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# **DRILL COMPONENTS**

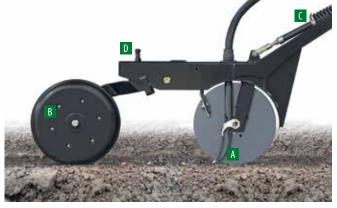
#### 07 SERIES OPENERS | COULTERS | CLOSING WHEELS

Every Great Plains opener has been computer-designed, CNC machined, laser cut, and robotically welded to ensure exact tolerances and excellent reliability. Materials and components are selected for their strength and durability. For example, nut bars and depthwheel arms are in forged steel. Areas subject to stress, such as pivot points, are reinforced with protective, hard-wearing bushes. Secondary bushes are manufactured in Nylatron, a material with high mechanical strength and excellent wear and fatigue resistance.

Designed to take the toughest no-till conditions in stride, 07 Series openers feature an integrally mounted 432mm coulter and row unit combination with the opener moving independently of the coulter. The trailing double-disc opener features 330mm x 4mm blades, 205 triple-lip seal bearings, and a 6.5mm leading opener blade.



CONSISTENT. PRECISE SEED PLACEMENT IN ALL CONDITIONS



- A. The unique planter-style seed tube carries seed all the way to the bottom of the slot formed by the double-disc opener. This design creates an ideal growing environment by eliminating seed bounce and ensuring that every seed is placed precisely and consistently at the same depth in the bottom of the seed trench
- B. The close-coupled press wheel serves two purposes. First, it provides depth control and second, it firms the soil around the seed slot. This facilitates perfect soil-to-seed contact to ensure consistent seed germination and even emergence, which are vitally important if pre-emergence spraying is necessary
- C. Connecting the spring directly to the forged nut bar provides between 30 and 110kg of constant down pressure applied directly over the center of the disc, where it matters most. As a result, the opener arm remains parallel to the soil at all times. This ensures that the double-disc opener is presented to the soil at the optimum angle, which reduces smearing and soil movement. Down pressure exerted over the coulters is between 180 and 250kg.
- D. The Spartan<sup>II</sup> range has individual opener depth control from 6mm to 102mm. Adjustments are made quickly and easily with a simple T-handle, allowing each coulter to be set to suit soil conditions. Up to 18 settings are available to guarantee superb seed depth control.



The Turbo Blade is exclusive to Great Plains' vertical tillage and seeding products. Its uniquely patented fluted design increases its ability to penetrate, improving its cutting performance. The 432mm-diameter blade enters the soil vertically where its flutes perfectly cultivate into the residue. As the flutes exit the soil horizontally, the cultivated soil is discharged behind, leaving a mini-seedbed for the opener to utilize. Ideal for use on reduced tillage and no-till systems, this blade is also a great option for seeding into cover crops or heavy residue, or anywhere minimal disturbance is required.





This 51mm x 330mm single press wheel design presses soil directly over the seed, aggressively firming the soil surrounding the seed at the precise depth selected.



This 76mm x 330mm center rib press wheel is designed to firmly press the soil directly over the seed with the center rib of the wheel, creasing the soil. This crease allows the crust to crack open for even seed emergence.

# ZONAL CULTIVATION & SEEDING

"Zonal Cultivation and Seeding" is a unique concept proven across the Great Plains no-til drill line, including the Spartan<sup>II</sup>.

Ultimately, the performance of any drill is measured by the accuracy with which it places the seed and the consistency of emergence that is achieved as a result. It's a key area and is one in which Great Plains' design and engineering team excels.

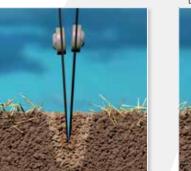
Ongoing product development over many years has led to a number of important yieldimproving advances that have become standard features in many Great Plains drills and are making a real difference for growers around the world. One such innovation is a unique zonal cultivation and seeding system, at the heart of which are Great Plains patented Turbo Coulter discs.

This technology ensures that every seed is placed at the optimum depth in an ideal environment to facilitate consistently even germination. This is an integral part of the widely acclaimed and highly successful no-till drill range from Great Plains





The drills work on pre-cultivated land, no-till systems, and cover crops,



The flutes of the Turbo Coulter clear crop residue away from the seeding zone so the double-disc opener can precisely place the seed.

zonally, creating the ideal environment for the double-disc opener to place seed.



