



Moving Business Forward

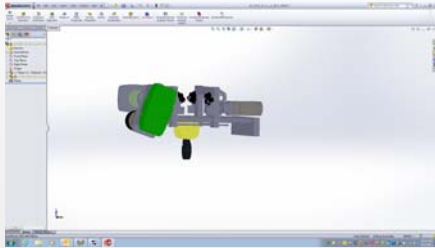


**MATERIAL HANDLING EQUIPMENT & MACHINING  
for  
COMMERCIAL,  
MILITARY,  
& GOVERNMENT SECTORS**

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# Design & Fabrication



Mussell Crane utilizes computed-aided design software such as AutoCAD, Solid Works and GibbsCAM to ensure efficient, precise, and technical production engineer stamped drawings.



Half of our newest 22,000 ft<sup>2</sup> fabrication shop is devoted to the construction of box girder cranes.



Our design, fabrication, installation, and servicing meets and/or exceeds all local & national standards.

At Mussell Crane Mfg, all stages of a new project, from the initial design to the final on-site installation are performed by our highly trained and experienced staff.

In our CWB, CSA, and AWS certified production plants, we utilize over 45,000 ft<sup>2</sup> of shop space to house our sub-arc & flux core welding bays, cutting bay, machining & lathe shop, painting bay, testing bay, in-house electrical department, service and parts departments, and administrative offices.

Large inventories of mechanical and electrical parts allows for fast delivery.



Our in-house CNC machine shop is an essential part of our manufacturing process which allows us to achieve high dimensional accuracy and high surface integrity of functional components for various applications.

Due to the diverse industries that our clients work in, it is impossible to produce a complete catalogue of all the material handling equipment we manufacture. However, what follows is a cross-section of the industries we work in and a small selection of material handling solutions we have developed and supplied in the past.



# Freight, Installation & Commissioning



Sequence shots of an installation of a Dual Drive Rotational Marine Jib Crane installed in Rhode Island, USA, for the Naval Undersea Warfare Center (left).



With our own commercial transport trucks (equipped with Hiab cranes), we can combine freight with on-site installation & load testing and pass the savings on to you!

We are committed to providing the most comprehensive and cost effective service by eliminating the unnecessary fees of a third party.



Expando trailers capable of transporting loads up to 80 ft in length



We can offer freight & installation throughout all of North America.



Manned steering trailers capable of transporting loads over 100 ft in length.

Load Test & Commissioning Reports are completed after every installation or in-house before installation.

In-house load test (right).



On-site load test (above).

# Overhead Cranes



Top Running Single Girder Crane with True Vertical Lift Hoist.

Overhead cranes are one of the most common solutions for large scale material handling problems.

Here at Mussell Crane, every crane that is manufactured is built custom to your specific needs. There are many different styles of overhead cranes such as Top Running, Under Slung, Single Girder, and Double Girder, just to name a few.

With over 20 years of experience in the industry and a customer list in the thousands, we are confident that we can supply the very best possible product for your needs.

Top Running Double Girder design with custom Crab Style Low Headroom trolley.



Top Running/Under Slung Overhead Crane. Far left is top running while the right side is under slung to achieve proper clearances.

Under Running Single Girder Crane for light armored vehicle maintenance facility in Colorado, USA.



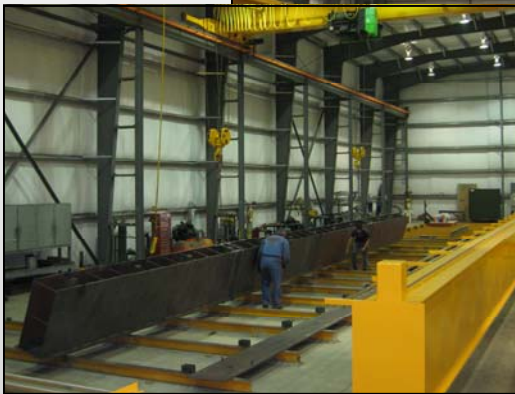
7.5 tonne Top Running Single Girder Crane with full length service platform designed for water treatment plant in Ontario, Canada (below).





