



# RC3

**Your Weapon of Mass Construction**

**Replace/Renew/Construct:**

**Switches**

**Diamonds**

**Track Panels**

**Vehicle Grade Crossings**

**Tunnel Track & Roadbed**

**Bridge Girders**

**Bridge Decks-Ties & Walkways**

**Bridge Foundations**

# Common Railroad Track & Bridge Renewal Concerns



## Examples of Project Concerns



- 5 to 6 Backhoes to install switch
- Switch rail & ties get “flexed”
- Extra Logistics Costs
- Bridge Projects-Off Track Crane
  - Permitting review delays
  - Road Construction Costs
  - Environmental Protection
  - Removal of Old Materials



# Common Railroad Track & Bridge Renewal Concerns



## Examples of Project Concerns



- How many people does it take?
- How long will it take for this?
- Train Operation Impacts
- Customer & Public Impacts
- Logistics & Material Management
- Slow Orders
  - Schedule Impacts
  - Extra Fuel Usage
  - Increased Derailment Risk



# Deploy Your RC3 Weapon of Mass Construction



**Rcrane Proven Safest Railroad Construction Platform**  
**One Trip Process to Deliver & Install, Remove & Dispose**  
**Track Renewal Operations: Faster - 1 Crane vs. 6 Hoes**  
**RC3 Handles 90-Foot Long pre-built Components**  
**Bridges: Reduce Foundations to Build**

Precision Operations-Improved Logistics-Environmentally Safer

# RC3 Rapid Safe 1-Trip Renewal

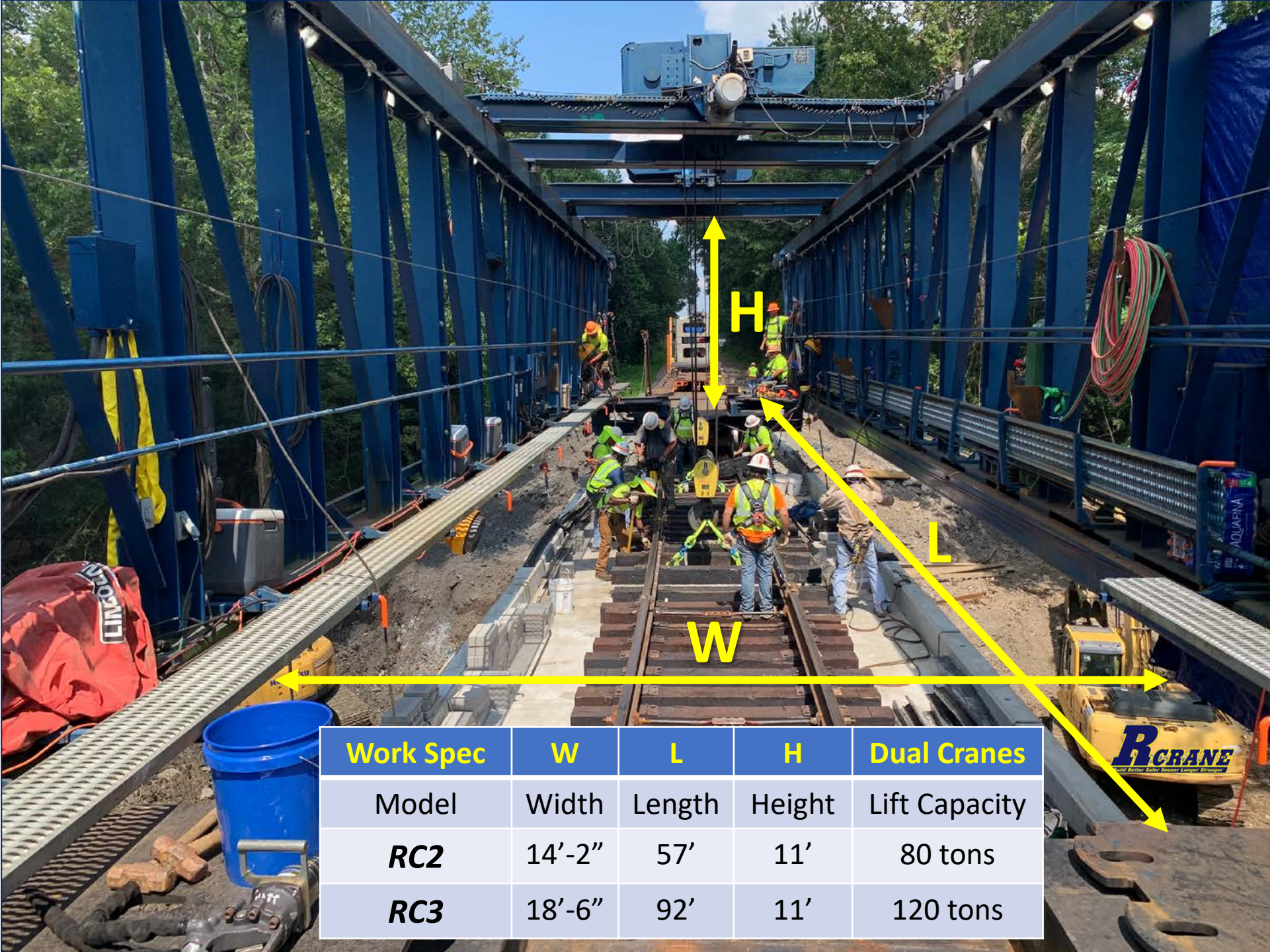
Crew-Safe Multi-Width/Length Dual Gantry Thru-Crane Portable Staging Delivery System



