



# WJ-4(L-10) Underground Mining Loader

WJ-4(L-10) underground mining loader is suitable for 4.1×4.1m mine tunnel. It is highly intelligent, safe and reliable to use, which has good overall machine stability and can greatly improve mine productivity and profitability.

The whole working mechanism adopts Z-Link, which has strong shoveling force and unloading height of up to 2286mm, which meets the requirements of loading trucks below 40Ton in underground mining process;

L-10 is equipped with a split rear frame for easy disassembly and maintenance. The working oil tank is separated from the brake oil tank, which effectively reduces mutual contamination between hydraulic oils, and improves the stability of the machine.



## MAIN SPECIFICATIONS

Tramming capacity	10 000 kg
Max.Break out force	187KN
Max. Tractive force	223KN
Standard bucket	4.0m <sup>3</sup>
Size	9642x2563x2383(mm)

## SPEEDS FORWARD & REVERSE (VOLVO TAD1150 VE )

1st gear	4.6km/h
2nd gear	9.6km/h
3rd gear	16.1km/h
4th gear	27.2km/h

## BUCKET MOTION TIMES

Raising time	7.5 sec
Lowering time	4.0 sec
Dumping time	2.2 sec

## OPERATING WEIGHTS \*

Total operating weight	27500kg
Front axle	12500 kg
Rear axle	15000 kg

## LOADED WEIGHTS \*

Total loaded weight	37500 kg
Front axle	24500 kg
Rear axle	13000 kg

\* Unit weight is dependent on the selected options

### OPERATIONAL CONDITIONS AND LIMITS

Environmental temperature	-15 °C~+45 °C
Standard altitude	operating With engine Volvo TAD1150VE from -1500 m to +3000 m at 25 °C without rated power derate

### REQUIREMENTS AND COMPLIANCE

JB/T5500 Underground Mining Loader
JB/T5501 Underground Mining Loader Test Method
JB 8518 Underground Mining Loader Safety Requirement
GB25518 Underground Mining Loader Safety Requirement
XY13.1-2013 Underground Mining Loader Company Standard

### POWER TRAIN

#### ENGINE

Diesel engine	Volvo TAD1150VE
Output	235 kW @2100rpm
Torque	1581Nm @ 1260rpm
Number of cylinders	In-line 6
Displacement	10.84 L
Cooling system	Water-cooled engine
Combustion principle	4-stroke, direct injection, turbo with intercooler
Air filtration	Pre-filtration+two stage filtration, dry type
Control System	Fuel electronically controlled injection system
Electric system	24 V
Emissions	Euro Stage III Certificate Number 96R-032941H
Exhaust system	DOC+POC+ Silencer
Average fuel consumption at 50% load	23.5L/h
Fuel tank capacity	320L

#### CONVERTER

Dana C5502 Convertor
----------------------

#### TRANSMISSION

Dana R36420 TRANSMISSION	Electric control shifting Integrated control of shift operation and steering handle Forward and backward each with four gears
--------------------------	---

### AXLES

Front axle spring applied hydraulic brakes Fixed	operated Kessler D101 Limited differential	slip
Rear axle spring applied hydraulic brakes Self-oscillation frame, Oscillating ±8 °	operated Kessler D101 Limited differential	slip

### TIRES

Tire size	18.00-25 L-5S 32ply
-----------	---------------------

### HYDRAULICS

Door interlock for brakes,	Standard
Hydraulic oil radiator Transmission oil radiator	Capability up to 45 °C ambient temperature
Connector standard	JIC Standard
Hoses	GB3683
Working Hydraulic oil tank capacity	≤250L

### STEERING HYDRAULICS

Full hydraulic, centre-point articulation, power steering with two double acting cylinders.	Hydraulic pilot + electronic shifting integrated joystick
Steering main valve	Load sensing multi-way valve Center closed core type
Steering hydraulic cylinders	2 pcs
Steering pump	Piston variable pump

