

MAXITRAK

The best of model rail & road
Over 40 years of model making excellence

3/4" Scale Allchin

Crane Conversion Instruction Manual



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Welcome to the hobby of Model Engineering, from

Maxitrak Ltd.

We thank you for selecting one of our models, which we trust will provide you with long-term enjoyment, in both its building and operation.

This construction manual provides build instructions and operational procedures for your model. The same manual is supplied with all models, irrespective of how the model is ordered i.e. Ready to Run, Fully Machined Painted Kit or Un-painted kit, therefore some pages may not be relevant for your model, but nevertheless could be useful in the future.

We have a policy of continual improvement to our product range, including on-going updates to the construction manuals. This is based on our own experiences and feedback from customers. We invite customers to contact us regarding their experience on any matter during the build or operation of their loco, should they consider there are errors, misunderstandings or procedures that could be better described in this manual.

We aim to provide a good quality basic model that is easy to build, operate and maintain. We also encourage, support, and will assist, customers who wish to implement their own modifications, and we are also pleased to receive photographs of models to retain in our files.

We wish to ensure that all customers are able to build and operate their model to their expectations, for which we have a 'help-line' available to provide technical and operational advice regardless how insignificant it may be considered.

We offer customers spares, servicing and boiler examination & testing facilities for all locomotives.

The above information is also relevant should you have acquired your locomotive second-hand.

Pleased be assured of our best and personal attention at all times.

1. Remove the gear lever and gear from the end of the crank shaft. Look out for the crank shaft gear key. Remove the three screws holding the crankshaft bearing.

This bearing can then be turned and removed from the horn plate.

2. While this bearing is off, have a look at the fit of the canopy, bend the legs so the supports fit nicely over the tender and horn plate's right behind the main crankshaft bearings

3. Returning to the crank shaft the left-hand crank bearing needs to be released, to do this it is necessary to take off the hub cap (unscrews) the left-hand wheel (grub screws in the back of the hub) and the flywheel (grub screws in the front).

4. Once this is free unscrew the main bearing, the crank shaft can then be lifted clear of the horn plates and the large bevel gear fitted. This gear goes up against the crank web with the gear teeth facing to the right.

5. The main bearings, flywheel, road wheel and hub cap can now be replaced.

6. Assemble the cable drum brackets and winding drum, change one drum grub screw for an M3 bolt to secure the cable end.

7. Take the worm and shaft assembly NOTE, THERE ARE TWO VERY SMALL BALLS TRAPPED UNDER THE WORM. DO NOT RELEASE THE WORM OFF THE SHAFT WITHOUT TAKING PRECAUTIONS TO CATCH THEM!

8. If you keep the shaft horizontal, they should stay put but be prepared, work over a tray or dish, the balls are .5 mm dia.

9. Observing the above precautions release the screw on the end of the shaft and remove the worm.

10. Check the fit of the worm into the smoke box bracket. Gently file to achieve a fit, it needs to turn freely with a minimum of end play. Carefully push the shaft through the brackets and worm taking care not to lose the balls, make sure the shaft and worm turn freely revolving the winding drum. A drop of oil will help.

11. Check the fit of the small gear and support bracket on the worm shaft. Check the height of the support bracket matches the worm shaft to the crank shaft horizontally. File down or shim up the bracket if required (usually a quick file to take the paint off for a matching height.

12. Offer the gear/shaft/drum assembly on to the engine ensuring a good straight line down the length of the boiler with the drum bracket butted up to the front of the first boiler band. Now try the small bevel gear in place, matching the backs of the bevel gears for mesh. Using a scriber mark the position of the two bracket fixing screws. The bracket

has its foot towards the back of the engine. Double check this marking out, then drill 1.6mm and tap M2 for the bracket screws. Put a piece of metal sheet under the bed plate so you do not drill into the boiler or steam pipes while doing this operation.

13. Bolt on the bracket to the bed plate, push the worm shaft through the bracket and bevel gear, tighten grub screws. Check for free rotation on the shafts and gears.

14. Place the assembly on the smoke box and mark the bolt holes through the brackets, get the brackets equal distance down from the chimney, back of the brackets should line up with the first boiler band.

15. Drill the back two holes 2mm and bolt on with 2 mm bolts, check alignment and drill the other bracket holes, bolt up both sides.

16. You will now need to align both brackets, so the drum and shaft turn freely, gently bend the brackets and ease out the shaft holes as required. Do this with the smoke box door in place as it is easy to bend the front of the smokebox.

17. Start mounting the jib by taking the two jib supports and trying them on the side of the saddle. Mark and drill for the mounting bolts, these can be tapped M2 or fitted with a nut on the inside. It is possible to do this with the front wheels on full lock. Fit the e clip to the end of the jib pin and try the pin through the jib, spacer and jib supports. Check the jib supports match the saddle for width, adjust the thickness of the spacers if required. Fit the last e clip.

18. The two wire jib support rods can now be fitted, from the hole at the top of the horn plate to the top of the jib.

It is suggested that the worm and winding drum are run in before fitting the cable.

It is most important that the burner is set up to light from behind the saddle. If you take the smoke box door off with the cable in place there is a very good chance of melting or setting fire to the cable on the winding drum. To avoid this, get the burner sorted before fitting the cable, and always light from under the saddle. The cable is wound round the drum and then goes over the jib top pulley, then down to the pulley on the hook and back up to the top of the jib where it is tied off on a bolt run across the jib just behind the top pulley.

When you are operating the crane, it is useful to have a small weight on the hook, to ensure the chain keeps tight when lowering. Stop the engine to engage or disengage the worm drive to the winding drum.

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Crane conversion kit check list

Half canopy	1 off	
Jib	1 off	
Jib support rod left hand (stainless steel rod)	1 off	
Jib support rod right hand (stainless steel rod)	1 off	
Jib mounting set, 1 x rod, 2 x brackets, 2 x washers, 2 x circlips	1 off	
Drum	1 off	
Cable drum bracket left hand	1 off	
Cable drum bracket right hand	1 off	
Drive rod with locking worm	1 off	
Small bevel gear	1 off	
Large bevel gear	1 off	
Drive rod support bracket	1 off	
Hook	1 off	
Chain	1 off	
M2 mounting bolts	12 off	
M2 mounting bolts long (Jib)	1 off	
M2 mounting nuts (Jib)	1 off	
1.6mm drill	1 off	
2mm tap	1 off	