INDUSTRIAL TRACTOR APPLICATIONS

A Product of Hard Work
Offering you a broad range of applications

The range of applications to which Fastrac is suited is wide and varied. So welcome to a machine that will perfectly meet the ever changing demands and offers a real step forward in versatility and productivity, without compromising performance or safety.

This universal vehicle is specifically designed to work effectively with an extensive range of attachments and deliver performance characteristics that will compare or surpass that of many dedicated machines while offering year-long flexibility.

Key to its performance is the full suspension system, with excellent on and off road capabilities Fastrac suspension offers the ability to travel at speed with control and also perfect weight distribution. This combination of vibration-free ride and one of the most comfortable two man cabs available ensures operator fatigue is reduced to a new low.

A combination of truck-style ABS air brakes, with unique suspension system and powerful Cummins engines means that the key benefits of high road speeds coupled with low fuel consumption is achieved especially on the 3000 Series models. Additionally the compact 2000 Series provides the option of full four-wheel steering, ideal where high manoeuvrability is essential to the operation.

Whatever the job, you won’t find a more productive and versatile option for the industrial sector.
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Tree and Woodland Management

Excellent all-round visibility for operating in confined areas

Full suspension ensures safe operation in challenging conditions

Full power PTO’s ideal for operating in the most arduous conditions

Powerful auxiliary hydraulics offer speed and control when operating attachments
Winter Maintenance

Front linkage or DIN plate for operating snowploughs and sweepers
Full ABS system for safe braking in icy conditions
Rear deck capacity up to 3250kg suitable for carrying mounted equipment
Self levelling rear suspension ensures accurate application of de-icing agents
Optional cab winter pack ideal for operating in cold conditions
4WD & diff-locks provide excellent traction
Waste and Recycling

- Capable of hauling up to 80kph reduces travel times between sites
- Full power PTO for arduous applications
- Transmission offers a wide range of forward speeds to suit all applications
- Auxiliary hydraulics compatible with a wide range of equipment
- Trailer braking facility available as standard
Service Industries

- Stretched chassis options available to suit large deck mounted equipment
- High gross vehicle weight kit for increased load carrying capacity
- 3 way rear tipping body offers more versatility
- Industrial specification tyre options for difficult operating conditions
- Rear deck area suitable for crane and access platform mounting
Highway Maintenance

Front mounted mowers ideal for verge trimming applications
Up to three fully integrated positions for mounting attachments
Mid mounted cab for excellent all-round visibility
High road speeds for quick travel and response times
High power auxiliary hydraulics for the most challenging applications
Airport Maintenance

5th wheel coupling compatibility for operating with large trailed equipment

ABS, 4WD & diff-locks for safe control when operating in difficult conditions

DIN 3 plate and front linkage suitable for operating snowploughs and snow pushers

Full power PTO suitable for snow blowers and de-icing rigs

Versatility for all year round operation
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ENGINE
At the heart of every Fastrac is a Tier 3-compliant turbocharged Cummins engine utilising the latest technology to meet the ever-increasing demands of emission legislation, as well as offering improved fuel consumption.

The 8.3-litre unit on the 8250 features 4 valve per cylinder technology and air-to-air intercooling. This produces 248 DIN hp at 2,200rpm, with a maximum torque output of 1,179Nm right down at 1,200rpm, whilst producing over 1,100Nm of torque for over 65% of the engine’s speed range.

The 2000, 3000 and 7000 Series feature a 6.7-litre engine, again utilising the 4 valve per cylinder technology and air-to-air intercooling. It also features over 95% of maximum torque at just 1,000rpm and a rear-driven gear train which dramatically reduces external engine noise.

Both the 8.3-litre and 6.7-litre engines use a common rail fuel injection system that can operate at pressures of up to 1,600 bar and uses electronics to time the exact injection of the fuel. This very precise control not only improves the engines’ performance but also their efficiency.

When it comes to servicing, Fastrac cooling systems are designed with cleaning access in mind. So cooling elements are laid out to allow access to each individual section, enabling removal of dirt and debris quickly and effectively.

All Fastracs also feature effective dust filtration of the engine’s intake air. This is supplemented by a Donaldson Powercore system that uses centrifugal force to remove large dust particles before they enter the filter element, helping to reduce routine maintenance.

Finally, all Cummins electronic engines feature a management system that continuously monitors engine performance to help increase service life. Following an initial 100-hour service the engine oil and filters only need renewing every 5,000 hours, whilst top-end engine maintenance is only required every 5,000 hours.

