PETZL TIKKA XP2 AND TIKKA PLUS2 LED HEADLAMP REVIEWS

BY **Rick Dreher** ON FEBRUARY 2, 2010

PERFORMANCE GEAR REVIEWS

Introduction

Petzl has been busy upgrading the Tikka-Zipka line, and as part of this suite of six new headlamp gives us two versions of the old Tikka XP: the Tikka Plus2 and the Tikka XP2. Physically, the ne Plus2 and XP2 have more similarities than differences and each includes the following

- Single, high-output, white, collimated LED
- Small, red, 5mm LED
- Single control switch, mounted top-center
- Ratcheted angle adjustment
- Hinged battery compartment
- Wraparound elastic headband

The headlamp shells are similar in shape and incorporate the same materials – a combination of crystal clear and gray translucent plastics. Each is powered by three AAAs and, new to the 2-seri take any battery formulation: alkaline, NiMH, NiCd and yes, disposable lithium. Their switch control sequences are identical and both sport an IPX4 water resistance rating ("limited ingress of water sprayed from any direction"). Like the previous Tikkas, neither new light has current regulation, and both have battery life meters.

There are differences: The XP2 has a diffuser lens and head strap whistle and, importantly, is mu brighter. The XP2 body is a bit deeper to accommodate the diffuser and has a slightly larger swit and collimator. The Plus2 weighs 5 grams less and costs $15 less.

A Bit of History

Four years ago, Petzl expanded the popular Tikka series of small LED headlamps with the XP, th first AAA-powered Luxeon (1-watt hyperbright LED) headlamp. Compared to the other Tikkas, with their floody 5 mm white LED arrays, the XP provided a bright pencil beam with much long throw and very good battery life. Then, to tame that narrow beam into a wide flood Petzl added a optical diffuser lens that simply slides in front of the LED. At a bit over 3 ounces with batteries, t XP competed with the best from other headlamp makers in nearly every way, but with two exceptions: no current regulation and no use of disposable lithium cells. These XP descendants correct one of those shortcomings, add several new features, and shave a bit of weight.

Tikka Trio. From top: Original Tikka XP, XP2, Plus 2.

Battery Options

Many BPL readers will be primarily interested in the restoration of lithium cells to Petzl's list of approved batteries (across the entire Tikka/Zipka line, but not brand-wide). There is no documentation as to what changes Petzl made that renders them safe to use, and I don't know whether the deletion of the old XP's boost mode is somehow related. It's likely fresh lithium cells (capable of high-current draw well beyond what alkaline or NiMH cells can eke out) were overdriving the older LEDs to premature failure. Since a major appeal of LED flashlights is their effectively limitless service life compared to incandescents, a cautious approach is understandable if there is a chronic weakness.

As a refresher, disposable lithium batteries provide more stable output as they discharge compared to alkaline cells and, as noted, tolerate higher current draw. They also perform better th[illegible]kaline in the cold and are much lighter. These benefits come at considerable cost, since lithiu[illegible]As ru

at or above $2 each, nearly ten times the price of quality alkalines bought in bulk. While I've almost completely switched over to NiMH rechargeables for everything but long-duration hikes (especially since we now have low self-discharge cells), the ability to load up the new Tikkas wit lithiums is welcome indeed for longer trips and very cold locations.

Design, Construction, Controls

You can see from the photo that the Plus2 and XP2 bodies differ from the XP. The new shell plas feels slicker and the shape is a departure, although overall dimensions and weights are roughly comparable. The old XP has a fully removable (and potentially losable) battery cover, while the new models have a secure hinged lid with thumb tab opening that's much easier to use. Interestingly, the new battery compartment is not sealed against the elements like the old model, which seems at odds with the IPX4 rating. However, through the clear body a seal can be spotted protecting the electronics. It appears Petzl doesn't consider keeping water and fine grit out of the battery compartment to be an issue, but instead has gasketed just the electronics against intrusion. This may be in consideration of the fact that lithium cells can off-gas in use and require venting, a potential problem in sealed battery compartments. However, I caution folks in salt environments t take note of the new Tikkas' unsealed battery compartments – anybody who uses one in the wet should dry it out when they can. If exposed to salt water or airborne grit, first rinse the battery compartment with fresh water.

The works are partly visible through the case, as is the seal protecting the electronics.

As a certified klutz, I am qualified to say both lights are tough. I've dropped them plenty with no damage or failures. They seem reasonably sturdy, although I defer to spelunkers to weigh in on ju *how* sturdy. The collimator, red LED, and battery meter are protected by a clear shield, and the XP2 diffuser offers a second protective layer.

The old XP diffuser slides sideways while the XP2's slides vertically, a minor change that makes operation a bit easier. The new diffuser design also uses a larger tab for notably easier gloved operation and a spring assist helps return it to its hiding spot. The diffuser portion only covers the white LED and does not affect the red LED beam. The XP2 diffused beam is a bit narrower than the XP's, but is still quite wide and even.

