

MICHIGAN

LOADERS: MODELS L190, L270



VOLVO BM
MICHIGAN
EUCLID

A TRUSTED NAME IN LOADERS FOR OVER 30 YEARS.

MICHIGAN LOADERS FROM VME ARE FAST,
PRODUCTIVE AND ECONOMICAL.

The name VME is relatively new. But certainly you know our products: Volvo BM, Michigan, and Euclid.

Our loaders, articulated haulers, wheel dozers and rigid frame haulers are found on job sites worldwide. In addition, VME gives our customers the knowledge, research, and manufacturing expertise gained from years of real world experience. That means consistent quality across

our entire product line.

Michigan loaders were first built in 1954. Right from the start, the name "Michigan" has meant day-in, day-out productivity and reliability. That's because, for over 30 years, we've made sure our loaders match your needs: strong, well designed, easy to operate and easy to service. Michigan loaders get the job done right, week after week, month after month, year after year.



THE PRODUCERS.

Whatever the application – material handling, bank excavation, shot rock loading, stockpiling, loading aggregate, coal, limestone,

sand, gravel – Michigan loaders are powerful, efficient, reliable, productive loaders that meet your needs.

L190 5.00yd³ – 6.25yd³ (3,8m³ – 4,8m³)

The L190 is a versatile, heavy-duty, high-production loader, designed for truck and hauler loading, aggregate handling, load and carry, and excavation. It's also an excellent choice for feeding crushers and batch plants. Whatever the application, the L190's mobility delivers consistently fast, productive cycles.



L270 7.0yd³ – 8.0yd³ (5,4m³ – 6,1m³)

For load and carry applications, there isn't a better machine built than the Michigan L270. Balanced and durable, the L270 is designed for material handling; heavy-duty primary production; truck and hauler loading; excavation; load and carry; and feeding crushing/screening plants. It's one of the newest members of the Michigan loader family.



HERE'S WHAT MAKES THEM WORK SO WELL.

*Reliable, economical
diesel engine with
horsepower reserve and
easy service access.*

*All pins sealed for
100-hour lube intervals.*

*Constant mesh, countershaft,
power shift transmission.*

*Outboard mounted, needle-
bearing planetaries to increase
efficiency and put more power
to the ground.*

*Limited-slip differentials, front
and rear, maximize traction and
minimize tire wear.*

*All hydraulic controlled,
outboard mounted dry disc brake*



Environmentally controlled cab designed for operator comfort, good visibility and easy access. Pilot operated hydraulic controls. Conveniently placed pedals and switches.

Standard boom as well as the optional L190 long boom provide excellent dump height and reach.

Strong double-plate boom with in-line linkage for balanced working forces.

Good bucket angles for loading and load retention. A wide selection of buckets available to match the loader to the job.

Efficient Z-bar linkage and hydraulics generate optimum digging forces.

PACKED WITH POWER. ENGINEERED FOR EFFICIENCY.

LOOK INTO A MICHIGAN LOADER AND SEE ITS STRENGTH.

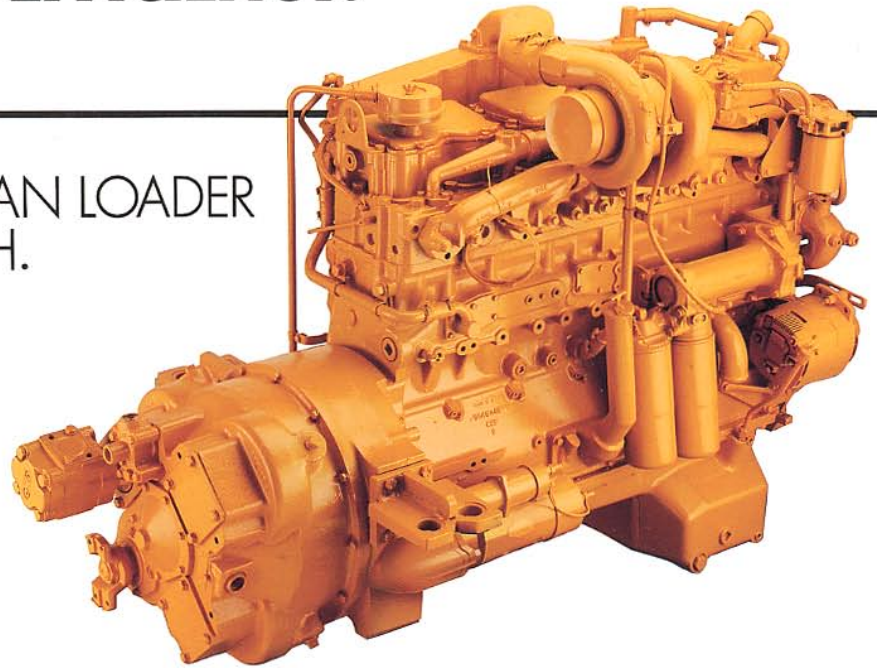
The basic muscle components in a Michigan loader have helped set industry standards of productivity and reliability for over three decades.

