



Carriage Maintenance & Championship Preparation

with Sue Mart

UKCC Level 3 Coach in Driving



Welcome!

- Thank you for inviting me to talk and I delighted to join you and look forward to an informative conversation
- Our outline agenda for today:
 - Brief overview of Sue Mart Bennington Carriages
 - Carriage Maintenance:
 - Why it is so important
 - Safety checks prior to competition
 - Key areas to check, wheels & brakes
 - Hints & Tips
 - FEI rules relevant to carriages
 - Thoughts for World Championships
 - Q&A
- Housekeeping
 - Please remain on mute if possible and unmute yourself when you would like to ask a question or contribute to the discussion
 - The session will last approximately 30 mins – with time for Q&A

Sue Mart & Bennington Carriages



- Carriage Driving since I was 10!
- Have competed at local, national & international level
- Accredited UKCC Level 3 Coach in Driving
- I have worked in the family business since leaving college
- Bennington Carriages is a family business & has been designing, manufacturing & supporting our carriages for over 50 years
- Our passion is to promote the sport of Carriage Driving & make it accessible to all. Via the Bennington Academy we provide training for all levels of driver – from novice to international competitor

Why carriage maintenance is so important

- Your carriage is a major investment. Routine, preventative carriage maintenance:
 - Maintains safety & minimises risk
 - Aids performance and enjoyment – especially important at a competitive level
 - Reduces downtime
 - Prolongs the lifespan of your carriage
 - Lowers overall costs – preventing a problem is cheaper than fixing it!
 - Maximises the value of your carriage and improves saleability
 - Maximises enjoyment of your carriage
- Today we will cover as part of our conversation:
 - Key safety checks prior to driving
 - Key carriage maintenance procedures
 - Cleaning and storage



Key safety checks prior to competition

Before competing, there are some basic carriage checks that should be performed:

- ✓ When wheeling the carriage out, check it runs freely with no obvious noises
- ✓ Check the brakes and turntable brakes are working - know the pressure, test!
- ✓ Check tyres are secure
- ✓ Check that all parts are secure
- ✓ Lubricate any moving parts with WD40 or a thin 3-in-1 oil
- ✓ Check delayed steering alignment
- ✓ Check that shafts are not bent, ring end shafts are secure & extending shafts are free
- ✓ Check pole
- ✓ Spares kit on board

If **YES** to the all of the above, you're good to put to!

Remember – it's often too late to perform servicing or repairs once you've arrived at the event!
Your carriage is key to your success – so plan well ahead! Minimise risk & reduce stress!



Carriage Maintenance Procedures

- We will cover the following carriage maintenance procedures:



Wheels & Tyres



Brakes



General



Paintwork

Carriage Maintenance - Wheels

- Check for play & spin to listen for any unusual noise
- Ensure the hub cap is secure to make sure no water can get in
- Periodically it is important to check bearings and oil seals:
 - Remove hubcap
 - Remove split pin & castle nut
 - Tip: On Bennington carriages, when removing the castle nut, the left hand side of the carriage has a left hand thread – and vice versa
 - Remove wheel, then remove bearings
 - Clean bearings – remove excess grease & clean with proprietary degreaser
 - Replace if any physical damage or not running smoothly
 - Repack original / new bearing with high quality waterproof grease and re-fit
 - Tip: When replacing castle nut, tighten fully, then loosen off by approx. $\frac{1}{4}$ - $\frac{1}{2}$ turn to ensure smooth running. Don't forget to re-insert the split pin
- Regularly check tyres are securely fixed & pneumatic tyres are at the required tyre pressure
- **If in any doubt, don't drive!**



Carriage Maintenance - Brakes

- Brakes (where fitted) are critical to the safe operation of any carriage
- Carriage disc brakes operate on the same principles as that of a car:
 - Discs are typically made of steel
 - Hydraulic brake calipers use replaceable brake pads to stop the carriage
- Brake pads wear and eventually will fail to operate as designed
- Just like a car, brake pads needs to be checked for wear, changed as necessary and the braking system needs to be tested for efficiency (i.e. no air)



Carriage Maintenance - General

There are a few specific maintenance checks which may be applicable to your carriage:

- **Extending axles** (if fitted) : check they slide in / out. Grease prior to the start of the season and before your first event!
- **Turntable**: grease regularly with a high quality waterproof grease & check for play
- **Squeaks**: lubricate moving parts with WD40 or a light 3-in-1 oil
- **Delayed steering**: check for alignment
- Your carriage may have specific options or features – ensure that these are maintained in accordance with the manufacturers recommendations. If in doubt, contact the manufacturer

