

CHALLENGER 65C CHALLENGER 75C

AGRICULTURAL TRACTORS

The Total Field Machines

- Innovative Mobil-trac System improved efficiency, reduced compaction.
- Differential Steering Automotive-type steering for precise, constant steering response.
- Direct-Drive, Powershift Transmission proven in tough tillage applications.
- State-Of-The-Art Cab comfort and style, conveniently placed controls now with improved visibility, instrumentation and air quality.
- Power Applied Efficiently converts more engine power to drawbar power.
- 30% Torque Rise provides lugging power for heavy drawbar applications.
- Total Customer Support System parts or service... "when and where" you need them.

Challenger 65C

at 3306 DITA diesei Engine		
Gross power	212.5 kW	(285 HP)
Drawbar power at 1900 RPM		
PTO power at 1000 PTO RPM		
perating weight range	14 060 kg (
	17 690 kg (

Challenger 75C

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PTO power at 1000 PTO RPM......209 kW (280 HP)
Operating weight range......14 060 kg (31,000 lb)
to 17 690 kg (39,000 lb)

Featured machines may include additional equipment applicable only for special applications. See your authorized Caterpillar dealer for available options. All power figures are manufacturer's estimates based on Nebraska OECD Tractor Tests 1653 and 1654 on the Challenger 65B and Challenger 75 respectively.



CHALLENGER 65C AND 75C... THE TOTAL FIELD MACHINES

The Challenger 65C and 75C deliver the drawbar power, stability and low compaction of track machines with mobility, transport and tillage speeds offered by wheel tractors. And new comfort and convenience features in the C Series help boost field productivity.

Along with better traction and ride, Challenger C Series tractors offer unequaled economy from fuel savings, easy servicing and long service life.

Mobil-trac System

The long narrow footprint of the Mobil-trac System reduces slippage resulting in improved tractive efficiency which means more engine power is converted into usable drawbar power. With its large ground contact surface, the Mobil-trac System pulls a larger portion of the machine's weight than a 4WD tractor and has the ability to work through tough spots without spinning out. So, when it comes to turning engine power into working drawbar power, nothing comes close to Challenger tractors.

Direct-Drive, Powershift Transmission

On-the-go shifting under load in all gears lets you run at maximum speeds through changing field conditions. A transmission clutch control, also called an inching foot pedal, allows smooth engagement in any gear up to seventh, even while under a load, and provides smoother implement hookup.

Differential Steering

This Caterpillar exclusive gives outstanding steering response. Continuous power to each belt enhances traction, performance and maneuverability with smooth, even-power turns.



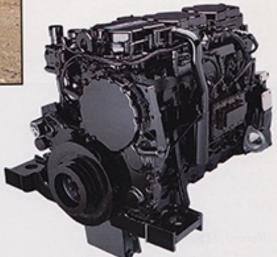






3306 DITA Engine in the 65C

Thirty percent torque rise gives lugging power needed for drawbar applications, minimizing downshifting. The extremely durable engine has long engine life at high load factors. Direct-injection fuel system provides efficient, precise fuel metering.



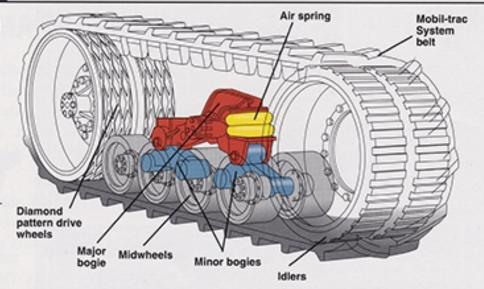
3176 ATAAC Engine in the 75C

The 3176 ATAAC engine meets challenging reliability, fuel consumption and emission requirements. Numerous technology and design innovations provide large engine performance from a compact engine package. The excellent fuel economy and durability can significantly reduce operating costs.

Mobil-trac System

As powerful as tracks, as mobile as wheels - maintains traction extremely well.

- Excellent mobility to get to all your fields fast. Travels all roads with speed and ride of rubber tires...without damaging road surface.
- Efficiently transfers more engine power to the drawbar. Pulls big loads fast...especially in poor soil conditions.
- Greater pulling power than like-size 4WD.
 - 15% more drawbar power in firstpass tillage.
 - Up to 35% more drawbar power in plowed ground.
- Durable construction four internal layers of flexible steel cables within a thick rubber belt provide up to two times life of tires on 4WD tractors in normal tillage applications. At the end of the long life, worn belts can be exchanged for new belts to further reduce operating costs through "Upgradeto-New" program.



