

# MOVERS AND WINCHES

This leaflet is prepared by the Club's Information department as a free service to members.

The contents are believed correct at the time of publication, but the current position may be checked with the Club's information office. The Club does not endorse the listed products and you should satisfy yourself as to their suitability. As always, check that the installation of an after-market accessory does not invalidate your warranty.

September 2009

Manoeuvring a caravan in a tight spot can be a tricky business, and the thought of dragging the caravan in and out of the driveway at home may make someone think twice about that weekend break.

However, a number of devices are on the market designed to make such tasks easier, and this leaflet looks at some of them.

## 1. Winches

These are available in three forms, mains (110V), 12V and manually operated. The winch *anchor* can be provided by concreting a post into the driveway, bolting the unit onto a suitable structure or by using a unit that attaches to the towing vehicle. To hook up to the caravan, some manufacturers offer special kits which either attach to the chassis or fit into the caravan ball hitch coupling.

Winches are designed to haul in, rather than let out and each winch will have a given *pull*. This figure does not equate to the weight of the caravan, as the majority of the caravan mass is actually being transferred to the ground. The winch and cable only supports a percentage of this, depending on the severity of any slope. As a rough guide, the gradient multiplied by the weight of the caravan determines the minimum pull required.

For example, a 1000kg caravan to be pulled up a 1 in 6 slope requires:

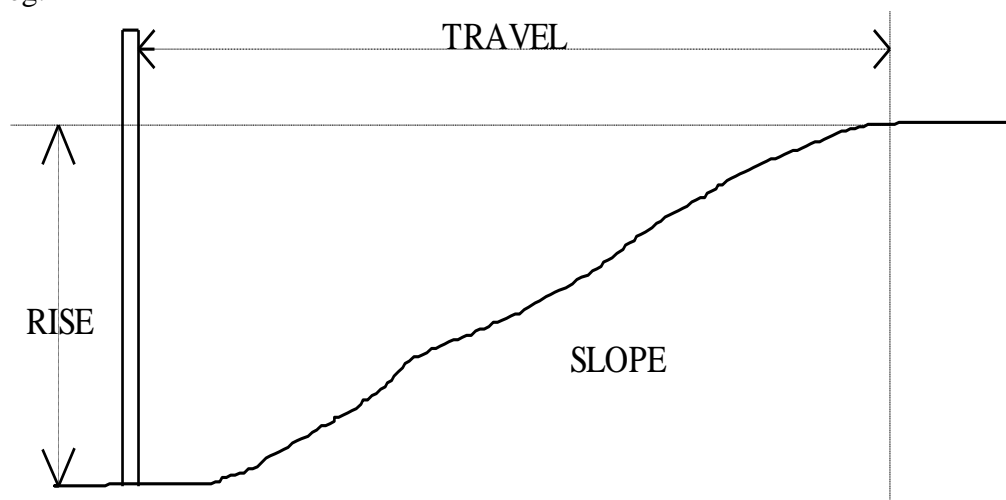
$$1000 \times 1/6 = 167\text{kg}$$

If unsure about the gradient of your drive, measure using a piece of clothes line or similar for the length of travel, and a broom handle to determine the rise. If it is a long drive, this can be done in stages (see diagram overleaf).

For example, the gradient =  $\frac{\text{rise}}{\text{travel}}$  or  $\frac{2\text{m}}{10\text{m}} = 20\%$  or 1 in 5

After calculating the pull required, double the figure to give a wide safety margin and select your winch and cable accordingly.

eg:



If the caravan needs to be lowered down a slope you may be tempted to disengage the one-way safety ratchet and 'winch-out'. This practice is potentially very dangerous. Also with a low-g geared winch it can take as many as 15 turns to let the caravan down just one metre; a slow laborious business which could cause complacency to creep in on the part of the user. Where controlled running-out is necessary always use a purpose built braked winch then read and follow the manufacturer's instructions carefully.

## **2. Hitching Aids**

Based on the winch principle, the Easy-Hitch winding mechanism is mounted by the caravan-coupling head and the line is secured around the towball. By turning the ratchet handle the caravan is drawn towards the car.

Also available is the Trailer Reversing Mirror; this is a large mirror on a bracket which is placed on the front panel of the caravan at an angle to provide a downward view of the coupling head to the driver, either directly or via the towcar's interior mirror.

