

Challenger 600B SERIES COMBINES



We're up to
The Challenge

600B SERIES

Rotary Combines

Challenger Offers Twenty-First Century Harvesting

New-Technology Answers for Today's Needs

Since the dawn of civilization, harvest has been a time of thanksgiving and celebration. But harvest has also been a time of critical importance...especially when it meant sustenance for another year.

In some respects, few things have changed. Even though each farmer now feeds more than 100 other people with the aid of mechanized power, it's still important that you get every bushel of grain out of the field and preserve the quality of the product. With margins getting ever tighter, farm livelihoods often depend on it.

That's where Challenger® 600B Series combines come into play. Available in three class sizes, Challenger combines are leading the way with unmatched productivity and improved features that let you harvest more acres in less time.

Unsurpassed Performance and Capacity

From the header to the spreader, Challenger combines have been designed for maximum capacity and efficiency...whether it means getting more out of the fuel tank or the field.

For shear threshing capacity, choose the 680B, which features one of the largest horsepower offerings of any class VIII combine on the market. Or take a look at the new restyled and updated 660B or 670B models. Not only do they feature many of the next-generation amenities previously introduced

on the flagship 680B, but they also boast new high-torque engines and increased cab comfort and control and the fastest unloading rate in the industry.

One of the greatest advancements, however, is complete ISOBUS interface on all 600B Series models. This allows the operator to monitor and control ALL combine and engine functions via a new C2000 terminal mounted on the armrest. A quick glance at the monitor, while looking down at the header, is all it takes to maintain peak performance in any crop.

The Best of Both Worlds

The Challenger name and logo may be relatively new on a combine, but seldom has a farm equipment company grown to prominence as quickly as the Challenger brand. In just a few short years, the name has become synonymous with quality and service, particularly among professional and commercial producers whose output represents 75% of the world's commodity production.

It all started in March 2002, when AGCO Corporation acquired the highly respected Challenger line of track tractors from Caterpillar® and began expanding it into a full line of serious farm machinery. Today, the Challenger brand also includes a rugged line of wheel and track tractors from 23 to 570 engine horsepower and a high-quality family of hay equipment that includes self-propelled windrowers, round balers and mower conditioners.

Equally important, Challenger partnered with Caterpillar and the Cat® dealer organization to develop the highest level of customer satisfaction in the world. Nobody commands more respect for their integrity, in-field service and parts support than the Cat dealer network. And nobody is better prepared to keep your harvesting equipment running, no matter the hour, day or location of your parts and service needs.

Three High-Capacity Models

Model	Engine Power	Power Bulge	Power Boost	Grain Tank Capacity	Unloading Rate
	hp (kW)	hp (kW)	hp (kW)	bushel (L)	bushels/s (L/s)
660B	300 (224)	321 (239)	330 (246)	300 (10,570)	4.5 (159)
670B	350 (261)	375 (280)	380 (283)	300 (10,570)*	4.5 (159)
680B	425 (317)	459 (342)	N/A	350 (12,334)	4.5 (159)

* 350-bushel (12,334 L) grain tank is optional.



Challenger®

660 B



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A Header For Every Crop And Condition

CH Series Corn Heads

Equipped with extra-long polyethylene dividers that feature a 21.5-degree, low-profile entry angle, Challenger® CH corn heads offer easier gathering while reducing crop loss. Fluted snapping rolls, with six reversible edges each, aggressively guide the stalk through the gathering units, while shredding material for a clean, uniform appearance.

In the meantime, electrically adjusted stripper plates, which are now standard on all models, can be adjusted from the cab to match a change in yield or ear size. The benefits include easier harvesting and less harvesting loss.

Available in 6-, 8- and 12-row configurations, CH corn heads have both the size and capacity to harvest big fields quickly and effortlessly.



Size	Row Spacing in. (m)		
6	30 (0.76)	36 (0.91)	NA
8	30 (0.76)	36 (0.91)	38 (0.96)
12	20 (0.51)	22 (0.56)	30 (0.76)

PH Pickup Headers



Choices abound with the Challenger PH Series pickup headers. Select either the 13 ft. (3.9 m) or 15 ft. (4.5 m) model and take your choice of a 14 ft. (4.2 m) or 16 ft. (4.8 m) Swathmaster attachment, which features a conventional design with plastic teeth, or a rake-type pickup attachment that sweeps the crop in at an angle. With either option, a 24" (610 mm) diameter floating conveyor auger ensures a smooth flow of material from the pickup attachment to the feeder housing.

DH Draper Headers



For the ultimate in small-grain harvest capacity, nothing beats a DH Series draper header. Available in 25 ft (6.1 m), 30 ft (9.1 m) and 36 ft (10.9 m) cutting widths, DH Series headers feature a hydraulic-driven, 1,200-spm Schumacher (SCH) epicyclic gear sickle drive, along with a choice of a universal U2 pickup or polytine pickup reel. With either choice, DH headers deliver the crop to the intake housing in a uniform headfirst orientation that improves efficiency and preserves grain quality.

Inherently Simple Design

The design principle behind Challenger 600B Series combines was really quite simple. The goal was fewer drive chains and belts, which, in turn, means fewer adjustments, less grain loss and decreased downtime and maintenance.

Compare a 600B Series model to any other combine and you'll discover the difference immediately.



RHB And FHB Series Auger Headers

Whether you need the ground-hugging capabilities of a FHB Series flex header or the solid performance of an RHB Series rigid header, there's a Challenger model to fit your application. Choose the size that fits your operation, from 20 ft (6.0 m) up to the 35 ft (10.6 m) large models for really big jobs, Challenger has the size you need.

Regardless of the model and series, you'll benefit from curved reel arms with fine reel height adjustment; hydraulic reel drive with automatic speed control; fore/aft

reel adjustment, and a large, 30 in. (762 mm) diameter full finger conveyor auger with 7 in. (178 mm) deep flighting.

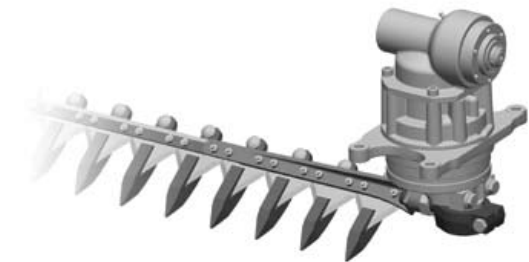
Together, they ensure smooth, uniform feeding; high-capacity harvesting, and a potential reduction in crop loss assured with an innovative Schumacher sickle drive for smoother operation, greater reliability and less shatter loss.



The orbit reel option allows for a closer path of the fingers to increase the flow of material from the cutterbar to the auger as it reduces the "dead spot" area not cleaned by traditional reels.



Full finger auger with 7 in. (178 mm) high flighting conveys the material to the feederhouse in a fast and smooth manner.



SCH epicyclic drive reduces the cutterbar back-forth movement for a smoother and faster inline cut with less vibration and component wear.