TRANSMISSION
Fastracs are capable of speeds up to 80kph so their transmissions need to be efficient and flexible. That’s why the 8250 boasts the V-TRONIC continuously variable transmission, the 3000 Series Xtra and 7000 Series feature the P-TRONIC powershift transmission, and the 2000 features the Smoothshift transmission with Autoshift.

The V-TRONIC transmits mechanical power just like a normal transmission. But instead of lots of gears providing different speeds, the transmission uses a variable displacement hydraulic pump, two variable displacement hydraulic motors and epicyclic gear assembly to vary the speed infinitely. So you gain the flexibility of a hydrostatic system with the power efficiency of a mechanical transmission.

Both the V-TRONIC and P-TRONIC transmissions are controlled electronically, making it easy to operate from the driver’s seat. Plus, by allowing the transmission electronics to communicate with the engine electronics, the tractor can control both automatically if required. This helps achieve maximum performance or economy automatically. The P-TRONIC transmission features 6 gears in 4 ranges all of which can be selected using the armrest mounted joystick without the need for a clutch.

The Smoothshift transmission features a multi-plate oil-immersed wet clutch, guaranteed against wear for 6,000 hours. It requires exceptionally low driver effort, either with the clutch pedal or the Autoshuttle button. Plus, the Selectronic system allows pre-selection of the required gear range and direction.

With the three-speed powershift transmission, quick up or down shifts can be made without using the clutch. The electronic control system helps ensure smooth changes under load. And with Autoshift it is possible for these changes to be made automatically in response to engine load.

FRONT AND REAR PTO
A full power heavy-duty PTO drive train is incorporated in to transmission. Rear PTO comes as standard, with the option of front PTO factory fit or as an after market dealer fit option.

Selectable 540 and 1000rpm shaft speeds are standard with soft engage hydraulic clutch pack engagement, the system also includes a shaft brake facility for improved operator safety. At the rear as standard we specify a single direction output with a reversible 6 or 21 spline shaft. Removal of a simple circlip is all that is required to reverse the shaft. On 8250 and 7000 Series a convenient bolt-on shaft converts between rear PTO spline options.

The front PTO is available as an option to suit your requirements, a single output in an anti-clockwise direction (when viewed from the front). 540 and 1000rpm shaft speeds are available driven at the same speed as the rear. 8250 offers a single front PTO at 1000rpm with 20 or 21 spline shaft options.

AXLES
Heavy-duty differential gears in the rear axle drive head ensure durability and increase service life. 3000 Series front axles feature a crown wheel and pinion of the same size as the heavy-duty rear axle, with soft engage differential lock providing true, 100% four wheel drive traction at the flick of a switch without compromising the effortless steering.

Shot peening and superfinsihing processes are used which strengthen the gears providing excellent reliability, and a transmission which is able to cope with supplying higher horsepower in the most demanding conditions.

For winter or difficult operating conditions selectable differential locking and four-wheel drive is available to ensure optimum traction.
CHASSIS AND SUSPENSION

There’s never been a smoother ride. The Fastrac’s unique, vibration-free suspension system actively increases the efficiency of both operator and implements.

The dynamic axle mounting system ensures implements remain stable, isolating them and the operator from bounces and jolts which can limit their effectiveness. Whatever the load on the rear deck, hydro-pneumatic rear suspension keeps the chassis level. Side-to-side self-levelling and anti-roll bars improve handling, safety and stability, particularly when cornering or working on hillsides.

The four link front suspension including panard rod features a large single centre control arm and carefully designed upper arms to allow for an improved turning circle. This mechanical progressive rate system allows a generous amount of axle movement when lightly loaded, but stiffens up as the front load increases.

Rear Hydro-pneumatic suspension. When additional load is put on to the rear deck, the chassis lowers in relation to the rear axle. The ride height corrector valves allow oil flow into the system, this pressurises the hydraulic cylinders and steadily restores the original ride height. At this point the valves close, trapping oil within the system. The extra pressure also ‘loads’ the gas springs to increase suspension stiffness, to accommodate the extra weight on the deck.

As load is taken off the deck, ride height corrector valves are displaced, but in the opposite direction, opening an escape path to the tank for the hydraulic oil. The reducing pressure allows the vehicle to fall until the corrector valves close, retaining the ‘new’ volume of oil in the system and again restoring ride height to the pre-set level.