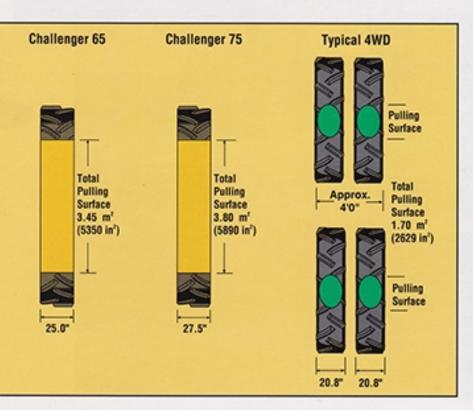
- Large ground contact area —
 long, narrow track provides
 excellent tractive efficiency with low
 ground pressure...significantly
 reduces soil compaction and
 slippage...provides pulling surface
 nearly two times the pulling
 surface of a 4WD tractor with duals.
- Bogie-mounted midwheels evenly distribute weight over the entire length of the belt, improve operator ride and provide high tractive efficiency.
- Front axle oscillates vertically and horizontally — provides excellent traction and smooth ride over uneven terrain.
- Rubber grousers provide excellent ground penetration and traction.
- Tensioning cylinders maintain friction between the belt and drive wheels to provide drive traction, even under the heaviest loads.

Mobil-trac System Advantage

The Mobil-trac System has almost 100% more pulling surface on the 65C and 124% on the 75C than a typical, dual-tired 4WD. Yet its long, narrow footprint contacts much less ground per pass. The Challenger tractor also exerts much less pressure on the ground it runs across.

The Challenger tractor delivers — almost twice the traction area, about half the compaction area and approximately one-third of the ground pressure of typical 4WD tractors.

The Challenger tractor results reduced compaction, fewer stunted plants, better plant emergence which means higher yield and profit potential on every acre you farm.



Direct Drive Powershift Transmission

Transmission Powershift ease; direct drive feel and efficiency.

- Ten-speed, full powershift, direct-drive transmission — onthe-go shifting in all gears with the efficiencies of direct-drive transmission...to run at maximum speeds through changing field conditions.
- Closely spaced field working gears — match implement load, field conditions precisely in the 6.4-13.0 Km/h (4-8.1 mph) tillage range.
- Transmission clutch control/inching pedal — permits tight-quarter maneuvering and ability to start heavy loads with clutch slippage protection (up to 7th gear). Shifts directly from neutral to any gear, forward or reverse.



- Speedy transport 29.3 km/h (18.1 mph) road speed reduces travel time to and from fields...over any road surface.
- Single-lever, in-line transmission control—provides the ability to shift up or down, to or from any gear without stopping.

Differential Steering

For instant, precise control with full power to each belt.

- Conventional steering wheel precise control and automotive-type feel, with the traction and flotation only tracks can provide.
- 0° turning radius hydraulic motor slows one track, speeds up other track with full power to each belt. The Challenger tractor can turn within its own length.
- Innovative, responsive steering

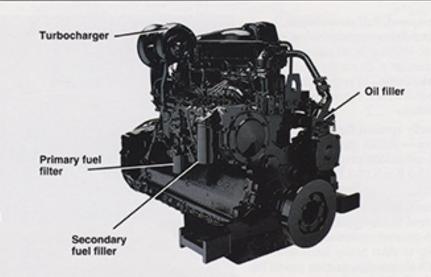
 proven durability. Tests show
 like-new parts after 8400 hours in tough, desert-like conditions.



Cat[®] 3306 Diesel Engine in the Challenger 65C

For season after season of reliable, durable, efficient work power.

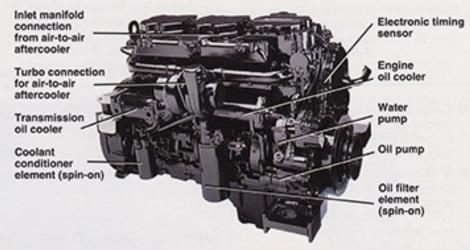
- Turbocharged 3306 diesel engine delivers plenty of power for quick response, big loads.
- Large displacement, high torque rise and low RPM rating for low stress, long life.
- High torque rise offers superior lugging to keep moving through tough spots without downshifting.
- Direct fuel injection precisely meters fuel for maximum productivity.
- Quick, easy access for service and inspection.