We're up to
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SmarTrac® Lateral Tilt System

The optional SmarTrac® Lateral Tilt system helps you harvest more grain by adjusting header tilt up to 4 degrees in either direction to follow the contour of the ground. Electronic potentiometer sensors detect changes in the terrain and automatically activate movement of the header to compensate. SmarTrac Lateral Tilt can also be operated manually from the hydrostatic control handle in the cab, ensuring maximum harvesting efficiency when it's needed most. Either way, you'll be able to monitor the tilt position on the C2000 terminal.



SmarTrac control is integrated into the C2000 terminal to provide finger-tip precise fine-tuning for personalized performance and sensitivity.



High Capacity Starts Up Front

No matter what kind of crop you harvest, or what type of header(s) you use in your operation, one thing is certain. The threshing potential of a high-capacity combine is only as good as its ability to feed material into the machine.

Fortunately, Challenger designed the feeding system to enhance the performance of both the header and the threshing system...while keeping simplicity and reliability top-of-mind.

Fast, Easy Hookup

Header hookup is quick and simple, thanks in part to indexing or engagement blocks on the top of the feeder house. Simply engage the blocks into the underside of the header frame and raise the feeder housing. A lower, over-center, two-point header latching system completes the process to tightly secure the header in place.

A tractor-style PTO drive shaft completes the process without the need for shimming or special alignment. As a result, you spend less time and effort changing or moving headers and more time harvesting the crop.



A single-point multi-coupler, which combines all electrical and hydraulic connections into a single one allows for faster and cleaner connections.

Smooth, Gentle Feeding

The feed conveyor on a Challenger combine is designed to do one thing and do it well. That's to keep the crop material moving smoothly from the header to the rotor. It starts with a wide feed conveyor to maximize intake — 44 in. (1,121 mm) on the 660B and 55.4 in. (1,408 mm) on the 670B and 680B.

The lower drum and chain are also designed to float up and down according to crop intake, which ensure constant chain-to-crop contact and positive feeding.



Designed for durability, the feederhouse is equipped with a jaw clutch that protects the system during excessive conditions, while #557 chain with chrome pins provides a longer service life. Chain slats are even bolted on, rather than riveted, for simpler replacement.

Automatic Header Control

Save grain and improve productivity at the same time with the standard header control system, which automatically senses and regulates the cutterbar and header height position. The system also includes a feederhouse position control (return to cut) that returns the feeder house to a preset position after turns, unloading procedures, etc.

For even more convenience and efficiency, all 600B Series models also include automatic reel speed control. Simply select the desired ratio and the reel speed automatically adjusts as the ground speed changes.



A variable-speed head drive matches the corn head and feed chain speed to ground speed for greater productivity and reduced crop loss. A standard feature on corn/soybean models, it's also optional on grain versions.



The speed and configuration of the conveyor drum work together to effectively separate stones from the crop and drive them into a stone trap for dumping at a convenient time and location.



Responsive 3" (76 mm) lift cylinders on the 660B and 670B, and 3.5" (89 mm) lift cylinders on the 680B provide the strength and capacity to quickly lift heavy headers, including the large 35 ft. (10.9 m) FHB Series flex header and the 12-row CH Series corn head.

There's Only One

Advanced Harvest System

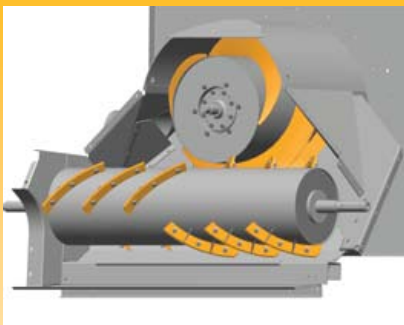
Four-In-One Efficiency

Peruse the competitive combine literature and you'll find rotary combines with twin rotors, tine rotors and even "bullet" rotors. But there's only one Advanced Harvesting System rotor (AHS™). Powered by its own dedicated hydraulic pump(s) and motor, the AHS threshes the crop during multiple passes, gently allowing the grain to fall through the concaves.

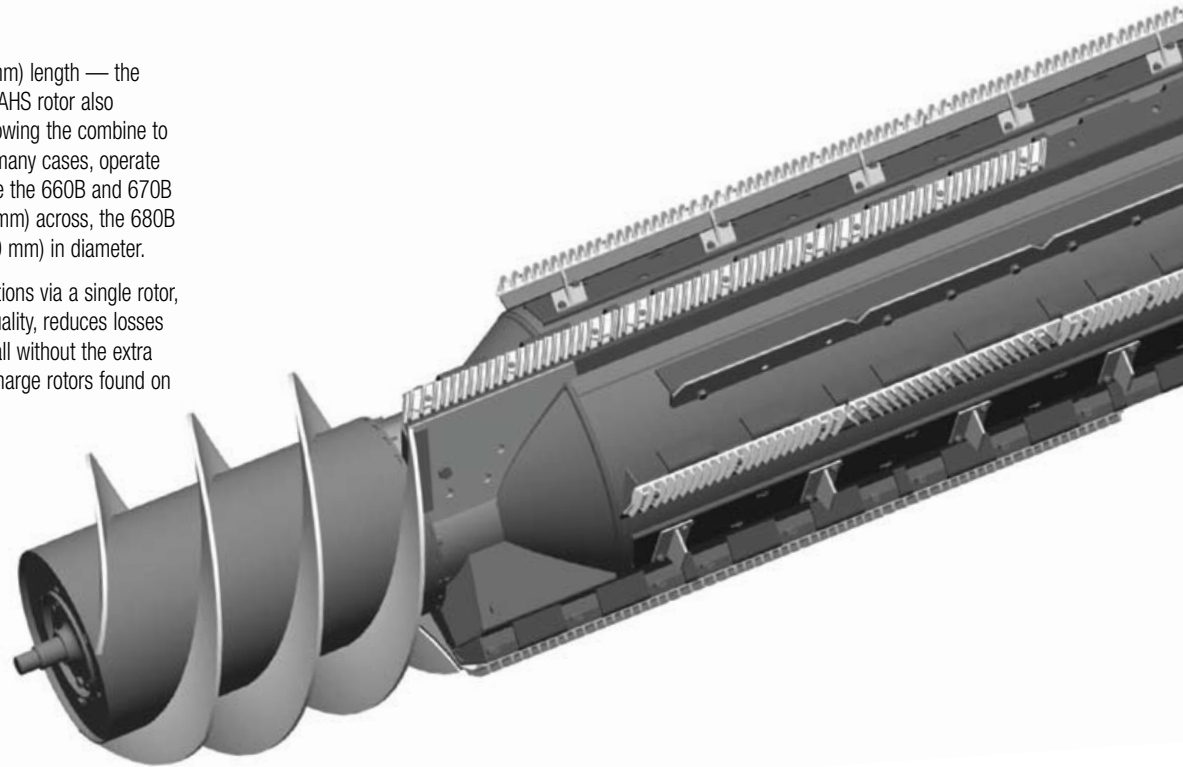
A multi-speed gearbox — three speeds on the 680B and two speeds on the 660B and 670B — allows the operator to select the ultimate torque and speed range up to 1040 rpm.