Both 2-series lights have a large single switch in a depression that should *reduce* accidental switc on, but cannot eliminate it. I recommend stowing the light on red mode in case it does get turned on in your pack, because red mode won't drain the batteries like white mode will. Compared to tl old XP's miniscule buttons, these new switches are a breeze to operate – a definite advance.

Operation

The operation of both 2-series Tikkas is identical. The lone switch controls all LED functions as follows. From off, a brief press switches the light on, while a long press switches between the rec and white modes. Following initial power-on, each brief press cycles through the mode states in sequence.

- White mode has three states: high, low and flash, in that order from off.
- Red mode has two states: steady and flash, in that order from off.

Once the desired mode and state have been selected and the switch is unused for a few seconds, t next quick press switches the headlamp off. A long press will alternate the color mode without turning the light off. Regardless of this wordy description, the control sequence is easy to learn ar use!

Large, central switch is easy to find, operate even with gloves.

By comparison, the old XP has three continuous levels plus flash. It also has a boost mode access via a second button that gives a short burst of very high output. Boost is heat-limited and shuts of automatically if the button isn't released first. This happens in less than one minute (for more on boost mode, see the Petzl MYO XP Review).

For me, the most important control advance in the Plus2 and XP2 is the color mode memory. The switch on to the last mode used, whether red or white. I would prefer that they also recalled whic white level the light was last in (i.e., low was retained) but red mode recall is very helpful in retaining night vision by not inadvertently blasting my eyes with high-intensity white light. Star party folks, feel free to rejoice.

Beam

Tikka Plus2 and XP2 beam patterns are similar, but not identical. The Plus2 beam is more even a has no obvious artifacts (beam unevenness or odd shape and coloration). The XP2 beam is more center-weighted and has a couple of shadow artifacts. These differences are notable pr[illegible]d against a white wall, but undetectable in the field. Both lights are very different from t[illegible] XP,

which uses both a collimator behind and a Fresnel lens in front of the LED, a rather sophisticated control scheme that gives it a superior beam pattern in my opinion. The new models use only a ba collimator, which seems to control the beam less completely. The XP2 diffuser spreads the beam wide and evenly, dropping intensity by a factor of about ten. The Plus2 doesn't have this option, course.

Why the diffuser feature isn't slavishly copied by others is a mystery; instead they're seemingly content to load up their hybrid lights with auxiliary banks of white 5 mm LEDs, rather than simpl lensing their superbright main light. The costs to this approach, of course, are complexity and weight. (Conceptually, a red LED is better than a red lens [filter] in front of a white light source. filter *subtracts* light, creating inefficiency compared using a red LED's full output.)

XP2 (left) clearly outperforms the Plus2 with no cost in extra power used.

XP2 diffuser lens in place compared to Plus2 unlensed beam (both lights set on high).

XP2 (left) and Plus 2 in red mode. Beam size difference likely an LED manufacturing variation.

Color

Tikka Plus2 beam is cool white, while the XP2 is a warmer white. When not compared side-by-side, the difference isn't noticeable, but in my experience, warmer light is a little easier on the ey over extended periods.

Fit and Aiming

Petzl uses very good quality headband material – soft with a reassuring amount of stretch. The ne headbands are a bit longer than before – good news for helmet wearers and my fellow melonhead The buckles don't loosen in use. Helmet users can also investigate Petzl's ADAPT system for mounting the headlamps without the headband. For all, the headband removes easily for cleaning The whistle, added to one of the XP2 buckles, was a pleasant surprise and packing an XP2 takes care of two of the "ten essentials." Its quite high frequency is the bane of dogs everyw

Non-whistlers will be pleased with the XP2 whistle-buckle.

The headlamps aim slightly downward when set to the highest angle and the ratcheted adjustment allows roughly an additional 45 degrees of downward tilt. Anyone wanting to angle the light upwards (e.g., for bear-bagging) can simply flip it over, since there's no top strap. I find the angle setting holds securely, although the ratchet mechanism is looser than my old XP. I'm not a trail runner, so I can't verify that these new lights hold their position while pounding dirt through the dark, but they haven't slipped in my use. The curved base is mostly padded by the strap and is comfortable on my forehead for extended stints. Petzl has been a leader in headlamp comfort for long as I've used the brand (going back as far as the Zoom).

