GROUP

AUDIO SYSTEMS 15

(17000 & 18000)

SECTION 15-00 Audio Systems—Service

VEHICLE APPLICATION

Taurus / Sable.

DESCRIPTION AND OPERATION

Radio

Radio Reception

Antenna Position

The automatic antenna, if so equipped, will adjust to the full extended height for best FM reception.

FM Stereo has a range of about 32 km (20 mile) before interference noises are heard. This means that in concern areas with tall buildings or hills, it is necessary to select the strongest possible station. The electronic radio automatically tunes to the center of any given station, eliminating the need for manual fine tuning.

Tone Control

Favoring the rear speakers in noisy areas will help to reduce noise.

Antennas and Mobility

Although an automobile radio will give outstanding mobile reception, it cannot provide the continuous reception of home audio components. The home receiver is not limited by the vehicle operating characteristics and certain geographical effects as is the mobile unit. For example, for the best FM reception, the automobile antenna should be designed like a TV antenna and pointed in the direction of the station. The best AM antenna is a long piece of wire, the higher the wire the better the reception. However, because of design necessity, the automobile antenna is restricted in size, height and direction and must receive both AM and FM stations. This means that a limited amount of the station's signal reaches the vehicle radio.

DESCRIPTION AND OPERATION (Continued)

Interfering Noise

The vehicle ignition system is a possible source of radio interference. This high-voltage switching system produces a radio frequency electromagnetic field that radiates at AM, FM and CB frequencies. Although components have been designed into the vehicle to minimize this concern, the noise is more noticeable if the radio is tuned slightly off channel when listening to FM programs. Vehicle electrical accessories and owner add-on accessories may also contribute to radio interference. Furthermore, there are many noise sources which are external to the vehicle. These include power lines, communication systems, ignition systems of other vehicles, neon signs, etc.

Noise or static may result from many causes. Two of the most common sources of radio noise are listed below:

Ignition Noise

The most effective method of evaluating ignition noise is to compare the radio performance with the engine on, versus engine off. If ignition noise is present with engine running:

- Check to see that the spark plug wires are the suppressor type and that the spark plugs are the correct resistor type.
- If so equipped, check to see that the carbon center insert in distributor cap is secure.
- If so equipped, check distributor cap and rotor electrodes for silicone grease as this may cause ignition noise on FM. This noise is characterized by a "motor boat" type sound on weak to moderate strength stations. The noise can only be eliminated by replacing the distributor cap and rotor with a cap and rotor that does not have grease.

NOTE: Silicone grease must not be removed from vehicles equipped with powertrain control module (12A650) PCM.

Missing or Malfunctioning Noise Suppression Components

- Noise suppression components may be malfunctioning or missing.
- Check bond strap grounding effectiveness by wedging a large file between metal parts to ensure proper ground, such as between the tail pipe and body, or between the fender and frame, while radio is playing and engine is running. Listen for a decrease in the objectionable radio noise. If a reduction in radio noise is noted, first try tightening body and exhaust system clamps and brackets. Then, if necessary, install a new bond strap between the two metal parts to ensure proper ground.

FM Flutter

Flutter can best be described as repeated pops and hissing bursts heard in the speaker, during an otherwise good broadcast. Usually this condition exists while traveling in the fringe area of the station. Flutter will become more severe beyond approximately 40 km (25 mile) of the station. The signal loss becomes greater away from the station, until finally noise takes over and reception becomes impossible. Flutter may also be noticed near the station because of the line-of-sight characteristics of FM radio waves. This condition can happen when a building or large structure is between the radio receiver and the station being received. Some of the FM signal bends around the building, but certain spots have almost no signal. Some of these signal losses are only a few inches wide and if the vehicle is parked in one of these dead spots, you will only hear noise from the speaker. After moving out of the shadow of the structure, the station will return to normal. Flutter will not occur on AM because the AM radio waves are much longer than FM waves.

FM Multi-Path Cancellation

Another effect caused by the line-of-sight characteristic is called cancellation. This condition exists when the radio waves are reflected from objects or structures. The noise produced by cancellation is similar to flutter, with the addition of distortion in the program. A more familiar description of cancellation is its similarity to the multiple ghosts and picture jumping that occurs on television when a low flying plane passes. The same condition exists in the vehicle, except that the vehicle is moving and the reflecting structure is stationary. The reflected signal cancels the normal signal, causing the antenna to pick up noise and distortion. Cancellation effects are most prominent in metropolitan areas, but can also become quite severe in hilly terrain and depressed roadways.

FM Strong Signal Capture and AM Overloading

FM capture is an unusual condition that occurs when traveling in the vicinity of a broadcast tower. If listening to a weak FM station, when passing the broadcast tower, a stronger station may interfere without changing the tuning control. When passing the tower, the station may switch back and forth a few times before returning to the station originally tuned. When several broadcast towers are present (common in metropolitan areas) several stations may overload the receiver resulting in considerable station changing, mixing and distortion. Fortunately, this condition is localized and it will not harm the receiver. Some overloading may also be noticed on AM, but usually to a lesser degree.

DESCRIPTION AND OPERATION (Continued)

Receiving FM Stereo

Because more data is carried in the FM Stereo waves than in the monaural FM broadcasts, flutter, cancellation and capture are even more noticeable. The FM Stereo noise-free broadcast range is approximately 8 km (5 mile) less than that received with the monaural FM radio. The AM/FM, FM Stereo radio may never encounter any of these troublesome conditions as they are more prominent in metropolitan areas, hilly terrain and depressed roadways. However, when diagnosing FM Stereo concerns, it is recommended to accurately tune to the strongest FM Stereo station.

Stereo Indicator Inoperative or Flickering (AM and FM Reception are OK)

- Verify that customer is listening to stereo stations.
- A weak or distant signal may cause the stereo indicator to flicker. Tune radio to a nearby FM stereo station. If reception is good, but stereo indicator is still intermittent, remove radio chassis for service.

DIAGNOSIS AND TESTING

Radio Tests

Internal diagnostic examination of the radio should be left to the authorized radio service center. However, the automotive technician should be able to analyze and isolate radio reception conditions to the proper area or component causing the condition. All radio conditions can be isolated to one of five general areas. The trouble will be found in the antenna system, radio chassis (receiver), speaker system, radio noise suppression equipment, or premium sound system.

The diagnosis charts and tests should be used with the Wiring Diagram Book and an appropriate Radio Tester to accurately diagnose and quickly service most radio system concerns.

Diagnosis Charts

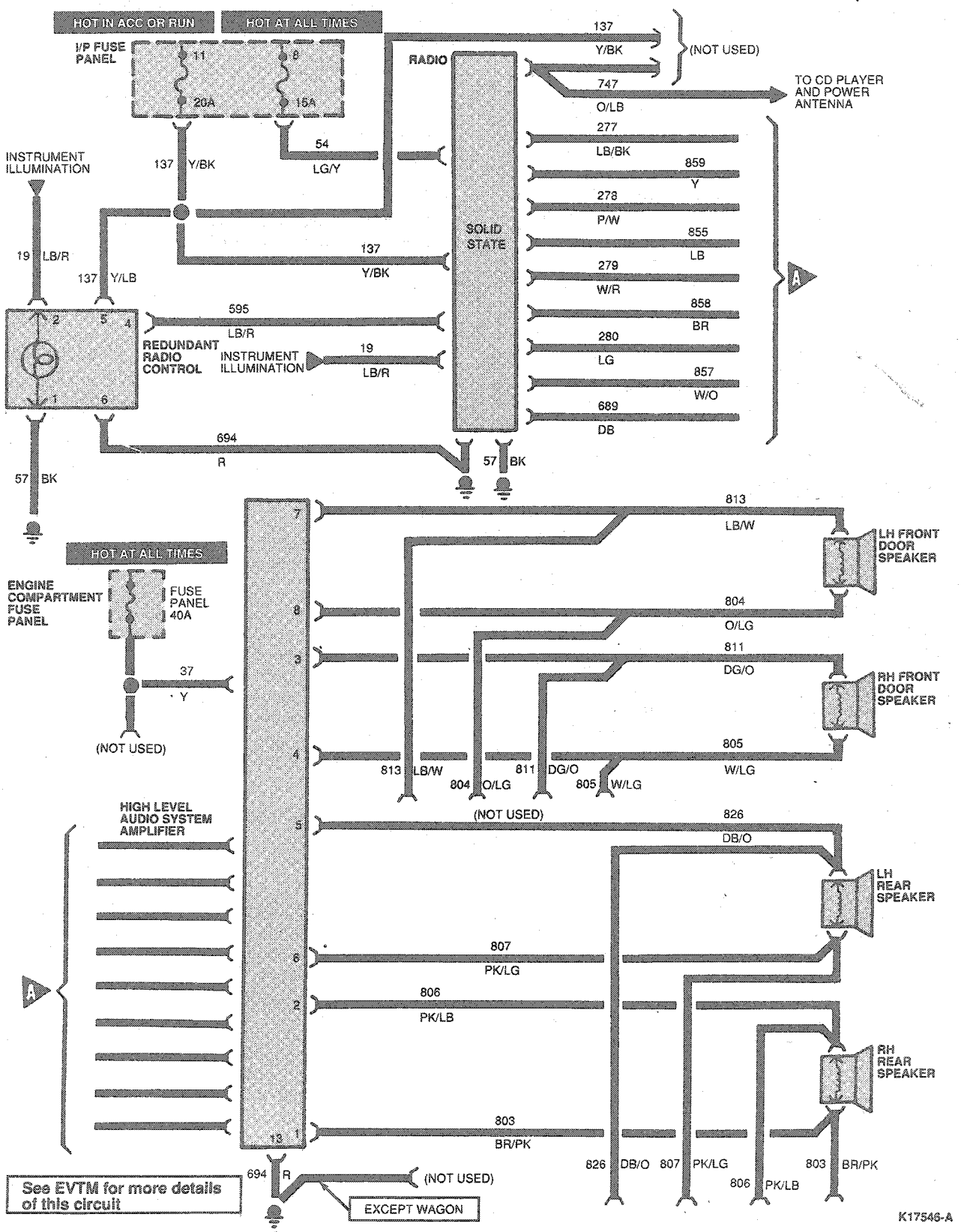
Tools Required:

- Intermittent Ignition Analyzer 007-00035

Refer to the wiring diagrams and to the diagnosis charts to isolate radio concerns.

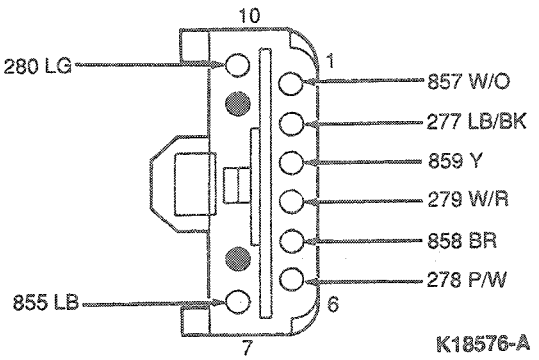
DIAGNOSIS AND TESTING (Continued)

Premium Analog Cassette (PAC) with Amplifier (Sable)



DIAGNOSIS AND TESTING (Continued)

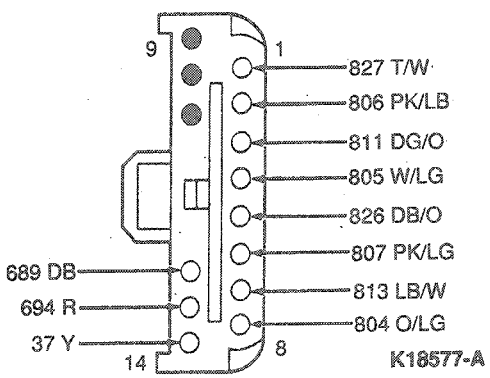
Amplifier



K18576-A

Pin Number	Circuit	Circuit Function
1	857 (W/O)	LH Front Speaker Signal (-)
2	277 (LB/BK)	LH Rear Speaker Signal (+)
3	859 (Y)	LH Rear Speaker Signal (-)
4	279 (W/R)	RH Front Speaker Signal (+)
5	858 (BR)	RH Front Speaker Signal (-)
6	278 (P/W)	RH Rear Speaker Signal (+)
7	855 (LB)	RH Rear Speaker Signal (-)
8	—	NOT USED
9	—	NOT USED
10	280 (LG)	LH Front Speaker Signal (+)

TK18576A



K18577-A

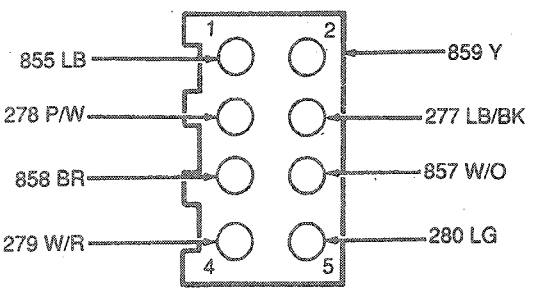
Pin Number	Circuit	Circuit Function
1	827 (T/W)	RH Rear Speaker Signal (-)
2	806 (PK/LB)	RH Rear Speaker Signal (+)
3	811 (DG/O)	RH Front Speaker Signal (-)

(Continued)

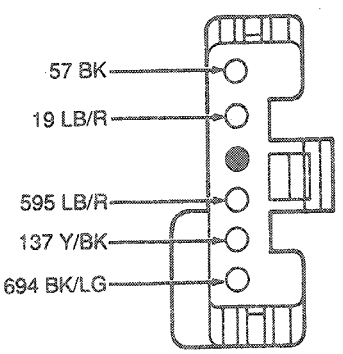
Pin Number	Circuit	Circuit Function
4	805 (W/LG)	RH Front Speaker Signal (+)
5	826 (DB/O)	LH Rear Speaker Signal (-)
6	807 (PK/LG)	LH Rear Speaker Signal (+)
7	813 (LB/W)	LH Front Speaker Signal (-)
8	804 (O/LG)	LH Front Speaker Signal (+)
9	—	NOT USED
10	—	NOT USED
11	—	NOT USED
12	689 (DB)	Logic Mute
13	694 (R)	Ground
14	37 (Y)	12 Volt Power Feed

TK18577A

Radio

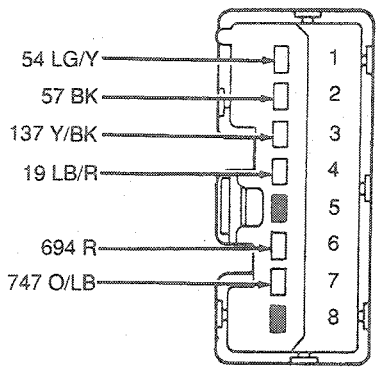


K18580-A



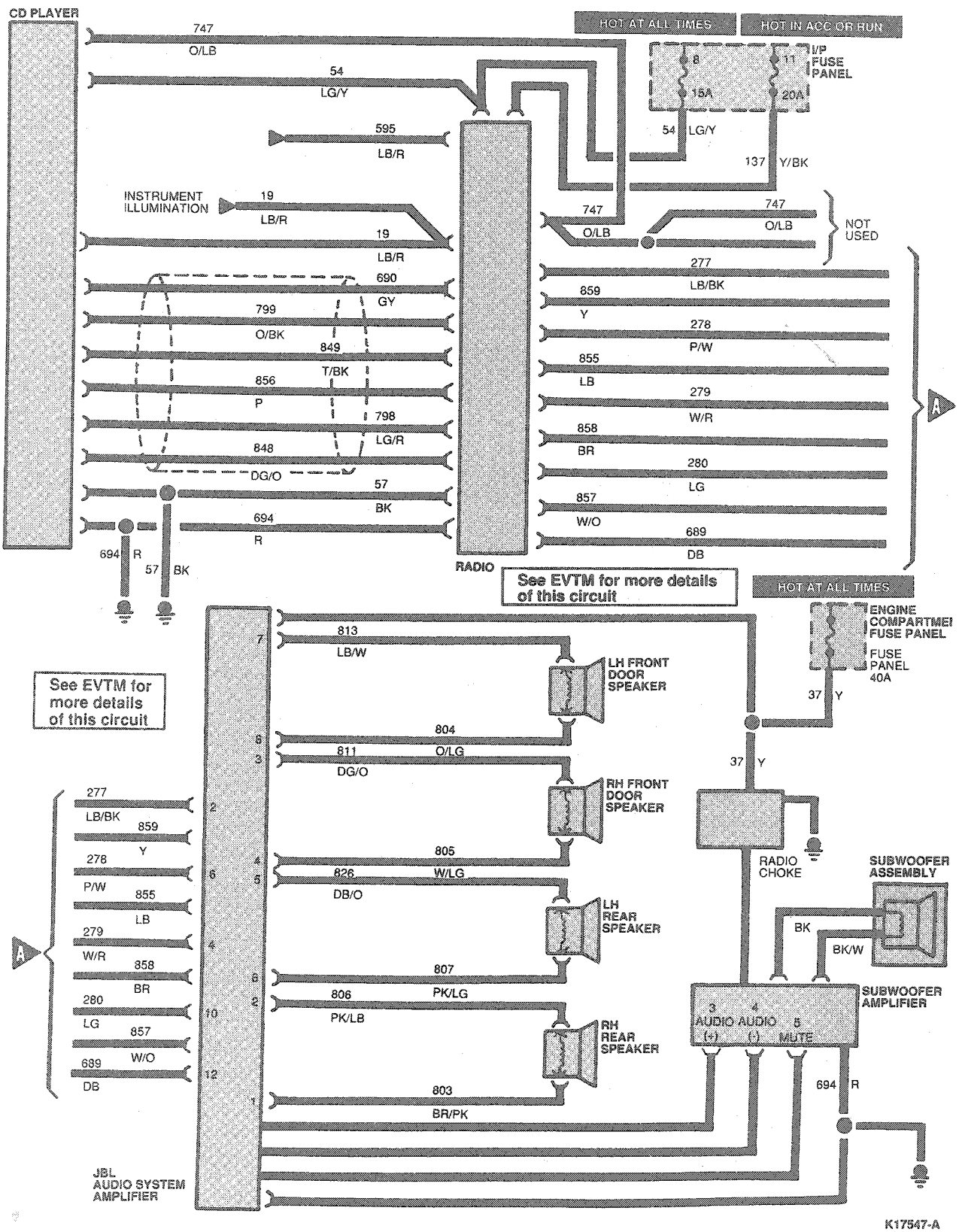
K18582-A

DIAGNOSIS AND TESTING (Continued)



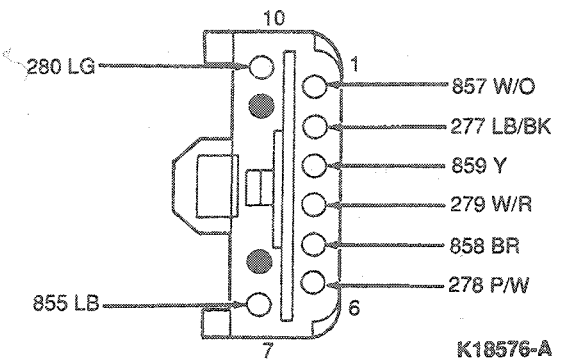
DIAGNOSIS AND TESTING (Continued)

Premium Analog Cassette (PAC) with JBL Amplifier and With Audio Disc Player



DIAGNOSIS AND TESTING (Continued)

Amplifier



Pin Number	Circuit	Circuit Function
1	857 (W/O)	LH Front Speaker Signal (-)
2	277 (LB/BK)	LH Rear Speaker Signal (+)
3	859 (Y)	LH Rear Speaker Signal (-)
4	279 (W/R)	RH Front Speaker Signal (+)
5	858 (BR)	RH Front Speaker Signal (-)
6	278 (P/W)	RH Rear Speaker Signal (+)
7	855 (LB)	RH Rear Speaker Signal (-)
8	—	NOT USED
9	—	NOT USED
10	280 (LG)	LH Front Speaker Signal (+)

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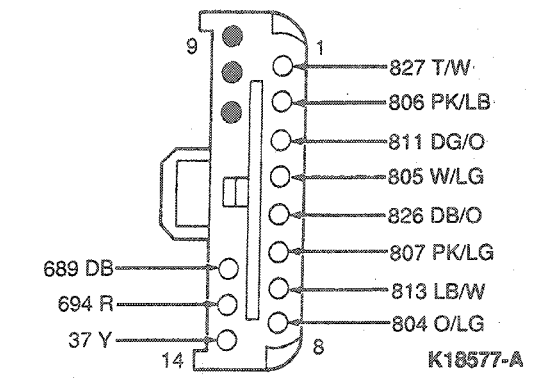


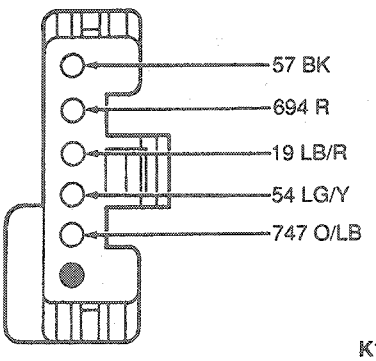
Pin Number	Circuit	Circuit Function
1	827 (T/W)	RH Rear Speaker Signal (-)
2	806 (PK/LB)	RH Rear Speaker Signal (+)
3	811 (DG/O)	RH Front Speaker Signal (-)

(Continued)

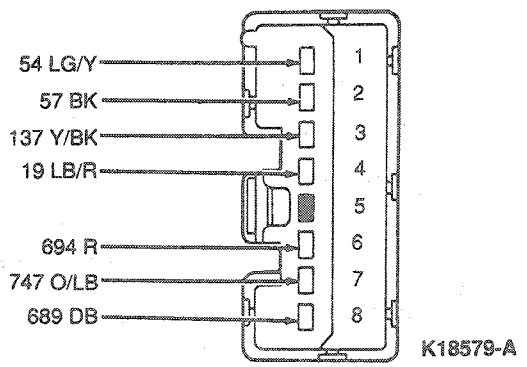
Pin Number	Circuit	Circuit Function
4	805 (W/LG)	RH Front Speaker Signal (+)
5	826 (DB/O)	LH Rear Speaker Signal (-)
6	807 (PK/LG)	LH Rear Speaker Signal (+)
7	813 (LB/W)	LH Front Speaker Signal (-)
8	804 (O/LG)	LH Front Speaker Signal (+)
9	—	NOT USED
10	—	NOT USED
11	—	NOT USED
12	689 (DB)	Logic Mute
13	694 (R)	Ground
14	37 (Y)	12 Volt Power Feed