Thanks to its 140-in. (3,556 mm) length — the longest in the industry — the AHS rotor also increases crop throughput, allowing the combine to maximize productivity and, in many cases, operate at higher ground speeds. While the 660B and 670B rotor measures 27.5 in. (700 mm) across, the 680B rotor spans a full 31.5 in. (800 mm) in diameter.

By performing four major functions via a single rotor, the AHS also improves crop quality, reduces losses and lowers operating costs...all without the extra augers, drives, gears and discharge rotors found on other machines.

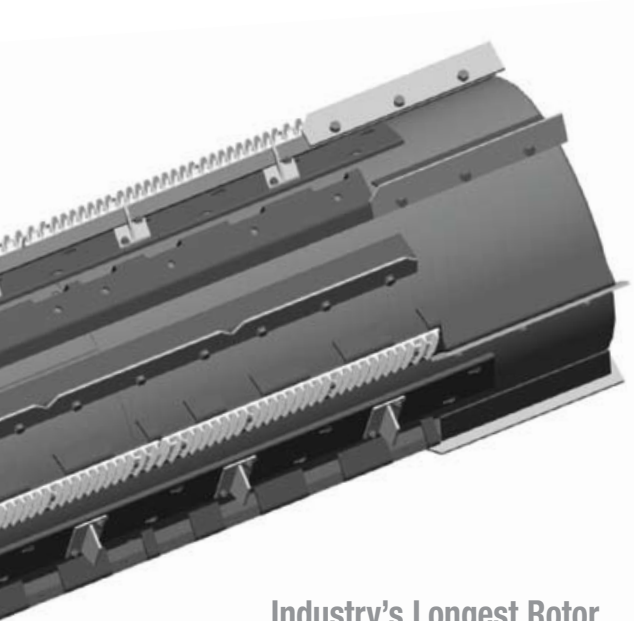


The 18 in. (457 mm) diameter UniFlow™ feed conveyor drum, located behind the feeder housing, holds just one of the secrets to Challenger's performance. First, the opposing helical vanes help accelerate and even out the flow of crop material into the rotor, feeding it a full 360 degrees around the inlet auger flighting. This, in turn, minimizes crop damage, as well as intake area wear.



High-Capacity Crop Intake

Using a patented intake design, the AHS gently gathers crop material from the UniFlow feed conveyor and distributes it 360 degrees around the threshing system for greater overall capacity, less crop damage and less wear at the intake area. Even though the hardened flighting edges ensure a long durable life, the intake flighting assembly can be replaced as a unit if necessary for lower operating costs.



Industry's Longest Rotor

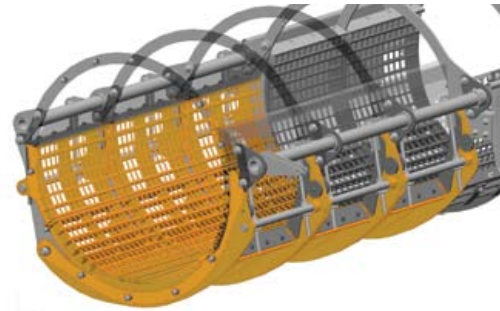
Measuring 140 in. (3,665 mm) long, the AHS rotor offers more threshing and separating area than the competition for maximum rotary threshing efficiency, exceptional grain quality and complete crop control.

Threshing Area

As crop material leaves the intake flighting, it immediately makes contact with the extended main cylinder bars, which begin the threshing process by rubbing the crop multiple times across the concaves. Additional cylinder bars, mounted on the rear portion of the rotor, complete the threshing process. As a result, crop material moves more quickly through the concave area, resulting in greater capacity, minimized crop damage and reduced component wear.

Naturally, the cylinder bars can be reversed, further increasing their service life and reducing repair and maintenance costs.

Wraparound Concaves



680B — The concaves on the 680B are broken into nine modules around the rotor to provide 2,721 in.² (1.75 m²) of gentle and complete threshing.

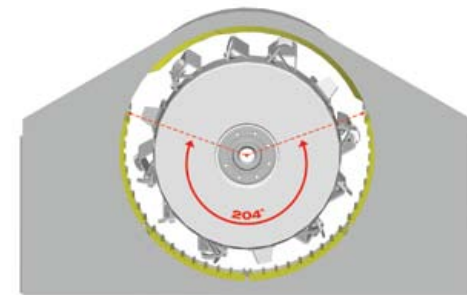
660B/670B — The 660B and 670B feature seven concave sections, providing a threshing area of up to 2,205 in.² (1.42 m²)

Adjustable Concaves



Concave-to-rasp bar clearance is electrically controlled on all models from the comfort of the cab to match different crops and conditions. In addition, wide and narrow-spaced concave configurations to match the base combine type. In most cases, corn/soybean models can be converted for small grain by simply adding blank-out or wire plates.

Crop Separation



As crop material passes through the separating area on the AHS, any remaining grain is gently and thoroughly removed with the aid of three rows of hardened paddles. In the meantime, rotor knives break any crop bunches apart to prevent crop from roping around the rotor. While 21 knives are installed as standard equipment, rotor knives can be removed and up to 21 more knives can be added.

Hydrostatic Rotor Drive



A hydrostatic drive system, along with an electronic control system that regulates pump oil flow, maintains a selected rotor speed regardless of changes in the engine rpm or field conditions. Should a plug occur, the operator can also reverse the rotor without leaving operator's seat in the cab, using full hydrostatic power.

