

RED Winch - Hornet



Introduction

These notes are supplied with this winch to allow you to install and operate the winch in a safe, efficient and correct way. If these notes are followed you will have problem-free winching for many years.

Important note:

If the instructions are not followed this may lead to poor performance, damage to the winch and possible damage to your vehicle. The electrical elements of the winch are not covered by the warranty. Likewise damage caused by poor installation is not covered.

Electrical Setup

The Hornet is a high performance winch that delivers both speed and pulling power, demanding high current from the batteries. Because of this, the electrical setup on your vehicle must be well maintained, efficient and of adequate capacity to cope with the demands this winch will place on it. The following are a few points you must check / follow:

1. The main earth connection for the winch motors must go to the batteries and not to the frame of your vehicle.
2. The earth connections for the Albright solenoids must not come from the winch motor earth connection.
3. The positive connection for the motors must come to the winch via an isolation switch rated to at least 750A.
4. The positive switching for the Albright solenoids must not be taken from the positive supply to the winch. It must be separate from the battery. Ideally from a battery not used for the winch.
5. The power cables for the motors (Earth & Positive) must have a minimum cross sectional area (CSA) of 70mm². Ideally you should use high capacity / high efficiency/ low resistance cables.
6. All cable lugs should be crimped with a proper crimping tool, to keep losses to a minimum, maximize performance and reduce voltage drop.
7. If the winch is to be used in the wet / under water the breathers on the top of the solenoid valves
8. (brake and Freespool) must be replaced with 6mm tube running to a high point on your vehicle

12v or 24v System

The Hornet winch is designed for a 12v supply voltage to the motors. The motors we use are rated at 12vDC. Some owners run 24vDC on their vehicles for their winches.

The Hornet motors can run on 24vDC and will provide you with a really strong fast winch and we have had some great results from the 24v system. However, as mentioned before we do not warranty the electrical side of the winch for 2 years like we do with the mechanical so you have to be sure your 24v setup is correct before attempting to run the winch on it. We recommend periodically checking and cleaning of the brushes on each winch motor. If running on 24V through 12V motors, we recommend checking the brushes, and cleaning the brush end cap after each event.

12v Heavy Duty Albright Solenoids

The Hornet winch comes with our unique 'Heavy Duty' Albright solenoids. These can cope with 1000A and have a stronger spring inside to ensure better contact times and more sustained power through the internal contact tips.

WARNING: The Albright solenoid signal wires run on 12v not 24v. Applying 24v to these units can damage them and affect the performance of your winch.

Gear Ratios

The winch can be supplied with standard or overdrive gear sets. The Standard set gives you a fast winch that pulls in 30m of rope in around 28secs when operating from a 12v supply. The overdrive gear set will give you another 20% increase in speed and in practice with a good installation, can bring in 30m of rope in 23secs when operating from a 12v supply.



Servicing and Maintenance

The end covers on each end of the winch are easily removed with a 5mm & 4mm Allen key. After prolonged underwater or wet muddy conditions the winch must be inspected for water ingress in both the gearbox and Freespool chambers. The grease must be replaced every 3 months if the winch is constantly being used in wet conditions.

The grease must be replaced every year under normal conditions. Under constant severe wet and muddy conditions the seals on the bearings supporting the winch drum must be removed and the bearings re-greased after every couple of events to ensure the life of the bearings.

We recommend Castrol Spherol L-EP 2 or BP Energrease LS-EP 2 grease.

Waterproof grease can also be used but is expensive.

As long as the grease is a medium viscosity and has high load characteristics you will be OK.

On a cleaned and totally dry gearbox spraying a coating of motorcycle chain lube over the gears helps as it stays on the gears during their first use reducing initial dry rubbing.

Winch Tray

Your winch tray must be of sound condition and securely attached to your truck. These winches can pull over 5000kg so you need to ensure it isn't going to leave the front of your truck when under load.

The thickness of the winch tray is also important. We have shown in operation that the plates in the tray supporting the winch must have a minimum thickness of 8mm, ideally 10mm and be flat within 0.25mm.

If you are mounting the Hornet on the bottom and front in the winch tray one very important factor is to ensure that these surfaces are exactly 90 degrees / square to each other. If not when you bolt the winch in you can affect the winch performance and Freespool. You can under certain conditions damage the winch if used under load when the mounting surface are not flat or square to each other.

If in doubt please consult your local RED Winch partner or buy from a reputable winch tray / bumper supplier that has winch trays specifically for the Hornet or Trydent.

Equipment Damage

Report any damage immediately it is noticed, especially damage to the rope, which should be replaced at once. In the interim do not use the winch. We cannot be responsible for damage if the winch was continued to be used.

Replacement Ropes

Can be ordered from and shipped on a next-day carrier.

See www.red-winch.com for details

Warnings:

1. Always leave the drum and rope neatly spooled after use
2. After a prolonged dirty wet winch session clean and wash the rope and also check gearbox and Freespool chambers for water ingress.
3. Never attempt to disengage the Freespool whilst the winch is under load.
4. Do not operate the winch for more than 2 minutes with the engine off and under load as it will flatten your batteries.
5. Store the winch in gear (Freespool locked) when not in use.
6. If the winch overloads, i.e. it stops under load, release the control button immediately and assess the situation otherwise you will damage the motors.



Fault Finding - Hornet

Before contacting Red Winches for technical support, use the table below for initial fault-finding.

Problem	Suggested Remedy
Winch runs slowly/ performance not as expected	<ul style="list-style-type: none"> • Check supply and ground cables are clean and tight at winch, isolator, and battery. • Check Winch supply voltage is correct (12V / 24V) between supply terminal and ground. • Check that the solenoid has 12V present between terminal and ground. • Check that you have adequate air supply to the brake solenoid to lift the brakes. • If you have checked all of the above and still have issue, it may be that you have a fault with either an individual motor or an Albright solenoid.
Winch drum stiff, when in Freespool	<ul style="list-style-type: none"> • Check alignment of winch tray. Any mis-alignment here will distort alignment of drum resulting in poor performance of the Freespool.
Freespool won't engage/disengage or is sluggish to operate.	<ul style="list-style-type: none"> • Check that an adequate air supply is available to the solenoid. • Check that the Freespool solenoid has a true 11.5 - 12V when operated and has an audible 'click' when operated. • Check air pipe to the Freespool swivel push fitting on the end of the shaft is not blocked or dirt has been allowed to get in. • If after checking the above Freespool operation is still inadequate, the Freespool end plate will need to be removed and the mechanical operation checked for possible water or dirt ingress.
Brake housing getting hot with little use of winch	<ul style="list-style-type: none"> • Check that an adequate air supply is available to the solenoid. • Check that the brake solenoid has a true 11.5 - 12V when operated and has an audible 'click' when operated. • Check air pipe to brake is not blocked or full of dirt
Winch runs the wrong way	<ul style="list-style-type: none"> • Swap the two control wires to the Albrights. Do not disturb the factory wiring between the two Albrights.

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