### BUCKET HYDRAULICS

The oil flow from Steering hydraulic pump is directed to Bucket hydraulics when steering is not used.	Hydraulic Pilot control
Boom system	Z-LINK
Lift cylinders	2 pcs
Tipping bucket cylinder	1 pc
Main valve	Load sensing multi-way valve Center closed core type
Pump for bucket hydraulics	Plunger variable pump

### BRAKES

Service brakes are spring applied; hydraulically operated multidisc wet brakes on all wheels. Integrate service brake, park brake and emergency brake in a whole system. Two independent circuits: one for the front and one for the rear axle. Brake system performance complies with requirements of EN ISO 3450, AS2958.1 and SABS 1589

Automatic brake activation system, ABA	Standard
Electrically driven emergency brake release pump	Standard
Brake oil tank capacity	≤80L

### OPERATOR'S COMPARTMENT

L-10 cab provides superior ergonomic operating space to reduce operator fatigue by increasing legroom and improving pedal position. The front part of the pedal protrudes outward, and the upper front part and the left and right sides protrude outward to make the cab space larger.

The cab has passed ROPS/FOPS certification to protect operator safety. The cab interior is affixed with 25mm flame-retardant and noise-reducing interior fabric, which is not only beautiful and comfortable inside, but also effective in dust prevention and noise reduction. It is equipped with a laminated glass window and is installed with a four-port sealing strip to remove the glass inside and outside for emergency escape in the event of a dangerous situation. The cab and frame mounts are secured with rubber bumpers to reduce cab vibration.

### CABIN

ROPS certification according to ISO 3471
FOPS certification according to ISO 3449
Enclosed Cabin with Air Conditioner(optional)
Flame resistance and Sound absorbent material to reduce noise (enclosed cab)
Laminated glass windows (enclosed cab)
Air conditioner and cab installed separately
Adjustable joysticks and arm rest
Emergency exit
Floor washable with water to reduce dust
Three-point contact access system to cabin
12V/24V output
Master circuit breaker switch

### DASHBOARD AND DISPLAYS

Configure the IFM 7-inch color display, display the vehicle's status information and fault alarm information on a large display, and configure the corresponding sound and light alarm on the panel to give the operator more time to look at the road.

Emergency stop brake button
Sound and light fault alarm
Full-featured rocker switch
Parking brake button
Key switch



### OPERATOR'S SEAT

The cabin is fitted with an adjustable mechanical suspension seat with four-point seat belt. The seat can be adjusted back and forth, up and down. New softer padded arm rests and adjustable joysticks can be configured either fixed on the cabin door or on the cabin right side wall

Height adjustment
Adjustment according to the operator's weight
Adjustable arm rests
Adjustable back support
Three-point seat belt

### FRAME

#### REAR AND FRONT FRAME

A new heavy duty rear frame with added weight in the rear of the loader balances the machine perfectly when lifting and pushing into the muck pile. Heavy duty rear frame and mask with integrated reaction bars minimizes damage from wall impacts.

High strength structure with optimized material thicknesses and reduced own weight contribute to higher overall hauling capacity and long structural lifetime.

Welded steel box structures used in the frame and boom provide strong resistance to shock loads and are optimized to reduce stresses and extend frame lifetime

Central hinge	Adjustable bearing
Tanks	Welded to the frame
Boom system	Z-LINK

## ELECTRICAL EQUIPMENT

### MAIN COMPONENTS

Alternator	28 V,110A
Batteries	2×12 V, 120Ah
Starter	24V/5.5KW
Driving and working lights	LED lights 1PC under boom 4PCS on boom 4PCS in Cabin 4PCS in rear frame
Sensors	Hydraulic oil level/oil temperature sensor, diesel level sensor, working, steering, brake system pressure sensor
Alarm	Low oil level warning/ Oil pressure warning Rotation Warning Lamp
Control system	Programmable Controllers Built-in diagnostic and alarm system
horn configuration	Standard
Red and green indicator lights	4PCS in front and rear frame

### INCLUDED SAFETY FEATURES

#### FIRE SAFETY

Portable fire extinguisher	8kg 1PCS
Hot side - cold side design	Standard
Isolation of combustibles and ignition sources	Standard
Heat insulation on exhaust manifold	Standard
Cover on turbo	Standard
Cooling fan shield	Standard

