

HEAVY DUTY E-YOKES

DESIGNING FOR LIFETIME COST



PART #
WMNY40AE

THE REAL COST OF OWNERSHIP

- Casting and performance studies from railroads have shown conventional E-yokes, excluding premature failures, last an average of 800,000 miles; reconditioned yokes last an average of 650,000 miles.
- High-stress cars, such as coal cars, average 100,000 miles per year which would require a new E-yoke every eight years.
- In a 40-year life, a high-stress car could require the yoke to be replaced up to five times.
- If a yoke is replaced, the draft gear is almost always replaced at the same time which also increases the cost.

Design and material changes have given Strato E-Yokes an increased fatigue life. The same fatigue models used to design new cars have shown a 10 times increase in the fatigue life of our new E-yokes.

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Features

Benefits

Design

Rib Design

- Weakest points in a conventional yoke were strengthened three ways to reduce stresses, cracks, and prevent failure.

Wider Strap

- 26% wider at critical transition to reduce cracks and stretching.

Shorter Nose

- Easier to install and remove.

Square Key Slot

- Flat pulling surface to prevent key slot damage - resulting in longer life for both the yoke and key.

Total Effect

- Fatigue models used to design new cars have shown an increase in the fatigue life of our new E-yoke over 10 times due to our design improvements.

Investment Casting

No Porosity

- Eliminates porosity problems that can cause premature failure.

Smooth Surface -
No Parting Line

- Eliminates stress risers that can lead to cracks and eliminates grinding that causes surface discontinuities.

Tighter Tolerances

- Better fit with no grinding.

New

New Material Blend

- Improved metallurgy and heat treating process gives our steel a 20% increase over M-201 minimums. Higher yield strengths, stronger but not more brittle, resulting in greater fatigue resistance. Modeling shows a 20x increase in fatigue life from steel alone.

Test

Strength Testing

- Both E and F-yokes tested to 1.4 million lbs. in tensile tests; 50% higher than in conventional yokes.

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