

Service-Information



Group: 00 Equipment Advice	June 1981	Bulletin No. 00 022 81 (2036)
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- For U.S.A. and Canada Only -

Re: 1981 Electronic Ignition System Timing Box.

Motorcycles of the 1981 model range incorporate a new ignition system with no conventional contact breaker points. It is a high-tension system featuring a "Hall" transmitter and mechanical advance by centrifugal force.

Basic ignition timing is similar as on 1980 models, but the high voltages mean that the familiar static timing method using a test lamp is unsuitable.

For static ignition timing on these models, we have therefore developed a special timer with a high-emitting diode and built-in 9-Volt battery. The strength of the battery can be confirmed by pressing a button.

The new device is connected to the motorcycle by separating the three-way plug connector between the distributor and the control unit, (black box) in the vicinity of the diode board.

Turn the engine over until the "S" mark on the flywheel is aligned with the notch on the crankcase. The diode in the timer lights up. Rotate the distributor if necessary.

WARNING: The motorcycle's ignition must not be turned on during this test.

During all work on the ignition, beware of dangerous primary and secondary voltages - risk of electric shock.

Never allow the timing box to make contact with hot parts of the engine, as it has a plastic casing.

The timing box is available under:

Part No: 88 88 6 123 650.

Note:

Before using ignition box for the first time, open the case and connect the battery.

Yours truly,


Herb Neas

National Service Manager

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D.F.



MODELS	Displ.
R50/5	490CC
R60/5, R60/6	599CC
R75/5, R75/6	745CC
R90/6, R90S	898CC

Job Number	DESCRIPTION	Suggested Time	Job Number	DESCRIPTION	Suggested Time
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TUNE UP

<p>A1—ENGINE TUNE, MINOR—INCLUDES: CLEAN AND REGAP SPARK PLUG (OR PLUGS). REGAP IGNITION BREAKER POINTS AND ADJUST IGNITION TIMING. CHECK COMPRESSION, CLEAN AIR AND FUEL FILTERS. ADJUST FUEL MIXTURE AND CARBURETOR CONTROLS. CHANGE ENGINE, PRIMARY DRIVE, CLUTCH AND TRANSMISSION OIL. All Models 1.7 * See Also A2p, A3p *</p> <p>A2p—Valve Clearance—Adjust In Conjunction With Operation A1 Or A6. All Models 0.5</p> <p>A3p—Carburetor Fuel Level—Check And Adjust In Conjunction With Operation A1 Or A6. All Models 0.6</p> <p>A4—ENGINE TUNE, COMPLETE—INCLUDES ALL WORK LISTED IN OPERATION A1 PLUS: R&R AND OVERHAUL ALL CARBURETORS. ADJUST VALVE CLEARANCE. RENEW BREAKER POINTS. TEST IGNITION COILS AND CONDENSERS. R50/5, R60/5, R60/6 4.9 R75/5, R75/6, R90/6, R90S 5.1 * See Also A5p *</p>	<p>A5p—Fuel Tank And Lines—Clean In Conjunction With Operation A4 Or A7. All Models 0.8</p> <p>A6—MOTORCYCLE TUNE, MINOR—INCLUDES ALL WORK LISTED IN OPERATION A1 PLUS: ADJUST FRONT AND REAR BRAKE CONTROLS. ADJUST CLUTCH CONTROL. ADJUST REAR CHAIN FREE PLAY. CHECK FRONT AND REAR TIRES & SUSPENSION. INSPECT ELECTRICAL SYSTEM OPERATION. CHECK AND ADJUST STEERING HEAD BEARINGS. All Models 2.5 * See Also A2p, A3p *</p> <p>A7—MOTORCYCLE TUNE, COMPLETE—INCLUDES ALL WORK LISTED IN OPERATION A6 PLUS: R&R AND OVERHAUL ALL CARBURETORS. ADJUST VALVE CLEARANCE. RENEW BREAKER POINTS. TEST CONDENSERS AND IGNITION COILS. REMOVE, CLEAN AND REPACK ALL WHEEL BEARINGS. R&R, CLEAN AND REPACK STEERING HEAD BEARINGS. CHANGE FRONT FORK OIL. R50/5, R60/5, R60/6 9.4 R75/5, R75/6, R90/6, R90S 9.6</p>
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FUEL SYSTEM

