MICHIGAN

L30

MICHIGAN L30 – HIGH PERFORMANCE AGILITY IN A MULTI-PURPOSE WHEEL LOADER

Wherever the demand is high for economy and high performance in a compact loader, the Michigan L30 has no equal. It is engineered to squeeze the most out of every working hour with minimum fuel consumption and service requirements. The Michigan L30 is an all-around machine with a built-in attachment changing capability permitting rapid no-hands changes between a large number of special attachments.

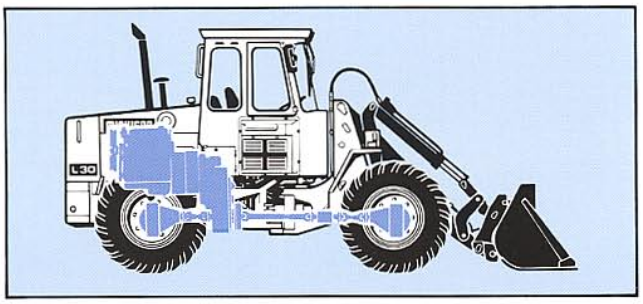
Strength and system compatibility have been the guiding principles for the development of this machine. Vital components are exclusively of our own manufacture, generously dimensioned and of the best materials. Extremely effective in confined working areas, the Michigan L30 is low and narrow with a short turn radius. With a high lift-arm attachment point and superior parallel arm geometry, this machine combines excellent horizontal load control, good lifting height and long reach.

Operator comfort is of the highest order. The pressurized cab is identical to that on the L50 and L70 machines, with very good climate control and low noise levels.

When quick job changes, agility and productivity are absolutely essential – the Michigan L30 is the answer. A HIGH PERFORMANCE LOADER WITH UNEQUALLED VERSATILITY.

DRIVETRAIN

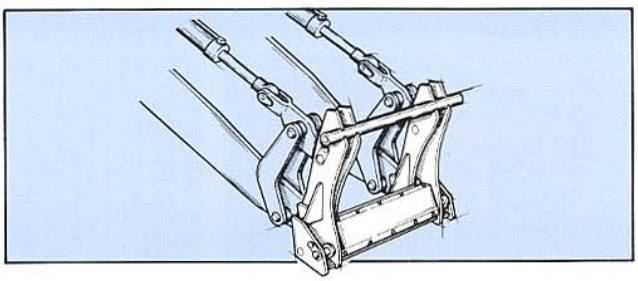
Attention has been paid to coordination of components and the achievement of long service intervals. The engine, transmission and axles are matched by design, resulting in an economical machine, reliable in every detail. The automatic powershift transmission uses an optimized computer program to select the correct gear for every situation, resulting in higher production speeds and excellent fuel economy.



LOADER UNIT

The L30's lift arm system, securely mounted to the front frame, makes a crucial contribution to the capacity of the machine. More than an efficient bucket loader, the L30 demonstrates superior performance at a great variety of tasks. The ultra modern lift arm system features:

- Excellent lift height and reach
- High arm attachment point (arms horizontal when loading trucks)
- High tilt and bucket forces at all arm angles
- Parallel load motion
- High visibility – open construction
- Superior maximum bucket angles



STANDARD – THE ORIGINAL QUICK COUPLER ATTACHMENT BRACKET

The Michigan L30 delivers its versatility with a flick of the wrist. It takes just a few seconds to change attachments and job set-ups. The strongly built hydraulically operated attachment bracket is easily guided into the attachment. Many different attachments are available from which the right combination can be chosen. The machine can therefore operate as a dedicated specialist in many different environments. The L30 is a superb general-service Allrounder, ideally suited for applications where the work is fast and varied.

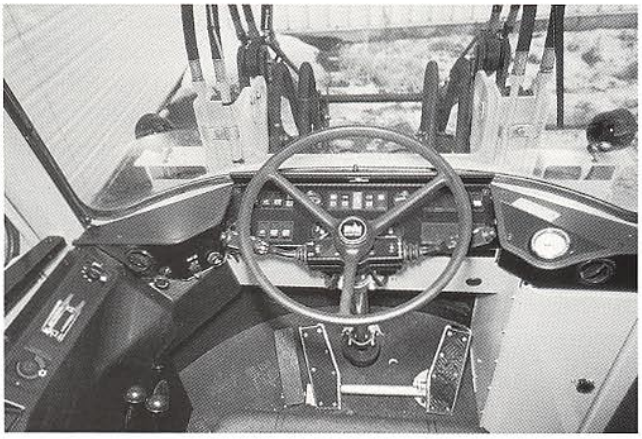
A GOOD PLACE TO WORK

The L30's comfortable and strongly built cab has been designed so that skilled work can be carried out effectively. Efforts have been made to create the best possible work place for the operator.