## **3. Caravan Manoeuvring Devices**

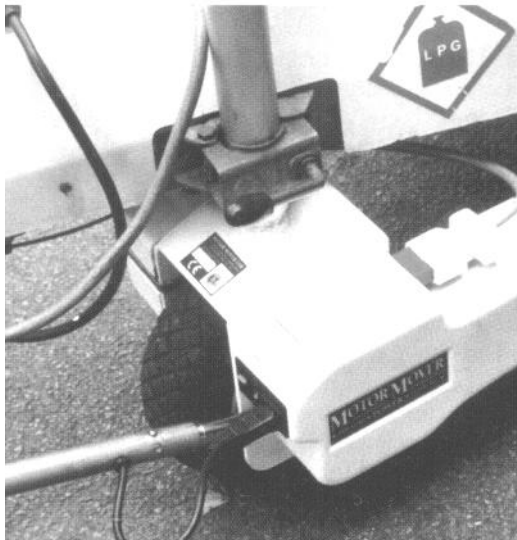
These are available in 12V powered and ratchet versions and can be used to *creep* the caravan along level or gently sloping surfaces. Like any driven wheel, be it on a car, tractor etc, they are only effective if the wheel can get a grip on the ground to be traversed. Therefore, these devices do not work so well on wet grass or gravel etc.

Because of the high demand the Club Magazine has witnessed over recent years for secondhand motorised movers in Members' Classified advertising, in 1999 a membership survey was carried out to find out what members in fact thought about the various powered devices on the market. This was published in the November 1999 issue of The Caravan Club Magazine and is repeated here:

'Club members responded enthusiastically to the survey, which generated 151 replies. Between them they covered 17 Carver Caravan Movers, 72 Eurotech Motor Movers, 21 Powrheels and 41 Mista Shiftas. As with The Club's 'Feedback' vehicle reports, we

asked members to score the products as Excellent, Good, Acceptable or Bad under a variety of appropriate headings. These included Dealer Sales and Service, Helpfulness of Handbook, Practicality in Use and Quality of Traction on a variety of surfaces.

### **EUROTECH MOTOR MOVER (NOW KNOWN AS MOTOR MOVER)**

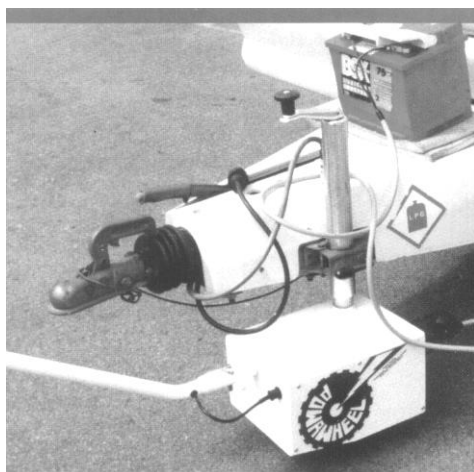


Users reports went right back to 1991, so it's good to find this make generally proved very reliable. A few instances of faulty relays were mostly confined to 1994 models, while a 1993 version suffered a broken handle and switch. A possible reason for this soon became apparent, as a recurring complaint with the motor mover is of poor traction and braking on anything less than a level, dry surface. This tempts owners to lean on the steering handle, which is probably deliberately made flimsy to deter such use. Perhaps only one breakage is rather better than than might have been expected.

Levering on the handle also strains the jockey wheel clamp, one owner admitted (and by implication, also the surrounding drawbar area, which is just what Al-Ko feared). Two also mentioned that the Mover's casing fouled part of the caravan undergear, either the underside of the hitch or the jockey-wheel clamp – one on a 1991, the other on a 1998 version.

The \$64,000 dollar question is, would you recommend your motor mover to a friend? Only 50% said an unequivocal yes, while only one in 12 said an equally positive no. That left 42% who either were not sure or who would only give qualified approval depending on what sort of terrain the friends wanted to use their mover on.

### **POWRWHEEL**



Buyers were generally very pleased with the company's sales personnel, demonstration and delivery, but 'How does the machine meet your expectations?' column received only 25% top Excellent marks and 50% Good, leaving 25% for whom it was only Acceptable. No one thought it bad, but some criticised its performance on anything less than a level surface.