For you, that means profitability.

Turbocharged Cummins Diesel Engines.

Both the L190 and L270 Michigan loaders are powered by 6 cylinder, inline, direct injected, 4 stroke, turbocharged diesel engines. The L190 is rated at 322 gross horsepower (240 kW), and the L270 is rated at 400 gross horsepower (298 kW).

Both are field proven engines and have demonstrated long life and low fuel consumption. These are responsive engines with good torque characteristics and horsepower reserves. The reliability and serviceability of Michigan loaders is well-known throughout the industry.

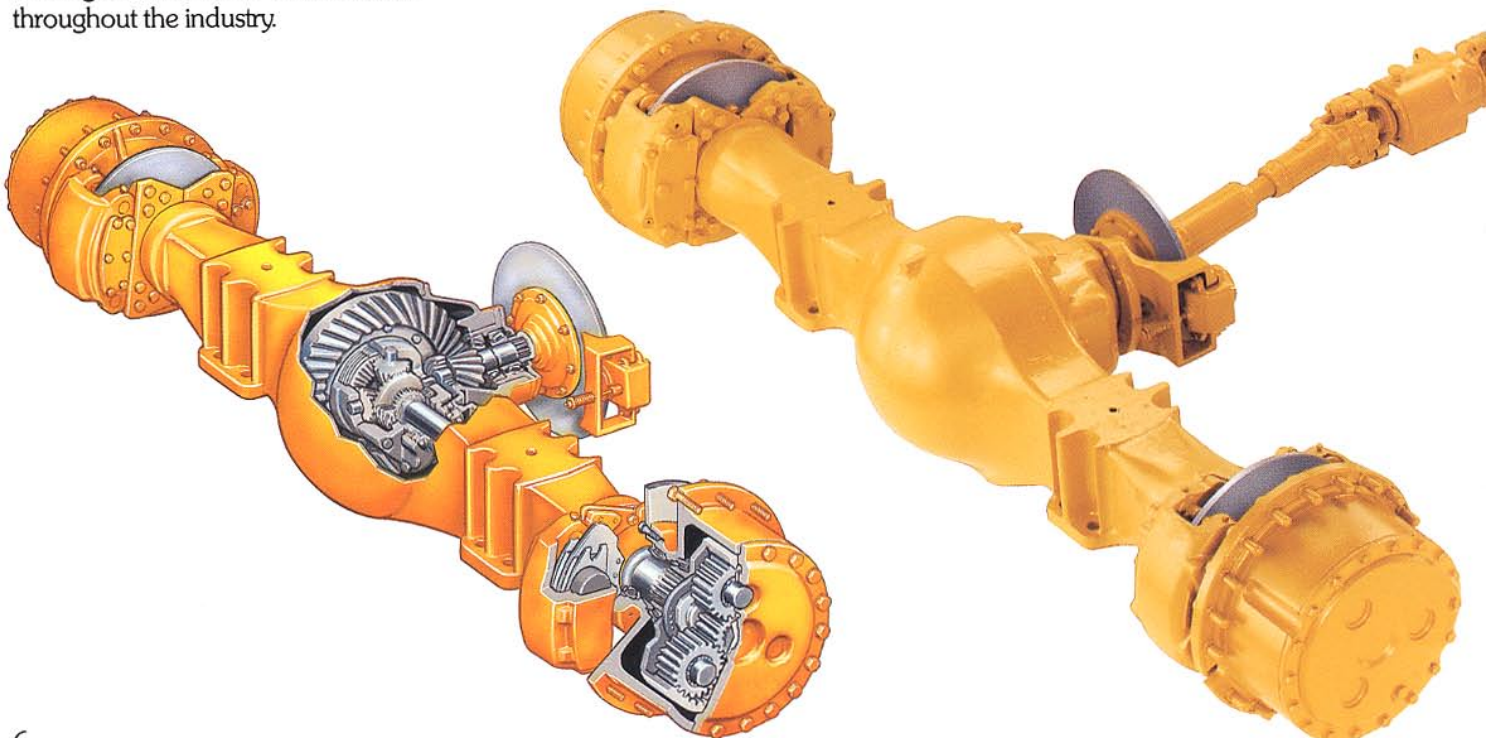


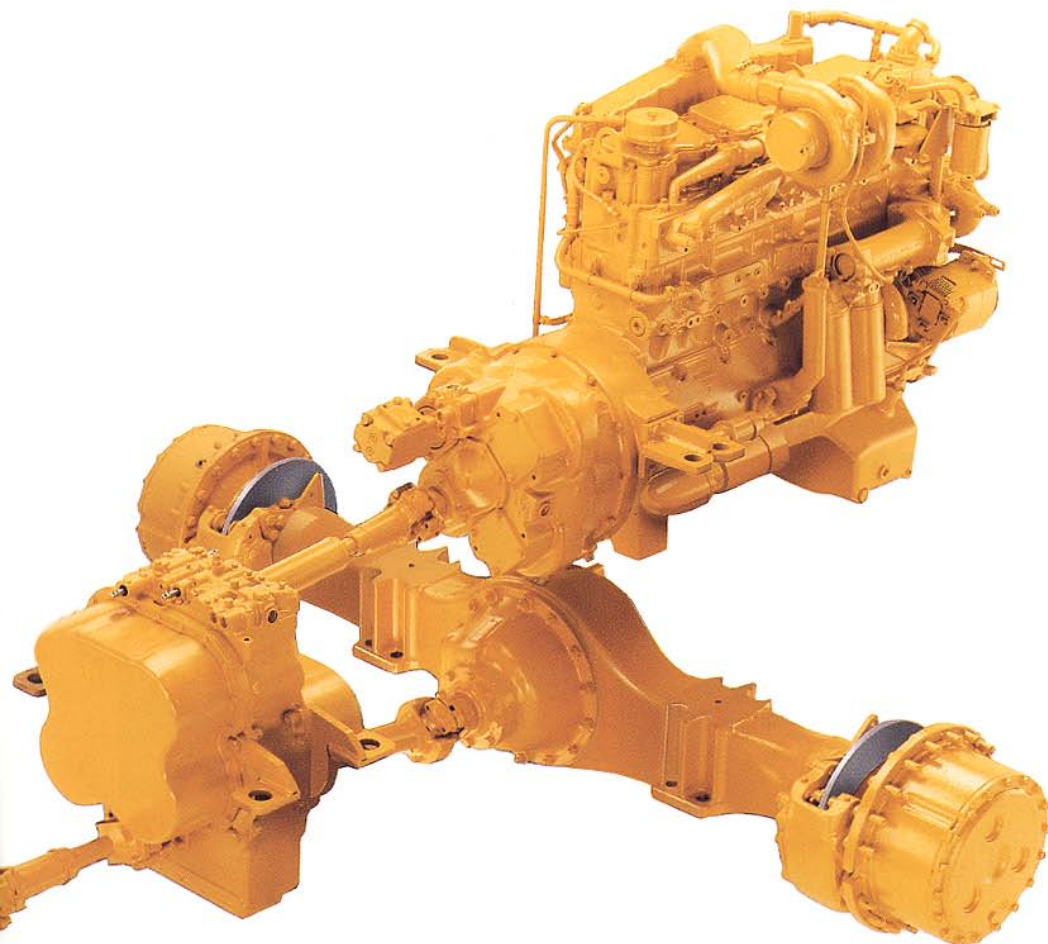
A dependable, serviceable, simple drivetrain.

The L190 and L270 Michigan loaders feature an all Clark drivetrain; single stage, single phase torque converters; and four-speed constant mesh, countershaft transmissions

with directional clutch modulation. This allows efficient matching of the drivetrain to the engine for effective use of engine power.

