**MILK TANK WAGON by P J Newbury**



This model represents a Southern Railway milk tank wagon to diagram 3159 at 10mm scale. The SR also referred to this design as “Type 1”. Originally built on 4-wheel underframes in the early 1930s, they were later converted to six-wheel.

The outer pairs of wheels are braked using separate sets of wagon-style brake gear with two shoes per wheel and a connection to the vacuum cylinders.

**Construction notes**

In designing the modelling of the wagon, the first thought is always to make it all to exact scale. In practice, due mainly to the difficulty of printing some parts, it was necessary to beef up some parts and break others down into smaller components. When first printed, some parts are quite delicate, but are overall quite strong enough when fitted together.

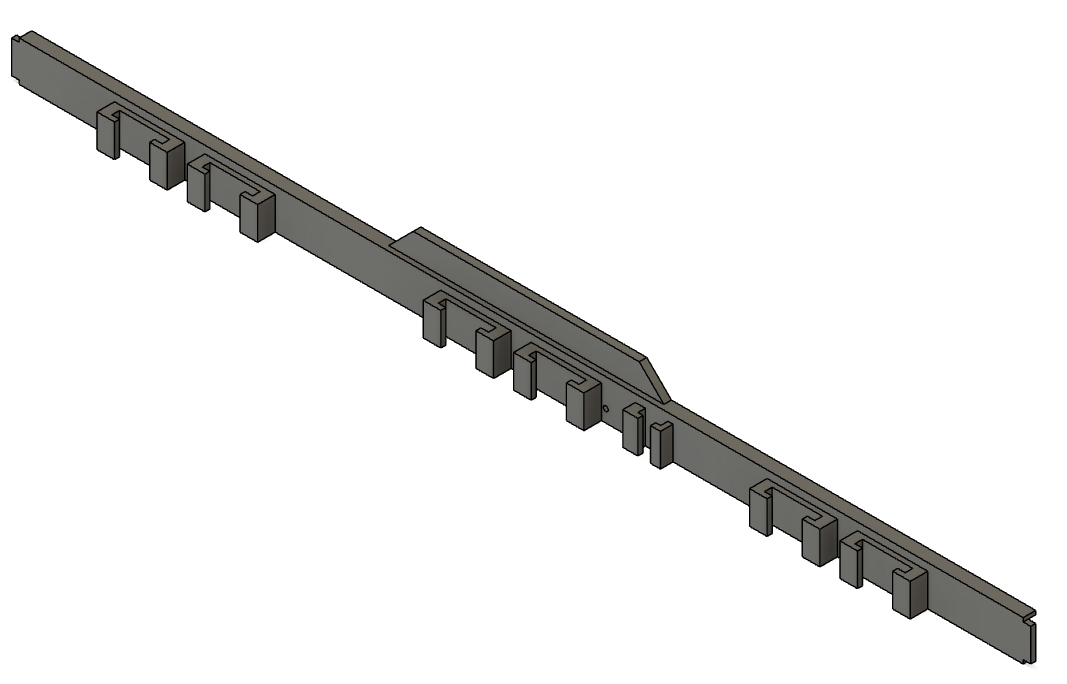
Counting the wheels and axles separately the model consists of a total of 69 parts.

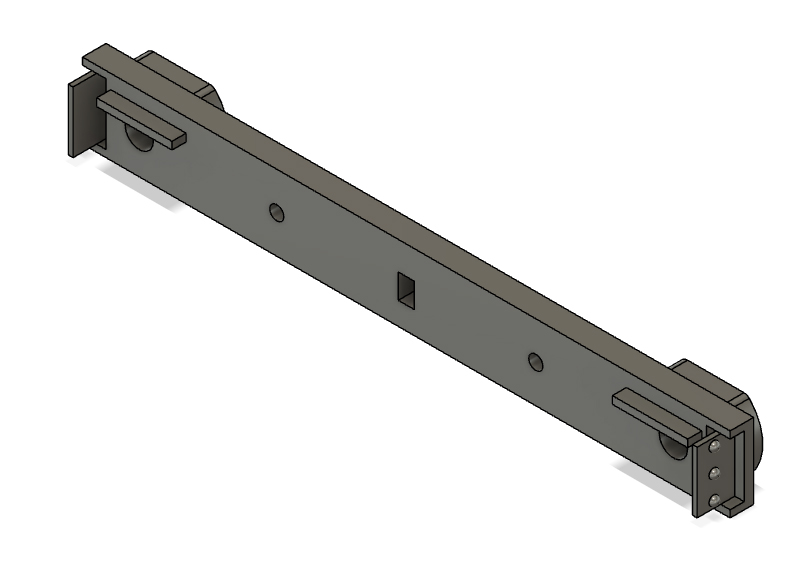
**The Underframe**

The underframe floor has locating sections for the brake gear and holes for mounting the tank supports. The underframe sides have mounting/locating slots for the W-iron set, the underframe floor and the brake lever, together with a hole for the brake lever guard and location connections for the underframe ends. The underframe ends have locating holes for the tank end supports.

