



## Introduction

Congratulations on your Vision product. Please read these instructions and follow them for correct use. Failure to follow the warnings and instructions could result in damage to product not covered under warranty, damage to bicycle; or cause an accident resulting in injury or death. Since specific tools and experience are necessary for proper installation, it is recommended that the product be installed by a qualified bicycle technician. FSA & Vision assumes no responsibility for damages or injury related to improperly installed components.

## Warranty

Full Speed Ahead (FSA) warrants all FSA, Vision, Metropolis and RPM products to be free from defects in materials or workmanship for a period of two years after original purchase unless otherwise stated in the full warranty policy. The warranty is non-transferable and valid to the original purchaser of the product only. Any attempt to modify the product in any way such as drilling, grinding, and painting will void the warranty. For more information on warranty policy and instructions for completing a warranty claim, check out the Full Warranty Policy found at our website: <http://www.visiontechusa.com/support/warranty-policy/>

**⚠ WARNING** Always use a calibrated torque wrench to tighten all screws and bolts when assembling and adjusting the vision handlebar to the bicycle. Failure to use a calibrated torque wrench can cause damage to the handlebar making it unsafe to ride and is not covered under warranty. Check bolt and screw torque before each ride to ensure they have not loosened during use.

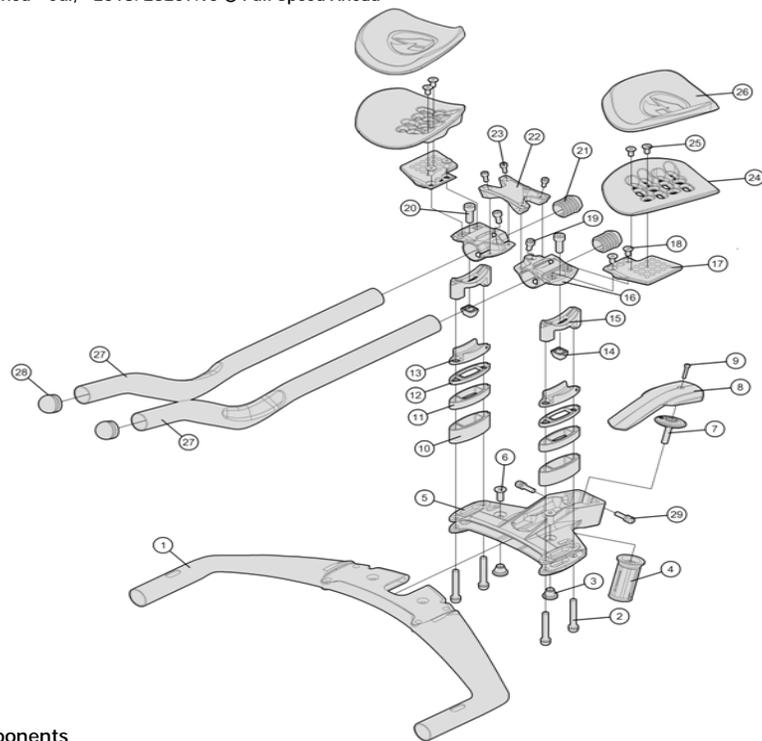
**⚠ WARNING** Periodically inspect your Aerobars for any cracks, chips, scratches, and any other visible damage. In the event of an accident do not ride the bicycle until the handlebars have been inspected by an experienced mechanic as the aerobars may be damaged or weakened even if no visible damage is apparent. If there is any visible damage, the aerobars should not be used any further and replaced.

**⚠ WARNING** When changing the Armrest Stack spacers ⑩, ⑪, ⑫, use the correct length bolt ② as per the chart show in Table 1. Use only FSA supplied bolts. Failure to use the correct length bolt can result in thread stripping of the base bar, failure of base bar, and armrest pad and can cause serious accident or injury.

## Specification

These instructions are for the installation and adjustment of the following Vision Brand components only:

Item Number / Model Name **HB-KO-SiO20 / Metron TFA Aerobar with SnakeBite Stem**



## Components

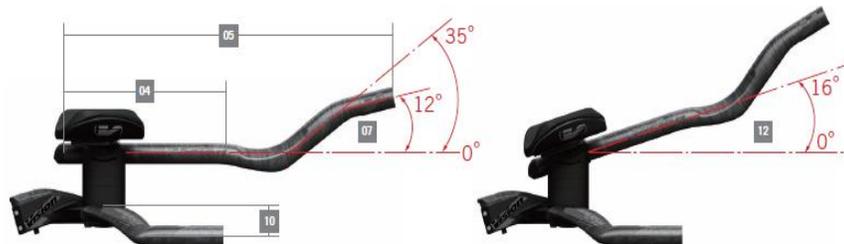
Follow the assembly order in the illustration:

- ① Metron TFA Base Bar
- ② Extension Width Spacer Bolts (M6) x4
- ③ Conical Bar/Stem Fixing Nut x2
- ④ Expander Assembly (TH-863-1)
- ⑤ Stem Body
- ⑥ Stem Fixing Bolts (M5x16mm) x2
- ⑦ Compression Cap & Bolt