All drivetrain components are mounted to provide a low center of gravity for excellent loader balance, stability, and ease of maintenance.





All hydraulic controlled braking system.

The L190 and L270 brakes are all-hydraulic controlled, outboard-mounted dry disc brakes designed for responsive, smooth braking, long life, serviceability and reliability.

Power for the brakes is supplied by a separate brake pump which pressurizes two nitrogen charged accumulators. If there is a dead engine braking situation, the fully charged accumulators will provide up to 10 brake applications. Dual circuit braking – separate circuits for front and rear axles – meets safety requirements for SAEJ1473 and ISO 3450.

A monitor system in the cab alerts the operator to an applied parking brake or a front/rear system pressure malfunction. To prevent driving with the parking brake engaged, an interlock automatically applies the service brake if the transmission is engaged while the parking brake is applied.

Limited-slip differentials are standard.

Standard in both axles, limited-slip differentials proportion power to the wheel with the best available traction. This minimizes wheel spin, increases tire life, and ensures maximum traction under adverse conditions.

Axles – strong and proven.

The Clark axles on the L190 and L270 Michigan loaders have single piece cast housings for high strength and long life.

Outboard mounted planetary final drives with needle bearings provide an efficient transfer of power to the ground.

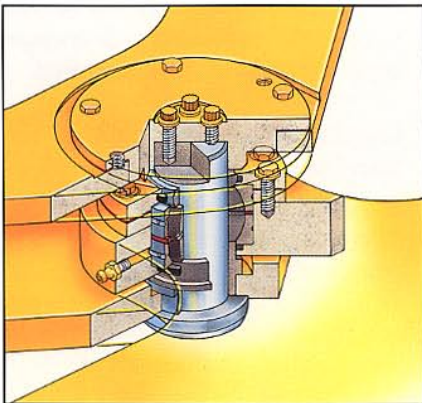
A STRONG FRAME TO BUILD ON.

DURABILITY TO HANDLE CAPACITY LOADS.

To withstand the high loads and forces that come with the job, a loader must have an exceptionally tough frame.

The strong, rigid rear frame of the Michigan loader is fabricated of all welded plate. State-of-the-art machining finishes the frame to the closest possible tolerances.

The front frame is constructed of four vertical steel plates welded together for maximum strength. The lift cylinders are mounted between the frame plates. The frame center hinge is designed to withstand working loads. The self-aligning, spherical bearing in the lower hinge is designed to withstand horizontal and vertical working loads and allows steering forces to turn the machine freely and easily. The bearing is sealed for long lube intervals.



Good breakout force, good bucket angles from Z-bar linkage.

The Michigan loader lift arm system offers an effective combination of lift and breakout forces along with good bucket angles throughout the lift cycle. An adjustable magnetic boom raise kickout allows the operator to set the boom at any height from level to fully raised.

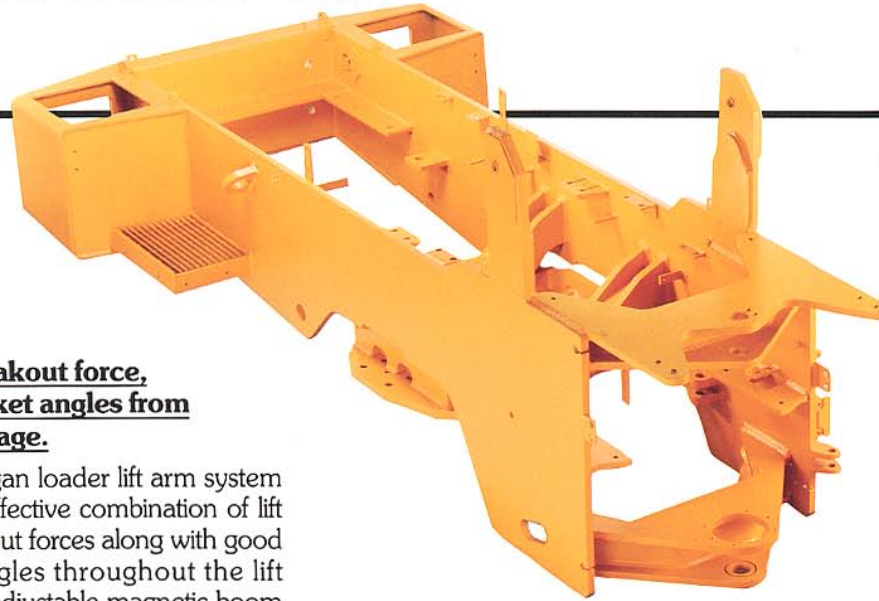
The booms on the L190 and L270 feature significant design improvements. They retain the strength of the double plate boom, the inline Z-bar linkage, the heavy duty front end and the responsive performance that has become the trademark of Michigan loaders. But the booms are longer and have been reshaped to provide higher dump height and breakout forces while maintaining excellent visibility.