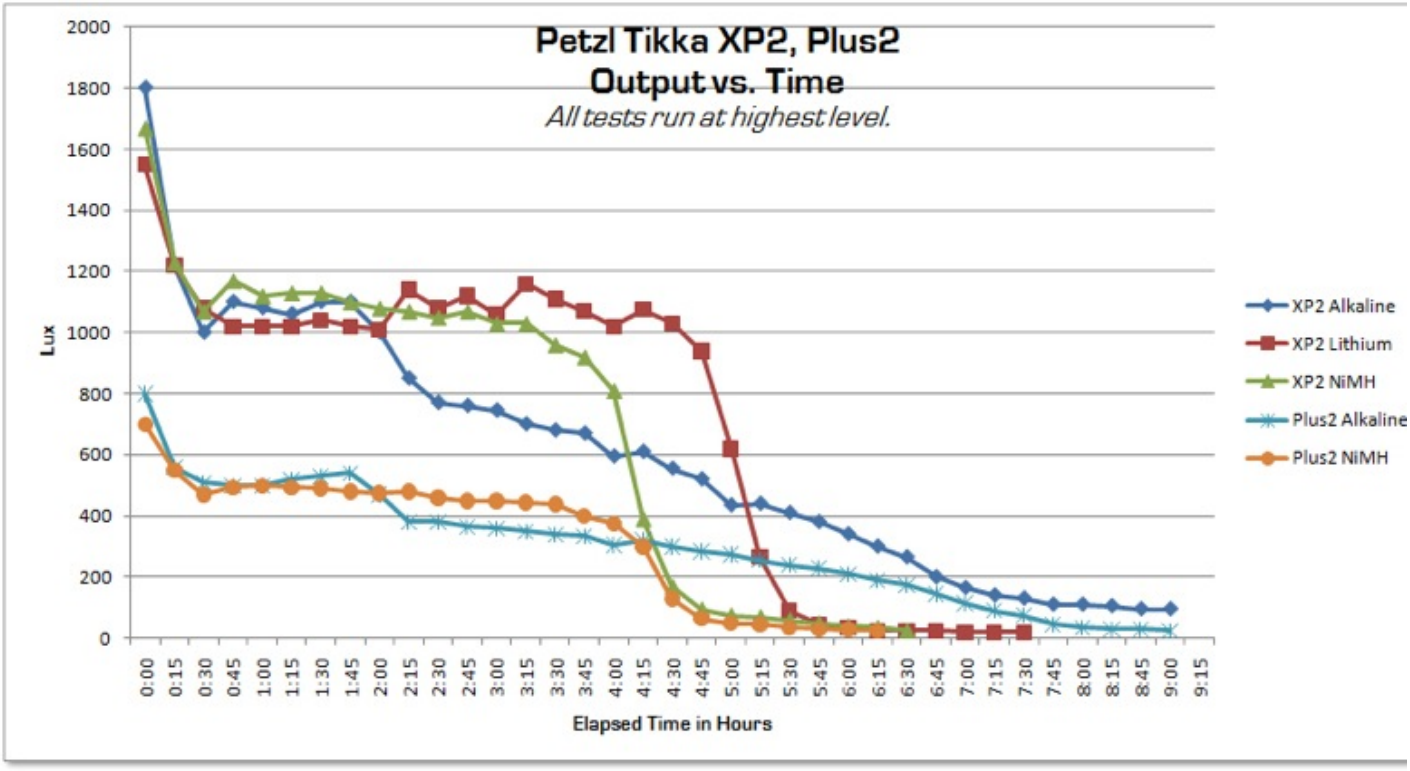
In profile. The larger XP2 is on top – extra bulk is to accommodate the diffuser.

Performance in the Lab

Intensity

At the starting gate (fresh alkalines, initial reading) the Plus2 delivered 800 lux at 2 feet, while th XP2 achieved 1,800 lux, a whopping 225% brighter – a surprise given Petzl's specs showing the XP2 putting out just 20% more lumens than the Plus2*. The Tikka XP2 also exceeded the old XP by roughly 80% (the XP measured about 1,050 lux), while the Plus2 was moderately dimmer. Th original XP has a trick in its bag, however; an astonishing 2,500 lux in boost (albeit for less than minute at a shot). (Please note: none of the lights holds the measured high value reported in the specifications for long, regardless of batteries used. A comparison of the values after at least half hour is more valid.)

Output Over Time



I tested both lights using Duracell "Ultra Advanced" alkalines and Sanyo Eneloop NiMH rechargeables and additionally tested the XP2 with Energizer lithiums. All tests were done in high mode and measured at two fee using a lux meter.

It's plain from the **alkaline** results that these headlights are unregulated. The graphs plunge over t first hour then, after stabilizing for a bit, continue their downward slope, never settling into an extended period of flat output. The results show an odd "bounce" that may be heat-related (more this later). Some, but not all, regulated lights can hold a steady output for quite awhile on alkaline

NiMH rechargeable results show the same initial drop as the alkalines, then have a lengthy perioc of steady output before quickly dimming to the point that they must be changed. The performanc of both Tikka models with NiMH is better than alkalines starting at about hour two and staying higher until they drop steeply at around four and a half hours. Most surprising to me is that the X results essentially trace the lithium response through about hour four. Especially in view of the NiMH base cell voltage of 1.2V, this performance is laudable. Setting battery weight aside and considering the typically good NiMH cold performance, it's hard to make an argument for lithium cells except for the most extreme pursuits. The performance and frugality of today's NiMH cells are both indisputable and heartening, and we eagerly await the forthcoming nickel-zinc

rechargeables to see if they can up the ante further. Reliable field-recharging is perhaps the final hurdle.