- Rcrane Units are a series of 10 rail cars plus on-track Motive Power that operate together seamlessly with our crew of operator/technicians, to complete mega panel change outs with our Rapid Safe 1-Trip Renewal Process
- The center component, **Rcrane**, multi-width/length to travel narrow and work wide and long to flow panels thru, with dual 60-ton overhead gantry cranes and one lower gantry (LG) multi-tool, operates directly over the panels being replaced and includes welders, torches, hydro-tool pumps, 110-volt outlets, and features Complete Crew-Safe Support/Recovery Systems of Lifelines, Handrails, Platforms and Walkways
- **Rflats**, 8 in total, each 89 feet in length with 80-ton capacity are used for mega panel construction, loading in yard or sidings, staging, transport, delivery, installation and removal and also include Complete Crew-Safe Support/Recovery Systems of Lifelines, Platforms and Walkways
- **Rmules**, 2 sets of self-propelled dollies in total, traverse on Rflats in guide rails to transfer mega panels car to car and into and out of both ends of Rcrane Operation area over exchange site
- **Power Car**, (C Deck) 89' flatcar which carries an 80-kilowatt, 480-volt, 3-phase generator that powers the entire system, spare hoist, parts, fluids, tools, safety equipment, and various steel bar and plate stock in a 40' Container/Conex