<p>B1—CARBURETOR (OR CARBURETORS), ALL—ADJUST FUEL MIXTURE AND CONTROLS. All Models 0.3 *Includes external adjustment only. Use operation B3A for internal adjustment.</p> <p>B2—CARBURETOR, ONE—R&R OR RENEW. INCLUDES ALL WORK LISTED IN OPERATION B1. All Models 0.4</p> <p>B2A—CARBURETORS, ALL—R&R OR RENEW. INCLUDES ALL WORK LISTED IN OPERATION B1. All Models 0.5</p> <p>B3—CARBURETOR, ONE—R&R AND OVERHAUL. INCLUDES ALL WORK LISTED IN OPERATION B1. R75/5, R75/6, R90/6, R90S 0.9 All Other Models 0.8</p> <p>B3p—Carburetor, One—Overhaul Only, When Unit Is Off. Does Not Include Adjustment. R75/5, R75/6, R90/6, R90S 0.5 All Other Models 0.4</p>	<p>B3A—CARBURETORS, ALL—R&R AND OVERHAUL. INCLUDES ALL WORK LISTED IN OPERATION B1. R75/5, R75/6, R90/6, R90S 1.4 All Other Models 1.2</p> <p>B3pa—Carburetors, All—Overhaul Only. When Units Are Off. Does Not Include Adjustment. R75/5, R75/6, R90/6, R90S 0.9 All Other Models 0.7</p> <p>B5—AIR FILTERS, ALL—R&R AND CLEAN OR RENEW. All Models 0.1</p> <p>B6—FUEL FILTERS AND LINES, ALL—R&R AND CLEAN OR RENEW. All Models 0.4</p> <p>B7—FUEL TANK—R&R AND FLUSH OR RENEW. DOES NOT INCLUDE PAINTING. All Models 0.8</p> <p>B8—THROTTLE CABLE, ONE—RENEW AND ADJUST. All Models 0.7</p> <p>B8A—THROTTLE CABLES, ALL—RENEW AND ADJUST. All Models 0.8</p>
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ENGINE OIL SYSTEM

<p>C2—OIL PUMP—R&R OR RENEW. INCLUDES OPERATION C5 ON SOME 4 STROKE MODELS. All Models 3.2</p>	<p>C6—ENGINE OIL—CHANGE AND CLEAN OR RENEW ALL OIL FILTERS. All Models 0.7</p>
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Job Number	DESCRIPTION	Suggested Time	Job Number	DESCRIPTION	Suggested Time
IGNITION SYSTEM					
D1A	SPARK PLUGS, ALL—CLEAN AND REGAP OR RE-NEW.		D5A	BREAKER CONTACTS AND CONDENSERS, ALL—RENEW AND RETIME.	
	All Models	0.3		All Models	0.7
D2	SPARK PLUG CABLE, ONE—RENEW.		D8	BATTERY IGNITION TIMER—R&R OR RENEW AND RETIME.	
	All Models	0.1		All Models	0.6
D2p	Same As D2 When Magneto Or Distributor Is Being Overhauled.			*Includes breaker points and advance weights.	
	All Models	0.1	D9	BATTERY IGNITION TIMER—R&R, OVERHAUL AND RETIME.	
D2A	SPARK PLUG CABLES, ALL—RENEW.			All Models	0.9
	All Models	0.2		*Includes breaker points, condenser and advance weights.	
D2pa	Same As D2A When Magneto Or Distributor Is Being Overhauled.		D11A	HIGH TENSION COILS—R&R AND TEST OR RE-NEW.	
	All Models	0.2		All Models	1.0
D3A	BREAKER CONTACTS, ALL—REGAP AND RETIME.		D14	IGNITION SWITCH—RENEW.	
	All Models	0.4		All Models	0.5
D4A	BREAKER CONTACTS AND CONDENSERS, ALL—RENEW AND RETIME.				
	All Models	0.5			

