WHEEL LOADER | 427/437

427 – Operating weight: 13.1-16.5t Gross engine power: 133kW (179hp) Full turn tipping load: 8603kg Standard shovel capacity: 2.4m³

437 – Operating weight: 14.5-17.8t Gross engine power: 136kW (183hp) Full turn tipping load: 9605kg Standard shovel capacity: 2.7m³
WE KNOW THAT A WHEEL LOADER IS A KEY PART OF THE ON-SITE PROCESS. THAT’S WHY THE JCB 427 AND 437 ARE BUILT ON A FOUNDATION OF QUALITY AND RELIABILITY. THE PROCESSES WE’VE USED THROUGH DESIGN AND MANUFACTURE WILL SAFEGUARD YOUR WORKING PROCESS, HOUR AFTER HOUR, DAY AFTER DAY.

Designed to work hard.

1. Finite element analysis, as well as extensive endurance and rig testing ensure superior structural strength and durability. Cold cell testing guarantees starting performance down to -20°C.

2. The new front chassis is more durable than ever; it’s been strengthened with additional ribs and gussets for maximum service life. Precision machining provides high tolerances and accurate location of pins and bushes.

3. The JCB 427 and 437 can be specified for heavy-duty applications like waste or corrosive material handling.

A QUALITY PROCESS.

We use state-of-the-art manufacturing processes like robot machining, precision paint technology and innovative assembly techniques to achieve the very highest levels of quality.
Protecting ancillaries.

- A solid cast rear counterweight protects the rear of the machine – including the rear lights and cooling pack – from damage.

You can opt for additional guards on the front screen, lights, underbelly and rear grille.

For additional protection, there are impact-resistant fender edges and trims fitted.

Well articulated.

- Hoses are neatly routed and clamped through the articulation joint, well away from any pinch points.

- Designed to tolerate both vertical and horizontal loadings, the articulation joint has a heavy-duty centre pin and oversized bush, as well as twin taper roller bearings on the top box joints.

These machines have integral steel fluid tanks for the ultimate in leak protection; a far superior solution to the plastic tanks favoured by some competitors.
THE 427 AND 437 CAN PERFORM GREAT FEATS OF PRODUCTIVITY. WITH HIGH POWER AND TORQUE, BOTH MACHINES MEET TIER 4 FINAL/STAGE IV EMISSIONS LEGISLATION WITHOUT NEEDING A DPF WHICH ELIMINATES THE NEED FOR PERIODIC REGENERATION.

**Drivetrain performance.**

1. The Cummins QSB 6.7-litre engine achieves maximum engine power (133kW in the 427, 136kW in the 437) and peak torque (841Nm) at low revs for excellent response.

A variable geometry turbocharger provides increased performance at low engine speed for improved cycle times and tractive effort.

**Loading productivity.**

2. JCB's optional quickhitch makes attachment changing quick and efficient. The quickhitch is designed to be compatible with aftermarket attachments too.

3. Powerful twin variable displacement piston pump hydraulics can circulate a massive 252 l/min for fast cycles and excellent multi-function capability.

There’s no need to worry about wasting time and money replacing a diesel particulate filter (DPF) on your loader; its Cummins engine meets Tier 4 Final/Stage IV legislation using only exhaust gas recirculation (EGR), selective catalytic reduction (SCR) and diesel oxidation catalyst (DOC). This setup also improves fuel economy.
Loading productivity (continued).

4 You can choose your ideal loader arm on a 427 and 437, with Z-bar linkage (ZX) for high breakout applications or high torque (HT) for parallel lift and multi-attachment use.

Choose a HT high lift on the 427 or 437, or HT super high lift on the 437 and you can use the machine for higher loading height applications.

Drivetrain productivity.

5 The 427 and 437’s optional 5-speed transmission with torque converter lock-up provides closer ratios for better acceleration, hill climbing and roading performance. The lock-up element eliminates losses from the torque converter for faster cycle times and improved efficiency.

With a range of axle options, you can tailor performance to any application.

› Standard differentials are ideal for hard standing ground conditions.
› Limited slip differentials is perfect for soft, muddy terrain with reduced traction.
› Open differential with an automatic locking front axle differential provide excellent traction in varied ground conditions.
EFFICIENT BY DESIGN.

THE JCB 427 AND 437 ARE DESIGNED TO MOVE MORE MATERIAL FOR LESS. TO ACHIEVE THIS, WE’VE DESIGNED THE ENGINE, AXLES, DRIVELINE AND HYDRAULICS TO WORK IN HARMONY WITH EACH OTHER, FOR ULTIMATE EFFICIENCY AND DURABILITY.

An efficient engine.

1. A hydraulic cooling fan automatically reacts to ambient temperature and adjusts the fan speed to optimise energy and reduce fuel consumption. An additional benefit of this setup is reduced noise levels.

2. Eco Mode caps engine speed at 1800rpm for reduced fuel consumption. Productivity nonetheless remains formidable.

3. Our torque lock-up 5 speed transmission gives you up to 100% efficiency in gears 2 to 5 for improved fuel consumption. Closer gear ratios provide lower engine speed in each gear.

Automatic idle returns the engine to 700rpm after 30 seconds of inactivity.
An efficient engine (continued).

1. Wheel speed braking means the brakes rotate at the same speed as the wheels for heat and drag reduction, as well as improved fuel economy and access for maintenance and repairs.

2. Unloaded spool valves in the valve block mean that arms lower under gravitational, not hydraulic force, reducing fuel consumption.

3. JCB’s innovative variable displacement pumps feed a load-sensing valve block which only consumes power on demand, providing precise, efficient loader control.

4. No DPF means unnecessary additional fuel piping is eliminated as is the potentially dangerous temperatures involved in regeneration. The fuel that would have been needed to restore your DPF can be used instead for actual productive work.

COMMANDPLUS controls.

JCB Smoothride load suspension limits shock loadings and therefore reduces material spillage and structural stress, as well as increasing operator comfort. The speed of engagement is adjustable from within the cab using the latest state-of-the-art CommandPlus controls.
THE LATEST JCB 427 AND 437 WHEEL LOADERS BOAST OUR ALL-NEW COMMAND PLUS CAB. THIS UNIQUE APPROACH TO ERGONOMICS IS THE RESULT OF A RADICAL RETHINK AND A RIGOROUS RESEARCH PROGRAMME. EXPECT BEST-IN-CLASS COMFORT, VISIBILITY, ERGONOMICS AND QUIETNESS.

