

Trailer Maintenance

Two articles on trailer maintenance:

Trailer Tips

Malcolm Brown. Perihelion 102

This is the time to get ready to take your boat to the sea or an open meeting so your trailer needs to be fit for purpose. If any old trailers are put into service, as driver, you are responsible for your load, so some essential trailer maintenance may be required before you set off on your journey, especially if it is to be a long one. Hopefully the following tips will be useful which are from many years' experience of maintaining and operating light dinghy trailers.

The trailer should be structurally sound with no rust holes in the frame, all fasteners tight, suspension in good order, wheels and tyres fit for purpose, mudguards fitted, hitch catch working, and fitted with a breakaway safety line. If the launching trolley supports the dinghy on the road trailer, this also has to be fit for the rigours of the road.

Wheels and tyres are subject to the same rules as for cars and due to their small size, they are highly stressed and rotate rapidly (approx 1250rpm at 60mph for an 8 inch wheel) so must be free from cuts, not perished, at the correct pressure (usually 2bar) and have a minimum tread depth of 1.6mm. Tyres marked for "Implement Use" must not be used on the road. Wheel rims should be free from cracks and corrosion. It is advisable to carry a spare wheel of the correct size. If the galvanised coating on the trailer or trolley frame is damaged, wasted or shows light rust, this can be repaired by cleaning it off to sound metal then coating the area with a zinc coating paint such as Fosroc Galvafruid which can be obtained from good hardware stores.

Inspect the suspension units. I recommend that rubber torsion springs should be stored un-loaded since over time they can collapse. If you need an idea on how to protect your trailer suspension, Brian Welham has a good system for keeping his road trailer wheels off the ground (see below). Some older trailers were often fitted with a single leaf transverse steel spring which needs careful inspection since the spring can fracture under the outboard clamps. If the spring is still sound, it should be protected from corrosion with Waxoyl compound.

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Since spare springs are no longer available, it is possible to modify the trailer to take 250kg rubber Indespension units.

Trailers which have stood unused for a long time may suffer from faulty wheel bearings due to condensation and rain water ingress into the hubs. It's a good idea anyway to re-lubricate the bearings every 4 or 5 years regardless of use. If a test run indicated a rumble from the trailer bearings, they need to be checked. Healthy hubs run quiet and should be cool to touch - any which is hot (>60°C) after a short run needs to be checked. Defective bearings can seize or break up. My experience has shown that hub grease nipples serve no useful function at all, so if a bearing re-grease or service is needed, the hub is best dismantled

If you're can of grease is missing its lid or been around since the days of your father's Morris Minor, treat yourself to a new tin. Greases of different bases (e.g. lithium, calcium, aluminium, clay) should never be mixed, so if you don't know what is already in the bearings, its best to start again. Lithium grease is a good all rounder but calcium or aluminium greases offer better water resistance at the expense of lower maximum permissible operating temperatures. My preferred choices for trailer bearings would be a calcium grease, e.g. Fuchs Renolit Aqua 2. Greases containing fillers such as PTFE, molybdenum and zinc oxide should not be used with rolling bearings.

Work on one hub at a time so that you do not mix up the parts - bearings are matched during manufacture. Make sure that your work area is clean because dirt is the enemy of precision bearings. Grease is messy stuff, so to protect yourself and to keep the grease from contamination, wear gloves.

First remove the wheel then the hub cap using the screwdriver. Remove the split pin and discard (never reuse split pins - they are safety critical items). Undo the castle nut, remove it and its washer (do not lose them), then the hub which should slide off. Most hubs are fitted with taper roller bearings which may separate from the hub as it is pulled off the axle - do not let them fall on the ground. If the hub is fitted with shaft seals, do not remove them unless you have new spares to fit since removal will damage them. Occasionally, you may find that the bearings are ball race type which will remain in the hub when it is pulled off the axle.

For taper bearings clean all of the old grease from the hub and its bearing tracks, with a clean paper towel(s), then carefully inspect. A serviceable bearing track

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will be polished and clean so should be fit for further service. If, however, a bearing track shows any marks which you can feel with your finger nail, fit new ones as a hub set.

Bearings which are to be returned to further service should be thoroughly cleaned in white spirit or kerosene and paint brush to remove all of the old grease. Use a 3 step washing process in the food trays and after the final rinse, dry each bearing with a paper towel then carefully check that the rollers are clean of dirt and rust. If any rollers are damaged, chipped or discoloured blue, the rearing must be renewed. If the inner bearing is stuck on its axle, it can be cleaned in situ, since attempts to remove it from the axle may destroy it. Clean out the split pin hole(s) on the axle plus the nut and washer. Make sure that all of the old grease is removed from the inside of the hub. With a coffee stirrer, place about 1 tablespoon of fresh grease around the track of each bearing, then place another tablespoon of grease in the corner of a freezer bag and put the bearing into the grease. From the outside bag, work all the grease into the bearing, so that it fills the roller cage. The bearings can now be fitted into the hub, remember that the bearing with the rubber seal goes on the inside of the hub then the hub fitted onto the axle. Make sure that the lips of the seal are well coated with new grease. Please note that the hub must not be packed more than half full with grease, otherwise it will overheat in use.

