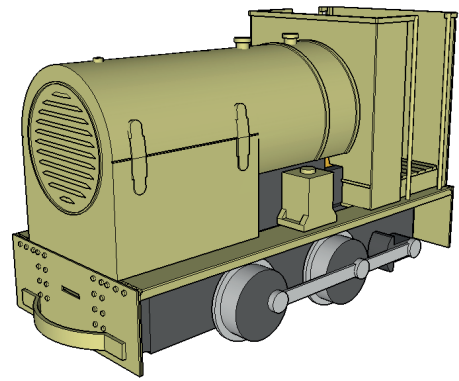


NPL-016
Baguley MCEwan Pratt
'677' 10HP Class 0-4-0PM



Thank you for purchasing this Narrow Planet kit, we hope you enjoy building and operating it. Please read through the instructions thoroughly before beginning assembly.

Tools required:

- | | |
|-------------------------|-----------------------------|
| Soldering iron | Twist drills & pin vice |
| 145° solder, 70° solder | Needle files/emery boards |
| Tweezers | Superglue or 5-minute epoxy |
| Craft Knife | |

Prototype Info

The '677' class 10HP locomotives came about by an order from the War Department to Baguley Cars Ltd for a lightweight locomotive that was capable of running on lightest 9lb rail as used on the portable track system used on the front line. Whilst the supplied locomotives fulfilled the specifications set out by the WDLR at the time of ordering, they were not so successful in active service due to many shortcomings. Over 50 locomotives were used by the British military railways, most of which were used in rearward operations to which they were better suited.

About the kit

This kit is comprised of whitmetal detail parts and a fret of etched nickel silver parts. We recommend that the etched superstructure is soldered together with 145° solder, however we feel (although we've not tried) it may be possible to assemble using adhesive alone. Carefully remove each part from the fret as required using a sharp knife on a board, dressing the tags with a file, preparing the white metal castings in the same manner, removing and smoothing any flash/mould lines. All half etch fold lines are formed on the inside face.

Items required to complete

TGW TU-DB 158 Chassis (included in NPL-016C)

Component list

- Nickel silver fret
- Whitmetal casting set; tank/bonnet, cab floor, sandboxes
- 0.5 brass equal angle
- 0.3 brass wire
- 3D printed chassis extension

Please note this is a scale model for adult collectors, and not intended for children under 14 years of age.

Before you begin

The chassis that this kit is designed for is fitted with a 4.5v motor. This will mean that caution must be used when using a 12v controller, as any excessive load may burn the motor out prematurely. A dropper resistor may be fitted, but we strongly recommend a Tramfabriek 0615S coreless motor as a replacement for improved running quality. This easily changed and is described in the instructions. Couplings are not provided as they are matter of choice for the modeller. We do highly recommend the use of the 'Greenwich Coupling' for which slots in the buffer beams are provided at the correct height.

