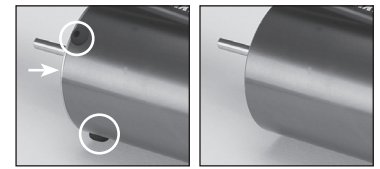




Velineon 3500 Motor Rebuild Instructions

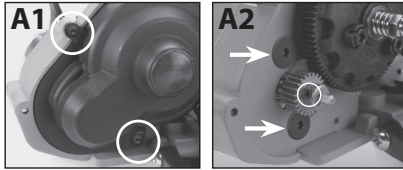
Note: During the production life of the Velineon 3500, cosmetic changes were made to the can and rotor. These cosmetic changes in no way affect the performance of the motor, and with the use of specific sets of the included bushings (see reverse), all the parts are interchangeable. Before you proceed with the instructions below, look at the front of your motor to determine which style you have. Original style motors have four visible screws and a silver front end cap. Current style motors have a solid front end cap with no screws (for your convenience, this package contains four extra end cap screws).



Original Style Motor Current Style Motor

Tools needed

- 1.5mm hex wrench
- 2.0mm hex wrench
- Traxxas 4-way wrench
- Phillips screwdriver
- Plastic mallet
- Adjustable wrench
- Wood blocks



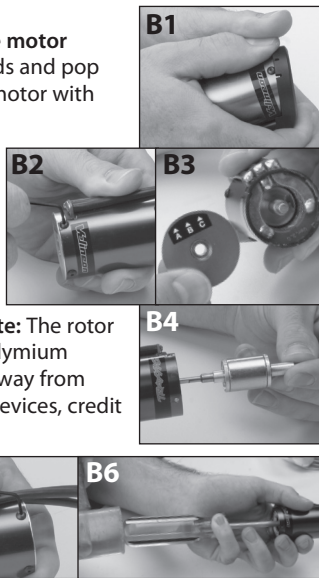
Removing the motor (both styles)

1. Remove the right rear wheel (passenger rear).
2. Remove the two 3x6mm screws from the gear cover. Remove the gear cover (A1).
3. Loosen the motor pinion gear set screw (A2, circled) and slide the gear off of the motor shaft. Disconnect the motor wires and loosen the two 3x8mm screws (A2) until the motor is free of the gearbox. Remove the motor.

Original Style Motor

Disassembling the original style motor

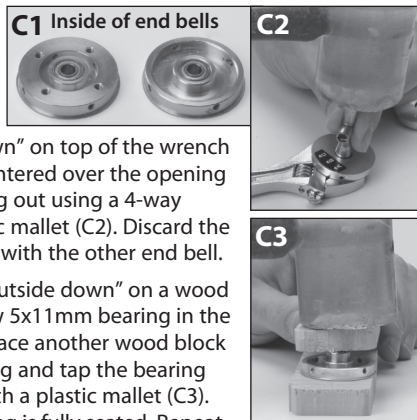
1. Grip the motor with both hands and pop the plastic end cap off of the motor with your thumbs (B1).
2. Remove the four 2.5x5mm screws from the wire side (rear) end bell (B2). Pull off the end bell (B3).
3. Remove the rotor and all bushings from the rotor (B4). Discard the bushings. **Note:** The rotor contains a very powerful Neodymium magnet and should be kept away from any magnetic-based storage devices, credit cards, monitors, etc.
4. Remove the four 2.5x5mm screws from the pinion side (front) end bell (B5). Remove the end bell.



Note: If the end bell is difficult to remove, it can be popped off with a plastic mallet and screwdriver inserted through the motor housing (see image B6). Take care not to damage the end bell.

Removing and installing the end bell bearings

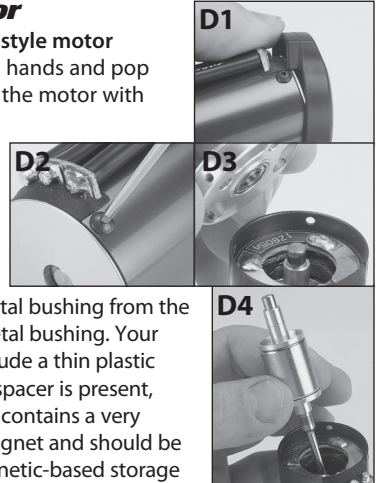
1. Open an adjustable wrench to approximately $\frac{3}{4}$ " and lay it on your work surface. Place an end bell "inside down" on top of the wrench with the bearing centered over the opening (C1). Tap the bearing out using a 4-way wrench and a plastic mallet (C2). Discard the old bearing. Repeat with the other end bell.
2. Place an end bell "outside down" on a wood block. Place the new 5x11mm bearing in the end bell housing. Place another wood block on top of the bearing and tap the bearing into the end bell with a plastic mallet (C3). Make sure the bearing is fully seated. Repeat with the other end bell.



