Service Department

Technical Service Bulletin

Dodge

Dodge Cars

Of Interest ☐ General Manager ☐ Sales Manager ☐ Service Manager ☐ Parts Manager ☐ Service Technicians

May 6, 1971

No. D71-8-9

ELECTRICAL

Chrysler Electronic Ignition System

A running change will be made during the 1971 Model year to incorporate an Electronic Ignition System into the subject models when equipped with the 340 C.I.D. engine and manual transmission.

Engines with the Electronic Ignition System can be easily identified. The distributor will have a double primary wire. The ballast resister will be of dual type and a control unit will be mounted on either the dash or fender shield. Figure 1 shows the Chrysler system.

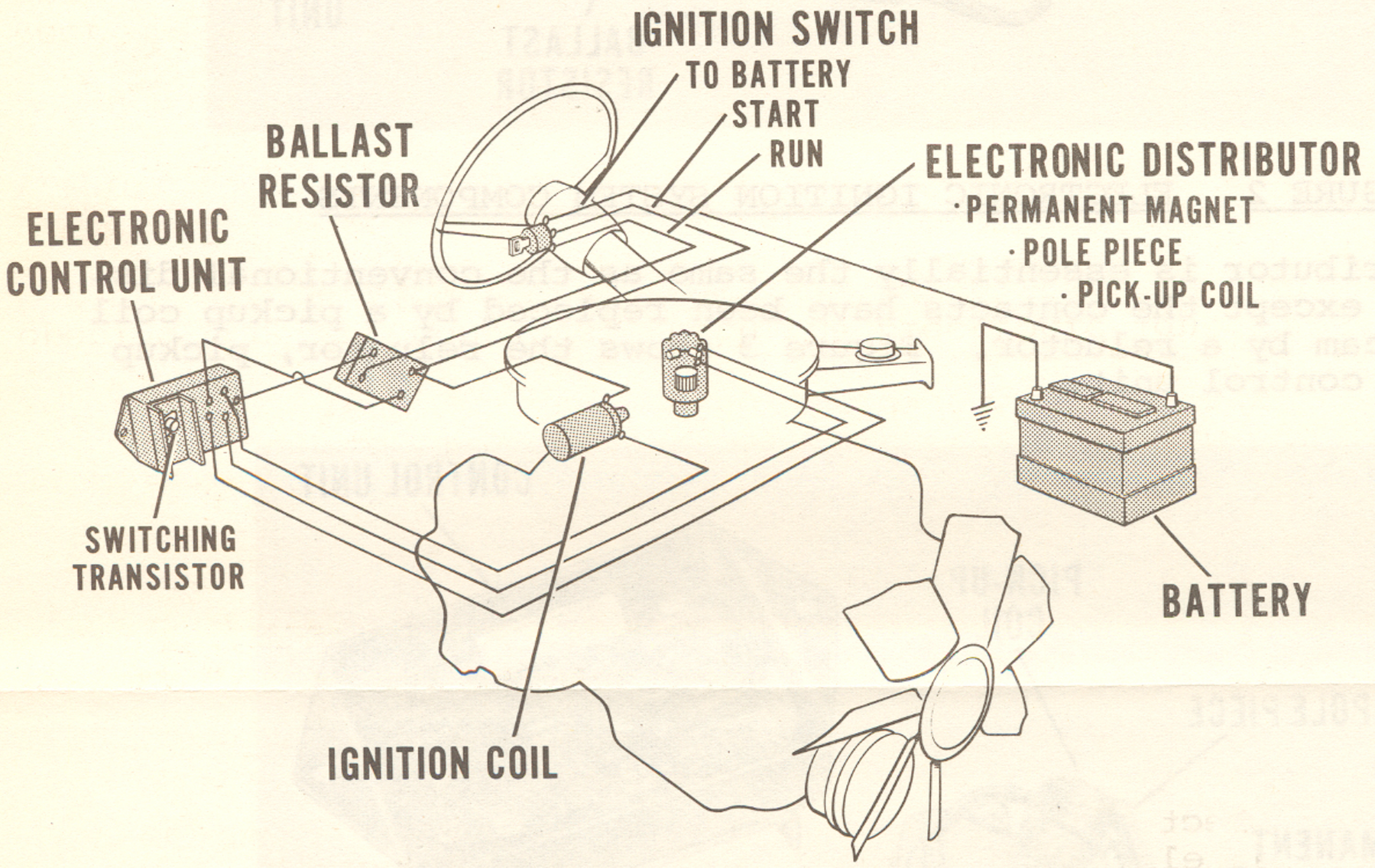


FIGURE 1 CHRYSLER ELECTRONIC IGNITION SYSTEM

MODELS:
Dart,
Challenger
And Charger
Equipped With
340 C.I.D.
Engine And
Manual
Transmission
P-1306

(Over)

The Chrysler Electronic Ignition System is composed of a magnetic distributor, an electronic control unit, a wiring harness, a production coil and a dual ballast resister. See Figure 2.

