



# Michigan L120



**ENGINE OUTPUT:**  
190 HP (140kW) VOLVO  
DIRECT-INJECTED, TURBO-  
CHARGED DIESEL

**OPERATING WEIGHT:**  
34,190 LB (15,5 T)

**BUCKETS:** 3.5 - 6.0 YD<sup>3</sup>  
(2,7 - 4,6 m<sup>3</sup>)

**AUTOMATIC POWERSHIFT  
TRANSMISSION**

**INDUSTRY'S FIRST QUICK  
COUPLING ATTACHMENT  
BRACKET SYSTEM**

**COMFORT/EFFICIENCY  
DESIGNED CAB**

**HIGH LIFT ARM MOUNTING  
OFFERS LONG REACH AND  
HIGH LIFT HEIGHT**

**PARALLEL LIFT ARMS,  
LEVEL FORKS THROUGH  
ENTIRE LIFT ARC**

**PILOT OPERATED  
"FINGERTIP" HYDRAULICS**

# MICHIGAN



## ENGINE

Direct-injected, turbocharged 6-cylinder in-line 4-cycle diesel.

|                            |                     |                        |  |
|----------------------------|---------------------|------------------------|--|
| <b>Make</b>                | <b>Volvo</b>        |                        |  |
| <b>Model</b>               | <b>TD71G</b>        |                        |  |
| Max. rating* at .....      | 2200 rpm            | (36,7 rps)             |  |
| SAE J1349 (ISO 1585) ..... | 200 hp              | (148 kW)               |  |
| Flywheel rating** at ..... | 2200 rpm            | (36,7 rps)             |  |
| SAE J1349 (ISO 1585) ..... | 190 hp              | (140 kW)               |  |
| DIN 70020/6271 .....       | 190 hp              | (140 kW)               |  |
| Max. torque at .....       | 1400 rpm            | (23,3 rps)             |  |
| SAE J1349 (ISO 1585) ..... | 523.7 lbf ft        | (705 Nm)               |  |
| DIN 70020/6271 .....       | 523.7 lbf ft        | (705 Nm)               |  |
| Number of cylinders .....  | 6                   |                        |  |
| Displacement, total .....  | 409 in <sup>3</sup> | (6,7 dm <sup>3</sup> ) |  |
| Bore .....                 | 4.1 in              | (104,77 mm)            |  |
| Stroke .....               | 5.1 in              | (130 mm)               |  |

### Air cleaners

1. Cyclone pre-cleaner with automatic dust ejector.
2. Paper filter with restriction warning light on instrument panel.
3. Replaceable safety filter.

\***Max. rating** - Rating of engine equipped only with components essential for engine function, such as injection pump, oil pump and water pump.

\*\***Flywheel rating** - Net rating measured with fan, intake and exhaust system, cooling system and alternator mounted.



## ELECTRICAL

The electrical system is well protected by fuses and pre-wired for optional equipment.

|                              |             |          |
|------------------------------|-------------|----------|
| Voltage .....                | 24 V        |          |
| Batteries (12 volt) no. .... | 2           |          |
| Battery capacity, ea. ....   | 140 Ah      |          |
| Cranking capacity, ea. ....  | 800 A       |          |
| Reserve capacity, ea. ....   | 270 min     |          |
| Alternator rating .....      | 1540/55 W/A |          |
| Starter motor output .....   | 7.3 hp      | (5,4 kW) |



## SERVICE REFILL CAPACITIES

|                               |             |                           |
|-------------------------------|-------------|---------------------------|
| Crankcase with filter .....   | 5.8 US gal  | (22 dm <sup>3</sup> ,l)   |
| Fuel tank .....               | 56.8 US gal | (215 dm <sup>3</sup> ,l)  |
| Cooling system .....          | 17.2 US gal | (65 dm <sup>3</sup> ,l)   |
| Transmission, total .....     | 8.7 US gal  | (33 dm <sup>3</sup> ,l)   |
| Drop-box .....                | 1.2 US gal  | (4,7 dm <sup>3</sup> ,l)  |
| Front axle, total .....       | 9.2 US gal  | (35 dm <sup>3</sup> ,l)   |
| Rear axle, total .....        | 10.0 US gal | (38 dm <sup>3</sup> ,l)   |
| Hydraulic system, total ..... | 67.4 US gal | (255 dm <sup>3</sup> ,l)  |
| Hydraulic tank .....          | 50.2 US gal | (190 dm <sup>3</sup> ,l)  |
| Brake oil tank .....          | 3.4 US gal  | (12,7 dm <sup>3</sup> ,l) |



## DRIVETRAIN

**Torque Converter:** Single stage, single phase

**Transmission:** Volvo BM automatic powershift transmission. Countershaft-type with bi-directional clutch modulation. Single lever control. Four speeds forward, three reverse.

**Axes:** Full-floating axle half-shafts with planetary final gear reduction. Single piece cast axle housings. Fixed front axle and oscillating rear axle.

**Differentials:** Hypoid gear differentials on front and rear axles. 100% differential lock on front axle controlled by floor switch.