TK18577A

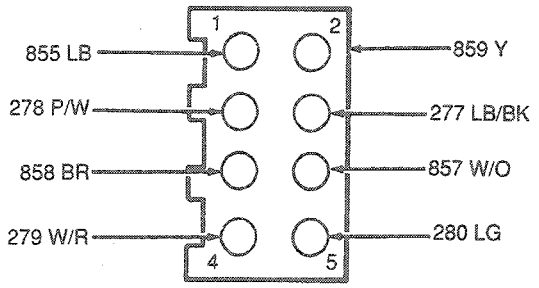
Compact Disc



Radio

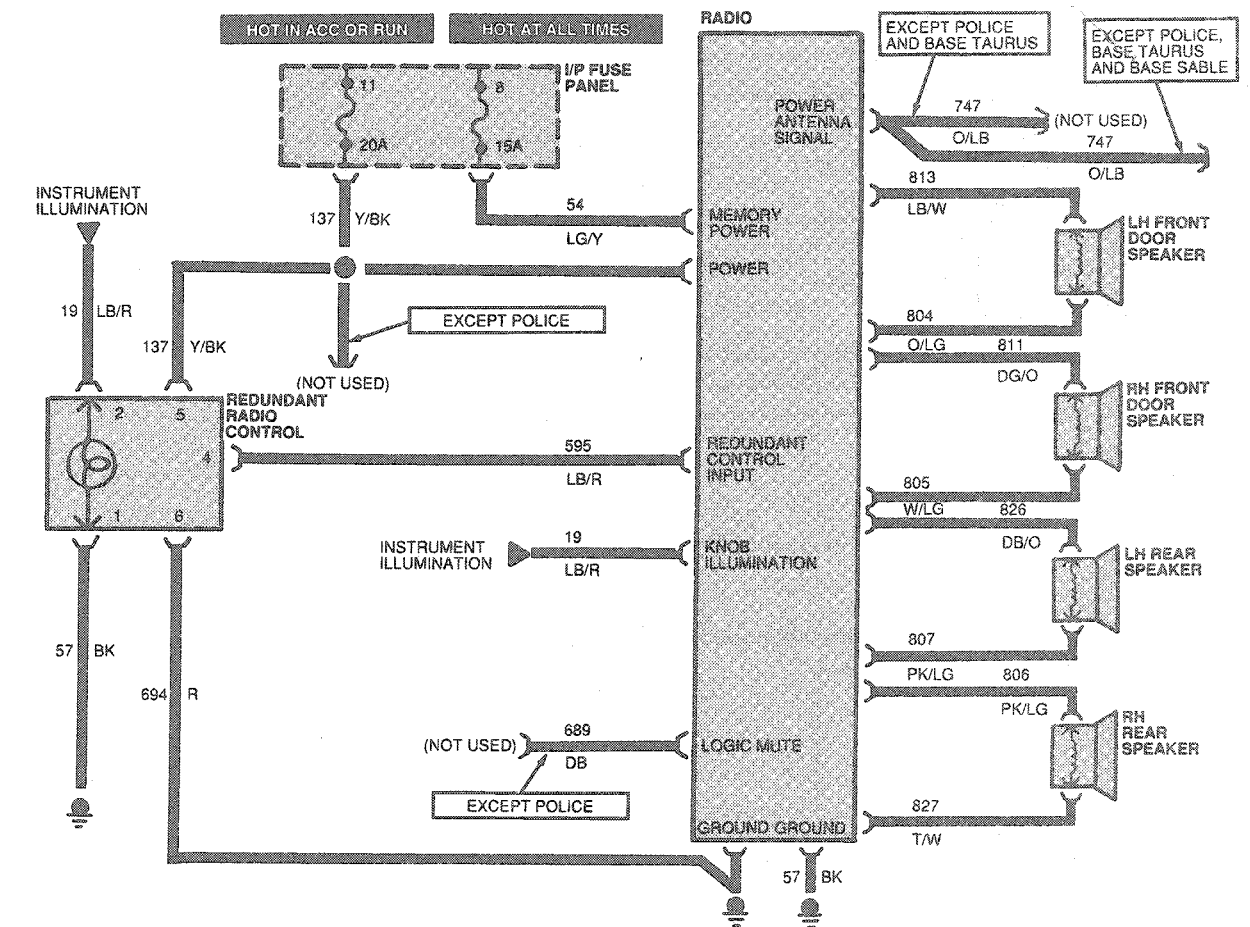


DIAGNOSIS AND TESTING (Continued)



K18580-A

Electronic Search Radio (ESR) and Electronic Cassette Radio (ECR)

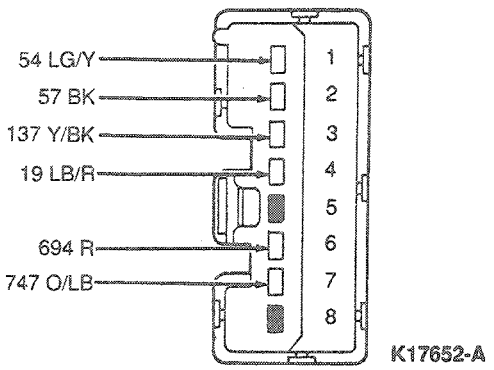


See EVTM for more details of this circuit

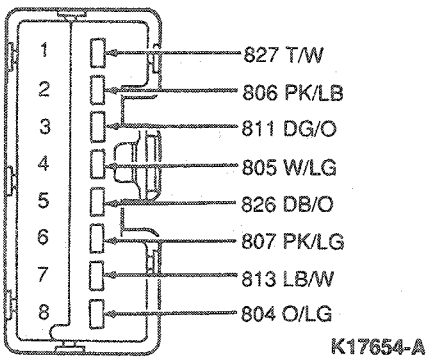
K17548-A

DIAGNOSIS AND TESTING (Continued)

Radio



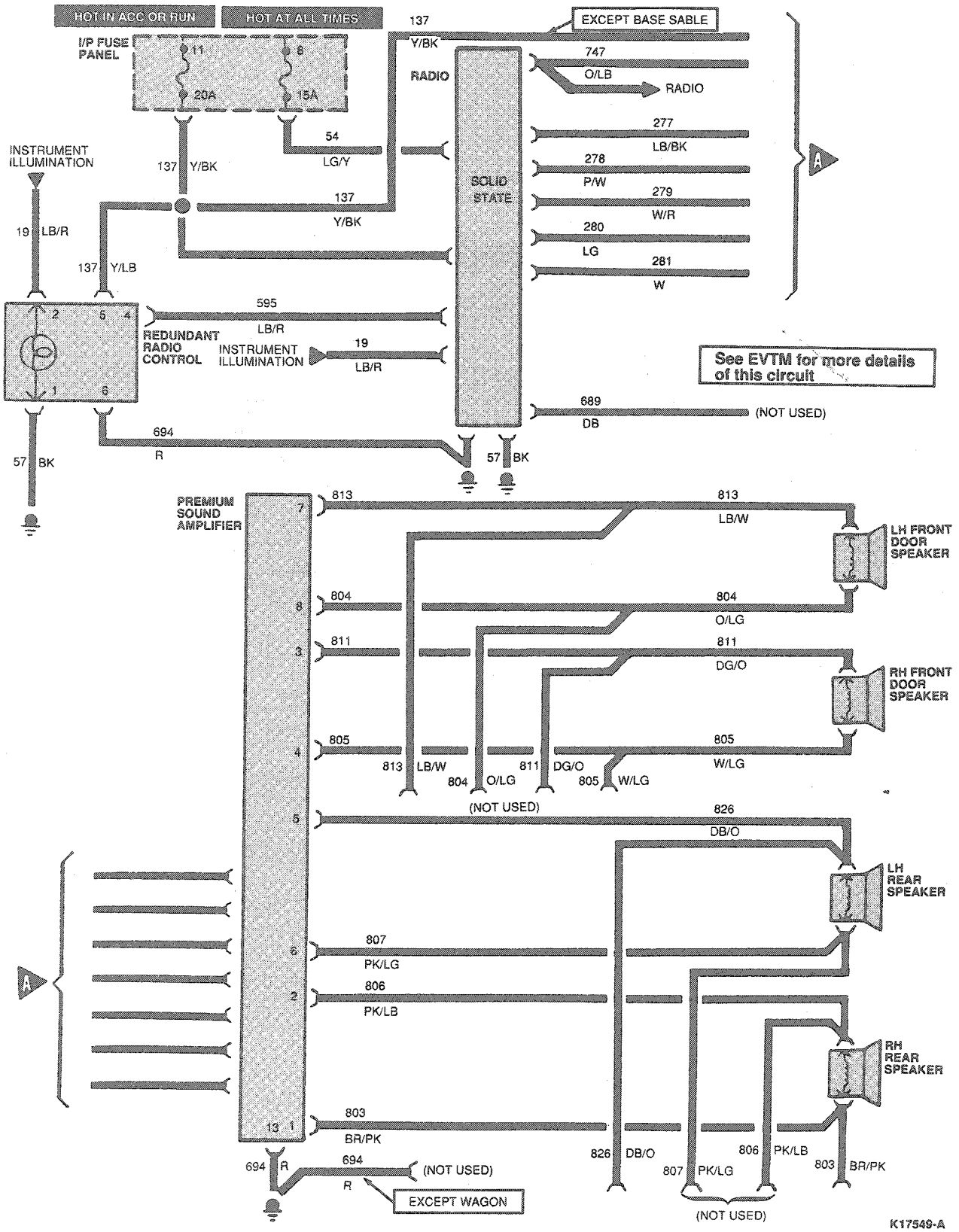
K17652-A



K17654-A

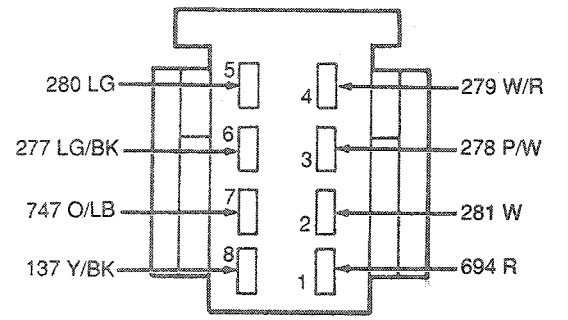
DIAGNOSIS AND TESTING (Continued)

Electronic Search Radio (ESR), (ESC) with Premium Sound Amplifier (Sable)

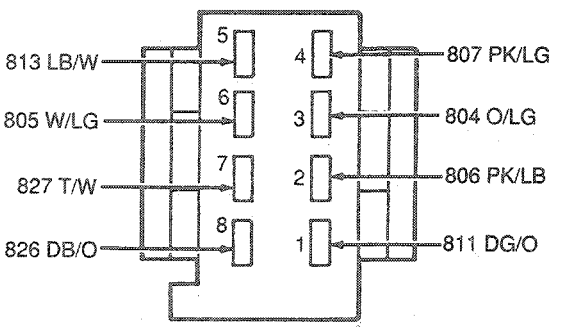


DIAGNOSIS AND TESTING (Continued)

Amplifier

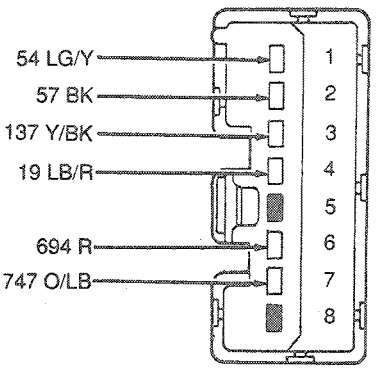


K17575-A



K17651-A

Radio



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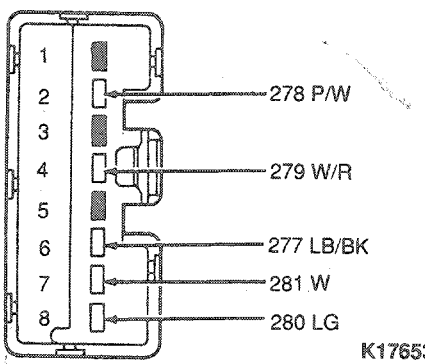


K17653-A

DIAGNOSIS AND TESTING (Continued)

Circuit Description Chart

Circuit No.	Description	Gauge	Color		Stripe
746	Antenna Down Travel	18	Dk Green	Yellow	X
745	Antenna Up Travel	18	Red	Pink	X
*137B	Input to P.S.A. From Filter (12 V)	14	Yellow	Black	X
*137A	Input to Filter (12 V. D.C.)	14	Yellow	Black	X
694	Amplifier Power Return	14	Red		
372	Memory	18	Brown	Orange	X
370	Seek Down	18	Orange	Black	X
368	Seek Up	18	Red	Black	X
281	Speaker Voice Coil Return Amplifier Input	18	White		
280	Speaker Voice Coil Feed Front (LH Channel) Amp Input	18	Lt. Green		
279	Speaker Voice Coil Feed Front (RH Channel) Amp Input	18	White	Green	X
278	Speaker Voice Coil Feed Rear (RH Channel) Amp Input	18	Purple	White	X
277	Speaker Voice Coil Feed Rear (LH Channel) Amp Input	18	Lt. Blue	Black	X
785	Speaker Voice Coil Return LH Channel	18	Yellow	White	X
784	Speaker Voice Coil Return RH Channel	18	Violet		
835	Speaker Voice Coil Feed (LH Channel)	18	Red		
834	Speaker Voice Coil Feed (RH Channel)	18	Blue		
827	Amplifier Switch Feed to LH Rear Speaker	18	Tan	White	X
826	Amp Switch Ground to LH Rear Speaker	18	Dk. Blue	Orange	X
825	Amplifier Switch Feed to RH Rear Speaker	18	Tan	Lt. Green	X
824	Amp Switch Ground to RH Rear Speaker	18	White	Lt. Blue	X
820	Amplifier Switch Feed to LH Front Speaker	18	Dk. Blue	Yellow	X
819	Amp Switch Ground to LH Front Speaker	18	Lt. Green	White	X
816	Amplifier Switch Feed to RH Front Speaker	18	Lt. Green	Purple	X
815	Amp Switch Ground To RH Front Speaker	18	Lt. Green	Orange	X
814	Speaker Switch Feed To LH Front Speaker	18	Pink	White	X
813	Speaker Switch Ground To LH Front Speaker	18	Lt. Blue	White	X
812	Speaker Switch Feed to RH Front Speaker	18	Pink	Orange	X
37	Battery to Load	14	Yellow		

Circuit No.	Description	Gauge	Color		Stripe
811	Speaker Switch Ground To RH Front Speaker	18	Dk. Green	Orange	X
831	Switch to Fader LH Channel Feed	18	Tan		
830	Switch to Fader RH Channel Feed	18	Pink	Yellow	X
829	Power Feed-Switch to Front Amplifier	18	White	Purple	X
747	Radio Receiver Assy to Foot Control Switch	18	Orange	Lt. Blue	X
822	Speaker Voice Coil Feed	18	Black	Green	X
807	Speaker Voice Coil Feed Rear (LH Channel)	18	Pink	Lt. Pink	X
806	Speaker Voice Coil Feed Rear (RH channel)	18	Pink	Lt. Blue	X
805	Speaker Voice Coil Feed Front (RH Channel)	18	White	Lt. Green	X
804	Speaker Voice Coil Feed Front (LH Channel)	18	Orange	Lt. Green	X
803	Speaker Voice Coil Return Rear (RH Channel)	18	Dk. Green	Orange	X
801	Speaker Voice Coil Return Rear (LH Channel)	18	Pink	Lt. Blue	X
802	Amp/Speaker Switch Feed to RH Rear Speaker	18	Orange	Red	X
800	Amp/Speaker Switch Feed to LH Rear Speaker	18	Gray	Lt. Blue	X
57	Ground	20	Black		
287	Speaker Voice Coil Return	18	Black	White	X
*137	Radio and Antenna Switch Feed	18	Yellow	Black	X
54	Memory Feed	18	Lt. Green	Yellow	X
19	Instrument Panel Lamps Feed	18	Lt. Blue	Red	X
689	Logic Mute	18	Dk Blue		
857	LH Front Amp Input Return	18	White	Orange	X
858	RH Front Amp Input Return	18	Brown		
859	LH Rear Amp Input Return	18	Yellow		
855	RH Rear Amp Input Return	18	Lt. Blue		
586	Remote Return	18	Black		
595	Remote In	18	Lt. Blue	Red	X
856	LH Channel Signal In	18	Purple		
690	RH Channel Signal In	18	Gray		
798	LH Channel Signal Out	18	Lt. Green	Red	X
799	RH Channel Signal Out	18	Orange	Black	X
848	Processor Loop Signal Return	18	Dk. Green	Orange	X
849	Digital Audio Disc Logic Sense	18	Tan		

CL6680-B

DIAGNOSIS AND TESTING (Continued)

Remote Radio Control Functional Test

Verify operation of remote radio control.

Step 1. Turn ignition to RUN or ACC. Turn radio on and verify radio operation.

Step 2. Test the following switch buttons:

MEMORY: Will advance to the previously stored stations in the preset buttons.

VOLUME: Volume will decrease when button is pressed on left (-) side and increase when pressed on right (+) side.

SEEK: Will advance the display forward only.

If any of these functions are inoperative but radio is otherwise functional, replace remote radio control switch.

PINPOINT TEST A: ALL ELECTRONIC RADIO CONTROL FUNCTIONAL TEST

TEST STEP		RESULT ▶	ACTION TO TAKE
A1	VERIFY OPERATION OF RADIO		
	• Turn ignition to ON or ACC. Turn radio on. • **Is radio display lit?**	Yes ▶ No ▶	GO to **A3.** GO to **A2.**
A2	VERIFY SOUND FROM SPEAKERS		
	• **Is sound coming from speakers?**	Yes ▶ No ▶	GO to **A17.** REFER to radio inoperative procedure.
A3	AM INDICATOR TEST		
	• Push the band or AM button. • **Is "AM" indicator lit?**	Yes ▶ No ▶	GO to **A4.** REMOVE radio for service.
A4	UP TEST		
	• Depress "seek (>)" or "scan" button and verify that number on display increases (if display reads 1610 AM or 107.9 FM display will not increase and the "seek (>)" button should be depressed until display reads less than 1610 AM or 107.9 FM). • **Is "up" function OK?**	Yes ▶ No ▶	GO to **A5.** REMOVE radio for service.
A5	DOWN TEST		
	• Depress "seek (<)" button and verify that number on display decreases (if display reads 530 AM or 88.1 FM, display will not decrease and the "seek (<)" button should be depressed until display reads greater than 530 AM or 88.1 FM). • **Is "down" function OK?**	Yes ▶ No ▶	GO to **A6.** REMOVE radio for service.
A6	FAST UP TEST		
	• Push AMS then SEEK (>) button. • **Is "fast up" function OK?**	Yes ▶ No ▶	GO to **A7.** REMOVE radio for service.
A7	FAST DOWN TEST		
	• Push AMS then SEEK (<) button. • **Is "fast down" function OK?**	Yes ▶ No ▶	GO to **A8.** REMOVE radio for service.
A8	SCAN TEST		
	• Press SCAN button. • **Is radio scanning to the next stations for five second samplings?**	Yes ▶ No ▶	GO to **A9.** REMOVE radio for service.

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST A: ALL ELECTRONIC RADIO CONTROL FUNCTIONAL TEST (Continued)

TEST STEP	RESULT ▶	ACTION TO TAKE
A9 STATION RECALL MEMORY TEST • Depress seek or scan tuning to select desired station. When station is tuned, depress and hold a memory button. When memory button is depressed, station's sound will be interrupted. Depress button for approximately two seconds. When station's sound returns, button is "set" and may be released. This process is repeated for each memory button. Turn radio off then on. Depress each station recall button and verify that stations indicated are the same as stations stored above. • **Is memory test successful?**	Yes ▶ No ▶	GO to **A10.** REMOVE radio for service.
A10 FM INDICATOR TEST • Push the band or FM button. • **Is FM indicator lit?**	Yes ▶ No ▶	REPEAT the following tests described earlier on the FM band: **A4, A5, A6, A7 and A9.** GO to **A11.** REMOVE radio for service.
A11 FM STEREO INDICATOR TEST • Tune radio to a known FM stereo station. • **Is stereo indicator lit?**	Yes ▶ No ▶	GO to **A12.** REMOVE radio for service.
A12 VOLUME CONTROL TEST • Tune radio to a local station. Press VOLUME + and verify that an increase in the sound level occurs. Press VOLUME - and verify a decrease in the sound level. • **Does volume change properly?**	Yes ▶ No ▶	GO to **A13.** CHECK speaker connection and PERFORM speaker test. REPEAT volume vehicle test. If volume still is not OK, REMOVE radio to service. If volume OK, GO to **A13.**
A13 TONE CONTROL TEST • Push AUDIO button repeatedly until BASS is displayed. Push the RH (+) side of VOLUME button to increase low frequency sound or LH (-) side to decrease low frequency sounds. • Push AUDIO button repeatly until TREB is displayed. Push the RH (+) side of VOLUME button to increase high frequency sound or LH (-) side to decrease high frequency sounds. • **Does bass and treble change properly?**	Yes ▶ No ▶	GO to **A14.** REMOVE radio for service.
A14 BALANCE CONTROL TEST • Push AUDIO button repeatedly until BAL is displayed. Push the RH (+) side of VOLUME button to shift sound to RH speakers or LH (-) side to shift sound to LH speakers. • **Does balance change properly?**	Yes ▶ No ▶	GO to **A15.** CHECK speakers and speaker connections. REPEAT balance control test. If balance still is not OK — REMOVE radio for service. If balance OK, GO to **A15.**
A15 FADER CONTROL TEST • Push AUDIO button repeatedly until FADE is displayed. Push the RH (+) side of VOLUME button to shift sound to rear speakers or LH (-) side to shift sound to front speakers. • **Does fader change properly?**	Yes ▶ No ▶	GO to **A16.** CHECK speakers and speaker connections. REPEAT fader control test. If fader is not OK, REMOVE radio for service. If fader is OK, GO to **A16.**

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST A: ALL ELECTRONIC RADIO CONTROL FUNCTIONAL TEST (Continued)

TEST STEP		RESULT ▶	ACTION TO TAKE
A16	SEEK TEST		
	• Depress seek button (>) and verify that radio stops on next station. Repeat for SEEK (<). • **Does radio stop on next station?**	Yes ▶ No ▶	GO to A17. TURN radio off and then on to determine if seeking stops. If seek does not stop, REMOVE radio for service. If seek does stop, GO to A17.
A17	SCAN TEST		
	• Tune radio on AM band (should be done outside of any building). Press scan button and count the number of listenable stations that can be tuned. Compare to a vehicle with a known, good radio system. • **Are normal number of stations received?**	Yes ▶ No ▶	GO to A18 PERFORM antenna system check. REFER to Section 15-02. REPEAT scan test. If still not receiving normal number of stations, REMOVE radio for service. If normal number of stations received GO to A18
A18	DISPLAY TEST		
	• Tune radio to 1000 AM. • **Is display correct and "AM" indicator lit?**	Yes ▶ No ▶	GO to A19 Remove radio for service.
A19	DISPLAY TEST (Continued)		
	• Tune radio to 88.9 FM. • **Is display correct and "FM" indicator lit?**	Yes ▶ No ▶	GO to A20 REMOVE radio for service.
A20	DISPLAY TEST (Continued)		
	• Tune radio to FM stereo station. • **Is display correct and "ST" indicator lit?**	Yes ▶ No ▶	End of electronic radio controls function test. If other concerns exist, i.e., poor reception or noisy reception, REFER to appropriate diagnostic procedures. REMOVE radio for service.