Lithiums were only tested in the XP2, and it proved an excellent pairing. Following the predictal initial drop, the output achieved a steady and very bright level for nearly five hours. The minor oscillation displayed on the graph up to hour five is likely battery-heat related and of no consequence in the field. The XP2 effectively mimics a regulated light throughout this period, perhaps signaling Petzl's intent that this light really should be powered with lithuim (or NiMH) batteries in demanding uses. The observed drop beginning at hour five is little different from a regulated headlamp dropping out of regulation as battery voltage declines. XP2 output dropped quickly after that point, as is typical of flashlights with lithium cells. Lithiums don't have more capacity than alkalines, but as noted are better able to endure high current draw, yielding results like we observe here (this is also why alkaline batteries work so poorly in digital cameras).

We did not measure red mode battery life on either light, but suffice to say it will be very, very long – probably days – with all battery types. Red mode performance should be identical in both Tikkas.

XP2 vs. Plus2 Measured Performance Verdict

From the start, the Tikka XP2 completely mopped the floor with the Plus2. It generally emitted twice the light and there was never a penalty at the back end – some point where the output curve would cross, and the Plus2 proved to be the frugal cousin over the long haul. The results beg the question, why the performance difference between the Plus2 and XP2? It's clear the XP2 LED is simply more efficient – extracting more light from a like amount of current. If the other electronic are the same (a reasonable presumption in the absence of regulation), then it probably boils down what "bin" the two LEDs are sourced from. Suffice to say the XP2's LED is much more compete than the Plus2's, so its bin was probably fur-lined.

XP2 diffuser lens tab at rest below the main light.

I'm obliged to note that the XP2's best performance – with lithium cells – is mimicked by the Princeton Tec Eos I tested a full five years ago. It's hard to believe after five years of LED advances they're so similar.

Temperature

Backpackers and other outdoor enthusiasts stress a lot over battery temperature, and rightly so, bu they tend to look at it from just one perspective – the cold. There's no arguing that very cold temperatures diminish battery capacity and performance, and that some formulas respond better than others (partly explaining the zeal for lithium cells). It's generally considered a good idea to keep batteries from freezing, going so far as to use remote battery cases tucked in our clothing in harsh weather. But what about heat? Lights such as these Tikkas that combine the battery compartment with the works can get surprisingly warm, so much so I believe they som s become warm enough to negatively affect performance. If you look at the XP2 lithium you

see a jump in output at 2:15. This occurred after I opened the battery compartment and allowed th very warm cells to cool in the air while running. I've puzzled over this apparent contradiction eve since testing the PT Eos, when I got better performance from alkalines keeping the light in a refrigerator than I did keeping it at room temperature (the fridge Eos stayed warm to the touch despite the near-freezing environment). I'll leave it to the smart folks to determine when taking steps to cool your headlamp might be advantageous.

All measurements for this test were performed at room temperature (about 68 F). I am hesitant to record the high initial outputs because they're so fleeting, but feel it represents an achievable targ when LED and battery technology mature sufficiently, so I think of these levels as goals tantalizin today's flashlight and battery designers.

Dimming and RFI

Dimming of these new Petzls appears to be through pulse control modulation (PCM). Set on low, they visibly strobe when swung in the dark (but not when on full power) and would even blank o when I photographed them with relatively high shutter speeds. The old XP either uses another dimming scheme or the PCM frequency is too fast to notice. I can't hear any high-frequency nois as with some PCM lights, but these new Petzls do create a small amount of longwave AM radio interference when near a receiver. Petzl notes the following:

"Conforms to the requirements of the 89/336/CEE directive on electromagnetic compatibility."

"Warning, when your lamp is lit and in close proximity to an avalanche beacon in receive (find) mode, it can interfere with the operation of the beacon. In case of interference (indicated by static noise from the beacon), move the beacon away from the lamp until the noise stops, or switch off the lamp."

Performance In the Field

Red Mode

The little 5mm red LED is moderately focused, neither floodlight nor narrow spot. Red performance (intensity) is virtually the same on both models (Plus2 beam is a bit wide ably due to LED variation) and is reasonably bright for simple navigation and camp chores. Ability to

read by red light depends on one's eyes; I've found it's generally possible (making out colored detail on maps a notable exception). Importantly, red is bright enough for unwanted midnight trip to the bushes while conserving night vision. White low is, of course, much brighter than red.

White Modes

As noted previously, the new lights only have high and low levels, dropping the old XP's mid. Anecdotally, flashlight makers are dropping the mid level (Petzl isn't the only one) because their research tells them folks use just high or low and skip what's in between. I don't know whether that's true, but when I'm night hiking I prefer more, rather than fewer options to help me maintai the *minimum* amount of light required by the situation, and no more. A valid counter-argument is fewer redundant button presses is better. Anybody who owns a headlamp with a six- or seven-mo cycle will understand the sentiment.

