

Challenger

CHALLENGER 1000 SERIES 396–517 HP

TODAY IT'S NOT ENOUGH TO JUST BE TOUGH.
YOU'VE GOT TO BE SMARTER THAN EVERYONE ELSE, TOO.



CHALLENGER 1000 SERIES 396–517 HP



Tim K.
Ankeny, IA

Having one tractor for spring applications and another for the rest of the year can be an expensive proposition. Not with the Challenger 1000 Series. These high-horsepower, fixed-frame tractors are built to also handle the work of an articulated tractor. With 396 to 517 horsepower, and with a weight range of 31,204 lbs. (14,153 kg.) to 50,706 lbs. (23,000 kg.), the 1000 Series has the power and maneuverability to handle both grueling tillage work and intricate row crop applications. Unlike any tractor that's come before it, the flexible and dynamic ballasting options of the 1000 Series enable higher utilization and versatility for year-round applications.



For years, Challenger tractors have carved out a reputation for being tough and durable. But, today, the rules of agribusiness are changing. Not only is Challenger changing with them, we're committed to leading the way in the development of the most efficient engineering and technology that larger, more complex operations will need to be successful, and profitable, in the future. We call it Intelligent Farming.

Introducing the new Challenger 1000 Series. Tractors unlike any we've ever manufactured. Crafted in our state-of-the-art Marktoberdorf, Germany plant, each machine is built from the ground up on our revolutionary AccuEngineering™ Platform. This completely new class of tractors delivers more power to the ground, more efficiently, intuitively and intelligently than ever before.

Challenger **1000**
SERIES INTELLIGENT FARMING

ACCUE

As agribusiness operations grow larger and more complex, farmers have to do more with less, in shorter time frames. Our world-class engineers have developed a series of tractors that not only outpace the competition, but push the boundaries of how a tractor can help you run a more efficient, competitive operation that delivers the best bottom-line margin.

THE SHORTEST WAY TO SAY SUPERIOR ENGINEERING, SUPERIOR PERFORMANCE, SUPERIOR PRODUCTIVITY.

That philosophy is at the core of AccuEngineering™, the smarter, more intuitive and more efficient engineering platform upon which the Challenger 1000 Series is built. Infused throughout the entire tractor, AccuEngineering couples superior engineering and state-of-the-art technology to increase productivity and reduce costs. From the controls in the cab, to the AccuDrive™ powertrain, to the AccuTerminal™, ACCU is simply a more intelligent way to engineer a more intelligent tractor.

PRECISION QUALITY ACCURACY DESIGN

ENGINEERING FOR PRODUCTIVITY

ACCUDRIVE™

NOT JUST RAW POWER. SMART POWER.

Perhaps the most intelligent feature of the Challenger 1000 Series is a powertrain unlike anything you've seen before. Simply put, the AccuDrive powertrain maximizes engine power at slow speeds. So you can pull the heaviest implements through the toughest conditions, with maximum torque and minimum fuel usage. The key is the tractor's ability to drive both axles independently.

MAN ENGINE

The six-cylinder, 12.4-liter displacement, MAN engine is ideal for heavy draft work, delivering up to 1,770 ft. lbs. of torque at 1,100 RPM. The Variable Turbine Geometry (VTG) turbocharger unleashes enormous power at low engine speed, so you can operate continuously in a maximum torque range while still delivering the lowest specific fuel consumption.

The high-torque-at-low-engine-speed principle ensures that all vehicle components — engine, transmission, fan and hydraulics — work precisely at maximum capacity, even at these low engine speeds. This delivers maximum performance and efficiency, 365 days a year.

CONCENTRIC AIR SYSTEM: MORE INTELLIGENT COOLING

Even though the engine already runs at a slower speed, we've also found a more efficient way to cool both the engine and major components. The Concentric Air System (CAS) cooling unit uses a unique front fan to pull in cold, dense air, accelerate it over the concentrically formed hood and press it through the radiator. The CAS has its own hydrostatic drive to deliver optimal cooling power to each component, according to need, independent of engine speed. The upwardly tilted fan also prevents residue from being sucked up from the ground.





