Winter 2025

CRANEMASTERS®

On The Rails

Rail Support Services News and Insights from Cranemasters

Innovation At Work

CRANEMASTERS

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Cranemasters Design & Manufacturing Team

Cranemasters' Design and Manufacturing Team blends advanced engineering and hands-on rail expertise to create purpose-built equipment that solves the toughest challenges for railroads and rail-served industrial sites. Engineers with advanced structural and civil backgrounds collaborate with seasoned field crews and customers to rapidly prototype, test, and deploy rugged cranes, recovery systems, and custom track machinery. Because we design, fabricate, and support our own equipment, customers get faster, safer, and more cost-effective solutions for derailments, heavy lifts, and complex track repairs. We don't adapt off-the-shelf tools — we invent the right tools and processes that lower the total cost of ownership and keep rail operations on track.

CRANEMASTERS®
RAILROAD EMERGENCY AND CONSTRUCTION SERVICES

800-624-0543 info@cranemasters.com www.cranemasters.com

Cranemasters Railroad Services:

- Emergency Derailment
- Track Construction & Repair
- Railcar Maintenance & Repair
- Design & Manufacturing
- Load Adjustment & Transfer
- Natural Disaster Response
- Heavy Equipment Recovery
- Complex Track Panel Installation
- Bridge Span Replacement

Cranemasters is a full-service railroad contractor uniquely equipped to work with all Class I, regional, and short-line railroads, and rail-connected private industrial siding operations. Since its inception, the company has charted a steady course of growth and innovation, offering expert railroad construction and emergency services. The company's success is rooted in a steadfast commitment to excellence, encapsulated in a "no shortcuts" philosophy that permeates throughout its talented and experienced employees. Cranemasters is the industry's leading manufacturer of purpose-built railroad heavy-lift equipment and developer of safe and efficient processes for the industry's toughest challenges.

INNOVATION

Cranemasters Innovation

Winter 2025

Seven Innovations from Cranemasters that Solve Your Toughest Recovery, Construction, and Maintenance Challenges.

People may wonder why so many Class I, regional, and rail-served industries call on Cranemasters to solve some of their toughest challenges. It's no surprise, though, when one considers the innovative railroad equipment that Cranemasters has developed specifically to meet these challenges—and the inventive engineering minds behind those innovations.

As a leading innovator in rail services, Cranemasters' purpose-built equipment, combined with highly skilled crews, enhances the safety and efficiency of tasks such as bridge span replacement, complex track panel installation and repair, load adjust and transfer, and routine maintenance. These same efficiencies have enabled Cranemasters to reduce railroad and industrial siding losses when responding to derailments or other emergencies.

Cranemasters 200 RS Super-Duty Crane

Unparalleled lifting capacity with 360° pick and carry versatility and dynamic envelope.

One example of innovation at its best is the highly capable Cranemasters 200 RS Super-Duty Crane. Cranemasters developed its specs and has continuously updated its design to handle today's heavier locomotives, cars, and complex rail infrastructure projects.

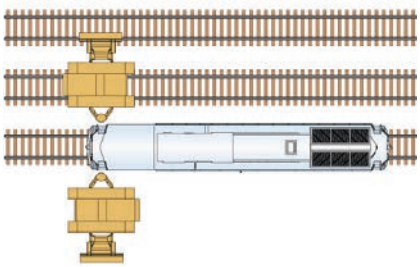
It can lift 100 tons and walk in any direction. It can adjust its track widths and extend its boom to 54 feet for the most advantageous pick points and footing. The upper house can rotate 360 degrees with a full load. With an advanced hydraulic system and 600 horsepower, the Cranemasters 200 RS can perform any combination of these movements simultaneously. Cranemasters can also position a drag recovery winch rated at 140,000 pounds on the front or back of the crane during recovery or construction tasks.

The Cranemasters 200 RS Super-Duty Crawler Crane can work where other equipment can't operate.

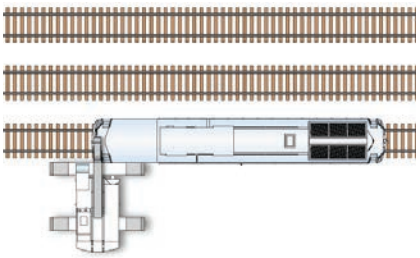
These cranes can reach high and lift one end of the locomotive or car with just one crane from either side or one end. They are the most efficient equipment for derailments and track repair where there's limited space, such as a bridge, tunnel, or narrow right-of-way.

With a high ground clearance, adjustable track width, and multi-directional capabilities, the Cranemasters 200 RS Super-Duty Crane can move over switch stands and other low-lying track structures without damaging them, making it ideal for installing heavy, complex track panels or heavy retarders. Composite bonded track pads provide optimal tractive effort while protecting railroad track components. With 210,000 pounds of tractive effort, it is mobile and nimble in adverse terrain conditions. On spud barges, it can even retrieve train cars and equipment from lakes and rivers.

Customers choose Cranemasters for our innovations in railroad technology. Like the 200 RS Super-Duty Crane that we purpose-built to lift and carry locomotives and cars from only one side, or one end, so we don't block rail traffic on adjacent tracks. And, 200 RS Super-Duty Cranes arrive at highway speeds and are assembled in under 35 minutes in unrestricted set up areas. Every job is engineered like our equipment to advance safety, remove hazards, and deliver the best possible outcomes.

