



MINING TECHNOLOGIES  
INTERNATIONAL INC.

## PRINCIPAL FEATURES AND BENEFIT SUMMARY

### MODEL 125M

#### PERFORMANCE AND PRODUCTIVITY

FEATURE	BENEFIT
4,500 lb. rated capacity	1.25 yds. per trip
High net tractive effort	Better muckpile penetration
10,200 lb. breakout force	Fuller bucket in one pass
Variable displacement pumps	Faster cycle times
Optional transmission declutch	Faster dump cycle
Modulated transmission	Faster direction change
Long wheel base	Smoother ride, faster tram speed

#### MAINTENANCE AND SERVICEABILITY

FEATURE	BENEFIT
Clark 12D Series Axles	Improved life
Clark 18000 series transmission	Longer life
Clark 270 series torque convertor	Proven reliability
Enclosed wet disc brakes	Improved life
Tapered and sealed pins	Easier removal and service
Variable displacement pumps	Improved component life
Full flow pressure filtering	Improved component life
Custom hydraulic manifolds	Reduced hosing, easier servicing
ITT pin connectors	Easier servicing, better reliability

#### SAFETY AND ERGONOMICS

FEATURE	BENEFIT
Large operator compartment	Reduced operator fatigue
Pilot operated controls available	Ergonomic placement
Good visibility	Safe loading and tramming



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## 100M/125M LOAD HAUL DUMP

The MTI 100M is 48 inches wide and supplied with a 1.0 cubic yard capacity bucket and the 125M is 54 inches wide and supplied with a 1.25 cubic yard capacity bucket. The prices for both machines are the same. Buckets can be supplied either as standard or ejector type.

Through feedback from many of our longterm customers, we have incorporated the following features which enhance safety, reliability and serviceability.

- Load sensing, variable displacement hydraulic system.
- Full flow pressure filtering with clog indicator light on dash.
- Torque convertor/transmission powertrain.
- Totally enclosed wet disc brakes.
- Thru bolts on the oscillating cradle cap.
- Full hydraulic throttle used on all of our other production machines.
- New low profile operators canopy.
- Squareback rear frame with bolt in hydraulic tanks, enhances serviceability of engine and reinforced rear grill.
- Bolt-on heavy duty diamond plate rear hoods.
- Improved electrical systems with pin connector harness, water tight dash panel.
- Added operator seat back protection.
- CAD or CD generated manuals.

### POWERTRAIN

The all mechanical powertrain consists of the following:

- Clark 270 series torque convertor.
- Clark R18000 series modulated powershift transmission.
- Clark 12D series planetary drive axles.
- MTI wet disc service brakes mounted on each differential.

The MTI engineered **MECHANICAL** drive system provides the **RELIABILITY** that has not been available heretofore from hydrostatic drives.

## **BRAKING SYSTEMS**

The service brakes are wet disc with separate hydraulic systems for the front and rear axle. The disc brakes are non-assisted hydraulic systems which simplifies troubleshooting, servicing and minimizes spare parts inventory.

The service brakes are supplemented by a driveline disc brake which is spring-applied and hydraulically held off. The brake is automatically set should a potential mechanical failure take place, or it can be manually activated in the event of an emergency or parking requirement.

## **OPERATORS STATION**

We have enlarged the operator's compartment and yet have been able to maintain full protection for the operator within the confines of the machine. The operator is seated transversely for bi-directional travel, with the compartment being the full width of the machine.

## **TRUCK LOADING**

The 100M/125M has been designed for end loading our 704 truck. The long reach forward (from the front) wheels ensure maximum loading of the truck in minimum head room. Optional ejector type buckets are available.

## **MAINTENANCE CONSIDERATIONS**

These machines have been designed with overall concern for maintenance and maintenance personnel. The hydraulic valves and brake controls are mounted in a protective compartment immediately in front of the operator. This position provides ready accessibility for maintenance, yet is protected from damage. The positioning of these valves allows for the shortest length of hose possible to minimize hose wear and replacement costs.