**Hub Reduction:** Planetary-type final drive reduction with low-friction roller bearings mounted in each wheel hub.

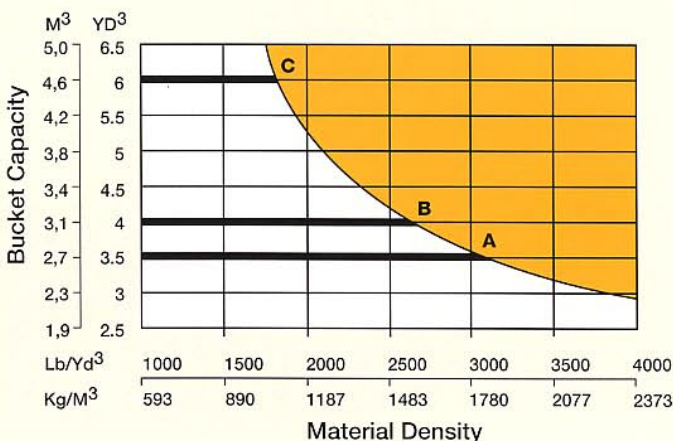
**Tires:** Tubeless with nylon cord body. Other tires available for different applications.

|                              |                         |             |
|------------------------------|-------------------------|-------------|
| Torque multiplication        | <b>2.33 :1</b>          |             |
| Transmission make, model     | <b>Volvo BM, HT 131</b> |             |
| Speeds, forward/reverse      |                         |             |
| 1                            | 4.2 mph                 | (6,8 km/h)  |
| 2                            | 7.9 mph                 | (12,7 km/h) |
| 3                            | 16.7 mph                | (26,9 km/h) |
| 4 (forward only)             | 24.0 mph                | (38,6 km/h) |
| Measured with tires          | <b>23.5 R25*</b>        |             |
| Front axle make              | <b>Volvo BM</b>         |             |
| Rear axle make               | <b>Volvo BM</b>         |             |
| Rear axle oscillation, total | 26°                     |             |
|                              | 18 in                   | (450 mm)    |



## BUCKETS

|                                     |                     |                    |
|-------------------------------------|---------------------|--------------------|
| A - Straight Edge General Purpose   | 3.5 yd <sup>3</sup> | 2.7 m <sup>3</sup> |
| B - Straight Edge Material Handling | 4.0 yd <sup>3</sup> | 3.1 m <sup>3</sup> |
| C - Straight Edge Light Material    | 6.0 yd <sup>3</sup> | 4.6 m <sup>3</sup> |



### Note:

Correct Bucket Selection is determined by consideration of the work application, material density and type of material. Refer to Operational Data for bucket choices. The above graph is to be used as a guideline.

Contact your VME distributor for assistance.



## BRAKES

The brake system meets requirements according to SAE J1152, EG 71/320 and ISO 3450.

**Service brakes:** Hydraulically operated dry disc brakes. Application of brake pedal applies brakes and also neutralizes transmission when transmission disengaging switch is activated.

**Secondary:** Dual circuit system. Actuated by service brake pedal. Visual low pressure alarm. Dead engine braking pressure provided by accumulators in each circuit.

**Parking brake:** Disc brake on front output shaft of transmission. Warning lamp for brake applied. Flashing central warning light if gear lever is in forward or reverse.

|                           |                      |                          |
|---------------------------|----------------------|--------------------------|
| Brake friction area       |                      |                          |
| Front wheel (ea.)         | 126 in <sup>2</sup>  | (810 cm <sup>2</sup> )   |
| Rear wheel (ea.)          | 62.8 in <sup>2</sup> | (405 cm <sup>2</sup> )   |
| Reservoirs, no.           |                      |                          |
| Volume, total             | 91.5 in <sup>3</sup> | (1.5 dm <sup>3</sup> ,l) |
| Parking brake area, total | 15.5 in <sup>2</sup> | (100 mm <sup>2</sup> )   |



## STEERING

Articulated frame. Load-sensing hydrostatic steering system.

**Pump:** Variable flow axial piston pump, mounted to a power take-off on the transmission.

**Cylinders:** Two double-acting cylinders with chrome plated piston rods.

|                              |                 |                             |
|------------------------------|-----------------|-----------------------------|
| Steering cylinders, no. .... | 2               |                             |
| Bore .....                   | 3.2 in          | (80 mm)                     |
| Rod diameter .....           | 2.0 in          | (50 mm)                     |
| Stroke .....                 | 17.3 in         | (440 mm)                    |
| Relief pressure .....        | 2744 psi        | (19 MPa)                    |
| Steer pump output .....      | 25.6 US gal/min | (97 dm <sup>3</sup> ,l/min) |
| at pressure .....            | 1450 psi        | (10 MPa)                    |
| and engine speed .....       | 2200 rpm        | (36,7 rps)                  |



## CAB

Integral ROPS/FOPS Cab meets requirements according to SAE J1040C, SAE J231, ISO 3471-1986, ISO 3449-1980, and SS/ISO 6055. Sound-insulating lining. Floor mats. Lockable door. Side and rear window exits. Tinted safety glass.

**Heater, Defroster and Ventilator:** A three speed fan provides filtered fresh air and defroster for the front and side windows. Air conditioning optional.

**Operator's Seat:** Fully adjustable suspension seat with seat belt (SAE #J386) and heater.

|                                   |              |           |
|-----------------------------------|--------------|-----------|
| Heating capacity .....            | 39,600 BTU/h | (11,6 kW) |
| Air conditioning (optional) ..... | 19,400 BTU/h | (5,7 kW)  |



## HYDRAULICS

Open center system pilot-operated and filtered breather on reservoir.

**Pumps:** Triple vane type, mounted to a power take-off on the transmission.

**System Supply:** Pumps 1 and 2 supply the main hydraulic functions until the system pressure exceeds 2610 psi (18 MPa), when Pump 2 is diverted to tank. Pump 3 supplies the pilot valve circuit.

**Valve:** Three-spool valve with built-in pressure relief valve. Activated by a pilot valve, it is mounted on front frame for easy access.

**Lift function:** The valve has four positions: Raise, hold, lower and float. An automatic kickout detent is adjustable for any position between maximum reach and full lift height.

**Tilt function:** The valve has three positions: Rollback, hold and dump. Automatic bucket positioner adjustable to any desired loading angle.