# RC3 and RC2 Work Mode Inside Dimensions Fully Open

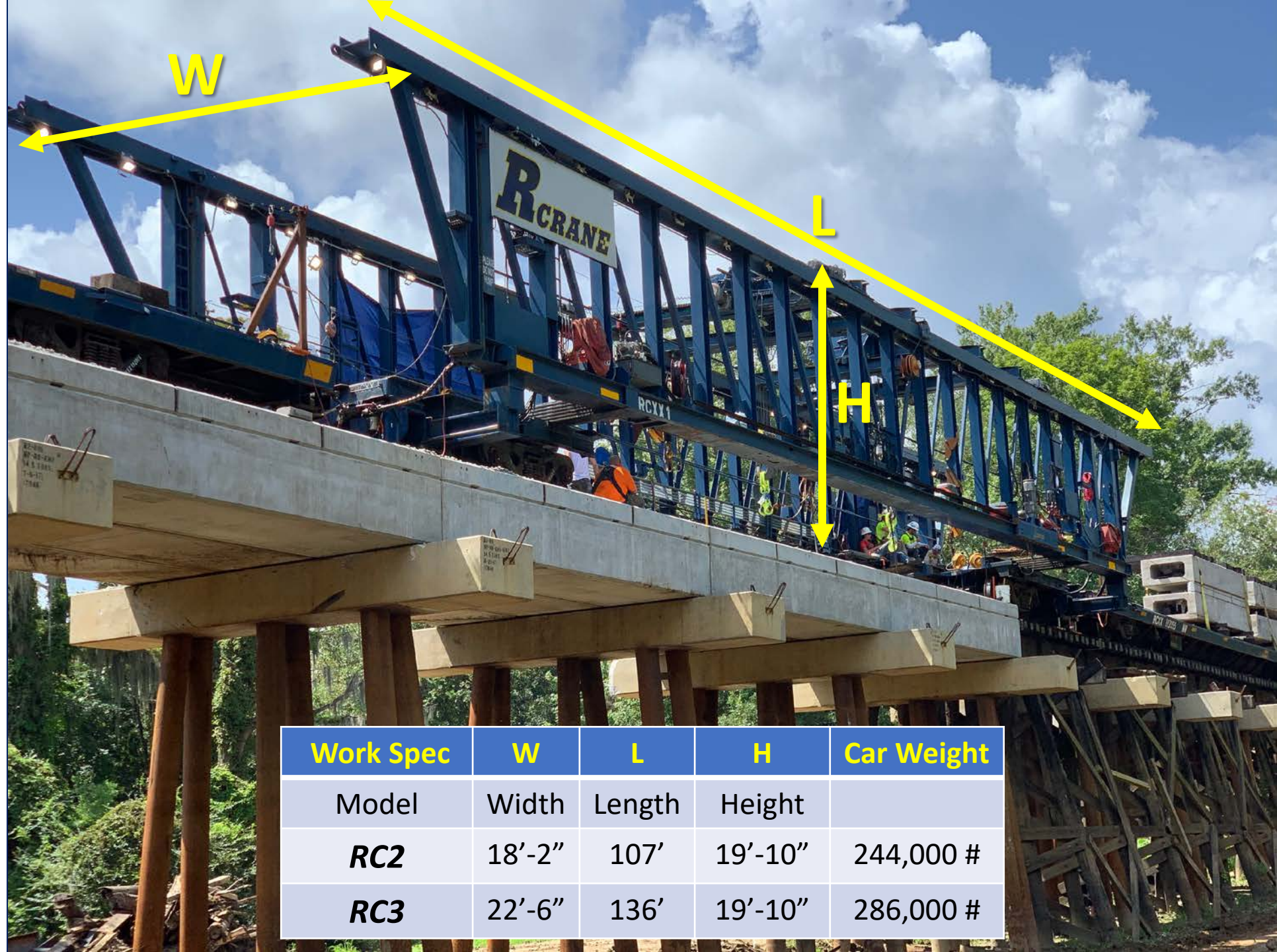


Work Spec	W	L	H	Dual Cranes
Model	Width	Length	Height	Lift Capacity
<b>RC2</b>	14'-2"	57'	11'	80 tons
<b>RC3</b>	18'-6"	92'	11'	120 tons





