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TRAILER GUIDELINES AND SAFETY

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Break-Away Kit Safety

All trailers sold with electric brakes have a break-a-way kit including battery, battery box, break away switch with attached plunger and cable. The theory is that if your coupler becomes separated from the tow ball the plunger of the breakaway switch will come out thereby completing the electrical circuit, allowing the battery to provide power to the electric brakes and bringing your trailer to a stop. This will work of course provided there is adequate power in the battery and provided your breakaway switch cable is properly attached to the towing vehicle. It is important to charge the battery periodically and it is recommended that you check the battery charge level with each seasonal change. If the wet cell battery does not keep adequate charge it can freeze in the winter months and become useless. The breakaway switch cable itself should be attached to its own anchor in order to provide the correct amount of play, not too loose or too tight.

Trailer Wiring & Electric Brake Safety

In spite of continued improvements in trailer wiring and electrical components, wiring problems can occur if regular maintenance is avoided. Many of the problems we see with a trailers electrical system stem from the conditions under which many trailers are operating in. Under gravel road conditions the underside of the trailer is being bombarded by an abrasive mixture of sand and stone (gravel). The trailer is literally being sandblasted. This sandblasting effect can damage the wiring underneath the trailer. The most common problems are with the electrical wires coming out of the electric brakes.

It is important to inspect the wiring on a regular basis to make sure the wires are clean and tucked up in position and not dangling in a vulnerable position. Under winter conditions it is important that the wiring behind the brake drums does not ice up. It is a good idea to wash the underneath with a high pressure washer to remove corrosive salts and road gravel and other corrosive materials that may be present. Other causes of wiring problems are poor grounding or poor contacts in the truck end or trailer end electrical plugs. Often there is corrosion on the electrical plug terminals and that prevents proper electrical conduction. It is a good idea to spray the electrical plugs with a good penetrating fluid or WD-40 to help dissolve the built up corrosion. Don't forget to check the electrical ground as part of your check list if your trailers electrical system is not working properly.

Trailer Suspension Safety

Regular maintenance on your trailer should include attention to the suspension components. There are many moving and therefore wearing parts that form the trailers suspension. A typical conventional tandem axle trailer contains hangers, leaf springs, shackle straps, shackle bolts, equalizers, u-bolts, and axle plates to name a few. The leaf springs and equalizers usually contain Teflon bushings to extend the life of the suspension components. These bushings, shackle straps and bolts will eventually wear out and will need to be replaced. This procedure should be regarded as normal operational maintenance. Periodic inspection of these components can avert problems such as premature tire wear. Extreme wear of these components can cause the trailer to wonder behind the towing vehicle resulting in serious instability.

Trailer Towing Ball Safety

This trailer safety tip related to a situation that occurred last summer. I was contacted at home on a Saturday evening by a person requiring trailer coupler parts. It turned out the gentleman had lost his holiday trailer on the highway when the trailer became uncoupled from the ball. I met him at the shop and we repaired his mangled coupler. The cause of his problem was discovered as we were hitching his trailer to the car. I noticed that his ball was extremely worn and as a result the coupler was able to pop out. He was interested to know that it is required that the hitch ball be lubricated with grease at regular intervals to avoid metal on metal wear to the ball and avoiding a potentially hazardous situation.

Trailer Towing & Leveling

It is important when towing a trailer whether it is a bumper pull or tag trailer or a gooseneck style to achieve a level position when loaded. The reason for this is that you want to have an even weight displacement over the axles. If for example the trailer is too high in the front excessive stress may be applied to the rear axle and conversely if the front of the trailer is too low the front axle may become stressed. In extreme cases this can lead to axle failure due to overloading. When hitching up an unloaded trailer we recommend having the trailer set up slightly higher in the front to allow for settling once the trailer is loaded. Further adjustment of trailer front height may be required as load conditions change.

Electric Brake & Electronic Brake Control Setting

Modern trailer electric brakes are of course a full time operational brake system used on most of today's small and medium duty trailers. They are not to be compared with the mobile home trailer brakes that were never designed as a full time operational braking system. There are two systems working together with the electric brake system. One is the brake actuator or electronic brake control and the other is the electric drum brake system typical of many trailers. Both the electronic brake control and the drum brakes can be adjusted. When a trailer is new it can take a few hundred kilometres for the brake shoes to seat in. Once the brake shoes have set in it is then possible to adjust the sensitivity and gain on the electronic brake control. The sensitivity and gain will vary somewhat with respect to typical load weight. If however when you apply the brakes and the trailer brakes seem to delay and then lock full on this probably means that you will need to adjust the brake shoes so that they are closer to the brake drum. Adjusting the brake shoes will eliminate the delay and by further fine tuning the electronic brake control this will make the braking operation smooth and seamless. If you are not getting enough braking from the trailer you can set the gain up higher.

