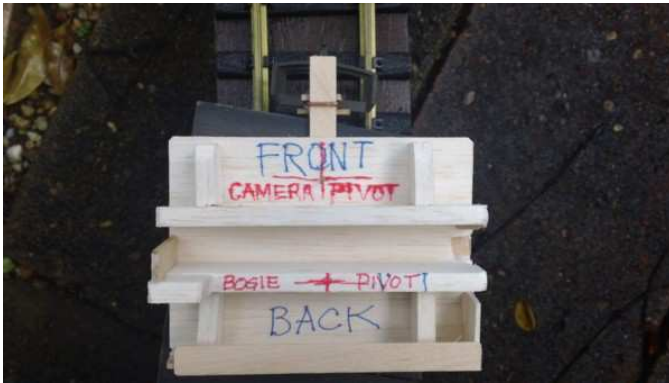


Sketch Bogie flatcar with Video Camera Mount – geometry

Initial standard flat car and Video Camera Mount.



The PIVOT point for the Camera is 30mm in front of the Pivot point for the Bogie (Truck).
Steering is via the two prong yoke assembly.
It engages [loosely] with the coupler draw bar.



When a left turn curve is encountered the camera turns on a tighter radius than the track.
This is due to the variations in, PIVOT point locations and the lever lengths, for both camera and bogie.
The Mounting is made from 6mm Balsa wood. The two prong Yoke is 1.6mm copper wire.



When a right turn curve is encountered the camera again turns on a tighter radius than the track.

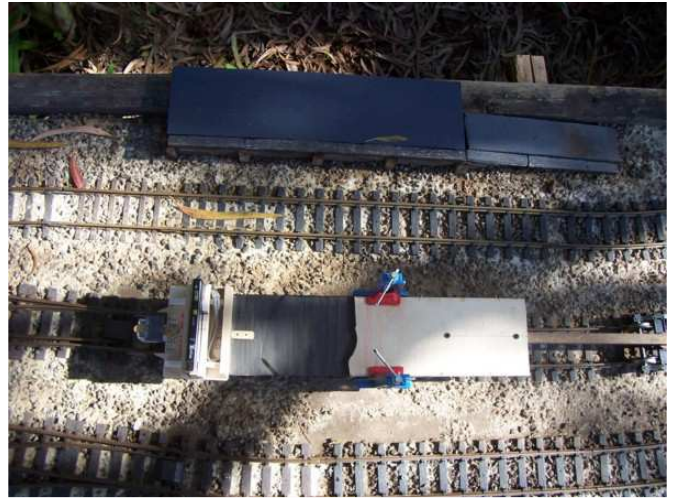
The resulting Video footage captures a scene that follows and in fact “oversteers” the curvature of the track so that the viewer may see ahead ‘around the curve’ so to speak.

Further testing and variations were undertaken.

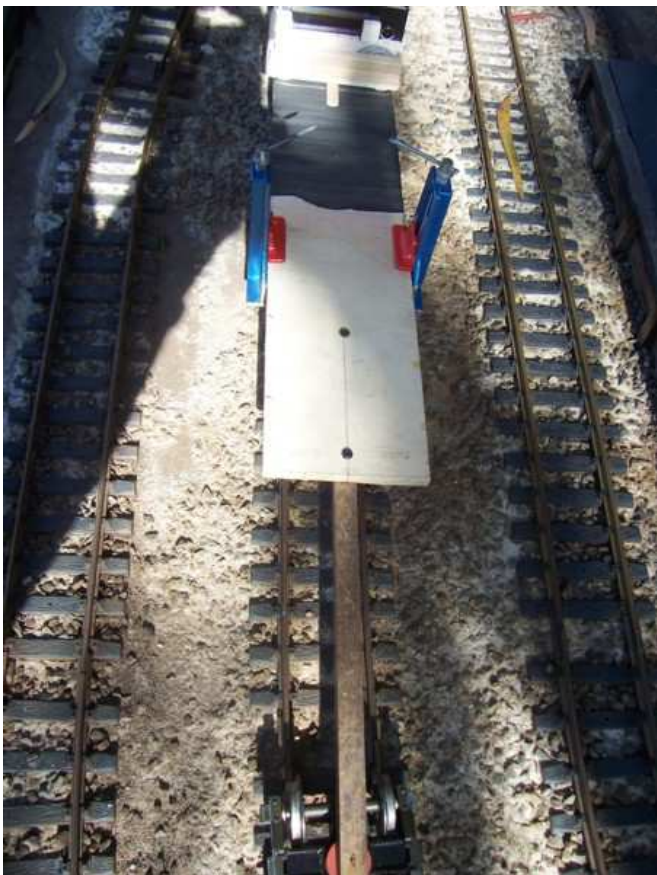
Video footage from this standard flat car showed the ideal degree of “oversteer” when compared to other variations tested and as reviewed on following pages.

Sketch Bogie flatcar with Video Camera Mount – geometry

Extended flat car, Video Camera Mount, self steering, was ‘mocked-up’ to test a longer wheelbase to see if more ‘turn’ or “oversteer” was attained.