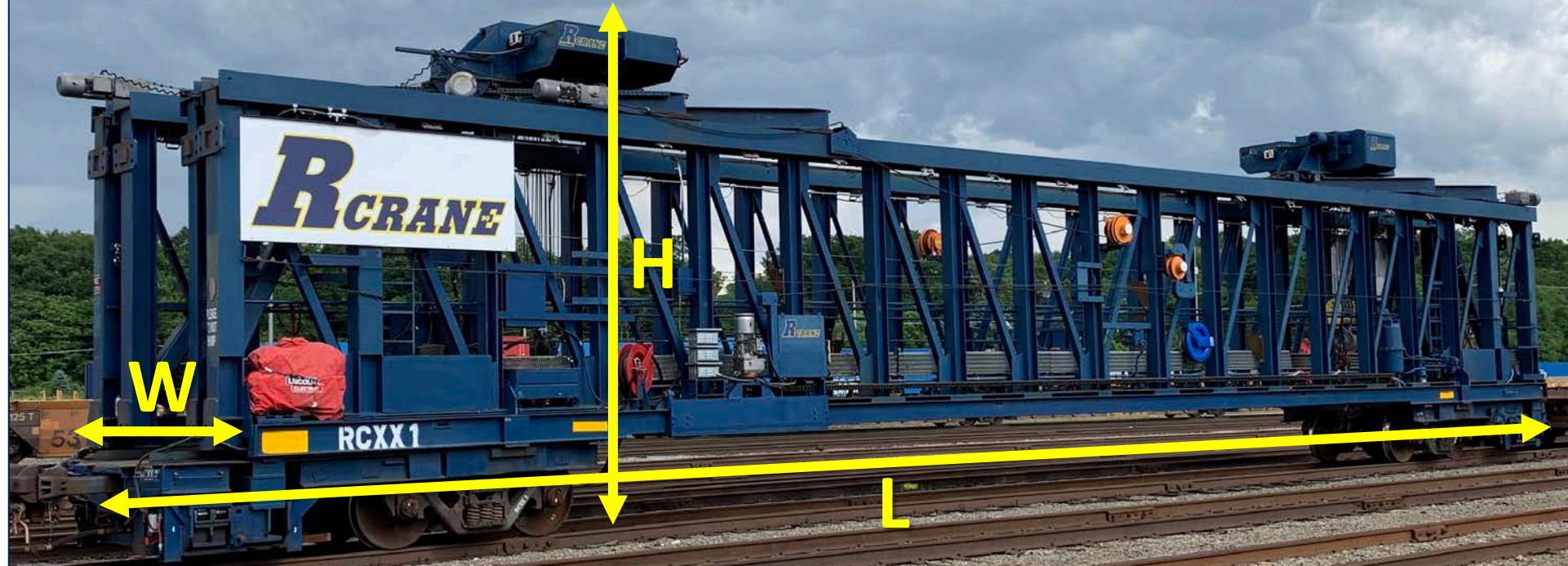
# RC3 and RC2 Work Mode Outside Dimensions Fully Open



Work Spec	W	L	H	Car Weight
Model	Width	Length	Height	
<b>RC2</b>	18'-2"	107'	19'-10"	244,000 #
<b>RC3</b>	22'-6"	136'	19'-10"	286,000 #



# RC3 and RC2 Travel Mode Dimensions

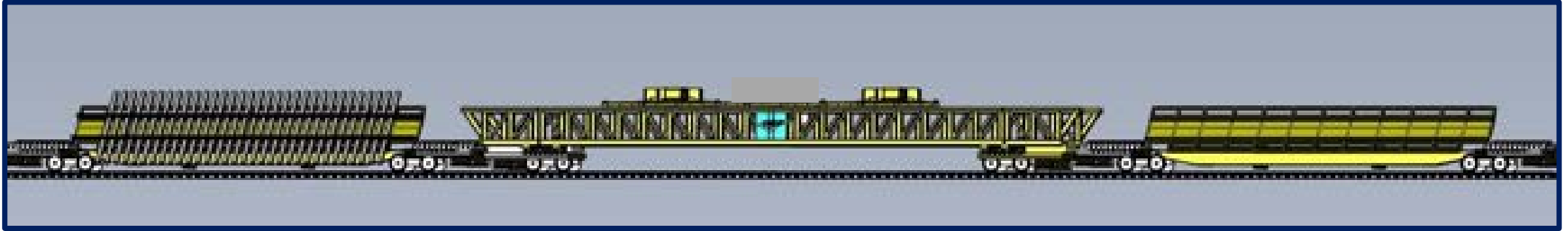


Travel Spec	W	L	H	Car Weight
Model	Width	Length	Height	
<b>RC2</b>	10'-6"	89'	19'-10"	244,000 #
<b>RC3</b>	10'-6"	89'	19'-10"	286,000 #





# RC3 Outstanding Features



Mainline & Yard Switch Renewals-Remove Old Switch-Install New Switch-Dispose Old Switch-One Move  
Same Moves for track panels, grade crossings, diamonds, bridge girders/decks/ties/walkways



- Shuttle Wagon to Job Site
- Rflats to Stage Materials
- Rmules to Move Materials
- All Tools/Spares On-Board



