

# IGNITION SYSTEM

	Page
IGNITION SYSTEM CIRCUIT .....	8-2
DISTRIBUTOR .....	8-7
HIGH TENSION CORD .....	8-23
SPARK PLUGS .....	8-24

## IGNITION SYSTEM CIRCUIT

Fig. 8-1

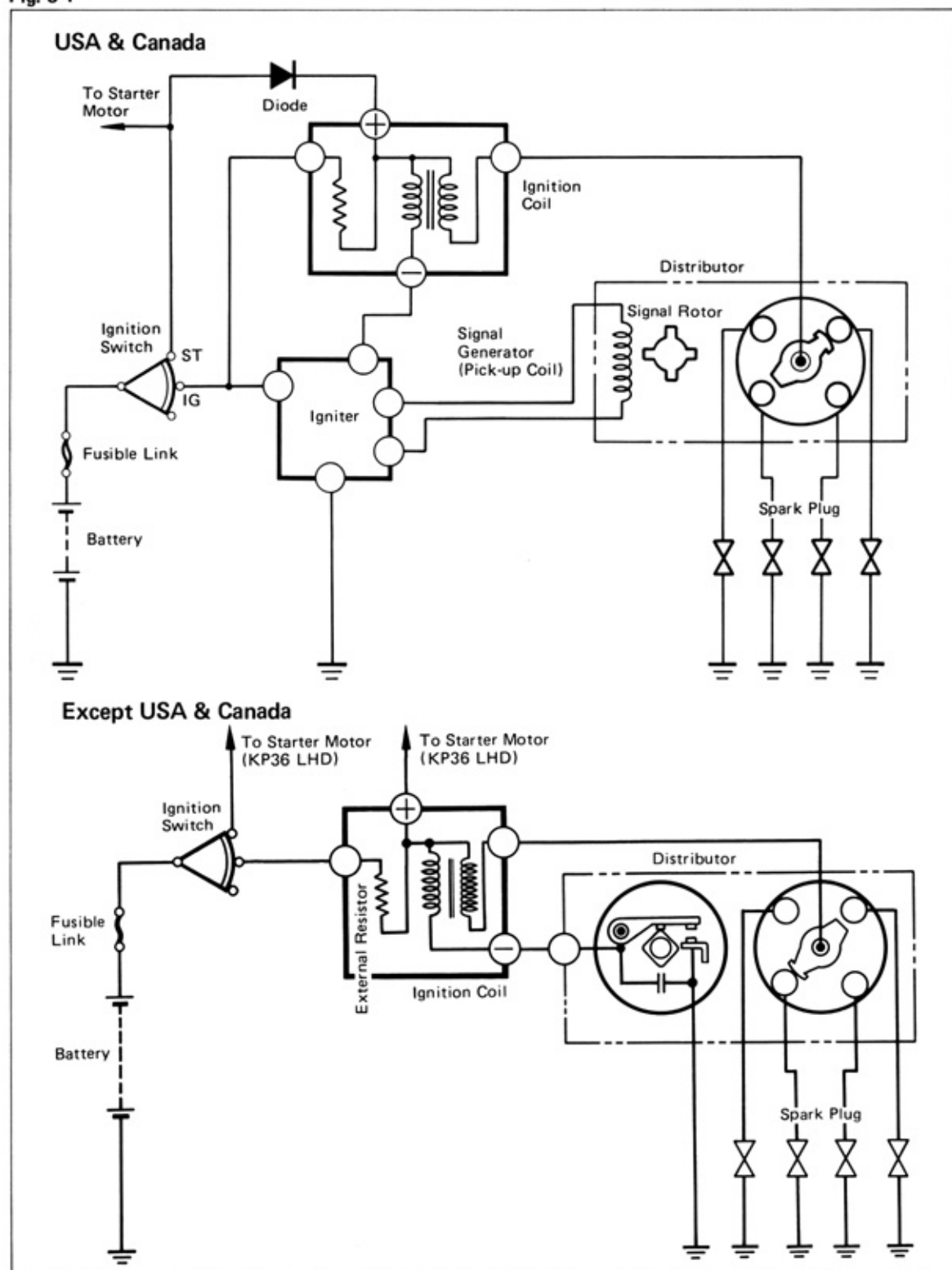
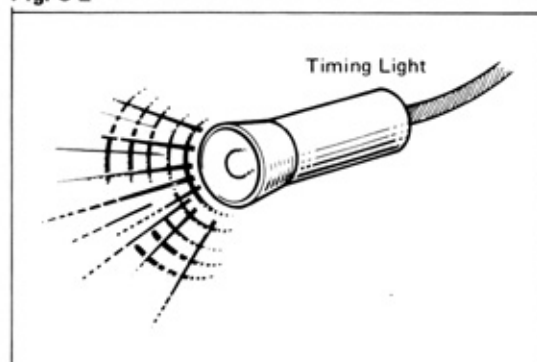
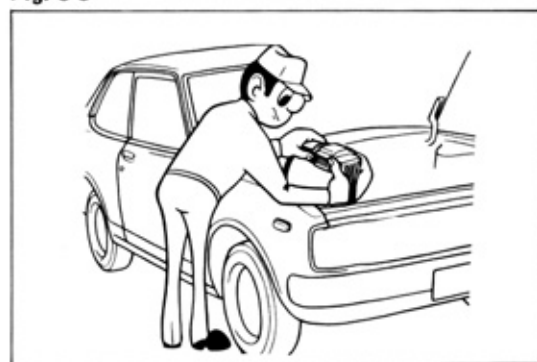


Fig. 8-2

**ON-VEHICLE INSPECTION****Spark Test**

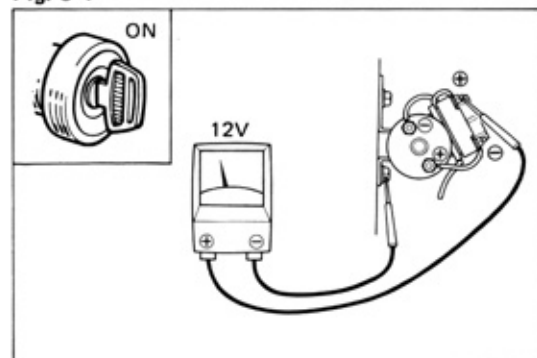
1. Set a timing light to the engine.
2. Crank the engine.
3. Check the spark condition with the timing light.

Fig. 8-3

**Connector**

Check the connector and wiring.

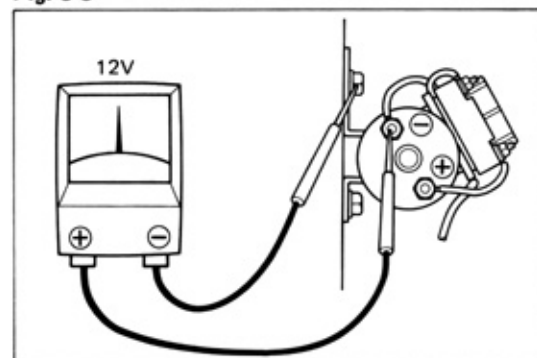
Fig. 8-4

**Igniter**

1. Turn on the ignition switch.  
(But do not start engine)
2. Disconnect the ignition coil cover.
3. Check the battery voltage.  
Using a voltmeter, connect the positive (+) probe to the resistor positive (+) terminal and negative (—) probe to the body ground.

**Voltage: Approx. 12V**

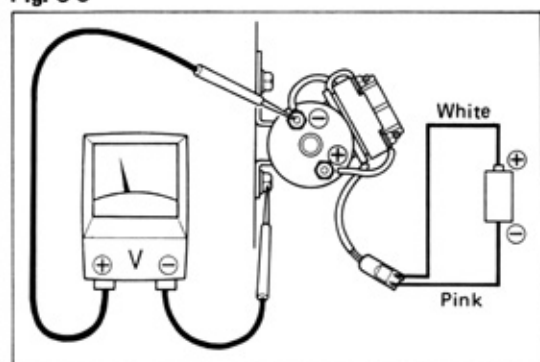
Fig. 8-5



4. Check the power transistor in igniter.  
(1) Using a voltmeter, connect the positive (+) probe to the ignition coil negative (—) terminal and negative (—) probe to the body ground (power transistor ON).

**Voltage: Less than 3V**

Fig. 8-6



- (2) Unplug wiring connector from distributor.
- (3) Using a voltmeter, connect the positive (+) probe to the ignition coil negative (-) terminal and negative (-) probe to the body ground.
- (4) Using a dry cell battery (1.5V), connect the positive (+) pole to the white wire terminal and negative (-) pole to the pink wire terminal (power transistor OFF).

