







# Discover more ebooks! Visit our website: fordshopmanual.com

#### DEMO

This DEMO contains only a few pages of the entire manual/product.

Not all Bookmarks work on the Demo, but they do on the full version.

#### Features:

- Searchable text
- Printable pages
- Bookmarked for easy navigation
- High Resolution images
- Zoom to see exact details
- Money back Guarantee
- Transfer to USB flash drive support

# ELECTRICAL AND VACUUM TROUBLESHOOTING MANUAL

FIX IT RIGHT THE FIRST TIME ON TIME

All Rights Reserved. No part of this book may be used or reproduced in any manner whatsoever without written permission of Forel Publishing Company, LLC. For information write to Forel Publishing Company, LLC, Woodbridge, VA 22192

1997 Mustang Electrical and Vacuum Trouble-Shooting Manual (EVTM) EAN: 978-1-60371-432-7 ISBN: 1-60371-432-4

Forel Publishing Company, LLC Woodbridge, VA 22192



This publication contains material that is reproduced and distributed under a license from Ford Motor Company. No further reproduction or distribution of the Ford Motor Company material is allowed without the express written permission of Ford Motor Company.

#### Note from the Publisher

This product was created from the original Ford Motor Company's publication. Every effort has been made to use the original scanned images, however, due to the condition of the material; some pages have been modified to remove imperfections.

#### **Disclaimer**

Although every effort was made to ensure the accuracy of this book, no representations or warranties of any kind are made concerning the accuracy, completeness or suitability of the information, either expressed or implied. As a result, the information contained within this book should be used as general information only. The author and Forel Publishing Company, LLC shall have neither liability nor responsibility to any person or entity with respect to any loss or damage caused, or alleged to be caused, directly or indirectly by the information contained in this book. Further, the publisher and author are not engaged in rendering legal or other professional services. If legal, mechanical, electrical, or other expert assistance is required, the services of a competent professional should be sought.

## **ELECTRICAL AND VACUUM TROUBLESHOOTING MANUAL** FCS-12121-97

### FORD CUSTOMER SERVICE DIVISION **Quality is Job 1**

Ford Customer Service Division has developed a new format for the 1997 Mustang EVTM. Our goal is to provide accurate and timely electrical and vacuum service information.

#### **1997 EVTM FEATURES**

- Schematic pages now contain Component Location references to full-view illustrations and Component Descriptions that describe the system function of a component.
- "COMPONENT TESTING" procedures (CELL 149) that tell the user how to perform diagnostic tests on various circuits.
- Connector End Views are now located at the end of individual cells and are shown for connectors with five or more cavities; a circuit function chart is provided.
- NOTES, CAUTIONS and WARNINGS contain important safety information.
- Full view "COMPONENT LOCATION VIEWS" (CELL 151) to help locate on -vehicle components.
- Circuit voltages have been added to schematic pages to help simplify troubleshooting. Nonessential troubleshooting hints have been deleted.
- Cellular Pagination: A specific section (or cell) in all EVTMs is numbered by cell and starts with page 1. For example: "HOW TO USE THIS MANUAL" is CELL 2 and begins with page 2-1.
- "IN-LINE CONNECTOR FACES" (CELL 150) has been added for in-line connectors with six or more terminals, to aid in servicing electrical wiring.
- "C" numbers have been assigned for all electrical connectors. "C" numbers are listed in the "LOCATION INDEX" (CELL 152).
- "HARNESS CAUSAL PART NUMBERS" (CELL 153) has been added to aid in identifying warranty concerns.
- In-line connector numbers contain a suffix to denote connector "gender" type (F-socket, Mprior blade).

#### ORDERING INFORMATION

Information about how to order additional copies of this publication or other Ford publications may be obtained by writing to Helm Incorporated at the address shown below or by calling 1-800-782-4356. Other publications available include:

- Service Manuals
- **Service Specification Books**
- Car/Truck Wiring Diagrams
- Powertrain Control/Emissions Diagnosis Manuals

Helm Incorporated P.O. Box 07150 Detroit, Michigan 48207

## 1-1 TABLE OF CONTENTS/INDEX

1997 MUSTANG

Table of Contents	Power Seats 120-1	Courtesy Lamps
How to Use This Manual 2-1	Power Lumbar Seats 122-1	Daytime Running La
Grounds	Power Mirrors	Defrost (Rear Windo
Circuit Protection/Fuse Panel 11-1	Radio 130-1	Door Locks (Power)
Charging System 12-1	Vacuum Distribution 140-1	Electronic Engine Co
Power Distribution	Component Testing 149-1	Electronic Engine Co
Starting System	In-Line Connector Faces 150-1	Electronic Engine Co
Ignition System21-1	Component Location Views 151-1	Engine Compartme
Electronic Engine Control (3.8L) 23-1	Location Index 152-1	ABS
Electronic Engine Control	Harness Causal Part Numbers 153-1	ALT
(4.6L)2V24-1	Vehicle Repair Location Codes 160-1	AUDIO
Electronic Engine Control		CIG ILLUM
(4.6L) 4V	Index	CONV TOP
Transmission Controls (4R70W) 29-1	Air Bag Restraint System 46-1	DRL, FOG, HORN
Speed Control	Air Conditioner/Heater	EEC
Cooling Fan	Vacuum	FAN
Shift Lock	Electrical	FUEL PUMP
Anti-Lock Brake System (ABS) 42-1	Anti-lock Brake System 42-1	HD LPS
Horn/Cigar Lighter/Clock 44-1	Anti-theft	HTD BL
Air Bag Restraint System 46-1	Backup Lamps	IGN SW
Heater	Charging System 12-1	INT LPS
Air Conditioner/Heater 54-1	Cigar Lighter 44-1	L. SPD EDF MNT
Rear Window Defrost 56-1	Circuit Protection/Fuse Panel 11-1	POWER SEAT .
Instrument Cluster	Clock	THERM
Vehicle Speed Sensor (VSS) 64-1	Component Location Views 151-1	Exterior Lamps
Warning Chime	Component Testing	Fog Lamps
Instrument Illumination	A/C-Heater Control Assembly 149-6	Gauges
Interval Wiper/Washer 81-1	Blower Motor Switch	Fuel
Headlamps85-1	Heater Control Assembly	Oil Pressure
Fog Lamps 86-1	Ignition Switch	Speedometer
Courtesy Lamps89-1	Introduction	Tachometer
Turn/Stop/Hazard Lamps 90-1	Main Light Switch	Temperature
Exterior Lamps	Master Window/Door Lock	Voltmeter
Backup Lamps 93-1	Control Switch 149-8, 149-9,	Grounds
Daytime Running Lamps 97-1	149-10, 149-11	G102
Power Windows	Right Window/Door Lock Control	G103
Convertible Top 102-1	Switch	G104
Power Door Locks	Multi-function Switch 149-3, 149-4	3.8L
Remote/Keyless Entry 111-1	Convertible Top	4.6L
Anti-Theft	Conventible top	4.0L
Trunk Lid Release 113-1		
HMIII MINITURE INTO CONTRACT TO THE PROPERTY OF THE PROPERTY O		

Courtesy Lamps	
Daytime Running Lamps (DRL)	
Defrost (Rear Window)	
Door Locks (Power)	110-
Electronic Engine Control (3.8L)	23-
Electronic Engine Control (4.6L) 2V	24-
Electronic Engine Control (4.6L) 4V 2	25-
Engine Compartment Fuse Box	
ABS	
ALT	
AUDIO	
CIG ILLUM	
CONV TOP	
DRL, FOG, HORNS	13-
EEC	13-
FAN	13-
FUEL PUMP	13-
HD LPS	13-
HTD BL	
IGN SW	13-
INT LPS	
L. SPD EDF MNTR	13-
POWER SEAT	13-
THERM	
Exterior Lamps	
Fog Lamps	86-
Gauges of hard Autolianige I halfilles.	
Fuel	60-
Oil Pressure	60-
Speedometer	60-
Tachometer	60-
Temperature	60-
Voltmeter	60-
Grounds	
G102	10-
G103	
G104	
3.8L	10-
4.6L	

## TABLE OF CONTENTS/INDEX 1-2

1997 MUSTANC

G105 10-3	Fuse 4 13-7
G201 10-4	Fuse 5 13-12
3.8L	Fuse 6 13-9
4.6L 10-3,10-4	Fuse 7 13-5
G203 10-5	Fuse 8 13-12
G204 10-7	Fuse 9
G205	Fuse 10 13-10
G300 10-10	Fuse 11 13-5
Harness Causal Part Numbers 153-1	Circuit Breaker 12 13-7
Headlamps	Fuse 13 13-12
Heater 53-1	Circuit Breaker 14 13-11
Horn	Fuse 15
Ignition Switch 13-5, 13-6	Fuse 16
Ignition System	Fuse 17 13-5
3.8L 21-1	Fuse 18
4.6L	Lamps (Exterior)
Indicators	Backup 93-1
Air Bag 60-4	Daytime Running 97-1
Anti-lock 60-4	Fog
Anti-theft 60-2	Exterior 92-1
Brake 60-4	Hazard
Charge	Headlamps 85-1
Fasten Belts 60-5	License 92-1
Hi Beam 60-5	Park
Left Turn 60-5	Front 92-1
Low Coolant 60-4	Rear 92-1
Malfunction Indicator Lamp (MIL)	Side Marker
(Check Engine) 60-1	Front 92-1
Right Turn 60-5	Rear 92-1
Transmission Control Indicator Lamp	Stop 90-3
(TCIL) (OD OFF)	Stop (Hi Mount) 90-1
In-Line Connector Faces 150-1	Turn
Instrument Cluster 60-1	Front 90-2
Instrument Illumination 71-1	Rear 90-3
Interval Wiper/Washer 81-1	Lamps (Interior)
I/P Fuse Panel	Courtesy
Fuse 1 13-10	Dome 89-4, 89-5
Fuse 2 13-9	Glove Compartment 89-4, 89-5

Instrument Illumination 71-1	
Luggage Compartment 89-6	ì
Map 89-4, 89-5	į
Vanity Mirror 89-4, 89-5	į
Location Index 152-1	i
Main Light Switch	•
Mirrors (Power) 124-1	
Power Distribution 13-1	
Power Door Locks	
Convertible 110-2	,
Coupe 110-1	
Power Lumbar Seat 122-1	
Power Mirrors	
Power Windows 100-1	
Radio	
AM/FM Stereo	
Premium Sound	
(w/out CD Player) 130-2	
Premium Sound	
(w/ CD Player)130-3	,
SuperSound	
(w/out CD Player)	
SuperSound	
(w/ CD Player) 130-6	
Remote/Keyless Entry111-1	
Rear Window Defrost 56-1	
Seats (Lumbar)122-1	
Shift Lock 37-1	
Speed Control 31-1	
Starting System 20-1	
Trunk Lid Release113-1	
Turn/Stop/Hazard Lamps 90-1	
Vacuum Distribution 140-1	
Vehicle Repair Location Codes 160-1	
Vehicle Speed Sensor (VSS) 64-1	
Warning Chime	

## 1-3 TABLE OF CONTENTS/INDEX

1997 MUSTANG

Windows (Power)											100-1
Wiper/Washer (Inte	er	V	aľ	)							. 81-1

#### IMPORTANT SAFETY NOTICE

Appropriate service methods and proper repair procedures are essential for the safe, reliable operation of all motor vehicles, as well as the personal safety of the individual doing the work. This Manual provides general directions for accomplishing service and repair work with tested, effective techniques. Following them will help assure reliability.

