  | B - Fig. 3  | B - Fig. 3  | B - Fig. 3  |
| Probe                | G - Fig. 2  | G - Fig. 2  | G - Fig. 2  |   |
| Taurus/Sable         | B - Fig. 3  | D - Fig. 3  | D - Fig. 3  | A - Fig. 5  |
| Thunderbird/Cougar   | B - Fig. 3  | B - Fig. 3  | B - Fig. 3  |   |
| Town Car             | C - Fig. 1  | C - Fig. 1  | C - Fig. 1  | K - Fig. 5  |
| Econoline            | F - Fig. 2  | F - Fig. 2  | F - Fig. 2  | F - Fig. 2  |
| Expedition           |             |             | D - Fig. 2  | A - Fig. 6  |
| Navigator            |             |             |             | A - Fig. 6  |
| Explorer             | D - Fig. 2  | D - Fig. 2  | D - Fig. 2  | A - Fig. 6  |
| Mountaineer          |             |             | D - Fig. 2  | A - Fig. 6  |
| F-Series             | J - Fig. 2  | J - Fig. 2  | D - Fig. 2  | A - Fig. 6  |
| Bronco               | J - Fig. 2  | J - Fig. 2  |             |   |
| Ranger               | D - Fig. 2  | D - Fig. 2  | D - Fig. 2  | A - Fig. 6  |
| Villager             |             | E - Fig. 4  | E - Fig. 4  | E - Fig. 4  |
| Windstar             | H - Fig. 2  | H - Fig. 2  | H - Fig. 2  | D - Fig. 2, or for vehicles built after 9/97 use A - Fig. 6 |