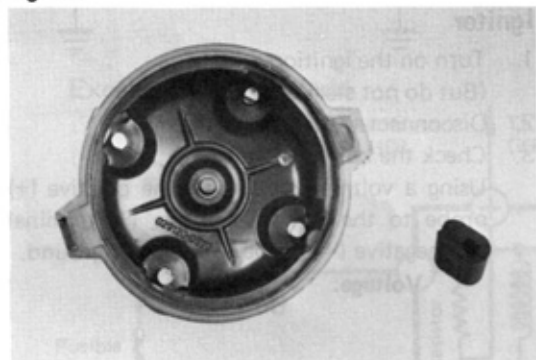
— Caution —

To avoid destroying the power transistor in the igniter, do not apply voltage more than 5 seconds.

- (5) Check the voltage reading.

**Voltage: Approx. 12V**

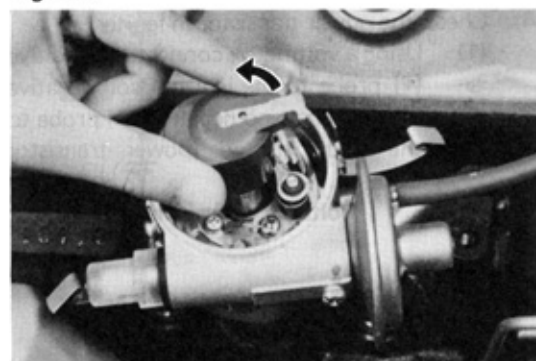
Fig. 8-7



### Distributor

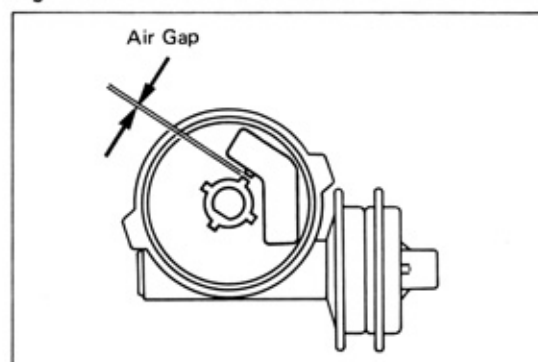
1. Distributor cap  
Check for cracks, carbon tracks, burnt or corroded terminals, and check the center contact for wear.

Fig. 8-8



2. Check the governor.  
Turn the rotor counterclockwise and release it. The rotor should return smoothly to its original position.

Fig. 8-9



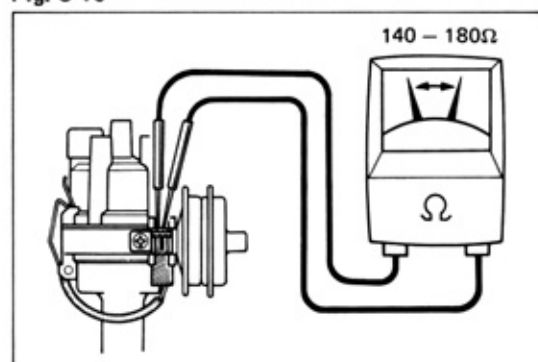
USA &amp; Canada

3. Check the air gap.

Check the air gap between the timing rotor and pick up coil projection with a thickness gauge.

**Air gap:** 0.2 – 0.4 mm  
(0.008 – 0.016 in.)

Fig. 8-10

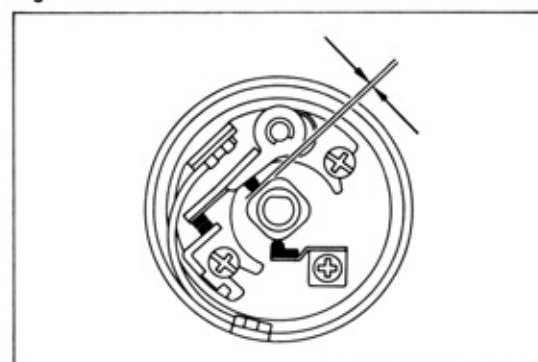


4. Check the signal generator.

Check the resistance of the signal generator with an ohmmeter.

**Resistance:** 140 – 180 Ω

Fig. 8-11

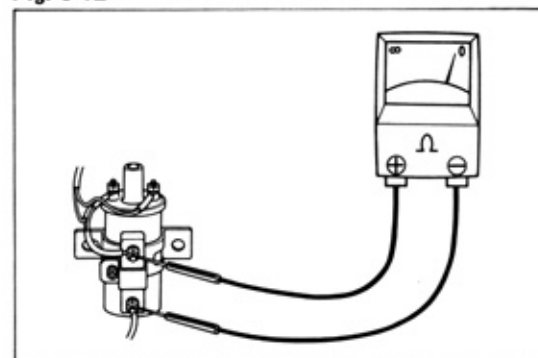


Except USA &amp; Canada

3. Check the rubbing block gap.

**Rubbing block gap:** 0.45 mm  
(0.0177 in.)

Fig. 8-12

**Resistor**

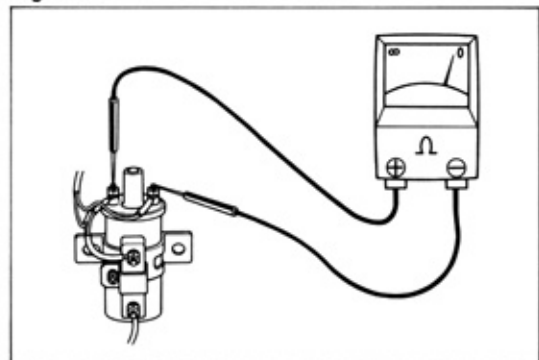
Check the resistor resistance with an ohmmeter.

**Resistance:**

**with Igniter** 1.1 – 1.3 Ω

**without Igniter** 1.3 – 1.5 Ω

Fig. 8-13

**Ignition Coil**

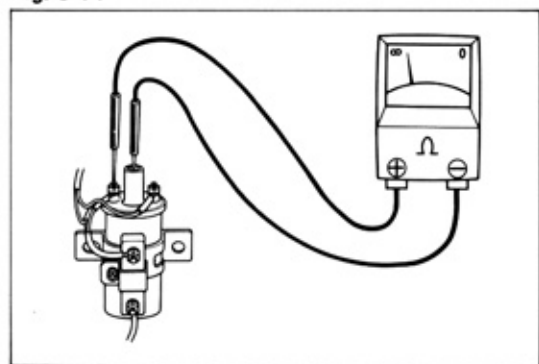
1. Check the ignition coil resistances with an ohmmeter.

- (1) Primary coil resistance: between Positive (+) and negative (-) terminals.

**Resistance:**

<b>with Igniter</b>	<b>1.3 – 1.7 <math>\Omega</math></b>
<b>without Igniter</b>	<b>1.2 – 1.5 <math>\Omega</math></b>

Fig. 8-14

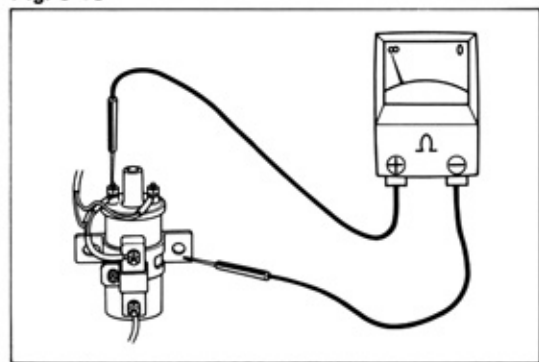


- (2) Secondary coil resistance: between positive (+) terminal and high tension terminal.

**Resistance:**

<b>with Igniter</b>	<b>10 – 15 k<math>\Omega</math></b>
<b>without Igniter</b>	<b>8 – 12 k<math>\Omega</math></b>

Fig. 8-15



2. Check the insulation resistance between the positive (+) terminal and coil case with an ohmmeter.

**Resistance: Infinity**

## DISTRIBUTOR

### DISASSEMBLY

Disassemble the parts in the numerical order shown in the figure.