GENERATOR AND REGULATOR OR ALTERNATOR

D21	REGULATOR OR CUTOUT—RENEW.		D30	ALTERNATOR ASSEMBLY—R&R OR RENEW.	
	All Models	1.0		All Models	1.2
D22	GENERATOR ASSEMBLY—R&R OR RENEW.		D31	RECTIFIER OR DIODE—RENEW.	
	All Models	Use Operation D30		All Models	0.5
D23	GENERATOR OR ALTERNATOR BRUSHES, ALL—RE-NEW.		D31p	Same As D31 When Front Cover Is Removed.	
	All Models	0.6		All Models	0.2
D24	GENERATOR—OVERHAUL, INCLUDES: RESURFACE AND UNDERCUT COMMUTATOR, RENEW BRUSHES AND BEARINGS, TEST AND ADJUST.		D34	WIRING HARNESS—RENEW.	
	All Models	Use Operation D35		All Models	3.3
			D35	ALTERNATOR—OVERHAUL.	
				All Models	1.2

LIGHTS, HORN AND BATTERY

D40	HEADLIGHT—RENEW AND AIM.		D46	TURN SIGNAL SWITCH—RENEW.	
	All Models	0.3		All Models	0.4
D41	LIGHT SWITCH—RENEW.		D47	HEADLIGHT HOUSING—RENEW, PAINTING NOT INCLUDED.	
	All Models	0.9		All Models	1.2
D42	TAIL LIGHT BULB OR LENS—RENEW.		D48	HORN—RENEW.	
	All Models	0.3		All Models	0.3
D43	STOP LIGHT SWITCH—RENEW.		D49	HORN BUTTON—RENEW.	
	All Models (Front or Rear)	0.4		All Models	0.3
D44	TURN SIGNAL BULB OR LENS, ONE—RENEW.		D50	BATTERY—R&R.	
	All Models	0.2		All Models	0.3
D45	TURN SIGNAL FLASHER UNIT—RENEW.				
	All Models	0.4			

ELECTRIC STARTER

D53	STARTER MOTOR—R&R OR RENEW.		D55p	Same As D55 When Motor Is Off.	
	All Models	1.8		All Models	0.5
D54	STARTER MOTOR BRUSHES—RENEW.		D59	STARTER SOLENOID OR MAGNETIC SWITCH—RE-NEW.	
	All Models	2.1		All Models	2.0
D54p	Same As D54 When Motor Is Off.		D60	STARTER SWITCH—RENEW.	
	All Models	0.3		All Models	0.3
D55	STARTER MOTOR—R&R AND OVERHAUL, IN-CLUDES: RESURFACE COMMUTATOR, RENEW BRUSHES, BEARINGS AND TEST.				
	All Models	2.3			

