

LWS

LAMINATED WOOD SYSTEMS



Innovative Steel Solutions

The Patented Advantage of PoleEnforcer®

The patented features of the PoleEnforcer® make it the strongest groundline reinforcement unit available. The PoleEnforcer® incorporates a **full length flange** which produces superior strength in both the transverse AND longitudinal directions. The **full length taper** forces the unit to maintain contact with the pole butt below grade. These patented features allow the PoleEnforcer® to reinforce poles that are considered rejects, saving many thousands of dollars versus changeouts. LWS offers complete tool packages for driving the units using either pneumatic, manual, or drop weight systems.



Single Unit



Remote Access Installation



Pneumatic Driving System



SRS® Spliced Reinforcement System



Thin Shell Double Unit



Drop Weight Driving System

- Reinforce Poles that Others Reject
- Little or No Shell Thickness Required
- Use on Wood, Steel or Concrete Poles
- Bolted or Banded Units
- Excavated or Eroded Conditions

PoleEnforcer®
Patent No. 5,383,749

PoleEnforcer SRS®
Spliced Reinforcement System

Patent No. 9,777,500



Light Duty Unit



Pneumatic Tools

Raise Energized Lines with PhaseRaiser®

The patented PhaseRaiser® structure lifting system allows crews to raise existing wood structures an additional 5, 10, 15, or 20 feet without taking the line out of service. Using the specialized PhaseRaiser® Tool Trailer, a crew of 5 qualified lineworkers can safely raise up to four structures per day. Tool trailers can be rented or purchased, and include field training.

The average age of structures that are raised is 50+ years. If the line is good enough to be in service, it is good enough to raise and remain in service. Simply provide LWS engineers with existing voltage, loading information & desired lift, and they will specify the appropriate PhaseRaiser® steel units. Send your design information to engineering@lwsinc.com or visit www.lwsinc.com and click "Get a Quote".



Placing Steel



Final Cut

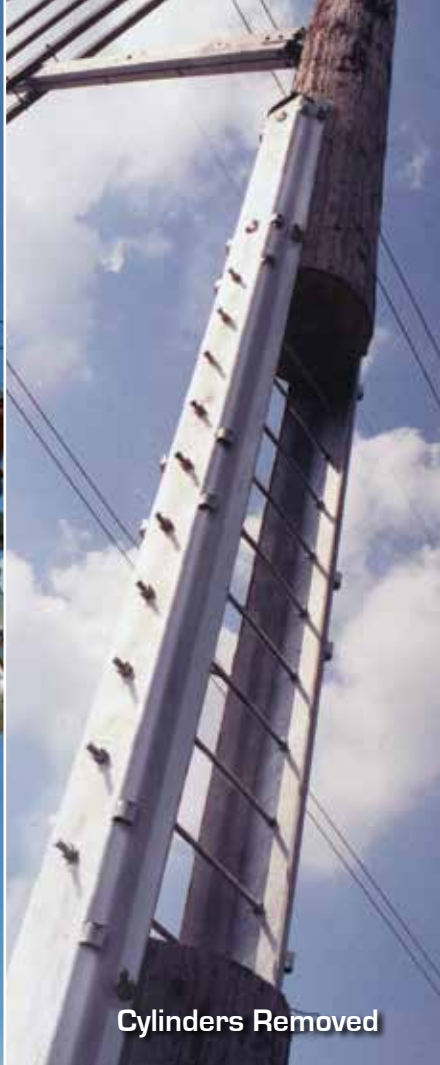
- NO Line Outage Required
- 1/3 the Cost of Structure Changeouts
- Low Impact Equipment
- Field Training Included
- Permanent, 30+ Year Solution
- Reinforce Groundline with Two-Piece Units

PHASERAISER®

U.S. PATENT NOS. 6,100,486 & 10,180 CANADIAN PATENT NOS. 2,282,714 & 2,282,715



Raising Structure



Cylinders Removed



345kV 15ft Lift



345kV 5ft Lift



115kV 5ft Lift

Increase Pole Strengths by Three or More Classes with the PRS Pole Reclassification System®

Based on the patented design of the PoleEnforcer®, the PRS Pole Reclassification System® is an economical way to increase the strength and extend the life of existing poles without the cost of expensive change outs. The system consists of two steel units, one that is driven and one that is bolted or banded to the pole. The PRS units can most often be installed on energized lines by a qualified line crew, avoiding costly outages. LWS engineering staff will assist in determining the proper PRS units for each pole. Submit your existing structure information along with the amount of increased strength required to: engineering@lwsinc.com. You may also complete the online engineering form by selecting "Get A Quote" at www.lwsinc.com.



Drive Lower Unit



Place Upper Unit



Bolt Upper Unit



Weathering Steel
PRS



Painted PRS



PRS on Concrete Pole



Spliced PRS Units

Innovative Solutions for Unique Challenges

The patented design of the PoleEnforcer®, Phase-Raiser® and PRS® systems allow them to be used in a variety of innovative configurations and applications. Creative solutions include steel foundations, car break repair, woodpecker & burned pole repair, and avalanche mitigation structures. Contact the LWS engineering department at 800-949-3526 with your unique structure repair or reinforcement needs.



Woodpecker Damage
Repair



PRS Burned
Pole Repair



PRS Steel Avalanche
Reinforcement



Round Wood Pole
Driven Foundation



PoleEnforcer® Car
Break Repair

Extensive Testing & Proven Strength

The strength & performance of all LWS steel products have been proven through extensive full-scale testing by independent test labs. The patented design of LWS steel allows it to out perform any other reinforcement product on the market.

All LWS steel products are proudly made in the USA from the highest grade domestic steel available and are typically shipped in 4 to 6 weeks.

LWS offers a full line of specialized tools and equipment for use when installing PoleEnforcer®, PRS®, or PhaseRaiser® systems. Field training is also available at no extra charge for crews who are installing LWS steel for the first time.

Visit www.lwsinc.com or call 1-800-949-3526 for more information on all LWS products and to locate a sales representative in your area.

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