

Colorized Mustang Wiring & Vacuum Diagrams

(with Electrical Illustrations)

Buy Now



A consolidated collection of original Ford
electrical & vacuum diagrams with illustrations

This product includes

- Colorized wiring diagrams
- Vacuum diagrams
- Vol. III 1972 Car Shop Manual, Electrical
- Electrical Illustrations
- *How to Read Wiring Diagrams* training course
- ...and much more!!

Licensed and approved
by the Ford Motor Company

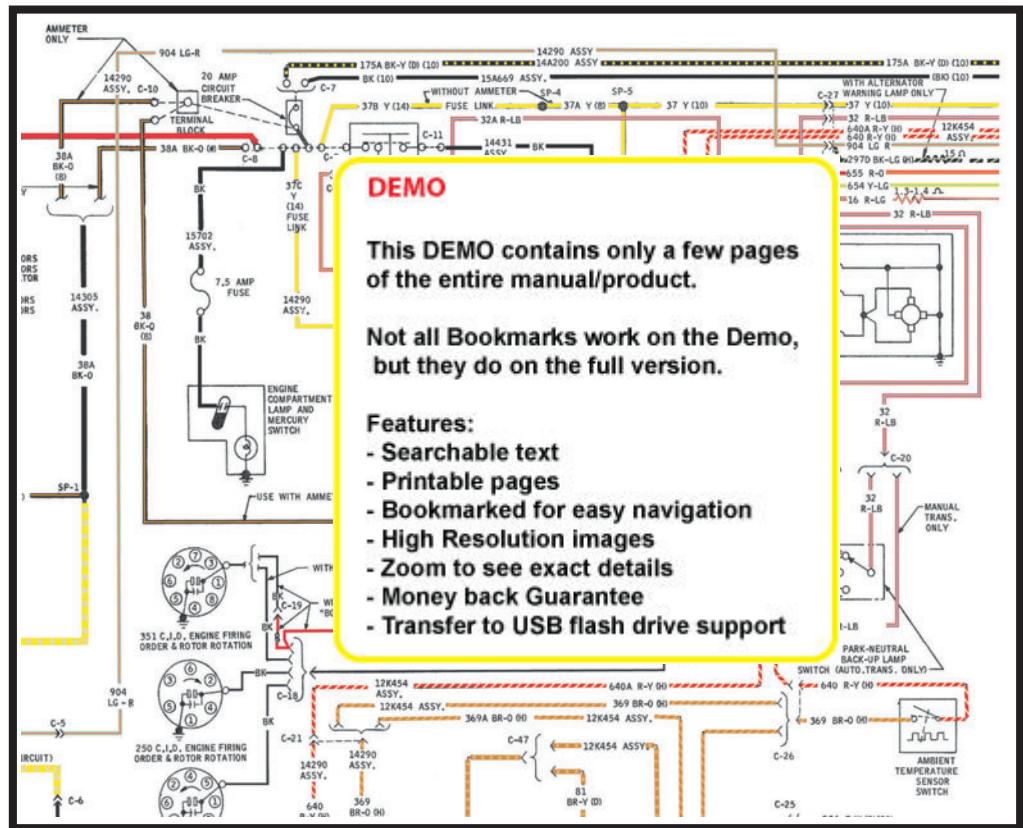


5236

Free Bonus!

30-Minute Video
Ford Training

Course 13001, Vol 68 S7
"How to Read Wiring
Diagrams"
Included!



Example of colorized diagrams

Copyright © 2008, Forel Publishing Company, LLC, Woodbridge, Virginia

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, 3999 Peregrine Ridge Ct., Woodbridge, VA 22192

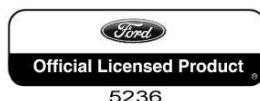
1972 Colorized Mustang Wiring and Vacuum Diagrams

(Extracted from Form FD-7795P-72, Form 7098-72-3, FP-7635B, and FD-7943-G)

EAN: 978-1-60371-031-2

ISBN: 1-60371-031-0

*Forel Publishing Company, LLC
3999 Peregrine Ridge Ct.
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 Editor

This product was compiled using several original Ford Motor Company publications. In some cases, there are slight differences between publications, so it is important to compare between diagrams, schematics, or illustrations. The contents of this product were extracted from: *1972 Wiring and Vacuum Diagrams* (Form FD-7795P-72), *1965/1972 Ford Car Master Parts and Accessory Catalog* (Form FP-7635B), *1972 Car Shop Manual (Volume III, FORM 7098-72-3)*, and *How to Read Wiring Diagrams* (FD-7943-G, January 1968).

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.

ATTENTION



Please Read This



It is important to note that there may be errors in the diagrams, even though they are original Ford publications. Below are two examples of possible errors because the color code on the page diagram does not match the master Car Standard Wire Code Chart. If your vehicle has a color coded wire that does not match a diagram you should consult the other diagrams contained in the manual for a possible match.

Example of possible errors

37	YELLOW
38	BLACK
54	LT. GREEN-YELLOW STRIPE
158	BLACK-PINK HASH STRIPE

In the wiring diagrams from the Ford publication Form 7795P-71, the Key Warning Buzzer Wiring Color Code shows:

38 Black

However, the Car Standard Wire Color Code Chart lists:

38 – Black-Orange Stripe

37	YELLOW
38	BLACK
54	LT. GREEN-YELLOW STRIPE
158	BLACK-PINK HASH STRIPE

In the wiring diagrams from the Ford publication Form 7795P-71, the Key Warning Buzzer Wiring Color Code shows:

158 Black-Pink HASH STRIPE

However, the Car Standard Wire Color Code Chart lists:

158 – Black- Pink HASH

The color coded wiring diagrams are provided for illustration purposes only. Only the wire number should be used for the identification of the wire itself. The color coding of the wires in the product may not match the actual colors of the wires in the vehicle. In some cases, the colors have been altered to provide a visual contrast (i.e. the color white has been shaded to make it more visible). As stated in the paragraph above, there are some variation and/or differences between the original Ford wiring diagrams. If your vehicle has a color coded wire that does not match a diagram you should consult the other diagrams contained in the manual for a possible match.

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.

Source Document
Ford Publication Form 7795P-72

COURSE 13003 and 1703

1075
WIRING and VACUUM DIAGRAMS
9112

FORM 7795P-72



Ford Marketing Corporation
Ford Customer Service Division
Service Technical Communications Department

FOREWORD

This book contains wiring and vacuum diagrams for all Ford and Lincoln-Mercury car lines and all Ford trucks.

Both wiring and vacuum diagram replacement sheets will be released as required to keep the book current.

All vacuum systems are contained in a separate section.

This book is divided by vehicles. Refer to the applicable section as follows:

- Pinto
- Maverick and Comet
- Mustang
- Cougar
- Torino and Montego
- Ford and Meteor
- Mercury
- Thunderbird
- Mark IV
- Lincoln
- Bronco
- Econoline
- P-Series
- F-100-350 Series
- B and F-500-750 Series
- C-Series
- W-Series
- L-Series — Line Haul
- L-Series — City Delivery



Ford Marketing Corporation
Ford Customer Service Division
Service Technical Communications Department

The illustrations contained in this book were in effect at the time the book was approved for printing. Ford Motor Company, whose policy is one of continuous improvement, reserves the right to discontinue models at any time, or to change specifications or design, without notice and without incurring obligation.

HOW TO USE THE WIRING DIAGRAMS

Each electrical circuit is illustrated in a clear and easy to follow style.

There are 7 steps that should be followed to use this diagram to diagnose electrical problems.

- Verify the complaint
- Refer to the Index for system location
- Locate inoperative system on schematic
- Identify other systems on the circuit
- Isolate the problem area
- Correct the problem
- Operate the corrected system

VERIFY THE COMPLAINT

To diagnose a customer complaint "Back Up Lights Don't Work" the first thing we should do is verify the complaint.

If both lights do not work, refer to the INDEX on page 1 of the vehicle schematic.

REFER TO THE INDEX

An INDEX is provided on page 1 to locate the inoperative components.

See LAMPS — BACK-UP on the INDEX. The INDEX lists the location of the part on the drawing.

The drawing is set up like a road map. For example: the Pinto Back-up lights are located at J-40. To locate J-40 on the schematic, find the number 40 at the top of the illustration.

Now, find the letter J on the side of the illustration. Follow the number and the letter until they intersect. The part will be within an inch or two of the intersection.

LOCATE INOPERATIVE SYSTEM

Generally, the power supply for all components on this drawing comes from the top of the page and over to the battery at the left.

The ground for each component is always toward the bottom of the drawing.

There are symbols used on this drawing that are explained as follows:

- Ground symbols are shown in Figure 1. A ground wire connected away from the component is identified by a code G1 or G2, etc. The location of the remote ground is listed in the GROUND CODES chart and the bottom of the page.

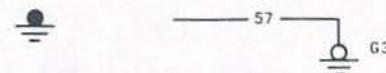


Fig. 1 — Ground Symbols

- Wire color code is shown in Fig. 2. Wiring Color Codes are listed at the bottom of the drawing. The Standard Wiring Color Codes are listed behind these instructions.

140B

Fig. 2 — Wire Color Code

If a vehicle specific wire color in a connector does not match the diagram shown, it can usually be identified by comparing the other colors shown at the wire connectors. Specific wire color deviations in the manufacturing of a wire harness are usually for a short duration.

- Harness number is shown in Figure 3. The 5 or 6 digit number near the wire indicates the wire harness basic part number.

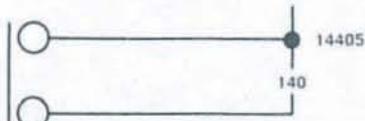


Fig. 3 — Harness Number

- Wire Connector identification code is shown in Figure 4. The key for the connector codes is located at the bottom of the wiring diagram.

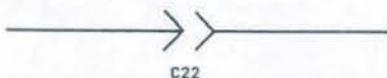


Fig. 4 — Wire Connector Code

- Male connector symbol is illustrated in Figure 5. The symbol used for the diagram and chart is shown.



Fig. 5 — Male Connector Codes

- Female connector symbol is shown in Figure 6.



Fig. 6 — Female Connector Codes

- Splice is shown in Figure 7. A splice is a common point where two wires are joined together. Location of splice is at bottom of schematic page.



Fig. 7 — Splices

- Heavy lines for the wires indicate a direct to battery feed.
- Heavy dashed lines indicate an ignition switch accessory feed.
- The number located after the wire color code (16) indicates wire gauge size.

IDENTIFY OTHER SYSTEMS ON CIRCUIT

Now that the inoperative back-up light system has been located on the diagram, we should note the other systems that use the same power supply.

At J-40 on the diagram, follow back-up light wire 140 to wire connector C-38. Note radio power comes from connector C-38. To determine if power is available at C-38, turn on the radio.

If the radio works, the problem is between connector C-38 and the splice at the back-up lights (harness 14405).

If the radio doesn't work, the problem is between the connector C-38 and the fuse panel.

ISOLATE PROBLEM AREA

Now to trace a back-up light problem such as between connector C-38 and the back-up lights, we can check for power at connector C-52. To identify the specific terminals at connector C-52, refer to the Wire Connector Code Chart at the bottom of the page.

The Connector Code Chart illustrates the connector C-52 (Fig. 8). It is a 4-wire connector black in color unless otherwise specified and located at the lower opening of the L.H. cowl side.

Check connector C-52 for power. If it is OK, the problem is between connector C-52 and the splice at the back-up lights.

If power is not available at connector C-52, the problem is between connectors C-52 and C-38.

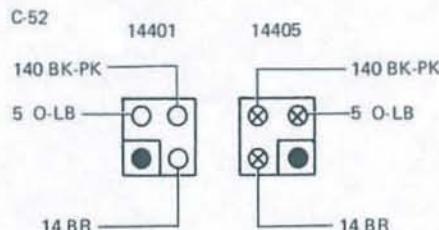


Fig. 8 — Connector C-52

OPERATE CORRECTED SYSTEM

It is a good practice to operate the system after a repair has been made to see if it now works.

BULB AND FUSE CHART

A bulb and fuse chart is included on the first page of this schematic for your convenience.

CAR STANDARD WIRE COLOR CODE CHART

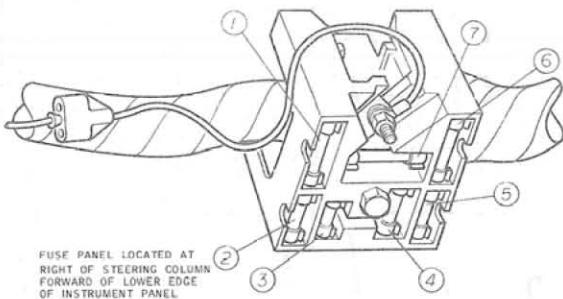
CIRCUIT	DESCRIPTION	COLOR	CIRCUIT	DESCRIPTION	COLOR
1	HORN SWITCH CONTROL	DK BLUE	111	WARNING LAMP TO LIGHTS ON RELAY	BLACK-YELLOW STRIPE
2	RH FRONT TURN SIGNAL LAMP	WHITE-LT BLUE STRIPE	112	WARNING LAMP RELAY FEED	BLACK-YELLOW DOT
3	LH FRONT TURN SIGNAL LAMP	LT GREEN-WHITE STRIPE	113	STARTING MOTOR TO STARTING MOTOR RELAY	YELLOW-LT BLUE DOT
4	ALTERNATOR REG. "S" TERM, TO ALTERNATOR "S" TERM	WHITE-BLACK STRIPE	114	FEED TO VACUUM DOOR LOCK SWITCH	TAN-YELLOW HASH
5	RH REAR TURN SIGNAL LAMP	ORANGE-LT BLUE STRIPE	115	VACUUM DOOR LOCK SWITCH TO SOLENOID (LOCK)	LT GREEN
6	HORN RELAY TO HORN	YELLOW-LT GREEN HASH	116	VACUUM DOOR LOCK SWITCH TO SOLENOID (UNLOCK)	BROWN-ORANGE DOT
7	SEAT SWITCH ARM TERM TO RELAY FIELD TF3M	LT GREEN-YELLOW DOT	117	DOOR LOCK MOTOR (LOCK)	PINK-BLACK DOT
8	TURN SIGNAL FLASHER FEED	ORANGE-YELLOW STRIPE	118	DOOR LOCK MOTOR (UNLOCK)	PINK-ORANGE DOT
9	LH REAR TURN SIGNAL LAMP	LT GREEN-ORANGE STRIPE	119	DOOR LOCK SWITCH (LOCK)	PINK-YELLOW DOT
10	STOP/FLASH SWITCH FEED	LT GREEN-RED HASH	120	DOOR LOCK SWITCH (UNLOCK)	PINK-LT GREEN DOT
12	HEADLAMP DIMMER SWITCH TO HIGH BEAMS	LT GREEN-BLACK STRIPE	122	TOP CONTROL SWITCH TO TOP CONT. MOTOR OR RELAY	YELLOW
13	HEADLAMP DIMMER SWITCH TO LOW BEAMS	RED-BLACK STRIPE	123	TOP CONTROL SWITCH TO TOP CONT. MOTOR OR RELAY	RED
14	HEADLAMP SWITCH TO TAIL LAMPS AND SIDE MARKER LAMPS	BROWN	125	MAP LAMP SWITCH TO RH MAP LAMP	BROWN-YELLOW STRIPE
15	HEADLAMP SWITCH TO HEADLAMP DIMMER SWITCH	RED-YELLOW STRIPE	126	COURTESY LAMP SW. TO INSTR. PANEL COURTESY LAMP	BLACK-ORANGE DOT
16	IGNITION SWITCH TO IGNITION COIL "BATT." TERMINAL	RED-LT GREEN STRIPE	127	COURTESY LAMP SW. TO "C" PILLAR LAMPS	BLACK-LT BLUE DOT
17	LOW OIL PRESSURE WARNING LAMP TO LOW OIL PRESS. SENDING UNIT	WHITE	131	CIGAR LIGHTER LAMP FEED	PURPLE-ORANGE STRIPE
18	SEAT SWITCH TO RELAY FIELD TERM	ORANGE-YELLOW DOT	133	RELAY TO MAP LAMP SWITCH	TAN-RED HASH
19	INSTRUMENT PANEL LAMPS FEED	LT BLUE-RED STRIPE	137	RADIO & ANTENNA SWITCH FEED	YELLOW-BLACK HASH
22	BRAKE FEED	LT BLUE-BLACK STRIPE	138	DOOR JAMB SWITCH TO LIGHTS ON RELAY	BROWN-LT BLUE STRIPE
28	WINDSHIELD WIPER SW. TO WINDSHIELD WIPER MOTOR	BLACK-PINK DOT	140	BACK UP LAMP	BLACK-PINK STRIPE
29	FUEL GAGE TO FUEL GAGE SENDER	YELLOW-WHITE STRIPE	144	AMPLIFIER TO SERVO TRANSDUCE FEED	ORANGE-YELLOW HASH
30	CONSTANT VOLTAGE UNIT AND INDICATOR LAMPS FEED	BLACK-LT GREEN STRIPE	145	SERVO SOURCE VACUUM SOLENOID TO CONTROL TRANSISTOR	GRAY-BLACK HASH
31	OIL PRESSURE INDICATOR TO OIL PRESSURE SENDING UNIT	WHITE-RED STRIPE	146	SERVO VENT SOLENOID TO CONTROL TRANSISTOR	WHITE-PINK HASH
32	STARTER CONTROL	RED-LT BLUE STRIPE	147	AMPLIFIER FEEDBACK POTENTIOMETER FEED	PURPLE-LT BLUE HASH
35	ALTERNATOR REGULATOR "F" TERM, TO ALTERNATOR	ORANGE-LT BLUE STRIPE	148	SERVO FEEDBACK POTENTIOMETER SIGNAL TO AMPLIFIER	YELLOW-RED HASH
36	ALTERNATOR OUTPUT	YELLOW-WHITE DOT	149	SERVO FEEDBACK POTENTIOMETER BASE TO AMPLIFIER	BROWN-LT GREEN HASH
37	BATTERY TO LOAD	YELLOW	150	SENSOR SIGNAL TO AMPLIFIER	DK GREEN-WHITE STRIPE
38	POWER SUPPLY TO BATTERY	BLACK-ORANGE STRIPE	151	SPEED CONTROL ON-OFF SWITCH TO AMPLIFIER	LT BLUE-BLACK HASH
39	TEMP. GAGE TO TEMP. SENDING UNIT	RED-WHITE STRIPE	153	STARTING MOTOR RELAY TO FLASHER	RED-WHITE STRIPE
40	CIGAR LIGHTER FEED	LT BLUE-WHITE STRIPE	158	KEY WARNING SWITCH TO BUZZER	BLACK-PINK HASH
41	WARNING LAMP FEED	BLACK-LT BLUE HASH	159	DOOR JAMB SWITCH TO BUZZER	RED-PINK STRIPE
42	SWITCH TO WARNING LAMP	RED-WHITE DOT	160	BUZZER TO WARNING INDICATOR RELAY	WHITE-PINK STRIPE
43	LOW AIR BUZZER FEED	ORANGE-LT BLUE HASH	162	EMERG. BRAKE WARNING LAMP TO EMERG. BRAKE SWITCH	LT GREEN-RED DOT
44	TURN SIGNAL FLASHER TO TURN SIGNAL SWITCH	LT BLUE	170	WINDOW REGULATOR SWITCH FEED	RED-LT BLUE DOT
45	HOT WATER TEMP. RELAY TO HOT WATER TEMP. SENDING UNIT	YELLOW-RED STRIPE	171	CIRCUIT BREAKER TO SEAT LATCH RELAY	BLACK-WHITE STRIPE
48	BLIND CIRCUIT TERM IN HARNESS CANNOT BE CHECKED FOR CONT (COLOR OPT) USED TO HOLD RESISTOR WIRE IN CONNECTOR	BLACK-WHITE DOT	172	RELAY TO SEAT LATCH SOLENOID	ORANGE
51	SEAT REG. CONTROL SWITCH FEED	BLACK-LT BLUE STRIPE	173	DOOR SWITCH TO SEAT LATCH RELAY (COIL TERM.)	PINK-WHITE STRIPE
53	COURTESY LAMP SWITCH TO COURTESY LAMP	LT GREEN-YELLOW STRIPE	175	TOP CONTROL SWITCH OR RELAY FEED	BLACK-YELLOW DOT
54	INTERIOR LAMP SWITCH FEED	BLACK-PINK STRIPE	176	REAR WINDOW REGULATOR SWITCH FEED	WHITE
55	CARGO LAMP SW. TO CARGO LAMP	DK BLUE-ORANGE STRIPE	179	HORIZONTAL SEAT REG. MOTOR TO RELAY	YELLOW
56	WINDSHIELD WIPER SW. TO WINDSHIELD WIPER MOTOR	BLACK	180	HORIZONTAL SEAT REG. MOTOR TO RELAY	RED
57	GROUND CIRCUIT	WHITE	181	BLOWER MOTOR FEED	BROWN-ORANGE STRIPE
58	WINDSHIELD WIPER SW. TO WINDSHIELD WIPER MOTOR	BLACK-LT GREEN DOT	182	THERMOSTAT SWITCH FEED	BROWN-WHITE STRIPE
60	CONSTANT VOLTAGE UNIT TO GAGE	YELLOW-RED STRIPE	184	AIR COND SW. (LO) TO AIR COND BLOWER MOTOR	TAN-ORANGE HASH
61	WINDSHIELD WIPER SW. TO WINDSHIELD WIPER MOTOR	RED	186	DEFOGGER SW. TO DEFOGGER MOTOR	BROWN-LT BLUE HASH
63	WINDSHIELD WIPER SW. TO WINDSHIELD WIPER MOTOR	DK GREEN	188	CIRCUIT BRKR. TO HEADLAMP SW. "BATT." TERM.	BLACK
65	WINDSHIELD WIPER SW. TO WINDSHIELD WIPER MOTOR	RED-PINK HASH	191	DEFOGGER SW. TO DEFOGGER MOTOR	DK BLUE-YELLOW STRIPE
69	COIL TERM. IGN. SW. TO FUEL SOLENOID	LT GREEN	193	WINDOW REGULATOR RELAY FEED	YELLOW-LT GREEN HASH
74	RELAY "H" TERMINAL TO LAMP (WATER)	LT GREEN-PURPLE HASH	194	WINDOW REGULATOR RELAY ACCY FEED	PINK
75	STARTING MOTOR RELAY TO SERIES PARALLEL SW. (No. 1 TERM)	BLACK-ORANGE DOT	196	COOLANT FAN CONTROL RELAY FEED	TAN-RED DOT
80	ENGINE COMPARTMENT LAMP FEED	BROWN-YELLOW DOT	197	COOLANT TEMPERATURE SWITCH TO CONTROL RELAY	TAN-ORANGE DOT
81	EMISSION CONTROL VALVE TO SWITCH	PURPLE-YELLOW HASH	198	A/C PRESSURE SWITCH TO CONTROL RELAY	TAN-YELLOW DOT
84	DECK LID SOLENOID FEED	BLACK-WHITE STRIPE	199	CONTROL RELAY TO IGNITION RELAY	TAN-LT GREEN DOT
88	INSTRUMENT PANEL LAMP SWITCH FEED		200	IGNITION RELAY TO COOLANT FAN	TAN-LT BLUE DOT
			206	GROUND RETURN TO TOWING VEHICLE	WHITE
			215	SIGNAL UNIT LAMP TO FUEL SIGNAL RELAY	YELLOW-BLACK DOT