There are numerous variations in procedures, techniques, tools, and parts for servicing vehicles, as well as in the skill of the individual doing the work. This Manual cannot possibly anticipate all such variations and provide advice or cautions as to each. Accordingly, anyone who departs from the instructions provided in this Manual must first establish that he compromises neither his personal safety nor the vehicle integrity by his choice of methods, tools or parts.

### 2-1 HOW TO USE THIS MANUAL

1997 MUSTANG

The purpose of this manual is to show electrical and vacuum circuits in a clear and simple fashion to make troubleshooting easier. NOTES, CAUTIONS and WARNINGS containing important information appear in boxes on text pages.

- NOTES describe how switches and other components operate to help complete a particular procedure.
- CAUTIONS provide information that could prevent making an error that may damage the vehicle.
- WARNINGS provide information to prevent personal injury.

The **WARNINGS** list on page 2-2 contains general warnings to follow when servicing a vehicle.

Components that work together are shown together. All electrical components used in a specific system are shown on one diagram. The circuit breaker or fuse is shown at the top of the page. All wires, connectors, components and splices are shown in the flow of current to ground at the bottom of the page. If a component is used in several different systems, it is shown in several places. For example, the Main Light Switch is electrically a part of many systems and is repeated on many pages.

In some cases, a component may seem (by its name) to belong to a system where it has no electrical connection. For example, Radio Illumination is electrically part of Instrument Illumination, but because it has no electrical connection to the Radio system, it is not shown on the Radio diagram.

Schematic pages now contain references to full-view illustrations and component descriptions for various components. The references are reverse—text blocks located next to each component and connector and refer the user to the appropriate illustration page and zone. The component descriptions summarize the system function of a component.

Schematic pages now contain circuit voltages to help simplify troubleshooting hints. 12V is used to imply battery voltage on a component connector terminal, and 0V is used to show that there should be continuity to ground on that particular terminal. Conditional voltages such as "12V with the ignition switch in RUN" will also be provided. Troubleshooting hints that can't be simplified with circuit voltages will be shown at the end of each cell.

Connector face information specific to a certain cell is now found at the end of that cell. A Connector Face Reference List is provided to locate connector faces that are shown in different cells. Component connectors with five or more terminals are illustrated. Component connectors with five or more terminals are accompanied by a pinout chart that lists the function of all circuitry associated with that component.

In-Line connectors shown on schematic pages now contain a suffix to denote connector gender (F- socket, M- prior blade).

"GROUNDS" (Cell 10) contains ground circuitry shown in complete detail. This information is useful for checking interconnections of the ground circuits of different systems.

"POWER DISTRIBUTION" (Cell 13) contains power distribution circuitry shown in com-

plete detail. This section displays how the various fuses are powered and in turn, how each system is powered.

"COMPONENT TESTING" (Cell 149) contains testing procedures for various switches. This information includes schematics, component terminal locations and step-by-step procedures.

"IN-LINE CONNECTORS FACES" (Cell 150) contains in-line connectors with five or more terminals. This section includes both female and male mating in-line connectors arranged in order according to connector number.

"COMPONENT LOCATION VIEWS" (Cell 151) contains full-view illustrations which show the location of all components and connectors in the vehicle.

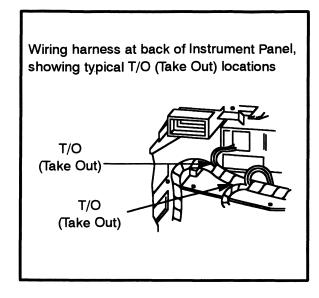
The "LOCATION INDEX" (Cell 152) provides the service base part numbers, locations, connector face references and illustration references for all components, connectors, splices and grounds.

#### **HELPFUL REMINDERS**

Before using the EVTM for troubleshooting, refer to the HELPFUL REMINDERS:

 The abbreviation T/O, for take out, used in the Location Index (Cell 152), refers to the point at which a group of wires branch off the harness trunk. Refer to the wiring harness illustration.

1997 MUSTANG



- 2. If a connector serves the same purpose in two separate versions (e.g., EFI/Carb), but is physically different, two connector numbers are used. However, if a connector serves the same purpose in two separate versions (e.g., EFI/Carb) and is physically the same, but the wire colors are different, only one connector number is used. If the same physical connector is used more than once, then more than one connector number is used.
- 3. Wiring schematics provide a picture of how and under what conditions the circuit is powered, of the current path to circuit components, and of how a circuit is grounded. Each circuit component is named (underlined titles). Wire and connector colors are listed (standard Ford color abbreviations are used):

#### **COLOR ABBREVIATIONS**

BL	Blue	N	Natura
BK	Black	0	Orange
BR	Brown	PK	Pink
DB	Dark Blue	P	Purple
DG	Dark Green	R	Red
GN	Green	Т	Tan
GY	Gray	W	White
LB	Light Blue	Y	Yellow
LG	Light Green		

NOTE: Whenever a wire is labeled with two colors, the first color listed is the basic color of the wire, and the second color listed is the stripe marking of the wire.

4. When reporting Vehicle Repair Location Codes to Ford Customer Service Division, refer to Cell 160 (beginning on page 160-1). Note: Do not use the illustrations in Cell 151 (beginning on page 151-1) for reporting Vehicle Repair Location Codes.

#### 5. WARNINGS

- Always wear safety glasses for eye protection.
- Use safety stands whenever a procedure requires being under a vehicle.
- Be sure that the Ignition Switch is always
   in the OFF position, unless otherwise required by the procedure.
- Set the parking brake when working on any vehicle. An automatic transmission should be in PARK. A manual transmission should be in NEUTRAL.
- Operate the engine only in a well-ventilated area to avoid danger of carbon monoxide.
- Keep away from moving parts, especially the fan and belts, when the engine is running.
- To prevent serious burns, avoid contact with hot metal parts such as the radiator, exhaust manifold, tail pipe, catalytic converter, and muffler.
- Do not allow flame or sparks near the battery. Gases are always present in and around the battery cell. An explosion could occur.
- Do not smoke when working on a vehicle.
- To avoid injury, always remove rings, watches, loose hanging jewelry, and loose clothing.

### 2-3 HOW TO USE THIS MANUAL

1997 MUSTANG

## HOW TO FIND ELECTRICAL CONCERNS TROUBLESHOOTING STEPS

These six steps present an orderly method of troubleshooting.

#### Step 1. Verify the concern.

 Operate the complete system to check the accuracy and completeness of the customer's complaint.

#### Step 2. Narrow the concern.

- Using the EVTM, narrow down the possible causes and locations of the concern to pinpoint the exact cause.
- Read the description notes at the components and study the wiring schematic.
   You should then know enough about the circuit operation to determine where to check for the trouble. Further information can be found by referring to the Service Manual pages listed in the box at the top of the page.

#### Step 3. Test the cause.

- Use electrical test procedures to find the specific cause of the symptoms.
- The Component Location reference bars and the pictures will help you find components. The Location Index (at the end of the manual) gives component location information for connectors, diodes, resistors, splices and grounds.

#### Step 4. Verify the cause.

 Confirm that you have found the correct cause by connecting jumper wires and/ or temporarily installing a known good component and operating the circuit.

#### Step 5. Make the repair.

Repair or replace the inoperative component.

#### Step 6. Verify the repair.

 Operate the system as in Step 1 and check that your repair has removed all symptoms without creating any new symptoms.

Some engine circuits may need special test equipment and special procedures. See the *Service Manual* and other service books for details. You will find the circuits in this manual to be helpful with those special test procedures.

#### TROUBLESHOOTING TOOLS

#### **JUMPER WIRE**

This is a test lead used to connect two points of a circuit. A Jumper Wire can bypass an open in a wire to complete a circuit.

#### WARNING

Never use a jumper wire across loads (motors, etc.) connected between hot and ground. This direct battery short may cause injury or fire.

#### **VOLTMETER**

A DC Voltmeter measures circuit voltage. Connect negative (- or black) lead to ground, and positive (+ or red) lead to voltage measuring point.

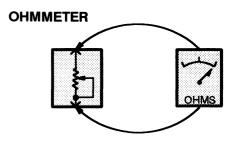


Figure 1-Resistance Check

An Ohmmeter shows the resistance between two connected points (Figure 1).

#### **TEST LAMP**

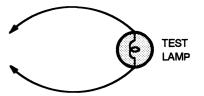


Figure 2-Test Lamp

A Test Light is a 12-volt bulb with two test leads (Figure 2).

Uses: Voltage Check, Short Check

1997 MUSTANG

## HOW TO FIND ELECTRICAL CONCERNS (CONTINUED)

#### **SELF-POWERED TEST LAMP**

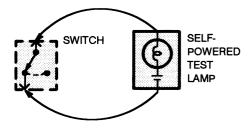


Figure 3-Continuity Check

The Self-Powered Test Lamp is a bulb, battery and set of test leads wired in series (Figure 3). When connected to two points of a continuous circuit, the bulb glows.