See the difference.

1. You’ll immediately notice the totally redesigned ROPS structure; this has allowed the A pillars to be moved to the same width as the rear of the cab, providing a larger interior with a superb panoramic front windscreen. All switches and auxiliary controls are now located on the right-hand A-pillar for easier access.

2. Using your machine’s simple, dedicated menu interface is easily done with an intuitive optional rotary controller.

3. Operating your 427 or 437 loader is now easier than ever. All of the controls are seat-mounted, even going as far as to move with the seat suspension. You can also select the control system that’s best for your operators: choose from single lever joystick or multi-lever configurations, all using electro-hydraulics for the ultimate in precision.

4. There are two full colour LCD screens to navigate the operating menus, one of which doubles as a monitor for the optional rear-view camera and CommandPlus control menu.
To keep the operator environment comfortable for working at all times, we’ve positively pressurised the cab to eliminate dust and fumes.

After extensive research into operator ergonomics, we’ve devised the Command Driving Position, which boasts the very optimal control layout for a multitude of different driver shapes and sizes available, ranging from an air suspension standard seat to a super deluxe half leather seat, featuring fully adjustable heating and cooling functionality, electrically adjustable lumbar support and adjustable dampers.

A set and forget feature makes operator access even easier. In short, your preferred steering wheel position is stored and can be instantly returned to, even after you’ve folded the wheel away.

Specify your 427 or 437 with either air conditioning or automatic climate control to create perfect working temperatures.

With a dedicated media port on board, you can be assured of superb connectivity for all your electronic devices.

A sliding window on both sides of the cab allows easy communication with people outside the machine.

The electronic handbrake offers numerous advantages: it’s quick and easy to operate, and, because there’s no cable, there are fewer holes in the cab. This helps to isolate the operator environment further.

The noise level in the cab is an incredibly low 68dB(a); so quiet you can hardly hear the engine running.
LOW MAINTENANCE LONG INTERVALS.

WHEEL LOADERS NEED TO SPEND THE MAXIMUM AMOUNT OF TIME HARD AT WORK. WE’VE DESIGNED THE 427 AND 437 TO DO JUST THAT, WITH LONG SERVICE INTERVALS AND QUALITY COMPONENTS.

Routine maintenance.

1. It’s easy to get to the engine on a new JCB 427 and 437 with a large automatic opening single-piece bonnet.

2. Accessing the diesel and DEF (Diesel Exhaust Fluid) tanks is similarly straightforward via the lockable grille at the rear of the machine.

You can check washer fluid level, engine oil and coolant from inside the cab, with all other routine checks and grease points located at ground level. This makes life both easier and safer.

3. Most Tier 4 Final/Stage IV engines use a costly Diesel Particulate Filter (DPF) that can cost a lot of money and time when it needs replacing. The Cummins engine is DPF-free, reducing your servicing and running costs.

4. A large single-faced wide-core cooling pack package provides unrivalled quick, easy and safe cleaning.

5. With the optional auto lubrication kit, your machine will take care of its own greasing requirements.
Less servicing, more service

1. The CommandPlus cab relays machine condition giving real time alerts, safeguarding both the machine and the operator.

The intuitive CommandPlus help function provides the operator with meaningful descriptions of in-cab switch function. Using the “?” button, this allows new or unfamiliar operators to quickly and easily understand machine functions without having to refer to the operators manual.

2. By using premium components in the 427 and 437 (Cummins engine, ZF transmissions and axles, Rexroth pumps and Parker valve blocks), we’ve built in long service life as standard.

3. Full hydraulic dual circuit braking with multiple oil immersed discs gives the braking system a virtually maintenance-free lifespan.

A cyclonic engine fan scavenge filter provides four times the filtering capacity of a standard air filter. It’s a longer life system, with fewer components and a higher level of efficiency, making for better engine protection. There’s a large fuel tank fitted (290 litres on the 427 and 270 litres on the 437) which ensures maximum working hours between refills.

5. Heating and ventilation filters are conveniently located behind an external access panel. The main fuse board and relays have been repositioned next to the door for easy access.

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The new JCB 427 and 437 are designed to keep the operator and your worksite safe at all times. Great visibility, non-slip surfaces and full ROPS/FOPS protection are just the start.

Safely does it.

1. Our optional rear-view camera displays an unobstructed rearward view on the in-cab colour monitor onboard your 427 and 437.

2. Superb visibility in dark conditions is guaranteed with JCB’s optional LED lighting.

3. You’ll find the rear-view mirrors mounted in front of the A-pillars for improved all-round visibility.

Interior mirrors, heated exterior mirrors and bonnet mirrors combine to offer excellent views to every corner of your machine.

4. Visibility over the rear bonnet is excellent because the air cleaner is underneath the bonnet and the exhaust stack is located centrally.

If you plan to use your wheel loader for quarry work, it’s worth specifying options such as blue flashing reverse lights, a green operator presence beacon, a rear object detection system, and hi-viz exterior chevrons.
Safely does it (continued).

5 Access steps on the 427 and 437 are inclined and equally spaced, complemented by well positioned grab handles for three points of contact at all times.

6 Full fender coverage flaps have been carefully designed to keep forward spray to a minimum for all tyre options. This increases safety and decreases debris build-up.

7 Door hinges are now mounted on the A-pillar; this simple change has created much better access via a larger and wider door aperture. It also means you can access the rear of your loader more safely.

The battery and tool box are lockable for added security.

8 The cab is isolator-mounted, compliant with ROPS/FOPS standards, and positively pressurised against dust. You can choose from fresh air or carbon filters as well.

9 Engines fitted with a DPF can pose an increased fire risk because extreme heat can be created in regeneration mode. The new 427 and 437 don’t use DPFs, so this is no cause for concern.

Non-slip walkways and additional grab handle options allow for safe movement around the machine.
LIVELINK IS AN INNOVATIVE SOFTWARE SYSTEM THAT LETS YOU MANAGE JCB MACHINES REMOTELY – ONLINE, BY EMAIL OR BY MOBILE PHONE. ACCESS EVERYTHING FROM MACHINE ALERTS TO FUEL REPORTS AND HISTORY INFORMATION, WITH ALL DATA STORED AT A SECURE CENTRE.