CAR STANDARD WIRE COLOR CODE CHART (CONTINUED)

CIRCUIT	DESCRIPTION	COLOR	CIRCUIT	DESCRIPTION	COLOR
226	LF WINDOW REG SW. TO LF WINDOW REG MOTOR	RED	385	FLASHER TO EMERGENCY WARNING SWITCH	WHITE-RED HASH
227	LF WINDOW REG SW. TO LF WINDOW REG MOTOR	YELLOW	387	READING LAMP SW. TO LAMP (L.H.)	LT. GREEN
241	DE-ICE SOLENOID CONTROL	LT BLUE-YELLOW STRIPE	399	HEATER BLOWER SWITCH FEED	BROWN-YELLOW STRIPE
243	POWER SERVO TO CLIMATE CONTROL UNIT (MODE)	LT GREEN-ORANGE HASH	400	SAFETY RELAY LOAD TERM. TO WIND. REG. SW. FEED	LT BLUE-BLACK DOT
244	THERMAL SW. TO CLIMATE CONTROL UNIT	YELLOW-WHITE HASH	401	LIMIT SW. TO BACK WINDOW REG. MOTOR	GRAY-BLACK STRIPE
245	POWER SERVO TO CLIMATE CONTROL UNIT (AMP)	BROWN-LT GREEN STRIPE	402	WINDOW REG. SW. TO BACK WINDOW REG. MOTOR	GRAY-RED STRIPE
246	POWER SERVO TO CLIMATE CONTROL UNIT (AMP)	PURPLE	403	WINDOW REG. SW. TO WIND. REG. MOTOR	GRAY-WHITE STRIPE
247	POWER SERVO TO CLIMATE CONTROL UNIT (AMP)	WHITE-YELLOW STRIPE	404	WINDOW REG. SW. TO BACK WIND. SW.	PURPLE-LT GREEN STRIPE
248	HEATER & A/C CONTROL SW. (DE-ICE) TO CLIMATE CONTROL UNIT	WHITE-YELLOW STRIPE	405	WINDOW REG. SW. TO BACK WIND. SW.	PURPLE-LT BLUE STRIPE
249	HEATER & A/C CONTROL SW. (LO-NORM) TO CLIMATE CONTROL UNIT	YELLOW-LT BLUE HASH	406	WINDOW REG. SW. TO BACK WIND. AUX. SW.	TAN
250	HEATER & A/C CONTROL SW. (LO-NORM) TO POWER SERVO	DK BLUE-LT GREEN STRIPE	407	WINDOW REG. SW. REAR TO LIMIT SW.	TAN-BLACK STRIPE
260	BLOWER MOTOR TO SWITCH - LO	ORANGE	408	WINDOW REG. SW. FRONT TO LIMIT SW.	TAN-RED STRIPE
261	BLOWER MOTOR TO SWITCH - HI	RED-ORANGE HASH	409	PRESSURE SWITCH TO KEY SWITCH	TAN-BLACK DOT
262	STARTING MOTOR RELAY TO IGN. COIL "I" TERM.	ORANGE-BLACK STRIPE	442	SEQUENTIAL LH REAR INBOARD TURN SIGNAL LAMP	LT GREEN-ORANGE STRIPE
269	HEATER BLOWER MOTOR TO SWITCH (MEDIUM)	BROWN-PINK STRIPE	443	SEQUENTIAL LH REAR CENTER TURN SIGNAL LAMP	LT GREEN-RED STRIPE
*282	TURN SIGNAL SW. TO RH REAR TURN SIGNAL LAMP	LT BLUE-ORANGE HASH	444	SEQUENTIAL LH REAR OUTBOARD TURN SIGNAL LAMP	LT GREEN-BLACK STRIPE
*283	TURN SIGNAL SW. TO LH REAR TURN SIGNAL LAMP	DK GREEN	445	SEQUENTIAL RH REAR INBOARD TURN SIGNAL LAMP	ORANGE-LT BLUE STRIPE
*284	BATTERY FEED TO STOPLAMP SWITCH	YELLOW-BLACK STRIPE	446	SEQUENTIAL RH REAR CENTER TURN SIGNAL LAMP	ORANGE-WHITE STRIPE
287	SPEAKER VOICE COIL RETURN	RED	447	SEQUENTIAL RH REAR OUTBOARD TURN SIGNAL LAMP	ORANGE-RED STRIPE
296	FUSED ACCY FEED No. 1	BLACK-WHITE HASH	450	SEAT BELT WARNING INDICATOR LAMP FEED	DK GREEN-LT GREEN STRIPE
297	ACCY FEED FROM IGNITION SWITCH	WHITE-PURPLE STRIPE	454	IGN. SW. COIL TERM. TO CIRCUIT BREAKER	RED-LT GREEN STRIPE
298	FUSED ACCY FEED No. 2	BLACK-LT GREEN HASH	455	CIRCUIT BREAKER TO FUEL VALVE	LT GREEN-YELLOW HASH
306	SEAT REG. SW. TO HORIZ. SOLENOID BATT. TERM.	PURPLE-ORANGE HASH	458	TURN SIGNAL SWITCH TO INDICATOR RELAY	ORANGE-BLACK HASH
307	SEAT REG. SW. TO VERT. SOLENOID BATT. TERM.	LT BLUE	459	INDICATOR RELAY TO FLASHER	ORANGE-LT GREEN STRIPE
313	LEFT FRONT WINDOW REGULATOR SWITCH TO RIGHT FRONT WINDOW REGULATOR MOTOR	WHITE	460	HORN SWITCH FEED	YELLOW-LT BLUE DOT
314	LEFT FRONT WINDOW REGULATOR SWITCH TO RIGHT FRONT WINDOW REGULATOR MOTOR	YELLOW-BLACK STRIPE	469	SEAT BELT WARNING SWITCH FEED	LT GREEN
316	LEFT FRONT WINDOW REGULATOR SWITCH TO LEFT REAR WINDOW REGULATOR MOTOR	RED-BLACK STRIPE	474	STOPLAMP RELAY FEED	PINK-BLACK STRIPE
317	LEFT FRONT WINDOW REGULATOR SWITCH TO LEFT REAR WINDOW REGULATOR MOTOR	YELLOW-LT BLUE STRIPE	475	STOPLAMP SW. TO STOPLAMP RELAY (COIL TERM)	DK GREEN-WHITE STRIPE
319	LEFT FRONT WINDOW REGULATOR SWITCH TO RIGHT REAR WINDOW REGULATOR MOTOR	RED-LT BLUE HASH	478	FOG LAMP SW. TO FOG LAMP	TAN-ORANGE STRIPE
320	LEFT FRONT WINDOW REGULATOR SWITCH TO RIGHT REAR WINDOW REGULATOR MOTOR	YELLOW-BLACK HASH	485	IGNITION SWITCH ACCY. TERM. TO DECK LID OPEN WARNING LAMP	BROWN-PINK HASH
328	WINDOW REG. MASTER CONT. SW. TO WIND. REG. SW. FEED	RED-BLACK HASH	486	DECK LID OPEN WARNING LAMP TO DECK LID OPEN SWITCH	BROWN-WHITE DOT
333	WINDOW REG. SW. TO WINDOW REG. MOTOR	RED-YELLOW DOT	487	READING LAMP SWITCH TO READING LAMP	PINK-ORANGE STRIPE
334	WINDOW REG. SW. TO WINDOW REG. MOTOR	YELLOW-RED STRIPE	494	TURN SIGNAL RELAY TO TURN SIGNAL FLASHER	TAN-LT GREEN HASH
347	COMPRESSOR CLUTCH FEED	RED-YELLOW STRIPE	500	HEADLAMP DIMMER SWITCH TO HEADLAMP DIMMER RELAY	PURPLE
348	THERMOSTATIC SW. TO AIR COND SW. SELECTOR TERM.	BLACK-YELLOW HASH	502	HEADLAMP DIMMER RELAY TO HEADLAMP DIMMER SWITCH	GRAY
364	BLOWER MOTOR RELAY FEED	LT GREEN-PURPLE HASH	503	HEADLAMP DIMMER RELAY TO FUSE HOLDER	LT BLUE
365	FUEL LEVEL WARNING RELAY FEED	BLACK-LT GREEN STRIPE	504	FUSE HOLDER TO HEADLAMP DIMMER AMPLIFIER	DK BLUE-WHITE HASH
366	FUEL WARNING RELAY CONTROL	LT BLUE-RED HASH	505	HEADLAMP DIMMER SWITCH TO HEADLAMP DIMMER AMPLIFIER	BLACK
367	FUEL LEVEL RECEIVER TO FUEL LEVEL WARNING RELAY (REG. TERM.)	RED-BLACK HASH	507	AMPLIFIER TO RHEOSTAT	YELLOW
369	VACUUM SOLENOID TO TEMP. SW.	DK GREEN-WHITE DOT	508	RHEOSTAT TO SENSOR	WHITE
371	BLOWER MOTOR RELAY TO MOTOR	BROWN-ORANGE HASH	509	AIR COND. CONDENSOR THERMAL SWITCH FEED	TAN-YELLOW STRIPE
375	MOVABLE STEERING COLUMN SOLENOID NEED	PINK-WHITE HASH	511	STOPLAMP SW. TO TURN SIGNAL SW.	LT GREEN
379	TURN SIGNAL SWITCH TO RH CORNERING LAMP	YELLOW-LT GREEN DOT	515	RESISTOR TO BLOWER MOTOR (HI)	ORANGE-RED STRIPE
380	TURN SIGNAL SWITCH TO LH CORNERING LAMP	BROWN-WHITE HASH	517	CIRCUIT BREAKER (LOAD TERM) TO CONTROLS (BATT. TERM)	BLACK-WHITE STRIPE
381	MOVABLE STEERING COLUMN SOLENOID TO COURTESY LAMP SWITCH	PURPLE-YELLOW STRIPE	520	SEAT BELT WARNING LAMP TO WARNING LAMP SWITCH	PURPLE-WHITE HASH
383	EMERGENCY WARNING FLASHER FEED	ORANGE-WHITE STRIPE	527	HEADLAMP DIMMER SWITCH OVERRIDE TO RHEOSTAT	RED
		RED-WHITE HASH	536	BLOWER MOTOR RELAY (LOAD TERM) TO BLOWER MOTOR	BLACK-LT GREEN DOT
			568	ALTERNATOR RELAY TO ALTERNATOR REGULATOR	LT GREEN
			587	WINDSHIELD WIPER INTERMITTENT GOVERNOR FEED	BLACK-WHITE HASH
			589	WINDSHIELD WIPER SWITCH TO INTERMITTENT GOVERNOR GROUND	ORANGE
			590	INTERMITTENT GOVERNOR TO W/S WIPER SWITCH	DK BLUE-WHITE STRIPE
			591	SPEED CONTROL RELAY TO SPEED REGULATOR	BLACK-ORANGE STRIPE
			592	STOPLAMP SW. TO SPEED CONTROL RELAY	LT BLUE-WHITE HASH
			596	PRIMER SW. TO OIL PRESSURE SAFETY SWITCH	BLACK-ORANGE DOT

CAR STANDARD WIRE COLOR CODE CHART (CONTINUED)

