

WJ-3 UG PRODUCTION LOADER

WJ-3 UG production loader is one of the main machinery for underground mining, which is used to underground transportation;

WJ-3 UG production loader has the following technical features:

- TCD6.1 L6 (EU5 emission standard) water-cooled turbo-charging low pollution DEUTZ engine, with CANADA CEP catalytic oxidation exhaust purifying device, and electric start-up.
- America DANA C273 hydraulic torque convertor, R32000 power shift transmission, and Kessler D91 or DANA 16D series drive axles;
- 4WD and mining cut-resistance tires to obtain big drive force and grade-ability, which makes the machine adapts for extreme working conditions.
- Spring braking, hydraulic release and sealed wet multi-discs brakes, maintenance free, which assures the safety; once the driver leaves the loader, the loader will be automatically braked.
- Central articulated frame can supply small turning radius.
- All hydraulic power steering with pilot valve, which allows easy operation.
- Z-shape frame can achieve big shoveling force.

To assure the operators and the equipment safety, the operation and maintenance regulation should be strictly following this operator's manual.

Safety And Warnings

- Only after professional training can the operator drive the machine, and the operator should wear safety helmet, bring rescue device and mining lamp.
- Underground wheel loader should be maintained periodically; any potential failure found should be handled right away;
- The loader should not be given any maintenance while the engine is running;
- The boom should be chucked to stabilize the boom when the engineer is making maintenance under the boom;
- When the engineer is giving maintenance to the hydraulic system, the hydraulic pressure should be released in advance;
- The exhaust should be inspected periodically; it is strongly suggest that the air flow, hazard air and smoke be checked each month. If the air standard cannot meet the requirement, then measurements must be taken to improve the ventilation.
- When the loader is at the maximum steering angle, or the boom is at the biggest reach position, or the loader is fully loaded, the operation should be cautious with roll over risk;
- The loader should be hoisted according to the hoisting label.

1. Machine working environment

- 1) WJ-3 is suitable for tunnel section above 2.5m×3.5m (W×H) , the tunnel should have efficient ventilation, drainage, roof support, and slope no more than 25% ;
- 2) Tunnel temperature range :-5°C ~ +40°C, humidity no more than 90% at 25°C;

- 3) Altitude no more than 1000m;
- 4) Sulfur content in diesel no more than 0.2%;
- 5) None CH4, CO, coal dust and other explosive material inside the working conditions;

