

Justification:
Safety

(Maintenance)

Private Owner Circular Letter 660 Issue 1

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Title

Service Inspection of Parabolic Springs

AUTHORISATION

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P.f. 

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1. INTRODUCTION

Over some time it has become apparent that parabolic springs are failing prematurely in service presenting an increase in safety risk to vehicles and to the infrastructure.

Whilst work is ongoing to understand why these springs are failing prematurely it is necessary to instigate a more robust inspection criterion to identify failed springs before spring elements become detached from within the central buckle arrangement with the potential to fall from the vehicle posing a significant risk. Additional work on matching replacement springs is currently on-going with the details, once known, will be incorporated in future issues of this POCL.

RIS2702 provides guidance as to the inspection criteria to apply to parabolic springs during Traffic Inspections or RST inspections, but does not give sufficiently robust details to prevent an unsafe situation from arising.

2. INSPECTION CRITERIA

Vehicles are not to be allowed to enter service where inspections reveal any of the following defects:

- a. Any evidence of interleaf contact located between the central buckle and the normal contact areas at the friction augmentation clip between any adjacent leaves.
- b. A lack of clearance between any of the spring leaves sufficient to prevent a paint scraper or object of similar thickness being inserted between the leaves in the area from the buckle to the friction augmentation clips with the vehicle in the tare or laden condition – particularly if one side of the spring has demonstrably more clearance than the other.
- c. Where the bottom helper spring is in contact with the augmentation clip at either end of the spring with the vehicle is in the tare condition.
- d. The bottom helper spring can be moved within the buckle by hand with the vehicle in the tare condition.
- e. There is any evidence of longitudinal movement of any leaf through the central buckle.
- f. Visible fractures of the buckle.

In almost all instances of a spring failing the above criterion it was found that at least one leaf was fractured within the buckle.

3. SCOPE

This instruction applies to all PWRA registered wagons fitted with parabolic springs.

4. IMPLEMENTATION

This document is to be implemented immediately.

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

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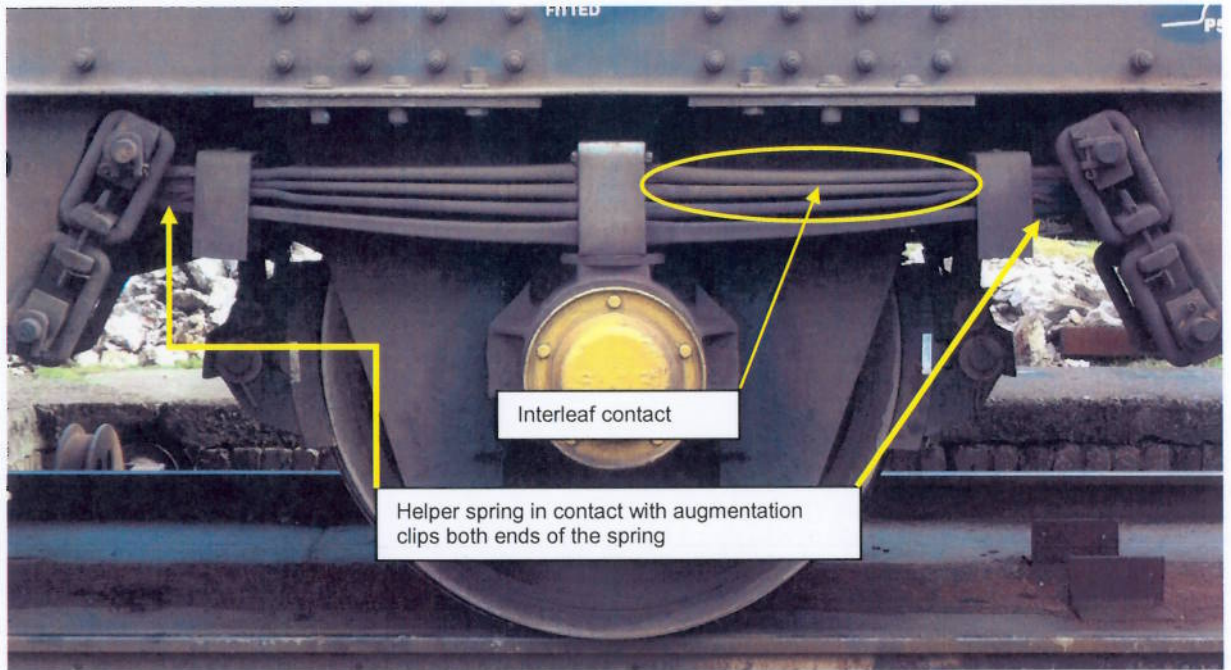


Fig 1
This vehicle was in the tare condition when these defects were observed immediately prior to maintenance.