Chassis modifications

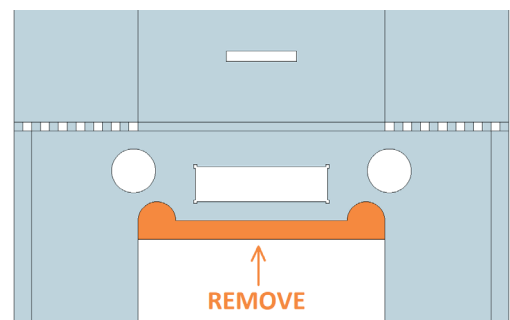
IMPORTANT: PLEASE READ

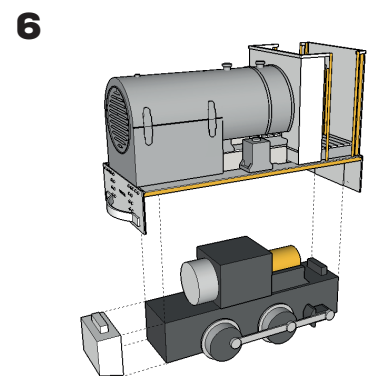
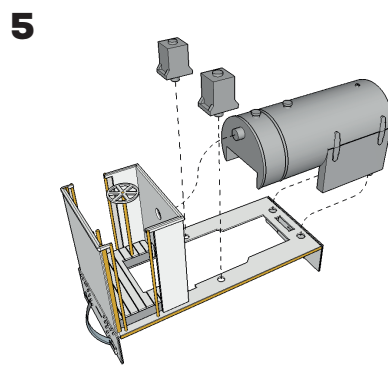
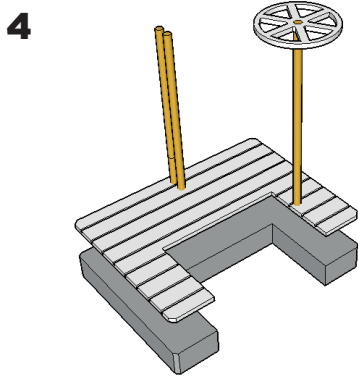
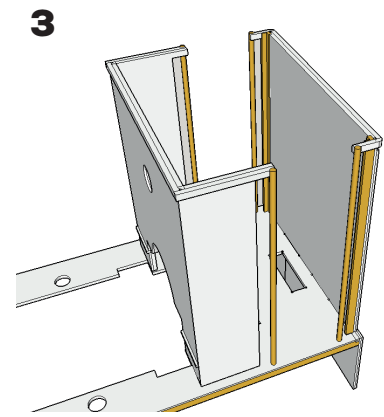
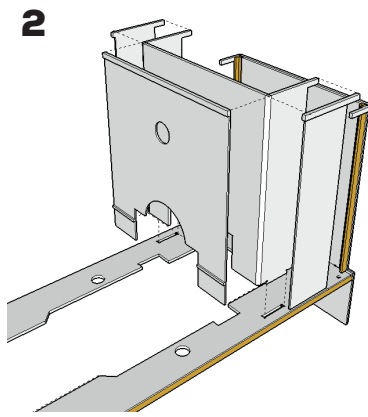
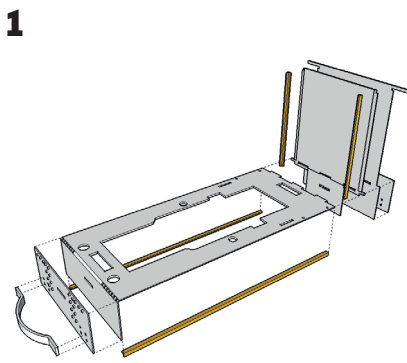
During the latter stages of development of this kit, we discovered a design flaw in the chassis which means it has difficulty traversing through point work. This is due to the 0.4module 11 tooth spur gears being a greater diameter (5.2mm) than the 5mm driving wheels. We found we could overcome this issue by very very very gently removing tiny incremental amounts of material from the tips of the gear train, using fine emery/wet & dry (1200grit and above), whilst the chassis is powered up. Repeat the process until the chassis runs through point work uninhibited. (This fettling has already been undertaken with NPC-016C)

The chassis only requires the 3D printed extension piece to be bonded to the front. However if an alternative motor is desired, such as the Tramfabriek 0615S coreless motor, this must be changed first before the extension piece is added.