CIRCUIT	DESCRIPTION	COLOR	CIRCUIT	DESCRIPTION	COLOR
597	COIL TERM. OF IGN. SW. TO OIL PRESSURE SAFETY SWITCH	RED	788	REHEAT AMPLIFIER TO HEAT DUCT THERMISTOR	RED-ORANGE DOT
598	COIL TERM. OF IGN. SW. TO FUEL PUMP PRIMER SWITCH	PINK-YELLOW STRIPE	790	HEATER AND A/C CONTROL SW. TO INST. PANEL THERMISTOR	WHITE-ORANGE STRIPE
600	FEED TO FAILURE SWITCH	DK BLUE	797	BATTERY FEED TO STEREO	LT GREEN-PURPLE STRIPE
601	Brake Skid Control Module Feed	LT BLUE-PINK STRIPE	804	SPEAKER VOICE COIL FEED-FRONT (LEFT CHANNEL)	ORANGE-LT GREEN HASH
602	COIL TERM. OF IGN. SWITCH TO BRAKE SKID CONTROL MODULE	RED-LT GREEN HASH	805	SPEAKER VOICE COIL FEED-FRONT (RIGHT CHANNEL)	WHITE-LT GREEN HASH
603	FAILURE WARNING LITE	DK GREEN	806	SPEAKER VOICE COIL FEED-REAR (LEFT CHANNEL)	PINK-LT BLUE STRIPE
604	SKID CONTROL MODULE TO RH WHEEL SENSOR HI	ORANGE-RED HASH	807	SPEAKER VOICE COIL FEED-REAR (LEFT CHANNEL)	PINK-LT GREEN STRIPE
605	SOLENOID	RED	808	SELECTOR SWITCH TO FUEL TANK SOLENOID VALVE	BROWN-ORANGE STRIPE
625	OPEN DOOR WARNING LAMP FEED	PINK-YELLOW HASH	810	STOPLAMP SW. TO STOPLAMP	RED-LT GREEN HASH
627	OPEN DOOR WARNING LAMP TO OPEN DOOR WARNING SW.	BLACK-ORANGE HASH	817	INDICATOR RELAY TO RH TURN LAMP	TAN-LT BLUE HASH
632	IGN. SW. COIL TERM. TO OIL TEMP. WARNING LAMP	BLACK	818	INDICATOR RELAY TO LH TURN LAMP	TAN-WHITE HASH
633	IGN. SW. TO OIL TEMP. WARNING RELAY	RED	822	SPEAKER VOICE COIL FEED	BLACK-LT GREEN DOT
634	OIL TEMP. WARNING RELAY TO OIL TEMP. WARNING LAMP	LT BLUE	823	RADIO TO FADER CONTROL	LT GREEN
635	OIL TEMP. WARNING LAMP TO OIL TEMP. WARNING SW.	LT GREEN	848	BALLAST RESISTOR "F" TERM. TO TRANSISTOR UNIT "E" TERM.	RED-ORANGE DOT
640	WARNING LAMPS FEED	RED-YELLOW HASH	850	BALLAST RESISTOR COIL TERM. TO IGN. COIL BATT. TERM.	LT BLUE-WHITE DOT
642	WATER TEMP. WARNING LAMP TO WATER TEMP. SW. (COLD)	WHITE-LT GREEN STRIPE	851	TRANSISTOR UNIT "B" TERM. TO DISTRIBUTOR	LT GREEN
647	WATER TEMP. WARNING LAMP TO WATER TEMP. SW. (HOT)	RED-BLACK DOT	852	TRANSISTOR UNIT "C" TERM. TO BALLAST RESISTOR "C" TERM.	LT BLUE-PINK HASH
648	TACHOMETER FEED	RED-LT BLUE DOT	853	COIL TERM. IGN. SW. TO BALLAST RESISTOR "E" TERM.	RED-ORANGE HASH
654	ALT. SHUNT TO AMMETER	YELLOW-LT GREEN STRIPE	854	C.S. RELAY TO STARTER SOLENOID "I" TERM.	BROWN-YELLOW HASH
655	STARTING MOTOR RELAY SHUNT TO AMMETER	RED-ORANGE STRIPE	858	MAKE READY SWITCH TO BRAKE PEDAL PAD SWITCH	PINK-ORANGE HASH
660	AIR COND. CONTROL SW. TO FRESH-AIR RECIRC. DOOR SOLENOID	YELLOW-LT GREEN DOT	859	BRAKE PEDAL PAD SWITCH TO CONTROL RELAY TERM. No. 4	YELLOW
671	SPEED REG. SW. "ON" POSITION TO ON & OFF RELAY	WHITE	860	MAKE READY SWITCH TO SET SPEED SWITCH	PURPLE-WHITE STRIPE
686	HEAD LP TIME DELAY CONTROL RELAY TO CIR. BREAKER	GRAY-ORANGE STRIPE	861	RETARD SWITCH TO CONTROL RELAY TERM. No. 7	LT BLUE-WHITE STRIPE
687	ACC FEED	GRAY-YELLOW STRIPE	863	BRAKE SWITCH TO HOLDING RELAY	BLACK-YELLOW STRIPE
688	HTD BACKLITE SW. TO TIME DELAY RELAY	GRAY-LT BLUE STRIPE	869	RETARD VALVE TO CONTROL RELAY TERM. No. 1	LT GREEN-YELLOW STRIPE
697	SPEED REG. SW. "OFF" POSITION TO ON & OFF RELAY	ORANGE-BLACK STRIPE	883	AIR COND CONTROL RELAY FEED	PINK-LT BLUE HASH
745	ANTENNA SWITCH TO POWER ANTENNA (UP)	RED-PINK HASH	904	(COIL) OR (ACCY.) TERM. OF IGN. SW. TO ALT. REG. (IGA. TERM.)	LT GREEN-RED STRIPE
746	ANTENNA SWITCH TO POWER ANTENNA (DOWN)	DK GREEN-YELLOW STRIPE	914	SPEED REGULATOR SWITCH FEED	DK. GREEN-ORANGE STRIPE
751	BLOWER MOTOR SPEED CONTROLLER TO RESISTOR No. 3 (MED.)	DK BLUE-WHITE HASH	917	VENT SWITCH TO BLOWER MOTOR LO	PINK-LT GREEN HASH
752	BLOWER MOTOR SPEED CONTROLLER TO RESISTOR No. 2 (MED.)	YELLOW-RED DOT	920	BRAKE SW. TO SPEED CONTROL	WHITE-YELLOW HASH
753	HEATER & A/C CONTROL SW. TO BLOWER RELAY SW.	YELLOW-RED STRIPE	923	SPEED CONTROL SW. TO SPEED REG. SOLENOID	PURPLE
754	BLOWER MOTOR SPEED CONTROLLER TO RESISTOR No. 1 (MED.)	LT GREEN-WHITE HASH	924	HOLDING RELAY TO SPEED CONTROL SW. FEED	RED
755	BLOWER MOTOR SWITCH RELAY TO RESISTOR (LOW SPEED)	BROWN-WHITE STRIPE	925	SPEED CONTROL SW. TO SPEED REG. COUPLING COIL	WHITE-ORANGE STRIPE
756	HEATER AND A/C CONTROL SW. (HI-NORM) TO RESISTOR (LOW RANGE)	RED-PINK DOT	934	EMISSION SPEED SENSOR TO MODULATOR CONTROL	TAN-WHITE STRIPE
757	HEATER AND A/C CONTROL SW. (HI-NORM) TO BLOWER MOTOR SW. RELAY	RED-WHITE STRIPE	939	MODULATOR TO THERMO. SW.	TAN-BLACK HASH
758	HEATER AND A/C CONTROL SW. (LO-NORM) TO RESISTOR (LOW RANGE)	PURPLE-WHITE DOT	941	WASHER PUMP MOTOR FEED	BLACK-WHITE STRIPE
761	BLOWER MOTOR RELAY TO ENG. WATER TEMP. SWITCH (COLD)	WHITE-LT GREEN STRIPE	946	REAR WASHER PUMP FEED	PURPLE-LT GREEN HASH
765	HEATER AND A/C CONTROL SW. TO REHEAT AND A/C FEED	LT GREEN-YELLOW HASH	950	WASHER CONTROL SWITCH FEED	WHITE-BLACK STRIPE
766	HEATER AND A/C CONTROL SW. (DE-FOG TO INLET AIR CONTROL SOLENOID)	RED-LT GREEN DOT	955	W/SHIELD WIPER MOTOR ARM RH TO W/S WIPER SWITCH	RED-ORANGE STRIPE
767	AMBIENT SENSOR TO INST. PANEL THERMISTOR	LT BLUE-ORANGE STRIPE	956	W/SHIELD WIPER SW. TO W/SHIELD WIPER MOTOR FIELD RH	LT GREEN-ORANGE STRIPE
768	REFERENCE SENSOR TO HEAT DUCT THERMISTOR	LT GREEN-YELLOW HASH	960	AUX. HEATER FEED TO SWITCH	RED-YELLOW DOT
769	HEATER AND A/C CONTROL SW. (HI & LO NORM) TO BLOWER MTR. SW. RELAY	LT BLUE-YELLOW HASH	976	FUSE PANEL TO FUEL GAGE INDICATOR	BLACK-LT GREEN DOT
773	HEATER AND A/C CONTROL SW. (TEMP. SELECTOR) TO REHEAT AMP.	DK GREEN-ORANGE HASH	977	BRAKE WARNING SWITCH TO INDICATOR LAMP	PURPLE-WHITE STRIPE
775	HEATER AND A/C CONTROL SW. (DEFOG) TO DEFROST CONT. SOLENOID	WHITE-PINK STRIPE	978	SEAT REGULATOR SWITCH TO FRONT MOTOR (LH)	YELLOW-LT BLUE STRIPE
776	CLIMATE CONTROL BOX TO HIGH BLOWER RELAY	ORANGE-BLACK DOT	979	SEAT REGULATOR SWITCH TO FRONT MOTOR (LH)	RED-LT BLUE STRIPE
780	ENGINE ALARM RELAY (OIL PRESS.) "F" TERM. TO "A" TERM. IGN. SW.	RED	980	SEAT REGULATOR SWITCH TO HORIZ. MOTOR (LH)	YELLOW-WHITE STRIPE
787	FUEL PUMP SAFETY SWITCH TO FUEL PUMP MOTOR	PINK-BLACK HASH	981	SEAT REGULATOR SWITCH TO HORIZ. MOTOR (LH)	RED-WHITE STRIPE
			982	SEAT REGULATOR SWITCH TO REAR MOTOR (LH)	YELLOW-LT GREEN STRIPE
			983	SEAT REGULATOR SWITCH TO REAR MOTOR (LH)	RED-LT GREEN STRIPE
			984	SEAT REGULATOR SWITCH TO FRONT MOTOR (RH)	YELLOW-LT BLUE DOT
			985	SEAT REGULATOR SWITCH TO FRONT MOTOR (RH)	RED-LT BLUE DOT
			986	SEAT REGULATOR SWITCH TO HORIZ. MOTOR (RH)	YELLOW-WHITE DOT
			987	SEAT REGULATOR SWITCH TO HORIZ. MOTOR (RH)	RED-WHITE DOT
			988	SEAT REGULATOR SWITCH TO REAR MOTOR (RH)	YELLOW-LT GREEN DOT
			989	SEAT REGULATOR SWITCH TO REAR MOTOR (RH)	RED-LT GREEN DOT
			990	SEAT REGULATOR SWITCH TO FRONT MOTOR (LH)	YELLOW-LT BLUE HASH
			993	INTERMITTENT GOVERNOR TO WINDSHIELD WIPER SWITCH	BROWN-WHITE STRIPE

DESCRIPTION
FUSE PANEL & FUNCTIONSFUSE PANEL LOCATED AT
RIGHT OF STEERING COLUMN
FORWARD OF LOWER EDGE
OF INSTRUMENT PANEL

F-1 (20 AMP, FUSE) CIGAR LIGHTER, HORN.

F-2 (14 AMP, FUSE) COURTESY, DOME, MAP, LUGGAGE, GLOVE COMPARTMENT, CLOCK, AUTOMATIC SEAT BACK LATCH RELEASE (OPT.), IGNITION KEY WARNING, HEADLAMPS ON BUZZER & INSTR. PANEL COURTESY LAMPS.

F-3 (4 AMP, FUSE) ILLUMINATION LAMPS: CLUSTER, PRND21, CONSOLE, RADIO, CIGAR LIGHTER, HEATER OR AIR CONDITIONER CONTROLS, HEADLAMP SWITCH, CLOCK, W/S WIPER-WASHER CONTROLS & GAUGES (PERFORMANCE MODELS ONLY).

F-4 (14 AMP, FUSE) WARNING LAMPS: SEAT BELT REMINDER, OIL, ENG, TEMP., ALTERNATOR, DUAL BRAKE WARNING, THROTTLE SOLENOID &/OR EMISSION CONTROL.

F-5 (14 AMP, FUSE) HEATER AND DEFROSTER.

F-6 (15 AMP, FUSE) BACK-UP LAMPS, RADIO FEED, W/S WIPER-WASHER & TURN SIGNALS.

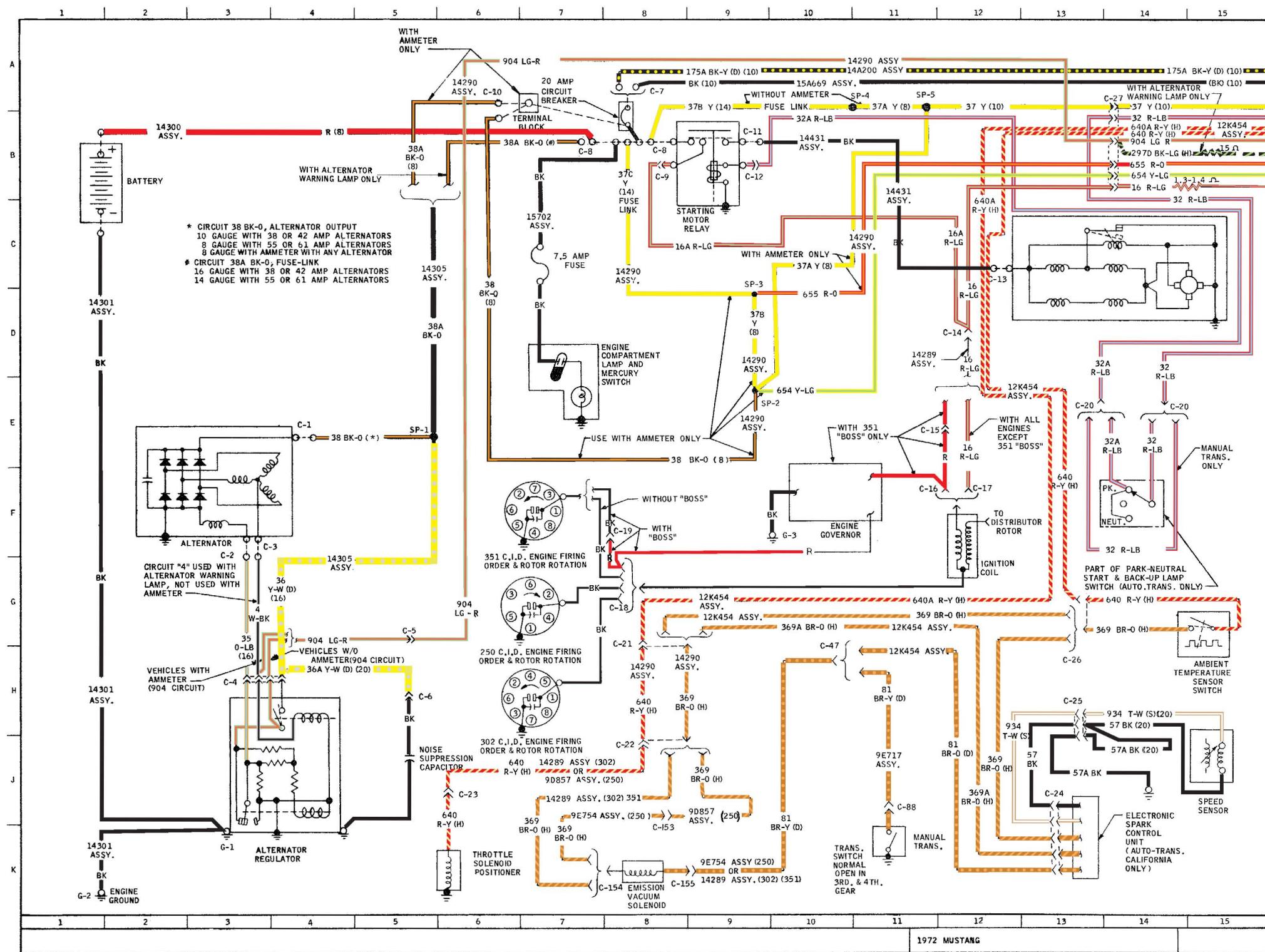
F-7 (20 AMP, FUSE) ACCESSORY FEED: PARK BRAKE WARNING LIGHT (OPT.) POWER WINDOW SAFETY RELAY & HEATED BACK-LITE RELAY COIL FEEDS (OPT.)