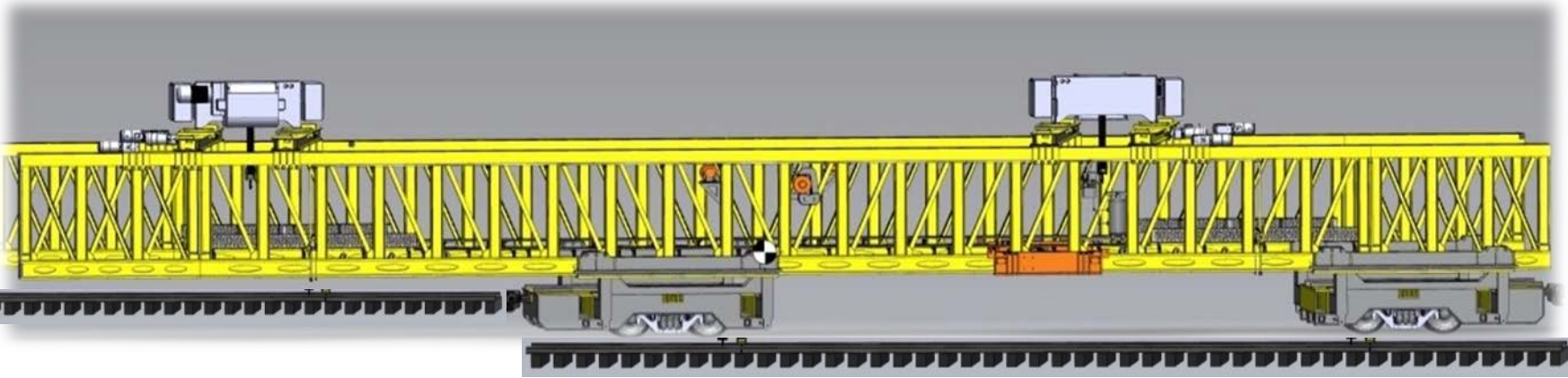
- Rcrane Safety Cage
- Railroaders Comment They Feel Safer Working with Rcrane and Like Having Hand Tools nearby



- Safety Cage
- Life Lines
- Walk Ways
- Lights
- Weather Covers
- 10 Years ZERO Injuries for RR & Rcrane Workers



# RC3 More Railroad Construction Capabilities



- Build New Sidings
- Add Multiple Main Tracks
- New Terminal Tracks
- New Switch Installs

## RC3 Expanded Applications

- Compressed Tie Gang Operations
- Machine Automation
- Continuous Safety Improvement
- Project Value Engineering for Logistics, Material Management, Project Staging