Fig. 8-16

#### General Destinations

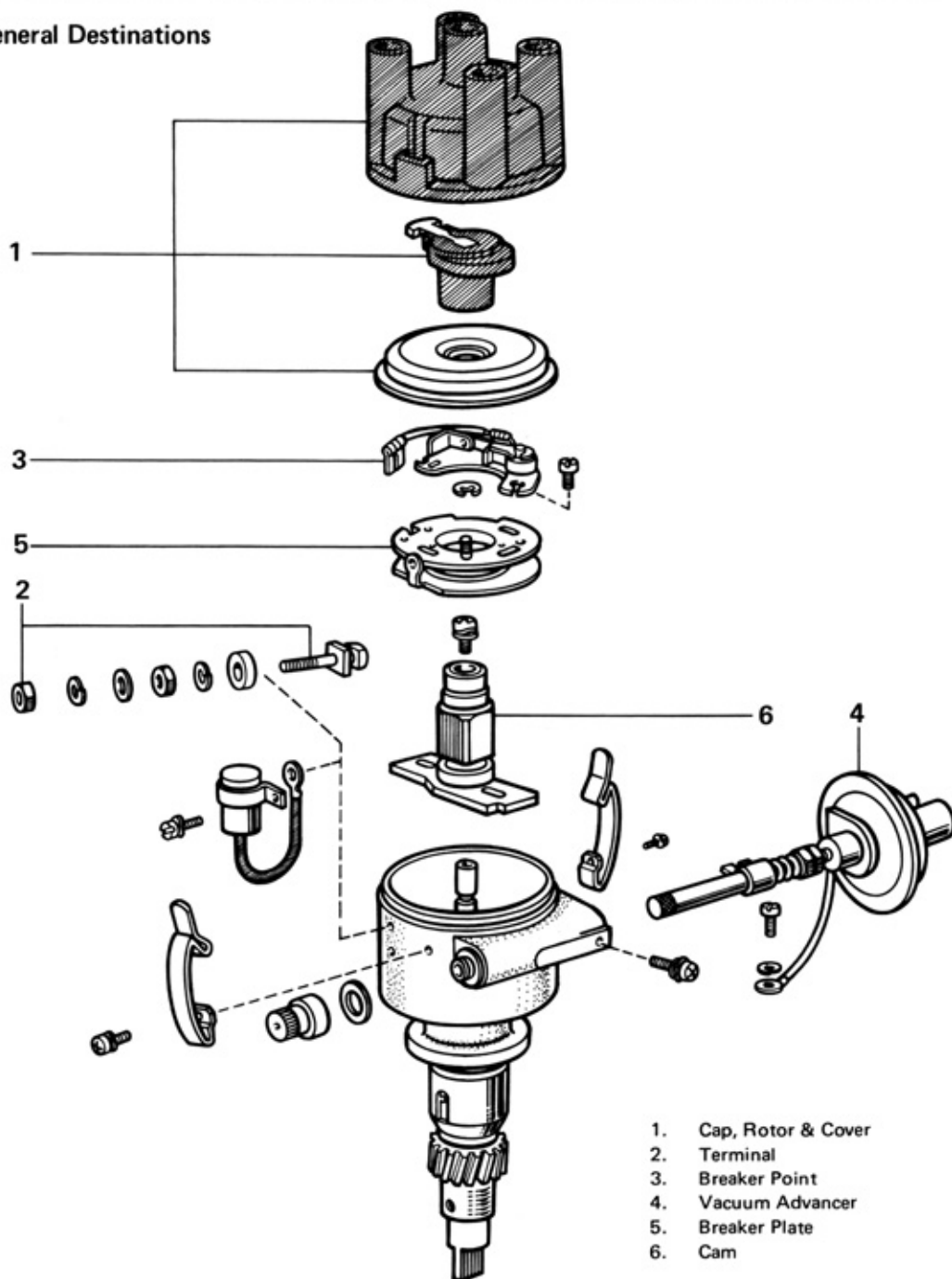
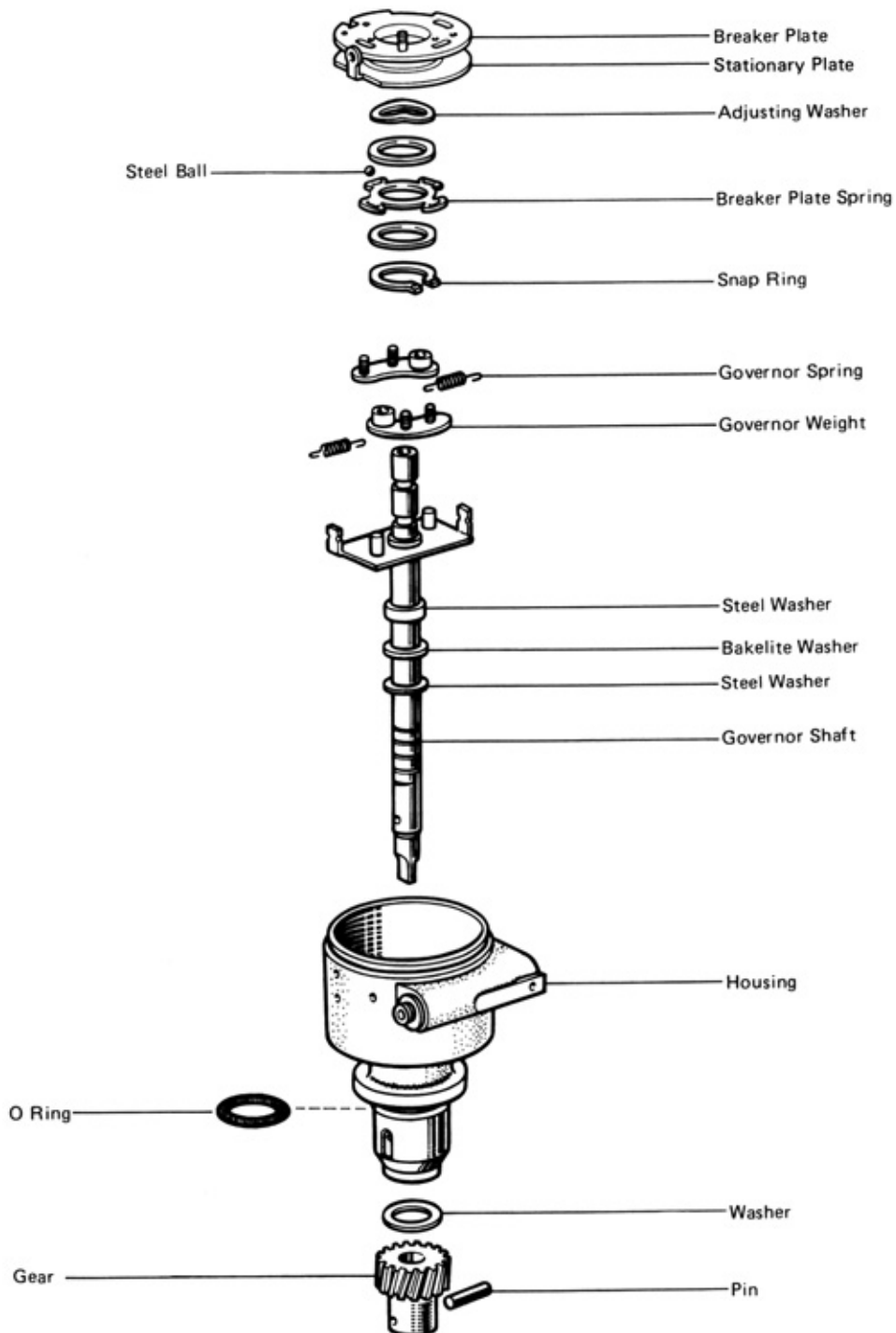


Fig. 8-17

## General Destinations





Disassemble the parts in the numerical order shown in the figure.