Regardless, we have two white settings with these lights, so two it shall be. The XP2's diffuser effectively doubles the settings, because it greatly reduces intensity as it spreads the beam. Nighttime navigation is typically a task for a pencil beam, and the beams of both are narrow and fairly even with some spill. I don't find much real-world difference between the Plus2 and XP2 beams other than intensity and there, the XP2 throw distance is clearly superior, whether trying to find a trail fifty yards ahead or spotting a high tree branch to target for bear bagging.

On the trail, I generally start out in red mode. I can usually follow very distinct paths that lack tripping hazards, but if not, I switch to low white mode, which is bright enough for decent trails. Here, the difference between the two lights shows, since the XP2 low mode is twice as bright. When technical bits of navigation arise, I switch to high setting, frequently needed on typical Sier trails that are indistinct, gravel and rubble-strewn, eroded yards wide by pack animals or disrupte by blowdowns. The XP2 can prove almost too bright with fresh batteries, so the diffuser helps knock down the intensity and preserve night vision. It's interesting to me how much I used the hi setting the same way I use the old XP boost.

In camp, the XP2's diffused beam is great. With it I can perform most of my chores without playing swivelhead and without a hotspot seared into my retinas. Reading, including m[illegible]'s another obvious application. It's primarily the diffuser that has kept the XP in my back[illegible]the la

few years, instead of the competition and even despite the lack of regulation and lithium batteries What finally displaces it is this new XP2. The Plus2 is a nice little light that also delivers on the trail and in camp, but its lack of key features and reduced performance instantly make me miss th XP2.

Stealthiness and Glare

If one of your nighttime goals is not being spotted from the side whilst wearing a headlamp, you might not want one of these new Tikkas. The clear/translucent bezel spills noticeable incidental light. This quality could come in handy if you were part of a team spread out some distance – the side spill could help team members keep track of one another's location. It also increases the ligh usefulness as location markers. I've used flashing lights to mark a location that I want to return tc such as my hammock in a stand of woods, while I'm wandering the area after dark without a ligh (an actual use for flash mode!). The wider the light source, the easier it is to spot from a distance.

I don't mind the spill, but noted both lights create some glare on eyeglasses, more than the old XI perhaps because they're shorter and spill incidental light downward on the lenses. Some headlam do this more than others, so glasses wearers should to test beforehand to see whether glare might a problem. When I wear contacts or wear the light over a cap, there's no glare.

Battery Meter

The Petzl website describes their battery meter as follows: "flashing green: ok, flashing orange: remaining charge <30%, flashing red: remaining charge <10%." The owner's manual says this: "When the red battery discharge indicator comes on, 50% of the original battery life remains for proximity lighting." Contradictions aside, I have only noticed the meter in the red indicator mode once the batteries were well drained, and I suspect it's not easy to notice when either light is still operating brightly.

Battery Swap

The tabbed battery compartment is easy to pop open, and unlike the old XP, there's no chance of losing the cover. It opens wide for full access, but I need bare fingers to retrieve and re the tiny AAAs. Polarity is marked inside and on the cover (not easy to read in dim light) a

asymmetrical contacts also hint as to correct battery alignment. The cover snaps shut readily and distinctly.

The battery compartment is easy to open and close, but is not sealed.

Recommendations for Improvement

In a high-tech and competitive marketplace like LED headlamps, everything can be made better, upgrading technology such as selecting more efficient LEDs, by adding (or deleting) features and by rethinking the physical form. With the Tikka Plus2 and XP2, Petzl has done all three.

Current regulation is an obvious area that Petzl eschews in the Tikka line (and to be fair, their ma competition uses it in only a few models). I'm one of the evidently rare users who occasionally calls upon the middle brightness setting, and I'd prefer that it be restored, especially considering t huge brightness gulf between the XP2's two modes. I'd include intensity in mode memo I'd lik a switch lock; I'd prefer that the battery compartment be gasketed (and if need be, ver a

valve). I find Petzl took a small step backward in pencil beam quality from the XP, possibly wher deleting the Fresnel lens.

Ultimately, I would be interested in an XP2 variant powered by two AA batteries, regulated and stepped up to operating voltage. To my knowledge, nobody makes my dream light, so I can't demerit Petzl for not reading my mind while designing the Tikka Plus2 and XP2. As it is, they've taken my favorite headlamp, the XP, and improved it in several regards with the XP2. The Plus2 a nice enough light, but it doesn't stand out amongst the competition and frankly, isn't even as good as the old XP. Its much higher output and diffuser put the XP2 into a completely different league and certainly place it among the best lightweight, high-performance headlamps today. Spe the extra fifteen bucks.