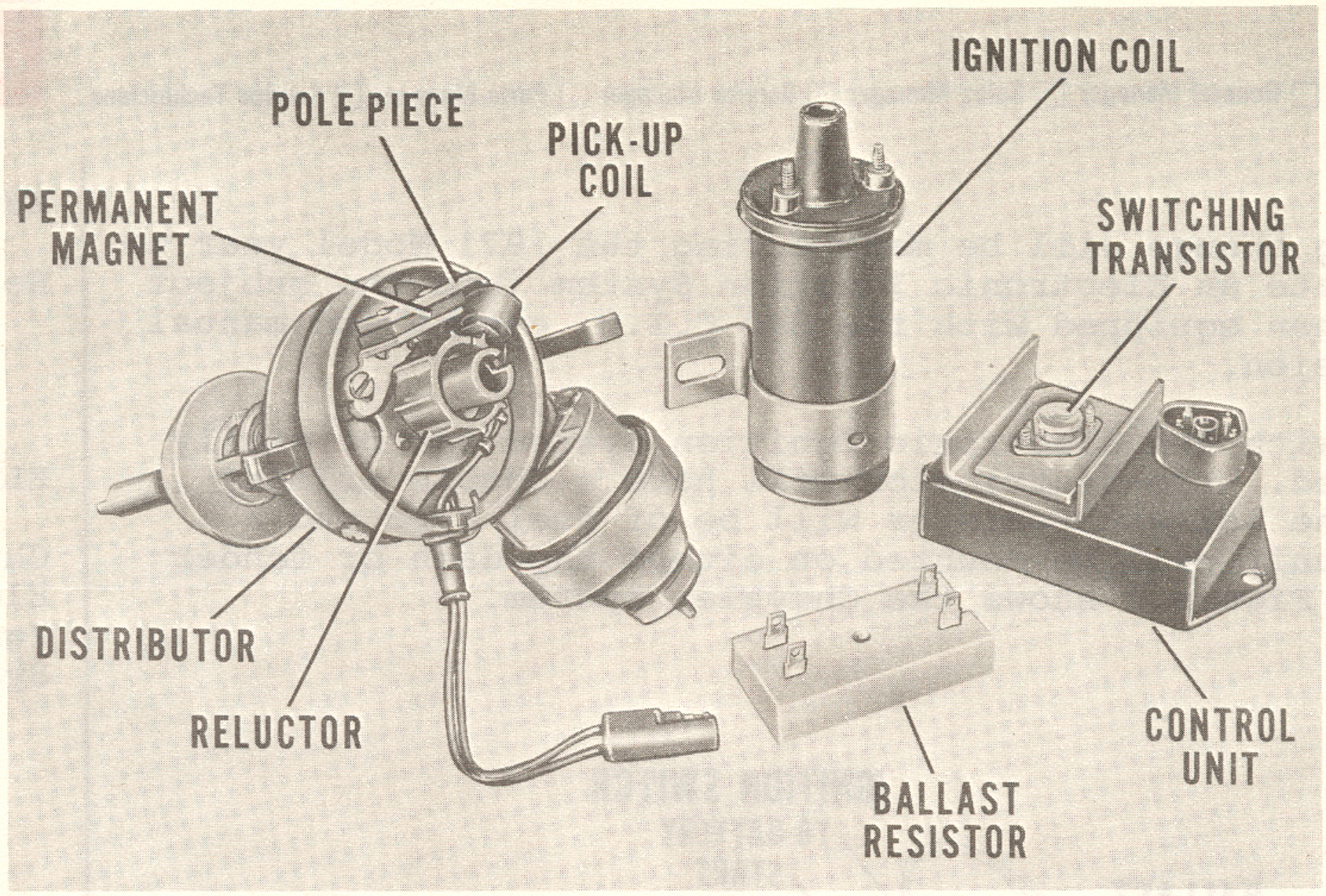


FIGURE 2 ELECTRONIC IGNITION SYSTEM COMPONENTS

The distributor is essentially the same as the conventional distributor except the contacts have been replaced by a pickup coil and the cam by a reluctor. Figure 3 shows the reluctor, pickup coil and control unit.