# Box Girder Cranes

Mussell Crane's Box Girder construction facility.



10 tonne Single Box Girder Cranes with Stahl Hoists (below).



2x5 tonne capacity Box Girder Crane (below).



On-site erection of 100 ft span 7½ tonne Outdoor Box Girder Gantry Crane for a Re-Bar facility (right).



Loading 114 ft span Single Box Girder Gantry Crane (left).

20 tonne Double Box Girder



# Jibs, Davits & Winches



Motorized Tie-Rod Style wall traveling Jibs.

Mussell Crane offers a wide range of styles for Jibs, Davits, and Winches for multiple applications.

These style cranes are designed to maximize the utilization of small spaces. Such styles consist of Freestanding, Wall Mounted, Wall Travelling, Marine Davits and Winches.



Davit Cranes for fish farming salt water operation (left).

Once again, all these styles (and many more) are all custom designed to suit your needs. Whether it's for workstation areas, seaside docks, or just a cost effective replacement for an overhead crane, we do it all.

Galvanized Davits for operations in Singapore (12 units).



Dual Drive Rotation Marine Jib



Tie-Rod style Jib Cranes mounted on concrete columns (below).



Freestanding motorized 360° Rotational Jib for glass manufacturing plant.



# Gantry Cranes



2 X 16 tonne Gantry Crane for railway project.



40 ft Span, 30 ft high  
A-Frame Gantries  
for BCIT Aerospace.



Dual motorized Rail  
Gantries for shipyard.



Aluminum  
adjustable  
A-Frame

Adjustable  
Quad Design  
on caster  
wheels  
(right).



100 ft span with 14 ft Cantilever (below).



100 ft span outdoor Semi-Gantry



Gantry Cranes are similar to overhead bridge cranes, except that the bridge for carrying the trolley and hoist is rigidly supported on one or more legs. Our custom design cranes are available in a variety of styles and constructions.

Gantry Cranes are ideal where you have lifting requirements in more than one location, your building construction will not support the loadings of a wall jib or overhead crane system, the amount of moving and lifting does not justify the expense of a permanently installed overhead crane system, and/or you rent or lease your facility, making permanently installed equipment impractical.

# Trailer Reloads



Trailer Reload performing lift (above).

A common lifting task in logging operations is for a logging truck trailer reload hoist to be utilized to lift the logging truck trailer onto or off the logging truck.

This practice improves safety, reduces travel costs, and decreases the wear & tear on the tractor and trailer units.

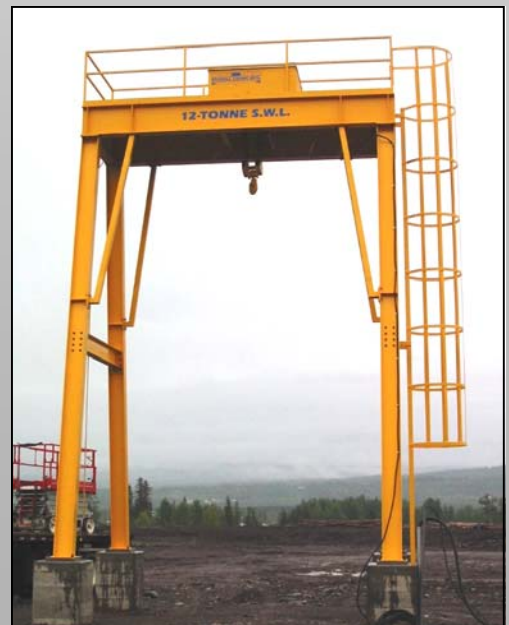


10-tonne capacity Trailer Reload Hoist structure with protective weather housing.



A look inside the protective housing of a Base Mounted Hoist on a Top Running Trolley (above).

Erection of Trailer Reload (Below)





# Engineered Runway Systems & Support Columns



Runway systems & cranes for a highway trailer manufacturing plant (above).

Mussell Crane offers a wide range of Runway and Column Support Systems.