Careful consideration of all interrelated operating functions has resulted in a practical and productive operating environment. The L30's hydraulic system incorporates the highest quality components and allows full coordination of simultaneous control movements.

Important cab and control features are:

- Excellent working visibility
- Unique operator's seat with full adjustment to suit each individual operator
- Pressurized heating and ventilation system with filtered fresh air
- Sound insulated environment
- Natural hydraulic control lever location



- Precision control of attachments
- Comprehensive and clearly arranged instrumentation with monitoring and warning lights
- Superb steering system and small turning radius
- Automatic powershift transmission, an exclusive

VERSATILE AND EFFECTIVE

A long reach and high lift arm pivot location permit wide vehicles and trailers to be loaded from one side.

Parallel movement of the load makes the L30 well suited for handling palletized and fragile goods. The lifting unit works safely with strong tilting forces throughout the lifting range.

The L30 works effectively in confined areas thanks to its maneuverability, compact dimensions and small turn radius.

The L30 can be supplied with an optional 6-speed transmission.

It is easy to work with the L30 in difficult terrain. It has 4-wheel drive and low ground pressure.

ENGINE

Direct-injected, 4 cylinder, inline, 4-cycle diesel.

Make			Perkins	
Model			4.236	
Flywheel rating* at	rps	**rpm**	36,7	**2200**
SAE J1349 (ISO 1585)	kW	**hp**	55	**74**
DIN 70020	kW	**hp**	57	**77**
Max. Torque at	rps	**rpm**	23,3	**1400**
SAE J1349 (ISO 1585) (net)	Nm	**lb ft**	263	**194**
DIN 70020	Nm	**lb ft**	276	**204**
Number of Cylinders			4	
Displacement, total	dm^3, l	**in^3**	3,86	**236**
Bore	mm	**in**	98,4	**3.87**
Stroke	mm	**in**	127	**5.00**

Air cleaners

1. Paper filter with restriction warning light on instrument panel.
2. Replaceable safety filter element.

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

ELECTRICAL SYSTEM

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

Voltage	V		24	
Batteries (12 volt)			2	
Battery capacity, ea.	Ah		90	
Cranking capacity, ea.	A		380	
Reserve capacity, ea.	min		65	
Alternator rating	W/A		1260/45	
Starter motor output	kW	**hp**	4	**5.3**

SERVICE REFILL CAPACITIES

Crankcase	dm^3, l	**US gal**	8,0	**2.10**
Fuel tank	dm^3, l	**US gal**	95,0	**25.10**
Cooling system	dm^3, l	**US gal**	24,0	**6.30**
Transmission, total	dm^3, l	**US gal**	22,0	**5.80**
Front axle, total	dm^3, l	**US gal**	10,0	**2.60**
Rear axle, total	dm^3, l	**US gal**	10,0	**2.60**
Hydraulic system, total	dm^3, l	**US gal**	105,0	**27.70**

DRIVETRAIN

Torque converter: Clark high-efficiency single stage, single phase.

Transmission: Clark constant mesh, automatic powershift transmission. Countershaft-type with bi-directional clutch modulation.

Axles: 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.

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

Tires: Tubeless type with nylon cord. Optional tires available for specific applications.

Torque converter, make			**Clark**	
Torque multiplication			**2.85:1**	
Transmission make, model			**Clark, 18000 Series**	
Speeds, forward/reverse				
1	km/h	**mph**	7,3	**4.5**
2	km/h	**mph**	13,9	**8.6**
3	km/h	**mph**	35,2	**21.9**
Optional 6-Speed Transmission:				
Speeds, forward/reverse				
High Range				
1	km/h	**mph**	7,1	**4.4**
2	km/h	**mph**	14,9	**9.3**
3	km/h	**mph**	31,5	**19.6**
Low Range				
1	km/h	**mph**	2,9	**1.8**
2	km/h	**mph**	6,3	**3.9**
3	km/h	**mph**	13,9	**8.7**
Measured with tires			**15.5-25 L-2**	
Front axle make, model			**Rockwell, PRA-181**	
Rear axle make, model			**Rockwell, PRA-181**	
Rear axle oscillation, total	deg		20	
	mm	**in**	310	**12.2**

BRAKE SYSTEM

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

Service brakes: Fully hydraulic system with outboard mounted dry disc brakes. Application of brake pedal applies brakes and also neutralizes transmission when transmission disengaging switch is activated.