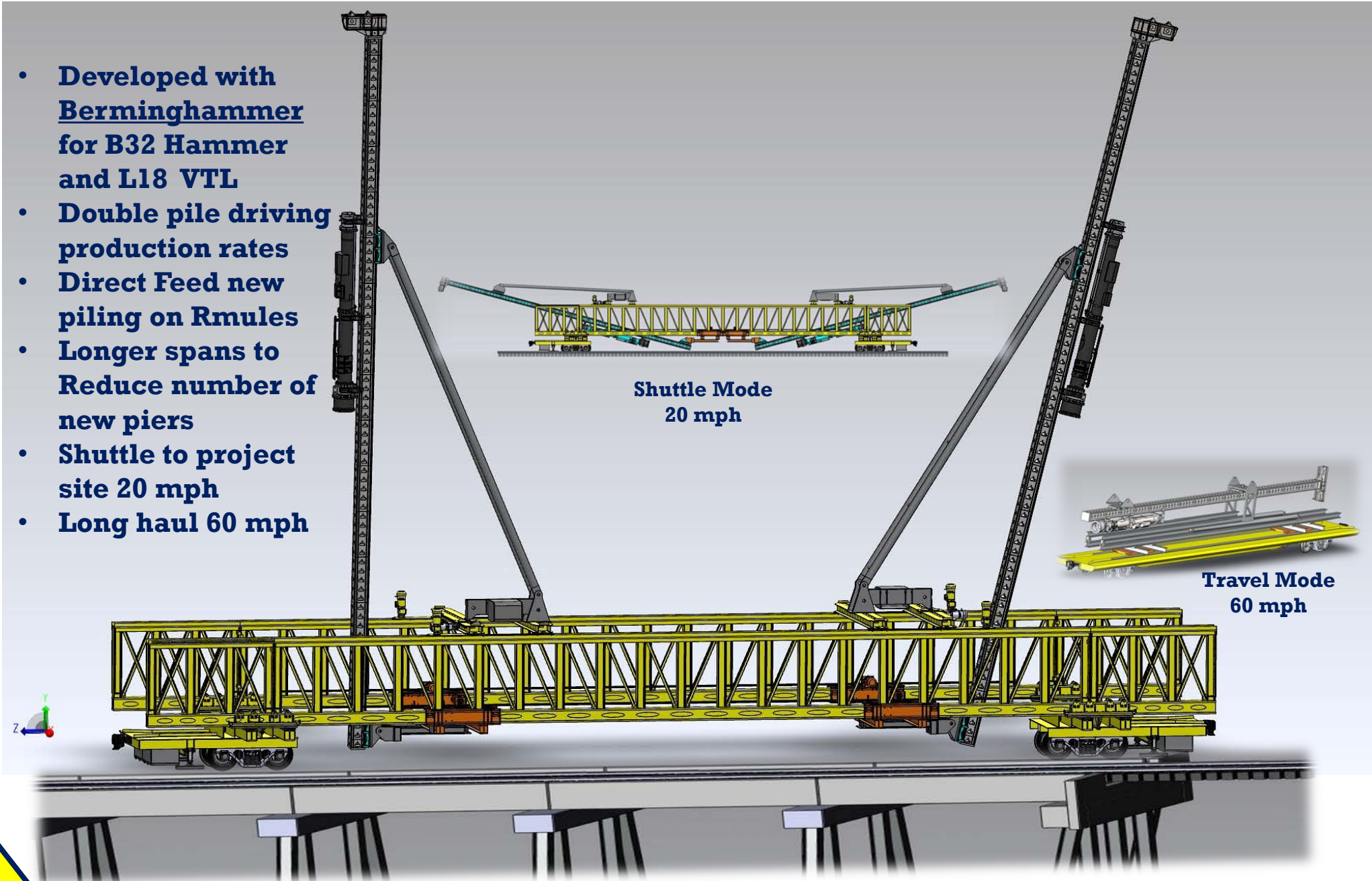




# RC3 Optional Feature - Rboom Dual Pile Drivers

- >Load Piling
- >Shuttle
- >Drive Piles
- >Return
- >Run Trains
- >Repeat

- Developed with Berminghammer for B32 Hammer and L18 VTL
- Double pile driving production rates
- Direct Feed new piling on Rmules
- Longer spans to Reduce number of new piers
- Shuttle to project site 20 mph
- Long haul 60 mph





# RC3 Optional Feature - Tie Exchange Grapples



**Dual Overhead Gantry Grapples (OGG) lift and lower running rails and move bundles of bridge-ties into and out of operating area**

**Then Lower Gantry Grapple (LGG) inserts and extracts pre-plated bridge-ties from under running rails**



# ***RSWITCH*** - Developed to Stage Rcranes near Project Sites

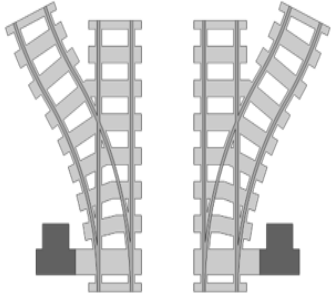
**Rswitch connects mainline to temporary work spur for equipment & material staging**



**Switch to *RSWITCH* - Increase Your Production**



# RSWITCH – Outstanding Features



Modular Design  
Configure Right or  
Left Movement



One Person  
Switch Operation  
Electro-Hydraulic  
Throw Assist  
Continuous Solar  
Charging