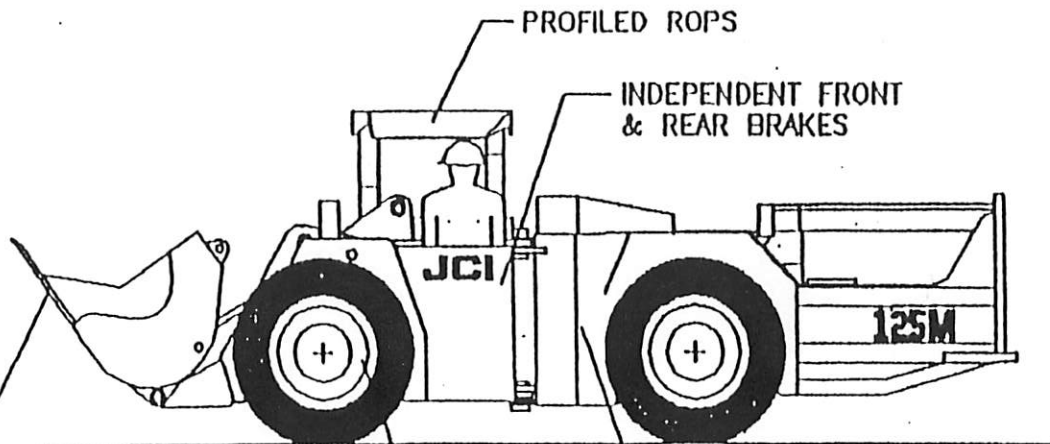
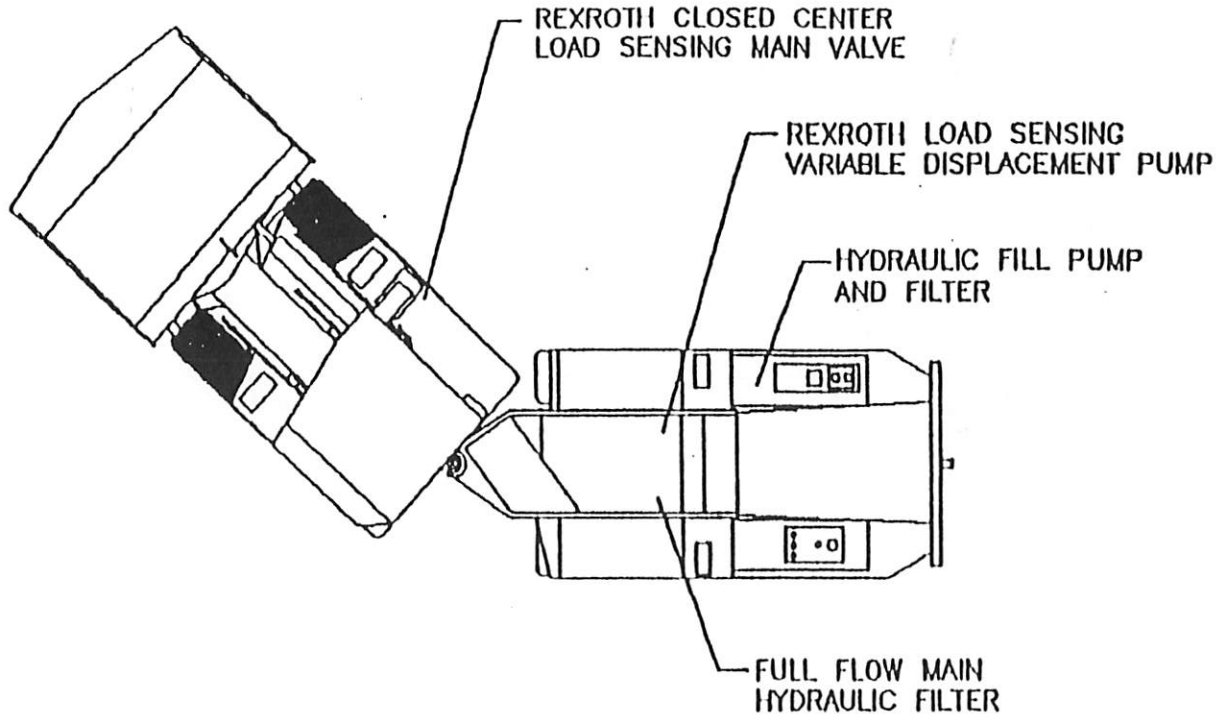
The totally enclosed wet disc service brakes are protected from the surrounding conditions and will require a minimum of maintenance.