Secondary: Dual circuit axle-by-axle system. Actuated by service brake pedal. Visual low pressure alarm. Dead engine braking pressure provided by three nitrogen-charged accumulators.

Parking brake: Drum type mounted on transmission forward output shaft. Manually applied and released. A warning lamp lights if the ignition is on when the parking brake is applied. If the gear lever is then placed in forward or reverse, the central warning lamp flashes.

Pump: Fixed displacement gear type, mounted on engine.

Filtration: Full-flow 10 micron filter.

Service brake, disc dia.	mm	**in**	470	**18.50**
thickness	mm	**in**	22	**0.87**

STEERING SYSTEM

Articulated frame. Hydrostatic steering system.

Pump: Fixed displacement gear type, mounted on torque converter.

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

Steering cylinders, no.			2	
Bore	mm	**in**	63	**2.48**
Stroke	mm	**in**	285	**11.22**
Relief pressure	MPa	**psi**	10,0	**1450**
Steer pump output	dm^3, l/min	**US gal/min**	48	**12.7**
at pressure	MPa	**psi**	10,0	**1450**
and engine speed	rps	**rpm**	37,7	**2200**
Articulation	deg		40	

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.

Heater, Defroster and Side 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	kW	**BTU/h**	11,6	**39,600**
Air conditioning (optional)	kW	**BTU/h**	5,7	**19,400**

HYDRAULIC SYSTEM

Open center, vented system with a sturdy plate-steel tank. Hydraulic oil is fully filtered and cooled. An access hole is provided in the tank for easy cleaning. An in-tank magnet provides extra protection.

Pump: Fixed displacement gear type, mounted on torque converter.

Valve: Split-spool three section valve with built-in pressure relief. Manually actuated, it is mounted on the rear frame for easy access.

Lift function: The valve has four positions: Raise, hold, lower and float.

Tilt function: The valve has three positions: Rollback, hold and dump. An automatic bucket positioner adjusts to any desired rollback angle.

Cylinders: Double-acting.

Filter: Full-flow 10 micron return filter with magnet, located in hydraulic oil tank.

Relief pressure	MPa	**psi**	15,0	**2175**
Pump output	dm^3, l/min	**US gal/min**	103	**27.2**
at pressure	MPa	**psi**	10,0	**1450**
and engine speed	rps	**rpm**	36,7	**2200**
Lift cylinders, no.			2	
Bore	mm	**in**	100	**3.94**
Stroke	mm	**in**	650	**25.6**
Tilt cylinders, no.			2	
Bore	mm	**in**	80	**3.15**
Stroke	mm	**in**	781	**30.7**
Raising time (loaded)	s		5.4	
Dumping time (loaded)	s		1.3	
Lowering time (empty)	s		2.2	
Total cycle time	s		8.9	

ATTACHMENTS *(for further information please contact your local dealer)*

Buckets
- Grading
- High-Dump Light Materials
- Light Materials
- Multi-Purpose
- Sand Spreading
- Straight Edge
- Straight Edge with Teeth

Examples of other Attachments
- Asphalt Cutter
- Breakout Forks
- Broom
- Combination Forks
- Diagonal Snow Blade
- Hydraulic Clamping Grapple
- Material Handling Arm Telescopic, Manually Pinned Positions
- Material Handling Arm with Hydraulic Folding, Telescopic, Manually Pinned Positions
- Pallet Forks
- Pallet Fork with Tine Positioner
- Snow Blower
- Timber Grapple