Accu-VT™ TRANSMISSION

The Accu-VT is engineered with a hydraulic pump and two hydraulic motors that enable ideal torque distribution, as needed, independently on the front and rear wheels. The rear axle is supplied with the hydrostatic mechanical power-splitting. The continuously variable operation allows for 65 feet per hour to 31 mph all in ONE range without any intervention by the operator, for easier operation.

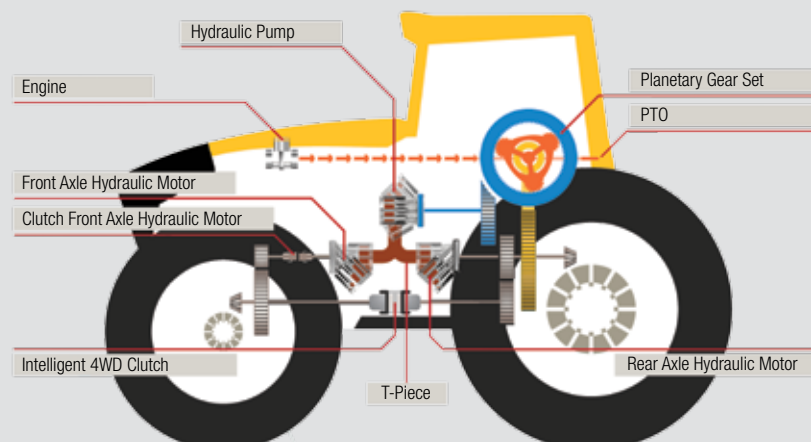


PULL-IN-TURN EFFECT

Since there is no fixed-drive ratio, with the variable four-wheel drive, the front-wheel drive can actively pull the tractor into a curve. This “pull-in-turn” effect reduces the turning circle in the field by up to 10%. For a high-horsepower tractor, you get nimble maneuverability in tight spots. Better yet, the usual front tire wear and tear caused by cornering on firm surfaces is reduced, so you don’t have to change expensive tires as often.

TORQUE VECTORING: AMAZINGLY UNCONVENTIONAL

Conventional four-wheel drives use a fixed-torque ratio between the front and rear axle. Not these tractors. Our unique Challenger Torque Vectoring enables a variable four-wheel drive, where torque is distributed over two transmission outputs, independently on both axles for tremendous pulling power. An intelligently controlled four-wheel drive clutch controls the torque so it can be shifted between the axles, according to need, with reduced frictional loss and wear. As speed increases, a clutch completely decouples the front axle drive at 15.5 mph, eliminating drag losses in the drivetrain and further increasing efficiency.





THE WORLD'S FIRST 500+ HP FIXED-FRAME TRACTOR.

HORSEPOWER: 396 to 517
WEIGHT RANGE: 31,204 lbs. to 50,706 lbs.

Higher torque at
lower engine speeds
FOR A BETTER ROI

Year-round application,
FROM HEAVY TILLAGE AND PLANTING
TO ROW CROP APPLICATIONS

EASY-TO-OPERATE, intuitive
tractor management system

SIMPLY A BETTER COST OF OWNERSHIP
FOR **SERIOUS AGRIBUSINESS**

Challenger **1000** SERIES INTELLIGENT FARMING™

SO EASY TO OPERATE, IT CAN ALMOST READ YOUR MIND.

The Challenger 1000 Series is a highly sophisticated machine that is as intuitive and simple to operate as a smartphone. Key functions are color-coordinated with the controls that operate them, so learning the layout is a breeze. The multifunction armrest provides easy-to-understand control of everything from engine speed to hydraulic functions to guidance and PTO. Pinpoint implement accuracy has never been easier. This ergonomic design keeps all tasks and functions comfortably within the operator's reach, reducing time and fatigue. With one hand on the wheel and one hand on the joystick, you're in total control at all times.

ACCUTERMINAL™

The Challenger AccuTerminal™ brings your operation a new level of control, precision and productivity. The intuitive touch-screen terminal lets you manage all tractor settings and adjustments, monitor and control ISOBUS 11783-compatible implements, enjoy exact tracking with the Auto-Guide™ guidance system, precisely manage variable application and avoid overlapping with the fully automated, 36-section AgControl™ and move data wirelessly, in near-real-time, with TaskDoc™ Pro.