**Maintenance benefits**
Manage machine maintenance easily – accurate hours monitoring and service alerts improve maintenance planning, while real-time location data helps you manage your fleet. Critical machine alerts and maintenance history records are also available.

**Productivity and cost benefits**
By providing information like idle time monitoring and machine fuel consumption, JCB Livelink helps reduce your fuel usage, saving money and improving productivity. Machine location information can help improve efficiency and perhaps even reduce insurance costs.

**Security benefits**
Livelink’s real-time geofencing alerts tell you when machines move out of predetermined zones, and real-time curfew alerts inform you of unauthorised usage. Further benefits include real-time location information.
A GREAT BUSINESS DECISION.

WE’LL PROVIDE YOU WITH FIRST CLASS SUPPORT AND ASSISTANCE TO SUIT YOUR EXACT BUSINESS NEEDS RIGHT FROM DAY ONE. SO WHEREVER YOU ARE, YOUR MACHINE WILL ALWAYS PERFORM TO ITS FULL POTENTIAL – ONE OF MANY REASONS WHY STARTING A WORKING RELATIONSHIP WITH JCB IS A GREAT BUSINESS DECISION.

**Machine selection**
Your JCB dealer has the right technical knowledge and expertise to ensure that you assess all the machine options available to you. This includes rental options and new or used machine sales.

**Rebuild and Refurbishment Programme**
If your business isn’t in a position to buy a brand new machine, then JCB’s Rebuild and Refurbishment programme can help you to extend the service life of your current vehicle cost-effectively.

**Technical support**
All local JCB dealers have instant access to factory expertise and technical support to provide you with the maximum machine uptime. JCB’s Global Parts Centres, meanwhile, deliver around 95% of all parts anywhere in the world within 24 hours.

**Component monitoring**
JCB machines benefit from a sophisticated component monitoring programme that provides preventative maintenance and oil sampling to keep everything working at its optimum level.

**Service support**
We offer a range of extended warranties, from JCB PremierCover (full comprehensive cover) to JCB PowertrainCover (engine, axles, transmission and hydraulic pump cover). Service agreements, as well as service-only or Repair and Maintenance contracts ensure that we have the up-time of your wheel loading shovel totally covered. Our dealer maintenance specialists around the world charge competitive labour rates, and offer non-obligation quotations as well as fast, efficient repair work.

**Finance and Insurance**
Finance and Insurance specialists are always on-hand to provide fast, flexible, competitive quotes. Naturally, packages can be tailored to suit your specific business needs.
### Static Dimensions

<table>
<thead>
<tr>
<th></th>
<th>427 HT</th>
<th>427 HT HL</th>
<th>427 ZX</th>
<th>437 HT</th>
<th>437 HT HL</th>
<th>437 HT SHL</th>
<th>437 ZX</th>
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<tr>
<td>A Overall length mm</td>
<td>7070</td>
<td>7532</td>
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<td>7301</td>
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<td>B Axle to pivot pin mm</td>
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<td>1108</td>
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<td>C Wheelbase mm</td>
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<td>D Axle to counterweight face mm</td>
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<tr>
<td>E Minimum ground clearance mm</td>
<td>472</td>
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<tr>
<td>F Height over exhaust mm</td>
<td>3133</td>
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<tr>
<td>G Width over cab roof mm</td>
<td>1594</td>
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<td>H Max. width mm</td>
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<td>2598</td>
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<td>H1 Wheel track mm</td>
<td>1955</td>
<td>1955</td>
<td>1953</td>
<td>2070</td>
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<tr>
<td>H2 Max width over fenders mm</td>
<td>2484</td>
<td>2484</td>
<td>2477</td>
<td>2560</td>
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<tr>
<td>J Height over cab roof and lowered beacon mm</td>
<td>3360</td>
<td>3360</td>
<td>3360</td>
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<td>J1 Height over raised beacon mm</td>
<td>3720</td>
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<tr>
<td>Front axle weight kg</td>
<td>5888</td>
<td>6926</td>
<td>6281</td>
<td>6831</td>
<td>7415</td>
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<td>Rear axle weight kg</td>
<td>7493</td>
<td>6654</td>
<td>7373</td>
<td>7966</td>
<td>7801</td>
<td>6848</td>
<td>7786</td>
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<tr>
<td>Total weight kg</td>
<td>13381</td>
<td>13580</td>
<td>13654</td>
<td>14797</td>
<td>15216</td>
<td>15666</td>
<td>15227</td>
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<tr>
<td>Height over engine cover from ground fully open mm</td>
<td>3611</td>
<td>3611</td>
<td>3611</td>
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<tr>
<td>Increase in vehicle length with bonnet open (rear grille shut) mm</td>
<td>+928</td>
<td>+928</td>
<td>+928</td>
<td>+928</td>
<td>+928</td>
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</tbody>
</table>

427 based on a machine equipped with Michelin 20.5R25 XHA2 (L3) radial tyres & direct mount 1.9m³ shovel and toe plates & standard counterweight.

437 based on a machine equipped with Michelin 20.5R25 XHA2 (L3) radial tyres & direct mount 2.3m³ shovel and toe plates & standard counterweight.

### Specifications

<table>
<thead>
<tr>
<th></th>
<th>427 HT</th>
<th>427 HT HL</th>
<th>427 ZX</th>
<th>437 HT</th>
<th>437 HT HL</th>
<th>437 HT SHL</th>
<th>437 ZX</th>
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<tbody>
<tr>
<td>R1 Maximum turn radius over shovel mm</td>
<td>5902</td>
<td>6035</td>
<td>5933</td>
<td>6021</td>
<td>6286</td>
<td>6626</td>
<td>6041</td>
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<tr>
<td>R2 Maximum turn radius over tyre mm</td>
<td>5483</td>
<td>5483</td>
<td>5483</td>
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<tr>
<td>R3 Inside turn radius mm</td>
<td>2896</td>
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<td>2896</td>
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<tr>
<td>R4 Articulation angle degrees</td>
<td>40</td>
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### LOADER DIMENSIONS 427 HT/HT HL