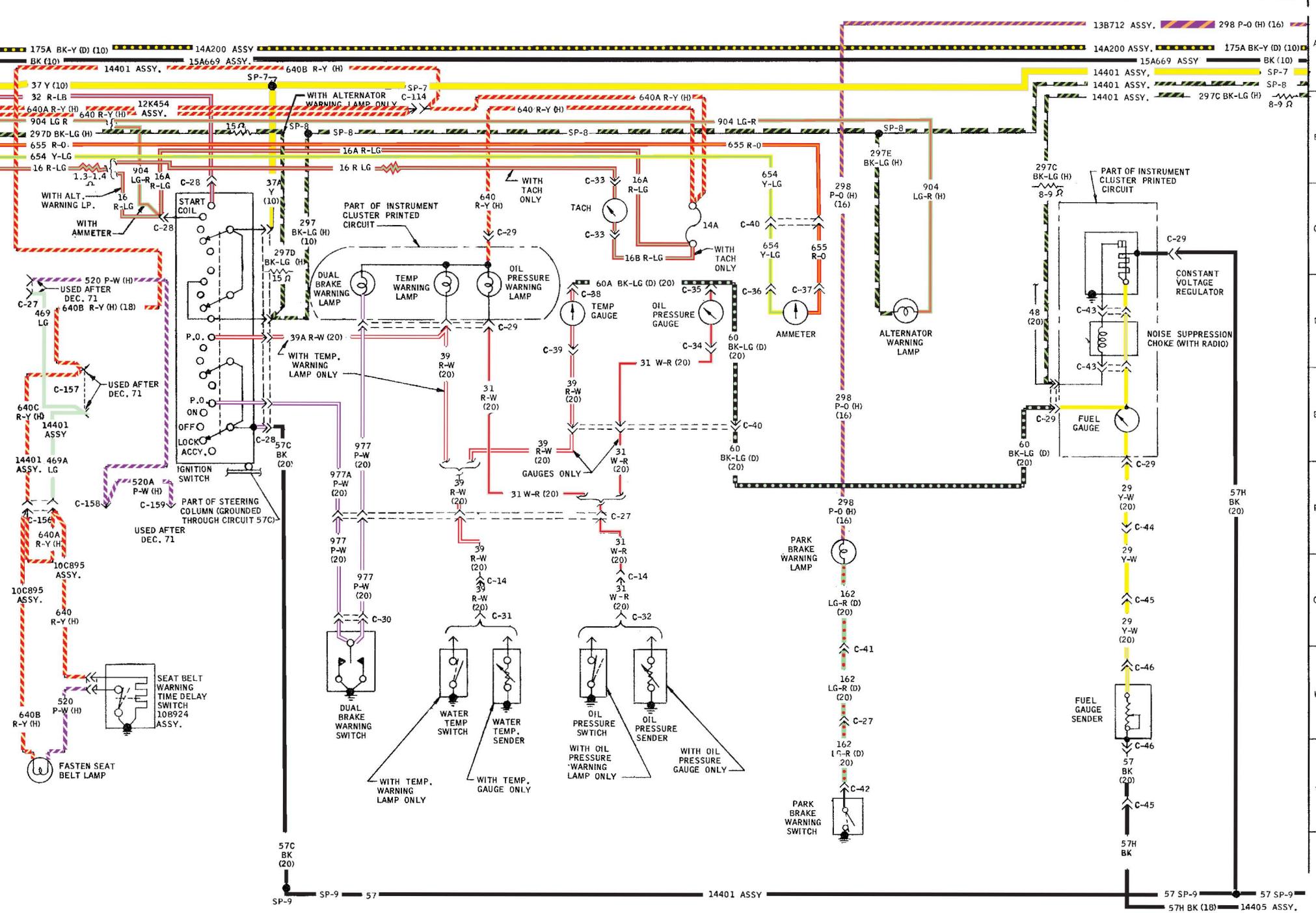
LIGHTING CHART

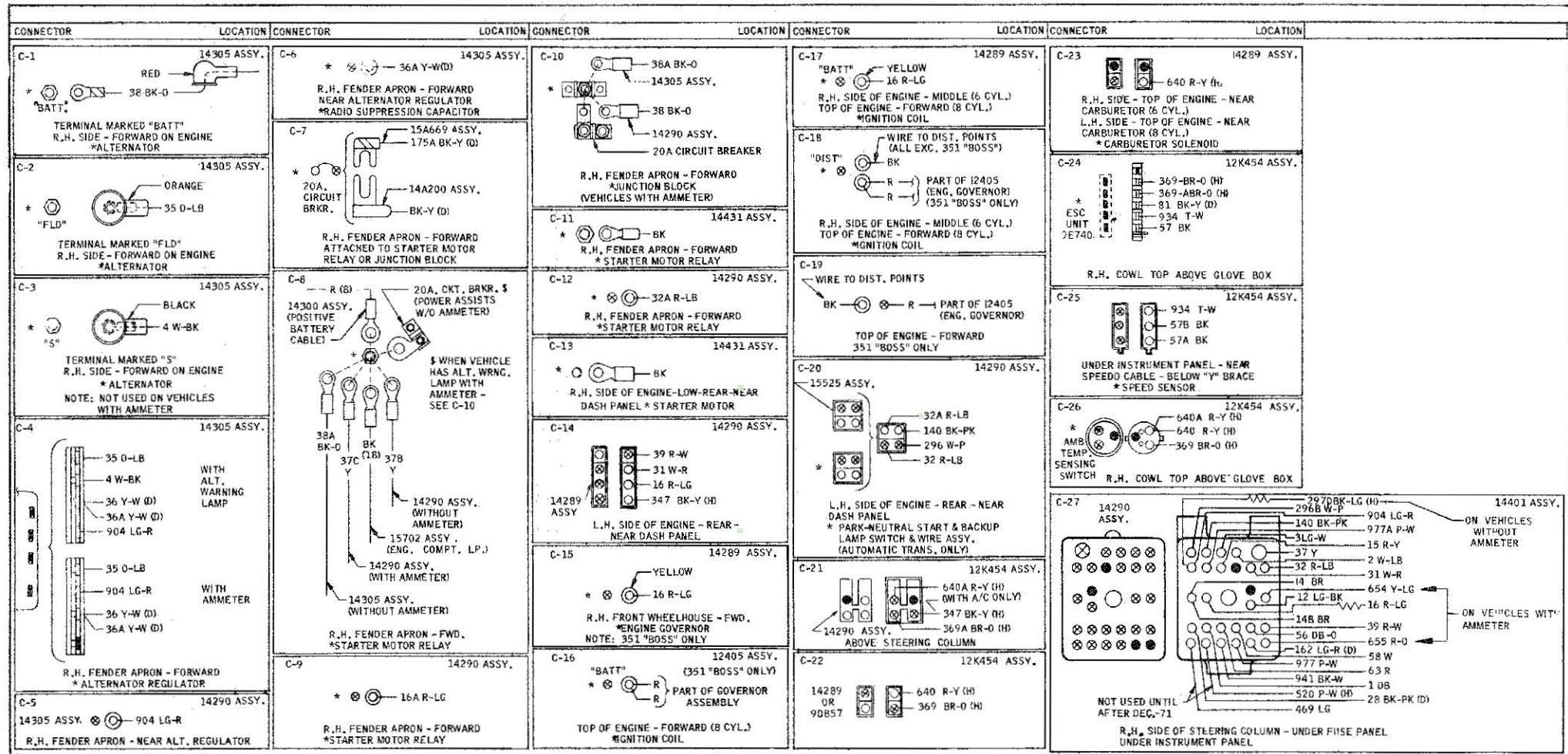
LAMP DESCRIPTION	CANDLE POWER OR WATTAGE	TRADE NUMBER
BACK-UP	32 C.P.	1156
FRONT & REAR MARKER	2 C.P.	194
FRONT PARK/TURN SIGNAL	3-32 C.P.	1157
HEADLAMPS		
HI & LO BEAM	50-40 C.P.	6012
LICENSE PLATE	4 C.P.	97
TAIL, STOP & TURN	3-32 C.P.	1157
GRILLE (SPORT LAMPS)	15 C.P.	94
CLUSTER (W/ PRINTED CIRCUIT)	2 C.P.	194
ILLUM. HDLP. SW. - W/S WIPER & CIGAR LTR.	2 C.P.	1895
HI-BEAM INDICATOR	2 C.P.	194
TURN INDICATOR	2 C.P.	194
HEATER & A/C CONTROLS	7 C.P.	1445
RADIO PILOT LIGHT	1.9 C.P.	1893
AUTO, TRANS. QUADRANT (CONSOLE)	.7 C.P.	1445
CIGAR LIGHTER ILLUM.	2 C.P.	1895
DOME LAMP	2 C.P.	194
ENGINE COMPARTMENT	6 C.P.	631
LUGGAGE COMPARTMENT	6 C.P.	631
MAP LAMP	6 C.P.	212
COURTESY LAMPS (INSTR. PANEL)	6 C.P.	631
SEAT BELT WARNING	.7 C.P.	1445
DOME LAMP	12 C.P.	561
PARK BRAKE WARNING	2 C.P.	256
GLOVE COMPARTMENT	2 C.P.	1895
CLOCK ILLUM. (CONSOLE)	2 C.P.	194
OIL PRESSURE WARNING	2 C.P.	194
WATER TEMP. WARNING	2 C.P.	194
ALTERNATOR WARNING	2 C.P.	194

INDEX

COMPONENT	LOCATION
AIR CONDITIONER CLUTCH	K-79
ALTERNATOR	F-3
ALTERNATOR REGULATOR	J-4
CLOCK	D-47
CIRCUIT BREAKERS	
POWER ASSIST	B-8
STOP LAMP	C-97
CAPACITOR (CONDENSER) NOISE SUPPRESSION	J-5
BATTERY	D-28
BUZZER (HEADLAMP "ON") & KEY WARNING	B-2
CIGAR LIGHTER	F-53
DISTRIBUTOR	D-73
ENGINE GOVERNOR	F-46-H-7
FLASHERS	F-10
EMERGENCY WARNING	B-8
TURN SIGNAL	D-96
GAUGES	D-91
AMMETER	D-25
FUEL	E-28
INSTRUMENT VOLTAGE REGULATOR	C-28
OIL PRESSURE	D-24
TACHOMETER	C-22
TEMPERATURE	D-22
GOVERNOR (INTERMITTENT WIPER)	B-84, 85 & D-86, 87
HEATED BACK-LITE (HEATER ELEMENTS)	J-32, 33
HEATER, A/C BLOWER RESISTOR	G-78
HORN	G, H-74
IGNITION COIL	F-12
ILLUMINATION LAMPS	E-65
CIGAR LIGHTER	F-62
CLOCK (CONSOLE)	F-69, 70
GAGE CLUSTER	F-64
HEADLAMP SWITCH	G-67
HEATER CONTROLS	E, F, G, H, J-71
MANUAL CLUSTER	E-68
RADAR	F-66
W/S WIPER-WASHER SWITCHES	
INDICATOR LAMPS	D-26
ALTERNATOR	D-20
DUAL BRAKE WARNING	J-34
HEATED BACK-LITE "ON"	H-100
HIGH BEAM	D-21
HI WATER TEMP.	F-91
LEFT TURN	D-21
LO OIL PRESSURE	F-25
PARKING BRAKE	F-92
RIGHT TURN	J-16
SEAT BELT	
LIGHTS	E-7
ENG. COMPT. (LIGHT & SWITCH)	H-102
BACK-UP L.H.	H-104
BACK-UP R.H.	J-97
GRILLE LAMPS (2 LAMPS)	F-44
GLOVE BOX	D-57
DOME	H-98, 99
HEADLIGHTS	H-96
PRND21	H-103
LICENSE PLATE	D-59
LUGGAGE COMPARTMENT (LIGHT & SWITCH)	E-45
MAP (LIGHT & SWITCH)	H-92, 94
PARKING	H-101, 102, 105
REAR (TAIL, STOP & TURN) (4 LAMPS)	J-93, 95
SIDE MARKER - FRONT (2 LAMPS)	D-44 & E-54
- REAR (2 LAMPS)	
INSTR. PANEL CTSY. (2 LAMPS)	
MOTORS	H-78
AIR CONDITIONER OR HEATER BLOWER	J-35
CONVERTIBLE TOP	J-36
POWER WINDOWS	J-37
L.H. FRONT DOOR	J-39
R.H. FRONT DOOR	J-38
R.H. REAR QUARTER	C-14
L.H. REAR QUARTER	H-86
STARTING	J-84
WINDSHIELD WASHER	
WINDSHIELD WIPER	
RADIOS	
AM	C-115
AM & STEREO TAPE UNIT	C-117
AM-FM MULTIPLEX	C-119
SENDERS	
FUEL GAGE	H-28
OIL PRESSURE GAGE	H-23
WATER TEMPERATURE GAGE	H-21
SOLENOIDS	
SEAT BACK LATCH	J-41, 42
THROTTLE POSITION	K-6
EMISSION VACUUM	K-8
RELAYS	
STARTING MOTOR	B-9
POWER WINDOW SAFETY	B-36
HEATED BACKLITE	F-34
SEAT BACK LATCH	E-42
HEADLAMP ON	F-54
SPEAKERS	
FRONT	E-115
L.H. DOOR	J-116
R.H. DOOR	J-119
SPEED SENSOR (EMISSION CONTROL)	J-15
SPARK CONTROL UNIT (EMISSION CONTROL)	K-13
SWITCHES	
AMBIENT TEMP. SENSOR (EMISSION CONTROL)	G-15
AIR CONDITIONER CONTROL	E-81
AIR CONDITIONER ICING	F-81
AIR CONDITIONER BLOWER & CLUTCH	D-78
BACK-UP LIGHT	D-103, D-104
DOOR JAMB COURTESY LIGHT - FRONT R.H.	B, C-41
L.H.	D-56
DUAL BRAKE WARNING	H-19
EMERGENCY WARNING	C-95
GLOVE BOX LAMP	H-45
HEADLIGHT DIMMER	D-100
HEATED BACK-LITE	D-34
HEATER BLOWER	D-77
IGNITION	C, D, E-18
LIGHT (HEADLAMP)	C-52
LOW OIL PRESSURE	H-27
PARK BRAKE	J-25
POWER WINDOW MASTER & L.H. FRONT	D-36, 37, 38, 39
R.H. FRONT DOOR	H-37
L.H. REAR QUARTER	H-38
R.H. REAR QUARTER	H-39
STOP LIGHT	D-98
HI WATER TEMP.	H-21
TURBOCHARGE	C-4
KEY REMINDER	G-51
WINDSHIELD WIPER 2-SPEED & WASHER	D-93
WINDSHIELD WIPER INTERMITTENT & WASHER	C-87
CONVERTIBLE TOP	F-35
"PARK" - "NEUTRAL" START (AUTO TRANS. ONLY)	F-14
ENG. COMPT., LAMP	E-7
SEAT BELT WARNING TIME DELAY SWITCH	H-16
MAP (SWITCH & LAMP)	E-44
LUGGAGE COMPT. (SWITCH & LAMP)	D-59
ENG. COMPT. (SWITCH & LAMP)	E-7
HORN	D-74
TRANSMISSION (EMISSION CONTROL)	K-11







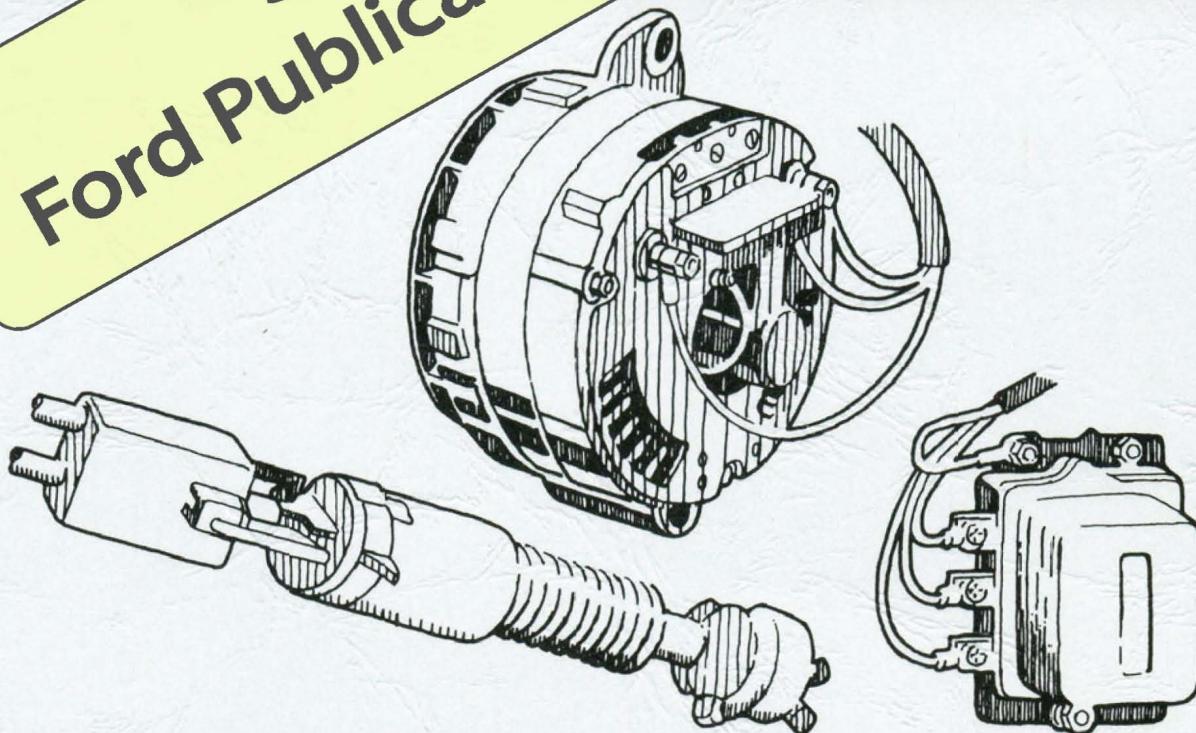


1972

car shop manual

volume III electrical

Source Document
Ford Publication Form 7098-72-3



1972 car shop manual

volume 3 electrical

group index

Identification Codes	30
Charging System	31
Lighting System	32
Instruments, Clusters and Controls	33
Main Wiring Harnesses and Circuit Protection	34
Auxiliary Equipment	35
Ventilating, Heating and Air Conditioning	36
Speed Control and Anti-Skid Control	37

Ford Marketing Corporation
Ford Customer Service Division
Service Technical Communications Department
Publications Section

FOREWORD

This manual is divided into five volumes: 1. Chassis; 2. Engine; 3. Electrical; 4. Body; 5. Maintenance and Lubrication. These volumes should provide Service Technicians with complete information covering normal service repairs on all 1972 model passenger cars built by the Ford Companies in the U.S. and Canada. As changes in the product occur, this information will be updated by Technical Service Bulletins. When issued, T.S.B. information always supersedes the information in the manual.

Information in each volume is grouped by system or component plus "General Service" part which contains information common to several similar components.

The table of contents on the first page of each volume indicates the general content of the book and provides a handy tab locator to make it easy to find the first page of each "Group." That page will contain an index to "Parts" and the first page of each "Part" contains a detailed index which gives page location for each service operation covered. Page numbers are consecutive in each "Part."

To make reference easier, information has been broken down into smaller units so that essentially there is now one "Part" for each component or system. Group numbers indicate the volume in which the group may be found.

EXAMPLE: 11-02-21

Volume 1 – Group 11; Part 02; Page 21

The descriptions and specifications in this manual were in effect at the time this manual was approved for printing. Ford Marketing Corporation reserves the right of discontinue models at any time, or change specifications or design, without notice and without incurring obligation.



Service Publications Section

Identification Codes

GROUP
30

PART 30-01 Car Identification Codes

OFFICIAL VEHICLE IDENTIFICATION NUMBER

The official Vehicle Identification Number (VIN) (Fig. 1) for title and registration purposes is stamped on a metal tab that is fastened to the instrument panel close to the windshield on the driver's side of the car and is visible from outside.

VEHICLE CERTIFICATION LABEL

The Vehicle Certification Label (V.C. Label) (Fig. 1) is attached to the rear face of the driver's door, except Pinto, Maverick and Comet 2-Door Sedans, where the label is attached to the left door lock pillar. The upper half of the label contains the name of the manufacturer, the month and year of manufac-

ture and the certification statement.

The V.C. label also contains the Vehicle Identification Number. This number is also used for warranty identification of the vehicle. The first number indicates the model year. The letter following the model year number indicates the manufacturing assembly plant. The next two numbers designate the Body Serial Code followed by a letter expressing the Engine Code.

F 2S54F100001 F		
(VEHICLE IDENTIFICATION NUMBER)		
MFD. BY FORD MOTOR CO. 100001 IN U.S.A.		
07/71 THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STAN- DARDS IN EFFECT ON DATE OF MANUFACTURE SHOWN ABOVE.		
1		
2	2S54F100001	
3	54F	1C
4	KA	48
5		
6		
7		
(UNITED STATES)		

1 CONSECUTIVE UNIT NO. 2 BODY SERIAL CODE 3 MODEL YEAR CODE 4 ASSEMBLY PLANT CODE 5 ENGINE CODE 6 TRIM CODE	7 REAR AXLE CODE 8 COLOR CODE 9 BODY TYPE CODE 10 DISTRICT - SPECIAL EQUIPMENT CODE 11 TRANSMISSION CODE
--	--

MFD. BY FORD MOTOR CO. 100001 IN U.S.A.		
08/71 DATE OF MANUFACTURE THIS VEHICLE MANUFACTURED FOR EXPORT.		
VEH. IDENT. NO. 2 E 5 3 6 1 0 0 0 0 1 BODY 64 B COL. 2 B TRIM AA AXLE G TRNS. 5 DSO B1		
(EXPORT)		

MFD. BY FORD MOTOR CO. 100001 OF CANADA LTD, IN CANADA		
08/71 THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STAN- DARDS IN EFFECT ON DATE OF MANUFACTURE SHOWN ABOVE.		
VEH. IDENT. NO. 2 X 1 1 W 1 0 0 0 0 1 BODY 64 B COL. 2 B TRIM AA AXLE G TRNS. 5 DSO B1		
(CANADA)		



FIG. 1 Vehicle Identification and Certification Labels

The last six digits of the Vehicle Identification Number indicate the Consecutive Unit Number of each unit built at each assembly plant. The Consecutive Unit Numbers begin as follows:

100,001—Ford, Torino, Mustang, Thunderbird, Maverick and Pinto.

500,001—Mercury, Meteor, Montego, Cougar, Comet.

800,001—Lincoln Continental and Continental Mark IV.

The remaining information on the V.C. Label consists of pertinent vehicle

identification codes:

The BODY code is two numerals and a letter identifying the body style.