TK16933B

NOTE: When performing the following PAC radio test, keep in mind that bass, treble, balance and fade are adjusted using the AUDIO and VOLUME buttons. Volume level is normally displayed by the function bar below the station frequency. Each successive push on the AUDIO button sequentially selects bass, treble, balance , fade and returns to normal (frequency and volume) mode. The selected item is indicated in the display by the word BASS, TREB, BAL or FADE.

After selecting the appropriate mode, push the VOLUME button to adjust to the left (-) or right (+). In fade mode, the LH side represents the front speakers and the RH side represents the rear speakers. The normal volume and frequency mode will return five seconds after the last bass, treble, balance or fade adjustment. For additional control features, refer to Section 15-01.

PINPOINT TEST B: PAC RADIO CONTROL FUNCTIONAL TEST

TEST STEP		RESULT ▶	ACTION TO TAKE
B1	FM STEREO INDICATOR TEST		
	• Tune radio to a known FM stereo station. • **Does stereo indicator come on?**	Yes ▶ No ▶	GO to B2. REMOVE radio for service.

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST B: PAC RADIO CONTROL FUNCTIONAL TEST (Continued)

TEST STEP		RESULT	ACTION TO TAKE
B2	VOLUME CONTROL TEST		
	• Tune radio to a local station. Adjust volume control to the right and verify volume increase. Adjust volume control to the left and verify volume decrease. • **Does volume change properly?**	Yes No	GO to **B3.** CHECK speaker connection and perform speaker test. REPEAT volume control test. If it is still not OK, REMOVE radio for service. If volume OK, GO to **B3.**
B3	TONE CONTROL TEST		
	• Adjust bass control to right and verify an increase in low frequency content. • Adjust treble control to right and verify an increase in high frequency content. • **Do bass and treble change properly?**	Yes No	GO to **B4.** REMOVE radio for service.
B4	BALANCE CONTROL TEST		
	• Adjust balance control to right and then to left. • **Does balance change properly?**	Yes No	GO to **B5.** CHECK speakers and speaker connections. REPEAT balance control test. If balance is still not OK, REMOVE radio for service. If balance OK, GO to **B5.**
B5	FADER CONTROL TEST		
	• Adjust fade control to right and then to left. • **Does fade change properly?**	Yes No	GO to **B6.** CHECK speakers and speaker connections. REPEAT fader control test. If fader is not OK, REMOVE radio for service. If fader is OK, GO to **B6.**
B6	SEEK TEST		
	• Depress SEEK button. • **Does radio stop on next station?**	No	TURN radio off and then on to determine if seeking stops. If seek does not stop, REMOVE radio for service. If seek does stop, GO to **B7.**
B7	SEEK/SCAN TEST		
	• Tune radio on AM band (should be done outside of any building). Press SCAN button and count the number of listenable stations that can be tuned. Compare to a vehicle with a known good radio system. • **Are number of stations received normal?**	Yes No	GO to **B8.** PERFORM antenna system check. REFER to Section 15-02. REPEAT SEEK/SCAN test. If still not receiving normal number of stations, REMOVE radio for service. If normal number of stations received, GO to **B8.**
B8	DISPLAY TEST		
	• Tune radio to 1000 AM. • **Is display correct and AM displayed?**	Yes No	GO to **B9.** REMOVE radio for service.
B9	DISPLAY TEST (CONTINUED)		
	• Tune radio to 88.9 FM. • **Is display correct and FM displayed?**	Yes No	GO to **B10.** REMOVE radio for service.

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST B: PAC RADIO CONTROL FUNCTIONAL TEST (Continued)

TEST STEP		RESULT ▶	ACTION TO TAKE
B10	DISPLAY TEST (CONTINUED)		
	• Tune radio to FM stereo station. • **Is "ST" indicator on?**	Yes ▶	End of PAC radio control test. If other concerns exist, REFER to appropriate diagnostic procedures.
		No ▶	REMOVE radio for service.

TK16907B

PINPOINT TEST C: NOISY AM RECEPTION— ENGINE RUNNING, VEHICLE IN/NOT IN MOTION

TEST STEP		RESULT ▶	ACTION TO TAKE
C1	CHECK ANTENNA CABLE CONNECTIONS		
	• Verify condition by operating radio while engine is running, with vehicle in or not in motion. • Check antenna cable connections including extension cable (if so equipped). • **Are connections clean and secure?**	Yes ▶ No ▶	GO to C2. CLEAN and/or SECURE antenna cable connections as required.
C2	CHECK ANTENNA MOUNTING		
	• Check to make sure antenna is securely mounted to body at ground points. (Manual antenna — mounting screws to fender. Electric antenna — mounting nut above fender; and also, make sure that prongs of grounding collar at fender underside are contacting metal.) • **Are contacts clean and have metal-to-metal contact?**	Yes ▶ No ▶	GO to C3. CLEAN and/or SECURE connections as required.
C3	CHECK SUPPRESSION EQUIPMENT		
	• Check for presence of all required suppression equipment, body grounding strap and hood bonding strap (if so equipped) for security, cleanliness and metal-to-metal connection. • **Are connections OK?**	Yes ▶ No ▶	GO to C4. REPLACE missing equipment and/or CLEAN connections as required.
C4	CHECK MOUNTING AND CONNECTING WIRES OF FOLLOWING COMPONENTS		
	• Check the mounting and connecting wires of the generator's voltage regulator capacitor (if so equipped) and ignition coil capacitor for secureness, cleanliness and metal-to-metal contact. (Refer to Group 14). • **Are connections OK?** NOTE: The capacitor mounting points are used to complete the electrical circuit and must be mounted securely to clean surfaces.	Yes ▶ No ▶	GO to C5. CLEAN and/or SECURE connections as required.
C5	CHECK OPERATION OF THE FOLLOWING COMPONENTS		
	• Check the operation of the generator's regulator capacitor and voltage regulator capacitor by replacing with known good components. • Check generator by disconnecting wiring harness from voltage regulator. • Verify radio reception. • **Is noise eliminated?**	Yes ▶ No ▶	GO to C6. SERVICE or REPLACE damaged components as required.
C6	CHECK SPARK PLUG WIRES		
	• Check spark plug wires for proper routing, grounding and secureness of connections. • **Are wires OK?**	Yes ▶ No ▶	GO to C7. REROUTE or REPLACE spark plug wires or SECURE connections as required.

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST C: NOISY AM RECEPTION— ENGINE RUNNING, VEHICLE IN/NOT IN MOTION (Continued)

TEST STEP		RESULT	ACTION TO TAKE
C7	CHECK IGNITION SYSTEM		
	• Check ignition system for proper operation. (Use EEC-IV Intermittent Ignition Analyzer (007-00035) or equivalent or check for open circuit spark plug wires using ohmmeter.) Also, check spark plugs for cracked insulators. • **Is ignition system OK?**	Yes No	GO to C8. SERVICE or REPLACE components as required.
C8	CHECK CHASSIS MOUNTING POINTS		
	• Check all radio chassis mounting points for secureness, cleanliness and metal-to-metal contact. • **Are mounting points OK?**	Yes No	GO to C9. CLEAN and/or SECURE as required.
C9	SUBSTITUTE ANTENNA		
	• Substitute a known good speaker and antenna being sure to ground antenna base to an unpainted metal surface. • Verify operation of radio. • **Is noise eliminated?**	Yes No	REPLACE or SERVICE speaker or antenna. GO to C10.
C10	SUBSTITUTE ANTENNA EXTENSION CABLE		
	• Substitute a known good antenna cable. • Verify operation of radio. • **Is noise eliminated?**	Yes No	REPLACE antenna extension cable. GO to C11.
C11	SUBSTITUTE RADIO		
	• Substitute known good radio. • Verify operation of radio. • **Is noise eliminated?**	Yes No	Have radio unit serviced at an authorized service center. GO to C12.
C12	CHECK AMPLIFIER		
	• Substitute a known good amplifier (PAC system only). • Verify operation of radio. • **Is noise eliminated?**	Yes No	Have amplifier serviced at an authorized service center. GO to C13.
C13	REPOSITION THE FOLLOWING COMPONENTS		
	• Check if noise can be eliminated by repositioning antenna, speaker or radio power feed wires away from other wires and/or brackets. • Verify operation of radio. • **Is noise eliminated?**	Yes No	REPOSITION permanently by taping. GROUND various parts of the vehicle to the frame using a jumper cable. For example, engine, fenders, quarter panels, stone deflectors, air cleaner, body sheet metal. When noise is eliminated, provide a permanent ground where required.

TK6031E

PINPOINT TEST D: NOISY FM RECEPTION— ENGINE RUNNING, VEHICLE NOT IN MOTION

TEST STEP		RESULT	ACTION TO TAKE
D1	DETERMINE IF CONCERN IS WITH FM RECEPTION LIMITATION		
	• Verify condition by operating radio with engine running and vehicle not in motion. • If noise is on FM stereo, determine if customer concern is due to FM stereo reception limitation. Refer to normal operation description. • **Is reception normal?**	Yes No	EXPLAIN and DEMONSTRATE to customer. INFORM customer of methods for obtaining best reception. GO to D2.

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST D: NOISY FM RECEPTION— ENGINE RUNNING, VEHICLE NOT IN MOTION (Continued)

TEST STEP		RESULT ▶	ACTION TO TAKE
D2	CHECK ANTENNA CABLE CONNECTIONS • Check antenna cable connections. • **Are connections clean and tight?**	Yes ▶ No ▶	GO to D3. CLEAN and / or SECURE as required.
D3	CHECK ANTENNA MOUNTING • Check to make sure antenna is securely mounted to body and base screws are tight. • **Are mounting points tight?**	Yes ▶ No ▶	GO to D4. CLEAN and / or SECURE as required.
D4	CHECK SPARK PLUG WIRES ROUTING • Check spark plug wires for proper routing and secureness of connections. • **Are wires OK?**	Yes ▶ No ▶	GO to D5. REROUTE and / or SECURE connections as required.
D5	CHECK TYPE OF SPARK PLUG / WIRES • Check if wires are suppressor type and if spark plugs are the correct type. • **Are wires and plugs correct?**	Yes ▶ No ▶	GO to D6. REPLACE spark plug or wires with the correct type.
D6	CHECK IGNITION SYSTEM • Check ignition system for proper operation. (Use EEC-IV Intermittent Ignition Analyzer (007-00035) or check for open circuit spark plug wires using ohmmeter.) Also, check spark plugs for cracked insulators. • **Is ignition system OK?**	Yes ▶ No ▶	GO to D7. SERVICE or REPLACE components as required.
D7	CHECK CHASSIS MOUNTING • Check all radio chassis mounting points for secureness, cleanliness and metal-to-metal contact. • **Are radio mounting points OK?**	Yes ▶ No ▶	GO to D8. CLEAN and / or SECURE as required.
D8	SUBSTITUTE ANTENNA • Substitute a known good antenna being sure to ground antenna base to an unpainted metal surface. NOTE: All surfaces used for grounding must be clean to ensure good electrical contact. Remove any dirt, rust, grease, paint, etc. • Verify operation of radio. • **Is noise eliminated?**	Yes ▶ No ▶	REPLACE antenna. GO to D9.
D9	SUBSTITUTE ANTENNA CABLE • Substitute a known good antenna cable. • Verify operation of radio. • **Is noise eliminated?**	Yes ▶ No ▶	REPLACE antenna extension cable. GO to D10.
D10	CHECK GENERATOR • Check generator by disconnecting wiring from voltage regulator. • Verify operation of radio. • **Is noise eliminated?**	Yes ▶ No ▶	CHECK generator. REFER to Section 14-02. SERVICE or REPLACE as required. GO to D11.
D11	SUBSTITUTE RADIO • Substitute a known good radio. • Verify operation of radio. • **Is noise eliminated?**	Yes ▶ No ▶	Have radio serviced at an authorized service center. GO to D12.

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST D: NOISY FM RECEPTION— ENGINE RUNNING, VEHICLE NOT IN MOTION (Continued)

TEST STEP		RESULT ▶	ACTION TO TAKE
D12	CHECK AMPLIFIER		
	• Substitute a known good amplifier. (PAC system only). • Verify operation of radio. • **Is noise eliminated?**	Yes ▶ No ▶	Have amplifier serviced at an authorized service center. GO to **D13.**
D13	REPOSITION THE FOLLOWING COMPONENTS		
	• Check if noise can be eliminated by repositioning antenna, speaker or radio power feed wires away from other wires and / or brackets. NOTE: All surfaces used for grounding must be clean to ensure good electrical contact. Remove any dirt, rust, grease, paint, etc. • Verify operation of radio. • **Is noise eliminated?**	Yes ▶ No ▶	REPOSITION permanently by taping. GROUND various parts of the vehicle to the frame using a jumper cable for example, engine, fenders, quarter panels, stone deflectors, air cleaner, body sheet metal. When noise is eliminated, provide permanent ground where required.

TK16916B

PINPOINT TEST E: RADIO IS INOPERATIVE OR INTERMITTENT

TEST STEP		RESULT ▶	ACTION TO TAKE
E1	CHECK RADIO OPERATION		
	• Check operation of radio to determine if radio is inoperative or intermittent.	Radio inoperative ▶ Radio intermittent ▶	GO to **E2.** GO to **E4.**
E2	CHECK FUSE		
	• Check fuse to see if it is blown. • **Is fuse OK?**	Yes ▶ No ▶	GO to **E4.** TURN OFF ignition switch. REPLACE fuse. Turn ignition switch ON. RECHECK fuse. If fuse is bad, GO to **E3.** If fuse is still OK, OPERATE radio, tape player and compact disc (if so equipped). If fuse fails, have radio serviced at an authorized service center. If fuse is still good, OPERATE other systems supplied by radio fuse. REFER to Section 18-01 for fuse listing. If fuse fails, SERVICE system identified to cause fuse failure using appropriate diagnostic chart. If fuse OK, radio system OK. NOTE: For a repeated customer complaint perform the above test while driving on rough road conditions to isolate the system exhibiting an intermittent short circuit condition.

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST E: RADIO IS INOPERATIVE OR INTERMITTENT (Continued)

TEST STEP		RESULT ▶	ACTION TO TAKE
E3	DETERMINE LOCATION OF GROUNDED POWER FEED		
	• Turn ignition switch to OFF position. • Determine location of grounded power feed to radio (common circuit to premium sound control, CB radio and power antenna, if so equipped).	Grounded power feed found ▶	SERVICE or REPLACE as required.
E4	CHECK POWER FEED		
	• Check power feed for proper connections. • **Are connections OK?**	Yes ▶ No ▶	GO to E5. CONNECT power feed properly.
E5	CHECK CONTINUITY PLUG		
	• Check to be sure that the continuity plug is present. It should be inserted at the top RH side of the connector block at the rear of the radio chassis. • Press in firmly on the plug, making sure it is fully seated. Check for proper audio operation. • **Is the continuity plug present?**	Yes ▶ No ▶	GO to E6. REPLACE continuity plug.
E6	CHECK FOR POWER TO RADIO		
	• Check for power to radio using a test lamp or a voltmeter. • **Is there power to radio?**	Yes ▶ No ▶	GO to E7. SERVICE harness as required.
E7	CHECK SPEAKERS TO SEE IF CONDITION IS PRESENT ON ALL SPEAKERS		
	• With radio operating, check if condition is present on all speakers. • **Is condition present at all speakers?**	Yes ▶ No ▶	GO to E8. GO to E9.
E8	CHECK ANTENNA SYSTEM		
	• Check antenna system. Refer to Section 15-02. • **Is antenna system OK?**	Yes ▶ No ▶	GO to E8. CONNECT, SERVICE or REPLACE antenna components as required.
E9	CHECK RADIO CHASSIS		
	• Check radio chassis. • Connect a known good speaker directly to radio chassis. • Verify operation of radio. • **Is radio OK?**	Yes ▶ No ▶	REPLACE speaker or CONNECT, SERVICE or REPLACE speaker wiring as required. NOTE: Use premium sound diagnostic chart to service if vehicle is so equipped. Have radio chassis serviced at authorized service center.

TK19303A

PINPOINT TEST F
RADIO HAS WEAK RECEPTION

TEST STEP		RESULT ▶	ACTION TO TAKE
F1	EXTEND POWER ANTENNA		
	• Extend power antenna (if so equipped) and position vehicle in an open area away from steel buildings. • Check radio reception. • **Is reception OK?**	Yes ▶ No ▶	EXPLAIN to customer limitations of radio. GO to F2.
F2	CHECK ANTENNA CONNECTIONS		
	• Check antenna connections. • **Are connections OK?**	Yes ▶ No ▶	GO to F3. CLEAN and / or TIGHTEN antenna connections as required.

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST F
RADIO HAS WEAK RECEPTION (Continued)

TEST STEP		RESULT	ACTION TO TAKE
F3	CHECK ANTENNA SYSTEM		
	• Check antenna system using appropriate diagnostic procedure. Refer to Section 15-02. • **Is antenna system OK?**	Yes No	GO to F4. SERVICE antenna as required.
F4	CHECK RECEPTION OF RADIO ON AM AND FM		
	• Check for poor reception on both AM and FM.	Reception weak on AM only Reception weak on FM or both AM / FM	VERIFY radio reception. If reception is OK, RETURN radio to service. If reception is still weak, have radio chassis serviced at an authorized service center. Have radio serviced at authorized service center.

TK16934B

PINPOINT TEST G: PREMIUM ANALOG CASSETTE (PAC) SOUND SYSTEM—NO RADIO SOUND FROM ANY SPEAKERS (RADIO TURNED ON)

TEST STEP		RESULT	ACTION TO TAKE
G1	CHECK OPERATION OF RADIO		
	• Turn ignition to ACC or RUN and radio to ON. • Observe radio for digital display. • **Is radio display lit?**	Yes No	GO to G2. REFER to Pinpoint Test E.
G2	CHECK AMPLIFIER CONTROL CIRCUITS		
	• **Check power and control to amplifier as follows:** • Ensure all harnesses are connected. • Turn ignition to ACC and radio to ON. • Check for battery voltage at the amplifier yellow wire and at orange, light blue striped wire. • Check for ground at the amplifier on the red wire. • Check shorting plug (PACs used without a CD player must have a fully seated plug). • **Is amplifier control circuit OK?**	Yes No	GO to G3. Vehicle wiring or speaker is damaged. Follow procedure for diagnosing and servicing of damage.
G3	CHECK FOR SHORT TO GROUND AT SPEAKER(S)		
	• Check for short to ground at one or more speakers, which can cause amplifier to shut down. • **Are any shorts found?**	Yes No	CHECK terminals at connector for solder bridge, stray wire strands, bent terminals, or pinched shorted speaker wire. SERVICE or REPLACE as necessary. REPLACE EPC Sound Amplifier.

TK19304A

PINPOINT TEST H: ELECTRONIC SEARCH RADIO (ESR) SOUND SYSTEM—NO RADIO SOUND FROM ANY SPEAKERS (RADIO TURNED ON)

TEST STEP		RESULT	ACTION TO TAKE
H1	CHECK OPERATION OF RADIO		
	• Turn ignition to ACC or RUN and radio to ON. • Observe radio for digital display. • **Is radio display lit?**	Yes No	GO to H2. REFER to Pinpoint Test E.

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST H: ELECTRONIC SEARCH RADIO (ESR) SOUND SYSTEM—NO RADIO SOUND FROM ANY SPEAKERS (RADIO TURNED ON) (Continued)

TEST STEP		RESULT ▶	ACTION TO TAKE
H2	CHECK AMPLIFIER CONTROL CIRCUITS		
	• **Check power and control to amplifier as follows:** — Ensure all harnesses are connected. — Turn ignition to ACC and radio to ON. — Check for battery voltage at the amplifier yellow wire and at orange / light blue striped wire. — Check for ground at the amplifier on the red wire. • **Is amplifier control circuit OK?**	Yes ▶ No ▶	GO to H3. SERVICE wiring as required.
H3	CHECK FOR SHORT TO GROUND AT SPEAKER(S)		
	• Check for short to ground at one or more speakers, which can cause amplifier to shut down. • **Are any shorts found?**	Yes ▶ No ▶	CHECK terminals at connector for solder bridge, stray wire strands, bent terminals, or pinched shorted speaker wire. SERVICE or REPLACE as necessary. REPLACE Premium Sound Amplifier.

TK10003E

PINPOINT TEST I: PAC AND ESR SOUND SYSTEMS—NO SOUND FROM ONE OR MORE SPEAKERS

TEST STEP		RESULT ▶	ACTION TO TAKE
I1	VERIFY CONDITION AT EACH SPEAKER		
	• Check for sound at each speaker. • **Are all speakers out?**	Yes ▶ No ▶	GO to I2. GO to I3.
I2	CHECK FOR POWER TO AMPLIFIER		
	• **Check power and control circuits to amplifier as follows:** — Connect all connectors of radio and sound system. — Turn ignition to ACC and radio to ON. — Check for battery voltage at the amplifier on yellow wire and orange / light blue striped wire. • **Is amplifier power circuit OK?**	Yes ▶ No ▶	REFER to PAC Sound System Procedure or ESR Sound System Procedure (depending on PAC or ESR equipped vehicles). SERVICE wiring as required.
I3	CHECK CONTINUITY OF INOPERATIVE SPEAKER(S)		
	• Disconnect amplifier from radio and speakers. • Check continuity of inoperative speaker wiring harness from amplifier. • **Is there continuity?**	Yes ▶ No ▶	GO to I4. CHECK for broken wires or connector pins. SERVICE or REPLACE control assembly as necessary.
I4	CHECK FOR SHORT AT SPEAKER		
	• Check for short between inoperative speaker wires at the speaker connector. • **Are any shorts found?**	Yes ▶ No ▶	CHECK terminals at connector for solder bridge, stray wire strands, or bent terminals. SERVICE or REPLACE as necessary. GO to I6.
I5	CHECK CONNECTOR AT AMPLIFIER		
	• Check amplifier wiring for damage. • Check connector at amplifier for broken pins or wires or for shorts caused by stray wire strands between pins. • **Is amplifier connector OK?**	Yes ▶ No ▶	Amplifier is damaged. SEND to authorized service station for service. SERVICE open or shorted circuits as required.

