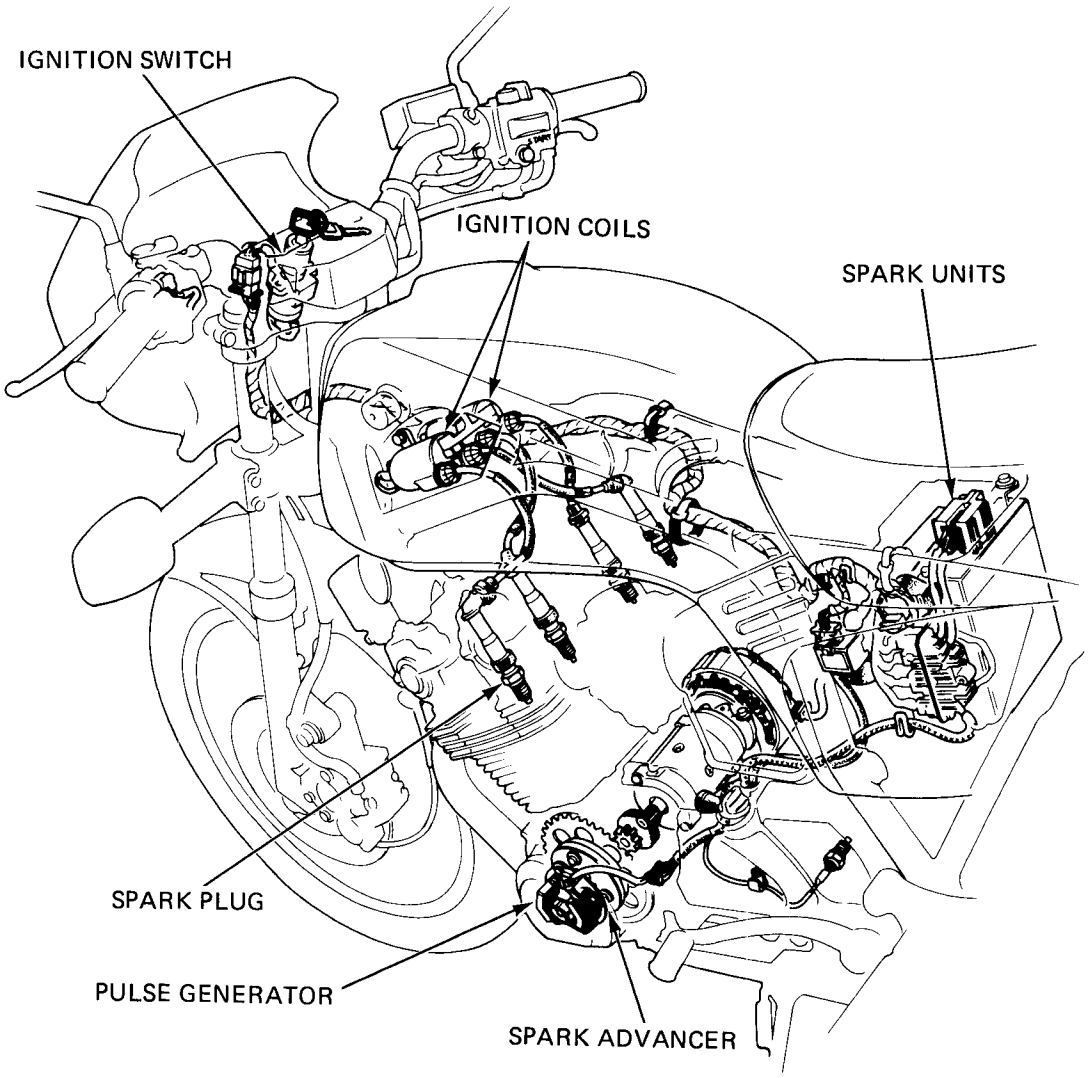
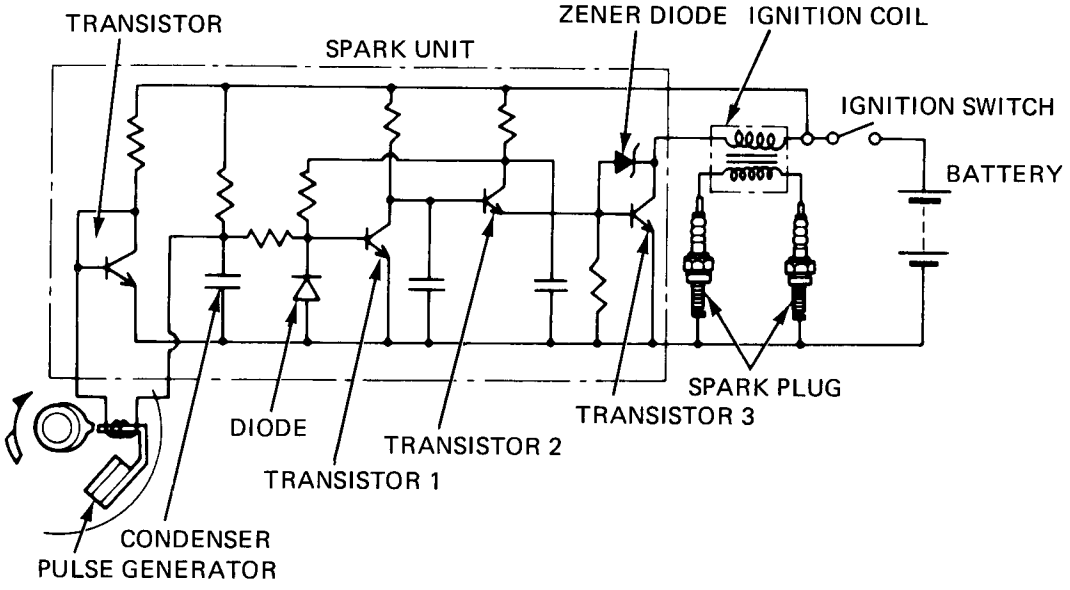