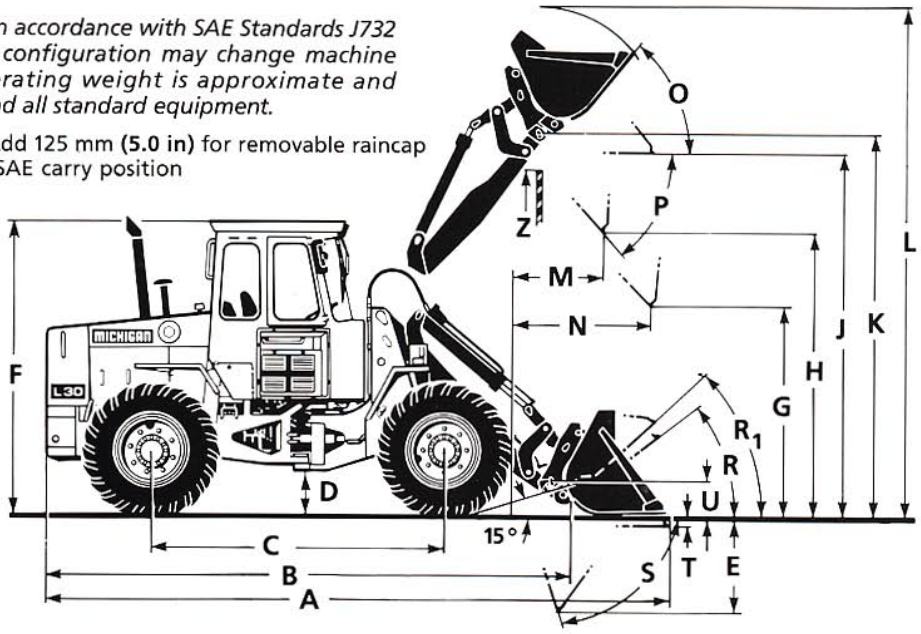
DIMENSIONS – MICHIGAN L30

Tires: 15.5-25 (12PR) L-2

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.

B	mm	ft in	4690	15'5"
C	mm	ft in	2725	8'11"
D	mm	ft in	420	1'5"
F*	mm	ft in	2780	9'2"
G	mm	ft in	2000	6'7"
J	mm	ft in	3370	11'1"
K	mm	ft in	3590	11'9"
O	deg		51	
P	deg		45	
R	deg		40	
R_1**	deg		43	
S	deg		78	
T	mm	ft in	75	3"
U	mm	ft in	305	1'0"
X	mm	ft in	1590	5'3"
Y	mm	ft in	1990	6'6"
Z	mm	ft in	3350	10'11"
a_2	mm	ft in	4740	15'7"
a_3	mm	ft in	2750	9'0"
a_4	deg		40	

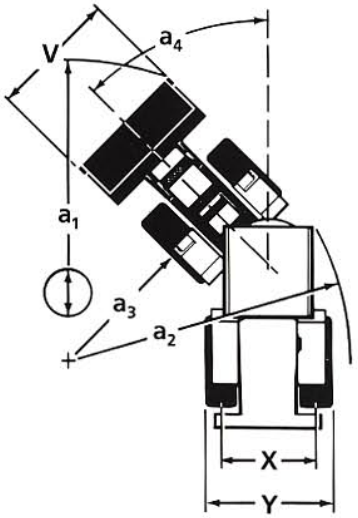
*Add 125 mm **(5.0 in)** for removable raincap
**SAE carry position



MACHINE INFORMATION		BUCKET TYPE 1	BUCKET TYPE 2
Volume, heaped	m^3	0,76	0,99
	yd^3	**1.00**	**1.30**
struck	m^3	0,66	0,85
	yd^3	**0.86**	**1.11**
Material weight	kg/m^3	1800	1500
	lb/yd^3	**3000**	**2500**
Bucket Weight	kg	345	395
	lb	**761**	**871**
Static tipping load, straight	kg	3690	3600
	lb	**8130**	**7940**
35° turn	kg	3290	3200
	lb	**7250**	**7060**
full turn	kg	3170	3080
	lb	**6990**	**6790**
Breakout force	kN	54,8	48,1
	lbf	**12320**	**10810**
Hydraulic lifting force, ground level	kN	45,0	44,6
	lbf	**10120**	**10030**
max. height	kN	21,3	20,8
	lbf	**4790**	**4680**
A	mm	5600	5700
	ft in	**18'4"**	**18'8"**
E	mm	770	870
	ft in	**2'6"**	**2'10"**
H	mm	2810	2740
	ft in	**9'3"**	**9'**
L	mm	4335	4350
	ft in	**14'3"**	**14'3"**
M	mm	760	830
	ft in	**2'6"**	**2'9"**
N	mm	1350	1390
	ft in	**4'5"**	**4'7"**
V	mm	2130	2130
	ft in	**7'**	**7'**
a_1 Turning circle over bucket (bucket in carry position)	mm	10325	10380
	ft in	**33'11"**	**34'1"**
Weight distribution, front	kg	2940	3020
	lb	**6490**	**6660**
rear	kg	3000	2980
	lb	**6610**	**6570**
Operating weight	kg	5940	6000
	lb	**13100**	**13230**

