

**WHEEL LOADERS  
2.5 – 4.0 YD<sup>3</sup>**

**DOOSAN<sup>®</sup>**



	<b>Bucket Capacity</b> Heaped, ISO / SAE	<b>Operating Weight</b>	<b>Rated Power</b> Gross
<b>DL200-5</b>	2.6 yd <sup>3</sup> (2.0 m <sup>3</sup> )	25,795 lb. (11,700 kg)	142 hp (106 kW)
<b>DL200TC-5</b>	2.6 yd <sup>3</sup> (2.0 m <sup>3</sup> )	26,220 lb. (11,895 kg)	142 hp (106 kW)
<b>DL220-5</b>	3.0 yd <sup>3</sup> (2.3 m <sup>3</sup> )	27,381 lb. (12,420 kg)	160 hp (119 kW)
<b>DL250-5</b>	3.3 yd <sup>3</sup> (2.5 m <sup>3</sup> )	30,115 lb. (13,660 kg)	172 hp (128 kW)
<b>DL250TC-5</b>	3.3 yd <sup>3</sup> (2.5 m <sup>3</sup> )	31,592 lb. (14,330 kg)	172 hp (128 kW)
<b>DL280-5</b>	3.7 yd <sup>3</sup> (2.8 m <sup>3</sup> )	34,262 lb. (15,541 kg)	172 hp (128 kW)

# **WHEN YOU CHOOSE DOOSAN**

as your heavy equipment brand, you'll have the backing of a strong, global organization – with benefits that extend far beyond the capabilities of a new machine.

**DOOSAN**

### **STRONG BRAND**

Doosan began in 1896. Its heritage in excavators goes back to 1978. Wheel loader production began in 1992, while the company's first articulated dump truck was designed in 1972. Throughout its years in the heavy equipment industry, Doosan has listened to its North American customers, making many improvements – and developing new machines – as a result of feedback from owners and operators. From 2005 to 2015, Doosan grew from its position as the seventh-largest construction equipment manufacturer in the world to the fifth-largest.

### **STRONG DEALERS**

Doosan serves you in partnership with its dealers – and similarly, your Doosan dealer is intended to be a trusted partner for you. Whether it's Doosan® parts, authorized service and maintenance, or even advice on how to get more value from your machine, Doosan dealers are behind you on every job.

### **STRONG EQUIPMENT**

Doosan products are known for reliably exceeding customers' most demanding expectations. It's why we're one of the fastest-growing heavy equipment brands in North America. Doosan offers crawler excavators, wheel excavators, compact excavators, wheel loaders, articulated dump trucks, log loaders, material handlers and a variety of job-matched attachments – all designed to perform in the most difficult working conditions.

### **STRONG NORTH AMERICAN OPERATIONS**

Doosan has built a solid infrastructure to support your equipment. It includes parts distribution in Illinois and Ontario, service training and product management in Georgia, sales training and The Real Operation Center (ROC) customer experience facility in Arizona, plus attachment design and development in Minnesota.

### **STRONG WARRANTY**

Customers choose the months and hours of coverage in their transferable warranty. Options include a standard warranty of 12 months or up to 1,500 hours (depending on the machine) or up to the five-year, 7,500-hour Elite Assurance™ coverage for the powertrain only, the powertrain plus hydraulics or the full machine.

## PERFORMANCE

Even the most brutal workday looks better from the seat of your Doosan wheel loader. Here you command tremendous lift height and capacity, plus enough torque to bite into the toughest materials. Scoop, carry material, load trucks and even run attachments. Cut long days and tough jobs down to size in a hurry – and do it profitably – in a Doosan wheel loader.



### Optimized Engine Horsepower

A finely tuned horsepower curve and higher torque ensure you can move mountains of material fast. A high pressure common rail fuel injection system and cooled exhaust gas recirculation (CEGR) valve reduce emissions.



### Outstanding Traction and Pushing Power

Doosan axles are carefully designed to maximize traction, provide easy maneuverability and generate excellent pushing power, making short work of even the biggest pile.

**Limited Slip Differential** allows the wheel with the most traction to receive the proper torque, providing superior tractive effort and maneuverability in tough terrain.

*Images of Doosan wheel loaders may show other than standard equipment.*



### Lift Capacity

There's no secret to doing more work in less time. You have to quickly and efficiently handle the biggest, heaviest load that you can. With its load-sensing, closed center hydraulics, Doosan wheel loaders deliver superior lift capacities for every model size.

**Self-Adjusting Brakes** increase performance and minimize maintenance. If needed, a technician can easily check the brakes and adjust externally. The brake piping is safely integrated with the axle housing and protected from jobsite debris.

**Optional Front-Locking Differential** locks the front left and right wheels together, providing superior traction for driving over loose, slippery terrain or pushing into big, heavy piles (DL220-5, DL250-5, DL250TC-5 and DL280-5 only).

### Power Modes

Choose from three different power modes to change machine performance for job conditions or reduce fuel consumption.

**Power Mode** delivers the highest level of performance for quick loading and fast travel. Finish more heavy-duty work in less time.

**Normal Mode** is ideal for general work conditions and optimal fuel consumption.

**Economy Mode** minimizes fuel consumption and reduces engine sound levels, providing for comfortable, economical light-duty work.

### Planetary Final Drives

The planetary final drives transfer torque to the wheels through the transmission and differential. They enable higher travel speeds and greater torque. The outboard, hub-mounted design makes maintenance easy.



# PRODUCTIVITY

Productivity is what it's all about – and Doosan delivers. Whether you're loading a small truckload or moving a mountain of material, your Doosan wheel loader will have you feeling good about the results at day's end.



## Fast Cycle Times

Speed and control are the keys to optimal production. Doosan wheel loaders are engineered to perfectly balance both. Durable, low-maintenance vane pumps deliver the power you need to complete every job quickly.

### Tier 4 (T4) Compliant

Optimized to provide more power output with reduced fuel consumption, Doosan wheel loaders are designed with T4 compliant engines to reduce air pollution.



### Diesel Oxidation Catalyst (DOC)

In the DOC, carbon monoxide (CO) and particulate matter (PM) emissions are transformed into harmless water (H<sub>2</sub>O) and carbon dioxide (CO<sub>2</sub>).

### Evaporative Module

In the evaporative module, or mixing pipe, diesel exhaust fluid (DEF) solution is injected in small doses and mixed with hot exhaust gases, decomposing it into urea (CO(NH<sub>2</sub>)<sub>2</sub>) and water vapor, which then catalyzes into carbon dioxide and ammonia (NH<sub>3</sub>).

### Selective Catalytic Reduction (SCR)

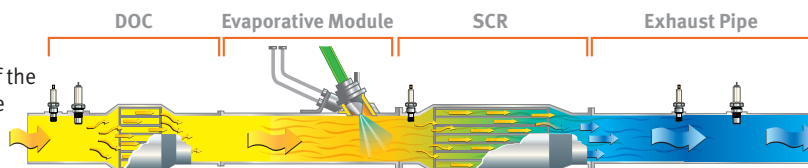
In the SCR canister, nitrogen oxide mixes with ammonia, and a chemical reaction takes place, resulting in nitrogen (N) and water vapor emitting from the system. The SCR canister also acts as the silencer or muffler.

### Diesel Exhaust Fluid (DEF)

DEF is a solution of pure urea and deionized water. A minimum level of DEF is required for proper machine operation, and the DEF supply tank is heated for proper operation in cold weather. DEF is available from your Doosan dealer in various container sizes.

