

ENGINE ELECTRICAL

CONTENTS OF THIS SECTION

The information in this section applies only to the engine electrical specifications and service procedures which differ from that contained in the 1967 Pontiac Service Manual.

All service procedures pertaining to removal, replacement, overhaul, adjustments, etc. of electrical components are identical to those corresponding procedures used in the 1967 Pontiac Service Manual.

THE CRANKING CIRCUIT

The cranking circuit consists of the battery, the starting motor, the ignition switch, and related wiring. These components are connected electrically as shown in Fig. 6E-1.

The energized windings act to pull in the solenoid plunger until it has reached its full length of travel or comes to its stop position. In this position a disc contact completes the circuit from the battery to the starting motor through the solenoid switch contacts. At the same time the disc contact also completes a circuit through the R terminal of the solenoid, which supplies battery voltage to the coil and ignition primary system.

STARTING MOTOR

The starting motor and solenoid used on the Firebird and their operation are the same as those explained in the Pontiac Service Manual, except that the Firebird utilizes a solenoid with an additional terminal which is marked R (see Figs. 6E-1 and 6E-2). When the ignition switch is turned to the start position, closing the switch, current is supplied to the S terminal of the solenoid energizing the windings.

IGNITION CIRCUIT

The ignition circuit consists of the battery, distributor, ignition coil, spark plugs, and primary and secondary wiring. These components are connected electrically as shown in figure 6E-2.

