



SCRAPER TRACTORS

» 435 and 485 hp



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BUILT TO PULL

Versatile scraper tractors have been designed to enhance profitability by outworking the competition. Using high quality components, Versatile scraper tractors focus on power, durability and reliability - because downtime is not an option. Engineered to be heavy duty, Versatile scraper tractors feature Cummins engines and industry proven transmissions. Comfortable for long working days, the Versatile 435SS and 485SS scraper tractors are designed to pull more than just pans, and are a valuable tool for any job site.

Versatile was the first company to mass-produce articulated four-wheel drive tractors, starting in 1966 with the D100 and G100 four-wheel drives. Those ground-breaking tractors were primitive by modern standards, with a 6-cylinder diesel or 8-cylinder gas engine producing 100 horsepower. 1966 models sold for less than \$10,000.

- » Introduction **2**
- » Engine **4**
- » Transmission **5**
- » Industry Leading Strength **6**
- » Features **7-9**
- » Cab **10**
- » Controls **11**
- » Service & Maintenance **12-13**
- » Warranty » Parts & Service **14**
- » Specifications **15**



ENGINE

Versatile tractors have been powered by Cummins engines for more than 40 years and today Cummins is the exclusive engine supplier across the entire line of products. Versatile engineers work closely with Cummins engineers to ensure the seamless integration of the engine with the tractor control systems.



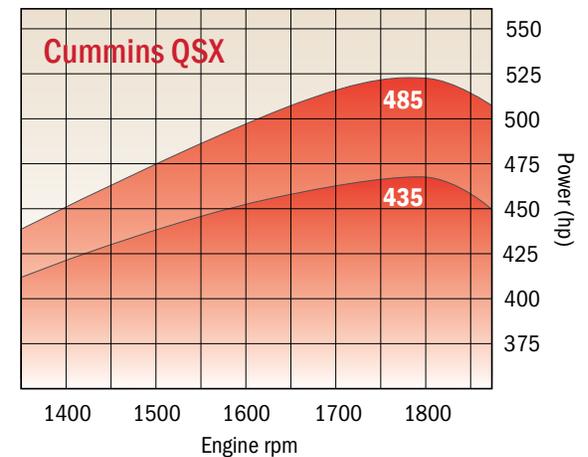
Cummins QSX15

The 15-liter six-cylinder Cummins engine is turbo charged and aftercooled for clean-burning fuel efficiency. The high-pressure injection system with electronic engine control quickly responds

to load conditions and throttle adjustments, with a 35% torque rise at 1400 rpm and a 7% power bulge at 1800 rpm to meet the rigors demands of the job site. The large 15-liter engine gives you the most displacement in its horsepower class - guaranteeing you have power when you need it.

Bigger Radiator, Better Cooling

The cooling system on Versatile scraper tractors uses a large grille and radiator to provide better air flow. The larger surface area reduces the air velocity required for engine cooling, which results in more efficient fan horsepower consumption.



TRANSMISSION

Versatile scraper tractors use industry proven 16-speed powershift transmissions.

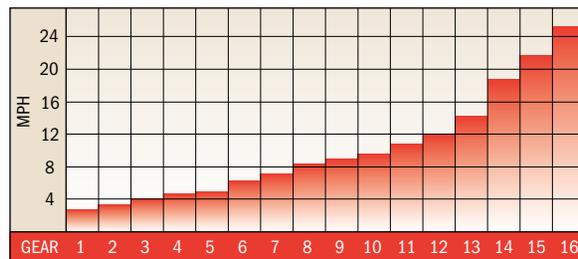
The single lever control provides clutchless shifting from forward / neutral / reverse for all speeds. »



Powershift transmission

An industry proven powershift transmission with 16 forward speeds and four reverse speeds, with eight gears in the heart of the critical working range.

Single lever control provides clutchless shifting from forward to neutral to reverse for all speeds. Powershift gear selection features are designed for simple gear selection, smooth operation and on-the-job convenience.



Powershift gear ranges

Auto shift

Engine and ground speed consistency is very important for maximizing the efficiency of your equipment. Auto-Shift is included on all Versatile scraper tractors to maintain ground velocity or engine speed for peak horse power and torque.

On the job

Versatile scraper tractors now have road speeds of up to 25 mph so moving equipment to the next job site takes less time.

POWERSHIFT FEATURE	DESCRIPTION
Automatic speed matching	Provides automatic gear selection to match engine and ground speed.
Sequential shift	Provides smooth continuous upshifts or downshifts by holding the lever left or right.
Pulse shift	Allows upshifting or downshifting one gear at a time, by tapping the lever left or right.
Pre-select	Pre-select any gear up to 10 th while in neutral. The tractor will gear up to the pre-selected gear.
Straight line shuttle shift	Shift from forward to reverse without clutching.