The few who used the then three-year warranty (now five) were pleased with the prompt service. Two sticking on/off switches were the sole common fault. One had two motors burn out due to being left stationary under load before giving the caravan a helping push up a slope. The short battery cable led one to balance his battery dangerously on the A-frame, while another devised his own connection box with pins to clip the 'crocodiles' to. One praised the company for supplying an extra cable and socket free – perhaps you just need to ask?

Ease of assembly for use was one problem area, as was the weight - without a freewheel (£30 extra) it needs to be carried rather than pushed to the caravan. Unsurprisingly, only one Powrwheel was taken away for use on site. A couple of people experienced fouling of the motor cover on their A-frame or jockey wheel clamp.

Steering scored 50/50 Excellent or Good in all but one case, while Braking scored lower, 17% Excellent, 50% Good and 33% Acceptable, skidding on tail-first downslopes being the Achilles heel. Traction ratings were similar to steering on ideal level ground, then declined as the surface got wet or sloped.

Noseweight is relevant to traction and varied from only 44kg (where difficulty was experienced) to 75kg, with an average of 61kg. Firm, steep slopes were rarely tackled, but those who did rated it Excellent to Good - high praise. Nobody tried loose surfaces, but grass still earned at least an Acceptable mark with fewer Goods when wet.

Motor power and battery endurance got 34% Excellent, 50% Good scores, mostly with normal leisure batteries, though one or two used car starter batteries connected to mains chargers, as recommended.

Finally, despite its limitations, 85% would recommend it to a friend, the rest split between No and Not Sure.

## **MISTER SHIFTA**



This machine, which has a 50mm ball to engage in the caravan coupling, is the only type approved by caravan chassis manufacturer Al-Ko Kober, as most owners seem aware. Owner satisfaction was near total, and all except two respondents would recommend the Shifta to their friends.

For these unhappy users, the fact that the Shifta failed to satisfy their personal needs may have coloured their judgement. One thought it too slow and too expensive, found it had difficulty climbing a dropped kerb and, to cap it all, the Velcro cover attachment continually failed (also mentioned by a second owner). The other had to perform a very tight parking manoeuvre, and found the 3ft of length the Shifta added prevented this. A third, recent, buyer was not sure about recommendation as, in his experience, the caravan would not climb a gentle

slope without manual assistance. This seems so out of step with the experience of others; perhaps he has a problem with a binding caravan brake?

Few challenged their machines with regular use up steep slopes, but of the few that did, opinions were mixed. One said traction was good pushing uphill, and another two that braking was poor downhill, despite noseweights of 70/80kgs. One owner who had the optional chevron-treaded tyres said they were good for loose and grass surfaces.

The only notable problem in use came from an owner who found the caravan tended to pull his Shifta over on sloping turns, when it became hard to control. Quality faults were few and minor, with spare parts (rheostat and solenoid) generally supplied by next post. The oldest unit in our sample dated from 1990. Average caravan weight was 1118kgs, with average noseweight of 58kg, but this spanned a range from 41-106kgs. Because of its weight, every single Shifta was used only at home, where a couple of owners found its bulk caused them storage problems too.

Generally, though, it did everything asked of it – even on twin-axle caravans in two cases.

### **CARVER CARAVAN MOVER (NOW KNOWN AS TRUMA CARAVAN MOVER)**



Surprisingly, even here members' reports were mixed, though the general picture is of a high degree of satisfaction. One, however, said it did not meet maker's specification as it failed to climb a 3in kerb. Also, it performed poorly on a muddy slope. Two others cited setting-up problems and one claimed poor advice from his dealer, Harringtons, as it was found not to fit and he had to change his caravan – a drastic remedy! Another said he was not given a demonstration by the dealer, Golden Castle, and only later found the Mover would not climb or hold on his levelling ramps.

Although the weight was admitted to be quite a drawback by some, the bonus is that the Carver Mover is ever-present and can therefore be used on sites as well, much to the amusement of others. "The only mover to work on a gravel drive"; "Good on the level or a gentle slope, wet or dry" and "Superb, worth every penny" is a selection of owners' praises. Several said their health meant it was the only way they could continue caravanning, but the comment we like best of all was "It makes manoeuvring fun".

### **VERDICT**

In the 'fitted' section, the Carver simply has no competition, but if for some reason this cannot be fitted to your caravan, provided you only need to use it where you store your caravan, the Mister Shifta undoubtedly topped members' ratings in the 'portables' department.

