

The background of the entire page is a photograph of a tractor pulling a large implement, likely a planter or seeder, across a field. The scene is captured during a dramatic sunset or sunrise, with the sky filled with orange and yellow clouds. The tractor and its implement are silhouetted against the bright light of the sun, which is low on the horizon. The overall mood is one of hard work and agricultural productivity.

SEEDING, TILLAGE & FERTILIZER TOOLS

PRODUCT CATALOGUE 2018



REPLACEABLE TIPS

12



SEEDING OPENERS TO FIT
C-SHANK

24



OPENERS TO FIT
**CASE, NEW HOLLAND
& FLEXI-COIL**

36



OPENERS TO FIT
HORSCH

42



OPENERS TO FIT
MORRIS

46



OPENERS TO FIT
SALFORD

52



FERTILIZER KNIVES

70



TILLAGE

90

OPENERS TO FIT BOURGAULT

30



OPENERS TO FIT JOHN DEERE

44



OPENERS TO FIT SEED HAWK INC.

54



DISK BLADES

100



PERFORMANCE GUARANTEE	3
WARRANTY	3
COMPANY PROFILE	10-11
REPLACEABLE TIPS	
SINGLE SHOOT TIPS	14-15
SIDE BAND TIPS	16
PAIRED ROW TIPS	17
FERTILIZER TIPS	18
INSTALLING & CHANGING TIPS	19
PRECAUTIONS & RISK FACTORS	22-23
OPENERS TO FIT C-SHANK	
SEEDING SINGLE SHOOT	24-25
SEEDING MULTI-SHOOT	26-29
FERTILIZER KNIVES	78-81
OPENERS TO FIT BOURGAULT	30-35
OPENERS TO FIT CASE, NEW HOLLAND & FLEXI-COIL	36-41
OPENERS TO FIT HORSCH	42-43
OPENERS TO FIT JOHN DEERE	44-45
OPENERS TO FIT MORRIS	46-51
OPENERS TO FIT Salford	52-53
OPENERS TO FIT SEED HAWK INC.	54-56
MULTI-SHOOT OPENERS	
TITAN SERIES	57-59
VERSATILE OPENER SYSTEM (VOS)	60-61
OPENERS TO FIT SPEED-LOC™	
SEEDING SINGLE SHOOT	62-67
FERTILIZER KNIVES	72-77
SEED BOOTS	68-69
SPEED-LOC™ ADAPTERS	82-87
ADAPTER CHART	88-89
TILLAGE	
SPEED-LOC™ SWEEPS & SPIKES	92-95
MAX LIFE™ SWEEPS & SPIKES	96-97
BOLT ON SWEEPS, CHISELS & SPIKES	98-99
DISK BLADES	100-104
ACCESSORIES & REFERENCE	
ACCESSORIES	106-107
INSTALLATION NOTES	108-110
PRODUCT DEPTH CHART	111
BOLT LENGTH & FASTENERS	112-115
EXPANDED DRAWINGS	116-135
DISTRIBUTION	136-137
CONTACT US	138
UPCOMING EVENTS	139
PRODUCT INDEX	140-141

THIRD PARTY DISCLAIMER: Any company names and model designations referred to herein, in association with goods and/or services of companies other than F.P. Bourgault Tillage Tools Ltd., are the property and trademarks of those respective companies. Use of them does not imply any affiliation with or endorsement by them.

DISCOVER THE BTT DIFFERENCE.

What is the BTT Difference?

When you succeed, we succeed. At BTT, we think you should expect a lot, and we strive to deliver that with exceptional Customer Service, high-quality Canadian made products, and the best Warranty and Performance Guarantee in the market. We call this **The BTT Difference** and these are just a few of the ways we go the extra mile to keep your operation growing.

Our friendly, knowledgeable sales reps are always just a phone call away.

Roger Schierman

Alberta Territory Manager

Cell: 780.781.2134

Corny Chomenchuk

Assistant Sales Manager,
Manitoba Territory Manager

Cell: 204.724.2012

Penny Ulledal

Sales Development

Cell: 306.874.8322

Kelly Stevenson

Sask. Territory Manager

Cell: 306.921.7888

Brett Vosberg

Montana, Minnesota, North &
South Dakota Territory Manager

Cell: 406.750.6052





PERFORMANCE GUARANTEE

Bourgault Tillage Tools guarantees the product you purchase will perform to its designed specification under normal conditions. Under some adverse conditions the performance of the product may be affected.

If the product does not perform its designed task within the first season of use, please inform us of the issue immediately and grant us the opportunity to visit your field to assess the situation. If we cannot rectify the situation, we will guarantee you a 100% refund.

Failure to follow our recommendations will render the Performance Guarantee void.

DISCLAIMER: To learn more about adverse seeding conditions please refer to pages 22-23.

WARRANTY

Warranty is limited to the replacement of the failed part and does not cover any consequential damages. To obtain warranty, the part must be returned to the dealer. The dealer will complete the Warranty Claim Form.

All products are warranted from the date of purchase at our discretion as follows:

- 1st year prorated to a maximum of 100%
- 2nd year prorated to a maximum of 70%
- 3rd year prorated to a maximum of 40%

Warranty expires 3 years from the date of purchase. Invoice must be provided.

Warranty will not be provided on ANY of our parts that have been used with non-original BTT replacement parts or tips.

Warranty only covers defects in materials and workmanship. Carbide is warranted for loss only. Chipping of carbide is normal. If the brazing fails and the carbide falls off, return the part to the dealer.

Trip Strength Considerations

At Bourgault Tillage Tools, we build products that last. Our seed openers need to perform in some challenging conditions, and we design our products with durability in mind. The end user has the responsibility to make sure the machine is best suited to the operating conditions. Trip strength is an important consideration. When it comes to trips, heavier is not necessarily better! Buying a seeding machine with heavier trips than required for proper penetration may result in:

- Broken or damaged seed openers
- Broken or bent shanks
- More rocks being pulled to the surface

Proper trip strength will save you time and money. When determining the appropriate trip strength, some factors to consider are: soil type, amount of rock and type of seed opener used. Some people believe a heavy trip is a "one size fits all" scenario. This is simply not true. Take the time and make sure you get a machine with appropriate trip strength for your farming operation.

Bourgault Tillage Tools reserves the right to limit warranty claims on trip strengths greater than 400 pounds.



BTT | *FITS ANY COLOR*

As the direct seeding industry evolves, unique shank styles and configurations are being developed by air drill manufacturers. BTT is dedicated to providing openers to fit these shank designs and configurations. You can be assured that the quality you have come to trust in our products will be available in an opener for your choice of air drill and soil conditions.



FREEZING AN ISSUE?

WE HAVE THE SOLUTION!

BTT Non-Freeze knives deliver Anhydrous Ammonia through an engineered nylon insert, insulating the knife from the NH_3 . This prevents moist soil from freezing up and building up on the knife, keeping it narrow to reduce disturbance with minimal gassing off! These knives offer welded or replaceable carbide tip options. Designed to fit C-Shank, *Speed-Loc™* and Salford.

To learn more see pages 52, 72, 74 & 78.



**NARROW DESIGN FOR
LESS DISTURBANCE &
QUICKER SEALING WITH
MINIMAL GASSING OFF**

**AVAILABLE TO FIT:
C-SHANK,
SPEED-LOC™
& SALFORD**

**AVAILABLE WITH
WELDED OR
REPLACEABLE
CARBIDE TIP OPTIONS**

**ENGINEERED
INSULATOR**



FALL TILLAGE

BENEFITS YOU CAN COUNT ON.

- LOOSEN & AERATE SOIL FOR BETTER ROOT PENETRATION & GROWTH
- EFFECTIVELY DEAL WITH UNEVEN & INCREASED CROP RESIDUE
- TARGETED MANAGEMENT OF STUBBORN WEED POPULATIONS
- INCREASED SOIL TEMPERATURES IN THE SPRING
- HELP DRY OUT SOIL IN WET YEARS
- INCREASE SPRING SEEDING EFFICIENCY
- SMOOTH OUT RUTS LEFT FROM HARVEST



LESS WEAR & MORE PERFORMANCE

**TRY THE NIAUX 200.
THE LONGEST WEARING DISK BLADE IN THE MARKET.**

- 20 TO 40% LONGER WEAR DUE TO INCREASED HARDNESS.
- VERY DUCTILE, EXCELLENT RESISTANCE TO BREAKAGE
- LIFETIME WARRANTY ON BREAKAGE
- RETAINS A SHARP CUTTING EDGE DUE TO HIGH HARDNESS
- SPECIAL HIGH-GRADE, QUALITY STEEL

NOW STOCKING BLADES TO FIT CNH, CROSS SLOT, GREAT PLAINS, JOHN DEERE, LEMKEN, SALFORD & SUMMERS MACHINES.

3 ZONES OF HARDNESS

- Increased Flexibility
(48-50 HRC)
- Increased Durability
(50-55 HRC)
- Maximum Wear
(55-58 HRC)



Always Mindful of Serving our Farm Customers, Dealers & Distributors

At Bourgault Tillage Tools, our Farm Customers, Dealers and Distributors are foremost in our thoughts. We do our best to always serve you to the best of our abilities.

We do this most importantly by listening to your concerns and to your suggestions, always doing our best to understand where we can improve upon existing products and services. We also do this by innovating, researching and developing new and better products and services wherever possible.

We recognize that if we provide exceptional value to our Customers to help you prosper and to improve the quality of your working lives through high quality products and services that we all benefit as a result.

North American Suppliers

At BTT, we purchase the majority of our steel, castings and merchandise from high quality and reputable North American Suppliers such as SAAB and Evraz for our steel, and Lethbridge Iron Works for our castings. We choose to pay a premium for North American steel, castings and tungsten carbide among other raw materials we purchase to provide our Customers with the best possible products made from the best possible materials.

From our own research and development testing over the years, we have found the quality and consistency of North American Suppliers to be significantly higher than offshore materials. As a result, we have chosen to continue to support local Canadian and American raw material suppliers with over 95% of our purchases. Another major advantage of using North American Suppliers is speedier delivery for orders placed on short notice. We do however purchase some of our raw materials from offshore suppliers, where the quality is consistent and high enough to meet our high quality standards in an effort to reduce costs where possible.

Innovating Existing Products

There is an old saying; "Don't fix what's not broke." You will notice that the BTT catalogue and website have both continued to expand and to improve each year for the past 25 years. The reason for this is that we have in our catalogue many of the original – tried and true – tillage, fertilizer and seeding products on which we founded our Company back in 1991. As well have continually expanded our line-up of tillage, fertilizer and seeding openers over the past 25 years as farming and seeding equipment and practices have evolved and improved.

At Bourgault Tillage Tools, our Company Philosophy has always been one of continuous improvement wherever possible, in our products and throughout our entire organization, so that we can improve our products and services as much as possible while remaining competitive. Thus, our Mission and our Commitment to our Customers; is to continue to do our best to deliver the most innovative, highest quality products and excellent service to our Farm Customers, to our Dealers and Distributors in North America, Europe, Australia and around the world.

We would like to thank you for your continued support in 2017. We wish you increasing success and prosperity in 2018 and beyond.

Sincerely,

Joseph Bourgault
President





THE HISTORY & PRINCIPLES BEHIND THE COMPANY

Bourgault Tillage Tools Ltd. is located in the small industrious and agricultural community of St. Brieux in north central Saskatchewan (Western Canada).

Originally part of F.P. Bourgault Industries -- Cultivator Division Ltd., the development of ground engaging tools began in 1988. In the summer of 1991, the Cultivator Division sold the large equipment product line to the Air Seeder Division to focus exclusively on the tillage tools line establishing ourselves as an independent business with separate ownership and management from Bourgault Industries Ltd. The new company was called F.P. Bourgault Tillage Tools Ltd. As an autonomous company, Bourgault Tillage Tools (BTT) is entirely responsible for all of its business decisions and activities.

We became the main provider of tillage tools for Bourgault's cultivator line; however, also producing tillage tools for other equipment lines. Since its formation in 1991, F.P. Bourgault Tillage Tools Ltd. has greatly expanded its product line and market area, becoming a world leader in field opener technology.

We manufacture ground engaging tools, and not the equipment they go on. Our product line includes a wide range for tillage, seeding and fertilizing applications. Most products are available in bolt-on or in our patented *Speed-Loc™* quick change system. We understand the diversity of farming methods and we endeavor to build products to meet those needs.

We believe that by listening to our customers and understanding their needs, we will continue to develop products that help them compete in this ever challenging agricultural economy.

We respect and value the relationship we have with all whom we do business with including our Customers, Dealers, Distributors and Suppliers. We strive to provide products that are of excellent Value and high Quality. We endeavor to provide sales people that are helpful and knowledgeable, to provide prompt delivery on orders, and reliable service and support.

We believe that our employees are our most important asset. We encourage a work environment of mutual respect, regardless of one's job or title. We believe in compensation systems that pay fair and competitive wages, while also rewarding extra efforts. Our Productivity Bonus system in our production areas rewards steady and consistent effort, and in turn helps keep production costs down. Our Profit Share plan pays out a portion of the company profit each year to all employees. We encourage continued skills and personal development to help our people reach their goals, and in turn the company benefits from a higher skilled, better balanced work force.

Acting as a responsible corporate citizen is very important to us at Bourgault Tillage Tools. We believe that everyone has a responsibility to help build a world that is sustainable, and we endeavor to operate our business in that way. One example of this is our participation in the "green power" program offered by our electrical supplier. We are also moving to cleaner production processes within our plant, to ensure minimum pollution to the environment. In tune with our principles of sustainability, we support agricultural practices that will leave the land and the environment intact for future generations.

As our market expands globally, we continue to stay in touch with the needs of our domestic markets, and we are excited by the challenge to supply our tillage and seeding tools to agricultural markets around the world. In getting to know who we are, "the company behind the product and the principles behind the company", we hope that you will be comfortable in dealing with us now and into the future.

Sincerely,

*Board of Directors
& All company Associates
Bourgault Tillage Tools (BTT)*



REPLACEABLE TIPS

All of our primary wearing replaceable tips are made in North America, giving you the superior wear resistance you have come to expect from us. They are cast by Leth Iron in Lethbridge, Alberta, Canada using only the best materials available, so we can offer you the highest quality tips on the market.

All carbide inserts used on our tips are North American made and attached in-house ensuring the highest standards of quality are met.



Look for the Leth Iron logo for over 100 years of experience in wear resistant materials .





SINGLE SHOOT TIPS

All tips on these 2 pages use bolt & nut combo 200-BNC-3100



200-TIP-0511

CARBIDE TIP

1/2" (13 mm) tip with carbide insert on the nose.

Not recommended in highly abrasive conditions.



200-TIP-0800

CHROME TIP

3/4" (19 mm) tip.



200-TIP-0801

CARBIDE TIP

3/4" (19 mm) tip with carbide insert on the nose.



200-TIP-0802

CARBIDE TIP

3/4" (19 mm) tip with extra long carbide on the nose for highly abrasive conditions.



200-TIP-0803

CARBIDE TIP

3/4" (19 mm) tip with extra long carbide on the nose and sides for highly abrasive conditions. The same as **200-TIP-0802**, but with the addition of the side carbide inserts.



200-TIP-0811

VERTICAL CARBIDE TIP

3/4" (19 mm) vertical tip with extra long carbide on the nose for highly abrasive conditions.



200-TIP-1011

VERTICAL CARBIDE TIP

1" (25 mm) vertical tip with double carbide insert. Recommended for rocky and highly abrasive conditions.



200-TIP-2011

CARBIDE SPREAD TIP

2" (51 mm) tip with carbide insert on the nose to fracture the ground. Carbide inserts on the underside of the wings to maintain a sharp cutting edge.



200-TIP-3000

CHROME SPREAD TIP

3" (76 mm) tip.



200-TIP-3001

CARBIDE SPREAD TIP

3" (76 mm) tip with carbide insert on the nose and hard facing on the underside of the wings.



200-TIP-3011

CARBIDE SPREAD TIP

3" (76 mm) tip with carbide insert on the nose to fracture the ground. Carbide inserts on the underside of the wings to maintain a sharp cutting edge.



200-TIP-4011

CARBIDE SPREAD TIP

4" (102 mm) tip with carbide insert on the nose to fracture the ground. Carbide inserts on the underside of the wings to maintain a sharp cutting edge.



610-TIP-0802

CARBIDE SPREAD TIP

3/4" (19 mm) long-wearing single shoot tip extra long carbide on the nose for highly abrasive conditions. Used for seeding or fertilizing (not for double shooting). Fits **VOS** (Versatile Opener System).

See pages 60-61 for more details.



610-TIP-4030

CARBIDE SPREAD TIP

4" (102 mm) Paired Row tip with extra long carbide on the nose and narrow carbide on the cutting edges of the wings for excellent penetration. Two carbide pieces on the bottom firm the trench for seed placement. Fits **VOS** (Versatile Opener System). See pages 60-61 for more details.

This tip also fits any holders that use the Paired Row tip **610-TIP-4041**.



200-BNC-3100

BOLT & NUT COMBO

It is important not to over tighten the bolt. The bolt should be turned in by hand until the shoulder of the bolt makes contact with the nut before torquing to 84 in/lbs or 7 ft/lbs. It is recommended the bolt and nut be changed when changing the tip.

Over torquing will result in difficulty when removing.

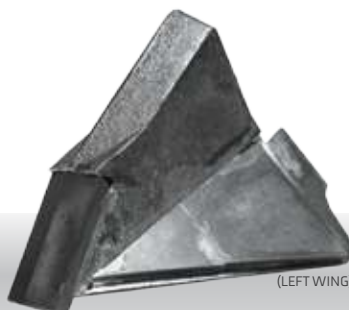


SIDE BAND TIPS

All tips on these 2 pages use bolt & nut combo 200-BNC-3100



(LEFT WING)



(LEFT WING)



(LEFT WING)



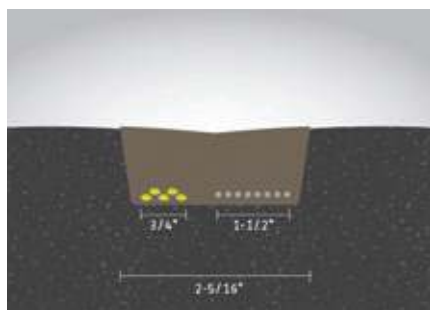
610-TIP-1711 (LEFT WING)
610-TIP-1712 (RIGHT WING)

CARBIDE TIP

Cast chrome tip with carbide inserts on the nose and the wing for excellent penetration and wear resistance.

The seed is placed in a 3/4" (19 mm) band onto a firm, unfractured seedbed. Fertilizer is delivered in a band off to the side (right or left) on the same level as the seedbed. Fits **VOS** (Versatile Opener System).

See pages 60-61 for more details.



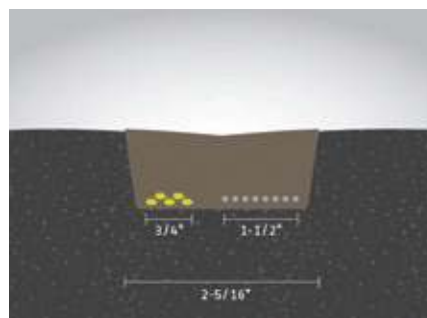
seed fertilizer

612-TIP-0711 (LEFT WING)
612-TIP-0712 (RIGHT WING)

CARBIDE TIP

Cast chrome tip with carbide inserts on the nose and the wing for excellent penetration and wear resistance.

The seed is placed in a 3/4" (19 mm) band onto a firm, unfractured seedbed. Fertilizer is delivered in a band off to the side (right or left) on the same level as the seedbed.



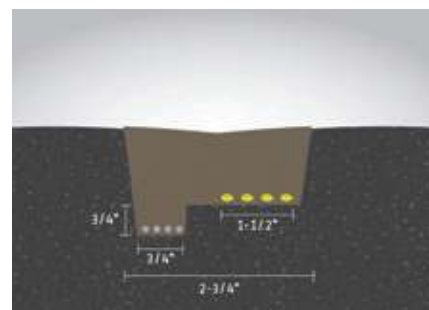
seed fertilizer

614-TIP-2711 (LEFT WING)
614-TIP-2712 (RIGHT WING)

CARBIDE TIP

Cast chrome tip with carbide inserts on the nose and the wing for excellent penetration and wear resistance. A carbide wafer under the wing seals the fertilizer trench, and firms the seed bed prior to seed placement.

The seed is placed in a 1-1/2" (38 mm) band 3/4" (19 mm) above and to the side of the fertilizer row after the fertilizer trench has been sealed and seed bed has been firmed up.



seed fertilizer



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. For more information please refer to precautions and risk factors on page 22-23.

PAIRED ROW TIPS

All tips on these 2 pages use bolt & nut combo 200-BNC-3100



610-TIP-3500

CARBIDE TIP

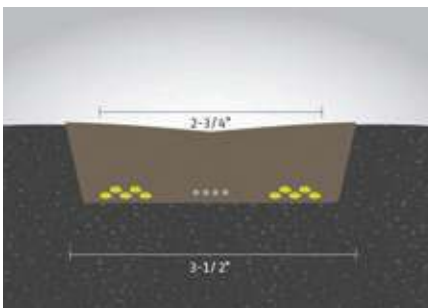
Cast chrome tip with carbide insert on the nose for excellent penetration and wear resistance. Carbide inserts on the underside of the wing maintain a sharp cutting edge.

3-1/2" (89 mm) Single shoot Paired Row tip with no vertical separation used on Seed Hawk Inc. **(686-ASY-3500)**.

See page 54 for more information.

3-1/2" (89 mm) Paired Row liquid option only tip. This double shoot tip has no vertical seed/fertilizer separation. Fits **VOS** (Versatile Opener System).

See pages 60-61 for more details.



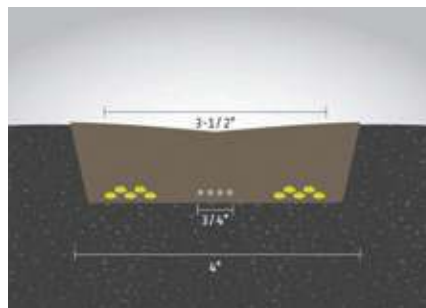
seed fertilizer

610-TIP-4041

CARBIDE TIP

Cast chrome tip with carbide insert on the nose for excellent penetration and wear resistance. Carbide inserts on the underside the wing to maintain a sharp cutting edge.

This 4" (102 mm) Paired Row liquid or granular double shoot tip has no vertical seed/fertilizer separation.



seed fertilizer

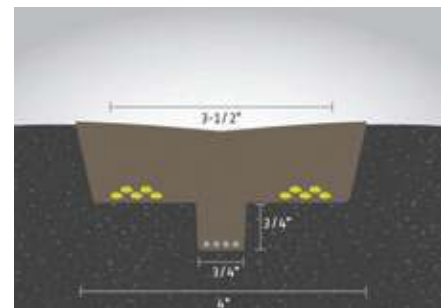
610-TIP-4081

CARBIDE TIP

Cast chrome tip with carbide insert on the nose for excellent penetration and wear resistance. Carbide inserts on the underside of the wing maintain a sharp cutting edge. Carbide inserts at the back of the underside of the wings seals up fertilizer trench prior to seed placement.

This 4" (102 mm) Paired Row tip has 3/4" (19 mm) vertical separation of liquid, granular, or NH3 fertilizer. Fits **VOS** (Versatile Opener System).

See pages 60-61 for more details.



seed fertilizer



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. For more information please refer to precautions and risk factors on page 22-23.



FERTILIZER TIPS

All tips on these 2 pages use bolt & nut combo 600-BNC-5000



600-TIP-7500

CHROME TIP

3/4" (19 mm) chrome tip. This tip fits **410**, **599** & **600** Series knife holders.



600-TIP-7501

CARBIDE TIP

3/4" (19 mm) chrome tip with carbide on the nose. This tip fits **410**, **599** & **600** Series knife holders.



600-TIP-7502

CARBIDE TIP

3/4" (19 mm) chrome tip with extra long carbide on the nose. This tip fits **410**, **599** & **600** Series knife holders.



600-TIP-7507

CARBIDE TIP & WING

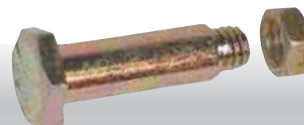
3/4" (19 mm) carbide tip and wing for liquid application. This allows vertical and horizontal separation when double-shooting with liquid.



600-TIP-3011

CARBIDE TIP

3" (76 mm) chrome tip with extra long carbide on the nose to fracture the ground. Carbide pieces on the underside of the wings to maintain a sharp cutting edge. This tip fits **410**, **599** & **600** Series knife holders.



600-BNC-5000

BOLT & NUT COMBO

This bolt and nut combination is used to secure **600** series tips onto the **410**, **599** & **600** Series knife holders. It is recommended the bolt and nut be changed when changing the tip to maintain locking ability of the nut.

The nut, **600-NUT-3754**, and bolt, **600-BLT-5004**, can be ordered separately.

INSTALLATION NOTES

INSTALLING & CHANGING TIPS

One of our most popular innovations is the replaceable tip. The tongue and groove configuration allows customers to change tips as they wear out, instead of the whole opener.

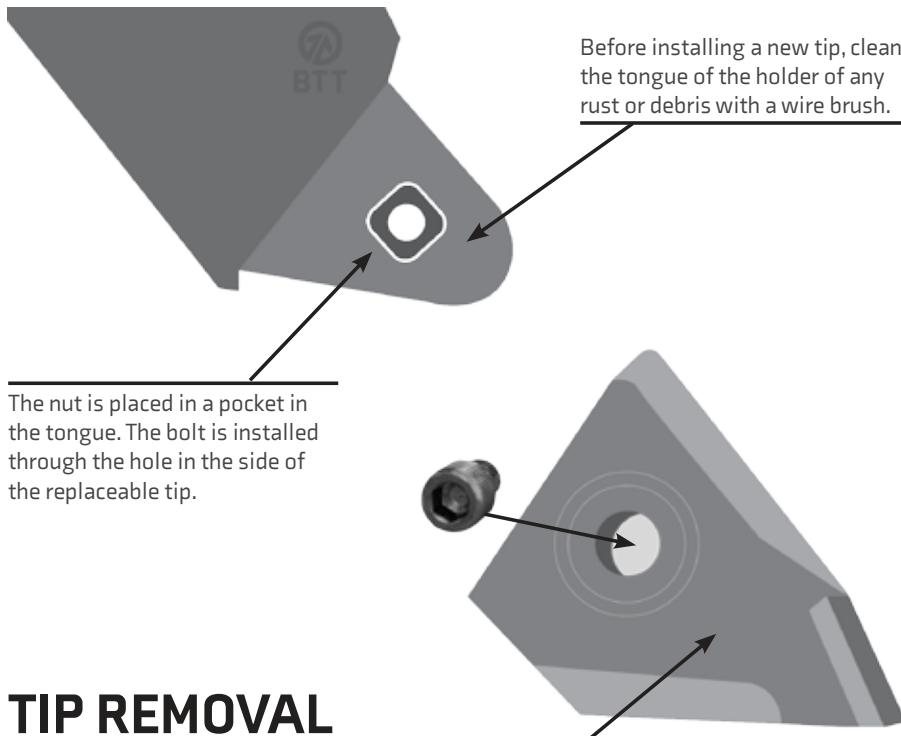
There are several things to keep in mind when changing or installing new tips:

NOTE

Over torquing will result in difficulty when removing. Torque to 84 in/lbs or 7ft/lbs.

When installing new tips it is important to use a new bolt and nut combination.

Before installing a new tip, clean the tongue of the holder of any rust or debris with a wire brush.



The nut is placed in a pocket in the tongue. The bolt is installed through the hole in the side of the replaceable tip.

TIP REMOVAL

If a worn out tip is seized on the tongue, you can use two 3 pound hammers, one to support the side of the holder and the other to strike the opposite side of the tip to break the side wall.

NOTE

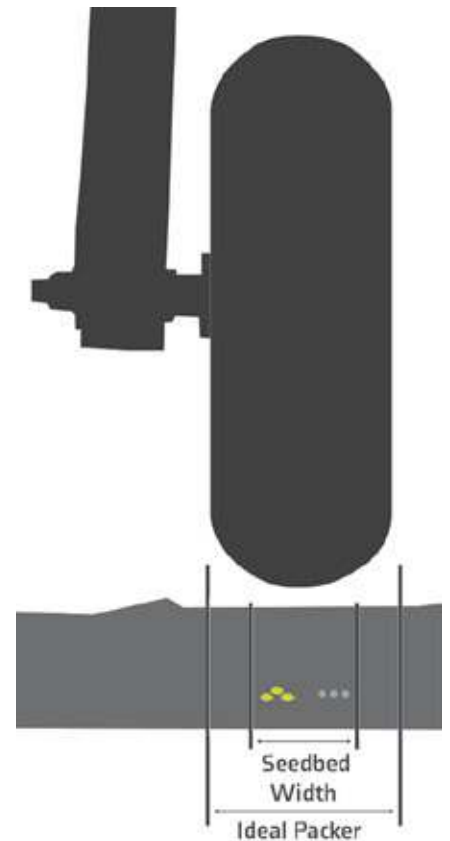


ALWAYS WEAR SAFETY GLASSES!

When installing products on the Speed-Loc™ adapter, always use the correct driver.

PACKING CONSIDERATIONS

It is recommended to use on-row packing to achieve good soil to seed contact for even germination. Generally, the packer wheel width should be equal to or greater than the width of the tip on the opener. The ideal result is to have uniform depth of firm soil over the full seed row.





BTT | *FITS ANY COLOR*

As the Agriculture Machinery Industry evolves, unique shank styles and configurations are being developed by manufacturers. Bourgault Tillage Tools is dedicated to building openers that fit these new shank designs and configurations. You can now be assured the quality you have come to trust in our openers will be available on your choice of equipment.

FERTILIZER TYPES





MULTI-SHOOT OPENERS

PRECAUTIONS & RISK FACTORS

With the development and increased use of multi-shoot knives for one-pass seed and fertilizer placement, the following question is often asked:

Q “How much fertilizer can I place with the seed without causing germination problems or seedling damage?”



A

The answer to this question is very complex.



Precautions and Risk Factors*

In less than ideal conditions, mixing between seed and fertilizer may occur. Consider these factors when using any products between pages 34 to 45.

FERTILIZER SOURCE – depending on the type of fertilizer used, damage can occur either through NH_3 toxicity or salt effects or a combination of both as in the case with blended fertilizer.

FERTILIZER RATES – typically, the risk of crop seedling injury increases with higher rates of fertilizer.

CROP TYPE – crops vary in their ability to tolerate seed-placed fertilizer, with cereals being able to withstand more than oilseeds and pulses falling somewhere in between.

SEED QUALITY – with everything else equal, seed with poor vigor will suffer more damage from seed-placed fertilizer than seeds with high vigor. If seed vigor is questionable, have it tested.

SOIL MOISTURE – with soil at or near saturation point, the toxic effects of fertilizer are diluted so seeds can germinate and develop with few problems. If conditions are very dry, reduce the amount of fertilizer placed near the seed.

SOIL TEXTURE – fine textured soils such as clay or clay loam tend to also reduce these toxic effects over coarse or sandy soils because of their ability to hold more water and absorb toxic free NH_3 .

ORGANIC MATTER – higher levels of organic matter (OM) in a soil also lessen the risk of damage. For example, reduced levels of OM on dry, eroded hilltops seedlings are more prone to injury.

SEEDBED UTILIZATION – or SBU is the proportion of the seedbed used for seed and fertilizer placement. Ex: 2" openers on 10" row spacing have a SBU of 20%. As SBU increases, the crops tolerance to higher rates of seed-placed fertilizer increases.

SEEDING DEPTH, PACKING AND SPEED – these points are also factors to take into consideration as they may compromise seed and fertilizer placement as well as the overall quality of the seeding operation.

ADVERSE SEEDING CONDITIONS – excessively wet or dry soil at time of seeding can cause erratic seed placement, poor seed-to-soil contact and poor separation, which will also affect the amounts of seed placed fertilizer you can apply.

EXCESS AIR VOLUME – higher air volumes can result in seed and fertilizer being blown out of the trench or mixing of seed and fertilizer in the trench.

If any of the above conditions are less than ideal, it is advisable to reduce your fertilizer rate accordingly.

**It is our company's policy not to recommend or endorse specific "safe" rates of fertilizer for multi-shoot openers due to the wide variance in the PRECAUTIONS AND RISK FACTORS listed above. Most of our knives are tested at independent research facilities to verify only the placement of seed and fertilizer. We suggest that producers consult their local agronomist to establish acceptable fertilizer rates for their unique seeding conditions.*

SINGLE SHOOT OPENERS TO FIT **C-SHANK**



047-ASY-1000 047-KNH-1000

THIS **SINGLE SHOOT** OPENER FITS:
47° AND 50° C-SHANK

- Seed is delivered through the precision funnel opening.
- Front delivery provides precise seed delivery and reduces plugging with better soil flow.
- Extra hard surfacing on critical wear areas to increase the life of the holder.
- Can be used with any of the 200 Series replaceable tips allowing you to choose the tip for your conditions.
Tips sold separately. See page 14-15 for more details.
- When installing on a Bourgault with MRBs, use 047-KNH-1000 directly beside the MRBs. **Not Sold as a complete set, must be ordered separately.**
- Customers must look at the machine to determine what quantity of shanks are directly beside the MRBs.
- 50° shanks require either the **880-WDG-0300** or **880-WDG-0301**. See page 106 for more information.

For a more detailed view of this opener see page 116.

047-ASY-1005P



THIS **SINGLE SHOOT** OPENER FITS:
47° AND 50° C-SHANK

- Phosphorus is delivered onto the seed bed, **below the seed**.
- Seed is delivered through the precision funnel opening.
- Front delivery provides precise seed delivery and reduces plugging with better soil flow.
- Extra hard surfacing on critical wear areas to increase the life of the holder.
- Can be used with any of the 200 Series replaceable tips allowing you to choose the tip for your conditions.
Tips sold separately. See page 14-15 for more details.
- 50° shanks require either the **880-WDG-0300** or **880-WDG-0301**. See page 106 for more information.
- Liquid Phosphorus pipe is 3/16" (5 mm) O.D., and will require **880-ASY-1010** for 1/4" (6 mm) I.D. delivery hoses. See page 107 for more details.

For a more detailed view of this opener see page 116.

047-VRT-1040

THIS **SINGLE SHOOT** OPENER FITS:
47° C-SHANK

- 1" (25 mm) weld-on tip with extra carbide for long-lasting wear life.
- Vertical approach reduces rock pulling and soil throw.
- Fits 1-3/4" (44 mm) bolt hole spacing.



050-KNH-0812

THIS **SINGLE SHOOT** OPENER FITS:
47° AND 50° C-SHANK

- Rear delivery provides additional trash clearance.
- Slotted bolt hole spacing fits 1-3/4" to 2-1/2" (44 - 64 mm) bolt hole spacing, providing the ability to fit many different makes and models.
- Can be used with any of the 200 Series replaceable tips allowing you to choose the tip for your conditions.
Tips sold separately. See page 14-15 for more details.



599-KNH-7540

THIS **SINGLE SHOOT** OPENER FITS:
47° C-SHANK

- Designed for a better fit on the Bourgault shank.
- Fits 1-3/4" (44 mm) bolt hole spacing.
- The larger tip provides extra long wear and decreases wear on the holder.
- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**.
Tips sold separately. See page 18 for more details.

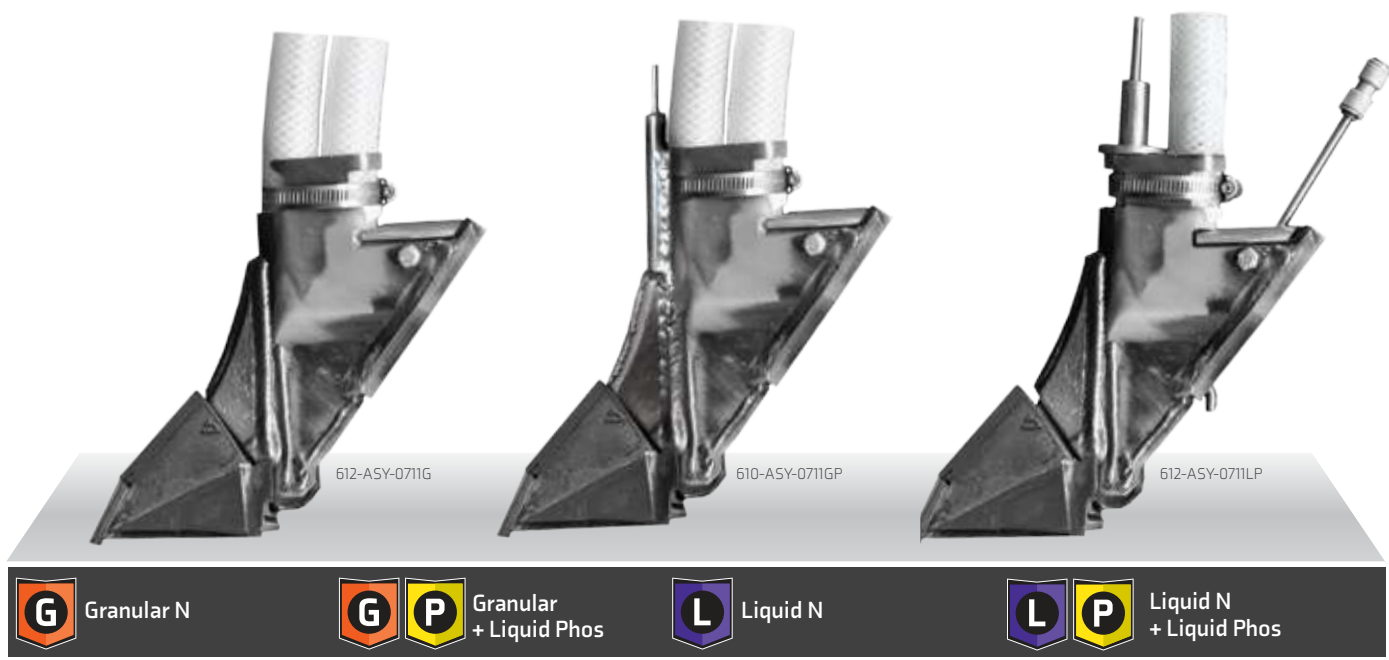


600-KNH-7540 600-KNH-7640

THIS **SINGLE SHOOT** OPENER FITS:
47° AND 50° C-SHANK

- Slotted bolt hole spacing fits 1-3/4" to 2-1/2" (44 - 64 mm) bolt hole spacing, providing the ability to fit many different makes and models.
- The larger tip provides extra long wear and decreases wear on the holder.
- **600-KNH-7540** comes with 1-1/4" (32 mm) O.D. granular tube.
- **600-KNH-7640** comes with 1-1/2" (38 mm) stainless steel pipe.
- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**.
Tips sold separately. See page 18 for more details.
- Also available to fit the 410 Series Speed-Loc™ Adapters **410-KNH-7540**.
See page 77 for more details.

MULTI-SHOOT OPENERS TO FIT C-SHANK



	610-ASY-0711GP* 610-ASY-0712GP*		610-ASY-0711LP* 610-ASY-0712LP*
612-ASY-0711G 612-ASY-0712G	612-ASY-0711GP 612-ASY-0712GP	612-ASY-0711L 612-ASY-0712L	612-ASY-0711LP 612-ASY-0712LP

THESE **SIDE BAND** OPENERS FIT: C-SHANK

Seed Placement: The seed is placed in a 3/4" (19 mm) band onto a firm, unfractured seedbed. The **610 GP & LP** holders deliver the phosphorus onto the seed bed **below the seed**. The **612 GP & LP** holders deliver phosphorus on top of the seed.

Fertilizer Placement: Fertilizer is delivered in a band off to the side (right or left) on the same level as the seed. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions & risk factors on page 22-23.*

Disturbance: Unique design of the tip provides low disturbance, low draft and smoother fields.