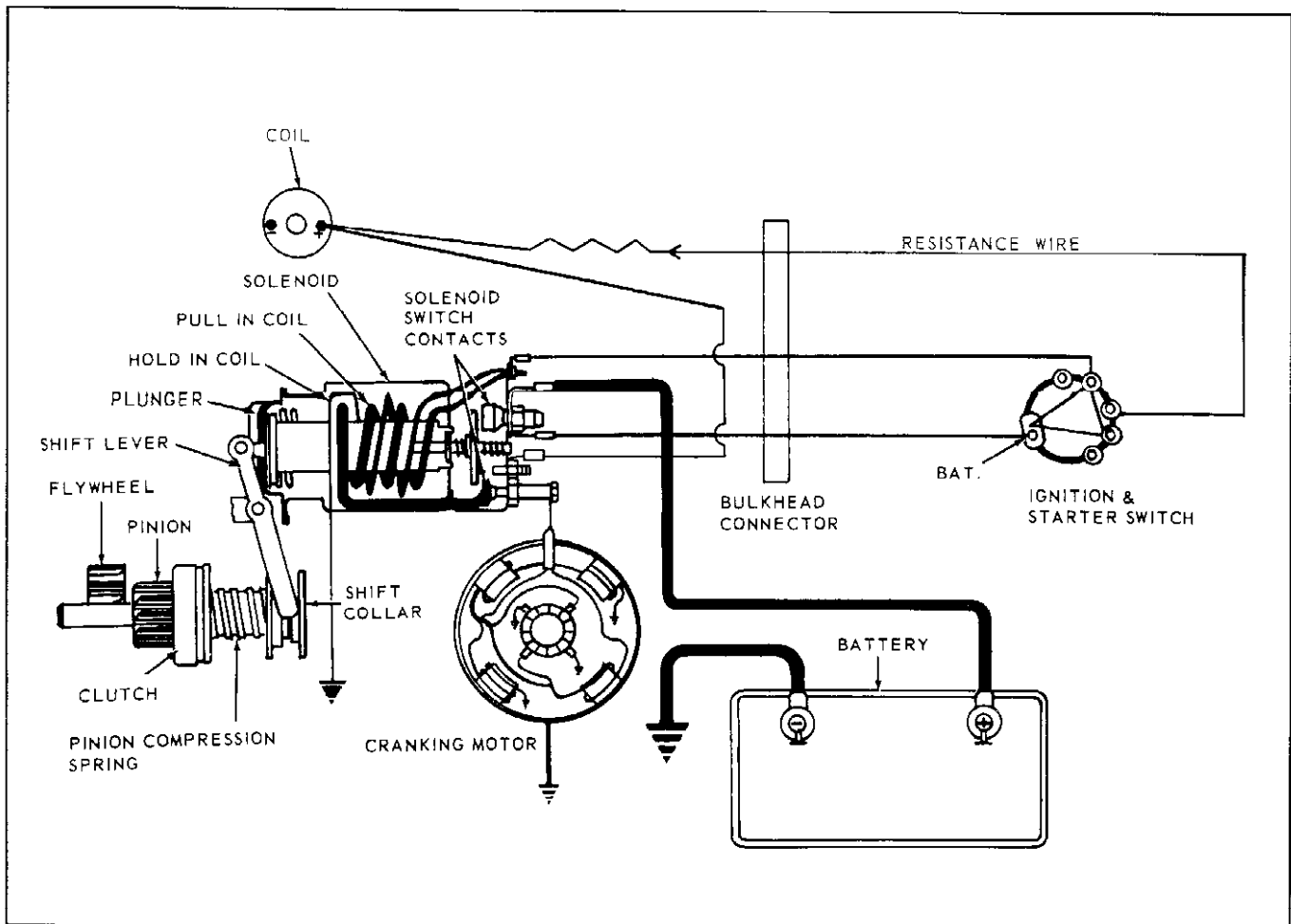


Fig. 6E-1 Cranking Circuit

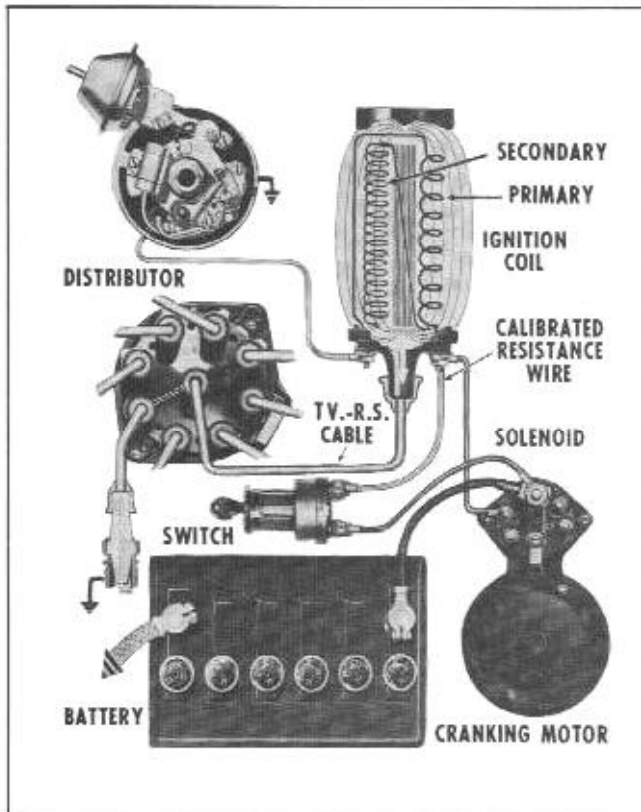


Fig. 6E-2 Ignition System

IGNITION AND STARTING SWITCH

When the ignition switch is turned to the start position, the ignition primary circuit is activated directly by-passing the resistance, and the starting motor circuit is activated to crank the engine.

One ignition terminal marked IGN 1 will be found on the back of the switch. The IGN 1 terminal is energized when the ignition switch is in the normal operating position. It directs current to the ignition coil through the resistance. In the START position, the temperature indicator bulb check circuit is activated through the ground.

CAUTION: Due to the presence of the bulb check circuit which is connected to the ignition terminal, never attempt to jumper the cranking motor solenoid with the ignition switch in the OFF position, as this will result in burning of the ignition switch ground spring.

The SOL terminal is energized when the ignition switch is turned to the starting or crank position. Electrical energy from the battery is supplied to the starting motor directly through the solenoid switch contacts to provide full battery voltage to crank the engine. Also in the crank position, battery voltage is supplied to the coil and ignition primary system through the R terminal on the solenoid which is also activated at this time.