Fit the washer then the nut, which should be lightly tightened to no more than 20Nm (15 lb/ft) as the hub is rotated. Now slacken the nut until is loose then retighten it until the washer under it can just be slid from side to side with the screw driver. Insert a new split pin from the top - if the split hole does not line up with the castle nut, slacken the nut until it does fit, never tighten the nut to fit the pin. A correctly adjusted taper bearing assembly will have the merest hint of play at wheel rim. Splay the ends of the split pin to secure it then carefully refit the hub cap. Refit the wheels and tighten the wheel nuts to 50-60Nm torque. (35-45 lb/ft)

A dab of molybdenum grease on the ball will lubricate the hitch. Use plastic bags or hitch covers to keep the hitch clean when on sandy beaches. When hitching on, make sure that the breakaway safety line is fitted over the ball. Remember that the national trailer speed limit is 50mph on single carriage roads and 60mph on motorways.

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Trailer Wheels off the ground

Brian Welham. Perihelion 102



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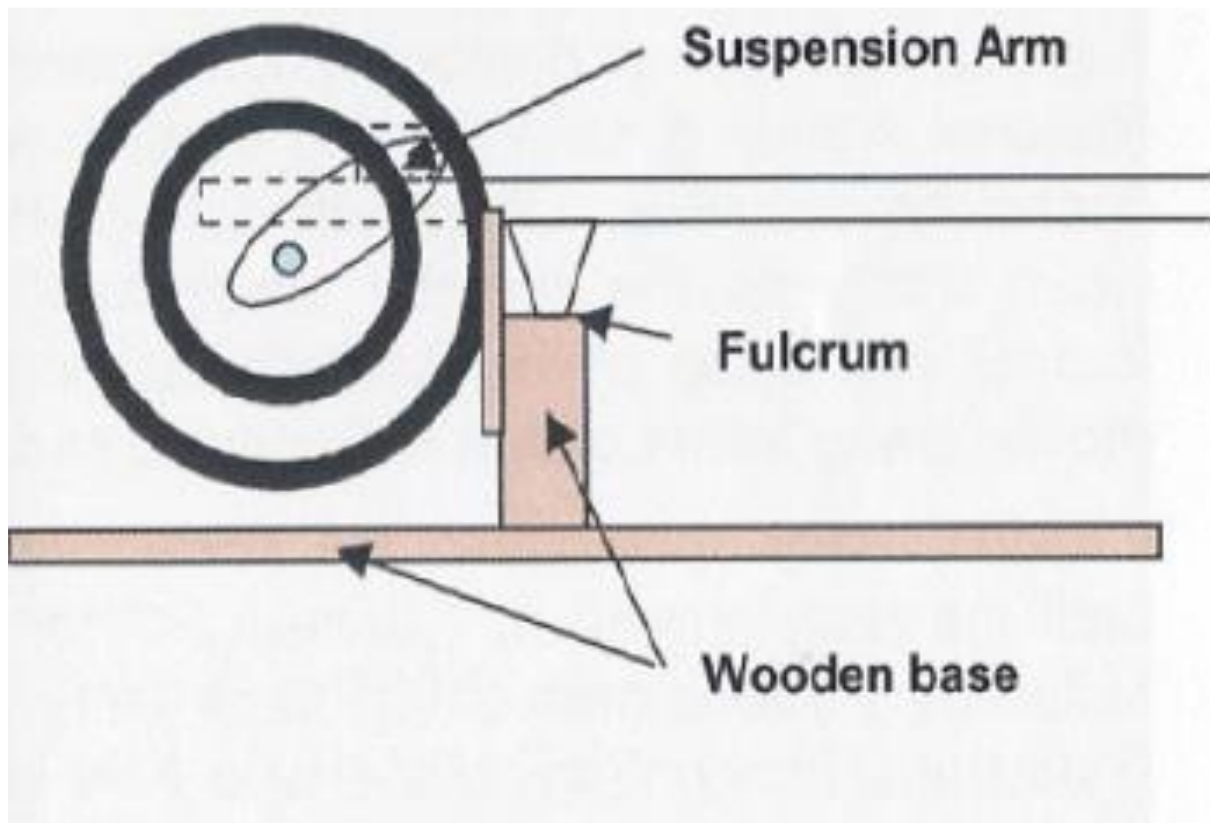
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This frame is designed to lift the wheels off the ground by an inch to take the pressure off the tyres and suspension arms. The launching trolley is also stored on the combi trailer which also relieves the pressure on its tyres. As the road trailer is only an inch higher than normal, the launching trolley is attached and removed without disturbing the road section where it remains until the next open meeting journey. The unit takes up no more space than the normal boat park space so should not incur any extra storage charges for the road trailer.

Brian Welham