Job Number	DESCRIPTION	Suggested Time	Job Number	DESCRIPTION	Suggested Time
ENGINE					
E1	ENGINE—DISASSEMBLE FOR INSPECTION AND RE-ASSEMBLE ONLY. INCLUDES: REMOVE CYLINDER HEADS AND CYLINDERS FOR INSPECTION. OVERHAUL NOT INCLUDED.		E14A	RINGS FOR ALL PISTONS—RENEW AND TUNE. INCLUDES: ALL WORK LISTED IN OPERATION A1. RESIZING OF CYLINDERS IS NOT INCLUDED.	
All Models		1.7	All Models		5.1
				• See Also A5p, B3p, B3pa, E5pa, E15p •	
E2	ENGINE UNIT, COMPLETE—REMOVE AND REINSTALL. INCLUDES ADJUSTMENT OF ENGINE CONTROLS. TESTING AND TRANSFER OF PARTS NOT INCLUDED.		E15p	Piston Pin Bushings Or Bearings, All—Renew In Conjunction With Operation E14A Or E16A.	
All Models		5.2	All Models		0.6
E3A	VALVE CLEARANCE—CHECK AND ADJUST.		E16A	ENGINE TOP END—OVERHAUL. INCLUDES: RINGS FOR ALL PISTONS, RESEAT ALL VALVES AND TUNE AS IN OPERATION A1. RESIZING OF CYLINDERS IS NOT INCLUDED.	
All Models		0.6	All Models		6.0
				• See Also A5p, B3p, B3pa, E15p •	
E4	CARBON—CLEAN. INCLUDES R&R CYLINDER HEADS, EXHAUST PIPES AND MUFFLERS. CLEAN CARBON AND REASSEMBLE.		E17	CRANKSHAFT ASSEMBLY—R&R OR RENEW. DOES NOT INCLUDE TUNING, RESEATING VALVES OR REMOVING MAIN BEARINGS FROM CRANKCASE OR CRANKSHAFT.	
All Models		1.9	All Models		12.8
				• See Also A1, A4, E5p, E18p, E19p, E30, E31 •	
E5A	VALVES—RESEAT AND TUNE ENGINE AS IN OPERATION A1.		E18p	Main Bearing, Front—Renew In Conjunction With Operation E17.	
All Models		3.6	All Models		0.5
	• See Also A5p, B3p, B3pa, E6p & E6pa •				
E5pa	Valves—Reseat Only When Cylinder Head Is Off. Does Not Include Clearance Adjustment Or Tuning.		E19p	Main Bearing, Rear—Renew in Conjunction With Operation E17.	
All Models—One Cylinder Head		0.5	All Models		0.6
Two Cylinder Heads		0.9			
	• See Also E6p & E6pa •				
E6p	Valve Guide, One—Renew When Valves Are Being Reseated.		E21	CRANKSHAFT SEAL, FRONT—RENEW.	
All Models		0.3	All Models		1.3
E6pa	Valve Guides, All—Renew When Valves Are Being Reseated.		E22	CRANKSHAFT SEAL, REAR—RENEW.	
All Models		0.9	All Models		3.2
A	VALVE SPRINGS, ALL—R&R AND TEST.		E30	ENGINE ASSEMBLY—OVERHAUL. INCLUDES ALL WORK LISTED IN OPERATION E16A PLUS: REMOVAL OF THE ENGINE CRANKSHAFT AND OIL PUMP. DOES NOT INCLUDE OVERHAUL OF THE CLUTCH OR TRANSMISSION.	
All Models		2.4	All Models		18.3
				• See Also E31, F6p And G1p •	
E8pa	Valve Springs, All—Renew In Conjunction With Operation E9.		E31	ENGINE, CLUTCH AND TRANSMISSION—OVERHAUL. INCLUDES ALL WORK LISTED IN OPERATIONS E30, F6 AND G1.	
All Models		0.4	All Models		23.0
	• See Also E5pa •				
E9	CAMSHAFT OR CAMSHAFTS—R&R OR RENEW.				
All Models		10.0			
E10	CAMSHAFT DRIVE GEARS, BELT OR CHAIN—RENEW.				
All Models		10.0			

CLUTCH

F1	CLUTCH CONTROLS—ADJUST.		F6	CLUTCH, COMPLETE—OVERHAUL. INCLUDES ADJUSTMENT.	
All Models		0.2	All Models		2.9
F2	CLUTCH CONTROL CABLE—RENEW.		F6p	Same As F6 When Done In Conjunction With Operation E30.	
All Models		0.5	All Models		0.3
F3	CLUTCH HAND LEVER—RENEW.		F6q	Same As F6 When Done In Conjunction With Operation G1.	
All Models		0.3	All Models		0.7

TRANSMISSION

G1	TRANSMISSION, COMPLETE—OVERHAUL.		G2	TRANSMISSION—DISASSEMBLE FOR INSPECTION AND REASSEMBLE ONLY. INCLUDES ONLY WORK NECESSARY FOR INSPECTION, OVERHAUL AND/OR RENEWAL OF PARTS NOT INCLUDED.	
All Models		6.4	All Models		4.4
	• See Also F6q •				
G1p	Same As G1 When Done In Conjunction With Operation E30.				
All Models		4.4			