Cat 3176 ATAAC Engine in the Challenger 75C

New technologies and design innovations provide excellent reliability, performance and fuel economy.

- High torque rise offers superior lugging power to pull through tough spots for excellent drawbar work, without downshifting.
- Air-to-air aftercooler provides cooler and more dense intake air for the combustion process, creating clean and efficient fuel burn.
- Electronically controlled, mechanically actuated unit injector fuel system has high injection pressure for complete fuel combustion. This electronic unit injection system provides proper timing at all speeds. Programmed torque rise and power output, with low exhaust emissions and outstanding fuel efficiency.
- Two-piece articulated pistons — heavily loaded top portion of piston is forged steel handles the 29% higher cylinder pressures. The high pressure fuel injection, coupled with a top ring positioned high on the piston means more complete burn, and less emission of particulates.
- Dual oil cooling jets keep ring temperatures low for long ring and liner life with excellent oil control.



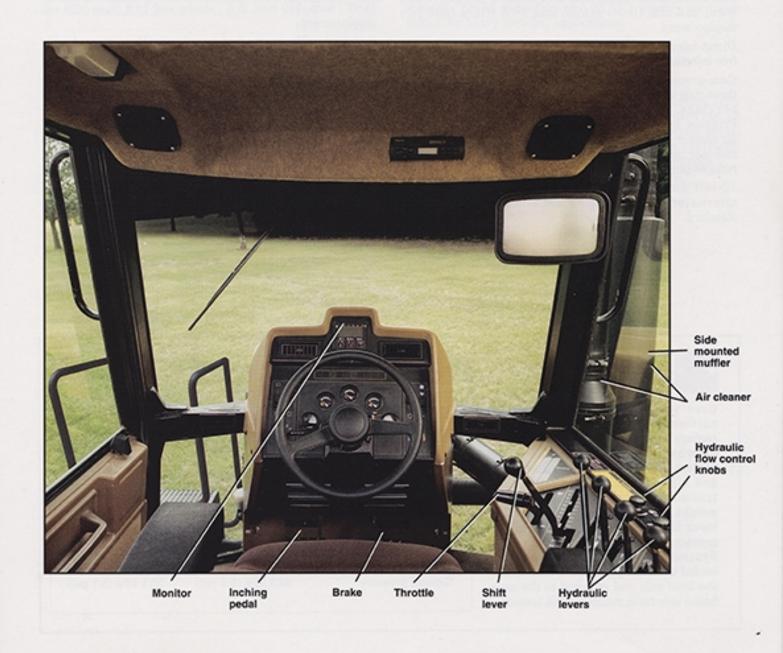
- Four valves per cylinder aids heat rejection. Valve area equals that of engine with 40% larger displacement. The camshaft actuates the valves and the unit fuel injection system for outstanding timing.
- Crankshaft has seven main bearings for maximum oil bearing surfaces, and eight crankshaft counterbalances to control and reduce internal load stresses.
- Simple, weight-saving, aluminum spacer deck with mid-supported cylinder liner provides efficient, pinpoint cooling to the top ring area.
- Easily accessible gear-driven oil, water, and fuel transfer pumps make servicing faster and repairs fewer.
- New thin-wall casting technology strengthens engine block and reduces weight.

Operator's Compartment

Improvements minimize heat, dirt, noise and fatigue.

- Improved visibility stacks are located on the fender in line with the ROPS corner post to provide an unobstructed front view. Large glass area provides outstanding forward and rear view from the operator's seat to the implement or road.
- Conveniently located controls

 easy to reach, easy to actuate, for increased operator efficiency.
- Fully adjustable suspension seat — swivels 30° for comfort, full around visibility...for a truly comfortable seat.
- Resiliently mounted operator's compartment — isolates the operator from machine vibration, creating a comfortable and quiet working environment.
- Pressurized, air conditioned cab — creates less dust and enhances operator comfort.
- Tinted safety glass minimizes glare for safe operation.