<table>
<thead>
<tr>
<th>Model</th>
<th>Direct</th>
<th>Quick hitch</th>
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<tbody>
<tr>
<td>Shovel mounting</td>
<td>Tipped teeth</td>
<td>Reversible toothpale</td>
</tr>
<tr>
<td>Shovel type</td>
<td></td>
<td>General purpose</td>
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<tr>
<td>Shovel equipment</td>
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<tr>
<td>Shovel capacity (SAE heaped 100%)</td>
<td>m³</td>
<td></td>
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<tr>
<td>Shovel width</td>
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<tr>
<td>Shovel weight</td>
<td>kg</td>
<td></td>
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<tr>
<td>Maximum material density *</td>
<td>kg/m³</td>
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<tr>
<td>Tipping load straight *</td>
<td>kg</td>
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<tr>
<td>Payload *</td>
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<td></td>
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<tr>
<td>Maximum breakout force</td>
<td>kN</td>
<td></td>
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<tr>
<td>Dump angle maximum</td>
<td>degrees</td>
<td></td>
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<tr>
<td>Roll back angle full height</td>
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<tr>
<td>Roll back at carry</td>
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<tr>
<td>Load over centre</td>
<td>mm</td>
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<tr>
<td>Dump height (45 deg dump)</td>
<td>mm</td>
<td></td>
</tr>
<tr>
<td>Dig depth</td>
<td>mm</td>
<td></td>
</tr>
<tr>
<td>Reach at dump height</td>
<td>mm</td>
<td></td>
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<tr>
<td>Reach maximum (45 deg dump) horizontal arm</td>
<td>mm</td>
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<tr>
<td>Operating weight (includes 75kg operator and full fuel and DEF tanks)</td>
<td>kg</td>
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### TYRE SIZE 427 HT/HT HL

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<thead>
<tr>
<th>Tyre size</th>
<th>Manufacturer</th>
<th>Type RA</th>
<th>Rating</th>
<th>Operating weight (kg)</th>
<th>STL kg</th>
<th>FTTL kg</th>
<th>STL kg</th>
<th>FTTL kg</th>
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<tr>
<td>20.5R25</td>
<td>MICHÉLIN</td>
<td>XHA2</td>
<td>L3</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>20.5R25</td>
<td>MICHÉLIN</td>
<td>XT1A</td>
<td>L2</td>
<td>-116</td>
<td>-82</td>
<td>-71</td>
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<tr>
<td>550/65R25</td>
<td>MICHÉLIN</td>
<td>XLDD2A</td>
<td>L5</td>
<td>652</td>
<td>459</td>
<td>397</td>
<td>392</td>
<td>239</td>
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<tr>
<td>620/75R26</td>
<td>MICHÉLIN</td>
<td>MEGAX1B</td>
<td>L/3</td>
<td>-248</td>
<td>-175</td>
<td>-151</td>
<td>-149</td>
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<td>650/65R25</td>
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<td>XL3</td>
<td>L5</td>
<td>652</td>
<td>459</td>
<td>397</td>
<td>392</td>
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<tr>
<td>750/65R26</td>
<td>MICHÉLIN</td>
<td>MEGAX1B</td>
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<td>225</td>
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<td>L3</td>
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<td>-120</td>
<td>-73</td>
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</table>

*Assumes machine is fitted with Michelin 20.5R25 XHA2 (L3) tyres, 5 speed transmission and non parallel links.

Heavy duty axles (required with 6 speed, solid/foam filled tyres, 750 width agricultural tyres and high lift arms).
## SPECIFICATION

427/437 WHEEL LOADER

### LOADER DIMENSIONS 437 HT/HT HL

<table>
<thead>
<tr>
<th>Model</th>
<th>Shovel mounting type</th>
<th>437 HT</th>
<th>437 HT HL</th>
<th>437 HT SHL</th>
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<td>Direct</td>
<td>Quik hitch</td>
<td>Direct</td>
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<td>Shovel equipment</td>
<td>General purpose</td>
<td>General purpose</td>
<td>General purpose</td>
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<td>Shovel capacity (SAE specified 100%)</td>
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<td>kg</td>
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<td>Maximum material density</td>
<td>kg/m³</td>
<td></td>
<td>kg/m³</td>
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<td>Tipping load straight</td>
<td>kg</td>
<td></td>
<td>kg</td>
</tr>
<tr>
<td></td>
<td>Tipping load full turn</td>
<td>kg</td>
<td></td>
<td>kg</td>
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<tr>
<td></td>
<td>Payload</td>
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<td></td>
<td>kN</td>
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<tr>
<td>M</td>
<td>Dump angle maximum</td>
<td>degrees</td>
<td></td>
<td>degrees</td>
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<tr>
<td>N</td>
<td>Roll back angle full height</td>
<td>degrees</td>
<td></td>
<td>degrees</td>
</tr>
<tr>
<td>O</td>
<td>Roll back at carry</td>
<td>degrees</td>
<td></td>
<td>degrees</td>
</tr>
<tr>
<td>P</td>
<td>Roll back at ground level</td>
<td>degrees</td>
<td></td>
<td>degrees</td>
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<tr>
<td>Q</td>
<td>Load over height</td>
<td>mm</td>
<td></td>
<td>mm</td>
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<tr>
<td>R</td>
<td>Dump height (45 deg dump)</td>
<td>mm</td>
<td></td>
<td>mm</td>
</tr>
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<td>S</td>
<td>Auger depth</td>
<td>mm</td>
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<td>mm</td>
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<td>T</td>
<td>Reach at dump height</td>
<td>mm</td>
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<td>mm</td>
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<tr>
<td>V</td>
<td>Pin height</td>
<td>mm</td>
<td></td>
<td>mm</td>
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<tr>
<td>W</td>
<td>Reach maximum (45 deg dump) horizontal arm</td>
<td>mm</td>
<td></td>
<td>mm</td>
</tr>
<tr>
<td></td>
<td>Operating weight (includes 75kg operator and full fuel and DEF tanks)</td>
<td>kg</td>
<td></td>
<td>kg</td>
</tr>
</tbody>
</table>
## Loader Dimensions 427 ZX