Clean Grain By Design

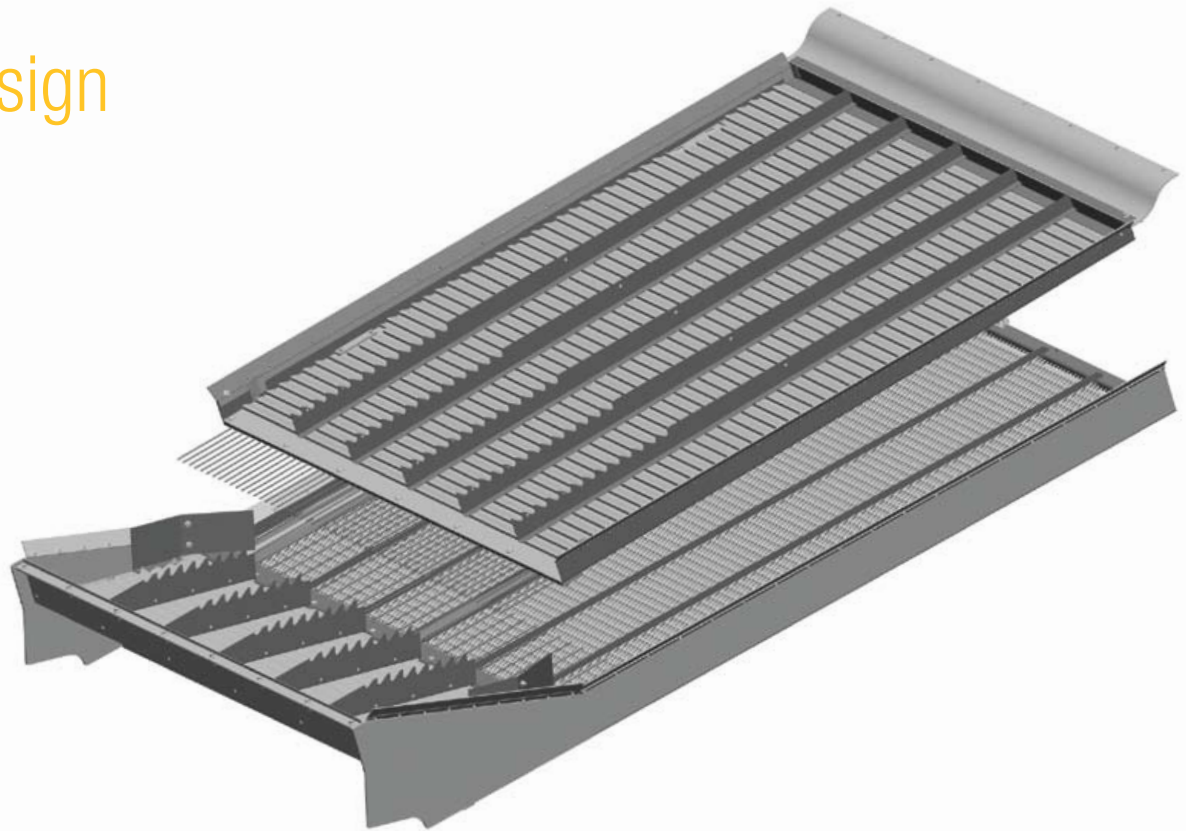
The “Wind Tunnel” Name Fits

Look closely at the Challenger 600B Series cleaning system and you'll find it's called the “Wind Tunnel” system for a reason. From the fan to the spreader, the Challenger cleaning system is designed to quickly and efficiently remove chaff, dirt and debris from high-yielding crops and move the grain quickly into the tank.

Naturally, fan speed and air velocity are infinitely adjustable via two speed ranges and a variable speed control in the cab.



Thanks to a large, 11-in. (279 mm) transverse cleaning fan on the 660B and 670B and a 13-in. (330 mm) transverse fan on the 680B, air starts separating the chaff from the grain the second it leaves the grates in the rotor. That's because air flows straight through the cleaning fan, instead of entering at a right angle. The result is less cavitation and turbulence and greater air volume and pressure throughout the shoe for improved cleaning capabilities and capacity.



Cleaning Capacity To Match

Clean grain! That's the purpose and the outcome from the Challenger Cascade Cleaning System. Sized to match the capacity of the combine and the AHS rotor, the cleaning shoe on the Challenger 660B measures 6,768 in² (4.36 m²), while the Model 670B and 680B boast 8,296 in² (5.35 m²) of cleaning surface.

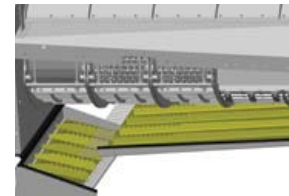
As crop material falls from the grain pan, it gently cascades to the chaffer via a cascade chaffer pan. The reciprocating grain pan and air from the cleaning fan begin the cleaning process by floating the residue rearward while grain falls through the chaffer openings to the lower cleaning area. Here, final crop cleaning ensures that only the cleanest grain goes into the grain tank. Grain that doesn't fall through the sieve goes into the returns system for processing.



Electric sieve adjustment on all models allows the operator to make adjustments from the operator's seat in the cab or from the control center located on the left rear side.



Large capacity elevators that can be adjusted from the ground reduce the time spent for service and increase the yield sensor accuracy.



The Challenger cleaning system uses a main and a cascade grain pan in lieu of multiple augers to move the crop. As a result, grain quality and machine reliability are improved. The complex drives associated with competitive auger beds are not required.



Grain loss sensors monitor waste in three locations across the shoe and provide the operator with alerts and monitoring options via the C2000 terminal.

Unmatched Grain Handling Capacity

Long rows aren't nearly the concern they used to be when you're running a Challenger 600B Series combine. The 660B and 670B feature a 300-bushel (10,570 L) grain tank as standard equipment with the option of a 350-bushel (12,330 L) tank on the 670B. The 680B comes standard with the 350-bushel (12,333 L) grain tank. That's enough to take you to the end of even the longest swath, allowing more time between unloading for greater productivity. Meanwhile, a 12-in. (305 mm) bin fill auger on all models ensures smooth crop flow into the bin in all conditions.

Of course, all three machines give you plenty of reach and clearance for unloading on the go — even when using the largest headers in the Challenger arsenal. Unloading time is significantly reduced, too, thanks to a 15-in. (380 mm)-diameter unloading auger. With a peak unloading rate of 4.5 bushels per second (159 L/s.), any one of the 600B Series models can empty the grain tank in just over a minute.

Translation...you could potentially reduce unloading time by as much as 45 minutes, compared to similar-sized competitive models. That's time that can better be spent harvesting grain...not to mention reducing stress and reducing fuel consumption.



Challenger's "direct flow" unloading auger uses only two augers instead of three for smooth, gentle grain flow. Because grain does not have to change directions during unloading, you'll also experience higher grain quality, less wear and reduced horsepower consumption.



The grain bin "full" sensor, which is also connected to the optional rotary beacon, alerts the operator when the grain tank is 75% full.



The paddles on the clean-grain and tailings elevators feature bolts, instead of rivets, for easy replacement, should it become necessary.



The unloading auger is controlled from the multifunction handle. A switch in the auger prevents engagement if it's not fully extended.



When the grain tank extensions are folded, the 600B series combines measure only 147 in. (3.73 m) in height (with 30.5L32 front tires).

Manage Residue In Your Own Way

Have it your way when it comes to residue management. Choose from a versatile straw spreader that offers uniform distribution of both straw and chaff. Or add the rugged straw chopper that cuts and accelerates residue into a swath that matches or exceeds the width of the header.

For the ultimate in residue management, add the hydraulically driven chaff spreader, which spreads chaff, crop residue in a wide, uniform swath that promises to match any tillage program. The chaff spreader can also be moved to one of three positions for baling straw or access to the cleaning shoe.

The two-disc chaff spreader can be used in conjunction with the straw spreader or chopper. It reduces the chaff buildup behind the combine for easier tillage. The assembly can be easily flipped to gain access to the cleaning shoe.

Residue Discharge



Another patented feature of the AHS is the direct discharge area, which utilizes six discharge paddles to throw crop residue directly out of the machine or into the straw chopper or straw spreader. This simple, but advanced design not only reduces machine complexity and horsepower consumption, but reduces further residue damage, allowing the straw to be baled if desired.



No need for straw chopping? You can easily move the chopper backwards as it's mounted on rails to allow the straw to fall and be ready for baling. Stationary knives can be adjusted with a wrench.



For straw spreading without the need of chopping, choose the reliable two-disc straw spreader. It provides an economical way to manage the crop residue.