Runway systems designed for top running crane applications consist of a rail on which the end trucks run on. This rail is fastened to the runway beam and the beam is supported by the columns. On the other hand, under running systems run on beams that are suspended from the rafters.

Columns can be freestanding or tied back to the building if additional support is needed.



Installed Support Columns, Runways & Cranes at a water treatment facility.



Tied-Back support columns for Crane Runway System (above).



Free Standing Double Leg Columns and Runways

Outdoor Free Standing Columns & Runways (right).



# End Trucks



Tube Style End Trucks being machined & assembled for stock (above).



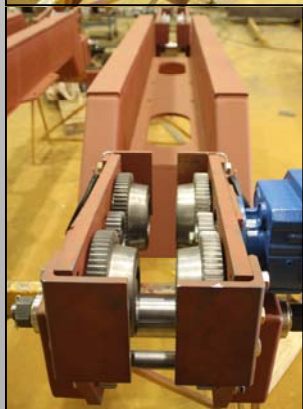
Top Running End Truck with bumper extension.



2x6 tonne Heavy Load Bearing Under Running End Trucks.



Under Running End Truck Kits ready for shipping.



Mussell Crane designs and manufactures end trucks for all crane service classifications.

We offer standard channel end trucks and heavy duty tubular steel construction end trucks for single girder, double girder & bogie style cranes.

Our end trucks are designed and fabricated to CMAA Standards and welded in accordance with CWB and AWS requirements.

Our standard top running end trucks are equipped with flange mounted helical gear bridge motors, MUSSELL double flange ductile iron wheels, standard axles, rail sweeps, and bumpers.



Tubular Steel End Trucks equipped with Hollow Bore Bridge Drives, Rotating Axles & Bearing Caps.



# Modifications, Overhauls, Capacity Upgrades & Rebuilds



Original aged and rusted crane finish was given a new life with proper surface preparation, zinc rich primer, and epoxy finish in high visibility safety yellow (above).

With the high cost of labor and materials, it is sometimes more cost effective to refurbish an existing crane rather than replace it.

We can provide you with a quote to refurbish your existing crane and/or provide you with a new one so you can make an informed economic decision.

A typical rebuild usually consists of:

- 1) Removal of the crane and transport back to our facility;
- 2) Replace end trucks and bridge drives;
- 3) Refurbish or replace hoist and trolley;
- 4) Inspect all components;
- 5) Re-paint, test and commission;
- 6) Transport back to customer and install.



Top Running End Truck overhaul. Changed from Single Drive to Dual Drive (left).



Wire Rope replacement.



Under Running End Truck replacement.

Newly installed Duct-O-Wire galvanized C-Track Festooning with yellow PVC Jacket Flat Cable Festooning (below).



# Inspections, Maintenance, Parts & Service



Local Service Vehicles

Mussell Crane's service technicians are fully trained and experienced to deal with all equipment malfunctions and/or deficiencies.

Our service vehicles are stocked with common replacement parts and are equipped with hydraulic scissor lifts to safely facilitate inspections and maintenance & repairs at high elevations.



Annual, semi-annual, and monthly inspection services available.

Overhead crane and hoist inspections increase safety, reduce liability and identify maintenance issues that could contribute to unnecessary shutdowns and expenses.

We offer after-sales support and customer service on all parts sales.



Our professional service team provides our clients with crane installations, service, maintenance, and inspections.



Inventory rooms with large stock of all common crane components.



On-site fabrication repairs (left).





# On-Site Training & Certification



## Overhead Crane Operator Safety Training

### OVERALL COURSE LEARNING OBJECTIVE (CLASSROOM)

Upon successful completion of the classroom training the operators will be able to pass a written examination demonstrating comprehension of the regulations, safety rules, policies and procedures for the safe operation and use of overhead cranes.

#### IMPORTANT NOTE:

While the **provincial rules and regulations** for operating overhead cranes safely are generic in nature this course will be more specific. This training program is intended to be an operator training course which can be attended by all personnel in your facility who operate overhead cranes.

