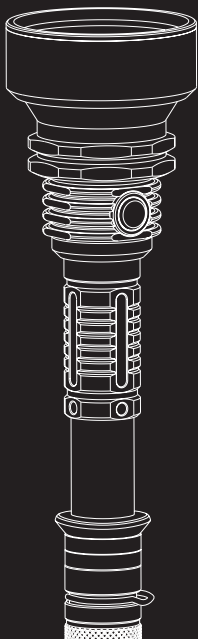




TORNADO 963 LUMEN  
LAW ENFORCEMENT LED FLASHLIGHT

FL-D45P

USER MANUAL



VULTA™

Thank you for choosing Vulta.

The Vulta Tornado FL-D45P projects an ultrabright light with a wide, long-range beam. Perfect for law-enforcement and search and rescue operations, this high-output flashlight features a dual-button system that's easy to operate in emergency scenarios. The FL-D45P produces a maximum 963 lumens of light capable of temporarily blinding an attacker or locating tracks in a wooded area. The 20 lm minimum is ideal for close work when your eyes are adjusted to the dark, and the strobe and SOS modes can be used for emergency signaling and communication. This is our most powerful law-enforcement flashlight.

The Tornado FL-D45P incorporates the CREE XM-L2, a breakthrough LED market-leader, which combines high efficiency with high drive-current. The LED is housed

in a wide, smooth reflector that maximizes throw and flood capability. An ultraclear, tempered glass lens optimizes resistance to impacts and scratches.

Crafted from MIL-SPEC Type III hard anodized aluminum alloy with a stainless-steel bezel, and with a waterproof rating of IPX-8, the Tornado FL-D45P is a rugged tool that will withstand harsh environments. The deep-machined heat-sink fins provide enhanced handling when holding the flashlight with cold or wet hands or while wearing gloves. There's also an adjustable tactical ring for advanced grip and law-enforcement flashlight techniques.

The Tornado FL-D45P can be fitted with the Vulta FA-P1 Tail Cap and Pressure Switch (not included). This tactical accessory incorporates a tailcap switch with a remote-control pressure-pad for temporary-on functionality.

## PRECAUTIONS ⚠️⚡

- Please read and follow these instructions and keep this manual in a safe place.
- This flashlight is extremely bright and can cause temporary or even permanent blindness. Do not shine the flashlight in the eyes of any person or animal. When powering on the flashlight, make sure to point it down or away from you and anyone else.
- The surface of this product can become hot after prolonged use. Be careful when touching it and make sure to keep it away from anything flammable or combustible.
- Do not stand the flashlight upright on its lamp head when powered on. In this position, the lamp head can become dangerously hot and damage the flashlight and anything nearby.
- Never leave the flashlight unattended when it is powered on.
- Before long-term storage, remove the batteries and store them in a cool, dry place to avoid leakage.
- Always install batteries of the same type, brand, and age. Do not combine different types or brands, or old and new batteries.

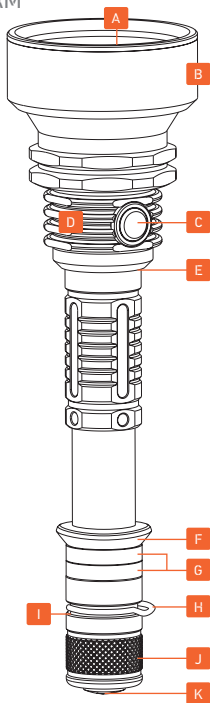
- Install the batteries in the proper orientation as indicated by the instructions in this manual.
- This product is waterproofed for freshwater only. If it comes into contact with salt water, immediately dry the flashlight and remove the batteries, reassemble, and rinse with freshwater. Dry thoroughly and install new batteries.
- Do not attempt to disassemble or repair this product. It is dangerous and will also void the warranty.
- Keep this product away from children. Do not leave children unattended near this product.
- Use only parts provided by the manufacturer.
- Make sure that this product is intact and that there are no missing parts.
- To avoid damage to this product, be careful not to overtighten or improperly thread any of the threaded fittings.
- All photos are for illustrative purposes only.

# PRODUCT DIAGRAM

- A** LED
- B** LAMP HEAD
- C** SIDE BUTTON
- D** HEAT SINK AREA
- E** O-RING
- F** TACTICAL RING
- G** GRIP RINGS
- H** LANYARD RING
- I** O-RING
- J** TAILCAP
- K** TAILCAP BUTTON

## Also Included:

- HOLSTER
- LANYARD
- SPARE O-RING
- USER MANUAL
- TWO-YEAR LIMITED WARRANTY



06

VULTA TORNADO

## A Note about Maximum Output

When the flashlight is in High mode, the battery discharge, drive circuit, and LED will all be producing heat, and the lamp head may become extremely hot. Please be cautious when touching it. To protect the battery, circuit, and LED, and to extend the lifetime of the flashlight, we do not recommend continuously running the flashlight on High mode for more than 10 minutes.

## INSTALLING BATTERIES

The Tornado FL-D45P can be powered by two 18650 (3.7 V) or four CR123 or RCR123 (3 or 3.7 V) batteries. When using 18650 batteries, 2600 mAh capacity with overcharge protection is recommended.