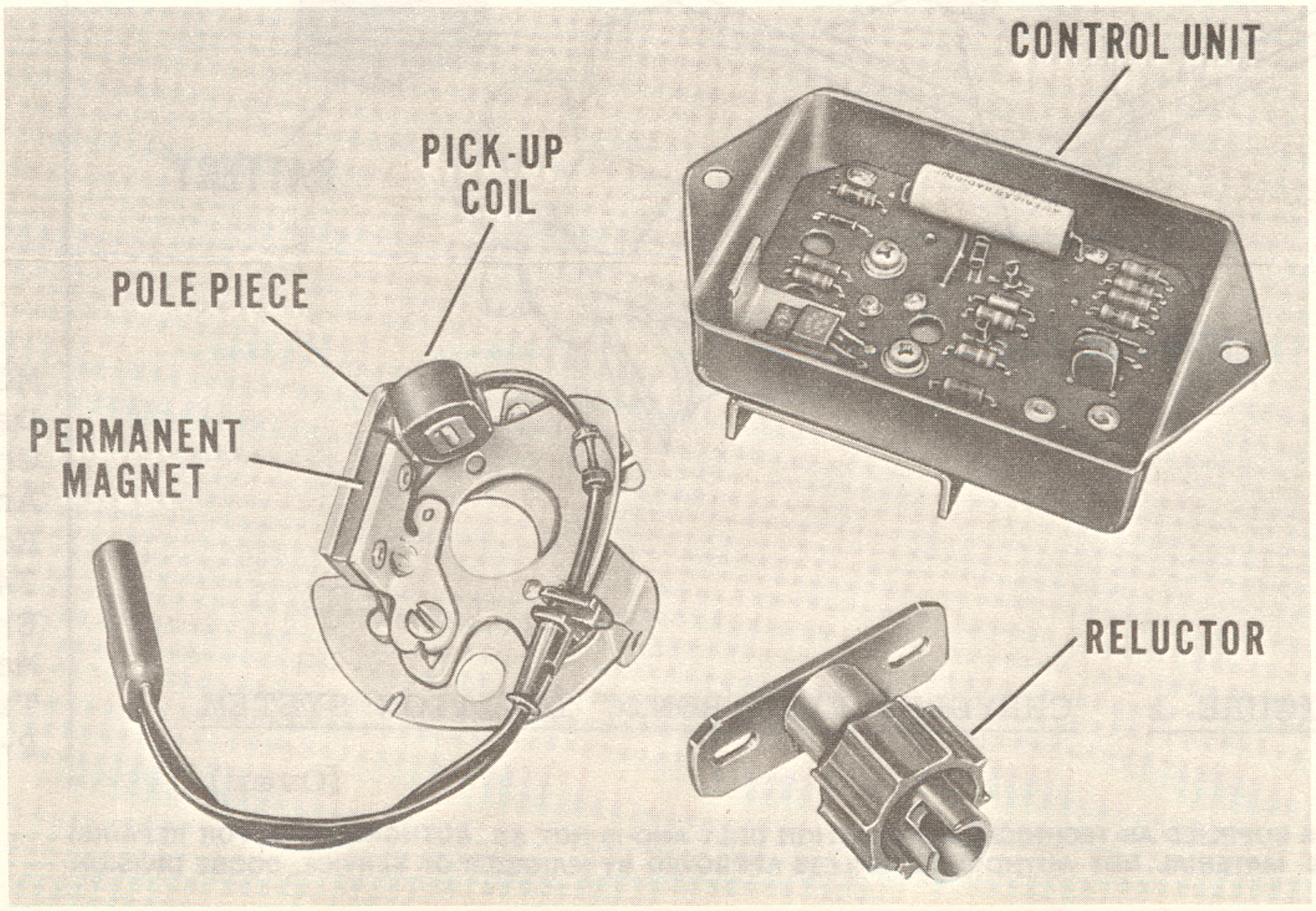


FIGURE 3 MAGNETIC PICKUP COMPONENT AND CONTROL UNIT

With a conventional contact type ignition system, the voltage necessary to fire the spark plugs is developed by interrupting the current flowing through the primary of the ignition coil by opening a set of contacts. With the Electronic Ignition System, the voltage is produced the same way except that the current is interrupted by a transistor in the electronic control unit. This happens each time the control unit receives a "timing" pulse from the distributor magnetic pickup.

