

TEKNISKE DATA

	CROMA CHT	CROMA I.E.	CROMA TURBO I.E.	UNO TURBO I.E
M. Marelli Bosch CHAMPION	F8LCR WR6DC	F8LCR WR6DC	WR6DC RIV7YC	FR6DTC
Elektrodeavstand mm	0,6-0,7	0,6-0,7	0,6-0,7	0,7-0,8
Motorolje m/filter	5,5 liter	5,5 liter	5,5 liter	4,05 liter
Motorolje u/filter	5 liter	5 liter	5 liter	3,65 liter
Gearkasse vol. l	1,75	1,75	1,75	2,95
Kjølesystem vol. l	9	9	9,6	6,9
Ventilklaring kald inn m.m	0,35	0,40	0,35	0,40
Ventilklaring kald ut mm	0,40	0,40	0,40	0,50
Tilstr. mom.topp kald kgm	2+4+90°+90°	2+4+90°+90°	2+4+90°+90°	2+4+90°+90° (3)
Tilstr. mom. vipp. aksel/kamhus kgm	2,2	2,2	2,2	2
% CO	1-2	1-2	1-2	0,5-1,5
Tomg. omd. tall	750	750	750	850
Forstilling ubel Toe-in mm	-1-+1	-1-+1	-1-+1	0-+2
Camber grader	-40'-0	-40'-0	-40'-0	0-55'
Caster grader	2°30'-3°-10'	2°30'-3°-10'	2°30'-3°-10'	1°55'-2°-35'
Bakstilling ubel Toe in mm	+2-+5	+2-+5	+2-+5	-
Camber grader	-40'-0	-40'-0	-40'-0	0°
Dekk dim. sommer/ vinter	175/70R14T	175/70R14T	195/60VR14	175/60HR13
Lufttrykk foran/bak bar	2	2	2,2	2,2
Lufttrykk bak bar	2	2	2,2	2,2
Bensintank volum L	70	70	70	50

TEST AND DATA SUMMARY

Operation Sequence	Selectors		Multimeter	Operation to perform	Standard Scales	OK	Not OK
	A	B					
1	05	00	100 Ω	Check of earth efficiency	Under 1 Ω	cont. ↓	page 12
2	13	05	100 Ω	Check of earth efficiency	Under 1 Ω	cont. ↓	page 14
3	01	05	PULSE IGNITION	Check ignition pulses Make the engine rotate	Blinking ignition LED	cont. ↓	page 16
4	04	05	100 V DC	Check engine start signal Make the engine rotate	Battery voltage 8 - 13 V	cont. ↓	page 18
5	09	05	100 V DC	Check of tachometric remote control switch module feed Make the engine rotate	Battery voltage 8 - 13 V Fuel pump running	cont. ↓	page 20
6	09	05	100 Ω	Check additional air valve Rotate ignition switch to stop position Remove fuel pump fuse Remove air delivery meter connector	40 - 5 Ω	cont. ↓	page 22
7	08	05	1000 Ω	Check air delivery meter (between pin 8 & 5) Connect air delivery meter connector and remove additional air valve connector Remove fuel pump fuse	350 $\pm$ 20 Ω	cont. ↓	page 24
8	08	09	1000 Ω	Check air delivery meter (between pin 8 & 9) (NTC resistance & calibration resistance) 20°C Remove fuel pump fuse	200 $\pm$ 10 Ω 180 $\pm$ 10 Ω	cont. ↓	page 26
9	08	07	100 V DC	Check air delivery meter (sliding contact efficiency - potentiometer) Connect a wire between tester red bush and battery positive Remove fuel pump fuse Engine stopped Start engine with accelerator pedal all the way down	10 $\pm$ 0,5 V 4 - 5 V	cont. ↓	page 28