Dump heights to load high sided haulers.

Both the L190 and L270 provide good dump height and reach. High and wide target areas can be loaded from one side, resulting in short work cycles, and high production.

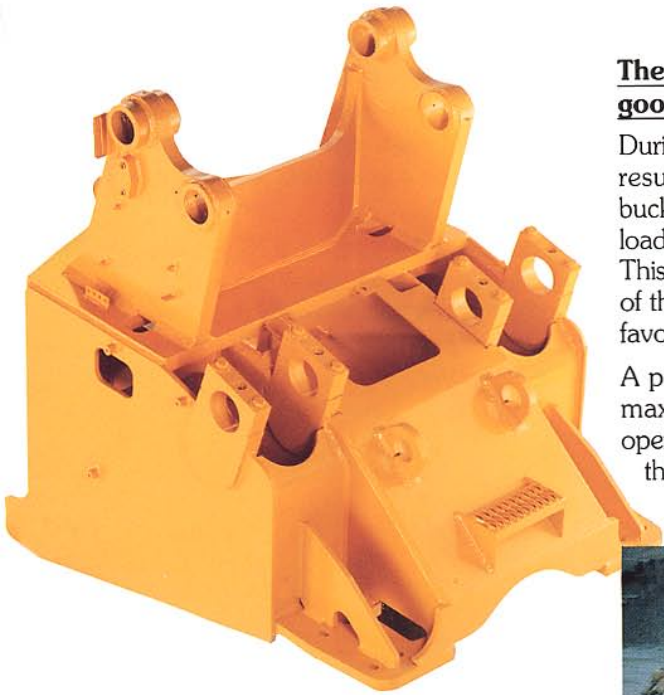
Even at the top position, you have effective control of load placement. An adjustable magnetic bucket leveler insures that the bucket automatically returns to the proper digging angle.

All Michigan loaders are well balanced for comfort and stability. A rear bumper counterweight provides excellent machine stability under all normal working conditions and provides excellent protection for the



radiator, oil coolers, and the rear of the machine. The L270 and the L190, with its long boom option, offer a dump height of over 12 feet (3658 mm).

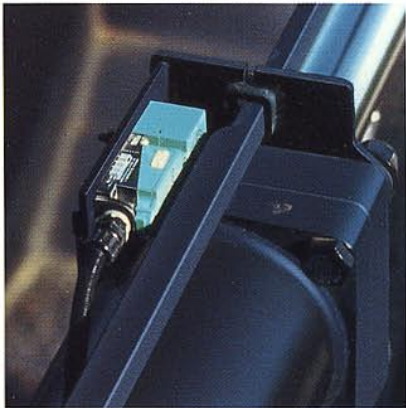




The right combination for good bucket loads.

During rollback, good bucket angles result in heaped buckets and good bucket load retention. Materials are loaded against the rear of the bucket. This means that the center of gravity of the material is shifted to the most favorable position in the bucket.

A positive mechanical stop at the maximum dump angle enables the operator to shake sticky material from the bucket.



Ideal placement of counterweight provides stability and protection.



MUSCLE IN THE HYDRAULICS.

RESPONSIVE, SENSITIVE, POWERFUL HYDRAULICS TAILORED TO EACH MACHINE.