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST I: PAC AND ESR SOUND SYSTEMS—NO SOUND FROM ONE OR MORE SPEAKERS (Continued)

TEST STEP		RESULT ▶	ACTION TO TAKE
I6	CHECK RADIO-TO-AMPLIFIER HARNESS		
	• Check radio-to-amplifier wiring harness for damage and connectors for broken terminal pins, solder bridge or stray wire strands. • **Is harness OK?**	Yes ▶ No ▶	GO to I7. SERVICE harness as necessary.
I7	CHECK WIRING AND CONNECTORS ON AMPLIFIER		
	• Check wiring on amplifier for damage. • Check connectors on amplifier for broken pins., solder bridge or shorts caused by stray wire strands. • **Are connectors and wiring OK?**	Yes ▶ No ▶	Amplifier is damaged. RETURN to authorized service station for service. SERVICE open or shorted circuits as necessary.

TK10004E

PINPOINT TEST J: PAC AND ESR SOUND SYSTEMS—DISTORTED SOUND FROM ONE OR MORE SPEAKERS

TEST STEP		RESULT ▶	ACTION TO TAKE
J1	CHECK FOR:		
	• Loose trim panels, grilles, or attachments which might cause rattles in the area of the speaker which is considered distorted. • Pinched or broken wires at or near the radio. • Pinched or broken wires elsewhere in the vehicle wiring to the speaker. • **Are wires and attachments OK?** NOTE: In PAC installations neither wire to the speaker can be grounded. Grounding of either wire will cause distortion.	Yes ▶ No ▶	GO to J2. SERVICE and / or REPLACE as necessary.
J2	CONNECT A TEST SPEAKER		
	• Connect a test speaker to the wiring for the distorted speaker. • **Is sound OK?**	Yes ▶ No ▶	Speaker is damaged. REPLACE speaker. REFER to Test Step I4.

TK10006E

PINPOINT TEST K: COMPACT DISC PLAYER IS INOPERATIVE OR INTERMITTENT

TEST STEP		RESULT ▶	ACTION TO TAKE
K1	VERIFY CD PLAYER IS INOPERATIVE OR HAS INTERMITTENT OPERATION		
K2	CHECK CD PLAYER OPERATION		
	• Determine if CD player is inoperative or intermittent.	CD player inoperative ▶ CD player intermittent ▶	GO to K3. GO to K4.

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST K: COMPACT DISC PLAYER IS INOPERATIVE OR INTERMITTENT (Continued)

TEST STEP		RESULT ▶	ACTION TO TAKE
K3	CHECK FUSE		
• Check fuse to see if it is blown. • **Is fuse blown?**		Yes ▶	TURN OFF ignition switch, radio, premium sound system, and CB radio (if so equipped). REPLACE fuse. TURN ignition switch on. RECHECK fuse. If fuse is bad, GO to **K5.** If fuse is still OK, OPERATE radio and tape player (if so equipped). If fuse fails, have radio serviced at authorized service center. If fuse still good, OPERATE power antenna, premium sound, and CB radio (if so equipped). If fuse fails, SERVICE system identified to cause fuse failure using appropriate diagnostic chart. If fuse OK, radio system OK. NOTE: For a repeated customer complaint, perform the above test while driving on rough road conditions to isolate the system exhibiting an intermittent short circuit condition.
		No ▶	GO to **K4.**
K4	CHECK POWER FEED		
• Check power feed for proper connections. • **Are connections OK?**		Yes ▶	GO to **K6.**
		No ▶	CONNECT power feed properly.
K5	DETERMINE LOCATION OF GROUNDED POWER FEED		
• Turn ignition switch to OFF position. • Determine location of grounded power feed to CD player (common circuit to premium sound control, CB radio, and power antenna, if so equipped).		Grounded power feed found ▶	SERVICE or REPLACE as required.
K6	CHECK FOR POWER TO CD PLAYER		
• Check for power to CD player using a test lamp or a voltmeter. • **Is there power?**		Yes ▶	GO to **K7.**
		No ▶	SERVICE harness as required.
K7	CHECK SPEAKERS TO SEE IF CONDITION PRESENT ON ALL SPEAKERS		
• With CD player operating, check if condition is present on all speakers. • **Is condition present at all speakers?**		Yes ▶	Have CD player chassis serviced at authorized service center.
		No ▶	GO to **K8.**

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST K: COMPACT DISC PLAYER IS INOPERATIVE OR INTERMITTENT (Continued)

TEST STEP		RESULT	ACTION TO TAKE
K8	CHECK CD PLAYER CHASSIS		
	• Check CD player chassis. • Connect a known good speaker directly to CD player chassis. • Verify operation of CD player. • **Does CD player operate properly?**	Yes ▶	REPLACE speaker or connect, SERVICE or REPLACE speaker wiring as required. NOTE: Use premium sound diagnostic chart to service if vehicle is so equipped.
		No ▶	Have CD player chassis serviced by authorized service center.

TK19305A

SPECIAL SERVICE TOOLS

ROTUNDA EQUIPMENT

Model	Description
007-00035	EEC-IV Intermittent Ignition Analyzer

SECTION 15-01 Radio and Tape Chassis

VEHICLE APPLICATION

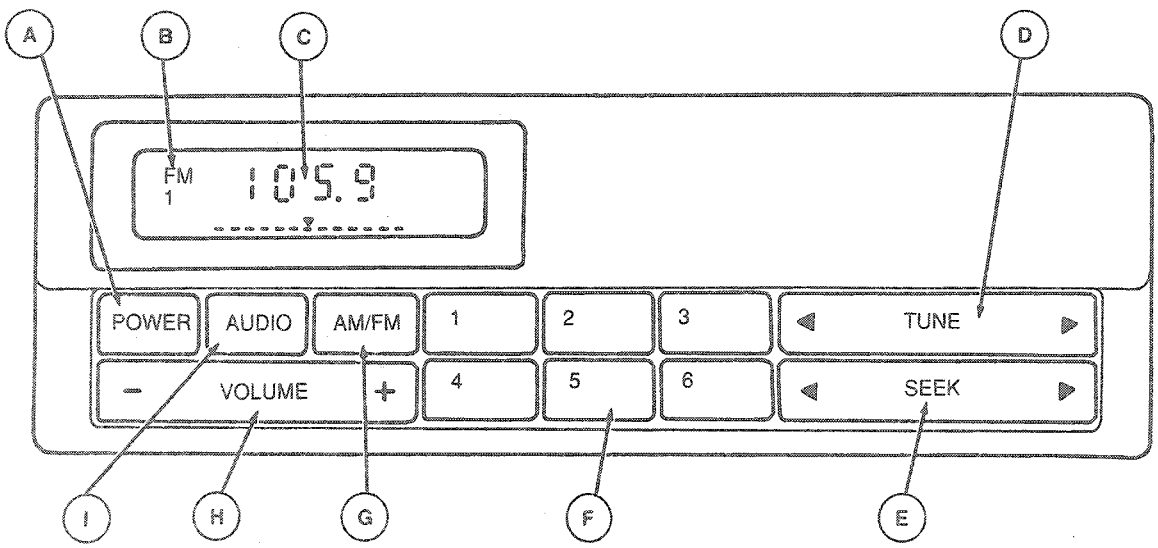
Taurus / Sable.

DESCRIPTION AND OPERATION

The premium low level sound system is available on Sable vehicles only. It consists of two premium front door speakers and two premium rear speakers. Separate signal return wiring to each speaker is used. The amplifier is in operation and is part of the circuit at all times.

Control Functions

Electronic Stereo Radio (ESR)



K16902-A

The following is a description of the various controls:

DESCRIPTION AND OPERATION (Continued)

A. **POWER:** Push to turn ON, push again to turn OFF.

B. **BAND INDICATOR:** Indicates if band is in AM, FM1 or FM2 setting.

C. **STATION INDICATOR:** Indicates radio station frequency in radio mode.

D. **TUNE:** This button is used to change the frequency up or down one increment at a time by pressing the right (>) or left (<) side of button. To change frequencies quickly, press and hold either right or left side of button.

E. **SEEK:** Push right (>) side of SEEK button to tune radio to the next higher frequency station. Push left (<) side of SEEK button to tune radio down to next lower frequency station.

F. **MEMORY BUTTONS:** The six memory buttons are used to store preferred broadcast stations in radio memory. To store a station, tune to desired station, push memory button in and hold for approximately two seconds until station sound returns, then release button. Repeat process for each memory button. Once a station is stored in memory, pushing a memory button for less than two seconds will cause radio to turn to stored station. All six memory buttons will store a station on AM, FM1 or FM2 for a total of 18 storable radio stations.

G. **AM/FM:** Each successive push, when in radio mode, will select AM, FM1 or FM2 as indicated by band indicator in display window.

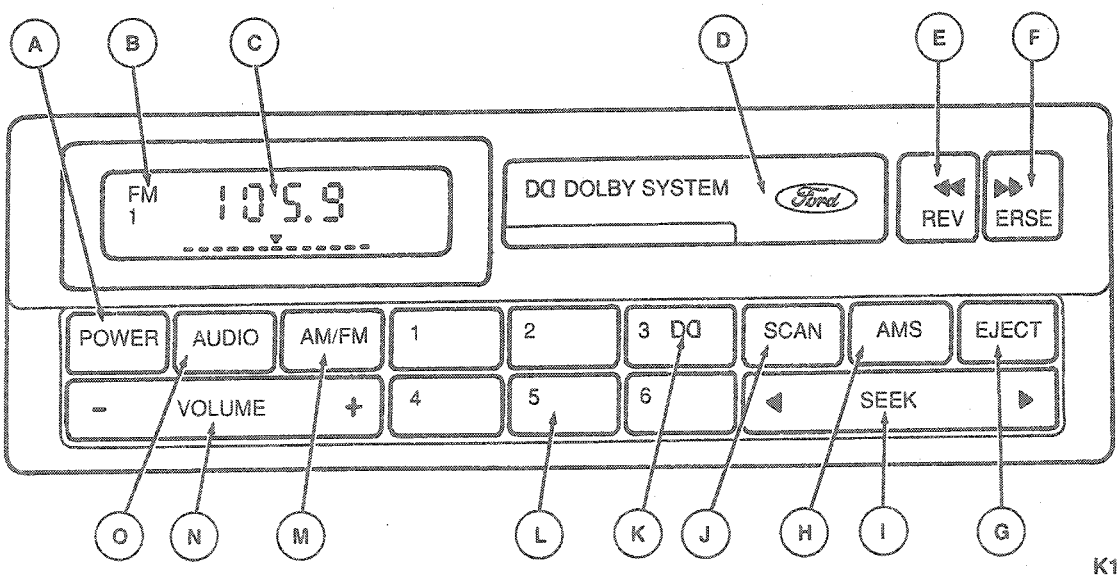
H. **VOLUME:** Push right (+) side of VOLUME button to increase volume. Push left (-) side to decrease volume. If VOLUME button is held to the right or left, the volume will continuously increase or decrease (bars in display will show relative volume) until button is released.

NOTE: If the VOLUME button is set above a preset listening level when ignition switch is turned off, when ignition switch is turned back on, the volume will return to a nominal listening level. However, if radio power is turned off with the POWER button before ignition is turned off, volume will return to the position it was set at previously, when radio power is switched back on.

I. **AUDIO:** The AUDIO button is used to adjust bass, treble, speaker balance and fade. Illuminated bars in display will show relative positions.

- **Bass:** Push AUDIO button repeatedly until BASS is displayed. Push the right (+) side of VOLUME button to increase low frequency sound or left (-) side to decrease low frequency sounds.
- **Treble:** Push AUDIO button repeatedly until TREB is displayed. Push the right (+) side of VOLUME button to increase high frequency sound or left (-) side to decrease high frequency sounds.
- **Speaker Balance:** Push AUDIO button repeatedly until BAL is displayed. Push the right (+) side of VOLUME button to shift sound to right speakers or left (-) side to shift sound to left speakers.
- **Speaker Fade:** Push AUDIO button repeatedly until FADE is displayed. Push the right (+) side of VOLUME button to shift sound to rear speakers or left (-) side to shift sound to front speakers.

Electronic Stereo Cassette (ESC)



DESCRIPTION AND OPERATION (Continued)

The following explains various features of controls:

A. **POWER:** Push to turn ON, push again to turn OFF.

B. **BAND INDICATOR:** Indicates if band is in AM, FM1 or FM2 setting.

C. **STATION INDICATOR:** Indicates radio station frequency in radio mode. When a tape is played, arrows indicate direction of tape removal.

D. **TAPE OPENING:** When tape is inserted (with open edge to the right) and radio power is ON, tape begins to play.

E. **REVERSE:** Push the left (<) side of REVERSE button to rewind a tape playing forward. To return tape play, push right (>) side of REVERSE button momentarily. Pushing both sides of REVERSE button simultaneously will reverse tape to opposite side (track).

F. **REVERSE:** Push the right (>) side of REVERSE button to fast forward a tape playing forward. To return tape play, push left (<) side of REVERSE button momentarily. Pushing both sides of REVERSE button simultaneously will reverse tape to opposite side (track).

G. **EJECT:** Press the EJECT button to stop the tape and eject cassette. The radio will resume playing if power is on.

H. **AMS:** The automatic music search (AMS) button is used to change frequency up or down one increment at a time in radio mode. After pushing the AMS button, push and release either the right (>) or left (<) side of SEEK button. To change frequencies quickly, press and hold down either right or left side of SEEK button. In tape mode, use AMS button to change tape to next selection. First push and hold AMS button, then push either left or right side of REWIND button to find beginning of next tape selection.

I. **SEEK:** Push right (>) side of SEEK button to tune radio to the next higher frequency station. Push left (<) side of SEEK button to tune radio down to next lower frequency station.

J. **SCAN:** Press SCAN button to enter scan mode. The radio will begin to scan up to the next radio station for a five second sampling.
To stop scan mode on presently sampled radio station, press the SCAN button a second time.

K. **DOLBY:** Push No. 3 memory button to select Dolby® Noise Reduction in tape mode.

L. **MEMORY BUTTONS:** The six memory buttons are used to store preferred broadcast stations in radio memory. To store a station, tune to desired station, push memory button in and hold for approximately two seconds until station sound returns, then release button. Repeat process for each memory button. Once a station is stored in memory, pushing a memory button for less than two seconds will cause radio to turn to stored station. All six memory buttons will store a station on AM, FM1 or FM2 for a total of 18 storable radio stations.

M. **AM/FM:** Each successive push, when in radio mode, will select AM, FM1 or FM2 as indicated by band indicator in display window.

N. **VOLUME:** Push right (+) side of VOLUME button to increase volume, push left (-) side to decrease volume. If VOLUME button is held to the right or left, the volume will continuously increase or decrease (bars in display will show relative volume) until button is released.

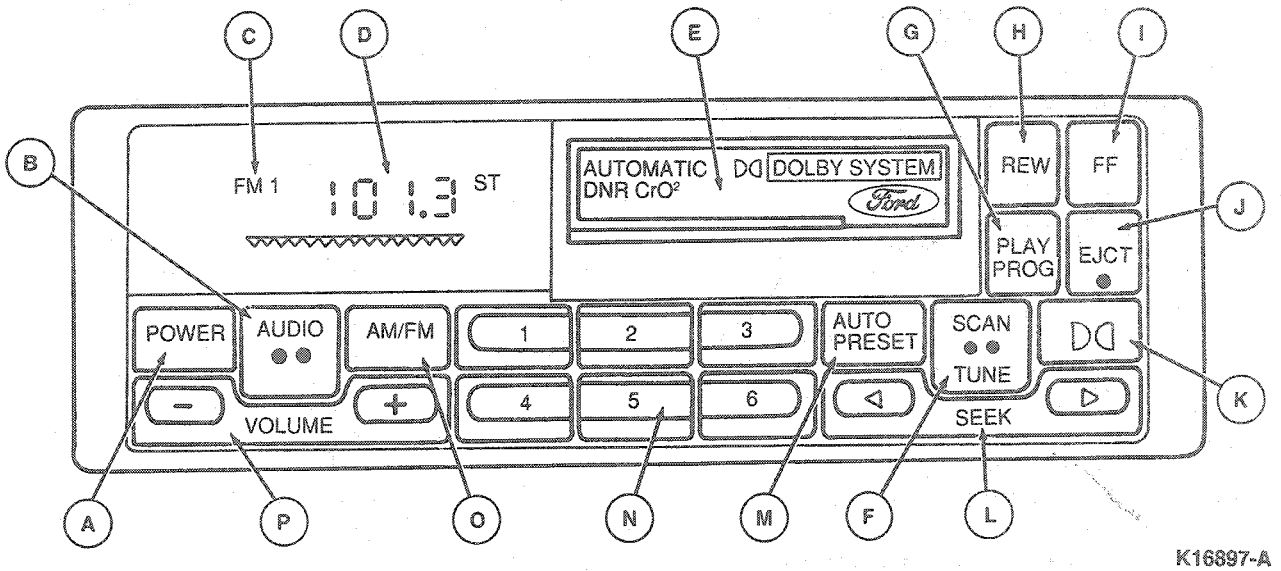
NOTE: If the VOLUME button is set above a preset listening level when ignition switch is turned off, when ignition switch is turned back on, the volume will return to a nominal listening level. However, if radio power is turned off with the POWER button before ignition is turned off, volume will return to the position it was set at previously, when radio power is switched back on.

O. **AUDIO:** The AUDIO button is used to adjust bass, treble, speaker balance and fade. Illuminated bars in display will show relative positions.

- **Bass:** Push AUDIO button repeatedly until BASS is displayed. Push the right (+) side of VOLUME button to increase low frequency sound or left (-) side to decrease low frequency sounds.
- **Treble:** Push AUDIO button repeatedly until TREB is displayed. Push the right (+) side of VOLUME button to increase high frequency sound or left (-) side to decrease high frequency sounds.
- **Speaker Balance:** Push AUDIO button repeatedly until BAL is displayed. Push the right (+) side of VOLUME button to shift sound to right speakers or left (-) side to shift sound to left speakers.
- **Speaker Fade:** Push AUDIO button repeatedly until FADE is displayed. Push the right (+) side of VOLUME button to shift sound to rear speakers or left (-) side to shift sound to front speakers.

DESCRIPTION AND OPERATION (Continued)

Premium Analog Cassette Radio (PAC)



The features described are identical on all PAC radios.

A. **POWER:** Push to turn radio ON, push again to turn OFF.

B. **AUDIO:** The audio button is used to adjust bass, treble, speaker balance and fade. Illuminated bars in display will show relative positions.

- **BASS:** Push AUDIO button repeatedly until BASS is displayed. Push the right (+) side of VOLUME button to increase low frequency sounds or left (-) side to decrease low frequency sounds.
- **TREBLE:** Push AUDIO button repeatedly until TREB is displayed. Push the right (+) side of VOLUME button to increase high-frequency sounds or left (-) side to decrease high-frequency sounds.
- **SPEAKER BALANCE:** Push AUDIO button repeatedly until BAL is displayed. Push the right (+) side of VOLUME button to shift sound to right speakers or left (-) side to shift sound to left speakers.
- **SPEAKER FADE:** Push AUDIO button repeatedly until FADE is displayed. Push the right (+) side of VOLUME button to shift sound to rear speakers or left (-) side to shift sound to front speakers.

C. **BAND INDICATOR:** Indicates if band is in AM, FM1 or FM2 setting.

D. **STATION INDICATOR:** Indicates radio station frequency in radio mode. When tape is played, whirling sprockets indicate direction of tape travel.

E. **TAPE OPENING:** Cassette tape player is equipped with power loading. When tape is inserted (with open edge to the right) the loading mechanism draws the tape in the rest of the way and begins to play.

F. **SCAN TUNE:** Press SCAN TUNE button to enter scan mode (display will blink SCN). Pushing the right (>) side of SEEK button will begin forward scan mode up to the next radio station for a five second sampling, or a five second sampling of the next tape selection on tape currently playing. Pushing left (<) side of SEEK button will begin reverse scan mode to previous radio station for a five second sampling or a five second sampling of previous tape selection on tape currently playing. To stop scan mode on presently sampled radio station, press the side of SEEK button which matches the direction the radio is currently scanning or re-press SCAN TUNE button.
To stop scan mode on presently sampled tape selection, press the side of SEEK button which matches the direction tape is currently scanning.
To change radio stations up or down by one increment, push SCAN TUNE button twice (display reads TUNE), then within five seconds press and release either right (>) or left (<) side of SEEK button. To change stations quickly, press and hold either the right or left side of SEEK button.

G. **PLAY PROGRAM:** Push and hold PLAY PROG button for 1 second to stop the tape player and resume radio play. The cassette will be stored in the tape player and the symbol will display until PLAY PROG button is pushed to resume tape play.

DESCRIPTION AND OPERATION (Continued)

H. **REVERSE:** Push REV button to rewind tape. The radio will automatically begin playing until rewind is manually stopped by pushing PLAY PROG button or tape is completely rewound.

I. **FAST FORWARD:** Push the FF button to forward tape. The radio will automatically begin playing until fast forward is manually stopped by pushing PLAY PROG button or tape reaches end.

J. **EJECT:** Press EJCT button to stop tape and eject cassette. The radio will resume playing if power is ON. The tape cartridge can be ejected whether radio power or ignition is on or off.

K. **DOLBY:** Push to select Dolby® noise reduction in tape mode or Dynamic Noise Reduction® in radio mode. A second push will turn off active Noise Reduction System and lighted symbol from display. The audio system is designed to automatically activate Dynamic Noise Reduction® when under a weak FM signal and will automatically deactivate when it is not needed for signal strength.

L. **SEEK:** Push right (>) side of SEEK button to tune radio to the next higher frequency station or to beginning of next tape selection on tape currently playing. Push left (<) side of SEEK button to tune radio down to next lower frequency station or to the beginning of tape selection currently playing.

M. **AUTO PRESET:** Push the AUTO PRESET button for three seconds to use automatic memory store feature. The radio will automatically seek six strong stations and set them sequentially on memory buttons 1 through 6.

N. **MEMORY BUTTONS:** The six memory buttons are used to store preferred broadcast stations in radio memory. To store a station, tune to desired station, push memory button in and hold for approximately two seconds until station sound returns, then release button. Repeat process for each memory button. Once a station is stored in memory, pushing a memory button for less than two seconds will cause radio to turn to stored station. All six memory buttons will store a station on AM, FM1 or FM2 for a total of 18 storable radio stations.

