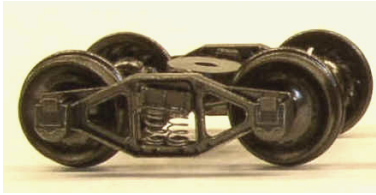


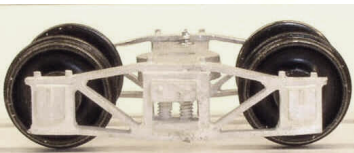
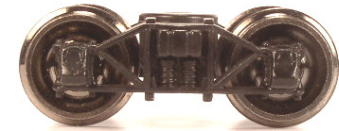
II. Trucks

Model trucks of all scales and gauges are similar in construction. All use one of the three types of springing and all trucks that run on DC track need some form of insulation so the truck doesn't short across the rails. This is done with some combination of metal and plastic.

Differences include the design of the sideframes, wheelbase, the diameter of wheels, and the height of the truck bolster from the rails.

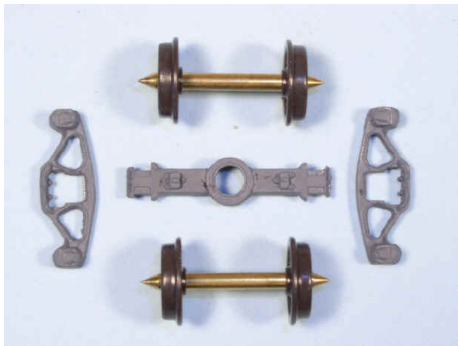


Kadee HO truck. In O scale, this truck has a wheelbase of 3' and a wheel diameter of 18".



On30 trucks.
Top: Bachmann.
Middle: Alan Curtiss
archbar with
JayBee wheelsets.
Bottom: Grandt
Line

Truck Components



Sprung truck components. Left and right: sideframes. Center: truck bolster. Top and bottom: wheelsets. Coil springs not shown.

Springing

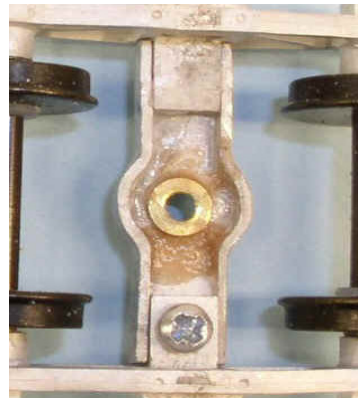
Springing describes the relationship between the truck bolster and the sideframes.



A sprung truck has working coil springs and the sideframes move independently of the bolster.



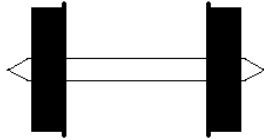
Equalized trucks allow the sideframes to pivot on the end of the bolster.



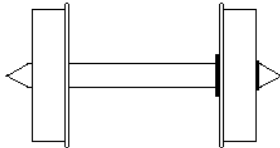
Rigid trucks do not allow movement between the sideframes and the bolsters. They may be cast as one piece or be built up, but the sideframes are mounted solidly to the bolster. This example shows one sideframe glued to the bolster while the other is attached with a screw. This is to allow the wheelsets to be removed.

Insulation

Because the electricity to the engine motor is DC, and is feed through the rails, each wheelset needs to be insulated so the wheels do not close the circuit between the rails. This is usually done via the wheelsets.



Plastic wheels, metal axle. This is the style of wheelsets used in the past. Since neither of the wheels conducts current, the truck is well insulated.

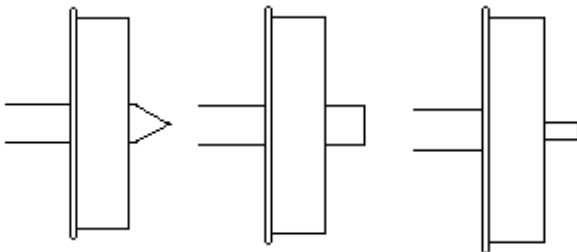


Metal wheels, metal axle, with a insulator on one wheel between the wheel and axle. This allows current flow on one side only and a wiper can be installed to rub the axle and track power used to power lights.

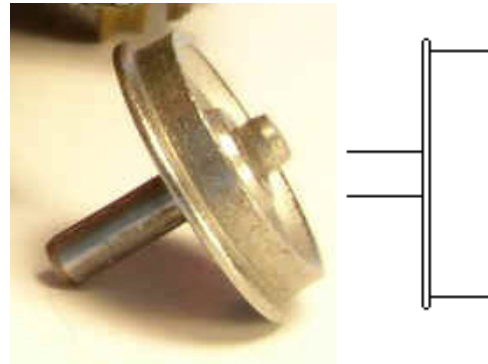


Plastic axle, metal wheels. This style is becoming more popular. The axle can is cast with shoulders, thereby providing perfect gauge and centering.

Axle Bearings



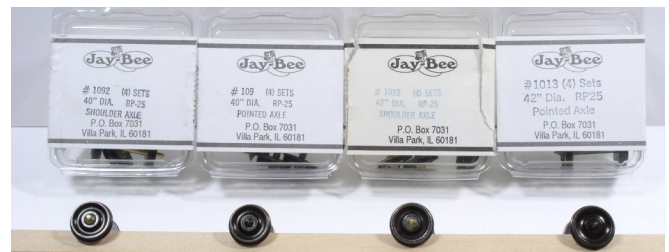
Bearings are the manner in which the wheelsets turn in the sideframe. Left: needle bearing—the axle is pointed and runs in a conical chamber in the sideframe. The small amount of friction allows this type to roll freely. Center: blunt style—the axle goes through the wheel. Right: shouldered—the axle diameter is smaller on the ends and the wheel butts against the center section of the axle. Both of these run in a cylindrical hole in the sideframe.



A style popular on engines is the half axle. The axle may be blunt style (left) or flush style (right). The axle is cut shorter than one half the length of a wheelset axle and fits into a plastic tube, which has a gear molded in.

Changing Wheelsets

HO trucks can easily be converted to On30 by removing the wheelsets and replacing them with Jay Bee or NWSL 40" (22") or 42" (23") wheelsets. Replacing the wheelsets may call for a change in the body or truck bolster thicknesses, or the addition of a coupler pad. Check clearance between the wheel rims and the bottom the car to see that no rubbing occurs.



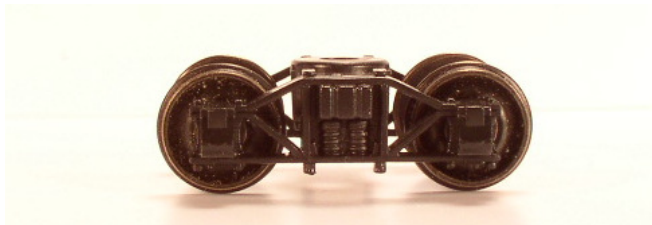
Jay Bee 40" pointed axle, 40" shouldered axle, 42" pointed axle, 42" shouldered axle. Four to a package



NWSL 40" pointed axle, 42" pointed axle and 42" shouldered axle. Six to a package



Rigid plastic HO trucks. Left to right: stock HO archbar truck, Fox style truck with Jay Bee 40" wheelsets, and with T-Section Bettendorf with NWSL 42" wheelsets.



Bachmann truck with JayBee 42" wheelsets.