Replaceable Tips: Cast chrome tip with carbide inserts on the nose of the tip and the wing for excellent penetration and wear resistance. Narrow carbide cutting edge on the wing for exceptional penetration. *Assemblies on this page include the tip.*

Packer Recommendations:

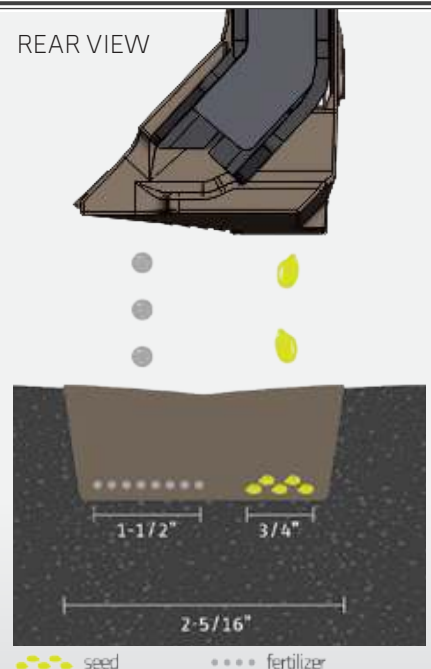
2-1/4" (57mm) or wider.

Opener Features: Hard facing is placed on critical wear points to ensure a long-lasting holder and proper seed placement. The streamlined holder design reduces plugging and allows for better trash clearance.

Installation Notes: When installing on 50° shanks other than Bourgault or Ezee-On use wedge **880-WDG-0300** or **880-WDG-0301**. See page 106 for more information.

ALL WINGS ON SIDE BAND OPENERS MUST BE POINTING INWARD TO THE CENTER OF THE SEEDING UNIT TO PREVENT PLUGGING WHEN TURNING. CUSTOMERS SHOULD ORDER HALF LEFT AND HALF RIGHT WING OPENERS.

For a more detailed view of these openers see page 118.

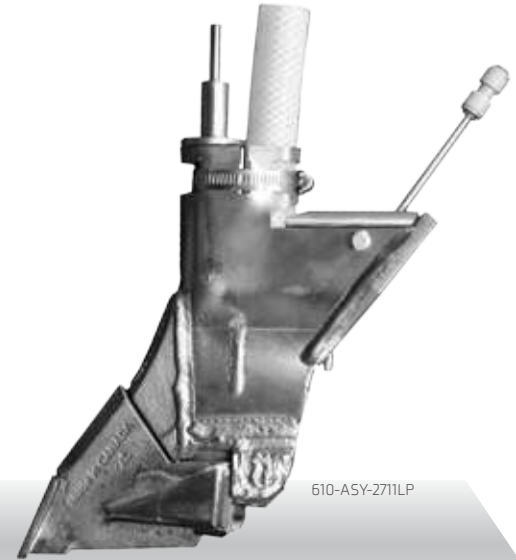


! Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 22-23.*

MULTI-SHOOT OPENERS TO FIT **C-SHANK**



610-ASY-2711G



610-ASY-2711LP



Granular N



Granular + Liquid Phos



Liquid N



Liquid N + Liquid Phos

610-ASY-2711G
610-ASY-2712G

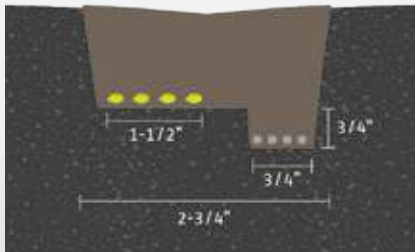
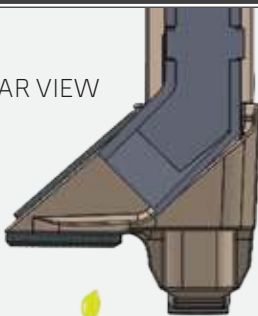
610-ASY-2711GP
610-ASY-2712GP

610-ASY-2711L
610-ASY-2712L

610-ASY-2711LP
610-ASY-2712LP

THESE **SIDE BAND** OPENERS FIT: **C-SHANK**

REAR VIEW



●●●● seed ●●●● fertilizer



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. **For more information please refer to precautions and risk factors on page 22-23.**

Seed Placement: The seed is placed 3/4" (19 mm) above and to the side of the fertilizer row, after the carbide wafer under the tip's wing seals the fertilizer trench and firms up the seed bed.

Fertilizer Placement: Fertilizer is placed in the center 3/4" (19 mm) below the seed bed. The carbide wafer under the wing seals the fertilizer trench before the seed is placed. In less than ideal conditions, mixing between seed and fertilizer may occur. **For more information please refer to precautions and risk factors on page 22-23.**

Replaceable tip: Cast chrome tip with extra long carbide inserts on the nose of the tip for excellent penetration and wear resistance. Top face of wing is covered with two carbide inserts providing excellent wear resistance. Carbide wafer under the wing to seal fertilizer trench, and firm the seed bed prior to seed placement.

Assemblies on this page include the tip.

Packer Recommendation: 3" (76 mm) or wider. **V-Packer not recommended with these openers.**

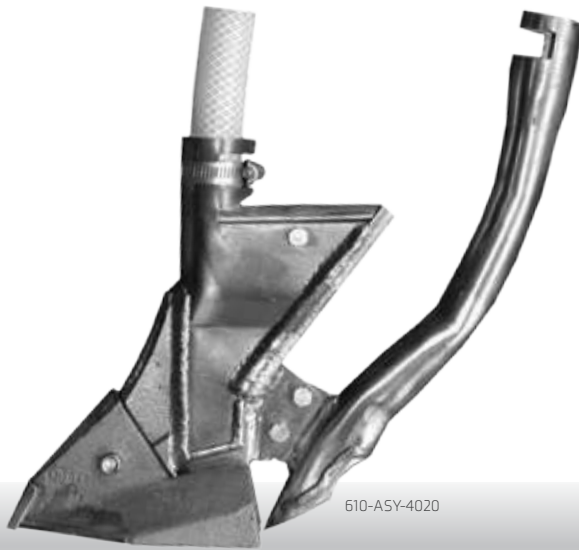
Opener Features: Hard facing is placed on critical wear points to ensure a long-lasting holder and proper seed placement. The streamlined holder design reduces plugging and allows for better trash clearance.

Installation Notes: When installing on 50° shanks other than Bourgault or Ezee-On use wedge **880-WDG-0300** or **880-WDG-0301**. See page 106 for more information.

ALL WINGS ON SIDE BAND OPENERS MUST BE POINTING INWARD TO THE CENTER OF THE SEEDING UNIT TO PREVENT PLUGGING WHEN TURNING. CUSTOMER MUST ORDER HALF LEFT AND HALF RIGHT WING OPENERS.

For a more detailed view of these openers see page 120.

MULTI-SHOOT OPENERS TO FIT C-SHANK



610-ASY-4020



610-ASY-4026



Granular N



Liquid N

610-ASY-4020

610-ASY-4026

THESE **PAIRED ROW** OPENERS FIT: C-SHANK

Seed Placement: Seed is directed rearward through the tip which places the seed in two rows onto a firm, unfractured seedbed.

Fertilizer placement: Fertilizer is delivered on the same level, between the rows of seed. In less than ideal conditions, mixing between seed and fertilizer may occur.

For more information please refer to precautions & risk factors on page 22-23.

Disturbance: Ultra-low draft, low disturbance and smoother fields.

Replaceable tip: Cast chrome tip with carbide inserts on the nose and narrow carbide on the cutting edges of the wings for great penetration.

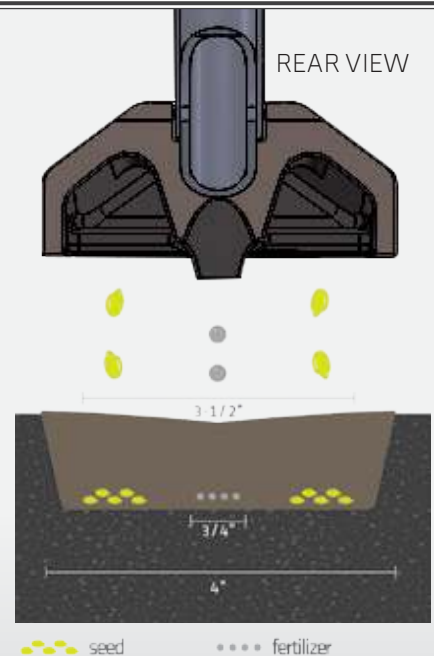
Assemblies on this page include the tip.


Packer Recommendation: 4" (102 mm) or wider.

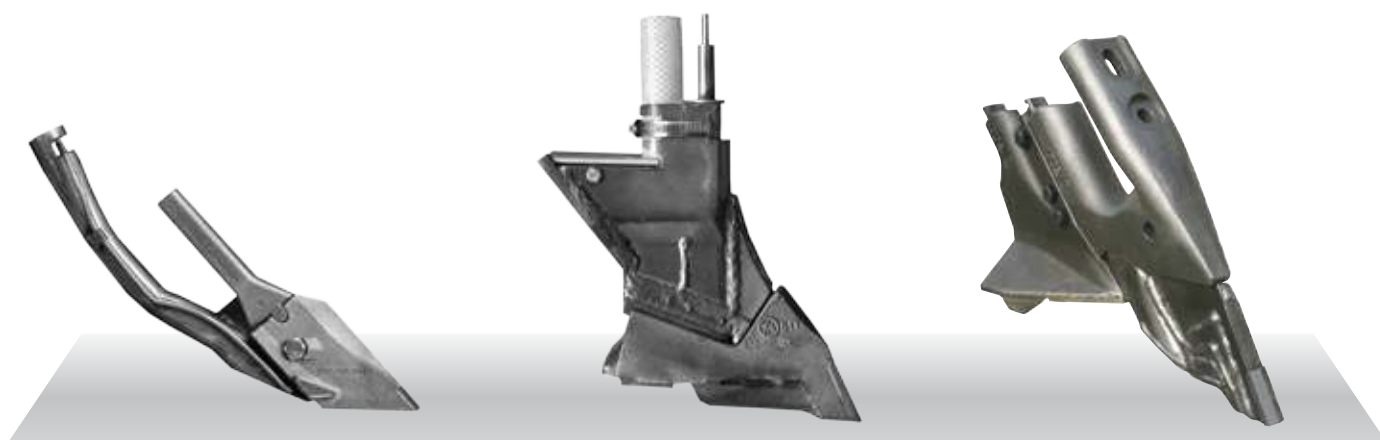
Opener Features: Hard facing is placed on critical wear points to ensure a long-lasting holder. The streamlined holder design reduces plugging and allows for better trash clearance. Designed for use with 1-1/4" (32 mm) O.D. hose. Bushings available for smaller hoses. These openers provide the flexibility to easily switch between Granular and Liquid fertilizer. The above openers are available with Liquid Phosphorus options. *Please call the factory for more information.*

Installation Notes: When installing on 50° shanks other than Bourgault or Ezee-On use wedge **880-WDG-0300** or **880-WDG-0301**. See page 106 for more information.

For a more detailed view of these openers see page 123.



 Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 22-23.*



600-KNH-7562



THIS **SIDE BAND** OPENER FITS:
47° AND 50° C-SHANK

- Slotted bolt hole spacing fits 1-3/4" to 2-1/2" (44 - 64 mm) bolt hole spacing, providing the ability to fit many different makes and models.
- These unique Side Band openers provide good horizontal separation with a slight vertical seed fertilizer separation.
- These openers work very well when used with a pressurized liquid system.
- Used with replaceable tip, **600-TIP-7507**, to ensure high-wear points can be replaced at a lower cost. The high-chrome tip is protected with a carbide insert on the nose and a solid carbide wing. Carbide placement provides sharp cutting edges for excellent penetration.
Tip sold separately. See page 18 for more details.

610-HLD-2080

THIS **VOS** HOLDER FITS:
C-SHANK

- Part of the **VOS** (Versatile Opener System), an innovative system giving you multiple tip and fertilizer options. Shown with **610-TIP-4081**.
- When installing on 50° shanks other than Bourgault or Ezee-On use wedge **880-WDG-0300** or **880-WDG-0301**.
See page 106 for more information.

*Components sold separately.
See pages 60-61 for more details.*

620-HLD-5000

THIS **TITAN SERIES** HOLDER FITS:
47° AND 50° C-SHANK

- Part of the **Titan Opener System**, an innovative system giving you horizontal and vertical seed separation.

*Components sold separately.
See pages 57-59 for more details.*

OPENERS TO FIT **BOURGAULT**



680-ASY-1000



680-ASY-1000P

680-ASY-1000 **680-HLD-1000** (NO BUSHING)

**THIS SINGLE SHOOT OPENER FITS:
BOURGAULT PHD**

- Front delivery provides precise seed delivery and reduces plugging with better soil flow.
- Seed is delivered through the precision funnel opening.
- Reinforced holder reduces breakage in rocky conditions.
- Can be used with any of the 200 Series replaceable tips allowing you to choose the tip for your conditions.
Tips sold separately. See page 14-15 for more details.
- Extra hard surfacing on critical wear areas to increase the life of the holder.
- **When installing on Bourgault PHD use bolt holes pictured right in Fig. 1.**

For a more detailed view of this opener see page 117.

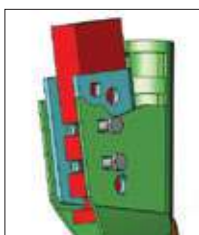


Fig.1

680-ASY-1000P **680-HLD-1000P** (NO BUSHING)



**THIS SINGLE SHOOT OPENER FITS:
BOURGAULT PHD**

- Liquid Phosphorus is delivered onto the seed bed, **below the seed.**
- Front delivery provides precise seed delivery and reduces plugging with better soil flow.
- Seed is delivered through the precision funnel opening.
- Reinforced holder reduces breakage in rocky conditions.
- Can be used with any of the 200 Series replaceable tips allowing you to choose the tip for your conditions.
Tips sold separately. See page 14-15 for more details.
- Extra hard surfacing on critical wear areas to increase the life of the holder.
- **When installing on Bourgault PHD use bolt holes pictured left in Fig. 1.**
- Liquid Phosphorus pipe is 3/16" (5 mm) O.D., and will require **880-ASY-1010** for 1/4" (6 mm) I.D. delivery hoses. *See page 106 for more details.*

For a more detailed view of this opener see page 117.



680-ASY-0711GP



680-ASY-0711LP



Granular N



Granular
+ Liquid Phos



Liquid N



Liquid N
+ Liquid Phos

680-ASY-0711G
680-ASY-0712G

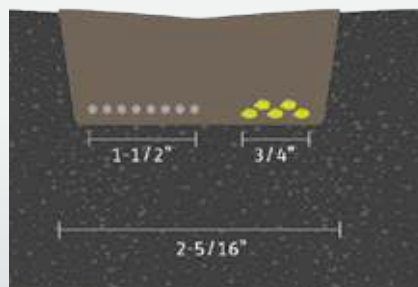
680-ASY-0711GP
680-ASY-0712GP

680-ASY-0711L
680-ASY-0712L

680-ASY-0711LP
680-ASY-0712LP

THESE **SIDE BAND** OPENERS FIT: **BOURGAULT PHD**

REAR VIEW



●●●● seed

**** fertilizer



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 22-23.*

Seed Placement: The seed is placed in a 3/4" (19 mm) band onto a firm, unfractured seedbed. The **680 GP & LP** holders deliver the phosphorus onto the seed bed **below the seed.**

Fertilizer Placement: Fertilizer is delivered in a band off to the side (right or left) on the same level as the seed. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 22-23.*

Disturbance: Unique design of the tip provides low disturbance, low draft and smoother fields.

Replaceable Tips: Cast chrome tip with carbide inserts on the nose and the wing for excellent penetration and wear resistance. Narrow carbide cutting edge on the wing for exceptional penetration. *Assemblies on this page include the tip.*

Packer Recommendations:
2-1/4" (57mm) or wider.

Opener Features: Hard facing is placed on critical wear points to ensure a long-lasting holder and proper seed placement. The streamlined holder design reduces plugging and allows for better trash clearance.

Installation Notes: When installing use bolt holes pictured in Fig.1

ALL WINGS ON SIDE BAND OPENERS MUST BE POINTING INWARD TO THE CENTER OF THE SEEDING UNIT TO PREVENT PLUGGING WHEN TURNING. CUSTOMERS SHOULD ORDER HALF LEFT AND HALF RIGHT WING OPENERS.

For a more detailed view of these openers see page 118.

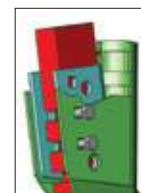


Fig.1

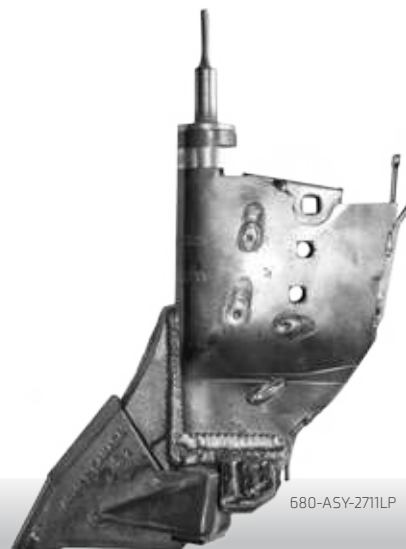
Looking for C-Shank Openers?

Refer to our C-Shank Section on pages 24-29.

OPENERS TO FIT **BOURGAULT**



680-ASY-2711G



680-ASY-2711LP



Granular N



Granular
+ Liquid Phos



Liquid N



Liquid N
+ Liquid Phos

680-ASY-2711G
680-ASY-2712G

680-ASY-2711GP
680-ASY-2712GP

680-ASY-2711L
680-ASY-2712L

680-ASY-2711LP
680-ASY-2712LP

THESE **SIDE BAND** OPENERS FIT: **BOURGAULT PHD**

Seed Placement: The seed is placed 3/4" (19 mm) above and to the side of the fertilizer row, after the carbide wafer under the tip's wing seals the fertilizer trench and firms up the seed bed.

Fertilizer Placement: Fertilizer is placed in the center 3/4" (19 mm) below the seed bed. The carbide wafer under the wing seals the fertilizer trench before the seed is placed. In less than ideal conditions, mixing between seed and fertilizer may occur.
For more information please refer to precautions & risk factors on page 22-23.

Replaceable tip: Cast chrome tip with extra long carbide inserts on the nose of the tip for excellent penetration and wear resistance. Top face of wing is covered with two carbide inserts providing excellent wear resistance. Carbide wafer under the wing to seal fertilizer trench, and firm the seed bed prior to seed placement.

Assemblies on this page include the tip.

Packer Recommendation: 4-1/2" (114 mm) Semi-Pneumatic Packer recommended.

V-Packer not recommended with these openers.

Opener Features: Hard facing is placed on critical wear points to ensure a long-lasting holder, proper seed placement. The streamlined holder design reduces plugging and allows for better trash clearance.

Installation Note: When installing use bolt holes pictured in Fig. 1

ALL WINGS ON SIDE BAND OPENERS MUST BE POINTING INWARD TO THE CENTER OF THE SEEDING UNIT TO PREVENT PLUGGING WHEN TURNING. CUSTOMER MUST ORDER HALF LEFT AND HALF RIGHT WING OPENERS.

For a more detailed view of these openers see page 120.

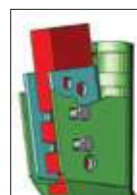
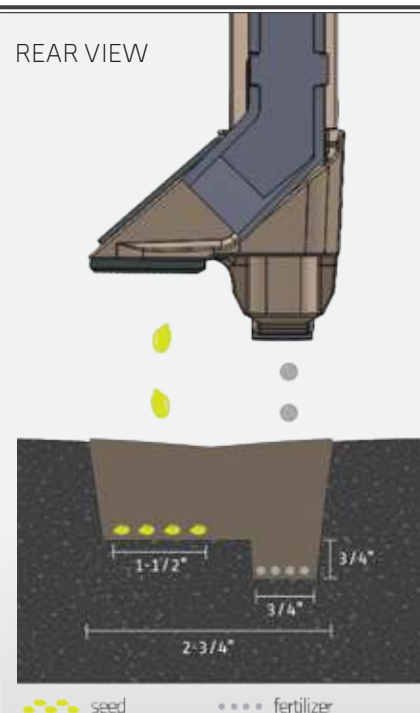


Fig.1

REAR VIEW



••••• seed ••••• fertilizer



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 22-23.*



		
L DOUBLE SHOOT Liquid N	L P TRIPLE SHOOT Liquid N + Liquid Phos	M DOUBLE SHOOT Pressurized NH ₃ *
682-ASY-2063 682-ASY-2064	682-ASY-2063P 682-ASY-2064P	682-ASY-2063M 682-ASY-2064M

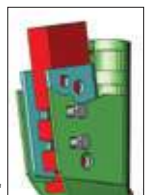
THESE **SIDE BAND** OPENERS FIT: **BOURGAULT PHD**

*For Pressurized NH₃ please see your pressurized system dealer for more information on tube sizing and inserts.

- The 2-1/4" (57 mm) Side Band tip provides you with low draft and soil disturbance while ensuring great seed placement.
- Long-wearing carbide-enforced chrome tip is reinforced where you need it – on the nose and wing.
- Carbide placement provides sharp cutting edges for excellent penetration.
- The welded liquid tube is protected by the carbide tip and runs along the front of the opener to prevent plugging.
- Also available in Triple Shoot Pressurized NH₃ + Liquid Phos **682-ASY-2063MP** and **682-ASY-2064MP**. These openers are fitted with a 1/4" (6 mm) stainless steel tube that applies the liquid phos down the center of the seed row.
- The streamlined holder design reduces plugging and allows for better trash clearance.

Installation Note: When installing on a Bourgault PHD use bolt holes pictured in Fig. 1.

ALL WINGS ON SIDE BAND OPENERS MUST BE POINTING INWARD TO THE CENTER OF THE SEEDING UNIT TO PREVENT PLUGGING WHEN TURNING. CUSTOMER MUST ORDER HALF LEFT AND HALF RIGHT WING OPENERS.



For a more detailed view of these openers see page 132.

Looking for C-Shank Openers?

Refer to our C-Shank Section on pages 24-29.

OPENERS TO FIT **BOURGAULT**



680-ASY-4020



680-ASY-4026



Granular N



Liquid N

680-ASY-4020*

680-ASY-4026**

THESE **PAIRED ROW** OPENERS FIT: **BOURGAULT PHD (EXCEPT XTC)**

Seed Placement: Seed is directed rearward through the tip which places the seed in two rows onto a firm, unfractured seedbed.

Fertilizer placement: Fertilizer is delivered on the same level, between the rows of seed. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions & risk factors on page 22-23.*

Disturbance: Ultra-low draft, low disturbance and smoother fields.

Replaceable tip: Cast chrome tip with carbide inserts on the nose and narrow carbide on the cutting edges of the wings for great penetration.

Assemblies on this page include the tip.

Packer Recommendation: 4" (102 mm) or wider.

Opener Features: Hard facing is placed on critical wear points to ensure a long-lasting holder. The streamlined holder design reduces plugging and allows for better trash clearance. Designed for use with 1-1/4" (32 mm) O.D. hose. Bushings available for smaller hoses. These openers provide the flexibility to easily switch between Granular and Liquid fertilizer. The above openers are available with Liquid Phosphorus options. *Please call the factory for more information.*

Installation Notes: Use bolt holes shown in Fig.1 when installing on Bourgault 3310 & 3320 PHD Drills.

*When installing on a Bourgault 3310 & 3320 PHD Drill spacer **680-ACC-0003** is required. See page 107 for more details.

When installing on a Bourgault 3310 & 3320 PHD Drill spacer **680-ACC-0002 is required. See page 107 for more details.

This opener can be converted to a single shoot opener by using the conversion tab **680-ACC-0004**. See page 107 for more details.

For a more detailed view of these openers see page 123.

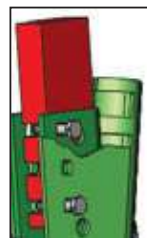
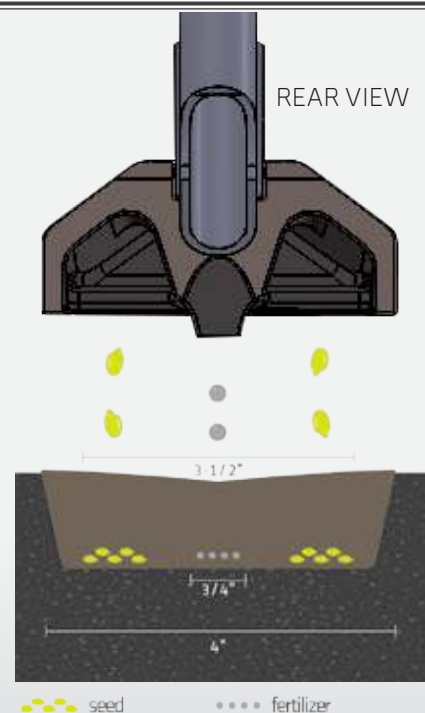



Fig.1



 Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 22-23.*



673-HLD-2080

THIS **VOS** HOLDER FITS:
BOURGAULT PHD

Part of the **VOS** (Versatile Opener System), an innovative system giving you multiple tip and fertilizer options. Shown with **610-TIP-0802**.

Components sold separately. See pages 60-61 for more details.



628-HLD-5000

THIS **TITAN SERIES** HOLDER FITS:
BOURGAULT PHD (EXCEPT XTC)

Part of the **Titan Opener System**, an innovative system giving you horizontal and vertical seed separation.

Components sold separately. See pages 57-59 for more details.

Looking for C-Shank Openers?

Refer to our *C-Shank Section* on pages 24-29.

*All product and company names are trademarks™ or registered® trademarks of their respective holders. Use of them does not imply any affiliation with or endorsement by them. Bourgault, Bourgault PHD, Bourgault 3320 XTC and any other use and/or mentions of their name and/or product designations are the property and registered trademarks of Bourgault Industries Ltd.

OPENERS TO FIT **CASE IH, NEW HOLLAND & FLEXI-COIL**



OPENERS TO FIT **CASE IH, NEW HOLLAND & FLEXI-COIL**



684-ASY-1000P



694-ASY-1000P

684-ASY-1000P 684-KNH-1000



THIS SINGLE SHOOT OPENER FITS:
CASE IH 800
NEW HOLLAND P2070
FLEXI-COIL PH5700

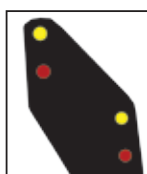
- Narrow design allows for more accurate seed placement behind the tip.
- Can be used with any of the 200 Series replaceable tips allowing you to choose the tip for your conditions.
Tips sold separately. See page 14-15 for more details.
- Seed tube accepts 1-1/4" (32 mm) O.D. hose
- Extra hard surfacing on critical wear areas to increase the life of the holder.

684-KNH-1010

THIS SINGLE SHOOT OPENER FITS:
CASE IH 800
NEW HOLLAND P2070
FLEXI-COIL PH5700

- This holder is designed to clear heavy trash build up.
- Narrow design allows for more accurate seed placement behind the tip.
- Can be used with any of the 200 Series replaceable tips allowing you to choose the tip for your conditions.
Tips sold separately. See page 14-15 for more details.
- Seed tube accepts 1-1/4" (32 mm) O.D. hose.
- Extra hard surfacing on critical wear areas to increase the life of the holder.
- This holder has an extra set of bolt holes on the body for deeper seed placement when required.

INSTALLATION NOTE:



Standard installation uses the bottom holes (pictured red), for 1.5" more depth use the top holes (pictured yellow).

694-ASY-1000P 694-KNH-1000



THIS SINGLE SHOOT OPENER FITS:
CASE IH ATX 700
NEW HOLLAND P2060
FLEXI-COIL PH5500
(84° SHANKS ONLY)

- Narrow design allows for more accurate seed placement behind the tip.
- Can be used with any of the 200 Series replaceable tips allowing you to choose the tip for your conditions.
Tips sold separately. See page 14-15 for more details.
- Seed tube accepts 1-1/4" (32 mm) O.D. hose.
- Extra hard surfacing on critical wear areas to increase the life of the holder.

Looking for C-Shank Openers?

Refer to our C-Shank Section on pages 24-29.

OPENERS TO FIT **CASE IH, NEW HOLLAND & FLEXI-COIL**



694-ASY-0711G



684-ASY-0711L



Granular N



Granular + Liquid Phos



Liquid N



Liquid N + Liquid Phos

CASE IH ATX 700
NH P2060
FLEXI-COIL 5500
CONCORD
(84° SHANKS ONLY)

694-ASY-0711G
694-ASY-0712G

694-ASY-0711GP
694-ASY-0712GP

694-ASY-0711L
694-ASY-0712L

694-ASY-0711LP
694-ASY-0712LP

CASE IH 800
NH P2070
FLEXI-COIL PD5700

684-ASY-0711G
684-ASY-0712G

684-ASY-0711GP
684-ASY-0712GP

684-ASY-0711L
684-ASY-0712L

684-ASY-0711LP
684-ASY-0712LP

THESE *SIDE BAND* OPENERS FIT: CASE, NEW HOLLAND, FLEXI-COIL & CONCORD

Seed Placement: The seed is placed in a 3/4" (19 mm) band onto a firm, unfractured seedbed.

Fertilizer Placement: Fertilizer is delivered in a band off to the side (right or left) on the same level as the seed. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions & risk factors on page 22-23.*

Disturbance: Unique design of the tip provides low disturbance, low draft and smoother fields.

Replaceable Tips: Cast chrome tip with carbide inserts on the nose of the tip and the wing for excellent penetration and wear resistance. Narrow carbide cutting edge on the wing for exceptional penetration. *Assemblies on this page include the tip.*

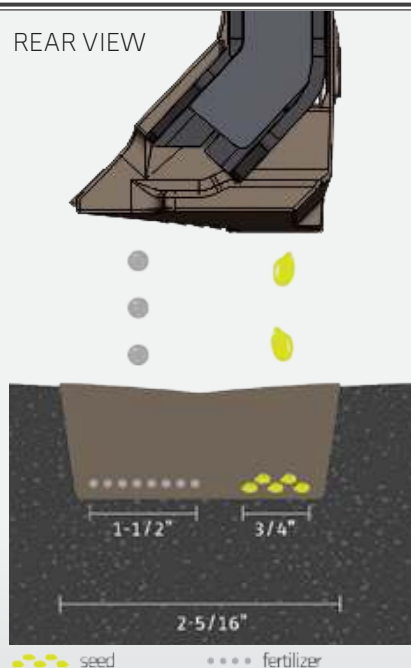
Packer Recommendations: 2-1/4" (57mm) or wider.

Opener Features: Hard facing is placed on critical wear points to ensure a long-lasting holder and proper seed placement. The streamlined holder design reduces plugging and allows for better trash clearance.

ALL WINGS ON SIDE BAND OPENERS MUST BE POINTING INWARD TO THE CENTER OF THE SEEDING UNIT TO PREVENT PLUGGING WHEN TURNING. CUSTOMERS SHOULD ORDER HALF LEFT AND HALF RIGHT WING OPENERS.

For a more detailed view of these openers see page 119.

REAR VIEW









! Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 22-23.*

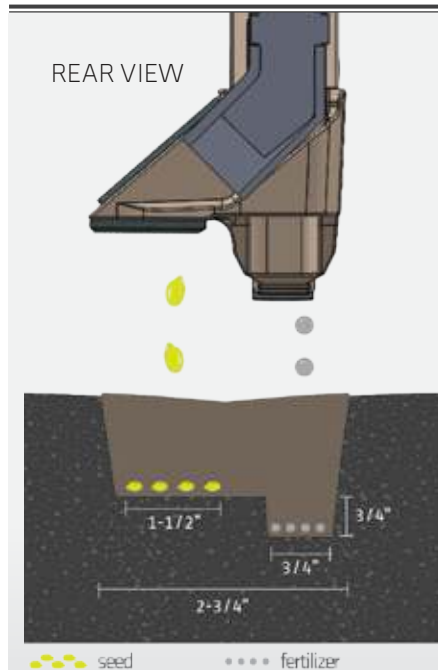
Looking for C-Shank Openers?

Refer to our C-Shank Section on pages 24-29.

OPENERS TO FIT **CASE IH, NEW HOLLAND & FLEXI-COIL**

	694-ASY-2711LP		694-ASY-2711G	
 Granular N	 Granular + Liquid Phos	 Liquid N	 Liquid N + Liquid Phos	
CASE IH ATX 700 NH P2060 FLEXI-COIL 5500 CONCORD (84° SHANKS ONLY)	694-ASY-2711G 694-ASY-2712G	694-ASY-2711GP 694-ASY-2712GP	694-ASY-2711L 694-ASY-2712L	694-ASY-2711LP 694-ASY-2712LP
CASE IH 800 NH P2070 FLEXI-COIL PD5700	684-ASY-2711G* 684-ASY-2712G*	684-ASY-2711GP* 684-ASY-2712GP*	684-ASY-2711L* 684-ASY-2712L*	684-ASY-2711LP* 684-ASY-2712LP*

THESE **SIDE BAND** OPENERS FIT: **CASE, NEW HOLLAND, FLEXI-COIL & CONCORD**



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. **For more information please refer to precautions and risk factors on page 22-23.**

Seed Placement: The seed is placed 3/4" (19 mm) above and to the side of the fertilizer row, after the carbide wafer under the tip's wing seals the fertilizer trench and firms up the seed bed.

Fertilizer Placement: Fertilizer is placed in the center 3/4" (19 mm) below the seed bed. The carbide wafer under the wing seals the fertilizer trench before the seed is placed. In less than ideal conditions, mixing between seed and fertilizer may occur. **For more information please refer to precautions and risk factors on page 22-23.**

Replaceable tip: Cast chrome tip with extra long carbide inserts on the nose of the tip for excellent penetration and wear resistance. Top face of wing is covered with two carbide inserts providing excellent wear resistance. Carbide wafer under the wing to seal fertilizer trench, and firm the seed bed prior to seed placement.

Assemblies on this page include the tip.

Packer Recommendation: 3" (76 mm) or wider. **V-Packer not recommended with these openers.**

Opener Features: Hard facing is placed on critical wear points to ensure a long-lasting holder and proper seed placement. The streamlined holder design reduces plugging and allows for better trash clearance.

*** Installation Note:** When installing 684 openers use top holes for standard installation (pictured yellow), use bottom holes to add 3° more pitch (pictured red).



ALL WINGS ON SIDE BAND OPENERS MUST BE POINTING INWARD TO THE CENTER OF THE SEEDING UNIT TO PREVENT PLUGGING WHEN TURNING. CUSTOMER MUST ORDER HALF LEFT AND HALF RIGHT WING OPENERS.

For a more detailed view of these openers see page 121.

OPENERS TO FIT **CASE IH, NEW HOLLAND & FLEXI-COIL**



694-ASY-4020G



694-ASY-4020L



Granular N



Liquid N

**CASE IH ATX 700
NEW HOLLAND P2060
FLEXI-COIL 5500
CONCORD
(84° SHANKS ONLY)**

694-ASY-4020G

694-ASY-4020L

THESE **PAIRED ROW** OPENERS FIT: **CASE, NEW HOLLAND, FLEXI-COIL & CONCORD**

Seed Placement: Seed is directed rearward through the tip which places the seed in two rows onto a firm, unfractured seedbed.

Fertilizer placement: Fertilizer is delivered on the same level, between the rows of seed. In less than ideal conditions, mixing between seed and fertilizer may occur.

For more information please refer to precautions & risk factors on page 22-23.

Disturbance: Ultra-low draft, low disturbance and smoother fields.

Replaceable tip: Cast chrome tip with carbide inserts on the nose and narrow carbide on the cutting edges of the wings for great penetration.

Assemblies on this page includes the tip.

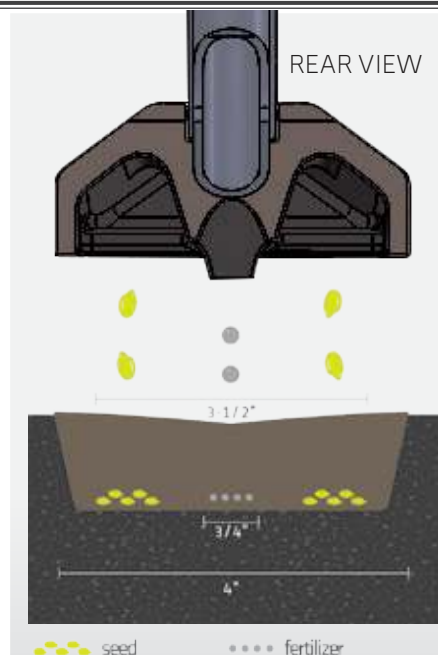
Packer Recommendation: 4" (102 mm) or wider.

Opener Features: Hard facing is placed on critical wear points to ensure a long-lasting holder. The streamlined holder design reduces plugging and allows for better trash clearance. Designed for use with 1-1/4" (32 mm) O.D. hose. These openers provide the flexibility to easily switch between Granular and Liquid fertilizer. The above openers are available with Liquid Phosphorus options. *Please call the factory for more information.*

For a more detailed view of these openers see page 122.

Looking for C-Shank Openers?

Refer to our C-Shank Section on pages 24-29.



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 22-23.*

OPENERS TO FIT **CASE IH, NEW HOLLAND & FLEXI-COIL**



684-HLD-2080

THIS VOS HOLDER FITS:
CASE IH 800, NH P2070,
FLEXI-COIL PD5700

Part of the **VOS** (Versatile Opener System), an innovative system giving you multiple tip and fertilizer options. Shown with **610-TIP-1711**.

Components sold separately.
See pages 60-61 for more details.



694-HLD-2080

THIS VOS HOLDER FITS:
CASE IH ATX 700, NH P2060,
FLEXI-COIL PH5500 & CONCORD
(84° SHANKS ONLY)

Part of the **VOS** (Versatile Opener System), an innovative system giving you multiple tip and fertilizer options. Shown with **610-TIP-4081**.

Components sold separately.
See pages 60-61 for more details.



694-HLD-5000

THIS TITAN SERIES HOLDER FITS:
CASE IH ATX 700, NH P2060,
FLEXI-COIL PH5500 & CONCORD
(84° SHANKS ONLY)

Part of the **Titan Opener System**, an innovative system giving you horizontal and vertical seed separation.

Components sold separately.
See pages 57-59 for more details.

*All product and company names are trademarks™ or registered® trademarks of their respective holders. Use of them does not imply any affiliation with or endorsement by them. Case IH, New Holland, Flexi-Coil and any other use and/or mentions of their name and/or product designations are the property and registered trademarks of CNH Industrial America LLC. Concord and any other use and/or mentions of their name and/or product designations are the property and registered trademarks of Amity Technology.

NOW STOCKING DISK BLADES TO FIT CNH, SEE PAGES 100-104 FOR MORE DETAILS.



OPENERS TO FIT **HORSCH**



688-HLD-1000

THIS **SINGLE SHOOT** OPENER FITS:
HORSCH 84°

- Narrow design allows for more accurate seed placement behind the tip.
- Can be used with any of the 200 Series replaceable tips allowing you to choose the tip for your conditions.
Tips sold separately. See page 14-15 for more details.
- Extra hard surfacing on critical wear areas to increase the life of the holder.
- Seed tube accepts 1-1/4" (32 mm) O.D. hose.
- This holder has an extra set of bolt holes on the body to increase the pitch of the opener, see installation note to the right.



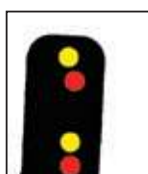
688-HLD-2080

THIS **VOS** HOLDER FITS:
HORSCH 84°

Part of the **VOS** (Versatile Opener System), an innovative system giving you multiple tip and fertilizer options. Shown with **610-TIP-4081**.

Components sold separately.
See pages 60-61 for more details.

INSTALLATION NOTE:



Standard installation uses the bottom holes (pictured red), for 3° more pitch use the top holes (pictured yellow).



688-HLD-5000

THIS **TITAN SERIES** HOLDER FITS:
HORSCH 84°

Part of the **Titan Opener System**, an innovative system giving you horizontal and vertical seed separation.

Components sold separately.
See pages 57-59 for more details.