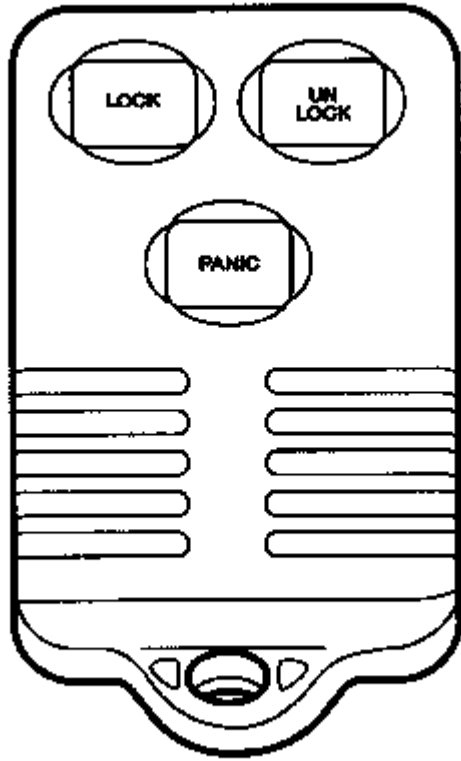
**TYPE 1**



**TB-5336-A**

*Figure 1 - Article 97-24-13*

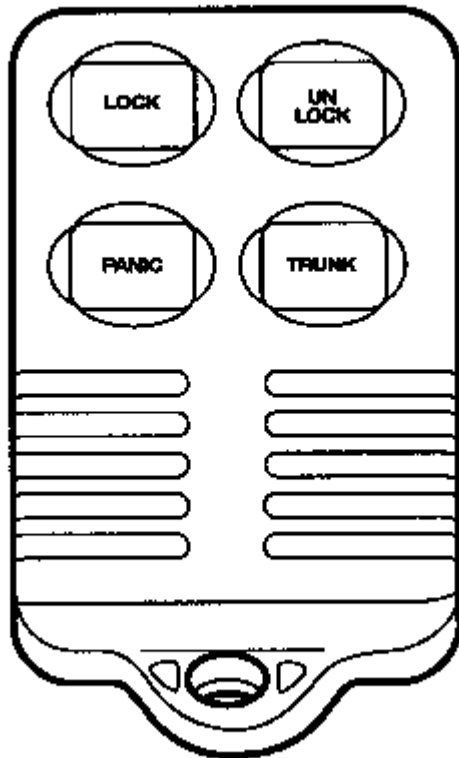
**TYPE 2**



**TB-5337-A**

*Figure 2 - Article 97-24-13*

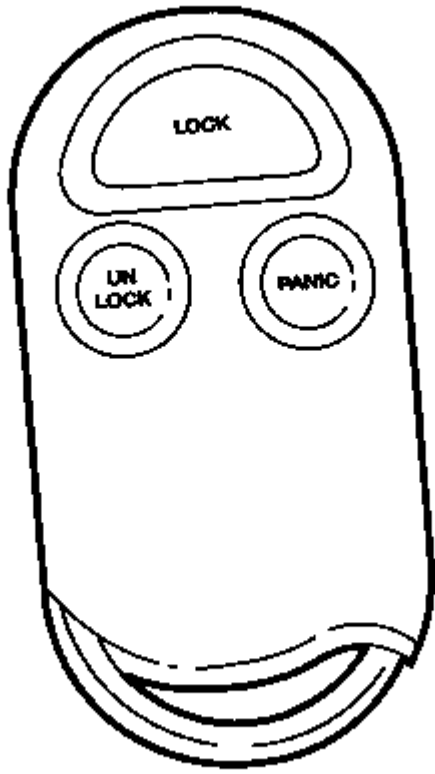
**TYPE 3**



**TB-5338-A**

*Figure 3 - Article 97-24-13*

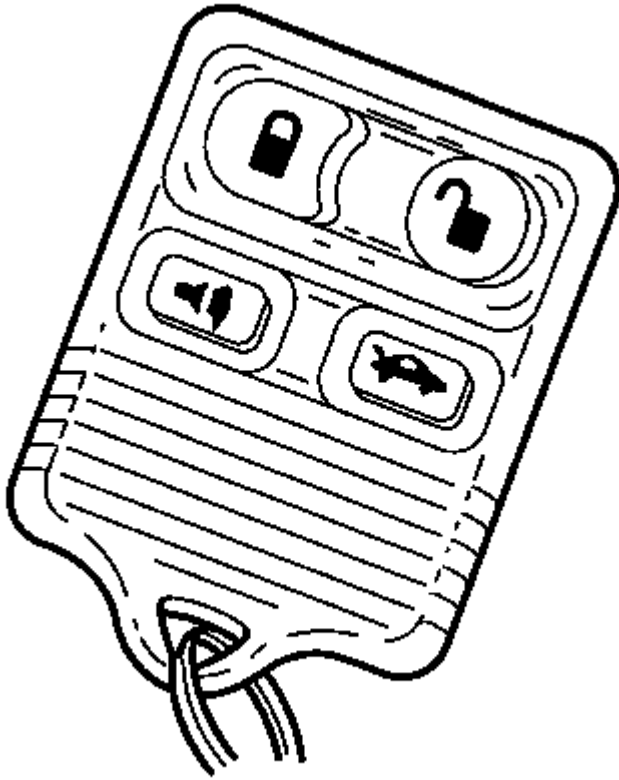
**TYPE 4**



**TB-5339-A**

*Figure 4 - Article 97-24-13*

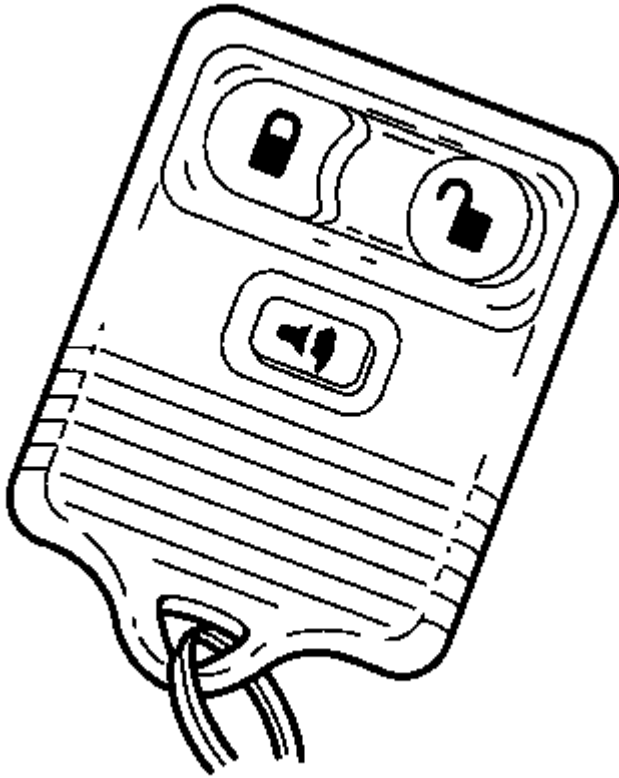
**TYPE 5**



**TB-5340-A**

*Figure 5 - Article 97-24-13*

**TYPE 6**

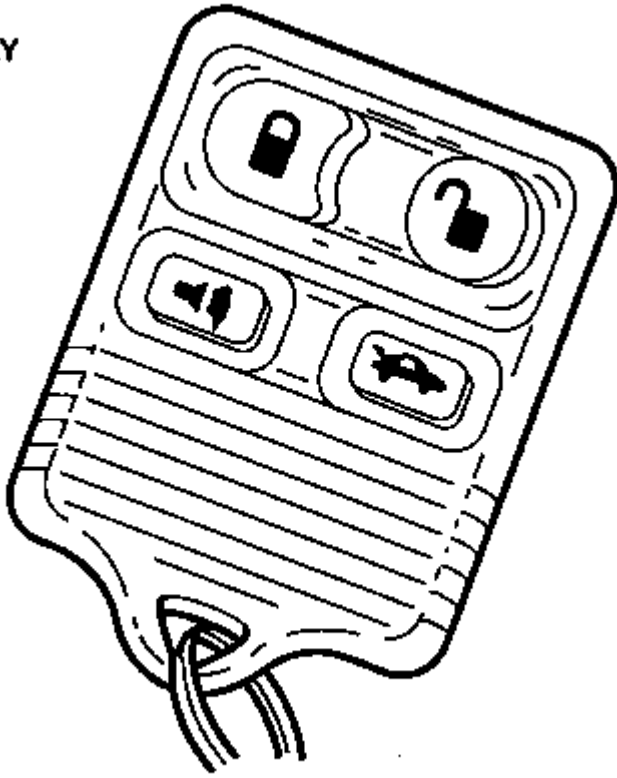


**TB-5341-A**

*Figure 6 - Article 97-24-13*

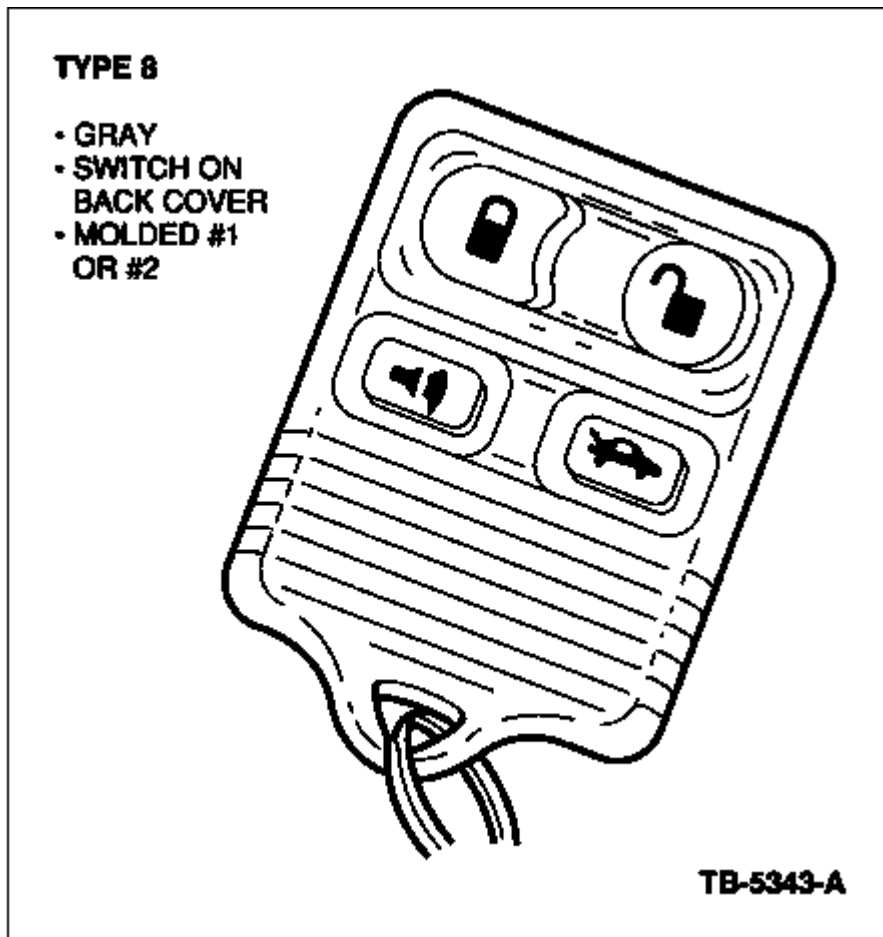
**TYPE 7**

**• GRAY**



**TB-5342-A**

*Figure 7 - Article 97-24-13*



*Figure 8 - Article 97-24-13*

### **REFERENCE PROCEDURE STEPS FOR RKE PROGRAMMING**

**A.** Cycle ignition from OFF to RUN or ACC eight (8) times within 10 seconds, ending in RUN or ACC. All doors will lock then unlock to confirm programming mode. Press any button on 1st remote transmitter. Door locks will cycle to confirm programming. Press any button on 2nd transmitter (up to 4 transmitters total possible). Turn ignition to OFF. The door locks will lock then unlock to confirm programming.

**NOTE:**

ESCORT/TRACER WITH SINGLE DOOR REMOTE ENTRY SYSTEMS WILL CYCLE THE DRIVER'S DOOR LOCK ONLY.

**B.** Turn ignition to RUN or ACC. Momentarily jump pins in programming connector located in left rear quarter panel area. All doors will lock then unlock to confirm programming mode. Press any button on 1st transmitter. Door locks will lock then unlock to confirm programming. Press any button on 2nd transmitter (up to 4 transmitters total possible). The door locks will lock then unlock to confirm programming. Turn ignition to OFF. Locks will again cycle to indicate end of programming mode.