#### ENERGY ISOLATION

Lockable main switch	Standard
Starter isolator	Standard
Emergency stop push buttons	2 pcs rear frame/1 pc cabin
Pressure release in the expansion tank cap	Standard
Manual discharge for pressure accumulators	Standard
Frame articulation locking device	Standard
Mechanical boom locking device	Standard

## DOCUMENTATION

### STANDARD MANUALS

Operator's Manual	English
Maintenance Manual	English
Parts Manual	English
Service and Repair Manual	English
Decals	English

### OPTIONS

#### SAFETY OPTIONS

In-line remote control system
Brake release function tow hook
Ansul manual fire extinguishing system and automatic shutdown
Emergency steering
Tele remote control system

#### ELECTRICAL OPTIONS

Imaging system
----------------

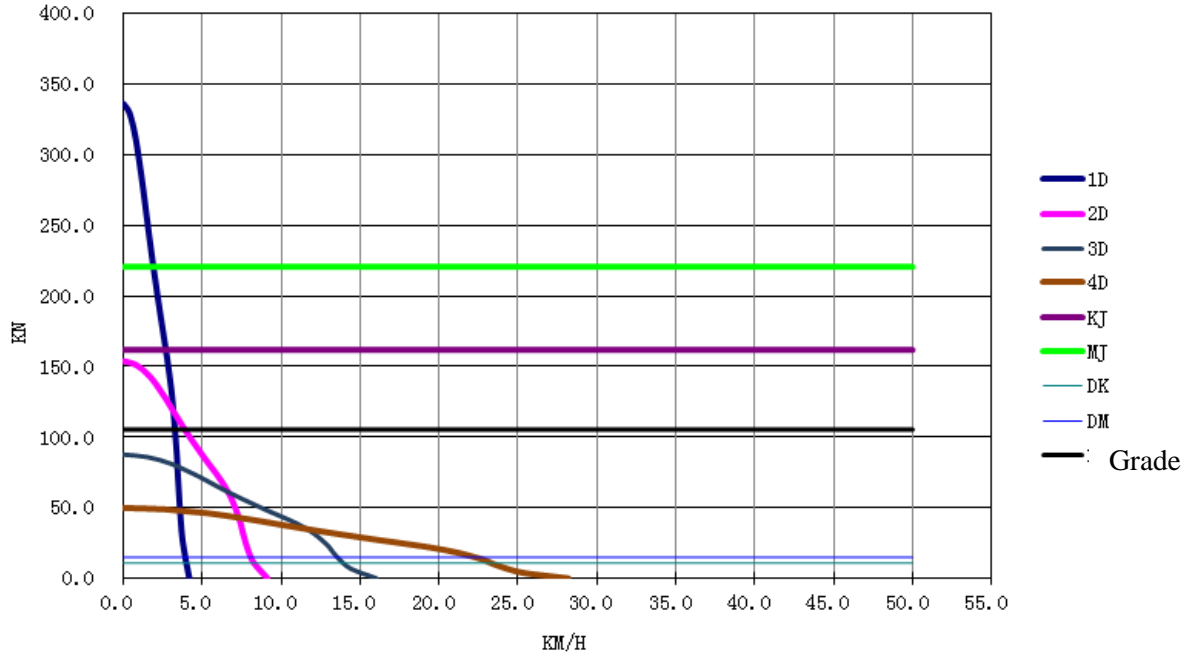
#### OTHER OPTIONS

Additional cabin heater element for air conditioning
Customized Bucket Capacity
Wiggins quick filling set for fuel, coolant and oils (hydraulic, engine and transmission)

## GRADE PERFORMANCE

Volvo TAD1150VE, Euro Stage III emissions (3 % rolling resistance)

### EMPTY AND LOADED SPEED



1D, 2D, 3D, 4D: Gear Positions;

KJ is the static friction force at empty load, and MJ is the static friction force at full load;

DK is the dynamic friction force at empty load, and DM is the dynamic friction force at full load;