Date of Issue: August, 1982

18. IGNITION SYSTEM

SERVICE INFORMATION

GENERAL

- A Transistorized Ignition System is used and no adjustments are to be made unless the pulse generator screws are loosened. If these screws are loosened, ignition timing for either the No. 1 or No. 4 cylinder must be adjusted.
- For spark plug information, see page 3-7.

SPECIFICATIONS

Spark plug	ND	Standard	X27ESR-U	
		Optional (for high speed riding)	X31ESR-U	
	NGK	Standard	DR8ES	
Spark plug gap			0.6–0.7 mm (0.024–0.028 in)	
Ignition timing			At idle	10° (BTDC)
			Full advance	38.5° BTDC/3,500
Ignition coil			3-point spark test	6 mm (1/4 in) minimum

18

TROUBLESHOOTING

The ignition system has two sub-systems; one for the No. 1 and No. 4 cylinders and one for No. 2 and No. 3 cylinders. Determine which sub-system is faulty, then proceed to the detailed tests below.

Engine cranks but will not start
- Engine stop switch off
- No spark at plugs
- Faulty transistorzed spark unit
- Faulty pluse generator

No spark at plug
1. Engine stop switch OFF
2. Poorly connected, broken or shorted wires
   - Between ignition switch and engine stop switch
   - Between spark unit and engine stop switch
   - Between spark unit and ignition coil
   - Between ignition coil and plug
   - Between spark unit and pulse generator
3. Faulty ignition coil
4. Faulty ignition switch
5. Faulty spark unit
6. Faulty pulser generator

Engine starts but runs poorly
1. Igntiion primary circuit
   - Faulty ignition coil
   - Loose or bare wire
   - Intermittent short circuit
2. Secondary circuit
   - Faulty plug
   - Faulty spark plug wire

