



# **VIRPIL**

## **VPC MongoosT-50<sup>®</sup> Base Quick Start Guide**

Version 1.5 - 02/2018

# VPC MONGOOST-50® BASE

## QUICK START GUIDE

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### INTRODUCTION

This quick start guide is intended to be used to get you started with the basics of the VPC MongoosT-50® Base. An in-depth user manual will be provided at a later date.

### SPECIFICATION

**Grip Interface:** Mini DIN 5 Pin

**PC Interface:** USB 2.0

**Number of Axis:** 2

**Samples per Axis:** >4864

**Minimum Detected Deflection:** 0.006°

**Max Axis Deflection:** 30° (± 15° from central position)

**Stroke Length with VPC MongoosT-50® Grip:** 150mm (± 5mm)

**Max Force per Axis:** 3.5kg

**Base Dimension - without Stem (L x W x D):** 85 mm x 83 mm x 130 mm

**Stem Height:** 50mm

**Weight:** 1.1kg

**\*Note:** Compatible Grips:

- VPC MongoosT-50® Grip
- VPC MongoosT-50® BE Grip
- VPC MongoosT-50® LH Grip
- VPC MongoosT-50® CM Grip
- Thrustmaster® HOTAS Warthog™ Grip
- Thrustmaster® HOTAS Cougar™ Grip

### WHAT'S INCLUDED

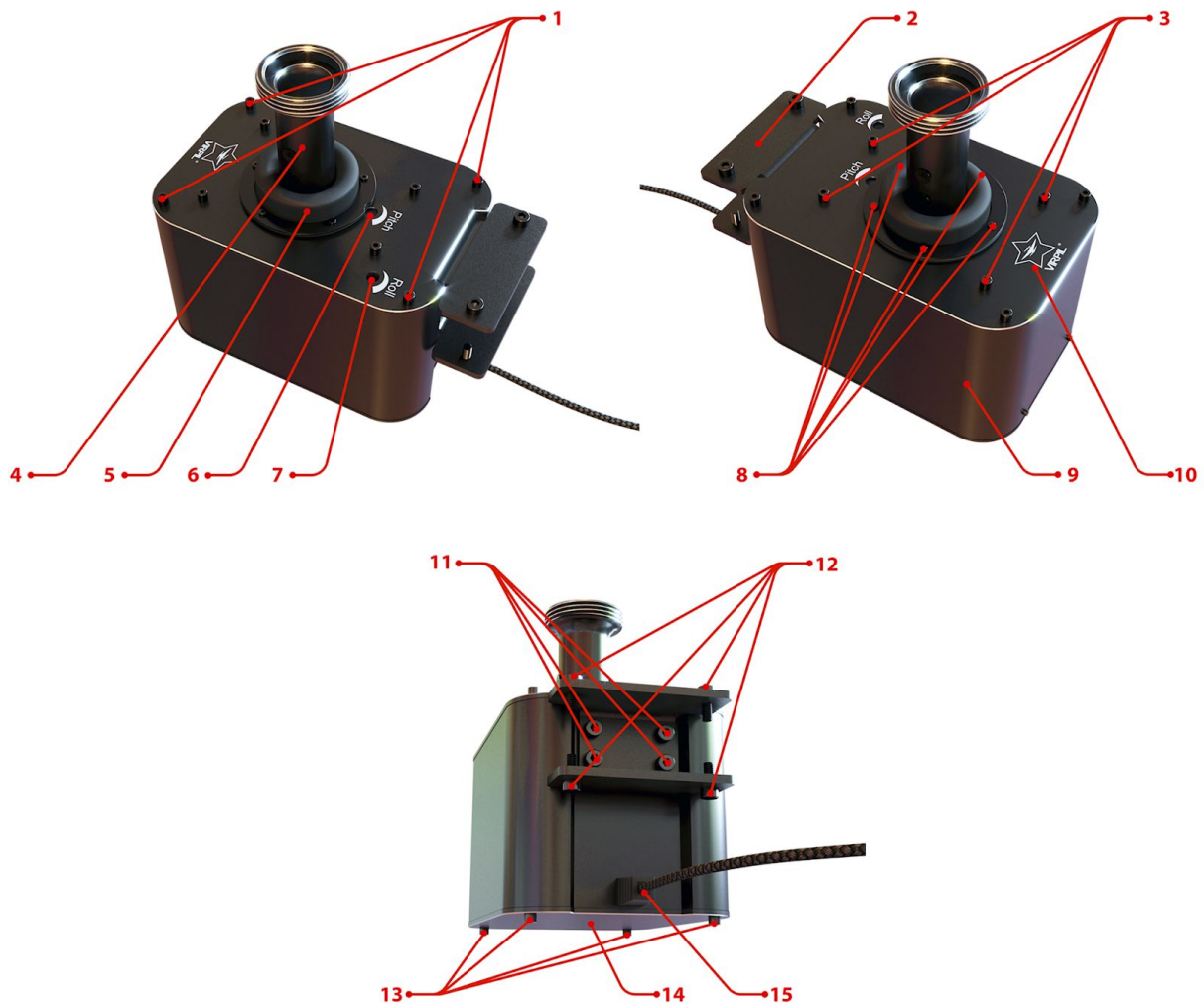
Included with the VPC MongoosT-50® Base:

- VPC MongoosT-50® Base
- Axis Cams
  - 2 x Hard Center Cams
  - 2 x Soft Center Cams
  - 2 x No Center Cams
- Axis Compression Springs
  - 2 x Light Springs
  - 2 x Medium Springs
  - 2 x Heavy Springs
- U-Bracket Mount
- User Manual
- Packing Slip
- Warranty Card
- Packaging

# VPC MONGOOST-50® BASE QUICK START GUIDE

## VPC MONGOOST-50® BASE

FIGURE 1



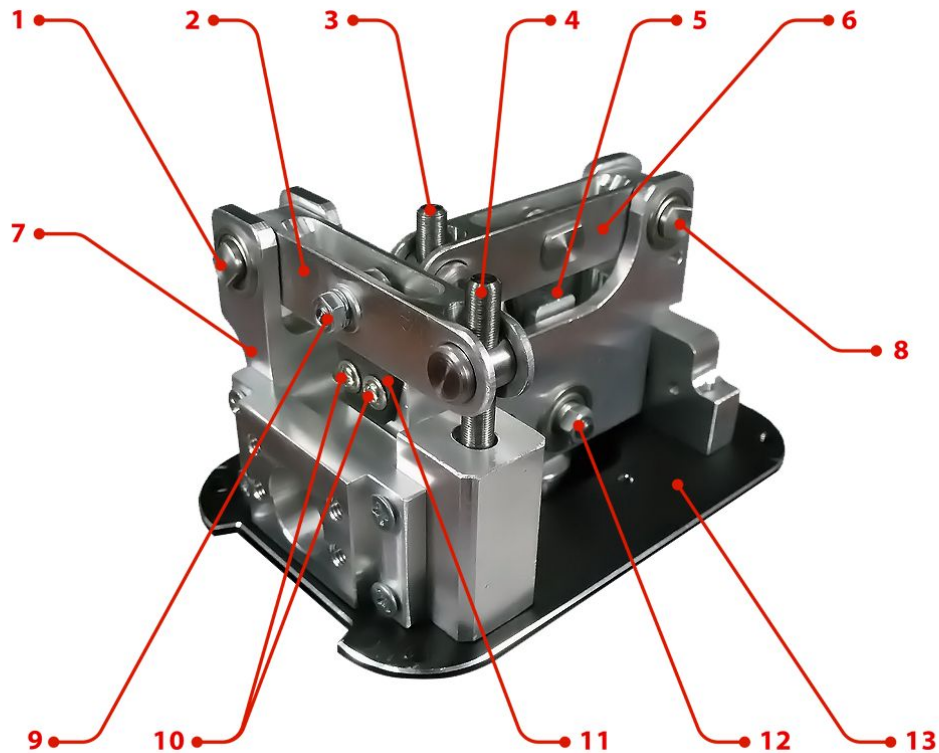
1. 4 x M4 Screws - Affixing upper plate to base exterior.
2. U-Bracket for attaching to the VPC Desk Mount or other mounting method.
3. 4 x M4 Screws - Affixing upper plate to gimbal structure.
4. Grip stem with screw-thread connector and Mini DIN 5 Pin connector.
5. Rubber boot for dust protection.
6. Access port for adjusting the "Pitch" (Y) axis loading force.
7. Access port for adjusting the "Roll" (X) axis loading force.
8. 5 x M3 Screws - Affixing rubber boot to upper plate.
9. Base exterior housing.
10. Upper plate.
11. 4 x M5 Screws - Affixing U-Bracket to base exterior and gimbal structure.
12. 4 x M5 Screws - Affixing U-Bracket to VPC Desk Mount or other mounting solution.
13. 4 x M4 Screws - Affixing lower plate to base exterior.
14. Lower plate.
15. USB 2.0 cable.