**Note:** Make sure to load the batteries with the positive and negative terminals facing the proper directions. The FL-D45P has a reverse-polarity protection circuit that prevents damage due to improper battery installation, but the flashlight will not turn on if the batteries are oriented incorrectly.

To install a battery, follow these steps:

1. Make sure the flashlight is turned off.

2. Unscrew and remove the tailcap from the flashlight.
3. Insert the batteries with the positive terminals facing the lamp head.
4. Screw the tailcap back onto the flashlight until secure.

## OPERATION

The Tornado FL-D45P employs a dual-button system with unique circuitry to turn on the flashlight and engage the different modes.

### POWERING ON THE TORNADO FL-D45P

**Temporary On:** To engage High mode, press and hold the tailcap button halfway. The flashlight will remain on until you release the tailcap button. This mode is ideal for temporary maximum brightness.

**Constant On:** To turn on the FL-D45P, press the tailcap button all the way until it clicks. Upon turning on, the flashlight will enter High mode.

**Standby Mode:** To turn on the FL-D45P, press the tailcap button all the way until it clicks. Upon turning on, the flashlight will enter High mode.



When you set the constant-on mode (high/med/low, see Setting the Mode below) and then use the side button to enter standby mode, the next time you power on the flashlight via the side button, it will automatically enter the last-set constant-on mode.

**Note:** Using the tailcap button to power off the flashlight will clear the constant-on setting, and the flashlight will automatically enter High mode the next time you power it on.

## SETTING THE MODE

**High/Medium/Low:** There are three constant-on modes: High, Medium, and Low. When the flashlight is on—either in constant or temporary mode—press and hold the side button to cycle through High, Medium, and Low modes.

**Strobe and SOS:** Strobe mode continuously emits quick flashes of bright light. In SOS mode, the flashlight blinks brightly in the international Morse code distress signal pattern (· · · – – – · · ·). To enter Strobe mode, start with the flashlight powered on and quickly press the side button twice. To enter SOS mode, quickly press the side button twice again.

## THE TACTICAL RING

The tactical ring provides an enhanced grip over a smooth metal surface and also helps when holding the flashlight with cold or wet hands or while wearing gloves. The tactical ring can be used for specific law-enforcement applications, such as the syringe-style flashlight technique. The ring can be adjusted along the main body of the flashlight to fit your specific grip.

## O-RING MAINTENANCE

The Tornado FL-D45P's O-rings are installed on the threaded fittings to help seal out water. The O-rings are prelubricated to extend their lifetime, ensure smooth operation, and increase water resistance. If one of the O-rings dries out or there is little or no lubricant remaining, we recommend applying a small amount of O-ring lubricant.

The FL-D45P comes with a replacement O-ring. If one of the originals wears out after long-term use, replace it with the included spare.

## SPECIFICATIONS

OUTPUT	High, Strobe, SOS: 963 lm Medium: 243 lm Low: 20 lm
BEAM INTENSITY	71,556 cd
LED TYPE	CREE XM-L2
POWER SOURCE	Two 18650 (3.7 V, 2600 mAh capacity with overcharge protection) or four CR123 or RCR123 (3 or 3.7 V) batteries
RUNTIME	High: 2 hr. Medium: 8 hr. Low: 60 hr.
CONSTRUCTION	Body: MIL-SPEC Type III hard anodized aerospace-grade aluminum alloy Bezel: Stainless steel Lens: Tempered glass
IMPACT RESISTANCE	Up to 6.5' (2 m)
WATERPROOFING	IPX-8 standard, up to 6.5' (2m) submersion
EFFECTIVE RANGE	1,755' (535 m)
DIMENSIONS	Length: 8.85" (225 mm) Head Diameter: 2.5" (64 mm) Tail Diameter: 1" (25.4 mm)
WEIGHT	Without batteries: 9.6 oz. (273 g) With batteries: 14.1 oz. (400 g)



## TWO-YEAR LIMITED WARRANTY

This VULTA product is warranted to the original purchaser to be free from defects in materials and workmanship under normal consumer use for a period of two (2) years from the original purchase date or thirty (30) days after replacement, whichever occurs later. The warranty provider's responsibility with respect to this limited warranty shall be limited solely to repair or replacement, at the provider's discretion, of any product that fails during normal use of this product in its intended manner and in its intended environment. Inoperability of the product or part(s) shall be determined by the warranty provider. If the product has been discontinued, the warranty provider reserves the right to replace it with a model of equivalent quality and function.

This warranty does not cover damage or defect caused by misuse, neglect, accident, alteration, abuse, improper installation or maintenance. EXCEPT AS PROVIDED HEREIN, THE WARRANTY PROVIDER MAKES NEITHER ANY EXPRESS WARRANTIES NOR ANY IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. This warranty provides you with specific legal rights, and you may also have additional rights that vary from state to state.

To obtain warranty coverage, contact the Vulta Customer Service Department to obtain a return merchandise authorization ("RMA") number, and return the defective product to Vulta along with the RMA number and proof of purchase. Shipment of the defective product is at the purchaser's own risk and expense.

For more information or to arrange service, visit [www.vultagear.com](http://www.vultagear.com) or call Customer Service at 212-594-2353.



Product warranty provided by the Gradus Group.  
[www.gradusgroup.com](http://www.gradusgroup.com)

VULTA is a registered trademark of the Gradus Group.

© 2014 Gradus Group LLC. All Rights Reserved.