Uses: Continuity Check, Ground Check

#### CAUTION

When using a self-powered test lamp or ohmmeter, be sure power is off in circuit during testing. Hot circuits can cause equipment damage and false readings.

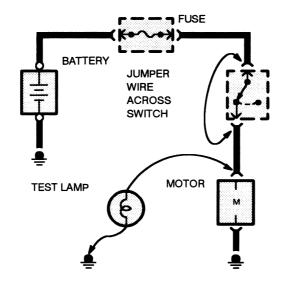


Figure 4—Switch Circuit Check and Voltage Check

In an inoperative circuit with a switch in series with the load, jumper the terminals of the switch

to power the load. If jumpering the terminals powers the circuit, the switch is inoperative (Figure 4).

## CONTINUITY CHECK (Locating open circuits)

Connect one lead of a Self-Powered Test Lamp or Ohmmeter to each end of circuit (Figure 3). Lamp will glow if circuit is closed. Switches and fuses can be checked in the same way.

#### **VOLTAGE CHECK**

Connect one lead of test lamp to a known good ground or the negative (-) battery terminal. Test for voltage by touching the other lead to the test point. The bulb goes on when the test point has voltage (Figure 4).

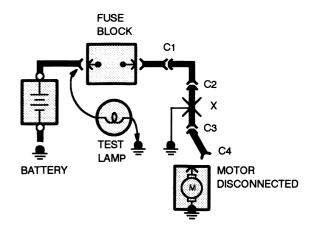


Figure 5—Short Check

### 2-5 HOW TO USE THIS MANUAL

1997 MUSTANG

## HOW TO FIND ELECTRICAL CONCERNS (CONTINUED)

A fuse that repeatedly blows is usually caused by a short to ground. It's important to be able to locate such a short quickly (Figure 5).

- 1. Turn off everything powered through the fuse.
- 2. Disconnect other loads powered through the fuse:
  - Motors: disconnect motor connector (Connector C4 in Figure 5)
  - Lights: remove bulbs.
- 3. Turn the Ignition Switch to RUN (if necessary) to power fuse.
- 4. Connect one Test Lamp lead to the hot end of the blown fuse. Connect the other lead to ground. The bulb should glow, showing power to fuse. (This step is just a check to be sure you have power to the circuit.)
- Disconnect the test lamp lead that is connected to ground, and reconnect it to the load side of the fuse at the connector of the disconnected component. (In Figure 5, connect the test lamp lead to connector C4.)
  - If the Test Lamp is off, the short is in the disconnected component.
  - If the Test Lamp goes on, the short is in the wiring. You must find the short by disconnecting the circuit connectors, one at a time, until the Test Lamp goes out. For

example, in figure 5 with a ground at X, the bulb goes out when C1 or C2 is disconnected, but not after disconnecting C3. This means the short is between C2 and C3.

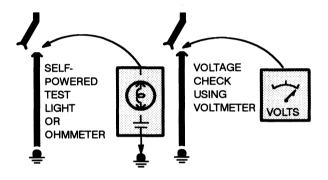


Figure 6—Ground Check

Turn on power to the circuit. Perform a Voltage Check between the suspected inoperative ground and the frame. Any indicated voltage means that the ground is inoperative (Figure 6).

Turn off power to the circuit. Connect one lead of a Self-Powered Test Lamp or Ohmmeter to the wire in question and the other lead to a known ground. If the bulb glows, the circuit ground is OK (Figure 6).

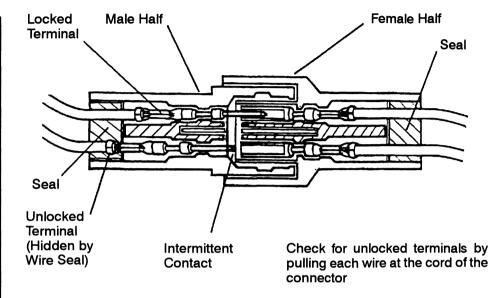
The circuit schematics in this manual make it easy to identify common points in circuits. This knowledge can help narrow the concern to a specific area. For example, if several circuits fail at the same time, check for a common power or ground connection (See *Power Distribution* or *Grounds*). If part of a circuit fails, check the connections between the part that works and the part that doesn't work.

For example, if the lo beam headlamps work, but the high beams and the indicator lamp don't work, then the power and ground paths must be good. Since the dimmer switch is the component that switches this power to the high beam lights and the indicator, it is most likely the cause of failure.

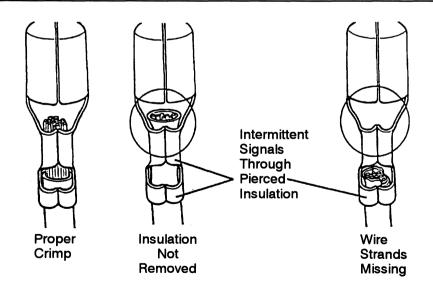
#### TROUBLESHOOTING WIRING HARNESS AND CONNECTOR HIDDEN CONCERNS

The following illustrations are known examples of wiring harness, splices and connectors that will create intermittent electrical concerns. The concerns are hidden and can only be discovered by a physical evaluation as shown in each illustration.

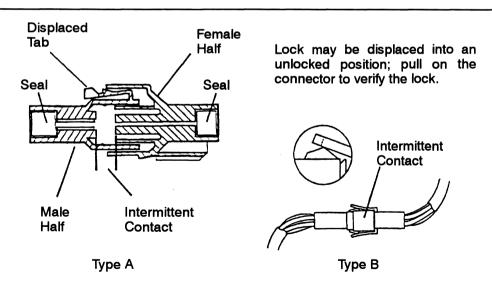
NOTE: When servicing gold plated terminals in a connector, only replace with gold plated terminals designed for that connector.



#### **TERMINAL NOT PROPERLY SEATED**



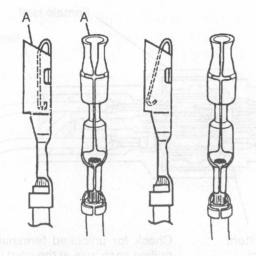
**DEFECTIVE INSULATION STRIPPING** 



**PARTIALLY MATED CONNECTORS** 

### 2-7 HOW TO USE THIS MANUAL

1997 MUSTANG



Any probe entering the terminal may enlarge the contact spring opening creating an intermittent signal. Insert the correct mating terminal (Location A) from the service kit and feel for a loose fit.

**Grounding Foil** 

Enlarged

Normal

Solder Coated
Wire to Ground

Harness
Protective
Tape

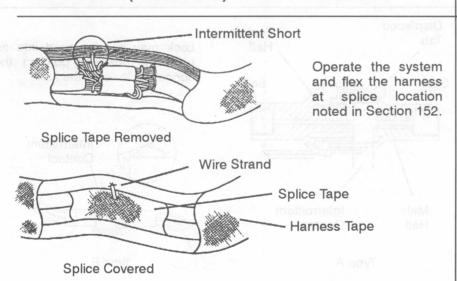
Intermittent

Solder coated wire pierced through the insulation of another circuit.

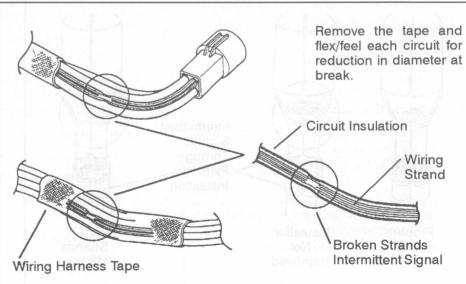
Short

**ELECTRICAL SHORT INSIDE THE HARNESS** 

#### **DEFORMED (ENLARGED) FEMALE TERMINALS**



**ELECTRICAL SHORT WITHIN THE HARNESS** 



**BROKEN WIRE STRANDS IN HARNESS** 

#### HOW TO FIND THE VACUUM CONCERNS

These six steps present an orderly method of troubleshooting.

#### Step 1. Verify the concern.

 Operate the system and observe all symptoms to check the accuracy and completeness of the customer's complaint.

#### Step 2. Narrow the concern.

 Narrow down the possible causes and location of the concern to pinpoint the exact cause.

#### Step 3. Test the cause.

• Use test procedures to find the specific cause of the symptoms.

#### Step 4. Verify the cause.

 Confirm that you have found the right cause by operating the parts of the circuit you think are good.

#### Step 5. Make the repair.

Repair or replace the inoperative component.

#### Step 6. Verify the repair.

 Operate the system as in Step 1. Check that your repair has removed all symptoms without creating any new symptoms.

### NOTE: Vacuum system problems fall into three groups:

- 1. Leaks in hoses, connectors, or motor diaphragms.
- 2. Pinched lines or clogged valves.
- Inoperative parts driven by vacuum motors.

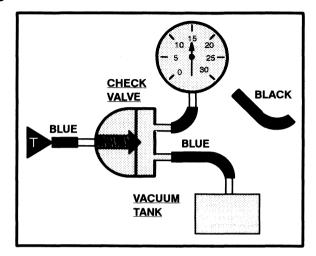


Figure 1 - System Supply Test

#### **Vacuum Supply Test**

- 1. Connect Vacuum Tester to system side of Check Valve (Figure 1).
- 2. Start engine. Gauge should show approximately 15 inches of vacuum.
- 3. Turn off engine, and observe gauge:
  - If vacuum holds, supply OK.
  - If vacuum fails, replace Check Valve or Tank.

#### **Leak Test**

- 1. Connect Vacuum Gauge and Vacuum Pump (Figure 2) to system hose in place of tank.
- 2. Open valve and start pump. Operate control in all modes.
- 3. Listen for hiss and observe gauge.

### NOTE: Hissing is normal at Function Control when changing modes.

If system hisses or loses vacuum, find system leak as follows:

- 4. Turn on Vacuum Pump and check vacuum build-up.
- 5. Stop pump; vacuum should drop.
- Clamp supply hoses with needlenose pliers, one at a time, until vacuum stops dropping (Figure 2).
- Check vacuum schematic to find components in that line.
- 8. Clamp hoses through circuit to find leak.