## **NEW LOAD SENSING HYDRAULIC SYSTEM**

Perhaps our most important improvement is the complete redesign of our hydraulic system. We have replaced the older gear pump with a variable displacement pressure compensated axial piston pump. Through this improvement we have achieved:

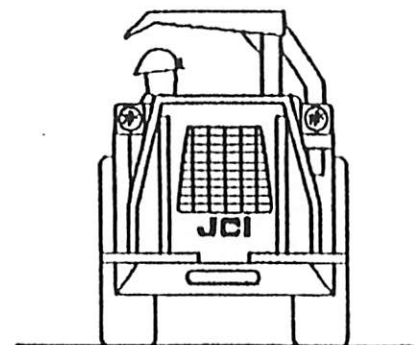
- Greater available horsepower through a load sensing system which activates the hydraulic pump only on demand and reduces diesel fuel consumption.
- Lower operating hydraulic temperatures.
- Higher pressure system and components (up to 3,000 psi) for tough conditions and greater reliability.
- Increased breakout force.
- Complete filtration system with 10 micron fill, full-flow return and pressure filters. This creates and maintains a CLEAN system which enhances the pump and component life. Electronic monitoring is standard to indicate clogging and required filter changes.
- Accumulator type emergency steering system now available.
- Easier to integrate with a Radio Remote Control Interface.

The above features will provide improved reliability at lower operating costs.



OPTIONAL WEAR  
PLATES AVAILABLE

TOTALLY ENCLOSED  
WET DISC BRAKES

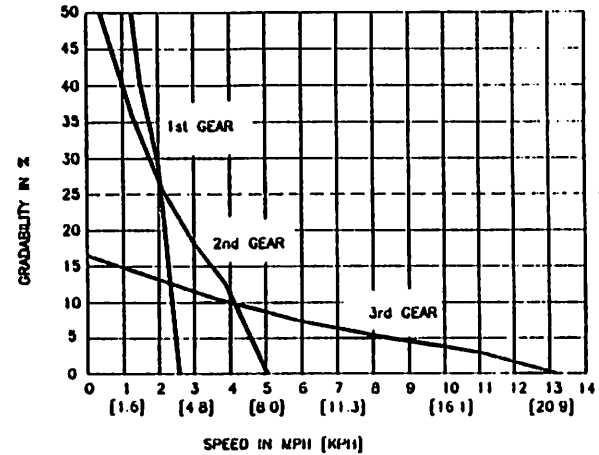
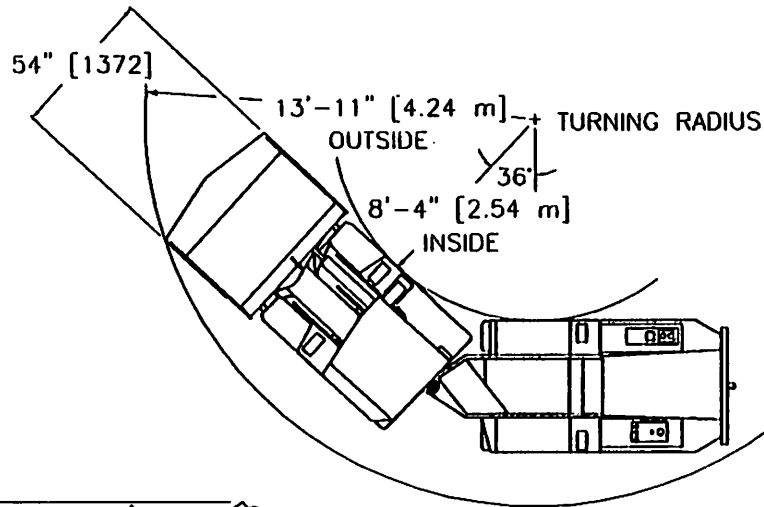