The 10.4-inch AccuTerminal can be operated in two ways. Simply touch the screen to scroll through the menu, make adjustments or access information, without having to navigate through numerous terminal pages. Or navigate through menus and data, without removing your gloves, using the keys and rotary control.



The Challenger AccuTerminal is AEF-certified to meet all ISOBUS standards. Detailed technology features of the AccuTerminal can be found on page 17.

THE TRACTOR MANAGEMENT CENTER PUTS EVERYTHING AT YOUR FINGERTIPS

The ergonomic design puts all tasks and functions within easy reach, reducing time, distraction and fatigue. Not only is everything simple to operate, it's the most intuitive tractor you'll find anywhere.

- Advantage Joystick
- Multi-function Keypad
- PTO Controls
- Hydraulic Cross Gate Lever
- Hydraulic Fingertip Valves

COLOR-COORDINATED CONTROLS

The functional areas of the tractor color-coordinate with the controls that operate them.

- **ENGINE & TRANSMISSION** Joystick movement for increased speed and rapid reverse, throttle, foot-pedal switch to transfer ground speed control to the foot pedal, two cruise control settings, four acceleration rates, TMS/maximum output control
- **SUSPENSION & AXLE** Front axle suspension and differential lock
- **HYDRAULICS** Hydraulic spool valve switches and cross gate control, rear three-point hitch controls, left rear fender control for three-point lift and spool valve control
- **PTO** Speed selection, automatic function and activation
- **ELECTRONIC** Auto-Guide, AccuField Command™



ACCUFIELD COMMAND™

AccuField Command headland management is fully integrated in the AccuTerminal and clearly laid out in the display.

- Activate automated operating sequences at headlands with the touch of a button
- Store up to 25 implement memories
- Create operating sequences for turns—while driving or standing still—and save them
- Manage and view settings for engine and transmission control, hydraulic valves, front and rear linkage, rear PTO and the automated steering system, as well as their individual functions
- Save settings under a unique name and call them up later
- Easily reload and adjust settings, if necessary



Or, combine the new fully automatic AccuField Command Pro with Auto-Guide to automatically start sequences via GNSS at a headland.

AGCONTROL

Monitor and control all ISOBUS 11783-compliant implements, including balers, planters and sprayers without the need for additional cab monitors or control boxes. Simply plug and play for seamless operation, saving time, money and needless installations.

- Simultaneously display up to four applications on the AccuTerminal
- Display in quarter-screen, half-screen portrait, half-screen landscape or full screen
- Operate several ISOBUS implements at the same time (via screen change)
- If the implement supports it, operation can even be done by the Advantage joystick



MANAGE DIFFERENT OIL DEMANDS **SIMULTANEOUSLY.**

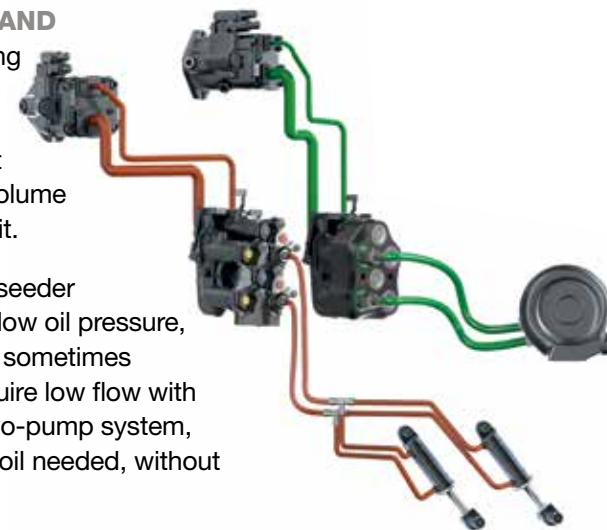
HYDRAULICS

As agribusiness becomes more complex and time-critical, growers need powerful, versatile equipment that can do more. With multiple coupler options, the Challenger 1000 Series can efficiently operate countless implements. Plus, the unique two-pump, load-sensing hydraulic system can control a delivery rate for operations that require high-capacity hydraulics. The 113.5-gpm system has two independent circuits. One pump delivers 55.5 gal. and a second pump 58 gal. The two control pumps accommodate different oil demands at the same time and can be controlled with up to six double-acting valves at the rear. Each pump only delivers the oil that's needed, without reducing engine speed.

