Houstoun Gate Locomotive Works
4-Wheel Drive Deluxe Chassis

It is suggested that you read these instructions through before commencing construction.

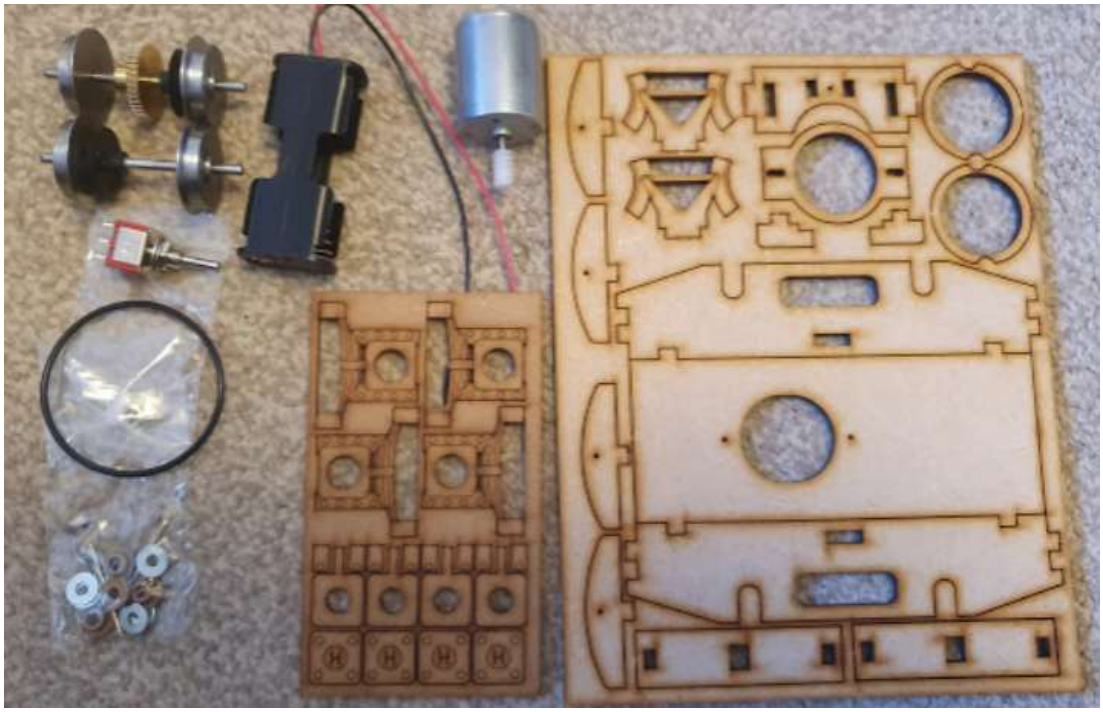
A minimum of tools are needed to assemble the kit. Sandpaper and sanding block, some strong rubber bands or weights to hold parts in place while the glue dries. You will also need a small cross head screwdriver to attach the motor and soldering equipment to assemble the wiring.

The included motor is designed to run on 2 AA batteries (Not included). These can be either rechargeable or disposable.

This kit requires glue and paint to complete. It can be built entirely with PVA (exterior type) or aliphatic resin. We recommend Titebond 3 aliphatic. Because excess glue can be wiped away with a damp rag, and you have a few minutes drying time in which you can ensure correct alignment of parts.

As MDF is by its nature not moisture proof and the model should be painted or varnished before use. First apply a sealer/primer - MDF sealer, thinned PVA or grey automotive primer will all do the job. The cut edges may need more than one application of primer to seal them. Cans of automotive spray paint work well and give a good finish. If brush painting then use acrylic or enamel paint.

Kit Contents



Two worm gears are included, one is a spare. In use the worm will wear but it is quick and cheap to replace, available in the HGLW shop.

Assembly

Carefully separate the parts from their sheets. Wriggling them lightly is normally enough to break the retaining tab. Sand the retaining tabs away on all parts before beginning assembly.

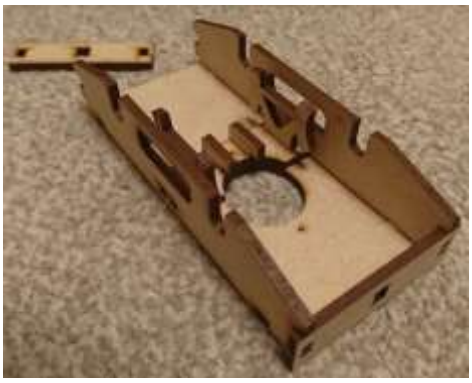
Start by attaching motor supports to the chassis spreader.

