



# BullAnt R-T-R Mechanisms

This BullAnt Ready-To-Run Mechanism is custom-made to fit a specific model, however the principles of care and maintenance apply to all versions.

## Lubrication

Your BullAnt Mechanism has been lubricated and tested prior to delivery, so there should be no need to lubricate it for quite a long time. It will also benefit from a period of running in. Lubrication should be performed approximately every 50 running hours. When it becomes necessary, please lubricate sparingly. Excessive lubrication creates areas that pick up and retain dirt, leading to increased wear.

Apply plastic compatible grease to the worm and worm gear through the small aperture in the bottom of each axle gear-case. A tiny drop of oil can be applied to the brass bearings on each axle. The gear tower on each bogie has 5 brass bearings that need a tiny drop of oil on each bearing. Two of these bearings are inside the casing.

Applying a small amount of grease to the spur gear train will help reduce noise, but please be aware that the speed of these gears can cause grease to fly off and cover the interior of the model.

DO NOT lubricate the Delrin plastic universal joint cups or bones, this material does not need lubrication. A drop of oil on each motor bearing can be applied using a piece of thin wire to place in position.

Wheel cleaning is best carried out using a fibre-glass burnishing brush for nickel-silver wheels.

## Motor Removal

If it is necessary to remove the motor, first remove the two cardan shafts by turning the bogies through about 90 degrees until the shaft pops out. De-solder the two power leads from the motor tags then un-screw the four small Philips head screws that fasten the motor mount to the printed circuit chassis. The rear flywheel is a force fit and will not come off without use of a tool, but the front flywheel has been fitted by hand and can be removed by rotating it and pulling it off, holding the rear flywheel in the process.

## Re-inserting Cardan Shaft

Insert one end of the cardan shaft in the cup of the flywheel, and push it fully in. Then rotate the flywheel such that the pins on the bone section at the bogie end are vertical. Likewise, using the gear on the end of the bogie, rotate the drive shaft until the slot on the cup is at the top.

Now rotate the bogie until it is at 90° to the chassis. Hold the bone on the shaft up to the cup and then rotate the bogie back again until it is in line with the chassis. The bone should slide effortlessly into the cup. If there is any resistance, do not force the two together.

## DCC Operation

The mechanism features an NMRA standard 8-pin DCC socket, allowing you to plug in a compatible decoder. Note that pin 1 of the socket is marked on the printed circuit chassis. Pin 1 of the decoder is usually an orange wire, if the decoder adheres to the NMRA standard. Any decoder of 1 amp or greater capacity will suit this mechanism. The Digitrax DZ123PS is an example of a suitable decoder.

**IMPORTANT: There is a dummy plug in the DCC socket on the printed circuit chassis, remove this before attaching the decoder.**

## Chassis Wiring

The printed circuit chassis is ready wired for most connections. The board is marked front and rear to indicate the correct fitting of the chassis inside the model. All lighting functions work in accordance with this direction of orientation.

There are a number of solder pads on the chassis with abbreviated names:

PUR = Pick up, right side.

PUL = Pick up, left side.

H+ = Headlight common (positive 12V) connection to decoder.

H- = Headlight negative connection, or function output.

HR- = Headlight negative connection, with series 680 ohm resistor.

For convenience, there are two sets of pads provided at each end of the board to make it easier when fitting a pair of lamps. Normal 12v incandescent lamps should be connected to the H+ and H- pads.

LED lamps can make use of the built-in 680 ohm resistor, which is the correct value of current limiting resistor for use with LEDs. There are four resistors, one for each of four possible LED lamps.

The positive lead, or Anode of an LED is the longer of the two leads. This lead goes to the H+ pad, the other lead, the Cathode, goes to the HR- pad.

## Pick-ups

The pick-ups are made from hardened phosphor bronze and do not like to be bent too sharply or too often, otherwise they will break off. If this should happen, contact us and we will provide free replacement.

We have found that the pick-ups work very well when lubricated slightly. A minute amount of WD-40 placed on the end of the pick-up helps lubricate it to reduce wear and also improves electrical conductivity.

### **Sideframe Mounting**

Each bogie is fitted with one or more polystyrene supports for the pick-ups and also for attaching cosmetic side-frames. This mount is designed with 'fingers' at different widths to accommodate various gauges. It is intended you cut off the fingers that are too wide in order to use the inner ones. As this part of the bogie is the only polystyrene part, it can be glued to with normal plastic cement or MEK.

### **Warranty**

The BullAnt RTR Mechanism is warranted for 6 months against faulty parts or workmanship. Faulty units must be returned at purchaser's expense to Hollywood Foundry. Contact us for details. This warranty does not cover a mechanism that has, in the opinion of Hollywood Foundry, been damaged or modified in such a way that has compromised its reliability. This warranty shall not diminish the rights of the purchaser as granted by consumer laws in other countries.

Hollywood Foundry

<http://www.hollywoodfoundry.com>

+61 3 5629 1100

### **WARNING:**

**THIS PRODUCT IS NOT A TOY. IT IS NOT TO BE SOLD TO OR USED BY CHILDREN UNDER 15 YEARS OF AGE. SOME SMALL PARTS PRESENT A CHOKING HAZARD.**

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