Main Track



Spur Track



Match any  
elevation & plan  
differential

## Simple Installation



+



+



+



4 People

8 Hours

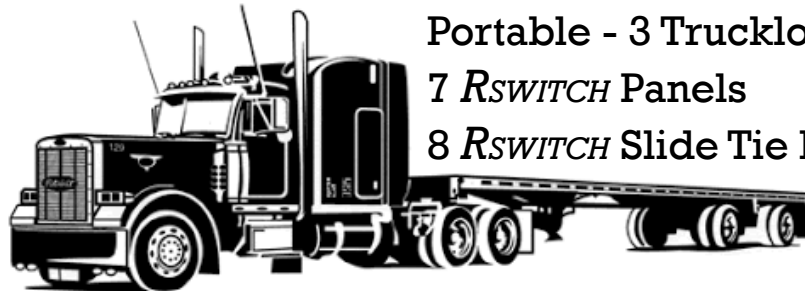
100 Tons



- Positive Impact
- No Slow Orders
- Safety Locks
- Shunts Track
- Dual Lock Clamps Secure Switch in Place

## STEALTH

Not connected  
to mainline  
Track, no  
Signals/PTC  
required, no  
rails cut to install



Portable - 3 Truckloads  
7 RSWITCH Panels  
8 RSWITCH Slide Tie Panels



**CAPACITY:**  
All Locomotives  
All Loads  
5 MPH over  
Rswitch

Rail or Truck-Track Panels to Build Temporary Equipment Spur with RC3 or Off Rail Equipment



# RC3 Value

## Railroad Construction Mega Panels & Girders

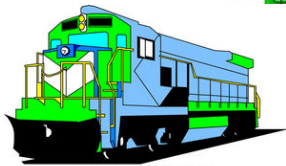


Replace Switches Faster Less  
Machines and People

Reduce Bridge Project Time  
Train & Customer Delay/Fuel

Improve Material Logistics  
& Cash Flow Timing

# RVALUE



gg64210217 GoGraph.com



VALUE POINT	RAILROAD
92 FT GIRDERS/TRACK PANELS	FASTER DAILY RENEWAL
DUAL PILE DRIVERS BUILDING FOUNDATIONS	LESS FOUNDATIONS
DRAMATIC SAFETY IMPROVEMENT	LESS TIME LOST/CLAIM\$
REDUCED PROJECT TIME & TRAIN DELAY	\$SAVED ENGINEERING & OPS
PRECISION INSTALLATION	LONGER LIFE ASSETS
REDUCED PERMITTING TIME/ROAD BUILD/CRANES	\$SAVED REDUCED INSTALL TIME



# We are **R**CRANE



**Paul H. Markelz with the Rcrane Team**

Paul H. Markelz, Founder/Inventor, CEO is a Civil/Structural Engineering Graduate of Marquette University. Paul is a career long bridge builder, starting with long span post-tension concrete highway bridges, who then Built the Rcrane Team to design/build long span types of bridges for the railroad industry. We observed how the railroads build bridges and developed new machines methods to build faster and safer, while reducing disruption to rail traffic. We saw opportunity to also build bridges with fewer, longer spans to reduce project duration and impact on railroad operations. We designed Rcrane as a crew safe, variable width, dual gantry, thru-crane, portable staging and delivery system.

Our motto: “Build Better, Safer, Sooner, Longer, Stronger”

Rcrane has a 100% record of delivering projects on-time, on-budget, and with ZERO injuries.

We are always looking for opportunities to improve and innovate new tools and services.

We identified an opportunity to move Rcrane closer to where our projects are located to save travel time, increase daily productivity, and deliver more value to our customers. Rswitch is our answer to the challenge; designed, prototyped, and proven in 3 months, we can deliver yours now!



# *R*crane CUSTOMERS



***Our MISSION is to fully understand your specific railroad bridge and track construction and replacement needs. This allows us to design and supply the most durable and economical bridge, track, and railroad crossing improvements. We strive to be your most valuable partner!***



# RC3

## Deploy Your Weapon of Mass Construction

Information-Video-Pictures  
at [www.r-crane.com](http://www.r-crane.com)

**Paul Markelz**

**Founder/Inventor, CEO**

**630-258-1240 paulm@r-crane.com**