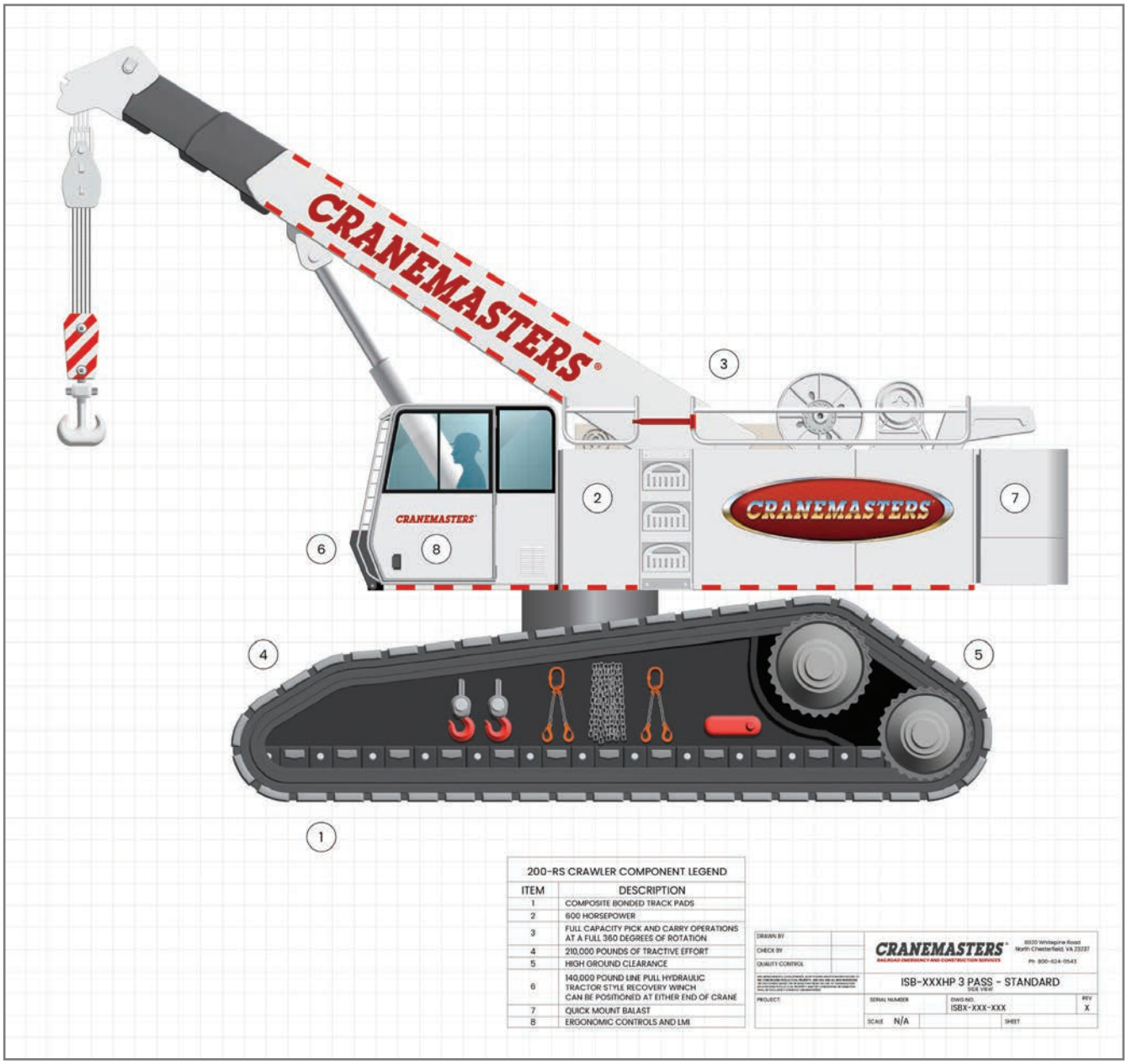


Conventional booms attached to sidebooms need two sides to lift rail cars.



The Cranemasters 200 RS Super-Duty Crane lifts and carries from only one side.

The Cranemasters 200 RS Super-Duty Crane is carried to job sites on our highway-ready rig.



200-RS CRAWLER COMPONENT LEGEND	
ITEM	DESCRIPTION
1	COMPOSITE BONDED TRACK PADS
2	600 HORSEPOWER
3	FULL CAPACITY PICK AND CARRY OPERATIONS AT A FULL 360 DEGREES OF ROTATION
4	210,000 POUNDS OF TRACTIVE EFFORT
5	HIGH GROUND CLEARANCE
6	140,000 POUND LINE PULL HYDRAULIC TRACTOR STYLE RECOVERY WINCH CAN BE POSITIONED AT EITHER END OF CRANE
7	QUICK MOUNT BALAST
8	ERGONOMIC CONTROLS AND LMI

DRAWN BY
CHECK BY
QUALITY CONTROL
PROJECT

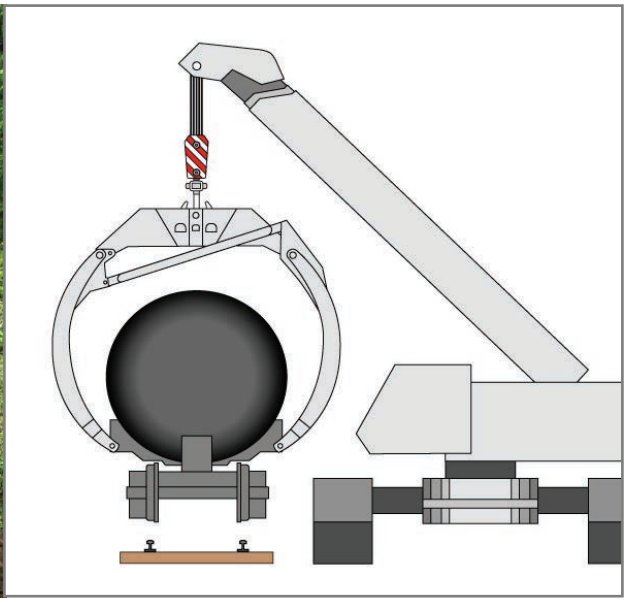
CRANEMASTERS
RAILROAD EMERGENCY AND CONSTRUCTION SERVICES
8020 Whitepine Road
North Chesterfield, VA 23237
Ph: 800-624-0543

ISB-XXXHP 3 PASS - STANDARD
SIDE VIEW

SERIAL NUMBER
DWG NO. ISBX-XXX-XXX
REV X
SCALE N/A
SHEET

While initially designed specifically for derailments, the versatility of this cutting-edge machinery has excelled in railroad construction and maintenance too. With a custom trailer for the 200 RS Super-Duty Crane, it can be deployed at highway speeds to the work site and is set up and ready to work in just 26 to 35 minutes in unrestricted areas.

A trackhoe can rotate to position things precisely. A sideboom can lift more than an excavator. Cranemasters 200 RS Heavy-Duty Crawler Crane delivers the best of both. It rotates for precise positioning and lifts far heavier structures than sidebooms, with its boom extending out to pick up heavy loads from a further distance.



Tank Car Saver

Lift tank cars during recovery or lift-and-carry operations — without causing damage.

The Tank Car Saver is a custom-designed, patented innovation by Cranemasters. It's the only equipment in the industry for lifting tank cars without damaging them. With a capacity of 180,000 pounds, the Tank Car Saver enables the safe handling of empty and loaded cars, including leaning cars.

Its radius arm wraps around the tank car to securely lock onto the chassis bolsters, the strongest frame points, and where the weight of the load needs to be supported. However, the arms do not contact the side of the tank car while it is hoisted up. When lifting, neither arm presses against the side of the railcar.

Secondly, the arms lock in place on both sides in a rigid configuration. Each arm is designed so that when the left side is pulled as the crane extends it out, the right side gets extended out the same amount. When one is pulled, the other one goes out at the same width. It keeps the lift point locked rigidly at the top, so the lifting point is directly above the car and its center of gravity, keeping the car suspended upright and level. It doesn't matter whether the tank car is full, partially full, or empty. Tank cars, if not suspended correctly, can break loose, fall, and then roll away, which is especially problematic if they contain hazardous materials.

