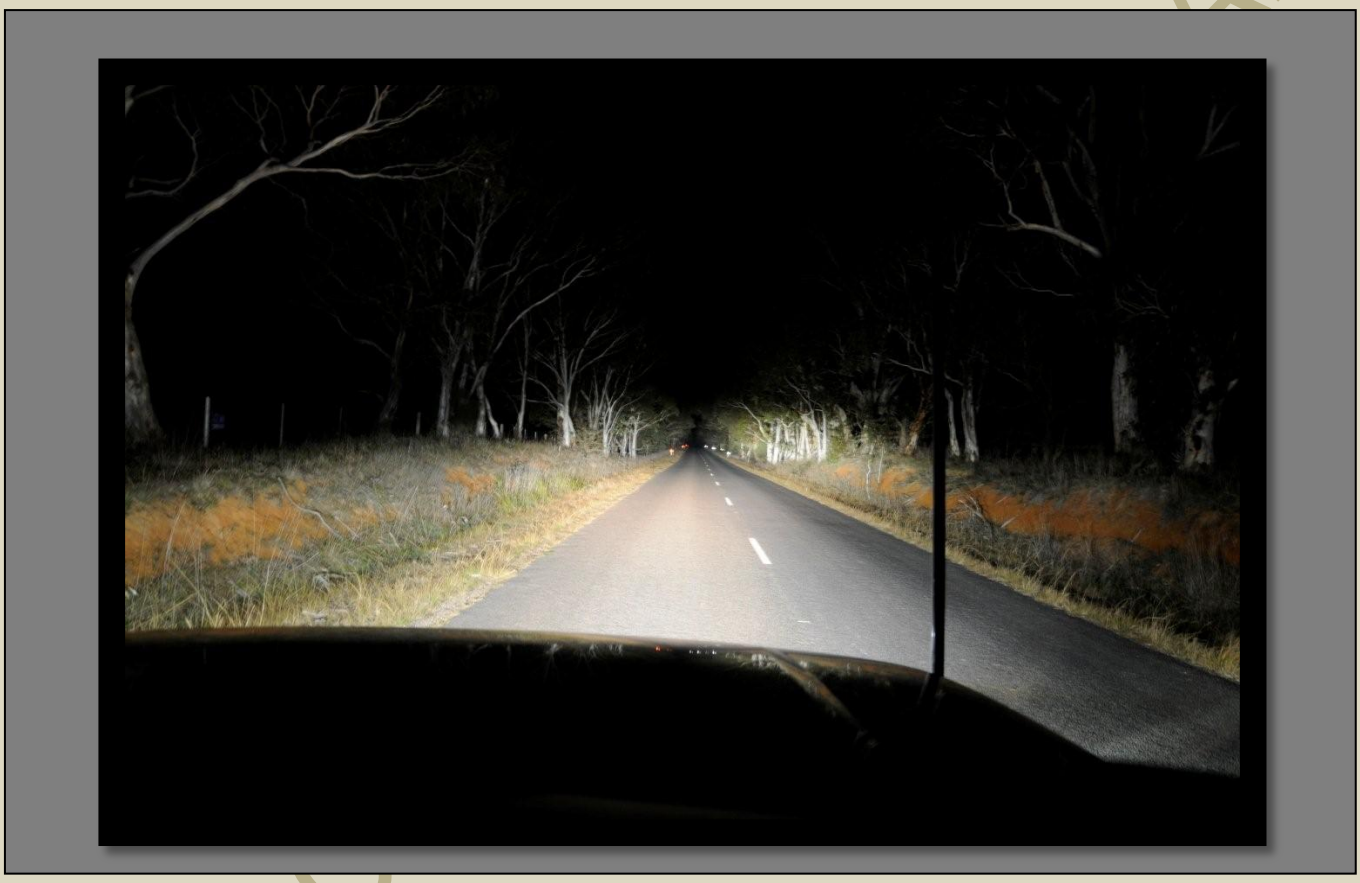
MODIFICATIONS

LIGHTS

UPGRADED LIGHTING

No 4x4 wagon or ute comes with lights that are adequate for night time bush driving. For that work you'll need upgraded lighting.