In this version the yoke has been moved out front by 25mm, the pivot moved forward 10mm, so now the video camera mount is 40mm ahead of the bogie pivot, the wheelbase doubled to 600mm bogie centres.



Resulting Video footage has revealed a more pronounced “oversteer” and yet a bit too ‘jerky’ recovery from each turn or change from straight to curved track.

My conclusion is that the standard bogie flat car (without this extension) provides enough oversteer to create acceptable Video footage.

While I did consider trying a R/C controlled Servo actuated version. That would have meant following the train and concentration to activate the servo steering in a timely fashion. So that option was not pursued.

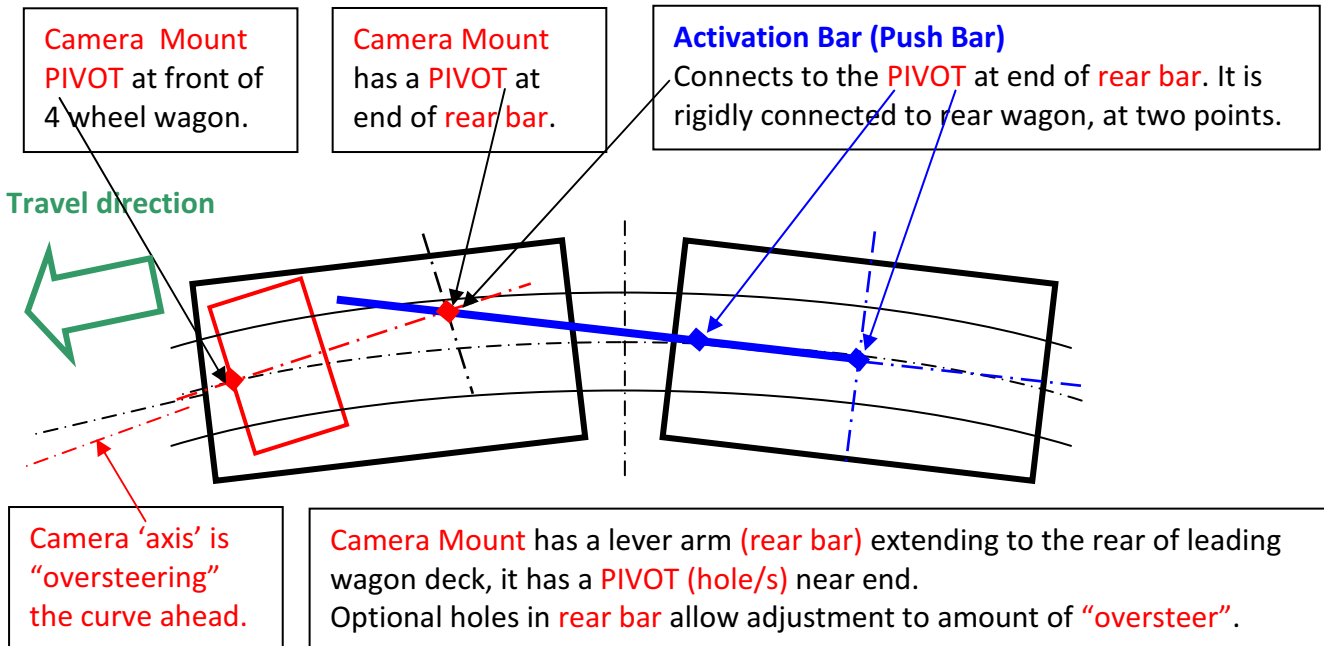
Next I tried 4 wheel wagons and a few versions thereof.

See next page

Sketch Bogie flatcar with Video Camera Mount – geometry

Self Steering Video Camera Mount for two 4 wheel wagons.

This version involved two 4 wheel wagons ‘coupled’ and a long lever arm from the rear wagon to a second wood lever arm at the rear of the Balsa swivel mounting in which there is a second Pivot point. That worked, however, the results were not much better and the mechanism was more complicated and prone to ‘locking’ and did not yield full recovery to the straight ahead alignment.



PIVOT is at front, video camera fits in centre slot.



Activation bar has pushed Camera into Oversteer.



On straight track, the Activation bar has centered the camera ready for a left hand curve Oversteer. This arrangement **was not** as successful as the bogie wagon versions.

Sketch Bogie flatcar with Video Camera Mount – geometry

Extended version of 4 wheel wagons & an Extended Push Bar.



Extended Push Bar 'pivots' in the copper "U" clip.



Push Bar rests on an Acetate sheet to slide freely.



Here there is room for three 4 wheel wagons.

The rear pivot could in fact be mounted on the rear flat wagon over the rear axle. Then some form of longitudinal give and take is needed to accommodate the ARC of the steerable mounting block. Another copper "U" clip would be used at that location.



The 'idler' bogie pivot at rear end of Push Bar.

Tests with this arrangement yields Video footage showing a more pronounced "oversteer".



While this extended Push Bar and three 4 wheel flat wagons does work quite well, my conclusion is that the standard bogie flat car (no extensions) provides ideal oversteer to create acceptable Video footage.

Sketch Bogie flatcar with Video Camera Mount – geometry

So in the end, after lots of testing, my preference remains with the standard bogie flat car.