688-ASY-4020G



688-ASY-4020L



Granular N

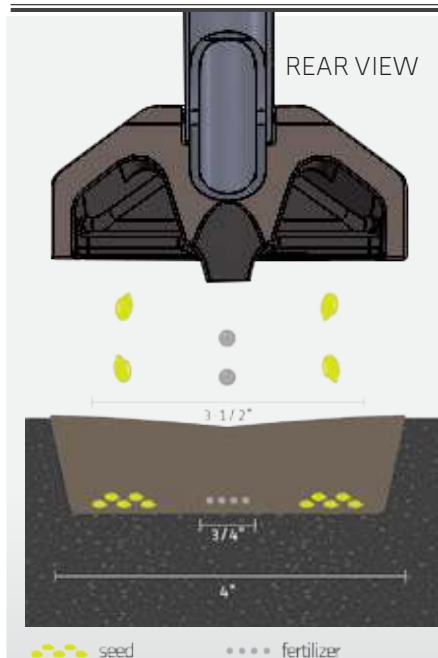


Liquid N

688-ASY-4020G

688-ASY-4020L

THESE PAIRED ROW OPENERS FIT: **HORSCH 84° SHANK**



Seed Placement: Seed is directed rearward through the tip which places the seed in two rows onto a firm, unfractured seedbed.

Fertilizer placement: Fertilizer is delivered on the same level, between the rows of seed. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions & risk factors on page 22-23.*

Disturbance: Ultra-low draft, low disturbance and smoother fields.

Replaceable tip: Cast chrome tip with carbide inserts on the nose and narrow carbide on the cutting edges of the wings for great penetration.

Assemblies on this page include the tip.

Packer Recommendation: 4" (102 mm) or wider.

Opener Features: Hard facing is placed on critical wear points to ensure a long-lasting holder. The streamlined holder design reduces plugging and allows for better trash clearance. Designed for use with 1-1/4" (32 mm) O.D. hose. These openers provide the flexibility to easily switch between Granular and Liquid fertilizer. The above openers are available with Liquid Phosphorus options. *Please call the factory for more information.*

For a more detailed view of these openers see page 122.



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 22-23.*

*All product and company names are trademarks™ or registered® trademarks of their respective holders. Use of them does not imply any affiliation with or endorsement by them. Horsch and any other use and/or mentions of their name and/or product designations are the property and registered trademarks of Horsch Maschinen GmbH.

SEEDING OPENERS TO FIT **JOHN DEERE**



650-ASY-0711
650-ASY-0712



THESE **SIDE BAND** OPENERS FITS:
JD 1870 CONSERVA PAK

- Cast chrome tip with carbide inserts on the nose and the wing for excellent penetration and wear resistance. The seed is placed in a 3/4" (19 mm) band onto a firm, unfractured seed bed.
Assembly includes the tip.
- Extra hard surfacing on critical wear areas to increase the life of the holder.
- For Liquid Phosphorus option order **650-ASY-0711P** (left) and **650-ASY-0712P** (right).

For a more detailed view of these openers see page 129.



650-ASY-3011



THIS **PAIRED ROW** OPENER FITS:
JD 1870 CONSERVA PAK

- 3" (76 mm) cast chrome tip with carbide insert on the nose to fracture the ground. Carbide inserts on the underside of the wings maintain a sharp cutting edge.
Assembly includes the tip.
- The seed is directed rearward through the holder which places the seed in two rows onto a firm, unfractured seed bed.
- Extra hard surfacing on critical wear areas to increase the life of the holder.
- For Liquid Phosphorus option order **650-ASY-3011P**.

For a more detailed view of this opener see page 129.

THESE **FERTILIZER KNIVES** FIT: **JD 1870 CONSERVA PAK**

Opener Features:

Designed to fit the John Deere 1870 Conserva Pak Air-Hoe Drill. The body and fertilizer tubes are narrow with additional hard-surfacing on critical wear areas to increase the life of the holder.

650-HLD-1001 holder is used for NH₃ application, it has a 0.4" O.D. stainless steel tube.

Tip Options:

**200-TIP-0801, 200-TIP-0802,
200-TIP-0803, 200-TIP-0811**

Tips Sold Separately

See page 14 for more details.

Fertilizer Options:

G Granular

L Liquid

N NH₃

G L Granular & Liquid

G N Granular & NH₃



650-ACC-1000

This bracket is **required**, it limits the tripping distance of the fertilizer openers on this page.

Bracket sold separately. Mounting bolts included. See page 107 for more information.

*All product and company names are trademarks™ or registered® trademarks of their respective holders. Use of them does not imply any affiliation with or endorsement by them. John Deere and 1870 Conserva Pak are the registered trademarks of Deere & Company.



650-HLD-1000G



650-HLD-1001

For a more detailed view of these openers see page 128.



650-HLD-1000L



650-HLD-1000N



650-HLD-1000GL



650-HLD-1000GN

NOW STOCKING DISK BLADES TO FIT JOHN DEERE, SEE PAGES 100-104 FOR MORE DETAILS.



OPENERS TO FIT **MORRIS**



680-ASY-1000

680-ASY-1000P

683-ASY-1000P

693-ASY-1000P

680-ASY-1000

680-HLD-1000 (NO BUSHING)

680-ASY-1000P

680-HLD-1000P (NO BUSHING)



THIS **SINGLE SHOOT** OPENER FITS:
MORRIS MAXIM EDGE ON

- Front delivery provides precise seed delivery through precision funnel opening and reduces plugging with better soil flow.
- **680-ASY-1000P** delivers Liquid Phosphorus onto the seed bed, **below the seed.**
- Extra hard surfacing on critical wear areas to increase the life of the holder. The reinforced holder reduces breakage in rocky conditions.
- The **680-ASY-1000P** Liquid Phosphorus pipe is 3/16" (5 mm) O.D., and will require **880-ASY-1010** for 1/4" (6 mm) I.D. delivery hoses. See page 107 for more details.
- Can be used with any of the 200 Series replaceable tips allowing you to choose the tip for your conditions.
Tips sold separately. See page 14-15 for more details.

For a more detailed view of these openers see page 117.

683-ASY-1000P (FITS MORRIS C1)

683-KNH-1000 (FITS MORRIS C1)

693-ASY-1000P (FITS MORRIS C2)








693-KNH-1000 (FITS MORRIS C2)



THIS **SINGLE SHOOT** OPENER FITS:
MORRIS CONTOUR I & II

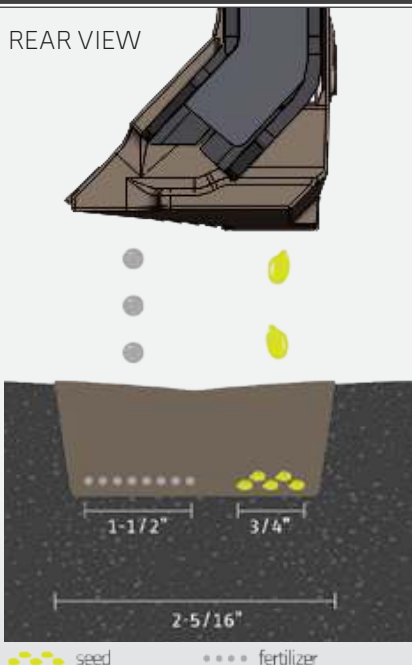
- Narrow design allows for more accurate seed placement behind the tip.
- **683-ASY-1000P** delivers Liquid Phosphorus on top of the seed bed.
- Extra hard surfacing on critical wear areas to increase the life of the holder.
- Can be used with any of the 200 Series replaceable tips allowing you to choose the tip for your conditions.
Tips sold separately. See page 14-15 for more details.
- Seed tube accepts 1-1/4" (32 mm) O.D. hose

OPENERS TO FIT MORRIS

				
680-ASY-0711LP	683-ASY-0711L	693-ASY-0711GP		
 Granular N	 Granular + Liquid Phos	 Liquid N	 Liquid N + Liquid Phos	
MORRIS MAXIM EDGE ON	680-ASY-0711G 680-ASY-0712G	680-ASY-0711GP 680-ASY-0712GP	680-ASY-0711L 680-ASY-0712L	680-ASY-0711LP 680-ASY-0712LP
MORRIS CONTOUR I	683-ASY-0711G 683-ASY-0712G	683-ASY-0711GP 683-ASY-0712GP	683-ASY-0711L 683-ASY-0712L	683-ASY-0711LP 683-ASY-0712LP
MORRIS CONTOUR II	693-ASY-0711G 693-ASY-0712G	693-ASY-0711GP 693-ASY-0712GP	693-ASY-0711L 693-ASY-0712L	693-ASY-0711LP 693-ASY-0712LP

THESE **SIDE BAND** OPENERS FIT: MORRIS

REAR VIEW



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. **For more information please refer to precautions and risk factors on page 22-23.**

Seed Placement: The seed is placed in a 3/4" (19 mm) band onto a firm, unfractured seedbed.

Fertilizer Placement: Fertilizer is delivered in a band off to the side (right or left) on the same level as the seed. In less than ideal conditions, mixing between seed and fertilizer may occur. **For more information please refer to precautions & risk factors on page 22-23.**

Disturbance: Unique design of the tip provides low disturbance, low draft and smoother fields.

Replaceable Tips: Cast chrome tip with carbide inserts on the nose of the tip and the wing for excellent penetration and wear resistance. Narrow carbide cutting edge on the wing for exceptional penetration. **Assemblies on this page include the tip.**

Packer Recommendations: 2-1/4" (57mm) or wider.

Opener Features: Hard facing is placed on critical wear points to ensure a long-lasting holder and proper seed placement. The streamlined holder design reduces plugging and allows for better trash clearance. Designed for use with 1-1/4" (31 mm) O.D. hose. Bushings available for larger hoses.

ALL WINGS ON SIDE BAND OPENERS MUST BE POINTING INWARD TO THE CENTER OF THE SEEDING UNIT TO PREVENT PLUGGING WHEN TURNING. CUSTOMERS SHOULD ORDER HALF LEFT AND HALF RIGHT WING OPENERS.





For a more detailed view of these openers see page 118-119.

Looking for C-Shank Openers?

Refer to our C-Shank Section on pages 24-29.

OPENERS TO FIT MORRIS



	 Granular N	 Granular + Liquid Phos	 Liquid N	 Liquid N + Liquid Phos
MORRIS MAXIM EDGE ON	680-ASY-2711G 680-ASY-2712G	680-ASY-2711GP 680-ASY-2712GP	680-ASY-2711L 680-ASY-2712L	680-ASY-2711LP 680-ASY-2712LP
MORRIS CONTOUR I	683-ASY-2711G 683-ASY-2712G	683-ASY-2711GP 683-ASY-2712GP	683-ASY-2711L 683-ASY-2712L	683-ASY-2711LP 683-ASY-2712LP
MORRIS CONTOUR II	693-ASY-2711G 693-ASY-2712G	693-ASY-2711GP 693-ASY-2712GP	693-ASY-2711L 693-ASY-2712L	693-ASY-2711LP 693-ASY-2712LP

THESE **SIDE BAND** OPENERS FIT: MORRIS

Seed Placement: The seed is placed 3/4" (19 mm) above and to the side of the fertilizer row, after the carbide wafer under the tip's wing seals the fertilizer trench and firms up the seed bed.

Fertilizer Placement: Fertilizer is placed in the center 3/4" (19 mm) below the seed bed. The carbide wafer under the wing seals the fertilizer trench before the seed is placed. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 22-23.*

Replaceable tip: Cast chrome tip with extra long carbide inserts on the nose of the tip for excellent penetration and wear resistance. Top face of wing is covered with two carbide inserts providing excellent wear resistance. Carbide wafer under the wing to seal fertilizer trench, and firm the seed bed prior to seed placement.

Assemblies on this page include the tip.

Packer Recommendation: 3" (76 mm) or wider. **V-Packer not recommended with these openers.**

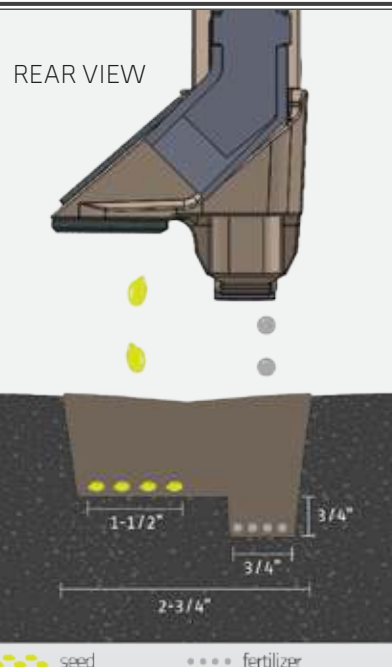
Opener Features: Hard facing is placed on critical wear points to ensure a long-lasting holder and proper seed placement. The streamlined holder design reduces plugging and allows for better trash clearance. Designed for use with 1-1/4" (31 mm) O.D. hose. Bushings available for larger hoses.


ALL WINGS ON SIDE BAND OPENERS MUST BE POINTING INWARD TO THE CENTER OF THE SEEDING UNIT TO PREVENT PLUGGING WHEN TURNING. CUSTOMER MUST ORDER HALF LEFT AND HALF RIGHT WING OPENERS.

For a more detailed view of these openers see page 120-121.








Looking for C-Shank Openers?

Refer to our C-Shank Section on pages 24-29.



 Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 22-23.*



		
 DOUBLE SHOOT Liquid N	  TRIPLE SHOOT Liquid N + Phos	 DOUBLE SHOOT Pressurized NH ₃ *
682-ASY-2063 682-ASY-2064	682-ASY-2063P 682-ASY-2064P	682-ASY-2063M 682-ASY-2064M

THESE **SIDE BAND** OPENERS FIT: **MORRIS MAXIM EDGE ON**

*For Pressurized NH₃ please see your pressurized system dealer for more information on tube sizing and inserts.

- The 2-1/4" (57 mm) Side Band tip provides you with low draft and soil disturbance while ensuring great seed placement.
- Long-wearing carbide-enforced chrome tip is reinforced where you need it – on the nose and wing.
- Carbide placement provides sharp cutting edges for excellent penetration.
- The welded liquid tube is protected by the carbide tip and runs along the front of the opener to prevent plugging.
- Also available in Triple Shoot Pressurized NH₃ + Liquid Phos **682-ASY-2063MP** and **682-ASY-2064MP**. These openers are fitted with a 1/4" (6 mm) stainless steel tube that applies the liquid phos down the center of the seed row.
- The streamlined holder design reduces plugging and allows for better trash clearance.

ALL WINGS ON SIDE BAND OPENERS MUST BE POINTING INWARD TO THE CENTER OF THE SEEDING UNIT TO PREVENT PLUGGING WHEN TURNING. CUSTOMER MUST ORDER HALF LEFT AND HALF RIGHT WING OPENERS.

For a more detailed view of these openers see page 132.

OPENERS TO FIT MORRIS



Granular N



Liquid N

MORRIS MAXIM EDGE ON

680-ASY-4020

680-ASY-4026

MORRIS CONTOUR I

683-ASY-4020G

683-ASY-4020L

MORRIS CONTOUR II

693-ASY-4020G

693-ASY-4020L

THESE PAIRED ROW OPENERS FIT: MORRIS

Seed Placement: Seed is directed rearward through the tip which places the seed in two rows onto a firm, unfractured seedbed.

Fertilizer placement: Fertilizer is delivered on the same level, between the rows of seed. In less than ideal conditions, mixing between seed and fertilizer may occur.

For more information please refer to precautions & risk factors on page 22-23.

Disturbance: Ultra-low draft, low disturbance and smoother fields.

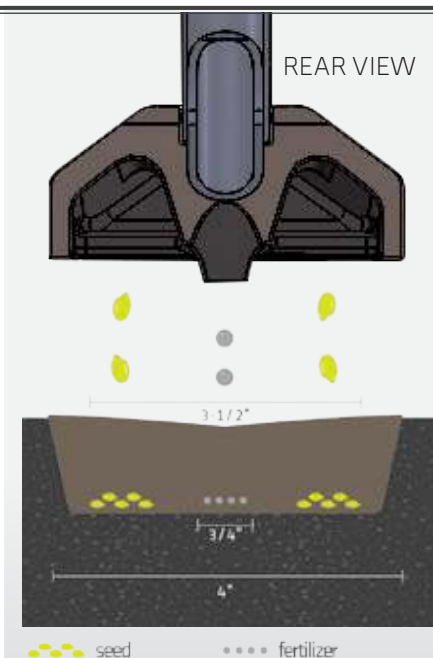
Replaceable tip: Cast chrome tip with carbide inserts on the nose and narrow carbide on the cutting edges of the wings for great penetration.

Assemblies on this page include the tip.

Packer Recommendation: 4" (102 mm) or wider.

Opener Features: Hard facing is placed on critical wear points to ensure a long-lasting holder. The streamlined holder design reduces plugging and allows for better trash clearance. Designed for use with 1-1/4" (32 mm) O.D. hose. Bushings available for larger hoses. These openers provide the flexibility to easily switch between Granular and Liquid fertilizer. The above openers are available with Liquid Phosphorus options. *Please call the factory for more information.*

For a more detailed view of these openers see page 122 & 123.



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 22-23.*

Looking for C-Shank Openers?

Refer to our C-Shank Section on pages 24-29.



628-HLD-5000

**THIS TITAN SERIES HOLDER FITS:
MORRIS MAXIM EDGE ON**

Part of the **Titan Opener System**, an innovative system giving you horizontal and vertical seed separation.

*Components sold separately.
See pages 57-59 for more details.*



673-HLD-2080

673-HLD-2080

**THIS VOS HOLDER FITS:
MORRIS MAXIM EDGE ON**

Part of the **VOS** (Versatile Opener System), an innovative system giving you multiple tip and fertilizer options. Shown with **610-TIP-4081**.

*Components sold separately.
See pages 60-61 for more details.*



683-HLD-2080

683-HLD-2080 693-HLD-2080

**THIS VOS HOLDER FITS:
MORRIS CONTOUR I & II**

Part of the **VOS** (Versatile Opener System), an innovative system giving you multiple tip and fertilizer options. Shown with **610-TIP-4081**.

*Components sold separately.
See pages 60-61 for more details.*



693-HLD-2080

*All product and company names are trademarks™ or registered® trademarks of their respective holders. Use of them does not imply any affiliation with or endorsement by them. Morris, Morris Contour I, Morris Contour II, Morris Maxim and any other use and/or mentions of their name and/or product designations are the property and registered trademarks of Morris Industries Ltd.



670-ASY-7523



NON-FREEZE FERTILIZER KNIFE FITS: **SALFORD INDEPENDENT SERIES**

- NH3 is delivered through a nylon insert, insulating the NH3 from the knife. This prevents the moist soil from freezing up and building up on the knife keeping it narrow to reduce disturbance with minimal gassing off.
- NH3 tube size is 1/2" (12 mm) O.D. and is designed to work with cold-flow NH3 units.
- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**. *Tips sold separately.* See page 18 for more details.

THESE **FERTILIZER KNIVES** FIT: **SALFORD** **INDEPENDENT SERIES**

Opener Features:

Body and fertilizer tubes are narrow with additional hard-surfacing on critical wear areas to increase the life of the holder.

Range of Adjustment:

This opener features adjustment holes that allow you to adjust the height of the opener by 1.375" (35 mm).

Tip Options:

Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**.

Tips sold separately. See page 18 for more details.

Fertilizer Options:

G Granular

L Liquid

N NH₃



*All product and company names are trademarks™ or registered® trademarks of their respective holders. Use of them does not imply any affiliation with or endorsement by them. Salford and any other use and/or mentions of their name and/or product designations are the property and registered trademarks of Salford Group, Inc.

NOW STOCKING DISK BLADES TO FIT SALFORD, SEE PAGES 100-104 FOR MORE DETAILS.



SEEDING OPENERS TO FIT **SEED HAWK INC./VÄDERSTAD**



686-KNH-1001

686-KNH-1001 686-KNH-1001P



**THIS *SINGLE SHOOT* OPENER FITS:
SEED HAWK INC.***

- Shank is offset to fertilizer shank.
- Extra hard surfacing on critical wear areas to increase the life of the holder.
- Can be used with any of the 200 Series replaceable 1/2" (13 mm) or 3/4" (19 mm) tips allowing you to choose the tip for your conditions. **Tips sold separately.** See page 14-15 for more details.
- Liquid Phosphorus is delivered **on top of the seed.**

For a more detailed view of these openers see page 131.



686-ASY-1711G 686-ASY-1712G



**THESE *SIDE BAND* OPENERS FITS:
SEED HAWK INC.***

- Shank is in-line with fertilizer shank.
- Extra hard surfacing on critical wear areas to increase the life of the holder.
- Cast chrome tip with carbide inserts on the nose and the wing for excellent penetration and wear resistance. **Assembly includes the tip.**
- For Liquid Phosphorus option order **686-ASY-1711P** (left) and **686-ASY-1712P** (right). To convert existing knife to Liquid Phosphorus please call the factory for tube sizing.

For a more detailed view of these openers see page 131.



686-ASY-3500 686-ASY-3500P



**THIS *PAIRED ROW* OPENER FITS:
SEED HAWK INC.***

- Shank is in-line with fertilizer shank.
- Extra hard surfacing on critical wear areas to increase the life of the holder.
- Cast chrome tip with carbide insert on the nose for excellent penetration and wear resistance. Carbide inserts on the underside of the wing maintain a sharp cutting edge. **Assembly includes the tip.**
- For Liquid Phosphorus option order **686-ASY-3500P**. When ordering the phosphorus option please call the factory for tube sizing.

For a more detailed view of these openers see page 131.

FERTILIZER KNIVES TO FIT **SEED HAWK INC./VÄDERSTAD**

THESE **FERTILIZER KNIVES** FIT: **SEED HAWK INC.***

Opener Features:

Body and fertilizer tubes are narrow with additional hard-surfacing on critical wear areas to increase the life of the holder.

686-HLD-1020 holders are dedicated to one fertilizer product only.

686-HLD-1010 holders will apply granular plus liquid NH₃.

Tip Options:

**200-TIP-0511, 200-TIP-0801,
200-TIP-0802, 200-TIP-0803,
200-TIP-0811**

Tips Sold Separately

See page 14 for more details.

Fertilizer Options:

G Granular

L Liquid

N NH₃

G L Granular & Liquid

G N Granular & NH₃

*All product and company names are trademarks™ or registered® trademarks of their respective holders. Use of them does not imply any affiliation with or endorsement by them. Seed Hawk Inc. and Väderstad and any other use and/or mentions of their name and/or product designations are the property and registered trademarks of Seed Hawk Inc./Väderstad Holding.



686-HLD-1010GL

For a more detailed view of these openers see page 130.



686-HLD-1010GN



686-HLD-1020G



686-HLD-1020L



686-HLD-1020N



MULTI-SHOOT OPENERS TO FIT **SEED HAWK INC./VÄDERSTAD**



THESE **SIDE BAND** OPENERS FIT: **SEED HAWK INC.***

Seed Placement: The seed is placed in a 3/4" (19 mm) band onto a firm, unfractured seedbed.

Fertilizer Placement: Fertilizer is delivered in a band off to the side (right or left) on the same level as the seed. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions & risk factors on page 22-23.*

Disturbance: Unique design of the tip provides low disturbance, low draft and smoother fields.

Replaceable Tips: Cast chrome tip with carbide inserts on the nose of the tip and the wing for excellent penetration and wear resistance. Narrow carbide cutting edge on the wing for exceptional penetration. *Assemblies on this page include the tip.*

Packer Recommendations: 2-1/4" (57mm) or wider.

Opener Features: Hard facing is placed on critical wear points to ensure a long-lasting holder and proper seed placement. The streamlined holder design reduces plugging and allows for better trash clearance.

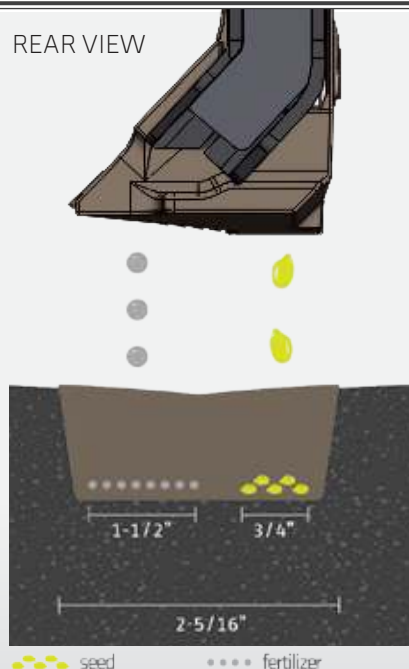
Installation Note: When installing you must remove both the seed and fertilizer shanks and install the opener on the front mount (fertilizer shank).

ALL WINGS ON SIDE BAND OPENERS MUST BE POINTING INWARD TO THE CENTER OF THE SEEDING UNIT TO PREVENT PLUGGING WHEN TURNING. CUSTOMERS SHOULD ORDER HALF LEFT AND HALF RIGHT WING OPENERS.

For a more detailed view of these openers see page 119.

*All product and company names are trademarks™ or registered® trademarks of their respective holders. Use of them does not imply any affiliation with or endorsement by them. Seed Hawk Inc. and Väderstad and any other use and/or mentions of their name and/or product designations are the property and registered trademarks of Seed Hawk Inc./Väderstad Holding.

REAR VIEW



! Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 22-23.*

TITAN OPENER SYSTEM

HORIZONTAL & VERTICAL SEED/FERTILIZER SEPARATION



620-ASY-5070



628-ASY-5010



688-ASY-5010

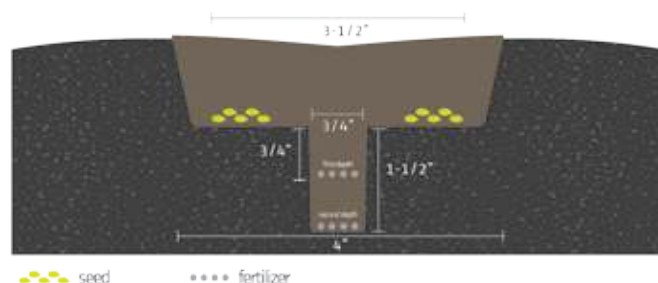


694-ASY-5070

The Titan series provides both horizontal and the most vertical separation between seed and fertilizer. This system can be customized to fit your needs. For a more in depth look at the customizations offered please visit our website www.tillagetools.com and use the Titan Series Customizer.

The Titan Series also offers:

- 1/2" wide fertilizer knife for lower disturbance and more precise fertilizer placement.
- Adjustable seed boot providing you the flexibility to set the depth of the fertilizer from 3/4" to 1-1/2".
- Three strategic carbide locations for additional wear life. Hard facing is placed on key wear points that don't have carbide.
- Modular design allowing for replacement of worn parts instead of the entire opener.



620-TIP-0510 TIP SHOWN USING 620-SSH-1000 SEED SHOE



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. For more information please refer to precautions and risk factors on page 22-23.

For a more detailed view of these openers see page 124-125.

Continued on next page...

MULTI-SHOOT SEEDING: TITAN OPENER SYSTEM

1: CHOOSE YOUR HOLDER



620-HLD-5000

THIS TITAN HOLDER FITS:
47° AND 50° C-SHANK



628-HLD-5000

THIS TITAN HOLDER FITS:
MORRIS MAXIM EDGE ON &
BOURGAULT PHD SHANKS



688-HLD-5000

THIS TITAN HOLDER FITS:
HORSCH 84° SHANK

2: CHOOSE YOUR SEED SHOE



620-SSH-1000**



4" outside to outside (2-3/4" center to center) seed spread is placed above the center placed fertilizer trench.



620-SSH-4000**



6" outside to outside (4" center to center) seed spread is placed above the center placed fertilizer trench.



620-SSH-6000**

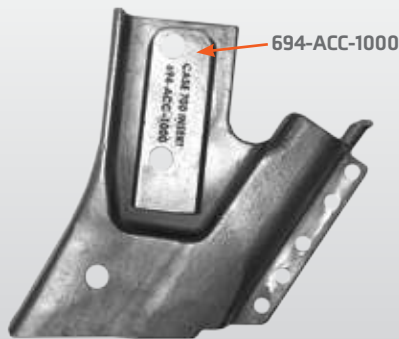


8" outside to outside (6" center to center) seed spread is placed above the center placed fertilizer trench.



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. For more information please refer to precautions and risk factors on page 22-23.

MULTI-SHOOT SEEDING: TITAN OPENER SYSTEM



694-HLD-5000*

THIS TITAN HOLDER FITS:
CASE IH ATX 700, NH P2060,
FLEXI-COIL PH5500 & CONCORD
EDGE ON (84° SHANKS ONLY)



628-SBT-2000



2" wide seed spread is placed above the
center placed fertilizer trench.

3: CHOOSE YOUR TIP



620-TIP-0510

Standard tip for **620, 688 & 694** holders.
Carbide inserts are placed on the nose.
Hard facing is placed on critical wear
points for extended life of the tip.



620-TIP-0517 **

This tip is the same as **620-TIP-0510** but
is 3/4" longer giving you more vertical
separation.



628-TIP-0510

Only fits the **628** holder. Carbide inserts
are placed on the nose. Hard facing
is placed on critical wear points for
extended life of the tip.



628-TIP-0512

Only fits the **628** holder. This tip has extra
long nose carbide inserts and is 1" longer
than **628-TIP-0510**.

4: CHOOSE YOUR FERTILIZER

N 620-TUB-1021

NH3 tube for **620, 688 & 694**
holders.

*For pressurized NH3 order this
tube and consult your pressurized
system dealer for tubing inserts.*

N **P** 620-TUB-1070

Aqua NH3 + Phos tube for **620,**
688 & 694 series holders.

N **P** 620-TUB-1070XL

Same as **620-TUB-1070**, but
needed when using
620-TIP-0517.

L **N** 620-TUB-4000

Liquid or NH3 tube for **620,**
688 & 694 series holders. 0.4"
O.D. Stainless Steel Tube.

L **N** 620-TUB-4000XL

Same as **620-TUB-4000**, but
needed when using
620-TIP-0517.

N 628-TUB-1021

NH3 tube for **628** holders.

*For pressurized NH3 order this
tube and consult your pressurized
system dealer for tubing inserts.*

Notes:

* When installing on units other than Concord,
the insert **694-ACC-1000** is needed. See page
126 for a more detailed view.

**When using Seed Shoes with 620-TIP-0517,
you must use the bottom setting on the holder.
Fertilizer is placed at 1-1/2" at this setting.

*For a more detailed view of these components
see page 124-125.*

MULTI-SHOOT SEEDING: **VOS** (Versatile Opener System)

1: CHOOSE YOUR HOLDER



610-HLD-2080*

FITS: C-SHANK



673-HLD-2080

FITS: EDGE ON,
BOURGAULT PHD**
MORRIS MAXIM EDGE ON



683-HLD-2080

FITS: MORRIS CONTOUR I



693-HLD-2080

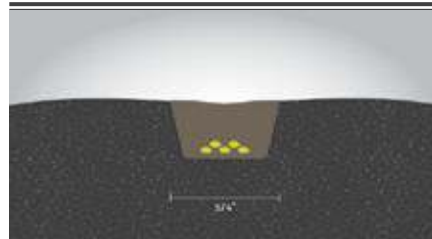
FITS: MORRIS CONTOUR II

2: CHOOSE YOUR TIP



610-TIP-0802

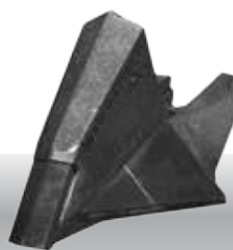
SINGLE SHOOT TIP



Overview: 3/4" (19 mm) long-wearing single shoot tip with long carbide insert on the nose for highly abrasive conditions.

Packer Recommendation:
3/4" (19 mm) or wider.

Fertilizer Options:
Used for seeding only.



610-TIP-1711 (LEFT) 1712 (RIGHT)

SIDE BAND TIP



Overview: The seed is placed in a 3/4" (19 mm) band onto a firm, unfractured seedbed. Fertilizer is delivered in a band off to the side (right or left) on the same level as the seedbed.

Packer Recommendation: 2-1/4" (57 mm) or wider.

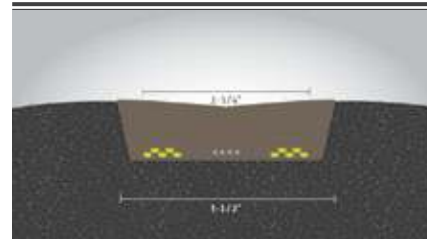
Fertilizer Options:

G Granular **L** Liquid



610-TIP-3500

PAIRED ROW TIP



Overview: 3-1/2" (89 mm) Paired Row liquid double shoot tip with 3/4" horizontal and no vertical seed/fertilizer separation.

Packer Recommendation:
3-1/2" (88.9 mm) or wider.

Fertilizer Options:

L Liquid



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors including soil conditions, ground speed, application rates, fan speeds and more. In less than ideal conditions, mixing between seed and fertilizer may occur. For more information please refer to precautions and risk factors on page 22-23.

MULTI-SHOOT SEEDING: **VOS** (Versatile Opener System)



684-HLD-2080***

FITS: CASE IH 800**
NEW HOLLAND P2070
FLEXI-COIL PD5700**



694-HLD-2080

**FITS: CASE IH ATX 700,
NEW HOLLAND P2060,
FLEXI-COIL PH5500 &
CONCORD EDGE ON
(84° SHANKS ONLY)**

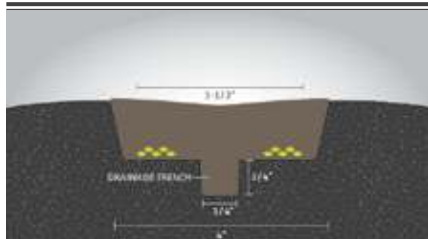


688-HLD-2080*****

**FITS:
HORSCH 84° SHANK**



610-TIP-4030
PAIRED ROW TIP



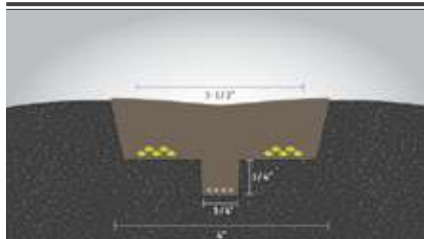
Overview: 4" (102 mm) Paired Row tip with extra long nose carbide and narrow carbide on the cutting edges of the wings. Two carbide inserts under the wings firm up the trench prior to seed placement.

Packer Recommendation:
4" (102 mm) or wider.

Fertilizer Options:
Used for seeding only.



610-TIP-4081
PAIRED ROW TIP



Overview: 4" (102 mm) Paired Row tip with horizontal and 3/4" (19 mm) vertical seed/fertilizer separation. Extra long nose carbide, narrow carbide on the cutting edges of the wings and under the wing to seal the fertilizer trench, and firm up the seed bed prior to seed placement.

Packer Recommendation: 4" (102 mm) or wider.

Fertilizer Options:

G Granular **L** Liquid **N** NH₃
M Pressurized NH₃ **N P** NH₃ + Phos

3: CHOOSE YOUR FERTILIZER

N 880-TUB-1001*****

Precision Drills NH₃
1/2" O.D. Stainless Tube

N 880-TUB-1002*****

C-Shank Drills NH₃
1/2" O.D. Stainless Tube

L 880-TUB-1003

Precision Drills Liquid
1/4" O.D. Stainless Tube

L 880-TUB-1004

C-Shank Drills Liquid
1/4" O.D. Stainless Tube

L N 880-TUB-1009

Precision Drills Liquid or NH₃
3/8" O.D. Stainless Tube

L N 880-TUB-1010

C-Shank Drills Liquid or NH₃
3/8" O.D. Stainless Tube

N P 880-TUB-1011

Precision Drills Aqua NH₃ + Phos
1/4" O.D. Stainless Tube

N P 880-TUB-1012

C-Shank Drills Aqua NH₃ + Phos
1/4" O.D. Stainless Tube

Notes:

* When installing on a 50° shank other than Bourgault or Ezee-On use wedge **880-WDG-0300** or **880-WSG-0301**. See page 106 for more information.

** Recommended for use with 3/4" single shoot tip **610-TIP-0802**.

*** Use bottom holes when mounting for use with **0802, 1711, 1712 & 3500** tips. To make this opener 3/4" deeper use top holes when installing the holder. See page 126-127 for more information.

**** Not recommended for use with Paired Row tip **610-TIP-4081**.

***** Use the bottom two holes when installing this holder for standard installation. To add 3° more pitch, use the top two holes on the holder.

***** For pressurized NH₃ order NH₃ tube and consult your pressurized system dealer for tubing inserts.

For a more detailed view of these components see page 126-127.



200-HOE-1700

THIS **SINGLE SHOOT** OPENER FITS:
200 SERIES SPEED-LOC™

- Provides 1-1/2" to 1-3/4" (38 - 44 mm) seed spread. Works best with a 1" (25 mm) single tube seed boot.
- Long-wearing high-chrome tip.
- Runs through the ground at a fairly vertical angle for less rock pulling.
- Very dependable in many different conditions.



200-KNF-0811

200-KNF-0811 (CARBIDE) 200-KNF-0810

THIS **SINGLE SHOOT** OPENER FITS:
200 SERIES SPEED-LOC™

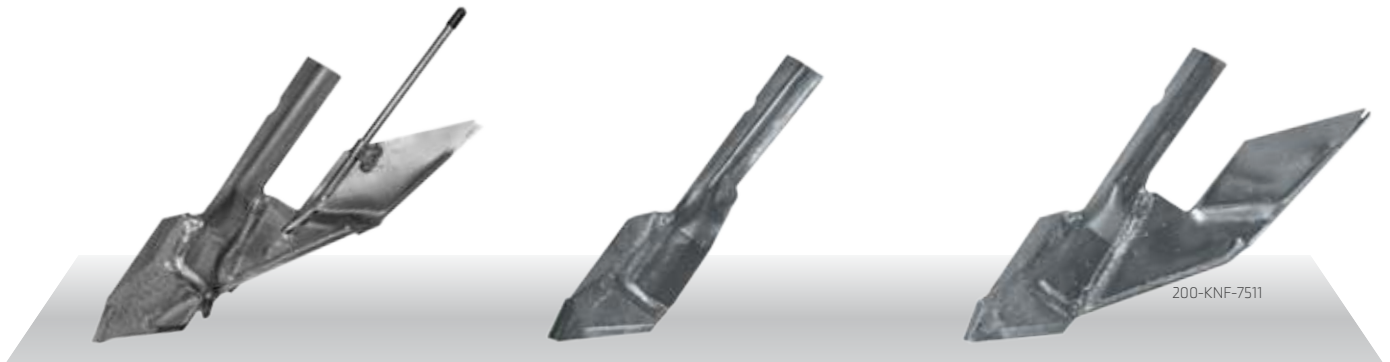
- Designed to work with **300-ATM-1035** of the 300 Series Seed Boot System. See pages 68-69 for more details.
- 3/4" (19 mm) weld-on tip, available with carbide (**200-KNF-0811**) or without carbide (**200-KNF-0810**).
- This low disturbance opener is low in draft and easy pulling.



200-KNF-0813

THIS **SINGLE SHOOT** OPENER FITS:
200 SERIES SPEED-LOC™

- Designed to work with **300-ATM-1035** of the 300 Series Seed Boot System. See pages 68-69 for more details.
- 3/4" (19 mm) weld-on tip with extra carbide for long-lasting wear life.
- Vertical approach reduces rock pulling.



200-KNF-0863



THIS **SINGLE SHOOT** OPENER FITS:
200 SERIES SPEED-LOC™

- This is the only multi-shoot opener available for use with the Speed-Loc™ system.
- These unique Side Band openers provide good horizontal separation with a slight vertical seed/fertilizer separation.
- The high-chrome tip is protected with a carbide insert on the nose and a solid carbide wing.
- Carbide placement provides sharp cutting edges for excellent penetration.
- These openers work very well when used with a pressurized liquid system.

200-KNF-7501

THIS **SINGLE SHOOT** OPENER FITS:
200 SERIES SPEED-LOC™

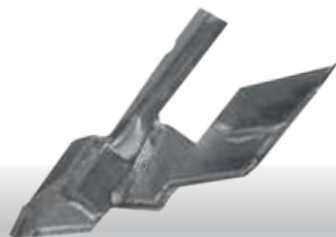
- This opener is used in conjunction with the Technotill system.
- The high-chrome tip with a carbide insert provides additional wear life.