The COL (color) code is a number and letter indicating the exterior paint color code.

The TRIM code consists of a number-letter combination designating the interior trim.

The AXLE code is a number or letter indicating the rear axle ratio and standard or locking type axles.

The TRNS. code is a number or

letter indicating the type of transmission, numerals for manual and letters for automatic.

The DSO code consisting of two numbers designates the district in which the car was ordered and may appear in conjunction with a Domestic Special Order or Foreign Special Order number when applicable. Ford of Canada DSO codes consist of a letter and a number.

The following chart provides the District and Assembly Plant Codes.

Identification Data—District and Plant Codes

ASSEMBLY PLANT CODES

Code Letter	District
A	Atlanta
B	Oakville (Canada)
E	Mahwah
F	Dearborn
G	Chicago
H	Lorain
J	Los Angeles
K	Kansas City
N	Norfolk
P	Twin Cities
R	San Jose
S	Allen Park
T	Metuchen
U	Louisville
W	Wayne
X	St. Thomas
Y	Wixom
Z	St. Louis

DISTRICT CODES

FORD

Code	District
11	Boston
12	Buffalo
13	New York
14	Pittsburgh
15	Newark
16	Philadelphia
17	Washington
21	Atlanta
22	Charlotte
23	Memphis
24	Jacksonville
25	Richmond
26	New Orleans
28	Louisville

DISTRICT CODES

LINCOLN-MERCURY

Code	District
11	Boston
15	New York
16	Philadelphia
17	Washington
21	Atlanta
22	Dallas
23	Jacksonville
26	Memphis
31	Buffalo
32	Cincinnati
33	Cleveland
34	Detroit
41	Chicago
42	St. Louis
46	Twin Cities
51	Denver
52	Los Angeles
53	Oakland
54	Seattle
84	Home Office Reserve
90	Export

DISTRICT CODES

FORD OF CANADA

Mercury Code	Region	Ford Code
A1	Central	B1
A2	Eastern	B2
A3	Atlantic	B3
A4	Midwestern	B4
A6	Western	B6
A7	Pacific	B7
I2	Export	I2

Code	District
33	Detroit
41	Chicago
42	Cleveland
43	Milwaukee
45	Lansing
46	Indianapolis
47	Cincinnati
52	Dallas
53	Kansas City
54	Omaha
55	St. Louis
56	Davenport
57	Houston
58	Twin City
65	Oklahoma City
71	Los Angeles
72	San Jose
73	Salt Lake City
74	Seattle
75	Phoenix
76	Denver
83	Government
84	Home Office Reserve
85	American Red Cross
87	Body Company
89	Transportation Services
90-99	Export

CK2456-C

Charging System

GROUP
31

PART 31-01	PAGE	PART 31-12	PAGE
Charging System General Service	31-01-01	G.P.D. Side Terminal Alternator	31-12-01
PART 31-02		PART 31-21	
Batteries	31-02-01	Leece-Neville 65-Ampere Alternator	31-21-01
PART 31-10		PART 31-40	
G.P.D. Rear Terminal Alternator	31-10-01	Alternator Electro-Mechanical Regulator	31-40-01

PART 31-01 Charging System General Service

COMPONENT INDEX	Page	COMPONENT INDEX	Page
DESCRIPTION AND OPERATION Fuse Link – Charging System	01-01	TESTING Charging System	01-01
REMOVAL AND INSTALLATION Fuse Link Replacement	01-02	Fuse Link Continuity Test	01-02

1 DESCRIPTION AND OPERATION

CHARGING SYSTEM FUSE LINK

The fuse link is a short length of insulated wire integral with the engine compartment wiring harness. It is several wire gages smaller than the circuit that it protects. Production fuse links are the color of the circuit being supplied by the fuse link. Service fuse links are green or black depending on usage. All fuse links have a flag moulded on the

wire or on the terminal insulator. Color identification of the flag or connector is Red—18 Ga. wire, Orange—16 Ga. wire, or Green—14 Ga. wire. Fig. 1 shows fuse link installations.

The fuse link burns out, thus protecting the alternator or wiring, when heavy current flows, such as when a booster battery is connected incorrectly

or a short to ground occurs in the wiring harness.

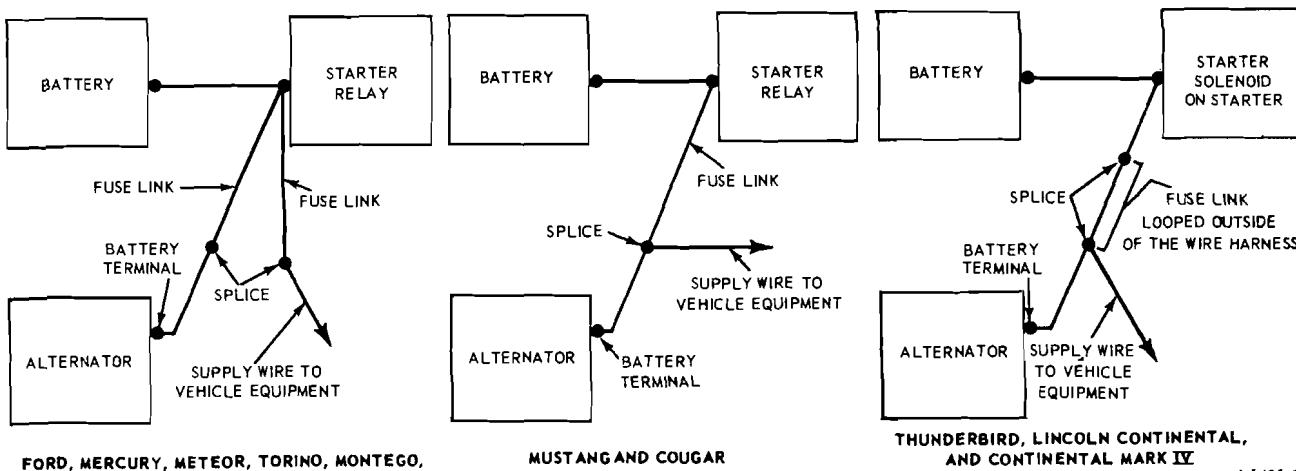
A burned out link may have bare wire ends protruding from the insulation, or it may only have expanded or bubbled insulation with illegible identification. If it is hard to determine if the link is burned out, perform a continuity test.

2 TESTING

CHARGING SYSTEM

The alternator and alternator regulator are precision built units, and the equipment to make tests in the charging system must be accurate. Voltmeters must be accurate within 0.1 (one tenth) volt within the range of 12 to 16 volts and ammeters within one ampere at 30 to 65 amperes to permit correct measurement of the alternator and regulator. The meters on Rotunda equipment should be calibrated once a year and the date of calibration stamped on the meter face. It is recommended that this practice be followed by all tech-

nicians in order to maintain their meters at acceptable accuracy. Certain tests outlined in the following Parts are illustrated in schematic and in pictorial form. The schematic illustrates the internal connections of the Rotunda equipment so that these connections can



J 1431-B

FIG. 1 Fuse Link Installation

be duplicated when the illustrated equipment is not available. The various circuits involved in the tests can be selected by means of switches without the necessity of changing connections when the illustrated equipment is used. This reduces the time required to test units and circuits on the vehicle.

Where applicable, the tests are divided into On The Vehicle and On The Test Bench procedures. Either procedure can be followed depending on the equipment available for the tests.

Trouble shooting or diagnosis is required before actual repairs can be made in the electrical system. Even where an obvious fault makes the re-

placement of a unit necessary, you must still find out why the unit failed. The trouble shooting procedures given in the Electrical Systems Diagnosis Manual will aid in making a correct diagnosis. When a trouble is diagnosed correctly, unnecessary repairs are prevented, the time the vehicle is out of service will be decreased, and the repairs that are made will be permanent.

FUSE LINK CONTINUITY TEST

1. On the Cougar, Mustang, Thunderbird, Lincoln Continental and Continental Mark IV, make certain first that the battery is OK, then turn on the

headlights or any accessory. If the headlights or accessory do not operate, the fuse link is probably burned out.

2. On the Ford, Mercury, Meteor, Torino, Montego, Maverick, Comet and Pinto, there are two fuse links (Fig. 1). Use the same procedure as in step 1 to test the fuse link that protects the vehicle equipment.

To test the fuse link that protects the alternator, make certain that the battery is OK then check with a voltmeter for voltage at the BAT terminal of the alternator. No voltage indicates that the fuse link is probably burned out.

4 REMOVAL AND INSTALLATION

FUSE LINK REPLACEMENT

1. Procure the proper service fuse link for the vehicle being repaired (Fig. 1). The two fuse links shown have an eyelet terminal for a 5/16-inch stud on one end. When the terminal is not required, cut off the fuse link as close to the terminal as possible and strip approximately 3/8-inch of insulation from the cut end.

2. Disconnect the battery ground cable.

3. Disconnect the fuse link and/or fuse link eyelet terminal from the battery terminal of the starter relay. On the Thunderbird, Lincoln Continental and the Continental Mark IV, the fuse link is looped outside of the wire harness behind the point at which the harness is clipped to the right rocker cover above the starter.

4. Cut the fuse link and the splice(s) from the wire(s) to which it is attached.

5. Splice and solder the new fuse link to the wire(s) from which the old link was cut. Use rosin core solder. Wrap the splice(s) completely with vinyl electricians tape.

6. Securely connect the eyelet terminals (if any) to the battery stud on the starter relay.

7. Install the repaired wiring as before using existing clips if provided.

8. Connect the ground cable to the battery.

PART 31-02 Batteries

COMPONENT INDEX	Page	COMPONENT INDEX	Page
SPECIFICATIONS	02-02	TESTING – Cont.	
TESTING		With Rotunda Cell Analyzer (SRECA-200)	02-01
With Rotunda Battery-Starter Tester (ARE 16-31)	02-01		

2 TESTING

Tests are made on a battery to determine the state of charge and also the condition. The ultimate result of these tests is to show that the battery is good, needs recharging, or should be replaced.

If a battery has failed, is low in charge, or requires water frequently, good service demands that the reason for this condition be found. It may be necessary to follow trouble shooting procedures to locate the cause of the trouble. Refer to the Ford Car and Truck Diagnosis Manual for battery diagnosis procedures.

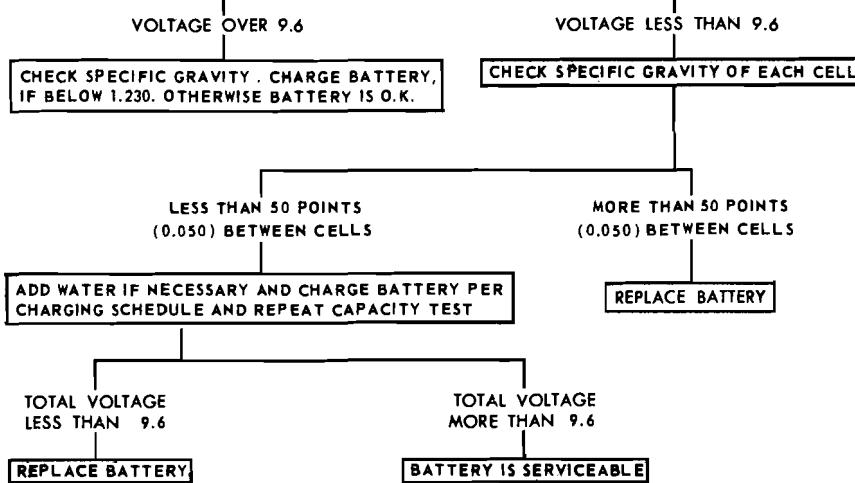
Hydrogen and oxygen gases are produced during normal battery operation. This gas mixture can explode if flames or sparks are brought near the vent openings of the battery. The sulphuric acid in the battery electrolyte can cause a serious burn if spilled on the skin or spattered in the eyes. It should be flushed away with large quantities of clear water.

Particular care should be used when connecting a booster battery in order to prevent sparks. Be certain to connect positive terminal to positive terminal and negative terminal to negative terminal.

Before attempting to test a battery, it is important that it be given a thorough visual examination to determine if it has been damaged. The presence of moisture on the outside of the case and/or low electrolyte level in one or more of the cells are indications of possible battery damage. Original equipment batteries have a single one-piece cover which completely seals the top of the battery and the individual cell connectors. This cover must not be pierced with test probes to perform individual cell tests.

BATTERY CAPACITY TEST

ADJUST RESISTANCE UNTIL AMMETER READS 3 TIMES AMPERE-HOUR RATING OF BATTERY. HOLD FOR 15 SECONDS AND NOTE VOLTAGE.



J 1039-F

FIG. 1 Battery Capacity Test Outline

TESTS USING THE ROTUNDA CELL ANALYZER (SRECA-200)

The Rotunda Cell Analyzer (SRECA-200) measures the individual cell voltages by inserting probes into the cell openings. Follow the instructions provided with the unit.

A battery can also be tested by determining its ability to deliver current. This may be determined by conducting a Battery Capacity Test. Fig. 1 shows the battery capacity test in outline form.

TESTS USING THE ROTUNDA BATTERY—STARTER TESTER ARE 16-31

Battery Capacity Test

A high rate discharge tester (Rotunda Battery-Starter Tester ARE 16-31) in conjunction with a voltmeter is used for this test.

1. Turn the control knob on the Battery Starter Tester to the OFF position.
2. Turn the voltmeter selector

switch to the 20-volt position.

3. Connect both positive test leads to the positive battery post and both negative test leads to the negative battery post. The voltmeter clips must contact the battery posts and not the high rate discharge tester clips. Unless this is done, the actual battery terminal voltage will not be indicated.

4. Turn the load control knob in a clockwise direction until the ammeter reads three times the ampere hour rating of the battery. (A 45 ampere-hour battery should be tested at 135 amperes load).

5. With the ammeter reading the required load for 15 seconds, note the voltmeter reading. Avoid leaving the high discharge load on the battery for periods longer than 15 seconds.

6. If the voltmeter reading is 9.6 volts or more, the battery has good output capacity and will readily accept a charge, if required. Check the specific gravity. If the specific gravity reading is

1.230 or below, add water if necessary and charge the battery until it is fully charged (Fig. 1). Always disconnect the battery ground cable when charging the battery.

The battery is fully charged when the cells are all gassing freely and the specific gravity ceases to rise for three successive readings taken at hourly intervals. Additional battery testing will not be necessary after the battery has been properly charged.

7. If the voltage reading obtained during the capacity test is below 9.6 volts, check the specific gravity of each cell.

8. If the difference between any two cells is more than 50 points (0.050), the battery is not satisfactory for service and should be replaced.

9. If the difference between cells is less than 50 points (0.050), the battery should be charged according to the charging schedule in Section 9. Batteries that are completely discharged may not

accept a fast charge. If this is found, the battery should be slow charged until the charge rate goes up and it will accept the fast charge. This may require up to four hours of slow charge. In some cases the electrolyte level may be too low to obtain a specific gravity reading. In such cases water should be added until the electrolyte level just covers the ring in the filler well, then charge the battery at 35 amperes for the maximum charging time indicated in Section 9 for the capacity of the battery being tested.

10. After the battery has been charged, repeat the capacity test. If the capacity test battery voltage is still less than 9.6 volts, replace the battery. If the voltage is 9.6 volts or more, the battery is satisfactory for service.

11. If the battery is found to be discharged only, check for a loose fan belt, loose electrical connections and charging system performance.

9 SPECIFICATIONS

BATTERIES

Allowable Battery High Rate Charge Time Schedule						
Specific Gravity Reading	Charge Rate Ampères	Battery Capacity - Ampere Hours				
		45	54 & 55	70 & 73	80	85
1.125-1.150 ①	35	65 min.	80 min.	100 min.	115 min.	125 min.
1.150-1.175	35	50 min.	65 min.	80 min.	95 min.	105 min.
1.175-1.200	35	40 min.	50 min.	60 min.	70 min.	75 min.
1.200-1.225	35	30 min.	35 min.	45 min.	50 min.	55 min.
Above 1.225	5	②	②	②	②	②

① If the specific gravity is below 1.125, use the indicated high rate of charge for the 1.125 specific gravity, then charge at 5 amperes until the specific gravity reaches 1.250 at 80° F.
 ② Charge at 5 ampere rate only until the specific gravity reaches 1.250 at 80° F.
 ③ At no time during the charging operation should the electrolyte temperature exceed 130° F.

Battery Freezing Temperatures			
Specific Gravity	Freezing Temp.	Specific Gravity	Freezing Temp.
1.280	-90°F	1.150	+ 5°F
1.250	-62°F	1.100	+19°F
1.200	-16°F	1.050	+27°F
Battery Ampere Hours		Number of Plates	
45		54	
54		66	
55		66	
70		78	
73		78	
80		78	
85		90	

CJ1447-B

PART 31-10 G.P.D. Rear Terminal Alternator

COMPONENT INDEX	Page	COMPONENT INDEX	Page
ADJUSTMENTS		TESTING	
Drive Belt	10-08	Alternator Tests With Rotunda (ARE 20-22) Tester	10-02
DESCRIPTION AND OPERATION ...	10-01	Alternator Tests With Rotunda (ARE 27-38) Tester	10-02
DISASSEMBLY AND OVERHAUL		Diode Test	10-06
All Alternators Except 65 Ampere ..	10-08	Field Open or Short Circuit Test	10-03
65-Ampere Alternator	10-11	Output Test	10-02
REMOVAL AND INSTALLATION ...	10-08	Stator Neutral Voltage Test	10-02
SPECIFICATIONS	10-14	Stator Open or Grounded Circuit Test	10-06

1 DESCRIPTION AND OPERATION

The alternator charging system is a negative (-) ground system, and consists of an alternator, a regulator, a charge indicator, a storage battery, a fuse link and associated wiring. Refer to the Wiring Diagram Manual, Form 7795P-72, for schematics and locations of wiring harnesses.

ALTERNATOR

The alternator is belt driven from the engine. Current is supplied from the alternator-regulator system to the rotating field of the alternator through two brushes to two slip rings.