Carriage Maintenance – Paintwork & Storage

- **Regular washing and polishing makes all the difference!**
 - Wash after use. Use car shampoo – not fairy liquid!
 - Use a hose rather than a pressure washer – but if you have to, don't spray too close to the wheel hub and brake area. Chamois dry
 - Polish with a good quality wax polish. We recommend Auto Glym products
 - For rubber mats and trim, use a non silicone based products to avoid slipping. Black boot polish works well too!
 - Brasso is still the best and simplest product for cleaning brass
 - Treat leather components with a good quality leather conditioner
 - Polish stainless steel components with a suitable polish
- **Touching up scratches is easy – and important!**
 - Preparation is key. Sand down, apply a thin coat of paint, sand again & apply another thin coat of paint
 - Apply a light coat of wax once fully dry
- **Store your carriage clean and dry – and under a cover**
 - Keep your in showroom condition to make every drive a pleasure!



A well stocked toolbox is strongly recommended!

- Invest in a good quality, dedicated toolbox for your carriage. **Don't forget to take it to events too!** We recommend the following contents:
- Claw hammer and hide hammer
- Selection of screw drivers
- Pliers
- WD40 / 3 in 1 & blue waterproof grease
- Replacement bearings and oil seals
- Replacement brake pads
- 2 x 19 mm and 2 x 17 mm spanners (*or appropriate spanners for your carriage*)
- 2 x adjustable spanners
- Tape measure
- Socket set (with correct sizes to fit hub caps and castle nut)
- Split pins and spare hub caps
- Super glue & cable ties
- 6 mm & 5 mm Alley keys
- Replacement inner tube
- Tin of touch up paint, sand paper and brushes
- Remember - replace items once used...!



General Maintenance Hints & Tips

- Follow your carriage manufacturer's guidelines
- Have your carriage serviced on a regular basis by the manufacturer
- Keep foam / sponge handy for transportation – use between ratchet straps & your carriage to avoid paintwork damage
- Remove stones from polyurethane tyres and repair cuts with superglue
- Keep a record of work performed – it is useful for your own reference and helps when selling

You'd never ignore the need for a vet or a blacksmith – yet carriage maintenance is often overlooked. Take pride in your carriage !

FEI Rules relevant to carriages – key points

It is important to ensure that your carriage is fully compliant with the current and relevant rules & regulations. At the time of presenting, the FEI rules (11th Edition, with updates effective of 1st January 2021) include guidance on:

Article	Areas Covered & Key Points
936	Permitted carriages – i.e. type of carriage permitted by category and discipline
937	Covers weights & dimensions
938	Equipment
939	Tyres
940	Harness, carriage & horse
941	Advertising
942	Safety

As you can see, there are many rules that apply – and each is very specific. We strongly recommend a thorough review and analysis to ensure compliance.

FEI Article 937 – Weights & Dimensions

- By way of example:
- The tables shown right demonstrate the level of specificity
- There is little chance to change the width or weight of your carriage at the event!
- Our advice: thoroughly read and review the rules with plenty of time in case change is needed

3. Dressage Carriages must comply with the following:

Class	Wheels	Grooms	Min. Width
Horse Four-in-Hand	4	2 behind	158 cm
Pony Four-in-Hand			138 cm
Horse Pair	4	1 behind	148 cm
Pony Pair			138 cm
Horse Single	2 or 4	1 behind or beside	138 cm
Pony Single			

4. Marathon Carriages must comply with the following:

Class	Wheels	Min Weight	Grooms	Min. Width
Horse Four-in-Hand	4	600 kg	2 behind	125 cm
Pony Four-in-Hand		300 kg		
Horse Pair	4	350 kg	1 behind	125 cm
Pony Pair		225 kg		
Horse Single	4	150 kg	1 behind	125 cm
Pony Single		90 kg		

Thoughts prior & at the World Championships

- Ensure all carriages professionally serviced prior to travel
- Check all key measurements & weights prior to travel – the carriage may have had a knock!
- Ensure you have a designated carriage maintenance “go to” person at the event – and understand the potential limitation of any work before you travel
 - Consider spares for items that may get damaged and cannot be repaired on site – e.g. shafts
- Ensure you have a designated carriage cleaning team – who can also help with “odd jobs”!
- At the show keep carriages covered and locked for added security
- Agree amongst team members a common mounting position for a Go Pro – so all the footage is taken from the same angle
- Ensure your carriage is weighed on the competition weigh scales prior to the marathon. Get the results documented & take a photo
- Have a spares kit on board the carriage



Q & A



Q & A

Good luck on your Team GB journey from
Team Bennington





Thank you for joining. We look forward to welcoming you back soon!