200-KNF-7511 (CARBIDE) 200-ASY-7511P 200-KNF-7510



THIS **SINGLE SHOOT** OPENER FITS:
200 SERIES SPEED-LOC™

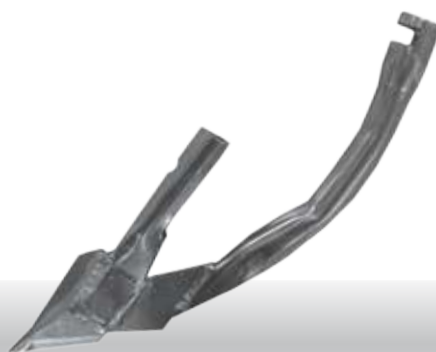
- Precise seed placement due to the funnel being close to the tip and to the bottom of the furrow.
- Reinforced funnel with hard surfacing for longer wear life.
- Funnel fits Bourgault and Flexi-Coil square tube seed boots.
- 3/4" (19 mm) weld-on tip, available with carbide (**200-KNF-7511**) or without carbide (**200-KNF-7510**).
- This carbide opener is also available with a phosphorous tube add-on (**200-KNF-7511P**).
- Works with the 300 Series square tube seed boot. See page 69 for more details.



200-KNF-7512

**THIS SINGLE SHOOT OPENER FITS:
200 SERIES SPEED-LOC™**

- 3/4" (19 mm) weld-on carbide tip for prolonged tip life and better soil penetration.
- Excellent plug resistance due to step located behind the tip.
- The funnel is reinforced with hard surfacing for longer wear life.
- Funnel fits Bourgault and Flexi-Coil square tube seed boots.
- Works with the 300 Series square tube seed boot. See page 69 for more details.



200-KNF-7542

**THIS SINGLE SHOOT OPENER FITS:
200 SERIES SPEED-LOC™**

- Perfect for heavy gumbo soils, extra space between the tip and the tube reduces plugging.
- High-chrome tip is long-lasting and provides great penetration.



200-KNH-4000

**THIS SINGLE SHOOT OPENER FITS:
200 SERIES SPEED-LOC™**

- Can be used with any of the 200 Series replaceable tips allowing you to choose the tip for your conditions.
Tips sold separately. See page 14-15 for more details.
- Designed to work with **300-ATM-1035** of the 300 Series Seed Boot System. See pages 68-69 for more details.



200-KNH-4010

**THIS SINGLE SHOOT OPENER FITS:
200 SERIES SPEED-LOC™**

- Can be used with any of the 200 Series replaceable tips allowing you to choose the tip for your conditions.
Tips sold separately. See page 14-15 for more details.
- Works with the 300 Series square tube seed boot. *See page 69 for more details.*
- Also fits Bourgault or Flexi-Coil square tube seed boot.



200-SPN-0200 200-SPN-0208

**THIS SINGLE SHOOT OPENER FITS:
200 SERIES SPEED-LOC™**

- These spoons have a 2" (51 mm) spread.
- Available in 1/4" (6 mm) material (**200-SPN-0200**) or 5/16" (8 mm) material (**200-SPN-0208**) for increased wear life.



200-SPN-0300 200-SPN-0308

**THIS SINGLE SHOOT OPENER FITS:
200 SERIES SPEED-LOC™**

- These spoons have a 3" (76 mm) spread.
- Available in 1/4" (6 mm) material (**200-SPN-0300**) or 5/16" (8 mm) material (**200-SPN-0308**) for increased wear life.



200-VRT-1040

*THIS **SINGLE SHOOT** OPENER FITS:*
200 SERIES SPEED-LOC™

- 1" (25 mm) weld-on tip with extra carbide for long-lasting wear life.
- Vertical approach reduces rock pulling and soil throw.



410-KNF-0801 (CARBIDE) **410-KNF-0800**

*THIS **SINGLE SHOOT** OPENER FITS:*
410 SERIES SPEED-LOC™

- 3/4" (19 mm) weld-on tip, available with carbide (**410-KNF-0801**) or without carbide (**410-KNF-0800**).
- Designed to work with the **300-ATM-1031** of the 300 Series Seed Boot System. See pages 68-69 for more details.
- This low disturbance opener is low draft and easy pulling.



410-KNF-7540

*THIS **SINGLE SHOOT** OPENER FITS:*
410 SERIES SPEED-LOC™

- 3/4" (19 mm) weld-on carbide tip for long-lasting wear life.
- Granular tube size is 1-1/4" (32 mm) O.D.



410-SPN-0300 **410-SPN-0308**

THIS SINGLE SHOOT OPENER FITS: 410 SERIES SPEED-LOC™

- 3" (76 mm) spread (**410-SPN-0300** or **410-SPN-0308**).
- Choose from 1/4" (6 mm) material (**410-SPN-0300**) or 5/16" (8 mm) material (**410-SPN-0308**) for increased wear life.

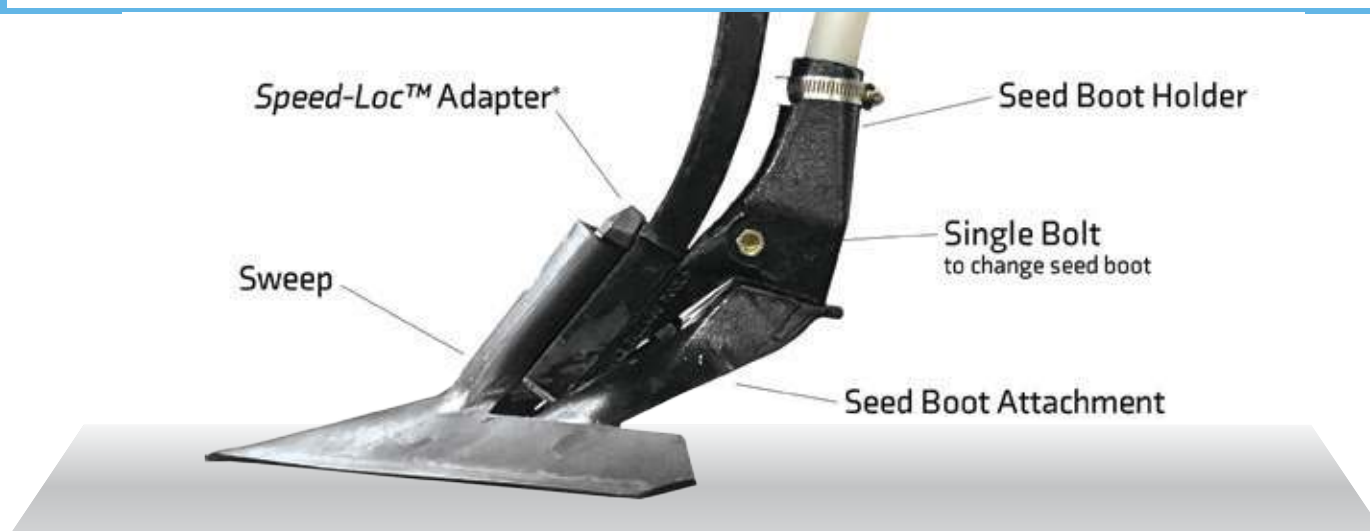


410-VRT-1000

THIS SINGLE SHOOT OPENER FITS: 410 SERIES SPEED-LOC™

- 1" (25 mm) weld-on tip with extra carbide for long-lasting wear life.
- Designed to work with the **300-ATM-1031** of the 300 Series Seed Boot System. See pages 68-69 for more details.
- Vertical approach reduces rock pulling.

SEEDING: SEED BOOTS



The quick change seed boot system consists of two parts: the seed boot holder which bolts on to the back of the shank and the seed boot attachment which fits into the holder and is secured with a bolt and nut. There are seven different interchangeable attachments to choose from, each giving a different seed spread pattern. This system allows you to match your seed spread to the width of opener you are using. It is perfect for producers who want to switch back and forth from a wide seed spread behind a sweep to a narrow seed band behind a knife.

SEED BOOT HOLDERS



300-HLD-4700

This holder has 1-3/4" (45 mm) bolt hole spacing. The bolt hole section is designed flat to fit the Bourgault and Ezee-On 47° shanks. Use a hose clamp to secure the air hose into the seed boot holder.



300-HLD-4710

This holder has 1-3/4" (45 mm) bolt hole spacing. The bolt hole section is curved to fit all 47° shanks except the Bourgault and Ezee-On. Use self tapping screw **911-SCR-1051** to secure the air hose into the seed boot holder.



300-HLD-5000

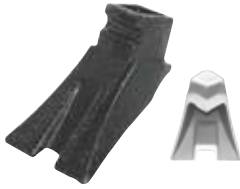
This holder has 2-1/4" (57 mm) bolt hole spacing. The bolt hole section is flat and has two sets of holes. The top set of holes should be used in almost all cases when mounting this holder to the shank. It fits on the Bourgault chisel plow shanks as well as the LH755 shank used on the Morris Magnum III and the Morris Concept 2000. Use self tapping screw **911-SCR-1051** to secure the air hose into the seed boot holder.



300-HLD-5010

This holder has 2-1/4" (57 mm) bolt hole spacing. The bolt hole section is curved to fit any chisel plow shank except the Bourgault and the Morris LH755 shank. Use a hose clamp to secure the air hose into the seed boot holder.

- All holders on this page only accept 1-1/8" (29 mm) O.D. hose.
- Bushing **300-BSH-1200** is required for 1-1/4" (32 mm) OD hose. See page 107 for more details.
- A self-tapping screw **911-SCR-1051** should be used to hold the air hose or the bushing into the seed boot holder. A 3/8" (9mm) screw **911-SCR-1038** is also available to secure the air hose into the top of the bushing.

SEED BOOT ATTACHMENTS**300-ATM-1000**

This spreader attachment will distribute the seed evenly in a 3" to 4" (76 mm to 102 mm) band. Seed spread may vary depending on sweep size, soil type and fan speed.

**300-ATM-1006**

This spreader attachment will distribute the seed evenly in a 6" (152 mm) row. Seed spread may vary depending on sweep size, soil type and fan speed. **Works well for organic operations because of the wide seed spread.**

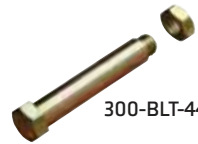
**300-ATM-1010**

This splitter attachment will place the seed into two distinct rows approximately 6" (152 mm) apart. Seed spread may vary depending on sweep size, soil type and fan speed.

**300-ATM-1020**

This straight attachment will spread the seed approximately 2-1/2" (63 mm). It works well with the quick change spoons, spikes or any size of sweep.

600-NUT-3754



300-BLT-4414

300-BNC-4414

This bolt and nut secure the quick change seed boot attachments into the holders.

**300-ATM-1031**

This knife attachment will place the seed in a very narrow band. It is designed to be used behind the **200-VRT-1000**, **410-VRT-1000**, **410-KNF-0800** and **410-KNF-0801**.

**300-ATM-1035**

This knife attachment will place the seed in a very narrow band. It is designed to be used behind the **200-KNF-0810**, **200-KNF-0811**, **200-KNF-0813** and **200-KNH-4000**.

**300-ATM-1036**

This knife attachment will place the seed in a band. There is hard facing on the side and the slot is wider than the **300-ATM-1035**. It is designed to be used behind the **200-KNF-0815**.

SQUARE TUBE SEED BOOTS**300-SQR-1500****300-SQR-1505**

Both square tube seed boots have a slotted top hole to fit 1-3/4" to 2-1/4" (45 to 57 mm) bolt spacing. It accepts 1-1/4" (32 mm) O.D. air hose. The **300-SQR-1500** seed boot is designed to fit curved bottom shanks. The **300-SQR-1505** seed boot is designed to fit flat bottom shanks.





FERTILIZER KNIVES

We understand the importance of your fertilizer operation and that you depend on your opener to get it done right. That is why we have designed a full line of fertilizer knives that are durable and stand up to most every condition.

FERTILIZER TYPES





200-ASY-7523



NON-FREEZE FERTILIZER KNIFE FITS: 200 SERIES SPEED-LOC™

- NH3 is delivered through a nylon insert, insulating the NH3 from the knife. This prevents the moist soil from freezing up and building up on the knife keeping it narrow to reduce disturbance with minimal gassing off.
- NH3 tube size is 1/2" (12 mm) O.D. and is designed to work with cold-flow NH3 units.
- Welded 3/4" (19mm) tip makes this opener better in rocky conditions.



200-KNF-7521

200-KNF-7521 (CARBIDE) 200-KNF-7520



THIS FERTILIZER KNIFE FITS: 200 SERIES SPEED-LOC™

- Available with carbide tip (**7521**) or without (**7520**). The carbide provides extra wear life and much better penetration.
- The welded tip makes this opener better in rocky conditions.
- The welded tube fits 1/2" (12 mm) cold-flow NH3 kits.
- Shorter tube length makes this opener better for cultivators and chisel plows.
- **Can be converted to a pressurized NH3 or liquid system.**
Please call the factory for more details.



200-KNF-7525

200-KNF-7525 (CARBIDE) 200-KNF-7524



THIS FERTILIZER KNIFE FITS: 200 SERIES SPEED-LOC™

- Available with carbide tip (**7525**) or without (**7524**). The carbide provides extra wear life and much better penetration.
- The welded tip makes this opener better in rocky conditions.
- The tube fits 1/2" (12 mm) cold-flow NH3 kits.
- The longer tube length makes this opener better for air seeders and air drills.
- **Can be converted to a pressurized NH3.**
Call the factory for more details.



200-KNF-7531



200-KNF-7551



200-KNF-7531 (CARBIDE) 200-KNF-7530



**THIS FERTILIZER KNIFE FITS:
200 SERIES SPEED-LOC™**

- Available with carbide tip (**7531**) or without (**7530**). The carbide provides extra wear life and much better penetration.
- The welded tip makes this opener better in rocky conditions.
- The welded tube fits 3/8" (9 mm) hot-gas NH₃ kits.
- Shorter tube length makes this opener better for cultivators and chisel plows.
- **Can be converted to a pressurized NH₃ or liquid system.**
Please call the factory for more details.

200-KNF-7551 200-KNF-7553



**THIS FERTILIZER KNIFE FITS:
200 SERIES SPEED-LOC™**

- Welded 3/4" (19 mm) tip makes this opener better in rocky conditions.
- This fertilizer knife is designed for use with NH₃ and Granular fertilizer.
- 1/2" (12 mm) tube cold-flow NH₃ kits (**200-KNF-7551**) or 3/8" (9 mm) tube hot-gas NH₃ kits (**200-KNF-7553**). An additional 1-1/4" (32 mm) tube is used for granular fertilizer. This tube also accepts 1-1/8" (29 mm) tubes with **880-BSH-1130**. See page 107 for more details.
- Also available to fit the 410 Series Speed-Loc™ Adapters **410-KNF-7551** & **410-KNF-7553**.
See page 76 for more details.

Not recommended for seeding.

200-KNF-7560



**THIS FERTILIZER KNIFE FITS:
200 SERIES SPEED-LOC™**

- A welded tip makes this opener better in rocky conditions.
- Comes with 3/8" (10 mm) O.D. stainless steel tubes for Aqua NH₃ and Liquid Phosphorus.
- Also available to fit the 410 Series Speed-Loc™ Adapters **410-KNF-7560**.
See page 76 for more details.

For a more detailed view of this opener see page 133.

Stabilize your NH₃ hose.



600-HHA-0750

This stainless steel hose holder mounts on any C-Shank to hold the NH₃ hose in place. It is completely height adjustable.



200-KNH-4020



THIS **FERTILIZER KNIFE** FITS:
200 SERIES SPEED-LOC™

- Only recommended on light duty units with light trips. **Not recommended for rocky areas.**
- Can be used with any of the 200 Series replaceable tips allowing you to choose the tip for your conditions.
Tips sold separately.
See page 14-15 for more details.
- The welded tube fits 1/2" (12 mm) cold-flow NH3 kits.
- **Can be converted to a pressurized NH3 or liquid system.**
Please call the factory for more details.

410-ASY-0823



NON-FREEZE FERTILIZER KNIFE FITS:
410 SERIES SPEED-LOC™

- NH3 is delivered through a nylon insert, insulating the NH3 from the knife. This prevents the moist soil from freezing up and building up on the knife keeping it narrow to reduce disturbance with minimal gassing off.
- NH3 tube size is 1/2" (12 mm) O.D. and is designed to work with cold-flow NH3 units.
- Welded 3/4" (19mm) tip provides extra wear life and much better penetration.

410-ASY-7523



NON-FREEZE FERTILIZER KNIFE FITS:
410 SERIES SPEED-LOC™

- NH3 is delivered through a nylon insert, insulating the NH3 from the knife. This prevents the moist soil from freezing up and building up on the knife keeping it narrow to reduce disturbance with minimal gassing off.
- NH3 tube size is 1/2" (12 mm) O.D. and is designed to work with cold-flow NH3 units.
- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**.
Tips sold separately. See page 18 for more details.



410-HLD-7500

THIS FERTILIZER KNIFE FITS:
410 SERIES SPEED-LOC™

- This knife is to be used in conjunction with the 300 Series Holders and Seed Boot system. See pages 68-69 for more details.
- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**. **Tips sold separately.** See page 18 for more details.



410-KNF-0825 (CARBIDE) 410-KNF-0824



THIS FERTILIZER KNIFE FITS:
410 SERIES SPEED-LOC™

- This opener is designed for heavy-duty use.
- Comes with 1/2" (12 mm) tube cold-flow NH3 kits.
- Available with 3/4" (19 mm) welded carbide tip (**0825**) or 3/4" (19 mm) welded chrome tip (**0824**). The carbide provides extra wear life and much better penetration.



410-KNF-0826 (CARBIDE)



THIS FERTILIZER KNIFE FITS:
410 SERIES SPEED-LOC™

- This opener is designed for heavy-duty use.
- Comes with 1/4" (6 mm) O.D. stainless steel tubes.
- Welded 3/4" (19 mm) carbide tip which provides extra wear life and much better penetration.

Stabilize your NH₃ hose.



600-HHA-0750

This stainless steel hose holder mounts on any C-Shank to hold the NH₃ hose in place. It is completely height adjustable.

FERTILIZER KNIVES TO FIT **SPEED-LOC™**



410-KNF-0831



410-KNF-7551



410-KNF-0831 (CARBIDE) **410-KNF-0830**



THIS FERTILIZER KNIFE FITS: 410 SERIES SPEED-LOC™

- This opener is designed for heavy-duty use.
- Comes with 3/8" (9 mm) tube hot-gas NH3 kits.
- The welded 3/4" (19 mm) tip makes this opener better in rocky conditions. Available with carbide (**0831**) or without (**0830**). The carbide provides extra wear life and much better penetration.
- **Can be converted to a liquid system.**
Please call the factory for more details.

410-KNF-7551 **410-KNF-7553**



THIS FERTILIZER KNIFE FITS: 410 SERIES SPEED-LOC™

- Welded 3/4" (19 mm) tip makes this opener better in rocky conditions.
- This fertilizer knife is designed for use with NH3 and Granular fertilizer.
- The tube fits 1/2" (12 mm) (**410-KNF-7551**) cold-flow NH3 kits or 3/8" (9 mm) (**410-KNF-7553**) hot-gas NH3 kits.
- For larger hose sizes a bushing may be used. *For bushing options see page 107.*
- Also available to fit the 200 Series Speed-Loc™ Adapters **200-KNF-7551** & **200-KNF-7553**. *See page 73 for more details.*

Not recommended for seeding.

410-KNF-7560

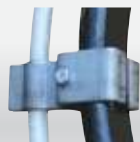


THIS FERTILIZER KNIFE FITS: 410 SERIES SPEED-LOC™

- Comes with 3/8" O.D. stainless steel tubes for Aqua NH3 and Liquid Phosphorus.
- Welded tip makes this opener better in rocky conditions.
- Also available to fit the 200 Series Speed-Loc™ Adapters **200-KNF-7560**. *See page 73 for more details.*

For a more detailed view of this opener see page 133.

Stabilize your NH₃ hose.



600-HHA-0750

This stainless steel hose holder mounts on any C-Shank to hold the NH₃ hose in place. It is completely height adjustable.



410-KNH-7524



410-KNH-7524 410-KNH-7526



THIS FERTILIZER KNIFE FITS: 410 SERIES SPEED-LOC™

- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**. *Tips sold separately. See page 18 for more details.*
- **410-KNH-7524** NH3 tube size is 1/2" (12 mm) O.D. and is designed to work with cold-flow NH3 units.
- **410-KNH-7526** has a tube size of 1/4" (6 mm) O.D.
- **Can be converted to a pressurized NH3.** *Call the factory for more details.*

410-KNH-7540



THIS FERTILIZER KNIFE FITS: 410 SERIES SPEED-LOC™

- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**. *Tips sold separately. See page 18 for more details.*
- Granular tube size is 1-1/4" (32 mm) O.D.
- For larger hose sizes a bushing may be used. *For bushing options see page 107.*

410-KNH-7551



THIS FERTILIZER KNIFE FITS: 410 SERIES SPEED-LOC™

- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**. *Tips sold separately. See page 18 for more details.*
- This fertilizer knife is designed for use with NH3 and Granular fertilizer.
- The tube fits 1/2" (12 mm) cold-flow NH3 kits. An additional 1-1/4" (32 mm) tube is used for granular fertilizer. This tube also accepts 1-1/8" (29 mm) tubes with **880-BSH-1130**. *See page 107 for more details.*

Not recommended for seeding.

FERTILIZER KNIVES TO FIT **C-SHANK**



050-KNH-0820



THIS FERTILIZER KNIFE FITS:
47° AND 50° C-SHANK

- Only recommended on light duty units with light trips.
- Fits 1-3/4" – 2-1/2" (44 - 64 mm) bolt hole spacing.
- The welded tube fits 1/2" (12 mm) cold-flow NH3 kits.
- Flexibility of using any 200 Series replaceable tips. **Tips sold separately.** See page 14-15 for more details.
- **Not recommended for rocky areas.**
- **Can be converted to a pressurized NH3 or liquid system.**
Please call the factory for more details.

Stabilize your NH₃ hose.



600-HHA-0750

This stainless steel hose holder mounts on any C-Shank to hold the NH₃ hose in place. It is completely height adjustable.

599-KNH-7540



THIS FERTILIZER KNIFE FITS:
47° C-SHANK

- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**.
Tips sold separately. See page 18 for more details.
- Accepts 1-1/4" (32 mm) or 1-1/8" (28 mm) granular hose with **880-BSH-1130** or 1-1/2" (38 mm) granular hose with **880-BSH-1150**. See page 107 for more details.
- 1-3/4" (45 mm) bolt hole spacing designed to fit on 47° shank.
- This is the most durable opener that we provide for fertilizer placement.
- This opener is designed to fit on the Bourgault shank better than the 600 Series.

600-ASY-7523



NON-FREEZE FERTILIZER KNIFE FITS:
47° AND 50° C-SHANK

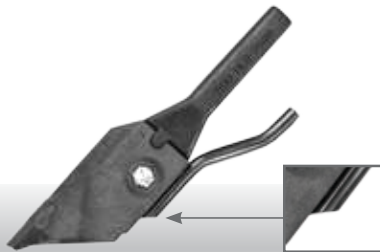
- NH₃ is delivered through a nylon insert, insulating the NH₃ from the knife. This prevents the moist soil from freezing up and building up on the knife keeping it narrow to reduce disturbance with minimal gassing off.
- NH₃ tube size is 1/2" (12 mm) O.D. and is designed to work with cold-flow NH₃ units.
- Fits 1-3/4" to 2-1/2" (44 - 64 mm) bolt hole spacing. Use on a 43° shank with the addition of a 7° wedge.
See page 106 for more details.
- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**.
Tips sold separately. See page 18 for more details.



600-KNH-7500

THIS FERTILIZER KNIFE FITS:
47° AND 50° C-SHANK

- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**. *Tips sold separately.* See page 18 for more details.

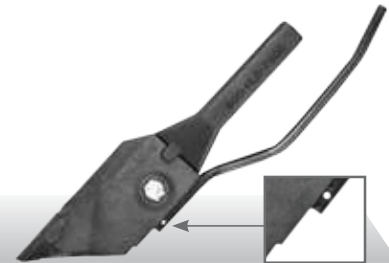


600-KNH-7520



THIS FERTILIZER KNIFE FITS:
47° AND 50° C-SHANK

- This is the most durable opener that we provide for fertilizer placement.
- Fits 1-3/4" to 2-1/2" (44 - 64 mm) bolt hole spacing. Use on a 43° shank with the addition of a 7° wedge. See page 106 for more details.
- The tube fits 1/2" (12 mm) cold-flow NH3 kits.
- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**. *Tips sold separately.* See page 18 for more details.
- **Can be converted to a pressurized NH3 or liquid system.**
Please call the factory for more details.



600-KNH-7530



THIS FERTILIZER KNIFE FITS:
47° AND 50° C-SHANK

- Fits 1-3/4" (44mm) to 2-1/2" (63 mm) bolt hole spacing. Use on a 43° shank with the addition of a 7° wedge. See page 106 for more details.
- The tube fits 3/8" (9 mm) hot-gas NH3 kits.
- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**. *Tips sold separately.* See page 18 for more details.

MOST DURABLE BTT KNIVES FOR FERTILIZER PLACEMENT



600-KNH-7531



THIS FERTILIZER KNIFE FITS:
47° AND 50° C-SHANK

- Fits 1-3/4" (44mm) to 2-1/2" (63 mm) bolt hole spacing. Use on a 43° shank with the addition of a 7° wedge. See page 106 for more details.
- Stainless steel tube fits 3/8" (9 mm) Aqua NH3 or liquid hose.
- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**. **Tips sold separately.** See page 18 for more details.



600-KNH-7540



THIS FERTILIZER KNIFE FITS:
47° AND 50° C-SHANK

- Accepts 1-1/4" (32 mm) or 1-1/8" (28 mm) granular hose with **880-BSH-1130** or 1-1/2" (38 mm) granular hose with **880-BSH-1150**. See page 106 for more details.
- Fits 1-3/4" (44 mm) to 2-1/2" (63 mm) bolt hole spacing. Use on a 43° shank with the addition of a 7° wedge. See page 106 for more details.
- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**. **Tips sold separately.** See page 18 for more details.



600-KNH-7552



THIS FERTILIZER KNIFE FITS:
47° AND 50° C-SHANK

- The tube fits 1/2" (12 mm) cold-flow anhydrous kits, an additional 1-1/4" (32 mm) tube is used for granular fertilizer. This tube also accepts 1-1/8" tube with **880-BSH-1130**.
- Can be converted to a liquid system. *Please call the factory for more details.*
- Fits 1-3/4" (44 mm) to 2-1/2" (63 mm) bolt hole spacing. Use on a 43° shank with the addition of a 7° wedge. See page 106 for more details.
- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**. **Tips sold separately.** See page 18 for more details.

MOST DURABLE BTT KNIVES FOR FERTILIZER PLACEMENT



600-KNH-7585
600-KNH-7586
600-KNH-7587



THIS FERTILIZER KNIFE FITS:
47° AND 50° C-SHANK

- Accepts 1-1/2" (38 mm) O.D. granular hose, 1/2" (13 mm) standard NH₃ tube, or 1/4" (6 mm) O.D. standard liquid tube.
- Fits 1-3/4" to 2-1/2" (44 - 64 mm) bolt hole spacing. Use on a 43° shank with the addition of a 7° wedge. See page 106 for more details.
- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**.

Tips sold separately. See page 18 for more details.

For a more detailed view of these openers see page 135.



600-KNH-7640

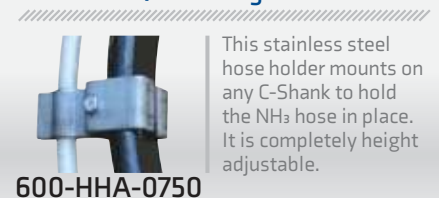


THIS FERTILIZER KNIFE FITS:
47° AND 50° C-SHANK

- Accepts 1-1/2" (38 mm) granular hose.
- Fits 1-3/4" (44 mm) to 2-1/2" (63 mm) bolt hole spacing. Use on a 43° shank with the addition of a 7° wedge. See page 106 for more details.
- Choose between three 3/4" (19 mm) tips, available in regular carbide **600-TIP-7501**, extra-long nose carbide **600-TIP-7502**, and cast chrome **600-TIP-7500**, or a 3" (76 mm) carbide tip **600-TIP-3011**.

Tips sold separately. See page 18 for more details.

Stabilize your NH₃ hose.



This stainless steel hose holder mounts on any C-Shank to hold the NH₃ hose in place. It is completely height adjustable.





SPEED-LOC™

The *Speed-Loc™* system provides more benefits than any other system!

Consistent depth control: The upper stop on the *Speed-Loc™* adapters ensures that your tillage or seeding tools are always running at the same depth.

Peace of mind: The spring-loaded locking pin ensures that the tools will stay securely in place in all conditions, and we back that up with a 100% guarantee.

Years of trouble-free operation: The *Speed-Loc™* adapters are designed with durability in mind. The cast adapters are heat-treated for increased strength and wear resistance.

200 SERIES

QUICK CHANGE ADAPTERS



200-QCA-4700

**THIS SPEED-LOC™ ADAPTER FITS:
47° SHANKS**

- Fits all Bourgault and Ezee-On field cultivators, air seeders and air drills.
- 1-3/4" (45 mm) center to center bolt hole spacing.
- 1/2" (12 mm) hex head bolts.

200-QCA-4710

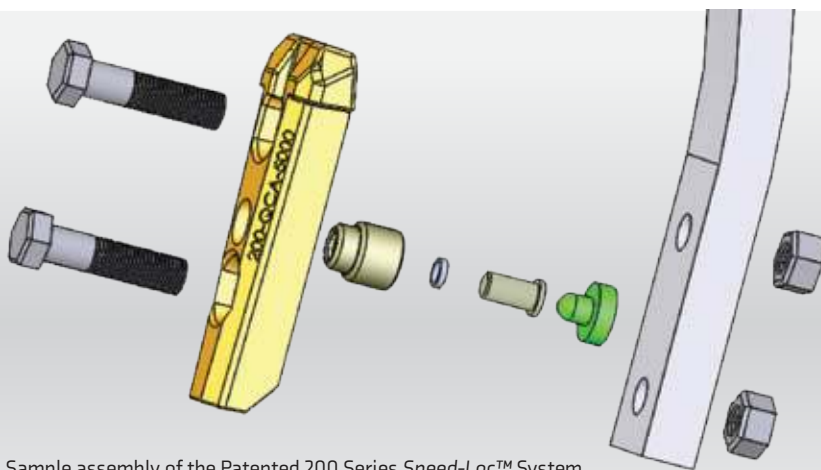
**THIS SPEED-LOC™ ADAPTER FITS:
47° SHANKS**

- Fits field cultivators with 47° shanks, except Bourgault and Ezee-On.
- 1-3/4" (45 mm) center to center bolt hole spacing.
- Oversize head plow bolts.

200-QCA-5000

**THIS SPEED-LOC™ ADAPTER FITS:
50° SHANKS**

- Fits Bourgault and Morris Concept 2000.
- Not recommended for primary tillage use, only for seeding.
- 2-1/4" (57 mm) center to center bolt hole spacing.
- 1/2" (12 mm) hex head bolts.



Sample assembly of the Patented 200 Series Speed-Loc™ System



200-QCA-5010

**THIS SPEED-LOC™ ADAPTER FITS:
50° SHANKS**

- Fits air drills with 50° shanks.
- Not recommended for heavy deep tillage.
- 2-1/4" (57 mm) center to center bolt hole spacing.
- 1/2" (12 mm) plow bolts.
- Can also be used on a 43° shank with the addition of a 7° wedge (100-WDG-0700).
See page 106 for more details.

200-QCA-5020

**THIS SPEED-LOC™ ADAPTER FITS:
EUROPEAN BUILT SHANKS**

- Fits European built tillage and seeding implements.
- 63 mm to 80 mm center to center bolt hole spacing.
- M12-DIN608 10.9 plow bolts.

200-QCA-5030

**THIS SPEED-LOC™ ADAPTER FITS:
HORSCH SHANKS**

- Fits Horsch shanks.
- 57 mm center to center bolt hole spacing.
- M12-DIN608 10.9 plow bolts.

**Don't forget the
Speed Release Tool**



200-REL-1010

The speed-release tool must be used to remove 200 and 410 Series sweeps and openers off the Speed-Loc™ adapters.

**Not sure which adapter
is for you or which bolts
you need?**

Refer to our *Speed-Loc™* adapter chart on pages 88-89.

For a complete list of bolt lengths, see page 113.

410 SERIES

QUICK CHANGE ADAPTERS



410-QCA-5000

**THIS SPEED-LOC™ ADAPTER FITS:
50° SHANKS**

- Fits Bourgault and Morris Magnum chisel plows, and Morris Concept 2000 with the LH755 shank.
- 2-1/4" (57 mm) center to center bolt hole spacing.
- 1/2" (12 mm) hex head bolts.

On a Bourgault four-hole shank, the center hole of the adapter should be plugged to protect the spring ball from NH3 gases when used as a NH3 applicator.

When installing 410 Series Speed-Loc™ Adapters for use with NH3, fill the hole behind the spring ball with plumber's putty to protect from degradation caused by NH3.



410-QCA-5010

**THIS SPEED-LOC™ ADAPTER FITS:
50° SHANKS**

- Fits all 50° chisel plows except the Bourgault and Morris units identified for use with the 410-QCA-5000.
- 1-3/4" to 3" (45 mm to 77 mm) center to center bolt hole spacing.
- 1/2" (12 mm) hex head bolts.

In rocky or abrasive conditions, the bottom nut may experience excessive wear or damage. This problem is alleviated by placing the bottom bolt in from the back of the shank and putting the nut in the front of the adapter.

This adapter can be used on a 43° shank by adding a 7° plastic wedge (400-WDG-0700).

Special note for John Deere: certain chisel plow models including the 685, 1810, 1820 and 2400 may need a 3° wedge to attain proper sweep pitch. [See pages 106 for more information.](#)

Shanks with the open bottom bolt hole require the 047-ACC-1002 to keep the bottom bolt in place.



410-QCA-5020

**THIS SPEED-LOC™ ADAPTER FITS:
LEMKEN SHANKS**

- Fits Lemken shanks.
- 45 mm center to center bolt hole spacing.
- M12-DIN608 10.9 plow bolts.

Not sure which adapter is for you or which bolts you need?

Refer to our *Speed-Loc™* adapter chart on pages 88-89.

For a complete list of bolt lengths, see page 114.



410-QCA-5050

THIS SPEED-LOC™ ADAPTER FITS:
KVERNELAND (CLD GRUBBER) SHANKS

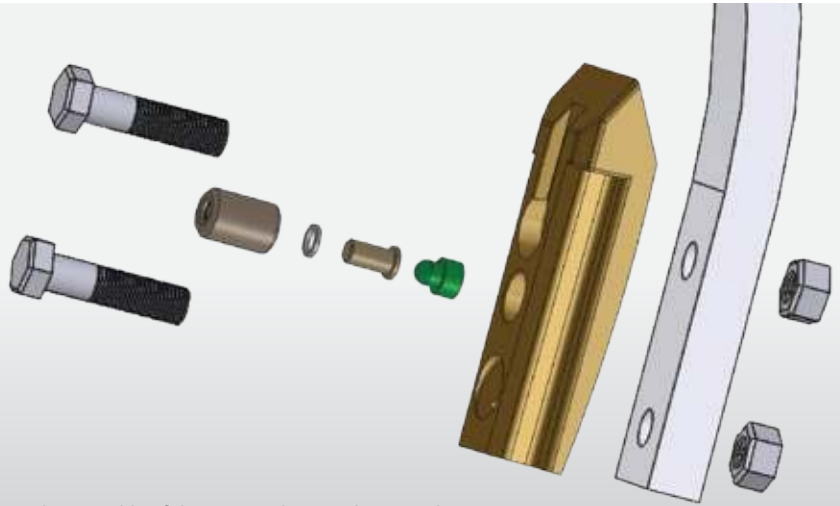
- Fits Kverneland (CLD Grubber) shanks.
- 45 mm center to center bolt hole spacing.
- M12-DIN608 10.9 plow bolts.

**Don't forget the
Speed Release Tool**



200-REL-1010

The speed-release tool must be used to remove 200 and 410 Series sweeps and openers off the Speed-Loc™ adapters.