**C.** Enter 5-digit permanent entry code into the keyless entry keypad. Within 5 seconds of pressing last button of code, press the 1/2 button. All doors will lock then unlock to confirm programming mode. Press any button on 1st transmitter within 5 seconds of pressing the 1/2 button. Locks will cycle to indicate successful programming. Press any button on 2nd transmitter (up to 4 transmitters total possible) within 5 seconds of previous transmitter (if keypad light goes out before all transmitters are programmed, the process must be repeated). Press the 7/8 and 9/0 buttons simultaneously on keypad to exit program mode.

**D.** Cycle ignition from OFF to RUN or ACC five (5) times within 10 seconds, ending in RUN or ACC. All doors

will lock then unlock to confirm programming mode. Press any button on 1st remote transmitter. Door locks will cycle to confirm programming. Press any button on 2nd transmitter (up to 4 transmitters total possible). Turn ignition to OFF. The door locks will lock then unlock to confirm programming.

**E.** Enter vehicle, close and lock all doors. Insert and remove key from ignition six (6) times within 10 seconds. Instrument panel lights will flash to indicate original code has been erased. Turn ignition to the ACC position. Press LOCK button on 1st transmitter. Instrument panel lights will flash to confirm programming. To enter additional transmitters, unlock, then lock the doors using the power lock switch located on the driver door. Press LOCK button on additional transmitter (up to 4 transmitters total possible). Instrument panel lights will flash to confirm programming. Turn ignition to OFF.

**F.** Turn ignition to RUN or ACC. Jump pins in programming connector located at the base of the steering column for entire programming mode procedure. All doors will lock then unlock to confirm programming mode. Press any button on the 1st transmitter. Door locks will cycle to confirm programming. Press any button on 2nd transmitter (up to 4 transmitters total possible). Turn ignition to OFF. The door locks will lock then unlock to confirm programming. Remove jumper used with programming connector.

**G.** Turn ignition to RUN or ACC. Momentarily jump pins in programming connector located in right rear quarter panel area. All doors will lock then unlock to confirm programming mode. Press any button on 1st transmitter. The door locks will lock then unlock to confirm programming. Press any button on 2nd transmitter (up to 4 transmitters total possible). Turn ignition to OFF. The door locks will lock then unlock to confirm programming.

**H.** Turn ignition to RUN or ACC. Momentarily jump pins in programming connector located behind glove compartment. All doors will lock then unlock to confirm programming mode. Press any button on 1st transmitter. The door locks will lock then unlock to confirm programming. Press any button on 2nd transmitter (up to 4 transmitters total possible). Turn ignition to OFF. The door locks will lock then unlock to confirm programming.