| Shovel equipment | Tipped teeth | Reversible toeplate | Shovel capacity (SAE heaped 100%) m³ | 2 | 1.9 | 2.1 | 2.4 | 2.7 | 1.8 | 2.1 | 2.4 | 2.7 |
|------------------|--------------|---------------------|-------------------------------------|---|----|----|----|----|----|----|----|----|----|
|                  | General purpose |                      |                                      | 2 | 2  | 1.9 | 2.1 | 2.4 | 2.7 | 1.8 | 2.1 | 2.4 | 2.7 |
| Shovel capacity (struck) m³ | 1.724 | 1.724 | 1.612 | 1.785 | 2.057 | 2.346 | 1.554 | 1.749 | 1.594 | 1.787 | 2.057 | 2.346 |
| Shovel width mm | 2550 | 2550 | 2550 | 2550 | 2700 | 2700 | 2550 | 2550 | 2550 | 2550 | 2700 | 2700 |
| Shovel weight kg | 1040 | 1140 | 925 | 1040 | 1262 | 1329 | 800 | 850 | 800 | 850 | 1136 | 1211 |
| Maximum material density kg/m³ | 2218 | 2171 | 2361 | 2112 | 1792 | 1571 | 2292 | 2040 | 2172 | 1943 | 1653 | 1447 |
| Tipping load straight kg | 10318 | 10126 | 10427 | 10318 | 10037 | 9907 | 8603 | 8483 | 8522 | 8162 | 7934 | 7814 |
| Tipping load full turn kg | 8872 | 8684 | 8971 | 8872 | 8603 | 8483 | 8252 | 8162 | 8162 | 7934 | 7934 | 7934 |
| Payload kg | 4436 | 4342 | 4485 | 4436 | 4301 | 4241 | 4081 | 4126 | 4081 | 3967 | 3907 | 3907 |
| Maximum breakout force kN | 135 | 135 | 145 | 135 | 129 | 120 | 118 | 118 | 113 | 106 |

## Tyre Size 427 ZX

<table>
<thead>
<tr>
<th>Tyre size</th>
<th>Manufacturer</th>
<th>Type</th>
<th>Rating</th>
<th>Operating weight (kg) STL kg</th>
<th>FTTL kg</th>
<th>Vertical mm</th>
<th>Width mm</th>
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</thead>
<tbody>
<tr>
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<td>L3</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>20.5R25</td>
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<td>XTLA</td>
<td>L2</td>
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<td>-7</td>
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<tr>
<td>20.5R25</td>
<td>MICHELIN</td>
<td>XLD2A</td>
<td>L5</td>
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<td>330</td>
<td>285</td>
<td>30</td>
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<tr>
<td>20.5R25</td>
<td>MICHELIN</td>
<td>XMNED2</td>
<td>L5</td>
<td>652</td>
<td>438</td>
<td>378</td>
<td>58</td>
</tr>
<tr>
<td>550/65R25</td>
<td>MICHELIN</td>
<td>XLD2A</td>
<td>L3</td>
<td>492</td>
<td>330</td>
<td>285</td>
<td>-44</td>
</tr>
<tr>
<td>620/75R26</td>
<td>MICHELIN</td>
<td>MEGABIB</td>
<td>N/A</td>
<td>248</td>
<td>-166</td>
<td>-144</td>
<td>68</td>
</tr>
<tr>
<td>650/65R25</td>
<td>MICHELIN</td>
<td>XL</td>
<td>L3</td>
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<td>378</td>
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<td>750/65R26</td>
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<tr>
<td>20.5-25</td>
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<td>SGL (16 ply)</td>
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<td>-134</td>
<td>-116</td>
<td>-5</td>
</tr>
<tr>
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* Assumes machine is fitted with Michelin 20.5R25 XHA2 (L3) tyres and 5 speed transmission.
<table>
<thead>
<tr>
<th>Tyre size</th>
<th>Manufacturer</th>
<th>Type</th>
<th>Rating</th>
<th>Operating weight (kg)</th>
<th>STL kg</th>
<th>FTTL kg</th>
<th>Verical mm</th>
<th>Width mm</th>
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<td>-7</td>
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<td>-109</td>
<td>-94</td>
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<td>-7</td>
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**Loader Dimensions 437 ZX**

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<th>Model</th>
<th>Direct</th>
<th>Quick hitch</th>
<th>Reversible toplait</th>
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<td>Shovel mounting</td>
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<td></td>
</tr>
<tr>
<td>Shovel type</td>
<td>Tipped teeth</td>
<td>Reversible toplait</td>
<td></td>
</tr>
<tr>
<td>Shovel equipment</td>
<td>General purpose</td>
<td>General purpose</td>
<td></td>
</tr>
<tr>
<td>Shovel capacity (SAE heaped 100%)</td>
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<td>Tipping load full turn *</td>
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<tr>
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<tr>
<td>Maximum breakout force</td>
<td>kN</td>
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<tr>
<td>M Dump angle maximum</td>
<td>degrees</td>
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<td>45</td>
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<td>N Roll back angle full height</td>
<td>degrees</td>
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<td>52</td>
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<tr>
<td>O Roll back at carry</td>
<td>degrees</td>
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<td>P Roll back at ground level</td>
<td>degrees</td>
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<td>35</td>
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<tr>
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<td>T Reach at dump height</td>
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<td>V Pin height</td>
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<tr>
<td>Reach maximum (45 deg dump) horizontal arm</td>
<td>mm</td>
<td>1903</td>
<td>1967</td>
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</tbody>
</table>

*Assumes machine is fitted with Michelin 20.5R25 XHA2 (L3) tyres and 5 speed transmission.
**ENGINE**

- **Type**: Cummins
- **Model**: QSB
- **Capacity**: litres 6.7
- **Aspiration**: Turbo Charged
- **Cylinders**: 6
- **Max gross power to SAE J1995/ISO 14396 kW (hp)**: 133 (179) @ 1700 rpm, 136 (183) @ 2000 rpm
- **Rated gross power to SAE J1995/ISO 14396 kW (hp)**: 118 (158) @ 2100rpm
- **Nett power to ISO 9249 kW (hp)**: 109 (146) @ 2100rpm
- **Max torque Nm @ 1500rpm**: 841
- **Valves per cylinder**: 4
- **Air cleaner**: Cyclonic pre filter with engine fan scavenge system
- **Fan drive type**: Hydraulically driven cooling fan
- **Emissions**: EU Stage IV, US EPA Tier 4F

**TRANSMISSION**

- **Type**: ZF
- **Model**:
  - 427: 4WG160, 5WG160
  - 437: 4WG190, 5WG190

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<th>427 5WG160</th>
<th>437 4WG190</th>
<th>437 5WG190</th>
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<td>12.77</td>
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</tr>
<tr>
<td>5 kph</td>
<td>40.0</td>
<td></td>
<td>39.72</td>
<td></td>
</tr>
</tbody>
</table>

Please note the above data is based on Michelin 20.5R25 X-A2 (L3) tyres, figures may vary depending on tyres fitted.

