

# OIM

ONTARIO INDUSTRIAL MAGAZINE

## Safety Tips for Selective Racking

Start Now to Prepare  
for GHS

Automobile Accidents  
in Ontario

Helping Start-Ups  
Start Up, Part 5

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# CONTENTS

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## 4 Safety Tips for Selective Racking

by Jack Jagernauth



## 10 Helping Startups Start Up: A Primer for Privately Held Businesses, Part 5

by Charles Scott



## 12 Industrial-Grade Loaders: Moving Materials in Severe Environments



## 15 Automobile Accidents in Ontario

by Paul Donnelly



## 18 Start Now to Prepare for the Globally Harmonized System of Classification and Labelling of Chemicals .... (GHS)

by WSPS - Workplace Safety and Prevention Services

## Services

Classified Ads / Form.....	21
Reader Service / Subscriptions .....	22

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# Industrial-Grade Loaders: Moving Material in Severe Environments

**Beware of light duty, commercial equipment for tough industrial jobs.  
Built-to-last, severe duty front end loaders can increase reliability, reduce capital costs, and improve production.**

Industrial material handling equipment such as wheel loaders and forklifts are typically planned for short life cycles due to the severe environments they have to work in. From mining to metal smelters to glass plants to fertilizer operations, extreme temperatures and corrosive elements take a heavy toll on machinery.

With many facilities running continuous multi-shift schedules, light-duty, commercial-grade, material handling equipment wears out prematurely. This is because much of today's industrial equipment is not actually industrial grade, but commercial-grade, light-duty equipment intended for farming, landscaping, or construction that has been repurposed for industrial use.

"If you need material handling equipment that will last and don't want to keep taking it out of service to repair or replace it, look to severe duty industrial equipment," suggests Bill Barns, a Project Manager at Langeloth Metallurgical Company (LMC), one of the world's largest ferromolybdenum producers, and the first site to commercially convert molybdenite concentrates to technical molybdenic oxide. "If it's built to last like our severe duty wheel loaders, you'll put it to work and not worry about much other than routine maintenance."

At LMC's plant, six multi-hearth furnaces called "roasters" can operate at temperatures up to 1400 °F to provide flexibility in processing various metal-bearing materials. To keep the plant operating 24/7 year-round, a fleet of wheel loaders on its fifth floor must continuously scoop up concentrated mine ore and dump it into the feed hoppers of the roasters, which process the ore into finished product.

"Our Waldon 4500B loaders have to feed the roasters continuously without fail," says Barns. "Light-duty, commercial equipment cannot reliably do that because they're not intended for hard 24/7 industrial use in confined areas."

A growing number of managers in harsh industrial environments like Barns' are finding that by lengthening the life of material handling equipment and increasing its reliability with severe duty designs specifically intended for industrial use, they can reduce capital costs and improve production. This approach can not only eliminate premature equipment repair and replacement costs but

also minimize production downtime due to unscheduled equipment breakdown.

While ordinary soil weighs about 60-80 lbs. per cubic foot, LMC's ore weighs about 150 lbs. per cubic foot, according to Barns. "With our heavy loads and continuous use, we're putting more stress on the frames," he says. "If we used light-duty, commercial equipment, we would be breaking a lot of lift cylinders and main frames."

"When a vendor brought some light-duty, commercial loaders for us to try out, our operators looked at them and said, 'They won't last a week,'" relates Barns. "The minute we saw them we knew they would require excessive repair, and we can't afford the downtime or early replacement."



**For material handling equipment that will last, look to severe duty loaders. You can put them to work and not worry about much other than routine maintenance.**

"We rely on Waldon front end loaders because they can take abuse and keep performing," adds Barns. "We typically get about five to seven years of continuous 24/7 use out of them before we resell them for light-duty, commercial work. They're virtually indestructible and require little other than routine maintenance."

Waldon Equipment, a manufacturer of heavy duty industrial loaders, lift trucks, forklift attachments, and a mini backhoe, has specialized in material handling equipment for harsh environments for over 45 years.

According to Barns, compared to typical commercial loaders, his loaders' extra heavy duty frames, 2-inch thick articulating frame plates, and simple drive train contribute to their longevity in a tough industrial environment. "Our fleet of seven severe duty loaders does the work of a least ten to twelve light-duty, com-

mercial loaders because we would probably need that many light-duty units to keep our roasters reliably fed."

But space restrictions within the plant building – which was built almost a century ago with low ceilings, multiple columns and narrow access points – make having compact, low-profile loaders capable of tight turns and fitting into a maintenance elevator a must.

"Since light-duty, commercial loaders are typically made for outdoor use with higher cabs, bigger tires and bodies, many wouldn't clear our fifth-floor ceiling or fit in a maintenance elevator without lengthy disassembly," says Barns. "With our roasters' feed bins in different positions, there's also a need for better maneuverability than they can provide."

According to Barns, even skid steers known for their small size lack desired maneuverability in this setting. This is because their fixed frames do not turn quickly, and their wheels tend to lock up and skid, which is less than ideal for maneuvering in confined spaces.

Because the severe duty loaders are low profile with articulated frames, however, they have more ceiling clearance and a lower center of gravity than typical light-duty, commercial loaders or skid steers, which improves their turning and maneuverability, according to Barns. "The Waldon loaders put operators closer to what they're scooping," he says. "Since they steer like a car, they can articulate around corners and between columns with greater control and safety than typical joystick-style controls allow."

The four-wheel drive of the severe duty loaders also provides better traction than two-wheel drive loaders. In fact, they have been the only loaders that are compact and maneuverable enough for operators to drive on and off LMC maintenance elevators without lengthy disassembly, says Barns.

In the end, however, Barns concludes that the choice between light-duty commercial equipment and severe duty industrial equipment should be easy for production or operations managers to make, as it all comes down to longevity and reliability. **OIM**

*For more info, call 866-283-2759 or visit [www.waldonequipment.com](http://www.waldonequipment.com)*