125M SQUARE BACK  
LOAD HAUL DUMP MACHINE

**JCI** John Clark Inc.  
Denver, Colorado USA

SCALE	DRAWN BY	CHECKED BY	DATE
DATE 8/21/82			
PART NO. 304106-A			

# JCI 125M LHD



**CAUTION**  
MAXIMUM RECOMMENDED  
GRADE IS 25%

### CAPACITIES AND PERFORMANCE

#### WEIGHT CAPACITIES

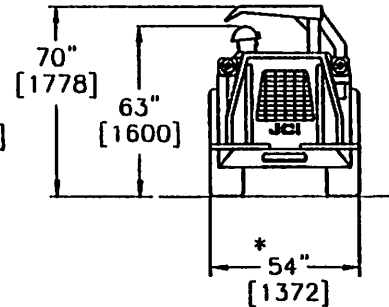
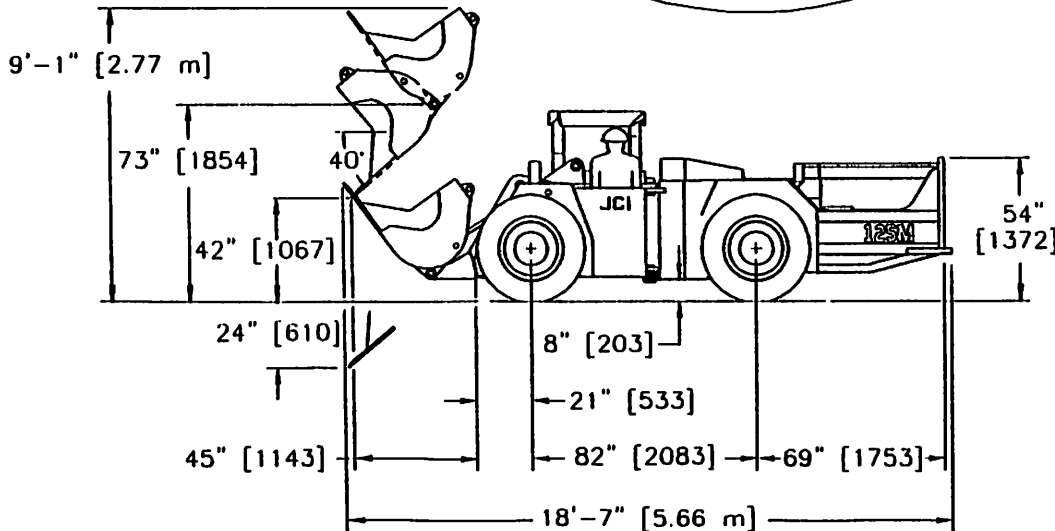
MACHINE WEIGHT UNLOADED	13,450 LBS (6,101 KG)
STATIC TIPPING LOAD, 0° ARTICULATION	12,000 LBS (5,455 KG)
BREAKOUT FORCE	10,200 LBS (4,627 KG)
TRAMMING CAPACITY	4,500 LBS (2,041 KG)

#### BUCKET CAPACITY (STD SAE RATING)

NOMINAL HEAPED	1.25 YD <sup>3</sup> (95 m <sup>3</sup> )
STRUCK	1 YD <sup>3</sup> (76 m <sup>3</sup> )
BOOM RAISE TIME	4.4 SECONDS
BOOM LOWER TIME	2.7 SECONDS
BUCKET DUMP TIME	3.4 SECONDS

