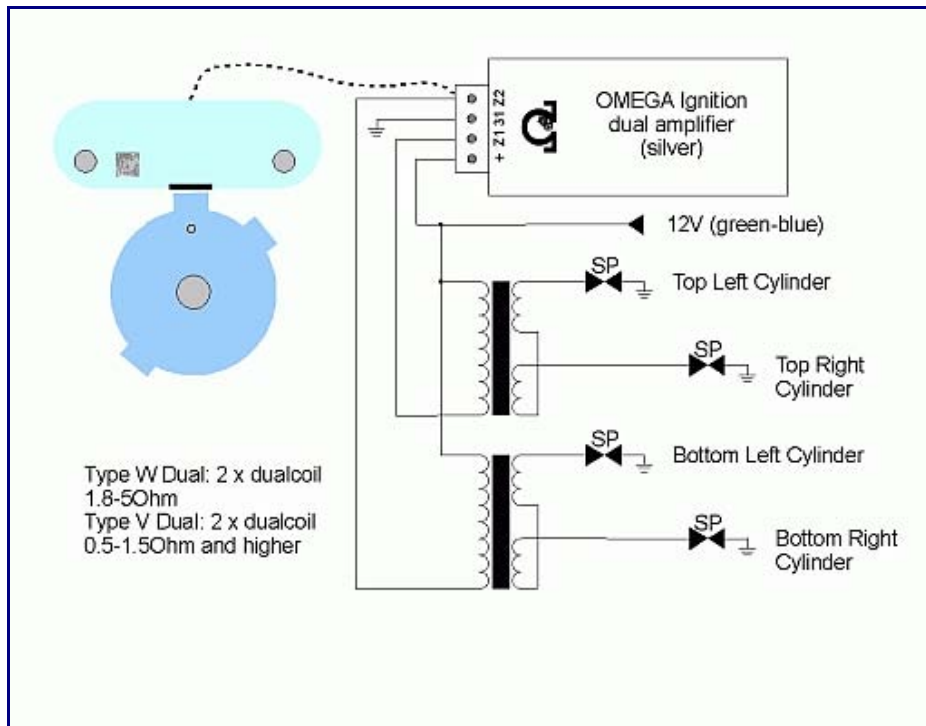


Dual Plug Installation Instructions

OMEGA Electronic Ignition Type W(V) DUAL-PLUGGED /5 /6 /7 - S/N 2001xxxxx
and up



Ignition Characteristics Type:

- Electronic Ignition Type W(V) for dual-plugged BMW 2-cyl motorcycles a.k.a. Airheads with temperature-compensated micro-processor
- No. of selectable advance curves: 15 + zero advance
- 25° to 47° max. advance depending on chosen advance curve
- Required coil resistance: 1.8 to 5.0 (Type V 0.5-1.5) Ohm, 4.5mH max per channel (Z1/Z2)

Bill of Material for Type W(V) Electronic Ignition

- 1 x Magnet Carrier with embedded magnet and special tool (Allen key)
- 1 x Printed Circuit Board with connector
- 1 x Ignition Amplifier (silver)
- 1 x Special ISK alternator bolt and spacer
- screws and wave washers
- two (2) brass SK-pieces
- two (2) plastic screw
- wire, connectors and insulating tube to fabricate required interconnecting cables ([click for picture if online](#))
- this detailed installation instruction

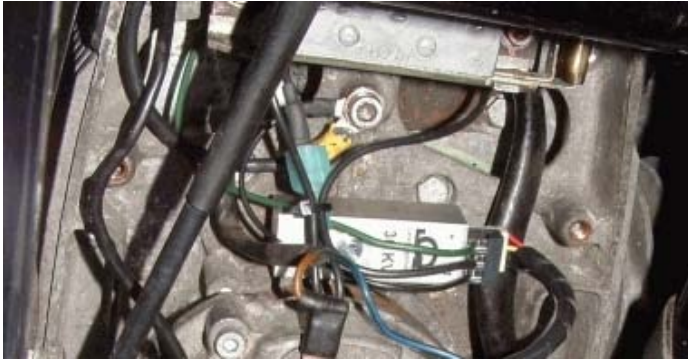


CAUTION: Sensitive electronic parts.