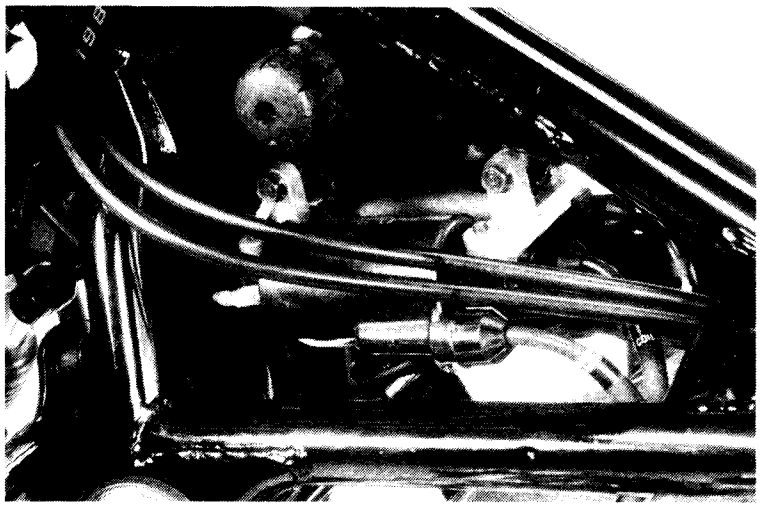
Timing advance incorrect
- Centrifugal advancer faulty

IGNITION COIL

REMOVAL

Remove the fuel tank.

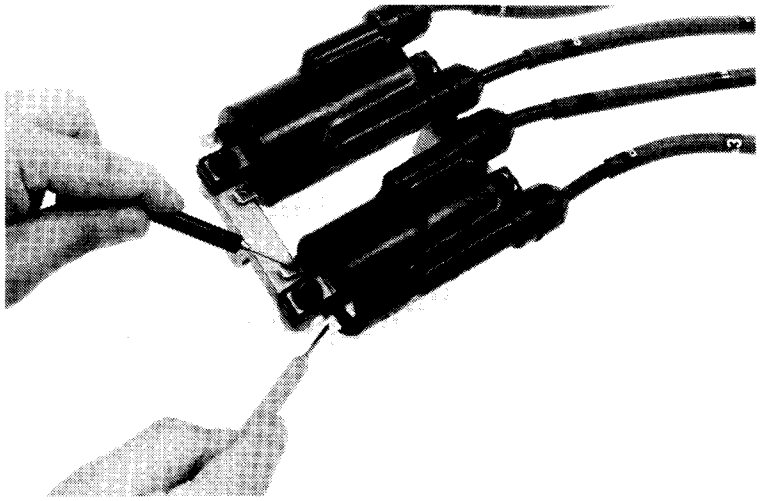
Disconnect the ignition coil wire leads.
Remove the coils by removing the attaching bolts.



CONTINUITY TEST

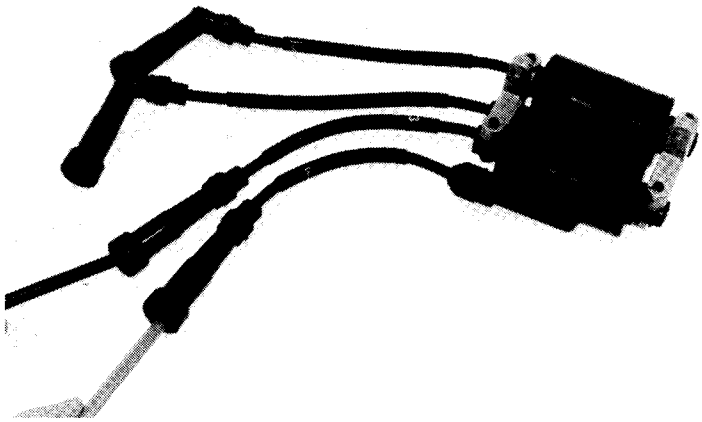
Measure the primary coil resistance of the coils.

RESISTANCE: 2.8 ohms (Ω)



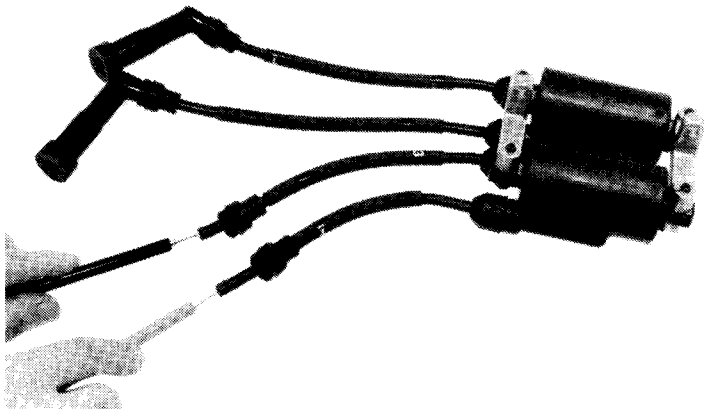
Measure the secondary coil resistance with the spark plug caps in place.