#### **Component Test**

- 1. Connect Vacuum Tester to component.
- 2. Pump Vacuum Tester. Check that all components operate correctly and vacuum holds.
- Replace components if vacuum does not hold.

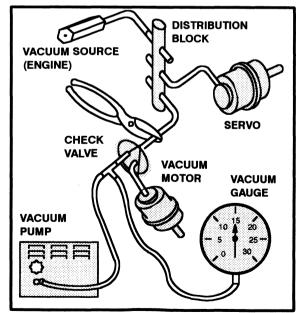
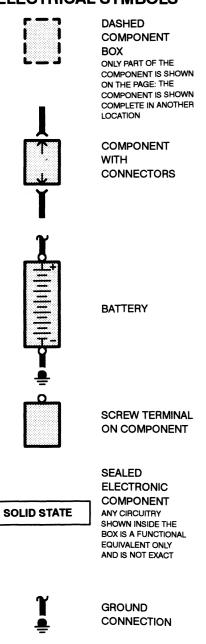


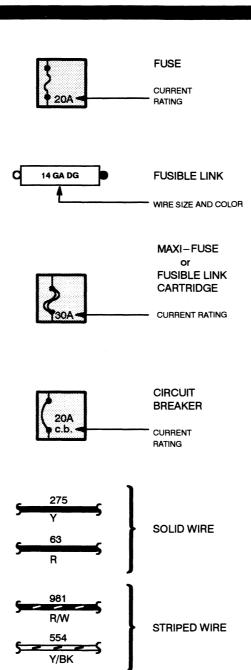
Figure 2 - Testing For Leaks In Typical Vacuum System

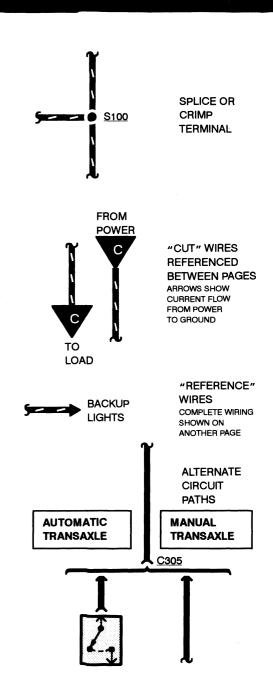
### 2-9 HOW TO USE THIS MANUAL

1997 MUSTANG

#### **ELECTRICAL SYMBOLS**



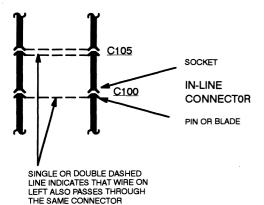




## **HOW TO USE THIS MANUAL 2-10**

1997 MUSTANG

#### **ELECTRICAL SYMBOLS**





**MOTOR** 



DIODES CURRENT FLOWS IN DIRECTION OF ARROW ONLY



HEATING ELEMENT



CAPACITOR

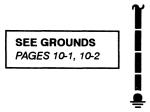


**THERMISTOR** 



OR (T

TRANSISTOR



DASHED WIRE

CIRCUITRY IS NOT SHOWN IN COMPLETE DETAIL. BUT IS COMPLETE ON ANOTHER PAGE



RHEOSTAT OR POTENTIOMETER



**GAUGE** 



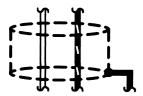
SOLENOID



LIGHT BULB



LIGHT EMITTING DIODE (LED)



SHIELD

WIRES ARE COVERED BY A SHIELD



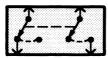
**SWITCH** 



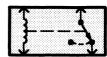
DUAL FILAMENT LIGHT BULB



FIELD COIL OR CHOKE



GANGED SWITCHES CONTACTS MOVE AT THE SAME TIME



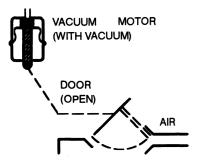
RELAY
CONTACTS
CHANGE POSITION
WITH CURRENT
THROUGH COIL

### 2-11 HOW TO USE THIS MANUAL

1997 MUSTANG

#### **VACUUM SYMBOLS**

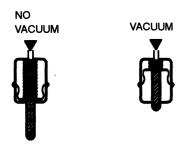




VACUUM ON VACUUM MOTOR PULLS DOOR OPEN TO LET AIR PASS THROUGH

#### **VACUUM MOTOR OPERATIONS**

SINGLE DIAPHRAGM MOTOR



Vacuum motors operate like electrical solenoids, mechanically pushing or pulling a shaft between two fixed positions. When vacuum is not applied, the shift is pushed all the way out by a spring.



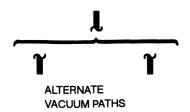
"CUT" HOSES
REFERENCED
BETWEEN PAGES
ARROW SHOWS
FROM MANIFOLD
FITTING TO
COMPONENT



**SERVO MOTOR** 



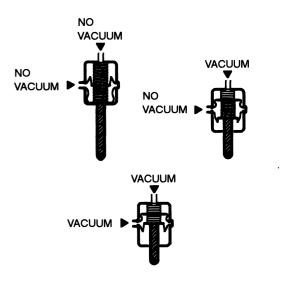
Some vacuum motors, such as the Servo Motor in the Speed Control, can position the actuating arm at any position between fully extended and fully retracted. The Servo is operated by a control valve that applies varying amounts of vacuum to the motor. The higher the vacuum level, the greater the retraction of the motor arm. Servo Motors work nearly the same way as two-position motors, except for the way the vacuum is applied. Servo Motors are generally larger and provide a calibrated control.



#### NOTE

Other vacuum symbols used on vacuum system diagrams are fully explained on those pages.

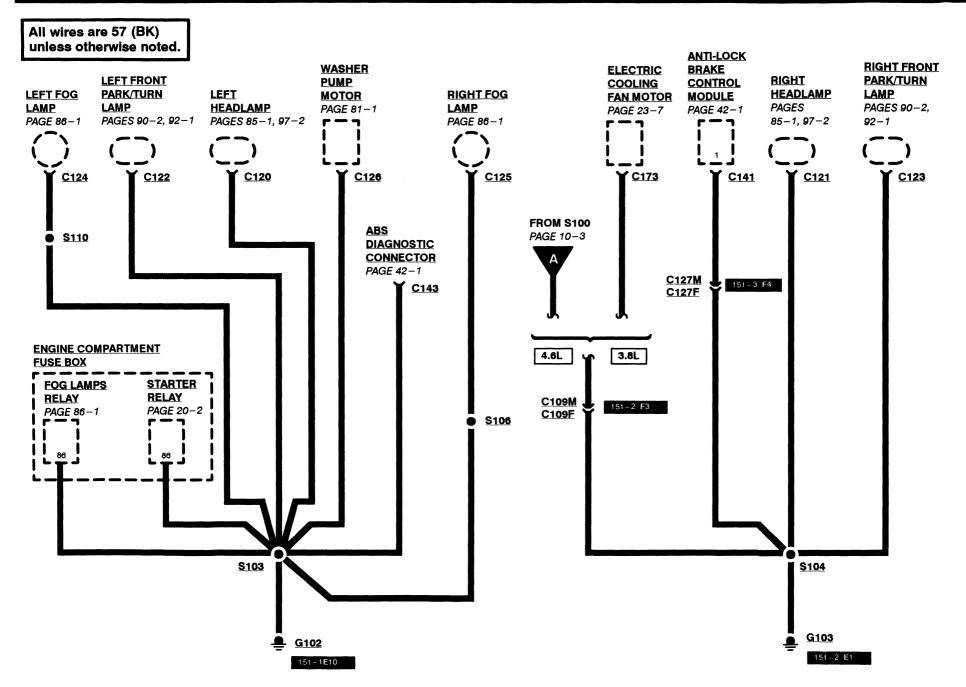
#### DOUBLE DIAPHRAGM MOTOR



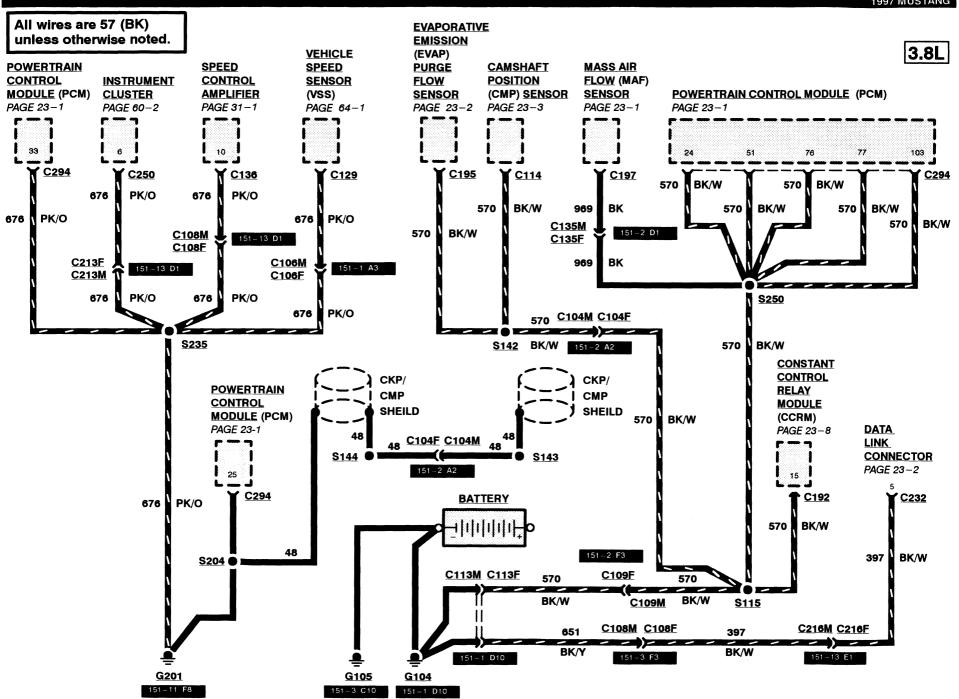
A double diaphragm motor has three positions (it is actually two motors in one housing). When the top port gets vacuum, the shaft pulls halfway in. When both ports get vacuum, the shaft pulls all the way in.