Current Style Motor

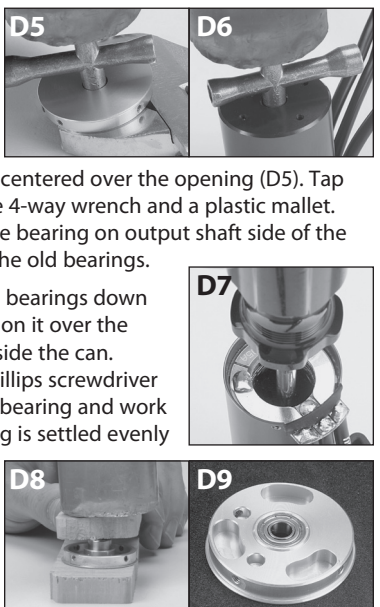
Disassembling the current style motor

1. Grip the motor with both hands and pop the plastic end cap off of the motor with your thumbs (D1).
2. Remove the four 2.5x5mm screws from the wire side (rear) end bell (D2). Pull the end bell out of the motor can (D3).
3. Remove the rotor and metal bushing from the rotor (D4). Discard the metal bushing. Your rotor may or may not include a thin plastic spacer. If this thin plastic spacer is present, reuse it.* **Note:** The rotor contains a very powerful Neodymium magnet and should be kept away from any magnetic-based storage devices, credit cards, monitors, etc.



Removing and installing the end bell bearings

1. Open an adjustable wrench to approximately $\frac{3}{4}$ " and lay it down on your work surface. Place the rear end bell "inside down" on top of the wrench with the bearing centered over the opening (D5). Tap the bearing out using the 4-way wrench and a plastic mallet. Repeat the process for the bearing on output shaft side of the motor can (D6). Discard the old bearings.
2. Drop one of the included bearings down into the motor can. Position it over the recessed bearing boss inside the can. Position an over-sized Phillips screwdriver tip into the center of the bearing and work it around until the bearing is settled evenly into the motor can (D7). Use a mallet to tap the bearing the rest of the way into the can.
3. Place the end bell "outside down" on a wood block. Place the new 5x11mm bearing in the end bell housing. Place another wood block on top of the bearing and tap the bearing into the end bell with a plastic mallet (D8). Make sure the bearing is fully seated (D9).

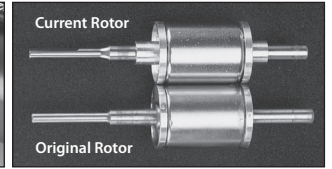
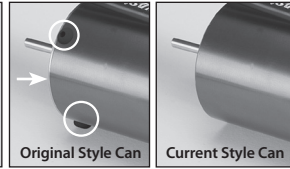
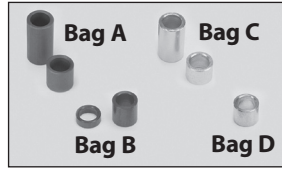


Important Note: The ball bearings included with this kit are special high-speed bearings designed for use with the high-performance Velineon motor. Do not use standard bearings for this application.

*See Current Motor Spacer Note, other side

Rotor Bushing Replacement

The bushings are color-coded for proper spacing with current and original versions of the motor rotor and can. Look at the chart and photos to determine which style you have and to determine the appropriate bushings for that style.

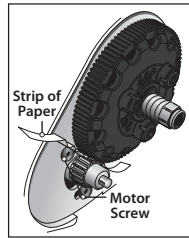


1. Check the combination chart for the appropriate bushings. Install the bushings onto the rotor as indicated by the chart, and then insert the rotor into the motor can as shown.



2. Install the rear end bell onto the motor can and secure it with the same four 2.5x5 screws. Snap the end bell cap back onto the motor can. The motor is ready for installation.