RESISTANCE: 21–28 k ohms (Ω)



Remove the spark plug caps and measure the secondary coil resistance.

RESISTANCE: 13.6–15.5 ohms (Ω)



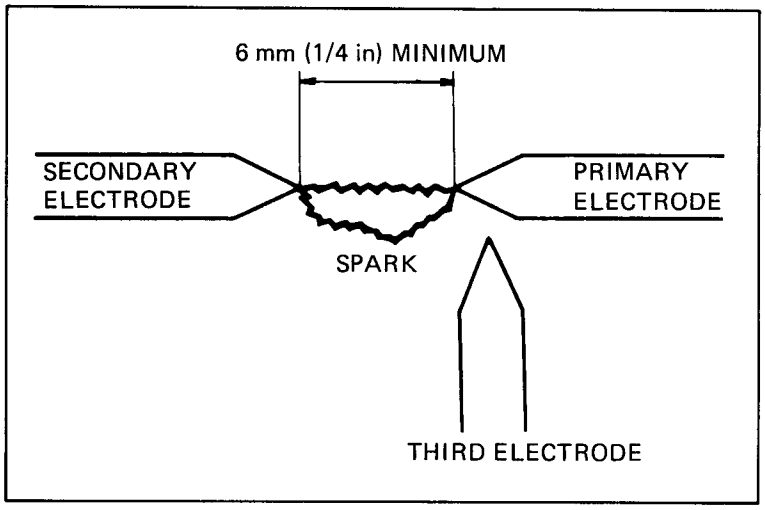
PERFORMANCE TEST

Perform the 3-point spark test with a coil tester.

SERVICE LIMIT: 6 mm (1/4 in) min.

NOTE:

Follow the coil tester manufacturers instructions.



TRANSISTORIZED IGNITION SYSTEM

INSPECTION

System

Disconnect the No. 1 and 2 plugs.

Hold each plug against any convenient engine ground.

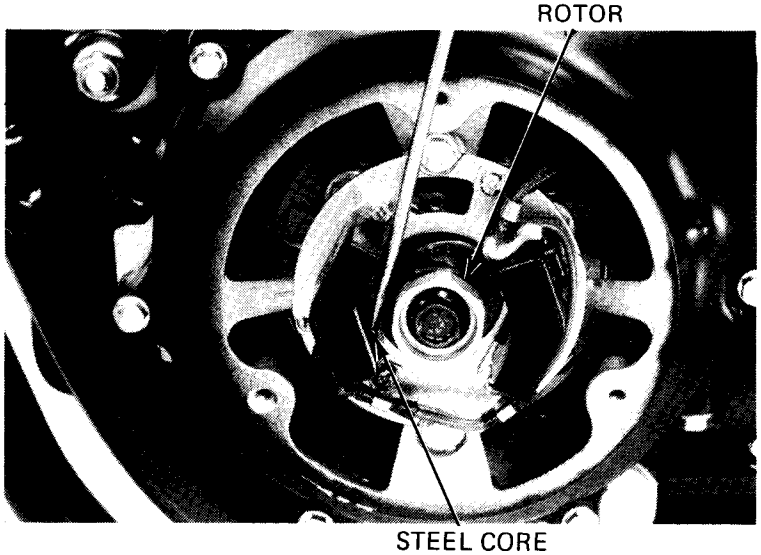
Remove the pulse generator cover and turn the ignition switch on.

Touch the end of a screwdriver to the rotor and one pulse generator steel core.

Repeat this operation several times.

A good spark to the plug means that the ignition system for that cylinder is in good shape.