A hydraulic-driven two-disc chaff spreader can be easily rotated to gain access to the cleaning area.

VERSATILE



We're up to
The Challenge



Reliable

Fuel-Efficient Power

Whether your needs call for a Class VI, VII or VIII machine, you can be assured of one thing. When it comes to power, you're getting the best engine available for the job at hand. New to the 660B and 670B models is a Challenger Endurance 84CTA diesel that has proven its strength and economy in the MT600 and MT600B Series tractors for more than six years now. In the meantime, we've matched the Caterpillar C13 engine with the power demands of the Class VIII 680B.

Both engines meet current EPA Tier III compliance standards without sacrificing performance, durability or reliability. And both offer a power bulge of up to 8 percent, when you need it most — like powering through those tough spots in the field or unloading on the go. Finally, both engines feature ISOBUS electronics for seamless communications with the new C2000 terminal, which provides the operator with current engine data, accumulated and warning alerts.

The "Endurance" Name Says It All

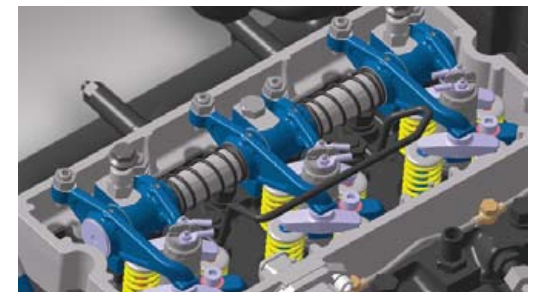
Challenger Endurance 84CTA engines combine a number of advanced technology features to deliver high performance torque and exceptional fuel economy from their 8.4 liter (513 in³) displacement. Electronic Engine Management 3 (EEM3) continuously monitors engine performance and is capable of making up to 100 adjustments per second

to precisely manage fuel delivery and timing. For added power and torque, the six-cylinder diesel powerplant is also turbocharged and aftercooled. Additional amenities include:

- Wet cylinder liners and charge air cooling allow more effective cooling at the top of the cylinder, where it matters most.
- Dual rocker arms and four valves per cylinder help the engine respond quickly to horsepower demands and ensure easy breathing.
- Cylinder head bolts are located in a circular pattern around the top of each cylinder for greater strength.
- Piston connecting rods are individually balanced for smoother operation and longer life.
- A fuel-lubricated three-piston radial fuel pump provides quick and precise response to throttle movements via a common-rail fuel injection system.
- The single-piece, deep-skirted cast-iron block provides maximum strength and durability.
- Mid-support of the cylinder liners reduces vibration by 75%, which, in turn, reduces engine noise and wear on the cylinders and cylinder liners.



Dual Liner Support: Less vibration and liner cavitation for longer cylinder life.



24 Valves: Four valves per cylinder managed by dual rocker arms improve airflow and reduce engine emissions.

Skip the Mid-Day Fuel Stops

The fuel-thrifty engines can easily go all day without refueling, thanks to a 160-gallon (605 L) fuel tank on the Model 660B and 670B, and a 230-gallon (870 L) tank on the 680B.

Caterpillar ACERT® Technology Leads The Way

Featuring the latest ACERT® technology, the Cat® C13 engine used in the Model 680B combines the strength and durability of a single-piece, 12.5-liter (763 cubic inch) block with the technology of ADEM-4 electronics and common-rail fuel injection. The result is Caterpillar strength and reliability coupled with the economy and smooth power delivery that can only be accomplished through coordinated communication between all electronic control modules.

In addition to the standard turbocharger and intercooler, the C13 engine is renowned for a number of other amenities that help ensure reliability and stretch the fuel budget.

- Multiple injections of small amounts of fuel during each combustion cycle achieve the combined goals of fuel economy and lower emissions.
- An advanced air system provides more cool air in the combustion chamber by automatically monitoring engine parameters and then adjusting fuel-air ratios to meet various loads and speeds.
- By tailoring fuel injection rates to operating conditions, the patented Hydraulic Electric Unit Injector (HEUI™) fuel delivery system improves engine performance across the entire operating range.
- High-strength, wet cylinder liners improve fuel consumption and lower emissions, while reducing the cost and time constraints of engine repairs and overhauls.
- A viscous fan drive houses an internal clutch which responds to engine temperature for economical, yet efficient, engine cooling.
- Mid-support of the cylinder liners decreases vibration which, in turn, reduces engine noise and wear on the cylinders and cylinder liners.



ENGINE CHART

Model	Engine Model	Displacement	Horsepower	Power Bulge	Power Boost
		in³ (L)	hp (kW) @ 2,100 rpm	hp (kW) @ 1,900 rpm	hp (kW) @ 1,900 rpm
660B	84CTA Endurance	513 (8.4)	300 (223)	321 (239)	330 (246)
670B	84CTA Endurance	513 (8.4)	350 (261)	370 (276)	380 (283)
680B	Cat C13	766 (12.5)	425 (317)	459 (342)	N/A

DEPENDABLE



Drive Components

Rugged and Dependable

Four-Speed Gearbox

Challenger puts the power to the ground with a four-speed gearbox — instead of the three gears found on most competitors — coupled to a hydrostatic drive system for a greater combination of speed and torque. Three gears cover the working range, while the fourth provides the speeds you need for quick transport between fields.

Optional Rear-Wheel Assist



An optional rear-wheel assist provides enough torque to power you through tough, muddy conditions; yet is fast enough to keep you operating at full harvest capacity. A single-speed version is available on the 660B while a two-speed version is optional on the 680B. The 670B can be ordered with a single-speed or two-speed axle (two-speed is mandatory with larger bin option).

Pressure/Flow Compensated Hydraulics

Considered state-of-the-art for a combine, Challenger's closed-center hydraulic system only pumps oil when it is needed. Similar to the type of system used in today's high-horsepower tractors, the pressure/flow compensated hydraulic system reduces fuel consumption and lowers oil temperature, which helps increase component life.

Rugged Final Drives



Heavy-duty S41 final drives with a 7.066:1 gear reduction ratio transmits tractive force directly to the drive wheels for greater versatility — including the ability to use straddle-mount dual wheels — and the strength to carry heavy loads.

Flotation Tires

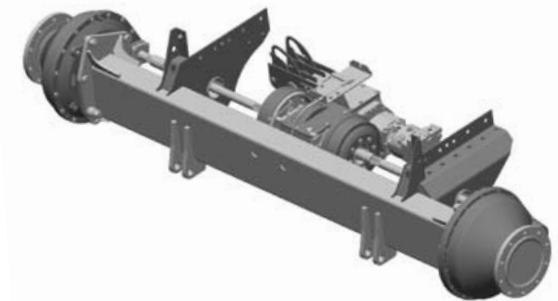
For extra flotation in soft conditions, all models are available with Michelin Mega X Bib low-pressure radial tires. With 19 percent more ground contact area than comparable-sized tires. They reduce compaction, improve performance in muddy fields, enhance ride comfort and provide a longer service life — all without the added cost of a track undercarriage.