SPECIFICATIONS

Challenger 65C Caterpillar Engine

Gross power at 2100 RPM......212.5 kW (285 HP) Drawbar power at 1900 RPM 168 kW (225 HP) PTO power at 1000 PTO RPM......186kW (250 HP)

(Kilowatts (kW) is the International System of Units equivalent of horsepower.)

Net power at the flywheel of the machine engine is based on SAE J1349 standard conditions of 25°C (77°F) and 100 KPa (29.61°) HG. Power is based on using 35 API 15.6°C (60°F) gravity fuel having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29.4°C (85°F) and with a density of 838.9 g/L (7.001 lb/U.S. gal.) Flywheel power rating is adjusted for machine equipped with fan, air cleaner, water pump, fuel pump, muffler and lubricating oil pump. No derating is required up to 1500 m (5000 ft.) altitude.

Caterpillar four-stroke-cycle 3306 turbocharged and aftercooled diesel engine with six cylinders, 121 mm (4.75") bore, 152 mm (6.0") stroke and 10.5 liters (638 in³) displacement.

Direct-injection fuel system with individual, adjustmentfree injection pumps and valves.

Cam-ground and tapered aluminum-alloy pistons with three ring design. Steel-backed, copper-bonded aluminum bearings. Through-hardened crankshaft journals. Pressure lubrication with full-flow filtered oil. Dry-type air cleaner with primary and safety elements. Folded core radiator, with individually replaceable core assemblies, reduces plugging and improves reliability.

12-volt direct electric starting system with 115-amp alternator, ether starting aid and block heater are standard.

Challenger 75C Caterpillar Engine

Gross power at 2100 RPM242 kW (325 HP) Drawbar power at 1900 RPM....191 kW (256 HP) PTO power at 1000 PTO RPM......209 kW (280 HP)

(Kilowatts (kW) is the International System of Units equivalent of horsepower.)

*Net power at the flywheel of the machine engine is based on SAE J1349 standard conditions of 25°C (77°F) and 100 KPa (29.61") HG. Power is based on using 35° API 15.6°C (60°F) gravity fuel having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29.4°C (85°F) and with a density of 838.9 g/L (7.001 lb/U.S. gal.) Flywheel power rating is adjusted for machine equipped with fan, air cleaner, water pump, fuel pump, muffler and lubricating oil pump. No derating is required up to 1500 m (5000 ft.) altitude.

Caterpillar four-stroke-cycle 3176 turbocharged and air aftercooled diesel engine with six cylinders, 125 mm (4.92") bore, 140 mm, (5.5") stroke and 10.2 liters (629 in³) displacement.

Electronically controlled, mechanically actuated unit injector fuel system improves timing, saves fuel, and reduces emissions.

12-volt direct electric starting system with 115-amp alternator, ether starting aid and block heater are standard.

Articulated two-piece pistons are three-ring design, have forged steel crowns and aluminum skirts. Steel-backed, copper-bonded, aluminum bearings. Through-hardened crankshaft journals. Pressure lubrication with full-flow filtered oil. Dry-type air cleaner with primary and safety elements. Folded core radiator, with individually replaceable core assemblies, reduces plugging and improves reliability.

Mobil-trac System

Combines the mobility and speed characteristics of rubber tires with the efficiency and high performance of track. A high percentage of engine power is converted to drawbar power with the Mobil-trac System. Delivers higher drawbar power and higher productivity than a 4WD tractor of equal engine power and weight. Ground slip is considerably lower than rubber tire tractors due to greater contact area of the Mobil-trac System. Spring and nitrogen gas loaded tensioning cylinders, mounted to the front axle and attached to the main frame side rails, maintain belt tension.

Mobil-trac System	Challenger 65C	Challenger 75C
Number of rubber grousers (each side)	72	72
Width of belt	635 mm (25.0")	699 mm (27.5")
Length of belt on ground/wheel base	2721 mm (8'11")	2721 mm (8'11")
Ground contact area	3.45 m ² (5350 in ²)	380 m² (5890 in²)
Gauge	2150 mm (7'1")	2150 mm (7'1")
Grouser height (from ground face of belt)	63.5 mm (2.5")	63.5 mm (2.5")
Ground pressure	39.3 kPa (5.7 psi)	35.1 kPa (5.1 psi)

Transmission

Ten speeds forward — two speeds reverse, full direct-drive, powershift transmission is designed and built by Caterpillar specifically for agricultural tillage applications.