- ⑧ Stem Top Plate
- ⑨ Stem Top Plate Bolt (M3x16mm) x1
- ⑩ Armrest Stack Spacers (20mm) x6 (AM)
- ⑪ Armrest Stack Spacers (10mm) x2 (AM)
- ⑫ Armrest Stack Spacers (5mm) x2 (AM)
- ⑬ Lower Angle Adjustment Bracket x2
- ⑭ Angle Adjustment Grip Nut x2

- ⑮ Upper Angle Adjustment Bracket x2
- ⑯ Aero Extension / Armrest Mount (Left & Right)
- ⑰ Armrest Adjustment Plate (Left & Right)
- ⑱ Armrest Adjustment Plate Bolts (M5x10mm) x4
- ⑲ Extension Fixing Bolts (M5x10mm) x2
- ⑳ Angle Adjustment Bolt (M7x19mm) x2
- ㉑ Aero Extension Rear Plug x2

- ㉒ Bridge
- ㉓ Bridge Fixing Bolts (M4x8mm) x4
- ㉔ Armrest Pad Plate (Left & Right)
- ㉕ Armrest Plate Fixing Bolts (M5x10mm) x4
- ㉖ Armrest Pad (Left & Right)
- ㉗ Aero Extension (Left & Right)
- ㉘ Aero Extension Front Plug x2
- ㉙ Steerer Clamp Bolt (M5x18mm) x2



## Aerobar installation

1. Ensure handlebar is compatible with steerer tube. Make certain that the diameter of the steerer tube matches the Vision Metron Snakebite Stem Steerer Clamp size 1-1/8" (28.6mm).
  2. Install base bar ① to stem first by selecting the desired base bar height. The Metron TFA Aerobar Base Bar ① can have a +/-25mm drop or rise depending on which direction the base bar is placed in the Stem Body ⑤.
  3. Slide Metron TFA Base Bar ① into the slot on the Stem Body ⑤. Place the Conical Bar/Stem Fixing Nut ③ into the two holes immediately right and left of the housing port under the stem. Use Stem Fixing Bolt ⑥ and screw into the Conical Bar/Stem Fixing Nut ③. Torque to 60 kgf.cm / 6 Nm / 53 in.lbs. Note: be careful not to clamp brake housing or electronic wiring when installing the Stem Fixing Bolts ⑥ or Conical Stem/Bar Fixing Nuts ③.
  4. Assemble Upper Angle Adjustment Bracket ⑮ and Aero Extension Armrest Mount ⑯ together using Angle Adjustment Bolt ⑳ and Angle Adjustment Grip Nut ㉑
  5. Slide Aero Extensions ㉒ into Aero Extension Mount ⑯. Set to desired length and rotation angle. Tighten Angle Adjustment Bolt ⑳ to torque of 70 kgf.cm / 7 Nm / 62 in.lbs., then tighten Extension Fixing bolts ㉓ to 40 kgf.cm / 4 Nm / 35 in.lbs..
- ⚠ WARNING** Ensure the minimum insertion length indication on the Aero Extensions ㉒ (MIN^INSERT) is beyond the Aero Extension / Armrest Mount ⑯ ends. Riding the bar without the "MIN^INSERT" line inside the mount can cause damage and unexpected bar failure causing accident and injury.
6. Place Lower Angle Adjustment Bracket ⑰ under Upper Angle Adjustment Bracket ⑮ making sure to align the wiring grooves. Torque Extension Width Spacer Bolts ② to 70 kgf.cm / 7 Nm / 62 in.lbs.
  7. To adjust angle of aerobar extensions ㉒, Use a 5mm hex key loosen two or three full turns all 4 Extension Width Spacer Bolts ② then with a 6mm hex key to loosen the Angle Adjustment Bolt ⑳ until Angle Adjustment Grip Nut ㉑ slides freely. Set to desired angle and tighten Angle Adjustment Bolt ⑳ with Angle Adjustment Grip Nut ㉑ to 70 kgf.cm / 7 Nm / 62 in.lbs. Torque Extension Width Spacer Bolts ② to 70 kgf.cm / 7 Nm / 62 in.lbs.
  8. Install Bridge ㉔ with Bridge Fixing Bolts ㉕ insuring that wiring grooves on left and right-angle adjustment assemblies are both facing the same direction and back. Alternating torque bolts to 60 kgf.cm / 6 Nm / 53 in.lbs.
  9. Install Armrest Adjustment Plates ⑰ for desired fit position using Armrest Adjustment Plate Bolts ⑱. Torque to 20 kgf.cm / 2 Nm / 18 lbf.in.
  10. See Table 1 for Stack Spacers ⑩, ⑪, ⑫ and bolt configuration to adjust the Aero Extension/Armrest Mounts ⑯ to the desired height.
  11. Install Armrest Pad Plate ㉖, Evenly tighten Armrest Plate Fixing Bolts ㉗. Do not tighten above 20 kgf.cm / 2 Nm / 18 lbf.in.
  12. Remove the adhesive Velcro Strips from Armrest Pads ㉘ and attach to the top surface of left and right Armrest Pad Plate ㉖.
  13. Install the Expander Assembly ④ into the Carbon Steerer. Tighten the Expander Assembly with a 6mm hex wrench to 60-90 kgf.cm / 6-9 Nm / 53-80 in.lbs. of torque.
  14. Place the Stem Body ⑤ onto the Carbon Steerer, tighten the Compression Cap & Bolt ⑦ with a 4mm hex wrench to until proper bearing preload is achieved. Note: Proper bearing preload is apparent when there is no "knock" (fore / aft or up / down free play) in the headset assembly, while the bearings rotate freely (free steering motion).
  15. Ensure handlebar is aligned straight and gradually tighten the Steerer Clamp Bolt ㉙, by alternating turning each screws 1/4 to 1/2 turn at a time so both screws tighten simultaneously to 60 kgf.cm / 6 Nm / 53 in.lbs DO NOT exceed maximum torque specification. Always use a calibrated torque wrench.
  16. Install Stem Top Plate ⑧ to Stem Body ⑤ use Stem Top Plate Bolt ⑨ Torque to 10 kgf.cm / 1 Nm / 9 in.lbs.