When other companies use the "two booms and a bucket" technique to pick up a tank car, its winches and hooks connect to the bolsters. As the tank car is lifted, the hook blocks and rigging push in on the outer housing of the tank, which is wider than the frame of the tank car. When the car is fully loaded, there's a lot of weight and pressure crushing the sides of the tank car. Industry wide, that's how tank cars are typically moved during derailments, as clearing the track is often the priority.

It's expensive to repair tank cars when their outer skin, interior insulation, and tubing need to be repaired or replaced. With the Cranemasters Tank Car Saver, it's possible to clear the tracks quickly, efficiently, and safely—a significant savings by avoiding costly repairs. Finally, when it's time to store the Tank Car Saver, it folds up neatly into a compact size and is transported on its own dedicated trailer.

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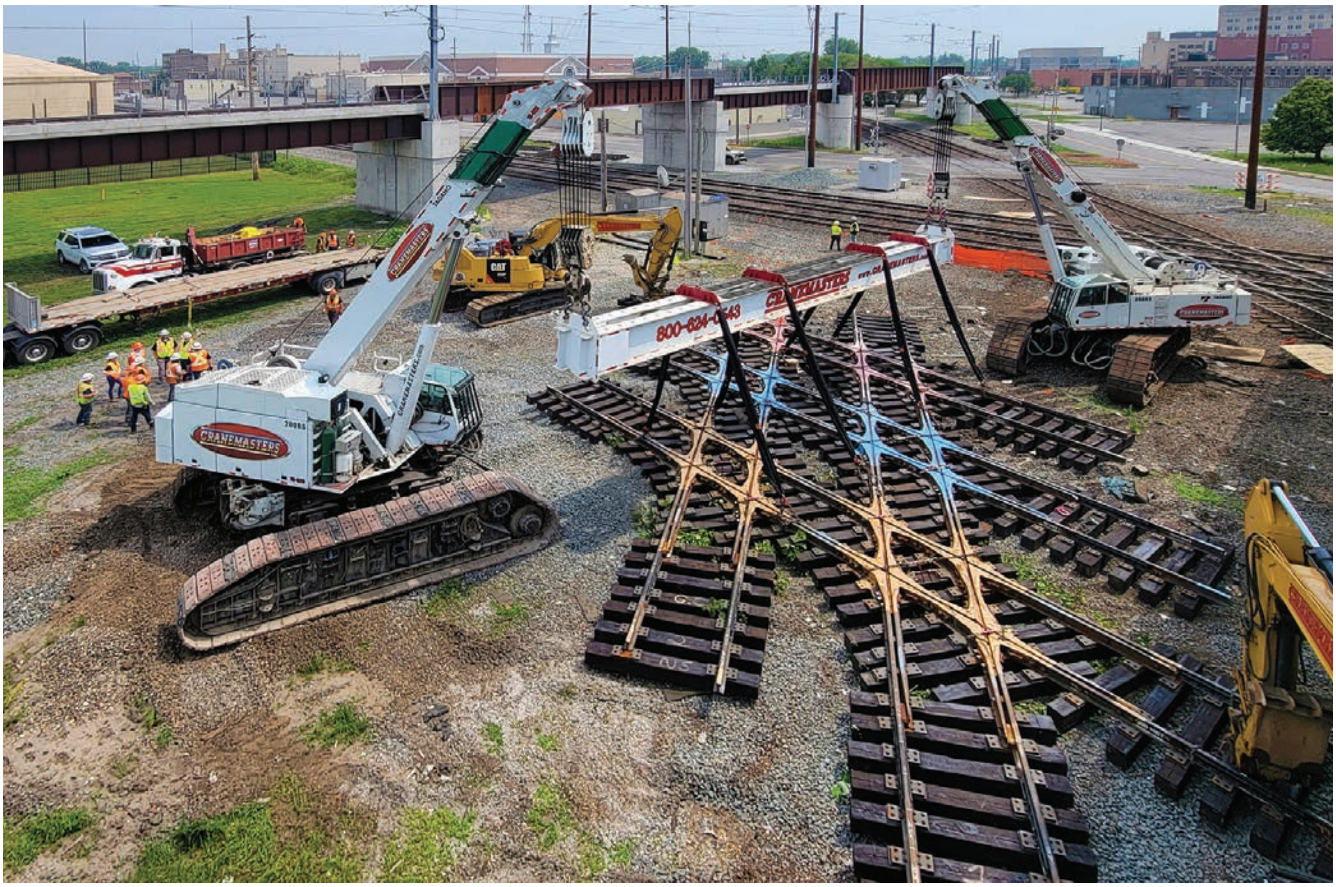
Lift Beams

Stabilize wide complex loads for greater control and precision placement during lifts.

Cranemasters' purpose-built lift beams are designed to lift and install large, complex railroad track structures—such as multi-diamond assemblies or master/group retarders—without damage. Unlike making-do with standard beams, Cranemasters purpose-built beams minimize stress on track panels to minimize flexing when suspended.

The beams provide multiple pick points and lift from the most advantageous positions to keep structures level. Paired with Cranemasters' 200 RS Super-Duty Crawler Cranes, we can handle wider, longer, and heavier panels—even moving multiple cranes and beams in unison working in narrow confines to place panels precisely within specs, preventing distortion, and reducing rail traffic curfew times.

Cranemasters maintains a range of beam sizes and can engineer custom lengths to match the demands of each job.



Traction Motor Dolly

Increase accuracy, save time, and improve safety during traction motor replacements.

When Cranemasters was looking for a better way to change out locomotive traction motors, they designed the Cranemasters Traction Motor Dolly. At first glance, it may appear to be an innocuous flat dolly with small railroad wheels, but it's an innovative solution to a common problem during emergency and scheduled change-outs.

Giant electric locomotive traction motors wear out over time and require periodic replacement. Changing out the traction motor in the shop with a drop table is not always an option. On occasions, they seize up while the train is en route somewhere, sometimes where the right of way affords limited access to the locomotive from only one end or side. With the traction motor dolly, the end of the locomotive is lifted by a crane, allowing the traction motor dolly to be positioned beneath the traction motor. The locomotive is lowered onto the traction motor dolly. The crew detaches the traction motor from the locomotive's truck frame, lifts the locomotive again, and pulls the dolly from beneath the train. They replace the old traction motor on the dolly with a new one, which will be positioned beneath the locomotive.

Traction motors with their railroad axles are heavy units with the weight distributed towards the top, where they mount to the locomotive. By itself, a detached traction motor will roll over, preventing the locomotive from being set on it. However, the traction motor dolly features a hydraulic system that allows for precise adjustment and positioning of the traction motor, ensuring it aligns perfectly with the attachment on the locomotive. It makes it easier and faster to change the traction motor, reducing the risk of injury during change-outs.