**Cylinders:** Double-acting.

**Filters:** Full-flow 10 micron return filter with magnetic core, located in hydraulic oil tank.

**Load Unit:** Hydraulic cylinders mounted in line with lifting arms.

### Pump No. 1

|                        |                 |                              |
|------------------------|-----------------|------------------------------|
| Relief pressure .....  | 3050 psi        | (21 MPa)                     |
| Pump output .....      | 51.8 US gal/min | (196 dm <sup>3</sup> ,l/min) |
| at pressure .....      | 1450 psi        | (10 MPa)                     |
| and engine speed ..... | 2200 rpm        | (36,7 rps)                   |

### Pump No. 2

|                          |                 |                              |
|--------------------------|-----------------|------------------------------|
| Relief pressure .....    | 2600 psi        | (18 MPa)                     |
| Pump output .....        | 21.4 US gal/min | (81 dm <sup>3</sup> ,l/min)  |
| at pressure .....        | 1450 psi        | (10 MPa)                     |
| and engine speed .....   | 2200 rpm        | (36,7 rps)                   |
| Output, pump total ..... | 73.2 US gal/min | (277 dm <sup>3</sup> ,l/min) |

|                          |         |          |
|--------------------------|---------|----------|
| Lift cylinders, no. .... | 2       |          |
| Bore .....               | 5.5 in  | (140 mm) |
| Rod diameter .....       | 2.8 in  | (70 mm)  |
| Stroke .....             | 38.6 in | (980 mm) |

|                          |         |           |
|--------------------------|---------|-----------|
| Tilt cylinders, no. .... | 2       |           |
| Bore .....               | 4.9 in  | (12,5 mm) |
| Rod diameter .....       | 2.8 in  | (70 mm)   |
| Stroke .....             | 32.7 in | (830 mm)  |

|                             |       |
|-----------------------------|-------|
| Raising time (loaded) ..... | 6.5 s |
| Dumping time .....          | 1.5 s |
| (loaded)                    |       |

|                             |        |
|-----------------------------|--------|
| Lowering time (empty) ..... | 3.1 s  |
| Total cycle time .....      | 11.1 s |

## ATTACHMENTS

(for further information please contact your local dealer)

### Buckets

- High-Dump Light Materials
- Light Materials
- Multi-Purpose
- Side Dump
- Spade Nose with Teeth
- Spade Nose without Teeth
- Spill Plate
- Straight Edge
- Straight Edge with Teeth

### Fork Equipment

- Fork Frame
- Fork Tines
- Forklift Carrier with One-Piece Top Clamp
- Forklift Carrier with Two Independent Top Clamps
- Forklift Carrier with Tine Positioner

### Other Attachments

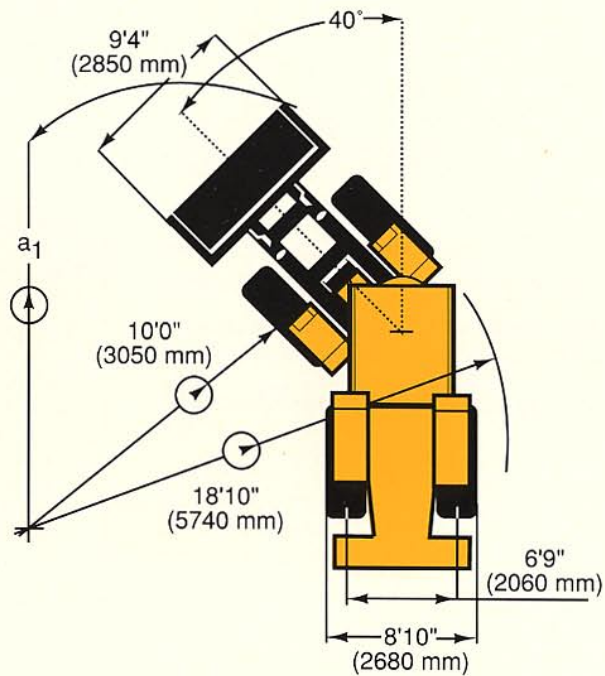
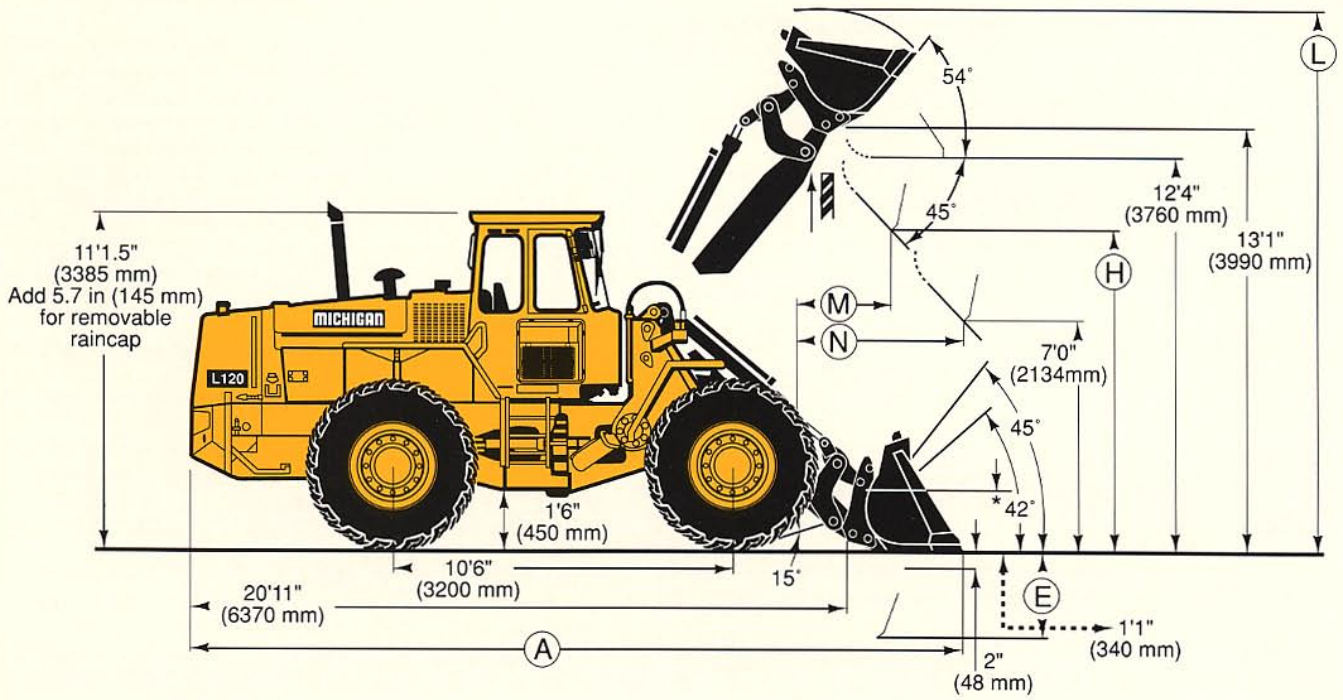
- Asphalt Cutter
- Diagonal Snow Blade
- Material Handling Arm, Telescopic Manually, Pinned Positions
- Material Handling Arm with Hydraulic Folding, Telescopic Manually, Pinned Positions