**I.** Turn ignition to RUN or ACC. Momentarily jump pins in programming connector located behind glove compartment. The horn will chirp to confirm programming mode. Press any button on 1st transmitter. The horn will chirp to confirm programming. Press any button on 2nd transmitter (up to 4 transmitters total possible). The horn will chirp to confirm programming. Turn ignition to OFF. The horn will chirp one last time to indicate end of programming mode.

**J.** Turn ignition to RUN or ACC. Momentarily jump pins in programming connector located at the base of the steering column. All doors will lock then unlock to confirm programming mode. Press any button on 1st transmitter. The door locks will lock then unlock to confirm programming. Press any button on 2nd transmitter (up to 4 transmitters total possible). Turn ignition to OFF. The door locks will lock then unlock to confirm programming.

**K.** Cycle ignition from OFF to RUN or ACC four (4) times within 3 seconds, ending in RUN or ACC. All doors will lock then unlock to confirm programming mode. Press any button on 1st remote transmitter. Door locks will cycle to confirm programming. Press any button on 2nd transmitter within 7.5 seconds (up to 4 transmitters total possible). Turn ignition to OFF or wait 7.5 seconds. All doors will lock then unlock to confirm programming mode.

**L.** Diagnostic method of programming transmitters is as follows:

1. Choose Service Bay Functions from the service function card.
2. Choose Driver Door Module (DDM).
3. Choose Key Fob Programming.
4. Press any button on the remote entry transmitter.

5. Choose Fob 1, 2, 3, or 4 and press Store.
6. Repeat Step L4 for additional transmitters.
7. Press Cancel to get out of menu (you may have to press Cancel twice).

**NOTE:**

FOR FUTURE VEHICLE STRATEGIES, THESE PROGRAM PROCEDURES WILL BE COMMONIZED.

| <b>TROUBLESHOOTING COMMON CONCERNS</b>  |  |   |
|---|--|---|
| <b>Concern</b>  | <b>Possible Cause</b>  | <b>Repair</b>   |
| 1st transmitter functions correctly and 2nd transmitter inoperative for all functions | Battery in transmitter   | Replace battery (NO NEED TO REPROGRAM THE MODULE).  |
|   | Transmitter was inadvertently de-programmed from remote entry module | Using New Generation Star (NGS) Tester, confirm only one (1) Transmitter Identification Code (TIC) in memory. Reprogram all transmitters. If NGS is unavailable, check battery first. If OK, then reprogram all transmitters and see if it functions. |
|   | Faulty transmitter   | Replace faulty transmitter and reprogram all transmitters at the same time.   |

## TROUBLESHOOTING COMMON CONCERNS (Continued)

| Concern  | Possible Cause  | Repair  |
|--|---|---|
| <p>1st transmitter functions correctly and 2nd transmitter inoperative for some functions (e.g., lock function will not work properly)<b>NOTE: NO PROGRAMMING OF TRANSMITTERS IS NECESSARY.</b></p> <p>Both transmitters inoperative for all functions</p> | Faulty transmitter  | Using NGS Tester, confirm each button on problem transmitter responds with proper function code (Lock, Unlock, Panic, or Trunk). If the one button does not respond, replace the transmitter and reprogram all transmitters.  |
|  | <p>Transmitter was inadvertently de-programmed from remote entry module</p> <p>Antenna - loose connection (1997 only)</p> <p>Wrong transmitters used with remote entry module. Refer to the WARNING at the end of these Diagnostic charts.</p> <p>Interference from high power or radio frequency devices (radio towers power lines, headlamp switch ON, etc.)</p> <p>Wiring to remote entry module</p> <p>Faulty remote entry module</p> | <p>Using NGS Tester, confirm there are NO Transmitter Identification Codes (TICs) in memory that match 1st and 2nd transmitters. Reprogram all transmitters.</p> <p>Properly reconnect/install external antenna.</p> <p>Be sure proper model year system is installed on the vehicle.</p> <p>Move vehicle away (at least 30 meters (98 feet)) from device and retest for proper functionality.</p> <p>Confirm remote entry module battery line at 12V; remote entry ground and ignition lines at 0V. Check fuses.</p> <p>Using NGS Tester, confirm both Transmitter Identification Codes (TICs) provided with vehicle match what is stored in memory. If so, and transmitters do not work, replace the module and reprogram transmitters.</p> |