O. **AM/FM:** Each successive push, when in radio mode, will select AM, FM1 or FM2 as indicated by band indicator in display window.

P. **VOLUME:** Push right (+) side of VOLUME button to increase volume. Push left (-) side to decrease volume. If VOLUME button is held to the right or left, the volume will continuously increase or decrease (bars in display will show relative volume) until button is released.

NOTE: If the VOLUME button is set above a preset listening level when ignition switch is turned off, when ignition switch is turned back on, the volume will return to a nominal listening level. However, if radio power is turned off with the POWER button before ignition is turned off, volume will return to the position it was set at previously, at when radio power is switched back on.

Tape Error Messages

The PAC radio is designed to diagnose certain inoperative cassette player conditions. The error codes are as follows:

- Error 0—Communication error between radio controller and tape controller.
- Error 1—Possible tape cartridge jam.
- Error 2—Tape eject or load concern.

Cassette Tape Player

CAUTION: Before turning off radio or the ignition of vehicle, always eject any cassette being played. Leaving the tape mechanism stopped while a tape is engaged can result in damage to the tape, pinch roller or capstan.

Insert the tape cassette, open edge to the right, to play (radio on, ignition in RUN or ACC position). Adjust volume, tone and speaker balance as for radio programs. At the end of the tape, the cassette automatically reverses and plays the other side of the tape. At any time the tape transport mechanism can be changed to play the other side of the tape by pressing the REVERSE button (ESC).

The Dolby® System is a noise reduction system manufactured under license from Dolby Laboratories. Dolby® and the double-D symbol® are trademarks of Dolby Laboratories Licensing Corporation.

Operating Precautions

NOTE: Do not leave a tape cassette engaged in the tape player slot when not in use. Remove it completely to permit the slot door to close and keep out airborne dirt.

When inserting a tape cassette into the tape slot, it should be firmly pushed in and down to ensure that it is properly seated. To play a full tape, insert the cassette so the empty hub of the cassette goes into the slot first.

Take care to protect the open edge of the cassette from damage, dirt, oil and grease. When not in use, store cassettes in their protective cases with hub locks in place. Otherwise, there will be a risk of having the tape loosen on its hubs, which could cause the tape to spill or jam in the player. If a cassette is found with loose tape, ensure it is rewound firmly around the hubs before using it. Never try to open a cassette or try to pull the tape out of it. To avoid tape damage, do not use cassettes that have been soiled by liquid spills.

Cassette Irregularities

Cassette tapes can vary in performance and size, resulting in occasional concerns with certain specific cassettes.

If any one cassette gives continual trouble because of this, it is best to discontinue use.

DESCRIPTION AND OPERATION (Continued)

For best results, use cassette tapes with no more than 90 minutes of playing time. The thinness of the tapes used in C120 and C180 cassettes makes the tape more likely to stretch and break. A stretched tape will result in poor sound quality.

Tape Player Will Not Accept Cartridge, Eats Tape, Plays Too Fast or Too Slow, Etc. (AM and FM Operating Properly)

- Ensure cassette has not come to the end of the tape.
- Check operation of the tape player by using a known good cassette / cartridge.
- If the condition is not corrected by the substitution of a known good cassette / cartridge, the radio chassis must be removed and sent to an authorized service facility for service.

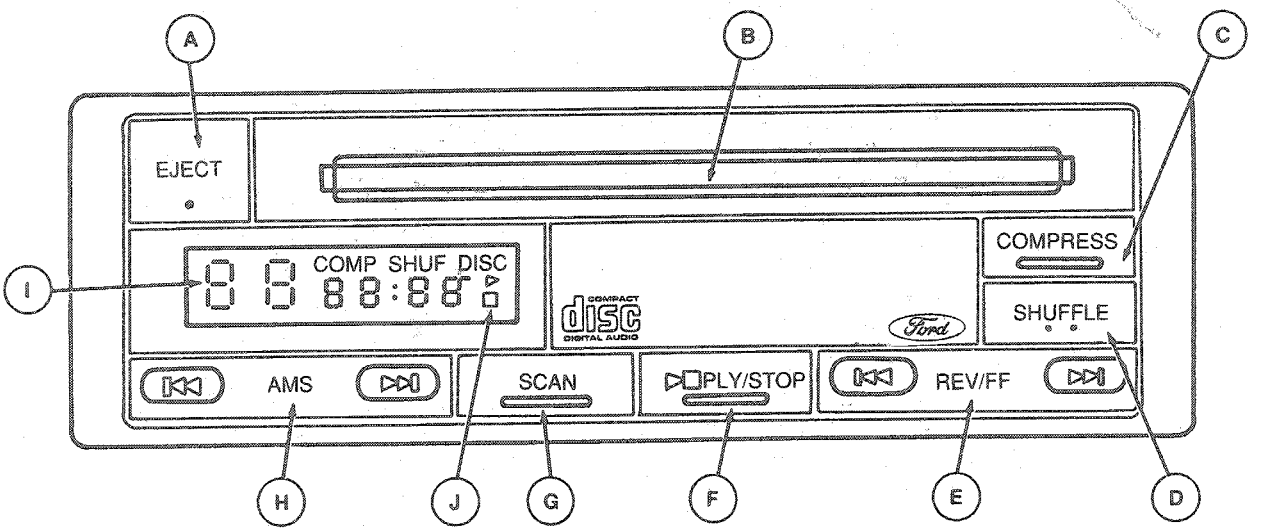
Temperature Extremes

Do not expose tape cassettes to intense sunlight or other temperature extremes. If they do become exposed to high or low temperatures, allow each cassette to reach a moderate temperature before playing. During cold weather, it is advisable to take cassettes indoors overnight to protect them.

In extremely cold weather, the tape player may need a few minutes to warm up before delivering full sound quality.

Compact Disc Player

The following is a description of the various controls.



K18588-A

NOTE: The compact disc player operates when the high level or JBL Audio System is on and a disc is inserted (label-side up). Handle the disc by its edge only.

NOTE: Three inch compact disc singles are not recommended for use with the Ford Compact Disc Player.

NOTE: The CD player has heat protection circuitry to protect the laser diode. If the temperature of the player reaches 80°C (176°F), the heat detection circuit will shut off the player and "H" will appear in the display. When the temperature is within normal operating range the "H" indicator will turn off and the CD player will again be operational.

WARNING: USE OF CONTROLS AND ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

THE USE OF OPTICAL INSTRUMENTS WITH THIS PRODUCT WILL INCREASE EYE HAZARD AS THE LASER BEAM USED IN THE COMPACT DISC PLAYER IS HARMFUL TO THE EYES. DO NOT ATTEMPT TO DISASSEMBLE THE CASE. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

Once a disc is inserted, the operation of the disc will override that of the cassette player or radio. The volume, tone and fader controls on the radio are used to control the sound of the compact disc player.

A. **EJECT:** This button ejects the disc and stops the unit. The radio or cassette tape will resume playing.

DESCRIPTION AND OPERATION (Continued)

B. **DISC SLOT:** When inserted, the disc automatically loads into the unit and play starts at the beginning of the first selection. The play indicator illuminates and the number "1" (track) and "0: 00" (elapsed time) are shown on the digital display (I). When the disc reaches the end, the disc player automatically returns to the beginning of the disc and resumes playing.

NOTE: Once a disc is inserted, the disc opening door locks to prevent the accidental insertion of a second disc.

C. **COMPRESS:** Because of the wide dynamic range of the compact disc player, soft passages may be difficult to hear under certain driving conditions while maintaining a reasonable volume level in the louder passages. The compression feature will bring the softer and louder passages closer together for a more consistent listening level. To activate the compression feature, press the COMPRESS button, the compression indicator (COMP) will illuminate in the display.

D. **SHUFFLE:** When this feature is activated, the CD player will randomly select and play music tracks on the inserted disc. The shuffle indicator (SHUF) in the display will be on when shuffle is selected.

E. **REVERSE/FAST FORWARD:** Press fast forward or reverse to quickly search for a particular point in a selection. While either button is pressed, the disc playing goes forward or backward at two different speeds depending on how long the button is pressed. Release the button at the desired point found by observing the elapsed playing time on the display or by monitoring the sound during fast forward or reverse. When the end of the disc has been reached by keeping the fast forward button pressed, the elapsed playing time and track number indicators will flash. The indicator returns to normal display when the reverse button is pressed. A "1" and "0: 00" will appear when the beginning of the disc is reached by pressing the reverse button.

F. **PLAY/STOP:** When a disc is loaded the unit automatically enters the play mode (play indicator illuminates). To stop temporarily, press the PLAY/STOP button. The stop indicator (J) in the display illuminates and operation returns to the radio or tape mode. To resume CD play, press this button once again. If the ignition key is turned OFF during play but is set to RUN or ACCESSORY at any time later, play will resume.

G. **SCAN:** When this feature is activated, the CD player will scan up to next selection and play a five second audition, then advance to next selection unless button is repressed. During scan mode, elapsed time indicators will activate and track number will flash on display.

H. **AMS CONTROL:** To search for a previous or later selection, press the left or right side of the AMS control respectively during either the play or stop mode.

I. **DISPLAY:** The digital display shows the track number, elapsed time, compression on, shuffle, disc in, play and stop indicators.

DIAGNOSIS AND TESTING

Refer to Section 15-00.

WARNING: USE ONLY PROPERLY INSTALLED FCC APPROVED RADIO TRANSMITTING EQUIPMENT. USE OF OTHER TRANSMITTING EQUIPMENT MAY CAUSE THE VEHICLE TO MALFUNCTION OR STALL. IF THE ENGINE STALLS, POWER BRAKE AND POWER STEERING ASSIST WILL STOP. CONSULT YOUR AUTHORIZED DEALER BEFORE INSTALLING ANY RADIO TRANSMITTER.

REMOVAL AND INSTALLATION

Tool Required:

- Radio Removing Tool T87P-19061-A

Radio and Digital Disc Player

Location of radio fuses are shown in Section 18-01.

Removal

1. Disconnect battery ground cable.
2. Install Radio Removal Tool T87P-19061-A into radio and/or compact disc player face plate. Push tools in approximately 25.4mm (1 inch) to release retaining clips.

   CAUTION: Do not use excessive force when installing radio removing tool as this will damage retaining clips, making radio removal difficult and may cause damage.
3. Apply a light spreading force on tools and pull radio and/or compact disc player out of dash.
4. Disconnect wiring connectors and antenna cable.

Installation

1. Connect wiring connectors and antenna cable to radio.
2. Slide radio into instrument panel ensuring that radio and/or compact disc player rear bracket is engaged on upper support rail.
3. Push radio and/or compact disc player inward until retaining clips are fully engaged.
4. Connect battery ground cable. Test radio and/or compact disc player for operation.

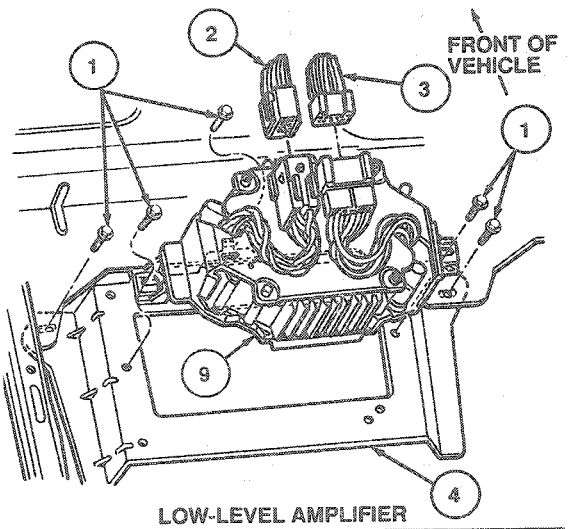
REMOVAL AND INSTALLATION (Continued)

Premium Sound Amplifier (Low and High-Level)

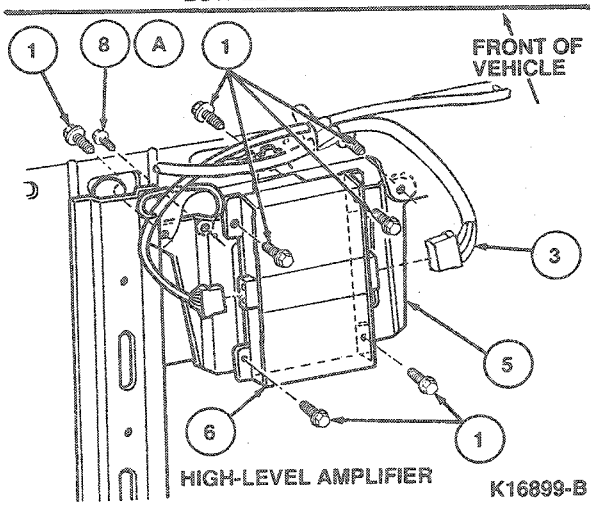
Sedan

Removal and Installation

1. Remove amplifier trim cover.
2. Remove two (low-level amplifier) or four (high-level amplifier) screws retaining amplifier to rear of package tray in luggage compartment.
3. Disconnect electrical connectors and remove amplifier.
4. To install, reverse Removal procedure.



LOW-LEVEL AMPLIFIER



HIGH-LEVEL AMPLIFIER K16899-B

Item	Part Number	Description
1	56910-S36	Screw (5 Req'd, 7 Req'd)
2	19B113	Wiring Assy
3	14405	Wiring Assy
4	18B860	Bracket Assy
5	19B180	Bracket Assy
6	18C807	Amplifier Assy
7	14588	Wiring Assy
8A	N801846-53M6	Screw
9	18B849	Amplifier Assy
A		Tighten to 3.4-4.8 N·m (30.1-42.5 Lb-In)

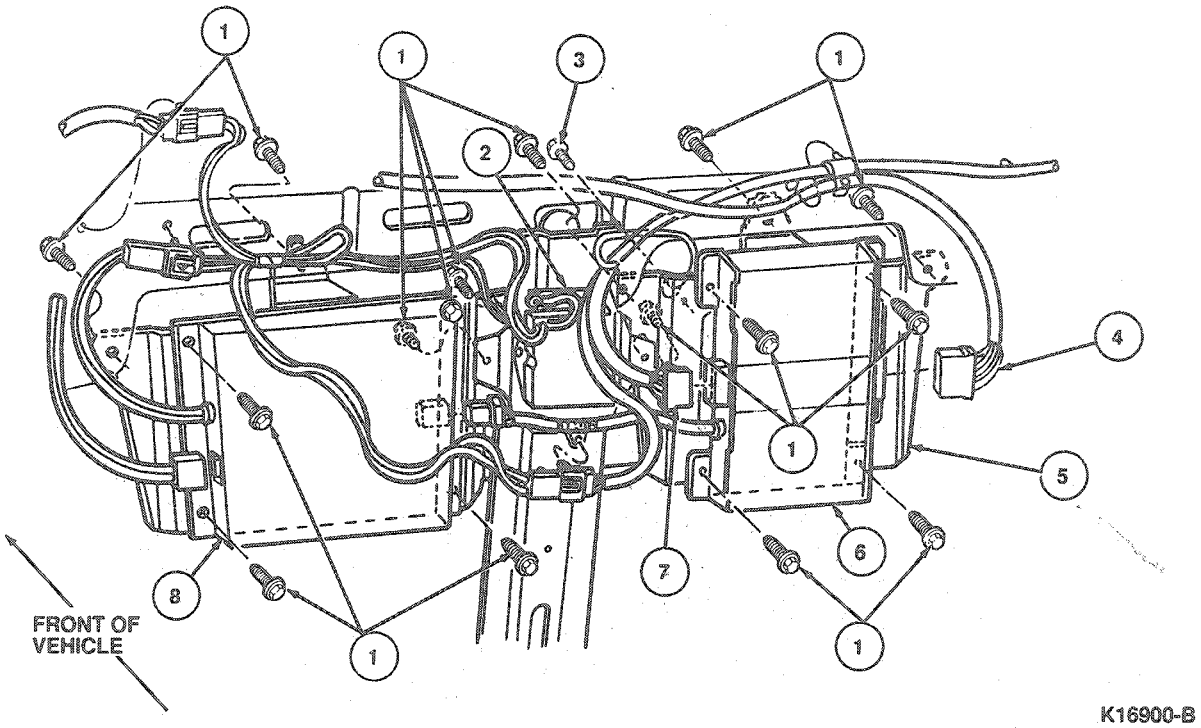
JBL Amplifier

Sedan

Removal and Installation

1. From inside luggage compartment remove amplifier trim cover.
2. Remove four screws retaining each amplifier to rear of package tray in luggage compartment.
3. Disconnect electrical connectors and remove amplifier.
4. To install, reverse Removal procedure.

REMOVAL AND INSTALLATION (Continued)



Item	Part Number	Description
1	56910-S36	Screw (16 Req'd)
2	19A087	Choke and Capacitor Assy
3	N801846-S36MG	Screw (1 Req'd)

(Continued)

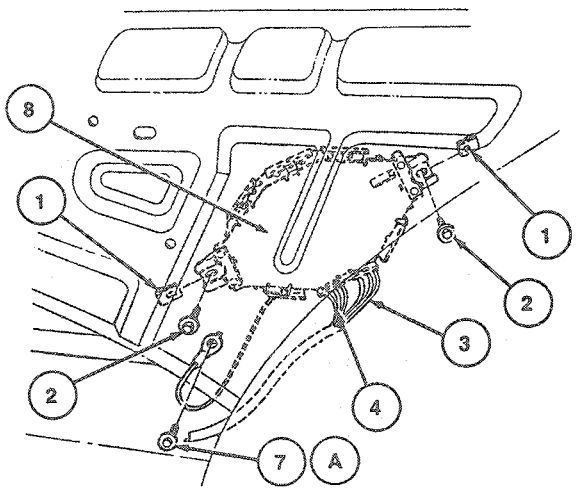
Item	Part Number	Description
4	14405	Wiring Assy
5	19B180	Bracket Assy
6	18C807	Amplifier Assy
7	14588	Wiring Assy
8	18C808	Subwoofer Amplifier Assy

Station Wagon

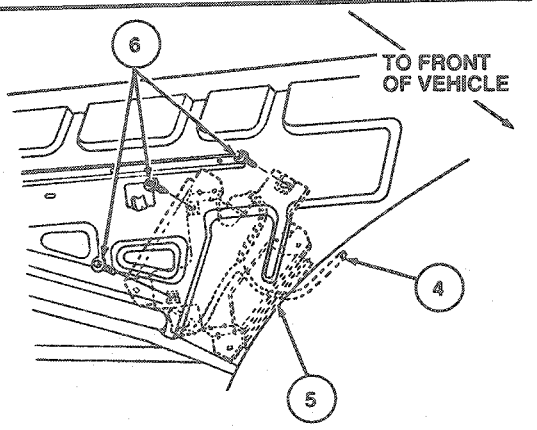
Removal and Installation

1. Remove LH rear quarter trim panel. Refer to Section 01-05.
2. Reach into upper quarter panel area and hold amplifier assembly while removing two (low-level amplifier) or three (high-level amplifier) mounting screws.
3. Disconnect electrical connectors and remove amplifier.
4. To install, reverse Removal procedure.

REMOVAL AND INSTALLATION (Continued)



LOW-LEVEL AMPLIFIER



HIGH-LEVEL AMPLIFIER K11619-D

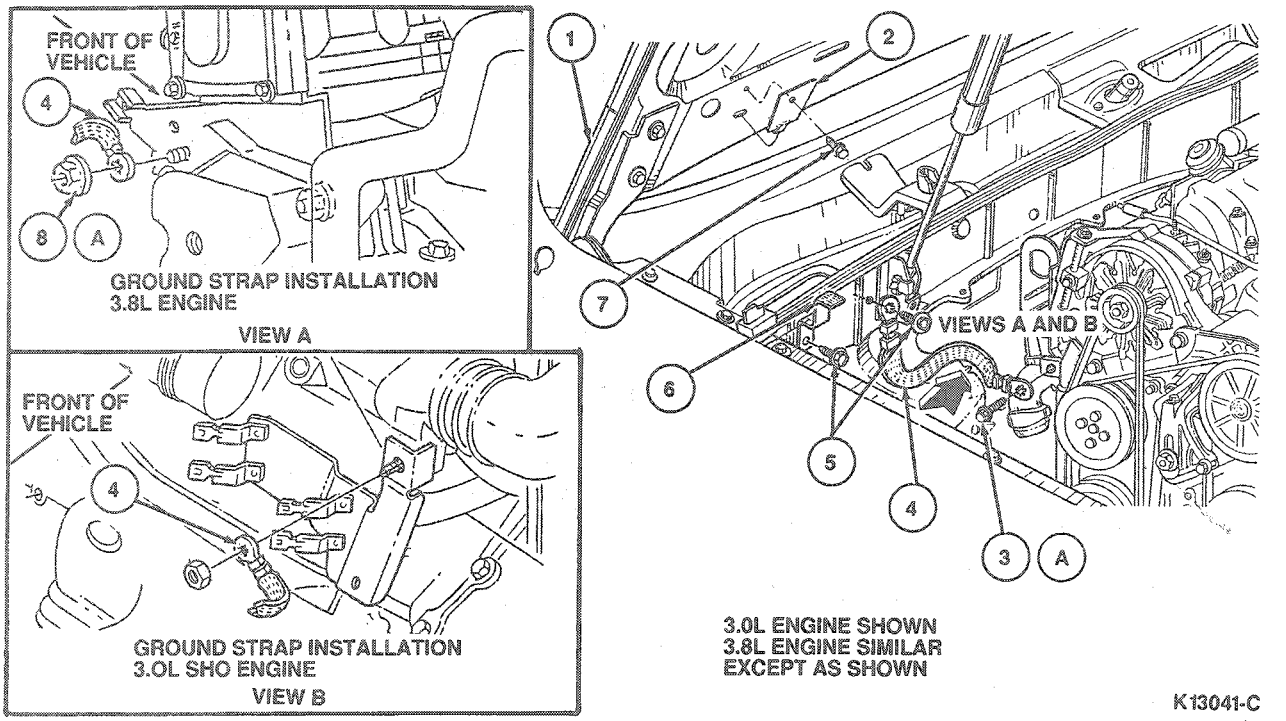
Item	Part Number	Description
1	N802538-S100	Nut (2 Req'd)
2	N802141-S36	Screw (2 Req'd)
3	14405	Wiring Assy
4	19B113	Wiring Assy
5	18T805	Amplifier Assy
6	56910-S36	Screw
7A	N801846-S36MG	Screw
8	18P849	Amplifier Assy
A		Tighten to 3.4-4.8 N·m (30.1-42.5 Lb-In)

Radio Interference Suppression

The following illustrations show the radio interference suppression equipment installations.