Fig. 8-18

Sweden 4K-C

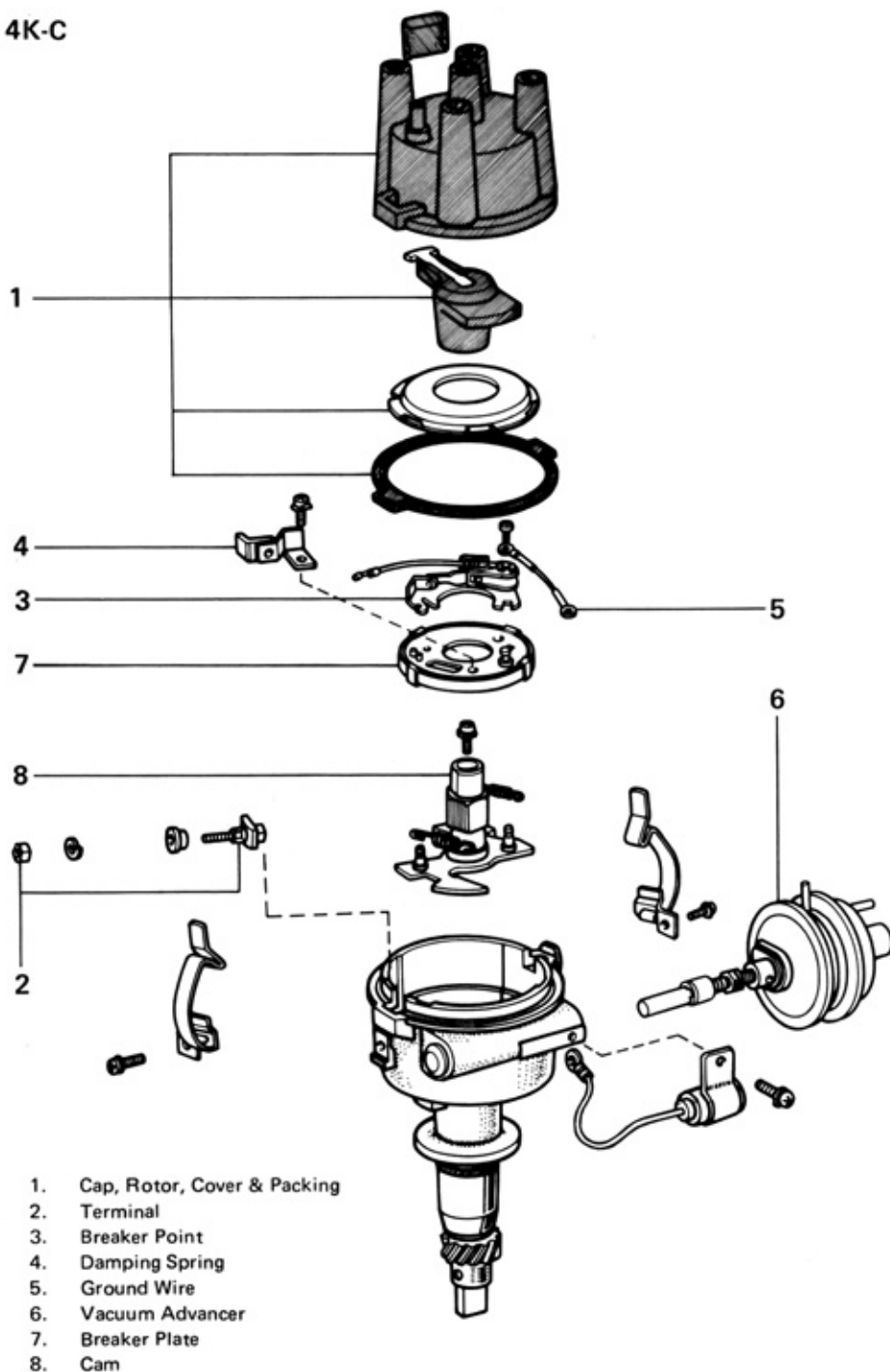
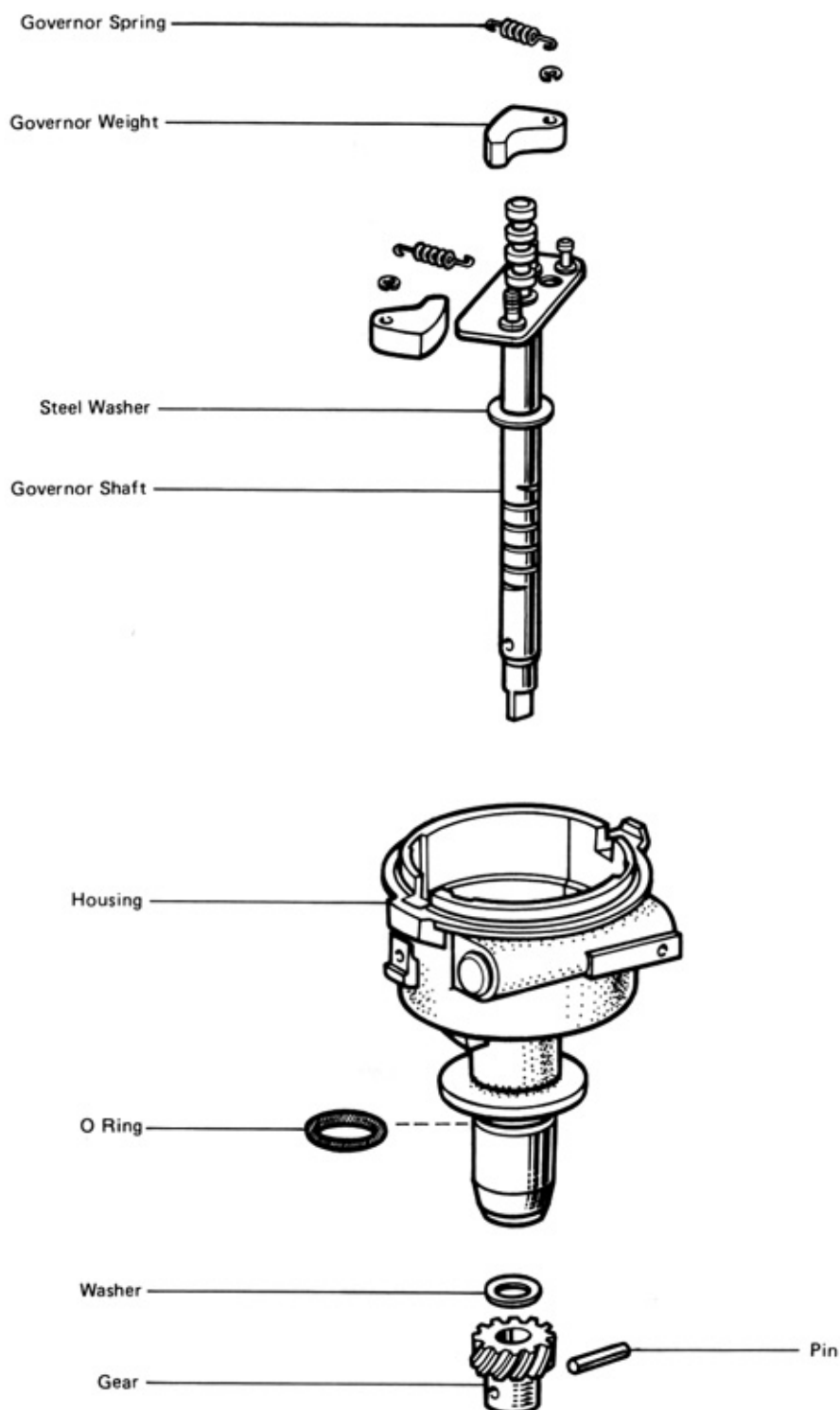


Fig. 8-19

## Sweden 4K-C



Disassemble the parts in the numerical order shown in the figure.

Fig. 8-20

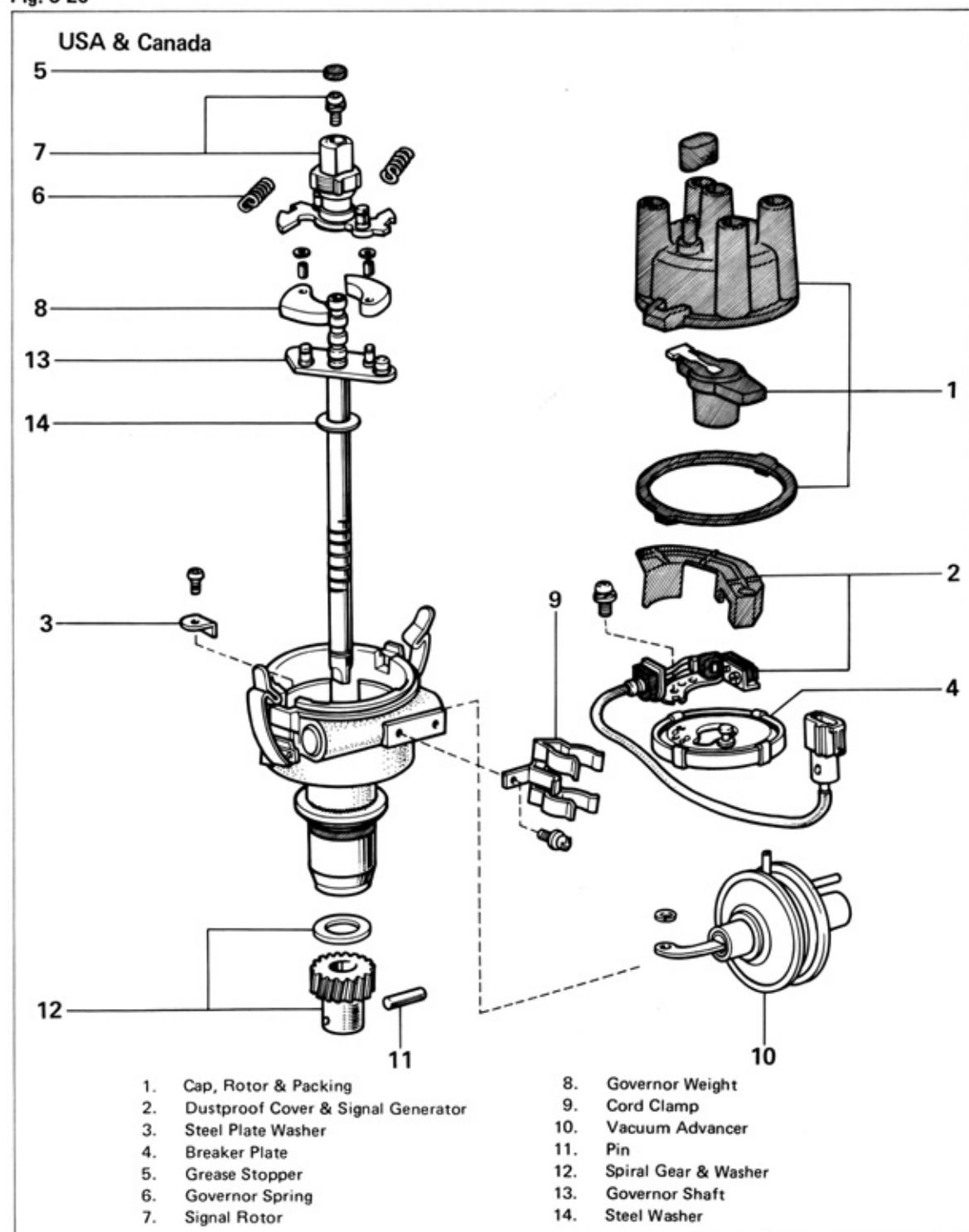


Fig. 8-21

**INSPECTION & REPAIR****Cap**

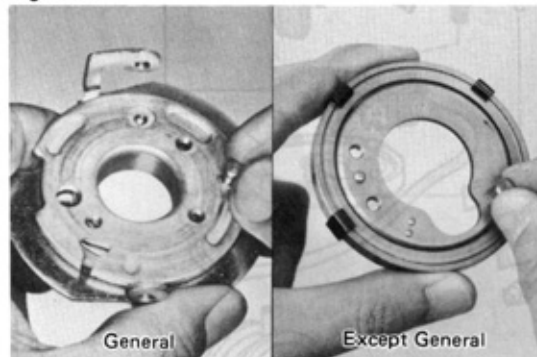
Inspect for cracks, carbon tracks, burnt or corroded terminals and check the center contact for wear.