### Cooled Exhaust Gas Recirculation (CEGR)

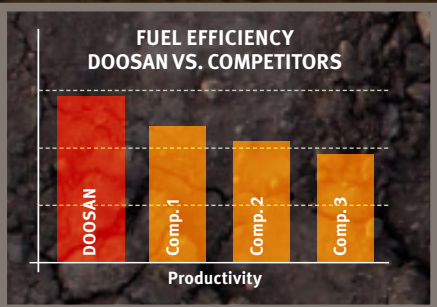
CEGR recycles a portion of the engine exhausts to reduce oxygen (O) and lower the temperature in the combustion chamber. This reduces nitrogen oxide (NO<sub>x</sub>) emissions.





### Auto Idle

The standard auto idle feature automatically reduces the engine rpm to standby idle a few seconds after the steering wheel, gearshift control lever and accelerator cease movement. This reduces noise, improves jobsite communications and saves fuel. When you move the controls, the loader automatically returns to working idle.



### Fuel Efficiency

Fuel use is a significant cost of operation, and Doosan efficiently delivers more work for the money. In our fuel efficiency tests against equivalent machines from other manufacturers, the Doosan wheel loader consistently moves more material per gallon of fuel.

### FNR Joystick

Direction changes don't get any simpler. Just push the joystick buttons to switch between forward, neutral and reverse without even removing your hands from the controls.



### Optional Load Isolation System

The load isolation system, sometimes referred to as ride control, cushions the lift arm while traveling over rough terrain, minimizing the loss of material while carrying a load and reducing operator fatigue. It also comes in handy when your customers pay for material by the bucket.



## Lift Arm Options

**Z-Bar Lift Arm Linkage** is designed for heavy lifting in loading applications, with geometry that enables rapid bucket movement and proper angle positioning in every situation.



### Standard Lift vs. High Lift

**Standard Z-Bar Linkage** has excellent breakout forces for easier digging and penetration into tough materials. It increases the lifting capacity of every Doosan loader for best-in-class performance.

**Optional High-Lift Z-Bar Linkage** is designed for applications requiring the highest possible dumping height and reach. It's ideal for cement plants, scrap, mulch or wastewater transfer stations.



**Parallel Lift Linkage** is designed to give you precise control over the movement of buckets, pallet forks and other attachments in applications other than loading. This design keeps the attachment level, allowing for faster lifting and placing of materials.

### **Optional Hydraulic Coupler**

This feature increases your productivity with non-hydraulic attachments, such as the pallet fork, saving you time by enabling you to switch from one attachment to the next without even leaving the cab.



### **Return to Dig**

Sensors on the lift arm and bucket linkage allow you to change your “return to dig” setting from inside the cab. The cylinders and cutting edge return to the same position every time, enabling more efficient, consistent work.

### **Lift Kickout**

Set the maximum lift height for working inside buildings or other areas with height restrictions. Simply pull back on the control stick to override.

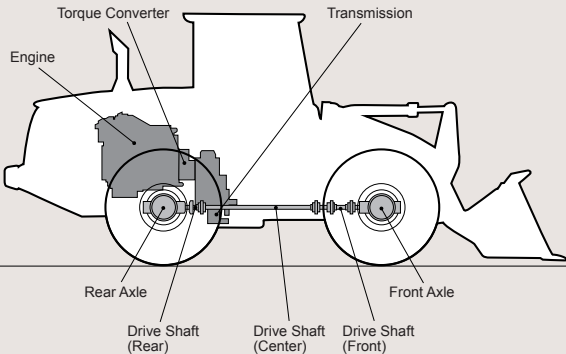
Whether you're loading a small truckload or moving a mountain of material, Doosan delivers amazing results in less time.



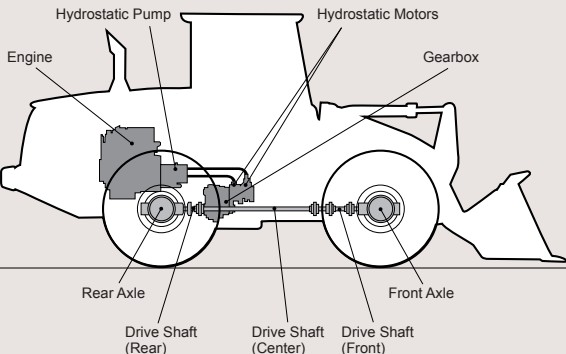
**Driveline Comparison**

The drive shafts and axles\* visually remain similar between the two driveline designs; however, the torque converter and four-speed transmission is replaced by a hydrostatic pump and two hydrostatic motors along with a gearbox.

**Torque Converter Transmission**



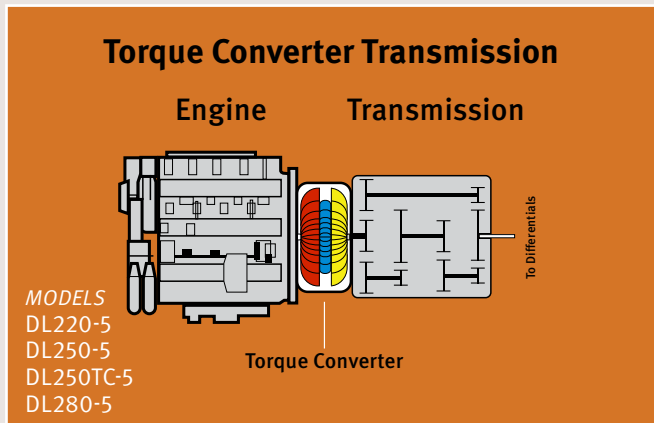
**Hydrostatic Drive System**



\*Front and rear differential configurations may differ between the two systems based on options selected.

### Torque Converter Transmission

The automatic powershift torque converter transmission in the DL220-5, DL250-5, DL250TC-5 and DL280-5 is optimized with engine power providing efficiency in load and carry operations. With four gears and three drive modes, the operator has the flexibility to configure the machine to the application. A transfer case is eliminated as the inter-axle differential is integrated in the transmission housing.



### Transmission Mode

Choose from three transmission modes – manual, auto 1-4 and auto 2-4 with manual kickdown – to match the working conditions you face, and tailor performance for better productivity.

**Transmission Optimization** is a key feature of the automatic transmission modes. It calibrates different shift points to tailor the amount of power and engine torque per gear. When you engage either auto 1-4 or auto 2-4 in power mode or normal mode, the transmission shift point occurs 20 percent later – allowing more torque and power within each gear range. In economy mode, the automatic transmission shifts 20 percent earlier for increased fuel efficiency.

**Manual** is ideal when the job requires precise speed control.

**Auto 1-4** automatically shifts up when you need more speed and downshifts when the job demands more power or torque. It's excellent for heavy-duty applications.



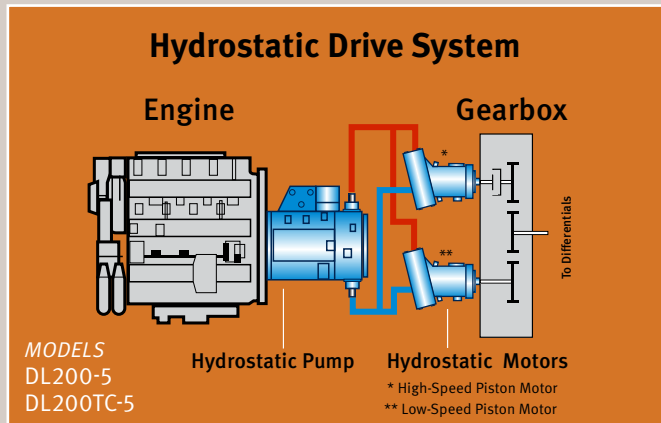
**Auto 2-4 with Manual Kickdown** gives you automatic shifting between gears 2 through 4, with a manual downshift into first gear when you need it. It provides the best performance for less demanding work conditions.