FLAT RATE

BMW

Job Number	DESCRIPTION	Suggested Time	Job Number	DESCRIPTION	Suggested Time
G3	TRANSMISSION—R&R OR RENEW COMPLETE ASSEMBLY. All Models	2.0	G9	RETURN SPRING, KICK STARTER—RENEW. All Models	3.9
G4	OIL SEAL, OUTPUT SHAFT—RENEW. All Models	2.5	G10	RETURN SPRING, GEAR SELECTOR—RENEW. All Models	5.2
G5	OIL SEAL, INPUT SHAFT—RENEW. All Models	2.3	G14	KICK STARTER ASSEMBLY—OVERHAUL. All Models	4.4
G6	OIL SEAL, KICK STARTER SHAFT—RENEW. All Models	0.7	G15	GEAR SELECTOR ASSEMBLY—OVERHAUL. All Models	5.5
G7	OIL SEAL GEAR SELECTOR SHAFT—RENEW. All Models	0.5	G18	NEUTRAL INDICATOR SWITCH—RENEW. All Models	4.5

REAR DRIVE

G30	UNIVERSAL JOINT OR COUPLING, FRONT—R&R OR RENEW. All Models	Use Operation G32	G34	FINAL DRIVE ASSEMBLY—R&R OR RENEW ASSEMBLY. DOES NOT INCLUDE OVERHAUL. USE OPERATION G35 FOR OVERHAUL. All Models	0.9
G32	DRIVE SHAFT—R&R OR RENEW. All Models	3.1	G35	FINAL DRIVE ASSEMBLY—OVERHAUL. All Models	5.1

TIRES AND WHEELS

H1	FRONT WHEEL ASSEMBLY—R&R. DOES NOT INCLUDE REPAIR OR INSTALLING NEW TIRE OR TUBE. All Models	0.3	H5	REAR WHEEL SPOKES—TIGHTEN, ALIGN AND CENTER. All Models	0.8
	• See Also H3p •		H6	FRONT WHEEL RIM, HUB AND/OR ALL SPOKES RENEW. All Models	2.8
H2	REAR WHEEL ASSEMBLY—R&R. DOES NOT INCLUDE REPAIR OR INSTALLING NEW TIRE OR TUBE. All Models	0.4	H7	REAR WHEEL RIM, HUB AND/OR ALL SPOKES—RENEW. All Models	2.9
	• See Also H3p •		H9	FRONT WHEEL BEARINGS—RENEW. All Models	1.0
H3p	Tire And/Or Tube—R&R Or Renew In Conjunction With Operation H1 Or H2. All Models	0.2	H10	REAR WHEEL BEARINGS—RENEW. All Models	1.1
H4	FRONT WHEEL SPOKES—TIGHTEN, ALIGN AND CENTER. All Models	0.7			

BRAKES

J1	FRONT BRAKE—ADJUST. All Models	0.2	J9	REAR BRAKE CABLE OR CONTROL ROD—RENEW. All Models	0.2
J2	REAR BRAKE—ADJUST. All Models	0.1	J10	FRONT BRAKE CONTROL LEVER—RENEW. All Models	0.3
J3A	BOTH BRAKES—ADJUST. All Models	0.3	J11	REAR BRAKE PEDAL—RENEW. All Models	0.3
J5	FRONT BRAKE SHOES OR PADS—RENEW. Models With Drum Front Brake	1.3	J12	MASTER CYLINDER—R&R OR RENEW. Models With Single Disc	1.0
	Models With Single Disc	0.6		Models With Dual Front Discs	1.1
	Models With Dual Front Discs	0.9		• See Also J14p, J15p •	
J5p	Same As Operation J5 When Front Wheel Is Off. Models With Drum Front Brake	1.0	J12p	Master Cylinder—R&R Or Renew In Conjunction With Operation J14 Or J15. Models With Hydraulic Front Disc	0.4
	Models With Single Disc	0.4			
	Models With Dual Front Discs	0.6	J13	MASTER CYLINDER—OVERHAUL. Models With Single Disc	1.3
J6	REAR BRAKE SHOES OR PADS—RENEW. All Models	0.8		Models With Dual Front Discs	1.4
J6p	Same As Operation J6 When Rear Wheel Is Off. All Models	0.4		• See Also J14p, J15p •	
J8	FRONT BRAKE CABLE—RENEW. Models With Drum Front Brake	0.3	J13p	Master Cylinder—Overhaul In Conjunction With Operation J14 Or J15. Models With Hydraulic Front Disc	0.7
	Models With Disc Front Brake	0.7			