## 10-1 GROUNDS

1997 MUSTANG



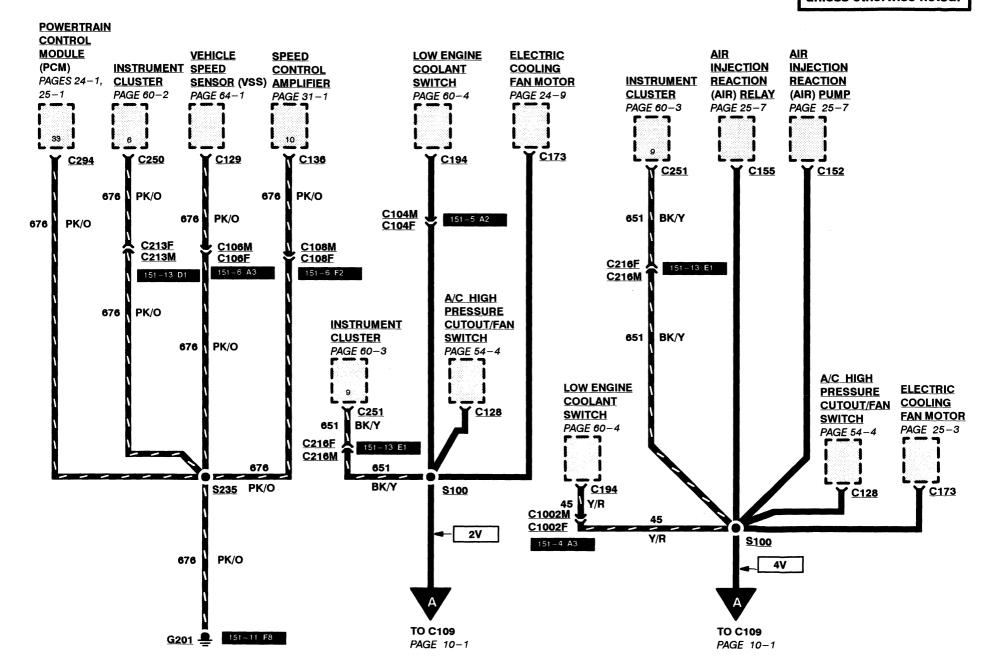
1997 MUSTANG



### 10-3 GROUNDS

## 1997 MUSTANG 4.6L

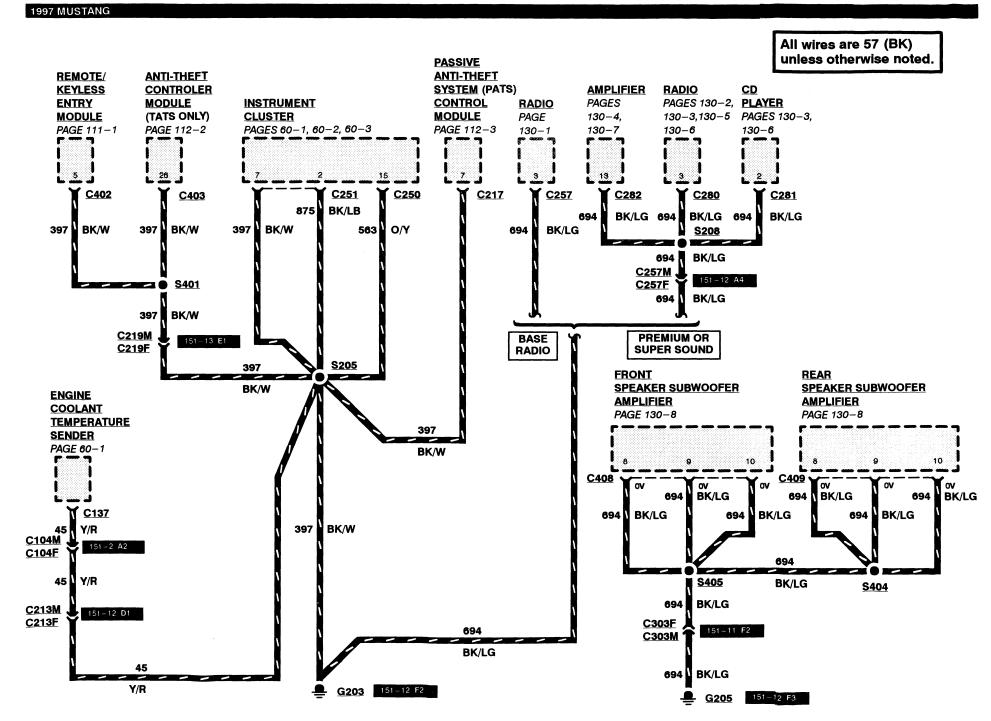
All wires are 57 (BK) unless otherwise noted.



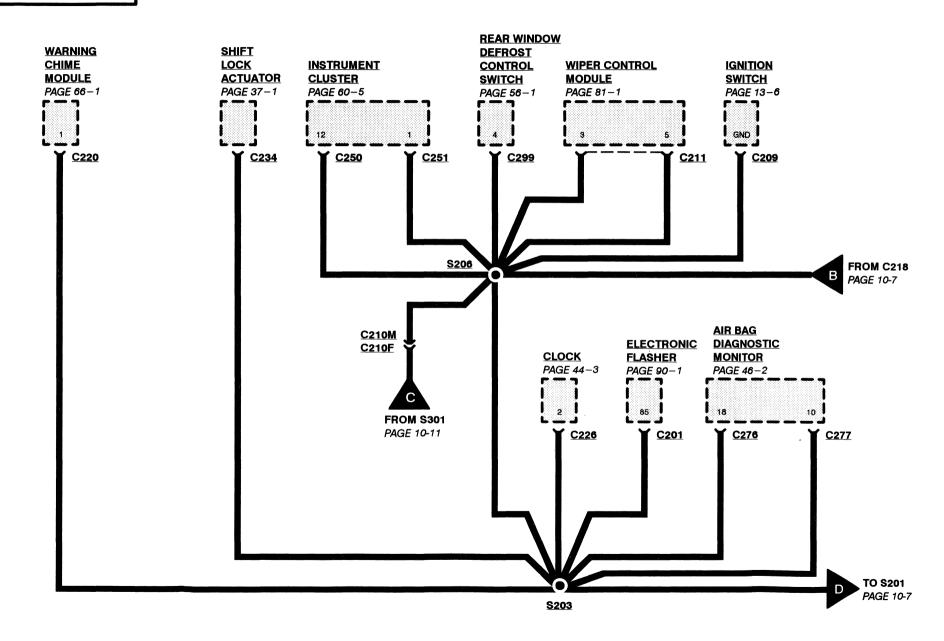
1997 MUSTANG

4.6L All wires are 57 (BK) unless otherwise noted. **MASS AIR** FLOW (MAF) **SENSOR POWERTRAIN CONTROL MODULE (PCM)** PAGES 24-1, 25 - 1PAGES 24-1, 25-1 77 103 C197 C294 BK/W 570 BK/W CKP CKP 570 L BK/W 570 BK/W 570 BK/W 969 BK **SHEILD** SHEILD C104F C104M **S204 S143 S144** 151-5 A2 **S250 EVAPORATIVE** CONSTANT **EMISSION** (EVAP) CONTROL CMP CMP **PURGE FLOW RELAY MODULE SHEILD SHEILD SENSOR** (CCRM) PAGES 24-2, 25-2 PAGES 24-9, 25-9 **DATA LINK CONNECTOR** 570 BK/W PAGES 24-6, 25-7 C192 C195 C232 570 BK/W BK/W 397 BK/W C104F C104M **S115** C216F C216M 397 BK/W **BATTERY** C109M **当** 151-5 E1 C108F C109F C108M 570 BK/W 651 BK/Y C113F 151-6 D10 C113M G105 G104 G201 151-3 C10 151-4 D10 151-11 F8

## 10-5 GROUNDS



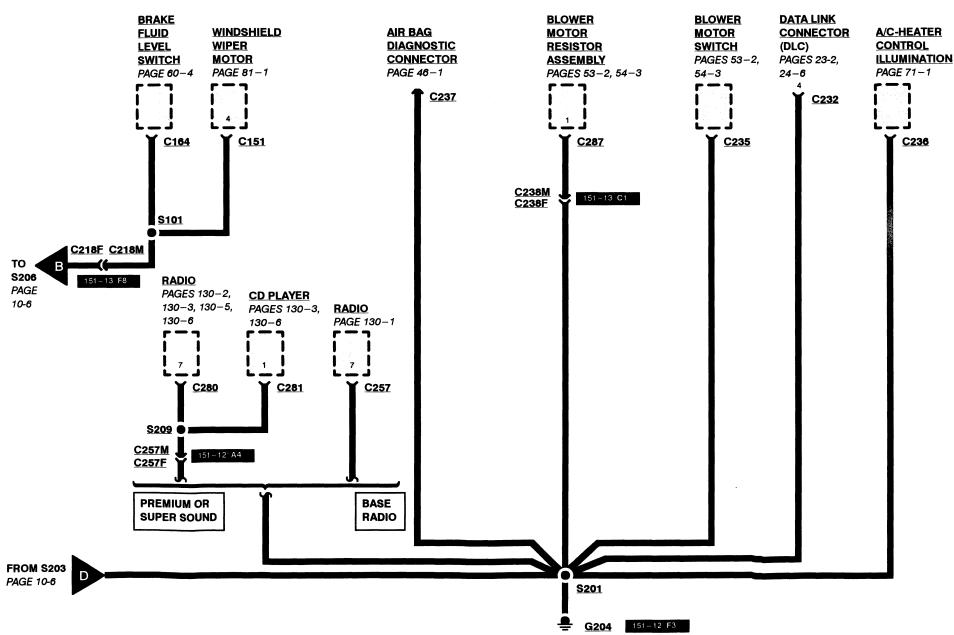
All wires are 57 (BK) unless otherwise noted.