REMOVAL AND INSTALLATION (Continued)

Engine and Hood Ground Strap



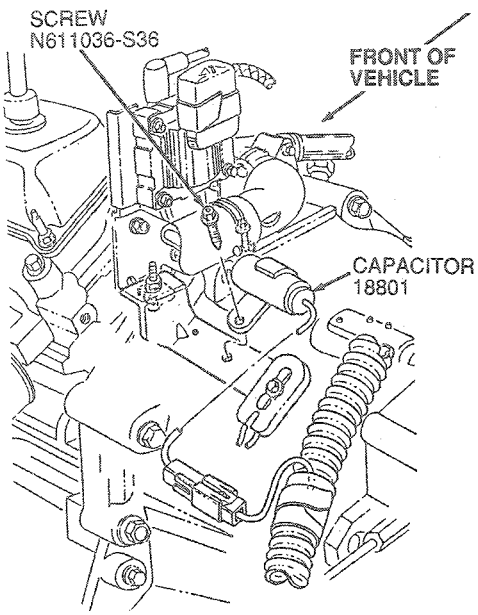
Item	Part Number	Description
1	—	Hood
2	19B136	Suppression Bracket Choke
3A	N605799-S36	Bolt
4	19A095	Ground Strap

(Continued)

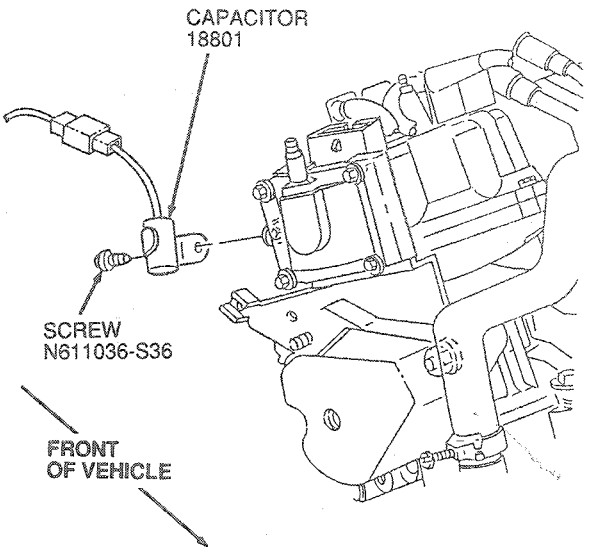
Item	Part Number	Description
5	N801846-S36MG	Screw (2 Req'd)
6	18870	Suppression Strap
7	N801846-S36	Screw
8A	N620482-S36	Nut and Washer Assy
A		Tighten to 46.7-63.3 N·m (34.4-46.7 Lb-Ft)

REMOVAL AND INSTALLATION (Continued)

Ignition Capacitor



3.0L ENGINE



3.8L ENGINE

K13042-B

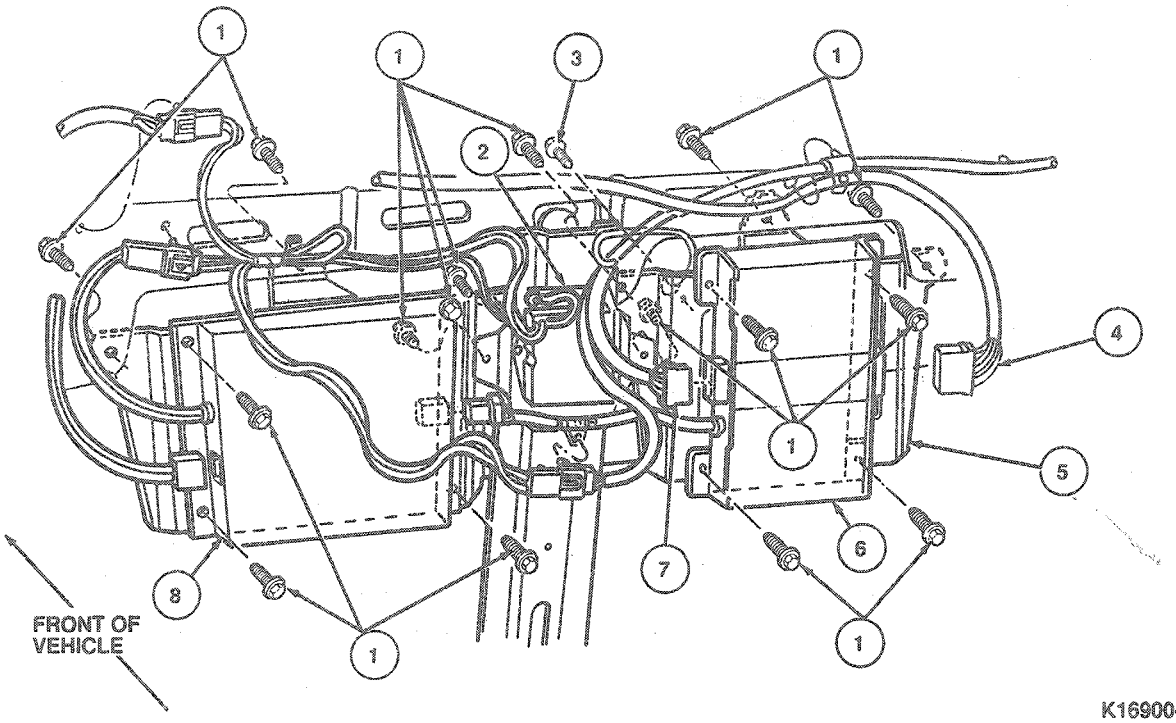
JBL Suppression Choke

Sedan

Removal and Installation

1. Remove rear seat cushion and seat back.
2. Remove sound insulation material.
3. Remove two screws retaining choke bracket.
4. Remove ground wire screw.
5. Remove amplifier trim cover from inside luggage compartment.
6. Disconnect electrical connectors and remove choke and bracket assembly.
7. To install, reverse Removal procedure.

REMOVAL AND INSTALLATION (Continued)



Item	Part Number	Description
1	56910-S36	Screw
2	19A087	Choke and Cap Assy
3	N801846-S36MG	Screw

(Continued)

Item	Part Number	Description
4	19B113	Wiring Assy
5	19B180	Bracket Assy
6	18C807	Amplifier Assy
7	18C808	Subwoofer Amplifier Assy

CLEANING

Cassette Tape Player

Head

The playback head, capstans and pinch rollers may accumulate an oxide residue as the tape passes through the components while playing. Depending on the quality used, more or less oxide will accumulate. Oxide accumulation can cause weak or wavering sound and damage to the cassette tape and/or player.

It is recommended for best performance that the tape player be cleaned after every 10 to 12 hours of playing time with a Ford Cassette Cleaning Cartridge or equivalent.

CAUTION: The use of other cassette cleaners is not recommended. Damage to the cassette player could result.

SPECIFICATIONS

TORQUE SPECIFICATIONS

Description	N·m	Lb-In
Amplified Assy Screw	3.4-4.8	30.1-42.5
Ground Strap Bolt and Ground Strap Nut	46.7-63.3	34.4-46.7 (Lb-Ft)

SPECIAL SERVICE TOOLS

Tool Number/ Description	Illustration
T87P-19061-A Radio Removing Tool	 T87P-19061-A

SECTION 15-02 Antenna

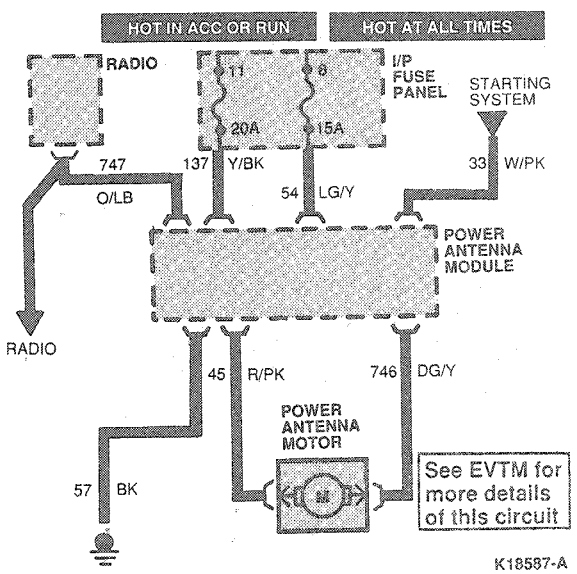
VEHICLE APPLICATION

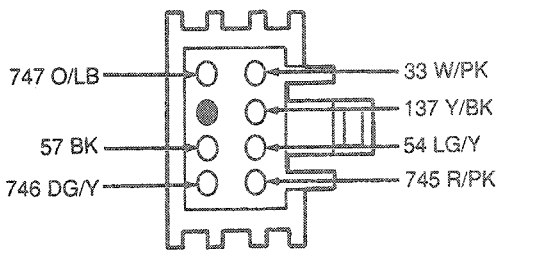
Taurus / Sable.

DIAGNOSIS AND TESTING

- The automatic power antenna, if equipped, will extend when the radio is turned on with the ignition in the RUN or ACC position. The antenna will retract when the ignition in turned to the OFF position even if the radio is ON.
- If AM reception is extremely poor and FM reception "spits" or appears to have trouble holding stations, ensure that the antenna and antenna connectors are properly mated. If the antenna connectors are properly mated but the reception is still poor, replace the antenna cable.
- If only FM reception is poor, it is unlikely that the antenna is at fault. Remove the radio chassis for service.
  NOTE: Many customers do not understand the limitations of FM reception. Refer the customer to the Owner Guide for information about the limitations of FM radio performance.

Power Antenna Wiring Schematic

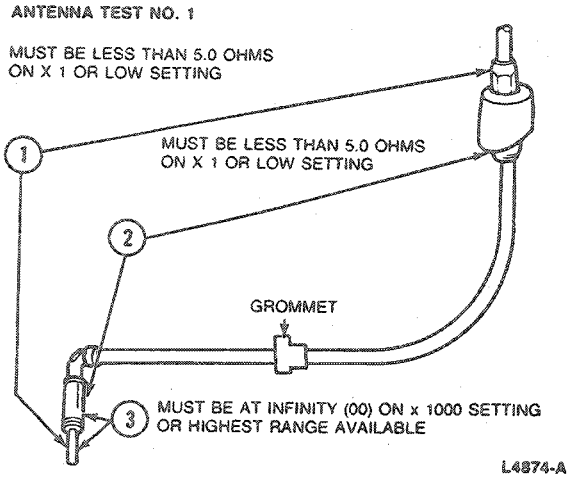




DIAGNOSIS AND TESTING (Continued)

Antenna with Cable and Mast

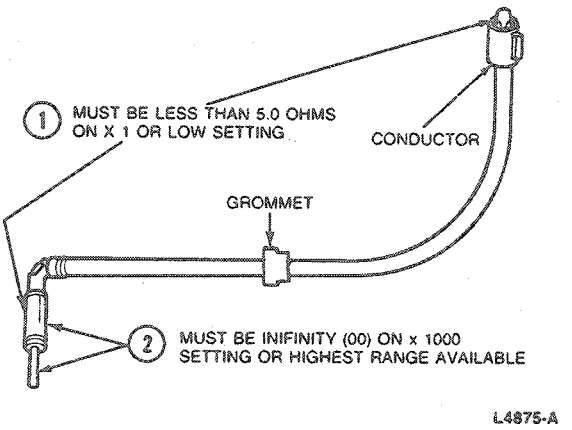
With antenna cable installed on vehicle and cable unplugged from radio, check resistance with ohmmeter test probes contacting antenna at indicated points. If results are satisfactory, antenna assembly is in good condition. If not, check antenna cable and base separately.



Antenna Cable and Base

Mast Removed

With antenna cable unplugged from radio, check resistance at indicated points on cable. If results are satisfactory, cable is in good condition. If not, replace with new cable.



REMOVAL AND INSTALLATION

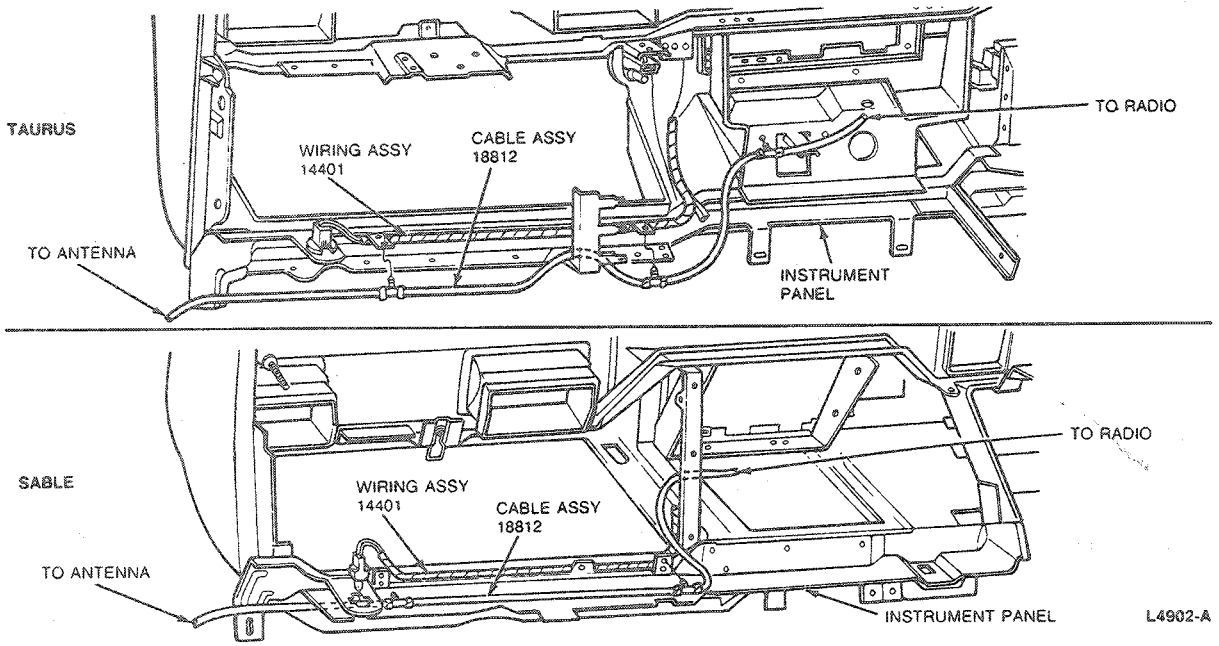
Antennas, Manual and Power

Removal and Installation

1. Push in on sides of glove compartment door and place door in hinged downward position.

REMOVAL AND INSTALLATION (Continued)

2. Disconnect antenna lead from RH rear of radio receiver and remove cable from heater or A/C cable retaining clips.



3. Remove RH front fender liner. Unplug coaxial cable from power antenna assembly or manual antenna base assembly. Unplug power lead from power antenna.

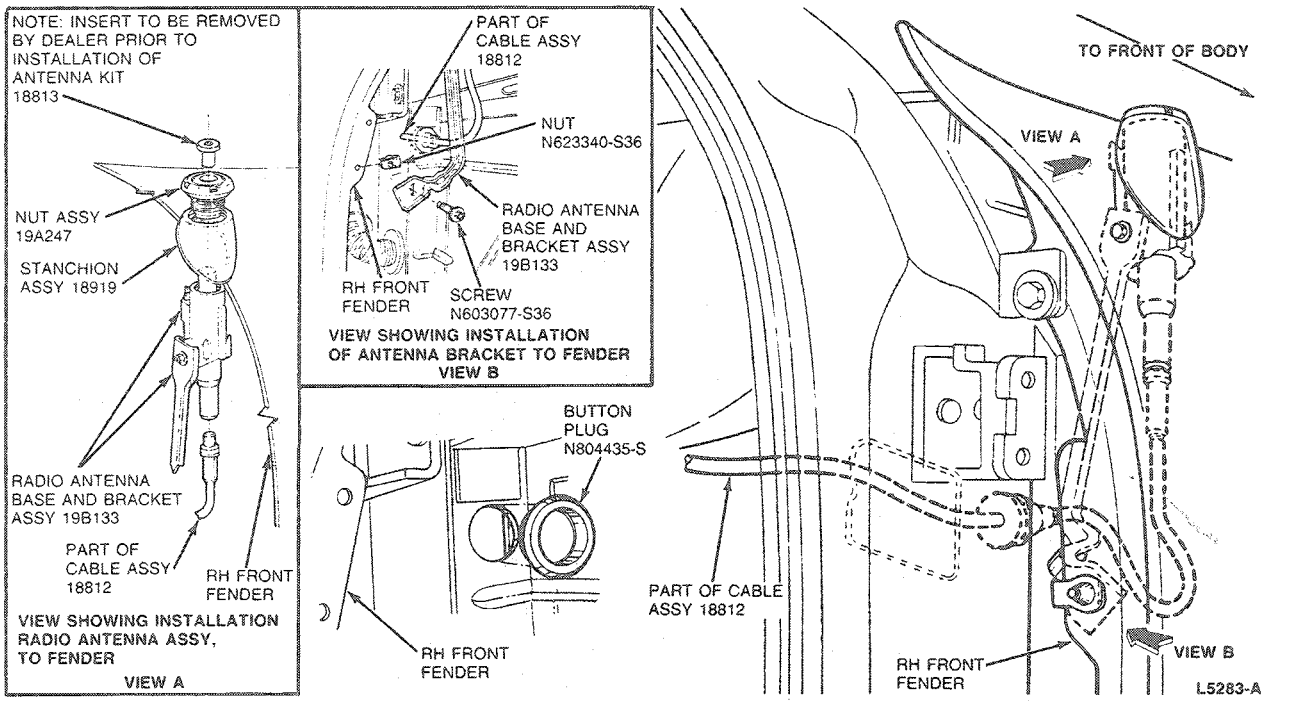
   NOTE: The manual antenna mast is detachable from the base and cable assembly.

4. Under RH front fender, pull antenna cable through hole in door hinge pillar and remove antenna cable assembly from wheel well area.

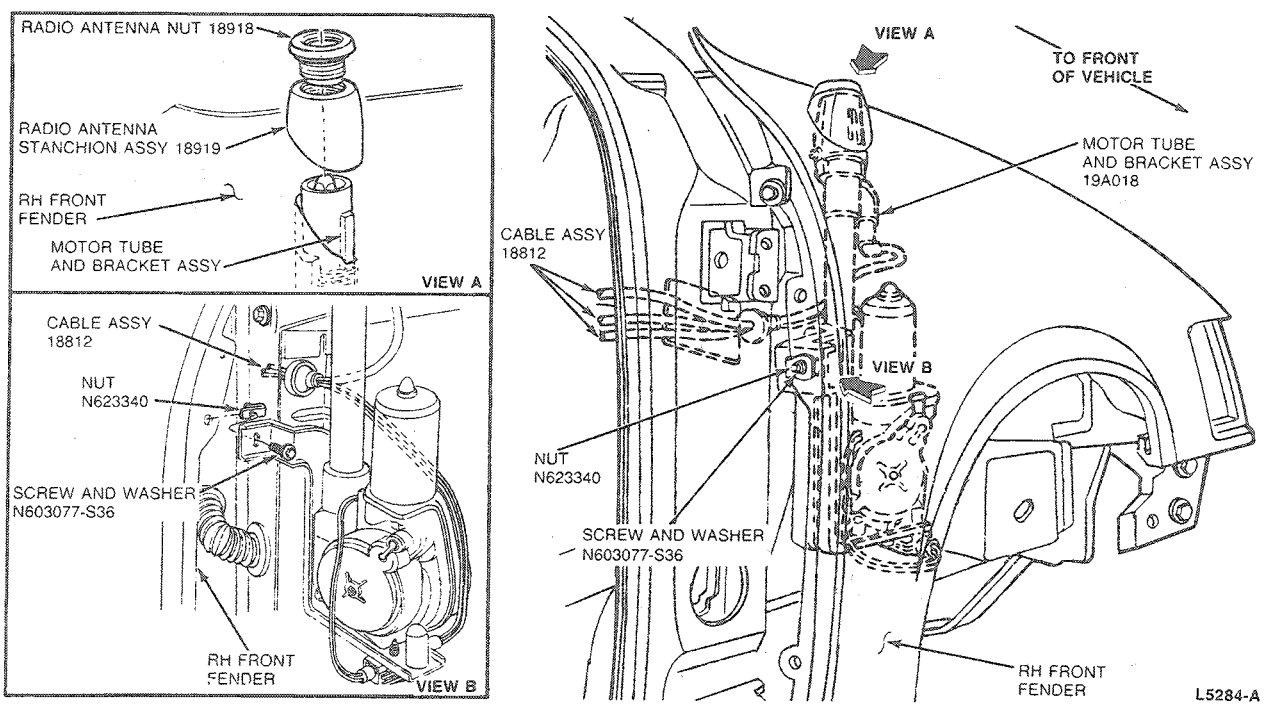
5. To remove manual or power antenna base, remove antenna nut and stanchion on RH front fender.
6. Remove lower antenna base screw and remove either manual antenna base or power antenna.
7. To install, reverse Removal procedure.

REMOVAL AND INSTALLATION (Continued)

Manual Antenna



Power Antenna

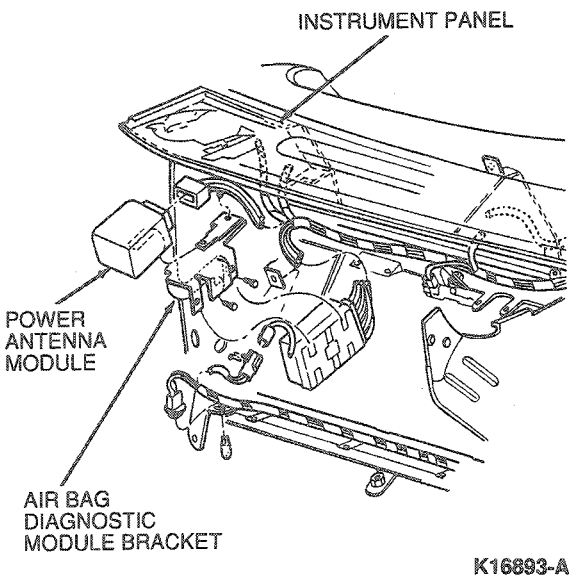


REMOVAL AND INSTALLATION (Continued)

Automatic Power Antenna Module

Removal and Installation

1. Push in on sides of glove compartment door and place in hinged downward position.
2. Remove antenna module from air bag diagnostic module bracket.
3. Disconnect wire assembly from module.
4. To install, reverse Removal procedure.