PERFORMANCE ON DEMAND

Two independent load-sensing pumps provide independent priority functions and supply each consumer with the right amount of oil pressure and volume through each individual circuit.

For example, a fan on an air seeder requires high flow rates with low oil pressure, but raise/lower markers, and sometimes down-pressure systems, require low flow with high oil pressure. With the two-pump system, each pump delivers only the oil needed, without reducing engine speed.





BETTER BALLASTING

Flexible ballasting options let you easily change weights, whether you're planting, tilling or doing row crop work. The simple, interchangeable ballasting system has front weights from 1,978 to 7,275 pounds and wheel weight options from 2 x 1,443 to 2 x 2,275 pounds. Change weights in minutes, efficiently move from one application to another and reduce unnecessary wear and tear on tires and components.

TAKING PRECISION AGRICULTURE TO NEW LEVELS

AUTO-GUIDE™

With the Auto-Guide guidance system, you can drive reliably and accurately without actively steering, even in difficult reception conditions. Choose a GNSS, Novatel® or Trimble® receiver. Depending on the receiver, numerous correction signals are supported including WAAS, RangePoint™ RTX and CenterPoint® RTX. Existing Trimble RTK networks can be used with the Trimble RTK receiver. Plus NTRIP can be used with both Novatel and Trimble receivers. Even without a correction signal, Auto-Guide works reliably for up to 20 minutes with RTK accuracy, using Trimble xFill® technology.

TASKDOC®/TASKDOC PRO

Simple field data management and documentation is critical. The AccuTerminal includes TaskDoc, so you can record relevant data with minimum effort.

- Enter field data and information for follow-up analysis later
- Create job programs in the office and transfer them to the terminal for implementation
- Record fuel consumption, distance, area worked, etc. for each field, and compare the effect of different driving strategies and implement settings on fuel consumption and productivity
- The TaskDoc Pro option adds data transfer via cellular network along with GPS-positions data, which records stand-still time, field detection and more.



FUSE® CONNECTED SERVICES, ENABLED BY AGCOMMAND®

The Challenger 1000 Series is AgCommand-equipped with state-of-the-art telemetry hardware. Machine data and real-time alerts are transmitted via cellular and Iridium® satellite network to ensure global coverage, even in the more remote area. Through connectivity and use of big data, intelligent information and insights are shared on AGCO's pioneering telemetry tool, AgCommand. AgCommand is fully mobile-compatible, so you can access your machine information from any computer or mobile device.

Fuse Connected Services is available in two levels. Level 1 provides "Access & Insights" to customers who have the resources to utilize the data and monitor their own fleet using AgCommand.

Challenger dealers bring their machinery expertise and years of experience to deliver Level 2, which includes remote machine monitoring, out-of-season inspection and consultation. Customers can benefit from equipment and operational support to improve efficiency, increase productivity and optimize farming operations through the entire crop cycle. Take full advantage of the connectivity and data from your Challenger 1000 Series tractor and ask your dealer about Fuse Connected Services today.



