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Absorbed Glass Mat (AGM) Battery Requirements - Verado L4 and Verado L6

NOTICE
Revised April 2009. This bulletin supersedes the previous bulletin number 2008-04 May 2008. Revisions will be <u>underlined</u> .

Models Affected

Models Covered	Serial Number Or Year
135/150/175/200 Verado L4	USA and Canada - 1B578964 and above Belgium - 0P514869 and above
200/225/250/275/300 Verado L6	USA and Canada - 1B578960 and above Belgium - 0P520553 and above

REVISED VERADO BATTERY REQUIREMENT

Required starting battery type	12 volt absorbed glass mat (AGM) battery
Required USA and Canada (SAE) starting battery type*	800 minimum marine cranking amps (MCA) with a minimum reserve capacity of 135 RC25 rating
Required international (EN) starting battery type*	975 minimum cold cranking amps (CCA) with a minimum of <u>65</u> ampere hour (Ah)

*Different test methods are used to determine cranking ratings in different parts of the world.

IMPORTANT: The battery selected **MUST** meet, or exceed, **BOTH** required specifications:

- USA and Canada (SAE rating) - BOTH MCA and RC25
- International (EN rating) - BOTH CCA and Ah

Boatbuilders who use batteries rated to SAE specifications must meet both the 800 marine cranking amps (MCA) and 135 RC25 specifications following SAE test procedures. If a boat is shipped anywhere in the world, a battery rating per SAE specifications is acceptable.

Boatbuilders who use batteries rated to EN specifications must meet both the 975 cold cranking amps (CCA) and 65 ampere hour (Ah) specifications following EN test procedures. If a boat is shipped anywhere in the world, a battery rating per EN specifications is acceptable.

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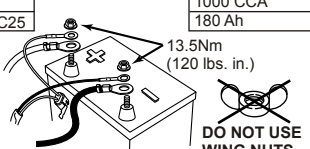
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REVISED VERADO BATTERY DECAL – SUPPLIED WITH OUTBOARD PARTS BAG

NOTICE - Verado Engines

USE ONLY AGM BATTERIES!
Verado engines must use an AGM marine battery that meets minimum ratings listed below.

USA (SAE) 800 MCA 135 min RC25	International (EN) 1000 CCA 180 Ah
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13.5Nm (120 lbs. in.)

DO NOT USE WING NUTS.

IMPORTANT:
Battery cable size and length is critical. Refer to engine installation manual for size requirements.

Place decal on or near battery box for future service reference. 5/16" and 3/8" hex nuts supplied for wing nut replacement. Metric hex nuts not supplied.

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International (EN)

975 CCA

65 Ah

a

a - Specification changed per this R1 revised service bulletin

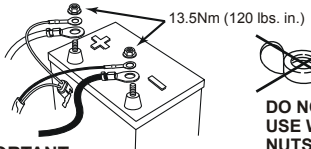
ORIGINAL BATTERY REQUIREMENT

Battery rating	1000 marine cranking amps (MCA), 800 cold cranking amps (CCA), or 180 ampere hour (Ah)
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ORIGINAL BATTERY DECAL – SUPPLIED WITH OUTBOARD PARTS BAG

NOTICE - DTS & OptiMax Engines

DO NOT USE DEEP CYCLE BATTERIES!
DTS (Digital Throttle and Shift) applications and OptiMax engines must use a marine starting battery with 1000 MCA, 800 CCA, or 180 Ah. rating.



13.5Nm (120 lbs. in.)

DO NOT USE WING NUTS

IMPORTANT:
Battery cable size and length is critical. Refer to engine installation manual for size requirements.

Place decal on or near battery box for future service reference. 5/16" and 3/8" hex nuts supplied for wing nut replacement. Metric hex nuts not supplied.

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Situation

With the introduction of Mercury Marine’s digital throttle and shift (DTS) technology, combined with the release of the technologically advanced Verado outboard, a reliable battery system has become more important than ever. Mercury Marine’s dedication to providing the boating customer with a superior boating experience has prompted this revision to the Verado battery requirement.

If a customer with older Verado engines is having low voltage issues, check the battery connections and make sure the battery cables are the proper size. If problems still persist, recommend that the customer upgrade to an AGM battery that meets the new specifications. AGM batteries can also be used to help address low voltage faults and issues on other Mercury products.

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Absorbed Glass Mat (AGM)

AGM batteries have fiberglass matting tightly packed between the plates. The matting is wedged so the plates stay in place, which adds to the durability. The electrolyte is absorbed into the glass matting, leaving no liquid in the cells. Testing has shown that AGM battery capacity can be maintained longer after repeated deep-discharge rates, as well as short high amperage draws. Although more expensive than traditional flooded lead-acid batteries, AGM batteries will provide optimum performance and longevity and provide a higher value.



ADVANTAGES

- Electrolyte is absorbed into the fiberglass mat and will not spill if the battery case is ruptured.
- Maintenance-free – Water never needs to be added.
- Low self-discharge rate – Can be left in the boat for winter storage if it is fully charged and a battery cable is disconnected.
- Can be mounted in any orientation – Upside down not recommended.
- Best solution for a dual purpose starting and deep cycle battery.
- Increased vibration resistance and service life – An AGM battery is typically rated for 200–400 deep-discharge cycles. A flooded lead-acid starting battery will only last for 2–4 cycles.
- Can accept a very high charge rate. Battery will not be harmed if it is charged with 70 amp or more current.
- Standard lead-acid charging equipment can be used as long as the charging voltage does not exceed 14.7 V.
- Sealed to prevent the escape of combustible charging gasses.
- Classified as nonspillable and can be shipped by UPS and FedEx.

DISADVANTAGES

- Heavier than a flooded lead-acid battery.
- Typically 2–2.5 times more expensive than a flooded lead-acid battery.

Spiral Absorbed Glass Mat (AGM)

AGM batteries have fiberglass matting tightly packed between the plates which are wound in a spiral configuration. The spiral matting is wedged so the plates stay in place, which adds to the durability. The electrolyte is absorbed into the glass matting, leaving no liquid in the cells.

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ADVANTAGES

- Same basic principles apply as a standard AGM battery with a few changes.
- More vibration resistance, since cells can be tightly packed and compressed in a cylinder.
- Cells are made of two continuous plates allowing the battery structure to be more robust and mechanically sound.
- Cell construction minimizes cell capacity loss from harsh vibration.
- Classified as nonspillable and can be shipped by UPS and FedEx.

DISADVANTAGES

- Less reserve capacity for the same battery group size as compared to a standard AGM battery.
- Less efficient use of battery case volume.

Mercury Marine Absorbed Glass Mat (AGM) Battery Offering Approved for Use with Verado Outboards

Part Number	BCI Group Size	MCA	RC	CCA	Battery Weight Kg (lb)
879265	31	1110	200	925	32.7 (72)
879265001	31	840	200	700	31.3 (69)

ABYC NOTICE

All batteries over 800 CCA must have a battery switch installed in line for the vessel to remain ABYC compliant. Please refer to the **Standards and Recommended Practices for Small Craft** publication by the ABYC.

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