There may be **special individual departmental and/or crane specific rules and procedures for particular areas of your facility**. You will be familiarized with those specific operating rules and procedures at your department in addition to this core curriculum.

Developed Mussell Crane Training Division

## Available Courses

- Overhead Crane Operator Safety Training
- Forklift Training
- Rough Terrain Forklift Training
- Scissor Lift Training
- Boom Lift Training
- Fall Protection Training

Maintain a safe workplace for company crane operators, riggers and general floor employees with our WCB informational training courses.

We come to you! All training seminars are completed on location to provide specialized training according to individual equipment requirements.

Mussell Cranes training seminars provide individuals with adequate instruction and demonstration on general precautions, start of shift inspections, safe lifting, operation and rigging capacities as well as many other necessary policies and procedures.



## Overhead Crane Operator Safety Training

### OVERALL COURSE LEARNING OBJECTIVE (PRACTICAL HANDS-ON)

Upon successful completion of the hands-on portion of the training program the students will be able to demonstrate the proper skills necessary for the safe operation and use of overhead cranes.

**There may be special individual departmental and/or crane specific practical characteristics, applications and procedures for particular areas of your facility.** You will be familiarized with those specific practical operating rules, applications and procedures in addition to this core curriculum.

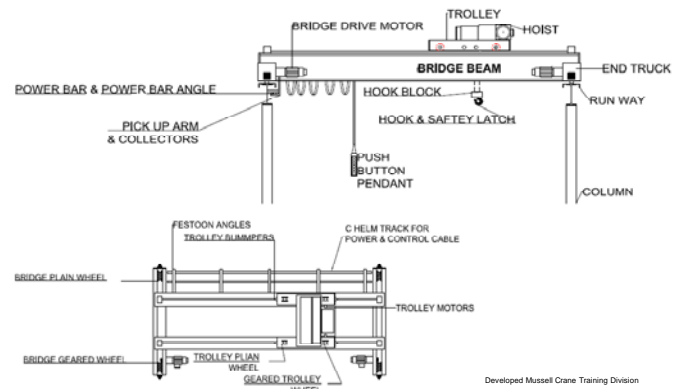
Developed Mussell Crane Training Division



## Overhead Crane Operator Safety Training

### Bridge Crane

### Basic Components



Developed Mussell Crane Training Division

# Specialty Equipment & Custom Design Projects



12 ton Custom Stacker Crane for a foundry.



Custom Rotation Drive

Adjustable height  
"Work Horses."



Motorized  
"Paper Cart"  
for the pulp &  
paper  
Industry.

Specialty equipment and custom design is truly the foundation of the company.

Every project we take on is custom designed from the initial design right down to the installation.

Here are just a few examples of projects we have done outside of cranes:



5 Ton Rotating Hook  
Lower Sheave Block  
Assembly, capable of  
high radiation.

Custom Trucks for work platforms.  
120,000 lb capacity per Truck.





# Spreader Bars, Coil Lifters, Magnet & Vacuum Lifts



Custom Spreader Bar to facilitate the lifting of 10 magnets & controls.



Dual spreader bars rigged with load in preparation of a tandem lift application.



20 ton Galvanized Spreader Bar, Housing Structure & Heavy-Duty Hoist for lifting Dam Gates Power

5,000 kg Spreader c/w Rigging.



Custom 1,000 lb capacity Coil Lifter.



In most cases, an overhead crane alone does not solve all the material handling problems a company may face.

This is where our custom spreader bars, coil lifters, magnet, and vacuum lifts shine.

No matter what the application, we will help design a solution to help you eliminate material handling problems.

With our years of experience in hundreds of different facilities, we are confident that we can supply the very best possible product for your needs.

5 tonne capacity forklift "Jib Crane" attachment.



Custom Spreader Bars with Quad Chain Assemblies.