Speeds

Forward*		
km/h	MPH	
4.2	2.6	
6.4	4.0	
7.5	4.7	
8.6	5.3	
9.9	6.1	
11.3	7.0	
13.0	8.1	
14.9	9.3	
19.3	12.0	
29.3	18.1	
REVI	ERSE	
3.1	1.9	
7.2	4.5	
	km/h 4.2 6.4 7.5 8.6 9.9 11.3 13.0 14.9 19.3 29.3 REVI	

*Ground speed at rated engine speed, no slip condition. Field speed will depend on weight of tractor and soil conditions.

Differential Steering

Differential steering, a Caterpillar exclusive in the agricultural industry, gives outstanding steering response. When the steering wheel is turned, the steering control starts hydraulic flow from the hydraulic pump to the motor. The steering motor drives the steering differential to speed up one belt and slow down the other. This difference in belt speeds causes the tractor to turn. A maximum speed difference between the belts of up to 9.7 kph (6 mph) provides outstanding maneuverability, especially at slow travel speeds. Since power is never interrupted, smooth, even turning results. The hydrostatic steering pump and motor only operate on steering demand, for excellent driveline efficiency.

Bogie System Eight 381 mm (15") diameter midwheels per side

oscillate about two minor bogies and one major bogie. The major bogie oscillates about a cushioned pivot shaft. The spring-cushioned shaft absorbs shock loads, improving operator ride and equalizing the load on the midwheels for limited soil compaction. A maximum of 100 mm (4") vertical travel provides excellent track to ground interface, improving tractive efficiency and ride over rough fields.

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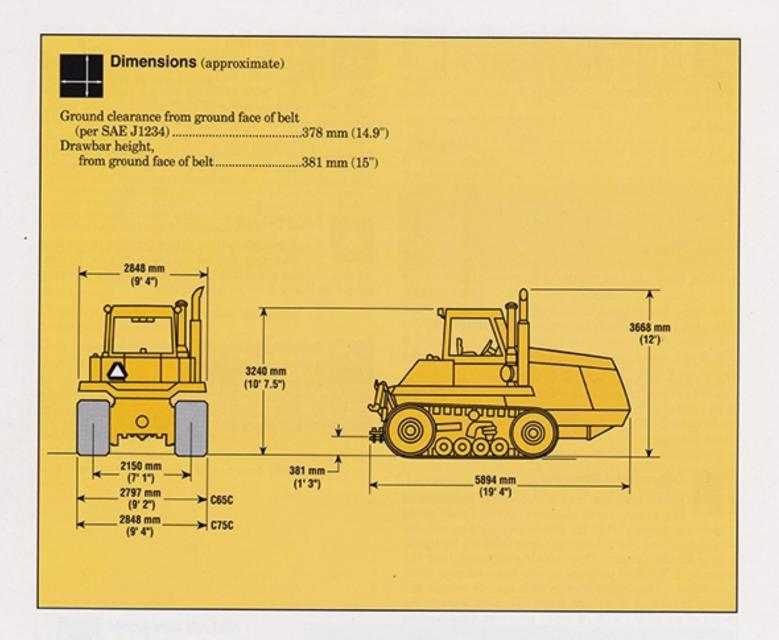
Final Drives

Single-reduction final drives transfer power from the planetary differential steer unit to the drive wheels. Speed reduction of 5.08 to 1 greatly increases torque for heavy drawbar applications.

Servicing

Walkways extending along the sides and fully around the rear of the machine, provide an excellent platform for daily servicing. All service points can be reached from either the ground or platform. Grouped service points allow quick, easy maintenance.

SPECIFICATIONS





Service Refill Capacities

	Challenger 65C		Challenger 75C	
	L	U.S. Gallons	L	U.S. Gallons
Fuel System	719	190	719	190
Cooling system	42	11	57	15
Crankcase	26	7	28	8
Hydraulic system	95	25	95	25
With three point hitch	105	28	105	28
Differential and final drive	189	50	189	50
Transmission	57	15	57	15



Brakes

(System meets SAE J1041 MAR83 and ASAE-S365 IT.)