Sample assembly of the Patented 410 Series Speed-Loc™ System

SPEED-LOC™ REPLACEMENT PARTS

<p>200-SLC-1001</p> <p>Replacement bushing for all 200 Series adapters as well as the 410-QCA-5050. Comes complete with dust seal.</p>	<p>200-SLC-1010</p> <p>Replacement dust seal for all 200 and 410 Series Speed-Loc™ adapters.</p>	<p>200-SLC-1020</p> <p>Replacement locking pin for all 200 and 410* Series adapters. *After Nov. 1/08</p>	<p>200-SLC-1030</p> <p>Replacement spring ball for the 200-QCA-4700 adapters.</p>
<p>200-SLC-1035</p> <p>Replacement spring ball for the 200-QCA-4710, 200-QCA-5000 and 200-QCA-5010 adapters.</p>	<p>200-SLC-1037</p> <p>Replacement spring ball for the 200-QCA-5020 and 410-QCA-5050 adapters.</p>	<p>200-SLC-1038</p> <p>Replacement spring ball for 200-QCA-5020 adapter for special applications.</p>	<p>200-SLC-1039</p> <p>Replacement spring ball for 200-QCA-5030 adapters.</p>
<p>410-SLC-1001</p> <p>Replacement bushing for the 410-QCA-5000, 410-QCA-5010 and 410-QCA-5020. Comes complete with dust seal.</p>	<p>410-SLC-1022*</p> <p>Replacement locking pin for all the 410 Series adapters* Go to 200-SLC-1020 if 410 Series adapter was purchased after Nov. 1/08.</p>	<p>410-SLC-1030</p> <p>Replacement spring ball for the 410-QCA-5000, 410-QCA-5010 and 410-QCA-5020.</p>	<p>410-SLC-1050</p> <p>Complete replacement package for the 410 Series, includes bushing, spring ball, pin and dust seal.</p>

*Prior to Nov. 1/08

SPEED-LOC™ ADAPTER CHART

FOR NORTH AMERICA & AUSTRALIA

MAKE & MODEL	SHANK DEGREE	BOLT SIZE	HOLE CENTER	200 SERIES				410 SERIES			
				200-QCA-4700	200-QCA-4710	200-QCA-5000	200-QCA-5010	100-WDG-0700	410-QCA-5000	410-QCA-5010	400-WDG-0300
AFM											
180, 200, 250, 880	43°	7/16	1-3/4	■			■	* FOR KNIFE OPENERS ONLY			
150, 2300, 310, 300	50°	1/2	2-1/4		■				■		
350 SCARICHISEL	50°	1/2	2-1/4							■	
ANDERSON											
FIELD CULTIVATORS	47°	3/8	1-3/4	■							
CHISEL PLOWS	50°	1/2	2-1/4				■			■	
BOURGAULT											
FIELD CULTIVATORS 6200, 6800, 8800, 8810, 8910	47°	1/2	1-3/4	■							
5710, 5810 AIR DRILL	47°	1/2	1-3/4	■							
CHISEL PLOWS 9200, 9400, 9800	50°	1/2	2-1/4			■			■		
3310, 3320 EDGE-ON	(NO ADAPTER FOR THIS APPLICATION)										
BRADY											
FIELD CULTIVATORS	43°	3/8	1-5/8	(NO ADAPTER FOR THIS APPLICATION)							
CHISEL PLOWS	50°	7/16	2-1/4				■			■	
BRILLION											
HFCT MO	47°	7/16	1-5/8	■							
BUSH HOG											
FIELD CULTIVATORS	47°	3/8	1-3/4	■							
CHISEL PLOWS	50°	7/16	2-1/4				■			■	
CASE											
FC, FCW, FCM, 10, 50, 55, 645	47°	3/8	1-3/4	■							
4700, 4900, 5000, 645	43°	1/2	2-1/4				■	■			■
CASE IH											
45, 4300, 4500, 4600, 4700, 4800, 4900	47°	7/16	1-3/4	■							
VIBRASHANK	47°	7/16	1-3/4	■							
VIBRACHISEL 5600, 5700	43°	1/2	2-1/4				■	■			■
5800, 5850, 5900	50°	1/2	2-1/4				■			■	
PTX 300, PTX 600	50°	1/2	2-1/4				■			■	
ATX AIR DRILL WITH EDGE-ON 84° SHANK	(NO ADAPTER FOR THIS APPLICATION)										
ATX 400, 700 AIR HOE DRILL 350 LB OR 550 LB TRIP	50°	1/2	2-1/4				■				
CONCORD											
C-SHANKS	50°	1/2	2-1/4				■			■	
EDGE-ON SHANKS	(NO ADAPTER FOR THIS APPLICATION)										
CCIL											
202, 179, 279, 379	47°	3/8	1-3/4	■							
203, 204, 205	43°	1/2	2-1/2							■	■
806, 807, 808	43°	1/2	2-1/2							■	■
CHISEL PLOW (THICK SHANK)	50°	7/16	2-1/4				■			■	
CNH (DMI)											
FIELD CULTIVATORS	47°	7/16	1-3/4	■							
DEGELMAN											
FIELD CULTIVATORS	47°	7/16	1-3/4	■							
500	50°	7/16	2-1/4				■			■	
3000-2	50°	7/16	2-1/4				■			■	
DEMSTER											
CHISEL PLOWS	54°	7/16	2-1/4	(NO ADAPTER FOR THIS APPLICATION)							
EDWARDS											
CHISEL PLOWS	50°	7/16	2-1/4				■			■	
FORWARD											
BOURGAULT TYNE											
280, 2700, 2800, 8800	47°	1/2	1-3/4	■							
FUSION DELTA	47°	1/2	1-3/4		■						
3000 & 400 SERIES C/P	50°	1/2	2-1/4				■			■	

MAKE & MODEL	SHANK DEGREE	BOLT SIZE	HOLE CENTER	200 SERIES				410 SERIES			
				200-QCA-4700	200-QCA-4710	200-QCA-5000	200-QCA-5010	100-WDG-0700	410-QCA-5000	410-QCA-5010	400-WDG-0300
EZEE-ON											
FIELD CULTIVATORS 3500, 3550, 5550	47°	1/2	1-3/4	■							
6000 WITH FIELD CULTIVATOR SHANK OPTION	47°	1/2	1-3/4	■							
6000 WITH CHISEL PLOW SHANK OPTION	50°	1/2	2-1/4				■			■	
ALL CHISEL PLOWS INCLUDING 7450	50°	1/2	2-1/4				■			■	
7560, 7550	47°	1/2	1-3/4	■							
FLEXI-COIL											
200, 400, 800	47°	7/16	1-3/4		■						
300, 340, 600	50°	1/2	2-1/4				■				
820 & ST820 WITH 350 LB & 550 LB TRIPS	47°	1/2	1-3/4		■						
820 & ST820 WITH 550 LB & 650 LB TRIPS	50°	1/2	2-1/4				■			■	
5000 & 7500 DEPENDING ON SHANK OPTION	47°	1/2	1-3/4		■						
5000 & 7500 DEPENDING ON SHANK OPTION	50°	1/2	2-1/4				■			■	
EDGE-ON				(NO ADAPTER FOR THIS APPLICATION)							
5000HD & 5500 AIR HOE DRILL 350 LB OR 550 LB TRIP	50°	1/2	2-1/4				■				
FRIGGSTAD											
FIELD CULTIVATORS	47°	7/16	1-3/4		■						
CHISEL PLOWS (OLDER MODELS)	50°	7/16	2-1/4				■			■	
CHISEL PLOWS	50°	1/2	2-1/4				■			■	
GASON											
5100 SERIES	46°	7/16	1-3/4	■							
SCARITILL & EH SCARITILL	47°	1/2	BOTH		■						
7100 ECOTILL	50°	1/2	2-1/4				■				
GESSNER											
HR1200	50°	1/2	2-1/4				■			■	
GLENCOE											
PC, MPC, PCMW	47°	3/8	1-3/4		■						
CHISEL PLOWS	47°	7/16	2-1/4				■			■	■
HIGH CLEARANCE	50°	7/16	1-2/4				■			■	
GRAHAM											
CHISEL PLOWS	50°	1/2	2-1/4				■			■	
400, 500, 1600, 2600	54°	7/16	2-1/4	(NO ADAPTER FOR THIS APPLICATION)							
GREAT PLAINS											
8000, 7000	47°	7/16	1-3/4		■						
GYRAL IMPLEMENTS											
PENETRATOR T23, T25	43°	1/2	BOTH				■	■		■	■
AG BN055 T30	43°	7/16	BOTH				■	■		■	■
GYSLER											
CHISEL PLOWS	47°	7/16	2-1/4				■			■	■
HESSTON											
FIELD CULTIVATORS	47°	1/2	1-3/4		■						
CHISEL PLOWS	50°	1/2	2-1/4				■			■	
HINIKER											
FIELD CULTIVATORS	47°	7/16	1-3/4		■						
CHISEL PLOWS	50°	1/2	2-1/4				■			■	
HORWOOD BAGSHAW											
350 SCARIBAR EDGE-ON	47°	1/2	1-3/4	■							
HORWARD											
CHISEL PLOWS**	50°	9/16	2-1/4				■			■	
INTERNATIONAL											
45, 46, 47	47°	7/16	1-3/4								
10, 50, 55, 75, 509, 645	43°	1/2	2-1/4							■	

NOTE: 200 Series adapters should not be used on a chisel plow or heavy duty cultivator unless being used for seeding.

*Sweeps will not work with this combination, knives only.

**Bolt sizes will require adapting.

MAKE & MODEL	SHANK DEGREE	BOLT SIZE	HOLE CENTER	200 SERIES					410 SERIES			
				200-QCA-4700	200-QCA-4710	200-QCA-5000	200-QCA-5010	100-WDG-0700	410-QCA-5000	410-QCA-5010	400-WDG-0300	400-WDG-0700
JANKE												
UNIV DIRECT DRILL	50°	1/2	2-1/4					■			■	
U/D DRILL (HYD) EARLY	50°	1/2	2-1/4					■			■	
JEOFFROY												
450	47°	3/8	1-3/4		■							
JOHN DEERE												
1000, 1010, 1050	43°	3/8	1-5/8	(NO ADAPTER FOR THIS APPLICATION)								
726, 2210, 2200	47°	7/16	1-3/4		■							
940, 960, 985	47°	7/16	1-3/4		■							
730	47°	1/2	1-3/4		■							
735, 737, 610, 655, 680, 685, 1600, 1610, 1650	50°	1/2	2-1/4					■			■	■
1810, 1820, 1830, 1835 WITH 350 LB TRIPS	47°	1/2	1-3/4		■							
1810, 1820, 1830, 1835 WITH 500 LB TRIPS	50°	1/2	2-1/4					■			■	■
2400, 2410	50°	1/2	2-1/4					■			■	
JOHN SHEARER												
UNIVERSAL CULTIVATOR	47°	7/16	1-3/4		■							
CHISEL PLOWS	50°	1/2	2-1/4					■			■	
KONGSKILDE												
C-SHANK	47°	1/2	1-3/4		■							
S-TINE	47°	7/16	1-5/8		■							
KRAUSE												
600, 900, 3100, 4200	47°	7/16	1-3/4		■							
4000	50°	1/2	2-1/4					■			■	
5630, 5635	47°	1/2	1-3/4		■							
LEON												
CP77	43°	7/16	2-1/4					■	■		■	■
ALL OTHER LEON CHISEL PLOWS	50°	1/2	2-1/4					■			■	
FIELD CULTIVATORS	47°	7/16	1-3/4		■							
MASSEY FERGUSON												
160	47°	3/8	1-3/4		■							
259	47°	7/16	1-3/4		■							
124, 125, 126, 128, 133	54°	7/16	2-1/4	(NO ADAPTER FOR THIS APPLICATION)								
MF 7300 CHISEL PLOW	50°	1/2	2-1/4					■			■	
MORRIS												
L225, L233, L240, L320	47°	3/8	1-3/4		■							
CHALLENGER II, 9000, 9100	47°	1/2	1-3/4		■							
MAXIM, MAXIM II	47°	1/2	1-3/4		■							
MAXIM III	47°	1/2	1-3/4		■							
CONCEPT 2000 WITH 400 LB TRIP	47°	1/2	1-3/4		■							
CONCEPT 2000 WITH 550 LB TRIP	47°	1/2	1-3/4		■							
CONCEPT 2000 WITH LH 755 LB TRIP	50°	1/2	2-1/4					■			■	
220, 4, 5, 6, 7	43°	7/16	2-1/4						■	■		■
MAGNUM I	43°	1/2	2-1/4						■	■		■
912, 8900, 9000, MAGNUM II	50°	1/2	2-1/4								■	
MAGNUM III WITH LH 755 LB TRIP	50°	1/2	2-1/4			■					■	
EDGE-ON (CONTOUR DRILL)												
(NO ADAPTER FOR THIS APPLICATION)												
CHALLENGER L2480	47°	3/8	1-3/4		■							
NEW HOLLAND												
SD 440A, SD 550A AIR HOE DRILL (DEPENDING ON SHANK OPTION)	47°	1/2	1-3/4		■							
SD 440A, SD 550A AIR HOE DRILL (DEPENDING ON SHANK OPTION)	50°	1/2	2-1/4					■			■	

MAKE & MODEL	SHANK DEGREE	BOLT SIZE	HOLE CENTER	200 SERIES					410 SERIES				
				200-QCA-4700	200-QCA-4710	200-QCA-5000	200-QCA-5010	100-WDG-0700	410-QCA-5000	410-QCA-5010	400-WDG-0300	400-WDG-0700	
ST 540 CHISEL PLOW	50°	1/2	2-1/4										
ST 250	47°	1/2	1-3/4										
ST 830 WITH 350 LB TRIP	47°	1/2	1-3/4										
ST 830 WITH 550 LB TRIP (DEPENDENT ON SHANK OPTION)	47°	1/2	1-3/4										
ST 830 WITH 550 LB TRIP (DEPENDENT ON SHANK OPTION)	50°	1/2	2-1/4										
ST 830 WITH 650 LB TRIP	50°	1/2	2-1/4										
P2050, P2060 AIR HOE DRILL 350 LB OR 550 LB TRIP	50°	1/2	2-1/4										
NOBLE													
XR20	50°	7/16	2-1/4										
8000, 4000 MULTI-TOOL	50°	1/2	2-1/4										
QUINSTAR													
FIELD FINISHER	47°	7/16	1-3/4										
FALLOW MASTER III	50°	1/2	2-1/4										
RYAN (RFM)													
1000 SERIES	47°	7/16	1-3/4										
SALFORD													
FIELD CULTIVATOR	47°	7/16	1-3/4										
SCHULTE													
1000 SERIES	50°	7/16	2-1/4										
SMALE													
MULTIVATOR	47°	7/16	1-3/4										
CHISEL PLOWS	50°	1/2	2-1/4										
SUMMERS													
SUPERCHISEL	50°	1/2	2-1/4										
SUNFLOWER													
CHISEL PLOWS	50°	1/2	2-1/4										
5000, 6000, 7000	47°	7/16	1-3/4										
TAYLOR													
FIELD CULTIVATORS	47°	3/8	1-3/4										
UNVERFERTH													
PERFECTA II FIELD CULTIVATORS	47°	7/16	1-3/4										
VERSATILE													
DH730, DH750 WITH 350 LB & 550 LB TRIPS	47°	1/2	1-3/4										
C500 WITH 350 LB & 550 LB TRIPS	47°	1/2	1-3/4										
C600 WITH 350 LB & 550 LB TRIPS	47°	1/2	1-3/4										
C600 WITH 600 LB TRIP	50°	1/2	2-1/4										
C700 WITH 650 LB TRIP	50°	1/2	2-1/4										
VICTORY													
CHISEL PLOWS	50°	1/2	2-1/4										
WIL-RICH													
FIELD CULTIVATORS	47°	7/16	1-3/4										
CHISEL PLOWS (1993 & OLDER)	43°	7/16	2-1/4										
CHISEL PLOWS (1994 & NEWER)	50°	1/2	2-1/4										
XL2, QX2	47°	7/16	1-3/4										
YEOMANS GRAHAM HOEMES													
US CHISEL PLOWS	50°	1/2	2-1/4										





TILLAGE

The sweeps and disks in this section are manufactured with the highest grade steel available, using special heat treatment processes to give you the most superior products on the market today.

Other factors that make a difference in a superior product besides the materials they are made of include some of the following:

- Long-Lasting Design
- Consistent Quality
- Innovative *Speed-Loc*™

200 SERIES SWEEPS

SPEED-LOC™ PRODUCTS

4"



5"



7"



9"



10"



11"



12"



13"



14"



16"



SIZE	THICKNESS	PRODUCT NO.
4" (100 mm)	1/4" (6 mm)	200-PWV-0400
5" (140 mm)	1/4" (6 mm)	200-PWV-0500
5" (140 mm)	5/16" (8 mm)	200-PWV-0508
7" (180 mm)	1/4" (6 mm)	200-PWV-0700
7" (180 mm)	5/16" (8 mm)	200-PWV-0708
9" (230 mm)	1/4" (6 mm)	200-PWV-0900
9" (230 mm)	5/16" (8 mm)	200-PWV-0908
10" (254 mm)	1/4" (6 mm)	200-PWV-1000
10" (254 mm)	5/16" (8 mm)	200-PWV-1008
11" (280 mm)	1/4" (6 mm)	200-PWV-1100
11" (280 mm)	5/16" (8 mm)	200-PWV-1108
12" (305 mm)	1/4" (6 mm)	200-PWV-1200
12" (305 mm)	5/16" (8 mm)	200-PWV-1208
13" (330 mm)	1/4" (6 mm)	200-PWV-1300
13" (330 mm)	5/16" (8 mm)	200-PWV-1308
14" (355 mm)	1/4" (6 mm)	200-PWV-1400
14" (355 mm)	5/16" (8 mm)	200-PWV-1408
16" (406 mm)	5/16" (8 mm)	200-PWV-1608*
18" (457 mm)	5/16" (8 mm)	200-PWV-1808*

* These sweeps are only available in 5/16" (8 mm) thickness and were developed for Western Europe. It is not recommended for most North American field conditions.

**Don't forget the
Speed Release Tool**



200-REL-1010

The speed-release tool must be used to remove 200 and 410 Series sweeps and openers off the Speed-Loc™ adapters.



200-GFO-0308

GOOSEFOOT

This "Goosefoot" tillage tool is 5/16" (8 mm) thick by 2-1/2" (63 mm) wide. It is designed specifically for vibrating S-tine cultivators.



200-PWV-0405

SWEEP WITH HARDENED WEAR PAD

This sweep is 1/4" (6 mm) thick by 4" (100 mm) wide. It is designed mainly for fall tillage or deep working. It has a 3/8" hardened wear pad (52-56 HRC) which increases the life expectancy. The nose on this sweep runs 1/2" (12 mm) lower than the other 200 Series sweeps. This increased pitch improves penetration in hard or compacted ground and increases disturbance. This tool is ideal for primary tillage or banding fertilizer.



200-PWV-0405ML

MAX LIFE™ SWEEP W/ HARDENED WEAR PAD

Heat applied, embedded carbide has been added to the underside of this sweep. The sweep is 1/4" (6 mm) thick by 4" (100 mm) wide. It is designed mainly for fall tillage or deep working. It has a hardened wear pad (52-56 HRC) which increases the life expectancy. The nose on this sweep runs 1/2" (12 mm) lower than the other 200 Series sweeps. This increased pitch improves penetration in hard or compacted ground and increases disturbance.

EMBEDDED CARBIDE ON UNDERSIDE



200-PWV-0428 200-PWV-0528

SWEEP WITH HARDENED WEAR PAD

These sweeps are 5/16" (8 mm) thick. **200-PWV-0428** is 4" (100 mm) wide and **200-PWV-0528** is 5" (127 mm) wide. It is designed mainly for fall tillage or deep working. It has a 3/8" x 2" hardened wear pad (52-56 HRC) which increases its life expectancy.



200-PWV-0738

SWEEP WITH HARDENED WEAR PAD

This sweep is 5/16" (8 mm) thick by 7" (178 mm) wide with a 4" wide extended wear pad.



200-PWV-0928

SWEEP WITH HARDENED WEAR PAD

This sweep is 5/16" (8 mm) thick by 9" (230 mm) wide. It has a 3/8" x 2" hardened wear pad (52-56 HRC) that extends up the entire stem which increases its life expectancy.



200-SPK-0200

SPIKE

This quick change spike is 5/8" (15 mm) thick by 2-1/4" (57 mm) wide by 6" (150 mm) long. It has a hardened wear pad (52-56 HRC) for extra life. This tool is ideal for primary tillage or banding fertilizer.



200-SPK-0200ML

MAX LIFE™ SPIKE

Heat applied, embedded carbide has been added to the nose of this quick change spike. The spike is 5/8" (15 mm) thick, 2-1/4" (57 mm) wide and 6" (150 mm) long. It has a hardened wear pad (52-56 HRC) for extra life. This tool is ideal for primary tillage or banding fertilizer.

EMBEDDED CARBIDE ON NOSE



200-SPK-0215

SPIKE

This quick change spike is 5/8" (15 mm) thick by 2-1/4" (57 mm) wide by 6" (150 mm) long. It has a hardened wear pad (52-56 HRC) that extends to the top of the stem to prevent wear in abrasive soil or when working at greater depths.



200-SPK-0230

SPIKE

This quick change spike is 5/8" (15 mm) thick by 2" (50 mm) wide by 4" (102 mm) long. It has a hardened wear pad (52-56 HRC) for extra life. This tool is made specifically for slurry injection.



410 SERIES SWEEPS

SPEED-LOC™ PRODUCTS

	SIZE	THICKNESS	PRODUCT NO.	
4"	4" (100 mm)	1/4" (6 mm)	410-PWV-0400	6"
	6" (150 mm)	1/4" (6 mm)	410-PWV-0600	
	6" (150 mm)	5/16" (8 mm)	410-PWV-0608	
	8" (200 mm)	1/4" (6 mm)	410-PWV-0800	
8"	8" (200 mm)	5/16" (8 mm)	410-PWV-0808	10"
	10" (254 mm)	1/4" (6 mm)	410-PWV-1000	
	10" (254 mm)	5/16" (8 mm)	410-PWV-1008	
	12" (305 mm)	1/4" (6 mm)	410-PWV-1200	
12"	12" (305 mm)	5/16" (8 mm)	410-PWV-1208	14"
	14" (355 mm)	1/4" (6 mm)	410-PWV-1400	
	14" (355 mm)	5/16" (8 mm)	410-PWV-1408	
	16" (406 mm)	1/4" (6 mm)	410-PWV-1600	
16"	16" (406 mm)	5/16" (8 mm)	410-PWV-1608	18"
	18" (457 mm)	1/4" (6 mm)	410-PWV-1800	
	18" (457 mm)	5/16" (8 mm)	410-PWV-1808	



410-PWV-0418

SWEEP WITH HARDENED WEAR PAD

This sweep has a 3/8" by 2" hardened wear pad (52-56 HRC) for longer life. The sweep is 5/16" (8 mm) thick and 4" (100 mm) wide. This sweep runs at a 13° pitch, which is steeper than the regular 410 sweep and provides more disturbance. This tool is ideal for primary tillage or banding fertilizer.

410-PWV-0418ML

MAX LIFE™ SWEEP W/ HARDENED WEAR PAD

Heat applied, embedded carbide has been added to the underside of this sweep. It has a 3/8" hardened wear pad (52-56 HRC) for longer life. The sweep is 5/16" (8 mm) thick by 4" (100 mm) wide. This sweep runs at a 13° pitch, which is steeper than the regular 410 sweep and provides more disturbance. This tool is ideal for primary tillage or banding fertilizer.

410-PWV-0518

SWEEP WITH HARDENED WEAR PAD

This sweep is 5/16" (8 mm) thick by 5" (127 mm) wide. It has a 3/8" x 2" hardened wear pad (52-56 HRC) for longer life. It runs at a 3° pitch, which is the same as a standard sweep.

410-SPK-0200

SPIKE

This heavy-duty quick change spike is 5/8" (15 mm) thick by 2" (50 mm) wide by 9" (230 mm) long. It has a 3/8" x 2" hardened wear pad (52-56 HRC) for extra life. This tool is ideal for primary tillage or banding fertilizer.

410-SPK-0200ML

MAX LIFE™ SPIKE

Heat applied, embedded carbide has been added to the leading edge of this heavy-duty quick change spike. The spike is 2" (50 mm) wide by 5/8" (15 mm) thick by 9" (230 mm) long. It has a hardened wear pad (52-56 HRC) for extra life. This tool is ideal for primary tillage or banding fertilizer.

Don't forget the Speed Release Tool



200-REL-1010

The speed-release tool must be used to remove 200 and 410 Series sweeps and openers off the Speed-Loc™ adapters.

INTRODUCING
MAX LIFE
CARBIDE EDGE

WHAT IS MAX LIFE™ CARBIDE EDGE?

The MAX LIFE™ process infuses tungsten carbide onto tillage tools. This creates the toughest, most economical, and longest-lasting tillage tools available.

Years of rigorous field tests consistently show that MAX LIFE™ CARBIDE EDGE increases the useful life of sweeps and ripper points longer than other hard facing processes.

HEAT APPLIED EMBEDDED CARBIDE

MAX LIFE™

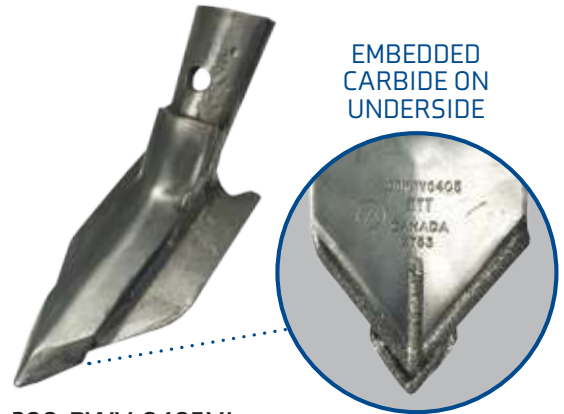
CARBIDE EDGE OPENERS



200-SPK-0200ML

FITS 200 SERIES SPEED-LOC™ (47° SHANK)

Heat applied, embedded carbide has been added to the nose of this quick change spike. The spike is 5/8" (15 mm) thick, 2-1/4" (57 mm) wide and 6" (150 mm) long. It has a hardened wear pad (52-56 HRC) for extra life. This tool is ideal for primary tillage or banding fertilizer.



200-PWV-0405ML

Underside View

FITS 200 SERIES SPEED-LOC™ (47° SHANK)

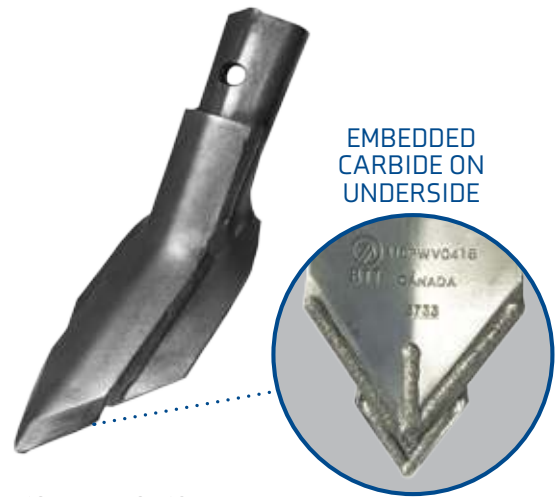
Heat applied, embedded carbide has been added to the underside of this sweep. The sweep is 1/4" (6 mm) thick and 4" (100 mm) wide. It is designed mainly for fall tillage or deep working. It has a hardened wear pad (52-56 HRC) which increases the life expectancy. The nose on this sweep runs 1/2" (12 mm) lower than the other 200 Series sweeps. This increased pitch improves penetration in hard or compacted ground.



410-SPK-0200ML

FITS 410 SERIES SPEED-LOC™

Heat applied, embedded carbide has been added to the leading edge of this heavy-duty quick change spike. The spike is 2" (50 mm) wide, 5/8" (15 mm) thick and 9" (230 mm) long. It has a hardened wear pad (52-56 HRC) for extra life. This tool is ideal for primary tillage or banding fertilizer.



410-PWV-0418ML

Underside View

FITS 410 SERIES SPEED-LOC™

Heat applied, embedded carbide has been added to the underside of this sweep. The sweep has a 3/8" hardened wear pad (52-56 HRC) for longer life. The sweep is 5/16" (8 mm) thick and 4" (100 mm) wide. This sweep runs at a 13° pitch, which is steeper than the regular 410 sweep.

BOLT-ON SERIES



Our bolt-on sweeps fit all makes and models of tillage equipment.

The Extended Stem Advantage

The stem or neck on our bolt-on sweeps is longer than that of our competitors. This extended stem allows us to punch the bolt holes higher than on any other brand of sweeps. This reduces stem breaking and results in less wear on the shank and less wear and stone damage to the bottom bolt. Less wear on the shank extends the useful life of the sweep, and less stone damage on the bottom bolt means fewer problems when changing shovels. The extended stem feature saves you time and money.

043 Series

For heavy-duty chisel plows with 43° shanks and 2-1/4" to 2-1/2" (57 mm to 64 mm) hole centers.

SIZE	THICKNESS	PRODUCT NO.
8" (200 mm)	1/4" (6 mm)	043-PWV-0800
10" (254 mm)	1/4" (6 mm)	043-PWV-1000
12" (305 mm)	1/4" (6 mm)	043-PWV-1200
14" (355 mm)	1/4" (6 mm)	043-PWV-1400
16" (420 mm)	1/4" (6 mm)	043-PWV-1600
18" (460 mm)	1/4" (6 mm)	043-PWV-1800

047 Series

For field cultivators with 47° shanks and 1-3/4" (45 mm) hole centers.

SIZE	THICKNESS	PRODUCT NO.
4" (100 mm)	1/4" (6 mm)	047-PWV-0400
7" (180 mm)	5/16" (8 mm)	047-PWV-0708
9" (230 mm)	1/4" (6 mm)	047-PWV-0900
9" (230 mm)	5/16" (8 mm)	047-PWV-0908
10" (254 mm)	1/4" (6 mm)	047-PWV-1000
10" (254 mm)	5/16" (8 mm)	047-PWV-1008
11" (280 mm)	1/4" (6 mm)	047-PWV-1100
12" (305 mm)	1/4" (6 mm)	047-PWV-1200
13" (330 mm)	1/4" (6 mm)	047-PWV-1300
13" (330 mm)	5/16" (8 mm)	047-PWV-1308

050 Series

For heavy-duty chisel plows with 50° shanks and 2-1/4" (57 mm) hole centers.

SIZE	THICKNESS	PRODUCT NO.
6" (150 mm)	1/4" (6 mm)	050-PWV-0600
8" (200 mm)	1/4" (6 mm)	050-PWV-0800
10" (254 mm)	1/4" (6 mm)	050-PWV-1000

SIZE	THICKNESS	PRODUCT NO.
12" (305 mm)	1/4" (6 mm)	050-PWV-1200
14" (355 mm)	1/4" (6 mm)	050-PWV-1400
16" (420 mm)	1/4" (6 mm)	050-PWV-1600
16" (420 mm)	5/16" (8 mm)	050-PWV-1608
18" (460 mm)	1/4" (6 mm)	050-PWV-1800

Not sure which shank degree or hole center you have?

Refer to our *Speed-Loc™* adapter chart as a cheat sheet on pages 88-89.

Not sure which bolts you need?

Refer to our bolt length chart on page 112.



070-RCH-0451

REVERSIBLE CHISEL

This reversible chisel is 5/16" (8 mm) thick and 4" (100 mm) wide. It has 1-3/4" (45 mm) bolt hole spacing to fit light- and medium-duty field cultivators. It is used mostly for primary tillage in the fall or early spring.



070-RCH-0452

REVERSIBLE CHISEL

This reversible chisel is 5/16" (8 mm) thick and 4" (100 mm) wide. It has 2-1/4" to 2-1/2" (57 to 63 mm) bolt hole spacing. It is used mostly for primary tillage in the fall or early spring.



070-RSP-0200A

REVERSIBLE SPIKE

This reversible spike is 2" (50 mm) wide, 5/8" (16 mm) thick and 14" (355 mm) long. It has 1-3/4" to 2" (45 to 57 mm) bolt hole spacing. It is shorter than our other two reversible spikes, and is designed for light- to medium-duty field cultivators or for chisel plows where ground clearance in transport is a concern.



070-RSP-0210A

REVERSIBLE SPIKE

This reversible spike is 2" (50 mm) wide, 5/8" (16 mm) thick and 17" (431 mm) long. It has 2-1/4" (57 mm) bolt hole spacing. It is flat through the bolt hole section, it is designed specifically to fit the Bourgault chisel plow as well as the Morris LH 755 shank.



070-RSP-0220A

REVERSIBLE SPIKE

This reversible spike is 2" (50 mm) wide, 5/8" (16 mm) thick and 16-1/2" (419 mm) long. It has 2-1/4" to 2-1/2" (57 to 63 mm) bolt hole spacing. It is curved at the bolt hole section, it can be used on any chisel plow shank except the Bourgault and Morris LH 755 shank.

NIAUX 200.

THE LONGEST WEARING DISK BLADES.



3 ZONES OF HARDNESS

- Increased Flexibility (48-50 HRC)
- Increased Durability (50-55 HRC)
- Maximum Wear (55-58 HRC)



BOOST YOUR PERFORMANCE WITH THESE LASTING ADVANTAGES

- 20 TO 40% LONGER WEAR
- EXCELLENT RESISTANCE TO BREAKAGE
- RETAINS A SHARP CUTTING EDGE DUE TO HIGH HARDNESS
- SPECIAL HIGH-GRADE, QUALITY STEEL
- PATENTED HEAT TREATING PROCESS
- LIFETIME WARRANTY ON BREAKAGE
- 5 GENERATIONS OF EXPERIENCE

LESS WEAR & MORE PERFORMANCE

As a farmer you know what it takes to be successful. Seeding and Tillage are too important to entrust to anyone other than Bourgault Tillage Tools. Customers have come to trust BTT to deliver industry-leading products for whatever brand of machine you pull in the field.

We are committed to providing our customers with exceptional customer service. To keep your operation running smoothly we offer high quality products backed by the best warranty and performance guarantee in the market. This commitment led us to form a valuable partnership with Forges de Niaux allowing us to bring their disk blades to our local markets.

With over 70 years of disk blade manufacturing experience, Forges de Niaux has been on the leading edge of many innovative ideas. With generations of experience under their belt, the latest line of disk blades, the **Niaux 200**, were released. These disk blades are made from high quality steel and a new heat treatment process. Forges de Niaux is the only manufacturer in the world to offer disk blades with hardness levels up to 58 HRC. These disk blades offer 3 zones of hardness. The lowest level of hardness is found in the center core of the disk, where it is mounted, providing flexibility for shock absorption. Increased durability comes from the transitional zone while the outer edge offers the highest level of hardness providing 20 to 40% longer wear.



DISK BLADES FOR OEMs

The evolution of disk drills over the past few years has pushed us to find innovative solutions for OEMs.

Niaux 200 disk blades have consistently high qualities, including maintaining tight tolerances for shape control, a machined edge for superior penetration in hard soil conditions, and a durable edge that stands up in rocky conditions with no chipping or cracking. The special heat treating process provides an increased hardness of the outer disk area result in a self-sharpening wear pattern that extends the blade life and requires less horsepower resulting in better fuel economy.



500-200-1005

Fits: CNH

Case IH 500, 500T
NH P2080 & NH P2085

OEM Part #:	87488385
Disk Type:	Flat Coulter
Dimensions:	18" x 5 mm
Pilot Hole Size:	3.5"
# of Bolt Holes:	4



517-200-1015

Fits: CNH

CIH, DMI, NH: 530, 530B, 570, 730, 730B, 730C, 870, 9300, ST770, ST775
Sunflower: 4410, 4411, 4412, 4510, 4511 & 4530 Brillion

OEM Part #:	87443010
Disk Type:	Plain Concave
Dimensions:	22-1/4" x 5 mm
Pilot Hole Size:	4"
# of Bolt Holes:	5



503-200-1005

Fits: CROSS SLOT

OEM Part #:	5461015
Disk Type:	Notched Coulter
Dimensions:	22" x 5 mm
Pilot Hole Size:	3"
# of Bolt Holes:	6



510-200-1000

Fits: GREAT PLAINS

Turbo Chopper, Turbo Till & Turbo Till II

OEM Part #:	820-011C
Disk Type:	20 Wave RT Coulter
Dimensions:	20-1/2" x 6.5 mm
Pilot Hole Size:	1-3/4" ROUND
# of Bolt Holes:	N/A

*All product and company names are trademarks™ or registered® trademarks of their respective holders. Use of them does not imply any affiliation with or endorsement by them.

TILLAGE: DISK BLADES



511-200-1000

Fits: GREAT PLAINS

Turbo-Max, Vantage I Fertilizer Coulter, Zone Coulter & HD Utility Coulter

OEM Part #:	820-215C
Disk Type:	20 Wave RT Coulter,
Dimensions:	18" x 5 mm
Pilot Hole Size:	4"
# of Bolt Holes:	4



500-200-1010

Fits: JOHN DEERE

JD 750, 752, 1560, 1590, 1690, 1850, 1860, 1890, 1890 CCS, 1895, 1990 & 1835 SFP Air Hoe

OEM Part #:	N283804
Disk Type:	Flat Coulter
Dimensions:	18" x 5 mm
Pilot Hole Size:	3"
# of Bolt Holes:	4



501-200-1000

Fits: JOHN DEERE

JD 450, 455, 515, 520, 1520, 8100, 8200, 8250, 8300, 8350, 8500, 8550, 9400, 9450, 730, 770, 780, 1060 & Frontier BD1108, BD1109, BD1013

OEM Part #:	N283805
Disk Type:	Domed Disk
Dimensions:	13-1/2" x 2.5 mm
Pilot Hole Size:	1/2" X 2/3" Oval
# of Bolt Holes:	N/A



522-200-1000

Fits: LEMKEN

Heliodor 8

OEM Part #:	3490471
Disk Type:	Notched Concave
Dimensions:	18" x 5 mm
Pilot Hole Size:	N/A
# of Bolt Holes:	6



522-200-1005

Fits: LEMKEN

Rubin 9 & Rubin 12

OEM Part #:	3490467
Disk Type:	Notched Concave
Dimensions:	24-5/8" x 6 mm
Pilot Hole Size:	N/A
# of Bolt Holes:	5



522-200-1035

Fits: LEMKEN

Heliodor 9

OEM Part #:	3490027
Disk Type:	Notched Concave
Dimensions:	20" x 5 mm
Pilot Hole Size:	N/A
# of Bolt Holes:	4



505-200-1000

Fits: SALFORD

Salford I-1100 & Salford I-1200

OEM Part #:	CT512008
Disk Type:	8 Wave Coulter
Dimensions:	20" x 4.5 mm
Pilot Hole Size:	4"
# of Bolt Holes:	4



505-200-1005

Fits: SALFORD

Salford I-1100 & Salford I-1200

OEM Part #:	CT512013
Disk Type:	13 Wave Coulter
Dimensions:	20" x 4.5 mm
Pilot Hole Size:	4"
# of Bolt Holes:	4



505-200-1010

Fits: SALFORD

Salford I-2100, I-2200 (all)
Salford I-4100 (last 2 rows)
Salford I-4200 (all but front row)

OEM Part #:	CT512208
Disk Type:	8 Wave Coulter
Dimensions:	21-3/4" x 5 mm
Pilot Hole Size:	4"
# of Bolt Holes:	5



505-200-1015

Fits: SALFORD

Salford I-2100, I-2200 (all)
Salford I-4100 (last 2 rows)
Salford I-4200 (all but front row)

OEM Part #:	CT512213
Disk Type:	13 Wave Coulter
Dimensions:	22-3/4" x 5 mm
Pilot Hole Size:	4"
# of Bolt Holes:	5



517-200-1015

Fits: SALFORD

Salford I-4100 (first 2 rows), I-4200 (front row)
& I-5100 (all)
Sunflower: 4410, 4411, 4412, 4510, 4511 & 4530
Brillion

OEM Part #:	CT512250
Disk Type:	Plain Concave
Dimensions:	22-1/4" x 5 mm
Pilot Hole Size:	4"
# of Bolt Holes:	5

TILLAGE: DISK BLADES



517-200-1020

Fits: SALFORD

Optional on Salford I-5100

OEM Part #: CT503059

Disk Type: Plain Concave

Dimensions: 24-3/4" x 6.5 mm

Pilot Hole Size: 4"

of Bolt Holes: 5



505-200-1020

Fits: SUMMERS

Summers Super Coulter & Coulter Chisel

OEM Part #: 8J1020

Disk Type: 8 Wave Coulter

Dimensions: 20" x 6.5 mm

Pilot Hole Size: 2" Round

of Bolt Holes: N/A



505-200-1025

Fits: SUMMERS

Summers Super Coulter & Coulter Chisel

OEM Part #: 8J1021N

Disk Type: 8 Wave Notch Coulter

Dimensions: 22-1/2" x 6.5 mm

Pilot Hole Size: 2" Round

of Bolt Holes: N/A



515-200-1000

Fits: SUMMERS

Summers DK Series Disk

OEM Part #: 8K5026

Disk Type: Plain Concave

Dimensions: 26-1/4" x 6.5 mm

Pilot Hole Size: 2" Round

of Bolt Holes: N/A



521-200-1000

Fits: SUMMERS

Summers DT Series Disk

OEM Part #: 8K5025N

Disk Type: Notched Concave

Dimensions: 25" x 8 mm

Pilot Hole Size: 2" Round

of Bolt Holes: N/A

*All product and company names are trademarks™ or registered® trademarks of their respective holders. Use of them does not imply any affiliation with or endorsement by them.



ACCESSORIES & REFERENCE

This section contains replacement parts and accessories for our product lines.

For your reference there are expanding drawings of several of our openers, charts for Bolt Sizes and Fasteners, Product Depth Chart, and Installation Notes.

ACCESSORIES



100-DRV-1010

This driver should be used for installing the following knives: 200-KNF-0861, 200-KNF-0863, 200-KNF-7510, 200-KNF-7511, 200-KNF-7518, 200-KNF-7542, 200-KNF-7520, 200-KNF-7521, 200-KNF-7524, 200-KNF-7525, 200-KNF-7530 and 200-KNF-7531.



100-DRV-1020

This driver is used when installing the 200-HOE-1700 onto the adapter.



200-DRV-1012

This driver should be used for installing the 200-KNF-0813.



200-DRV-1013

This driver should be used when installing knives with the following tips: 200-TIP-2011, 200-TIP-0300, 200-TIP-3001, 200-TIP-3011 and 200-TIP-4011. It should also be used when installing the 200-KNF-0501, 200-KNF-0571 and 200-KNF-0575.



200-DRV-1030

This driver should be used when installing the following openers: 200-KNF-0505, 200-VRT-1000, 200-VRT-1011, 200-VRT-1016, 200-VRT-1061 and 410-VRT-1000. It should also be used when installing knives with the following tips: 200-TIP-0503, 200-TIP-0507, 200-TIP-0523, 200-TIP-0524, 200-TIP-0531 and 200-TIP-1011.



400-DRV-1000

This driver can be used when installing any of the quick change sweeps and spoons.



400-DRV-1010

This driver should be used when installing the following knives: 200-KNF-0810, 200-KNF-0811, 410-KNF-0800 and 410-KNF-0801. It should also be used for installing knives with the following tips: 200-TIP-0800 and 200-TIP-0801.



100-WDG-0700

This 7° urethane wedge is designed to correct the pitch of the 100-QCA-5010 and the 200-QCA-5010 adapters on 43° shanks.



200-WDG-0206

This 2° urethane wedge has 45 mm to 80 mm bolt hole spacing. It is used to obtain proper sweep pitch on certain shanks.



200-WDG-0506

This 5° urethane wedge has 45 mm to 80 mm bolt hole spacing. It is used to obtain proper sweep pitch on certain shanks.



200-WDG-1000

This 10° urethane wedge has 45 mm to 80 mm bolt hole spacing. It is used to obtain proper sweep pitch on certain shanks.



200-WDG-1006

This 10° urethane wedge has 45 mm to 80 mm bolt hole spacing. It is used to obtain proper sweep pitch on certain shanks.