The press wheel firms the soil around the seed, optimizing seed-tosoil contact. This creates the ideal situation for germination and leads to consistent emergence.



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This picture shows seed placement and minimal disturbance of soil ahead of trench closure by the press wheel.





The ground is worked vertically with straight blades in a 10-50mm strip of soil.



The cultivated area is darker and warms faster than the uncultivated area



By rooting into coultered soil, this prover system creates the ideal conditions for healthy growth and high yields.

#### FEATURES & BENEFITS

#### AIR DRILLS

# 6 METER NO-TILL

MODELS: SPARTAN" 607

Built around tried and tested components and technologies such as the well-proven zone cultivation design of Great Plains' 07 Series opener, the second generation Spartan<sup>II</sup> incorporates a wide range of new and improved features.

Perhaps the most significant change to the Spartan is a complete rework of the drill's seed tower configuration. The new patented system utilizes half the number of towers and all of them are mounted on the center section. Primary and secondary hose diameters have increased by 20% for improved seed distribution and air flow. Significantly shortened hose lengths from meter to tower and faster variable-rate shut-off from the cab reduce spillage around headland turns.

Other improvements have been made with ease-of-use very much in mind, including seed calibration located at the rear of the machine, easier access to weight brackets, improved on-road handling, and a new variable-rate hydraulic drive.

The Spartan<sup>II</sup> retained many important features as well: zonal cultivation and seeding, impressive opener down pressure for true no-till seeding, hydraulic weight transfer, and excellent ground contour following. The Spartan<sup>II</sup> is available with a single seed-only 5280-liter hopper or two 2885-liter hoppers for seed/dry fertilizer applications. The new 6m-working-width Spartan<sup>II</sup> 607 can be specified with 40 or 32 rows, giving row spacings of 15cm and 18.75cm respectively.

- Hydraulic Weight Transfer (Side to Side and Front to Back) This allows the Spartan" openers to flex up 125mm and down 75mm. This also allows the wings to flex down 10° and up 15° side-to-side and 15° up or down front-to-back. The side-to-side flex allows the drill to precisely follow undulating ground conditions and the front-to-back flex allows the drill to hug contours going over hills and valleys. This feature also allows the operator to transfer weight from the hopper cart to the implement in hard soil conditions or to carry more weight on the cart in soft soil conditions.
- Quick and Easy Calibration from Rear of Machine Seed calibration is a quick and convenient push-button operation.
- Variable-Rate Hydraulic Drive Offers outstanding reliability in all operating conditions. It incorporates an internal rate sensor to monitor meter speed and uses the same hydraulic system as the drill's hydraulic down-pressure function.
- Narrow Transport Folds to a 3-meter transport width.
- Improved Seed Metering System Rates of 325kg/ha are achievable. Multiple meter wheel options allow metering of a wide variety of seed, including a small seeds roller capable of planting OSR, cover crops, and other small seeds. The meter box has been redesigned to eliminate 'dead areas' for the seed to gather. A standard agitator ensures that even the lightest seeds are fed evenly and constantly.













#### **STANDARD EQUIPMENT**

- 07 Series openers
- Air seed delivery
- Drill Command<sup>™</sup> by Müller Elektronik
- Blockage monitors
- Hydraulic weight transfer
- Narrow transport width
- High-flotation tires
- Variable-rate drive
- Weight kits
- Rear seed calibration
- Half-width shutoff

#### **OPTIONAL EQUIPMENT**

- Dual markers
- Press wheel scraper with or without harrow tine
- Hydraulic or pneumatic brakes
- Tramlines
- · Gauge wheel scraper
- Seed meter choices
- Coulter hub strap
- Keeton<sup>®</sup> Seed Firmers

SPARTAN <sup>II</sup> 607
No-Till
07 Series
187.5mm or 150mm
32 or 40
6.0m
3.0m
170+
10,200 - 15,800
30kg - 110kg
180kg - 250kg
1 5 2001 or 2 20051

1 - 5,280L or 2 - 2885L

Specifications are subject to change without prior notificat mages may or may not depict current production model

## 8, 9, 10, 12 METER NO-TILL MODELS: SPARTAN" 807 | SPARTAN" 907 | SPARTAN" 1007 | SPARTAN" 1207

AIR DRILLS

### **FEATURES & BENEFITS**

The Spartan<sup>II</sup> range is the next generation of Spartans incorporating new and improved features, further increasing the productivity and versatility of this well-proven direct drilling solution.