### Transmission Cutout

Need more engine power for lift arm speed? In lower gears, simply depress the left brake pedal to disengage the transmission. Disengage transmission cutout with your switch panel to start moving on an incline with greater ease.

### Hydrostatic Drive System

The new hydrostatic drive system in the Doosan DL200-5 and DL200TC-5 delivers higher performance at lower engine rpm, which also improves fuel efficiency. Additional features include the ability to control the traction characteristics and configure speed management to increase your productivity, and dynamic braking that automatically slows the machine and reduces wear on the brakes.



### Single Pump, Dual Motor Hydrostatic System

A single hydrostatic pump directs oil flow to two separate hydrostatic piston motors: one low-speed and one high-speed. These motors are connected to a gearbox that seamlessly transfers power to the driveline from the low-speed or high-speed motor, depending on the demands of the job. If the task demands it, both can power the driveline together. This provides optimal power at all times and automatic torque delivery to the driveline in every kind of application.

### Traction Control Management

With traction control management, three modes allow you to easily match traction to the jobsite conditions, so you can prevent wheel slippage while digging, stockpiling and loading.

**Max** provides maximum traction force.

**Traction Control** allows you to choose from three intermediate levels of traction force.

**Slip** is optimized primarily for slippery roadway conditions.

To instantly return to the max traction mode, just press the kick-down button on the joystick control or directional control lever.

### Speed Management

A variable speed control feature allows you to obtain full engine rpm for optimal lift arm and hydraulic attachment performance while fine-tuning the maximum machine travel speed in the first gear range. This gives you precise travel control without sacrificing hydraulic power for the job.

## ***DURABILITY / RELIABILITY***

Doosan builds its machines so they're ready to work when you are. Whether it's solid construction, heavy-duty parts and materials, or innovative features that keep you on the job with fewer service intervals, your wheel loader ranks among the toughest and most profitable in the industry.



When you get up close to a Doosan wheel loader, you can see that this machine is built to last. With heavy-duty parts, quality materials and superb construction, you can rely on performance, productivity and profit day after day. Plus, innovative designs keep you on the job with fewer service intervals – so you spend less time in the shop.



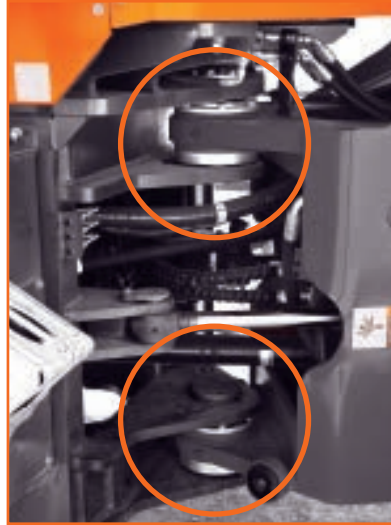


### Thick Lift Arm Plates

Thick, solid-steel lift arm plates provide maximum durability in harsh conditions – along with improved lift capacities. A narrower arm design overall increases your visibility.

### Tough, Rigid Frame

Each frame section is designed to maximize the life of the machine. Thick steel plates, cross members and gussets join to form a strong, durable articulation joint that stands up to years of difficult work.



### Double Roller Articulation Joint Bearing

To create an articulation pivot point with superior strength, tough double roller bearings are used at both the top and bottom hinge points between the front and rear frames.



### Large Center Driveline Bearing

An oversized bearing, that is vented to prevent over greasing, increases durability of the front drive shaft.



### All-Steel Panels

Access panels on Doosan wheel loaders allow easy maintenance access, and they're made of durable formed metal to protect critical engine, hydraulic and electrical components.



### Lift Arm Pin Protection

Lift arm pins are protected with bushings and dust covers to increase pin life and reduce maintenance.

### Variable Speed Cooling Fan

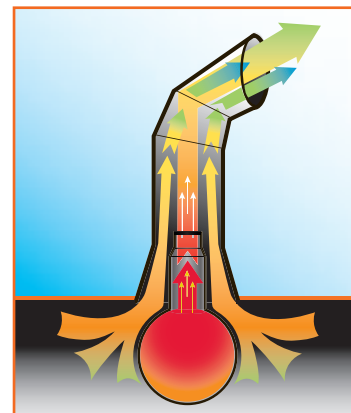
The variable speed fan slows and speeds up as required by the work demands of your loader. In lighter-duty conditions, the coolant temperature is low and the fan slows – saving fuel and extending the life of your cooling system.

### Reversible Cooling Fan

By pressing a console switch, the cooling fan can be reversed to assist in keeping the cooling system clean in extremely dusty applications. Press it to keep the machine running at optimal temperature. You can also set it to auto reverse for a few minutes at a time at different intervals – at 30, 60, 90 or 120 minutes depending on work conditions.

### Separate Cooling and Engine Compartments

Doosan isolates the wheel loader engine from the cooling system. This design increases cooling capacity and extends the life of your engine components.



### Exhaust Heat Exchanger

As exhaust leaves the muffler on your Doosan wheel loader, it enters a larger external riser pipe with rain shield. This design creates a vacuum that pulls hot air out of the engine compartment, making your engine and cooling system run more efficiently.

## COMFORT

You can't overlook the relationship between comfort and productivity. That's why comfort is central to the Doosan cabin design. It's packed with high-end comfort that enables you to retain a team of productive, experienced and satisfied employees.

### Quiet Operation

Operators stay relaxed and focused on the job with a quiet operating environment. Noise levels in the cabin stay below a comfortable 72 decibels thanks to the variable speed cooling fan, double-walled muffler, soundproof materials throughout the engine compartment, and tightly sealed and pressurized cabin.

### Excellent Visibility

Large front and rear glass surface areas provide an excellent view to the loader workgroup and jobsite. Narrow corner pillars and small window joints increase visibility to the front of the machine. Heated mirrors provide visibility to the sides and rear of the machine, even in cold temperatures.



### Easy Entry and Exit

Grab handles and offset steps with slip-resistant surfaces provide easy access to the cabin and easy exit when work is finished. A 180-degree swinging door that can lock to the open position provides a wide opening to move in and out of the machine. Inside, ample floor space gives you room to work and exceptional comfort.

### Ergonomic Controls

From the steering wheel and joystick to the switches for optional equipment, all controls are located within easy reach for intuitive, easy operation.



### Optional Rearview Camera

Provides the operator with an additional means to view the machine's surroundings, allowing for increased productivity.

### Automotive-Style Heat and Air Conditioning

Stay comfortable all year with high-capacity heating and cooling vents and an easy-to-control temperature. Automatic temperature control senses and adjusts to the temperature setting automatically. A memory function returns it to your preferred temperature if you shut the machine off and restart later.

### Easy-to-Read LCD Display Panel

An easy-to-read LCD display panel is placed within easy view for monitoring critical machine data and receiving machine warnings.



### Standard Radio with CD Player and MP3 Port

Tune into your favorite over-the-air stations, or take your favorite digital music format with you to work, to make every hour on the job more enjoyable.

