15–500 Testing and adjusting dwell angle and firing point (contact-controlled ignition system)

Dwell angle (normal coil ignition)

Testing and adjusting value at idle[1])	Change between idle and 3000/min
47–53°	max. ± 3°

[1]) Do not change dwell angle on used contacts, renew contacts when attaining lower test value. When installing new contacts, set dwell angle to 53 ± 1°.

Dwell angle (transistorized ignition system)

Identification: Blue ignition coil, two pre-resistors and transistorized ignition switching unit.

Testing and adjusting value with used contacts at idle[2])	Change between idle and 3000/min
47–53°	max. ± 3°

[2]) When installing new and when adjusting used breaker contact points, set dwell angle to 47 ± 1°.

Firing point standard version

Normal compression

Engine	Ignition distributor Bosch No.	Adjusting value[1]) of firing point without vacuum 4500/min	Test value Ignition timing without vacuum			Vacuum adjustment in direction of "advance" at 4500/min	Installation value of ignition distributor at starting speed without vacuum
			Idle	1500/min	3000/min		
115.923	0 231 115 064	43°	13–19°	22–38°	30–37°	8–14°	6° before TDC
	0 231 170 138		13–20°	16–22°	33–39°	14–20°	17° before TDC
	0 231 170 081		2–8°	15–23°	32–40°	10–14°	7° before TDC
115.938 115.951 115.954	0 231 170 138 0 231 170 237	40°	10–18°	13–19°	30–36°	14–20°	14° before TDC

Low compression

115.926	0 231 115 064	45°	15–21°	24–32°	32–39°	8–14°	8° before TDC
	0 231 170 081		4–10°	17–25°	34–42°	10–14°	9° before TDC
	0 231 170 138	43°	13–20°	16–22°	33–39°	15–19°	17° before TDC
115.951	0 231 170 138	40°	10–18°	13–19°	30–36°	14–20°	14° before TDC
115.939 115.954	0 231 170 190 0 231 170 208 0 231 170 238	45°	6–14°	14–22°	25–33°	8–12°	10° before TDC

[1]) If normally compressed engines are operated with fuel below 98 RON (min. 88 MON), adjust firing point in direction of "retard" and match to octane rating of fuel used. A reference value for this adjustment is: for each 1 RON set firing point back by 1–2°. Max. setback should not exceed 6°.

Attention!
Taking back firing point is considered an **"emergency measure"**. The results are a reduction in output and increased fuel consumption. In addition, the engine should not be fully loaded. **As soon as fuel with the specified octane rating is available, set again to full ignition advance.**

Firing point national version

Ignition distributor Bosch No.	Adjusting value of firing point with vacuum at idle	Test values ignition timing without vacuum 1500/min	3000/min	Vacuum adjustment in direction of „retard" at idle	„advance" 4500/min	Installation value of ignition distributor at starting speed without vacuum

(AUS) **1977**

Identification: Silver information plate on cross member in front of radiator

0 231 170 208	10° before TDC	15–20°	27–32°	–	6–10°	10° before TDC

(AUS) **starting 1978**

0 231 170 238	10° before TDC	15–20°	27–32°	–	6–10°	10° before TDC

(J) **up to model year 1976**

Identification: Information plate with yellow printing on cylinder head cover

0 231 170 138	15° before TDC	15–19°	31–35°	–	12–14°	15° before TDC

(J) **1977**

Identification: Information plate on cross member in front of radiator in Japanese language. •

0 231 170 137	10° before TDC	15–20°	27–32°	–	6–10°	10° before TDC

(S) **1976**

Identification: Blue information plate in Swedish language on cross member in front of radiator.

0 231 170 190	10° before TDC	15–20°	27–32°	–	6–10°	10° before TDC

(S) **1977**

0 231 170 208	10° before TDC	15–20°	27–32°	–	6–12°	10° before TDC

(S) **starting 1978**

0 231 170 238	10° before TDC	15–20°	27–32°	–	6–10°	10° before TDC

(AUS) **1974–1977**

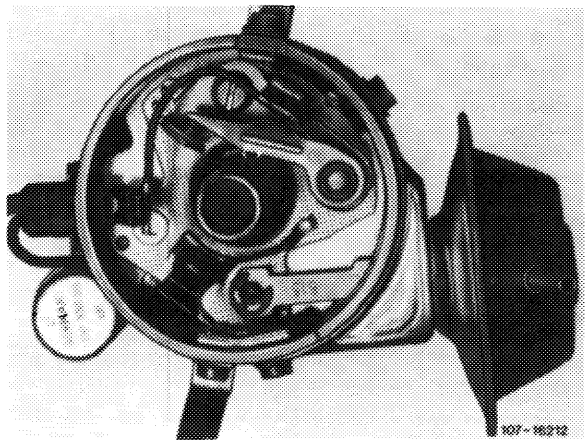
Identification: Information plate in English language on cross member in front of radiator.

0 231 170 137	10° before TDC	15–20°	27–32°	–	6–10°	10° before TDC

Conventional tools

Revolution counter, stroboscope, dwell angle measuring instrument	
Digital tester	e.g. made by Bosch, MOT 001.03

Checking and adjusting dwell angle



1 Measure dwell angle at idle.

2 Measure dwell angle change between idle and 3000/min, max. change ± 3°.

3 Replace contact breaker points (15–505).

Do not adjust dwell angle with used contact breaker points.

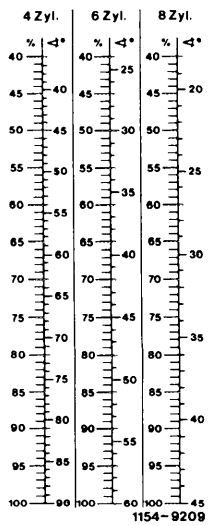
Checking and adjusting firing point

4 Measure firing point with stroboscope or digital tester at specified speed with or without vacuum.

5 Loosen ignition distributor attachment, if required, and set adjusting value of firing point by turning ignition distributor.

Screw down ignition distributor and check firing point.

6 Check centrifugal and vacuum adjustment of ignition distributor. For this purpose, check specified test values with or without vacuum adjustment.



Conversion of dwell angle values