#### VEHICLE SPEED LOADED-LEVEL PERFORMANCE

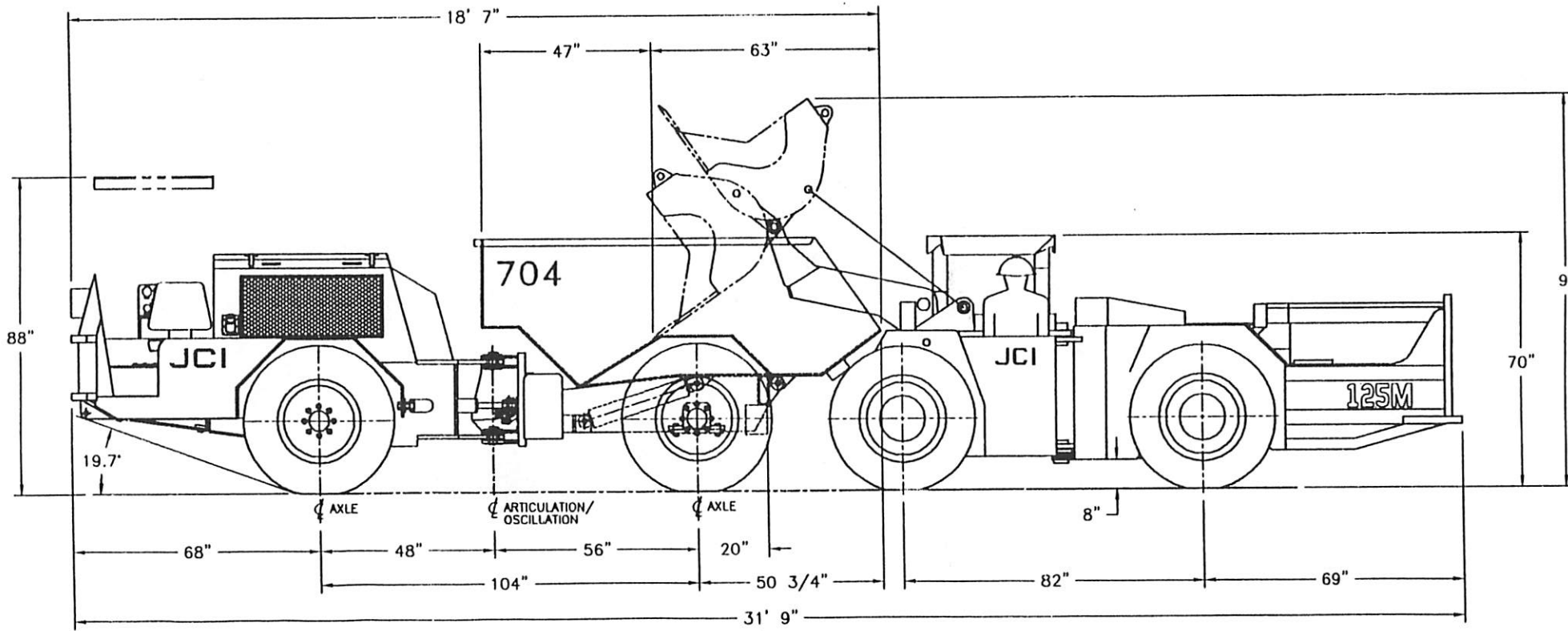
	1ST GEAR	2ND GEAR	3RD GEAR
MPH	2.5	4.8	12.6
KPH	4.0	7.7	20.3



\* OPTIONAL 48" [1219 mm] WIDTH UNIT  
DESIGNATED AS 100M.

[ ] METRIC DIMENSIONS IN MILLIMETERS OR METERS (m)  
OPTIONAL EQUIPMENT MAY CHANGE SOME DIMENSIONS

<b>125M SQUARE BACK LOAD HAUL DUMP MACHINE</b>			
<b>JCI</b>		John Clark Inc. Denver, Colorado USA	
SCALE -	CHECKED BY	DRAWN BY RL	
DATE 4/22/95			
SIZE		DRAWING NO. 304034-B	