Responsive Steering

An adjustable steering axle is standard equipment on all 600B Series models. Moreover, Challenger uses twin steering cylinders, instead of just one, along with a high-capacity pump for greater reliability and more responsive steering. The heavy-duty rear axle, used on the 680B, is also available as an option on the 670B.

Drum Brakes

Drum brakes, mounted outboard of the transmission on the final drive input shafts, provide the stopping power you demand for tight turns and uneven terrain.



Uncompromised Solace

Welcome To The Corporate Office

Uncompromising comfort, convenience and control translate into greater productivity in the Challenger® 600B Series combine cab. It starts with one of the largest cabs in the industry. With 121.4 ft.³ (3.43 m³) of interior space, the Challenger 600B Series cab gives you plenty of room to stretch out...or to share the cab with an extra person thanks to an instructor seat equipped with a seat belt, under-seat storage compartment and a back rest, which converts into an office desk, complete with cup holders, when folded.

A total of 61.2 ft.² (5.7 m²) of tinted glass further improves productivity with a clear view of the field and header. In fact, the view is better than ever from the new 600B Series cab. With the incorporation of all data and monitoring functions into the C2000 terminal, the "B" post and overhead monitors have been eliminated, expanding the view in every direction.

Top it off with a luxury air-suspension seat and you have the kind of comfort it takes to get through those long 15-hour days during harvest.

All-Day Comfort

Ergonomically shaped cloth cushions — with the option of a heated leather Super-Comfort seat — are just the beginning when you look at operator comfort. Standard amenities include seat cushion angle and height adjustments, seat belt, fore/aft position adjustment, adjustable lumbar support and operator presence switches that disengage the separator, header and unloading auger when the operator leaves the seat for 5-7 seconds.

Console Control



A seat-mounted console, which moves and floats with the seat, puts all frequently used controls, as well as the C2000 terminal, right at your fingertips for increased comfort and productivity. The hydrostatic control handle alone allows precise management of forward and reverse motion and incorporates switches for header and reel movement, electric corn stripper plate adjustment, and the unloader auger.

Newly Designed Steering Column

The newly designed steering column and steering wheel allows for tilt at two separate locations and telescopes for a comfortable fit with less fatigue.

Efficient Climate Control

A climate control system that's easy to adjust is of little value if it doesn't move the air. Challenger's system gives you both. Heater and air conditioner controls, conveniently located on the right-hand overhead console, let you quickly select the desired temperature, while two high-volume inlet filters, one recirculating filter and 11 outlets provide efficient air circulation for all-day comfort. The cab air filter has also been relocated over the cab door for easier access.

Power-Fold Ladder

An electrically actuated power-fold ladder is a new option on all 600B Series models. Easily folded from either the cab or ground level, it eliminates the need to fold the ladder to the front and clears the way for transport.



COMFORT



VISIBILITY

A Clear View In Any Light

Light Up The Night

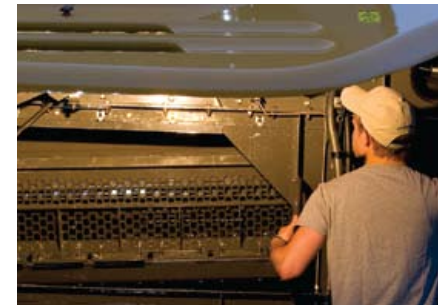


You can never have too much light when harvesting at night. That's why we equipped the Challenger 600B Series with a new stadium light package that includes eight round-profile halogen work lights in the roof visor, another in the grain tank, two to illuminate the area behind the header and two more that help you monitor crop discharge. There's even a light on the unloader tube equipped with a 2.5-minute timer that doubles as an exit light.

Take Lighting To The Next Level

For even better visibility when harvesting at night, Challenger takes lighting to the next level with a High Intensity Discharge (HID) lighting package. Two HID lights replace two lights on the cab for a better view and improved nighttime productivity.

Service Lights Where You Need Them



A portable service light with a magnetic base allows you to illuminate almost any area for nighttime maintenance. Three strategically positioned electrical outlets add to the flexibility.

New Cleaning Shoe Light

Challenger engineers thought of everything, including the need for an integral light in the cleaning shoe area. Now, you can check or adjust the cleaning shoe at night without having to carry a flashlight.

Beacon Light Package

The optional rotary beacon light package does more than increase the combine's visibility during transport. It can also be set to activate when the "bin full" level sensor is tripped.

Knowledge is Power

Welcome To The Information Age

An informed operator is a more productive and efficient operator. That's why every Challenger 600B Series combine is equipped with the newest, state-of-the-art monitoring technology. The microprocessor-based C2000 terminal centralizes all information in one location via a new complete ISOBUS system that offers even more potential for the future.

State-of-the-Art C2000 Terminal

The C2000 terminal found in all Challenger 600B Series combines is much more than a monitor. Comprised of a 10.5-inch, touch-sensitive color screen; nine hard keys, and a rotary dial, the C2000 terminal is a fully integrated system that is designed as part of the combine.

As a result, the C2000 terminal allows the operator to monitor all combine, engine and hydraulic functions; check and adjust combine settings; monitor grain loss; keep track of loads, trips and service intervals; manage or adjust the Auto-Guide system, and collect valuable data that can later be used to create yield maps and detailed work plans...all from one single location.

Because it uses ISOBUS communications and meets ISO 11783 standards, the C2000 terminal can even go from the combine to the tractor to the sprayer as a virtual terminal.

The C2000 terminal includes a built-in sensor that detects the amount of light in the cab and automatically adjusts the brightness of the screen to provide excellent visibility day or night.

Video Capability Feature

The C2000 terminal can also support up to two optional remote video cameras, which allows the operator to view the area behind the combine and/or around the unloading auger from the cab-mounted monitor.

On-The-Go Adjustments

Using the technology designed into the 600B Series, the C2000 terminal allows the operator to change combine settings on the go without leaving the seat or searching the console for the appropriate switch.

Adjustments that can be made via the touchscreen monitor include rotor speed, concave clearance, fan speed and electric sieve and chaffer opening.

Simply press the icon and follow the prompts. You save time and distraction, while improving productivity and grain quality.

Quickly Store Crop Settings

Moving from crop-to-crop and field-to-field is simple with C2000 terminal. All settings, including header width and cutting height, can be saved by crop type or field conditions. Up to 20 different crop settings can be saved and recalled at the push of a button, which means you can have one setting from high-moisture corn, one for dry corn, another for wheat, soybeans, etc.



The position of the C2000 terminal can be adjusted independent of the seat-mounted console for easy access to the touchscreen and dials, as well as maximum visibility.



The C2000 terminal displays information in a manner that is most beneficial to the operator. Engine temperature, oil pressure and fuel level, for example, are displayed as analog gauges or they can appear digitally on the screen.



With the press of a button, the operator can move to virtually any display without scrolling through multiple screens. The monitor can also be customized to display the information that is most important to the operator.