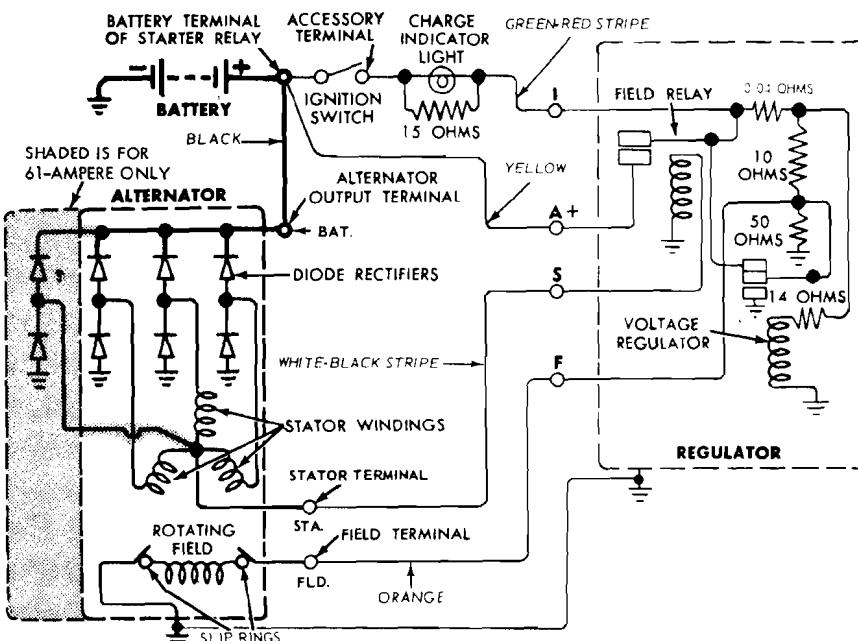
The alternator produces power in the form of alternating current. The alternating current is rectified to direct current by six diodes (eight diodes in 61 ampere alternators). The alternator regulator automatically adjusts the alternator field current to maintain the alternator output voltage within prescribed limits to correctly charge the battery. The alternator is self current limiting.

If a charge indicator lamp is used in the charging system (Fig. 1), the system operation is as follows: when the ignition switch is turned ON, a small electrical current flows through the lamp filament (turning the lamp on) and through the alternator regulator to the alternator field. When the engine is started, the alternator field rotates and produces a voltage in the stator winding. When the voltage at the alternator stator terminal reaches about 3 volts, the

regulator field relay closes. This puts the same voltage potential on both sides of the charge indicator lamp causing it to go out. When the field relay has closed, current passes through the regulator A terminal and is metered to the alternator field.

If an ammeter is used in the charging system (Fig. 2), the regulator I

terminal and the alternator stator terminal are not used. When the ignition switch is turned ON, the field relay closes and electrical current passes through the regulator A terminal and is metered to the alternator field. When the engine is started, the alternator field rotates causing the alternator to operate. The ammeter indicates current flow into

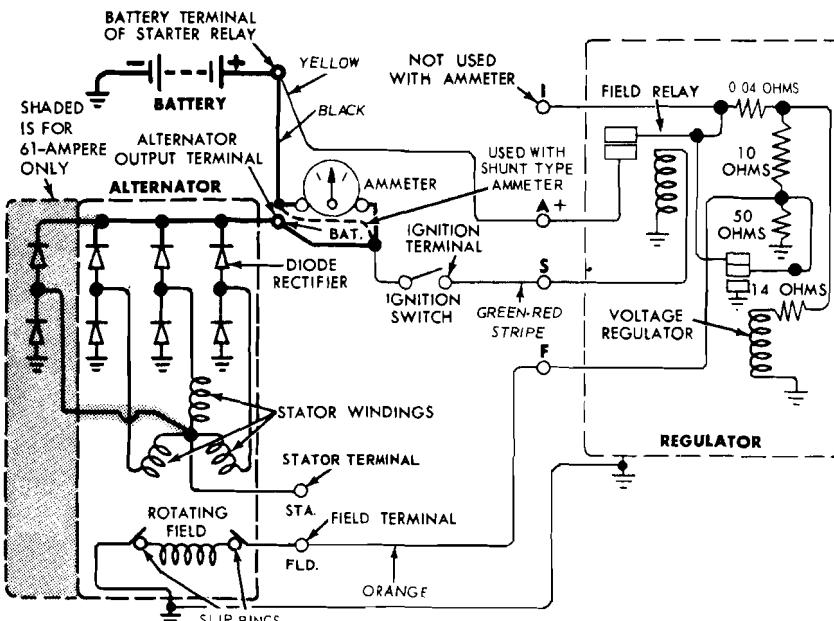


J1210-J

FIG. 1 Alternator Charging System—Indicator Light

(charge) or out of (discharge) the vehicle battery.

Fuse links are included in the charging system wiring on all models (Part 31-01). This fuse link is used to prevent damage to the wiring harness and alternator if the wiring harness should become grounded, or if a booster battery is connected to the charging system with the wrong polarity.



J1205-H

FIG. 2 Alternator Charging System—Ammeter

2 TESTING

Refer to the Ford Car and Truck Diagnosis Manual for diagnosis of the alternator charging system.

Check the alternator drive belt and adjust it to specification (Section 9 of this part), before proceeding with any tests. Check and tighten all connectors at the starter relay and battery.

TESTS USING THE ROTUNDA ARE 20-22 ALTERNATOR REGULATOR TESTER

The general procedure is to connect the tester (Fig. 3) to the charging system, start the engine, make two tests, and then compare the pattern of lights that appear on the tester to each set of patterns shown in Figs. 4 and 5. Follow the instructions given with the ARE 20-22 tester.

TESTS USING THE ROTUNDA ARE 27-38 VOLT-AMP- ALTERNATOR TESTER

The following test procedures make use of the Rotunda Volt-Amp Alternator Tester ARE 27-38.

Refer to the Wiring Diagram Manual, Form 7795-P-72, for schematics and locations of wiring harnesses. Use care when connecting any test

equipment to the alternator system, as the alternator output terminal is connected to the battery at all times.

Alternator Output Test On Engine

When the alternator output test is conducted off the car, a test bench must be used. Follow the procedure given by the test bench equipment manufacturer. When the alternator is removed from the vehicle for this purpose, always disconnect the battery ground cable as the alternator output connector is connected to the battery at all times.

To test the output of the alternator on the vehicle, proceed as follows:

Test Procedure

1. Check the alternator drive belt tension. Place the transmission in neutral or park and apply the parking brake. Make the connections and tester knob adjustments as shown in Fig. 6 (Output Test). Be sure that the field rheostat knob is at the OFF position at the start of this test.

2. Close the battery adapter switch. Start the engine, then open the battery adapter switch.

3. Increase the engine speed to approximately 2000 rpm (use a tachometer following the manufacturers instructions). Turn off all lights and electrical accessories.

4. Turn the field rheostat clock-

wise until 15 volts is indicated on the voltmeter upper scale. Turn the master control clockwise until the voltmeter indicates between 11 and 12 volts. Holding the master control in this position, turn the field rheostat clockwise to its maximum rotation. Turn the master control counter clockwise until the voltmeter indicates 15 volts. Observe the ammeter reading. Add 2 amperes to this reading to obtain alternator output. If rated output (Section 9 of this part) cannot be obtained, increase the engine speed to 2900 rpm and repeat this step.

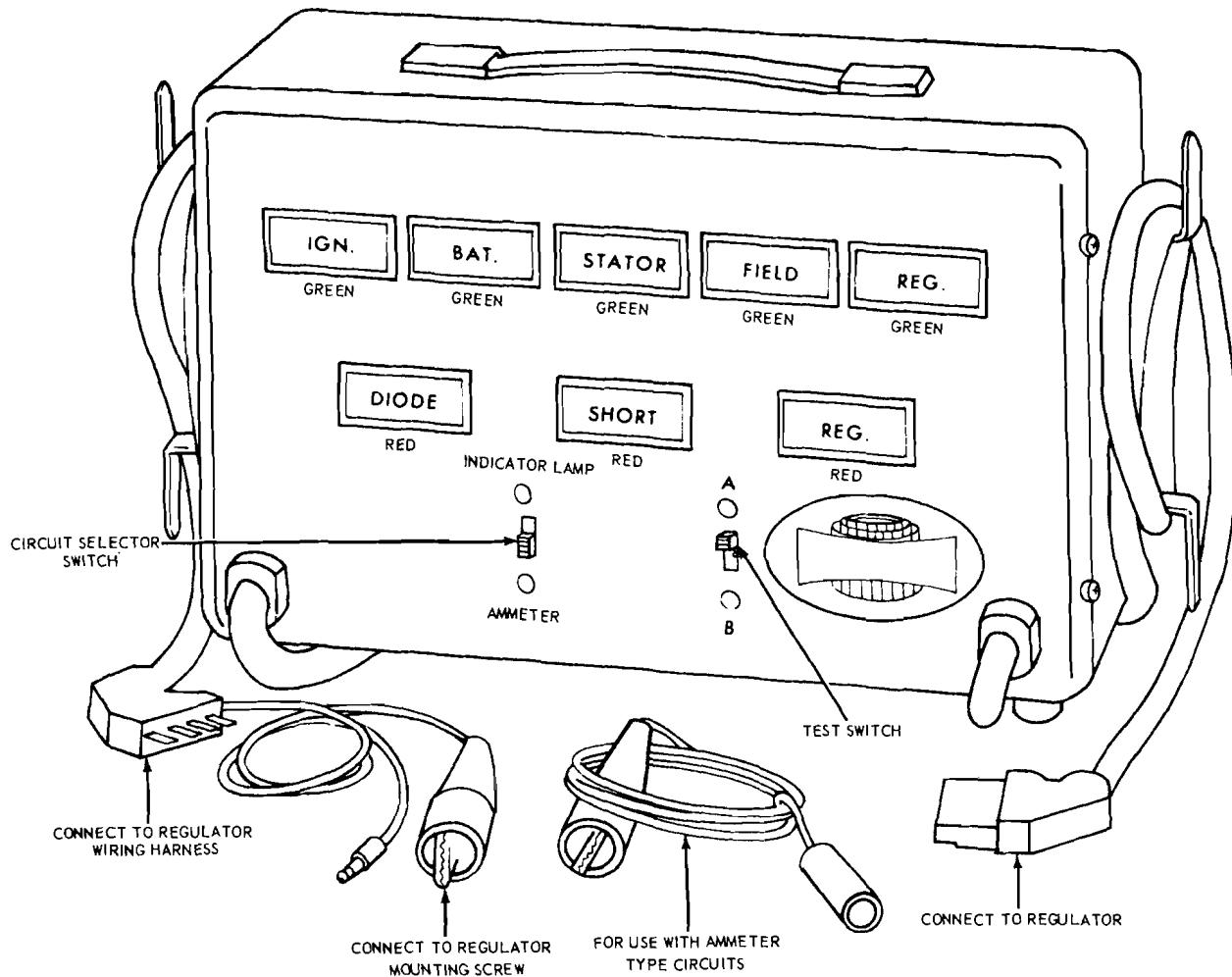
5. Return the field rheostat knob to OFF, release the master control knob, and stop the engine. Disconnect the test equipment, if no further tests are to be made.

If the alternator output is not O.K., it will be necessary to remove the alternator from the vehicle and perform the necessary bench tests to locate the defect.

An output of 2 to 5 amperes below specification usually indicates an open alternator diode. An output of approximately 10 amperes below specification usually indicates a shorted alternator diode. An alternator with a shorted diode will usually whine, which will be most noticeable at idle speeds.

Stator Neutral Voltage Test—On Engine

The alternator STA terminal is connected to the stator coil neutral or



J 1398-A

FIG. 3 ARE 20-22 Tester

center point of the alternator windings (see Figs. 1 and 2). The voltage generated at this point is used to close the field relay in the charge indicator light system.

To test for the stator neutral voltage, disconnect the regulator connector plug from the regulator. Make the connections and tester knob adjustments as shown in Fig. 7.

Start the engine and run it at 1000 rpm (use a tachometer). Turn off all lights and accessories. Rotate the field rheostat clockwise until at least 6 volts is indicated on the voltmeter upper scale. If 6 volts or more is not obtained, remove the alternator and perform the diode and stator tests to determine which part of the alternator is damaged.

Field Open Or Short Circuit Test—On Bench

The first part of this test will determine if the alternator portion of the field coil system, consisting of the field coil, the field coil slip rings and the field coil brush assembly is satisfactory. The second part of the test will indicate (in case of a field coil system malfunction), which of the above items is causing the malfunction.

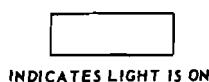
Test Procedure

Make the connection as shown in Fig. 6 (Field Open or Short Circuit Test). The current draw, as indicated by the ammeter, should be to specification (Section 9 of this part). If there is little or no current flow, the field or brushes

have a high resistance or are open. A current flow considerably higher than that specified above indicates shorted or grounded field turns or brush leads touching. If the test shows that the field is shorted or open, determine if the field brush assembly or slip rings are at fault.

Disassemble the front housing and rotor from the rear housing and stator and check the resistance of the rotor with the Rotunda ARE 27-42 ohmmeter. Set the ohmmeter multi-ply-by knob at 1 and calibrate the ohmmeter as indicated inside the ohmmeter cover.

Contact each ohmmeter probe to a slip ring. The resistance should be 3.5 to 5 ohms. A higher reading indicates a damaged slip ring soldered connection or a broken wire. A lower reading indi-



INDICATES LIGHT IS ON

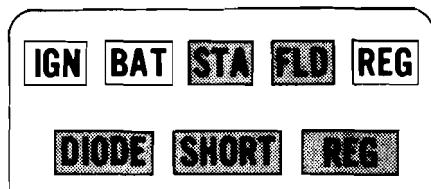


INDICATES LIGHT IS OFF



INDICATES SPECIAL LIGHT PATTERN

TEST A



TEST B



FAULT

NO MALFUNCTION IN CHARGING SYSTEM.
CHARGE INDICATOR LIGHT (IN THE VEHICLE) WILL BE ON.

1

2

3

4

5

OPEN FIELD IN ALTERNATOR OR OPEN FIELD WIRE (ORANGE) IN ALTERNATOR TO REGULATOR HARNESS REG RED LIGHT MAY BE OUT (TEST B).

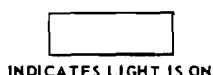
SHORTED OR GROUNDED FIELD COIL, OR GROUNDED FIELD WIRE (ORANGE) IN THE ALTERNATOR TO REGULATOR HARNESS TESTER MAY MAKE BUZZING NOISE
CAUTION: THESE CONDITIONS DAMAGE THE REGULATOR.

SHORTED DIODE, OR GROUNDED STATOR. GROUNDED OR MISCONNECTED WIRE (WHITE WITH BLACK STRIPE) BETWEEN THE ALTERNATOR STATOR TERMINAL AND THE REGULATOR'S TERMINAL. STATOR GREEN LIGHT MAY BE ON.

OPEN DIODE OR STATOR WINDING OR OPEN WIRE (BLACK) FROM ALTERNATOR BAT TERMINAL TO STARTER RELAY
STATOR GREEN LIGHT MAY BE OUT (TEST B). REGULATOR RED LIGHT MAY BE OUT (TEST B).

NOTE: ALWAYS REPAIR MALFUNCTION AND RETEST

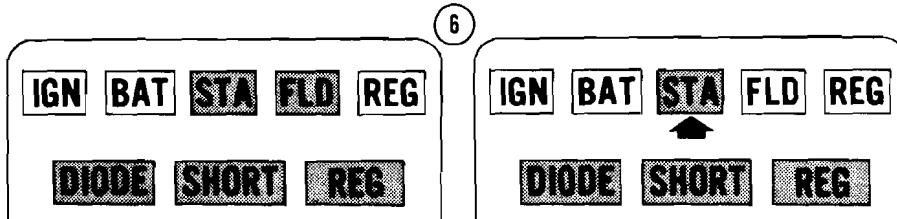
J1399-D



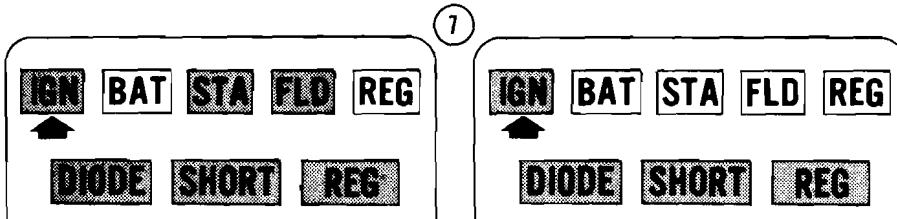
TEST A

TEST B

FAULT

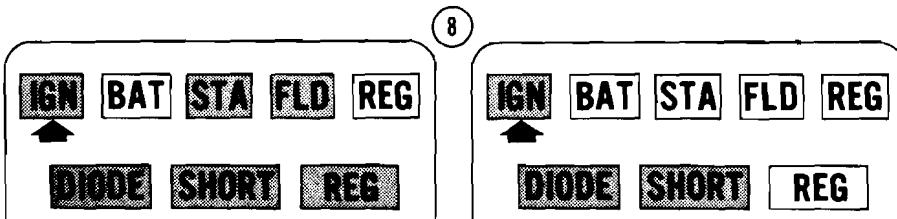


LOOSE DRIVE BELT OR PULLEY, OPEN STATOR WIRE (WHITE WITH BLACK TRACER) IN HARNESS FROM ALTERNATOR TO REGULATOR, OR OPEN STATOR WIRE IN ALTERNATOR.

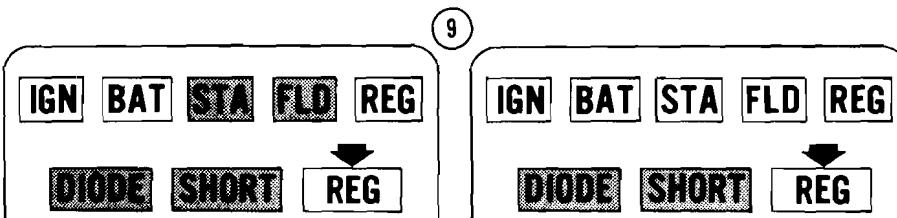


OPEN OR MISSING 15-OHM RESISTANCE WIRE OR OPEN WIRE (GREEN WITH RED TRACER) IN REGULATOR TO IGNITION SWITCH HARNESS.

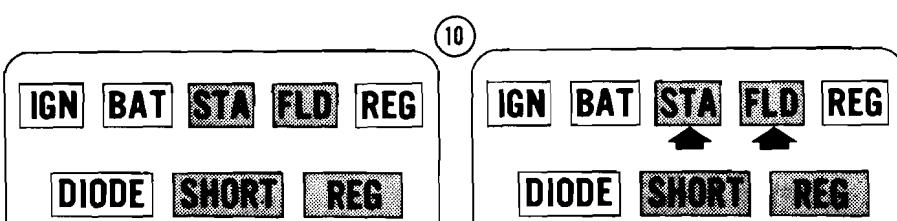
IF THE IGN GREEN LIGHT IS VERY BRIGHT, THE CHARGE INDICATOR BULB, SOCKET, OR WIRING IS SHORTED.