# Machine Shop

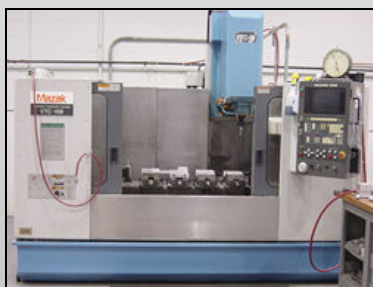
## CNC Turning & Milling, Gear Shaping & Hobbing



MAZAK SLANT TURN  
50 TURNING CENTER



HYUNDAI SPT-V100  
VERTICAL MACHINE  
CENTER



MAZAK VTC-16C  
CNC VERTICAL  
MACHINING  
CENTER



MAZAK NEXUS 200-II  
TURNING CENTER

Mussell Crane Mfg.'s Machine Shop has the equipment needed to serve the most demanding requirements for precision, speed and quality.

In our 7,000 ft<sup>2</sup> machine shop, we have more than eleven major machine tools that routinely handle parts up to 27 inches in diameter and as small as 3/8 inch.

Our experienced technicians provide CAD design, 3-axis CNC milling & tooling (traditional milling & tooling), fabrication, welding, saw cutting & cylindrical grinding.

We also supply quality replacement & repair parts, custom tools, jigs & fixtures, and prototype work.

We cut aluminum, brass, plastic, and even more difficult to machine materials like stainless steel, tool steel, copper, cast iron, and titanium with extreme precision machining within .00025"Ø.

When you combine our years of CNC Machining experience with our state of the art equipment and cutting edge software, the result is a finely tuned machine shop right here in the heart of the Fraser Valley.





# Crane Wheels & Wheel Components



MUSSELL Wheels (Ductile 80-55-06)



CUSTOM Bronze



CUSTOM V-Groove



MUSSELL Standard  
Axles



CUSTOM Pinions



CUSTOM  
4140 H.T.S.R.  
Single flange  
Wheels

Mussell Crane offers the most advanced & versatile wheels for a variety of industrial applications. Our special ductile alloy cast wheels are superior to other wheels in that our design allows for larger load capacity, are better impact resistant, have better surface definition, and last longer.

The larger axle diameters provide greater load transfer and are suited for both tube style and standard channel constructed end trucks. Our heavy-duty wheel designs feature precision CNC machined treads, bores, gears and flanges. All "C Class" wheels are assembled with double sealed ball bearings (5,000 hr. rated) designed to achieve higher capacities & smoother running qualities. They are therefore especially appropriate for applications with high demands for quieter running, minimum vibration, and lower maintenance end trucks.

The combination of low cost, availability & versatility makes our line of single & double flange wheels and accessories #1.



Large inventory of stock items allows most orders to ship the same day.

# Hoists

## Wire Rope, Chain, Pneumatic, True-Vertical & High Lift



**STAHL SH Wire Rope Hoist** is one of the most progressive designs available today.

Compact, powerful & particularly maintenance-friendly, these are just three of the many advantages on this major innovation.

Wire rope hoists are available up to 160,000 kg capacities in SH stationary design, SH short headroom monorail trolley, SH double rail, SHW 8 winch, and AS70 on double rail crab.



**HYUNDAI HT SERIES** Electric chain hoists with motorized trolleys also available in "hook mount."

Mussell Crane Mfg. is the British Columbian dealer for Stahl Hoists and the North American dealer for Hyundai Hoists.



### **STAHL ST CHAIN HOISTS**

Available in Standard Headroom, Short Headroom (reduces headroom by 33%) & Extra-Short Headroom (reduces headroom by 60%).

**HYUNDAI**  
One of the few manufacturers who offer a "true vertical lift" wire rope hoist. Hoists & Trolleys available in Mono-Rail, Double-Rail, Low-Headroom, and Creep style.



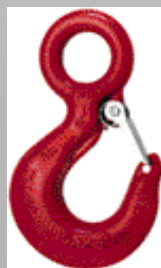


# Crane Components, Accessories, Spare Parts & Attachments



Mussell Crane Manufacturing is  
your one-stop source for:  
Bridge Drives, Push Button Pendants, Warning  
Beacons, Radio Remote Control Systems, Variable  
Frequency Drive Controls, Audible Alarms,  
Flat Cable Festoon Systems, Sensors,  
Power Bar Conductor Systems, Contactors, Slings,  
Chains, Safety Hooks, Pre-Wire Control Panels,  
Limit Switches, Crane Wheels.....  
and much, much more!