While the first generation Spartans only included 6- and 9-meter machines, the Spartan<sup>II</sup> will also include 8-meter, 10-meter, and 12-meter variants to complete an extensive and versatile range, offering a choice of 150mm, 190mm, or 200mm row spacings.

New features include hydraulic drive, hydraulic auger, patented tower system with primary and secondary hose diameters increased by 20%, and BKT caster wheels at an increased track width.

The latest Spartans still feature Great Plains' innovative zonal cultivation and seeding technology. At its heart is the patented Great Plains Turbo Coulter, which meets the need for minimal disturbance and operation in heavy residue.

Each Turbo Coulter is in line with the trailing double-disc 07 Series opener, creating a mini-seedbed in a 10-50mm strip of soil where the seeds will actually be planted, providing every row with equal conditions.

- New-Style Rear Casters and Increased Track Width The rear axle on the new Spartan" has an increased track width and geometry improvements on the caster wheels to improve stability on the road.
- Variable-Rate Hydraulic Drive Offers outstanding reliability in all operating conditions. It incorporates an internal rate sensor to monitor meter speed and uses the same hydraulic system as the drill's hydraulic down-pressure function.
- Narrow Transport Folds to a 3-meter transport width.
- High-Capacity Auger Standard 254mm diameter auger with hydraulic height and angle controls makes filling the hoppers and unloading from the rear hopper quicker and easier. Wireless remote control is optional.
- Improved Seed Metering System Rates of 300kg/ha are achievable. Multiple meter wheel options allow metering of a wide variety of seed, including a small seeds roller capable of planting OSR, cover crops, and other small seeds. The meter box has been redesigned to eliminate 'dead areas' for the seed to gather. A standard agitator ensures that even the lightest seeds are fed evenly and constantly.









8m-12m Air Drill	SPARTAN" 807	SPARTAN" 907	SPARTAN" 1007	SPARTAN" 1207
Primary Use	No-Till			
Opener	07 Series			
Row Spacing	200mm or 150mm	190mm or 150mm	190mm or 150mm	190mm or 150mm
Number of Rows	40 or 52	48 or 60	52 or 64	66 or 78
Drill Width	8.0m	9.0m	10.0m	12.0m
Transport Width	3.0m			
H.P. Requirements	210+	250+	270+	300+
Weight (kg)	13,300 - 14,200	14,130 - 15,000	15,000 - 16,000	16,800 - 18,000
Opener Down Pressure	30kg - 110kg			
Coulter Down Pressure	180kg - 250kg			
Hopper Capacity	2 - 3500L			

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#### **STANDARD EQUIPMENT**

- 07 Series openers
- Air seed delivery
- Drill Command<sup>™</sup> by Müller Elektronik
- Hydraulic weight transfer
- Narrow transport width
- High-flotation tires
- Variable-rate drive
- Seed meter shafts
- -Small seed (1)
- -4 outlet, 4-star (2)
- -4 outlet, 2-star (2)

#### **OPTIONAL EQUIPMENT**

- Dual markers
- Press wheel scraper with or without harrow tine
- Hydraulic or pneumatic brakes
- Tramlines
- Blockage monitors
- Manual or hydraulically positioned auger
- Transport wheel scraper
- Coulter hub strap

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Our Mission

To be a company where innovation, teamwork and a desire to improve combine to:

- 1. Delight our customers
- 2. Provide a rewarding workplace for our employees
- 3. Generate profits for stability and growth

## Great Plains



"Setting the pace through innovation."

Great Plains Manufacturing, Inc., was established on April 1, 1976 by company founder Roy Applequist. Since our inception, Great Plains has become a leader in the manufacturing of agricultural implements for tillage, seeding, and planting in the United States, as well as a leading producer of dirtworking, turf maintenance, and landscaping equipment. Now a Kubota Company, Great Plains Manufacturing is comprised of Great Plains Ag, Great Plains International, Land Pride, Great Plains Acceptance Corporation (GPAC), and Great Plains Trucking.

### **Great Plains International Products**





(ALLAN)

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VERTICAL TILLAGE

CONVENTIONAL TILLAGE

AIR DRILLS

COMPACT DRILLS

MECHANICAL DRILLS







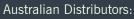


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ROTARY CUTTERS

FERTILIZER APPLICATORS

SPRAYERS





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