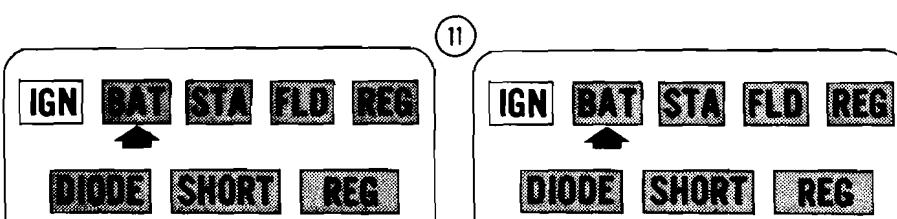
GROUNDED WIRE (GREEN-RED TRACER) BETWEEN REGULATOR PLUG AND CHARGE INDICATOR LIGHT. REG LIGHT MAY BE ON.
CAUTION: THIS CONDITION DAMAGES THE REGULATOR.



REGULATOR DEFECTIVE
REG GREEN LIGHT MAY BE OFF IN TEST B.



STATOR AND FIELD WIRES ARE CROSS CONNECTED REG GREEN LIGHT WILL BE DIM IN TEST A.



OPEN WIRE (YELLOW) BETWEEN BATTERY TERMINAL OF STARTER RELAY AND REGULATOR PLUG.

NOTE: ALWAYS REPAIR MALFUNCTION AND RETEST

J1400-C

FIG. 5 ARE 20-22 Test Chart (Continued)

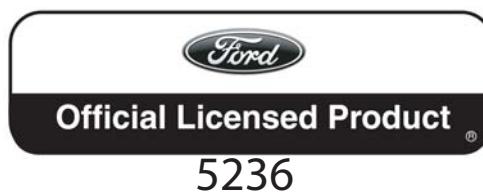
1965/72 FORD CAR

FINAL ISSUE

Master Parts and Accessories

Source Document Form FP-7635-B
Ford Publication Form FP-7635-A & B

Supersends All Previous Issues, Changes and Revisions

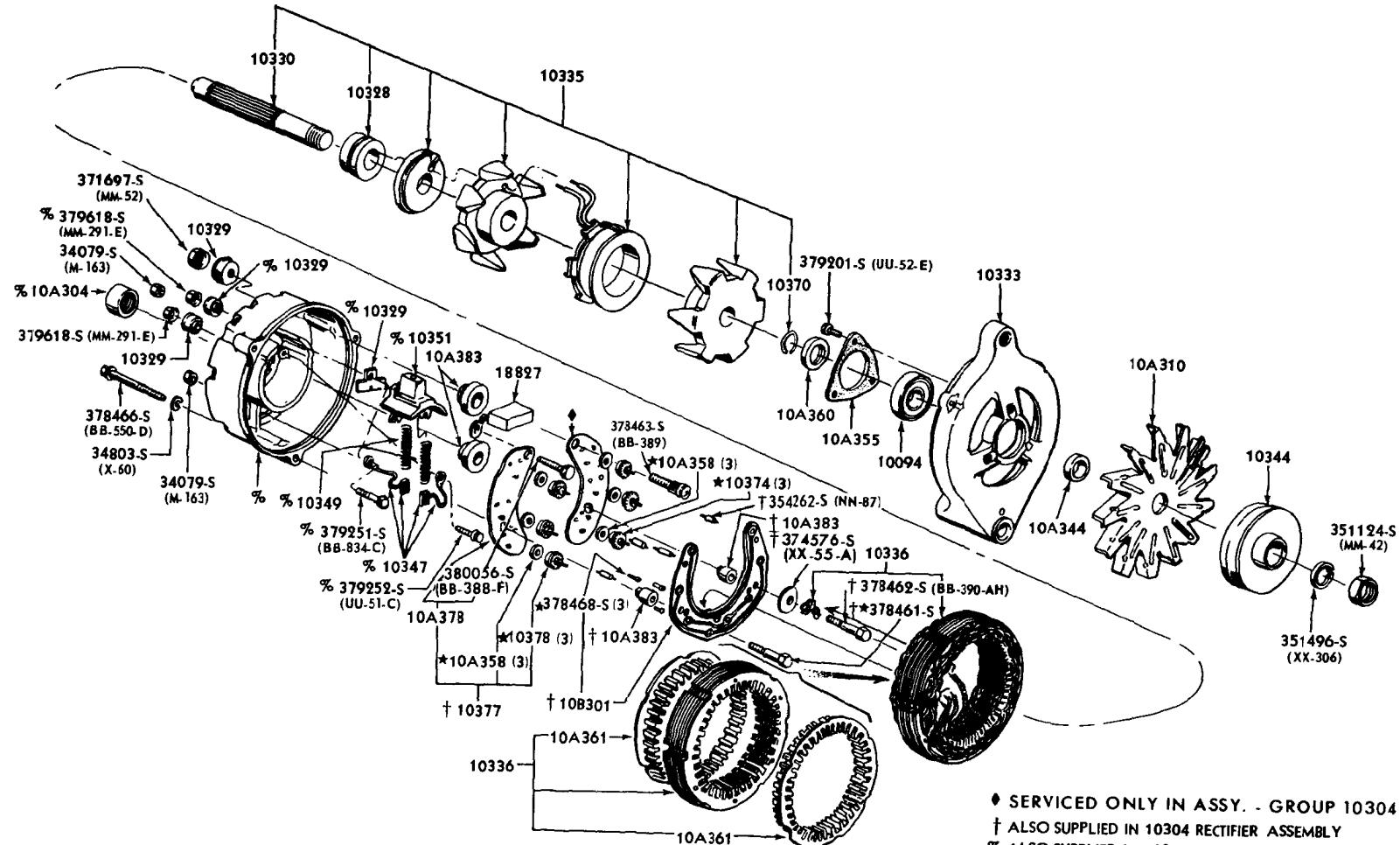


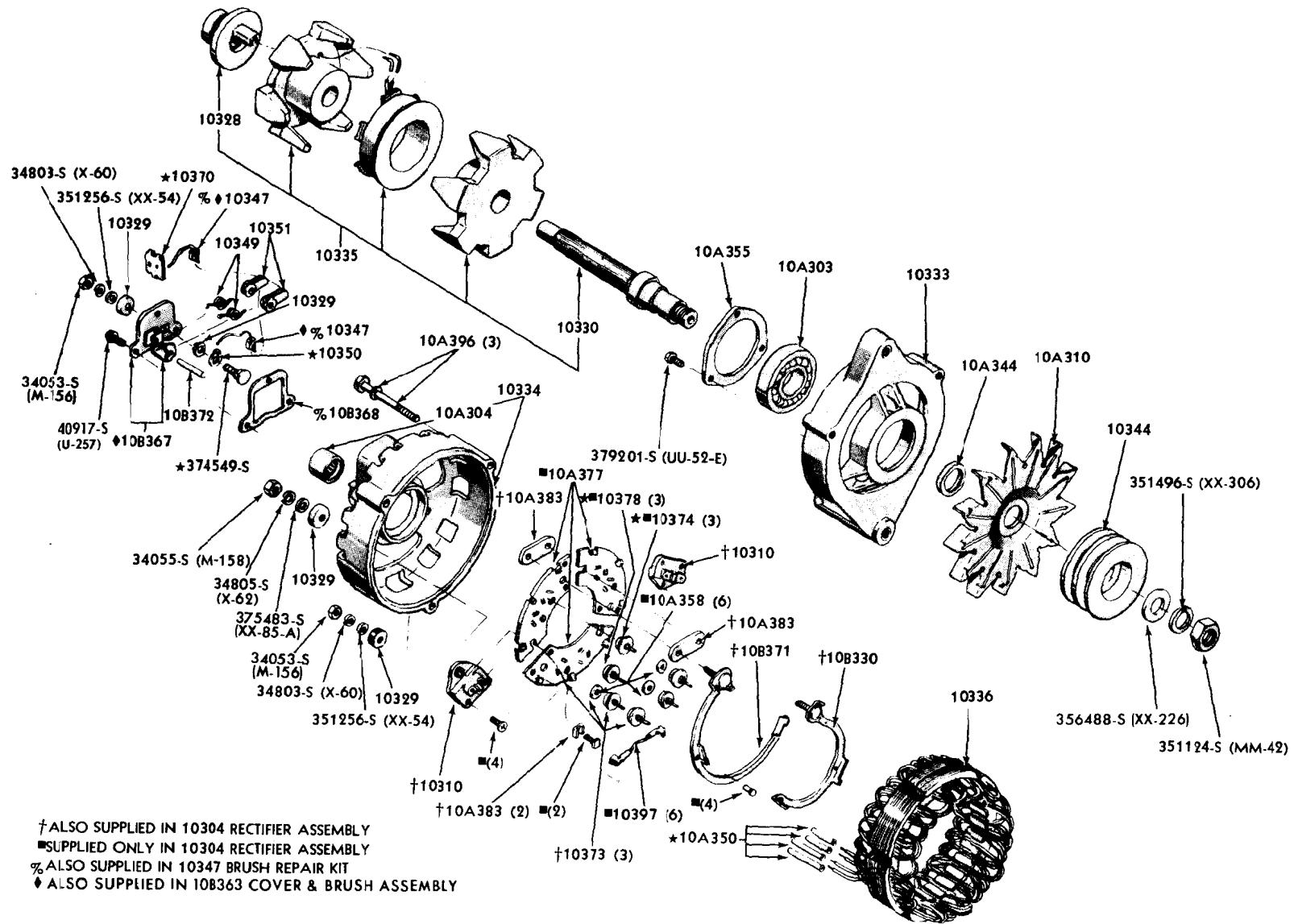
May, 1975

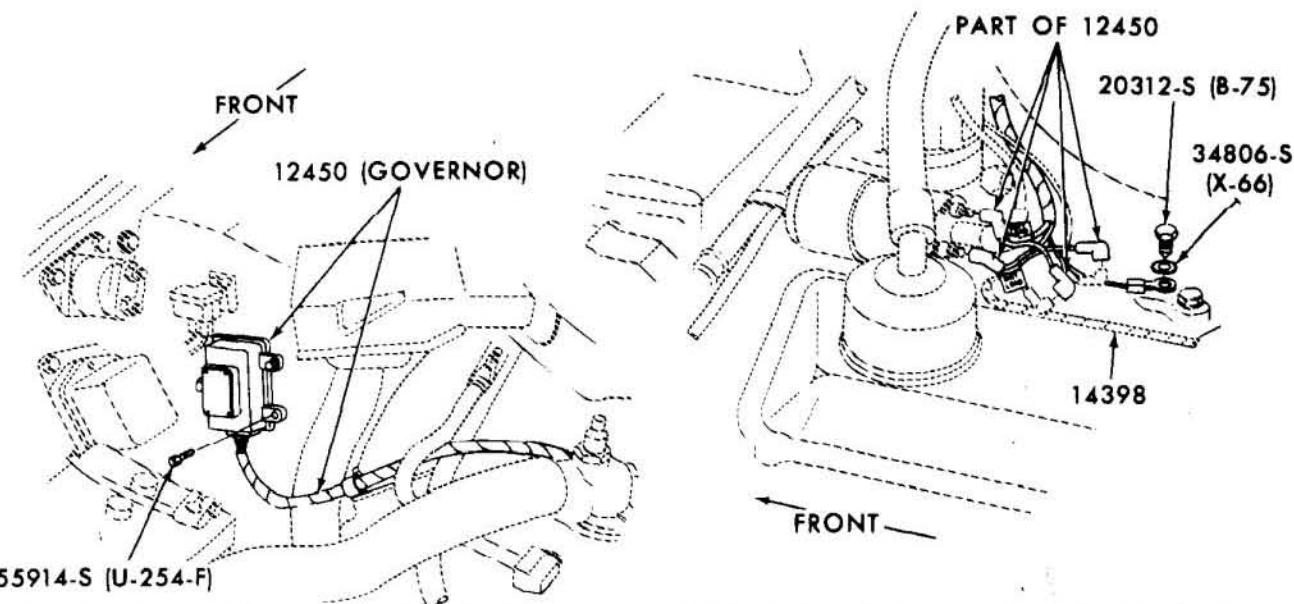
FINAL ISSUE

ALTERNATOR (FORD 15 VOLT - 38, 42, 45, 55, 60, 61 AMP.)