TEST AND DATA SUMMARY

Operation Sequence	Selectors		Multimeter	Operation to perform	Standard Scales	OK	Not OK
	A	B					
10	10	05	10 K Ω	Check engine coolant temperature NTC sensor	2 - 4 K Ω 600 - 900 Ω 100 - 300 Ω	cont. ↓	page 30
11	02	09	100 Ω	Check switch on throttle valve (Cut-off) Accelerator pedal at rest Introduce 0.3 mm shim between throttle valve control lever and its stop	Under 1 Ω E.E.E.	cont. ↓	page 32
12	03	09	100 Ω	Check switch on throttle valve (full power) Accelerator pedal at rest Accelerator pedal end of stroke	E.E.E. Under 1 Ω	cont. ↓	page 34
13 14 15 16	09	12	100 Ω	Check electroinjector dynamic efficiency and continuity Remove fuel electric pump fuse Remove add. air valve connector Disconnect injectors and check them one by one		cont. ↓	page 36
			Pulse generator 2 msec	Injector under test { resistance value depress start	16 $\pm$ 1 Ω hear tick		
17				Check fuel feed pressure Connect connector to E.F.I. module Fit fuel pump fuse Fit add. air valve connector, then check that all connections are well connected Try the car on the road; if you still find troubles, before ascribing them to improper electronic module operation repeat the last test cycle	—	Stop	page 38 Replace unit

TEST AND DATA SUMMARY

ABS

Operation Sequence	Selectors		Multimeter	Operation to perform	Standard Scales	OK	Not OK
	A	B					
1	20	00	100 Ω	Earth efficiency test Use a cable to connect instrument black bush (B) to battery negative pole	Under 1 Ω	cont. ↓	page 8
2	34	20	100 Ω	Earth efficiency test	Under 1 Ω	cont. ↓	page 10
3	10	20	100 Ω	Earth efficiency test	Under 1 Ω	cont. ↓	page 12
4	32	20	100 Ω	Contact (N.C.) of solenoid valve control remote switch test	Under 1 Ω	cont. ↓	page 14
5	04	05	10 K Ω	Front left wheel r.p.m. sensor winding test	0.9-2K Ω	cont. ↓	page 16
6	07	09	10 K Ω	Rear left wheel r.p.m. sensor winding test	0.9-2 K Ω	cont. ↓	page 18
7	21	23	10 K Ω	Front right wheel r.p.m. sensor winding test	0.9-2 K Ω	cont. ↓	page 20
8	24	26	10 K Ω	Rear right wheel r.p.m. sensor winding test	0.9-2 K Ω	cont. ↓	page 22
9	27	01	100 Ω	Solenoid valve control remote switch winding test	80 $\pm$ 20 Ω	cont. ↓	page 24
10	28	01	100 Ω	Scavenge pump control remote switch winding test	40 $\pm$ 10 Ω	cont. ↓	page 26
11	32	18	100 Ω + Pulse generator 200 msec	Rear left solenoid valve test Remove solenoid valve control remote switch Push START	1.5 $\pm$ 0.5 Ω ticking	cont. ↓	page 28
12	32	35	100 Ω + Pulse generator 200 msec	Front right solenoid valve test Remove solenoid valve control remote switch Push START	1.5 $\pm$ 0.5 Ω ticking	cont. ↓	page 30
13	32	02	100 Ω + Pulse generator 200 msec	Front left solenoid valve test Remove solenoid valve control remote switch Push START	1.5 $\pm$ 0.5 Ω ticking	cont. ↓	page 32
14	32	19	100 Ω + Pulse generator 200 msec	Rear right solenoid valve test Remove solenoid valve control remote switch Push START Connect mentioned remote switch	1.5 $\pm$ 0.5 Ω ticking	cont. ↓	page 34

