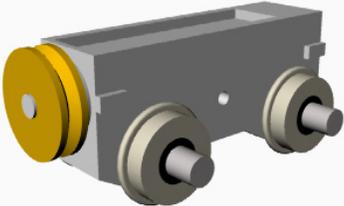
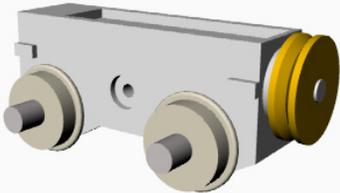
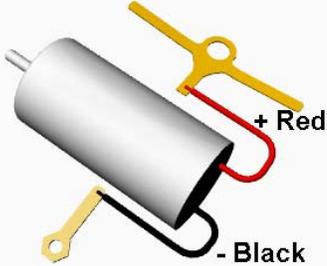
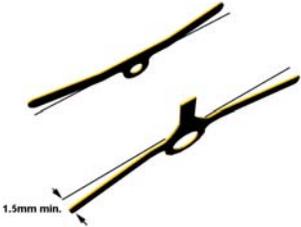
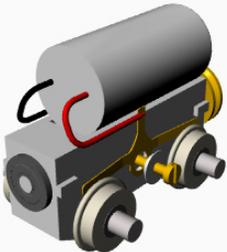
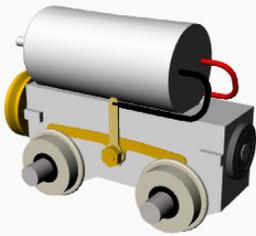
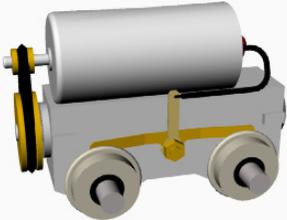
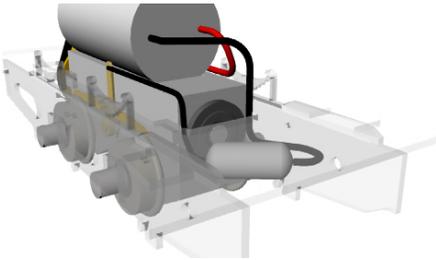


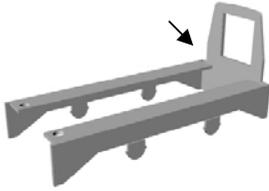
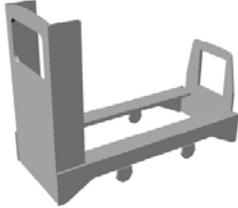
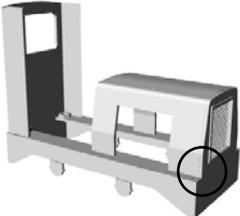
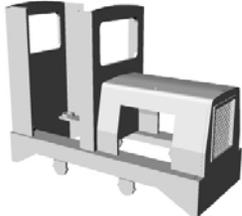
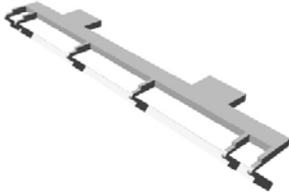
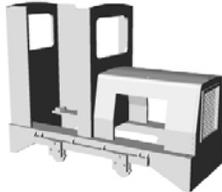
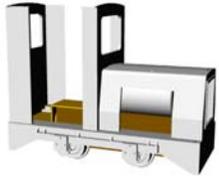
Assembling the drive unit (3D printed type block)

Note: Drive with extended axles shown. Your drive may vary slightly but these instructions apply to all 2 axle units.

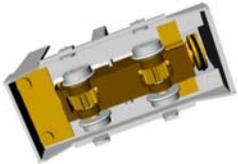
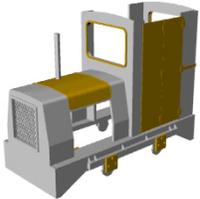
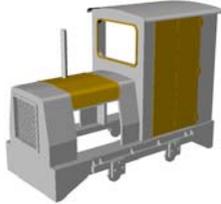
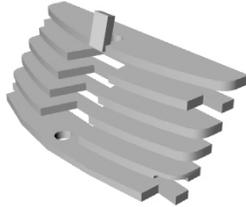
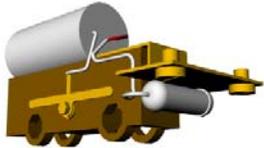
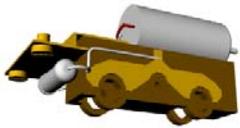
		
