

# RTPC\_4 Set - D(4)/B(8)/T(12)/M(16) Bar Stretcher & Point Construction Parts For bull head rail .075" high or similar rail

*AMBIS Moving  
Engineering Modelling closer to the prototype  
in operation and appearance.*

One Unit consists of parts for a typical B6 point with 2 stretchers.

For Code 75 bullhead Rail use RTP (intended for 4mm Scale). This may also be suitable for small section flat-bottom rails.

- D is a Single Unit, B is a Quadruple Unit, T - has 6 units and M stands for Eight Units

For each unit the following parts are provided on one etching

- Universal Stretcher ends – 4
- Adjustable Crank parts – 2 types, each consisting of base unit, crank and moveable block
- Rodding Connectors – short – 2, long – 4
- Switch rail support blocks for "B" switch - set of 8 (part Y)
- Switch Anchors - 2 (part X)
- For EM and P4 track clearances the following:-  
Nose or Vee Block and Common Crossing blocks – 1LH and 1RH for 1:6 and 1:3.5 angles
- 12 check rail/crossing blocks

## NOTES

1. Do not attach these stretcher parts directly to a rotating operating mechanism, as an insulation material will fracture after a limited number of changes.

These components were designed to operate in a "push-pull" mode as per prototype, to overcome that issue use a short, pivoted connecting rod made from rodding connectors (i.e. as per prototype rodding operated switches)

2. Intended for using an 0.5mm insulating material for the stretcher bar. This made can be cut with tin snips or scissors, you do not have to saw through it. It is flexible (to a certain extent) but should not be weakened by gapping the copper surface at the same place on both sides. Use only a file to create the "gap", circular saws or discs will wear too much of the material away before you realise this has happened.

3. Switch blades are best "fixed" to their normal closed position and pulled together by the stretcher bars. If the switch blades are difficult to move or too heavily sprung consider:-

- Where the friction is coming from – too short a moving part – then cut the switch blade and pivot it, or free more "chairs".
- Is the switch blade too "low"/bent downwards - if using plastic glues the solvent can melt the sliding chairs away and make a slot for the blade to sit in.

For safety - Only install the slide chairs after the stretchers have been fitted to prevent any solder heat melting a slot in the slide chairs.

It is possible to add the etched stretcher components to the switch blades before fitting the switch blades to the point.

## Preparation of Parts.

Clear any rodding connector holes, crank pivots before removing the parts from the etching.

Decide which rodding connector you want to use (LHS /RHS of stretcher). Only one connector is required per point, unless you are "modern image" or are using long switch blades. The other connectors can be removed from the stretcher part.

Decide which bolt fixing you will use (one or two bolts) the other fold over part can be removed as the etching is broken up.

Remove all the stretcher pieces as one unit, then cut through the bolt overlay parts to unlink them.

Prepare the stretcher bars – around a 1mm strip is usually sufficient per stretcher, length approximately 4mm greater than your track gauge. Check the ends are insulated from each other.

## Construction of Stretcher Units

- Fold over the bar bolts overlays and fix down.(A)
- Fold over the rodding connector units (B)
- Fold over the bolt overlay to ©) and fix.
- Twist the projecting "J" shapes by holding the centre section ©) firmly and tweaking the end until it is perpendicular to ©). This should look a bit like an "S" in three dimensions.
- Finally fold over item ©) so the unit resembles its final shape and fix, the bent "J" shapes should be parallel to each other and wide enough apart to feed the stretcher bar between.

**NOTE Item C fold line is very fragile along the half etch line and may only accept one fold attempt which is why it should be left to last.**

- On the back of the rear J section nearest the block ©) file away the corner with a very fine file so that block ©) fits into the rail section. If this is not done this "J" section can prevent a good join being made.
- Add the connector rod unit. We use a pin inserted from below, fixed at the top and then trimmed away. If the pin is fitted from above it can stray more easily at the worst possible moment.
- When both stretcher ends have been fitted to the switch blades, slot the stretcher bar between both ends. Check that it does not rub or hit the stock rails by always being free to move beneath both. You may thin the stretcher bar ends so that it does not create friction, preventing movement of the switch blades.  
Fix one end while it is against the stock rail, then using a gauge to ensure clearance for wheel flanges, fix the other end in a similar way. Check for free movement before proceeding.

## Construction of Adjustable Cranks

Select version you want, there is a cast and a forged crank support supplied, a duplicated crank and different moving block etches.

Fold up each part and fix together – see diagrams for cast crank support.

The moving block should fold around the arm of the crank without any hole in it.

## Rail Fittings

These have been produced in case they help in pointwork construction.

The check rail blocks simply fold into a U shape and upturned can be used to space check and wing rails from stock rails.

- Do not rely on the etched dimension, particularly if the odd thousandth of an inch or millimetre is important to you, use your gauges as the ultimate arbiter.

As etched parts they may be soldered to one rail – such as the check rail before fitting, or both rails. There should be sufficient clearance for wheel flanges. These parts can be useful if building up a common crossing (or frog in modellers terminology) as a solid unit before fixing to sleepers.

The nose block(vee to modellers) can be bent, but it was drawn to a 1:6 angle and then a 1:3.5 version was added. Two Vees are supplied for constructing obtuse crossings.

The switch anchor ties can be bent to a flat S shape and added to switch blades/stock rails.