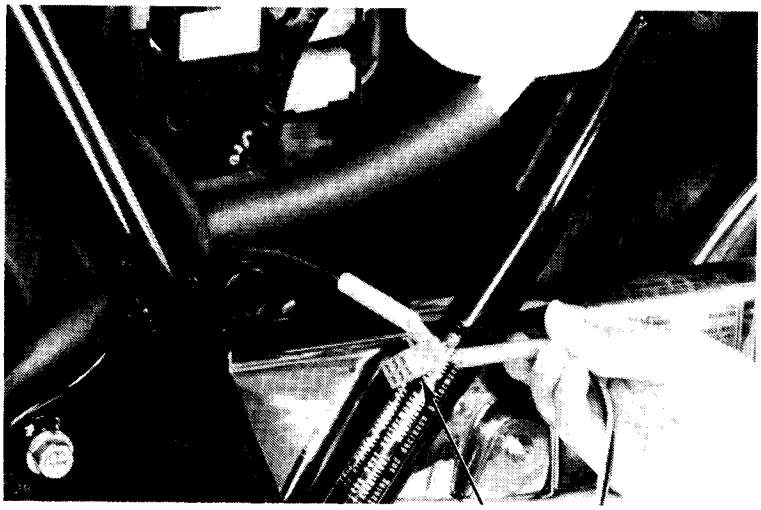
Repeat the above for the other pulse coil.



Pulse generator

Measure the coil resistance.

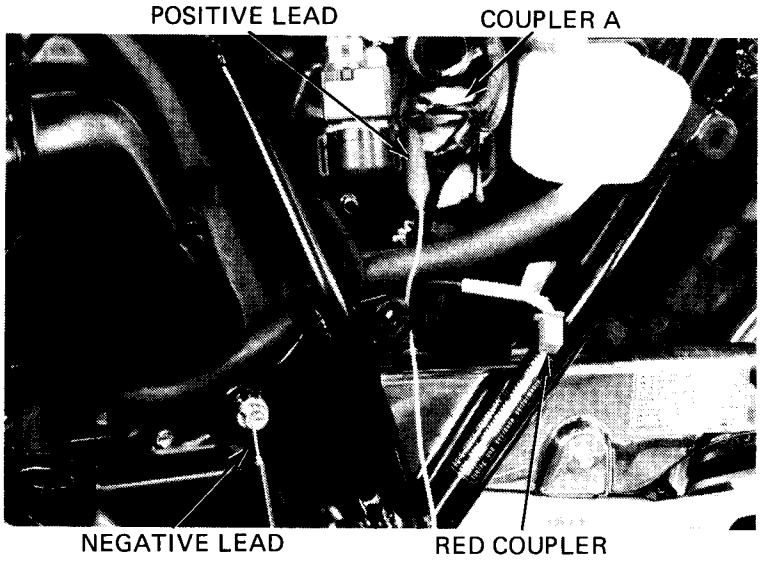
COIL RESISTANCE: 530 ± 50Ω (20°C, 68°F)
Between yellow leads (2, 3 cylinders)
Between yellow leads (1, 4 cylinders)



Spark unit

Disconnect the red coupler. Turn the ignition switch on. Set a voltmeter to the 0–25V DC scale.

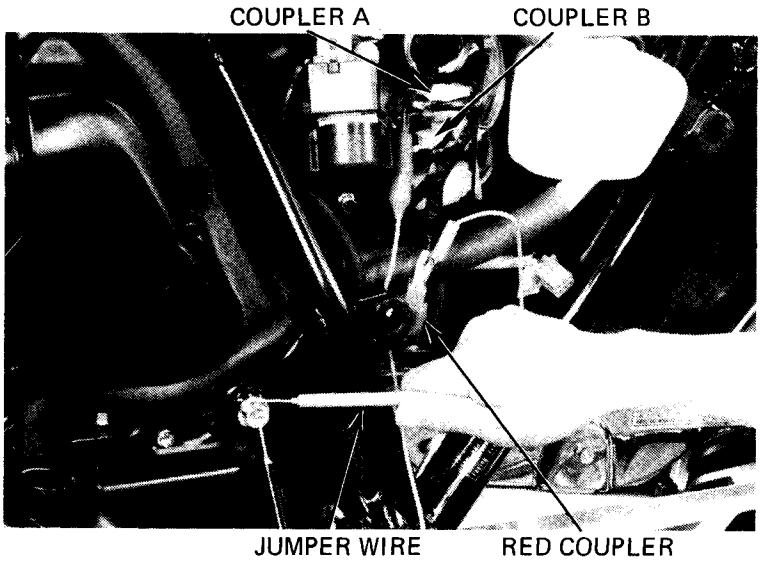
Touch the positive meter lead to the blue wire (with yellow tube) of coupler A; ground the negative lead. The meter should read 12V (battery voltage).