Moreover, the wheels of the traction motor dolly are designed to support the weight of a locomotive. It can support the locomotive on top of it and allow the locomotive to be moved even if the wheel cannot be turned. It is an expedient idler in the field beneath the seized-up traction motor so the locomotive can be moved slowly under its own power.

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Hi-Rail Track Loading Vehicle (TLV)

Prevent derailments and stay in compliance with proactive inspections.

Under the weight of locomotives and heavy rail cars, a weakness in the track may cause the rails to buckle, shift, or spread wider. While there's a little latitude, the gauge needs to stay at or very close to the standard. A "wide gauge" is one of the most often used FRA derailment codes.

The tracks are not under full load during manual inspections. To complement manual track inspections and to detect flaws sooner and more reliably, Cranemasters utilizes its Hi-Rail TLV. The Cranemasters Hi-Rail TLV allows track geometry inspections without extensive manpower or lengthy track shutdowns. Its hydraulically loaded axle applies enough force and pressure to simulate actual train loads. Its algorithms identify any defects and incident risk in real time.

The precision or tolerance level for the inspection can be adjusted to accommodate the customer's requirements, depending on the track's speed limit, terrain, and other factors. If something is out of the tolerance level, the Cranemasters Hi-Rail TLV will spray paint the railroad track at the point where a problem has been detected. A track data recorder simultaneously documents the defect's physical coordinates to help crews locate defects. Data can be downloaded and reports generated from the data to support track maintenance plans for correcting defects.

Cranemasters Hi-Rail TLV is the efficient way to conduct predictive maintenance. It eliminates human error from inspections and reliably detects defects while speeding the quality of track reports—which leads to less downtime and reduces the potential for derailments.

Trackhoe Winch

Multi-directional winch retrieval capabilities extends trackhoe capabilities.

Cranemasters custom-designed and manufactured a mounting system and hydraulic traction-type recovery winch for its excavators—the first in the industry.

Moreover, the recovery winch can be attached to either end of the excavator, depending on job site needs, making these machines significantly more versatile than other similar models of equipment used in the rail industry.

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Hi-Rail Crane

Hi-Rail function designed from the ground up and purpose-built for railroad work.

The Cranemasters CMD150R and CMD130R are not retrofitted with after-market parts, the quality of which can vary significantly

Instead, Cranemasters incorporates Hi-Rail gear as part of the initial design and fabricates their own hi-rail assemblies specifically for the crane which improves handling and operational safety. It's stable on the rail, handles well going through switches, and is easier to get on and off the rail.

The Base-Build can be optimized for your particular job needs and additional customizations to address your specific jobs, site challenges, and climate.

- The CMD150R and CMD130R are built like beasts by Cranemasters' Design and Manufacturing.
- Massive steel fabrications are over-sized to handle the toughest jobs, year in and year out.
- The Cranemasters 150-ton Hi-Rail Recovery Crane is all hydraulic with fast and safe set-up.
- The crane is equipped with a 2-speed main winch and Load Moment Indication (LMI) system. The LMI displays the crane position, capacity and crane load indication.
- Powerful state-of-the-art hydraulics meet the most rigorous project demands.
- Performance-proven telescopic boom with highly compact dimensions mean the Cranemasters CMD150R and CMD130R can often get closer to a job.
- The operator's cab is designed for comfort with custom ergonomic controls, integrated heating and air conditioning, and a seat built to Cranemasters' specifications.
- Large access doors and spacious machinery compartments simplify preventative maintenance and service of the crane.

Stay Up to Date

cranemasters.
com/contact-us

FREE 2026 Cranemasters Calendar*

We appreciate your interest in Cranemasters and would like to send you a high-quality 2026 wall calendar with dramatic images of our crews at derailments, rail construction sites, and manufacturing facilities.

To receive your calendar, just include your mailing address on the Contact Us form at https://www.cranemasters.com/contact-us.

*Calendar only. All other items for illustrative purposes only.

INNOVATION

Designed to Solve. Built to Perform.

Winter 2025

Cranemasters engineering tackles rail's toughest challenges. Rather than accepting the limitations of traditional equipment and practices, Cranemasters' engineers design smarter, safer, and more efficient solutions.

That mindset has earned Cranemasters a reputation as a trusted problem solver for Class I railroads, short lines, regional networks, and private industrial siding customers alike. Whether it's minimizing losses from derailments or cutting downtime during complex projects like complex panel replacements or track repairs, Cranemasters' engineered solutions keep rail operations moving.

“Every impediment is an invitation to innovate.”

—Barry Isringhausen, President, Cranemasters

“Our approach is flexible,” said Aubrey Amadeo, Cranemasters’ COO. “We buy equipment then our engineers refine or repurpose to create a better solution that meets our customers’ needs—sometimes that means a new capability, other times a completely new design. We also purpose-build equipment from the ground up specifically for rail work.”

This hands-on approach enables Cranemasters to respond quickly and effectively to customer needs, while maintaining the high standards that define the company’s work.

The Drive to Innovate

Cranemasters’ engineering projects often begin with a customer challenge or they’re born from internal ideas to improve performance and expand fleet capability. Some of the best ideas start with a customer facing a singular difficulty.

Whatever the spark, the goal remains the same: to serve customers and the industry with practical, forward-thinking solutions.

Some common engineering and build considerations include:

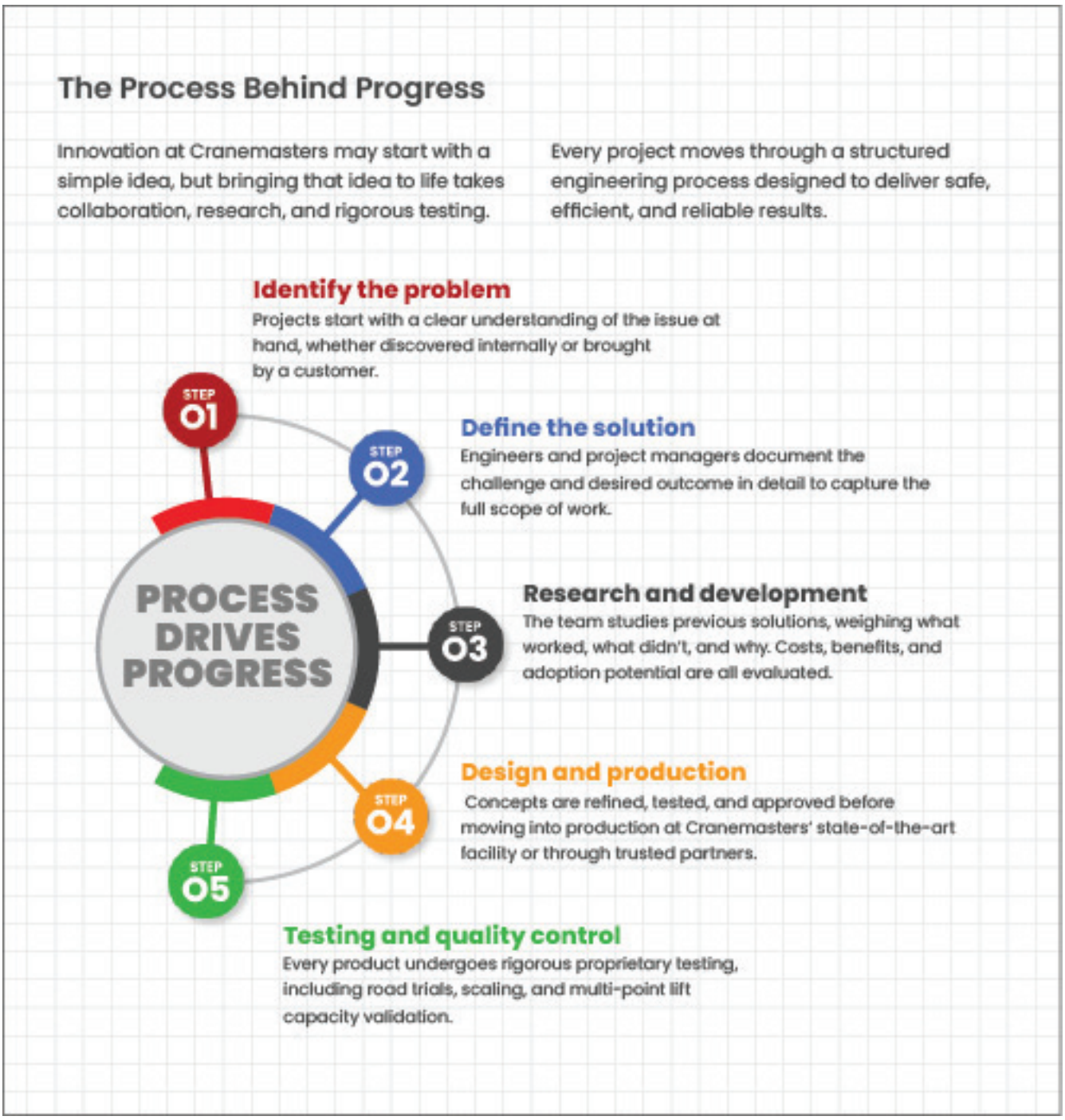
- Transportation requirements in different states and provinces
- Different climate and road conditions
- Crane controls and improved technology
- Remote operation
- Functionality and efficiency of the equipment (i.e. self attaching counterweight)
- Lift capacity

Three Types of Cranemasters Engineering Jobs

New Product Development: Designing and building creative solutions for unique customer challenges—sometimes on a same-day turnaround for emergency needs.

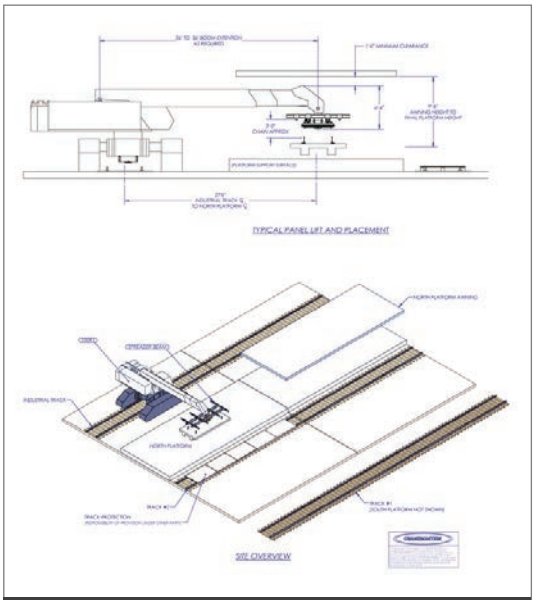
Catalog Products: Developing reliable tools and equipment that can be produced repeatedly for a wide range of clients, with customizable options to fit specific applications.

Aftermarket Improvements: Upgrading existing equipment, whether it was initially built by Cranemasters or another manufacturer, with enhancements only Cranemasters can deliver.



A Recent Example of Working with a Client to Solve a Unique Challenge

When Amtrak needed to install concrete precast beams (13,000–20,000 lbs) and precast concrete panels (11,000–32,000 lbs) within a covered space with low clearance, Cranemasters engineered a custom loading and rotation system. The historically significant pavilion's canopy was too low for traditional crane operation, so Cranemasters engineered and built a custom lift beam on a slew ring for precise positioning. Together with the versatile Cranemasters 200 RS Super-Duty Crawler's dynamic envelope and the custom lift beam, Cranemasters placed each giant element of the substructure precisely and without incident.



Cranemasters original design drawings

Building the custom lift beam

To read more about this uncommon solution, click to the Amtrak Case Study in this Newsletter or visit Cranemasters.com

The Cranemasters 200 RS Crawler placing a large precast concrete panel utilizing the purpose-built lift beam

“Innovation isn’t just about ideas—
it’s about turning those ideas into reliable, proven tools.”

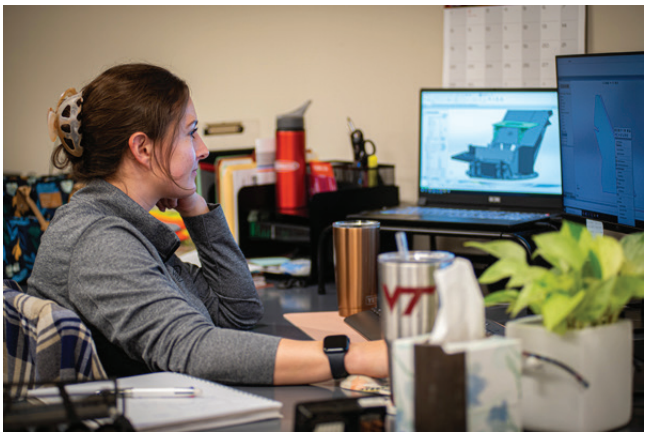
—Aubrey Amadeo, COO, Cranemasters

Partner with Customers

Cranemasters’ customer-centered approach ensures that each project meets real-world needs from concept to delivery—and long after. Collaboration begins at the project’s kickoff and continues through engineering, fabrication, and field testing.

Each project is assigned a dedicated project leader, typically an engineer, who keeps customers informed through regular updates and invites them to visit during key phases of the project. Once the final product is ready, Cranemasters’ experts provide on-site training, maintenance guidance, and warranty support. Follow-up visits at 90 days, 9 months, and 18 months help ensure performance and customer satisfaction, with extended service plans available beyond the warranty period.