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VPC MONGOOST-50® GIMBAL

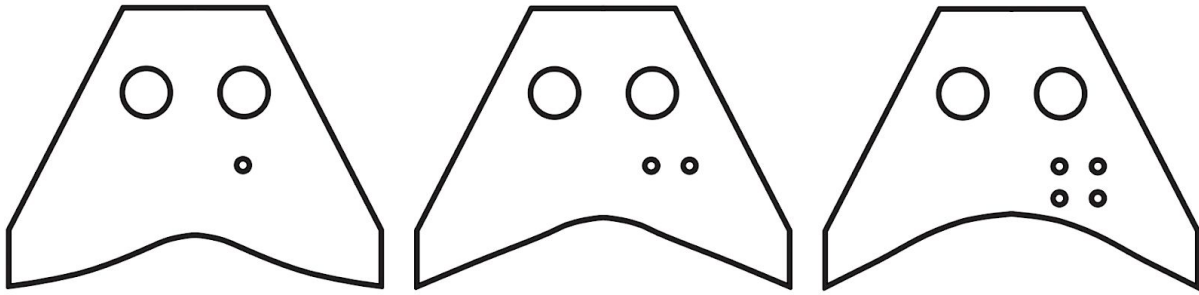
FIGURE 2



1. Roll axis lever bearing
2. Roll axis lever arm
3. Pitch axis tension adjustment screw (with compression spring)
4. Roll axis tension adjustment screw (with compression spring)
5. Pitch axis cam
6. Pitch axis lever arm
7. Gimbal mechanics structure
8. Pitch axis lever bearing
9. Roll axis cam bearing (same for Pitch axis)
10. 2 x M3 Roll axis cam mounting screws (same for Pitch axis)
11. Roll axis cam
12. Grip stem bearing
13. Upper plate

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## VPC MONGOOST-50® CAMS



Hard Center Cam

Soft Center Cam

No Center Cam

## BASIC OPERATION

- The VPC Mongoost-50® Base is compatible with the VPC Extensions. Extensions up to 150mm are supported, extensions larger than this are not recommended, especially when combined with heavier springs.
- The VPC Mongoost-50® Base should be mounted with the included VPC U-Bracket. If this is unsuitable, a custom mount can be created to connect directly to the existing 4 x VPC U-Bracket mounting points. Different length screws should be used to account for the difference between the original VPC U-Bracket and any custom solution. It is not recommended to mount the base via the underside bolts. Any damage caused by a custom mounting solution is not covered by the standard warranty.
- When adjusting the spring loading screws via the upper plate adjustment holes the minimum allowed tension is when half of the joysticks deflection is free of any spring force. The maximum allowed tension is achieved by roughly 25 clockwise turns. Over tensioning the spring loading screws can result in the joysticks total deflection being limited. If you require stronger spring tension, replace the axis compression springs for the heavier set.
- The VPC Mongoost-50® Base is a complex piece of equipment aimed at the experienced user. Replacing the springs and cams can be a complicated process and if you are at all unsure, please contact VPC directly for help to avoid damage to your set. User damage while attempting to make adjustments to the base is not covered by the manufacturer warranty and would be subject to a repair cost.