The 12V powered Motor Mover replaces a standard 48 or 50 mm shaft jockey wheel but due to its size should be removed when towing. Power is supplied by clamping the power leads to a 12V battery, which ideally is located in the caravan front locker, even if only on a temporary basis, although extension leads are available to reach a battery located

elsewhere in the caravan. Crocodile clips should not be used on the battery if LPG cylinders are nearby. There is a forward/reverse switch on the handle and the worm gearing in the device provides a secure brake until switched *on* at the handle (provided the wheel has sufficient grip).'

## **NEW MANOEUVRING DEVICES**

The Powrhitch from Powrwheel was briefly reviewed in The Club Magazine in the January 2001 issue. The unit connects directly to the caravan coupling, putting the load on that part of the caravan chassis specifically designed for the purpose. Powrhitch is available with a choice of motor and tyre specifications. Two motors are offered; the first is suitable for caravans up to 1250kg and the second for heavier and twin-axle models. Tyre choices include ones with car-type or chevron tread pattern, foam-filled or pneumatic.

Two new additions to the market are the Enduro, which weighs approximately 35kg, and the Rhino weighing approximately 29kg.

The Powrtouch from Powrwheel, Reich's Move Control and Truma's Carver Caravan Mover were the subject of an article (by John Wickersham), entitled 'Moving Stories', published in the July 2002 issue of The Club Magazine. The following is an extract from that article, which has been changed/updated where necessary:

'Two appropriately designed 12V motors certainly can propel most fully-laden caravans. In the event, it appears that the manufacturers use motors from the same supplier. That's why there's a common claim of being able to propel a 1200kg caravan up or down a 1:4 (25%) slope.

By altering motor speeds or motor direction, a single-axle caravan can also negotiate corners or revolve on its own axis on most surfaces. However, manoeuvring a twin-axle caravan is much harder and the Carver product shown earlier this year at the National Boat, Caravan and Leisure Show is still receiving electronic modifications. Installation of a prototype was reported in our March magazine and the supplier, Truma (UK), advised me that the finished product is unlikely to be available before mid-July. (*Since this article was written, Truma has advised that the twin-axle Mover is now available*). The twin-axle Move Control from Reich is still under development, but the Powrtouch range offers a twin-axle mover.

Certainly many members seem pleased with their single-axle movers. Being able to manoeuvre a caravan into a difficult parking place at home or on a pitch is a great asset. Equally, on good ground, and provided the jockey wheel does not plough a furrow, it's possible to propel your caravan towards a coupling ball while monitoring the finer points of docking. So how is this achieved?

Firstly, you use a lever to bring drive rollers into contact with the tyre treads. On some models each roller is engaged/disengaged separately. However, to help when parking a caravan hard against a wall, both Truma and Powrwheel (for the Powrtouch) have introduced a 'cross actuation kit' (around £50) which enables you to engage or disengage both transmission rollers from one side.

As regards the drive principle, the use of rollers covered with a friction surface to drive the caravan's wheels works, in most conditions. The idea is not new; 50 years ago you could buy a motorised bicycle using this simple transmission technique.

Rather more 'high tech' is a hand-held controller for orchestrating caravan movements, translating your wishes into effortless reality.

Models from all the manufacturers are attached by clamps. This means that no chassis drilling is involved, and the product should not be too difficult to remove for transfer to another caravan.

The benefit of being able to propel and manoeuvre a caravan independently is obvious, but note the following:

Installation - caravans with aluminium chassis and some models with underfloor obstructions might not accept these products.

Cost - even acknowledging that some supplying dealers will offer a free or inexpensive fitting service, the total outlay is likely to be around £1000. The Carver Twin Axle model was launched at £1325 excluding installation, although this version does include a 'cross actuation' facility – which is an extra on the company's single-axle model.

Weight - the installation of additional equipment inevitably means a corresponding reduction in the personal effects payload. Note: single-axle products typically weigh around 30kg (66lb) although the Reich model is lightest at around 27kg. Carver's Twin Axle model weighs 35kg (77lb). These additional loads might be unacceptable on a caravan not blessed with a generous payload.

Ground clearance - although these products are unlikely to lead to clearance problems, one member has reported damage when a unit hit a speed hump.

Friction drives - some members have reported that friction drive rollers sometimes need replacement. It is worth checking the price of these and ease of installation. Recent units have cordless remote controls - handy, but if the handset battery fails the device cannot operate. Reich's mover is supplied with both a corded controller and a cordless handset; the Powrtouch has a back-up cable, too.

