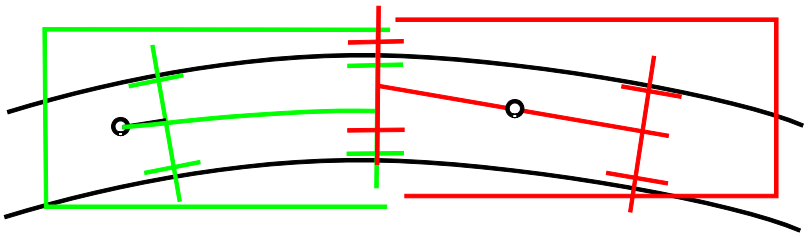
AX3/9/10 and LWBO_S/L/C_4
Axleguards with Inside Bearings Option
(Generic notes)

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

These notes apply to any 4mm:1ft scale product axleguards with the inside bearing option. This includes AX3, AX9, AX10, LWBO_S, LWBO_L and LWBO_C. products.

We have tested the adoption of long wheelbase stock on model railway radii curves and would advise modellers not to use fixed wheelbases greater than a scale 12 feet long, but to adopt a flexible wheelbase. This is best arranged by pivotting the outer axles outside of the wagon wheelbase. This reduces overhang and buffer locking better than inside wheelbase pivots on two axle and three axle stock.



The effect of creating flexible wheelbases is exagerated in this diagram. The rotation required is only a few degrees to reduce wheels from climbing up over the railhead.

It is not necessary to use the inside bearing option, though model railway curves and solebar design may make it impossible to allow the axleguard to rotate. In these cases remove the axlequard and attach it to the solebars.

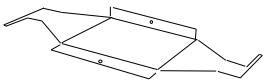
The construction of the axleguards is fairly straight forward, by bending up the axleguard pair.

First remove the unwanted tie bars and fold over an fix those required. Then break out the centre carrier cradle from the etching.

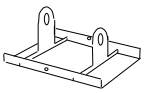
For sprung axles remove the centre of the axleguard and fold up the sliding inner axlebox, we assume pin-point axles are being used and these in conjunction with bearings will keep the inner axlebox bearing on the axleguard. If not wanted for sprininging the inner axleboxes can be used flat inside the axleguard to strengthen it.

Our axleguard material is 0.010" which approximates to prototype axleguard thicknesses, but is thinner than commonly used in models.

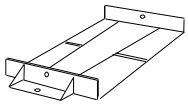
If you wish to adopt springing we make no provision for inside bearing springing. However in 7mm:1 ft scale garden railway owners have found a damped, compensated axleguard arrangement as



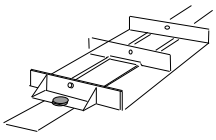
Stage One Fold Up Sides.



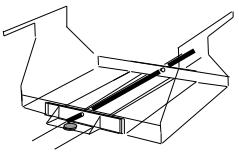
Using the inside bearings.



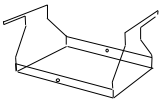
Fold Up Axleguard Cradle.



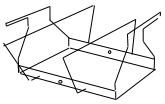
Place Over Spine



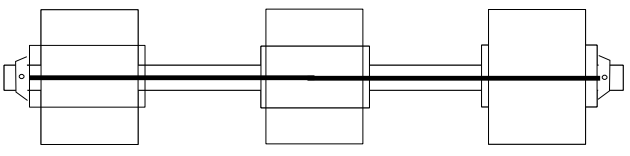
IFit Pivot Rod.



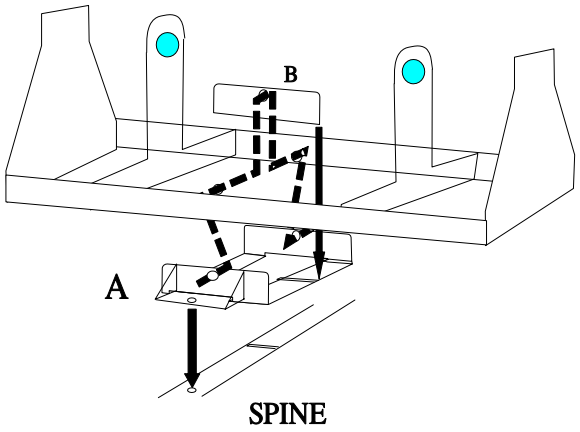
Option to Fold Up W's



Fit 4 shoe brakes safety loops.



One way of making a 3 axle chassis.



good as springing by using springy pads under the compensated units.

After folding remove the projecting tabs for any compensated axle.

The central holes in componenets should align with coupling hooks. Use a rod (typically 0.7mm) between all axleguard units as this fixes the axleguards in place and for the flexible wheelbase controls rotational movement.

When the inside bearing component is fitted it fits in the well of the axleguard unit and is located by slots in that unit.

The rotating axleguards should be fixed to the spine by the larger brass rivet trackwork component (the Brook-Smith ply and rivet system).

Unique Components to products

AX3 has the optional strut used by the LMS on longer wheelbase wagons - remove this for other designs.

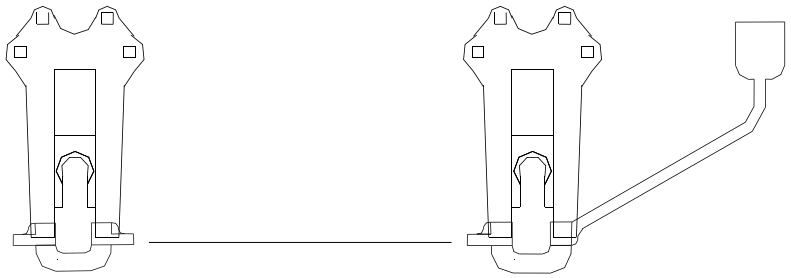
AX9 and LWBO_C have additional truss rods (as illustrated) and axleguard etchings for outside spring stock - typically early NSR, LNWR and Scottish railway coaches and brake blocks suitable for later stock.

The three axle series LWBO

This series has a third axleguard designed to slide in its carrier and be retained by the rod running in a slot, not a hole. These also have suitable brake blocks on the etching.

Wheel Diameters

The AX9, AX10, LWBO_L and LWBO_C etches are designed for coach wheel stock - 3 ft 7in diameter wheels, whereas other axleguards are designed for wagon wheels 3ft 1in diameter. The coach wheel series therefore use an axle centre line 1mm above that used for wagon wheels.



An illustration of the usual axleguard truss rods used with the early narrow plate axleguards (product AX9 and LWBO_C)

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