TEST AND DATA SUMMARY

Operation Sequence	Selectors		Multimeter	Operation to perform	Standard Scales	OK	Not OK
	A	B					
15	29	32	100 V DC	Hydraulic unit diode and ABS optical indicator test <i>Ignition switch in ON position</i>	0.5 to 0.8 V tell tale is ON	cont. ↓	page 36
16	01	10	100 V DC	ABS control main remote switch and fuse test <i>Ignition switch in ON position</i>	Above 11 V	cont. ↓	page 38
17	14	28	100 V DC	Control remote switch and scavenge pump efficiency test <i>Use a cable to connect an earth point and instrument black bush (B) Ignition switch in ON position</i>	Above 11 V pump is turning	cont. ↓	page 40
18	32	27	100 V DC	Solenoid valve control remote switch efficiency test <i>Use a cable to connect an earth point and instrument black bush (B) Ignition switch in ON position</i>	Above 11 V relay trips	cont. ↓	page 42
19	25	10	100 V DC	Vehicle stop light commutator test <i>Ignition switch in ON position Act on brake pedal</i>	Above 11 V	cont. ↓	page 44
20	15	10	100 V DC	Alternator terminal +D <i>Ignition switch in ON position Engine running at 3000 r.p.m.</i>	1-2 V 13-14 V	cont. ↓	page 46
21	05	04	Pulse LOW	Front left wheel r.p.m. sensor test <i>Bring vehicle at about 30 km/h speed</i>	20-EEE	cont. ↓	page 48
22	07	09	Pulse LOW	Rear left wheel r.p.m. sensor test <i>Bring vehicle at about 30 km/h speed</i>	20-EEE	cont. ↓	page 49
23	23	21	Pulse LOW	Front right wheel r.p.m. sensor test <i>Bring vehicle at about 30 km/h speed</i>	20-EEE	cont. ↓	page 50
24	24	26	Pulse LOW	Rear right wheel r.p.m. sensor test <i>Bring vehicle at about 30 km/h speed</i>	20-EEE	cont. ↓	page 51
				Connect connector to ABS unit and carry out vehicle test on road		If OK test over	Replace unit

TEST AND DATA SUMMARY

Operation Sequence	Selectors		Multimeter	Operation to perform	Standard Scales	OK	Not OK
	A	B					
1	11	00	100 Ω	Earth efficiency test Use a cable to connect instrument black bush to battery terminal	Under 1 Ω	cont. ↓	Page 8
2	13	11	100 V DC	Ignition control unit feed test Ignition switch in ON position	Battery voltage above 11 V	cont. ↓	Page 10
3	01	02	1000 Ω	Continuity of T.D.C. sensor test	600 to 800 Ω	cont. ↓	Page 12
4	16	03	1000 Ω	Continuity of engine r.p.m. sensor test	600 to 800 Ω	cont. ↓	Page 14
5	20	07	100 K Ω	Insulation of excessive supercharging safety switch test (pressure switch)	EEE	cont. ↓	Page 16
8	01	02	PULSE LOW	Air gap and magnetic efficiency of T.D.C. sensor test Start engine for about 5 sec.	Above 7	cont. ↓	Page 22
9	16	03	PULSE HIGH	Air gap and magnetic efficiency of engine r.p.m. sensor test Start engine for about 5 sec.	Above 4	If OK test over	Page 23
				Start engine If engine does not start			Replace unit

TEST AND DATA SUMMARY

Operation Sequence	Selectors		Multimeter	Operation to perform	Standard Scales	OK	Not OK
	A	B					
1	09	00	100 Ω	Earth efficiency test Use a cable to connect instrument black bush to battery terminal	Under 1 Ω	cont. ↓	Page 8
2	08	09	100 V DC	Ignition control unit feed check Ignition switch in ON position	Battery voltage above 11 V	cont. ↓	Page 10
3	11	09	100 V DC	Continuity of primary coil and wiring test (unit connector terminal No. 11) Ignition switch in ON position	Battery voltage above 11 V	cont. ↓	Page 12
4	01	05	1000 Ω	Continuity of T.D.C. sensor and wiring test Ignition switch in STOP position	600 - 800 Ω	cont. ↓	Page 14
5	02	03	1000 Ω	Continuity of engine r.p.m. sensor and wiring test Ignition switch in STOP position	600 - 800 Ω	cont. ↓	Page 16
6	01	05	PULSE LOW	Magnetic efficiency and air gap of T.D.C. sensor test Start engine for about 5 seconds	Above 8	cont. ↓	Page 18
7	02	03	PULSE HIGH	Magnetic efficiency and air gap of engine r.p.m. sensor test Start engine for about 5 seconds	Above 4	If OK test over	Page 19
				Start engine If engine does not start			Replace unit