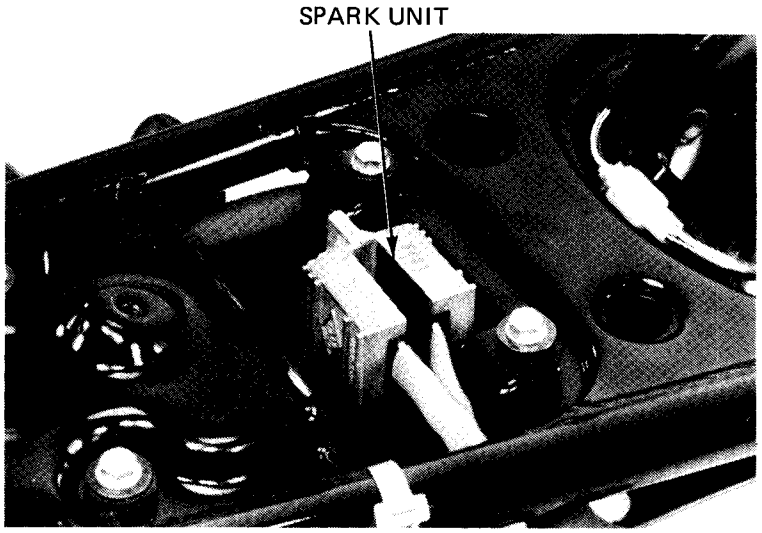
With the voltmeter leads in place, use a jumper wire to ground the blue wire (with white tube) terminal on the male (spark unit) side of the red coupler. Voltage should drop to 0–2V DC.

Move the positive voltmeter lead to the yellow wire of coupler B. Voltage should be 12V DC.

Move the jumper lead from the blue wire (with white tube) to the yellow wire (with white tube) terminal of the red coupler. Voltage should drop to 0–2V DC.



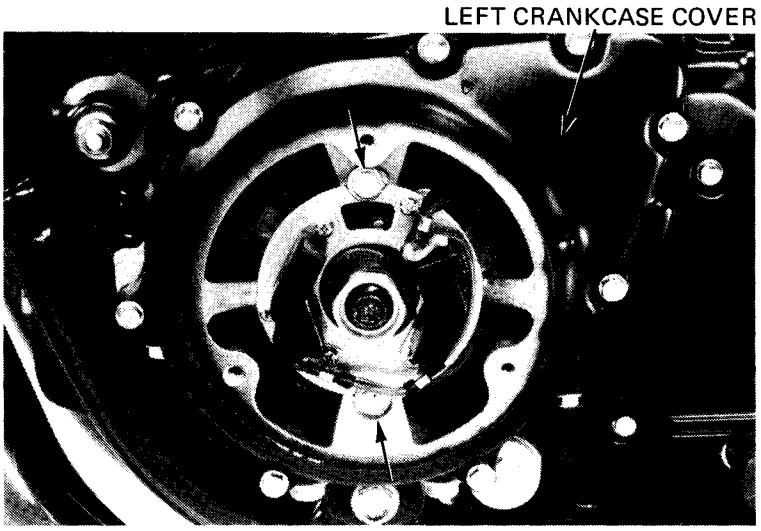
Replace the spark units if they are faulty.



PULSE GENERATOR REPLACEMENT

If pulse generator remplacement is necessary, loosen the two base plate screws.
Remove the left crankcase cover.
Remove the left rear crankcase and pulse generator assembly.

Adjust the ignition timing (Page 3-14).