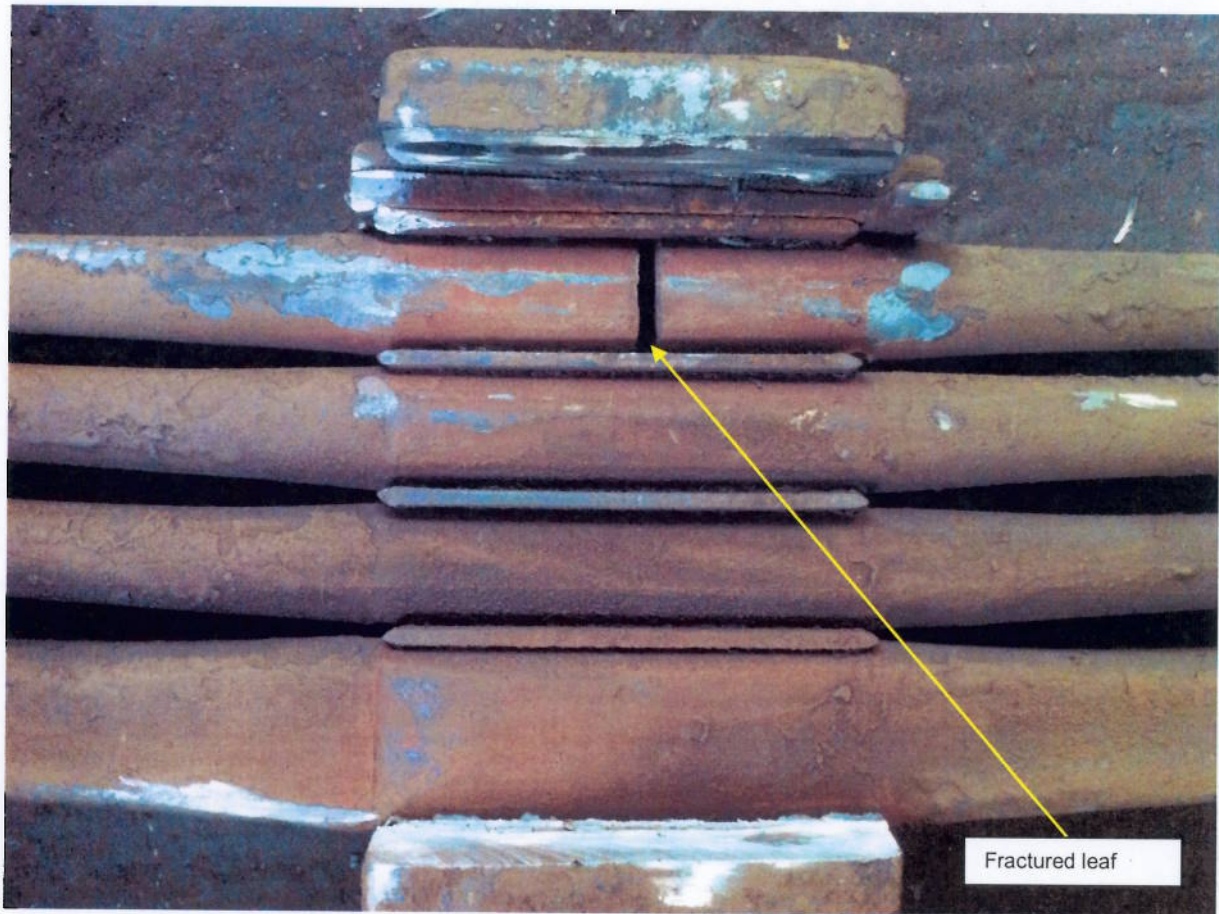


Fig 2
When the buckle was removed from the vehicle as noted
in Fig 1 above the top leaf was found fractured