Fieldstar II

Centered around the versatile C2000 terminal, the Fieldstar™ II precision farming system begins with a standard yield monitoring system that collects data to determine crop yield and moisture. With the appropriate software, however, Fieldstar II can assist producers with the generation of maintenance records, crop records and even field maps that provide an accurate record of yield variability throughout the field.

Using this information, a producer can locate specific areas for additional evaluation or implement plans and application maps for variable-rate operations, including seeding, planting, fertilizing, spraying or tillage.

Advanced Technology Solutions Software Grows With Your Needs

AGCO Advanced Technology Solutions (ATS) PC software products can help you get the most out of available data, whatever the source. It's also designed to grow with you and your needs. Whatever the use, however, ATS software has the potential to maintain and improve profitability, fulfill regulatory requirements and/or add value at marketing.

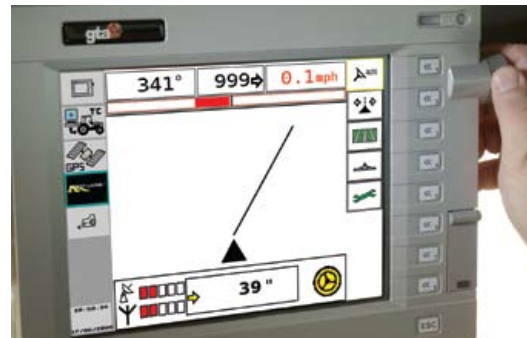
Start with the standard ATS100 Communicator package that lets you calculate machine costs, service intervals, etc., from the basic working data generated by the C2000 terminal. Then, when you're ready, add advanced software packages that allow record keeping, yield mapping and variable-rate applications or planting with other pieces of equipment.

Auto-Guide Guidance

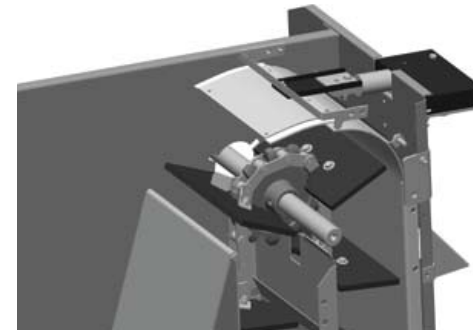
Available as a factory- or field-installed option on all models, Challenger's Auto-Guide™ satellite navigation system brings a new level of control and productivity to harvesting. The GPS-based steer-assist system can reduce operator fatigue and increase productivity by guiding the combine along parallel swaths...pass after pass. Reduce overlaps and skips while potentially increasing ground speed. In the meantime, the operator can concentrate on harvest efficiently.



Information collected by the C2000 terminal can be transferred to any PC computer, or vice versa, using a standard SD (secure digital) card — without the need for an additional card reader.



Auto-Guide is fully integrated into the AGCO Advanced Technology Solutions C2000 terminal. No additional monitors or installations are needed in the cab. Choose from various levels of steering accuracy to suit your operation. Options range from the fee-free WAAS signal to the 0.8 in. (2 cm) accurate RTK base station.



The winner of an ASAE AE50 award, Challenger's Yield Sensor II system is horizontally mounted to reduce slope induced errors by 88 percent for more accurate grain sensing. It also allows single-point calibration and provides excellent accuracy in both high- and low-yielding crops.



The TopDock which provides the GPS position information for Fieldstar™ II and the Auto-Guide system, is a compact self-contained unit featuring a six-axis gyro, that can be easily transported between equipment. The unit also utilizes a remote antenna, which is mounted to the top of the grain bin extensions for maximum reception at all latitudes.

Inherently Simple

Start Your Day Quicker

A less complicated machine means less maintenance, fewer repairs and less downtime during one of the busiest times of the year. A reduction in the number of chains, belts and augers also means that 600B Series combines can use their horsepower and your fuel more efficiently.

But we didn't stop there. We designed Challenger combines for faster service and easier routine maintenance so you can get an earlier start on your day.

Complete Warranty Coverage

For complete peace-of-mind during harvest, Challenger provides an unbeatable warranty of two years with unlimited hours on all 600B Series combines and Challenger headers.

Log Service Hours

Easily keep track of service intervals with the aid of the C2000 terminal, which logs both engine hours and separator hours.



Challenger 600B SERIES COMBINES



The cab air filter has been relocated next to the cab door, where it is more easily accessible. Yet, it still keeps the dirt and debris outside the cab during filter changes.



The batteries are accessible from ground level for easy access and maintenance.



The hydraulically driven rotary screen swings outward and the hydraulic oil cooler swings up with the help of gas-assist cylinders for easy access to the radiator cores.



Large access doors, supported by gas-charged struts, allow for easy, quick control and service.



Grease fitting banks are used wherever it is feasible to reduce maintenance time and increase reliability.



The fuses and computer hook-ups are located inside of the cab for easier control.



The engine compartment was designed to provide access to the engine — including the front side of the engine — for easy service and repairs. A walkway and handrails further add to the convenience of servicing the engine.



Optional factory-installed Auto-Lube provides an automatic lubrication system for ease of maintenance and ensures against premature wear.



Removable panels provide easy access to both sides of the rotor for routine inspections or changes in the configuration.

World-Renowned Dealers

World-Class Service

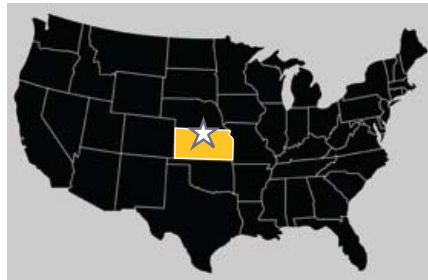
Once harvest begins, there's no room for downtime until it rains or the job is finished. Fortunately, when you buy a Challenger® 600B Series combine, you get the backing and support of the legendary network of Cat® dealers who take downtime seriously. For nearly 100 years, Cat® dealers have been keeping construction, mining, roadwork and forestry equipment up and running...365 days a year, day and night, under the most adverse conditions.

If they can handle on-site repair of a 20-ton earthmover, you can bet they have the expertise and technology to get your combine back in the field, too. Cat® dealers are second to none in on-location service, diagnosing and repairing more than 95% of the problems in the field. Plus, their factory-trained technicians work as hard at preventing problems as they do at repairing them.

With more mobile service trucks loaded with more diagnostic equipment than most repair shops, it's little wonder that the new wave of Cat® loyalists is coming from the farm.

Combine quality Cat® service with our 24-hour-a-day parts network and you have the absolute gold standard in dealer support.

Made in the U.S.A.



Since their introduction, Challenger combines have been manufactured in the small town of Hesston, Kan., located in the heart of the Wheat Belt. It's a community with strong agricultural ties and a place where employees understand that quality can't be inspected in...but rather has to be built in. Thanks to their agricultural roots, employees at the Hesston facility build every combine as if a cousin or relative is going to be the buyer. And many times, that has truly been the case. It's a concept that comes with the area's strong work ethic and inherent honesty. It's just one more feature that comes standard with every Challenger combine.