### Timber Grapples

- General Purpose
- Sorting
- Unloading
- Heel Kickout
- for Use Only on the Sorting and Unloading Grapples - Requires Hydraulic Control for 4th Function
- Log Pusher

## OPERATIONAL DATA MICHIGAN L120

**Tires: 23.5 - 25 (16PR) L-2**



## OPERATIONAL DATA MICHIGAN L120

**Tires: 23.5 - 25 (16PR) L-2**

| †Mounting/Bucket type   | Pin-On              | Hook-On             | Pin-On              | Hook-On             | Pin-On              | Hook-On             |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Volume, Heaped  | 4.0 yd <sup>3</sup> | 4.0 yd <sup>3</sup> | 3.5 yd <sup>3</sup> | 3.5 yd <sup>3</sup> | 6.0 yd <sup>3</sup> | 6.0 yd <sup>3</sup> |
|   | 3.1 m <sup>3</sup>  | 3.1 m <sup>3</sup>  | 2.7 m <sup>3</sup>  | 2.7 m <sup>3</sup>  | 4.6 m <sup>3</sup>  | 4.6 m <sup>3</sup>  |
| Struck  | 3.3 yd <sup>3</sup> | 3.3 yd <sup>3</sup> | 2.9 yd <sup>3</sup> | 2.9 yd <sup>3</sup> | 4.9 yd <sup>3</sup> | 4.9 yd <sup>3</sup> |
|   | 2.52 m <sup>3</sup> | 2.52 m <sup>3</sup> | 2.22 m <sup>3</sup> | 2.22 m <sup>3</sup> | 3.75 m <sup>3</sup> | 3.75 m <sup>3</sup> |
| Static tipping load straight  | 27,980 lb           | 27,050 lb           | 28,460 lb           | 27,490 lb           | 26,630 lb           | 25,770 lb           |
|   | 12 690 kg           | 12 280 kg           | 12 910 kg           | 12 470 kg           | 12 080 kg           | 11 690 kg           |
| at 35° turn   | 25,020 lb           | 24,180 lb           | 25,500 lb           | 24,580 lb           | 23,770 lb           | 22,970 lb           |
|   | 11 350 kg           | 10 970 kg           | 11 570 kg           | 11 150 kg           | 10 780 kg           | 10 420 kg           |
| at full turn 40°  | 24,170 lb           | 23,360 lb           | 24,640 lb           | 23,750 lb           | 22,930 lb           | 22,170 lb           |
|   | 10 960 kg           | 10 600 kg           | 11 180 kg           | 10 770 kg           | 10 400 kg           | 10 050 kg           |
| Breakout force  | 28,420 lbf          | 26,590 lbf          | 31,120 lbf          | 28,900 lbf          | 21,715 lbf          | 20,590 lbf          |
|   | 126.4 kN            | 118.3 kN            | 138.4 kN            | 128.6 kN            | 96.6 kN             | 91.6 kN             |
| Hydraulic lifting force, ground level                                   | 49,850 lbf          | 49,960 lbf          | 49,910 lbf          | 50,020 lbf          | 50,020 lbf          | 50,130 lbf          |
|   | 221.8 kN            | 222.2 kN            | 222.0 kN            | 222.5 kN            | 222.5 kN            | 223.0 kN            |
| at max. height  | 19,490 lbf          | 19,180 lbf          | 19,700 lbf          | 19,360 lbf          | 19,030 lbf          | 18,720 lbf          |
|   | 86.7 kN             | 85.3 kN             | 87.7 kN             | 86.1 kN             | 84.7 kN             | 83.3 kN             |
| Ⓐ   | 25'4" ft in         | 25'7" ft in         | 25'0" ft in         | 25'3" ft in         | 26'6" ft in         | 26'10" ft in        |
|   | 7722 mm             | 7800 mm             | 7630 mm             | 7710 mm             | 8090 mm             | 8170 mm             |
| Ⓔ   | 3'8" ft in          | 3'11" ft in         | 3'5" ft in          | 3'8" ft in          | 4'8" ft in          | 4'11" ft in         |
|   | 1120 mm             | 1190 mm             | 1040 mm             | 1110 mm             | 1430 mm             | 1500 mm             |
| Ⓕ   | 9'4" ft in          | 9'1" ft in          | 9'7" ft in          | 9'4" ft in          | 8'6" ft in          | 8'3" ft in          |
|   | 2840 mm             | 2780 mm             | 2910 mm             | 2850 mm             | 2580 mm             | 2520 mm             |
| Ⓖ   | 17'8" ft in         | 17'11" ft in        | 17'4" ft in         | 17'7" ft in         | 18'2" ft in         | 18'4" ft in         |
|   | 5385 mm             | 5450 mm             | 5290 mm             | 5350 mm             | 5540 mm             | 5600 mm             |
| Ⓜ   | 3'8" ft in          | 3'10" ft in         | 3'6" ft in          | 3'8" ft in          | 4'6" ft in          | 4'8" ft in          |
|   | 1120 mm             | 1170 mm             | 1050 mm             | 1110 mm             | 1380 mm             | 1430 mm             |
| Ⓝ   | 5'7" ft in          | 5'9" ft in          | 5'6" ft in          | 5'7" ft in          | 6'0" ft in          | 6'1" ft in          |
|   | 1700 mm             | 1740 mm             | 1670 mm             | 1700 mm             | 1830 mm             | 1860 mm             |
| a <sub>1</sub> Turning circle over bucket<br>(bucket in carry position) | 40'10" ft in        | 40'11" ft in        | 40'7" ft in         | 40'9" ft in         | 41'6" ft in         | 41'8" ft in         |
|   | 12 440 mm           | 12 480 mm           | 12 380 mm           | 12 430 mm           | 12 640 mm           | 12 700 mm           |
| Weight distribution, front  | 13,180 lb           | 13,490 lb           | 12,790 lb           | 13,170 lb           | 13,780 lb           | 14,080 lb           |
|   | 5980 kg             | 6120 kg             | 5800 kg             | 5970 kg             | 6250 kg             | 6390 kg             |
| rear  | 21,010 lb           | 20,920 lb           | 21,210 lb           | 21,050 lb           | 20,750 lb           | 20,660 lb           |
|   | 9530 kg             | 9490 kg             | 9620 kg             | 9550 kg             | 9410 kg             | 9370 kg             |
| Operating weight  | 34,190 lb           | 34,410 lb           | 34,000 lb           | 34,220 lb           | 34,530 lb           | 34,740 lb           |
|   | 15 510 kg           | 15 610 kg           | 15 420 kg           | 15 520 kg           | 15 660 kg           | 15 760 kg           |

