

Parabolic Trough Tracking System

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October 15, 2014

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Overview

- Introduction
- Tire Information
- Chain Information
- Motor Information
- Gearbox Information
- Conclusion

Introduction

- Currently, the tracking system to move the parabolic trough is inoperative
- Bring the tracking system of the parabolic trough back into service

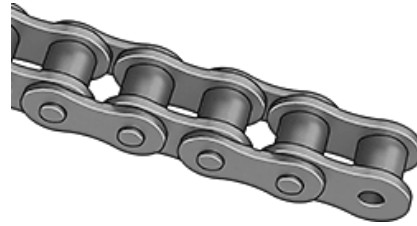
Tire Information

- 4 Marathon wheels and tires assembled
- 4 ply
- 300 lbs capacity per tire and wheel
- 10.5 inches height
- 3/4 in bearings
- Price \$14.50 per wheel and tire combo
- Subtotal \$58.00



Chain Information

- Steel ANSI 50
- 7 Feet
- $\frac{5}{8}$ inch pitch
- $\frac{3}{8}$ inch roller width
- 561 lbs working load
- \$5.98 per foot
- Subtotal \$41.86



Motor and Gear Box



First Gear Box



Gear Box

- Rust accumulation from lack of lubrication
- Worm gear
- Helical gear



Vertical Shaft

- Worm gear
- Roller Ball Bearing
- Preservation from gear oil



Second Gear Box

- Preserve by gear oil
- Assembly



Motor



Engine Assembly

- US Bearings and Drives
- Gear boxes in good condition
- 292 gear ratio
- Cost of Motor: \$300
- New cover and gasket

Conclusion

- 4 new wheels and tires
- New chain to connect trough and motor assembly
- Gearbox is in good condition
- Motor and cover plate needs to be replaced
- Relocate trough
- Calculate torque required
- Research control box

References

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Questions?