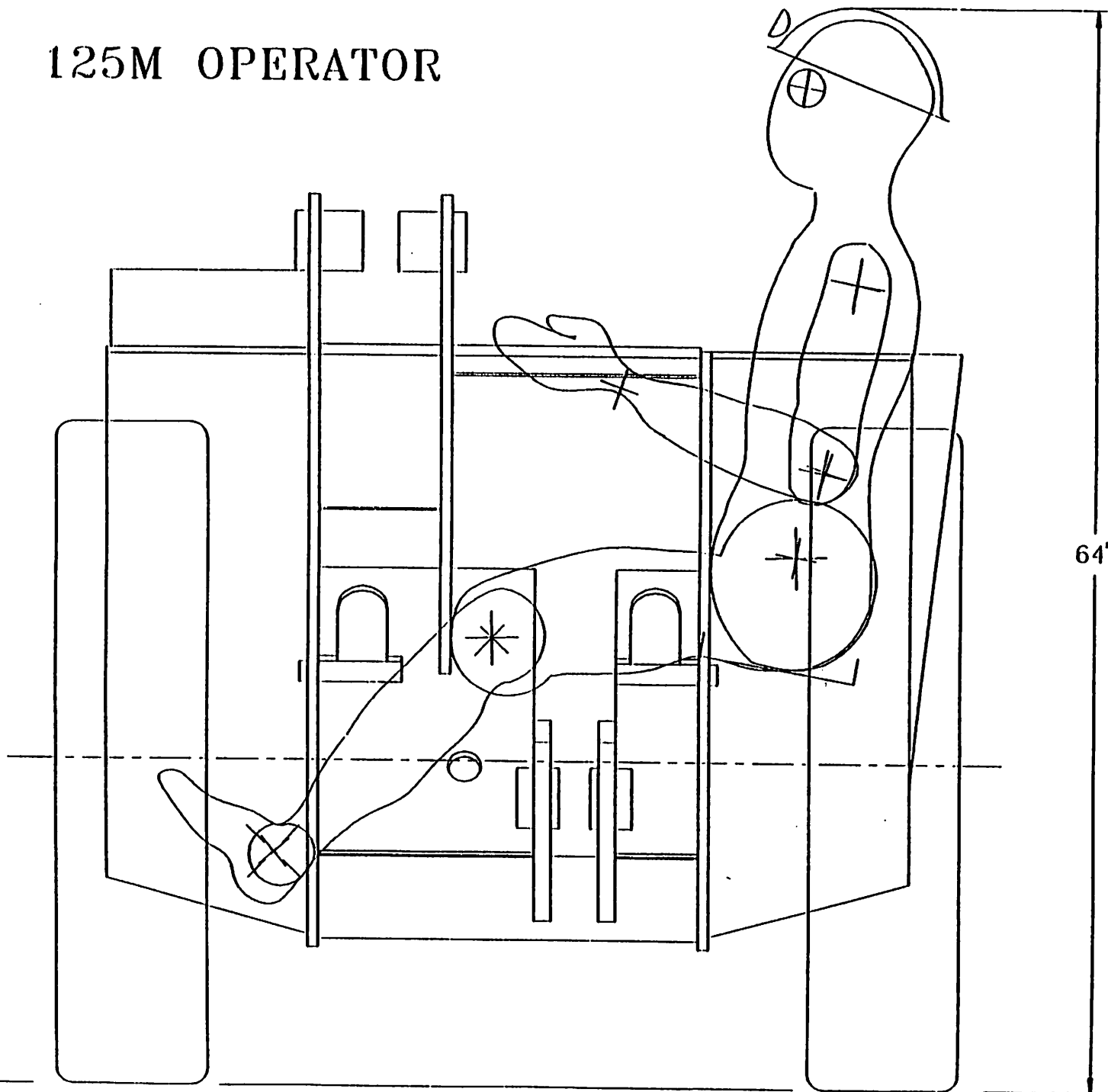


END LOADING  
 JCI 704 END DUMP TRUCK  
 JCI 125M LHD

**JCI** John Clark Inc.  
 Denver, Colorado USA

SCALE	CHECKED BY	DRAWN BY
DATE		
SIZE	DRAWING NO. 304109-B	

# 125M OPERATOR





## MACHINE SPECIFICATIONS MODEL 125M

### Performance Specifications

Rated load capacity	4,500 LBS. (2045 KG)
Standard Bucket Capacity	
Semi nominal heaped	1.25 yd <sup>3</sup> (.96M <sup>3</sup> )
Struck	1.0 yd <sup>3</sup> (.77M <sup>3</sup> )
Static Tipping Load, 0° articulation	12,000 LBS. (5,455 KG)
Maximum Breakout Force (bucket rollback)	10,200 LBS. (4,627 KG)
Speeds	See Performance Curve
Boom Raise Time	4.4 Seconds
Boom Lower Time	2.7 Seconds
Bucket Rollback Time	2.9 Seconds
Bucket Dump Time	3.4 Seconds
Operating weight empty	13,450 LBS. (6,101 KG)

### Engine (standard)

Make/Model	Deutz F4L-912W
Configuration/Cooling	Inline 4 cylinder/air cooled
HP-Mine service rating	55 HP @ 2300 RPM
MSHA ventilation requirements	5,000 CFM
MSHA Certification	24D 101-0

### Torque Converter

Clark C-270 series heavy duty industrial type, single stage.

### Transmission

Clark R18,000 series full power shift with 4 speeds forward and reverse, and forward-reverse clutch modulation.

## **Axles**

Front and rear - Clark series 12D, with spiral bevel differential, full floating axles, wheel axles, wheel end planetaries, and no-spin differential.

Overall reduction ratio 25.144:1

## **Wheels and Tires**

Demountable rims, tube type, nylon, hard rock, wide lug, deep tread, with underground mine service compound. (L3 specification)

Tire size	9:00 x 20, 12 ply rating
Optional	9:50 x 20, 20 ply rating

## **Brakes**

Service -- Pedal actuated hydraulic wet disc brakes, with dual master cylinders operating independent front and rear axle systems. Brake discs are driven by 3rd member input pinion shafts.

Parking -- Single, spring applied, hydraulically released dry disc brake caliper, operating on front axle pinion shaft brake disc.

## **Steering**

Hydraulic power stick steering for bi-directional operation. Machine is center articulated, with 2 hardened steel center pins and self aligning ball bushings.