**Note:** The cam screws are held in place with threadlocker from the factory. First time cam change (especially after transit) can be greatly eased by warming up the cam screws (e.g hairdryer) for a few moments first.

## REPLACING THE AXIS COMPRESSION SPRINGS

1. Disconnect the base USB cable from the PC.
2. Remove the base from the VPC Desk Mount or other mounting method.
3. Remove the attached grip from the base.
4. Loosen the spring loading tension on the Pitch (**FIGURE 1 - #6**) and Roll (**FIGURE 1 - #7**) axes via the adjustment holes on the upper plate.
5. Remove the 4 x M4 screws from the lower plate (**FIGURE 1 - #13**). Store the lower plate in a safe location to avoid damage.

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6. Remove the 4 x M4 screws from the upper plate (**FIGURE 1 - #1**).
7. Remove 5 x M3 screws affixing the rubber boot surround to the upper plate.
8. Remove the 4 x M4 screws affixing the upper plate to the gimbal structure (**FIGURE 1 - #3**).
9. Completely remove the rubber boot (**FIGURE 1 - #5**) and upper plate (**FIGURE 1 - #10**) over the grip stem (**FIGURE 1 - #4**).
10. Completely loosen the spring loading screw for the axis you wish to replace the spring on. While you do this, hold the cylindrical nut from the lower side of the base.
11. With the spring loading screw completely loosened, remove it from the gimbal and you will be able to remove the currently equipped spring. Replace the spring with your desired choice.
12. Place the spring loading screw with the newly equipped compression spring, back into its recess.
13. While holding the cylindrical nut from the lower side of the base, hand tighten the screw until the spring starts to become loaded.
14. Reassemble the base by repeating the steps in reverse from step 9.
15. Fine tune the spring tension using the Pitch (**FIGURE 1 - #6**) and Roll (**FIGURE 1 - #7**) axes adjustment holes on the upper plate.

### REPLACING THE AXIS CAMS

1. Disconnect the base USB cable from the PC.
2. Remove the base from the VPC Desk Mount or other mounting method.
3. Remove the attached grip from the base.
4. Loosen the spring loading tension on the Pitch and Roll axes via the adjustment holes on the upper plate.
5. Remove the 4 x M4 screws from the lower plate (**FIGURE 1 - #13**). Store the lower plate in a safe location to avoid damage.
6. Remove the 4 x M4 screws from the upper plate (**FIGURE 1 - #1**).
7. Remove the 4 x M5 screws affixing the U-Bracket to base exterior and gimbal structure.
8. Remove 2 x M3 screws on the front side of the base, affixing the VPC-Controller board to the interior of the base housing. **NOTE:** Pay attention to the spacers used for mounting the VPC-Controller board.
9. Carefully lift the gimbal and electronics from out of the base housing, being sure not to damage the electronics or wiring.
10. Completely loosen the spring loading screw for the axis you wish to replace the spring on. While you do this, hold the cylindrical nut from the lower side of the base.
11. When the spring loading screw is removed from the cylindrical nut, open the lever axis arm (**FIGURE 2 - #2 #6**) to access the cam.
12. Remove the 2 x M3 cam mounting screws (**FIGURE 2 - #10**).
13. Remove the existing cam (**FIGURE 2 - #5, #11**) from the gimbal and replace with your desired cam. **NOTE:** Removing the cams for the first few times can require additional effort, especially the pitch cam. To help remove the pitch cam (**FIGURE 2 - #5**) you can rock the cam side to side to ease it out of the cam slot.
14. With the new cam installed, complete the reassembly of the base by following the steps back in reverse from step 15.