Designed to cope with stress without resorting to an excessive increase in weight, the Fastrac’s fully welded chassis is ideally suited to carrying linkage or deck mounted implements. This chassis has also been designed to integrate with various extended chassis options, increasing the already substantial rear deck by an extra 750mm or 1450mm in length.

BRAKES AND STEERING

The braking system is designed to EC truck standards. Safe and controlled stopping comes from full ABS (Anti-lock Braking System) air-over-hydraulic actuation, with heavy-duty external discs and calipers on all four wheels. Large external discs with excellent cooling ensure safe fade-free braking. Air and hydraulic systems are split for improved safety.

The ABS system implemented by JCB on the Fastrac utilises a 4 sensor, three-modulator system, which provides constant monitoring of all wheels and independent control of the rear wheels. A high level of control is paramount, as directional instability during braking is at its greatest on the rear wheels and independent modulation gives confidence and control during braking.
The 2000 Series Fastracs have hydrostatic twin-ram steering, requiring low driver effort to achieve high steer torque at the wheels. As for 3000 Series and 8250 machines, they employ a mechanical steering system with power assistance for good driver feedback at higher speed.

Only one system offers significantly greater manoeuvrability; that of JCB Quadtronic. Available on the 2000 Series, it offers you the extra flexibility that could only come from a four-wheel steer fully suspended vehicle.

With four steering modes in addition to two-wheel steer, overall manoeuvrability can be increased by at least 30% ideal for operating in urban areas with narrow street conditions. Four-wheel steer modes include tracking, proportional, delay and crab steering.

Every Fastrac cab comes with two full size seats and air conditioning fitted as standard, excellent ventilation and a powerful heater add to operator comfort, also for dry operating environments, a full dust filter provides clean fresh air.

Thanks to ergonomic design, all major controls are conveniently located to the operator’s right-hand side while direction and range gears are positioned on the left-hand steer column. The controls are sophisticated and informative yet simple to use.

The operating environment features high quality trim, including a Grammer seat and fully adjustable steering column. An optional high spec deluxe seat is also available.

3000 Series Xtra, 7000 & 8000 Series models, all feature armrest mounted controls with full colour touch screen control of vital tractor functions. This armrest gives access to hydraulics, linkages and transmission control. 2000 Series Plus machines feature similar electronic spool valves, deluxe mirrors, performance pack, deluxe heated air seat and upgraded worklight package.

State-of-the-art sound insulation techniques keep noise to class leading low levels (as low as 72 decibels).

The JCB Electronic Monitoring System (EMS) provides an easy to understand performance assessment of numerous machine functions to keep the operator up-to-date with machine productivity. It also warns of service due dates to help minimise downtime.
The Fastrac hydraulic system delivers power-on-demand together with precise control to make optimum use of even the biggest attachments. The large capacity hydraulic pump generates higher flow rates for faster response to demand from the external auxiliary services.

With a minimum of three spool valves all with a float position, the right option is always available to the operator whatever the application.

High hydraulic oil flow rates are available for services up to 180 litres/min at 210 bar. Available as an option on 2000 Series, the hydraulic flow divider gives an uninterrupted accurate hydraulic feed to an attachment or hydraulic motor of up to 90 litres/min.

This independent hydraulic system also allows the use of bio-oil in certain applications. The couplings at the front or rear of the machine are all colour coded with the corresponding control lever. The rear utility cross member incorporates up to 4 pairs.

Rear linkage features heavy-duty link arms with a maximum of 100mm lift cylinders, providing a lift capacity at the link ends of up to 10,000kg.

Optional front linkage incorporates Category 2 lift arms, which fold neatly away in the vertical position for storage. Lift capacity of 2,500kg on 2000 Series and 3,500kg on 3000, 7000 and 8250 Series are available.

Factory fitted chassis extensions of 750mm and 1450mm are available for all 3000 Series Fastracs. These extensions can be attached to the rear chassis providing extra rear deck capacity and an increase in wheelbase. This is ideal for the mounting of larger auxiliary equipment, for example, access platforms capable of reaching a height of over 12 metres, cranes with up to 7 metre/tonne capacity and also three-way tipping bodies.

The chassis provides a strong, durable base which is easy to mount equipment to. The increased wheelbase provides excellent stability, particularly when working with equipment at height on uneven surfaces.

Tailored to your needs. The Fastrac is specifically designed to meet the needs of a wide range of industries. But, of course, everyone has individual requirements so we provide a range of options that let you tailor the specification to suit you.

High GVW Kit (Gross Vehicle Weight) up to 14000kg, suitable for operating with heavy deck and linkage mounted equipment (on 3000, 7000 Series and 8250).