The starting point for lighting improvement is the standard headlights. Over the years we've replaced the stock headlights of many 4x4s, because the standard peepers are too dim for back-roads driving. Improving your standard headlights is essential before fitting spot lights, because if you ignore the headlights and go straight for spotties the contrast between low and high beam is too great. When you have to drop from your spottie-enhanced high beam to low beam the change in light intensity leaves you virtually blind for a few seconds, until your eyes adjust.

When headlights were one-size-fits-all, round or rectangular units it was easy to replace them with after-market lights that had better reflector shape and finish, and more refined lens optics. Light quality is brighter than standard and the beams are better focussed. You can still buy these replacement units for older 4x4s, from Narva and Hella. The replacement kit usually comes with a plug that connects directly to the original terminal, so it's simply pushed in and the replacement lights can be positioned and screwed home. Another option is to go for a sealed beam light, rather than the rear-insert types - many off-road competitors use sealed beams - because they can't get ruined by water entry. The problem with sealed beams is that if you break a lens you're up for a complete unit.

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New 4x4s – even most utes – come with custom-designed headlight assemblies that are unique to each brand and there are no replacement upgrades available. However, it is possible to upgrade the globes. High-performance globes replace existing bulbs and are claimed to cause no problem with overheating polycarbonate light assemblies.
The globes come in little boxes and it's important that you don't touch the glass with your fingers when you're fitting globes to lights.

It’s also possible to convert those almost-useless, under-bumper fog lamps into driving lights, by replacing the stock items with compact spot lights. If you take that route, be sure to wire them through the high beam circuit.

Some 4x4 owners convert conventional headlights to xenon, gas-discharge lights. The light output from conventional halogen, or xenon-filled filament globes is typically in the 800-1200 lumen range. True xenon products start at 3000 lumens and go up from there.

There’s no doubt that these high-intensity discharge (HID) lights are the way of the future, providing day-like illumination to the front and sides of the vehicle.

Spotting

Our auxiliary light tests over the past few years have shown that price is a poor guide to buying spotties, because many of the most expensive lights on the market performed ordinarily and some of the cheaper ones performed brilliantly. Looking at a light will tell you if it’s well made and if its mounting bracket is substantial, but won't tell you much about its performance.

Driving lights, or pencil beams as they're often called, usually rely solely on reflector shape and finish for their beam direction, and have a plain lens.

Spread-beam lights use shaping of the lens - seen as fluting or bars moulded into the glass - to bend the light from the reflector into a shorter, but wider shape. The best combination is a spread-beam with a pencil-beam.

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Spot light housings are either of plastic or metal construction and, generally speaking, metal lights are stronger than plastic types, but they're more corrosion-prone.

The durability of plastic lights has improved in recent years and we've found that correctly-mounted plastic lights survive demanding off-road work without damage.

The trick with light locations is to make sure the lights don't stick out in front of the bull bar, or above it, where branches can smack them.

The ultimate driving lights are xenon, gas-discharge types, but at the current stage of development they'll set you back $800-2000 the pair – a tad on the expensive side.

Many lights have foot mountings that are very difficult to adjust once they're in place, so it's important that you check adjustment access on your bumper or bull-bar, before buying a pair of spotties.

Low-profile bars often cannot accommodate large lights inside the bar 'envelope' and vehicle registration authorities are getting testier and testier about lights and brackets that protrude beyond the bar profile.

Watts and Volts

Most auxiliary light buyers - and light sellers, for that matter - rely on the wattage rating of a driving light or spread-beam when buying after-market equipment.
If vehicle lights were similar to household lights that would be a reasonable procedure to follow, but vehicle lights differ in a very significant way from house lights.

When you buy a new globe for your house, you don't expect it to be 'directional', but vehicle lights need to be directional, in a precise way, and that's where the science comes in.
This directional component comes from the reflector - its finish and shape - and from the lens fitted to the front of the light, in addition to the light output from the globe. Our light testing over the past few years has shown that some 55-watt lights are superior to 100-watt models and even 130-watt models.

Relying on power ratings above 100 watts creates additional problems for the light designer and the buyer, including the need for expensive wiring and relays.

There is also the question of alternator capacity in a 4x4 which might be fitted with a sound system, auxiliary radios, a portable refrigerator and other electrically-operated equipment.

This is where xenon gas discharge lights come into their own, because they deliver brilliant lighting from 35-watt globes.

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