Fig. 8-22

**Rotor**

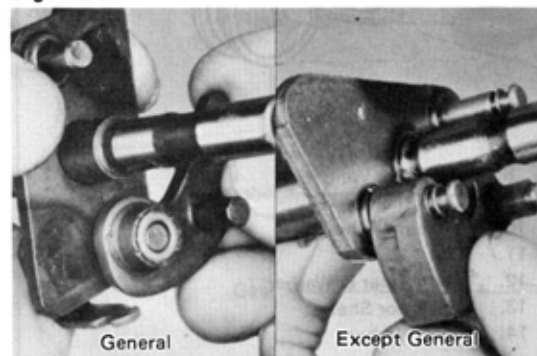
Inspect for cracks, carbon tracks, burnt or corroded terminals.

Fig. 8-23

**Breaker Plate**

Check the breaker plate for smooth rotation.

Fig. 8-24

**Governor Weight & Pin**

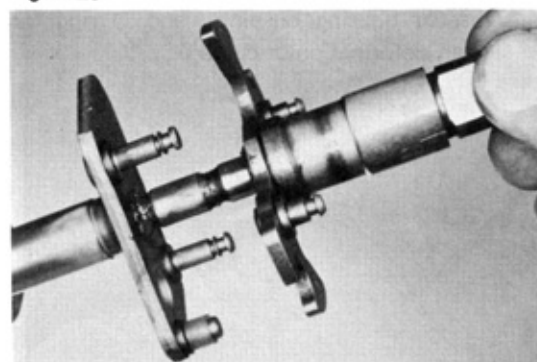
Check the fitting portions of the governor weights with support pins for binding.

Fig. 8-25

**Vacuum Advancer Diaphragm**

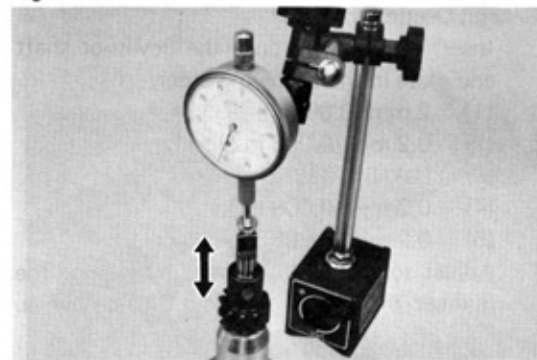
The diaphragm should move when you inhale through the port.

Fig. 8-26

**Cam & Shaft**

Inspect cam for wear, damage and fit between cam and shaft.

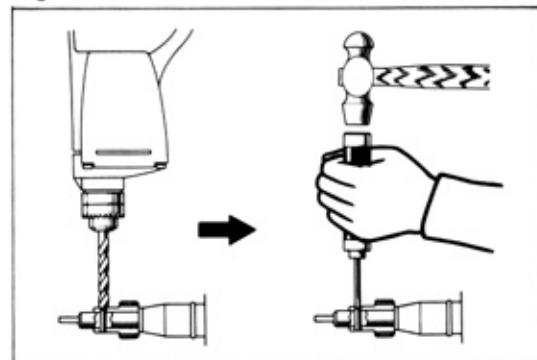
Fig. 8-27

**Governor Shaft & Housing**

1. Check shaft thrust clearance.

**Thrust clearance:** 0.15 – 0.50 mm  
(0.006 – 0.020 in.)

Fig. 8-28



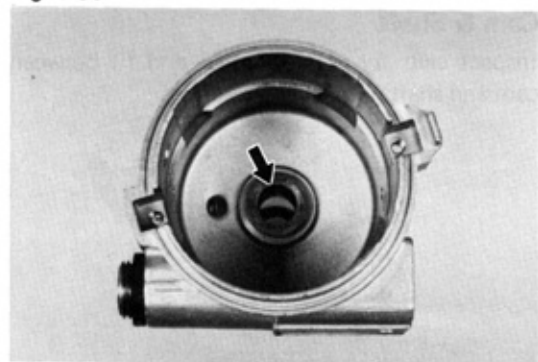
2. Remove gear and pin.  
Grind off the pin end and remove the pin and gear.

Fig. 8-29



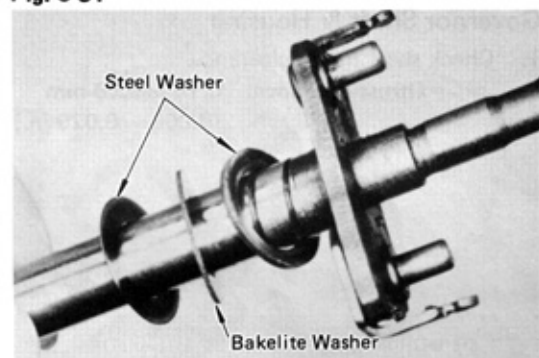
3. Inspect the governor shaft for wear or damage.

Fig. 8-30



4. Inspect housing bushings, and O ring for wear, deformation or damage.

Fig. 8-31



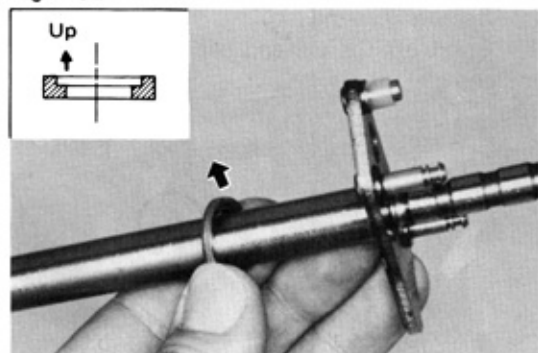
#### General Destinations

5. Insert the washers onto the governor shaft and plate in the following order.

- (1) 2 mm (0.08 in.)
- (2) 0.2 mm (0.008 in.)
- (3) Bakelite washer
- (4) 0.2 mm (0.008 in.)
- (5) 0.2 mm (0.008 in.)

Adjust to standard clearance by varying the number of washers 2, 4 and 5 listed above.

Fig. 8-32

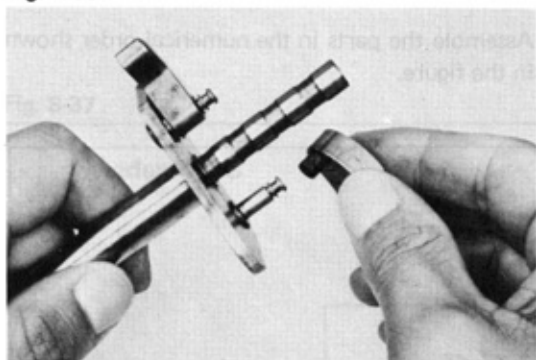


#### Except General Destinations

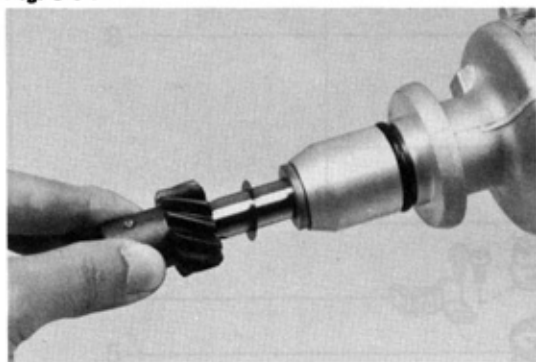
- 5-1 Assemble the washer as shown in the figure.

#### Washer (for adjustment)

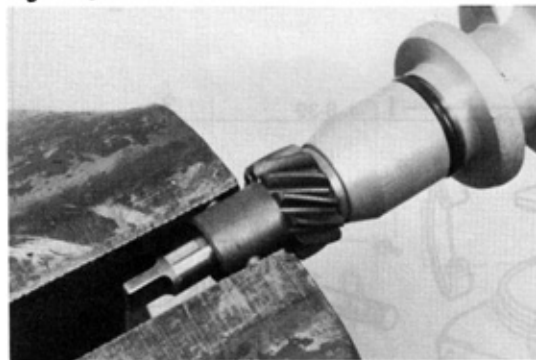
Part No.	Thickness mm (in.)
90099-01385	2.5 (0.098)
90099-01386	2.7 (0.106)
90099-01387	2.9 (0.114)
90099-01412	2.3 (0.091)

**Fig. 8-33**

5-2 Assemble the bearing between the pin and weight.