400-WDG-0300

This 3° urethane wedge is designed to correct the pitch of the 410-QCA-5010 adapter on a 47° chisel plow shank, as well as the 50° bolt-on sweeps.



400-WDG-0700

This 7° urethane wedge is designed to correct the pitch of the 410-QCA-5010 adapter when installing on a 43° shank. It should also be used with the 600 Series knives when installing on a 43° shank.



880-WDG-0300

This cast wedge adapter is designed for our 047, 610 and 612 seeding openers on all **John Deere** shanks.



880-WDG-0301

This cast wedge adapter is designed for our 047, 610 and 612 seeding openers on all **47° & 50° curved** bottom shanks.



200-QAS-4711

This sub-plate is used in conjunction with the 200-QCA-4710 adapter on the Kongskilde VFM shank.



200-QAS-4712

This sub-plate is used in conjunction with the 200-QCA-4710 adapter on an S-tine. S-tines with a single hole can now use the Speed-Loc™ system.



100-HAM-4000

This 4 lb (1.8 kg) hammer is ideal for installing all quick change products.



200-REL-1010

The speed-release tool must be used to remove 200 and 410 Series sweeps and openers off the Speed-Loc™ adapters.



047-ACC-1001

Helps direct the flow of seed in a focused row behind the opener. Use with 047-ASY-1000, 047-ASY-1005P or 675 Series openers.



047-ACC-1002

Allows you to adapt to any shank with an open bottom hole. Keeps the bottom bolt in place on the John Deere 1820, 1830 & 2400.



047-CAP-1000

This cap is a replacement cap for the 047-ASY-1000 and 047-ASY-1005P.



600-HHA-0750

This stainless steel hose holder mounts on any C-Shank to hold the NH₃ hose in place. It is completely height adjustable.



650-ACC-1000

This bracket limits the tripping distance of the 650 Series fertilizer knives for the JD 1870 Consesrva Pak.



680-ACC-0001

This spacer plate is required for the Concord when installing any edge on product.



680-ACC-0002

Spacer required when a 680-ASY-4026 is mounted on a Bourgault 3310 & 3320 PHD Drill.



680-ACC-0003

Space required when a 680-ASY-4020 is mounted on a Bourgault 3310 & 3320 PHD Drill.



680-ACC-0004

This conversion tab replaces the fertilizer tube on the 680-HLD-2000 so it can be converted to a single shoot opener.



680-ACC-1000

Helps direct the flow of seed in a focused row behind the opener. Use with 680-ASY-1000 openers prior to 2012.



694-ACC-1000

This spacer is required when installing Titan Openers on anything except Concord.



880-ASY-1010

This assembly is required to convert the standard 3/16" (5 mm) O.D. liquid phos tube to 1/4" I.D. Liquid Phosphorus delivery hoses on the 047-ASY-1005P and 680-ASY-1000P.



880-CPL-1010

This barb and compression fitting are used when going from 1/4" (6 mm) I.D. liquid phosphorus tube to 3/16" stainless steel liquid phos tubes.



880-CPL-2500

This coupler is used to attach a 1/4" (6 mm) O.D. liquid phosphorus tube. Included with all new liquid phosphorus openers.



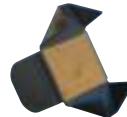
880-GRD-1000

This guard is used to protect liquid hose on all side band liquid openers in heavy trash conditions.



880-GRD-1010

This guard is used to protect liquid phosphorus tubes on 047 & 680 liquid phosphorus openers in heavy trash conditions.



880-HCL-0001

This clip eliminates hose movement, as the sharp corners embed into the granular pipe.



880-HCL-0002

Spacer clip may be required on the rear tube of the following side band openers: 683, 684, 686, 693, 694 where 1-1/8" (29 mm) hose is used.



880-ORF-0001

This orifice is used to concentrate and direct the flow of liquid fertilizer on the 200-VRT-1061 and 200-KNF-0863.

BUSHINGS TO ADAPT TO DIFFERENT AIR HOSE SIZES



300-BSH-1200

This bushing adapts from a 1-1/8" (28 mm) O.D. air hose up to a 1-1/4" (32 mm) O.D. air hose.



300-BSH-1205

This bushing adapts from 1-1/8" (28 mm) O.D. air hose to 1-1/8" (28 mm) O.D. air hose.



880-BSH-1130

This bushing is needed when you are using 1-1/8" (28 mm) hose.



880-BSH-1150

This bushing adapts from 1-1/4" (32 mm) O.D. air hose up to a 1-1/2" (38 mm) O.D. air hose.



880-BSH-1170

This bushing adapts 1-1/2" (38 mm) O.D. hose to 1-1/4" (32 mm) knives.



880-BSH-2000

This bushing is to be used on John Deere split shanks.

INSTALLATION NOTES

C-SHANKS

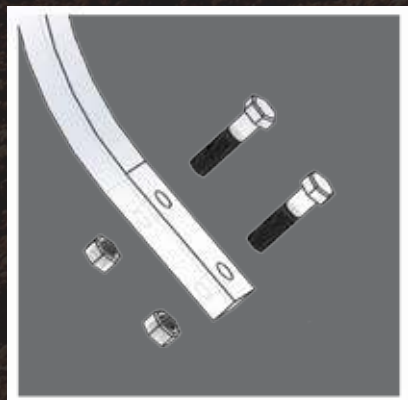
For 047, 610 & 612 Series openers:

- For 1" shanks use 1/2" X 2" **Grade 8** Carriage Bolt, **961-CRG-2005**
- For 1-1/4" shanks use 1/2" X 2-1/4" **Grade 8** Carriage Bolt, **961-CRG-2255**
- When installing on a 50° shanks other than Bourgaault or Ezee-On use wedge **880-WDG-0300** or **880-WDG-0301**.
See page 106 for more information.
- When using these wedges different bolt lengths are required.
- For 1" shank use 1/2" X 2-1/4" **Grade 8** Bolt, **961-CRG-2255**
- For 1 1/4" shank use 1/2" X 2-1/2" **Grade 8** Bolt, **961-CRG-2505**
- 1/2" Stover Lock Nuts, **906-NPT-5005**
- **Torque shank bolts to 80 - 100 ft/lbs**

For 600 & 620 Series openers:

- Use 1/2" Hex Head **Grade 8** Bolt
- **Torque shank bolts to 120 -130 ft/lbs**

Note: Blue Loctite is also recommended



INSTALLATION NOTES

EDGE ON

For Bourgault 3310 & 3320 Edge on shank:

- 3/8" X 2-1/4" **Grade 8** Carriage Bolts, **960-CRG-3755**
- 3/8" Stover Lock Nut, **906-NPT-3755**
- For the **680-ASY-4020** use spacer plate **680-ACC-0003**
- For the **680-ASY-4026** use the **680-ACC-0002**

For Morris Maxim:

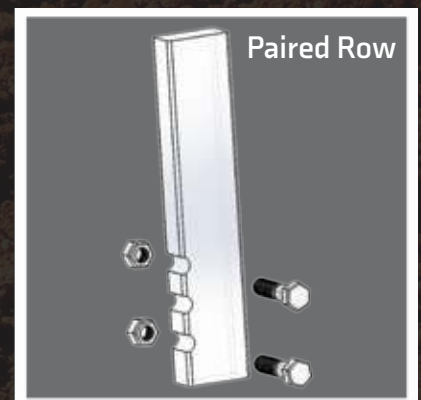
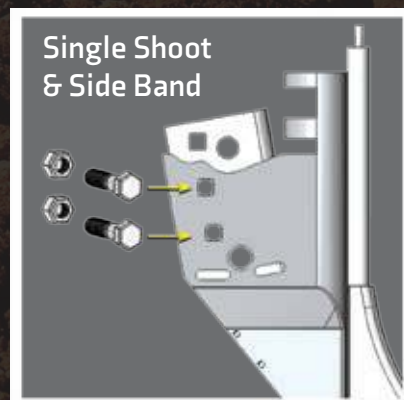
- 3/8" X 2-1/4" **Grade 8** Carriage Bolts, **960-CRG-3755**
- 3/8" Stover Lock Nut, **906-NPT-3755**

For Concord:

- Use spacer Plate, **680-ACC-0001**
- 1/2" X 2" **Grade 8** Hex bolt, **946-HRG-2005**
- 1/2" Stover Lock Nut, **906-NPT-5005**

Note for Bourgault Owners:

When Installing any Edge-On Paired Row opener on the Bourgault 3310 & 3320 always use the top and bottom notches of the shank, as shown below.



PACKING CONSIDERATIONS

It is recommended to use on-row packing to achieve good soil to seed contact for even germination. Generally, the packer wheel width should be equal to or greater than the width of the tip on the opener. The ideal result is to have uniform depth of firm soil over the full seed row.



INSTALLING & CHANGING TIPS

One of our most popular innovations is the replaceable tip. The tongue and groove configuration allows customers to change tips as they wear out, instead of the whole opener. You can also change tip sizes if conditions change in your operation.

There are several things to keep in mind when changing or installing new tips:

When installing new tips it is important to use a new bolt and nut combination.

Before installing a new tip, clean the tongue of the holder of any rust or debris with a wire brush.

NOTE

Over torquing will result in difficulty when removing.
Torque to 84 in/lbs or 7ft/lbs.

The nut is placed in a pocket in the tongue. The bolt is installed through the hole in the side of the replaceable tip.

When installing knife on the Speed-Loc™ adapter, always use the correct driver.

NOTE

 **ALWAYS WEAR
SAFETY GLASSES!**

TIP REMOVAL

If a worn out tip is seized on the tongue, you can use two 3 pound hammers, one to support the side of the boot and the other to strike the opposite side of the tip to break the side wall.



PRODUCT DEPTH CHARTS

200 SERIES



410 SERIES



BOLT LENGTH CHARTS

047 Series Bolt-On Sweeps on light- and medium-duty cultivators

APPLICATION	TOP BOLT	BOTTOM BOLT	SPECIAL NOTES
1" Bourgault shank without seed boot	1/2" x 2"	1/2" x 2"	Plow bolts, no lock washer, regular nut
1" Bourgault shank with Bourgault round tube seed boot	1/2" x 2"	1/2" x 2"	Plow bolts, no lock washer, regular nut
1" Bourgault shank with Bourgault square tube seed boot	1/2" x 2-1/4"	1/2" x 2"	Plow bolts, no lock washer, regular nut
7/8" Bourgault shank without seed boot	1/2" x 1-3/4"	1/2" x 1-3/4"	Plow bolts, no lock washer, regular nut
7/8" Bourgault shank with Bourgault round tube seed boot	1/2" x 2"	1/2" x 1-3/4"	Plow bolts, no lock washer, regular nut
7/8" Bourgault shank with Bourgault square tube seed boot	1/2" x 2-1/4"	1/2" x 1-3/4"	Plow bolts, no lock washer, regular nut
3/4" Bourgault shank without seed boot	1/2" x 1-3/4"	1/2" x 1-3/4"	Plow bolts, no lock washer, regular nut
3/4" Bourgault shank with Bourgault round tube seed boot	1/2" x 1-3/4"	1/2" x 1-3/4"	Plow bolts, no lock washer, regular nut
3/4" Bourgault shank with Bourgault square tube seed boot	1/2" x 2"	1/2" x 1-3/4"	Plow bolts, no lock washer, regular nut
3/4" Degelman shank without seed boot	7/16" x 1-3/4"	7/16" x 1-3/4"	Plow bolts, no lock washer, regular nut
7/8" Flexi-Coil shank without seed boot	7/16" x 1-3/4"	7/16" x 1-3/4"	Plow bolts, no lock washer, regular nut
1/2" Morris Challenger shank without seed boot	3/8" x 1-1/2"	3/8" x 1-1/2"	Plow bolts, no lock washer, regular nut
5/8" Morris Challenger shank without seed boot	3/8" x 1-1/2"	3/8" x 1-1/2"	Plow bolts, no lock washer, regular nut
5/8" John Deere shank without seed boot	7/16" x 1-1/2"	7/16" x 1-1/2"	Plow bolts, no lock washer, regular nut
9/16" CIL shank without seed boot	3/8" x 1-1/2"	3/8" x 1-1/2"	Plow bolts, no lock washer, regular nut
1/2" Case IH shank without seed boot	7/16" x 1-1/2"	7/16" x 1-1/2"	Plow bolts, no lock washer, regular nut

043 & 050 Series Bolt-On Sweeps on heavy-duty chisel plows

APPLICATION	TOP BOLT	BOTTOM BOLT	SPECIAL NOTES
1" Bourgault shank without seed boot	1/2" X 2"	1/2" X 2"	Plow bolts, no lock washer, regular nut
1" Bourgault shank with Bourgault splitter seed boot #6505-42	1/2" X 2-1/4"	1/2" X 2"	Plow bolts, no lock washer, regular nut
1-1/4" Bourgault shank without seed boot	1/2" X 2-1/4"	1/2" X 2-1/4"	Plow bolts, no lock washer, regular nut
1-1/4" Bourgault shank with Bourgault splitter seed boot #6505-42	1/2" X 2-1/2"	1/2" X 2-1/4"	Plow bolts, no lock washer, regular nut
1" John Deere shank without seed boot	1/2" X 1-3/4"	1/2" X 2"	Plow bolts, no lock washer, regular nut
3/4" Degelman shank (50°) without seed boot	1/2" X 1-3/4"	1/2" X 1-3/4"	Plow bolts, no lock washer, regular nut
1-1/4" Flexi-Coil shank without seed boot	1/2" X 2-1/4"	1/2" X 2-1/4"	Plow bolts, no lock washer, regular nut
1" Morris shank (43°) without seed boot	1/2" X 2"	1/2" X 2"	Plow bolts, no lock washer, regular nut
7/8" Shulte shank without seed boot	1/2" X 2"	1/2" X 2"	Plow bolts, no lock washer, regular nut
1-1/4" CIL shank without seed boot	1/2" X 2-1/4"	1/2" X 2-1/4"	Plow bolts, no lock washer, regular nut
1-1/4" IH shank without seed boot	1/2" X 2-1/4"	1/2" X 2-1/4"	Plow bolts, no lock washer, regular nut
3/4" Case IH Vibra shank without seed boot	1/2" x 1-3/4"	1/2" x 1-3/4"	Plow bolts, no lock washer, regular nut

NOTES: 1) All Bourgault sweeps come with 1/2" holes. Shanks with 3/8" and 7/16" holes require special oversize (O/S) head plow bolts. 2) When bolting a seed boot, usually it is the bottom bolt which bolts the seed boot to the shank; the top bolt should remain the same length as listed above. If the seed boot cross section at the point the bolt goes through is 1/8" thick or less, use the same bolt length as above without the lock washer. If the seed boot cross section at the point the bolt goes through is greater than 1/8", increase bolt length by adding the measured cross section of the seed boot at the point the bolt goes through to the above lengths.

200 Series QC Adapter – 200-QCA-4700

APPLICATION	TOP BOLT	BOTTOM BOLT	SPECIAL NOTES
1" Bourgault shank without seed boot	1/2" x 2-1/4" no lock washer	1/2" x 2-1/4" no lock washer	Hex-head bolts
1" Bourgault shank with round tube Bourgault seed boot	1/2" x 2" no lock washer	1/2" x 2-1/4" no lock washer	Hex-head bolts, grade 8 required
1" Bourgault shank with square tube Bourgault seed boot	1/2" x 2-1/2" no lock washer	1/2" x 2" no lock washer	Hex-head bolts, grade 8 required
7/8" Bourgault shank without seed boot	1/2" x 2" no lock washer	1/2" x 2" no lock washer	Hex-head bolts
7/8" Bourgault shank with round tube Bourgault seed boot	1/2" x 2" no lock washer	1/2" x 2-1/4" no lock washer	Hex-head bolts, grade 8 required
7/8" Bourgault shank with square tube Bourgault seed boot	1/2" x 2" no lock washer	1/2" x 2-1/4" no lock washer	Hex-head bolts, grade 8 required
3/4" Bourgault shank without seed boot	1/2" x 2" no lock washer	1/2" x 2" no lock washer	Hex-head bolts
3/4" Bourgault shank with round tube Bourgault seed boot	1/2" x 1-3/4" no lock washer	1/2" x 2" c/w with lock washer	Hex-head bolts
3/4" Bourgault shank with square tube Bourgault seed boot	1/2" x 1-3/4" no lock washer	1/2" x 2-1/4" with lock washer	Hex-head bolts
3/4" Ezee-On shank without seed boot	7/16" x 1-3/4"	7/16" x 1-3/4"	Hex-head bolts (see note 3 below)
7/8" Ezee-On shank without seed boot	7/16" x 2"	7/16" x 2"	Hex-head bolts (see note 3 below)

NOTES: 1) Above bolt lengths are determined using prevailing torque side locknuts – grade C. This special locknut is necessary to keep the adapter tight. It is very important to use it, especially in stony or hard ground conditions. 2) Grade 8 bolts are required with the Bourgault 7/8" and 1" shanks where seed boots are involved. If not used, bolt loosening may occur. 3) Shanks with 7/16" holes require the special oversize head hex bolt.

200 Series QC Adapter – 200-QCA-4710

APPLICATION	TOP BOLT	BOTTOM BOLT	SPECIAL NOTES
3/4" and 7/8" Flexi-Coil shank without seed boot	7/16" x 2-1/4" no lock washer	7/16" x 2-1/4" no lock washer	Plow bolt (see note 2 below)
7/8" Flexi-Coil shank with 5649 seed boot	7/16" x 2-1/2" no lock washer	7/16" x 3-7/8" no lock washer	Plow bolt (see note 2 below)
1/2" Morris Challenger shank without seed boot	3/8" x 1-3/4" no lock washer	3/8" x 1-3/4" no lock washer	Plow bolt (see note 2 below)
5/8" Morris Challenger shank without seed boot	3/8" x 2" no lock washer	3/8" x 2" no lock washer	Plow bolt (see note 2 below)
7/8" Morris shank without seed boot	7/16" x 2-1/4" no lock washer	7/16" x 2-1/4" no lock washer	Plow bolt (see note 2 below)
9/16" CIL shank without seed boot	3/8" x 2" no lock washer	3/8" x 2" no lock washer	Plow bolt (see note 2 below)
5/8" John Deere shank without seed boot	7/16" x 2" no lock washer	7/16" x 2" no lock washer	Plow bolt (see note 2 below)
3/4" Degelman shank	7/16" x 2-1/4" no lock washer	7/16" x 2-1/4" no lock washer	Plow bolt (see note 2 below)
9/16" Wil-rich shank without seed boot	1/2" x 2" no lock washer	1/2" x 2" no lock washer	Plow bolt

200 Series QC Adapter – 200-QCA-5010

APPLICATION	TOP BOLT	BOTTOM BOLT	SPECIAL NOTES
1" shank without seed boot or wedge	1/2" x 2-1/2" with lock washer	1/2" x 2-1/2" with lock washer	Plow bolt
1-1/4" shank without seed boot seed boot or wedge	1/2" x 2-3/4" with lock washer	1/2" x 2-3/4" with lock washer	Plow bolt

NOTES: 1) Above bolt lengths are determined using prevailing torque side locknuts – grade C. This special locknut is necessary to keep the adapter tight. 2) Shanks with 3/8" and 7/16" holes require special oversize head plow bolts. 3) When bolting a seed boot, usually it is the bottom bolt which bolts the seed boot to the shank; the top bolt should remain the same length as listed above. If the seed boot cross section at the point the bolt goes through is 1/8" thick or less, use the same bolt length as above without the lock washer. If the seed boot cross section at the point the bolt goes through is greater than 1/8", increase bolt length by adding the measured cross section of the seed boot at the point the bolt goes through to the above lengths.

BOLT LENGTH CHARTS

410 Series QC Adapter – 410-QCA-5000

APPLICATION	TOP HOLE	BOTTOM HOLE	SPECIAL NOTES
1" Bourgault shank without seed boot	1/2" x 2-1/2"	1/2" x 2-1/2"	Hex-head
1" Bourgault shank with Bourgault splitter seed boot 6505-42	1/2" x 2-1/2"	1/2" x 2-3/4"	Hex-head
1-1/4" Bourgault shank without seed boot	1/2" x 2-3/4"	1/2" x 2-3/4"	Hex-head
1-1/4" Bourgault shank with Bourgault splitter seed boot 6505-42	1/2" x 2-3/4"	1/2" x 3"	Hex-head

410 Series QC Adapter – 410-QCA-5010

APPLICATION	TOP HOLE	BOTTOM HOLE	SPECIAL NOTES
1" shank without seed boot or wedge	1/2" x 2-1/2"	1/2" x 2-1/2"	Hex-head
1-1/4" shank without seed boot or wedge	1/2" x 2-3/4"	1/2" x 2-3/4"	Hex-head

NOTES: 1) Above bolt lengths are determined using prevailing torque side locknuts – grade C. This special locknut is necessary to keep the adapter tight. 2) When bolting a seed boot, usually it is the bottom bolt which bolts the seed boot to the shank; the top bolt should remain the same length as listed above. If the seed boot cross section at the point the bolt goes through is 1/8" thick or less, use the same bolt length as above without the lockwasher. If the seed boot cross section at the point the bolt goes through is greater than 1/8", increase bolt length by adding the measured cross section of the seed boot at the point the bolt goes through to the above lengths. 3) When bolting an adapter using a wedge, a wedge will only be used when using the 410-QCA-5010 adapter on 43° and 47° chisel plows. Measure the cross section of the wedge at both bolt holes and add this amount to the above numbers. Remember that the measured cross section will be different at each hole in the wedge.

600 Series Quick Tip Knives

APPLICATION	TOP HOLE	BOTTOM HOLE	SPECIAL NOTES
For 47° and 50° applications, no wedge is needed			
1-1/4" Bourgault shank	1/2" x 2-3/4"	1/2" x 2-3/4"	Hex-head bolt, regular nut and lock
1" Bourgault shank	1/2" x 2-1/2"	1/2" x 2-1/2"	Hex-head bolt, regular nut and lock
7/8" Bourgault shank	1/2" x 2-1/2"	1/2" x 2-1/2"	Hex-head bolt, regular nut and lock
3/4" Bourgault shank	1/2" x 2-1/4"	1/2" x 2-1/4"	Hex-head bolt, regular nut and lock
1-1/4" Flexi-Coil shank	1/2" x 2-3/4"	1/2" x 2-3/4"	Hex-head bolt, regular nut and lock
1-1/4" Morris shank	1/2" x 2-3/4"	1/2" x 2-3/4"	Hex-head bolt, regular nut and lock (see note 1 below)
1" John Deere shank	1/2" x 2-1/2"	1/2" x 2-1/2"	Hex-head bolt, regular nut and lock
7/8" Shulte shank	1/2" x 2-1/2"	1/2" x 2-1/2"	Hex-head bolt, regular nut and lock
3/4" Degelman shank	1/2" x 2-1/4"	1/2" x 2-1/4"	Hex-head bolt, regular nut and lock
For 43° applications, wedge 400-WDG-0700 is required			
1" Morris shank for NH ₃ knives	1/2" x 3" no lock washer	1/2" x 2-3/4" no lock washer	Hex-head, regular nut
1" Morris shank for granular knives	1/2" x 3" no lock washer	1/2" x 2-3/4" no lock washer	Hex-head, regular nut
1-1/4" CIL shank, 2-1/2" hole center-to-center	1/2" x 3-1/4" c/w no lock washer	1/2" x 2-3/4" no lock washer	Hex-head, regular nut
1-1/4" IH shank	1/2" x 3-1/4"	1/2" x 3"	Hex-head bolt, regular nut and lock (see note 2 below)
3/4" Case IH vibra chisel shank	1/2" x 2-3/4"	1/2" x 2-1/2"	Hex-head bolt, regular nut and lock

NOTES: 1) Some material may have to be ground off the bottom of the 1-1/4" Morris shank (front face) to get the knife holder to seat down tight against the shank. 2) The 1-1/4" IH shank will fit the NH₃ knives, but not the granular knife. 3) All knives come with holes to accommodate 1/2" bolts. If cultivator shanks have 7/16" holes, substitute 7/16" bolts for 1/2" and use a flat washer on the bolt head.

FASTENER CHARTS

Bolt and Nut Part Numbers

DESCRIPTION	SIZE	PART NUMBER
Lock Washer	1/2"	902-LWS-5000
Nut – Grade 5	3/8"	904-NRG-3754
Nut – Grade 5	7/16"	904-NRG-4374
Nut – Grade 5	1/2"	904-NRG-5004
Lock Nut – Stover	1/4"	906-NPT-2505
Lock Nut – Stover	3/8"	906-NPT-3755
Lock Nut – Stover	7/16"	906-NPT-4375
Lock Nut – Stover	1/2"	906-NPT-5005
Lock Nut – Nylon Insert	1/4"	908-NNI-2504
Screw – Pan Head	3/8"	911-SCR-1038
Screw – Self Drill	1/2"	911-SCR-1051
Plow Bolt – O/S Hd Low Shld	3/8" x 1-1/2"	922-POL-1504
Plow Bolt – O/S Hd Low Shld	3/8" x 1-3/4"	922-POL-1754
Plow Bolt – O/S Hd Low Shld	3/8" x 2"	922-POL-2004
Plow Bolt – O/S Hd	3/8" x 2-1/4"	922-POR-2254
Plow Bolt – O/S Hd Low Shld	7/16" x 1-3/4"	924-POL-1754
Plow Bolt – O/S Hd	7/16" x 2"	924-POR-2004
Plow Bolt – O/S Hd	7/16" x 2-1/4"	924-POR-2254
Plow Bolt – O/S Hd	7/16" x 2-1/2"	924-POR-2504
Plow Bolt – O/S Hd	7/16" x 2-3/4"	924-POR-2754
Plow Bolt – O/S Hd	7/16" x 3"	924-POR-3004
Plow Bolt – O/S Hd	7/16" x 3-7/8"	924-POR-3874
Plow Bolt	1/2" x 1-3/4"	926-PRG-1754
Plow Bolt	1/2" x 2"	926-PRG-2004

DESCRIPTION	SIZE	PART NUMBER
Plow Bolt	1/2" x 2-1/4"	926-PRG-2254
Plow Bolt	1/2" x 2-1/2"	926-PRG-2504
Plow Bolt	1/2" x 2-3/4"	926-PRG-2754
Plow Bolt	1/2" x 3"	926-PRG-3004
Plow Bolt	1/2" x 3-1/2"	926-PRG-3504
Hex Bolt – O/S Hd Shld Blt	7/16" x 1-3/4"	933-HOS-1754
Hex Bolt – O/S Hd Shld Blt	7/16" x 2"	933-HOS-2004
Hex Bolt	1/4" x 3/4"	942-HRG-0754
Hex Bolt	1/4" x 2"	942-HRG-2004
Hex Bolt	1/2" x 1-3/4"	946-HRG-1754
Hex Bolt – Grade 8	1/2" x 2"	946-HRG-2005
Hex Bolt – Grade 8	1/2" x 2-1/4"	946-HRG-2255
Hex Bolt – Grade 8	1/2" x 2-1/2"	946-HRG-2505
Hex Bolt	1/2" x 2-3/4"	946-HRG-2754
Hex Bolt	1/2" x 3"	946-HRG-3004
Hex Bolt	1/2" x 3-1/4"	946-HRG-3524
Hex Bolt	1/2" x 3-1/2"	946-HRG-3504
Carriage Bolt – Grade 8	3/8" x 2-1/4"	960-CRG-3755
Carriage Bolt – Grade 8	1/2" x 2"	961-CRG-2005
Carriage Bolt – Grade 8	1/2" x 2-1/4"	961-CRG-2255
Carriage Bolt – Grade 8	1/2" x 2-1/2"	961-CRG-2505

Legend: O/S Hd = Oversized Head; Low Shld = Low Shoulder; Shld Blt = Shoulder Bolt

Common Torque Values

This chart lists some of the more common bolt sizes and their calculated torque values. To ensure proper installation and the integrity of the bolts, it is recommended that you follow these values. We have highlighted some of the more common sizes that our products will use.

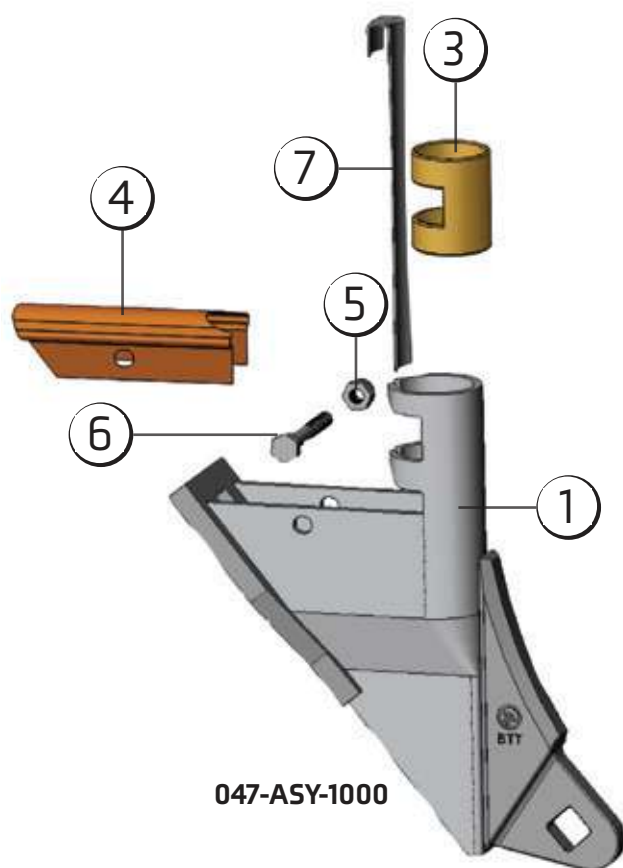
USS/SAE Grade 8

BOLT DIAMETER	WRENCH SIZE	TORQUE DRY FT. LBS.	LUBRICATED FT. LBS.
1/4"	7/16"	12	9
5/16"	1/2"	24	18
3/8"	9/16"	45	35
7/16"	5/8"	70	50
1/2"	3/4"	110	80
9/16"	13/16"	150	110
5/8"	15/16"	210	160
3/4"	1-1/8"	380	280
7/8"	1-5/16"	600	450
1"	1-1/2"	910	680

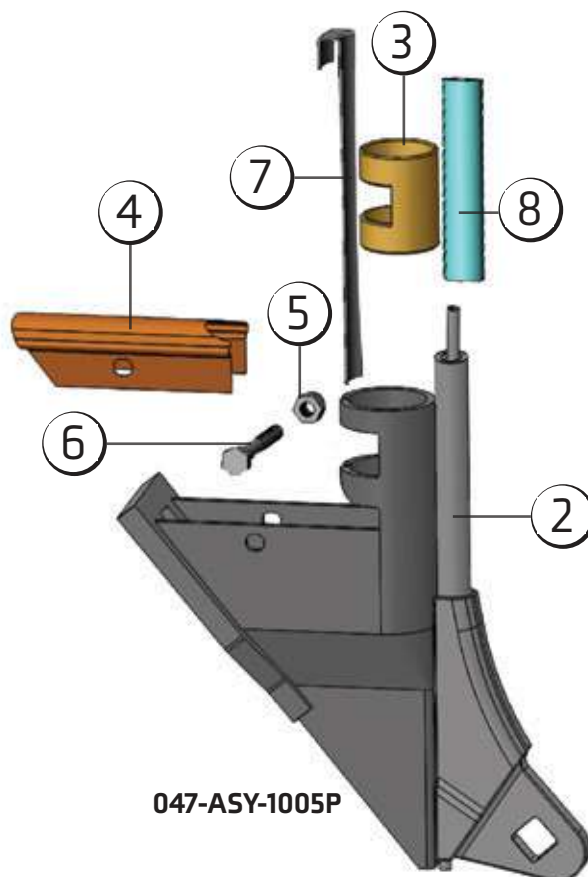
All highlighted values are common bolt sizes used for BTT products.

047-ASY-1000 & 047-ASY-1005P

SINGLE SHOOT PAGE 24



047-ASY-1000



047-ASY-1005P

PART#		047-ASY-1000	047-ASY-1005P
1	047-HLD-1000	■	
2	047-HLD-1005P		■
3	880-BSH-1130	■	■
4	047-CAP-1000	■	■
5	908-NNI-2504	■	■
6	942-HRG-2004	■	■
7	047-ACC-1001*	■	■
8	680-HOS-1000**		■

NOTES :

* Use focus strip 047-ACC-1001 for more concentrated seed placement.

** 680-HOS-1000 is a 6" x 1/2" O.D. NH3 hose.

Curved 50° shanks require either the 880-WDG-0300 or 880-WDG-0301.

Sold separately. See page 106 for more details.

TIP OPTIONS : 200-TIP-0511, 200-TIP-0800, 200-TIP-0801, 200-TIP-0802, 200-TIP-0803, 200-TIP-0811, 200-TIP-1011, 200-TIP-2011, 200-TIP-3000, 200-TIP-3001, 200-TIP-3011, 200-TIP-4011 **Tips sold separately.**

See page 14-15 for more information.

880-ASY-1010

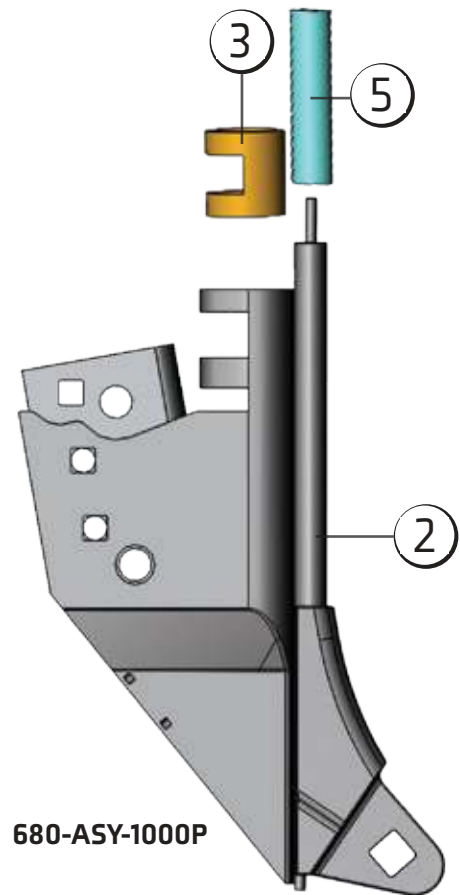
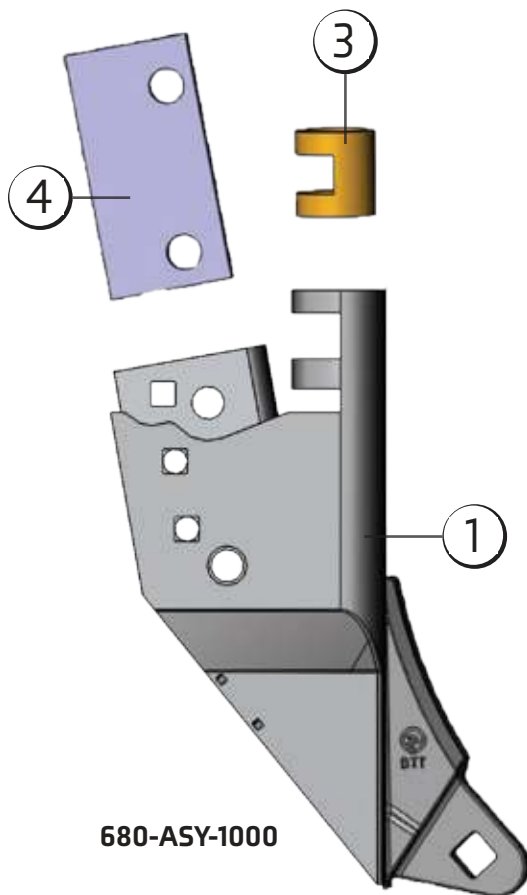
NOTE : This assembly is required to convert the standard 3/16" O.D. liquid phosphorus tube to 1/4" I.D. Liquid Phosphorus delivery hoses.

Sold Separately.



680-ASY-1000 & 680-ASY-1000P

SINGLE SHOOT PAGES 30 & 46



880-ASY-1010

NOTE: This assembly is required to convert the standard 3/16" O.D. liquid phosphorus tube to 1/4" I.D. Liquid Phosphorus delivery hoses.

Sold Separately.












NOTES:

* 680-ACC-0001 is only required when installing on Concord. **Not included in Assembly.** See page 107 for more information.

** 680-HOS-1000 is a 6" x 1/2" O.D. NH3 hose.

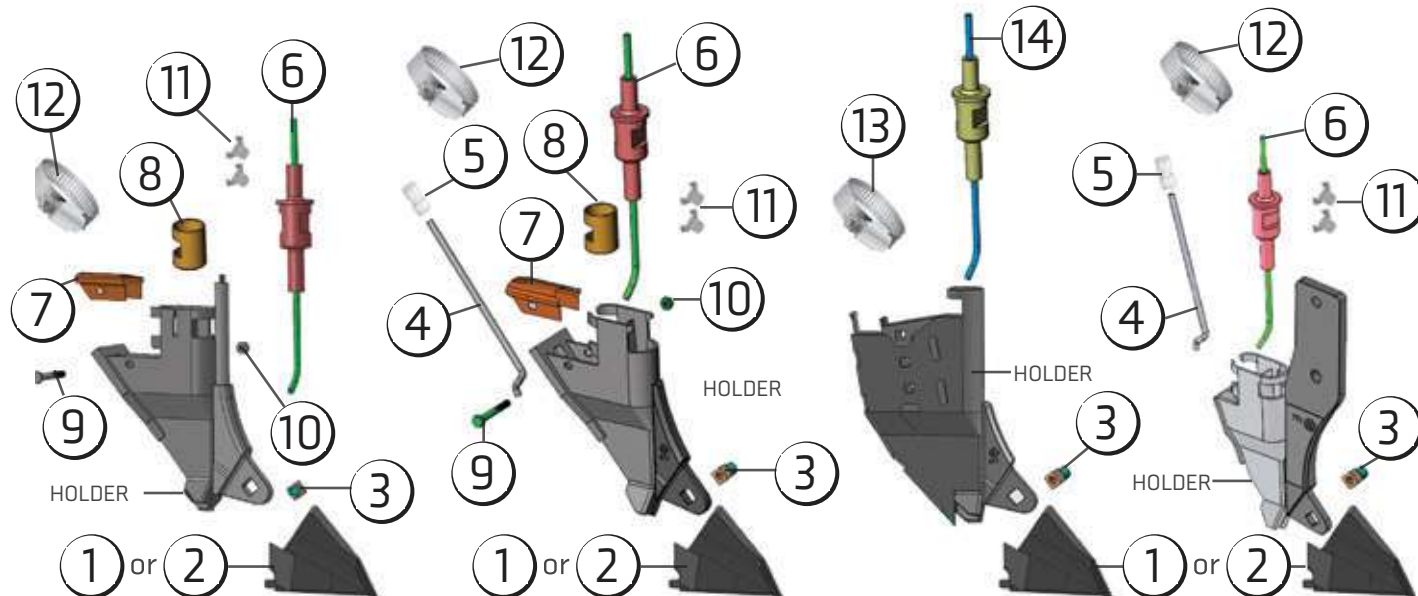
TIP OPTIONS : 200-TIP-0511, 200-TIP-0800, 200-TIP-0801, 200-TIP-0802, 200-TIP-0803, 200-TIP-0811, 200-TIP-1011, 200-TIP-2011, 200-TIP-3000, 200-TIP-3001, 200-TIP-3011, 200-TIP-4011 **Tips sold separately.**

See page 14-15 for more information.

			
		680-ASY-1000	680-ASY-1000P
PART#			
1	680-HLD-1000		
2	680-HLD-1000P		
3	880-BSH-1130		
4	680-ACC-0001*		
5	680-HOS-1000**		

612-TIP-0711 & 612-TIP-0712 ASSEMBLIES

SIDE BAND ASSEMBLIES ON THESE 2 PAGES INCLUDE THE TIP.