### Adjustable Comfort

The standard air suspension seat has multiple adjustment points, allowing you to select the most comfortable position.

- A Seat Height
- B Seat Fore/Aft
- C Back Recline
- D Lumbar Support
- E Armrest Angle
- F Seat Heater (Opt.)
- G Headrest Up/Down



## EASY MAINTENANCE

If it's easy to do, regular maintenance gets done – and you'll get more production and efficiency from your loader. That's how Doosan approaches maintenance. First, we build the machine tough for long-lasting performance and longer service intervals. Next, we make machine care second nature to every operator with centrally located maintenance points, onboard diagnostic systems and easy component access. If you want durability and simple maintenance, Doosan delivers.



### Easy Component Access

Big, easy-to-open access covers and fold-up panels provide fast, ground-level access to critical engine and hydraulic components. When it's easy to reach and service components, you save time on maintenance and reduce your operating costs.



# DOOSAN<sup>®</sup>

## CONNECT<sup>®</sup>

Durable monitoring hardware is built into your Doosan machine, and it collects reliable, accurate and robust data with every minute of operation. The data is uploaded automatically to the Doosan Connect online system using dual-mode communications (cellular and satellite) for maximum coverage. Your designated users can monitor the machine status from anywhere using the Doosan Connect website and mobile application.

### Key benefits include:

- Critical code awareness or proactive service
- Preventative maintenance planning
- Operational efficiency management
- Location visibility



### Remote Grease Points

For a long-lasting machine, daily maintenance is critical. Remote grease points make it easier to lubricate hard-to-reach pins on the lift arm and articulation system. Daily greasing happens on the ground – and it's more likely to get done.

### Sight Glass for Major Fluid Levels

Sight glasses on the machine provide quick, easy fluid-level checks. All it takes is a quick visual check to know if your fluid reservoirs are properly filled.



### Centralized Remote Hydraulic Diagnostic Ports

You can review pressure and troubleshoot hydraulic issues from one check port bank. In minutes you can review pilot charge, brake system charge, load sensing, steering system, fan and steering pressures, along with the main relief setting.



### Color-Coded, Labeled Wiring and Hydraulic Hoses

Strategically labeled wiring enables plug-and-play installation of electrical accessories, such as the rotating beacon. It also allows quicker, easier electrical troubleshooting of the electrical and hydraulic systems.

### Self-Diagnostics

The LCD monitor helps you monitor critical systems in real time. Plus, you can access historical machine alerts right from the screen in the cabin.



### Doosan Monitoring System with Laptop Access

The Doosan Monitoring System is a diagnostic program that gives your dealer's technician a direct communications link with your wheel loader. During operation, it monitors all critical data and provides a complete history of operation and a real-time log of machine failures. Armed with information like this, your dealer service personnel can fix issues fast – and you can get back to work.

### Remote Drain Ports

Easy-to-access remote drain valves make for fast, convenient exchanges of engine oil and cooling system coolant.

Do more with your machine. Doosan wheel loaders are optimized for attachment versatility – bringing you more opportunities to utilize your equipment investment, and possibly enabling you to expand your business. Our tough attachments are matched to your machine’s operator weight and load settings – so you can rely on epic productivity with every job.



### Selectable Engine Power Modes

The Doosan wheel loader has three engine power modes – economy, normal and power – to further adapt your loader’s performance to the application and deliver the right balance of power and fuel economy.

### Standard Attachment Hydraulics

For hydraulic attachments, like the multi-purpose bucket, an auxiliary spool comes standard. No extra installation required. Hydraulic lines down the boom are optional.





### Optional Quick Coupler

Quickly change many of your wheel loader's non-hydraulic attachments without leaving the seat. A four-point style pick-up means you can hook up attachments easily, even on irregular terrain.

### Boom Float

The boom float allows your bucket to follow the ground contours, which saves you time and increases productivity when backdragging during snow removal.



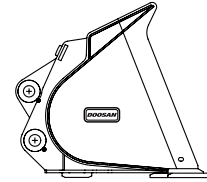
## General Purpose Bucket



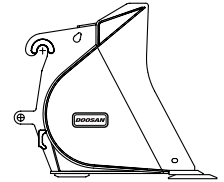
With a sloped bottom for maximum filling and material retention, this is the perfect bucket for day-to-day material handling. Capacities range from 4 to 6.5 yd<sup>3</sup>.

Available for DL200-5, DL200TC-5, DL220-5, DL250-5, DL250TC-5 and DL280-5 wheel loaders. All available with bolt-on cutting edge or teeth.

Pin-On



Quick Coupler



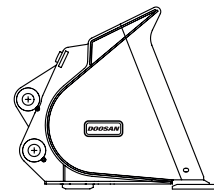
## Light Material Bucket



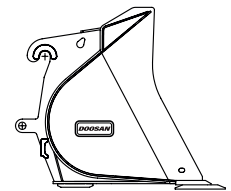
When you need to move snow, mulch or other light material in a hurry, the light material bucket is the economical choice. Comes standard with bolt-on cutting edge.

Available for DL200-5, DL200TC-5, DL220-5, DL250-5, DL250TC-5 and DL280-5 wheel loaders. All available with bolt-on cutting edge.

Pin-On



Quick Coupler



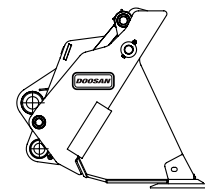
## Multi-Purpose Bucket



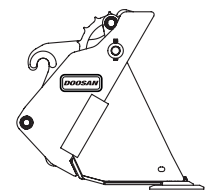
Leveling, dozing, digging, grappling, loading and dumping – this multi-purpose bucket is ready for whatever you've got. Capacities range from 3.5 to 4 yd<sup>3</sup>.

Available for DL200-5, DL200TC-5, DL220-5, DL250-5, DL250TC-5 and DL280-5 wheel loaders. All available with bolt-on cutting edge or teeth.

Pin-On



Quick Coupler

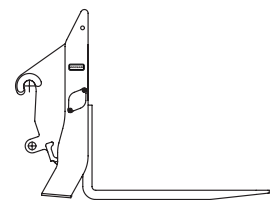


## Pallet Fork



Easily lift, carry and place materials. Available with with 48" or 60" tines for DL200-5, DL200TC-5, DL220-5, DL250-5, DL250TC-5 and DL280-5 wheel loaders.

Quick Coupler



Quick couplers are available in two designs – JRB and ISO style.  
For more information on Doosan attachments, refer to the Doosan Wheel Loader Attachment literature.

