

# SVL Car Inspection Standards

## **Purpose:**

Cars operate better, derail less often, and otherwise cause fewer problems if they meet standards for wheels, couplers, and other operating parameters. Every car needs to meet the same minimum set of standards. To that end, each car is inspected before it enters service, and inspected periodically.

## **Details:**

Cars that are removed from the layout are subject to the inspection process before being able to return to the layout. Each of these Bad Ordered cars get placed into its own box inside the Bad Order Drawer in the SVL office along with filled out Bad Order paperwork.

Cars are inspected for conformance of their wheels, trucks, couplers, weight, under-frame clearance, safety appliances, load, and structural integrity. They are not inspected for external clearances or aesthetic appearance. A car may pass everything and fail due to a car with that number already appears on the layout. Any car that fails any inspection is relegated to the Rejected Drawer in the SVL office. When the owner resolves the deficiency, the car may be moved to the Submitted Drawer again for reinspection.

## **Specifics:**

### **Wheels**

All wheels must have metal treads. It is recommended that all cars must have at least one axle with a **TBD** ohm resistor connecting the shoes. Wheels must conform to the RP25 profile for flange depth and tread width and must be in gauge on axles.

### **Trucks**

Trucks must seat axles so as to be free rolling. Axles must seat square to truck frames. Wheels shall be in gauge and equally spaced from the ends of the axles to prevent trucks from skewing. All wheels also must be in contact with the ground at once on a flat surface. A mirror is used to test for this. Each car

must roll freely when placed on a 2 % grade. Trucks must be configured so as to support a '3 point suspension'.

The "3 point suspension" is having one truck attached loosely and one truck attached snugly. The loose truck allows the car to accommodate irregularities in the track work, while the snug truck keep the car from wobbling. Please note that all cleaning cars and lit cars are exempt from the 2 % roll test.

### **Couplers**

Operational couplers must be compatible with each other. Commonly referred to Kadee-style coupler. Couplers must be at the proper height to match the Kadee coupler height gauge and must be properly configured for automatic decoupling. (Coupler 'hoses' must clear the bottom of the Kadee coupler gauge, as described in the Kadee literature.) Couplers must move freely, and center properly and automatically. Please note that non-operational couplers are allowed in unit trains. They need to be compatible with themselves in height connections and do not require to be configured for automatic decoupling. Unit trains still require operational couplers on the ends if locomotives are not a permanent part of the unit train.

### **Weight**

Cars must comply with the NMRA recommended practice of weighing approximately 28gm plus 6gm per cm of length. The car inspector has a precise table of the range of weights allowable for cars of given scale lengths.

All cars must meet or exceed the minimum weight for a given length. Cars exceeding the maximum weight are not as critical. The car inspector has discretion to allow a waiver for overweight cars if the weight cannot be reduced without damaging the car or underweight cars if the center of gravity is low enough. Examples for each are Auto-Max carriers and well cars respectively.

### **Under-frame clearance**

Cars must comply with the NMRA recommended practice that no equipment between the wheels hangs below rail height.

## **Safety Appliances**

Although not operational, safety appliances such as brake-wheels, and box car doors must be present. Any safety appliance that the absences of which would lead to a bad order on the prototype must be present on the car.

## **Load**

Loads need to be secured to the car. Loose loads can be destructive along the right of way and disruptive to operations.

## **Structural Integrity**

All cars need to be able to hand the rigors of being on the layout. Some cars are just great to look at.