Do not pull spark plug wires from plugs to perform carburetor balancing without proper grounding.

Installation and adjustment of the OMEGA Type W(V) Electronic Ignition

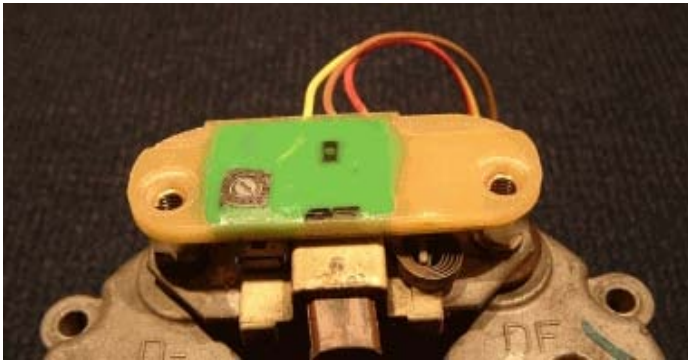
1. Disconnect battery (always work with the battery disconnected)
2. Remove engine cover
3. Disable points by removing connecting cable (where applicable)
4. Remove alternator bolt (block the crankshaft by applying the rear brake, use a helper if needed)
5. The condenser is **NOT** part of the electronic ignition: remove it if it is fitted above the alternator stator



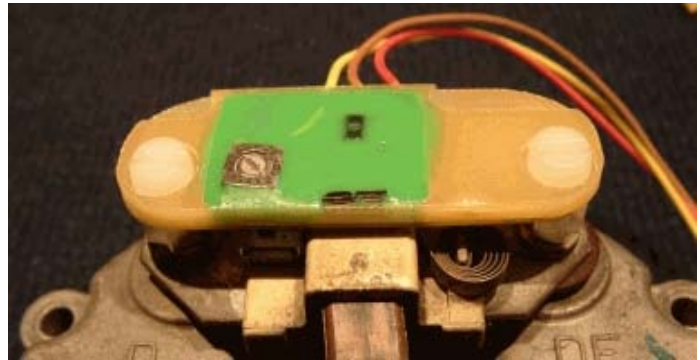
6. Fit the (silver) booster with the supplied M4x30 screw to the M4 thread above the alternator stator.



7. Remove ALL washers and install the two brass spacers onto the two studs with the recess facing up, replacing the stock nuts.



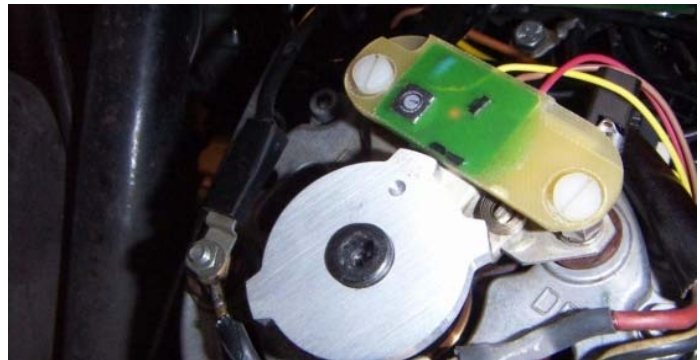
8. Place the printed circuit board onto the two brass spacers (slotted holes fitting the recess, chip facing downwards) and move it to the furthest away position so that the rotating magnet carrier does not interfere with the board (widest gap). Adjust final gap in Step 11.



9. Affix the printed circuit board via the two plastic screws provided (do not use metal screws - risk of electrical short), shorten plastic screws with x-acto blade if necessary, use of red Loctite recommended. Install the plastic sleeve to protect the cable and connect the printed circuit board connector to the (silver) amplifier.



10. Use the Special ISK alternator bolt with the aluminum spacer (but without the stock washer) in lieu of the original alternator bolt.