### Wiring Installation Tips

1. Brake/electronic wiring should be run through the Metron TFA Aerobar Base Bar ① before installing Stem Body ⑤ or Aero Extension/Armrest Mounts ⑯.
2. Installation is greatly improved when using a guide cable to gently pull the housing or electronic wires through the base bar from either direction.
3. If Armrest Stack Spacers ⑩, ⑪, ⑫ and bolt configuration with wired electronic shifting on the Aero Extensions ⑯, use electrical tape to hold wiring in the guide slots on the spacers. Small ports on either side of the Stem Body ⑤ are designed ONLY to allow electronic shifting wires to be run internally through the Stem Body ⑤ if desired.

**⚠ WARNING** Never attempt to modify the cable guide holes. Do not drill, saw, or file the holes larger or to a different shape. Modifications will void warranty and may result in failure of the handlebar while riding causing accident, injury, or death.

### Aero Extension Length Adjustment

It may be necessary to trim aero extensions if the rear of the extension protrudes behind the mount. Aerobars can only be cut from the rear. Do NOT cut the aerobars extensions from the front. Cutting aerobars from the front will void the warranty. Make careful measurements before cutting and be sure of the cut location. Cutting an aero extension is a one-time and final adjustment.

**⚠ WARNING** Do not cut beyond the (MIN^INSERT) line indicators on the extensions. Cutting beyond the line indicators may make it impossible to install shifters into the extensions.

1. Use a sharp hacksaw blade for best results on alloy aerobars. For carbon aerobars, an abrasive blade will work best. Apply a layer of tape around area to be cut to reduce possibility of carbon fraying while cutting.
2. Use a cutting guide for the saw blade to ensure an even cut of the aerobar. Cut the extension to desired length.
3. Remove any burrs or frayed carbon strands with sand paper.
4. Install shifter per shifter manufacturer's instructions.
5. Aero Extension Front and Rear Plug ㉚, ㉛ over cable housing and press into Aero Extension ㉒.

### Armrest Adjustment

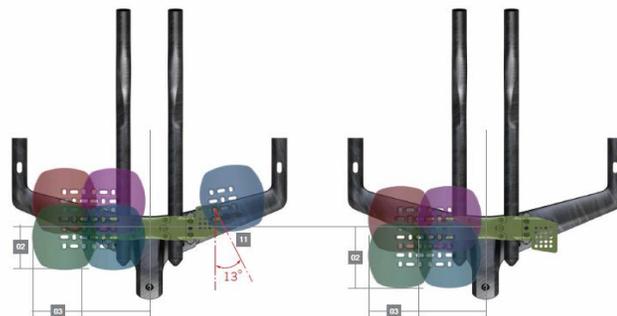


Table 1: Armrest Stack Spacer & Bolt Compatibility

Spacers			Stack Heights	② Bolt length
5mm	10mm	20mm		
0	0	0	0mm	25mm
1	0	0	5mm	35 mm
0	1	0	10mm	
1	1	0	15mm	45 mm
0	0	1	20mm	
1	0	1	25mm	55 mm
0	1	1	30mm	
1	1	1	35mm	65 mm
0	0	2	40mm	
1	0	2	45mm	75 mm
0	1	2	50mm	
1	1	2	55mm	85 mm
0	0	3	60mm	
1	0	3	65mm	95mm
0	1	3	70mm	

#### Contact

If you have questions, please visit our web site technical section: <http://www.fullspeedahead.com/contact> or contact:

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Notes: Specifications of product may be changed or improved for performance. Please refer to website periodically for technical updates and revised instructions. Printed in Taiwan.