Job Number	DESCRIPTION	Suggested Time	Job Number	DESCRIPTION	Suggested Time
J14	CALIPER OR WHEEL CYLINDER—R&R OR RENEW.		J15	CALIPER OR WHEEL CYLINDER—OVERHAUL.	
	Models With Single Disc.....	0.7		Models With Single Disc.....	1.0
	Models With Dual Front Discs (Both Calipers).....	0.9		Models With Dual Front Discs.....	1.4
	• See Also J12p, J13p •			• See Also J12p, J13p •	
J14p	Caliper or Wheel Cylinder—R&R Or Renew In Con- junction With Operation J12 Or J13.		J15p	Caliper Or Wheel Cylinder—Overhaul In Conjunction With Operation J12 Or J13.	
	Single Front Disc Caliper.....	0.5		Models With Single Disc.....	0.8
	Two Front Disc Calipers.....	0.7		Models With Dual Front Discs.....	1.1
J14q	Caliper Or Wheel Cylinder—R&R Or Renew In Con- junction With Operation J5 Or J6 For The Same Wheel.		J15q	Caliper Or Wheel Cylinder—Overhaul In Conjunction With Operation J5 Or J6 For The Same Wheel.	
	Single Front Disc Caliper.....	0.6		Models With Single Disc.....	0.3
	Two Front Disc Calipers.....	0.8		Models With Dual Front Discs.....	0.5
			J16	HYDRAULIC BRAKE FLUID—RENEW AND BLEED SYSTEM.	
				Models With Single Disc.....	0.6
				Models With Dual Front Discs.....	0.7

FRONT FORK, SUSPENSION AND STEERING

K1	STEERING STEM BEARINGS—R&R, CLEAN OR RE- NEW AND REPACK.		K6pa	Front Suspension Units, Both—Overhaul In Conjunction With Operation K5A.	
	All Models.....	1.4		All Models.....	2.0
K3	FORK ASSEMBLY, COMPLETE—OVERHAUL.		K9	HANDLE BARS—RENEW.	
	All Models.....	4.3		All Models—	
K4	FRONT FORK—RENEW.			With Turn Signals.....	1.5
	All Models.....	2.2		Without Turn Signals.....	1.0
K5	FRONT SUSPENSION UNIT, ONE—R&R OR RENEW.		K11	FRONT FENDER—RENEW. DOES NOT INCLUDE PAINTING.	
	All Models.....	1.2		All Models.....	0.5
K5A	FRONT SUSPENSION UNITS, BOTH—R&R OR RE- NEW.		K12A	FRONT FORK COVERS—RENEW. DOES NOT IN- CLUDE PAINTING.	
	All Models.....	1.7		All Models.....	0.7
	• See Also K6pa •				

REAR SUSPENSION, FRAME AND EXHAUST

L1	REAR SWING ARM—R&R OR RENEW. INCLUDES RE- NEWAL OF BUSHINGS OR BEARINGS.		L7	FOOT RESTS—RENEW.	
	All Models.....	3.4		All Models.....	0.2
L2A	REAR SUSPENSION UNITS, ALL—R&R OR RENEW.		L8	MUFFLER, ONE—RENEW. USE OPERATION L9 IF EXHAUST PIPE AND MUFFLER ARE RENEWED.	
	All Models.....	0.6		All Models.....	0.3
L3pa	Rear Suspension Units, All Overhaul In Conjunction With Operation L2A.		L8A	MUFFLERS, ALL—RENEW. USE OPERATION L9A IF ALL EXHAUST PIPES AND MUFFLERS ARE RENEWED.	
	All Models.....	0.6		All Models.....	0.6
L4	SEAT—RENEW.		L9	EXHAUST PIPE, ONE—RENEW.	
	All Models.....	0.4		All Models.....	0.7
L5	REAR FENDER—RENEW. DOES NOT INCLUDE PAINT- ing.		L9A	EXHAUST PIPES, ALL—RENEW.	
	All Models.....	0.9		All Models.....	1.2
L6	FRAME—RENEW. DOES NOT INCLUDE PAINTING.				
	All Models.....	10.2			