†Bolt-on Cutting Edge Increases Bucket Capacity By .18 yd<sup>3</sup> (.14 m<sup>3</sup>)

### ALTERATION OF OPERATIONAL DATA

| Tires                        | 23.5-25(16PR) L-2      | 23.5 R25          | 23.5-25(16PR)L-3  | *Counterweight   | <small>Wherever applicable, specifications are in accordance with SAE Standards J732 and J742. Changes from the standard configuration may change machine dimensions and operating data. Operating weight is approximate and includes the bucket given in the table and all standard equipment.</small><br><b>*Liquid ballast in rear tires/counterweight only recommended for stabilizing purposes in timber and pallet handling on hard and level ground.</b> |
|------------------------------|------------------------|-------------------|-------------------|------------------|---|
| Liquid ballast in rear tires | *75% CaCl <sub>2</sub> |                   |                   | N/A              |   |
| Width over wheels            |                        | ±0 in (±0 mm)     | +0.4 in (+10 mm)  |                  |   |
| Ground clearance             |                        | +0 in (+0 mm)     | -0.6 in (+15 mm)  |                  |   |
| Tipping load at full turn    | +3040 lb (+1380 kg)    | +330 lb (+150 kg) | +220 lb (+100 kg) | +1455 lb(+660kg) |   |
| Operating weight             | +2580 lb (+1170 kg)    | +580 lb (+260 kg) | +270 lb (+120 kg) | +882 lb(+400 kg) |   |