If you use a pitch with a mains hook-up you can soon recharge a leisure battery used to site your caravan. Things are different if you prefer CLs, and that is one reason why the manufacturers of the Carver Caravan Mover and the Move Control from Reich recommend a 90Ah leisure battery for the single-axle model. That is understandable, but some 90Ah units won't fit a standard battery box.

NOTE: Power consumption averages 15amp, with a maximum of 60amp.

To compare these products further, send for the brochures. You will notice, for example, that the Reich and Powrtouch products have 'soft start' electronics which means the motor starts slowly rather than jumping into life. The Reich unit's motors are mounted inboard so they do not fall foul of caravan telescopic dampers. On Carver's product, select the Euro Mover version if your caravan has dampers. When it comes to warranties, the Powrtouch comes with five-year support. Truma offers mobile fitting services; Powrtouch offers to fit the product "on your doorstep". Still sceptical? Well, there is always the option of fine-tuning your reversing skills on a Club manoeuvring course!'

#### **4. General Advice**

In his article, “Movers and shakers” published in the February 2005 issue of the Caravan Club Magazine, John Wickersham offers the following useful advice, which would be prudent for members to note: “Chassis manufacturers affirm that a jockey wheel is principally designed to withstand vertical forces – eg to support the nose of an uncoupled caravan. It is not designed to sustain the lateral force which occurs when forcing a caravan up a kerbstone. Come to that, if a jockey wheel has sunk deeply into soft ground and the caravan is then pushed aggressively by heaving humans or the powerful motors of a moving device, you can guess what happens: the tube distorts and its clamp can get damaged as well.

That is fairly obvious, but some owners are taken by surprise when turning a caravan in a pretty pirouette. Rotating a single axle caravan around the central point of its axle tube is a fine balletic accomplishment. But should the jockey wheel unexpectedly bump into an obstruction and sustain a sideways blow, it again succumbs to unreasonable forces.

When it comes to moving a caravan over rough ground, it rides the bumps better if its standard jockey wheel is changed for one with a large pneumatic tyre. But these cut down ground clearance when the jockey tube has been lifted prior to towing. Unclamping the assembly is one solution, but that is not possible with Al-Ko’s increasingly popular Euro-Overrun brake assemblies in which the jockey wheel is mounted between the chassis members of an A frame.”

He also offers the following helpful tips:

- “Some owners try to turn the engaging pins the wrong way and even fit an extension on the actuation lever. No scaffold poles, please. PowrWheel products now bear ON-OFF labels with arrows to courteously remind uncertain owners.
- It is true that high-pressure commercial tyres sometimes make it mildly harder to engage the rollers.
- If the user-instructions include a useful self-help fault-finding section, read these before phoning manufacturers’ customer services.
- Sometimes a power isolation switch is fitted for safety purposes. Some users forget to operate this, whereupon an electronic shut down system comes into play after 20 minutes. Consult the manual.
- Unavoidable external interference sometimes upsets remote systems – that is why a cable is supplied.
- If a brake binds or a wheel bearing is defective, there can be resistance on one of the motors, whereupon the caravan starts to skew.
- A mover can briefly augment a poorly adjusted handbrake on a parked caravan, but it is not designed to achieve this function and creep might occur on a slope.
- A ‘soft start’ switching system helps to achieve small movements needed for intricate manoeuvres such as aligning when hitching-up.



- Twin-axle caravans never swivel like single-axle models. In some instances movers have been fitted behind the rear wheels, thereby allowing the front axle to be relieved of some weight by using the jockey wheel. Normally a mover is fitted forward of an axle. The alternative strategy fails when under-floor accessories are in the way.”

## 5. Miscellaneous

PurpleLine’s Hitchdrive is a replacement jockey wheel assembly with hand-cranked gear-drive and simple tiller steering. Robustly engineered, it weighs 13.4kg, but 5.6kg of that is the twin pneumatic-tyred wheel unit which is removed for towing. For pitching, the wheel unit is locked into place, the handle attached to the gearbox and the caravan uncoupled. Transferring the handle to the other gearbox shaft that drives the wheels in either direction. Caravan positioning can be extremely accurate. It seemed to work quite well on level ground. A heavy noseweight helps retain traction on slippery surfaces, but for a wet grassy slope or gravel you are advised to add weight by leaning on top of the unit. An accessory foot plate is available so you can stand one foot on for extra down force. PurpleLine says the unit is designed to push the caravan (ie backwards), and is developing a ratchet handle so that only downward movement is exerted for best traction. Of course, the caravan handbrake should be within reach at all times.