**HYDRAULICS**

- **Pump type**: Variable displacement
- **Pump 1 max. flow l/min**: 126, 126
- **Pump 1 max. pressure bar**: 250, 250
- **Pump 2 max. flow l/min**: 126, 126
- **Pump 2 max. pressure bar**: 160, 160
- **Hydraulic cycle times at full engine revs**
  - Arms raise (full bucket): Seconds 5.08, 6.24
  - Shovel dump (full bucket): Seconds 1.41, 1.96
  - Arms lower (empty bucket): Seconds 3.3, 4.63
- **Total cycle**: Seconds 9.79, 12.83

**ELECTRICAL SYSTEM**

- **System voltage**: Amps 24
- **Alternator output**: Amps 120
- **Battery capacity**: Amp hour 110

**AXLES**

- **Model**: 427
- **Type**: Standard Heavy duty
- **Make and model**: ZF MT-L 3075 II (front), ZF MT-L 3075 II (rear)
- **Overall axle ratio**: 21.53 : 1
- **Rear axle oscillation**: +/- 10.5 Degrees

- **Model**: 437
- **Type**: Heavy duty
- **Make and model**: ZF MT-L 3085 II (front), ZF MT-L3085 II (rear)
- **Overall axle ratio**: 20.182:1
- **Rear axle oscillation**: +/- 10.5 Degrees

**SERVICE FILL CAPACITIES**

<table>
<thead>
<tr>
<th>Component</th>
<th>427</th>
<th>437</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydraulic system litres</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td>Fuel tank litres</td>
<td>290</td>
<td>270</td>
</tr>
<tr>
<td>DEF Tank litres</td>
<td></td>
<td>40</td>
</tr>
</tbody>
</table>

**CAB**

- In-cab noise level – 68dB(A).

**STEERING**

- Hydraulic power steering.

**BRAKES**

- Hydraulic power braking on all wheels. In-board mounted, oil immersed, multi-plate disc brakes.
- Parking brake, electro-hydraulic disc type operating on transmission output shaft.
### Loader Dimensions with Forks

<table>
<thead>
<tr>
<th></th>
<th>427HT</th>
<th>427HT HL</th>
<th>427ZX</th>
<th>437HT</th>
<th>437HT HL</th>
<th>437 HT SHL</th>
<th>437ZX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fork carriage width</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
</tr>
<tr>
<td>Length of tines</td>
<td>1220</td>
<td>1220</td>
<td>1220</td>
<td>1220</td>
<td>1220</td>
<td>1220</td>
<td>1220</td>
</tr>
<tr>
<td>Reach at ground level</td>
<td>769</td>
<td>769</td>
<td>1238</td>
<td>1238</td>
<td>769</td>
<td>882</td>
<td>882</td>
</tr>
<tr>
<td>Reach at arms horizontal</td>
<td>1546</td>
<td>1546</td>
<td>1895</td>
<td>1895</td>
<td>1546</td>
<td>1636</td>
<td>1636</td>
</tr>
<tr>
<td>Top of tine above ground with arms down</td>
<td>-52</td>
<td>-25</td>
<td>38</td>
<td>-52</td>
<td>8</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>Arms, horizontal height</td>
<td>1906</td>
<td>1867</td>
<td>1806</td>
<td>1867</td>
<td>1906</td>
<td>1946</td>
<td>1936</td>
</tr>
<tr>
<td>Arms, maximum height</td>
<td>3718</td>
<td>3695</td>
<td>4148</td>
<td>4125</td>
<td>3718</td>
<td>3818</td>
<td>4482</td>
</tr>
<tr>
<td>Reach at maximum height</td>
<td>802</td>
<td>824</td>
<td>848</td>
<td>875</td>
<td>802</td>
<td>873</td>
<td>873</td>
</tr>
<tr>
<td>Tipping load straight</td>
<td>10224</td>
<td>10980</td>
<td>7944</td>
<td>8399</td>
<td>8772</td>
<td>9089</td>
<td>9659</td>
</tr>
<tr>
<td>Tipping load full turn (40°)</td>
<td>9587</td>
<td>9475</td>
<td>6852</td>
<td>7247</td>
<td>7550</td>
<td>7730</td>
<td>6281</td>
</tr>
<tr>
<td>Payload*</td>
<td>7670</td>
<td>7580</td>
<td>5481</td>
<td>5798</td>
<td>6040</td>
<td>6184</td>
<td>5192</td>
</tr>
<tr>
<td>Attachment weight</td>
<td>429</td>
<td>429</td>
<td>429</td>
<td>429</td>
<td>429</td>
<td>429</td>
<td>429</td>
</tr>
<tr>
<td>Operating weight (includes 75kg operator and full fuel and DEF tanks)</td>
<td>13027</td>
<td>13027</td>
<td>13237</td>
<td>13237</td>
<td>13666</td>
<td>14438</td>
<td>14857</td>
</tr>
</tbody>
</table>

* At the centre of gravity distance 600mm. Based on 80% of FTTL as defined in ISO 14397-1:2007. Assume the fitment of Michelin 20.5R25 XHA2 (L3) and 5 speed transmission.
### Material Density