Since the magnetic pickup, reluctor and the control unit, which replace the contact points and cam, do not normally change or wear out with service, engine timing and dwell does not require periodic adjusting. This minimizes regular ignition maintenance to cleaning and replacing spark plugs.

ELECTRONIC IGNITION SYSTEM SERVICE DIAGNOSIS

CONDITION	POSSIBLE CAUSE	CORRECTION
ENGINE WILL NOT START (Fuel and Carburetion Known to be O.K.)	a) Dual Ballast	Check resistance of each section: Compensating resistance: .50-.60 ohms 70°-80°F Auxiliary Ballast: 4.75-5.75 ohms Replace if faulty. Check wire positions.
	b) Faulty Ignition Coil	Check for carbonized tower. Check primary and secondary resistances: Primary: 1.41-1.79 ohms 70°-80°F Secondary: 9200-11700 ohms 70°-80°F Check in coil testor.
	c) Faulty Pickup or Improper Pickup Air Gap	Check pickup coil resistance: 400-600 ohms Check pickup gap: .010" feeler gauge should not slip between pickup coil core and an aligned reluctor blade. No evidence of pickup core striking reluctor blades should be visable. To reset gap, tighten pickup adjustment screw with .008" feeler gauge held between pickup core and an aligned reluctor blade. After resetting gap, run distributor on test stand and apply vacuum advance, making sure that the pickup core does not strike the reluctor blades.
	d) Faulty Wiring	Visably inspect wiring for brittle insulation. Inspect connectors. Molded connectors should be inspected for rubber inside female terminals.
	e) Faulty Control Unit	Replace if all of the above checks are negative. Whenever the control unit or dual ballast is replaced, make sure the dual ballast wires are correctly inserted in the keyed molded connector.

ELECTRONIC IGNITION SYSTEM SERVICE DIAGNOSIS (CONTINUED)

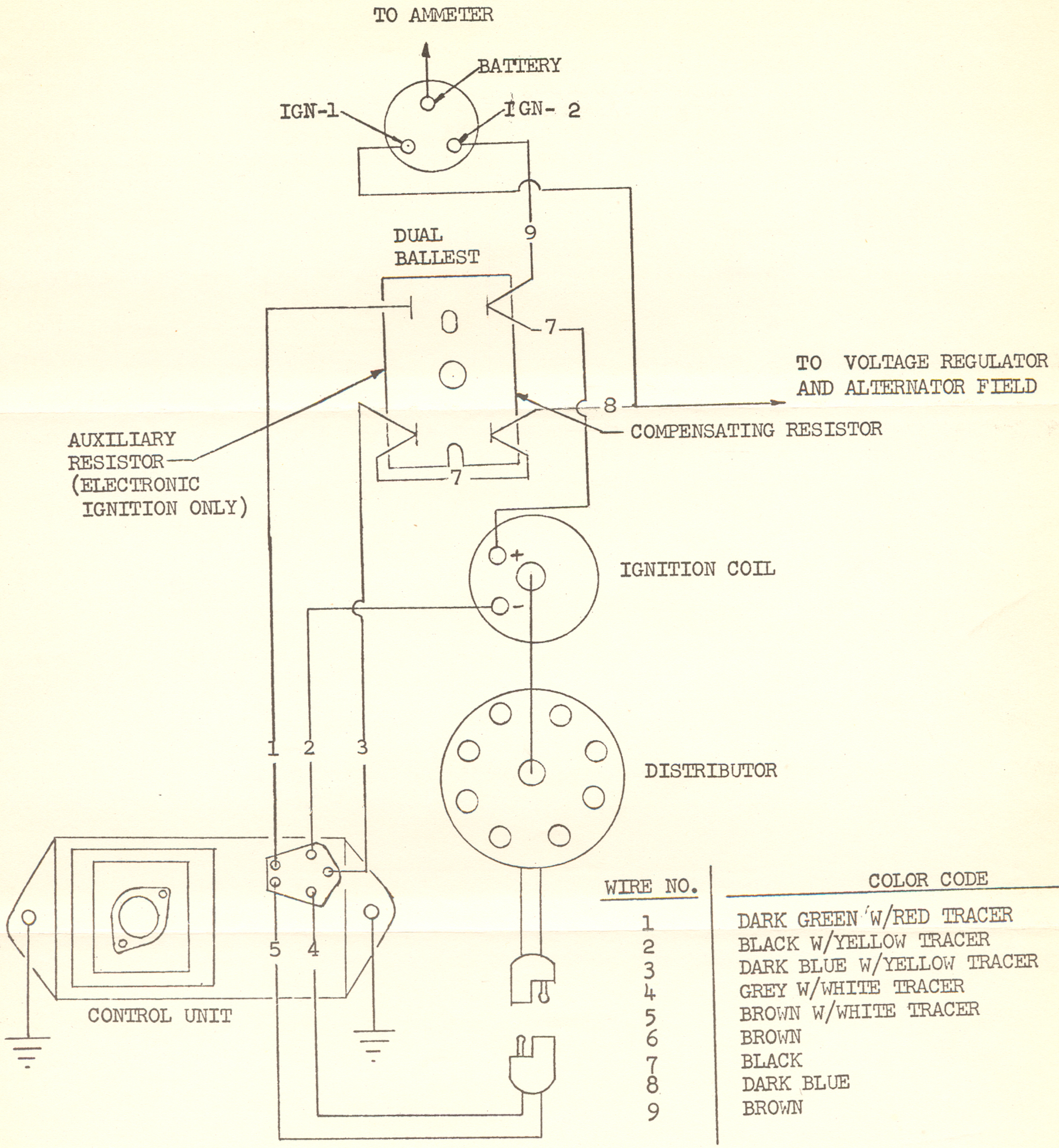
CONDITION	POSSIBLE CAUSE	CORRECTION
ENGINE SURGES SEVERELY (Not Lean Carburetor)	a) Wiring	Inspect for loose connection and/or broken conductors in harness.
	b) Faulty Pickup Leads	Disconnect vacuum advance. If surging stops, replace pickup.
	c) Ignition Coil	Check for intermittent primary.
ENGINE MISSES (Carburetion Known Good)	a) Spark Plugs	Check plugs. Clean and regap if necessary.
	b) Secondary Cables	Check cables with an ohmeter, or observe secondary circuit performance with an ignition oscilloscope.
	c) Ignition Coil	Check for cabonized tower. Check in coil testor.
	d) Wiring	Check for loose or dirty connections.
	e) Control Unit	Replace if the above checks are negative.