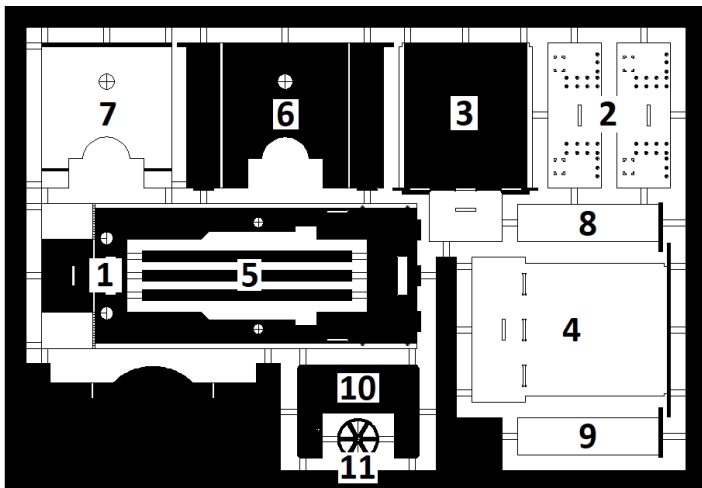
- 1 • To replace the stock motor, simply unsolder the motor leads noting the colour of them.
- 2 • Pull the motor out of the plastic housing, remove the worm gear from the motor which should require little force.
- 3 • Push the replacement motor into the plastic housing. Push the worm gear onto the shaft, making sure it is centred on the spur gear, secure with tiny drop of adhesive/retaining compound – do not allow any to seep into the front bearing of the motor otherwise it will be rendered permanently damaged. Trim off any protruding motor shaft flush with the end of the worm.
- 4 • Connect the motor leads, routing them under the motor bracket as before. These "must" be kept as short as possible, otherwise it will impede the ability to install the chassis correctly into the tight confines of the body.
- 5 • Bond the 3D chassis extension into place.
- 6 • The footplate will need some material removed to clear the (longer) motor – see diagram below,

The chassis itself is retained in the body by an interference fit.





Etched parts layout



Body Assembly

1 • Take the front footplate (**1**) and fold the buffer beam to 90°. From the 0.5mm angle supplied cut 2 lengths @ 31.5mm and fix into the half etch recesses to form the valances of the running plate, file back any protruding material. Drill (gently) through the 4 holes for the grab irons in the brass angle with a 0.3mm bit. Attach buffer beam (**2**) aligning with the coupling slot.

2 • Attach inner cab back (**3**) to footplate with the half etch detail facing inwards, followed by outer cab back (**4**) with the upper beading facing outwards, followed by the other buffer beam (**2**). Add 2 lengths of 0.5 brass angle @ 14mm to the half etch recesses, bend the upper cab beading to form part of the grab rails to 90°.

3 • Form the buffer beam irons (**5**) to shape, using the profile jig in the etch. Trim the excess material to length, in line with the half etch notches, fit these formed irons to both front and rear buffer beams, using the alignment marks.

4 • Take the front cab (**6**) and bend the sides to 90°, attach to the footplate. Add the front (**7**) making sure it lines up perfectly with the hole, followed by the sides (**8 & 9**).

5 • Add the grab rails to the cab using 0.3mm wire, cutting them flush with the top. Trim back any protruding beading on the rear cab sheet.

6 • Fix the cab floor (**10**) to the white metal plinth making sure the planking detail is uppermost, carefully making sure the two parts are aligned properly as you may have issues getting into the cab a little later! Drill out the holes for the brake column and gearbox controls, the brake column is formed with a piece of 0.3mm wire and wheel (**11**), gearbox controls are formed from 2 lengths of 0.3mm. Now fix this sub assembly into place in the cab.

7 • Fix the bonnet into place – in order for the front of the bonnet to sit flush with the front buffer beam, some material may have to be removed from the back of the tank where it fixes against the cab and the locating 'pips' into the running plate at the front of the bonnet may also need adjustment. Once the adhesive has cured/solder cooled, file back the locating pegs flush. Fix the sandboxes into place.

8 • Gently offer up the chassis into the body, there is limited clearance and this will be a touch fiddly making sure the motor leads do not get trapped by the running plate. It must be noted that the 'live' side frames will be in close proximity to the body which could potentially cause a short. However, painting the body to form a good insulation should eliminate the issue.

Painting

It is thought these petrol mechanicals were supplied to the War Department painted in an olive green, similar to Southern Railway Maunsell light olive.

About Narrow Planet

Narrow Planet was founded in 2010 and offers a custom etching service for unique nameplates, works plates and number plates for your model railway locos and stock. In any size or shape from 2mm:ft to 7/8":ft scales. Many manufacturers' styles are available, our full range and ordering information can be found on our website.

This kit was designed by Stuart Brewer. If you have any queries about the model or instructions please get in touch.

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