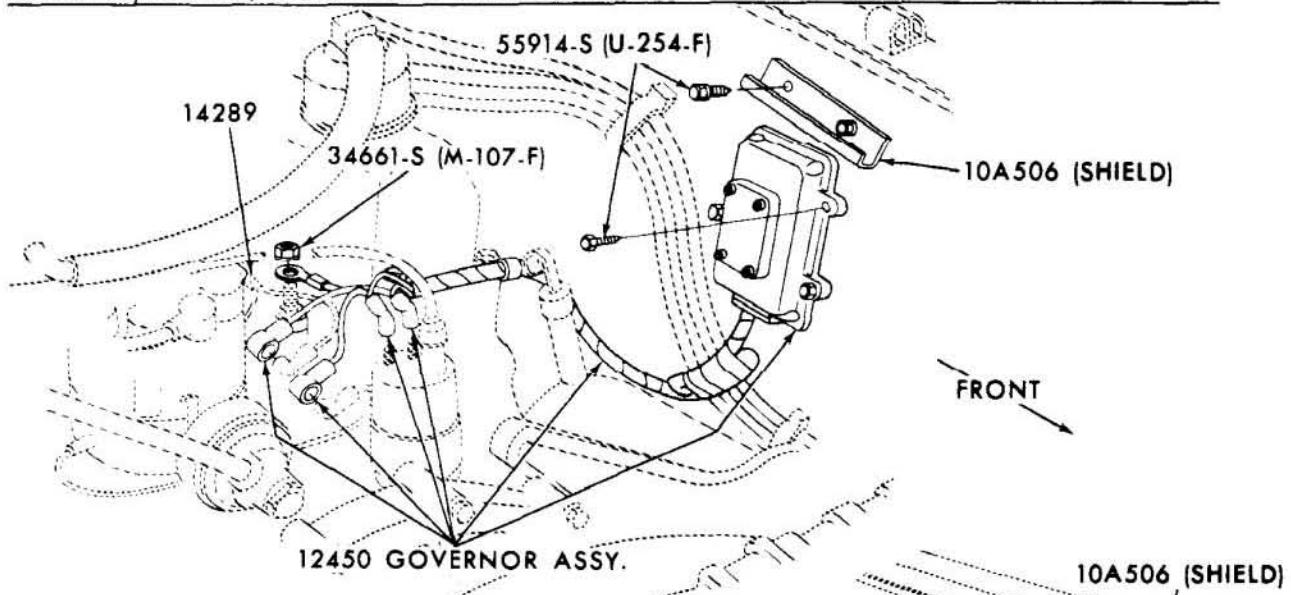
1965/72



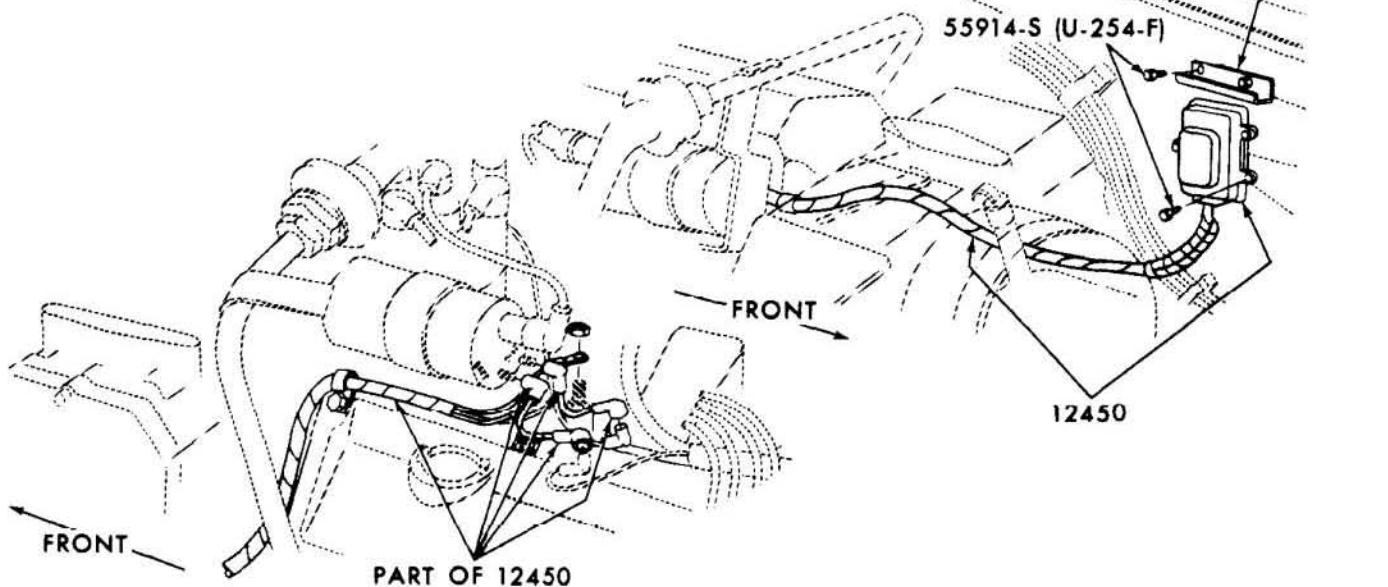




FAIRLANE/TORINO, MONTEGO 8 CYLINDER 429 COBRA JET & SUPER COBRA JET ENGINES

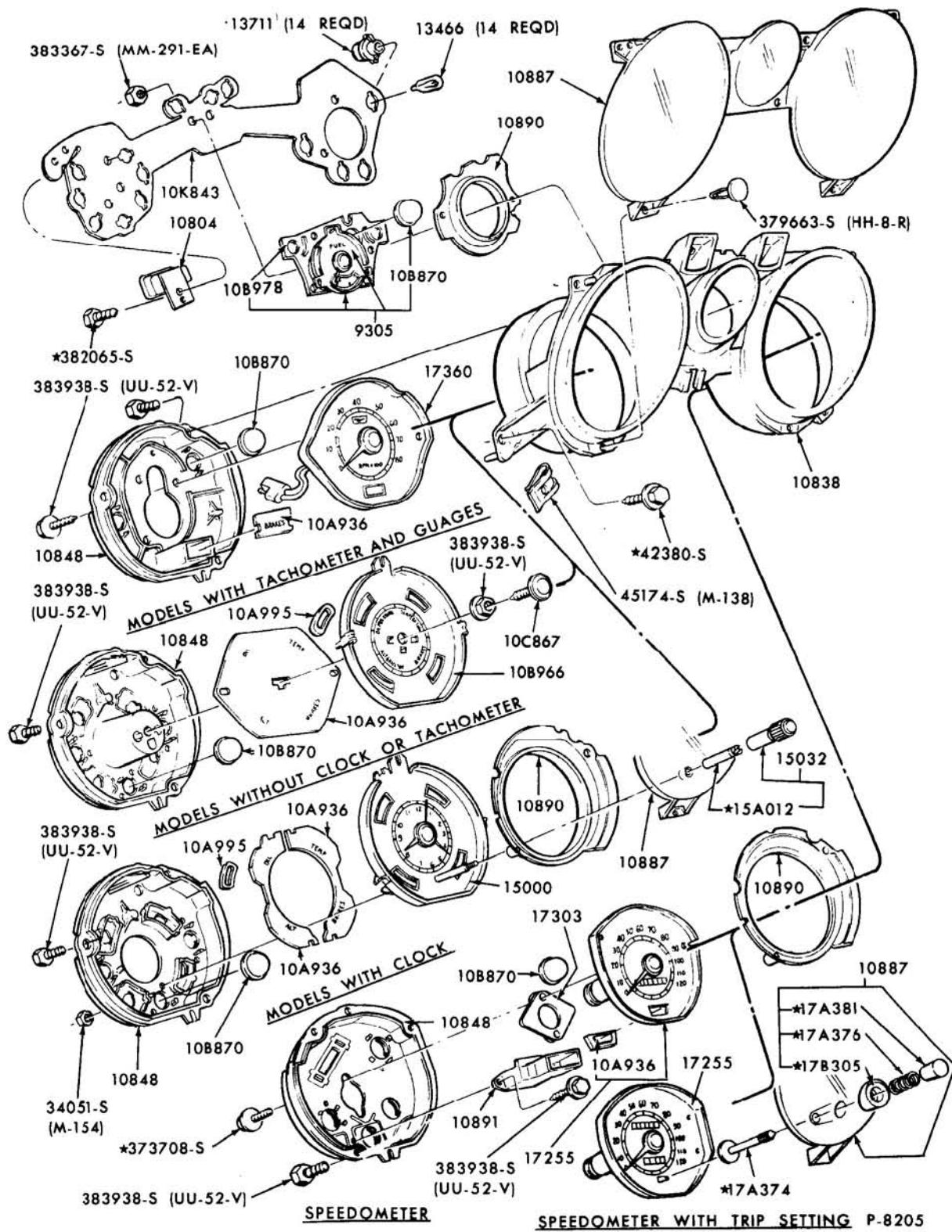


MUSTANG, COUGAR 8 CYLINDER 302-4V HIGH OUTPUT ENGINE

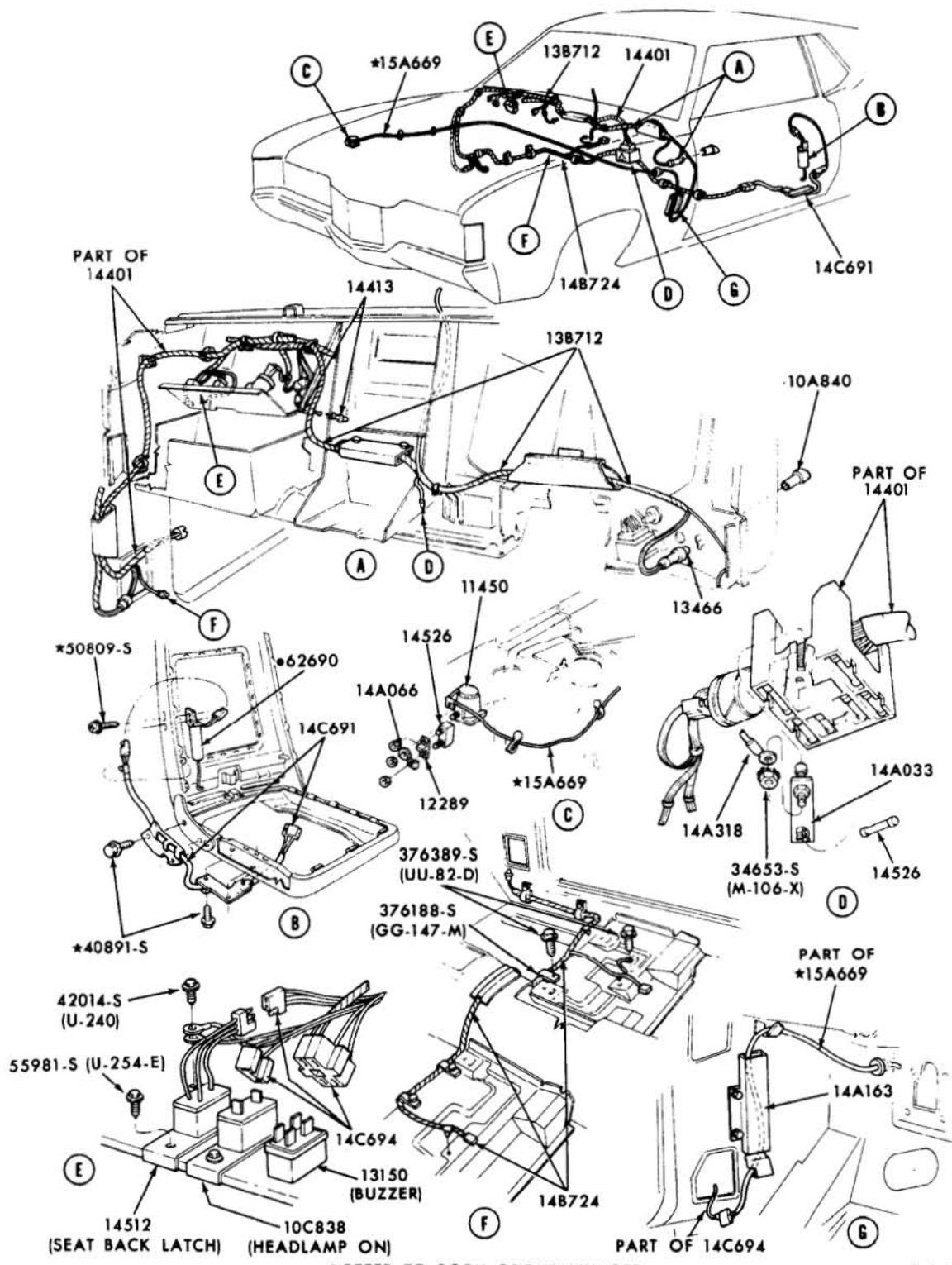


MUSTANG, COUGAR 8 CYLINDER 428 COBRA JET & SUPER COBRA JET ENGINES

P-7589



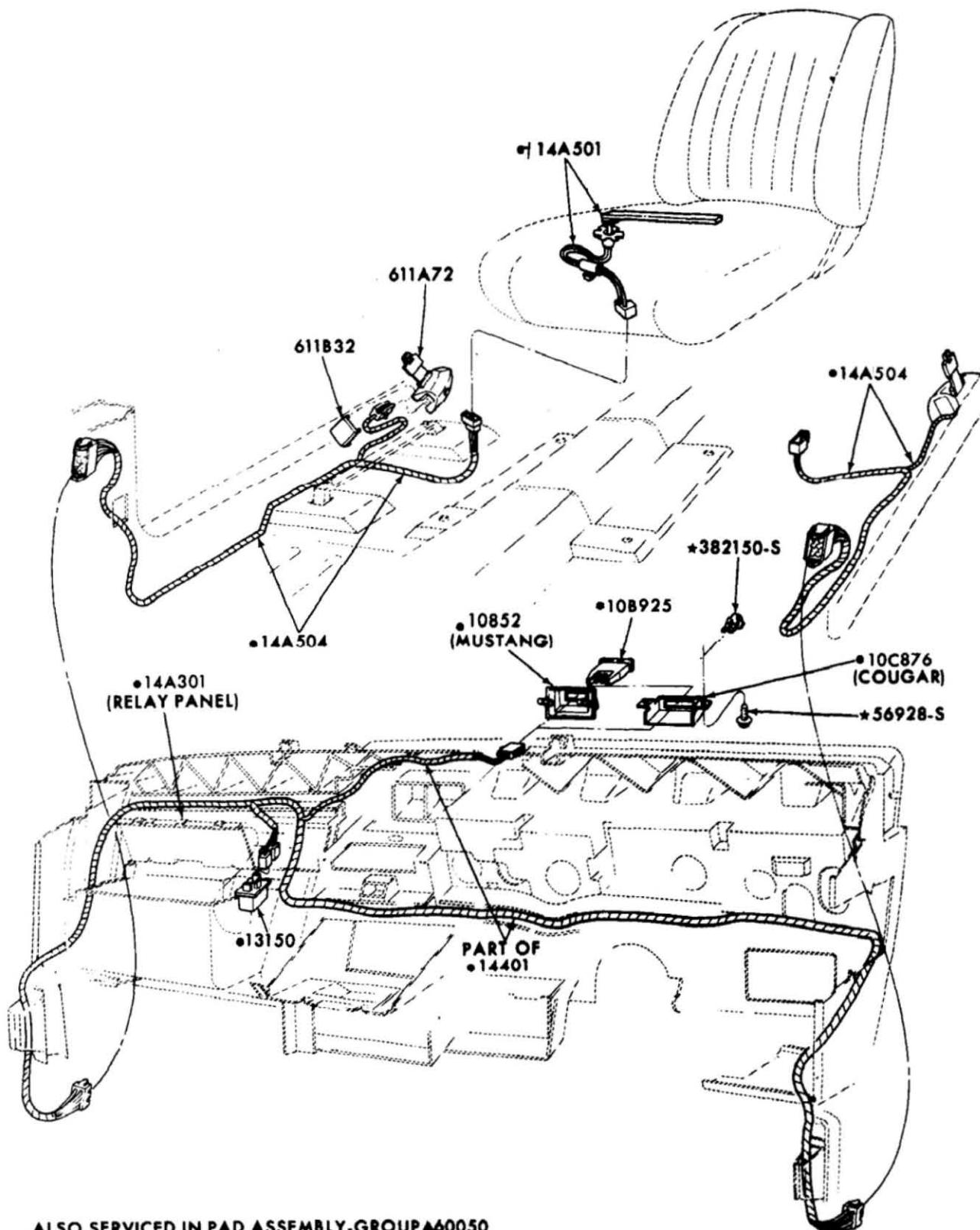
INSTRUMENT CLUSTER and RELATED PARTS
1971/72 MUSTANG



• REFER TO BODY GROUP NUMBER

P-8429

WARNING INDICATOR SYSTEM-SAFETY CONVENIENCE
1971/72 MUSTANG



ALSO SERVICED IN PAD ASSEMBLY-GROUP **▲60050**
 • REFER TO CHASSIS SECTION
 ▲REFER TO BODY SECTION

P-9266

SEAT BELT WARNING SYSTEM
 1972 MUSTANG



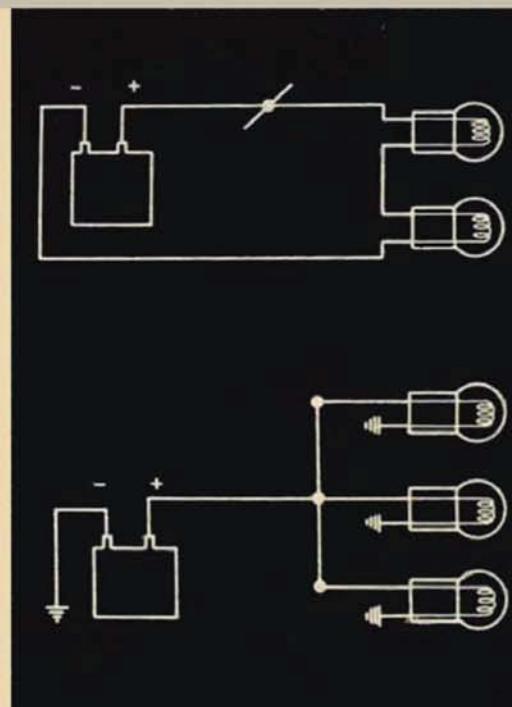
READY REFERENCE

13001

HOW TO READ WIRING DIAGRAMS



VOL 68 S7 L2A



HOW TO READ WIRING DIAGRAMS

COURSE 13001 • VOL. 68 S7 L2A

TABLE OF CONTENTS

	Page
INTRODUCTION	
A LOGICAL APPROACH TO ELECTRICAL DIAGNOSIS	1
Like reading a road map	2
How wires are numbered and color-coded	2
CIRCUIT – A COMPLETE ELECTRICAL PATH BETWEEN TWO POINTS	5
2-wire circuit	6
Single wire circuit	6
Ground connections	7
OPEN CIRCUITS	8
Shorts	9
Grounded circuit	9
Series and parallel open circuits	10
BREAKS IN PARALLEL CIRCUITS	11
Common points	14
Splices	15
Fuses and circuit breakers	17
Quick disconnects	18
Male and female elements	20
Types of quick disconnects	22
HINTS FOR TRACING WIRES THROUGH A DRAWING	23
Curve directions	23
Common points	24
Switches	25
Relays	26
Assemblies	28
Locating the assembly	29
Finding the wire	30
SUMMARY	31

The descriptions, testing procedures, and specifications in this handbook were in effect at the time the handbook was approved for printing. Ford Motor Company reserves the right to discontinue models at any time, or change specifications, design, or testing procedures without notice and without incurring obligations.

NATIONAL SERVICE OFFICE
FORD DIVISION



FIRST PRINTING – JANUARY, 1968

© 1968 FORD MOTOR COMPANY
DEARBORN, MICHIGAN

INTRODUCTION

The Why and Wherefore of Wiring Diagrams

To the uninformed, a wiring diagram — or a wiring assembly — looks like it might take a genius to figure out.

Not so — as you'll find out when you get better acquainted with these subjects.

There're as understandable and logical as a road map and road markers, when you're finding your way on a cross-country drive.

The ability to read a wiring diagram and relate it to a vehicle's wiring system is, of course, an essential part of a modern service technician's skill. And it's growing in relative importance, too, due to owner's increasing demands for the comforts and conveniences supplied by electrically-operated options and accessories. This opens up greater opportunities, for the forward-looking technician.

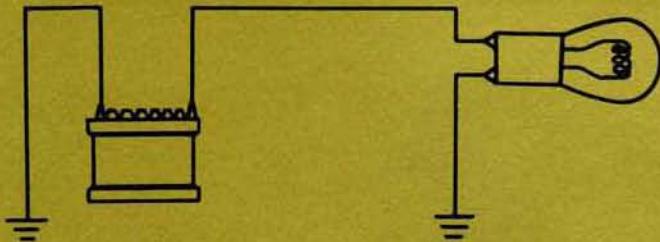
The Purpose of this Booklet . . .

. . . is to acquaint you with the systems by which electrical circuits are traced on vehicles. Specifically, it is designed to help you acquire the ability to make your own power checks, quickly and accurately.

Scope of the Booklet

Basically, this is a printed version of the film, "How to Read a Wiring Diagram." It is in no sense a manual of the shop methods by which electrical repairs are made.

It *can* be a helpful guide that can introduce you to the principles of wiring diagrams and vehicle wiring. As you gain experience in reading wiring diagrams, you'll accumulate your own know-how in this important skill. When it becomes "second nature" to you, these pages will have served their purpose — and yours.



To show how to read wiring diagrams — and to explain how they can be used to help you troubleshoot problems in the electrical system — is what this booklet is all about. Obviously, these are important subjects.

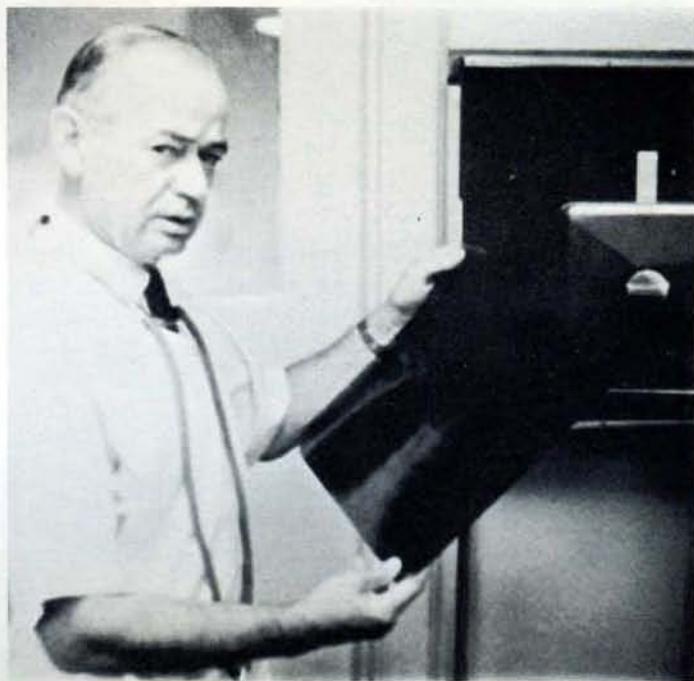
A LOGICAL APPROACH TO ELECTRICAL DIAGNOSIS



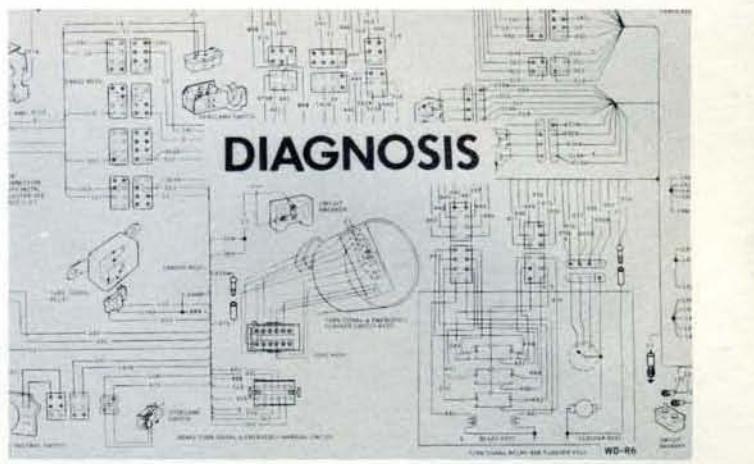
If a customer comes in because his headlights aren't working, you can't just make a snap decision. That's not the *professional way*.



Putting in a new sealed-beam unit *may* be the answer . . . but then again, *it may not*. Snap decisions are *out*. They're *not professional*.



When you go to a doctor, for example, he tries to find out what's *really* wrong with you. He looks beyond the aches and pains you feel, to see what's *causing* the trouble. We call this, *diagnosis*.



True
diagn
doctor
troubl

Buy Now