VISIT OUR NEW ON-LINE WEB STORE @  
[www.mussellcrane.com](http://www.mussellcrane.com)





Mussell Crane Mfg. started in Chilliwack, BC, in 1991. Over the past 20 years, the manufacturing space has seen five major expansions to arrive at its current 45,000 ft<sup>2</sup> size. (Picture above taken before last expansion, shop at top of page now doubled in length.)

## Notes



# Notes

## Hoists

- Electric Wire Rope & Chain
- Manual Hand Geared & Ratchets
- Low & Ultra-Low Headroom
- High Lift & True Vertical Lift
- Trailer Re-Load Hoists
- Pneumatic (Air Hoists)
- Explosion Proof

## Trolleys

- Top Running & Under Running
- Double Girder Top Running
- Crab Style Under Running
- Push Pull/Hand Geared
- Motorized • Articulated

## End Trucks

- Top Running & Under Running
- Manual Hand Geared/ Push Pull
- Motorized & VFD Control
- Std. Construction & Tube Style
- Boggie-Style (dual trucks)
- Fixed or Rotating Axles

## Wheels

- Single & Double Flange
- Geared & Plain Wheels
- Bronze (Non-Spark) Wheels
- Custom Wheels & Accessories
- Fixed & Swivel Casters

## Electrification

- Flat Cable Festooning
- Runway Electrification
- Tag-Lines Festooning
- Enclosed Track Systems
- Cable Reels & Collectors
- Parts & Accessories

## Controls

- Control Panels • Radio Controls
- Variable Frequency Controls
- Pushbutton Stations • Upgrades
- Installation & Wiring

## Overhead Cranes

- Single & Double Girders
- Box Girder Construction
- Raised Girder Style
- Top & Under Running
- Trailer Re-Load Structures
- Free Standing Systems
- Engineering & Design

## Runways

- Top and Under-Running
- Patented Track Systems
- A.S.C.E. Rail Systems
- Runway Support Structures
- Engineering & Design
- Foundations

## Monorails

- I -Beam & WF Girders
- Patented Track & Hangers
- Under Running Supports
- Interlocking • Cantilevered

## Gantry Cranes

- Fixed & Adjustable Heights
- Fixed & Adjustable Spans
- Motorized or Manual
- V-Groove Wheels or Casters

## Jib Cranes

- Wall Mounted & Free Standing
- Cantilever or Tie-Rod Style
- Axial (Top/Bottom Anchored)
- Up to 360° Rotation
- Manual/Hand Geared/Motorized
- Indoor/Outdoor
- Fork Lift Jib Attachments

## Davit Cranes

- Adjustable Boom & Height
- Winch Kits & 360° Rotation
- Manual & Hand Geared Option
- Out Door & Marine Duty

## Bridge Drives

- Helical Gear Motors
- Parallel Shaft Helical Gear
- Foot or Flange Mount
- VFD Controls

## Under Hook Attachments

- Plate & Coil Lifters
- Plate Clamps & Grabs
- Slings & Rigging
- Load Scales
- Lifting Beams & Spreader Bars
- Magnetic Lift Systems
- Vacuum Lifts

## Components

- Crane Kits
- End Truck Kits & Drives
- Hoists & Trolleys
- Pre-Wired Control Panels CSA

## CNC Machining

- CNC Turning & Milling
- Gear Shaping & Hobbing
- Broaching & Slotting
- Engineering & Design

## Parts & Services

- Replacement Parts
- Crane & Hoist Repairs
- Preventive Maintenance
- WCB Inspections & Surveys
- Service Agreements
- Building Permits
- Project Management
- Consulting Services

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*Mussell Crane Mfg's team of professionals are well educated, energetic, resourceful and dedicated to meeting all of your material handling needs. Our objective & commitment is to pursue ever ending improvement in quality and design, ensuring that our clients receive the very best possible product.*

*Fred S. Mussell  
President*