INDUSTRY LEADING STRENGTH

The frames on Versatile scraper tractors are among the heaviest in the industry, designed to manage horsepower and torque without the risk of frame damage.



Versatile scraper tractors feature a 3.15" (80 mm) pivot pin.



Frame construction

The frame is manufactured from thick high-grade steel plate to ensure structural integrity even under extreme conditions. The main bearing at the articulation point is oversized to enhance reliability. The drawbar pull point is immediately behind the articulation point which provides maximum pulling power when making tight turns.

Oscillation and Articulation

The flexibility provided by the subframe and drag link assembly permits up to 15° of oscillation on each side (30° total) as the tractor moves over uneven terrain. Large 3.5" (89 mm) steering cylinders articulate the tractor smoothly and quickly. A maximum articulation angle of 42° means a tight turnaround radius of less than 16' (4.9 m).

Fuel capacity and weight distribution

Two fuel tanks provide a total capacity of 350 U.S. gallons (1325 L). The two fuel tanks are connected with a crossover tube for convenient refueling on either side of the tractor. The tanks are located near the center of the tractor to maintain

the front-to-rear weight distribution. As the fuel level drops, the front-to-rear weight ratio remains the same so weight distribution is not affected, regardless of fuel level.

Outboard Planetary Axles

All models feature a large, reliable heavy-duty planetary final drive to provide long service with heavily ballasted tractors and big implements. Large bearings support the planetary hubs on the axle housings. They are built with large axle tubes and planetaries capable of standing up to heavy weights and capable of handling increased bending loads associated with wide dual or triple wheel options.

Outboard planetary axles deliver all available horsepower through a large, precision machined floating sun gear. The planetary hubs are suspended on large diameter bearings mounted directly to the axle tubes. The load is supported by the axle housing assembly and not by the drive train components. All Versatile scraper tractors feature reliable final drives that deliver horsepower where it counts; at the drawbar.

The planetary axles remain on the tractor during routine maintenance, limiting downtime. Daily inspections are easy with a quick visual check of the axle oil level indicators. The gears can also be reversed to extend the wear life.



FEATURES

Versatile scraper tractors come with a variety of features and options to make operation safer, easier and more convenient.



Auto Grease

Optional on the 435SS and 485SS scraper tractor is an auto greasing system. This system is located on the left side of the tractor near the articulation point. This electronically controlled unit can be set to grease in ½ hour intervals from .5 to 5.0 hours. The auto-greasing systems reduces maintenance time. The ability to grease during operation results in the best possible grease distribution across the bearing surface; this

results in reduce component wear for moving parts and creates an effective barrier against moisture and dirt. The automatic greasing systems reduces downtime and maintenance costs.

1. Auto Grease System. **2.** Rotating Beacon. **3.** Fire Extinguisher.



FEATURES

Modern implements require more hydraulic capacity to operate efficiently and the hydraulic system on Versatile scraper tractors has been developed to meet those demands.



Hydraulics

The rigorous demands of scraper work require a reliable hydraulic system. The Versatile scraper tractor is available with four or six hydraulic circuits and the choice of standard flow (55 gpm) or high flow (80 gpm). Electro-hydraulics are ergonomically designed for both comfort and convenience and allow for finger-tip operation of hydraulic functions. Easily adjustable flow control knobs for the hydraulic circuits are located on the side console. Rotate the knobs to increase or decrease flow to each of the hydraulic circuits without leaving the cab.

Tow Cable

As standard equipment a tightly braided steel tow cable is securely mounted just behind the articulation point and extends all the way to the front weight kit. Simply unbolt the cable from the weights, attach to another machine and get out of any situation with ease.

Hitch Options

Versatile scraper tractors have a variety of available hitch options to match industry standard pans. Tractors can be ordered from factory with Miskin, Reynolds and K-Tec hitches.

Worklights

For low-light working conditions, Versatile scraper tractors are equipped with fourteen standard worklights mounted on the grille, front fenders, rear fenders and cab. To maximize visibility an optional HID lighting package is available. These lights provide up to ten times more light than conventional headlights.

FEATURES



1. Tow cable is attached at a central pulling point to reduce stress on the frame.
2. Front mounted cable pull-point for easy access.
3. 4 and 6 valve options to meet the demands of modern attachments.
4. Miskin, Reynolds, and K-Tec hitch options.
5. Premium lighting package for long working days.