Mast, Power

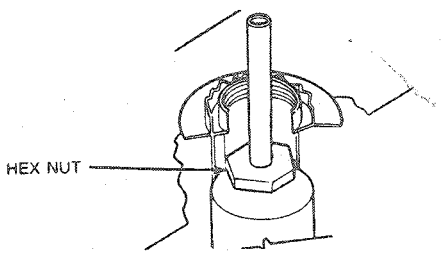
NOTE: A power antenna mast which is bent or broken can be replaced without replacing the motor and tube assembly.

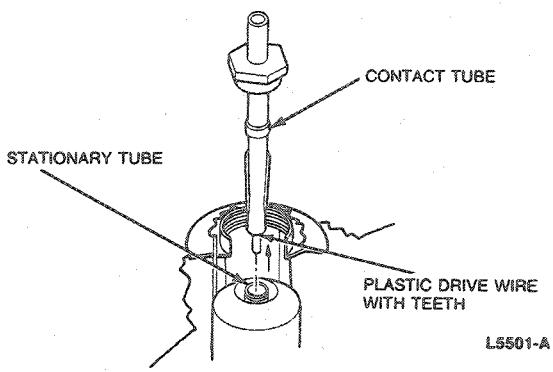
Removal

1. Remove antenna nut and stanchion.
2. Slide 14mm (9 / 16 inch) socket over mast.
3. Loosen retaining nut inside tube and slide it part-way up mast.
4. Raise antenna to run plastic drive wire at bottom of mast out of motor. Note direction of teeth on plastic drive wire.
5. Saw off damaged portion of antenna mast. Remove burrs from mast and slide nut and contact tube off stationary tube.

Installation

1. With the teeth on plastic drive wire facing toward motor on antenna, push end of plastic drive wire of replacement mast assembly down into tube. Push it around curve at bottom of tube until end enters drive mechanism.
2. Run motor down while pushing on plastic drive wire until about 305mm (12 inch) of wire has been drawn into the tube. Stop motor and insert bottom of antenna mast into tube. Lower mast.
3. Slide contact tube and nut down antenna mast. Tighten nut to 0.45 N·m (4 lb-in).
4. Raise and lower antenna several times to ensure proper operation.





SPECIFICATIONS

TORQUE SPECIFICATIONS

Description	N·m	Lb-in
Contact Tube and Nut	0.45	4

SECTION 15-03 Speakers

VEHICLE APPLICATION

Taurus / Sable.

DESCRIPTION

All premium speakers have "6.0 ohms" printed on the magnet. JBL sound speakers have Ford / JBL Audio System printed on the magnet. Speakers used in JBL sound installations are removed and installed in the same manner as premium speakers.

DIAGNOSIS AND TESTING

NOTE: Electronic radio rear speakers are powered separately from the front speakers. Therefore, if only one speaker is inoperative, the radio chassis is not damaged. For vehicles with Premium Sound, refer to Section 15-00.

PINPOINT TEST A
SPEAKER DIAGNOSIS
ONE OR MORE SPEAKERS DISTORTED OR INOPERATIVE

	TEST STEP	RESULT ▶	ACTION TO TAKE
A1	CHECK HOW RADIO IS EQUIPPED		
	• Check equipment on radio. • **Is vehicle equipped with factory-installed premium sound?**	Yes ▶ No ▶	REFER to Section 15-00. GO to A2.
A2	SUBSTITUTE SPEAKER AND BYPASS SPEAKER WIRING HARNESS		
	• Unplug radio from speaker wiring harness. Set radio balance and fader controls to their mid-position. Using a speaker of known good quality, jumper the pins corresponding to the suspect speaker of the radio connector to the test speaker. • **Is sound OK?**	Yes ▶ No ▶	GO to A3. REMOVE radio for service.
A3	SUBSTITUTE SPEAKER USING SPEAKER WIRING HARNESS		
	• Reconnect radio to speaker wiring. Disconnect suspect speaker from speaker wiring harness and connect test speaker of known good quality. • **Is sound OK?**	Yes ▶ No ▶	REPLACE speaker. SERVICE speaker wiring harness.

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DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST B: BUZZING SOUND FROM SPEAKER

TEST STEP		RESULT ▶	ACTION TO TAKE
B1	CHECK FOR FOREIGN MATERIAL IN SPEAKER CONE		
	• **Is there foreign material in speaker cone?**	Yes ▶	REMOVE speaker, CLEAN foreign material. INSTALL speaker. RETEST system.
		No ▶	GO to B2.
B2	CHECK SPEAKER MOUNTING HARDWARE		
	• **Is speaker mounting hardware tight?**	Yes ▶	REPLACE speaker.
		No ▶	TIGHTEN mounting hardware. RETEST system.

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PINPOINT TEST C: NO SOUND FROM FRONT (F), BACK (B), LEFT (L) OR RIGHT (R) CHANNEL PREMIUM (PAC) AND JBL SYSTEMS ONLY

TEST STEP		RESULT ▶	ACTION TO TAKE
C1	CHECK SPEAKER OPERATION		
	• Set Balance and Fade control to mid-position. • **Are all speakers working properly?**	Yes ▶	System OK. STOP test.
		No ▶	GO to C2.
C2	CHECK CONNECTIONS TO RADIO, AMPLIFIER AND SPEAKERS		
	• **Are connections OK?**	Yes ▶	GO to C3.
		No ▶	SERVICE connections. RETEST system.
C3	CHECK AUDIO INPUT LINE TO AMPLIFIER		
	• Install test cassette tape. • Set Volume to MAX. • Set Tone, Balance and Fade controls to mid-positions. • Check for AC voltage (greater than 1.0 V RMS) between Circuits 278 and 855, 279 and 858, 277 and 859 or 280 and 857. • **Is AC voltage greater than 1 volt (RMS)?**	Yes ▶	GO to C4.
		No ▶	REPLACE radio.
C4	CHECK EACH SPEAKER FOR SHORT BETWEEN INPUT AND RADIO CHASSIS GROUND		
	• **Are any speaker circuits shorted?**	Yes ▶	GO to C5.
		No ▶	REPLACE amplifier.
C5	LOCATE SHORT		
	• **Is short internal to speaker?**	Yes ▶	REPLACE speaker.
		No ▶	SERVICE shorted wiring. RETEST system.

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PINPOINT TEST D: DISTORTION PREMIUM (PAC) AND JBL SYSTEMS ONLY

TEST STEP		RESULT ▶	ACTION TO TAKE
D1	CHECK ALL CHANNELS FOR DISTORTION		
	• **Is distortion in all channels?**	Yes ▶	GO to D2.
		No ▶	GO to D3.
D2	CHECK VOLUME RANGE FOR DISTORTION		
	• **Is distortion only at high volume?**	Yes ▶	System OK. STOP TEST.
		No ▶	REPLACE radio. GO to D4.

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST D: DISTORTION PREMIUM (PAC) AND JBL SYSTEMS ONLY (Continued)

TEST STEP		RESULT	ACTION TO TAKE
D3	CHECK FOR FOREIGN MATERIAL IN SPEAKER CONE		
	• **Is there foreign material in speaker cone?**	Yes ▶	REMOVE foreign material. RETEST system.
		No ▶	GO to D5.
D4	CHECK SOUND QUALITY		
	• **Is distortion still present?**	Yes ▶	REPLACE amplifier.
		No ▶	System OK. STOP test.
D5	CHECK AUDIO INPUT LINE TO AMPLIFIER		
	• Install test cassette tape. • Set Volume to MAX. • Set Tone, Balance and Fade controls to mid-position. • Check for AC voltage (greater than 1.0V RMS) between Circuits 278 and 855, 279 and 858, 277 and 859 or 280 and 857. • **Is AC voltage greater than 1 volt (RMS)?**	Yes ▶ No ▶	GO to D6. REPLACE radio.
D6	CHECK AUDIO OUTPUT FROM AMPLIFIER		
	• Install test cassette tape. • Set Volume to MAX. • Set Tone, Balance and Fade controls to mid-position. • Check for AC voltage (greater than 5.0V RMS) between Circuits 804 and 813, 800 and 801, 805 and 811 or 802 and 803. • **Is AC voltage greater than 5 volts (RMS)?**	Yes ▶ No ▶	REPLACE speaker. REPLACE amplifier.

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Two or More Speakers Do Not Work

Balance and Fader Controls Adjusted to Mid-Position

It is unlikely that two speakers would be damaged at one time. The most probable cause is in the radio chassis or wiring.

- Verify balance and fader controls are adjusted to mid-position.
- Inspect wiring connectors at the rear of the radio chassis for proper mating. Verify electrical continuity of wiring between the radio chassis connector and the inoperative speaker connector using an ohmmeter.
- If wiring connections are properly mated and the condition persists, remove radio chassis for service.

Poor Sound Quality

NOTE: Shorted wiring does not always result in a total loss of sound from the speaker. If diagnosis indicated condition is associated with speaker or wiring, refer to Section 15-00.

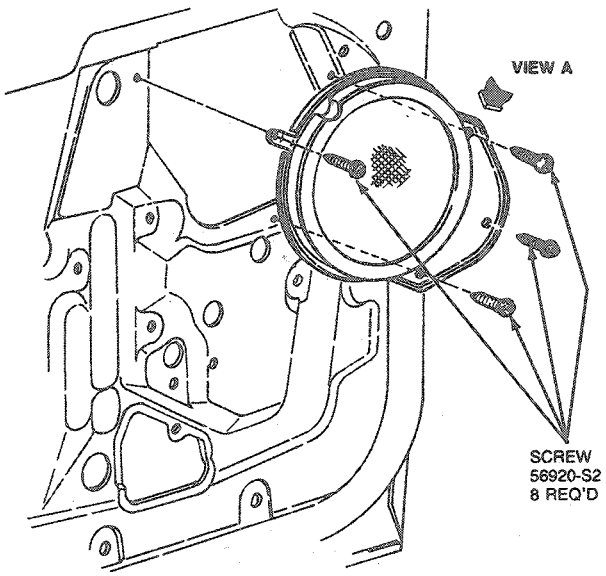
- Experience has shown that rattles and buzzes are most often caused by loose speakers or speaker mountings, speaker grilles or trim panels than by damaged or worn speakers. Check for tightness of mountings and trim pieces.
- Distortion can be caused by the speaker, radio chassis or wiring. If the fault is in the radio chassis, both speakers on the same side of the vehicle will exhibit poor quality. Distortion caused by damaged wiring is most often accompanied by lower than normal sound output.
- Buzzes, rattles, or distorted or weak sound from package tray speakers are sometimes caused by bent package tray sheet metal around the speaker opening if mounting brackets are not used, or missing or loose attaching hardware or speaker covers. Bent sheet metal should be straightened and the speaker installed. Loose attaching hardware should be tightened. Be careful not to over-tighten hardware as this may bend or deform speaker basket causing buzzes or distorted sound.

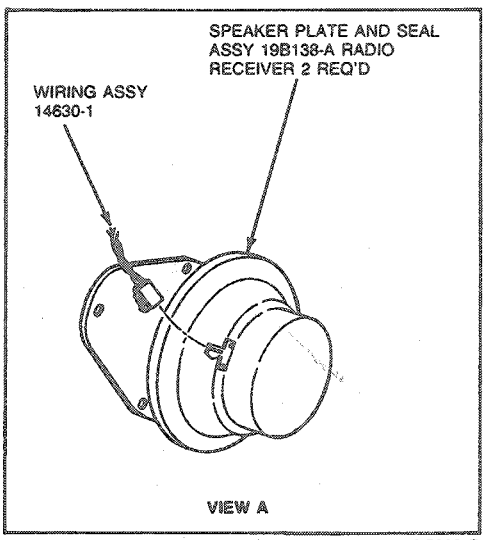
REMOVAL AND INSTALLATION

Speakers, Door Mounted

Removal and Installation

1. Remove inner door trim panel. Refer to Section 01-05.
2. Remove three screws retaining speaker to bracket assembly.
3. Pull speaker away from bracket far enough to disconnect speaker wires and remove speaker.
4. To install, reverse Removal procedure.





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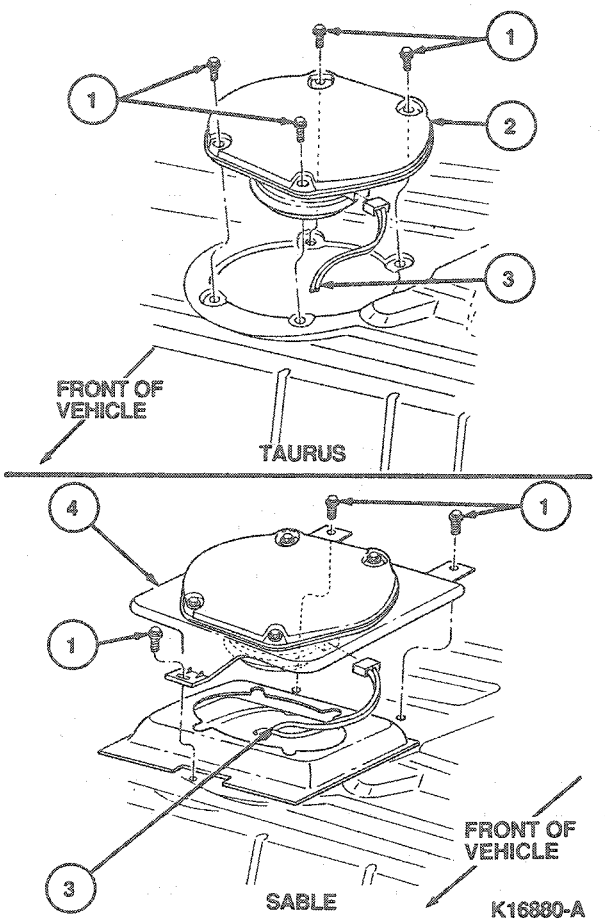
Speakers, Rear

Sedan

Removal and Installation

1. Remove speaker grille from package tray.
2. Remove four speaker retaining screws.
3. Lift speaker and disconnect speaker wire.
4. To install, reverse Removal procedure.

REMOVAL AND INSTALLATION (Continued)

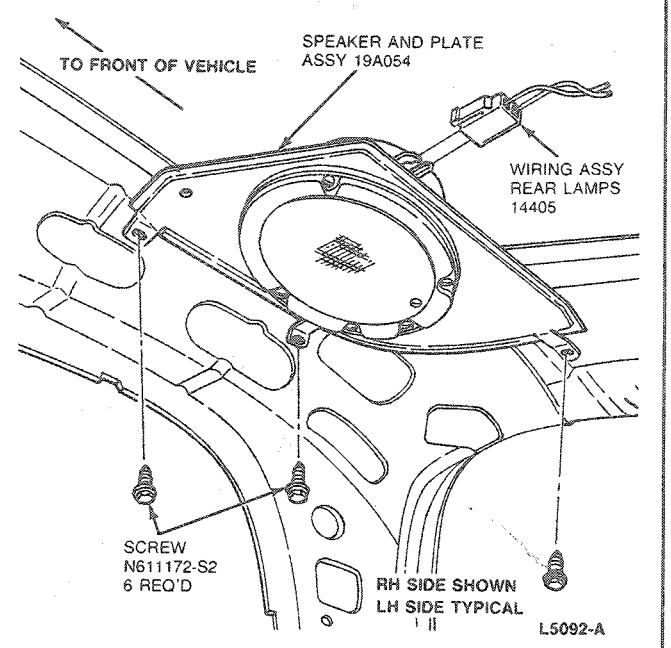


Item	Part Number	Description
1	—	Screw
2	—	Speaker
3	—	Speaker Wire
4	—	Speaker Mounting Bracket

Station Wagon

Removal and Installation

1. Remove rear corner upper finish panel. Refer to Section 01-05.
2. Remove three screws retaining speaker bracket and speaker.
3. Disconnect speaker wires and slide speaker bracket edge out from under headliner.
4. To install, reverse Removal procedure.

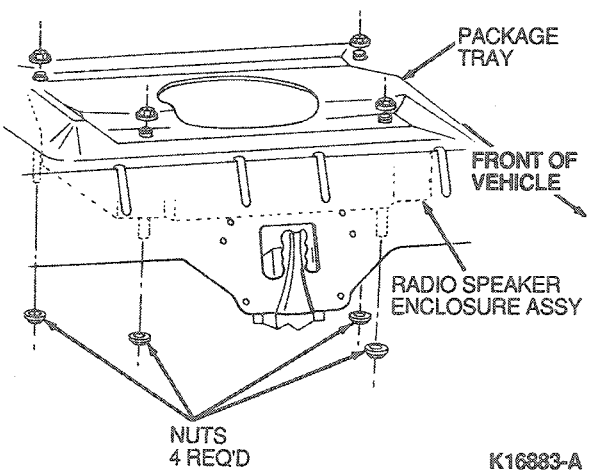


Package Tray Mount

JBL Subwoofer Enclosure

Removal and Installation

1. Disconnect wire assembly from subwoofer amplifier from luggage compartment.
2. Remove four retaining nuts.
3. Remove subwoofer enclosure from package tray.
4. To install, reverse Removal procedure.



SECTION 15-04 Phone, Cellular

VEHICLE APPLICATION

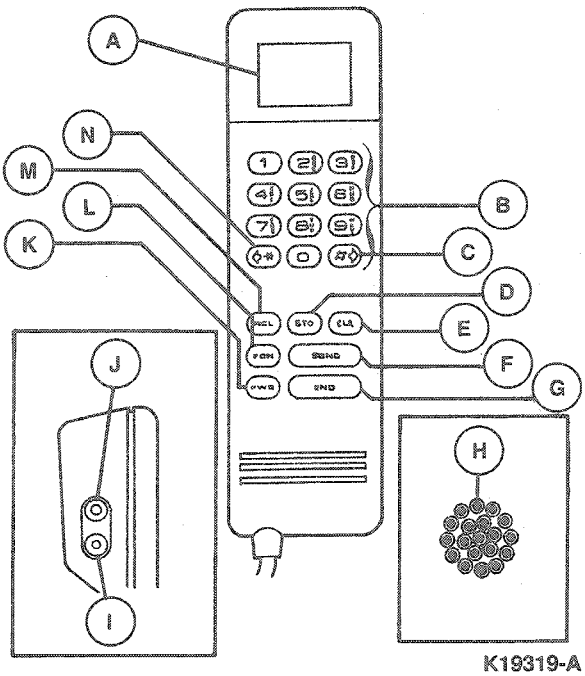
Taurus / Sable.

DESCRIPTION AND OPERATION

The cellular phone system consists of these major components:

- Speaker interrupt module
- Headliner microphone
- Power cable and fuse
- Glass mounted antenna with antenna wire
- Transceiver
- Power feed and audio system mute interface (PAC radio only)
- Phone handset

Some features of the cellular phone include voice activation, hands-free operation, speed dialing of up to 30 numbers and PAC radio muting during phone operation.



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A. **DISPLAY**
Provides a visual indication of dialed numbers and messages including:
In Use Indicator — Turns on when a call is placed or answered. Turns off when a call is ended.
No Service Indicator — Turns on when unit is out of the range of a cellular service area.
Roam Indicator — Turns on when the unit is within range of a cellular system other than its home system.
- Home type system: steady
- Non-Home type system: blinking

B. **NUMERIC KEYPAD**
Used to enter phone numbers prior to initiating a call.

DESCRIPTION AND OPERATION (Continued)

C. **POUND KEY / >**
Used in conjunction with other keys.

D. **STORE**
Used to store phone numbers into the memory.

E. **CLEAR**
Press and release to clear last digit entered. Press and hold to clear display in the event of misdial (does not affect numbers stored in memory).

F. **SEND**
Press to initiate a call after entering the phone number on the keypad or to answer a call. Press for switchhook flash when a call is in progress.

G. **END**
Press to end a call.

H. **MICROPHONE**
Direct Hands Free conversation and all voice commands toward the microphone.

I. **VOLUME-**
Press to decrease volume.

J. **VOLUME+**
Press to decrease volume.

K. **POWER**
Press to turn on. Press again to turn off.

L. **FUNCTION**
Used in combination with other keys for specific user-programmed operations.

M. **RECALL**
Press to recall and display numbers stored in memory.

N. **STAR KEY / <**
Used in combination with other keys.

Programming

The following instructions describe the procedure to program the telephone numbers into the transceiver using the handset.

After supplying the security code and the lock code:

1. Turn the phone on by pressing the PWR button.
2. Get into programming mode by pressing FCN + 0 000 000 000 000 + RCL.

   NOTE: Once the customer enters a user security code, you will need to change this number to 0-security code-security code to re-enter the programming mode. Example if security code is 123456, enter: FCN + 0123456123456 + RCL.
3. The handset will display 01. This indicates Step one.
4. Press * so that handset displays the contents of Step one. The display should show the system I.D. number (five digits). Enter the system I.D.
5. Press * to advance to the second programming step. The display should show 02.
6. Press * again to show the contents of the second step, which is the area code. Enter the area code.
7. Press * to advance to the next programming step and so on. Enter the information in all the programming steps. Edit the information as follows:

   - Pressing CLR while the contents of a programming step are displayed will change the contents to the previously stored value.
   - Pressing # while a programming step is being displayed (i.e., 01, 02, etc.) will exit the programming mode without altering any information. This will not increment the three time USER MODE PROGRAMMING counter.

   NOTE: In Step 7 of the programming, the six-digit security code is used to access certain call restriction and advanced security functions. (For example, you may use this code, in conjunction with selecting a service level, to limit other users of your cellular telephone to local or incoming calls). Select any six-digit code that you will remember but one that will not be compromised easily. (You may wish to spell out a six-letter word on the keypad, or use the last six digits of your Social Security number, etc.) Consult your User's Manual for further information.

   NOTE: In Step 8 of the programming, the three-digit unlock code is used to lock your mobile telephone to prevent unauthorized usage. With many models, this number can be programmed as often as desired. Consult your User's Manual, under the topic "Changing Your Unlock Code".

   NOTE: To program the phone with a second phone number, enter 1XX110 instead of 1XX100, during Step 10. Then press the <* button after Step 11 to continue programming the scond phone number.

