

TAKE CARE OF YOUR TRAILER

The trailer is a much neglected piece of balloon equipment and a little attention now may save an awkward breakdown while you are in the air. It might even save you collecting some points on your driving licence.

A few legal facts

A trailer must meet all the requirements of a car MOT, in terms of integrity, tyres, brakes and lights and number plate. The towing vehicle must have a device that sounds or flashes in unison with the indicators. If this doesn't happen when the trailer is plugged in, this indicates bulb failure. Any trailer over 750kg gross weight or over half

the weight of the tow vehicle must be braked. All braked trailers must be capable of holding the trailer still at a slope of 18%. From 1989, all new trailers must be fitted with autoreverse brakes. The maximum speed with a trailer is 50mph (unless lower) on ordinary roads and 60mph on dual carriageways and motorways but remember that trailers are not allowed in the outside lane of a motorway. The number plate on the trailer must match the towing vehicle! Trailers must not be used for the carriage of passengers. Tyres are subject to the same laws as a car for depth and cuts and red triangular reflectors must be fitted at the rear of the trailer. Side orange reflectors must be fitted to trailers over 5m (15ft) long and white front marker lights have to be fitted if it's over 1.6m wide or over 2.3m body length.

When you get your trailer out for maintenance, start at the front and work to the back methodically or use a checklist. All bolts should be nylocs or have spring washers. Check the security of *all* bolts with a spanner. All bolts should be high tensile (usually marked 8.8 on the head).

Electrics

Take the electric plug apart, most electrical problems are found here. Don't be a cheapskate, buy a new plug for a couple of quid! A long term solution for corrosion is to raid a household plug for BRASS screws to replace the nickel plated (silver coloured) STEEL screws that are always found in these. Damp, electricity and dissimilar metals cause electrolytic corrosion, dooming these from the start. Dip the ends of the wire in soft solder if you can. Check the cable for pinching damage from the brake or jockey wheel.

Consider cutting off the wire near the front of the body and fit a socket the same as you have on the back of the car. A double ended (curly cords are also available) cable with plugs make replacing easier. As mentioned in my trailer security article (Aerostat, April 2002), you could make a dummy one with all the connections wired together to blow the fuses should any potential thief try an steal it! Test all the lights in all possible combinations, because sometimes it's not until two or three lights are on at once (for example, braking in the dark while indicating) that the something gives up. If they all glow faintly, this usually means a poor earth connection. If you intend changing the lights, try rubber lights as fitted to Indespension trailers and HGVs or, my preference, Land Rover round rear lights and indicators, which are cheap, lenses are easily replaced and they do not suffer from the usual birds' nest of wires that leads to poor connections.

Coupling

On braked trailers check whether the coupling head tube is straight. If it is bent in any direction, (caused by incorrect nose weight or jackknifing) you will need to replace it as it will prevent the brakes working properly.

Remove the damper and slide out from the rear, cut the old one off near the body. If a replacement tube is not available get an engineering shop to make you a new one out of a thicker wall steel tube or, better still, use solid steel bored out just large enough to pass the damper through. This is certainly cheaper than buying a new coupling. Wiggle the coupling head; if there is any movement between the slides, grease the two nipples with a grease gun. If there is any back and forward movement, this indicates the gas damper has failed. This will cost around £60 to replace, but is a simple job.

Unbolt the coupling head and nut at the rear of the coupling, and the damper will slide out the front of the coupling tube. A trailer or cara-

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van dealer will be able to match up the part numbers on it.

Check all around the coupling body for cracks. If yours is cast iron and it has cracks, scrap it. Check the chassis for cracks, especially on any welds and where the suspension bolts on.

Brake-away cables must be fitted to all braked trailers to pull the brake on if the coupling or tow ball fails. It is illegal (and daft) to attach it to the towball, it must be attached to a separate part of the towbar or vehicle

Brakes and bearings

If you wish just to check the wheel bearings: chock the trailer, jack it up and grasp the rim. Wiggle the wheel in all directions. It should *just about* have a perceptible wiggle that you can feel; none at all and it's too tight, any that's visible is too loose. Remove the centre grease cap, (you don't have to remove the wheel) and adjust the castellated nut to achieve the desired clearance, one groove at a time. Replace any damaged split pins (or bent nails!)

If you wish to check your brake condition, loosen the wheelnuts, jack up the trailer and remove the wheel. Place clean newspaper or a box underneath. Remove the grease cap and castellated nut, and hook out the outer bearing. Put it somewhere clean. If you drop it in the dirt, you might as well pack it in grinding paste.

Use a rubber mallet and tap around the brake drum to loosen it (remember you won't get it off if the handbrake is on!) If it is stubborn you may have to back off the brake adjusters (usually a 17mm socket on the backplate). Remove the drum, being

careful not to get any dirt in the bearing surfaces. Inspect the brake lining thickness; these must be replaced when down to 0.5mm at the lowest level on the shoe or above the rivets, but I wouldn't let them get that far worn - consider replacing them while you have it stripped this far.

Removing the shoes is easy, unhook the springs and they fall off! Getting them back on is far more tricky! Remember where the springs hooked, draw a picture or take a photo. Much skin and swearing can be saved by making a decent hooked tool with a handle to get a good grip on the spring end to hook them back on. I ground a notch in the side of an old sturdy flat bladed screwdriver; don't even bother without it!

Put everything back together packing the bearing with grease and keeping it all clean.

Refit the wheel and adjust the bearing as above, leaving the grease cap till last.

Adjusting the brakes

Make sure the brakes are fully off, tap the nutted ends of the brake cable near the brake equaliser under the centre of the trailer with a hammer to be fully sure.

Spin the wheel, adjust the brake adjuster on the rear of the backplate (usually 17mm) until the wheel locks up, them back off slowly until the wheel frees up. Repeat the procedure fully if necessary to get it right, don't just tighten it a bit if you feel its too loose, as the brakes settle after they've been refitted, and it may be worth doing each side a couple of times alternately.

Once both sides are done, apply the handbrake sharply several times, then make

Technical Tips



BRAKE DRUM: Grease cap removed

sure they are fully off using a hammer as above, and check adjustment again. It doesn't take long especially if you have both sides jacked up at once, and you will be astounded by the difference it makes on the road. Brakes with the adjuster backed too far off (too loose) can cause the brakes to jam on, or to brake unevenly causing snaking.

Grease the exposed ends of the brake cable and any grease nipples fitted to the cables themselves.

On most trailers with over-run cable operated brakes, there should be a 10mm play between the arm that operates the rod to the cables, and the rear of the coupling tube. (make sure the coupling tube is fully extended)

Don't forget to check the tyre pressures including the spare - a lot of spares I have seen on trailers are punctured or have gashes that make them illegal.