Specifications

	Tikka XP2	Tikka Plus2	Original Tikka XP
Weight (no batteries)	51 g	45 g	57 g
Weight (3 AAA alkalines)	85 g	79 g	91 g
Control Buttons	one	one	two
LEDs	two (1 red, 1 white)	two (1 red, 1 white)	one (white)
Modes (total)	five	five	five
Beam Diffuser?	yes	no	yes
High (lux @ 2 feet, alkalines)	1800	800	1050

Boost (lux @ 2 feet)	N/A	N/A	2500
Low (lux @ 2 feet)	210	110	270
High (lux w/diffuser)	180	N/A	70
Red (lux @ 2 feet)	30	30	N/A
List Price	$55	$40	$50

What's Good

- True red and white modes
- Mode memory
- IPX4 water resistance
- Operable wearing gloves
- Take lithium cells
- Easy battery access
- Plus2: Small, lightweight, moderately bright and efficient
- XP2: Small, lightweight, bright and efficient
- XP2: Diffuser lens
- XP2: Rescue whistle

What's Not So Good

- No current regulation
- Unsealed battery compartment
- No mid output level
- XP2: Beam artifacts
- Plus2: Significantly less power than the XP2 and original XP

*BPL measures intensity (in lux) but not total light output (in lumens). The two values are not directly comparable and should not be substituted for one another.

Disclosure: The manufacturer provided this product to the author at no charge, and it is owned b the author. The author has no obligation to review this product to the manufacturer under the ter of this agreement.

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Author **Posts**

Feb 2, 2010 at 2:08 pm #12547

Addie Bedford

BPL Member
@addiebedford

Locale: Montana

Companion forum thread to:

Petzl Tikka XP2 and Tikka Plus2 LED Headlamp Reviews

Feb 2, 2010 at 3:29 pm #15690

Stephen Barber

BPL Member
@grampa

Locale: SoCal

It would be helpful if you labeled the output vs. time chart with which battery is which line, rather than just "column 1, column 2, etc."

Feb 2, 2010 at 3:44 pm #15690

Thanks Stephen,

Rick Dreher

BPL Member
@halfturbo

Locale:
Northernish
California

It looks as though the link above is to the draft article.

The graph has been fixed in the final. Let's see if I can link to it here (coding NOT a personal talent):

Petzl Tikka XP2 and Tikka Plus2 LED Headlamp Reviews

Cheers,

Rick

[Later that same minute.]

Okay, that didn't work. I don't know what's going on but rest assured there's a correct version that we need to resurrect. Sorry for the confusion!

In the meantime, here are the settings for your decoder ring:

B: XP2 Alkaline
C: XP2 Lithium
D: XP2 NiMH
F: Plus2 Alkaline
G: Plus2 NiMH

Feb 2, 2010 at 4:16 pm #15690

Adrian B

BPL Member
@adrianb

Locale: Auckland,
New Zealand

Still not waterproof: fail (IPX4 is listed under 'good'?!). Still not regulated: fail.

Feb 2, 2010 at 5:07 pm #15690

Daniel Sullivan

Member
@danielsullivan

Locale: Colorado

Outstanding review! I especially like the spot images which give a good comparison.

The plot looks a little suspicious; are the Plus2 NiMH and alkaline curves perhaps swapped? I would have expected the alkaline curve to fall off slowly for both units, rather than the 'plateau + drop-off' of the NiMH's.

Feb 2, 2010 at 6:57 pm #15691

Rick Dreher

BPL Member
@halfturbo

Locale: Northernish California

Thanks Daniel, and good eye!

Yes, I mixed the last two items and have sent a corrected graphic to my friendly fixer-upper for replacement. In the meantime I've corrected the decoder ring list above to reflec the correct legend sequence.

My apologies for the mixup!

Rick

Feb 2, 2010 at 7:11 pm #15691

John Brown

BPL Member
@johnbrown2005

Locale: Portland, OR

Thanks for the review. I tried the XP2 and found the light spilling from the housing distracting, and I don't wear glasses. Also couldn't believe there's no gasket around batteries.

The new EOS with a Rebel LED has a more useful beampattern than the old EOS, and the Rebel LED does better at color rendition, to my eyes. So I've gone that way, even though I'd love to have the red, and the diffuser of the XP2.

My 2 cents…

Feb 2, 2010 at 7:16 pm #15691

Steven Evans

BPL Member
@steve_evans

Locale: Canada

Rick,
Very nice job on this article. I love the graph you have in there. Who would have thought I would enjoy reading about headlamps so much. :)

Feb 2, 2010 at 10:12 pm #15691

Addie Bedford

BPL Member
@addiebedford

Locale: Montana

ARGH. That graph gave me fits (not Rick's fault – I didn't realize it until too late). A fresh one that's all spiffed up (thanks Rick!) is now locked and loaded. Thanks all, and sorry about that!
Addie

Feb 3, 2010 at 1:56 am #15691

Adam Kilpatrick

BPL Member
@oysters

Locale: South Australia

Good job Rick.

Flashy mode: there are other uses for it. When cycle commuting or touring at night, I wear a headtorch in flash mode. Its great for directing flashes exactly where you want them to make sure motorists don't squish you. The side clear windows would help in motorists from seeing cyclists from the side-always a good thing.

