

Balmar 2nd Alternator Applications

January 2020

Introduction

Balmar alternators have been used on many engine makes and models over the years as a second alternator. This guide is designed to help define what options are available for several engines in the marketplace. Balmar alternators may work as a second alternator on engines not discussed here. All provided third-party information should be verified with the appropriate supplier before purchase and installation. As each installation is different, please consult with Balmar Technical Support with any questions about the Balmar products needed, and your engine dealer about the engine specific parts needed.

Yanmar Engines

Balmar makes second-alternator kits designed to mount a 2nd alternator on the following engines. They are designed to work only with Balmar 95-Series alternators.

| Balmar AltMount [®] Kit Number (control+click to link) | Yanmar Engine Model |
|--|---------------------|
| 48-YDA-4JH-A | 4JH3 |
| 48-YDA-4JH-B | 4JH4-HTE, -TE |
| 48-YDA-4JH-C | 4JH4-E |
| 48-YDA-6LY-A | 6LY, 6LY-2 |

NOTE: For optimal performance, 2nd alternators used with the above kits should have bi-directional fans

If a higher power alternator is desired in the original position as well, then an additional AltMount[®] kit can be selected for the appropriate engine to upgrade the original pulleys to a J-10 belt, allowing for up to 200a of power in the original position. A complete listing of available AltMount[®] kits is available at:

<http://www.balmar.net/balmar-technology/altmount-serpentine-conversion-technology/>

**Balmar Technical Support is available from 8:30 am – 7:30 pm EST Monday through Friday.
Please call on us at +1-360-435-6100 x3 should you have any questions about Balmar products.**

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Yanmar Common-Rail Engines: 4JH45, 4JH5E, 4JH57, 4JH80, 4JH110

There are two possible avenues available for adding a second alternator to these engines. In both cases, Yanmar Part # 129677-77600 includes most of the parts required for mounting a second alternator. A wiring harness is also needed, and the part number(s) for this vary depending if the voltage is 12V or 24V. Contact your local Yanmar dealer for details.

There are two different avenues to adding Balmar to these engines.

1. Buy the parts available from Yanmar including a Valeo alternator, and use Balmar's Valeo Conversion Kit to enable external regulation.

| Voltage | Charging same battery as Main Alternator. (Main Valeo alternator must also be converted to external regulation.) | Charging different battery than the main alternator |
|---------|--|--|
| 12V | Valeo Conversion Kit 30-SR12-02 and MC-612-DUAL-H MaxCharge Dual Regulator | MC-614-VL-01 Conversion Kit with MaxCharge 614 Regulator |
| 24V | MC-624-VL-01 * Conversion Kit with MaxCharge MC 624 Regulator. Contact Balmar technical support for regulator installation instructions. | MC-624-VL-01 * Conversion Kit MaxCharge 624 with Regulator |

*The MC-624-VL-01 (24V Version) is not Smart Ready®.

2. Buy the kit as above, but without the Valeo alternator, and install a Balmar Alternator and external regulator. The suggested alternator in all cases is the XT-170: 60-Series alternators are also supported.

| Voltage | Charging same battery bank as the Main Alternator. (Main Valeo alternator must also be converted to external regulation) | Charging a different battery than the main alternator |
|---------|--|--|
| 12V | XT-DF-170-K6 Balmar Alternator and MC-612-DUAL-H MaxCharge Regulator | XT-DF-170-K6-KIT Balmar Alternator and MaxCharge Regulator Kit |
| 24V | 60-24-70-K6 Balmar Alternator and MC-624-H MaxCharge Regulator. Contact Balmar tech support for important regulator installation instructions. | 60-YP-24-70-K6 Alternator and MaxCharge Regulator Kit |

NOTE: The alternator safety cover may not fit on the Balmar Alternator.

NOTE: For dual alternator, dual engine configurations (4 total alternators) a Balmar Centerfielder (CFII-12/24) will be required if charging a single battery bank.

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Volvo Engines

For D2-75A, B, C, & F, and D2-55A, B, C, D, & F with original alternator position lower right, Balmar 95-Series or 97EHD-Series can be mounted with Volvo Kit # 21281679. The Balmar unit will replace the original alternator in this position. If the original alternator is to be re-used, then a second alternator assembly, Kit # 21384685 can be installed to re-mount the alternator in the upper-left position.

Wiring extension Part # 21380307 can be used to extend the original wiring of the original alternator to its new position on the engine. If a Single V belt is to be used on the original alternator in the secondary position, then the kit above will not work. Volvo does list the individual parts needed to work in this configuration - contact your local Volvo dealer or distributor.

For Volvo D3-110, Balmar 95-Series or 97 EHD can be mounted, while leaving the original alternator in place. Volvo does not offer a kit, so these are the individual parts required.

Bracket: 21337445

Belt: 22283751

M12x150mm bolts, 3 qty.

M8x90mm bolts, 3 qty.

M12X120mm bolts, 1 qty.

M12 Nut, 2 qty.

| Balmar Alternator Part Number (Order all with K6 Pulley) | Voltage | Regulator Charging the same battery as the Main Alternator. (Main Valeo alternator must also be converted to external regulation) | Regulator Charging different battery than main alternator |
|---|---------|---|---|
| <u>9504-12-165-IG</u> | 12V | <u>MC-612-DUAL-H</u> | <u>MC-614-H</u> |
| <u>9504-12-210-IG</u> | | | |
| <u>97EHD-265-12-IG</u> | | | |
| <u>97EHD-185-12-IG</u> | | | |
| <u>9504-24-140-IG</u> | 24V | Contact Balmar Technical Support for important regulator installation instructions | <u>MC-624-H</u> |
| <u>97EHD-85-24-IG</u> | | | |
| <u>97EHD-110-24-IG</u> | | | |
| <u>97EHD-190-24-IG</u> | | | |

Note: Several 97EHD-Series Alternators also available in Case-Ground

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Disclaimer

Although Balmar kits are designed around specific engine models, we have no control over changes made during manufacturing or assembly of the engines. There may be specific instances in which changes were made during manufacturing or field modifications where we have no knowledge. Please verify the fit of each pulley before installing. Please also verify engine room clearance prior to installation.