**Fig. 8-34**

6. Assemble the washers and gear in order as shown in the figure and check the thrust clearance.

**Fig. 8-35**

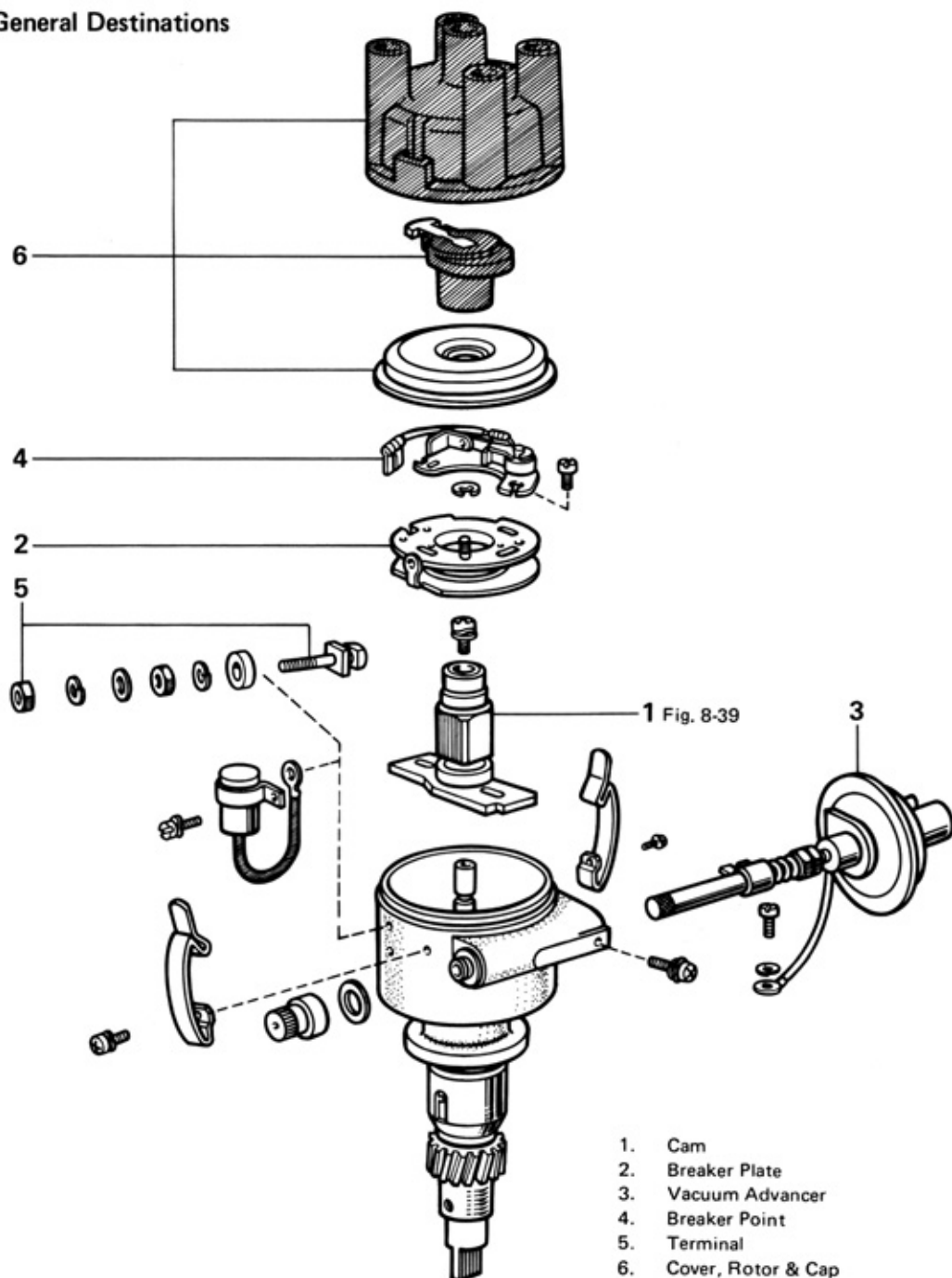
7. Peen both pin ends with a vise.

## ASSEMBLY

Assemble the parts in the numerical order shown in the figure.

Fig. 8-36

## General Destinations

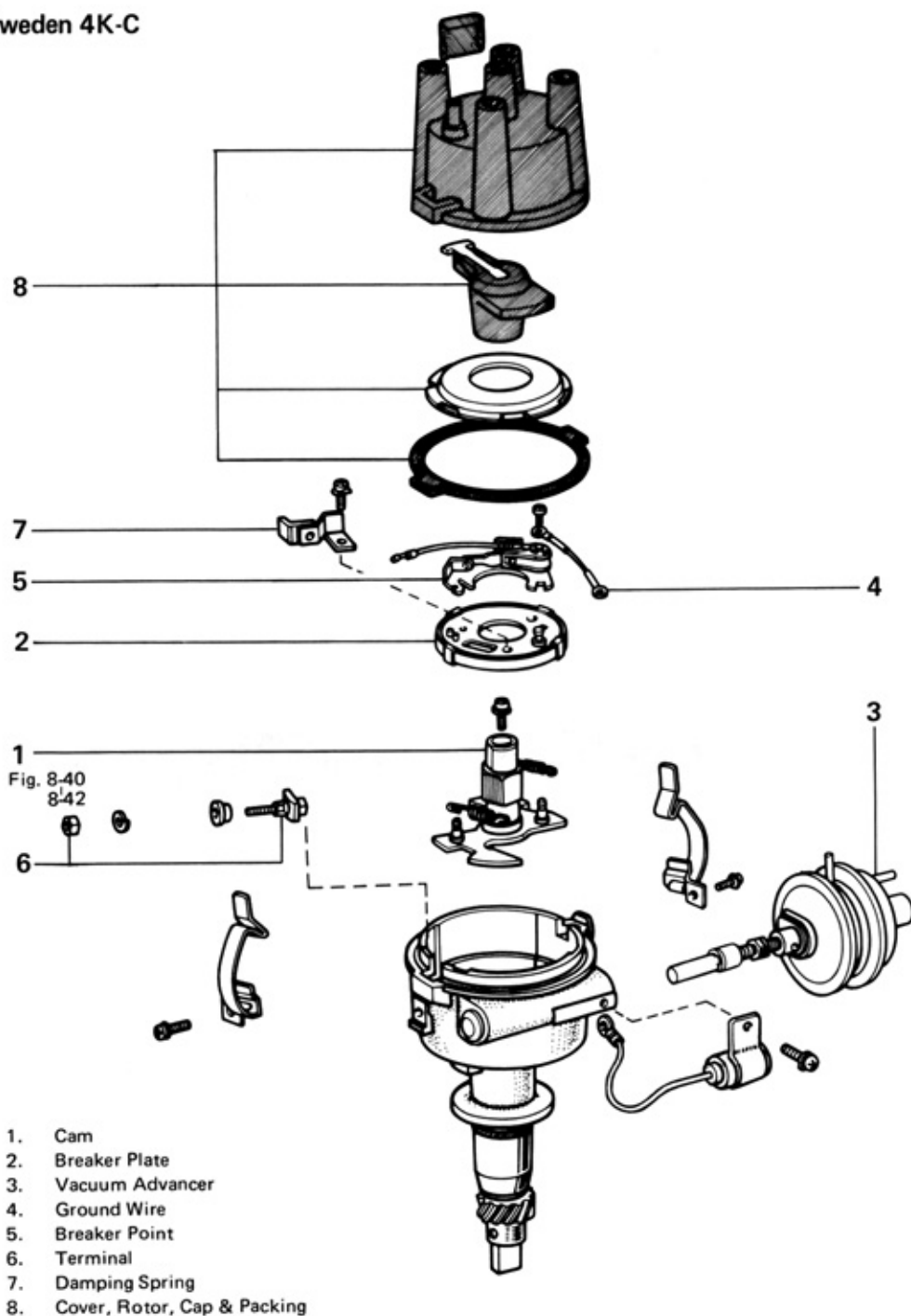




Assemble the parts in the numerical order shown in the figure.