## General Specs

		DL200-5 Standard (US10)	DL200TC-5 Tool Carrier (US10)	DL220-5 Standard (US10)	DL250-5 Standard (US10)	DL250TC-5 Tool Carrier (US10)	DL280-5 Standard (US10)
<b>ENGINE</b>							
MAKE		Perkins	Perkins	Doosan	Doosan	Doosan	Doosan
MODEL		1204F	1204F	DL06	DL06	DL06	DL06
NUMBER OF CYLINDERS	INLINE	4	4	6	6	6	6
RATED POWER, GROSS (per SAE J1995)	hp (kW) @ rpm	142 (106) @ 2200	142 (106) @ 2200	160 (119) @ 2100	172 (128) @ 2100	172 (128) @ 2100	172 (128) @ 2100
MAXIMUM TORQUE, GROSS (per SAE J1995)	ft.-lb. (kgf-m) @ rpm	413 (57) @ 1400	413 (57) @ 1400	542 (75) @ 1400	593 (82) @ 1400	593 (82) @ 1400	593 (804) @ 1400
PISTON DISPLACEMENT	in. <sup>3</sup> (L)	269 (4.4)	269 (4.4)	360 (5.9)	360 (5.9)	360 (5.9)	360 (5.9)
BORE AND STROKE	in. x in. (mm x mm)	4.1" x 5" (105 x 127)	4.1" x 5" (105 x 127)	3.9" x 4.9" (100 x 125)	3.9" x 4.9" (100 x 125)	3.9" x 4.9" (100 x 125)	3.9" x 4.9" (100 x 125)
STARTER	V, hp (kW)	24, 7.4 (5.5)	24, 7.4 (5.5)	24, 8 (6)	24, 8 (6)	24, 8 (6)	24, 8 (6)
BATTERY (2)	V, AH, CCA	2x12, 100, 900	2x12, 100, 900	2x12, 100, 900	2x12, 100, 900	2x12, 100, 900	2x12, 100, 900
ALTERNATOR	V, amp	24, 85	24, 85	24, 80	24, 80	24, 80	24, 80
AIR CLEANER		Double Element	Double Element	Double Element	Double Element	Double Element	Double Element
<b>HYDRAULICS</b>							
MAIN PUMPS	gpm (L/min.)	49 (184)	49 (184)	41 (155)	41 (155)	41 (155)	55.5 (210)
SYSTEM PRESSURE (WORK)	psi (kg/cm <sup>2</sup> )	3190 (224)	3190 (224)	3626 (255)	3843 (270)	3843 (270)	3843 (270)
SYSTEM PRESSURE (STEER)	psi (kg/cm <sup>2</sup> )	2830 (199)	2828 (199)	2828 (199)	3843 (270)	3843 (270)	3843 (270)
BOOM SPEED	UP (UNLOADED)	sec.	5.7	5.1	6	6	6.3
	DOWN	sec.	3.6	4.2	3.5	3.7	3.2
BUCKET SPEED	CROWD (UNLOADED)	sec.	1.6	3	1.9	1.9	2.1
	DUMP	sec.	1.6	2.6	1.2	1.4	1.3
<b>ENVIRONMENT</b>							
SOUND LEVEL (per ISO 6394)	dB(A)	102	102	102	101	101	103
CABIN SOUND LEVEL (per ISO 6394)	dB(A)	70	70	71	71	71	72
<b>TRANSMISSION SPEEDS</b>							
TRAVEL SPEED - FORWARD (4)	mph (km/h)	8/8/12/24 (13/13/20/38)	8/8/12/24 (13/13/20/38)	4.3/8/15/24.2 (7/12.8/24.2/39)	4.1/7.4/14.3/23.5 (6.6/11.9/23/37.8)	4.1/7.4/14.3/23.5 (6.6/11.9/23/37.8)	3.9/7.7/14.4/22.1 (6.3/12.4/23.1/35.5)
TRAVEL SPEED - REVERSE (3)	mph (km/h)	8/8/12 (13/13/20)	8/8/12 (13/13/20)	4.6/8.4/15.8 (7.4/13.5/25.4)	4.3/7.8/15 (6.9/12.5/24.2)	4.3/7.8/15 (6.9/12.5/24.2)	4.1/8.1/15 (6.6/13.1/24.2)
MAXIMUM GRADE	% (°)	55 (29)	55 (29)	58 (30)	58 (30)	58 (30)	58 (30)
<b>REFILL CAPACITIES</b>							
FUEL TANK	gal. (L)	45 (172)	45 (172)	58.6 (222)	58.7 (222)	58.7 (222)	58.7 (222)
DIESEL EXHAUST FLUID TANK	gal. (L)	5 (19)	5 (19)	8.3 (31.5)	8.3 (31.5)	8.3 (31.5)	8.3 (31.5)
COOLING SYSTEM (RADIATOR)	gal. (L)	8.5 (32)	8.5 (32)	10.6 (40)	10.6 (40)	10.6 (40)	8.3 (31.6)
ENGINE OIL	gal. (L)	2.8 (10.5)	2.8 (10.5)	7.1 (27)	7.1 (27)	7.1 (27)	7.1 (27)
TRANSMISSION	gal. (L)	–	–	8 (30)	8 (30)	8 (30)	9.8 (37)
GEARBOX	gal. (L)	0.7 (2.7)	0.7 (2.7)	–	–	–	–
FRONT AXLE	gal. (L)	4 (15)	4 (15)	5.7 (21.5)	9.3 (35)	9.3 (35)	9.2 (35)
REAR AXLE	gal. (L)	3.5 (13.3)	3.5 (13.3)	5.7 (21.5)	6.1 (23)	6.1 (23)	6.1 (23)
HYDRAULIC SYSTEM	gal. (L)	34.1 (129)	34.1 (129)	31.7 (120)	31.7 (120)	31.7 (120)	31.7 (120)
<b>HYDRAULIC CYLINDERS</b>							
STEERING (2)	BORE x ROD x STROKE	in. x in. x in. (mm x mm x mm)	2.8" x 1.4" x 14.4" (70 x 35 x 366)	2.8" x 1.4" x 14.4" (70 x 35 x 366)	2.8" x 1.8" x 16.7" (70 x 45 x 425)	2.8" x 1.8" x 16.7" (70 x 45 x 425)	2.8" x 1.8" x 16.7" (70 x 45 x 425)
LIFT (2)	BORE x ROD x STROKE	in. x in. x in. (mm x mm x mm)	4.9" x 3.0" x 26" (125 x 75 x 669)	4.3" x 3.0" x 31" (110 x 75 x 790)	4.5" x 3.0" x 31.1" (115 x 75 x 790)	4.5" x 3.0" x 31.1" (115 x 75 x 790)	5.3" x 3.1" x 31.1" (135 x 80 x 790)
BUCKET (1) *	BORE x ROD x STROKE	in. x in. x in. (mm x mm x mm)	5.1" x 2.9" x 20" (130 x 75 x 509)	4.1" x 2.6" x 33" (105 x 65 x 843)*	5.1" x 3.1" x 20.3" (130 x 80 x 515)	5.1" x 3.1" x 20.3" (130 x 80 x 515)	4.1" x 2.6" x 34.7" (105 x 65 x 881)*