ELECTRONIC IGNITION SYSTEM SPECIFICATION

Engine Displacement	340 C.I.D. W/Man. Trans.	
Distributor Part No. (Chrysler Built Electronic)	3656151	
Advance-Centrifugal (Distributor Degrees at Distributor RPM)	0.5° to 4° @ 650 RPM 5.5° to 8.5° @ 850 RPM 10° to 12° @ 2000 RPM	
Advance-Vacuum (Distributor Degrees at Inches of Mercury)	0.5° to 3.5° @ 7" 7° to 10° @ 11"	
Shaft Side Play (New or Rebuilt)	.000" to .003"*	
Shaft End Play (After Assembly)	.003" to .017"	
Rotation	Clockwise	
Timing	5° BTC**	
Spark Plug Type	N9Y-Champion	
Size	14MM-3/4" Reach	
Gap	.035"	
Firing Order	1-8-4-3-6-5-7-2	
Coil	Chrysler-Essex or 2444241	Chrysler-Prestolite 2444242
Identification Number		
Primary Resistance @70°-80°F	1.41 to 1.55 Ohms	1.65 to 1.79 Ohms
Secondary Resistance @70°-80°F	9200 to 10700 Ohms	9400 to 11700 Ohms
Ballast Resistor	3656199	
Resistance @ 70°-80°F	0.5 to 0.6 Ohms (Unpotted Sect.) 4.75 to 5.75 Ohms (Potted Sect.)	
Pickup Coil		
Resistance @ 70°-80°F	400 to 600 Ohms	
Current Draw (Coil and Ballast Resistor in Circuit)		
Engine Stopped	3.0 amperes (Engine Warm)	

*Service wear tolerance should not exceed .006 inch.
**Plus or minus 2-1/2°. Set at curb idle speed.

D71-8-9



WIRE NO.	COLOR CODE
1	DARK GREEN W/RED TRACER
2	BLACK W/YELLOW TRACER
3	DARK BLUE W/YELLOW TRACER
4	GREY W/WHITE TRACER
5	BROWN W/WHITE TRACER
6	BROWN
7	BLACK
8	DARK BLUE
9	BROWN

FIGURE 4 ELECTRONIC IGNITION SYSTEM WIRING DIAGRAM

Policy: Information Only

J. D. Morton
Manager-Technical Service
U.S.AUTOMOTIVE SALES & SERVICE