I reckon this might be my next headtorch for cycling-my mammut one is crap (flash mode is in S-O-S format, so useless) and my Myo XP Belt is just overkill and I'm sick of the cord. With the new LEDs I'm guessing this is probably just as bright as that a[illegible])

Red will be good for stealth camping :)

Cheers,

Adam

Feb 3, 2010 at 2:10 am #15692

Al Shaver

BPL Member
@al_t-tude

Locale: High Sierra and CA Central Coast

I used my XP extensively for climbing, trail running and camping for close to 2 years and was very pleased with it's performance and features.
>
I've now used the new XP2 similarly for 6 months and find it to be an improvement in mos every way over the already excellent performance of the earlier model.
>
I do agree with some of the deficiencies listed in the article: lack of battery case sealing and beam intensity memory. The article also alludes to the inability to angle upwards. This can be occasionally annoying in camp, but on the trail, it's a major weakness compared to the XP.
>
When walking and especially when running, it is essential for speed and safety to get the lamp away from one's eyes (off the head) so that the beam can shine from a different angle than the viewing angle of the eyes. This allows the eyes to see shadows created by anywhere from minute to large terrain features. Hand holding the light at hip level works only if hands are not otherwise occupied (carrying poles or bracing falls).
>
The Petzl ADAPT system allowes my XP to easily clip to my waist to hike/run hands free Unfortunately, the XP2 does not point high enough to be of use in this mode and must be hand carried. Turning upside down does not solve the problem.
>
I have sent notes and drawings to Petzl's U.S. Headlamp Manager with no response yet. did do the same in response to lithium battery incompatiblity with my Tikka Plus and they addressed that problem, so maybe they will take this deficiency seriously also.

Feb 3, 2010 at 4:34 am #15692

Tony Burnett

Member
@tlbj6142

Locale: OH--IO

This past Thanksgiving (at the last minute) my wife let me skip out on family activities (actually she used me to skip out), so I planned a 48 hour trip to a local trail. Given the reduced day-light, I knew I'd need to do some night hiking. I checked my old pile of headlamps to discover that my old Princeton Tec Aurora (?) was dead as the alkaline batteries had leaked and corroded the inside. So, I drove to the local outfitter and bought a Plus 2 at the last minute.

Wow, what a headlamp. It had great range and brightness such that in the "full white" mode that I could easily see 50'+. And the red mode was great around camp. The "dim white mode" was plenty for reading and camp work (though I didn't use it much for the later).

For a last minute buy, I got real lucky. For my needs, the Plus 2 is slightly overkill (I think I could get by with less light than its full white mode). If the Plus 2 is "Average" I can't imagine how good the XP2 must be for those that need such a bright light.

Feb 3, 2010 at 5:17 am #15692

Arapiles .

BPL Member
@arapiles

Locale: Melbourne

Rick

Those lux figures look way too high – if you were using a generalised light meter, perhaps it was lumens you were measuring, not lux? (lux being not the total amount of light being put out but it's intensity on a 1 metre square area). As an example, with 4 Cree LEDs my (very, very bright) AyUp bike lights put out about 600 lumens and about 50 lux.

That said, in any case Petzl only quote 60 lumens maximum for the XP2 and don't quote lux.

Feb 3, 2010 at 7:54 am #15692

Andrew Skurka

I'm glad to read Al Shaver's comments because the angle issue was going to be my first first question.

I have been using the XP since 2007. It was the best at the time in addressin concerns of a long-distance hiker: lightweight, adequately bright, battery efficient. There

BPL Member
@askurka

may be a better light out there now but I've been so pleased with the XP's performance that I haven't felt the need to upgrade.

Like Al, my XP spends more time around my waist than on my head. I rethreaded the XP with a belt of 1" static webbing so I can put it around my waist. This improves my visibility TREMENDOUSLY because the light casts shadows and I suddenly have depth perception. I have tried doing this with friends' regular Tikka's to help them out but the angle of the light is pointed down too far and it can't get level.

Until Petzl fixes this angle issue in a XP3, or if I come across a better light, I'll be sticking with my XP.

Feb 3, 2010 at 9:18 am #15693

Rick Dreher

BPL Member
@halfturbo

Locale:
Northernish
California

Thanks for your comments DW. To verify, my measurements are taken using a meter tha reads out in either lux or footcandles. I measure from two feet and am careful to read the beam's brightest point (which can be tricky, depending on the beam characteristics, despite the dome diffuser on the meter). If I increased the distance to, say, four feet the reading would drop by a factor of four because of the inverse square law, so that's perhaps where the confusion on the reported value stems from.

For consistency among our published tests I've used the same meter for each flashlight article done for BPL, and inherited both the light meter and the two-foot measurement distance from the reviews done by others before me. I don't have a light source "standard to verify the meter between tests but it does allow me to zero it. I'm confident the BPL test results can be compared to one another, with the caveat that battery variability cannot be ruled out.

Flashlight makers seem to primarily rate their products in lumens but I don't have the rather specialized equipment required to test that parameter. If they reported lux they'd have to use a standard measurment distance to enable comparison among brands, and that's unlikely. What we, the consumer can do is use the given lumen values to compare models within a brand's line, but I'd be leery about comparing the value among brands. That would be akin to comparing sleeping temperature ratings across brands (territory over which I fear to travel).