The sequence of construction is as follows…

1. Attach the underframe sides to the floor.
2. Attach the underframe ends to the sides.

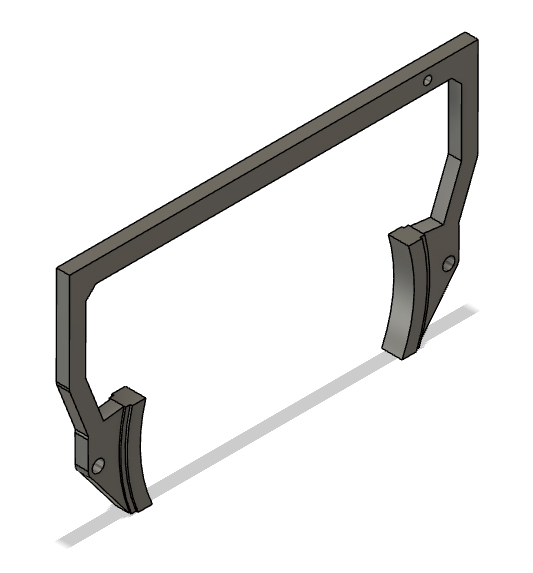


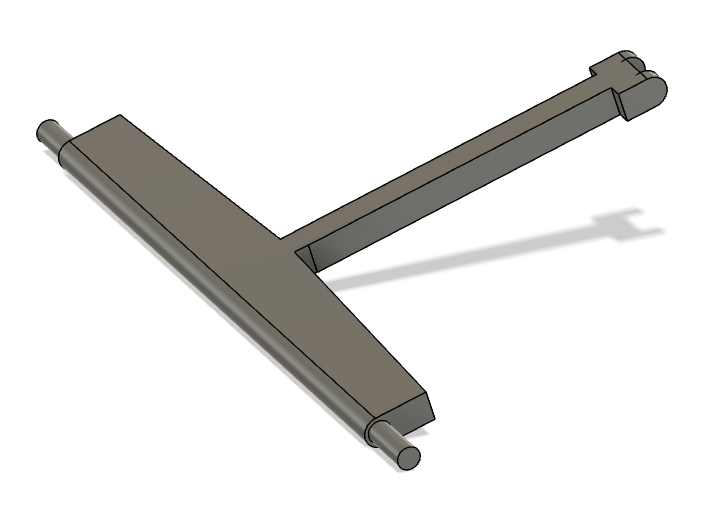


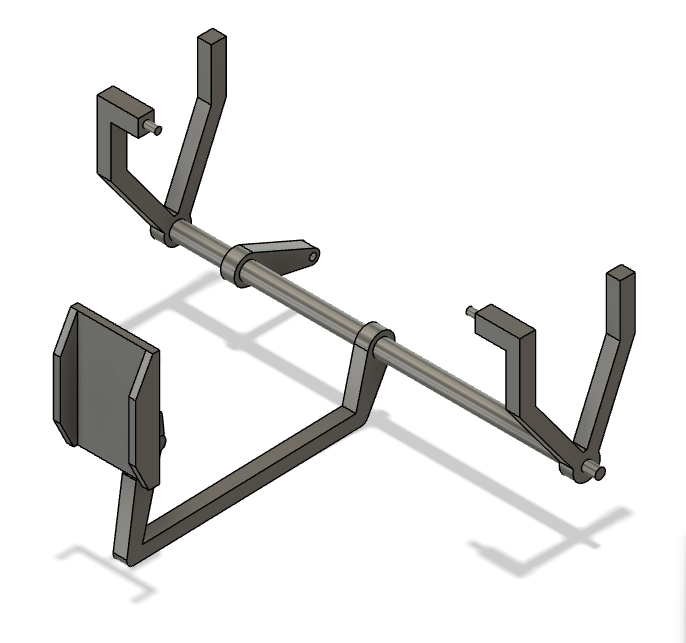
1. Slide the spring sets onto the w-iron sets and slot them into the underframe sides and secure the spring sets to the bottom edge of the underframe sides.
2. Fit parts A1 to both sides of part A2.