## STANDARD EQUIPMENT

|  |   |  |   |
|--|---|--|---|
| <p>AIR CLEANER, DRY TYPE, DUAL ELEMENT, EXHAUST ASPIRATED PRECLEANER ALTERNATOR, 24V, 55 AMP BATTERY DISCONNECT, LOCKABLE BOOM KICKOUT, AUTOMATIC BRAKES, 4-WHEEL HYDRAULIC, DISC TYPE, DUAL CIRCUIT BRAKE SYSTEM, SECONDARY BUCKET LEVELER, AUTOMATIC WITH POSITION INDICATOR BUCKET LEVER DETENT CAB ACCESS STEPS &amp; HANDRAILS, (SAE J185) CAB: ROPS (SAE J1040C) (ISO 3471) FOPS (SAE J231) (ISO 3449) Acoustical Lining Ash Tray, Cigarette Lighter Door, Lockable (Left Side Access) Electrical System: 24V. Pre-wired for Optional Accessories Environmental Control: Heater/Defroster/Pressurizer 39,600 BTU/h (11,6 kW) with Three-Speed Blower Fan, Filtered air Floor Mat</p> | <p>Hand Throttle Interior Light Interior Rearview Mirror Safety Glass, Tinted Seat Belt (SAE J386) Seat, Suspension, 6-Way, Adjustable, Heated Steering Wheel, Adjustable Tilt Storage Compartment Sun Visor Windshield Washer, Front &amp; Rear Windshield Wiper, Front, Intermittent Windshield Wiper, Rear COLD STARTING AIDS: Engine Intake Manifold Pre-heater (ROPS Cab only) Engine Fuel Enrichment DIFFERENTIALS: Front, Hydraulically operated Differential Lock Rear, Conventional DRAWBAR WITH PIN ENGINE COOLANT FILTER EXHAUST RAIN CAP (ELBOW TYPE) FENDERS, FRONT &amp; REAR FUEL WATER SEPARATOR HYDRAULIC CONTROL LEVER SAFETY LATCH HYDRAULIC OIL COOLER HYDRAULIC PRESSURE TEST PORTS, QUICK CONNECT</p> | <p>INSTRUMENTS/GAUGES, ILLUMINATED: Brake System Pressure Gauge Engine Coolant Temperature Gauge Fuel Gauge Hourmeter Sight Gauges: Brake Fluid Level Coolant Level Hydraulic Fluid Level Transmission/Converter Fluid Temperature Gauge ISOLATION MOUNTS: Cab, Engine, Transmission LIFTING LUGS LIGHTS: Driving (2-Front), Halogen with High/Low Beam, Parking Lights, Side Marker Lights, Stop/Tail Combination (2-Rear) Turn Signals with Hazard Warning Switch MIRRORS, REARVIEW (2), EXTERIOR MUFFLER, SPARK ARRESTING NEUTRAL START FEATURE SIDE PANELS, ENGINE HOOD STEERING FRAME LOCK TIRES: 23.5-25 (16PR) L-2 (General) TRANSMISSION: MODULATED WITH SINGLE LEVER CONTROL, AUTOMATIC POWER SHIFT, AND OPERATOR</p> | <p>CONTROLLED DECLUTCH VALVE, MAIN HYDRAULIC, THREE (3) SPOOL, PILOT OPERATED VANDALISM LOCK, PROVISION FOR: Batteries, Engine Coolant, Engine Oil, Fuel, Hydraulic Fluid, Converter/Transmission Fluid, Tool Box WARNING ALARMS: Central Warning Audible Buzzer Horn, Electric Reverse Alarm (SAE J994) WARNING &amp; MONITORING LIGHTS: Air Cleaner Restriction Alternator Malfunction Central Warning Lamp: Brake System Pressure Engine Coolant Temperature Engine Oil Pressure Parking Brake Applied (Transmission in Forward or Reverse) Transmission Fluid Temperature Differential lock Engine Intake Manifold Pre-heater High Beam Driving Lights Parking Brake Applied Transmission Clutch Pressure</p> |
|--|---|--|---|

## OPTIONAL EQUIPMENT

|   |   |  |   |
|---|---|--|---|
| <p>Air Conditioner, 19,400 BTU/h (5,7 kW) Air Precleaner, Heavy Duty Oil Bath Type Cyclone, Turbo II Type Air Vents, Extra Attachment Rib Kit Beacon, Amber Rotating Boom Float Kickout, Automatic Bucket Teeth, Bolt-On, (8) (Not for Use on Light Material Buckets) Cold Starting Aid, Engine Coolant Pre-heater (110V-1500W)</p> | <p>Cutting Edge, 3 pc. Reversible, Bolt-On (Not for Use on High Tip Buckets) Dual Service Brake Pedal Engine Fan, Suction Engine, High Altitude Version, Factory Engine, Low Emission Version, Factory Engine, Shutdown to Idle Kit Guards: Belly Plates Headlights, Front Muffler Taillights, Rear Windshield Worklights, Rear</p> | <p>Hydraulic Attachment Bracket with Separate Locking System Hydraulic Control for 3rd Function Hydraulic Control for 3rd and 4th Functions Hydraulic Single Acting Control (Diverts Power Down Pressure to Tank) Instrument/Gauges: Engine Oil Pressure Speedometer/Tachometer Voltmeter Light, Attachment Flood (Halogen) Radiator, Corrosion Resistant Radio Mounting Panel (Includes 2 Speakers, Antenna &amp; Voltage Reducers)</p> | <p>ROPS/FOPS Canopy (Open Type) Secondary Steering Slow Moving Vehicle Emblem Spillguard, Bolt-On (Not for Use on Light Material Buckets) Tire Options: 23.5 R25 23.5-25(16PR)L-3 23.5-25(20PR)L-2 23.5-25(20PR)L-3</p> |
|---|---|--|---|

*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.*

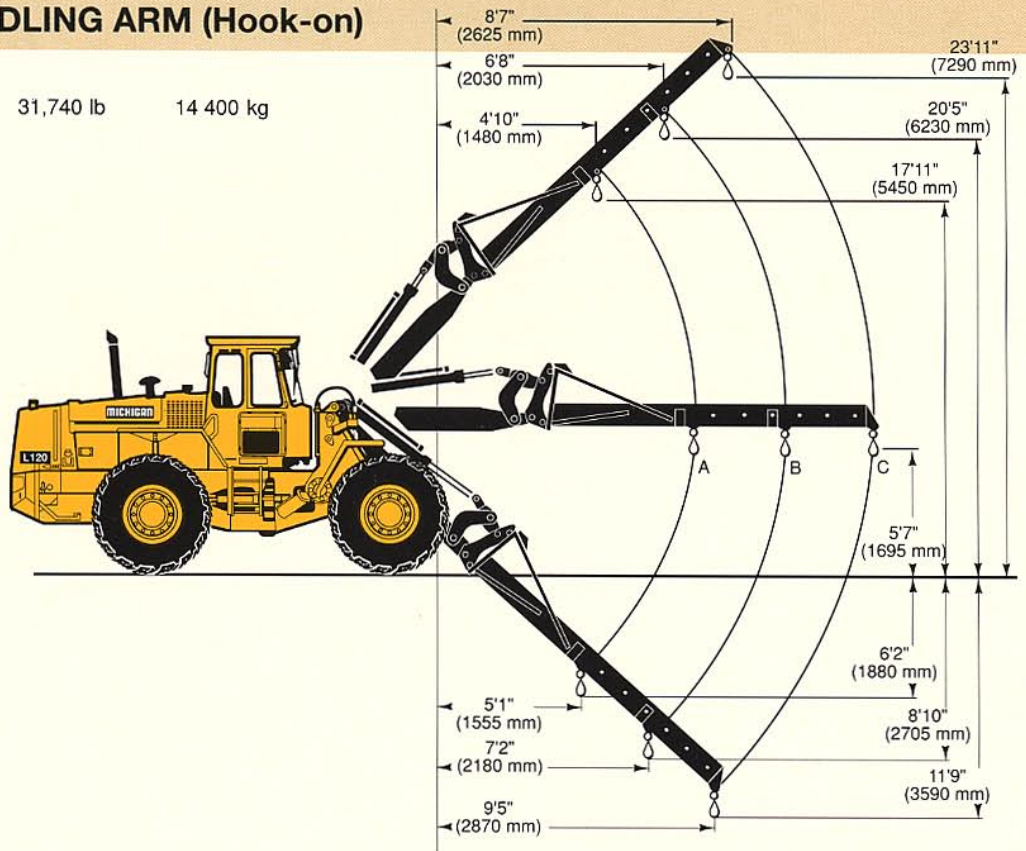
# VME Americas Inc.