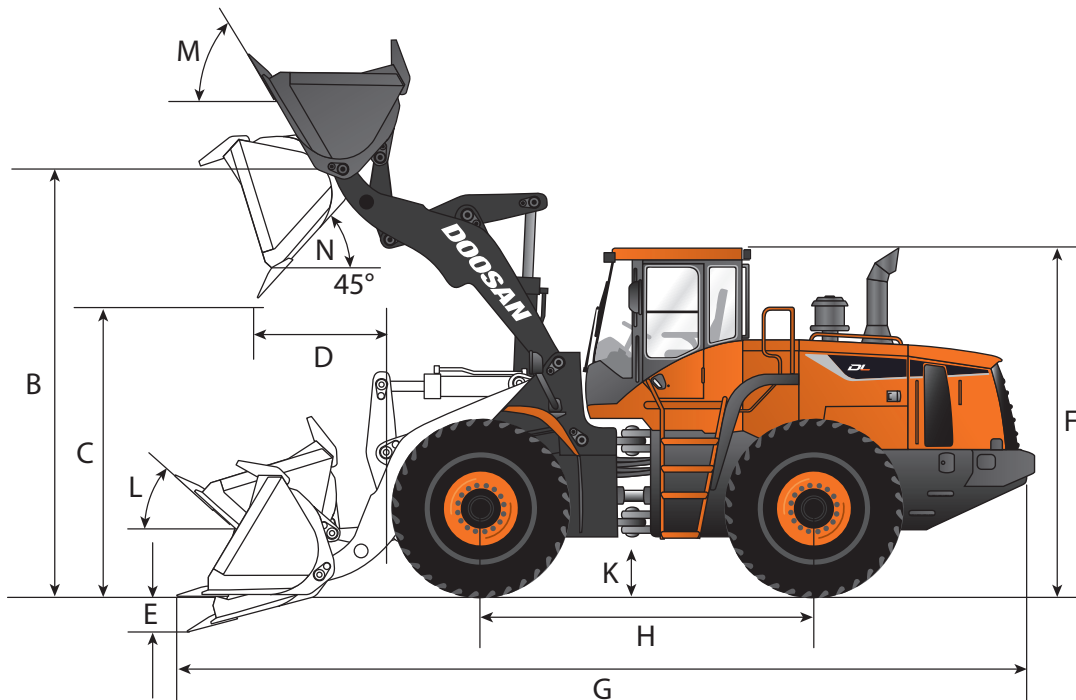
\* The DL200TC-5 and DL250TC-5 have TWO bucket cylinders.

NOTE — Where applicable, dimensions are in accordance with Society of Automotive Engineers (SAE) and ISO standards. Specifications and design are subject to change without notice. Pictures of Doosan wheel loaders may show other than standard equipment. All dimensions are shown in inches. Respective metric dimensions are enclosed by parentheses. Doosan Construction Equipment is manufactured with a Quality Management System that is in compliance with ISO 9001:2008.

All dimensions are given for Doosan wheel loaders equipped with standard tires.

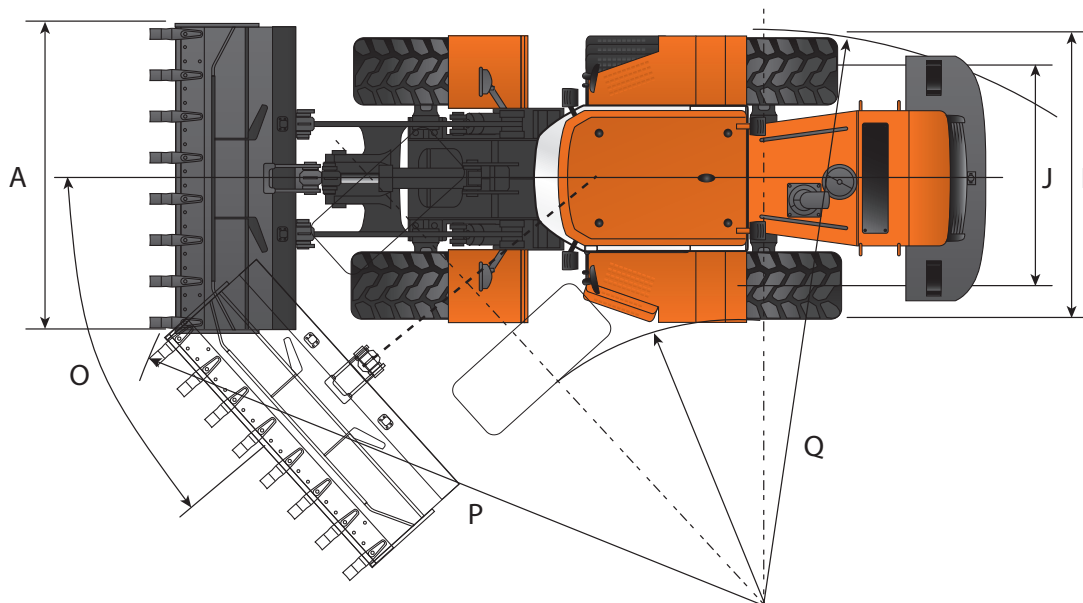
## Operational Data

		DL200-5		DL200TC-5	DL220-5	
		Standard (US10)	High Lift (US20)	Tool Carrier (US10)	Standard (US10)	High Lift (US20)
<b>BUCKET TYPE: General Purpose</b>		<b>BUCKET MOUNT: Pin-On</b>		<b>BUCKET CONFIGURATION: Bolt-On Edge</b>		
BUCKET CAPACITY, HEAPED ISO/SAE	yd <sup>3</sup> (m <sup>3</sup> )	2.6 (2)	2.6 (2)	2.6 (2)	3 (2.3)	3 (2.3)
BUCKET WIDTH	A ft.-in. (mm)	8' 4" (2550)	8' 4" (2550)	8' 4" (2550)	8' 4" (2550)	8' 4" (2550)
HINGE PIN HEIGHT, MAXIMUM	B ft.-in. (mm)	12' 3" (3730)	13' 9" (4200)	12' 6" (3810)	12' 8" (3860)	14' 1" (4300)
DUMP HEIGHT (45°) - FULLY RAISED	C ft.-in. (mm)	9' 6" (2887)	11' (3347)	8' 10" (2685)	9' 3" (2825)	10' 9" (3270)
DUMP REACH (45°) - FULLY RAISED	D ft.-in. (mm)	40" (1015)	39" (985)	37" (945)	42" (1065)	41" (1040)
DIGGING DEPTH	E ft.-in. (mm)	2.4" (60)	6.9" (175)	3.1" (80)	3.5" (90)	7.9" (200)
OVERALL HEIGHT, ROPS CABIN	F ft.-in. (mm)	10' 9" (3280)	10' 9" (3280)	10' 9" (3280)	10' 9" (3280)	10' 9" (3280)
OVERALL LENGTH	G ft.-in. (mm)	23' 5" (7135)	24' 10" (7580)	24' (7315)	24' 5" (7445)	25' 11" (7905)
WHEEL BASE	H ft.-in. (mm)	9' 6" (2900)	9' 6" (2900)	9' 6" (2900)	9' 11" (3010)	9' 11" (3010)
WIDTH AT TIRES	I ft.-in. (mm)	8' 4" (2530)	8' 4" (2530)	8' 4" (2530)	8' 1" (2460)	8' 1" (2460)
TREAD WIDTH	J ft.-in. (mm)	6' 4" (1930)	6' 4" (1930)	6' 4" (1930)	6' 4" (1930)	6' 4" (1930)
GROUND CLEARANCE	K ft.-in. (mm)	1' 5" (435)	1' 5" (435)	1' 5" (435)	1' 5" (435)	1' 5" (435)
MAX. TILT ANGLE ON GROUND	°	43	43	52	42	43
MAX. TILT ANGLE AT CARRY POSITION	L °	49	50	52	48	51
MAX. TILT ANGLE AT FULLY RAISED	M °	60	63	53	59	61
MAX. DUMP ANGLE (FULLY RAISED)	N °	47	45	47	48	46
STEERING ANGLE, MAXIMUM	O °	40	40	40	40	40
EXTERNAL RADIUS, BUCKET EDGE	P ft.-in. (mm)	19' (5795)	19' 6" (5935)	18' 10" (5740)	19' 6" (5950)	20' (6100)
EXTERNAL RADIUS, OUTSIDE TIRE	Q ft.-in. (mm)	17' 2" (5245)	17' 2" (5245)	17' 2" (5245)	18' (5475)	18' (5475)
TIRE SIZE		20.5-R25 (L3)	20.5-R25 (L3)	20.5-R25 (L3)	20.5-R25 (L3)	20.5-R25 (L3)
OPERATING WEIGHT	lb. (kg)	25,795 (11,700)	26,566 (12,050)	26,224 (11,895)	27,381 (12,420)	28,296 (12,835)
STATIC TIPPING LOAD (STRAIGHT)	lb. (kg)	21,075 (9560)	17,955 (8145)	18,825 (8540)	21,230 (9630)	19,412 (8805)
STATIC TIPPING LOAD (AT FULL TURN)	lb. (kg)	18,620 (8445)	15,850 (7190)	16,625 (7540)	18,750 (8505)	17,141 (7775)
BREAKOUT FORCE	lbf. (kgf)	22,480 (10,197)	22,930 (10,401)	21,355 (9686)	22,706 (10,299)	25,180 (11,421)