3. Reinstall the motor in your vehicle. Set the gear mesh by running a narrow strip of notebook paper in between the gears. With the motor screws loosened, slide the motor and pinion gear into the spur gear. Tighten the motor screws and then remove the strip of paper.

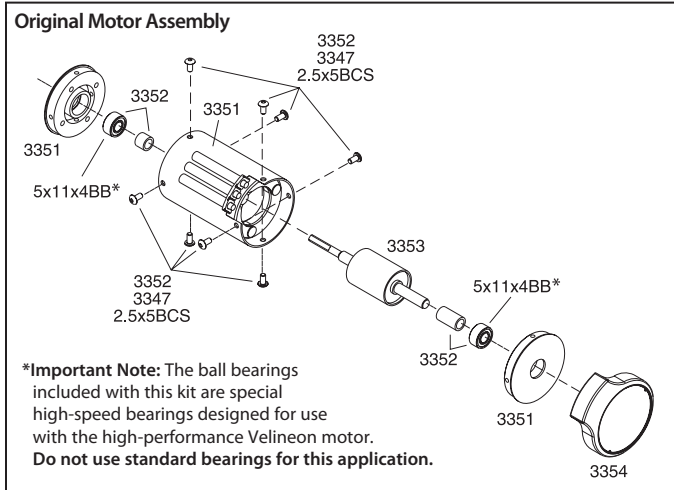


4. Reinstall the gear cover and rear wheel.

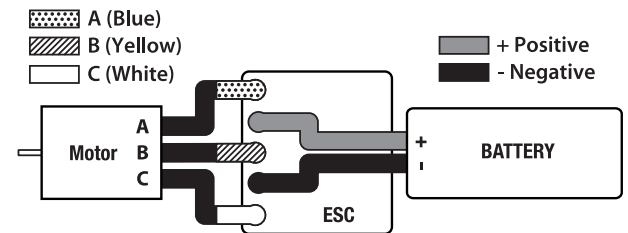
5. Insert the bullet connectors into the electronic speed control. Note the motor phase alignment.

Motor Can and Rotor Combination Chart

If you have...	Bag	Bushing color	Bushing sizes
Original can Original rotor	A	Matte Gray	5x7x6.65mm front (long end)
			5x7x13.85mm rear (short end)
Original can Current rotor	B	Gloss Black	5x7x2.5mm front (long end)
			5x7x7.25mm rear (short end)
Current can Original rotor	C	Silver	5x7x4.85mm front (long end)
			5x7x12.5mm rear (short end)
Current can Current rotor	D	Brass	None on front (long end) (if the rotor included a thin plastic spacer, reuse it)
			5x7x5.95mm rear (short end)



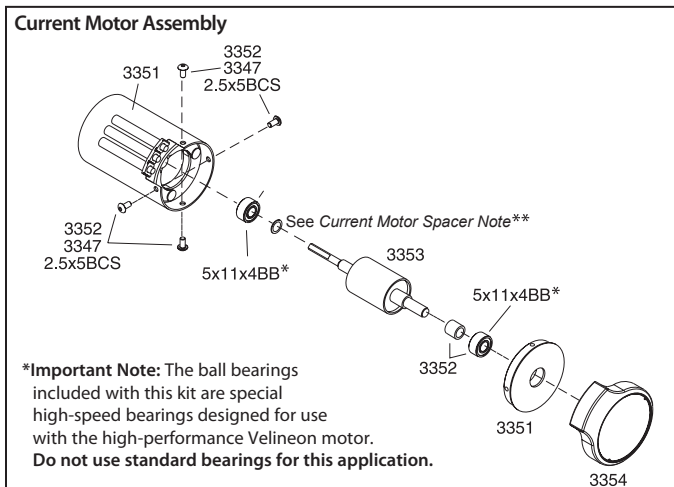
Wiring Diagram



If you have questions or need technical assistance, call Traxxas at

1-888-TRAXXAS

(1-888-872-9927) (U.S. residents only)



**** Current Motor Spacer Note:** To achieve the correct rotor end-play, your motor may have been fitted with a thin spacer on the rotor shaft. The spacer is installed at the factory only if required, so your motor may not have a spacer. If your motor is equipped with a spacer, reinstall it when you reassemble the motor. If your motor is not equipped with a spacer, then it is not required and a spacer should not be installed.

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