23001 Euclid Avenue  
P.O. Box 178017  
Cleveland, Ohio 44117-8017

FORM NO. L-529  
DATE 3/91  
Printed in U.S.A.

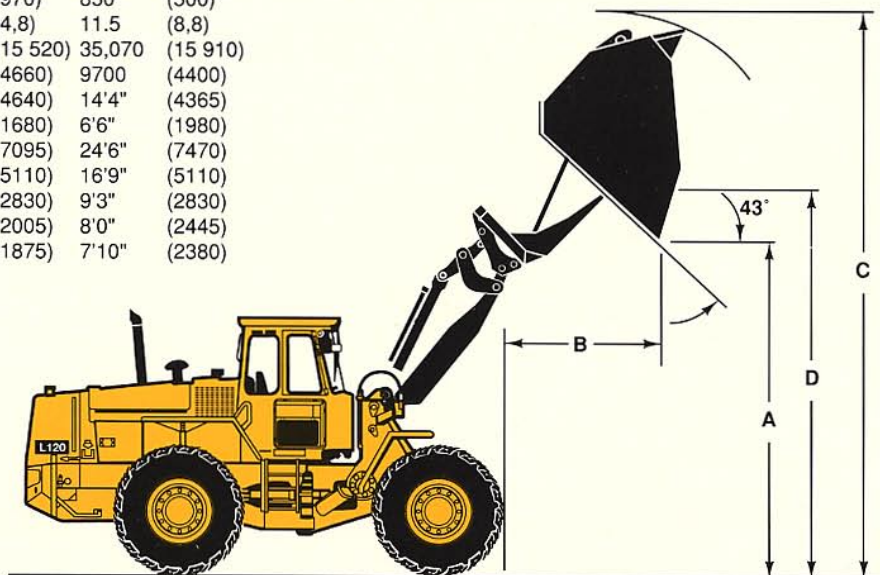
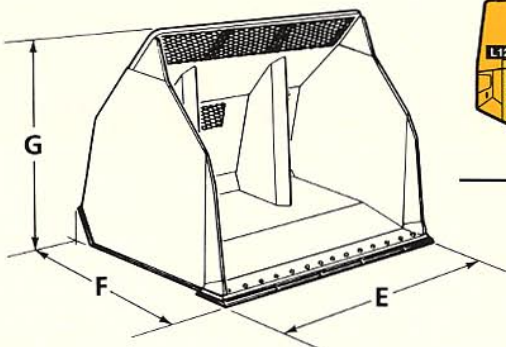
## MATERIAL HANDLING ARM (Hook-on)

Operating weight      31,740 lb      14 400 kg



## HIGH TIP LIGHT MATERIALS BUCKET (Hook-on)

|                  |                    |                      |        |          |        |          |
|------------------|--------------------|----------------------|--------|----------|--------|----------|
| Material weight  | lb/yd <sup>3</sup> | (kg/m <sup>3</sup> ) | 1650   | (970)    | 850    | (500)    |
| Bucket capacity  | yd <sup>3</sup>    | (m <sup>3</sup> )    | 6.3    | (4,8)    | 11.5   | (8,8)    |
| Operating weight | lb                 | (kg)                 | 34,210 | (15 520) | 35,070 | (15 910) |
| Operating load   | lb                 | (kg)                 | 10,580 | (4660)   | 9700   | (4400)   |
| A                | ft in              | (mm)                 | 15'3"  | (4640)   | 14'4"  | (4365)   |
| B                | ft in              | (mm)                 | 5'6"   | (1680)   | 6'6"   | (1980)   |
| C                | ft in              | (mm)                 | 23'3"  | (7095)   | 24'6"  | (7470)   |
| D                | ft in              | (mm)                 | 16'9"  | (5110)   | 16'9"  | (5110)   |
| E                | ft in              | (mm)                 | 9'3"   | (2830)   | 9'3"   | (2830)   |
| F                | ft in              | (mm)                 | 6'7"   | (2005)   | 8'0"   | (2445)   |
| G                | ft in              | (mm)                 | 6'2"   | (1875)   | 7'10"  | (2380)   |