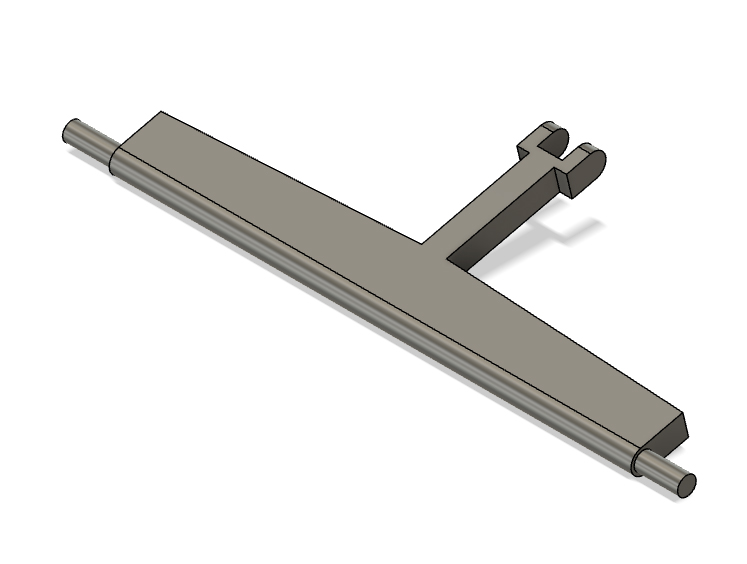
Part B1

Part B2









Part A2

Part A1

1. Fit part B2 between parts A1 and part A2.

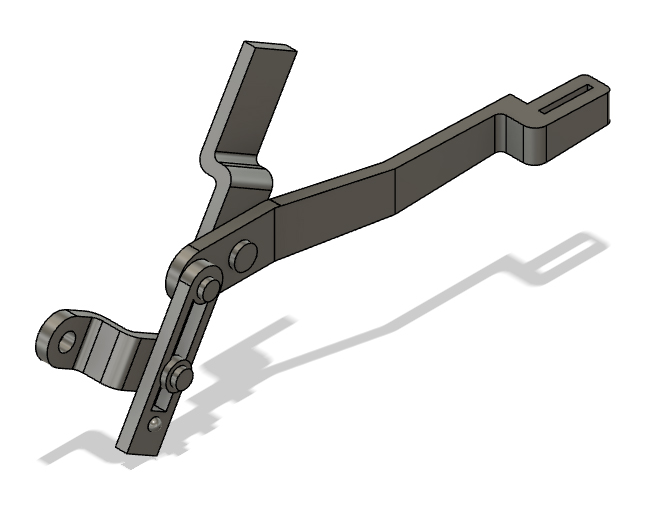


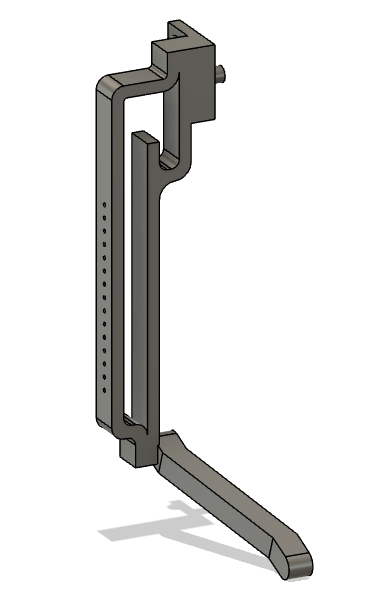
Parts A1, A2, B1 and B2 viewed in a combined model from underneath

1. Fit the wheel sets to the spring sets
2. Fit brake gear thus far to the locations on the underframe floor.
3. Fit parts B1 between parts A1 and part A2.

NB If you are using fixed wheel sets, items 6, 7 and 8 have to be done in this order.

1. Slide the brake lever guard onto the brake lever.
2. Fit the brake lever to the locating pin on the v-hanger and the slot in the underframe side.





1. Fit the pin on the brake lever guard into the locating hole in the underframe side.
2. Secure the stay at the bottom of the brake lever guard to the w-iron.
3. Fit the vacuum brake pipes and buffers to the underframe ends.

The completed underframe including tank supports.