Turning angle -- 36° each direction; total of 72°

## **Oscillation**

Rear axle oscillation +/- 5° (total 10°). Axle cradle pivots on heavy duty 5" (127mm) dia. bronze bushings and thrust washers, allowing a total wheel movement of 3" up or down, 6" total.

## **Hydraulic System**

Cylinders,	double acting with chrome plated piston rods, base and rod diameter.
(1) Steering	4"/2" (102mm/51mm)
(1) Hoist	6"/3" (152.4mm/76mm)

(1) Dump	5"/2.5" (127mm/63.5mm)
Pump rated @ 2300 RPM	Variable displacement axial piston type with load sensing.
Main pump	25.1 GPM @2200 PSIG (89.4) LPM @ 137.9 BAR)
Main valve	Sectional closed centre type with load sensing capabilities.
Pressure & Return Filters	10 micron absolute rating, electric clog indicator, 87 PSID bypass on pressure filter, 15 PSID bypass on return filter.
Reservoir Capacity	24 US Gallons (91 L)

### **Electrical System**

12 VDC starting, instrumentation, and lighting. Single 30H group size 12 volt battery, with 580 cold cranking amps. Alternator is 75 amp capacity.

### **Fluid Capacities**

Fuel tank	24 Gal. U.S. (91 L)
Engine crankcase, less filter	2.5 Gal. U.S. (9.5 L)
Transmission and torque convertor	4.9 Gal. U.S. (18.6 L)
Front & rear axles - center section	2 Gal. U.S. (7.6 L)
Front & rear axles - Planetaries, ea.	1.0 Gal. U.S. (3.8 L)

### **Operator Arrangement**

Side seating for maximum visibility and bi-directional operation

### **Component Breakdown**

Bucket	48" x 40" (1219mm x 1016mm)
Boom	20" x 42" ( 508mm x 1067mm)
Front frame, w/fenders	44" x 48" (1118mm x 1219mm)
Rear frame, w/fenders	47" x 48" (1194mm x 1219mm)
Axles	21" x 19" ( 533mm x 483mm)
Wheels, and tires	11" x 42" ( 279mm x 1067mm)

This machine is designed to break down to go through a 4' x 4' (1.2M x 1.2M) opening without cutting or welding being required.

### **Standard Equipment**

Independent front axle/rear axle service brakes system

Spring applied, hydraulically released park brake

Monostick bucket and boom controls

Bearing mounted center pin type steering

Hydraulic stick steering control

12 VDC work lights - 2 front, 2 rear

12 VDC electric starting system

Heavy duty marine type alternator

Master battery disconnect switch

Donaldson dry type air cleaner

Engine oil pan protection

Catalytic exhaust conditioner

Heavy duty seat belt

Hydraulic fill filter

Foam padded seat, side mounted

9:00 x 20 L5 spec tires

125 DBA horn

Audio visual alarm system

Dash panel with instrumentation/controls as follows:

Transmission clutch pressure gauge

Transmission oil temperature gauge

Engine hourmeter

Light switch, front

Light switch, rear

Emergency/park brake apply switch

Park brake indicator lights

Park brake reset button

Horn push button

Power on key switch

Starter push button

Engine oil pressure gauge

Engine temperature gauge

Alarm system override button

Glow plug preheat push button

Glow plug indicator

Transmission shift control

Hydraulic fluid level indicator

Filter clog indicator

Engine shutdown cable control

Accumulator pressure gauge  
Transmission oil cooler  
Articulation safety lock arm  
Heavy duty 1 yard (100m) or 1.25 yard (125m) standard bucket

### **Optional Equipment**

Altitude compensated F4L-912W engine  
Sound suppression package  
Fire extinguisher - 10 lb. mounted  
Bumpers and rub rails  
Caliper dry disc service brakes  
Operator lap belt with dual shoulder harness  
Operator compartment canopy  
Ejector Bucket  
Optional Tires  
Spare tire and wheel  
Automated lubrication  
Centralized lubrication  
Fire suppression system  
Audio/visual back-up alarms  
Emergency electric powered steering system  
Fire retardant hydraulic fluid compatible system  
Radio remote control with interface only  
Radio remote control package, complete with transmitter and receiver  
Modified rear frame  
Operator roll bar  
Quick attach coupling system

The manufacturer reserves the right to change specifications and/or design of this machine at any time without notice.