FUSE
AGCO Connecting Your Farm

1000 SERIES SPECIFICATIONS

1000 SERIES MODEL	1038	1042	1046	1050
ENGINE				
Constant power (HP ISO) ECE R 120 at 1,700 RPM (PS/kW)	396 / 291	435 / 320	476 / 350	517 / 380
Rated PTO power (HP SAE) (HP/kW)	350 / 261	386 / 288	421 / 314	453 / 338
No. of cylinders/cooling	6 Cylinder / Water			
Bore/stroke (mm)	126 / 166			
Displacement (L)	12.4			
Rated engine speed (RPM)	1,700			
Max. torque (1,450 RPM) (ft./lbs./Nm)	1,401 / 1,900	1,549 / 2,100	1,696 / 2,300	1,770 / 2,400
Torque rise (%) based on 1,700 RPM	17%			13%
Diesel tank capacity (gal./L)	211 (800)			
DEF tank capacity (gal./L)	22 (85)			
TRANSMISSION AND PTO				
Type	Accu-VT Stepless Transmission			
Speed range fwd/rev	65 ft./hr to 31 mph / 20 m/h to 50 km (fwd) 0.01 to 21 mph / 0.02 to 33 km/h (rev)			
Rear PTO	1,000 / 1,000E			
HYDRAULICS				
Type	Electrohydr. linkage control with shock load stabilizing and standard load compensation			
Control	Free floating, position, draft and inf. adj. mix control from transmission pressure sensor system			
Hydraulic pump capacity (gpm/L/min)	1 pump: 58 / 220 2 pumps: 113.5 / 430 (55.5 / 210 + 58 / 220)			
Hydraulic control valves, max	6			
Max. available oil volume (gal./L)	26.4 / 100			
Flow volume control valves (gpm/L/min)	Std.: 37 / 140 Opt.: 3 / 4 valve with 45 / 170			
3pt lift capacity @ ball ends (lbs./kg.)	18,631 / 8,450			
WEIGHTS AND DIMENSIONS				
Unladen weight with cab (lbs./kg.)	32,734 (14,847)		31,204 (14,153)	
Max. perm. overall weight (lbs./kg.)	50,706 (23,000)			
Tires front	420/85R38 duals		IF650/65R38	
Tires rear	420/85R38 duals		IF750/75R46	
Wheelbase inches (in./mm)	130 / 3,300			
Overall length inches (in./mm) standard tires with comfort ballast pick-up & rear linkage horizontal	242 / 6,157			
Overall width depending on tires and rear axle (in./mm)	118.2 / 3,000			
Overall height comfort cab (in./mm) without Auto-Guide	INA		140.5 / 3,570	
Ground clearance (in./mm)	INA		23.6 / 600	
Track width front (in./mm)	INA		82.7 / 2,100	
Track width rear (in./mm)	INA		78.7 / 2,000	



10.4" ACCUTERMINAL TECHNOLOGY FEATURES

Implement memory	15 memory spaces
AccuField Command	22 steps
ISOBUS implement control	Std. control via multi-function joystick and terminal
Camera ports	2
Number of applications viewed at a time	1, 2, 3 or 4
Viewing options	Quarter, half or full screen
Number of languages	26
TaskDoc™	Std.
TaskDoc Pro	Opt.
Auto-Guide™ ready	Std.
Auto-Guide™	Opt.
Internal memory	4 GB
USB power supply jack	1
AccuSteer	Standard
Section Control	Optional

A yellow Challenger 1000 Series tractor is shown from a front-three-quarter view, plowing a dark brown field. The tractor is pulling a red multi-furrow moldboard plow. In the background, another similar tractor is visible, also plowing. The sky is overcast and grey. The overall scene is a rural agricultural landscape.

Challenger

**1000
SERIES**

INTELLIGENT FARMING™

To learn more about Intelligent Farming, to demo a Challenger 1000 Series tractor or to find your local Challenger dealer, visit challenger-ag.us.

LOW-RATE, FLEXIBLE FINANCING

With competitive rates and easy terms, your Challenger dealer and AGCO Finance® offer great ways to buy, lease or rent your new machine. Visit agcofinance.com.

QUALITY PARTS

Genuine Challenger replacement parts are made to the same high standards as those used on the assembly line, so you can always keep your Challenger 1000 Series tractor running like new. Plus, they come with our industry-leading, one-year parts, six-months labor guarantee, when dealer installed. Visit agcopartsandservice.com/na/en_US/parts/brands/challenger.

AGCO ANSWERS

At AGCO, customer care isn't just a department, it's a commitment. We'll do our best to answer any question promptly, or put you in touch with someone who can. AGCO Answers (877) 525-4384 or agcoanswers@agcocorp.com.

For more than 25 years, in more than 140 countries worldwide, AGCO has been on a mission to become the single resource farmers can depend on for innovative, leading-edge thinking, equipment and technology. And, today, you know AGCO brands, even if you don't know the AGCO name. While AGCO equipment may not all share the same logo or same color, they all have one thing in common – the ability to help farmers be as productive and profitable as they possibly can be, regardless of the tasks at hand. agcocorp.com



Challenger

FENDT



MASSEY FERGUSON

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