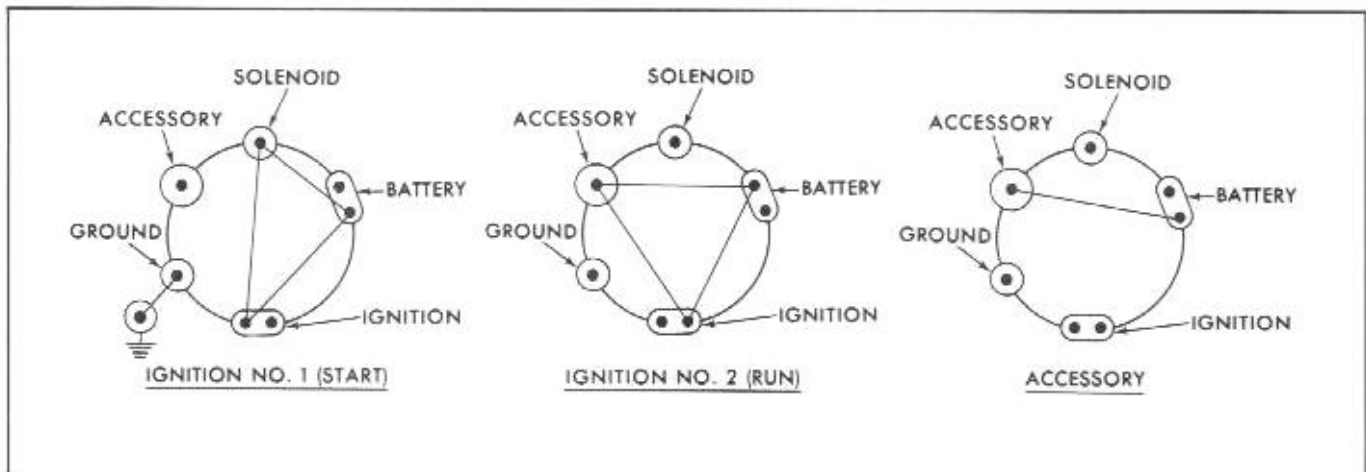


Fig. 6E-3 Ignition Switch Positions

FIREBIRD

	6-CYL			V-8 (326)			V-8 (400)	
	STD	A/C	H.D.	STD & H.O.	A/C	REG FUEL	STD & R.A.	A/C
BATTERY MODEL	Y-55	R-59		R-59		Y-59	R-59	
WATTAGE	2300	2900		2900		2350	2900	
AMPS @ 20 HR. RATING	44	61		61		59	61	
GENERATOR								
AMPS-COLD RATING	37	55		37	55	37	37	55
OUTPUT @ ENGINE RPM	25 @ 730	32 @ 660		25 @ 730	32 @ 660	25 @ 730	25 @ 730	32 @ 660
OUTPUT @ ENGINE RPM	35 @ 1825	50 @ 1660		35 @ 1825	50 @ 1660	35 @ 1825	35 @ 1825	50 @ 1660
FIELD CURRENT DRAW	2.2-2.6	2.2-2.6		2.2-2.6	2.2-2.6	2.2-2.6	2.2-2.6	2.2-2.6
REGULATOR MODEL	1119515			1119515			1119515	
TRANSISTOR	1116368			1116368			1116368	
NORMAL RANGE	13.5 - 16V			13.5 - 16V			13.5-16V	
STARTER MOTOR MODEL	1108329			1108328			1108335	
NO OF SHUNT WID.	0			0			0	
SOLENOID MODEL	1114344			1114344			1114345	
HOLD IN WINDING AMPS @ 10V	14.5 - 16.5			14.5 - 16.5			TEST NOT RECOMMENDED	
BOTH WINDING AMPS @ 10V	41-47			41-47				
IGNITION COIL	MODEL	PRIM RESIST OHMS (75°)	SEC RESIST OHMS (75°)	SPARK PLUGS				
6 CYL STD	1115224	1.4-1.7	3000-20000	6 CYL ALL - AC44N				
6 CYL W/CD	1115245	.39-.51	"	8 CYL (326) ALL - AC455				
8 CYL STD	1115244	1.7-2.0	"	8 CYL (400) ALL - AC44S				
8 CYL W/CD	1115237	.39-.51	"					
				HORNS	MODEL	AMPS DRAW		
				HIGH (OPT)	9000214	4.3-5.9		
				LOW	9000477	"		

Fig. 6E-4 Engine Electrical Specifications Chart