Standard Package

- » 4 sets of Remote Couplers EHR control mechanical control
- » 55 gpm (208 lpm) total flow
- » Halogen Worklights
- » Standard Seat
- » Manual climate control
- » 160 amp alternator
- » 2 Speaker radio ready
- » Front sunvisor
- » Rotating Beacon

Premium Package

- » 6 sets of remote couplers electro-hydraulic control
- » 80 gpm (303 lpm) total flow
- » HID lighting package
- » Rotating beacon
- » Auto climate control
- » Fire Extinguisher
- » Hydraulic trailer brake
- » 160 amp alternator
- » Auto greasing system
- » 4 speaker radio ready
- » Front/Rear sunvisor
- » Training seat
- » Deluxe semi-active seat
- » Monitor bracket with power

The cab has been designed to meet the demands of the job site, offering unparalleled operator comfort and convenience.



The standard cab offers an air-ride suspension swivel seat while the Deluxe Cab includes a heated, semi-active suspension seat.

Enjoy a clear view from the seat of your cab. With minimal obstruction the hood works as a convenient siteline.



Standard Features

The access steps are recessed in the fuel tank and the handrails and door handle are functional and easy to reach. The wider cab offers excellent 360° visibility for work and maneuvering large modern implements and there is a clear sightline to the drawbar when attaching equipment. The high-resolution electronic display is easy to read and provides operating data at a glance and the side console features a convenient fingertip-control throttle.

Deluxe Cab

The Deluxe Cab features a heated, semi-active air-ride suspension seat as well as a secondary training seat. Front and rear sun visors are included and electronic automatic climate control will maintain the desired cab temperature. Power-adjustable heated external mirrors, front and rear wipers and washers and a monitor-mounting bracket with power outlets complete the Deluxe Cab package.

Cab Environment

Large controls for the heat and air conditioning are conveniently located to easily manage the cab environment. Plenty of storage space is provided behind and beside the seat for lunch coolers and toolboxes. The result is enhanced comfort to make the long day seem short. An AM / FM / CD stereo with two speakers is optional. An upgrade package adds two speakers and satellite radio (subscriptions fees may apply).

CONTROLS

The levers and control switches are clearly labeled, the console layout is uncluttered, and the controls are easy to use, even for novice operators.



Three indicator lights help you monitor your autogrease system to ensure the tractor is always well maintained.

Convenient and simple to use temperature controls keep the cab comfortable during long working days. Optional electronic automatic climate control maintains the desired cab temperature.



Tractor Performance Monitor

To closely monitor the performance of the tractor and implement, the tractor performance monitor is located in the lower-right corner of the information center and provides information on actual ground speed and slip percentage.



Display

The information center, located on the center console, features large digital gauges. The most important information is prominently displayed and easy to understand with just a glance. Coolant temperature, oil pressure, fuel level and battery meter are all indicated on bar-graph gauges. The console is designed to minimize glare, while being well-lit for night time operation.

SERVICE & MAINTENANCE

There are never enough hours in the day and every minute counts. That's why all Versatile scraper tractors are designed with easy serviceability in mind. Routine service can extend the life of your tractor, minimize downtime and lower your operating costs.



Daily Maintenance

Daily maintenance is made effortless with side shields that open up and out of the way to allow access to fill points and dipsticks. Fluid checks are easy with conveniently located sight gauges. A swing-out assembly on the front grille and radiator expose the hydraulic and transmission oil coolers, air conditioning condenser, fuel cooler, and charge air cooler for fast cleaning.

Axle Servicing

The Versatile outboard planetary axle system is known for its ease of service. Planetary axle covers can be removed from the tractor without removing the axles and tires, limiting the amount

of time needed for routine maintenance. Daily inspections are easy with a quick visual check of the axle oil level sight gauges.

Fueling

Refueling can easily be accomplished from either side of the tractor. A crossover tube allows both tanks to be filled quickly and with a capacity of 350 U.S. gallons (1325 L) you'll have many hours on the job site before stopping for fuel.

The air filter can be removed »
without the use of tools.



SERVICE & MAINTENANCE



1 The grille opens for access to the radiator and cooling system. **2** The air filter is easily accessible from ground level. **3** Open the right-hand side hood to check belt tension. **4** Fueling can be done on either side of the tractor by way of a crossover tube. **5** Check engine oil and sight gauges from ground level.



Axle Service



It's simple to repair the planetary gears without the need to jack up and support the tractor to remove the complete axle. Planetary axle covers can be removed from the tractor without removing the axles and tires.

Removing the planetary cover exposes the planetary gears, the sun gear and the axle shaft for service or routine maintenance. The gears can also be reversed to extend the wear life.