<table>
<thead>
<tr>
<th>Material</th>
<th>Loose density (kg/m³)</th>
<th>Fill factor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snow (fresh)</td>
<td>200</td>
<td>110</td>
</tr>
<tr>
<td>Peat (dry)</td>
<td>400</td>
<td>100</td>
</tr>
<tr>
<td>Sugar beet</td>
<td>530</td>
<td>100</td>
</tr>
<tr>
<td>Coke (loose)</td>
<td>570</td>
<td>85</td>
</tr>
<tr>
<td>Barley</td>
<td>600</td>
<td>85</td>
</tr>
<tr>
<td>Petroleum coke</td>
<td>680</td>
<td>85</td>
</tr>
<tr>
<td>Wheat</td>
<td>730</td>
<td>85</td>
</tr>
<tr>
<td>Coal bituminous</td>
<td>765</td>
<td>100</td>
</tr>
<tr>
<td>Fertiliser (mixed)</td>
<td>1030</td>
<td>85</td>
</tr>
<tr>
<td>Coal anthracite</td>
<td>1046</td>
<td>100</td>
</tr>
<tr>
<td>Earth (dry) (loose)</td>
<td>1150</td>
<td>100</td>
</tr>
<tr>
<td>Nitrile fertiliser</td>
<td>1250</td>
<td>85</td>
</tr>
<tr>
<td>Sodium chloride (dry) (salt)</td>
<td>1300</td>
<td>85</td>
</tr>
<tr>
<td>Cement portland</td>
<td>1440</td>
<td>100</td>
</tr>
<tr>
<td>Limestone (crushed)</td>
<td>1530</td>
<td>100</td>
</tr>
<tr>
<td>Sand (dry)</td>
<td>1550</td>
<td>100</td>
</tr>
<tr>
<td>Asphalt</td>
<td>1600</td>
<td>100</td>
</tr>
<tr>
<td>Gravel (dry)</td>
<td>1650</td>
<td>85</td>
</tr>
<tr>
<td>Clay (wet)</td>
<td>1680</td>
<td>110</td>
</tr>
<tr>
<td>Sand (wet)</td>
<td>1890</td>
<td>110</td>
</tr>
<tr>
<td>Fire clay</td>
<td>2080</td>
<td>100</td>
</tr>
<tr>
<td>Copper (concentrate)</td>
<td>2300</td>
<td>85</td>
</tr>
<tr>
<td>Slate</td>
<td>2800</td>
<td>100</td>
</tr>
<tr>
<td>Magnetite</td>
<td>3204</td>
<td>100</td>
</tr>
</tbody>
</table>

### Bucket Capacities – 427

**Material density (kg/m³)**

- Material density ranges from 1000 to 2800 kg/m³.
- Fill factors range from 85% to 110%.

**Bucket Capacity (m³):**

- HT = Standard height arm
- HL = High Lift arm
- SHL = Super high lift arm
- ZK = Z bar

**Bucket Fill Factors:**

- 100%
- 115%
- 95%
### EQUIPMENT

#### SERVICE AND MAINTENANCE
- 5 year Livelink telematics
- Engine oil remote drain and fill
- Grouped pressure test points
- Lockable tool box
- Lubrication points accessible from ground level

#### ENGINE
- Air cleaner - cyclone pre filter with engine fan scavange system
- Automatically reversing cooling fan
- Crankcase breather oil trap
- DEF fluid
- Electrical opening rear bonnet
- Epoxy coated radiator / coolers
- Fixed mounted fan
- Fuel filter
- Fuel pre-filter with water trap
- Hydraulically driven cooling fan
- Manual override rear bonnet opening
- -20° cold start
- SCR engine emission control
- Swing out fan
- Waste gated turbo
- Widecore cooling pack
- Engine block heater (+110V or 240V)
- Auxiliary fuel tank + 110 litres (427 AGRI only)

#### ELECTRICAL
- 120 amp alternator
- Amber rotating beacon
- Electrical adjustable mirrors
- Heated mirrors
- External battery isolator
- Fold down beacon arm
- Green seat belt beacon
- Halogen front and rear working lights
- Hazard warning lights
- Integrated rear view camera
- LED front and rear working lights
- LED 360 degree working lights
- Number plate light kit
- Parking lights
- Radio wiring and speakers
- Rear fog light
- Reverse alarm and light
- Smart reverse alarm and light
- White noise reverse alarm and light
- Work lights in rear grille
- Bonnet operation alarm

#### ELECTRICAL (CONTINUED)
- Blue LED reverse lights
- 4 speed transmission
- 5 speed transmission with lock-up torque converter
- 6 speed transmission with lock-up torque converter (427 AGRI model only)
- Epicyclical wheel hub reduction
- Fixed front axle
- Gear kick down on loader control lever
- Indicator glass for transmission oil level
- Limited slip differentials front and rear
- Loader lever direction control
- Neutral start
- Standard differential
- Standard differential with automatic locking (-100% (front axle only)
- Oscillating rear axle
- Power-inch intelligent clutch cut off on footbrace (selectable)
- Heavy duty front axle (427 only)
- Sintered brake pads
- Selectable automatic power shift
- Speed limiter 20km/h
- Steering column single lever shift control (direction and gear)
- Transmission cooler bypass

#### BRAKE SYSTEM
- Multi-plate wet disc brakes
- Sintered brake pad
- Dual circuit hydraulic power
- Wheel speed braking
- Parking disc brake on transmission output shaft
- Electrical hydraulic park brake actuation
- Accumulator back-up for electric park brake

#### OPERATOR STATION
- Fully glazed cab
- Front low windscreen guards
- Air conditioning
- Climate control
- Single lever joystick
- Multi-lever hydraulic controls
- Proportional electro hydraulic auxiliary control
- Electronically Adjustable hydraulic auxiliary flow rate
- Air suspension cloth seat
- Deluxe heated air suspension cloth seat
- Super deluxe heated and cooled air suspension half leather seat
- Front roller blind
- Rear roller blind
- Cab air intake filter

#### OPERATOR STATION (CONTINUED)
- Carbon cab air intake filter
- 12V in cab power socket
- 2 x 12V in cab power socket
- 24V in cab power socket
- Reversing camera (colour)
- Fold away adjustable steering column
- ROPS/FOPS safety structure
- Interior light
- Front primary display screen
- Secondary A post display screen, rotary control menu interface
- A post mounted membrane switches
- Variable fan speed control on climatic control system
- 50 mm seat belt
- 3 inch seat belt
- Fire extinguisher (UK only)
- Two speed intermittent front windscreen wipe/wash and self park
- Single speed rear windscreen wipe/wash and self park
- 3 speed heater/demisting
- Variable speed heater
- LH and RH sliding opening windows
- Floor mat
- Cup holder
- Steering wheel spinner knob
- Internal rear view mirror
- Tinted cab glass
- Multi-media port (USB and 3.5mm)
- Operator stowage
- Laminated windscreen
- Heated rear screen
- Loader control isolator
- Horn
- Adjustable armrest
- Removable storage rubber mats
- Convex mirror kit (1 on each side)
- Adjustable seat mounted controls
- Electronic adjustment of SRS (Smooth Ride System) cut in speed
- Electronic adjustment of reverse fan interval