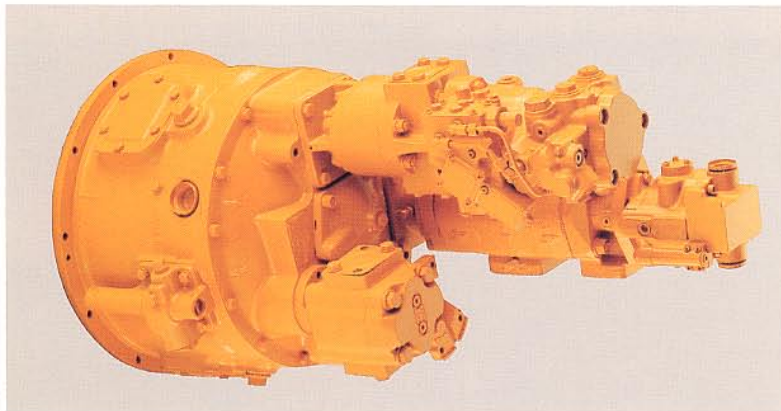
The hydraulic systems on the L190 and L270 loaders are designed for reliability, precision and ease of operation. Steering is quick and easy. Boom and bucket hydraulics provide the most efficient balance of crowding and digging forces. The entire system is controlled by fingertip hydraulic levers mounted on the right-hand side of the operator's seat. The levers move with the seat and a two-way adjustable armrest lets the operator position the armrest for maximum comfort.

load and engine rpm sensing. By automatically adjusting to the L190 requirements for pressure and flow, the system provides high pressure for digging and high volume for speed in raising the loaded bucket. When the L190 requires high pressure for tough digging, some of the horsepower required by the hydraulics can be transferred to the wheels to provide increased crowd force. Balancing hydraulic demands and rimpull requirements increases the L190's loading productivity.

The L270 system.

The L270 has a new, unique hydraulic system which uses a variable displacement piston type transfer pump to produce a smoother operating loader.

Like the L190, the L270's main hydraulic system is pressure sensitive while the steer system is speed (engine rpm) sensitive. The hydraulic transfer pump is designed to respond to the hydraulic, steering and rimpull



Separate hydraulic oil coolers for longer component life.



Smooth, efficient gear type main pumps.

The L190 system.

The L190 hydraulic system is designed for consistent steering response and feel at high and low engine rpm, and to help balance rimpull and hydraulic demands for maximum operating efficiency. In addition, the operator experiences excellent feel of the bucket for grading.

The boom, bucket, and steering are supplied with hydraulic power by one large main hydraulic pump and two steering pumps. The entire system is



Sight gauges for operator convenience.

Sealed and pressurized hydraulic reservoir.

demands of the machine, by smoothly transferring oil between the main and steer system as needed. This continuously balances loader demands to provide the most efficient crowding, digging and loading balance possible. Still, the operator has the same excellent steering feel at all engine rpms.



**Full flow
10-micron
filtration.**

**Hydraulic valve mounted
in front frame reduces plumbing
and increases efficiency and serviceability.**

QUALITY IS A CONSTANT AT VME.

ADVANCED MANUFACTURING, METICULOUS QUALITY CONTROL.

Quality, reliability and low operating cost are built into every Michigan loader.

Michigan loaders are quality built, easy to maintain, provide high productivity, long life, and are economical to operate.

We're committed to state-of-the-art manufacturing.

We continually update our manufacturing operations, providing you with the latest machine tool and robot welding technology. Our goal is ever improving better workmanship, attention to detail, and component quality on all Michigan loaders.

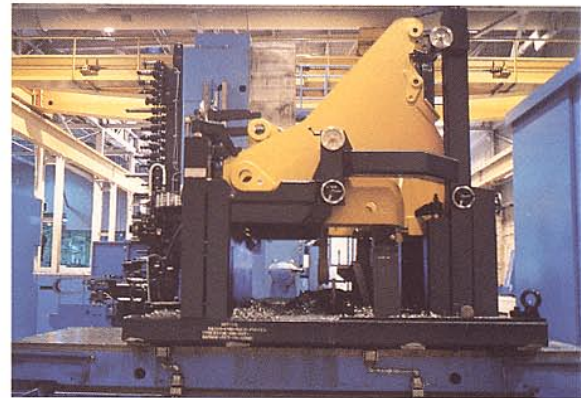
Testing assures consistent quality.

Our test analysis equipment analyzes all critical areas of every Michigan loader we manufacture.

But at VME, laboratory testing is only the first quality check.

Every Michigan loader is field tested for hours, cleaned, inspected, and tested again for hours before leaving the factory.