Specifications

MODEL	660B	670B	680B
GENERAL			
Class size	VI	VII	VIII
FEEDING SYSTEM			
Chain size	#557	#557	#557
Variable-speed feederhouse drive	Optional	Optional	Optional
Feed reverser	Electro-hydraulic	Electro-hydraulic	Electro-hydraulic
Housing width in (mm)	44.1 (1,121)	55.4 (1,408)	55.4 (1,408)
Lateral tilt	Optional	Optional	Optional
THRESHING/SEPARATION SYSTEM			
System	Rotary	Rotary	Rotary
Concave type	Open, 7 sections	Open, 7 sections	Open, 9 sections
Crop concave changes	Yes	Yes	No
Rock protection	Stone trap	Stone trap	Stone trap
Rotor / cylinder / threshing			
Bars, type	Hardened	Hardened	Hardened
Diameter in (mm)	27.5 (700)	27.5 (700)	31.5 (800)
Length in (mm)	140 (3,556)	140 (3,556)	140 (3,556)
Drive / speed control			
Speed, low range (rpm)	175 - 746	175 - 746	200 - 440
Speed, mid range (rpm)	NA	NA	200 - 789
Speed, high range (rpm)	175 - 970	175 - 970	200 - 1,040
Concave/grate area in ² (m ²)	2,205 (1.42)	2,205 (1.42)	2,721 (1.75)
Separating area in ² (m ²)	2,241 (1.45)	2,241 (1.45)	2,400 (1.54)
CLEANING SYSTEM			
Cleaning stages	2	2	2
Chaffer area in ² (m ²)	3,636 (2.34)	4,426 (2.86)	4,426 (2.86)
Sieve area in ² (m ²)	3,054 (1.97)	3,783 (2.44)	3,783 (2.44)
Total area in ² (m ²)	6,768 (4.36)	8,296 (5.35)	8,296 (5.35)
Cleaning fan			
Speed (rpm)	590-1,350	590-1,350	500-1,350
Diameter in (mm)	11 (279)	11 (279)	13 (330)
GRAIN HANDLING SYSTEM			
Bin capacity bu (L)	300 (10,570)	300 (10,570)*	350 (12,333)
Unloading auger			
Diameter in (mm)	15 (381)	15 (381)	15 (381)
Unload rates bu/sec (L/sec)	4.5 (159)	4.5 (159)	4.5 (159)
Length from centerline in (m)	293 (7.40)	293 (7.40)	293 (7.40)
Discharge height in (m)	171 (4.34)	171 (4.34)	171 (4.34)
Clearance height in (m)	161 (4.07)	161 (4.07)	161 (4.07)

* Optional 350 (12,333)

MODEL	660B	670B	680B
CROP RESIDUE DISPOSAL			
Chopper	2 speed	2 speed	2 speed
Straw spreader	2 speed	2 speed	2 speed
Hydraulic chaff spreader	Optional	Optional	Optional
ENGINE			
Model			
Displacement in ³ (L)	84CTA Endurance	84CTA Endurance	CAT C13 ACERT
No. of cylinders	513 (8.4)	513 (8.4)	763 (12.5)
Horsepower @ 2,100 rpm SAE (Kw)	6/Inline	6/Inline	6/Inline
Fuel tank capacity gal (L)	300 (223)	350 (261)	425 (317)
	160 (605)	160 (605)	230 (870)
DRIVE/PROPULSION SYSTEM			
Hydrostatic transmission	4 speed	4 speed	4 speed
Final drive type	Spur gear S-41	Spur gear S-41	Spur gear S-41
Tread width standard/reversed in (m)	120/145 (3.05/3.68)	120/145 (3.05/3.68)	120/145 (3.05/3.68)
Steering axle			
Tread width adjustable axle in (m)	119/143 (3.02/3.65)	119/143 (3.02/3.65)	119/143 (3.02/3.65)
Tread width RWA in (m)	121/145 (3.07/3.68)	121/145 (3.07/3.68)	121/145 (3.07/3.68)
Steering type	Dual cylinder	Dual cylinder	Dual cylinder
Turning radius in (m)	253 (6.43)	253 (6.43)	253 (6.43)
HYDRAULIC SYSTEM			
Hydraulic pump	Gear	Gear	Gear
Control valve	Electro-hydraulic	Electro-hydraulic	Electro-hydraulic
Tank capacity gal (L)	9.9 (36.5)	9.9 (36.5)	24 (90.8)
CAB AND CONTROLS			
Seat	Luxury/Air Ride	Luxury/Air Ride	Luxury/Air Ride
Steering wheel	Tilt/telescope	Tilt/telescope	Tilt/telescope
Controls	Right-hand console	Right-hand console	Right-hand console
Interior volume ft ³ (m ³)	121.4 (3.44)	121.4 (3.44)	121.4 (3.44)
Glass area ft ² (m ²)	61.2 (5.69)	61.2 (5.69)	61.2 (5.69)
Field lights	12	12	12
Transport height in (m)	147 (3.73)	147 (3.73)	147 (3.73)
Overall length without header in (m)	392 (9.95)	392 (9.95)	392 (9.95)
Wheelbase in (m)	146 (3.71)	146 (3.71)	146 (3.71)
Base weight with tires lbs (kg)	28,000 (12,701)	29,597 (13,425)	37,700 (17,101)
Ground clearance in (mm)	16 (410)	16 (410)	16 (410)



Cat Dealers And Service

World-Renowned Dealers, World-Class Service

In addition to bringing **new thinking** to machines, the Challenger team brings a whole new concept to sales and service through Cat dealers. It may be our biggest difference and our greatest strength. And it may be the reason your operation could become more profitable with Challenger equipment.

When you buy Challenger equipment you get the backing and support of the legendary network of Cat dealers.

People who have been keeping contractors, construction, mining, landscaping, roadwork and just about every heavy-machine demand undertaking in the world, up and running...365 days a year, day and night. People who don't take downtime lightly. That's why we're already creating Challenger brand loyalists — because every Challenger machine is backed by the same support. In fact, Cat dealers are second to none in on-location service.

With more mobile service trucks loaded with more diagnostic equipment than most repair shops, and better-trained technicians who work as hard at preventing problems as they do at repairing them.

Combine it all with our 24-hour-a-day parts network and you have the absolute gold standard in service. And it's all at work, ready to maximize your productivity and uptime.

Plus, Cat dealers have a rock-solid commitment to agriculture. This partnership solidifies their confidence in the Challenger product by putting their name behind the sales force and service network. Combining Serious Machinery with the Serious Dealers of Caterpillar is shifting the way things have always been done. A shift we're certain you'll agree will soon be the standard to beat.

Visit us at: www.challengerag.com



At AGCO Finance, we understand that financing is as much a part of your purchase decision as the features and benefits of the product. So we're committed to providing the best means of acquiring the equipment you need, while allowing you to preserve other credit lines of operating capital.

We offer flexible payment schedules, flexible terms, quality service, competitive rates, comprehensive financing and leasing options, and virtually unlimited resources. All are available under one roof, at your authorized Caterpillar dealership.