## STANDARD EQUIPMENT

AIR CLEANER, DRY TYPE, DUAL ELEMENT, EXHAUST ASPIRATED PRECLEANER  
ALTERNATOR, 24V, 55 AMP  
BATTERY DISCONNECT, LOCKABLE  
BOOM KICKOUT, AUTOMATIC  
BRAKES, 4-WHEEL HYDRAULIC, DISC TYPE, DUAL CIRCUIT  
BRAKE SYSTEM, SECONDARY  
BUCKET LEVELER, AUTOMATIC WITH POSITION INDICATOR  
BUCKET LEVER DETENT  
CAB ACCESS STEPS & HANDRAILS, (SAE J185)  
CAB: ROPS (SAE J1040C) (ISO 3471) FOPS (SAE J231) (ISO 3449)  
Acoustical Lining  
Ash Tray, Cigarette Lighter  
Door, Lockable (Left Side Access)  
Electrical System: 24V.  
Pre-wired for Optional Accessories  
Environmental Control: Heater/Defroster/Pressurizer 39,600 BTU/h (11,6 kW) with Three-Speed Blower Fan, Filtered air  
Floor Mat

Hand Throttle  
Interior Light  
Interior Rearview Mirror  
Safety Glass, Tinted  
Seat Belt (SAE J386)  
Seat, Suspension, 6-Way, Adjustable, Heated  
Steering Wheel, Adjustable Tilt  
Storage Compartment  
Sun Visor  
Windshield Washer, Front & Rear  
Windshield Wiper, Front, Intermittent  
Windshield Wiper, Rear  
COLD STARTING AIDS:  
Engine Intake Manifold Pre-heater (ROPS Cab only)  
Engine Fuel Enrichment  
DIFFERENTIALS:  
Front, Hydraulically operated  
Differential Lock  
Rear, Conventional  
DRAWBAR WITH PIN  
ENGINE COOLANT FILTER  
EXHAUST RAIN CAP (ELBOW TYPE)  
FENDERS, FRONT & REAR  
FUEL WATER SEPARATOR  
HYDRAULIC CONTROL LEVER  
SAFETY LATCH  
HYDRAULIC OIL COOLER  
HYDRAULIC PRESSURE TEST PORTS, QUICK CONNECT

INSTRUMENTS/GAUGES, ILLUMINATED:  
Brake System Pressure Gauge  
Engine Coolant Temperature Gauge  
Fuel Gauge  
Hourmeter  
Sight Gauges:  
Brake Fluid Level  
Coolant Level  
Hydraulic Fluid Level  
Transmission/Converter Fluid Temperature Gauge  
ISOLATION MOUNTS:  
Cab, Engine, Transmission  
LIFTING LUGS  
LIGHTS:  
Driving (2-Front), Halogen with High/Low Beam, Parking Lights, Side Marker Lights, Stop/Tail Combination (2-Rear)  
Turn Signals with Hazard Warning Switch  
MIRRORS, REARVIEW (2), EXTERIOR  
MUFFLER, SPARK ARRESTING  
NEUTRAL START FEATURE  
SIDE PANELS, ENGINE HOOD  
STEERING FRAME LOCK  
TIRES: 23.5-25 (16PR) L-2 (General)  
TRANSMISSION: MODULATED WITH SINGLE LEVER CONTROL, AUTOMATIC POWER SHIFT, AND OPERATOR

CONTROLLED DECLUTCH VALVE, MAIN HYDRAULIC, THREE (3) SPOOL, PILOT OPERATED  
VANDALISM LOCK,  
PROVISION FOR:  
Batteries, Engine Coolant, Engine Oil, Fuel, Hydraulic Fluid, Converter/Transmission Fluid, Tool Box  
WARNING ALARMS:  
Central Warning Audible Buzzer  
Horn, Electric  
Reverse Alarm (SAE J994)  
WARNING & MONITORING LIGHTS:  
Air Cleaner Restriction  
Alternator Malfunction  
Central Warning Lamp:  
Brake System Pressure  
Engine Coolant Temperature  
Engine Oil Pressure  
Parking Brake Applied (Transmission in Forward or Reverse)  
Transmission Fluid Temperature  
Differential lock  
Engine Intake Manifold Pre-heater  
High Beam Driving Lights  
Parking Brake Applied  
Transmission Clutch Pressure

## OPTIONAL EQUIPMENT

Air Conditioner, 19,400 BTU/h (5,7 kW)  
Air Precleaner, Heavy Duty  
Oil Bath Type  
Cyclone, Turbo II Type  
Air Vents, Extra  
Attachment Rib Kit  
Beacon, Amber Rotating  
Boom Float Kickout, Automatic  
Bucket Teeth, Bolt-On, (8) (Not for Use on Light Material Buckets)  
Cold Starting Aid, Engine Coolant Pre-heater (110V-1500W)

Cutting Edge, 3 pc. Reversible, Bolt-On (Not for Use on High Tip Buckets)  
Dual Service Brake Pedal  
Engine Fan, Suction  
Engine, High Altitude Version, Factory  
Engine, Low Emission Version, Factory  
Engine, Shutdown to Idle Kit  
Guards:  
Belly Plates  
Headlights, Front  
Muffler  
Taillights, Rear  
Windshield  
Worklights, Rear

Hydraulic Attachment Bracket with Separate Locking System  
Hydraulic Control for 3rd Function  
Hydraulic Control for 3rd and 4th Functions  
Hydraulic Single Acting Control (Diverts Power Down Pressure to Tank)  
Instrument/Gauges:  
Engine Oil Pressure  
Speedometer/Tachometer  
Voltmeter  
Light, Attachment Flood (Halogen)  
Radiator, Corrosion Resistant  
Radio Mounting Panel (Includes 2 Speakers, Antenna & Voltage Reducers)

ROPS/FOPS Canopy (Open Type)  
Secondary Steering  
Slow Moving Vehicle Emblem  
Spillguard, Bolt-On (Not for Use on Light Material Buckets)  
Tire Options:  
23.5 R25  
23.5-25(16PR)L-3  
23.5-25(20PR)L-2  
23.5-25(20PR)L-3

*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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