

# Case Study

BALANCED MACHINES



## Solve Reclaimer Pantograph Cracking



### Solve Reclaimer Pantograph Cracking

#### The issue

Adra identified cracks at the connection of the pantograph structure to the luffing cylinders during a routine inspection.

#### The solution

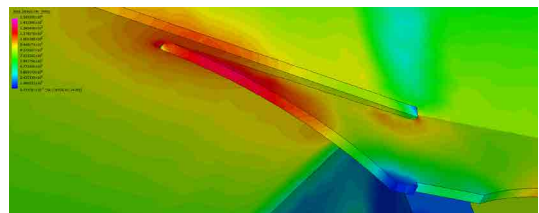
The machine OEM proposed a modified gusset profile and Adra analysed the repair original design and repair to verify the changes. The analysis predicted the cracking, confirming it was the result of a design flaw. Adra delivered a modified gusset designed to lower the stress concentration, provide a uniform stress distribution and improve the load transfer from the gusset to the pantograph mounting beam.

#### The results

Through Adra's advocacy the OEM implemented the repair under warranty using the improved gusset design.



Reclaimer FEA model



FEA model of Adra designed gusset



Pantograph Mounting Beam