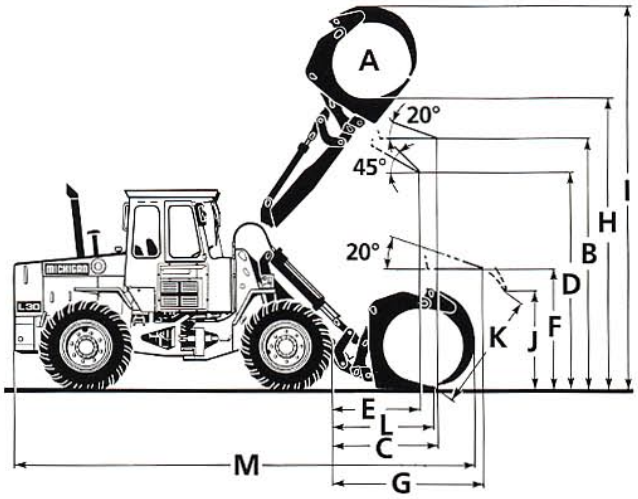
Bucket type

1. General purpose, hook-on
2. Material handling, hook-on



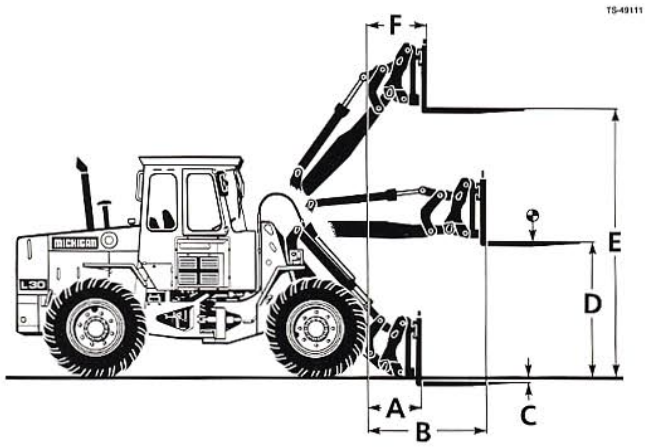
LOG GRAPPLE (98378)

Operating weight	kg	lb	6150	13,560
Operating load	kg	lb	1500	3310
A	m^2	ft^2	0,60	6.5
B	mm	ft in	3285	10'9"
C	mm	ft in	1190	3'11"
D	mm	ft in	2920	9'7"
E	mm	ft in	975	3'2"
F	mm	ft in	1575	5'2"
G	mm	ft in	1980	6'6"
H	mm	ft in	3905	12'10"
I	mm	ft in	4890	16'1"
J	mm	ft in	1370	4'6"
K	mm	ft in	1470	4'10"
L	mm	ft in	1265	4'2"
M	mm	ft in	6000	19'8"



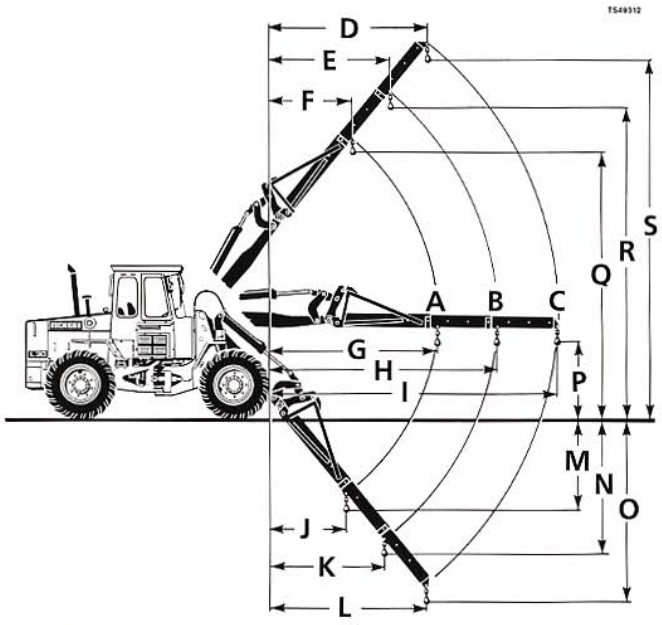
PALLET FORK

Fork tine, order no. 97788				
Length	mm	ft in	1050	3'5"
Fork frame, part no. 97791				
Width	mm	ft in	1200	3'11"
Distance to center of gravity, fork tines level	mm	ft in	600	2'0"
Operating weight	kg	lb	5980	13,180
Safe working load according to SS 3462	kg	lb	2000	4410
A	mm	ft in	500	1'8"
B	mm	ft in	1300	4'3"
C	mm	ft in	5	0.2"
D	mm	ft in	1730	5'8"
E	mm	ft in	3450	11'4"
F	mm	ft in	510	1'8"