Switch block supports are laid out in order and handed and should be fitted in the order laid out on the etching (it will be difficult to detect which are LHS and RHS fittings if mixed up). These were only drawn for the "B" switch pattern, if other shapes are required perhaps you can improvise.

There are regional and manufacturing differences for pointwork. The most common difference is curved or straight planning on switch blades.

There are a number of stretcher systems in use, including one using gas pipes or rods and not flat bars. These etchings simulate the common bar fittings, these were also used on flat-bottom track, whereas the bar type were not on mainline railways. Someone will prove me wrong on this issue – but private lines including preserved railways and mineral railways were a different matter.

It is possible a single stretcher is used for one switch assembly – in little used sidings, but for running lines two were fairly standard and longer switches may have several more. Facing point locks and detector rods were extra items attached to switch blades. These items will be available with the facing point lock parts in the AMBIS range.

Switch blade support blocks and switch blade anchors are particularly "regional", however all bullhead rail track used special chairs for crossings which the check rail blocks are meant to simulate.

Thank you for using AMBIS parts

It really is all quite easy when you know how, and assembly can be quick and fairly straightforward.

A product from:-AMBIS Engineering,  
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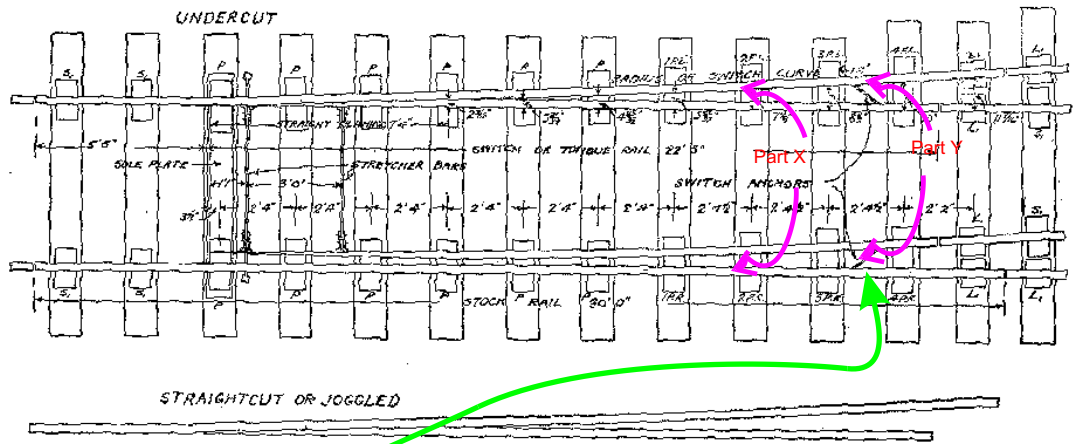
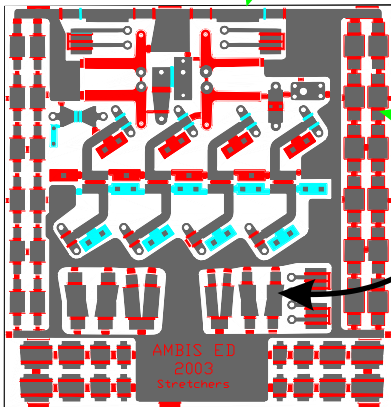
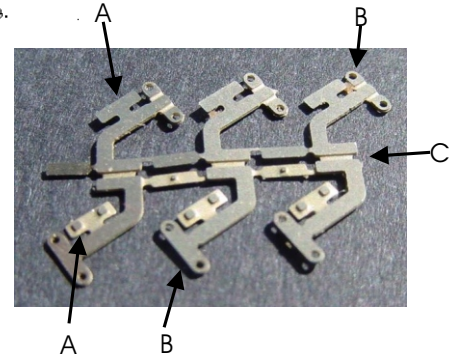


FIG. 21. 'B' TYPE SWITCHES.



**Construction of Stretchers - Cruel Images - larger than actual product.**

1. After stretcher bar overlays have been folded over.
2. Centre overlay selected and folded over and rodding connectors removed.
3. Bend into a "J" shape
4. Fold centre over, ready for installation.
4. Gently file away corner section of "rear" "J" arm to fit web of rail better.



File away but not too much to weaken part



Above - Permanent Way diagram B6 point - circa pre-1947.

Left photographs

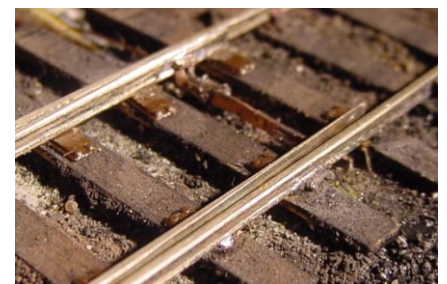
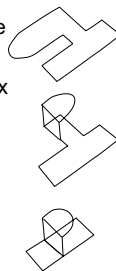
Bar Stretchers in Use

Above - single bolt fixing (GWR?) note track circuit insulation joint on stretcher bar and adjustable crank

Below - as used on a double slip points.

Making up the adjustable cranks:

1. Fold over crank and fix together.
2. The moveable block folds around the crank
3. The optional block folds up as illustrated.



Retrospective fitting - EM track

AMBIS also produces:-  
Coupling Hooks and drawbar plates  
Vee Hangers  
Push Rods

Brake Lever guides  
Axleguards  
Brake Blocks

As well as a range of other trackwork items, lever frames and senic items.