WARRANTY » PARTS & SERVICE



Investing in equipment for your operation is an important decision and a long-term commitment. Your Versatile dealer has access to our dealer service support system, including a wide base of knowledge on current and past Versatile models and expansive parts inventory.

Warranty

The warranty includes 1-year / 1000-hour comprehensive coverage and the engine is covered for an additional 1-year / 1000-hours.

Parts & Service

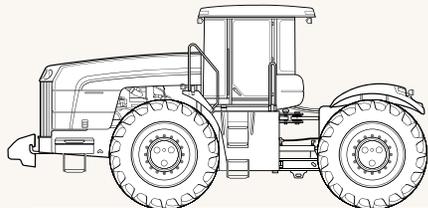
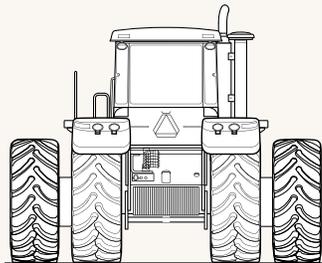
Versatile dealers have access to an extensive parts supply that is well stocked with the parts for routine scheduled maintenance. Versatile maintains an extensive parts supply for tractors dating back more than 20 years. Your Versatile dealer has factory-trained technicians that can handle

everything from routine scheduled maintenance to major service and overhauls.



SPECIFICATIONS » 435SS, 485SS

MODEL	ALL MODELS
Engine	
Engine type	Cummins QSX15
Aspiration	Turbocharged & air-to-air aftercooled
Displacement	15-liter
Dimensions	
Wheelbase	154" (3930 mm)
Height to top of exhaust	155" (3940 mm)
Height to top of cab	145.7" (3701 mm)
Overall length	310" (7874 mm)
Ground clearance, at drawbar	21.9" (556 mm)
Turning radius (with base tires)	394" (10000 mm)



MODEL	435SS	485SS
Engine performance		
Horsepower	435 hp (324 kW)	485 hp (362 kW)
Power bulge	7% at 1800 rpm	7% at 1800 rpm
Peak horsepower	465 hp (347 kW)	520 hp (389 kW)
Torque rise	35% at 1400 rpm	35% at 1400 rpm
Peak torque	1475 lb-ft	1650 lb-ft
Fuel system		
Filter	Engine mounted with water separator	Engine mounted with water separator
Filler neck	Rock screen	Rock screen
Transmission		
Powershift transmission	Caterpillar™ Powershift TA22: 16 forward speeds, 4 reverse speeds, electro-hydraulic, fully modulated, oil-cooled, multidisc	
Maximum speed	25 mph (40 kph)	
Axles		
Versatile Outboard Planetary Axles	Heavy-duty	Heavy-duty
Differential Lock	Standard	Standard
Brakes	Dual dry caliper	Dual dry caliper
Hydraulic Trailer Brake System	Standard	Standard
Hydraulics		
Hydraulic type	Closed Center Load Sensing System	Closed Center Load Sensing System
Hydraulic flow	55 gpm (208 L/min)	55 gpm (208 L/min)
High Flow hydraulic system	80 gpm (303 L/min)	80 gpm (303 L/min)
Hydraulic remotes (electro-hydraulic)	6 standard, 3/4" couplers	6 standard, 3/4" couplers
Maximum system pressure	2900 psi (197 bar)	2900 psi (197 bar)
Electrical System		
Alternator	12V - 180 amps	12V - 180 amps
Batteries	3-12V low maintenance, 950 CCA ea.	3-12V low maintenance, 950 CCA ea.
Beacon	Standard	Standard
Backup alarm	Standard	Standard
Drawbar		
Hitch options	Miskin / Reynolds / K-Tec	Miskin / Reynolds / K-Tec
Tow cable	Standard	Standard
Cab		
Seat tether	Standard	Standard
Weights		
Base tractor weight*	42,500 lb (19,278 kg)	42,500 lb (19,278 kg)
Capacities		
Fuel tank	350 U.S. gal (1325 L)	350 U.S. gal (1325 L)
Engine crankcase with filter	12.6 U.S. gal (47.8 L)	12.6 U.S. gal (47.8 L)
Cooling system	22 U.S. gal (83 L)	22 U.S. gal (83 L)
Hydraulic system	30 U.S. gal (113.6 L)	30 U.S. gal (113.6 L)
Planetary axle, each	15.1 U.S. gal (57 L)	15.1 U.S. gal (57 L)
Windshield washer reservoir	4 qt (3.8 L)	4 qt (3.8 L)

*A base tractor is considered to have 850/60R38 singles, front ballast, no fuel, no operator, no special added equipment.



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