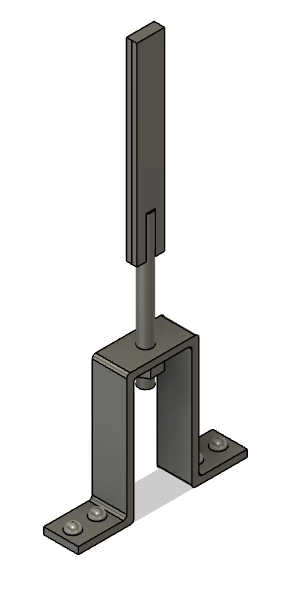


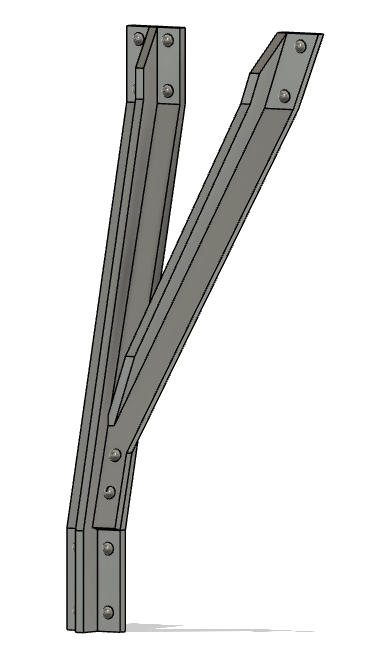
**The Tank**

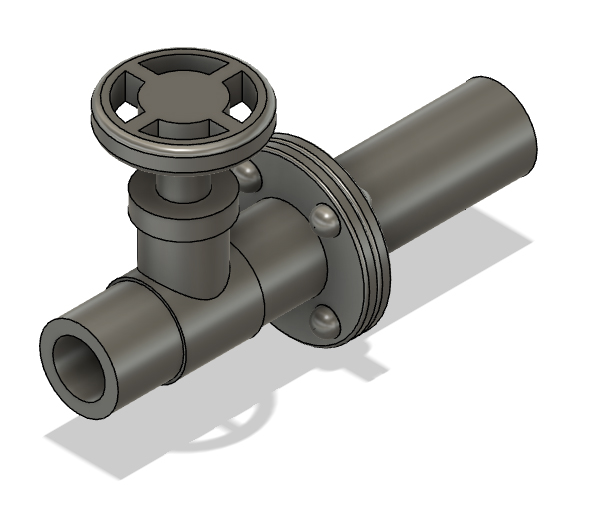
This is made in two halves, which are identical for simplicity. The downside is that anything in one end, such as the outlet, has to have its mounting hole drilled, rather than moulded in. The completed tank is located on the six tank supports fitted to their locating holes in the underframe floor.

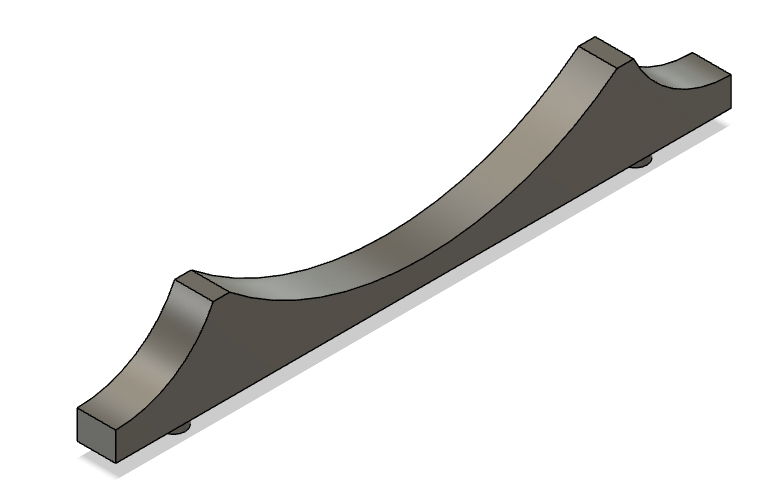












The end support is modelled as the right-hand type and the slicing software was used to create the left-hand type. They are fitted between the tank ends and the locating holes in the underframe ends. The side straps are fitted between the underframe floor and tank sides. The side stays are fitted between the tank ends and the underframe sides. The ladders are fitted between the underframe sides and the tank filler hatch. The addition of the outlet completes the model.

NB The tank itself needs to be completed with paint, lettering and the outlet pipe before fixing to the floor. The side straps are trimmed for length and fitted next, followed similarly by the side stays. The final items are the ladders.

**Parts schedule**

**Underframe**

Underframe side (2)

Underframe end (2)

Underframe floor (1)

W-iron set (2)

Spring set (6)

Brake gear part A1 (4)

Brake gear part A2 (2)

Brake gear part B1 (2)

Brake gear part B2 (2)

Brake lever (2)

Brake lever guard (2)

Vac pipe (2)

Wheel (3-hole to G1MRA profile) (6)

Axle (40mm back-to-back) (3)

Buffers (RCH) (4)

**Tank**

Tank halves (2)

End supports - left (2)

End supports – right (2)

Side straps (8)

Bottom supports (6)

Side stays (4)

Ladders (2)

Outlet (1)

For completeness the upload also includes a jpeg file of the lettering full size. I used Hayes inkjet decal paper to create mine.