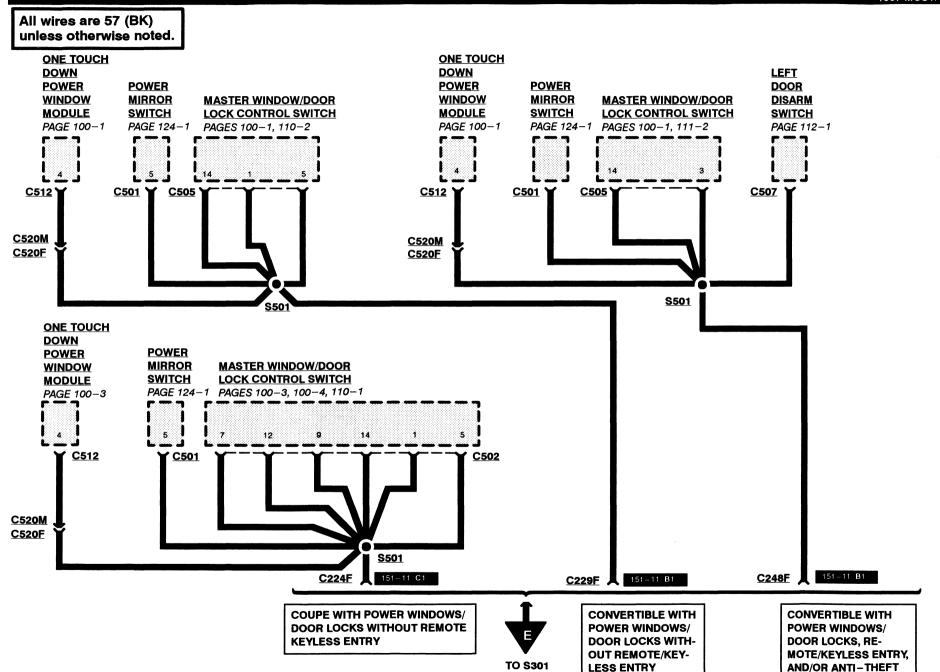
### 10-7 GROUNDS



All wires are 57 (BK) unless otherwise noted. **DATA LINK** A/C-HEATER **CONNECTOR** (DLC) CONTROL **ILLUMINATION** PAGES 23-2, PAGE 71-1 24-6 C232 C236

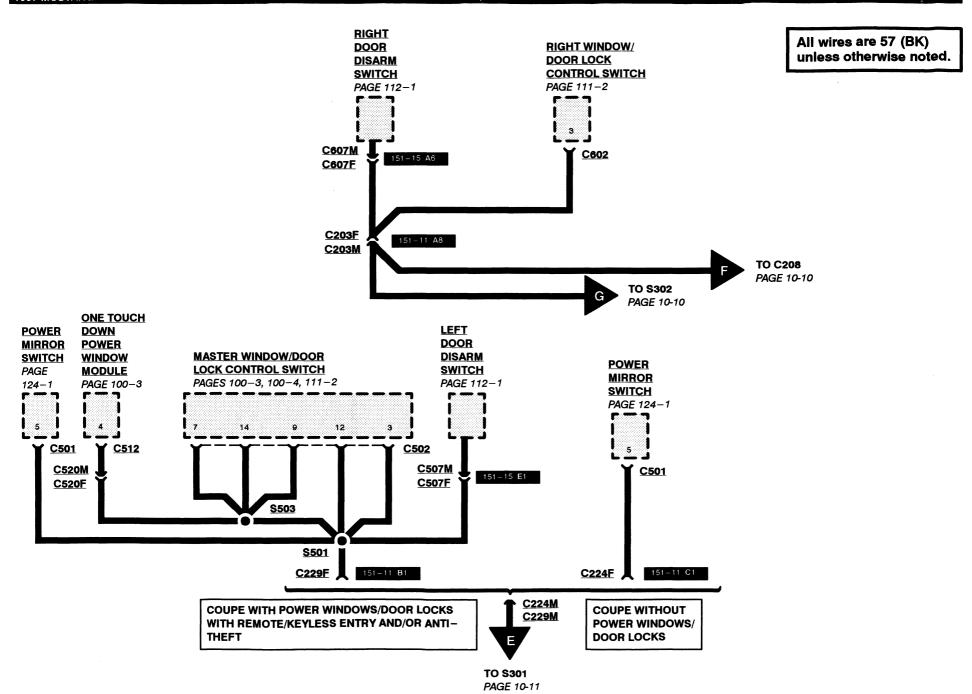


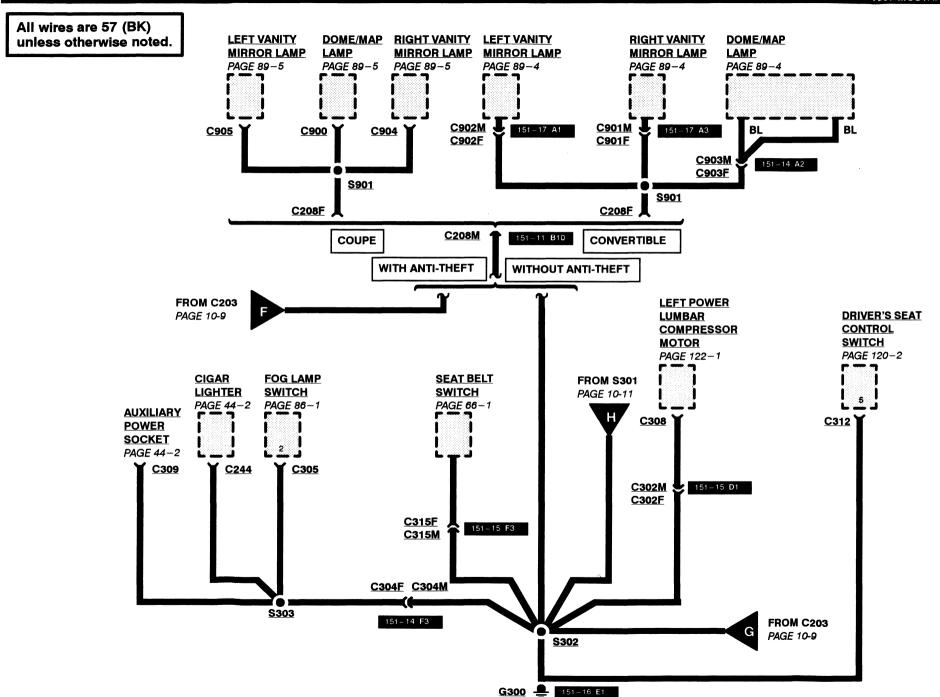
1997 MUSTANG



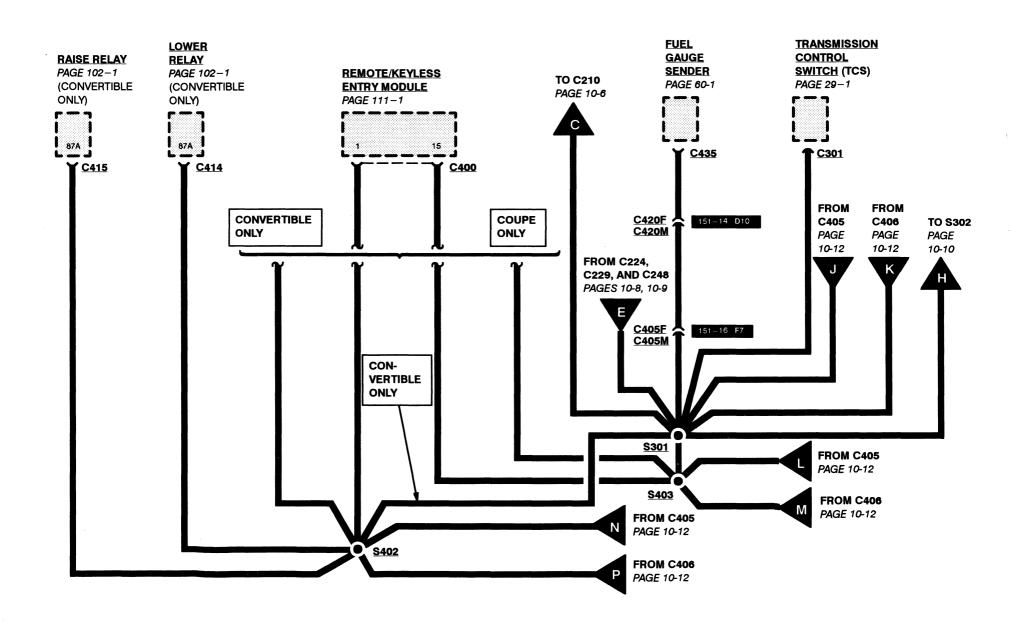
PAGE 10-11

1997 MUSTANG





All wires are 57 (BK) unless otherwise noted.



