

SPANNERMAN ANSWERS YOUR QUESTIONS

HOUSE BATTERY CHARGING

I recently purchased an American motorhome and noticed almost immediately that there were two chassis batteries and only one house battery. Having spoken to other owners and taken their advice I decided to add another house. As the existing battery looked fairly new I bought just one and connected them both together.

I have now been using the motorhome for a couple months since I had added the extra battery and have experienced no problems at all with them. However, I have now been told, by another owner, that I should have taken out the existing battery and installed two matching batteries so that they charge and discharge equally.

I do not quite understand what I have been told so could you spread some light on the matter for me.

You are not alone in trying to understand what goes on when batteries of different capacities are connected together as this subject has been discussed in many other motorhome magazines over the years.

The nearest analogy to help to describe what happens is to think of the batteries as two tanks of water which are connected by a pipe at the bottom. If you have a 60 amp-hour and 90-amp hour battery then think of the state of charge of these as gallons of water in the two tanks.

Capacity	Total	90	60
Full	150	90	60
Half-full	75	45	30
Draining/Filling - taken out/added			
Full to half-full	75	45	30
Add 50	50	30	20

When your batteries are both fully charged then that equates to the tanks holding 60 and 90 gallons of water respectively. As you drain water from the tanks the water level in both will drop equally. When the tanks are half full the larger tank will have 45 gallons left in it and the smaller one 30 gallons i.e a total draw-off of 75 gallons. Now if you top up the tanks with a total of 50 gallons the larger tank will then contain 75 gallons and the smaller one 50 gallons.

Now think of gallons as amp-hours. So when two batteries (in good working condition) of different capacities are connected together they will both be at the same state of charge but the larger one will supply more amp-hours when discharging and require more amp-hours when charging than the smaller one.

It is, however, recommended that when two or more batteries are connected together that they should all be of the same capacity, type

and age. If this is done and providing that all the batteries are in good working condition then the charge and discharge currents will be spread equally.

If you suspect that you have a problem with your batteries then do not assume that all the batteries that are connected together are faulty. Firstly, check that all the connections are clean and tight and that all the battery cables are in good order. Secondly, check all the cells of wet batteries are topped up to the correct level with distilled water. If the problem still persists then check the state of each battery individually and replace a bad one with a battery to match the good one(s). However, if the others are not 100% then replace the lot.

DO I NEED AN LGV LICENCE TO DRIVE AN AMERICAN MOTORHOME?

On our travels to find an American RV I've been told by the dealers, 'this model requires an LGV licence', 'this model does not', being of the same length, it must be to do with the weight. If this is the case, could you please answer the following queries and try to make me legal?

1. What is the weight limit?
2. What if an under weight RV is made over weight by the gas, fuel, water, etc, loaded on after purchase?
3. What if you have an LGV licence and you tow a car or trailer, does this become an articulated unit and requires another licence?
4. What if you buy privately; will you be breaking the law if you drive your purchase away only to be stopped by the police to find your RV falls into the LGV bracket, is it your fault or the sellers - it is your responsibility.

The subject of driving licences has been covered in great detail in past issues of ARVM. I suggest if are unsure you visit the DVLA website for up to date information and the law.

1 - The maximum size (weight) of motorhome you can drive on a car licence obtained prior to 1st January 1997 is governed by the fully loaded gross weight and is 7,500kg. This weight is found on the chassis plate. This is the absolute maximum weight and includes everything carried on the vehicle. If the vehicle is found to be over this weight you could be prosecuted and fined. Even if your vehicle is only partially loaded and well below its gross weight, it is the figure that is found on the plate that determines whether your licence covers you and not the weight when weighed on a weighbridge.

2) - Your pre January 1997 car licence (C1+E) allows you to tow a trailer of up to 750kg gross weight behind a motorhome of 7500kg. This means a maximum combined weight of 8250kg. If you wish to tow a trailer, or car, of say 1250kg the gross weight of the RV must not exceed 7000kg. To tow anything of greater weight behind a 7500kg vehicle of any type you will need a C1+E licence which is not

restricted to 8250kg which usually requires taking a new driving test. If the gross weight of your motorhome weighs in excess of 7500kg you require a Class C licence and if you wish to tow a trailer in excess of 750kg you will require a class C+E licence

The onus is on you to ensure you are covered to drive any vehicle you may purchase. Holding the incorrect licence will mean you are not insured and you almost certainly be fined and in the event of an accident your insurance company probably won't out for any claims for repairs and third claims if anyone is injured in the accident.

FULL AIR SUSPENSION

Has anyone ever produced a mid-priced motorhome that features 100 percent air suspension in the front and rear?

I know that some of the larger trucks have an automatic air suspension on the rear that keeps it level at all times. I wish someone made an automatic leveling system for the smaller motorhomes that would allow you to lower the high side of the coach to level it, rather than raising the low side. This would seem to be more stable and would eliminate raising the entry step higher than normal.

Over the years there have been several air suspension systems that would allow you to lower, or raise individual wheels. I once had a 1973 GMC that had a control panel for the rear air bags that would allow you to level the coach on all but the worst campsites. Some of the new computer-controlled systems can handle almost any reasonable slope. But, as you suggest, such systems usually are found on the high-line coaches, and for maximum effect the coach must have fully independent suspension.

There is an alternative. Several companies install aftermarket air suspension systems that do a surprisingly good job, and they can be installed on virtually any coach, old or new.

One of the innovative rear suspension systems makes use of an air-supported upper frame that replaces the spring mounts. The original springs are left in place and remain operative in conjunction with the air system. A control system with a compressor can be added to provide computerized leveling, which makes adjustments automatically.

TECHNICAL QUESTIONS

If you have a technical question that you would like answered please send it to: SPANNERMAN, ARVM, MONTROSE, CROWN HILL, GREAT DALBY, LE14 2ER. Fax: 01664 481400 Email: abpleisure@btinternet.com

Whilst every care will be taken to ensure the accuracy of answers the Magazine will assume no responsibility for any effect from errors or omissions.