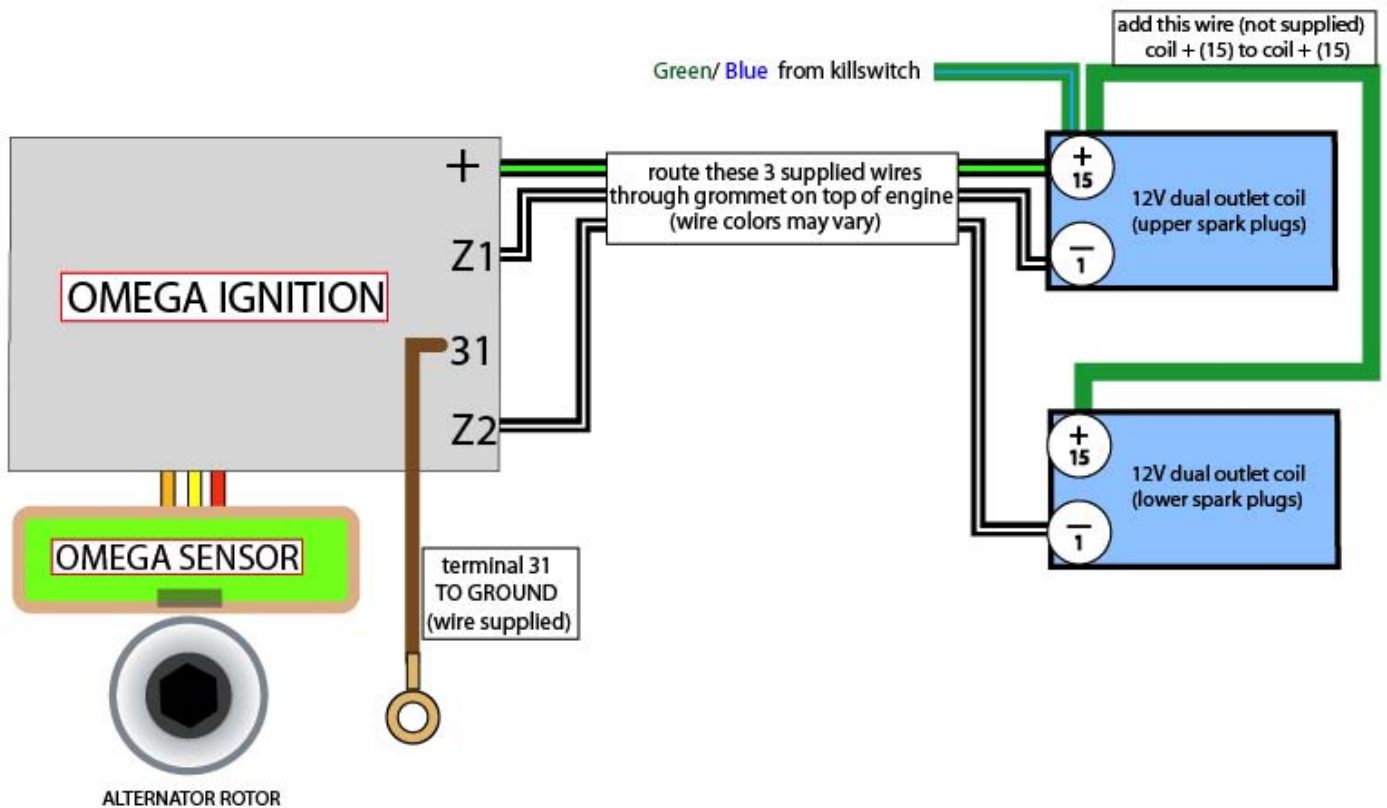
11. Slip the magnet carrier (balance hole outwards) over the alternator bolt head and carefully tighten setscrew with the supplied Allen key. Rotate the magnet carrier so either bump is at the sensor and set gap to 0.4mm (0.015"). The magnet carrier should never contact the board.