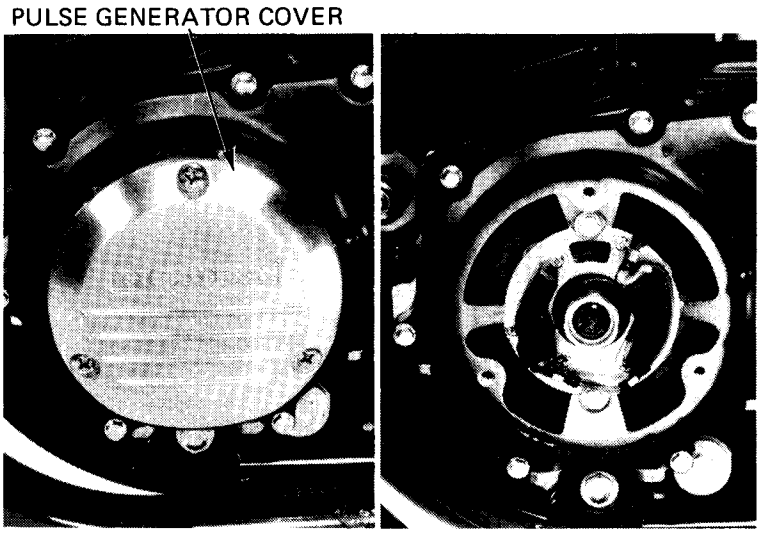


SPARK ADVANCER

For advancer function test, see page 3-15.

Remove the pulse generator cover screws and cover.

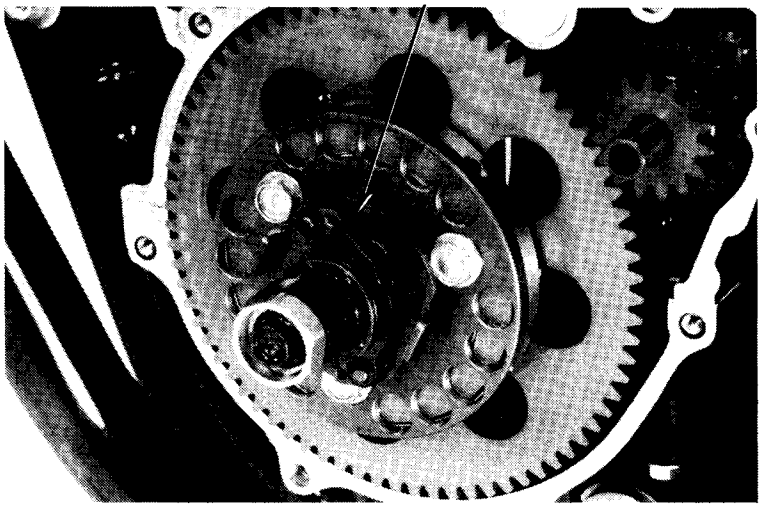
Remove the left crankcase cover screws and cover.



ADVANCER VISUAL INSPECTION

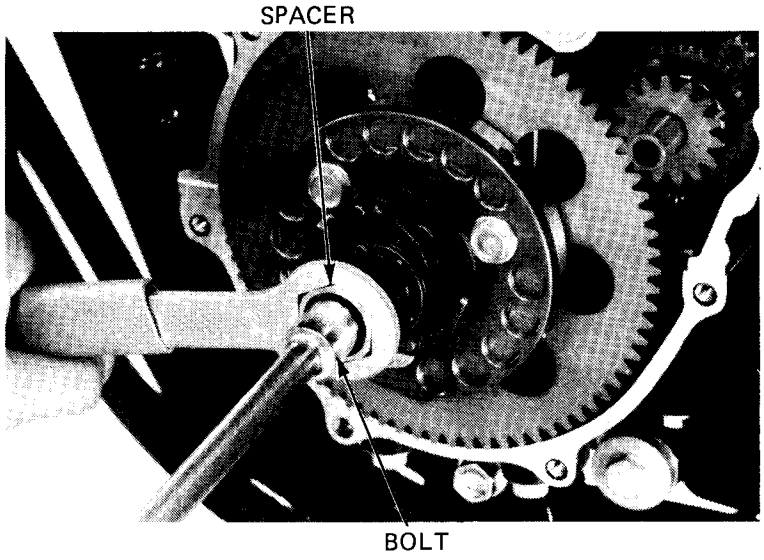
Check the mechanical advancer cam for sticking.

Lubricate the sliding surfaces, and check the spring for loss of tension and advancer pin for excessive wear if the advancer fails to return.



ADVANCER REPLACEMENT

Remove the bolt by holding the spacer and remove the advancer.



Align the rotor tooth with the "O" mark on the advancer.

Align the pin on the advancer with the slot in the crankshaft.

Tighten the hex head bolt.

TORQUE: 33–37 N·m (3.3–3.7 kg-m, 24–27 ft-lb)