Better by Design



Since 2012, Cranemasters’ engineering team has delivered over 300 internal and customer-driven solutions—each one reflecting the company’s commitment to innovation. From developing high-voltage proximity alarms for its own fleet to designing the next-generation Cranemasters crane, the team continues to push boundaries in rail engineering.

Recent achievements include the design, build, and delivery of 10 hi-rail cranes, along with specialized box trucks and major crane upfits—plus five additional cranes currently under construction. The team also creates dozens of lift plans each year to tackle complex, high-stakes jobs.

Each of these examples shows what sets Cranemasters apart: the ability to combine innovation, precision, and experience to solve rail’s toughest challenges—safely, efficiently, and reliably.

The Next Generation of

LIFTING POWER

Coming Soon
The New Cranemasters T120 Brute Crane

Proven Performance. Stronger. Faster.

20% MORE MUSCLE
- 120-ton lift capacity
- 772 HP
- Advanced boom & counterweight

MORE CONTROL
- Enhanced hydraulics
- Upgraded gearing
- 50% more swing torque.

ROUGH & READY
- Independent track suspension
- Walking-beam equalizers for rock-solid stability

GREATER ENDURANCE
- Expanded radiator system improves endurance in extreme weather

STREAMLINED OPERATION
- Self-locking tracks
- Integrated hydraulics
- Single-hand steering

CRANEMASTERS®

RAISING THE BAR. AGAIN.

CASE STUDY

Engineering Innovation:

Solving a Low-Clearance Challenge

Winter 2025

Amtrak was renovating their service and it involved replacing two platforms underneath a historic pavilion. Cranemasters had the equipment and the ingenuity for this unique engineering challenge.

CHALLENGE:
Low-Clearance Challenge in Lancaster

The renovation involved replacing two platforms, each approximately 400 feet long. While the open sections of the platforms posed no unusual difficulties, the areas beneath the historic pavilion presented a unique engineering challenge:

- **Weight and Scale: Precast beams (13,000–20,000 lbs) and precast concrete panels (11,000–32,000 lbs) needed precise placement.**
- **Historic Preservation: The pavilion's canopy was too low for traditional crane operation, preventing direct overhead placement.**
- **Two-Phase Project: Work needed to be completed first on the south platform (2024) and then on the north platform (2025), with strict adherence to Amtrak's operational schedule.**

Lancaster Pavilion Job

Customer: Amtrak and Pennsylvania Department of Transportation (PennDOT)

Location: Lancaster, Pennsylvania (LNC Station)

Construction Lead: Wohlsen Construction Company

Specialized Partner: Cranemasters

Lancaster Station is the second-busiest Amtrak station in Pennsylvania and the 25th-busiest nationwide. Serving both the Keystone Service and the Pennsylvanian routes, the historic station plays a critical role in Amtrak's national rail network. In 2024–2025, Amtrak and PennDOT initiated a multi-phase renovation project to replace platforms, rebuild foundations, and restore the station's historic pavilion.

Wohlsen Construction led the renovation efforts, with Cranemasters engaged as a trusted subcontractor and preferred crane service provider.

CRANEMASTERS' SOLUTION:
Devise Custom Equipment

Drawing on decades of innovation, Cranemasters engineered a custom solution to address the low-clearance challenge beneath the pavilion.

- **The Cranemasters 200 RS Super-Duty Crane: The crane's Dynamic Envelope, coupled with full capacity pick and carry at a full 360 degrees of rotation, makes it the industry's most efficient purpose-built crane in confined spaces.**
- **Repurposed Crane Bearing: A heavy-duty crane bearing, originally warehoused in Chesterfield, VA, was adapted for this project. The bearing enabled controlled, 360-degree rotation of heavy panels while maintaining full lifting capacity.**
- **Custom Fabricated Frame: Cranemasters' Engineering Team designed and built a steel frame with parallel and perpendicular beams. The frame is connected to the bearing and attached to the four pick points of each concrete panel, ensuring stability and precise maneuverability.**
- **Accurate Positioning: While the 200 RS Super Duty crane provided lift and reach, ground crews used tag lines to swing panels manually into place beneath the pavilion canopy within fractions of an inch.**

This innovative system allowed Cranemasters to place massive concrete panels with exact precision, despite the height restrictions imposed by the historic structure.

Precast beams (13,000–20,000 lbs) precisely placed under the canopy

Precast concrete panels (11,000–32,000 lbs) lifted from semi trailers and positioned under the canopy.

RESULT:

Historic Pavilion Preserved. Renovations Completed Flawlessly.

- **Ahead of Schedule: South platform completed early in 2024, allowing Amtrak to accelerate the timeline for the north platform renovation in 2025. Both phases were completed within three weeks each, without incidents or delays.**
- **Preservation Achieved: The historic pavilion canopy remained intact, while modern infrastructure improvements were successfully integrated.**

Cranemasters once again demonstrated its reputation for solving unconventional heavy-lift challenges with engineering ingenuity.

CASE STUDY

Find This Case Study and More at:
cranemasters.com/resources

Cranemasters Railroad Services

- Emergency Derailment
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CASE STUDY

Pick-Carry-Place in Concert by Master Operators

Winter 2025

BNSF taps Cranemasters and its 200 RS Super-Duty cranes to replace critical retarders in Galesburg, IL.

CHALLENGE:
Replace Giant Retarders in Under Two Days

On July 7–8, BNSF Railway executed a 44-hour capital project at its Galesburg, IL classification yard—its second largest in the network and one of the busiest in the country, processing nearly 1,900 cars per day.

The project required months of planning with contractors and organizations across the nation. A critical piece was the replacement of a master retarder and a Group 5 retarder—equipment essential to controlling car movement in a hump yard.

Because all cars roll through the master retarder, replacing it meant shutting down the yard for two days—a costly operation. To minimize disruption, BNSF coordinated numerous maintenance projects during the same 44-hour window. Success depended on completing each element with precision and efficiency.

BNSF Railway

One of North America's largest freight railroads. Operates more than 32,500 route miles in 28 states

Galesburg Yard

One of the nation's largest classification yards

Capital Improvements by all service providers during the 44-hour shutdown

- Master Retarder Replaced
- Group 5 Retarder Replaced
- North Scale Wall Rebuilt & Foundation Repairs
- New Approach Plates & Rail Installed on Scale & Approaches
- 11 Turnouts
- 1,672 Ties Installed
- 21,856 ft. of Rail Installed
- 8,891 ft. of Track Lifted
- 19,008 ft. of Shoulder Ballast Cleaned

Cranemasters

BNSF selected Cranemasters to handle the retarder replacements for its proven expertise and the unique capabilities of its 200 RS Super-Duty cranes.

