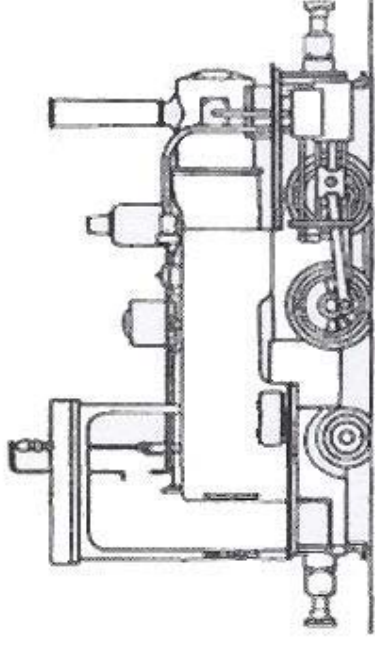




## MOSSKITO MODELS

6 CLEAVERS CLOSE SISSINGHURST KENT TN17 2JX

MM14



### ORENSTEIN & KOPPEL 'PLANTATION' 0-4-2 WELL TANK

#### HISTORY

O&K were probably the best known of the German locomotive builders. Founded in 1876 they produced a wide range of locos both of steam and diesel for the narrow gauge. Each tailored to the customer's requirements and to the industries they were required to work in. There was a good market in supplying equipment for the sugar cane industry to many parts of the world. This was exploited by many companies able to supply complete railways i.e. track, locos and rolling stock. O & K were one such company and this loco represents one design for this work.

#### ABOUT THIS KIT

This loco superstructure has been designed round the chassis of Bachmann 'N' scale 0-4-0 'Docksider' locomotive. Certain minor modifications are necessary to fit this to the body. Please ensure that the chassis / loco works well before commencing alterations as these will compromise the manufacturer's warranty.

This kit was originally designed for Dutton Models. Text, instruction drawings, diagrams are copyright Mosskito NG Models and RPI.MMI

## BEFORE YOU BEGIN

Please read and study thoroughly the Instructional notes, exploded diagrams and the recommended order of building. Try to become as familiar as possible with all the parts and components supplied and their purposes before commencing building. Check the assembly at each stage to ensure accuracy, except from a few times when it is needed during construction keep the motor and chassis away from the work area. This avoids contamination from metal filings.

Work on a clear area under a good light source. Have all the recommended tools to hand before starting. Do not rush the assembly stages or attempt them out of order. Clean any 'flash' or moulding lines from castings only after checking that to do so will not interfere with the fit or appearance of the part. A sharp knife will remove most flash. Only use files on parts with care as the white metal is easily marked by careless or overzealous work with cutting tools. Use wet and dry paper wherever possible and a final polishing with a fibreglass pen or scratch stick.

Use a filler, epoxy putty (Milliput) if any gaps are present, smoothing filler with wet and dry paper (400 grit or finer).

## TOOLS REQUIRED

We recommend that you have a good quality set of Swiss needle files, wet and dry abrasive paper of various grades, sharp knife, pin chuck, small drills and fine long nose pliers. A square of flat thick card or wood is a useful surface to work on.

The primary, and strongest method, of assembly for this kit is by soldering the white metal parts using low-melting solders and matching fluxes. Applied using a temperature controlled electric soldering iron or a 12-volt iron with the temperature regulated via a power controller; Soldering gives an uncompromisingly quick and robust result and is a technique well worth mastering and is not such a daunting method as is imagined by some. With the white-metal parts an additional bonus is that the searching action of properly applied solders acts as filler. Some components will still need to be glued in place particularly the smaller cast detail parts, thus preventing possible damage through excessive heat. If you insist on a wholly glue assembly of the white-metal structure use quick setting (five or ten minutes) epoxy resins, may be used or a cyanoacrylate 'superglue' variant but not of the Instant stick type. A gap filling variety such as Zap-a-Gap with a slower grab time gives some adjustment during setting – oh! And make certain to get some of the de-bonder at the same time as it may come in useful. Make certain that all parts are clean and free of dust and grease before fixing.

## SOLDERING

White-metal parts:-

Carr's 70 C melting point solder with Red Label flux

12 volt or temperature controlled electric soldering iron

Remember to thoroughly clean the finished soldering work up as you go as the mildly corrosive action of fluxes can tarnish the metalwork in short time. A solution of domestic scouring powder, Ajax etc., and warm water applied with an old toothbrush is quite effective. Rinse well and leave to dry.