## 152-33 LOCATION INDEX

<u>Splice</u>	<u>Location</u>
S100	Engine control sensor harness, near T/O to C145
S101	Body main harness, near T/O to C107
S102	Engine control sensor harness, near T/O to C189
S103	Dash panel to headlamp junction harness, near T/O to G102
S104	Dash panel to headlamp junction harness, near T/O to G103
S106	Dash panel to headlamp junction harness, near T/O to C120
S108	Engine control sensor harness, near T/O to C108
S109	Dash panel to headlamp junction harness, near T/O to C100
S110	Dash panel to headlamp junction harness, near T/O to C124
S111	Dash panel to headlamp junction harness, in T/O to engine compartment fuse box
S115	Engine control sensor harness, near T/O to C145
S116	Engine control sensor harness, near T/O to C145
S119	Engine control sensor harness, near T/O to C128
S121	Engine control sensor harness, near grommet
S122 (3.8L)	Engine control sensor harness, in T/O to C173
S122 (4.6L)	Engine control sensor harness, near T/O to C128
S123 (3.8L)	Fuel charge harness, near T/O to C185
S123 (4.6L)	Engine control harness, near T/O to C104
S124	Fuel charge harness, near T/O to C182
S125 (4R70W Transmission)	Transmission control selector neutral switch harness, near T/O to C132
S125 (T5OD Transmission)	Back up lamp switch to rear lamp feed harness, near T/O to C196
S126 (4R70W Transmission)	Transmission control selector neutral switch harness, near T/O to C132
S126 (T5OD Transmission)	Back up lamp switch to rear lamp feed harness, near T/O to C119
S127	Engine control sensor harness, near grommet
S129 (3.8L)	Fuel charge harness, near T/O to C180
S129 (4.6L)	Engine control harness, near T/O to C180
S130 (3.8L)	Fuel charge harness, near T/O to C186
S130 (4.6L)	Engine control harness, near T/O to C179
S131	Dash panel to headlamp junction harness, near T/O to C112
S132	Fuel charge harness, near T/O to C137
S133	Dash panel to headlamp junction harness, near T/O to C112

# LOCATION INDEX 152-34 1997 MUSTANG

<u>Splice</u>	<u>Location</u>
S134	. Dash panel to headlamp junction harness, near T/O to C112
S136	. Dash panel to headlamp junction harness, near T/O to C127
S137	. Engine oil pressure & engine coolant temperature indicator sender harness, near T/O to C131
S138	. Engine oil pressure & engine coolant temperature indicator sender harness, near T/O to C131
S139	. Engine control sensor extension harness, near T/O to C168
S140	. Engine control sensor harness, near T/O to C128
S142	. Fuel change harness, between T/O to C186 and T/O to C177
S143 (3.8L)	. Fuel charge harness, near T/O to C195
S143 (4.6L)	. Engine control harness, near T/O to C104
S144	. Engine control sensor harness, near T/O to C130
S145	. Engine control sensor harness, near T/O to C152
S149 (4.6L 2V)	. Engine control harness, near T/O to C104
S149 (4.6L 4V)	. Engine control harness, in T/O to C1003
S150	. Engine control harness, near T/O to C188
S151	. Engine control harness, near T/O to C165
S152	. Engine control harness, near T/O to C182
S153	. Engine control harness, near T/O to C160
S154	. Engine control sensor harness, near T/O to C152
S155	. Engine control sensor harness, near T/O to C152
S162	. Engine control harness, near T/O to C179
S163	. Engine control harness, near T/O to C186
S168	. Engine control sensor extension harness, near T/O to C1005
	. Main harness, near T/O to G203 & G204
S203	
	. Engine control sensor harness, near T/O to C259
S205	
S206	
S207	
	. Radio amplifier harness, in T/O to C257
	. Radio amplifier harness, near T/O to C280
S210	
	. Radio amplifier harness, near T/O to C252
S213	
S214	. Main harness, near T/O to C228

## 152-35 LOCATION INDEX

1997 MUSTANG	
<u>Splice</u>	<u>Location</u>
S215	Main harness, near T/O to C209
S216	Main harness, near T/O to C209
S218	Main harness, near T/O to C226
S219	Body main harness, near T/O to C212
S220	Main harness, near T/O to C288
S221	Main harness, near T/O to C299
S222	Radio amplifier harness, near T/O to C280
S223	Body main harness, near T/O to C253
S224	Main harness, near T/O to C246
S225	Main harness, in T/O to C211
S226	Main harness, in T/O to C226
S227	Main harness, near T/O to C246
S228	Main harness, in T/O to C250
S229	Main harness, near T/O to C226
\$230	Main harness, near T/O to C220
S231	Main harness, near T/O to C299
\$232	·
\$233	
	Engine control sensor harness, behind RH side of I/P, near grommet
	Engine control sensor harness, in T/O to C213 & C216
\$237	•
	Radio amplifier harness, near T/O to C258
	Engine control sensor harness, near grommet
\$241	
	Engine control sensor harness, near T/O to C294
<b>\$246</b>	•
S247	
\$248	
S249	
	Engine control sensor harness, behind RH side of I/P, near grommet
	Engine control sensor harness, T/O to C259
S252	
S253	·
S254	
S301	Body main narness₁ near 1/O to C300

# LOCATION INDEX 152-36 1997 MUSTANG

<u>Splice</u>	Location
S302	Body main harness, near T/O to C301
S303	Console panel harness, near T/O to C309
S305	Console panel harness, in T/O to C305
S306	Body main harness, near T/O to C212
S311	Lumbar harness, below LH front seat
S314	Body main harness, near T/O to C320
S316	Body main harness, near T/O to C304
S317	Body main harness, near T/O to C319
S319	Body main harness, near T/O to C320
S320	Body main harness, near T/O to C212
S401	Body main harness, near T/O to C406
S402	Body main harness, near T/O to C406 & C432
S403	Body main harness, near T/O to C445
	Radio amplifier harness, near T/O to C409
S405	Radio amplifier harness, near T/O to C408
S407	Luggage compartment lamp harness, near T/O to C421
S408	Rear lamp harness, near T/O to C420
	Near T/O to convertible top motor C438
	Body main harness, near T/O to C405
	Body main harness, near T/O to C445
S412	•
S413	• •
	LH rear lamp harness, near T/O to C426
	RH rear lamp harness, near T/O to C425
S416	•
S417	Luggage compartment lamp harness, near T/O to C421
S418	•
	RH rear lamp harness, near T/O to C427
S420	LH rear lamp harness, near T/O to C424

## 152-37 LOCATION INDEX

1997	MUS	TANG

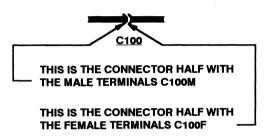
1997 MOSTANO	
<u>Splice</u>	<u>Location</u>
S423	. Body main harness, in T/O to C405
S424	. Body main harness, in T/O to C400
S425	. Rear lamp harness, near T/O to C418
S426	. Body main harness, near T/O to C406
S427	. Body main harness, in T/O to C403 & C404
S428	. Body main harness, in T/O to C400
S429	. Body main harness, in T/O to C401
S430	. Body main harness, in T/O to C401
S431	. Radio amplifier harness, near T/O to C441
S432	. Radio amplifier harness, near T/O to C408
S433 (Convertible)	. Radio amplifier harness, near T/O to C409
S433 (Coupe)	. Radio amplifier harness, near T/O to C441
S434 (Convertible)	. Radio amplifier harness, near T/O to C325
S434 (Coupe)	. Radio amplifier harness, near T/O to C441
S436	. Radio amplifier harness, near T/O to C325
S437	. Radio amplifier harness, near T/O to C325
	. LH door window regulator harness, near T/O to C504
	. LH door window regulator harness, near T/O to C509
	. LH door window regulator harness, near T/O to C503
	. LH door window regulator harness, near T/O to C503
,	. LH door window regulator harness, near T/O to C503
• • •	. LH door window regulator harness, near T/O to C501
	. LH door window regulator harness, near T/O to C511
	. LH door window regulator harness, near T/O to C501
	. RH door window regulator harness, near T/O to C611
	. RH door window regulator harness, near T/O to C611
	. Interior lamp feed harness, near T/O to C901
· , , ,	. Interior lamp harness, near T/O to C900
S902 (Convertible)	. Interior lamp feed harness, near T/O to C903
<b>^</b>	

S902 (Coupe) ...... Interior lamp harness, near T/O to C900

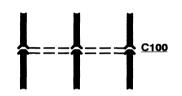
#### HOW TO IDENTIFY A BASIC HARNESS NUMBER BY USING A "C" NUMBER

#### Understand these symbols before you use the following listing:

#### THIS MEANS A HARNESS CONNECTION

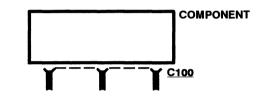


### THE DASHED LINE MEANS THAT ALL OF THESE TERMINALS ARE IN THE SAME CONNECTION



THE UPPER FEMALE TERMINALS ARE IN C100F; THE LOWER MALE TERMINALS ARE IN C100M

#### THIS MEANS A COMPONENT CONNECTION



THE F AND M IS NOT USED WITH THE "C" NUMBER

Identify the basic harness part number by:

- 1. If the problem is in a connector, find the connector "C" number in the EVTM schematics. Then locate the "C" number in the following listing and read the basic harness part number.
- 2. If the problem is **not** in a connector (such as a short or broken wire), then choose a connector **located on the same harness** that has the problem. Identify the "C" number of that connector. Locate the "C" number in the following listing and read the basic part number of the harness that has the problem.