Fig. 8-37

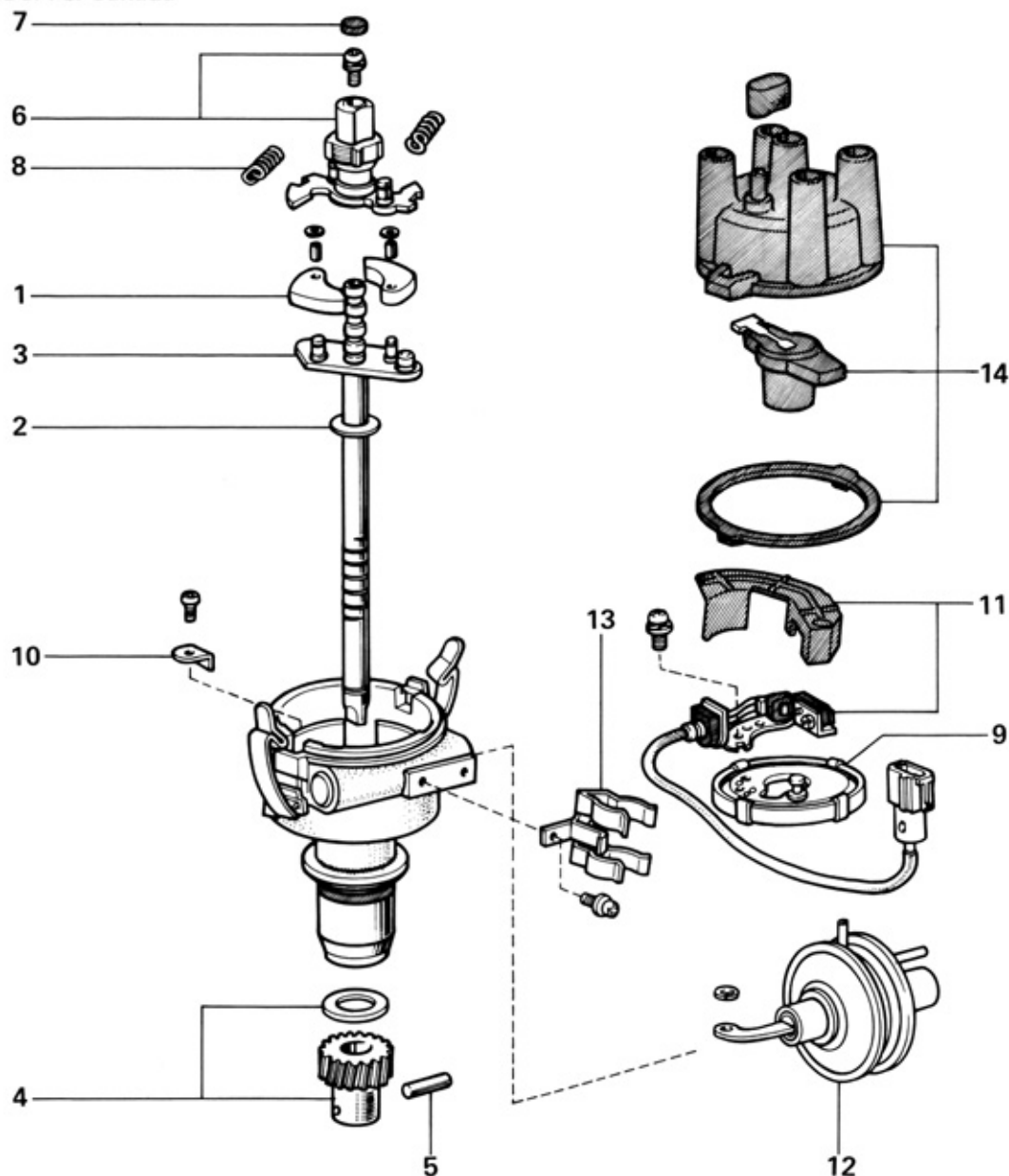
Sweden 4K-C



Assemble the parts in the numerical order shown in the figure.

Fig. 8-38

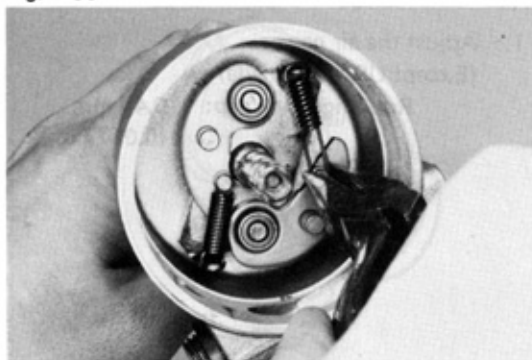
USA &amp; Canada



1. Governor Weight
2. Steel Washer
3. Governor Shaft
4. Spiral Gear & Washer
5. Pin
6. Signal Rotor
7. Grease Stopper

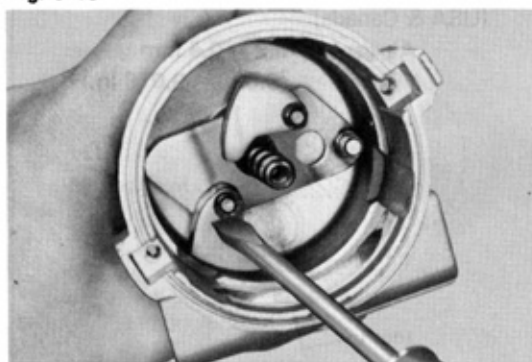
8. Governor Spring
9. Breaker Plate
10. Steel Plate Washer
11. Signal Generator & Dustproof Cover
12. Vacuum Advancer
13. Cord Clamp
14. Cap, Rotor & Packing

Fig. 8-39

**General Destinations**

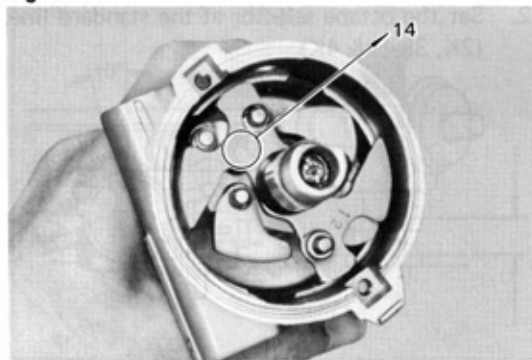
Install the governor springs in the direction shown in the figure.

Fig. 8-40

**USA, Canada & Sweden**

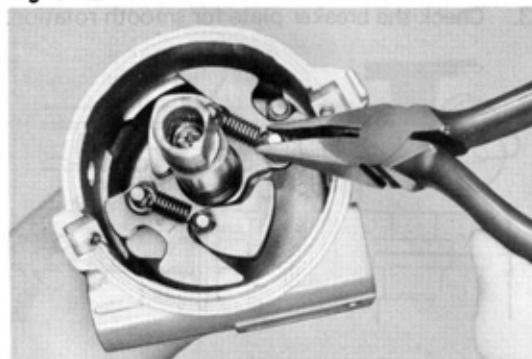
1. Insure installation of the E ring into the groove.

Fig. 8-41



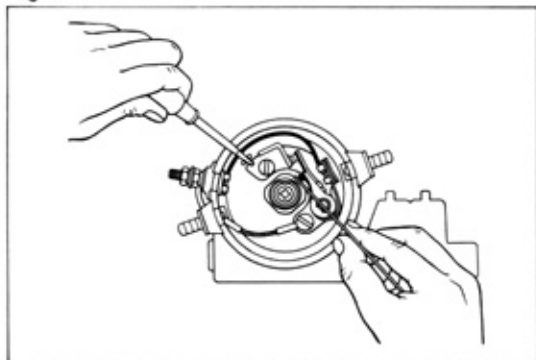
2. Match the mark 14 with the stopper and install the cam.

Fig. 8-42



3. Insure proper installation of the governor spring.

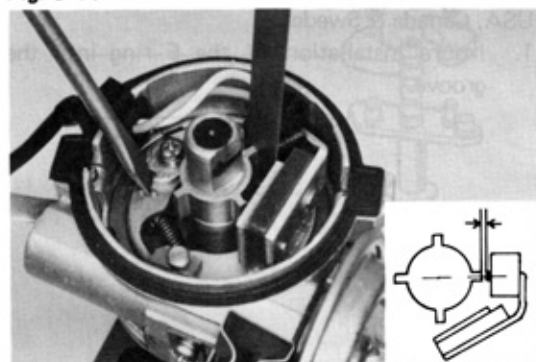
Fig. 8-43



## ADJUSTMENT

1. Adjust the air gap.  
(Except USA & Canada)  
**Rubbing block gap:** 0.45 mm  
(0.0177 in.)

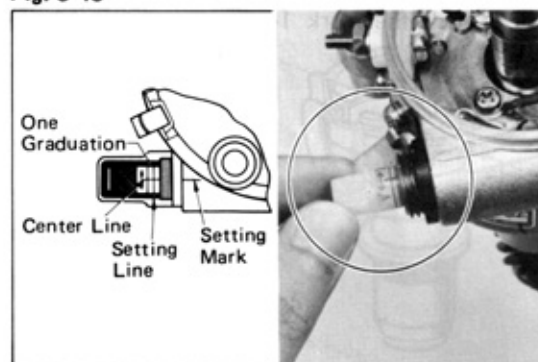
Fig. 8-44



(USA &amp; Canada)

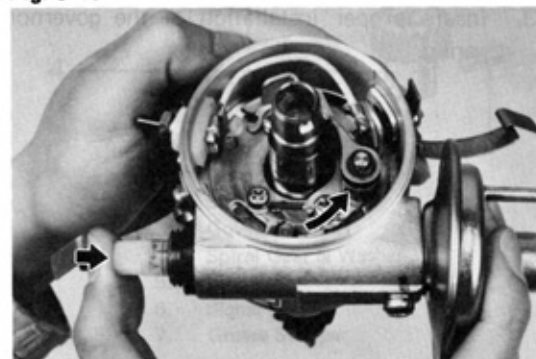
**Air gap:** 0.2 – 0.4 mm  
(0.008 – 0.016 in.)