Electrical Connections (using the wiring material provided):

10. Connect Terminal 31 of the silver OMEGA Ignition to any suitable chassis grounding point using the brown cable with the ring terminal attached (as provided in the installation kit), e.g. the M5 thread in the timing cover just underneath the diodeboard
11. Connect Terminal + of amplifier to Terminal 15 of coil using the long green/black cable (as provided in the installation kit, color may vary), you may route the wire directly through the timing cover grommet
12. Connect Terminal Z1 of OMEGA amplifier to Terminal 1 of one dualcoil using the long black/white cables (as provided in the installation kit, color may vary), you may route the wire directly through the timing cover grommet
13. Connect Terminal Z2 of OMEGA amplifier to Terminal 1 of the second dualcoil using the long black/white cables (as provided in the installation kit, color may vary), you may route the wire directly through the timing cover grommet

Note on 1991-1995 Airheads (some models): for the Engine Stop switch to remain functional, the OMEGA ignition amplifier Terminal + has to be connected to the main wiring harness: disconnect the stock ignition module from the main wiring harness by separating the mated 3 pin connectors. Use the green/yellow wire in the 3 pin female housing to connect to the "+" terminal of the ignition amplifier.

OMEGA wiring for dual-plugged Airheads

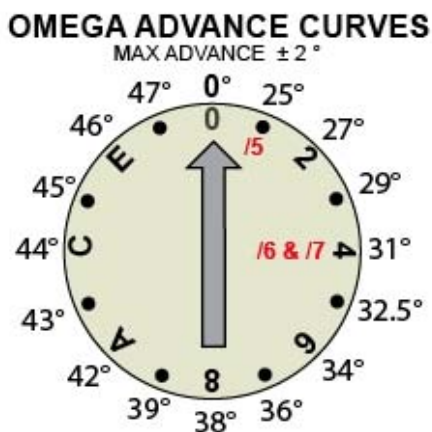


(graphics courtesy gspd, Montreal)

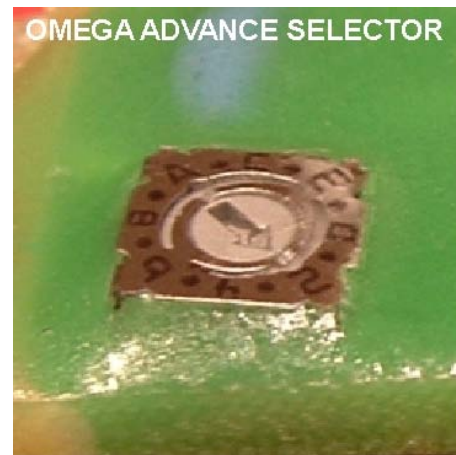
Adjusting ignition timing:

Static timing for dual-plugged engine is different from stock, research the available information on the internet; a good starting point is for static timing to be approx. 3° BTDC and selecting advance curve „1“ to achieve a maximum of about 28° maximum advance.

16. Connect battery, remove caps from the spark plugs to prevent the engine from firing accidentally when turned over in Step 17, turn ignition ON
17. Turn the engine clockwise (using the alternator rotor bolt or the kickstarter or the rear wheel with the gearbox in 5th gear) until the flywheel markings are located where you want them (e.g. for 3° BTDC), then turn the magnet carrier clockwise until the integrated LED light just comes on
18. Hold the magnet carrier in this position and tighten the setscrew carefully with the provided Allan key
19. Turn ignition OFF, reconnect the spark plugs, turn ignition ON and start the engine
20. You may set the ignition advance curve to position “0” (0° advance for test purposes, see further below) to prevent the ignition from advancing at all, for the purpose of this test: check (using a timing light) that the flywheel is in fact set at 3° BTDC if you choose to use that setting. If it is not, re-position the magnet carrier slightly either way by repeating step 17-19.
21. Choose the appropriate advance curve for full advance at 3000-3200rpm (start with #1 for your dual-plugged bike) by carefully adjusting the Advance Selector located at the left hand side of the printed circuit board: higher numbers -> more advance (see pictogram above), then test ride and use trial and error to find the “sweet spot” of your engine.



(graphics courtesy gspd, Montreal)



CAUTION: Sensitive electronic parts.

Do not pull spark plug wires from plugs to perform carburetor balancing without proper grounding.

Application Note:

Use of stock spark plugs is recommended. It is required for the alternator to have adequate air cooling (user comment: installation in a stock R75/5 which has a solid engine cover, did not create any damage even after daylong rides in the hottest season). Damage as a result of a short circuit and wrong connection during installation is not covered by the warranty.