Cheers,

Rick

Feb 3, 2010 at 9:30 am #15693

Rick Dreher

BPL Member
@halfturbo

Locale: Northernish California

Thanks for your comments Al. It's very helpful to get a perspective from the trail-running community. I limit myself to representing the trail-stumbling community.

You note inverting the light doesn't help. Does it aim too high when inverted at waist level?

Cheers,

Rick

Feb 3, 2010 at 11:55 am #15693

Jonathan Ryan

BPL Member
@jkrew81

Locale: White Mtns

Jon Witt SPOT ON. I found all the same with the Tikka2. Not to mention the battery died pretty fast on me. After 2 weeks of trail running the beam was down to nothing. I will be sticking with my Princeton Tec EOS R and Quad as they tend to last me at least a month with perfectly useable lighting for night time running.

Feb 3, 2010 at 1:24 pm #15694

Walter Carrington

The are several threads on candlepower forums on upgrading the LED in the old Tikka XP and Myo XP. They claim a significant increase in light output — the newer LEDs and better bins of LEDs are more efficient. I haven't tried these yet, but they are cl[illegible] to be easy mods.

BPL Member
@snowleopard

Locale: Mass.

http://www.candlepowerforums.com/vb/showthread.php?t=174190
http://www.candlepowerforums.com/vb/showthread.php?t=154135
http://www.candlepowerforums.com/vb/showthread.php?t=174538

Feb 3, 2010 at 1:51 pm #15694

Bob Gross

Member
@b-g-2-2

Locale: Silicon Valley

The people who really understand this subject are the ultramarathon runners. These races are typically either 50 miles or 100 miles. The 50-mile race can be done during daylight hours, but the 100-mile race typically gets into some night running (except for the awesome winners). In the old days >20 years ago, they had to use incandescent headlamps with ordinary batteries, but the incandescent bulbs would break or burn out, and they were just kind of a pain with lots of battery changes. Decent LED headlamps were almost unheard of at that time, so enterprising runners fabricated their own fluorescent lights into a waist-lamp. Typically, it was a six inch tube across the front, and a stack of batteries on the back of the belt. That was good for two reasons. First, it put the light down low where it would raise some good shadows on the trail. Secondly, it was wide enough to light up a lot of trail width. You really knew when those guys were coming along Then about 15 years ago, the good LED headlamps came along. Most of the early ones required 3 AA cells in order to drive the typical LED devices of the day. Later on, charge pumps changed all of that so that in some cases a single cell or pair of cells will drive the LED. Still, most LEDs emit a very narrow spectrum of light, so things don't always look the same color as they would with natural sunlight. That may or may not be a problem.
–B.G.–

Feb 3, 2010 at 4:34 pm #15694

Keith Selbo

Spectator
@herman666

I'd like to have a diffuser, but the price differential between the xp2 and what I can get a current regulated EOS for is just too much.

Locale: Northern Virginia

Feb 3, 2010 at 10:36 pm #15696

Andrew Wilson

BPL Member
@andreww

Locale: Upper Midwest

I second Mr. Skurka's advice to put it around your waist while hiking. I'm not sure what ultrarunners do, but a headlamp, while great for placing pro while climbing, camp chores, reading a book, etc, is not that great for walking over rough ground, as its location close to the eyes eliminates shadows, hence any sense of depth. Around the waist (or a non-headlamp simply held in the hand) is miles better for walking. The same goes for bike lights; the lower they're mounted the easier it is to read the road. French randonneur frames have light mounts low on the front fork. A headlamp will work of course, but try the waist-mount and you'll agree its better.

Feb 4, 2010 at 8:53 am #15697

John Brown

BPL Member
@johnbrown2005

Locale: Portland, OR

Just occurred to me that one could put or glue electricians tape over the clear plastic and fix the glare problem. Or paint it.

Feb 4, 2010 at 1:24 pm #15698

Thomas Kaltenbach

Yes, at US$50 – $55 it's pretty expensive. One way to solve that is to add a diffuser to your EOS instead — there's a nice homemade diffuser described at Jim Wood's website. I made one and it works well, and weighs next to nothing. It's been surprisingly durable too. I think I might like the red LED option, though…

See http://jwbasecamp.com/Articles/Diffuser/index.html

Member
@tfkalten

Locale: Upstate NY

Tom

Feb 4, 2010 at 4:10 pm #15698

Matt Lutz

Member
@citystuckhiker

Locale: Midwest

Uh, what's regulation mean in this context?

Feb 4, 2010 at 4:43 pm #15698

Greg Mihalik

BPL Member
@greg23

Locale: Colorado

Regulation – a battery conservation approach accomplished by electronically switching the light on and off faster than the eye can detect. This, in conjunction of limiting the current flow, result is a much 'flatter' output and can greatly extend the runtime.

ps: i ain't no enginer.

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