Fig. 8-45



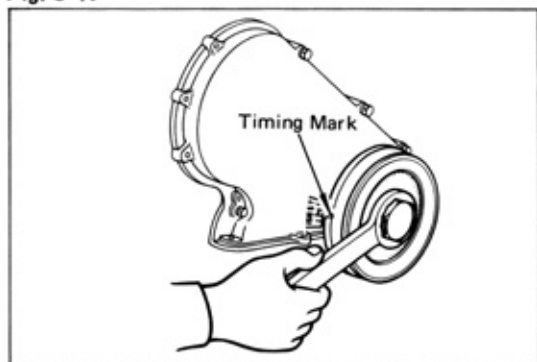
2. Set the octane selector at the standard line.  
(2K, 3K-H & 4K)

Fig. 8-46



3. Check the breaker plate for smooth rotation.

Fig. 8-47

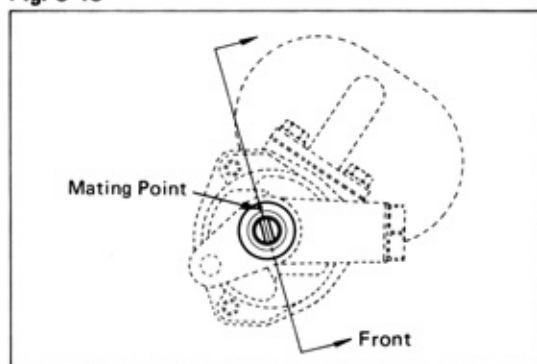
**INSTALLATION**

1. Set the crankshaft pulley to No. 1 cylinder ignition timing.

**Ignition timing (BTDC):**

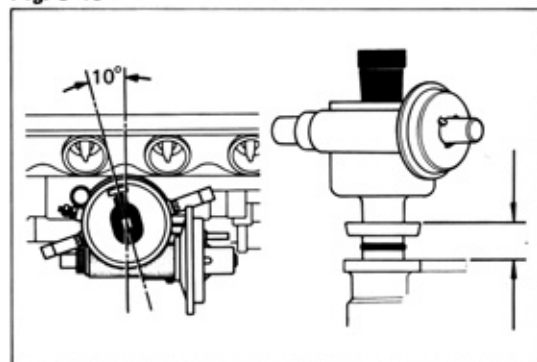
**8° at idle speed**

Fig. 8-48



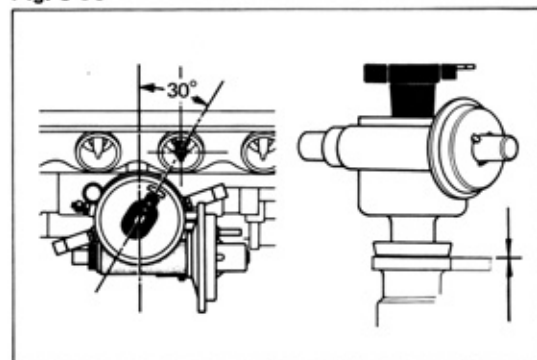
2. Align the center line of the slot at the top end of the oil pump shaft against the mark (oil hole) at the top side of the oil pump body.

Fig. 8-49



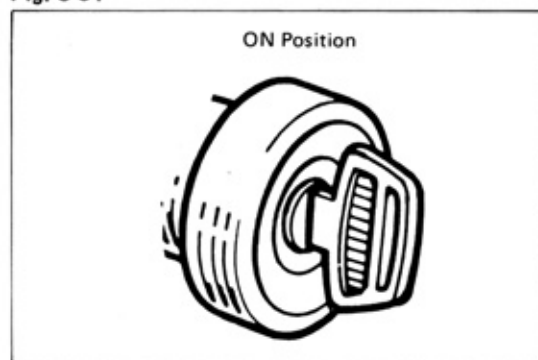
3. Position the distributor rotor toward the right side of No. 3 plug tube, and insert the distributor housing.

Fig. 8-50



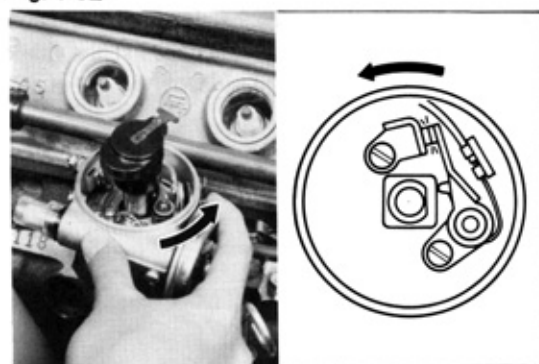
4. When the housing is inserted, the rotor should be positioned near the center of No. 2 plug tube.

Fig. 8-51



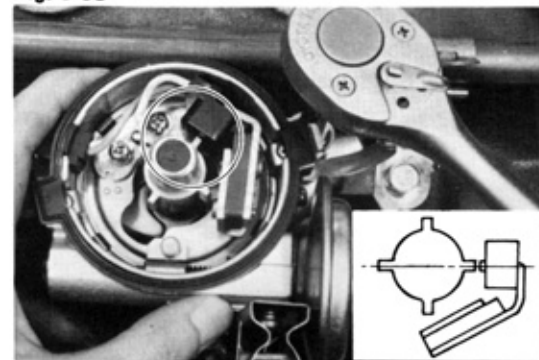
5. Turn ignition switch to the ON position. Do not turn the starter motor.

Fig. 8-52



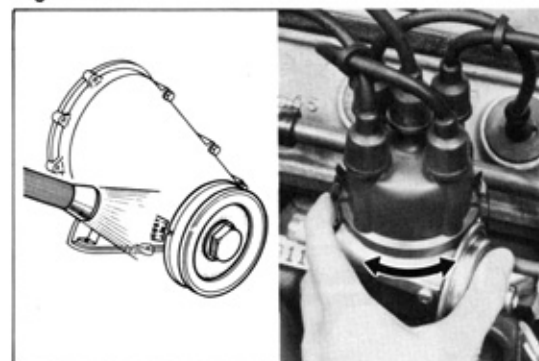
6. Rotate the distributor body counterclockwise until there is a spark between the points, and tighten the clamp bolt in that position. (Except USA & Canada)

Fig. 8-53



- Adjust the housing by moving it so that the signal rotor will just begin to cut the lines of the flux, and then tighten the set bolt. (USA & Canada)

Fig. 8-54



7. Check ignition timing during idling.

**Ignition timing (BTDC):**

**8° at idle speed**

If necessary, align the timing marks by turning the distributor body.

Fig. 8-55



## HIGH TENSION CORD



— Note —

1. Carefully remove the high tension cords by pulling on the rubber boots.

Fig. 8-56



2. Do not bend the cords as the conductors will break.

Fig. 8-57



## INSPECTION

1. Check the condition of the cord terminals. If any terminal is corroded, clean it. If broken or distorted, replace the cord.

Fig. 8-58



2. Check the resistance of each cord between both ends. If the reading exceeds the limit, replace the cord.

**Resistance:**    **Less than 25 k $\Omega$ /cord**

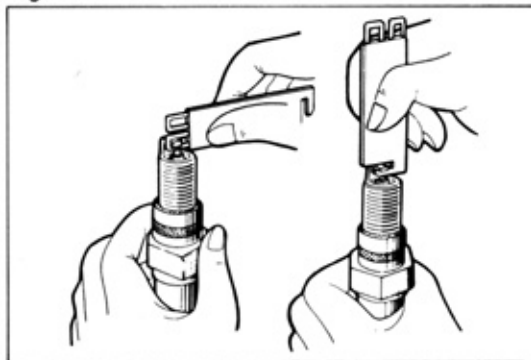
Fig. 8-59



Fig. 8-60



Fig. 8-61



## SPARK PLUGS



### INSPECTION

Inspect for the following. Clean or replace the plugs if necessary.

1. Cracks or damages in the threads or insulator.
2. Damaged or deteriorated gaskets.



3. Wear on the electrodes.
4. Burnt electrode and the amount of carbon deposit.

### GAP ADJUSTMENT

Check the plug gap with plug gap gauge.

If not to specified value, adjust by bending the ground (outer) electrode.

#### Spark plug gap:

USA (ex. Calif.) & Canada	1.1 mm (0.043 in.)
General, Europe & Calif.	0.8 mm (0.031 in.)