If your car sits low at the rear under noseweight, be aware that Hitch Drive’s clamp tube needs at least 10in ground clearance to insert the wheel unit. In extreme cases it may be necessary to uncouple the caravan and retain height with the front steadies.

The Handy Hitch is a long handle that sits in the caravan coupling and allows the user to pull the caravan along whilst keeping a straight back. Available from caravan accessory shops.

For further information on any of the products mentioned, contact the companies listed below:

### Winches

Al-Ko Kober Ltd, South Warwickshire Business Park, Kineton Road, Southam, Warks, CV47 0AL

**Tel: 01926 818500**

[www.al-ko.co.uk](http://www.al-ko.co.uk)

Innovation Engineering Ltd, P.O. Box 46, Heswall, Wirral, CH60 9LR

**Tel: 0151 3484202**

[www.innovation-engineering.co.uk](http://www.innovation-engineering.co.uk)

Tractel UK Ltd, Old Lane, Halfway, Sheffield, S19 5GZ

**Tel: 01142 482266**

[www.tractel.com](http://www.tractel.com)

BHW Group Ltd, Unit 7 Lismirrane Industrial Park, Elstree Road, Elstree, Borehamwood, Herts, WD6 3EE

**Tel: 0208 953 6050**

[www.bhwgroup.co.uk](http://www.bhwgroup.co.uk)

### **Hitching Aids**

*Easy-Hitch* - Sutor Engineering Ltd, Smithborough, Co Monaghan, Ireland  
**Tel: 00 35 347 57600**

*Trailer Coupling Mirror* – Equibrand, Church Street, Charwelton, Northants, NN11 3YT  
**Tel: 01327 262444**  
[www.equibrand.co.uk](http://www.equibrand.co.uk)

### **Motorised Caravan Movers**

*Motor Glide, Motor Mover Plus* - Motor Mover Ltd, Main Road, Mayfield, Ashbourne, Derbyshire, DE6 2LE  
**Tel: 01335 345494**  
[www.motormover.com](http://www.motormover.com)

*Caravan Mover* – Truma (UK) Ltd, Park Lane, Dove Valley Park, South Derbyshire, DE65 5BG  
**Tel: 01283 586050**  
[www.trumauk.com](http://www.trumauk.com)

*Powrwheel* – Powrwheel Ltd, 6 Priory Industrial Park, Airspeed Road, Christchurch, Dorset, BH23 4HD  
**Tel: 01425 283293**  
[www.powrwheel.com](http://www.powrwheel.com)

*Powrhitch* – Powrwheel Ltd (as above)

*Powrtouch* – Powrwheel Ltd (as above)

*Mr Shifta* - Shifta Products, 103 Oakleys Road, Long Eaton, Notts, NG10 1FH  
**Tel: 01159 731335**  
[www.shifta.com](http://www.shifta.com)

*Move Control* – Reich UK, Unit 7, Miras Business Estate, Lower Keys, Hednesford, Staffs, WS12 2FS  
**Tel: 01543 459243**  
[www.reich-web.com](http://www.reich-web.com)

*Rhyno* – Rhyno UK Ltd, Unit 14-, Hammond Business Centre, Hammond Close, Attleborough Industrial Estate, Nuneaton, CV11 6RY  
**Tel: 02476 387080**  
[www.rhynomovers.com](http://www.rhynomovers.com)

*Enduro* – PurpleLine Ltd, 2 Lady Lane Industrial Estate, Hadleigh, Suffolk, IP7 6BQ  
**Tel: 01473 824082**  
[www.purpleline.co.uk](http://www.purpleline.co.uk)

## **Miscellaneous**

*Handy Hitch* – Hutton Engineering, 24 Nuffield Way, Abingdon, Oxon, OX14 1RX

**Tel: 01235 520284**

[www.huttonengineering.co.uk](http://www.huttonengineering.co.uk)

*Hitchdrive* – PurpleLine Ltd, 2 Lady Lane Industrial Estate, Hadleigh, Suffolk, IP7 6BQ

**Tel: 01473 824082**

[www.purpleline.co.uk](http://www.purpleline.co.uk)

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