## HARNESS CAUSAL PART NUMBER 153-2

1997 MUSTANG

<u>Connector</u> <u>Number</u>	<u>Wire</u> Assembly	<u>Connector</u> <u>Number</u>	<u>Wire</u> <u>Assembly</u>	<u>Connector</u> <u>Number</u>	<u>Wire</u> Assembly	<u>Connector</u> <u>Number</u>	<u>Wire</u> Assembly
C100 (F)		C119 (M)(T5OD),(T45)		C148	•	C174 (4.6L-4V)	
C100 (M) (3.8L)		C120		C149	. 14290	C175 12	
C100 (M) (4.6L)		C121	. 14290	C150	. 14290	C177 (3.8L)	9D930
C103		C122	. 14290	C151	14A005	C177 (4.6L) 2V	. 12A522
C104 (F)	. 12A581	C123	. 14290	C152 (4.6L-4V)	12A581	C177 (4.6L) 4V	. 12B637
C104 (M) (3.8L)	9D930	C124	. 14290	C153 (3.8L)	. 14305	C178 (3.8L)	9D930
C104 (M) (4.6L) 2V	. 12A522	C125	. 14290	C153 (4.6L)	12A522	C178 (4.6L) 2V	. 12A522
C104 (M) (4.6L) 4V	. 12B637	C126	. 14290	C154 (3.8L)	. 14305	C178 (4.6L) 4V	. 12B637
C105 (M)	14290	C127	. 14290	C154 (4.6L)	12A522	C179 (3.8L)	9D930
C105 (F)	. 14A005	C128	12A581	C155 (4.6L-4V)	12A581	C179 (4.6L) 2V	. 12 <b>A522</b>
C106 (F)	. 12A581	C129 (4R70W)	. 7C078	C156 (4.6L-4V)	12A581	C179 (4.6L) 4V	. 12B637
C106 (M) (T5OD),(T4	5) 15525	C129 (T5OD),(T45)	. 15525	C157	. 14290	C180 (3.8L)	9D930
C106 (M) (4R70W) .	7C078	C130	12A581	C158	. 14290	C180 (4.6L) 2V	. 12A522
C107 (M)	. 14A005	C131 (F)	10A998	C159 (3.8L)	12A581	C180 (4.6L) 4V	. 12B637
C107 (F)		C131 (M)	. 9D930	C159 (4.6L)	12A522	C181 (3.8L)	9D930
C108 (M)	14290	C132	. 7C078	C160 (4.6L-4V)		C181 (4.6L) 2V	. 12A522
C108 (F)	. 12A581	C133	. 7C078	C161	. 15525	C181 (4.6L) 4V	. 12B637
C109 (M)		C135 (F)	12A581	C162 (4.6L-4V)	12A581	C182 (3.8L)	
C109 (F)	14290	C135 (M)	12B566	C164		C182 (4.6L) 2V	
C110		C136		C165 (3.8L)		C182 (4.6L) 4V	
C111 (3.8L)		C137 (3.8L)		C165 (4.6L) 2V		C183 (3.8L)	
C111 (4.6L)		C137 (4.6L)		C165 (4.6L) 4V		C183 (4.6L) 2V	
C112 (F)		C138 (3.8L)		C166 (4.6L-4V)		C183 (4.6L) 4V	
C112 (M)		C138 (4.6L)		C167		C184 (3.8L)	
C113		C140 (F)		C168 (3.8L)		C184 (4.6L) 2V	
C114 (3.8L)		C140 (M)		C168 (4.6L)		C184 (4.6L) 4V	
C114 (4.6L)		C141		C169 (3.8L)		C185 (3.8L)	
C116		C142		C169 (4.6L)		C185 (4.6L) 2V	
C118 (3.8L)		C143		C170		C185 (4.6L) 4V	
C118 (4.6L)		C144		C171 (3.8L)		C186 (3.8L)	
C119 (M)(4R70W)		C145		C171 (4.6L)		C186 (4.6L) 2V	
C119 (F)	. 12A581	C147	. 9D930	C173	12A581	C186 (4.6L) 4V	128637

## 153-3 HARNESS CAUSAL PART NUMBER

	<u>Vire</u> Assembly	Connector Number	Wire Assembly	<u>Connector</u> <u>Number</u>	Wire Assembly	Connector Number	Wire Assembly
C187 (4.6L) 2V 12		C210 (M)		C236		C274	
C187 (4.6L) 4V 12		C211	14401	C237	14401	C275 (F)	
C188 (4.6L) 2V 12		C212 (F)	14A005	C238 (F)	14401	C275 (M)	19B113
C188 (4.6L) 4V 12		C212 (M)	14401	C238 (M)	18C629	C276	14401
C189 12		C213 (F)	14401	C240	13B319	C277	
C192 12	2A581	C213 (M)	12A581	C241	13B319	C278	19B113
C193 (4R70W) 7	7C078	C216 (F)	14401	C242	14A005	C279	19B113
C193 (3.8L)(T5OD)		C216 (M)	12A581	C243	PIA	C280	19B113
C193 (4.6L) (T45)	15525	C217	14401	C244	14B079	C281	19B113
C194 12		C218 (F)	14401	C245	14B079	C282	
C195 (3.8L) 9	9D930	C218 (M)	14A005	C246	14401	C283	19B113
C195 (4.6L) 2V 12	2A522	C219 (F)	14401	C248 (F)	14631	C284	19B113
C195 (4.6L) 4V 12	2B637	C219 (M)	14A005	C248 (M)	14A005	C285	14401
C196 (4R70W) 7	7C078	C220	14401	C250	14401	C288 (F)	13B319
C196 (3.8L)(T5OD)	15525	C221	14401	C251	14401	C288 (M)	14401
C196 (4.6L)(T45)	15525	C224 (F)	19A044	C252 (F)	19B113	C294	12A581
C197 (3.8L) 12	2B566	C224 (F)	14631	C252 (M)	14401	C299	14401
C197 (4.6L) 12	2A581	C224 (M)	14A005	C253 (F)	12638	C301	14A005
C201	14401	C225 (F)	14631	C253 (M)	14A005	C302 (M)	14B084
C204 (F)	14630	C225 (M)	14A005	C255	14A005	C302 (F)	14A005
C204 (M) 14	4A005	C226	14401	C257 (M)	19B113	C303 (F)	19B113
C203 (F)	14630	C227 (F)	14631	C257 (F)	14401	C303 (M)	19B113
C203 (M) 14	4A005	C227 (M)	14A005	C258 (M)	19B113	C304 (F)	14B079
C205 (F) 19	9A041	C228	14401	C258 (F)	14401	C304 (M)	14A005
C205 (F) 1	14630	C229 (F)	14631	C259 (F)	12A581	C305	14B079
C205 (M) 14	4A005	C229 (M)	14A005	C259 (M)	14A005	C308	14B084
C207 (F) 1	14630	C230	14401	C260 (F)	9D821	C309	14B079
C207 (M) 14	4A005	C231	14401	C260 (M)	14A005	C310 (F)	14B723
C208 (F)(Convert.) 1	14335	C232	14401	C261	14A005	C310 (M)	14B084
C208 (F)(Coupe) 1	14334	C233 (F)	14401	C262	PIA	C311	PIA
C208 (M) 14	4A005	C233 (M)	PIA	C270	14401	C312	PIA
C209 1	14401	C234	14401	C271	14401	C313	14B084
C210 (F) 14	4A005	C235	14401	C272	PIA	C315	14A005

## HARNESS CAUSAL PART NUMBER 153-4

97 MUSTANG

Connector	Wire	Connector	<u>Wire</u> Assembly	<u>Connector</u>	Wire	<u>Connector</u>	Wire
Number	Assembly	Number		Number C445	Assembly	<u>Number</u> C903	Assembly
C317		C418 (M)		C445			
C318		C419 (F)		C501		C904	
C319		C419 (M)		C501		C905	
C320		C420 (M)		C502		C1000	
C321		C420 (F)		C503		C1001	
C322		C421		C503		C1002 (F) (4.6L-4V)	
C323	. 14A005	C422		C504		C1002 (M) (4.6L-4V)	12A522
C324	. 14A005	C423	. 13407	C505		C1003 (4.6L-4V)	. 12A522
C325 (F)	. 19B113	C424	. 13410	C507	14631	C1003 (4.6L) 4V	. 12B637
C325 (M)	. 14A005	C425	. 13407	C508	. 19A044	C1004 (F) (4.6L-4V)	12 <b>A</b> 522
C326	. 14A005	C426	. 13410	C508	14631	C1004 (M) (4.6L-4V)	12B559
C327	. 19B113	C427	. 13407	C509	14631	C1004 (F) (4.6L) 4V.	. 12B637
C400	. 14A005	C428	. 13410	C510	. 19A044	C1005 (F) (4.6L)	. 12A690
C401	. 14A005	C429	. 13407	C510	14631	C1005 (M) (4.6L) 2V	. 12A522
C402	. 14A005	C431	. 9A340	C511	14631	C1005 (M) (4.6L) 4V	. 12B637
C403	. 14A005	C432 (F)(Coupe)	18C618	C512	PIA	C1006 (3.8L)	14305
C404	. 14A005	C432 (F)(Convert.)	18C619	C520 (F)	14631	C1006 (4.6L)	. 12A522
C405 (F)	14405	C432 (M)	14A005	C520 (M)	PIA	C1111	. 12A522
C405 (M)	. 14A005	C433 (Coupe)	18C618	C602	14630		
C406 (F)	. 19B516	C433 (Convert.)	18C619	C603	. 19A041		
C406 (M)	. 14A005	C434	18C620	C603	14630		
C408	. 19B113	C435	. 9A340	C604	14630		
C409	. 19B113	C436	14A005	C607	14630		
C410	. 19B516	C437	14A005	C608	. 19A041		
C411		C438	14A005	C608	14630		
C412		C439	19B113	C609	14630		
C413	. 19B516	C440		C610	. 19A041		
C414		C441 (F)		C610	14630		
C415		C441 (M)		C611			
C416		C442		C900			
C417		C443		C901			
C418 (F)		C444		C902			
- · · · · · · · · · · · · · · · · · · ·							

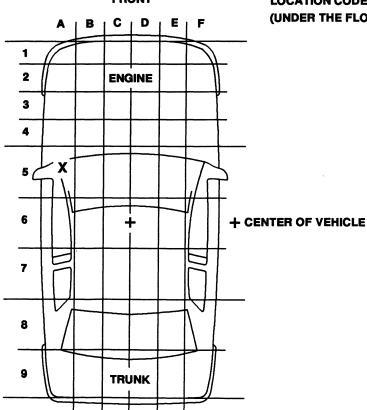


TO PINPOINT THE ACTUAL VEHICLE LOCATION OF A REPAIR THE VEHICLE REPAIR LOCATION CODE IS REQUIRED.

FOR EXAMPLE, AN "X" HAS BEEN PLACED IN THE QUANDRANT OF THE VEHICLE DIAGRAMS INDICATING THE LOCATION OF THE REPAIR. SEE DIAGRAMS.

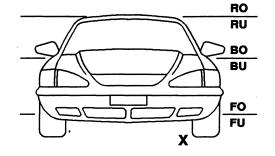
LOCATION CODE, FOR THE EXAMPLE IS: A5/FU -(UNDER THE FLOOR OF THE DRIVER'S LEFT FOOT.)

#### FRONT/REAR DIRECTION **FRONT**



REAR

#### **OVER/UNDER DIRECTION**



R = ROOF LINE

RO = ROOF OVER

RU = ROOF UNDER

B = BELT LINE

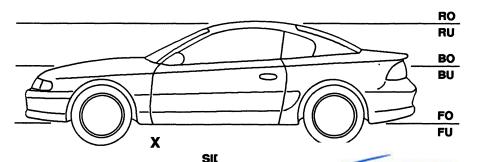
BO = BELT OVER

BU = BELT UNDER

F = FLOOR PAN

FO = FLOOR OVER

FU = FLOOR UNDER



**Buy Now** 