Cranemasters is a leader in heavy-lift rail operations, specializing in retarder replacements, derailment recovery, and precision crane work.

CRANEMASTERS' SOLUTION:
Heavy Lifting in Perfect Synchronization

Two-Crane Precision

- Cranemasters removed and installed the Group 5 retarder (72 feet long) first, allowing more preparation time for the master retarder foundation.
- Navigating the 600-foot carry path required lifting and walking around switches, substations, multiple tracks, and overhead lines.
- Cranemasters demonstrated advanced two-crane coordination, maneuvering a 90-degree turn.

Three-Crane Challenge

- The master retarder (181 feet, ~180,000 lbs) required three cranes operating in perfect unison to prevent flexing or warping.
- Each crane used 10-foot lift beams with four pick points to evenly distribute weight.
- Crews protected tracks with steel-reinforced wooden blocks, moving them in step with the cranes.

Cranemasters' 200 RS Super-Duty Advantages

- Lifts and carries up to 100 tons from one side.
- Walks in any direction, rotates 360°, and telescopes up to 53 feet.
- Assembles in 30 minutes—unlike larger cranes that require days of setup and disrupt operations.
- Ideal for projects with confined spaces, overhead obstructions, or complex carry paths.

Expert Coordination

Three superintendents oversaw operations, with each crane crew comprising an operator, a ground crew, and a superintendent. A lead Crane Master ensured synchronized movements, making complex multi-crane operations possible.

RESULT:
Both Retarders Replaced. Ready to Roll.

In under two days, starting Monday, Cranemasters successfully supported BNSF in replacing both retarders and completing a lengthy list of capital improvements. By Tuesday evening, the Galesburg yard was back online, processing nearly 1,900 cars per day.

- Master retarder replaced (181 ft, 180,000 lbs)
- Group 5 retarder replaced (72 ft)
- Safe navigation around yard infrastructure without damage
- Execution completed within the 44-hour project window

CASE STUDY

Find This Case Study and More at:
cranemasters.com/resources

Cranemasters Railroad Services

- Emergency Derailment
- Track Construction & Repair
- Railcar Maintenance & Repair
- Design & Manufacturing

Cranemasters is a full-service railroad contractor uniquely equipped to work with all Class I, regional, and short-line railroads, and rail-connected private industrial siding operations. Since its inception, the company has charted a steady course of growth and innovation, offering expert railroad construction and emergency services. The company's success is rooted in a steadfast commitment to excellence, encapsulated in a "no shortcuts" philosophy that permeates throughout its talented and experienced employees. Cranemasters is the industry's leading manufacturer of purpose-built railroad heavy-lift equipment and developer of safe and efficient processes for the industry's toughest challenges.

CASE STUDY

Cranemasters Weighs In with Insightful Solutions

Winter 2025

AdvanSix's Hopewell, VA plant moves tons of chemical intermediates every day. A broken scale stopped operations in their tracks. They needed a faster, smarter solution to get operations moving again. They needed Cranemasters.

CHALLENGE:
AdvanSix Faced a Large Scale Business Interruption

At the AdvanSix Hopewell plant, an underground leak from the adjacent water company property saturated and eroded soil beneath the rail car scale. The concrete slab, sensors, and load cells crumbled, leaving the scale uncertified for legal-for-trade weighing.

Without a NTEP-approved scale, AdvanSix could not:

- Accurately calculate shipping charges
- Verify outbound shipment weights
- Meet regulatory and safety requirements

The business impact was severe. **Without a functioning scale, AdvanSix risked losing up to $2 million in revenue per day.**

A direct replacement at the existing location would require removing the broken foundation, reconstructing the site, and installing new rail—a six- to seven-week process. AdvanSix needed a faster, smarter solution to get operations moving again. They needed Cranemasters.

"AdvanSix isn't a scale company or a rail track company. Cranemasters coordinated everything with Apple Valley, our scale company, and with CSX and Norfolk Southern. They're truly plug-and-play. They simplify your life, act as a liaison, and deliver without micromanagement, incidents, or hiccups."

— AdvanSix

AdvanSix, Inc., is a major manufacturer and supplier of chemicals with four plants in Virginia and Pennsylvania. Its Hopewell, VA, plant, with 26 miles of railroad track, is one of the world's largest single-site producers of caprolactam, satisfying approximately eight percent of the global demand. It's also the world's largest single-site producer of ammonium sulfate fertilizers and a manufacturer of other chemical intermediates.

Cranemasters Has Been Serving AdvanSix for over 35 years

With 26 miles of rail tracks to be maintained, AdvanSix has Cranemasters conduct monthly track inspections to ensure track safety and efficiency. But there's nothing routine about maintenance at the chemical plant, which was initially built after World War I. Cranemasters is regularly onsite, working through a punch list of prioritized projects. Cranemasters also participates in transitional capital projects and is available 24/7/365 in the event of an emergency or immediate need.

As a result, Cranemasters is highly familiar with the plant, its operations, and traffic flow.

AdvanSix Hopewell, VA Plant

CRANEMASTERS' SOLUTION:
Engineering Expertise Over Quick Fixes

A Smarter Approach

When Cranemasters arrived, we didn't just start demolition. Our engineers assessed the core issues: water flow, ground elevation, and railcar movement efficiency. Rebuilding in the same spot would leave AdvanSix vulnerable to the same risks.

Instead, we recommended relocating the scale to dry, elevated ground, avoiding water threats, and eliminating the time-consuming demo of the old damaged foundation before a new scale could be installed. This choice minimized downtime, prevented recurrence, and created an opportunity to improve rail car flow through the yard.