# Operational Data *Continued*

		DL250-5		DL250TC-5	DL280-5	
		Standard (US10)	High Lift (US20)	Tool Carrier (US10)	Standard (US10) Standard (US30) HD	High Lift (US20) High Lift (US40) HD
BUCKET TYPE: General Purpose		BUCKET MOUNT: Pin-On		BUCKET CONFIGURATION: Bolt-On Edge		
CAPACITY HEAPED ISO/SAE		yd <sup>3</sup> (m <sup>3</sup> )	3.3 (2.5)	3.3 (2.5)	3.3 (2.5)	3.7 (2.8)
BUCKET WIDTH	A	ft.-in. (mm)	8' 11" (2740)	8' 11" (2740)	8' 11" (2740)	9' (2740)
HINGE PIN HEIGHT, MAXIMUM	B	ft.-in. (mm)	12' 7" (3858)	14' 2" (4325)	12' 10" (3934)	12' 11" (3940) 13' (3975)
DUMP HEIGHT (45°) - FULLY RAISED	C	ft.-in. (mm)	9' 2" (2802)	10' 7" (3246)	9' (2749)	9' 2" (2802)
DUMP REACH (45°) - FULLY RAISED	D	ft.-in. (mm)	42" (1073)	40" (1034)	4' 3" (1299)	3' 9" (1150)
DIGGING DEPTH	E	ft.-in. (mm)	3.9" (98)	5.4" (137)	3.4" (87)	4.5" (115)
OVERALL HEIGHT, ROPS CABIN	F	ft.-in. (mm)	10' 9" (3280)	10' 9" (3280)	10' 9" (3280)	10' 10" (3310) 11' (3345)
OVERALL LENGTH	G	ft.-in. (mm)	24' 6" (7475)	25' 9" (7865)	25' 7" (7805)	25' 3" (7700)
WHEEL BASE	H	ft.-in. (mm)	9' 10" (3020)	9' 10" (3020)	9' 10" (3020)	9' 11" (3010)
WIDTH AT TIRES	I	ft.-in. (mm)	8' 7" (2640)	8' 7" (2640)	8' 7" (2640)	8' 5" (2570)
TREAD WIDTH	J	ft.-in. (mm)	6' 8" (2040)	6' 8" (2040)	6' 8" (2040)	6' 8" (2040)
GROUND CLEARANCE	K	ft.-in. (mm)	1' 5" (435)	1' 5" (435)	1' 5" (435)	1' 4" (397) 1' 5" (432)
MAX. TILT ANGLE ON GROUND		°	42	43	40	42
MAX. TILT ANGLE AT CARRY POSITION	L	°	48	51	48	48
MAX. TILT ANGLE AT FULLY RAISED	M	°	59	61	51	62
MAX. DUMP ANGLE (FULLY RAISED)	N	°	48	45	50	46
STEERING ANGLE, MAXIMUM	O	°	40	40	40	40
EXTERNAL RADIUS, BUCKET EDGE	P	ft.-in. (mm)	19' 9" (6045)	20' 1" (6134)	17' 11" (5475)	20' (6085)
EXTERNAL RADIUS, OUTSIDE TIRE	Q	ft.-in. (mm)	18' (5475)	18' (5475)	18' (5475)	17' 9" (5420)
TIRE SIZE			20.5-R25 (L3)	20.5-R25 (L3)	20.5-R25 (L3)	20.5-R25 (L3)
OPERATING WEIGHT		lb. (kg)	30,115 (13,660)	31,129 (14,120)	31,592 (14,330)	34,262 (15,541) 36,345 (16,489)
STATIC TIPPING LOAD (STRAIGHT)		lb. (kg)	23,997 (10,885)	21,440 (9725)	20,470 (9285)	26,486 (12,014) 29,357 (13,316)
STATIC TIPPING LOAD (AT FULL TURN)		lb. (kg)	21,186 (9610)	18,927 (8585)	18,078 (8200)	23,389 (10,609) 25,922 (11,758)
BREAKOUT FORCE		lbf. (kgf)	23,830 (10,809)	23,380 (10,605)	22,930 (10,401)	30,349 (13,766)



# Specifications

## Standard/Optional Equipment

	DL200-5	DL200TC-5	DL220-5	DL250-5	DL250TC-5	DL280-5
<b>ENGINE</b>						
Emissions (EPA)	T4	T4	T4	T4	T4	T4
High Pressure Common Rail (HPCR)	•	•	•	•	•	•
Cooled Exhaust Gas Recirculation (CEGR)	•	•	•	•	•	•
Diesel Oxidation Catalyst (DOC)	•	•	•	•	•	•
Selective Catalyst Reduction (SCR)	•	•	•	•	•	•
Diesel Exhaust Fluid (DEF)	•	•	•	•	•	•
Fuel Filter with Water Separator	•	•	•	•	•	•
Coolant Recovery Tank	•	•	•	•	•	•
Dual Element Dry-Type Air Filter with Evacuator	•	•	•	•	•	•
Pre Cleaner	•	•	•	•	•	•
Electronic Engine Control (ECU)	•	•	•	•	•	•
Auto-Idle (Working to Standby)	•	•	•	•	•	•
Auto-Shutdown (Time Adjustable)	•	•	•	•	•	•
Overheat & Low Oil Pressure Engine Protection	•	•	•	•	•	•
Cooling Fan - Radiator, Variable Speed	•	•	•	•	•	•
Cooling Fan - Radiator, Automatic Reversible	•	•	•	•	•	•
Radiator, Wide-Fin	-	-	-	-	-	•
Remote Drain Port - Engine Oil	•	•	•	•	•	•
Block Heater (110V)	•	•	•	•	•	•
Fuel Filler Pump	•	•	•	•	•	•
<b>HYDRAULIC</b>						
Variable Displacement Axial Piston Pump	•	•	•	•	•	•
Closed-Center System	•	•	•	•	•	•
Pilot Operated Control Valves	•	•	•	•	•	•
Remote Test Ports	•	•	•	•	•	•
Remote Drain Port - Hydraulic Oil	•	•	•	•	•	•
Spring Applied Hydraulic Release Parking Brake	•	•	•	•	•	•
Auxiliary Hydraulics (3rd Valve)	•	•	•	•	•	•
Auxiliary Hydraulics (4th Valve)	•	•	•	•	•	•
Automatic Boom/Lift Kick-Out, Adjustable (In Cab)	•	•	•	•	•	•
Automatic Return-to-Dig Position, Adjustable	•	•	•	•	•	•
Boom Float	•	•	•	•	•	•
Load Isolation System	•	•	•	•	•	•
<b>ELECTRICAL</b>						
System Voltage - 24V	•	•	•	•	•	•
Alternator - 24V, 80 Amp	-	-	•	•	•	•
Alternator - 24V, 85 Amp	•	•	-	-	-	-
2 x 12V Batteries, 100 AH Capacity, 900 CCA	•	•	•	•	•	•
Blade Type Fuse Panel	•	•	•	•	•	•
Main Circuit Breaker	•	•	•	•	•	•
Light, Work (Halogen): Front (2), Rear (2)	•	•	•	•	•	•
Light, Headlights (High/Low Beams) (2)	•	•	•	•	•	•
Light, Stop, Tail & Direction Indicators	•	•	•	•	•	•
Rotating Beacon	•	•	•	•	•	•
Hour Meter	•	•	•	•	•	•
Rearview Camera	•	•	•	•	•	•
Laptop Service Port	•	•	•	•	•	•
Self-Diagnostics System	•	•	•	•	•	•
Telematics	•	•	•	•	•	•