Glue the brake etches into the chassis spreader

Attach one chassis side to the top plate

Slot the chassis spreader/motor mount assembly into the chassis side, ensuring that the curved portion lines up with the motor hole in the chassis top plate, then add the second chassis side

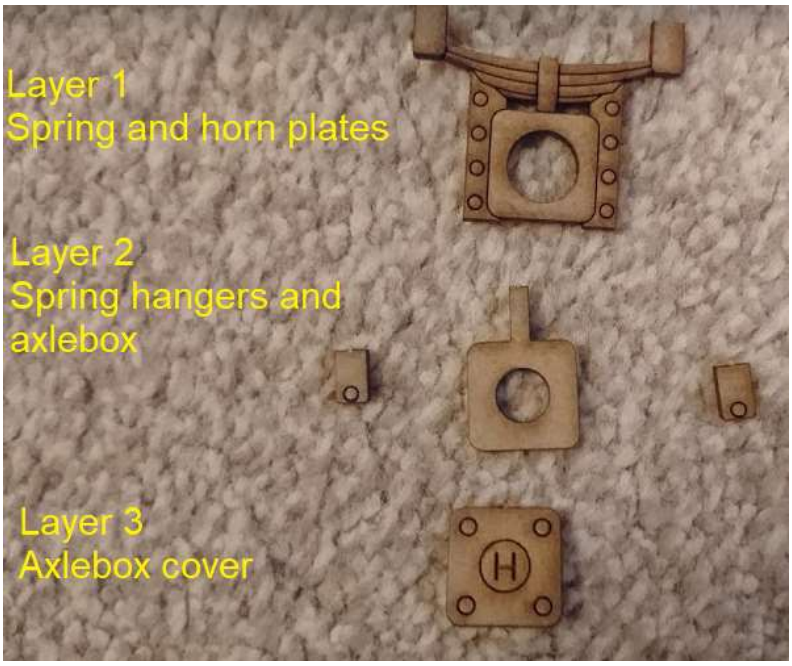
Add the buffer beams to the end of the chassis and put the chassis aside to dry



While the main chassis is drying you can prepare the wheels and axlebox covers

Place two washers onto each axle end followed by a top-hat bearing as shown

The axlebox and spring assembly is made up of three layers that are assembled as shown.



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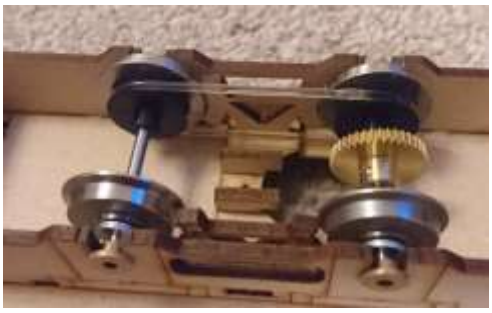
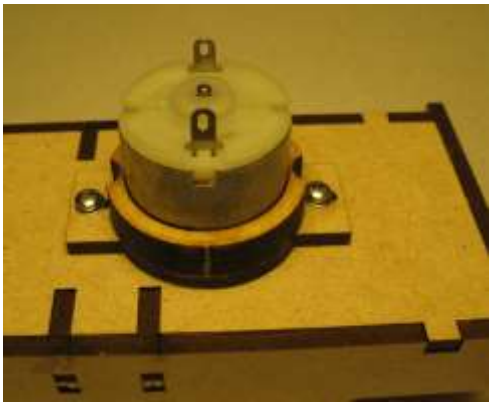
Mount the axle assembly in place between the frames. Washers go between the wheel and the chassis fram and the top-hat bearings fit with the widest part on the outside of the frames.
Don't forget to fit the drive belt at this point.



Sparingly apply glue the axlebox assembly and slot over the top hat bearing.
Make sure you don't allow glue to seep into the bearings!
Before the glue dries place the chassis onto its wheels on a flat surface to ensure that all four wheels are touching the surface

Glue the three motor holder hoops together as shown in the picture. You can use the motor to assist aligning them but remove the motor before the glue sets.

Once the glue on the motor holder is dry place the motor in the holder and insert it into the chassis so that the motor rests on the motor supports. The motor should now be glued to the holder. Wood glue will have sufficient grab on the motor to keep it in place. However a couple of drops of cyano glue will also do the trick. Alternatively you could use hot-melt glue if you have a glue gun. Take care not to glue the motor assembly to the chassis.



When all glue is dry it is time to secure and align the motor. Place a washer onto each self-tap screw and carefully screw the motor/holder onto the base. Don't tighten the screws fully yet. Slide the holder around until you have the perfect mesh between the worm and the spur gear. The worm must not be tight against the gear but should have a tiny gap. Now tighten the screws, but be careful not to overdo it as this may damage the base.

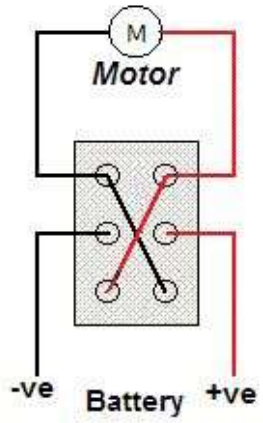
If you are fitting this chassis to one of our body kits you should omit fitting the buffers

If you plan to use the chassis with a body perched on top affix the buffers then shape the brass rod into coupling hooks and fit in the locating holes

Note: The gears should not be lubricated, oil or grease tends to be pushed off the worm anyway so only serves to attract dust and dirt and nylon is self-lubricating.
The chassis top-hat bearings do already contain oil but a **tiny** drop may be applied periodically.

The chassis is now fully assembled,
For simple “forward/stop/reverse” operation just add a couple of batteries and wire the switch as shown.
The motor supplied is rated at between 1.5v & 6v

For remote control such as LocoRemote or Deltang systems we recommend using four AA or AAA cells (6v)



How to wire the motor and switch