#### FRONT PRIMARY DISPLAY
- Warning lights
- Direction indicators
- Master warning
- High coolant temperature
- Battery charging condition
- Low fuel level
- Engine oil pressure
- Hazard lamps
- Park brake state

#### SPECIFICATION 427/437 WHEEL LOADER

- Blue LED reverse lights
- 4 speed transmission
- 5 speed transmission with lock-up torque converter
- 6 speed transmission with lock-up torque converter (427 AGRI model only)
- Epicyclical wheel hub reduction
- Fixed front axle
- Gear kick down on loader control lever
- Indicator glass for transmission oil level
- Limited slip differentials front and rear
- Loader lever direction control
- Neutral start
- Standard differential
- Standard differential with automatic locking (-100% (front axle only)
- Oscillating rear axle
- Power-inch intelligent clutch cut off on footbrace (selectable)
- Heavy duty front axle (427 only)
- Sintered brake pads
- Selectable automatic power shift
- Speed limiter 20km/h
- Steering column single lever shift control (direction and gear)
- Transmission cooler bypass

#### DRIVE TRAIN
- Multi-plate wet disc brakes
- Sintered brake pad
- Dual circuit hydraulic power
- Wheel speed braking
- Parking disc brake on transmission output shaft
- Electrical hydraulic park brake actuation
- Accumulator back-up for electric park brake

#### ELECTRICAL (CONTINUED)
- Blue LED reverse lights
- 4 speed transmission
- 5 speed transmission with lock-up torque converter
- 6 speed transmission with lock-up torque converter (427 AGRI model only)
- Epicyclical wheel hub reduction
- Fixed front axle
- Gear kick down on loader control lever
- Indicator glass for transmission oil level
- Limited slip differentials front and rear
- Loader lever direction control
- Neutral start
- Standard differential
- Standard differential with automatic locking (-100% (front axle only)
- Oscillating rear axle
- Power-inch intelligent clutch cut off on footbrace (selectable)
- Heavy duty front axle (427 only)
- Sintered brake pads
- Selectable automatic power shift
- Speed limiter 20km/h
- Steering column single lever shift control (direction and gear)
- Transmission cooler bypass
### FRONT PRIMARY DISPLAY

#### Warning lights (continued)
- Road lights
- Main beam lights
- Rear fog lights
- Engine pre-heat
- Brake system pressure
- Differential lock
- Low steering pressure
- Buzzer alerts
- Engine air filter blocked
- Diesel exhaust fluid (DEF)
- Torque reduction in case of malfunction
- Amber warning lamp
- Stop engine
- Gauge display
- Engine speed
- Coolant temperature
- Fuel level
- LCD screen display
  - Current gear
  - Stop engine
  - Torque reduction in case of malfunction
  - Diesel exhaust fluid (DEF)
  - Engine air filter blocked
  - Secondary steer system pressure
  - Torque lockup
  - Steer mode
  - Ground speed
  - Engine speed (numeric display)
  - Clock
  - Hydraulic state
  - Smoothride system (SRS)
  - Beacon
- Front work lamps
- Rear work lamps
- Heated rear screen
- Transmission sump temperature

#### Data screens
- Trip distance (resettable)
- Hours to service
- Engine oil level
- DEF level
- Clock
- Climate control
- Fan speed
- In cab temperature set
- Machine hours
- Rear view camera with full-screen reverse mode
- Fuel use
- Adjustable smooth ride engagement speed
- Adjustable reverse fan intervals
- Adjustable auxiliary flow
- Adjustable constant flow
- Time and date
- Hydraulic oil temperature
- Transmission oil temperature
- Coolant temperature
- Engine oil pressure
- Air filter
- Transmission sump temperature
- Transmission torque converter temperature
- Hydraulic oil temperature
- Park brake pressure
- Battery voltage
- Help display
- On-screen handbook

### HYDRAULIC SYSTEM (CONTINUED)
- Smoothride system (SRS)
- Hydraulic quick hitch with in cab isolation
- Auxiliary ARV kit
- Auxiliary hydraulic service
- Twin auxiliary hydraulic service
- Twin piston pumps with priority steer
- Emergency steer back-up
- JCB biodegradable hydraulic oil
- Electronic hydraulic isolation
- Automatic boom kick-out, Detent
- Automatic bucket positioner

### HYDRAULIC SYSTEM
- Smoothride system (SRS)
- Hydraulic quick hitch with in cab isolation
- Auxiliary ARV kit
- Auxiliary hydraulic service
- Twin auxiliary hydraulic service
- Twin piston pumps with priority steer
- Emergency steer back-up
- JCB biodegradable hydraulic oil
- Electronic hydraulic isolation
- Automatic boom kick-out, Detent
- Automatic bucket positioner

### EXTERNAL EQUIPMENT
- Front and rear fenders
- Full rear fenders
- Front adjustable mud flaps
- Front wheel spray guards
- Full tyre width coverage fenders
- Rear object detection radar system with in cab display
- Automatic greasing system
- Grease gun and cartridge
- One piece electrical opening bonnet
- Mesh air intake screens
- Flexible bottom step
- Full width rear counterweight
- Recovery hitch
- Lifting / tie down lugs
- Rear counterweight chevrons
- Heavy duty rear counterweight (+312kg) only on 437
- Rockinger rear towing hitch with hydraulic braking system (427 AGRI only)

### PROTECTIVE EQUIPMENT
- Front cab screen guards
- Wastemaster package: includes front and rear light guards, front screen guard, front and rear belly guards, rear light guards, widecore radiator, Wastemaster decal
- Heavy duty rear grille guard (available black or white)
- Safety strut loader arm
- Light guards
- Front belly guard kits
- Rear belly guard kits
- Articulation joint safety strut

### OTHER EQUIPMENT
- HT High Lift loader end (427 and 437)
- HT Super High Lift loader end (437 only)
- Parallel lift HT loader arms

### STANDARD
- *

### OPTIONAL
- +
Wheel Loader 427/437

427 – Operating weight: 13.1-16.5t
   Full turn tipping load: 8603kg
   Gross engine power: 133kW (179hp)
   Standard shovel capacity: 2.4m³

437 – Operating weight: 14.5-17.8t
   Full turn tipping load: 9605kg
   Gross engine power: 136kW (183hp)
   Standard shovel capacity: 2.7m³

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