	DL200-5	DL200TC-5	DL220-5	DL250-5	DL250TC-5	DL280-5
<b>CABIN</b>						
Steel, All-Weather & Sound Suppressed	•	•	•	•	•	•
ROPS (ISO 3471)	•	•	•	•	•	•
Front & Rear Window with Wiper/Washer	•	•	•	•	•	•
Tinted Safety Glass	•	•	•	•	•	•
Visor, Retractable	•	•	•	•	•	•
Lockable Doors	•	•	•	•	•	•
Seat - Air Suspension - 2" (51 mm) Seat Belt - Adjustable Height & Recline - Adjustable Fore/Aft - Adjustable Arm Rests	•	•	•	•	•	•
Seat - Heated	•	•	•	•	•	•
3" (76 mm) Seat Belt	•	•	•	•	•	•
Control Stand - Sliding (Fore/Aft)	•	•	•	•	•	•
Storage	•	•	•	•	•	•
Mirror, Rear View (1)	•	•	•	•	•	•
Mirrors, Exterior (2) Heated	•	•	•	•	•	•
Fully Automatic HVAC with Ambient Temperature Sensor	•	•	•	•	•	•
Multi-Function LCD	•	•	•	•	•	•
Cigarette Lighter	•	•	•	•	•	•
AM/FM Stereo with CD Player & MP3 Port	•	•	•	•	•	•
Speakers (2)	•	•	•	•	•	•
Antenna, Roof-Mounted	•	•	•	•	•	•
Power Socket, 12V	•	•	•	•	•	•
Beverage Holder	•	•	•	•	•	•
Hot/Cold Compartment	•	•	•	•	•	•
Interior Light	•	•	•	•	•	•
<b>CONTROLS</b>						
Adjustable Steering Column - Tilting - Telescoping	•	•	•	•	•	•
Throttle Pedal (Accelerator)	•	•	•	•	•	•
Brake Pedal, Right	•	•	•	•	•	•
Brake Pedal, Left (Transmission Kick-Out)	•	•	•	•	•	•
Gear Selector (FNR)	•	•	•	•	•	•
Joystick Control	•	•	•	•	•	•
Fingertip Control (3 Lever)	•	•	•	•	•	•
Switches, Console-Mounted - Starter (Key) - Parking Brake - Pilot Cutoff - Transmission Cutoff - Work Light - Reversible Cooling Fan	•	•	•	•	•	•
Speed Management	•	•	-	-	-	-
Traction Control Management	•	•	-	-	-	-
Power Mode (P, S, E)	•	•	•	•	•	•
Transmission Mode	•	•	•	•	•	•
Wiper Control Panel	•	•	•	•	•	•
Audio Control Panel	•	•	•	•	•	•

- Standard Equipment
- Optional Equipment
- N/A



# Standard/Optional Equipment *Continued*

	DL200-5	DL200TC-5	DL220-5	DL250-5	DL250TC-5	DL280-5
<b>FRAME &amp; DRIVELINE</b>						
Z-Bar Lift Arm	•	–	•	•	–	•
Z-Bar Lift Arm, High Lift	■	–	■	■	–	■
Parallel Lift Arm	–	•	–	–	•	–
Steering Cylinder, Double-Acting (2)	•	•	•	•	•	•
Transmission, Automatic - Power Shift - (4F/3R Speed)	–	–	•	•	•	•
Transmission, Hydrostatic - Dual Motor	•	•	–	–	–	–
Torque Converter	–	–	•	•	•	•
Differential, Front - Limited Slip	•	•	•	•	•	•
Differential, Front - Hydraulic Locking	–	–	■	■	■	■
Differential, Rear - Limited Slip	•	•	•	•	•	•
Hydraulic Power Steering	•	•	•	•	•	•
Outboard Planetary Axles	•	•	•	•	•	•
Heavy Duty, Outboard Planetary Axles	–	–	–	–	–	■
Fixed Front Axle	•	•	•	•	•	•
Oscillating Rear Axle	•	•	•	•	•	•
Parking Brake, Spring Applied Hydraulic Release	•	•	•	•	•	•
Sealed, Self-Adjusting Brakes	•	•	•	•	•	•
Tires, 20.5R25 Bias	•	•	•	•	•	•
Tires, 20.5R25 Radial	■	■	■	■	■	■
<b>DISPLAY MONITOR &amp; WARNINGS</b>						
Buzzer - Engine Oil Pressure - Coolant Temperature - Transmission Overheat	•	•	•	•	•	•
Gauges - Fuel Level - DEF Level - Engine Coolant Temperature - Transmission Oil Temperature - Engine rpm - Speedometer - Transmission Gear Indicator - Battery Voltage - ECO - Digital Clock - Trip Meter - Hour Meter - Total Operation Time - Fuel Consumption	•	•	•	•	•	•
Warning & Indicator Lights - Seat Belt - Error Code - SCR Warning - Check Engine - Engine Oil Pressure - Engine Pre-Heat Engaged - Radiator Coolant Temperature - Air Filter - Fuel Level - DEF Level - Water in Fuel - Battery Charge - Lights (High, Main, Work, Beacon) - Direction Signal - Emergency Steering - Hydraulic Oil Temperature - Hydraulic Charge Pressure Warning - Hydraulic Pilot Filter - Hydraulic Return Filter - Transmission Mode - Transmission Warning - Transmission Lock-Up - Transmission Oil Temp - Transmission Gear Indicator - Brake Fluid Pressure Warning - Reverse Fan Indicator - Mirror Heat Indicator - Parking Brake Indicator	•	•	•	•	•	•
Back-Up Alarm	•	•	•	•	•	•

	DL200-5	DL200TC-5	DL220-5	DL250-5	DL250TC-5	DL280-5
<b>OTHER</b>						
Centralized Lubrication	•	•	•	•	•	•
Handrails & Service Platforms	•	•	•	•	•	•
Skid-Resistant Steps & Service Platforms	•	•	•	•	•	•
Drawbar & Pin	•	•	•	•	•	•
Wheel Chocks	•	•	•	•	•	•
Rear Fender, Full	■	■	■	■	■	■
Additional Counterweight <i>*Additional counterweight is standard on all high lift machines.</i>	–	–	■	■	–	■
Manuals - Operation & Maintenance - Parts - AEM Safety Manual	•	•	•	•	•	•
Telematics, 36-Month Subscription	•	•	•	•	•	•
Vandalism Protection - Lockable Panels - Lockable Fluid Fill Points - Anti-Theft Protection (Password)	•	•	•	•	•	•

• Standard Equipment  
 ■ Optional Equipment  
 – N/A



# DOOSAN STRONG



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