610-ASY-0711
610-ASY-0712 (SHOWN)

HOLDERS:
610-HLD-0711
610-HLD-0712 (SHOWN)

FITS C-SHANK

PAGE 26

612-ASY-0711 (LEFT)
612-ASY-0712 (RIGHT SHOWN)

HOLDERS:
612-HLD-0711
612-HLD-0712 (SHOWN)

FITS C-SHANK

PAGE 26

680-ASY-0711
680-ASY-0712 (SHOWN)

HOLDERS:
680-HLD-0711
680-HLD-0712 (SHOWN)

680-HLD-0711P (NOT SHOWN)
680-HLD-0712P (NOT SHOWN)

**FITS BOURGAULT PHD
& MORRIS MAXIM EDGE ON**

PAGE 31 & 47

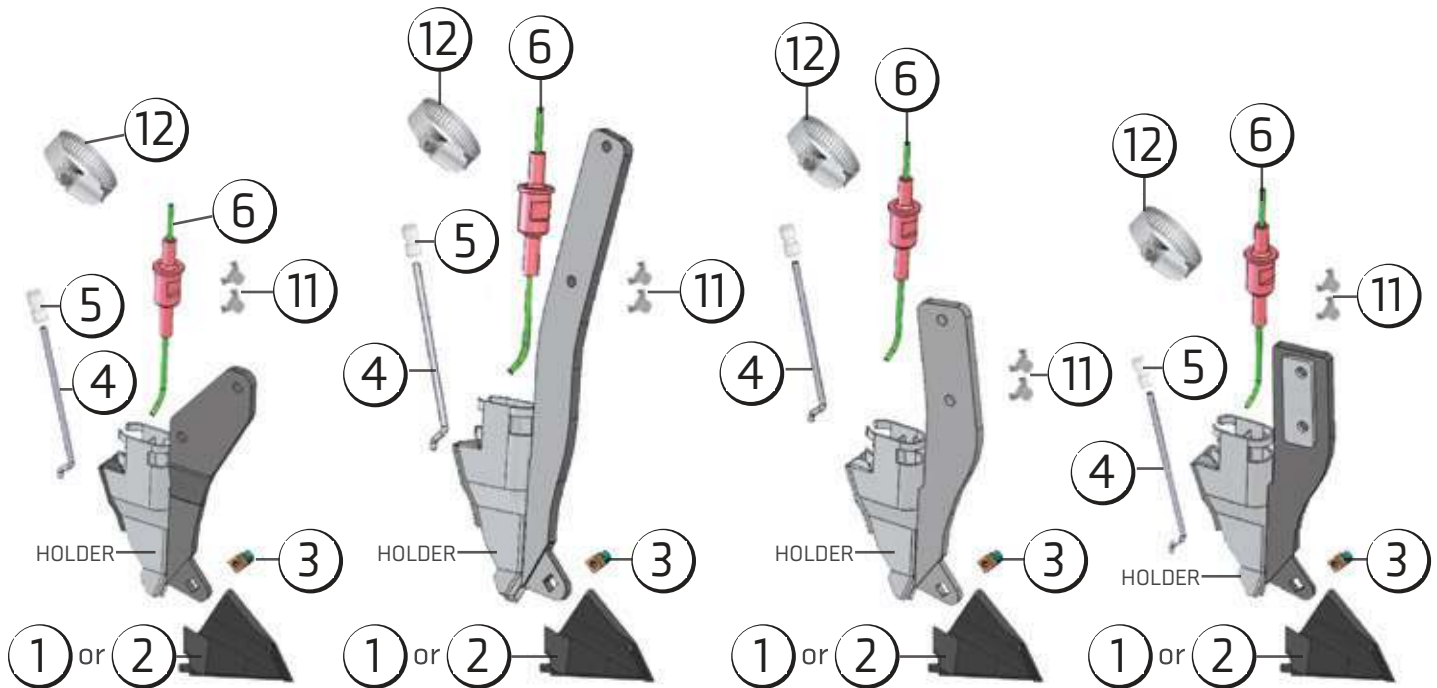
683-ASY-0711
683-ASY-0712 (SHOWN)

HOLDERS:
683-HLD-0711
683-HLD-0712 (SHOWN)

FITS MORRIS CONTOUR I

PAGE 47

PART#		<div><div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></div><div>L</div><div><div>G</div><div>P</div></</div></div></div>																											
-------	--	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



684-ASY-0711
684-ASY-0712 (SHOWN)

HOLDERS:
684-HLD-0711
684-HLD-0712 (SHOWN)

**FITS CASE IH 800, NH P2070,
FLEXI-COIL PD5700**

PAGE 38

686-ASY-0711
686-ASY-0712 (SHOWN)

HOLDERS:
686-HLD-0711
686-HLD-0712 (SHOWN)

FITS SEED HAWK INC.

PAGE 56

693-ASY-0711
693-ASY-0712 (SHOWN)

HOLDERS:
693-HLD-0711
693-HLD-0712 (SHOWN)

FITS MORRIS CONTOUR II

PAGE 47

694-ASY-0711
694-ASY-0712 (SHOWN)

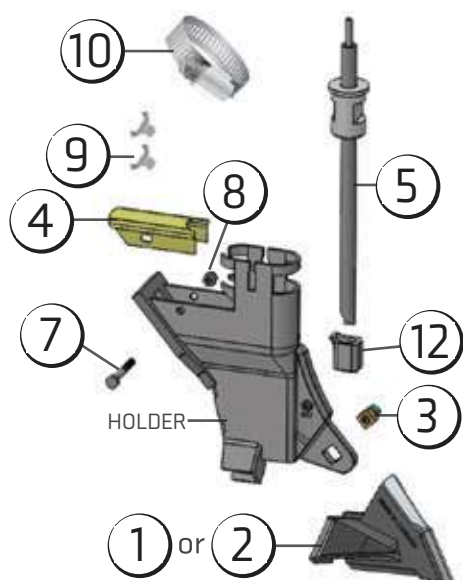
HOLDERS:
694-HLD-0711
694-HLD-0712 (SHOWN)

**FITS CASE IH ATX 700,
NH P2060, FLEXI-COIL 5500
& CONCORD** PAGE 38

PART#		<div><div><div><div>G</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>G</div><div>P</div></div><div><div>G</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>G</div><div>P</div></div><div><div>G</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>G</div><div>P</div></div><div><div>G</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>G</div><div>P</div></div><div><div>G</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>G</div><div>P</div></div><div><div>G</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>G</div><div>P</div></div><div><div>G</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>G</div><div>P</div></div><div><div>G</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>G</div><div>P</div></div><div><div>G</div><div>P</div></div><div><div>L</div><div>P</div></div><div><div>L</div><div>P</div></div></div></div>																																
		684-ASY-0711	684-ASY-071P	684-ASY-071L	612-ASY-071LP	684-ASY-0712	684-ASY-0712P	684-ASY-0712L	684-ASY-0712LP	686-ASY-0711	686-ASY-071P	686-ASY-071L	686-ASY-071LP	686-ASY-0712	686-ASY-0712P	686-ASY-0712L	686-ASY-0712LP	693-ASY-0711	693-ASY-071P	693-ASY-071L	693-ASY-071LP	693-ASY-0712	693-ASY-0712P	693-ASY-0712L	693-ASY-0712LP	694-ASY-0711	694-ASY-071P	694-ASY-071L	694-ASY-071LP	694-ASY-0712	694-ASY-0712P	694-ASY-0712L	694-ASY-0712LP	
1	612-TIP-0711	■	■	■	■				■	■	■	■					■	■	■	■					■	■	■	■						
2	612-TIP-0712 (SHOWN)					■	■	■					■	■	■	■					■						■	■	■	■			■	■
3	200-BNC-3100	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
4	047-TUB-2540		■		■			■				■		■		■			■			■		■			■				■		■	
5	880-CPL-2500		■		■			■						■		■					■										■			
6	612-TUB-6061			■	■			■			■	■			■	■				■	■			■	■									
11	880-HCL-0001	■	■			■	■		■	■			■	■			■	■			■	■				■	■				■	■		
12	880-HCL-1828	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

614-TIP-2711 & 614-TIP-2712 ASSEMBLIES

SIDE BAND ASSEMBLIES ON THESE 2 PAGES INCLUDE THE TIP.

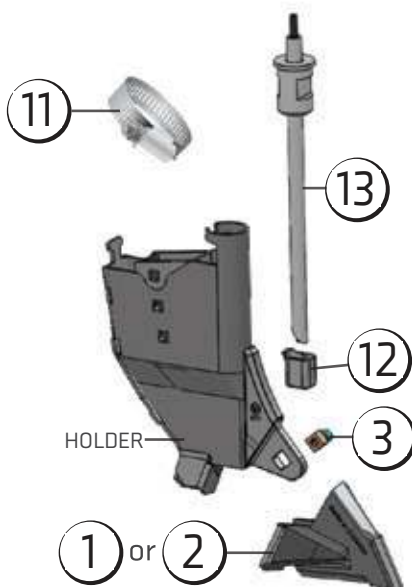


610-ASY-2711 (LEFT)
610-ASY-2712 (RIGHT SHOWN)

HOLDERS:
610-HLD-2711
610-HLD-2712 (SHOWN)

FITS C-SHANK

PAGE 27

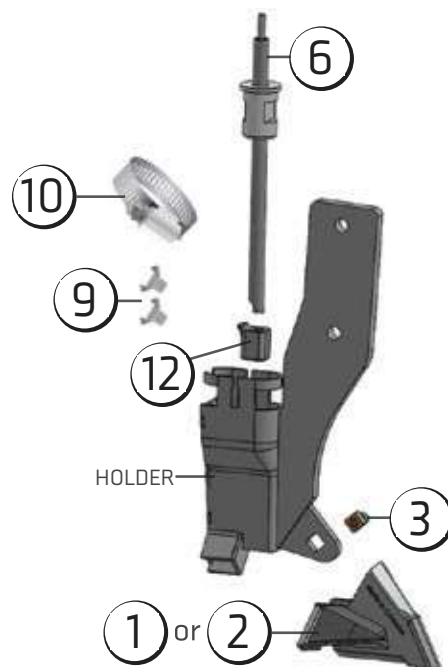


680-ASY-2711 (LEFT)
680-ASY-2712 (RIGHT SHOWN)

HOLDERS:
680-HLD-2711
680-HLD-2712 (SHOWN)

**FITS EDGE ON, BOURGALT PHD
& MORRIS MAXIM**

PAGE 32 & 48



683-ASY-2711 (LEFT)
683-ASY-2712 (RIGHT SHOWN)

HOLDERS:
683-HLD-2711
683-HLD-2712 (SHOWN)

FITS MORRIS CONTOUR I

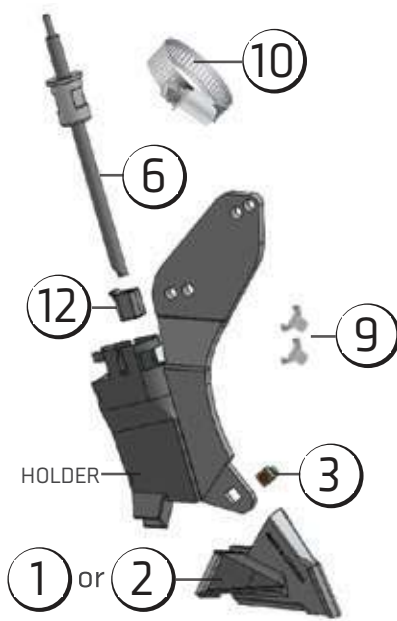
PAGE 48

PART#		G	G	L	L	G	G	L	L	G	G	L	L	G	G	L	L	G	G	L	L
		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1	614-TIP-2711																				
2	614-TIP-2712 (SHOWN)																				
3	200-BNC-3100																				
4	610-CAP-1080																				
5	880-TUB-2701																				
6	880-TUB-2711																				
7	942-HRG-2004																				
8	908-NNI-2504																				
9	880-HCL-0001																				
10	880-HCL-1828																				
11	880-HCL-8117																				
12	614-ACC-1000																				
13	680-TUB-2701																				

**ASSEMBLIES ON THIS PAGE
INCLUDE THE TIP.**

NOTES: Two 880-HCL-0001 are only included with the granular openers. They are intended to provide additional security to installed hoses.

When ordering Liquid Phosphorus Openers call the factory for tube sizes.

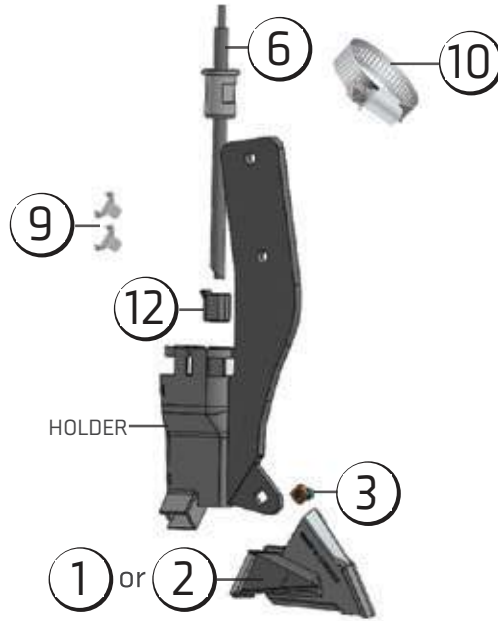


684-ASY-2711 (LEFT)
684-ASY-2712 (RIGHT SHOWN)

HOLDERS:
684-HLD-2711
684-HLD-2712 (SHOWN)

**FITS CASE IH 800, NH P2070,
FLEXI-COIL PD5700** PAGE 39

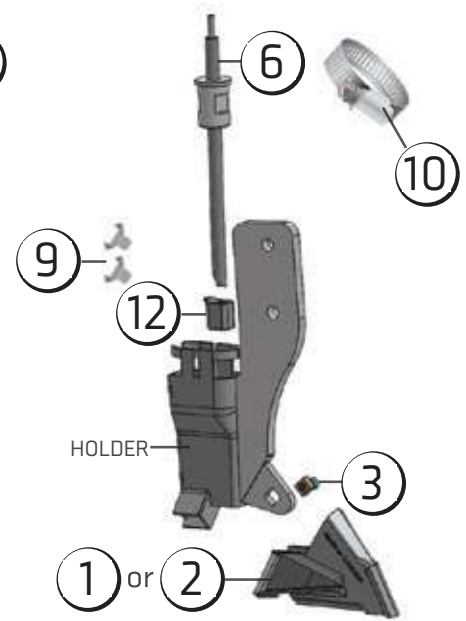
**WHEN INSTALLING OPENERS ON CASE IH
800, NEW HOLLAND P2070 &
FLEXI-COIL PD5070 YOU HAVE 2 OPTIONS**



693-ASY-2711 (LEFT)
693-ASY-2712 (RIGHT SHOWN)

HOLDERS:
693-HLD-2711
693-HLD-2712 (SHOWN)

FITS MORRIS CONTOUR II
PAGE 48



694-ASY-2711 (LEFT)
694-ASY-2712 (RIGHT SHOWN)

HOLDERS:
694-HLD-2711
694-HLD-2712 (SHOWN)

**FITS CASE IH ATX 700,
NH P2060, FLEXI-COIL 5500
& CONCORD**
PAGE 39



PART#		684-ASY-2711G	684-ASY-2711GP	684-ASY-2711L	684-ASY-2711LP	684-ASY-2712G	684-ASY-2712GP	684-ASY-2712L	684-ASY-2712LP	693-ASY-2711G	693-ASY-2711GP	693-ASY-2711L	693-ASY-2711LP	693-ASY-2712G	693-ASY-2712GP	693-ASY-2712L	693-ASY-2712LP	694-ASY-2711G	694-ASY-2711GP	694-ASY-2711L	694-ASY-2711LP	694-ASY-2712G	694-ASY-2712GP	694-ASY-2712L	694-ASY-2712LP
1	614-TIP-2711																								
2	614-TIP-2712 (SHOWN)																								
3	200-BNC-3100																								
6	880-TUB-2711																								
9	880-HCL-0001																								
10	880-HCL-1828																								
12	614-ACC-1000																								

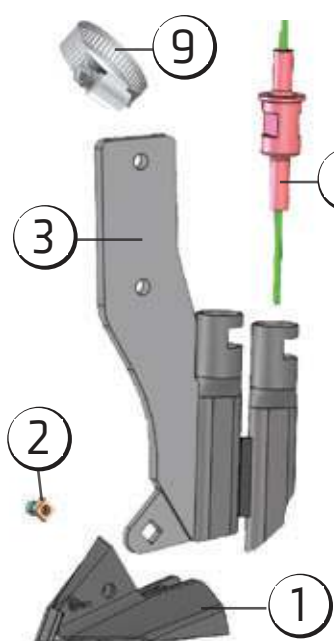
ASSEMBLIES ON THIS PAGE INCLUDE THE TIP.

NOTES: Two 880-HCL-0001 are only included with the granular openers. They are intended to provide additional security to installed hoses.

When ordering Liquid Phosphorus Openers call the factory for tube sizes.

610-TIP-4041 ASSEMBLIES

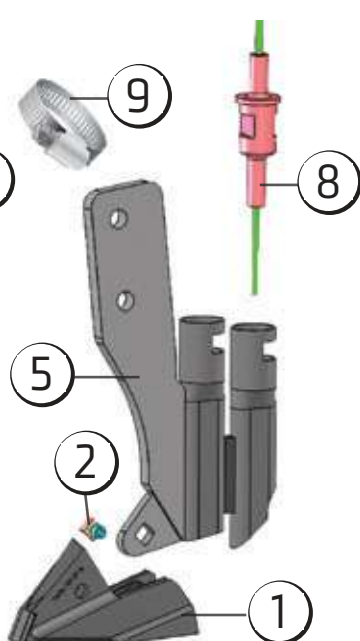
PAIRED ROW ASSEMBLIES ON THESE 2 PAGES INCLUDE THE TIP.



683-ASY-4020

FITS MORRIS CONTOUR I

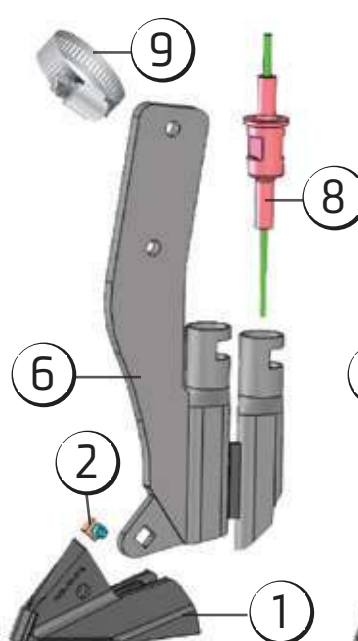
PAGE 50



688-ASY-4020

FITS HORSCH 84° SHANK

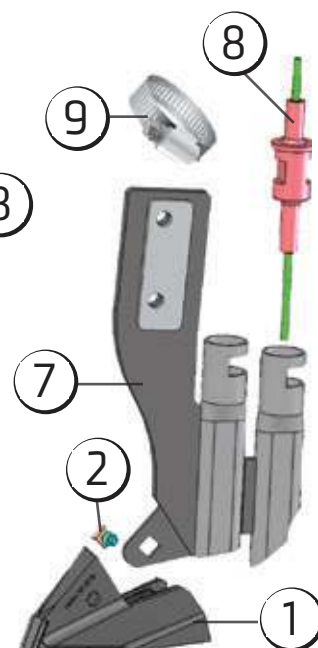
PAGE 43



693-ASY-4020

FITS MORRIS CONTOUR II

PAGE 50



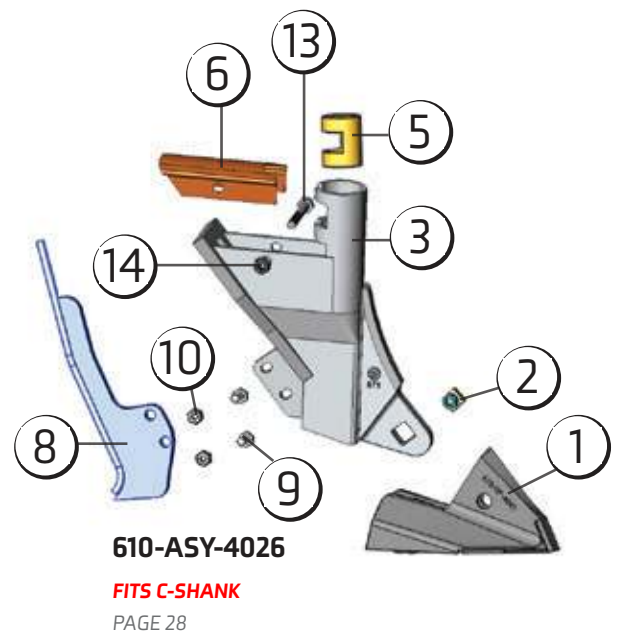
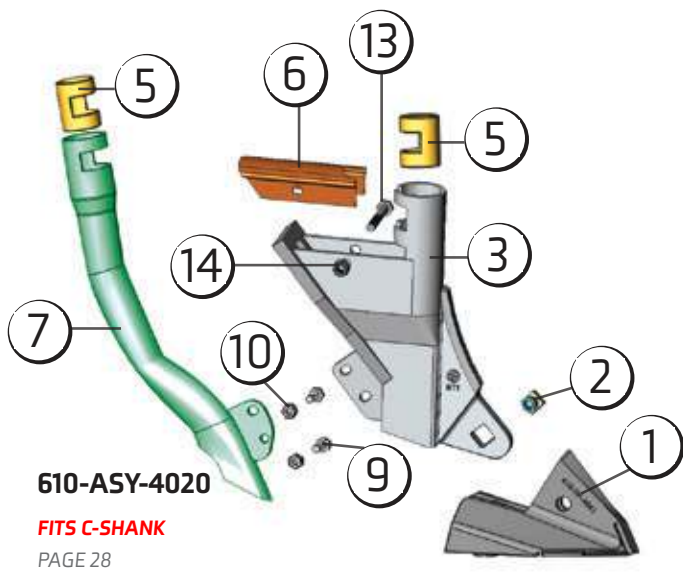
694-ASY-4020

**FITS CASE IH ATX 700, NH P2060,
FLEXI-COIL 5500 & CONCORD**

PAGE 40

		G	L	G	L	G	L	G	L
		683-ASY-4020	683-ASY-4020L	688-ASY-4020	688-ASY-4020L	693-ASY-4020	693-ASY-4020L	694-ASY-4020	694-ASY-4020L
1	610-TIP-4041	■	■	■	■	■	■	■	■
2	200-BNC-3100	■	■	■	■	■	■	■	■
3	683-HLD-2000	■	■						
4	684-HLD-2000								
5	688-HLD-2000			■	■				
6	693-HLD-2000					■	■		
7	694-HLD-2000							■	■
8	683-TUB-6061		■		■		■		■
9	880-HCL-8117		■		■		■		■

ASSEMBLIES ON THIS PAGE INCLUDE THE TIP.



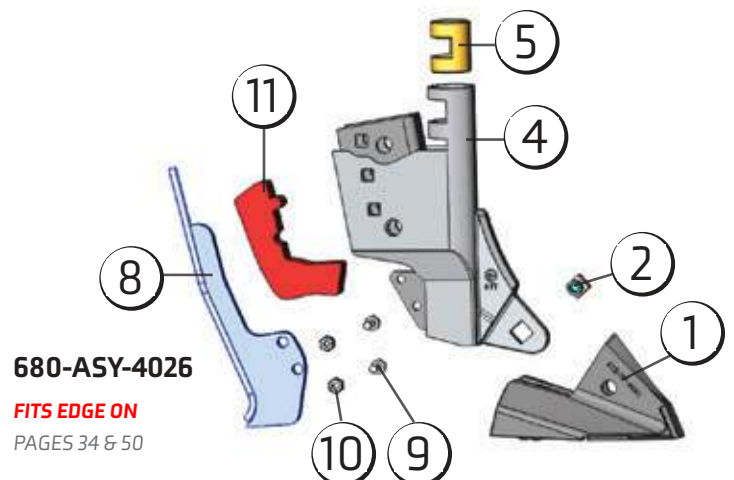
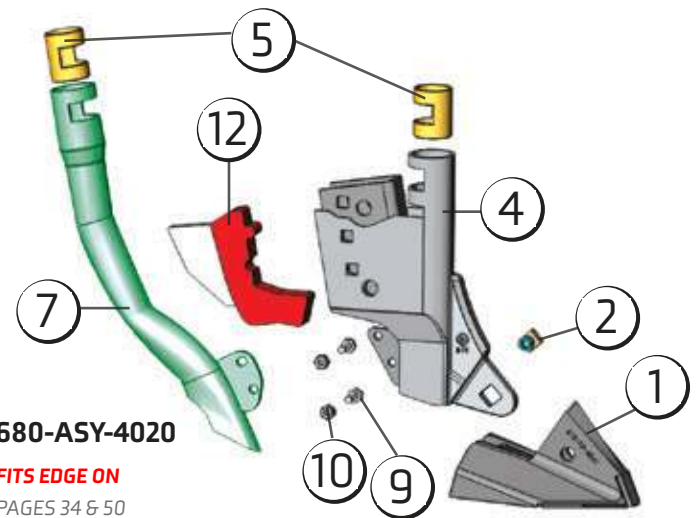
		G		L	
		610-ASY-4020	610-ASY-4026	680-ASY-4020	680-ASY-4026
PART#					
1	610-TIP-4041	■	■	■	■
2	200-BNC-3100	■	■	■	■
3	610-HLD-2000	■	■		
4	680-HLD-2000			■	■
5	880-BSH-1130	■	■	■	■
6	047-CAP-1000	■	■		
7	610-TUB-1001	■		■	
8	610-TUB-2526		■		■
9	942-HRG-0754	■	■	■	■
10	906-NPT-2505	■	■	■	■
11	680-ACC-0002*				■
12	680-ACC-0003**			■	
13	942-HRG-2004	■	■		
14	908-NNI-2504	■	■		

ASSEMBLIES ON THIS PAGE INCLUDE THE TIP.

* **680-ACC-0002** is a spacer plate required for Bourgault 3310 & 3320 only, **not included in assembly**.
 See page 108 for more information.

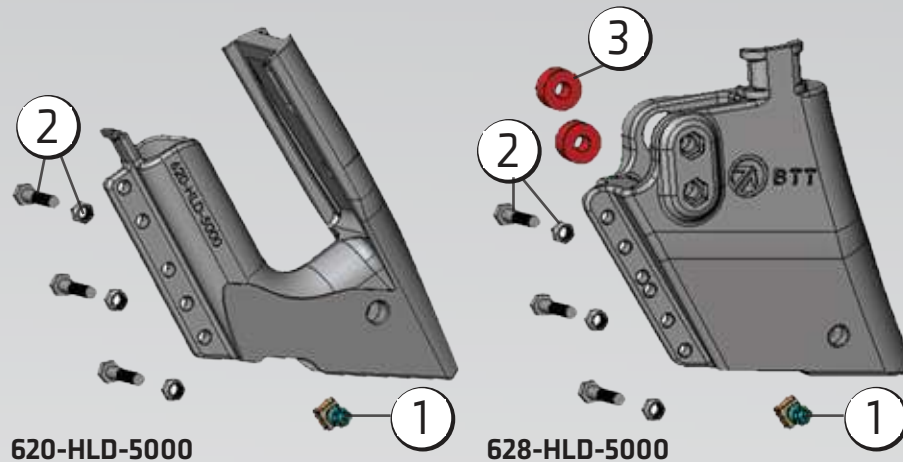
** **680-ACC-0003** is a spacer plate required for Bourgault 3310 & 3320 only, **not included in assembly**.
 See page 108 for more information.

680-ACC-0004 is a conversion tab to replace the fertilizer tube on the **680-HLD-2000** making it a single shoot opener. See page 107 for more details.



TITAN OPENER SYSTEM PAGES 57-59

HOLDERS:

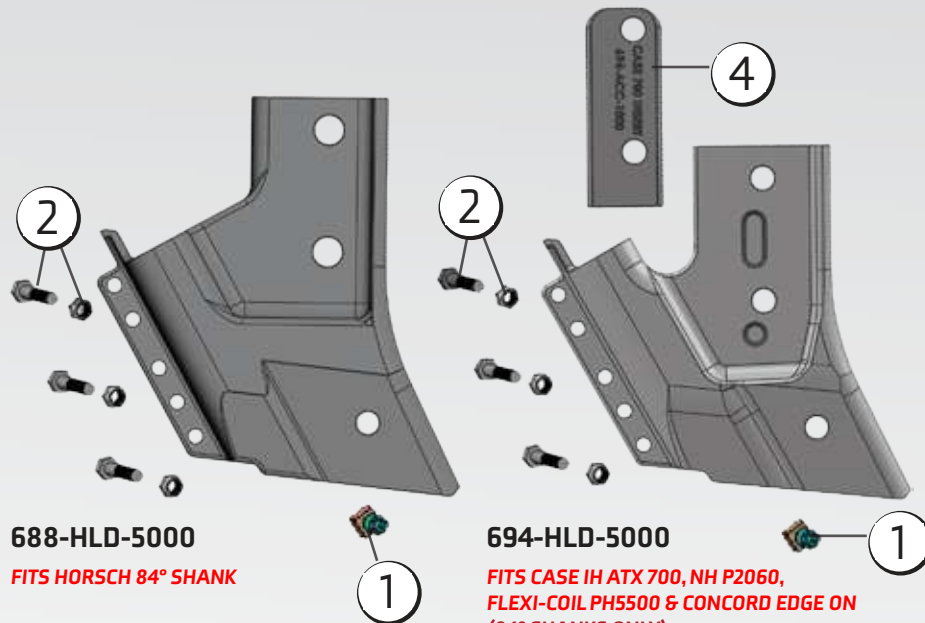


620-HLD-5000

FITS 47° AND 50 ° C-SHANK

628-HLD-5000

FITS MORRIS MAXIM EDGE ON & BOURGAULT PHD SHANKS



688-HLD-5000

FITS HORSCH 84° SHANK

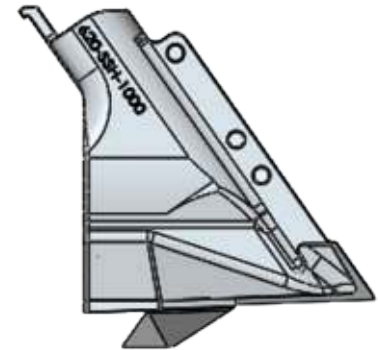
694-HLD-5000

FITS CASE IH ATX 700, NH P2060, FLEXI-COIL PH5500 & CONCORD EDGE ON (84° SHANKS ONLY)

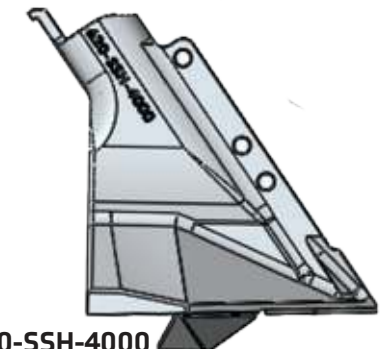
NOTES : 694-HLD-5000 requires 694-ACC-1000 when installed on any drill except the Concord.

		620-HLD-5000	628-HLD-5000	688-HLD-5000	694-HLD-5000
1	200-BNC-3100	■	■	■	■
2	620-BNC-3100	■	■	■	■
3	628-BSH-1000		■		
4	694-ACC-1000			■	

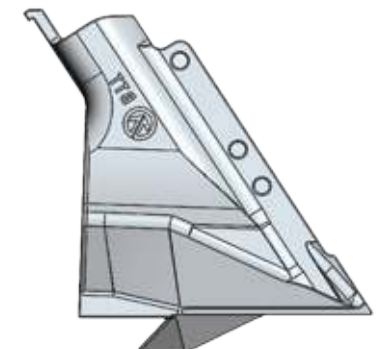
SEED SHOES/BOOT:



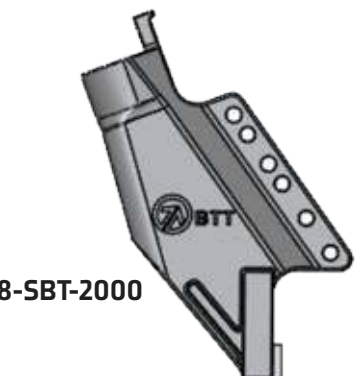
620-SSH-1000



620-SSH-4000



620-SSH-6000



628-SBT-2000

TIPS:



620-TIP-0510



620-TIP-0517



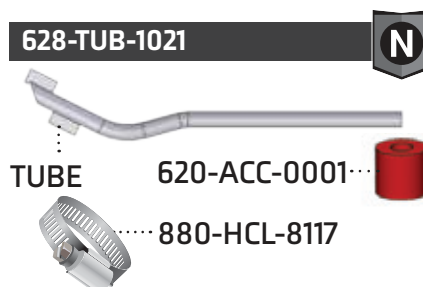
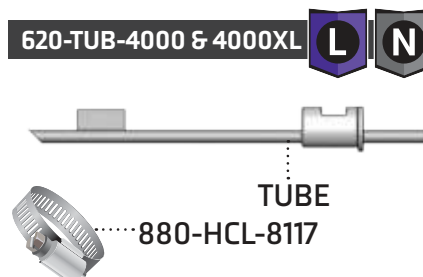
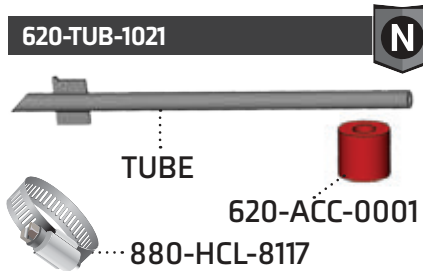
628-TIP-0510



628-TIP-0512

FERTILIZER TUBES:

* The tube assemblies pictured below include the tube and any accessories shown with them.



PREVIOUS PART # BREAKDOWN:

620-ASY-5010

620-HLD-5000
620-SSH-1000
620-TIP-0510

620-ASY-5015

620-HLD-5000
628-SBT-2000
620-TIP-0510

620-ASY-5020M*

620-HLD-5000
620-SSH-1000
620-TIP-0510
620-TUB-1021

620-ASY-5020N

620-HLD-5000
620-SSH-1000
620-TIP-0510
620-TUB-1021

620-ASY-5070

620-HLD-5000
620-SSH-1000
620-TIP-0510
620-TUB-1070

628-ASY-5010

628-HLD-5000
620-SSH-1000
628-TIP-0510

628-ASY-5015

628-HLD-5000
628-SBT-2000
628-TIP-0510

628-ASY-5020

628-HLD-5000
620-SSH-1000
628-TIP-0510
628-TUB-1021

620-ASY-5020M*

628-HLD-5000
620-SSH-1000
628-TIP-0510
628-TUB-1021

694-ASY-5070

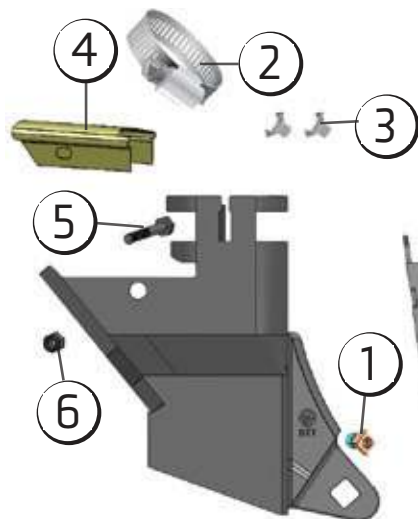
694-HLD-5000
620-SSH-1000
620-TIP-0510
620-TUB-1070

* For pressurized NH₃ Systems (including MaxQuip) you will be given the standard NH₃ tube and then must consult with your pressurized system dealer for tubing inserts.

VOS (VERSATILE OPENER SYSTEM)

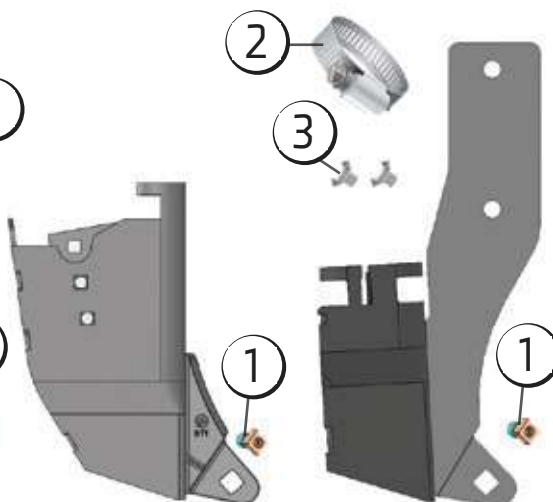
PAGES 60-61

HOLDERS:



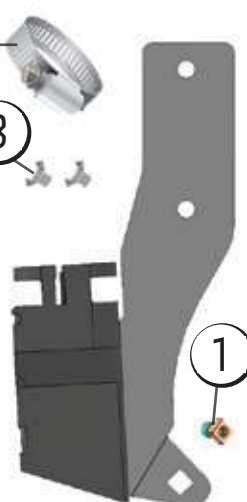
610-HLD-2080

FITS C-SHANK



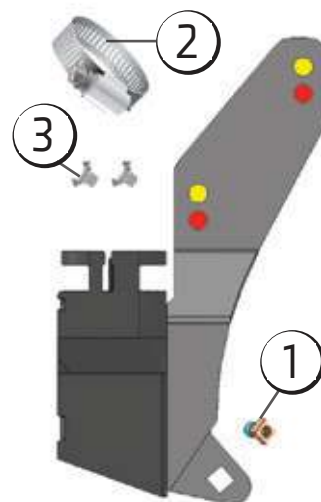
673-HLD-2080

**FITS EDGE ON,
BOURGALT PHD
& MORRIS MAXIM**



683-HLD-2080

FITS MORRIS CONTOUR I

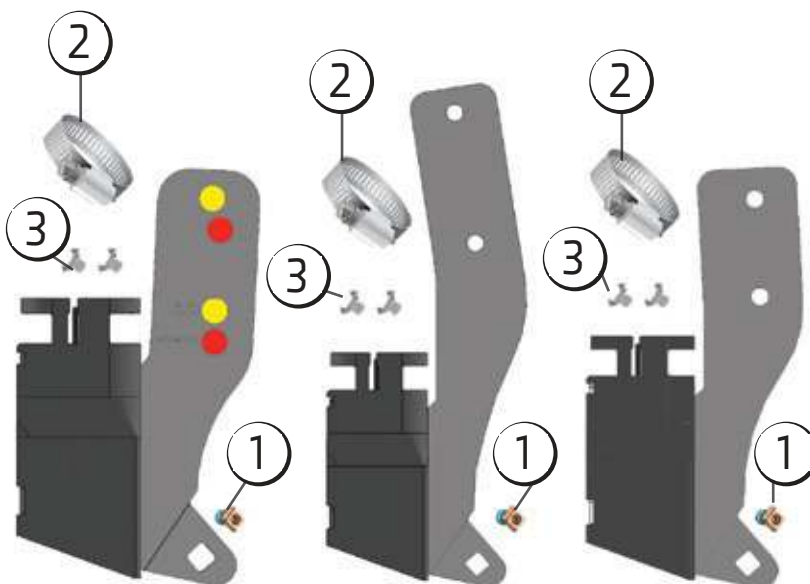


684-HLD-2080

**FITS CASE IH 800, NH P2070 &
FLEXI-COIL PD5070**

**WHEN INSTALLING OPENERS ON
CASE IH 800, NH P2070 &
FLEXI-COIL PD5070
YOU HAVE 2 OPTIONS SHOWN
ABOVE**

- Standard installation
- 1.5" more depth



688-HLD-2080

FITS HORSCH 84° SHANK
**WHEN INSTALLING OPENERS ON
HORSCH 84° SHANKS
YOU HAVE 2 OPTIONS SHOWN
ABOVE**

- Standard installation
- 3° more pitch

693-HLD-2080

FITS MORRIS CONTOUR II

694-HLD-2080

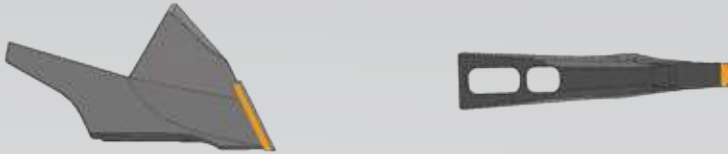
**FITS CASE IH ATX 700,
NEW HOLLAND P2060,
FLEXI-COIL 5500
& CONCORD**

PART#		610-HLD-2080	673-HLD-2080	683-HLD-2080	684-HLD-2080	688-HLD-2080	693-HLD-2080	694-HLD-2080
1	200-BNC-3100	■	■	■	■	■	■	■
2	880-HCL-1828	■	■	■	■	■	■	■
3	880-HCL-0001	■	■	■	■	■	■	■
4	610-CAP-1080	■						
5	942-HRG-2004	■						
6	908-NNI-2504	■						

TIPS:

610-TIP-0802

SINGLE SHOOT TIP



610-TIP-1711 (LEFT WING) 610-TIP-1712 (RIGHT WING)

SIDE BAND TIP



610-TIP-3500

PAIRED ROW TIP



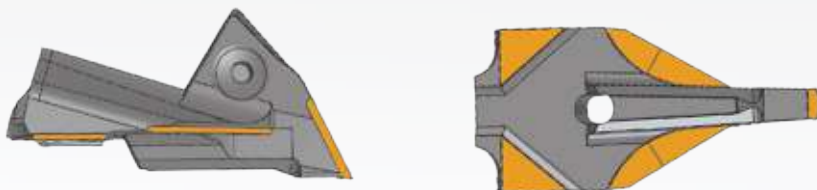
610-TIP-4030

PAIRED ROW TIP



610-TIP-4081

PAIRED ROW TIP



FERTILIZER TUBES:

880-TUB-1001 OR 880-TUB-1002



880-BSH-1000

880-TUB-1003 OR 880-TUB-1004



880-BSH-1000

880-TUB-1009 OR 880-TUB-1010



880-BSH-1000

880-TUB-1011 OR 880-TUB-1012



880-BSH-1003

NOTES:

- 880-TUB-1001, 1003, 1009 & 1011 are for everything other than C-Shank.
- 880-TUB-1002, 1004, 1010 & 1012 are for C-Shank openers, and are 1" longer.
- Pipes can be made for the 673-HLD-2080 on request. Call the factory for more details.