Service — multi-disc, oil cooled, hydraulically boosted. Located on drive shaft inside the differential.

Parking/Secondary — mechanically actuated, selfadjusting, caliper-disc parking brake acts on main drive line — operator applies manually. Located just to the right of the operator's seat.

ROPS

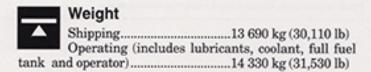
Rollover Protective Structures meet criteria SAE , J395, SAE J1040c and ISO3471-1986. They also meet FOPS (Falling Object Protection Structure) criteria SAE J1043 APR85 and ISO3449-1984.

ROPS structure is designed and certified for a maximum operating weight17 690 kg (39,000 lb)

Hydraulic Controls

Closed-center, load-sensing system — fully hydraulic power is transformed efficiently to implements. Automatically adjusts flow rate and pressure to match loads encountered, giving fast response to changing field condition. Four-position, implement control valves with kickout positive hydraulic responses. Controls inside the cab allow individual adjustment of flow to hydraulic circuits. Caterpillar's XT-3 hose for reliable long life performance. O-ring face seal couplings — virtually leak free.

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Capacity:	
Pump	— @ 2100 RPM
	— 1035 L/minute (27.3 gpm)
	@ 17 500 kPa 172 (2550 psi)
Reservoir	- 95 L (25 gal)
Type	— Closed-center,
	pressure-compensated, load-sensing



SPECIFICATIONS

Standard Equipment

Air cleaner with dust ejector, inlet extension and filter restriction indicator.

Alternator, 115 amp 12-volt. Batteries, 12-volt maintenance free.

Bogie guards, rear midwheels. Cab, ROPS, fully enclosed and sound suppressed.

Air conditioner, heater, defroster and pressurizer.

Ash Tray. Coat hook.

Courtesy lights (inside cab) switch only.

Floor mat.

Front wiper (two speed). Inching foot pedal.

Rear window wiper.

Seven pin connector for trailed equipment.

Storage for literature.

Tinted safety glass all windows.

Caterpillar diesel engine.

Differential steering. Electrical - 8 connection bus bar.

Emblem, slow moving vehicle on

Ether starting aid.

Fan, suction type. Fenders.

Floor mat.

Heater, engine coolant.

Horn.

Hydraulic system. Four remote circuits with detents, kickouts, float position and quick couplers. Load sensing system with 2500 psi compensation pressure. Includes flow control adjustment in the cab for circuits 2 and 3.

Instrument and control illumination. Instrument/gauge group for these

functions:

Brake, parking, light with audible action indicator.

Check engine light

Differential lube oil pressure, light with audible action indicator.

Engine coolant temperature, gauge with audible action indicator.

Engine oil pressure, gauge with audible action indicator.

Engine RPM with shift point indicator, tach is switchable to speedometer with PTO scale and contains hour meter.

Fuel gauge in cab.

Hydraulic and steering oil temperature, gauge with audible action indicator.

Hydraulic filter bypass light. Nitrogen charged tensioning cylinder light with audible action indicator.

Transmission oil temp, light with audible warning. Turn signals and safety flashers. Voltmeter.

Lights:

Four red rear lamps; two tail and two brake lights each side. Halogen flood lamps; four front and

four rear.

Halogen front lamps with dimmer control.

Action indicator lamps, amber, flashing with turn indicators.

Muffler.

Parking brake.

Power shift direct drive transmission with inching control pedal.

Radio Ready with dual speakers. Seat, deluxe fabric type, fully adjustable with suspension

including:

Backrest angle and support. Vertical height adjustment. Fore/aft position adjustment.

Retractable seat belt. Swivel, both directions 30° each.

Two position armrest. Service brake system.

Steering wheel, adjustable tilt,

telescoping.

Swinging drawbar, ASAE standard.

Optional Equipment

(with approximate change in operating weight)

Three Point Hitch with Balderson® Quick Hitch

816 kg (1800 lb)-75C

- · Electro-hydraulically controlled for smooth, easy and precise control with standard position or draft control.
- Will accept implements conforming to SAE-ASAE Category III or Category IV Narrow.
- · Easily visible from the operator's compartment.
- Lift capacity per ASAE S349-1, fully raised, 5579 kg (12,300 lb).

