

# HORNET WINCH Technical Information

The Ultimate Electric Winch

There is now a fresh new choice when it comes to competition electric winching for your vehicle. RED Winches has developed this high performance twin motor electric winch for the 4x4 competition and motorsport events. It has been designed with serious competition in mind and has many features ideally suited to high performance motorsport events. RED winches has now been supplying winches into the MOD, motorsport, 4x4 challenge events and commercial sectors for many years and has built an excellent reputation for quality and reliability through highly engineered products.



British Engineering

**PRECISION-ENGINEERED**  
PERFORMANCE PRODUCTS FOR  
**4X4 VEHICLES**

DESIGNED, MANUFACTURED & ASSEMBLED IN SOMERSET, UK.

The 'Hornet' is the first part of a new generation of electric winches that are being launched over the coming months.

All products at RED winches have been through an extensive design and testing program. The Hornet can give you speeds of 40m/min (131ft/min) for the standard model, and 60m/min (197ft/min) with the Hornet 'Overdrive' gear set (available separately) giving you a choice so you have the power and speed when you need it. Capable of pulling at least 3.25 Tonnes\*<sup>1</sup> the winch can easily get you out of trouble quickly, quietly and with minimum effort time and time again.

The winch body is CNC machined from high grade heat treated aerospace aluminium from solid billets. We only use the best machine tools and machining processes to ensure stress is kept to a minimum and strength to its maximum. With its new patented air free spool and brake system the Hornet offers something previously unavailable on a winch to the off-road and motorsport sectors.



*Scan with your phone  
for more information!*



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Precision-Engineered  
PERFORMANCE

## HORNET TECHNICAL DRAWINGS

### Electrical Power

The drive power of this winch is currently supplied by two BOW Motor II. These are supplied as standard from a 12v supply from your vehicle onto the high efficiency RED Winch busbar assembly. This busbar assembly supplies an excellent quality connection to the motors. The solenoid packs are used to switch direction of the motors and to also provide a feed to the 12v brake system. These are all proven components and widely available and have been used extensively in the competition and motorsport industry

### Drive System

The drive is mechanically provided by a solid steel hardened clutch plate. This is a very tough hardened plate that engages and disengages by either an air supply or by a mechanical lever. The clutch plate is driven from the gearbox by a solid steel central shaft. The drive system has been built for strength and durability. When not engaged the 'freespool' of the Hornet drum is only between two roller bearings so it extremely free moving.

### Drum Capacity & Pulling Material

The drum can hold 40m (131ft) of 11mm rope easily. At the end of the drum is the rope securing helix. This has been specially designed by RED winches to make rope changing easy and simple. All that is required is 1 allen key to secure the two screws. Pulling power of the winch is variable due to how your vehicle is setup and the quality of the components used. It also depends on the scale of electrical losses or inefficiencies in the wiring system. As a general rule running 12v DC BOW Motor II with the RED winch Busbar assembly with a good powerful supply you can expect the winch to pull 3.25 tonnes...possibly more under certain conditions. Tested with x2 Odyssey PC1500 batteries, 12V supply and ground connections made with 70mm2 cable.

### Gearbox

The gearbox has been specifically designed for strength, power and ease of service. All gears are manufactured from 655-M13 nickel chromium molybdenum steel and case hard-ened to give maximum strength (1100 N/mm<sup>2</sup>) and excellent durability. The end cover is sealed via an o-ring and groove, ensuring a water tight seal. Once the cover is removed access to all gears is possible and only takes 5mins to change all gears and re-assemble. The gearbox runs in grease not oil making it much easier to service in the field.

### Brakes

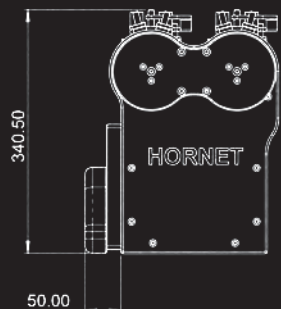
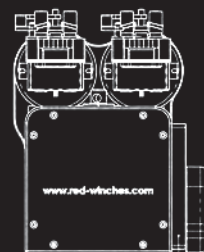
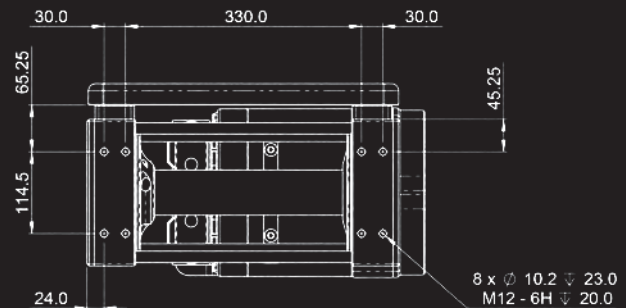
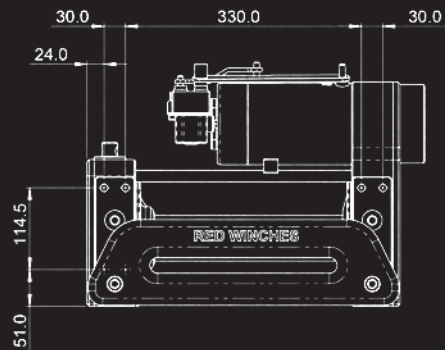
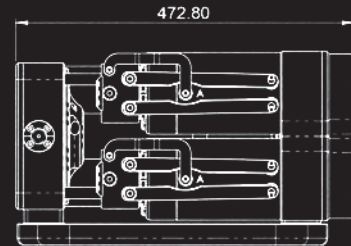
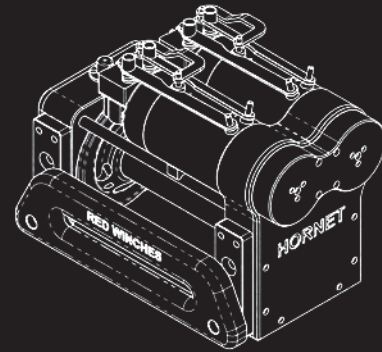
The patented designed brakes work in a way that they only come off when a voltage is applied. When a signal is sent to the winch to operate either forward or reverse that same signal is used to energise the magnets and release the brakes. The brakes are 12v and will always need 12v to operate which is the same voltage used to operate the solenoids. The brake pad is made from a high strength composite ensuring a high strength braking grip, and longevity of the wearing surfaces.

### Serviceability

The Hornet has been designed with both competition use and servicing in mind. A mounting block is provided to interface between the winch and the mounting frame. This reduces the risk of stripping the threads in the winch casing. The freespool assembly is held in place with machine screws for ease of service. The brake assembly is held on with x4 socket head bolts, allowing full access to the brake pads for service. Brake pads can be changed in 15 minutes.

### Warranty

We are confident to stand behind our products in competition use. All RED Winch Hornets are backed with a 2 year mechanical warranty. This covers all mechanical parts. Wearing parts, bearings, brake pads etc are excluded, as are electrical components, motors and solenoid packs.



MOUNTING  
INTERFACE  
PAD FOR FRONT  
MOUNTING OPTIONS

APPROX MASS: 45-Kg



Precision-Engineered  
PERFORMANCE

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