**Brass Wire for parts:**

51. 0.8mm (.030")

52. 1.0mm (.040")

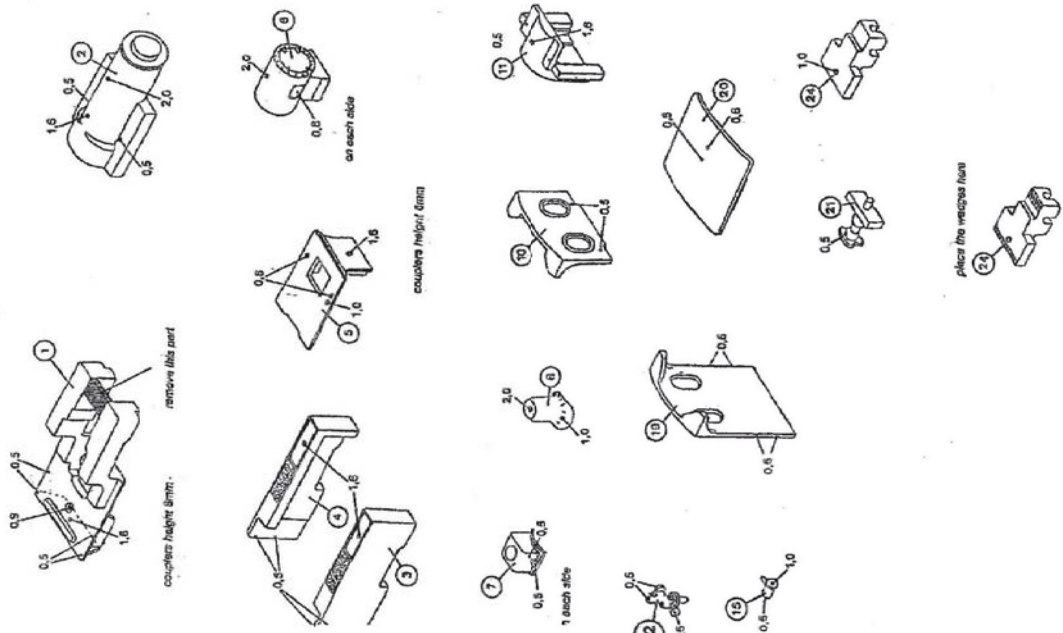
53 - 61. 0.4mm (.015")

**Miscellaneous:**

1 X Trailing wheel set (5.5mm diam.)

1 X 8BA x 12mm Csk. Bolt

1 X 12BA x 8mm Csk. Bolt and nut



**RECOMMENDED BUILDING SEQUENCE**

**Bachmann 0-4-0 chassis**

Carefully dismantle the loco by unscrewing the body shell retaining bolt (located between cylinders). Remove motor from the chassis and set aside. Cut off the front buffer beam extension and shorten the motor cradle to 5.5mm as indicated on the drawing. Refit the motor and insert a packing wedge of 10 thou plasticard to adjust worm to gear wheel mesh. Test run and set aside.

It is recommended that all castings are prepared before assembly. Drilling holes to accept brass wire pipework and operating rods where required to the metric sizes shown referring to the pipework diagrams. Coupling heights are marked at 8mm but these may be altered as required. Carefully remove the casting spacer from part (1) with a razor saw.

**WHITEMETAL PARTS CONSTRUCTION**

Begin by fixing the cab footplate (1) to the boiler (2), ensuring that the two parts are square in both planes. Next fix the right-hand (3) and left-hand side tanks. Carefully drill up through the base of the smoke-box (6) and tap in the 8BA Csk. bolt, also fit and secure a 12BA bolt into the footplate. Fix the smoke-box to the boiler/tank assembly, ensuring that is upright. Now place the front running plate (5) on to the chassis and offer up the boiler/tanks/smoke-box. If the front of the tanks and the rear of the running plate do not meet the motor cradle may ne reducing by further filing. (Although it may not be necessary, the underside of the boiler (2) can be thinned to fit over the motor) Now choose between fixing the front running plate (5) permanently to the chassis allowing the smoke-box to remove with the body or screw the body to the chassis/running plate and carefully fix the smoke-box and tank fronts to the running plate, thus making the whole unit removable.

