

Change: Model 180 c added.

Note: The distributor named last with each model indicates the present standard design. On model 190 SL the distributors VJ 4 BR 12, VJ 4 BR 11 and VJR 4 BR 24 have no vacuum control. Though the distributor VJUR 4 BR 11 is provided with a vacuum box, it is not connected. Compared with the two other distributors the VJ 4 BR 11 and VJR 4 BR 24 have a different movement curve. Therefore, care must be taken, that the various distributors are not mixed up when the ignition is adjusted.

Measurement of Ignition Vacuum Control

If the initial operation of the vacuum control and the amount of the vacuum should ever require an inspection, the following table shows the required values. However, the vacuum at the distributor should not be confused with the vacuum at the testing connection of the intake pipe. For this reason a Tee-piece should be inserted on the distributor when measuring the vacuum.

Initial Operation of Vacuum Control and Amount of Vacuum

Model	Distributor	Begins to operate at Engine Speed without Load rpm	Vacuum at Distributor mm Hg
180 a, 190	VJU 4 BR 14 VJU 4 BR 22 VJUR 4 BR 27	1000-1200	90-120
180 b, 180 c	VJUR 4 BR 28	1000-1200	90-130
200 a, 219	VJU 6 BR 24 VJUR 6 BR 24	1400-1600	90-120
219	VJUR 6 BR 38	1400-1600 ¹⁾	90-160
220 S	VJUR 6 BR 24	1800-2000	90-120
	VJUR 6 BR 38	1800-2000	90-160
220 SE	VJUR 6 BR 32	800-1000	90-140

¹⁾ For carburetors with by-pass bores (as from Nr. 3908566) vacuum control at engine speed $n = 2500-3500$ rpm

F. Checking Camshaft Adjustment

The camshaft adjustment for models 180 a, 180 b, 180 c, 190 SL, 220 a, 219, 220 S and 220 SE is tested in the same workshop way as described in the manual for model 190.

Contrary to the above and contrary to the more recent models the earlier 220a and the early 190 SL models have no marks at the front of the counterweight on the crankshaft. On these engines the graduation on the flywheel should be used, which is exposed at bottom of clutch housing after removing cover plate.