A front mounted Din 3 Plate lets you fit industrial equipment, such as snowploughs and sweepers.

Category 2 Front Linkage is available.

An Auxiliary Flow Divider offers a metered, adjustable service to the rear of the Fastrac for equipment requiring accurate flow metering (on 2000 Series).

Front Auxiliary Hydraulics add auxiliary services and a free-flow return to the front of the Fastrac.

Heavy-duty suspension cylinders raise the rear deck carrying capacity from 2.5 to 3.25 tonnes, a useful increase to payload when using mounted equipment (on 2000, 3000 and 7000 Series).

The ‘Winter Pack’ combines a heated front and rear screen with heated and electrically adjustable door mirrors, providing excellent driver visibility even in the coldest of climates (on 3000, 7000 Series and 8250).

Front PTO with single shaft supplies 540 or 1000 rpm output options on 2000 and 3000 and 7000 Series (single direction is in anti-clockwise direction when viewed from the front). The 8250 has the option of a 1000 rpm single direction front PTO.

Rockinger ladder hitch allows the use of a number of different trailer couplings adjustable in 10 different vertical positions.
<table>
<thead>
<tr>
<th>Engine type</th>
<th>2155</th>
<th>2170</th>
<th>3200 XTRA</th>
<th>3230 XTRA</th>
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<tbody>
<tr>
<td><strong>Gross power @ rated speed (SAE J1995)</strong></td>
<td>hp (kW)</td>
<td>hp (kW)</td>
<td>hp (kW)</td>
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<tr>
<td></td>
<td>160 (119) @ 2200rpm</td>
<td>170 (127) @ 2200rpm</td>
<td>190 (141) @ 2200rpm 220hp** (for transport)</td>
<td>220 (164.2) @ 2200rpm 260hp** (for transport)</td>
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<tr>
<td><strong>PTO</strong></td>
<td>hp (kW)</td>
<td>137 (102)</td>
<td>147 (110)</td>
<td>168 (125.3)</td>
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<td><strong>Weight</strong></td>
<td>kg (lb)</td>
<td>6,845 (15,091)</td>
<td>6,845 (15,091)</td>
<td>7,590 (16,733)</td>
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<td><strong>Max torque @ engine rpm</strong></td>
<td>Nm</td>
<td>641 @ 1500rpm</td>
<td>675 @ 1500rpm</td>
<td>931 @ 1500rpm</td>
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<tr>
<td><strong>Maximum rear lift capacity</strong></td>
<td>kg (lb)</td>
<td>6,000 (13,230)</td>
<td>6,000 (13,230)</td>
<td>8,000 (17,640)</td>
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<td><strong>Auxiliary hydraulics @ rated speed</strong></td>
<td>l/min</td>
<td>99</td>
<td>99</td>
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<td><strong>Road speed</strong></td>
<td>kph (mph)</td>
<td>60 (37)</td>
<td>60 (37)</td>
<td>65/80 (40/50)</td>
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<td><strong>Brakes (territory dependant)</strong></td>
<td>ABS</td>
<td>ABS</td>
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<tr>
<td><strong>Fuel tank capacity</strong></td>
<td>litres</td>
<td>330</td>
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<td><strong>Hydraulic tank</strong></td>
<td>litres</td>
<td>120</td>
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<td><strong>Transmission</strong></td>
<td>Smoothshift Selectronic</td>
<td>Smoothshift Selectronic</td>
<td>P-TRONIC</td>
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*Territory and tyre equipment dependant*
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<tr>
<th>Model</th>
<th>Cummins QSB6.7</th>
<th>Cummins QSB6.7</th>
<th>Cummins QSB6.7</th>
<th>Cummins QSB6.7</th>
<th>Cummins QSC8.3</th>
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<tr>
<td>7170</td>
<td>173 (129) @ 2200rpm</td>
<td>193 (144) @ 2200rpm</td>
<td>220 (164) @ 2200rpm</td>
<td>260 (194) @ 2200rpm</td>
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<tr>
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<td>150 (112)</td>
<td>177 (132)</td>
<td>201 (151)</td>
<td>238 (177)</td>
<td>225 (168)</td>
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<td>10,135 (22,345)</td>
<td>16,345 (35,450)</td>
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<td>9,100 (20,062)</td>
<td>11,000 (22,045)</td>
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<td>P-TRONIC</td>
<td>P-TRONIC</td>
<td>V-TRONIC</td>
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