MATERIAL HANDLING ARM (97824 Hook-on)

Operating weight	kg	lb	5960	13,140
Operating load at position				
A	kg	lb	960	2120
B	kg	lb	810	1785
C	kg	lb	650	1432
D	mm	ft in	2820	9'3"
E	mm	ft in	2160	7'1"
F	mm	ft in	1540	5'1"
G	mm	ft in	3130	10'3"
H	mm	ft in	4195	13'9"
I	mm	ft in	5325	17'6"
J	mm	ft in	1460	4'9"
K	mm	ft in	2120	6'11"
L	mm	ft in	2820	9'3"
M	mm	ft in	1845	6'1"
N	mm	ft in	2685	8'10"
O	mm	ft in	3580	11'9"
P	mm	ft in	1485	4'11"
Q	mm	ft in	4935	16'2"
R	mm	ft in	5795	19'0"
S	mm	ft in	6715	22'0"



ALTERATION OF DIMENSIONAL DATA		Liquid ballast in rear tires (75% $CaCl_2$)	15.5R25 XRAT★
Static tipping load at full turn	kg lb	474 **1044**	150 **330**
Operating weight	kg lb	428 **943**	220 **485**

Liquid ballast in rear tires only recommended for stabilizing purposes in timber and pallet handling on hard and level ground.

TS-49112

STANDARD EQUIPMENT

AIR CLEANER, DRY TYPE, DUAL ELEMENT
ALTERNATOR, 24V, 45 AMP
ATTACHMENT BRACKET, HYDRAULIC
BATTERY DISCONNECT
BRAKES, 4-WHEEL HYDRAULIC, DRY DISC, DUAL CIRCUIT
BRAKE SYSTEM, SECONDARY
BUCKET LEVELER, AUTOMATIC WITH POSITION INDICATOR
CAB ACCESS STEPS & HANDRAILS (SAE J185)
CAB: ROPS (SAE J1040C) (ISO 3471)
FOPS (SAE J231) (ISO 3449)
- Acoustical Lining
- Ash Tray, Cigar Lighter
- Door, Lockable (Left Side Access)
- Electrical System: 24V. Prewired for Optional Accessories
- Environmental Control: Heater/Defroster/Pressurizer 11,6 kW (39,600 Btu/h) 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
- Storage Compartment
- Sun Visor
- Windshield Washer, Front & Rear
- Windshield Wiper, Front & Rear

COLD STARTING AIDS:
- Engine Intake Manifold, Thermostart

DIFFERENTIALS:
- TORQUE PROPORTIONING, FRONT & REAR

DRAWBAR WITH PIN
EXHAUST RAIN CAP (ELBOW TYPE)
FENDERS, FRONT & REAR
HYDRAULIC CONTROL FOR 3rd HYDRAULIC FUNCTION
HYDRAULIC CONTROL LEVER SAFETY LATCH
HYDRAULIC PRESSURE TEST PORTS, QUICK CONNECT
INSTRUMENTS/GAUGES, ILLUMINATED:
- Brake System Pressure Gauge
- Engine Coolant Temperature Gauge
- Fuel Gauge
- Hourmeter
- Transmission/Converter Fluid Temperature Gauge
- Sight Gauge, Hydraulic Fluid Level

ISOLATION MOUNTS:
- Cab, Engine, Transmission, Radiator

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
- Work Lights, Halogen (2-Front, 2-Rear)

MIRRORS, REARVIEW (2), EXTERIOR
MUFFLER, SPARK ARRESTING
NEUTRAL START FEATURE
SIDE PANELS, ENGINE HOOD
STEERING FRAME LOCK
TIRES: 15.5-25 (12PR) L-2
TRANSMISSION: MODULATED, WITH SINGLE LEVER CONTROL, AUTOMATIC POWERSHIFT, AND OPERATOR CONTROLLED DECLUTCH
VALVE, MAIN HYDRAULIC, THREE (3) SPOOL
VANDALISM LOCK, PROVISION FOR:
- Batteries, Engine Coolant, Engine Oil, Fuel, Hydraulic Fluid, Converter/Transmission Fluid

WARNING ALARMS:
- 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 Fluid Temperature
- Engine Intake Manifold, Thermostart
- High Beam Driving Lights
- Parking Brake Applied
- Transmission Clutch Pressure

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