If after adjusting the gain you find that the trailer is not providing enough braking it may be that your electronic brake control does have the capacity to handle the load. Check with the manufacturer or your dealer. You may have to upgrade your electronic brake control to one with a higher output capacity.

Replacing or Converting Trailer Electrical Plugs

I have learned a very important lesson over the years with respect to changing or converting a trailers electrical plug. You can save yourself a potential hassle and loss of time by marking down the location and the color of each wire to each of the connections from the existing trailer plug prior to replacing it or changing it. The trailer plug itself has each plug wire connection identified by either a letter embossed next to the connection or a color identity embossed and printed next to the electrical terminal. If you carefully mark down these locations along with the trailer wire colors you will be able to easily transfer the wires in the correct position to the next trailer electrical plug. You will have the necessary information from the old plug to tell you not only what the connections function is but also what the function is of the trailer wire by its color identification. The trailer wires function and record of it is important for example if the whole plug becomes detached from your trailer and a replacement is necessary.

Wheel Bearing Maintenance

One of the most important items to maintain on a trailer are the wheel bearings. The wheel bearings should have enough lubricant (wheel bearing grease) and the tapered wheel bearings should have the correct adjustment. The procedure for checking wheel bearing tightness is as follows: Block the trailer on a level spot so it cannot move, raise the trailer one side at the time. Locate the jack in a safe location preferably on the trailer frame. Raise it up just enough so that the wheels are free to rotate. Check for wheel play (looseness) by placing on hand at front and one at the rear of the tire and rock it back and forth. If there is play remove the axle cap with a sharp object such as a screwdriver or fine chisel. Under the axle cap there is a castlelated nut with a cotter pin or a special washer (EZ lube spindle). The cotter pin must be straightened and pulled out and the EZ lube washer tabs must be pried up and out of the way of the nut so that the nut can be tightened. Tighten the castle nut one notch at the time then rotate the wheel. There should be a little resistance on the wheel when it is rotated. Too much resistance will cause the bearing to overheat. Finally, to install the axle cap, line the cap up straight with hub, using a drift (hammer) and a wooden spacer such as a short piece of 2"x4" material drive the axle cap on. Hammer it straight on. Do not hammer directly onto the axle cap as it will become damaged. Let trailer down, remove jack and apply the same procedure to the other side.

Replacing Trailer Plank Decking

If it becomes necessary to replace your trailers plank decking I can offer a few suggestions to make the job easier and faster. The planks are usually held in place with special hardened self threading deck screws using a torx head. It is a good idea to spray a good quality penetrating fluid or WD40 on the screw ends first to work on the rust. With a high quality torx bit unscrew as many as possible. If you are having difficulty removing the deck screws, cut of the threaded ends of the screws with an acetylene cutting torch simply because it will be very difficult to deal with the screw if the head is stripped out. Once you have removed the deck planking and all the screws have been removed it is time to replace the planks. The easiest and fastest way is to lay in the new plank, clamp it down at each end and from underneath mark the plank through all the screw holes with a pencil. Pre-drill the holes in the plank then bring the plank in place and apply the new deck screws.

Determining My Trailer Needs

Measure your hauling objects length, width, height to be certain it will fit on the selected trailer. It is a good idea to place or line up the objects on the ground first and take measurements. Find out the weight of the object(s) you wish to haul. This information will help determine the frame size, frame strength, axle capacity and ramping options that will suite your needs.

Trailer Load Balance
Remember to adjust or balance your load by placing adequate tongue weight on the front of your trailer to insure proper tow ability.

Water Hauling
If you are going to haul water, be sure to look at trailers first so that your water container will fit. Many water tanks especially large round types will not fit on the fendered car hauler style trailers that are rectangular in shape.

Advantages of the ATV / Snowmobile Trailer
If you are planning to tow a trailer over poor roads with muddy or snowy conditions, you may wish to choose a trailer in which the trailer axle tire width is reasonably close to the width of the towing vehicles tire width. As long as the trailers axle width is close it will cut into the towing vehicles tracks. This will greatly improve mobility and tow-ability. We find that ATV'ers and snowmobilers will generally be better served with an ATV/Snowmobile trailer not only because of the full 8' width that is required to haul two snowmobiles side by side but also because of the towability of the trailer due to the placement of the trailer axle tires or the width being close to the width of the towing vehicle. This allows the user to pull the trailer through much more difficult conditions.