**TROUBLESHOOTING COMMON CONCERNS (Continued)**

| Concern   | Possible Cause   | Repair  |
|---|--|---|
| Reduced range of performance (must walk up to vehicle before transmitter will function)<br><b>NOTE: NO PROGRAMMING OF TRANSMITTERS NECESSARY.</b> | Loose antenna connection (1997)  | Properly reconnect/install external antenna.  |
|   | Interference from high power or radio frequency devices (radio towers power lines, headlamp switch ON, etc.) | Move vehicle away (at least 30 meters (98 feet)) from device and retest for proper functionality.   |
| Vehicle will not enter program mode   | Program procedure not performed correctly  | Verify correct procedure is used. <b>NOTE: IT IS DIFFICULT TO TURN IGNITION FROM "OFF" TO "RUN" ON ESCORT/TRACER MANUAL TRANSMISSION VEHICLES DUE TO IGNITION LOCK FEATURE.</b> |
|   | Wiring to remote entry module  | Confirm remote entry battery line at 12V, ground at 0V, and the ignition transitions from 0 to 12 volts before performing programming procedure. Check fuses.                   |
|   | Interference from high power or radio frequency devices (radio towers power lines, headlamp switch ON, etc.) | Move vehicle away (at least 30 meters (98 feet)) from device and retest for proper functionality.   |

## TROUBLESHOOTING COMMON CONCERNS (Continued)

| Concern   | Possible Cause   | Repair  |
|---|--|---|
| Trunk function of both transmitters inoperative, but other functions (lock/unlock/panic) work correctly<br><b>NOTE: NO PROGRAMMING OF TRANSMITTERS IS NECESSARY.</b>  | Trunk latch solenoid inoperative or missing (misbuild)                 | Inspect connections to latch and retest. Replace trunk latch if necessary.  |
|   | Wiring to solenoid/relay/remot   | Verify proper wiring to these components. Correct any issues found.   |
|   | Trunk release/liftgate unlock relay malfunction                        | Diagnose relay. Reattach or replace as needed.  |
| Lock/unlock function of both transmitters inoperative, but other functions (panic/trunk) working correctly  | Loose power door lock actuator connection                              | Remove door trim and attach power door lock actuator.   |
|   | Lock/unlock relay malfunction  | Remove door trim and diagnose relay. Reattach or replace as needed.   |
|   | Wiring to remote entry module/to Relay                                 | Verify wiring is correct and has no chafing.  |
| Panic function of both transmitters inoperative, but other functions (lock/unlock, trunk) work correctly<br><b>NOTE: NO PROGRAMMING OF TRANSMITTERS IS NECESSARY.</b> | Wiring to parklamps/horn relay/remote entry module                     | Check horn pad on steering wheel for proper horn activation. If everything works fine, check wiring from remote entry module to horn relay. Verify parklamps wiring are good. Correct any concerns found. |
|   | Horn relay malfunction   | Diagnose relay. Reattach or replace as needed.  |
|   | Headlamps/Parklam  | Diagnose relay. Reattach or replace as needed.  |
|   | In and out of Panic issue ("have a hard time turning off panic alarm") | Reroute antenna assembly for better reception or press panic button in between horn chirps (issue corrected with 1998 model year vehicle's remote entry system).  |

### WARNING:

- **WHEN PROGRAM MODE HAS BEEN ENTERED, ANY TRANSMITTER FUNCTIONED WITHIN 30 METERS (98 FEET) OF THE VEHICLE CAN GET PROGRAMMED TO THAT VEHICLE AND IN THE PROCESS ERASE OUT ALL PREVIOUSLY STORED TRANSMITTER CODES.**
- **TYPE 2 AND TYPE 3 TRANSMITTERS ARE INTERCHANGEABLE.**
- **TYPE 1, 7, AND 8 ARE INTERCHANGEABLE.**

- TYPE 5 AND TYPE 6 ARE INTERCHANGEABLE.
- TYPE 4 IS UNIQUE AND CANNOT BE USED ON ANY OTHER VEHICLE.

**OTHER APPLICABLE ARTICLES:**

**↻ 93-24-12**

**SUPERSEDES:** 97-19-8

**WARRANTY STATUS:** INFORMATION ONLY

**OASIS CODES:** 112000, 203000, 203200, 204000, 205000

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