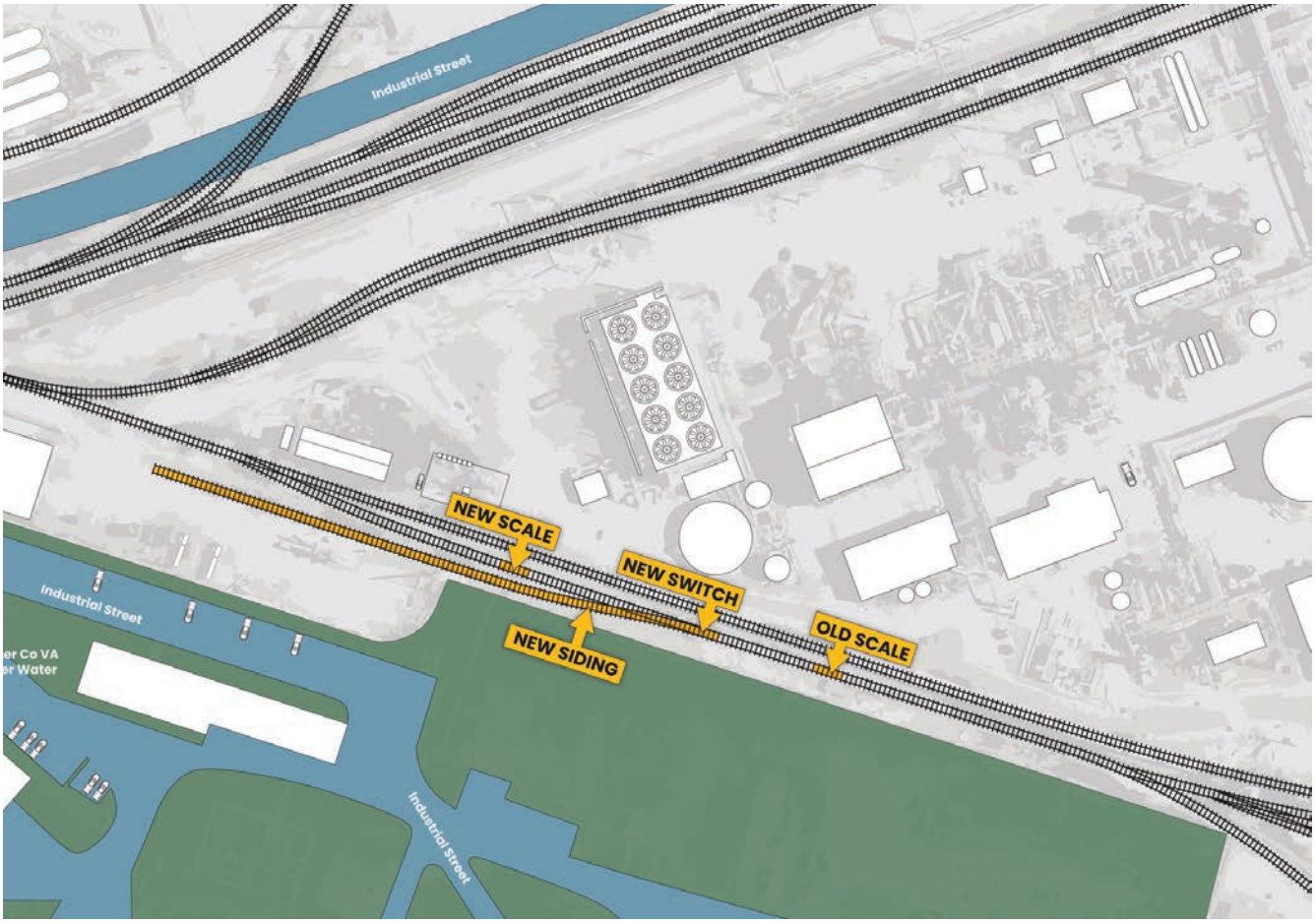
That's what we mean by Cranemasters Strategic Systems Operation™.

Technical Precision in Site Selection

Drawing on years of experience with rail scale installations, Cranemasters already knew the exact requirements:

- 150 feet minimum distance from a switch
- 300 feet of level track before and 150 feet after the scale
- Stable ground, never at a low point in the rail

Because we were already familiar with AdvanSix's rail yard, we identified the ideal site immediately—saving time and cost by avoiding ground sampling and yard mapping.



Building for Accuracy and Compliance

Apple Valley Scale installed the scale itself, but they relied on Cranemasters to manage all critical ground and track work to meet certification standards. We delivered:

- 600 feet of new 115 RE track, raised on new cross ties, plates, and spikes
- A reconditioned and level foundation to exacting specifications
- A new switch stand and switch points branching to the scale track
- Precision alignment of track-to-scale connections

Because weigh-in-motion scales are sensitive to even a quarter-inch bump, Cranemasters worked hand-in-hand with Apple Valley to ensure the system was perfectly level, compliant, and certifiable.

"When our scale crumbled, Cranemasters said, 'Here's the short-term fix, and here's the permanent solution.' Three weeks later, we were back to full operation. That's the kind of partner they are."

— AdvanSix

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Cranemasters wasn't looking at making the most money—or billing for the most work hours. Cranemasters was looking out for AdvanSix. They said, 'I understand what you're asking for, Christian, and we can remove your old scale and do the other work, if that's what you want. But it boils down to your plant needing to weigh rail cars. Installing a scale at this other location will be the fastest and the most cost-effective way to weigh rail cars. It'll save all the labor and time of removing the old scale and be more efficient in the long run. As it turned out, it's the perfect location, saving us time every day.

Christian Beale
Rail Logistics Manager
AdvanSix (former)

Temporary Relief During Construction

Understanding the urgency, we also devised a short-term fix. By re-purposing and rerouting rail, Cranemasters reactivated a secondary in-motion scale that had been inaccessible due to the original damage. This allowed AdvanSix to continue weighing cars while permanent work was underway.

Crew Power and Coordination

To stay on schedule, Cranemasters deployed two eight-man crews working 12-hour shifts around the clock. We coordinated seamlessly with:

- Apple Valley Scale (installation partner)
- CSX and Norfolk Southern (daily rail movements in and out of the plant)
- AdvanSix track operations

Our role extended beyond construction—we acted as a project manager and liaison, simplifying a complex multi-party operation.

RESULTS:
A Long-Term, Value-Add Solution

- **Faster Timeline –** From ground-breaking to certified scale in just three weeks (not including planning), far faster than a traditional replacement.
- **Cost Savings –** Avoided costly demolition and foundation removal at the old site.
- **Operational Continuity –** A temporary reroute enabled weighing to continue during construction, protecting millions in daily revenue.
- **Efficiency Gains –** The new location allows all three yard tracks to feed directly into the scale with a straight approach, eliminating inefficient back-and-forth maneuvers and saving significant time every day.
- **Built for the Future –** Elevated, stable ground prevents recurrence of water-related damage, ensuring long-term reliability.

In the end, Cranemasters delivered not just a replacement scale, but a smarter, more resilient solution—protecting AdvanSix's operations, saving millions in potential losses, and improving efficiency for the long term.

Cranemasters Railroad Emergency and Construction Services

Full rail support services with innovative purpose-built equipment and experienced crews ready to deliver safe and efficient solutions:

- Qualified for Class 1 and short line railroad, and industrial siding FRA inspections
- Emergency Derailment
- Bridge Span Replacement
- Complex Track Installation & Repair Switches and Retarders
- Innovative Design
- Crane Manufacturing & Rebuild
- Natural Disaster
- Heavy Equipment Recovery
- Load Adjustment & Transfer
- Rail Car & Locomotive Maintenance & Repair

Cranemasters Operations Centers Nationwide

As a working team of rail services professionals, our available inventory of equipment and crews from our locations can be mobilized 24/7/365.

CRANEMASTERS®
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