Ensure that the fire-box (11) fits without pushing out the cab sides. If it does, reduce slightly in width and fix. Add the steam turret (12), along with the wire handles (54), steam pipes (55) and whistle pipe (56). Fit this assembly in place and add the reversing lever (13). At this stage there should be a gap between the fire-box and the rear of the boiler in which to fit the cab front.

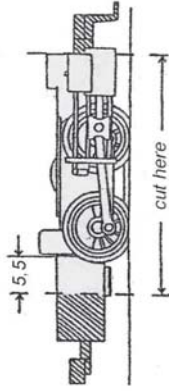
Add the boiler fittings, sandbox (7) with the sand pipes (53), steam dome (8) with safety valve bonnet (14) and chimney (9) (Prior to fitting this it could have Hs top carefully drill out to improve its appearance) Ensure that all these parts are central and vertical. The tank fillers (16) should be fitted now, as can the exhaust pipes (51). If the running plate is to be fixed to the chassis, the exhaust and inlet pipes (51 & 52) need to be fixed securely to avoid damage when the body is removed. Next fit the cab front plate (10) and the sand-box handle (59). Fix the inlet pipe (52) to the regulator (15) and loosely fit the regulator and the inlet pipe into their respective holes. Pass the regulator handle (58) through the hole in the cab plate into the regulator and when all is lined up to avoid the sand pipes, fix the regulator and pipe permanently.

Add the cab handrails to the cab sides and back. Next fix the Whistle (17) to the cab roof (20) and add the whistle handle (57). This is best done before bending the lower right angle. Fit the cab roof assembly, supported by the cab front and back. Turn the body upside down and fit the cab steps (62) and the front and rear life guards (22 & 23). These should not touch the rails when fitted! Finally add the coupler pins (60) and fix the coupling assemblies (21) to your desired height.

#### CHASSIS AND BODY ASSEMBLY.

When fitted to the chassis a rear end heavy 0-4-0 locomotive will result. The 'bissel' truck/chassis extension (24) fits below the footplate and supports the shortened motor cradle, it may need metal filed away from above the axle slot to achieve a good first fit. Carefully file of the pin-points ends of the trailing wheel set. Fit the wheel set into the bissel and check by dry fitting the keeper plate (18). Ensure that the axle is free to rotate secure the keeper in place (18). There should be no vertical play in the axle, as it is needed to balance the rear of the loco. Fit the bissel into place in the footplate over the captive 12BA bolt and secure with a nut. You may have to reduce the length of the bolt slightly to avoid fouling the track.

Stand the loco on a length of level track and check the balance. If it still appears rear end heavy release the bissel and add small wedges of 0.10 or 0.20 thou plasticard on top of the bissel until the correct balance is reached. Once this is achieved glue the plasticard to the bissel and re-assemble. Remove the chassis and bissel before painting. The bissel may be better primed and painted before fitting the axle.



#### PAINTING AND FINISHING DETAILS

Carefully wash the body to remove grease and metal residue and prime (Halfords Grey acrylic car primer is recommended). The locomotives were a standard product and available to order. Factory finishes were applied to the customers individual specification. A study of preserved examples shows a variety of colours. For industrial use -black-grey with red buffer beams and motion, weathered to taste with grime and a coat of dust 'dry-brushed' on looks most effective and highlights the fine detail. Tourist line locos have been seen, black (a favoured factory finish), brown and green. Buff/couplers are usually red. - We highly advise the use of an air-brush for painting, even the most basic of which will give a much better finish than hand brushing and will avoid that 'just dipped in a tin' look. Thinly airbrushed coats of acrylic paint will also not obscure the fine surface detail on castings.

## PARTS LIST

- |                        |                              |
|------------------------|------------------------------|
| 1. Footplate           | 13. Reversing lever          |
| 2. Boiler              | 14. Safety valve bonnet      |
| 3. Right-hand tank     | 15. Regulator                |
| 4. Left-hand tank      | 16. Tank filler X 2          |
| 5. Front running plate | 17. Whistle                  |
| e. Smoke-box           | 18. Keeper plate             |
| 7. Sand-box            | 19. Cab back plate           |
| 8. Steam dome          | 20. Roof                     |
| 9. Chimney             | 21. Co1.1pler X 2            |
| 10. Cab front plate    | 22. Front life guard         |
| 11. Fire-box           | 23. Rear life guard          |
| 12. Steam turret       | 24. Bissel chassis extension |