2. Technical specifications

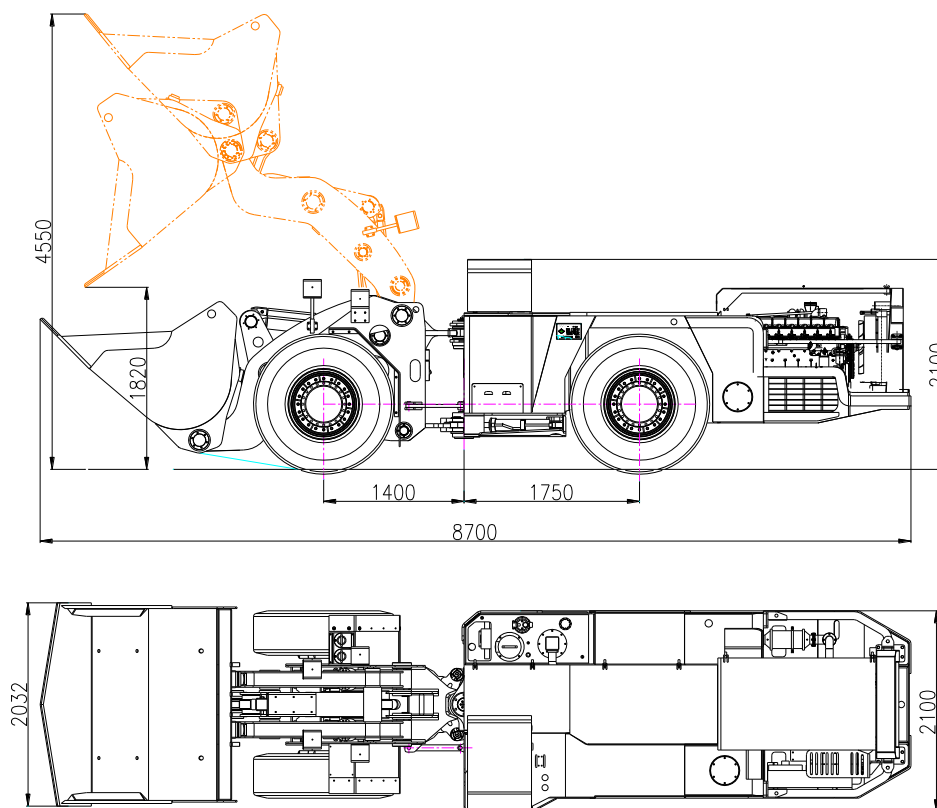


Figure 1 Overall size of loader

2.1. WJ-3 specifications

- Bucket Volume: 3~3.5 m³
- Rated loading capacity: 6500±500 kg
- Max. traction force ≥120 kN
- Max. shovel force: ≥100 kN
- Max. hoisting height: 4550±100 mm

- Working device Load, Haul,dumping time: < 25 s
- Travelling speed (Forward+Reverse):
 - 1st Gear 5±0.5 km/h
 - 2nd Gear 9.5±1 km/h
 - 3rd Gear 15±1.5 km/h
 - 4th Gear 22±2 km/h
- Max. Grade ability: ≥16 °(Fully load)
- Min. turning radius: Outer ≤6500 mm
- Articulated frame swinging angle: (±7 ~ ±10) °
- Steering angle: ±40 °
- Max. off load angle: 42 °
- Max. off load height: ≥1500 mm
- Min. off load distance: ≥880 mm
- Ground clearance: ≥280 mm
- Transport size (L×W×H): (8700±250)×(2150±50)×(2230±50) mm
- Machine weight: 19200 KGS

2.2. Engine

- Model: TCD6.1 L6 EU5 emission standard Deutz engine
- Rated power installed: 160 kW@2300 r/min
- Max. torque output: 1000 N·m@1600 r/min
- Start-up method: Electric starter
- Exhaust purifying: Catalyst purifier

2.3. Transmission

- Torque converter: DANA C273
- Transmission : DANA 32000
- Drive axle: Kessler D91 NO-SPIN or DANA 16D
- Tires: 17.5-25 20PR L-5S

2.4. Steering

- All hydraulic pilot power steering
- Steering cylinder DIA ϕ 100 mm
- Steering pump PARKER
Displacement 40.35 ml/r
- Steering hydraulic pressure 20.5 MPa
- Pilot hydraulic pressure 2.5 MPa

2.5. Working hydraulics

- All hydraulic pilot valve controlling bucket functions
- Tilting cylinder DIA ϕ 200
- Hoisting cylinder DIA ϕ 160
- Working pump Parker
Displacement 40.35 ml/r+40.35 ml/r
- Working hydraulic pressure rating 20.5 MPa
- Pilot valve pressure rating 2.5 MPa

2.6. Brakes

2.6.1. Travelling brake

- Wheel side POSI-STOP brakes with spring brakes and hydraulic release
- Brake pump Diesel engine equipped
- Displacement 11 ml/r

2.6.2. parking brake & Emergency brake

- Parking brake, emergency brake similar to travelling brake, controlled with the brake button inside the cabin.

2.7. Electrics

- System voltage: 24V DC
- Starter motor voltage/power: 24 V / 4 kW
- Travelling lamp Front lamp 24 V DC 70W ×2
Rear lamp 24 V DC 70W ×2
- Working lamp LED lamp 24 V DC 12W ×2

2.8. Lubrication

- LINCOLN lubrication system (Optional) Manual
- Automatic lubrication system (Optional) Automatic

2.9. Cabin and other components

- Seat SC2-6
- Speed shift LJ101 soft shaft control
- Direction LJ101 soft shaft control
- Throttle footage pedal Williams power control

2.10. Oil volume in the system

- Hydraulic oil: 330 L

- Diesel: 120 L
- Transmission: 25 L
- Drive axle main drive: 29.8 L×2
- Drive axle wheel side differential: 4.7 L×4

3. Picture for reference



