Justification:
Safety Instruction

(Maintenance & Operational)

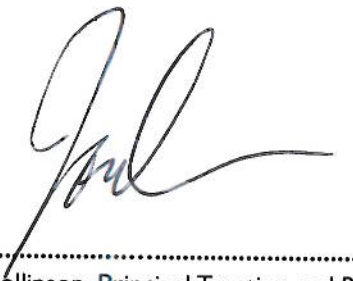
Private Owner Circular Letter 637 Issue 1

Title

Residual Payload left in Wagons

AUTHORISATION

Authorised by:



J. Collinson, Principal Traction and Rolling Stock Engineer

1. INTRODUCTION

POCL 637, Issue 1 'Residual Payload left in Wagons' has been produced following an incident where the removal of compacted, built-up, residual payload from wagons resulted in loss of braking. This occurred because the staff involved were not aware that such residual payload (and its subsequent removal) would affect the brake gear adjustment.

Had the residual payload been removed at normal maintenance events and not been allowed to accumulate the incident would have been avoided. For this reason POCL 637, Issue 1 mandates the requirement for Owners to remove residual load at maintenance events such that when adjustments are made, the wagon is in its true tare condition. It also provides some guidance to alert Owners to the potential consequences of residual payload being left in wagons.

2. INSTRUCTION

At maintenance events all wagons that have the potential to retain residual payload shall be inspected. Before maintenance work commences it shall be confirmed that any residual payload likely to significantly affect the wagon's true tare condition is removed.

3. POTENTIAL CONSEQUENCES OF RESIDUAL PAYLOAD

Residual payload left in wagons can potentially adversely affect a wagon's ability to function as designed. The following are some examples:

a). If a residual payload isn't evenly distributed, it has the potential to cause an imbalance in the vertical wheel loads. Any resulting reduced vertical wheel loading, either across the wagon side to side or more importantly across corners, will increase the propensity for a wagon to derail.

b). A residual payload increases the potential to overload a wagon, particularly if loading method simply involves metering in a measured load. Overloading adversely affects both wagon's structural fatigue life and wheel load impact forces.

c). A residual payload, restricts or prevents inspection the inside bottom structure of the wagon for cracks, corrosion, etc.

d). Residual payloads adversely impact on any calculations carried out at the design stage for safety critical components e.g. axle stresses, spring fatigue life, etc), particularly if such calculations (as is normal) assume a 50/50 tare/fully loaded running.

e). The inability to set-up such brake gear correctly, because the wagon will never be truly tare. The additional mass of the residual payload will vary and as an unknown quantity cannot possibly be taken into account by maintenance staff.

f). Certain wagon's suspensions are designed to run either tare or fully loaded. If a residual payload is present in such a wagon there is a possibility that whilst nominally "tare" a wagon with say a two-stage suspension may contact or even ride on the laden springs in such a part laden condition.

4. SCOPE

This POCL is applicable to all PWRA wagons.

5. IMPLEMENTATION

This document shall be implemented immediately.

In the event of any query arising, or clarification required, please contact:

Senior PWRA Engineer
PWRA Management Group
Room 207 Derwent House
rtc Business Park
London Road
Derby
DE24 8UP