When you build loaders with VME quality, you take pride in putting them through the tests.



COMFORT AT WORK.

COMFORTABLE OPERATORS ARE PRODUCTIVE OPERATORS.



The Michigan cab is one of the finest in the industry. Filtered, pressurized, fresh air, heater/defroster/air conditioner, adjustable suspension seat, integral ROPS/FOPS, cab structure with full length doors, flat floor, fingertip pilot operated controls, excellent visibility, interior and exterior rear view mirrors are some of the standard features.

Access to the cab is from right and left sides for operator convenience. Handrails, steps and grab rails are located conveniently and comfortably for easy access.

The right work climate.

A pleasant climate can be maintained in Michigan loaders regardless of the weather outside. The outside air is filtered by large replaceable air filters before being drawn into the cab. Adjustable outlets circulate large volumes of air evenly throughout the cab.

The heating system will keep the operator warm in the cold of winters and the air conditioning will cool the operator in the warm operating conditions.



The perfect set up.

Once inside the cab the operator sits in a comfortable electric/air suspension seat that is six way adjustable for position, ride, and leg room to fit the operator's height and weight.



Visibility is excellent.



Within easy reach, the operator has instrument panels, steering wheel, shift levers, fingertip boom and bucket controls, foot pedals and switches.

SERVICING MADE EASY.

PRACTICAL, CONVENIENT, MONEY SAVING ACCESSIBILITY.

To make a machine easy to service, it must be designed with serviceability in mind. That's why Michigan loaders are easy to maintain.

You save money on servicing time and labor.

The L190 and L270 are designed for quick and easy daily, routine service, while standing on the ground or on the sturdy service platforms. Four ground level, remote lubricating service centers save time and labor.

Access to the engine compartment is through wide upward-opening side panels. The panels are easily unlatched and held open by gas pressurized struts.

The center hinge area is wide, clean, uncluttered for easy service access to the transmission, hinge pins, and steering cylinders.

We listen to our customers.

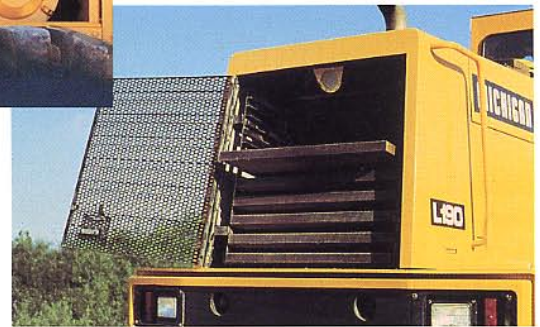
Our service technicians and development engineers keep in constant touch with the needs of the industry as well as the feedback from the field. This results in added efficiency in service, maintenance and customer satisfaction.



Hinged radiator grill and side panels for easy cleaning.



Quick-connect, remote pressure check ports save time and labor.





Engine oil level and fuel filters checked easily from service platform.



Visual sight gauge level checks provided for hydraulic and transmission fluid.



Grease fittings grouped so they can be lubed from four ground level locations.



Center hinge lube manifold.

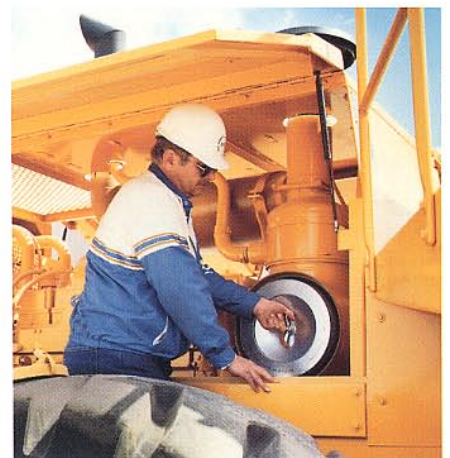
Safe and convenient access steps.

Master electrical disconnect switch.



Easily serviced brakes.

Ground level drains for engine crankcase, transmission and radiator.



Air cleaner restriction sight gauge / service platform.



The Michigan L190 and L270 loaders have been designed and developed to meet your needs for a heavy duty production loader, backed by a world-wide network of distributors for parts and service when you need them.

Under our policy of continuous product improvement, we reserve the right to change specifications and design without prior notice. The illustrations do not necessarily show the standard version of the machine.

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