This is a complete list of all the programming steps and contents:

STEP	DESCRIPTION	STD. DEFAULT (First Phone Number)	STD. DEFAULT (Second Phone Number)
01	System I.D. number	00000	00000
02	Cellular area code	111	111
03	Cellular phone number	1110111	1110111
04	Station class mark	00	00
05	Access overload class	00	00
06	Group I.D. mark	00	00
07	User security code	000000	000000
08	Unlock code	123	123

(Continued)

DESCRIPTION AND OPERATION (Continued)

STEP	DESCRIPTION	STD. DEFAULT (First Phone Number)	STD. DEFAULT (Second Phone Number)
09	Initial paging channel (usually 0333 for 'A' system or 0334 for 'B' system)	0XXX	0XXX
10	OPTION PROGRAMMING	1XX100 (1XX110, if a second phone number is desired)	XXX000
10	For FORD telephones set to: 1XX100 (replace the X's by 1 or 0 depending on the requirements from the local service provider / carrier)		
	Internal speaker disable bit (set to 1 for FORD)	1	1
	Local Use 1 = enable Local Use 0 = disable	X	X
	MIN MARK 1 = enable MIN MARK 0 = disable	X	X
	Auto recall (always one) last 2 least significant digits set 0 for FORD	1 0	0 0
11	OPTION PROGRAMMING Ford FORD telephones set to 1100	0 XXXX	0 XXXX

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8. After all information has been entered, press * to go through all the entries to verify that the information entered is correct. To store the information, press * so that the display shows any entry number (i.e. 01, 02, etc.), then press SEND. The transceiver should power down and power-up to indicate that the programming is done.
9. Verify that the information was stored by pressing RCL + #. The just programmed phone number should be displayed.
   - Any subsequent programming attempts will require that you enter FCN + 6 digit security code twice + RCL in order to enter the programming mode (Step 1).
   - You can program the telephone three times. After that, you will not be able to enter the programming mode using the security code.
10. If the telephone cannot make calls within a few hours, verify that the local service provider / carrier has the correct Electronic Serial Number (ESN) for the user's telephone. The ESN should be available from the selling dealer.

Dual Phone Numbers

Your cellular telephone is equipped with a feature that allows you to maintain two different telephone numbers. Both numbers can be from separate carriers, and are accessed separately in your telephone. Your phone must be programmed by your dealer with both phone numbers. To arrange for dual phone numbers, contact your Lincoln dealer or call the Ford Cellular System at 1-800-367-3013.

Your phone can only be active in one phone number at a time. Calls will be placed and received on the active phone number only. To determine which phone number is active press RCL + # to display the number.

To operate with the phone number in the display press END. To switch your telephone to the other phone number press RCL + # + RCL. The original telephone number will disappear from the display and the new number will appear.

DIAGNOSIS AND TESTING

If there is a concern making calls on the cellular telephone, check the following information first:

1. Make sure the telephone is turned ON. With the power button on, the system should be on while the ignition is on.
2. Make sure the customer is calling within the service area. NO SVC will appear in the display if the customer is calling from outside the service area.
3. Check to see if the ROAM indicator is ON. If so, follow the roaming instructions in the operating guide.
4. Make sure the display does not read LOC'D. If it does, the phone must be unlocked using the customer's three-digit code.
5. Make sure the handset is securely cradled.
6. Check the antenna and power cable connections at the transceiver, located in the luggage compartment. Also check the fuse located on the wiring harness in the luggage compartment, near the 4-way connector.
7. Check the handset modular connector.
8. Check the telephone system registration. Also check to make sure that the telephone is properly programmed. Incorrect programming can result in single system scanning, loss of speed dialing, loss of hands-free audio, loss of auto redial, loss of DTMF tones, and the loss of other keypad / handset functions.

DIAGNOSIS AND TESTING (Continued)

9. Check the customer's account status with the cellular carrier.

System / Carrier Concerns

Dropped calls, bad connections, noisy audio and other intermittent symptoms usually indicate a system or cellular carrier concern, and are not the fault of the phone itself. Such symptoms may occur in situations similar to the following:

- In certain geographic areas (excessive foliage, hills, etc.) or at the edge of service areas.
- At the same place each day.
- At the same time each day.
- Under bridges, tunnels, in lower freeways and in congested downtown areas.

If the customer's phone exhibits any of the above symptoms or symptoms occur under the above conditions, the customer and / or the dealer should contact customer service at their particular cellular service provider / carrier, or call the 1-800 service number provided in your Ford Cellular System Dealer kit.

Other Possible Concerns

1. If for some reason the customer's ESN number was incorrectly recorded in the carrier switch, the phone will not work. Call the 1-800 number in your dealer kit to check the ESN number.
2. A customer's initial call must be made in his home service area for proper activation of the Ford Cellular System.
3. A customer must wait until after 24 hours of the service activation before making a call outside of his / her home service area or the phone might be reported stolen and service stopped.
4. There may be a slight delay in activation after leaving dealership from initial delivery.
5. If the radio does not work when the cellular phone is in use, it is because of the Audio-Mute feature which will mute the audio system when a call is placed or received.

   If, after checking these possibilities, the phone still does not function, DO NOT ATTEMPT to fix the phone. Call the local cellular distributor. A confidential listing of cellular distributors can be found in the dealer kit.

DIAGNOSIS AND TESTING (Continued)

CELLULAR PHONE FUNCTIONAL TEST

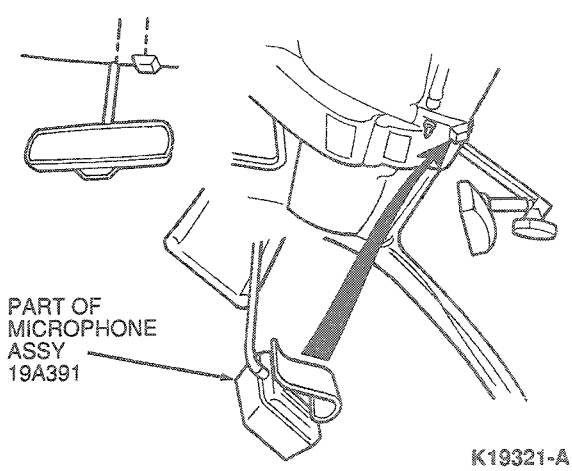
TEST STEP		RESULT	ACTION TO TAKE
A1	STEP 1		
	• Basic system operation.	Telephone will not turn on	ENSURE ignition is ON.
			ENSURE PWR is ON. If not, press PWR button.
			CHECK modular connector on the handset cord to make sure that the handset is plugged in properly.
		Unable to make a call	ENSURE your phone is unlocked.
			ENSURE the NO SVC indicator is off. If it is on, you may be outisde of a cellular service area.
			ENSURE you have pushed the SEND key after entering the number you are calling.
			CHECK your antenna system for problems: Bent or missing antenna, a loose or corroded antenna base, loose or damaged antenna cable.
			CHECK to see if you are "roaming". If so, FOLLOW roaming procedures in User's Manual.
		An alternating tone signal (siren) sounds on your phone handset	CHECK the display panel to make sure you've entered the correct number. If not, PRESS END, wait a few seconds and try the number again.
		Audio feedback during Hands Free operation	REDUCE phone speaker volume.

NOTE: If you have difficulty placing your call, try several times. If all checks fail to solve the problem, call your local cellular carrier or call the Ford Cellular System at 1-800-367-3013 for assistance. If further assistance is required, go to your nearest Lincoln Dealer.

COMPONENT LOCATION

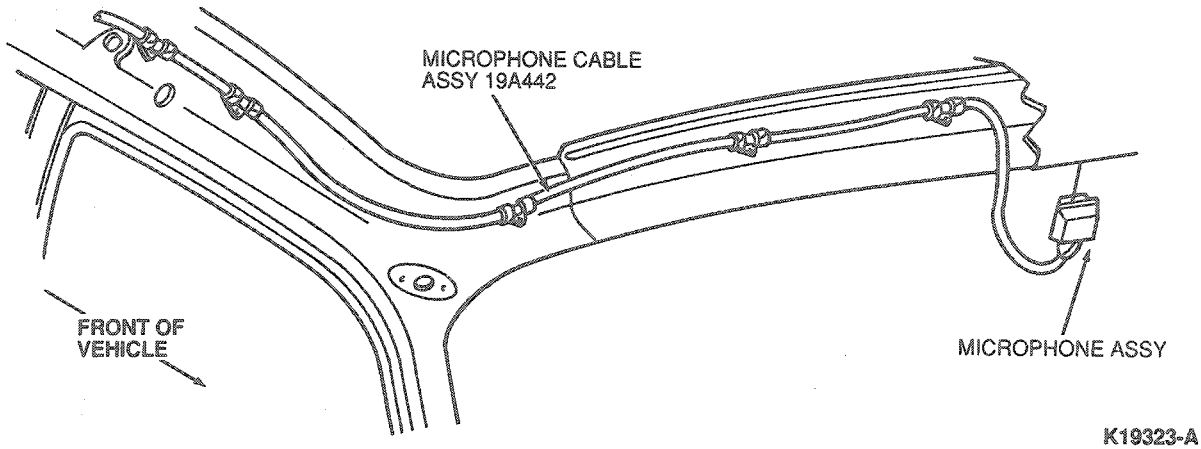
The following illustrations are provided to show component location only. Service to these components should only be done by the local cellular distributor.

Microphone



COMPONENT LOCATION (Continued)

Microphone Cable



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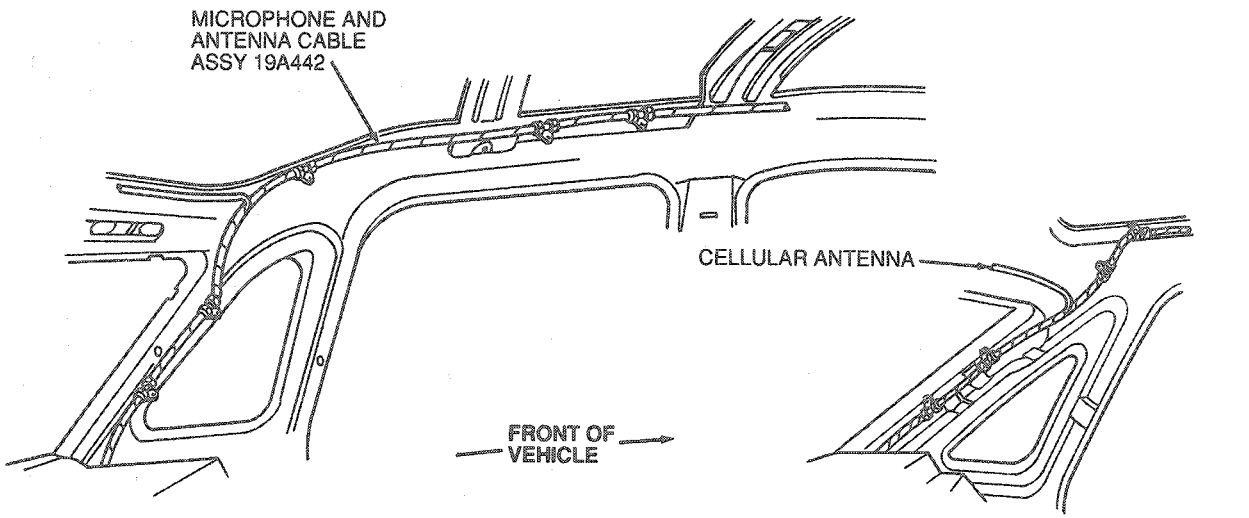
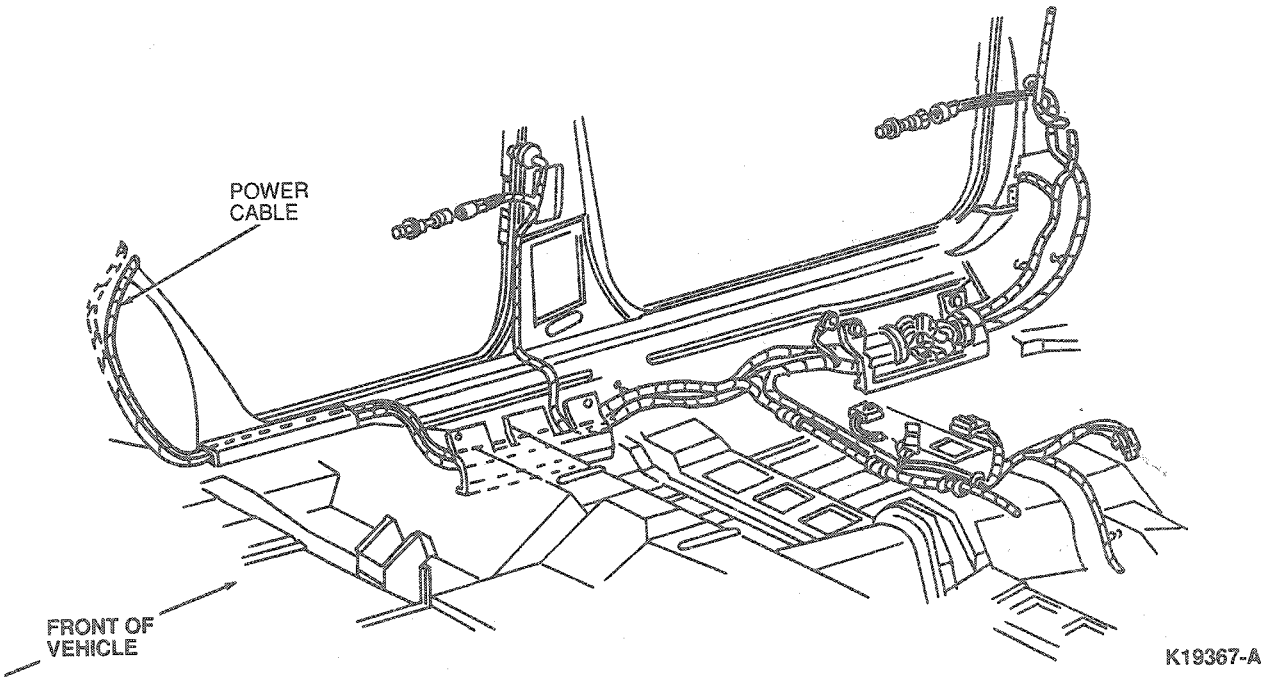
Microphone and Antenna Cable, Sedan



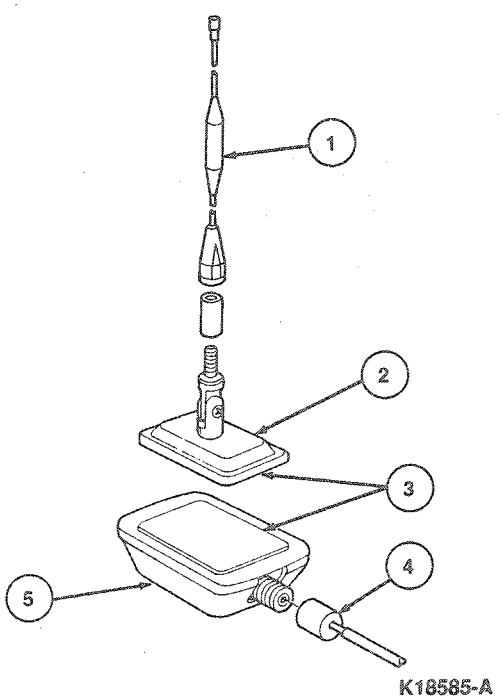
K19324-A

COMPONENT LOCATION (Continued)

Power Cable, Sedan



Antenna

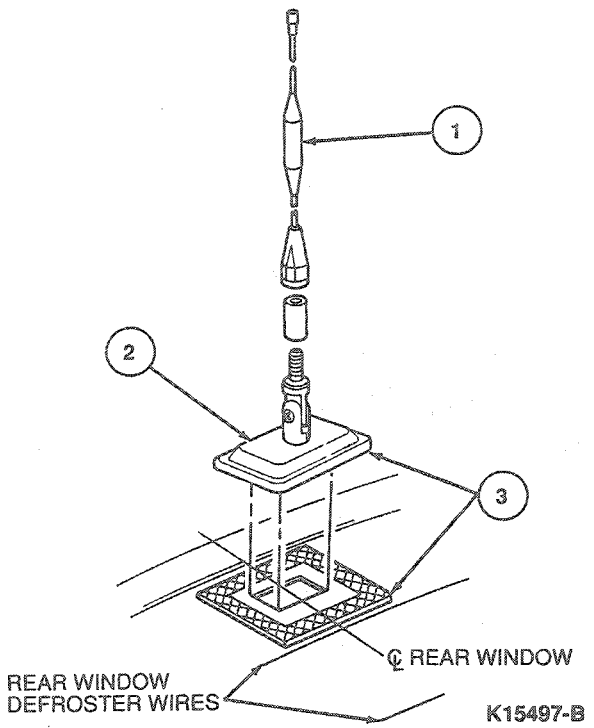


Item	Part Number	Description
1	12298	Antenna
2	—	Antenna Base, Outside
3	—	Double-Side Tape
4	—	Antenna Cable
5	—	Antenna Base, Inside

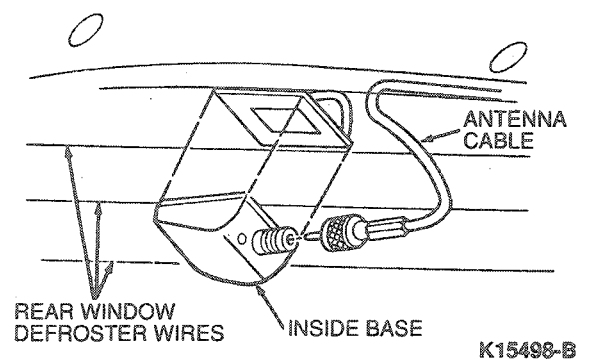
TK18585A

COMPONENT LOCATION (Continued)

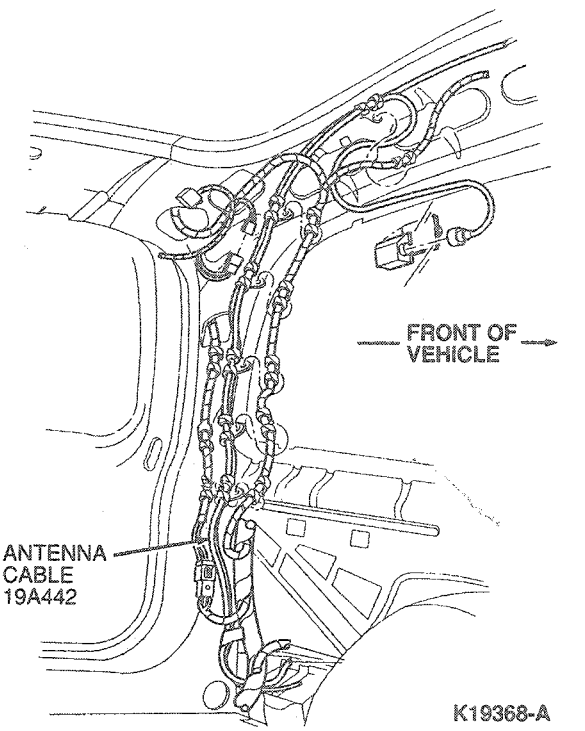
Outside Attachment, Antenna (Sedan)



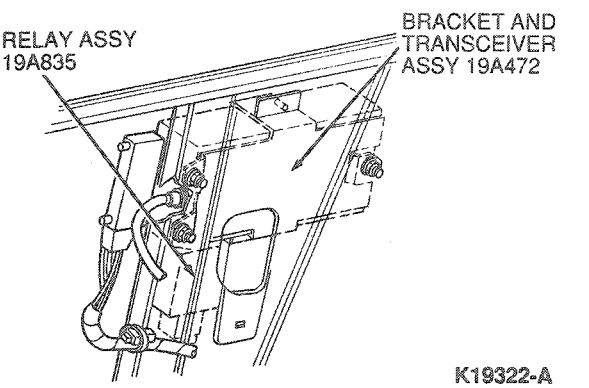
Inside Attachment, Antenna (Sedan)



Antenna, Wagon

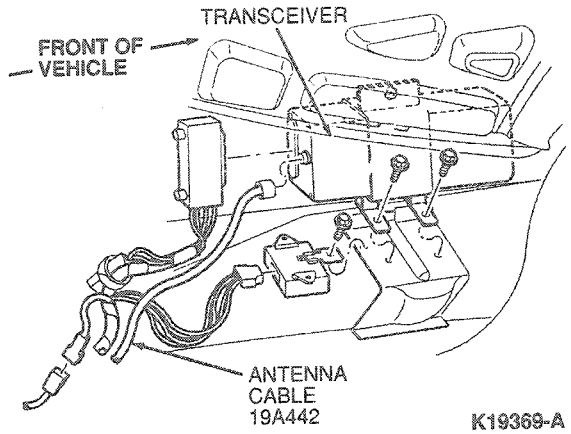


Transceiver and Relay (Sedan)



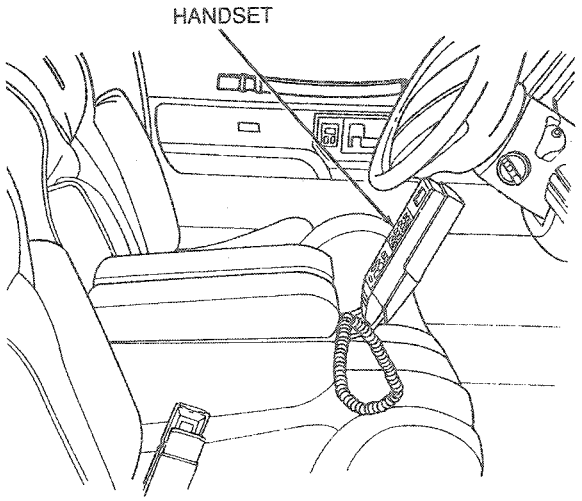
COMPONENT LOCATION (Continued)

Transceiver and Relay



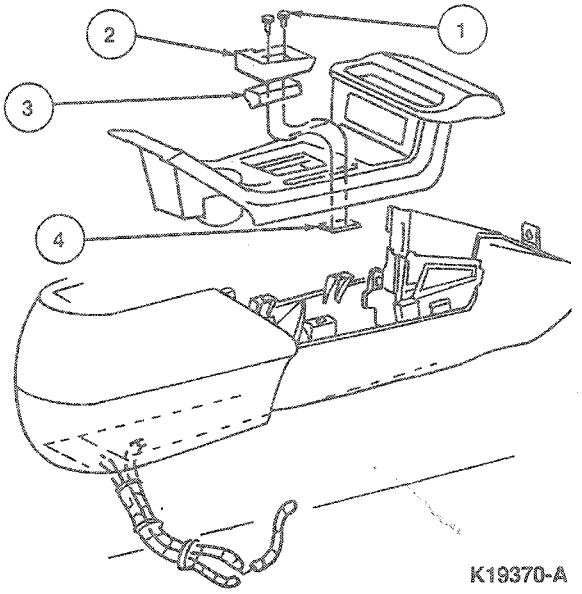
K19369-A

Phone Handset Without Console



K16887-A

With Console



K19370-A

Item	Part Number	Description
1	56908-S36B	Screw (2 Req'd)
2	19A384	Holder Assy
3	19A445	Plate
4	19A443	Bracket