<p>1. The drive unit is supplied part assembled as above and is best painted before attaching the motor and pickups. Do not however paint over the motor mounting recess on top at this stage.</p>	<p>2. One side of the housing has a small counter bore to accept the insulating bush for the pickup on that side. As these drives can be mounted with the drive pulley to the rear or the front of the engine the motor polarity is selected by the user.</p>	<p>3 When unit is mounted with the pulley to the rear of the engine the above polarity will cause the model to run forward on conventional positive powered right hand rail. When unit is mounted with pulley to the front the above polarities must be reversed to maintain conventional running.</p>
 <p>1.5mm min.</p>		
<p>4. The pickups should be formed to stand off from the housing by a minimum of 1.5mm before fitting. Attach the motor using super glue or epoxy and allow to set before attempting to fit the pickups.</p>	<p>5. Thread the insulating bush part way onto the 14BA screw and assemble the left hand pickup as shown. To facilitate fitting of the right hand pickup push the bush fully home but not the screw.</p>	<p>6. Position the right hand pickup and push home the screw. Attach the lead from the motor and fasten with the nut.</p>
		<p>9. Lubrication. The non-drive end layshaft bearing is self lubricating molydenum disulphide impregnated nylon and requires no lubrication. The driven end layshaft bearing is a sealed stainless steel ball race and requires no lubrication.</p>
<p>7. Fit and align the pulley and secure with Loc-Tite or similar, allow to set before fitting belt. The chassis can now be test run.</p>	<p>8. The motor is rated at 10v. With care it can be run on a pure 12v DC system, it is however recommended that a 15 ohm resistor be fitted in series with the motor. This can be mounted above the running plate or below the plate if space is limited.</p>	<p>The worm wheels can be graphite lubricated by dragging a soft graphite pencil lead over them. The main axle bearings should be lightly oiled using a proprietary plastic friendly oil for models</p>

Madge00n3 - Ruston 48DL 009 or 00n3 Assembly Instructions (Body)

Page 1 of 2

					
<p>1 Clean up the main frame and fold as shown. Be sure to remove cusping completely from top inside edges to ensure adequate clearance for motor when inserting drive unit.</p>	<p>2. Fold up the frame sides Check the engine front/grill insert will slot into the gap behind the front frame.</p>	<p>3. Using cocktail sticks to protect the threads and align, solder the two 12 BA chassis mounting nuts into position</p>	<p>4. Fold the chassis mount taking care to fold correctly. Fit in place to hold frame true.</p>	<p>5. Clean up cab back, solder in place and remove the chassis mount.</p>	<p>6. Offer up the grill insert noting that it forms a register for the engine housing.</p>
					
<p>7. Part fold the engine housing top corners first then form the curved top. Check for neat fit to frame. There will be a small amount of filling required where shown above.</p> <p>Note exhaust hole is on right hand side.</p>	<p>8. Front of cab can now be fixed in place.</p>	<p>9. NOTE REVERSE FOLD! The re-gauging extensions should be lightly tinned or, for solder paste, fluxed before folding as shown.</p>	<p>10. Solder before filing to form the fillets as above. This will remove most of the fold lines.</p>	<p>11. Attach extensions as shown. If you have not already done so you will now need to assemble the drive unit.</p> <p><i>See separate drive unit instructions and fig. 20</i></p>	<p>12. Refit the chassis mounting bracket to the frame. Pack between top of motor and engine housing (appx.1mm). Check for position and fit. Epoxy the drive unit into the mounting plate taking care not to allow epoxy onto bearing.</p>

Page 2 overleaf

					
<p>13. Form front brackets from scrap or beat out piece of lead to take up space between top of motor and bonnet to support front of loco.</p>	<p>14. Remove the drive unit. Carefully form the bonnet overlay by 'spooning' over the corners. Once you have a good fit solder or glue into position. The exhaust stack hole can be drilled from below after fitting.</p>	<p>15. Doors, window frames overlays and stack can be fitted now. The side engine access covers are best left until the model has been run and drive unit clearances checked</p>	<p>16. If you wish to add your own additional detail to cab interior, that is best done before fitting roof. Roof sides should fold down but it is easier to achieve effect with .4mm NS under eaves.</p>	<p>17. The coupling pockets/ballast weights must be stacked in the correct order to achieve the right effect. <i>(They are in the correct order on the fret)</i>. Use a 1mm drill bit to clear holes.</p>	<p>18. Remove the cusping from the rear of the etches to facilitate alignment of the stack. Tin only the notched laminates on both sides and the top and bottom pieces on one side only, flux the remainder.</p>
				<p>Further notes re assembly of coupling pockets. The soldering together of the laminates can be rather tricky but is made much easier using solder paste. The method I use is as follows. Remove cusping from back of etches. Using a paste flux, flux all mating surfaces. Thread laminates on to a stainless steel dress making pin. Grip the pin with reverse acting tweezers to hold the stack together against the pinhead. Place sufficient solder paste to cover the back of the stack on a ceramic tile. Lay the stack face up on the solder paste. Adjust alignment. Gently heat stack with mini gas torch until solder is drawn up through the stack. Clean up front of stack.</p>	
<p>19. Assemble the block using a 1mm drill to assist alignment. Lay the block on a flat surface, clamp and sweat together. Clean up the cusping on the front.</p>	<p>20. If the resistor is to be fitted then this may be installed as shown rather than in the cab. Some filing of the body frame may be required to allow adequate clearance.</p>		<p>21.</p>		