High Ambient Temperature Package

(no weight change)

· Additional cooling capacity through fan and crank pulley change (dealer installed).

Power Take-Off (PTO) 272 kg (600 lb)

- · Drives implements, motor, etc. by a rotating shaft located at the rear of the tractor.
- 20 splines, 44 mm (1.75") shaft.
- Live 1000 RPM at 2050 engine RPM.

Performance Monitor (no weight change)

Provides the operator with vital productivity information. The panel continuously monitors ground speed, engine RPM, engine hours, optional PTO RPM and % slip. By programming in the width of the implement, it automatically calculates acres-per-hour production, total acreage covered and distance traveled.

Air Ride Seat

- Automatically adjusts to operator's weight.
- AM/FM stereo/ cassette (dealer installed).

Belts

Challenger 65C	Challenger 75C
-145 kg (-320 lb)	-254 kg (-560 lb)
-188 kg (-413 lb)	-328 kg (-723 lb)
32 kg (70 lb)	-109 kg (-240 lb)
-/-	-141 kg (-310 lb)
173 kg (380 lb)	32 kg (70 lb)
141 kg (310 lb)	-/-
207 kg (456 lb)	66 kg (146 lb)
210 kg (462 lb)	69 kg (152 lb)
	-145 kg (-320 lb) -188 kg (-413 lb) 32 kg (70 lb)/- 173 kg (380 lb) 141 kg (310 lb) 207 kg (456 lb)

Made as ordered belts - Contact factory for application recommendations.

The Competitive Edge

Performance

- Mobil-trac System mobility and speed characteristics of rubber tires combined with the traction, improved ride and high performance of track.
- Large ground contact area reduces soil compaction and slippage, while providing outstanding traction and stability.
- Differential steering smooth even turns, with full power to each track gives precise control.
- Caterpillar engine fuel efficient and reliable. Proven to produce peak power, season after season.
- 30% torque rise provides lugging power needed for heavy drawbar application...less downshifting.
- Excellent weight distribution from a balanced machine pulling heavy drawbar loads.

Reliability/Durability

- Durable drive belt construction high belt tensile strength is supplied by continuous strands of flexible steel cable wrapped circumferentially around the belt. Provides up to two times life of tire on 4WD tractor, for low operating costs.
- Frame design incorporated integral drawbar and optional 3-point hitch mounting....evenly distributes load through the frame.
- Load-sensing hydraulic system proven for reliable, on-demand hydraulics.
- Caterpillar's XT-3 hose proven reliable up to 27 580 kPa (4000 psi) for superior life, flexibility and durability.
- Implement controls have raise, lower, hold and float positions. Valves automatically return to hold from raise or lower positions when implement cylinder stroke is completed-for more efficient operation and less operator fatigue.

Maintenance/Repair

- Modular components remove as single units for simpler, quicker repairs, less downtime.
- Fender area extended to the sides and rear of the machine. An excellent platform for daily servicing and improved dust control. All service points can be reached from either the ground or platform.
- Grouped service points for quick, easy maintenance.

Operating Ease

- Conveniently placed precise, low-effort controls increase operator efficiency for daylong productivity.
- Fully adjustable suspension seat swivels 30° for comfort, full around visibility.
- Tinted safety glass minimizes glare.
- Pressurized, heated, air conditioned cab enhances operator output by significantly reducing operator fatigue.

Total Customer Support System

- · Parts availability -most Cat parts on dealer's shelf when you need them - computer-controlled, emergency search system backup.
- Service capability in dealer's shop or fast field service - trained service people - latest tools and technology.
- Machine management services effective preventive maintenance programs, diagnostic programs (Scheduled Oil Sampling, Technical Analysis), cost effective repair options, customer meetings, operator and mechanic training.
- Exchange components for quick repairs choose remanufactured products or rebuilt components for maximum availability and lower costs.
- Literature support easy-to-use operation, maintenance manuals help you get the maximum value out of your equipment investment.
- Flexible Financing your dealer can arrange attractive financing on the entire line of Cat equipment. Terms structured to meet your cash flow requirements.

Custom Products

In addition to the standard range of optional equipment, special attachments and machine configurations to suit particular customer applications can be made. Contact your Caterpillar dealer for details on matching the Caterpillar product to your special applications.