All tubes come with bushings as pictured above.

Proper Hose Clip Installation:



JOHN DEERE 1870 CONSERVA PAK*

FERTILIZER KNIVES PAGE 45



		G	L	N	G	G	N
		650-HLD-1000G	650-HLD-1000L	650-HLD-1000N	650-HLD-1000GL	650-HLD-1000GN	650-HLD-1000N
PART#							
1	650-HLD-1000	■	■	■			
2	650-HLD-1000GL				■		
3	650-HLD-1000GN					■	
4	650-HLD-1001						■
5	650-TUB-1002		■				
6	650-TUB-1003			■			
7	880-HCL-8117	■	■	■	■	■	■
8	650-ACC-1000*	■	■	■	■	■	■

NOTE: These openers are available with liquid phosphorus options, please call the factory for more details.

TIP OPTIONS : 200-TIP-0800
200-TIP-0801
200-TIP-0802
200-TIP-0803
200-TIP-0811

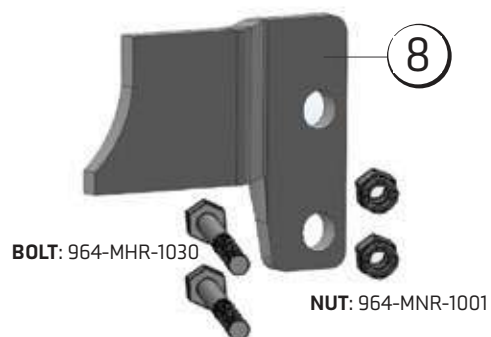
Tips sold separately.

See page 14-15 for more information.

*** NOTE:** The bracket **650-ACC-1000** (pictured below) limits the tripping distance of these fertilizer knives.

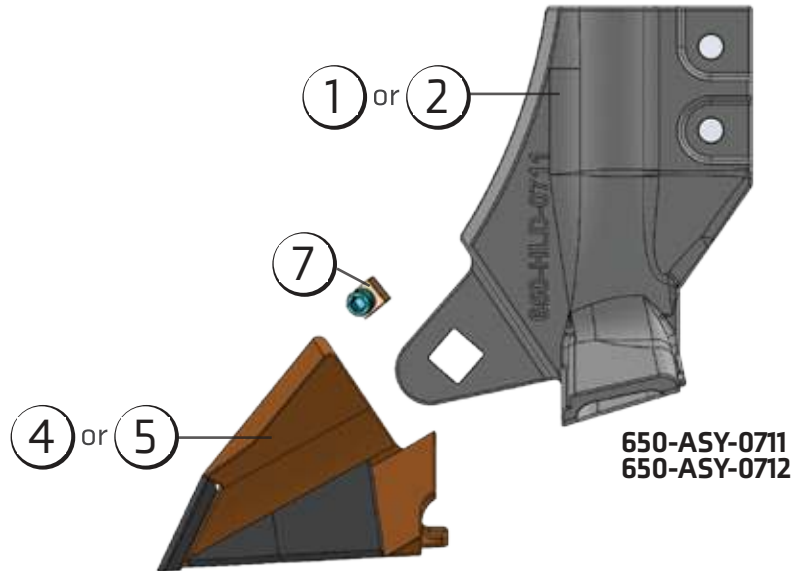
It is **not included in the assembly** and must be ordered separately. The metric bolts needed to install this bracket are included in the assembly.

To see this bracket installed properly see page 44.



JOHN DEERE 1870 CONSERVA PAK*

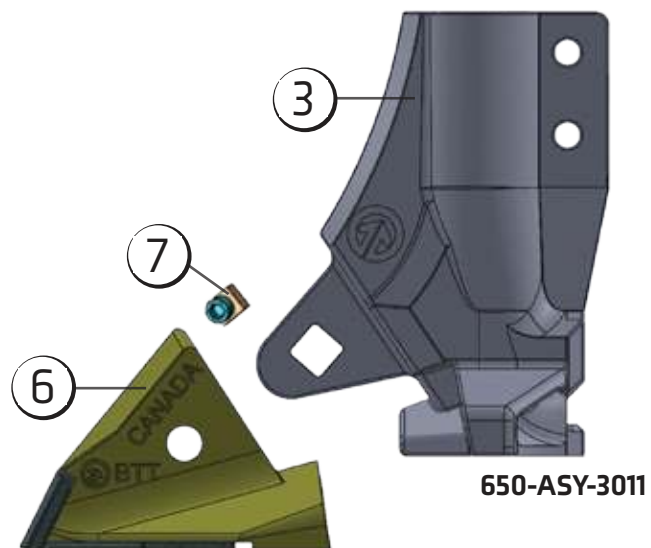
SINGLE SHOOT PAGE 44



PART#		650-ASY-0711	650-ASY-0712	650-ASY-3011
1	650-HLD-0711	■		
2	650-HLD-0712		■	
3	650-HLD-3000			■
4	612-TIP-0711	■		
5	612-TIP-0712		■	
6	200-TIP-3011			■
7	200-BNC-3100	■	■	■

**ASSEMBLIES ON THIS PAGE
INCLUDE THE TIP.**

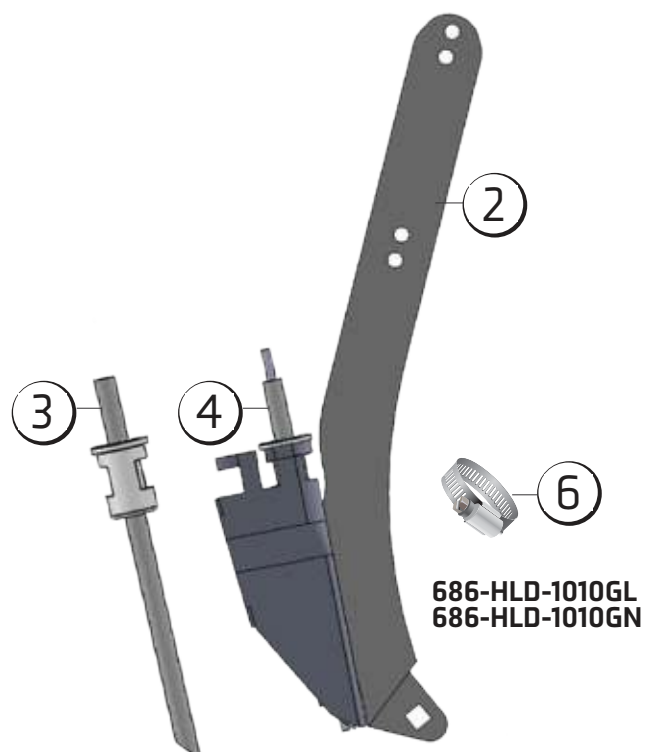
NOTE: These openers are available with liquid phosphorus options, please call the factory for more details.



*All product and company names are trademarks™ or registered® trademarks of their respective holders. Use of them does not imply any affiliation with or endorsement by them. John Deere and 1870 Conserva Pak are the registered trademarks of Deere & Company.

SEED HAWK INC.*

FERTILIZER KNIVES PAGE 55



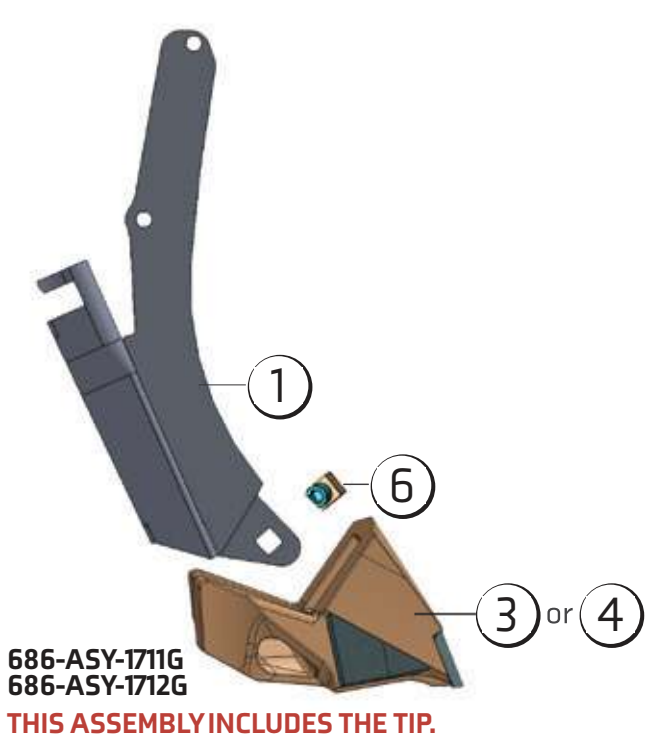
PART#	<div> <div>G</div> <div>L</div> <div>N</div> <div>G</div> <div>G</div> </div>				
	686-HLD-1020G	686-HLD-1020L	686-HLD-1020N	686-HLD-1010GL	686-HLD-1010GN
1	686-HLD-1020				
2	686-HLD-1010				
3	880-TUB-8375				
4	880-TUB-8375L				
5	880-HCL-8117				
6	880-HCL-1828				

TIP OPTIONS: 200-TIP-0511
200-TIP-0800
200-TIP-0801
200-TIP-0802
200-TIP-0803
200-TIP-0811

Tips sold separately.

See page 14-15 for more information.

SEED HAWK INC.*
SINGLE SHOOT PAGE 54



686-KNH-1001

- TIP OPTIONS : 200-TIP-0511
200-TIP-0800
200-TIP-0801
200-TIP-0802
200-TIP-0803
200-TIP-0811

Tips sold separately.
See page 14-15 for more information.



		G			
		686-ASY-1711G	686-ASY-1712G	686-ASY-3500G	686-KNH-1001
PART#					
1	686-KNH-1000	■	■	■	
3	610-TIP-1711 (NOT SHOWN)	■			
4	610-TIP-1712		■		
5	610-TIP-3500			■	
6	200-BNC-3100	■	■	■	
7	686-KNH-1001				■

NOTE: These openers are available with liquid phosphorus options, please call the factory for more details.

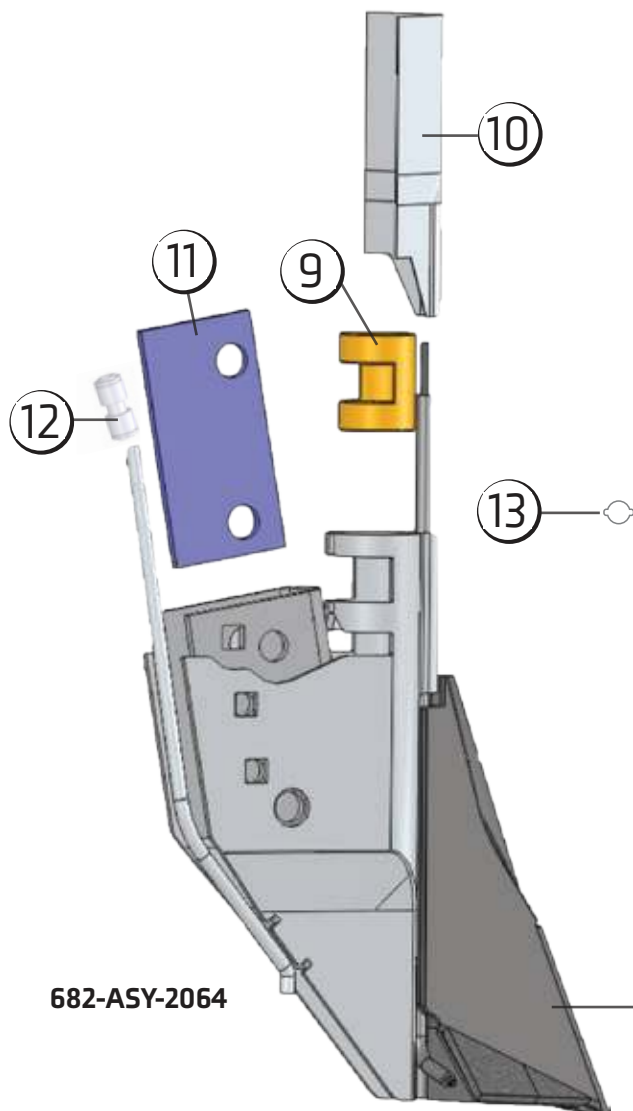
*All product and company names are trademarks™ or registered® trademarks of their respective holders. Use of them does not imply any affiliation with or endorsement by them. Seed Hawk Inc. and any other use and/or mentions of their name and/or product designations are the property and registered trademarks of Seed Hawk Inc.

682-ASY-2063 & 682-ASY-2064 ASSEMBLIES

SIDE BAND PAGES 33 & 49

682-ASY-2063 - LEFT

682-ASY-2064 - RIGHT

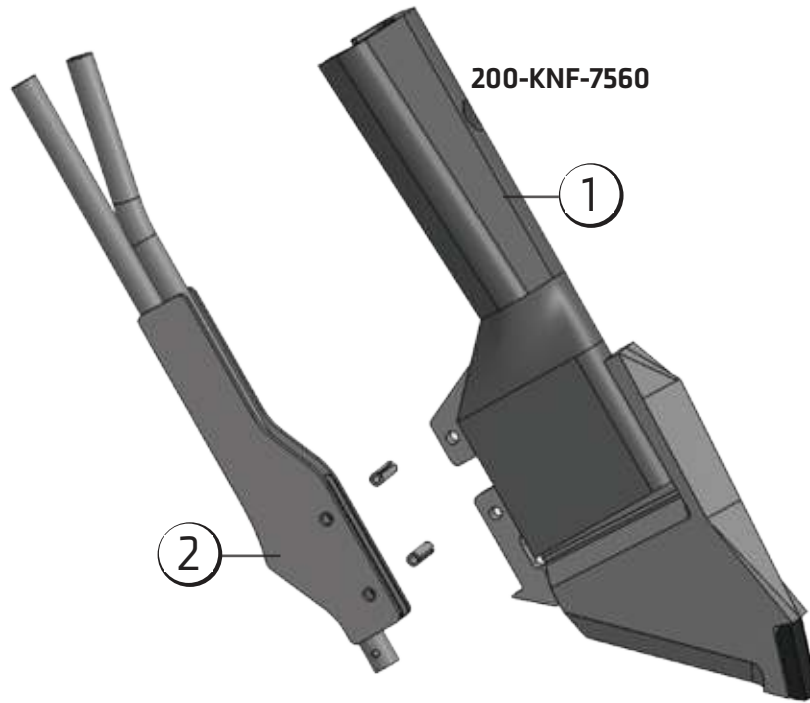


682-ASY-2064

		<div> <div>G</div> <div>M</div> <div>P</div> <div>M</div> <div>G</div> <div>M</div> <div>P</div> <div>M</div> </div>							
		682-ASY-2063	682-ASY-2063M	682-ASY-2063P	682-ASY-2063MP	682-ASY-2064	682-ASY-2064M	682-ASY-2064P	682-ASY-2064MP
PART#									
1	682-KNF-2063	■							
2	682-KNF-2063M		■						
3	682-KNF-2063MP				■				
4	682-KNF-2063P			■					
5	682-KNF-2064					■			
6	682-KNF-2064M						■		
7	682-KNF-2064MP								■
8	682-KNF-2064P							■	
9	880-BSH-1130	■	■	■	■	■	■	■	■
10	682-DEF-1000	■	■	■	■	■	■	■	■
11	680-ACC-0001*	■	■	■	■	■	■	■	■
12	880-CPL-2500			■	■			■	■
13	695-HCL-1220		■		■		■		■

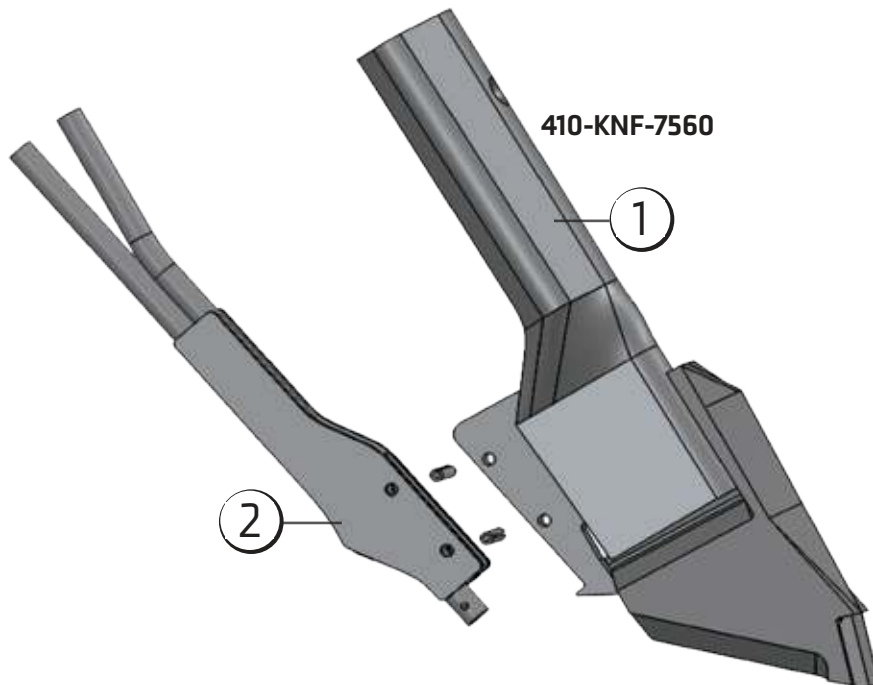
NOTE 11: Accessory 680-ACC-0001 is needed when used on an edge on Concord. See page 108 for more information.

FERTILIZER KNIVES PAGES 73 & 76



PART#		200-KNF-7560
1	200-HLD-7560	■
2	880-ASY-7560*	■

NOTE: Roll pins included with 880-ASY-7560.

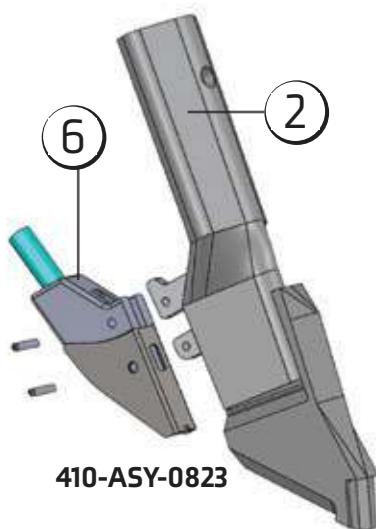
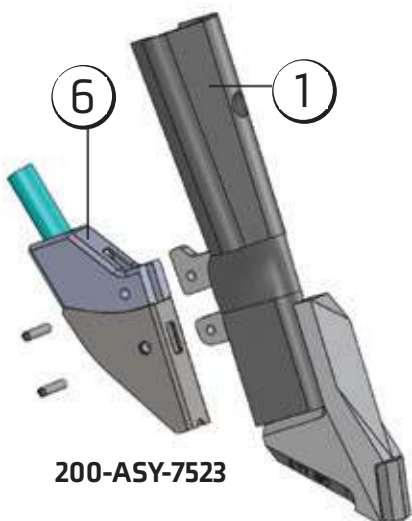


PART#		410-KNF-7560
1	410-HLD-7560	■
2	880-ASY-7560*	■

NOTE: Roll pins included with 880-ASY-7560.

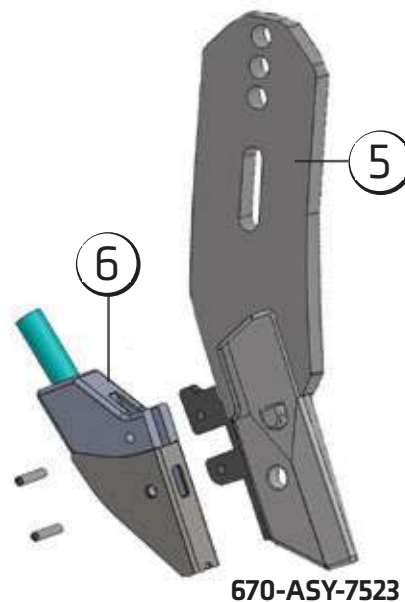
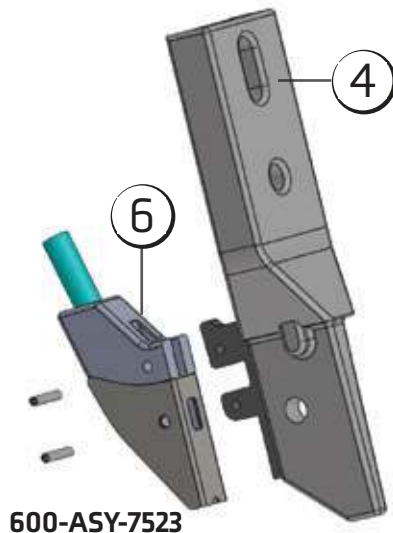
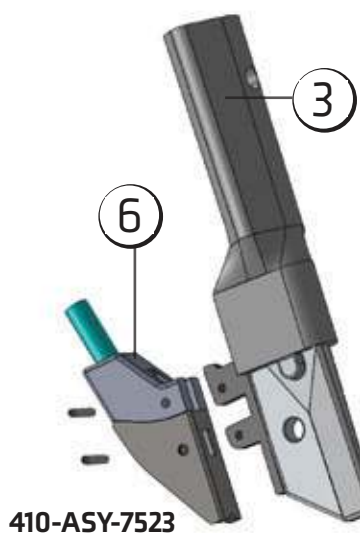
NON-FREEZE

FERTILIZER KNIVES PAGES 52, 72, 74 & 78



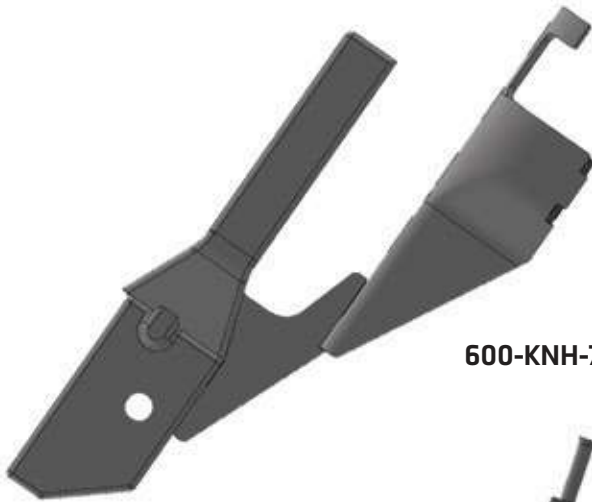
PART#		200-ASY-7523	410-ASY-0823	410-ASY-7523	600-ASY-7523	670-ASY-7523
1	200-HLD-7523	■				
2	410-HLD-0823		■			
3	410-HLD-7523			■		
4	600-HLD-7523				■	
5	670-HLD-7523					■
6	200-ASY-0001	■	■	■	■	

NOTE: Roll pins included with 200-ASY-0001.

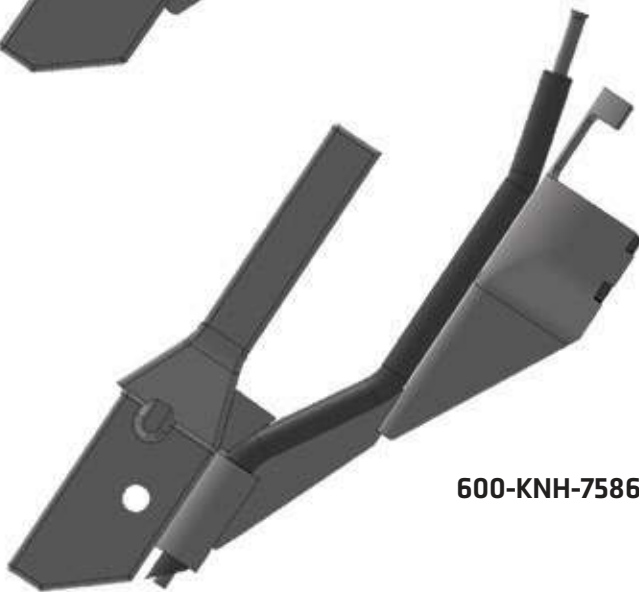


BOURGAULT MID-ROW SHANK

FERTILIZER KNIVES PAGE 81



600-KNH-7585



600-KNH-7586



600-KNH-7587

TIP OPTIONS : 600-TIP-7500
600-TIP-7501
600-TIP-7502
600-TIP-3011

Tips sold separately.

See page 18 for more information.

PARTNERS IN GLOBAL DISTRIBUTION



NORTH AMERICA

F.P. Bourgault Tillage Tools Ltd.

Canada & Northern United States

200-5th Ave South, St. Brieux,
Saskatchewan, Canada S0K 3V0
P: 1-800-878-7714 F: 1 (306) 275-4720
www.tillagetools.com

US Manufacturing Inc.

Southern United States

1707 21st Street Eldora, IA 50627
P: 1-800-800-1812 F: 641-939-7539
www.usmexpress.com

WESTERN & CENTRAL EUROPE

Industriehof GmbH

Western & Central Europe

Im Winkel 5 D-30900 Wedemark, Germany
P: +49 (0) 5130-6072-0 www.industriehof.com

Martin Lishman Ltd.

United Kingdom

Unit 2B, Roman Bank, Bourne, Lincs PE10 9LQ UK
P: +44 (0) 1778 426600 www.martinlishman.com



EASTERN EUROPE

Bourgault Industries Ltd. – Head Office

Eastern Europe

Kiev P/F: +38 (044) 563-71-91 www.bourgault.com

000 Industriehof

Russia

Marshall Katukov Str. 20 12352 Moskau

P: +7 (495) 638-5142 www.industriehof.com

Kramp

Russia

107045 Moscow, Kolokolnikov Alley 24/3

P: +7 (495) 505-69-89 www.grenekramp.ru

Bourgault Industries Ltd.

Russia

Krasnodar P: +8 (918) 377-47-82

000 CanAgro

Russia

Omsk P: +7 (3812) 551-500 www.can-agro.com

T00 CanAgro

Kazakhstan

Kokshetau P: +7 (716) 27-752-76 www.can-agro.com

Bourgault Industries Ltd.

Kazakhstan

Kostanay P/F: +7 (7142) 223-955

T00 CT Agro

Kazakhstan

Kokshetau P: +7 (7162) 77-52-77 www.ctagro.com

AUSTRALIA

Bourgault Industries Pty Ltd.

16 Eliot Road Armadale, WA 6112

P: 08-9399-9700 www.bourgault.com

CONTACT US



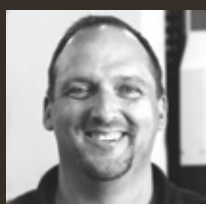
Patrick Yeager
Managing Director of
Sales & Marketing



Cornelius Chomenchuk
Assistant Sales Manager/
Manitoba Territory Manager
Cell: 204.724.2012



Mel MacLean
Marketing Manager



Roger Schierman
Alberta Territory Manager
Cell: 780.781.2134



Kelly Stevenson
Sask. Territory Manager
Cell: 306.921.7888



Brett Vosberg
North & South Dakota,
Montana, Minnesota
Territory Manager
Cell: 406.750.6052



Penny Ulledal
Sales Development
Cell: 306.874.8322



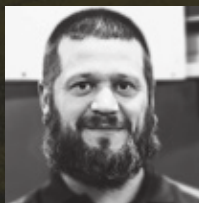
Marissa Mark
Inside Sales/
Administrative Coordinator



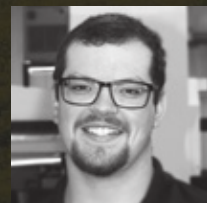
Len Horvath
Service and Warranty
Manager



Dean Bigelow
R&D Manager



Dylan Theis
R&D Technician



Steven Oleksyn
R&D Design Engineer

LOCATE US

P.O. Box 310, 200 – 5th Avenue South St. Brieux, SK, Canada S0K 3V0
P: 1.800.878.7714 F: 1.306.275.4720 E: info@tillagetools.com www.tillagetools.com

UPCOMING EVENTS

NORTH AMERICA

Crop Production Show – January 8-11, 2018 – Saskatoon, Saskatchewan

Manitoba Ag Days – January 16-18, 2018 – Brandon, Manitoba

KMOT Ag Expo – January 24-26, 2018 – Minot, North Dakota

Spokane Ag Expo – February 6-8, 2018 – Spokane, Washington

Farm Progress Show – June 20-22, 2018 – Regina, Saskatchewan

Big Iron Farm Show – September 11-13, 2018 – West Fargo, North Dakota

Agri-Trade Equipment Expo – November 7-10, 2018 – Red Deer, Alberta

INTERNATIONAL

Agro Show 2017 – September 22-25, 2017 – Bednary, Poland *Find us in the Industriebhof Stand*

Golgen Autumn – October 4-7, 2017 – Moscow, Russia

KoneAgria – October 12-14, 2017 – Tampere, Finland *Find us in the Industriebhof Stand*

KazAgro – October 25-27, 2017 – Astana, Kazakhstan

Agrokomplex Kiev 2017 – October 31 - November 2, 2017 – KievExpoPlaza, Ukraine *Find us in the Industriebhof Stand*

Agro Expo Siberia – November 8-10, 2017 – Novosibirsk, Russia

InterAGRO – November 8-11, 2017 – KievExpoPlaza, Ukraine

Agritechnica – November 12-18, 2017 – Hannover, Germany *Find us in the STEP Canadian Pavillion*

AgriScot – November 15, 2017 – Ingliston, Edinburgh, Scotland *Find us in the Martin Lishman Stand*

Midland Machinery Show – November 22-23, 2017 – Winthorpe, England *Find us in the Martin Lishman Stand*

YugAgro 2017 – November 28 - December 1, 2017 – Krasnodar, Russia

Lamma – January 17-18, 2018 – Alwalton, England *Find us in the Martin Lishman Stand*

Graintech – February 21-23, 2018 – Kiev, Ukraine

Agrokomplex – March 15-18, 2018 – Ufa, Russia

AgriTec – March 14-16, 2018 – Astana, Kazakhstan

PRODUCT INDEX

PRODUCT	PAGE	PRODUCT	PAGE	PRODUCT	PAGE	PRODUCT	PAGE
043-PWV-0800	98	200-KNF-7525	72	200-TIP-0511	14	410-PWV-0608	94
043-PWV-1000	98	200-KNF-7530	73	200-TIP-0800	14	410-PWV-0800	94
043-PWV-1200	98	200-KNF-7531	73	200-TIP-0801	14	410-PWV-0808	94
043-PWV-1400	98	200-KNF-7542	64	200-TIP-0802	14	410-PWV-1000	94
043-PWV-1600	98	200-KNF-7551	73	200-TIP-0803	14	410-PWV-1008	94
043-PWV-1800	98	200-KNF-7553	73	200-TIP-0811	14	410-PWV-1200	94
047-ACC-1001	107	200-KNF-7560	73	200-TIP-1011	15	410-PWV-1208	94
047-ACC-1002	107	200-KNH-4000	64	200-TIP-2011	15	410-PWV-1400	94
047-ASY-1000	24	200-KNH-4010	65	200-TIP-3000	15	410-PWV-1408	94
047-ASY-1005P	24	200-KNH-4020	74	200-TIP-3001	15	410-PWV-1600	94
047-CAP-1000	107	200-PWV-0400	92	200-TIP-3011	15	410-PWV-1608	94
047-KNH-1000	24	200-PWV-0405	93	200-TIP-4011	15	410-PWV-1800	94
047-PWV-0400	98	200-PWV-0405ML	93, 97	200-VRT-1040	66	410-PWV-1808	94
047-PWV-0708	98	200-PWV-0428	93	200-WDG-0206	106	410-QCA-5000	86
047-PWV-0900	98	200-PWV-0500	92	200-WDG-0506	106	410-QCA-5010	86
047-PWV-0908	98	200-PWV-0508	92	200-WDG-1000	106	410-QCA-5020	86
047-PWV-1000	98	200-PWV-0528	93	200-WDG-1006	106	410-QCA-5050	87
047-PWV-1008	98	200-PWV-0700	92	300-ATM-1000	69	410-SLC-1001	87
047-PWV-1100	98	200-PWV-0708	92	300-ATM-1006	69	410-SLC-1022	87
047-PWV-1200	98	200-PWV-0738	93	300-ATM-1010	69	410-SLC-1030	87
047-PWV-1300	98	200-PWV-0900	92	300-ATM-1020	69	410-SLC-1050	87
047-PWV-1308	98	200-PWV-0908	92	300-ATM-1031	69	410-SPK-0200	95
047-VRT-1040	24	200-PWV-0928	93	300-ATM-1035	69	410-SPK-0200ML	95, 97
050-KNH-0812	25	200-PWV-1000	92	300-ATM-1036	69	410-SPN-0300	67
050-KNH-0820	78	200-PWV-1008	92	300-BLT-4414	69	410-SPN-0308	67
050-PWV-0600	98	200-PWV-1100	92	300-BNC-4414	69	410-VRT-1000	67
050-PWV-0800	98	200-PWV-1108	92	300-BSH-1200	107	500-200-1005	101
050-PWV-1000	98	200-PWV-1200	92	300-BSH-1205	107	500-200-1010	102
050-PWV-1200	98	200-PWV-1208	92	300-HLD-4700	68	501-200-1000	102
050-PWV-1400	98	200-PWV-1300	92	300-HLD-4710	68	503-200-1005	101
050-PWV-1600	98	200-PWV-1308	92	300-HLD-5000	68	505-200-1000	103
050-PWV-1608	98	200-PWV-1400	92	300-HLD-5010	68	505-200-1005	103
050-PWV-1800	98	200-PWV-1408	92	300-SQR-1500	69	505-200-1010	103
070-RCH-0451	99	200-PWV-1608	92	300-SQR-1505	69	505-200-1015	103
070-RCH-0452	99	200-PWV-1808	92	400-DRV-1000	106	505-200-1020	104
070-RSP-0200A	99	200-QA5-4711	106	400-DRV-1010	106	505-200-1025	104
070-RSP-0210A	99	200-QA5-4712	106	400-WDG-0300	106	510-200-1000	101
070-RSP-0220A	99	200-QCA-4700	84	400-WDG-0700	106	511-200-1000	102
100-DRV-1010	106	200-QCA-4710	84	410-ASY-0823	74	515-200-1000	104
100-DRV-1020	106	200-QCA-5000	84	410-ASY-7523	74	517-200-1015	101, 103
100-HAM-4000	106	200-QCA-5010	85	410-HLD-7500	75	517-200-1020	104
100-WDG-0700	106	200-QCA-5020	85	410-KNF-0800	66	521-200-1000	104
200-ASY-7511P	63	200-QCA-5030	85	410-KNF-0801	66	522-200-1000	102
200-ASY-7523	72	200-REL-1010	85, 87, 92,	410-KNF-0824	75	522-200-1005	102
200-BNC-3100	15	200-REL-1010	95, 106	410-KNF-0825	75	522-200-1035	102
200-DRV-1012	106	200-SLC-1001	87	410-KNF-0826	75	599-KNH-7540	25, 78
200-DRV-1013	106	200-SLC-1010	87	410-KNF-0830	76	600-ASY-7523	78
200-DRV-1030	106	200-SLC-1020	87	410-KNF-0831	76	600-BNC-5000	18
200-GFO-0308	93	200-SLC-1030	87	410-KNF-7540	66	600-HHA-0750	73, 75, 76,
200-HOE-1700	62	200-SLC-1035	87	410-KNF-7551	76	600-HHA-0750	78, 81, 107
200-KNF-0810	62	200-SLC-1037	87	410-KNF-7553	76	600-KNH-7500	79
200-KNF-0811	62	200-SLC-1038	87	410-KNF-7560	76	600-KNH-7520	79
200-KNF-0813	62	200-SLC-1039	87	410-KNH-7524	77	600-KNH-7530	79
200-KNF-0863	63	200-SPK-0200	93	410-KNH-7526	77	600-KNH-7531	80
200-KNF-7501	63	200-SPK-0200ML	93, 97	410-KNH-7540	77	600-KNH-7540	25, 80
200-KNF-7510	63	200-SPK-0215	93	410-KNH-7551	77	600-KNH-7552	80
200-KNF-7511	63	200-SPK-0230	93	410-PWV-0400	94	600-KNH-7562	29
200-KNF-7512	64	200-SPN-0200	65	410-PWV-0418	95	600-KNH-7585	81
200-KNF-7520	72	200-SPN-0208	65	410-PWV-0418ML	95, 97	600-KNH-7586	81
200-KNF-7521	72	200-SPN-0300	65	410-PWV-0518	95	600-KNH-7587	81
200-KNF-7524	72	200-SPN-0308	65	410-PWV-0600	94	600-KNH-7640	25, 81

PRODUCT	PAGE	PRODUCT	PAGE	PRODUCT	PAGE	PRODUCT	PAGE
600-NUT-3754	69	650-ASY-3011	44	683-ASY-2711LP	48	693-ASY-0712L	47
600-TIP-3011	18	650-ASY-3011P	44	683-ASY-2712G	48	693-ASY-0712LP	47
600-TIP-7500	18	650-HLD-1000G	45	683-ASY-2712GP	48	693-ASY-1000P	46
600-TIP-7501	18	650-HLD-1000GL	45	683-ASY-2712L	48	693-ASY-2711G	48
600-TIP-7502	18	650-HLD-1000GN	45	683-ASY-2712LP	48	693-ASY-2711GP	48
600-TIP-7507	18	650-HLD-1000L	45	683-ASY-4020G	50	693-ASY-2711L	48
610-ASY-0711GP	26	650-HLD-1000N	45	683-ASY-4020L	50	693-ASY-2711LP	48
610-ASY-0711LP	26	650-HLD-1001	45	683-HLD-2080	51, 60	693-ASY-2712G	48
610-ASY-0712GP	26	670-ASY-7523	52	683-KNH-1000	46	693-ASY-2712GP	48
610-ASY-0712LP	26	670-HLD-1000	53	684-ASY-0711G	38	693-ASY-2712L	48
610-ASY-2711G	27	670-HLD-1000G	53	684-ASY-0711GP	38	693-ASY-2712LP	48
610-ASY-2711GP	27	670-HLD-1000L	53	684-ASY-0711L	38	693-ASY-4020G	50
610-ASY-2711L	27	670-HLD-1000N	53	684-ASY-0711LP	38	693-ASY-4020L	50
610-ASY-2711LP	27	673-HLD-2080	35, 51, 60	684-ASY-0712G	38	693-HLD-2080	51, 60
610-ASY-2712G	27	680-ACC-0001	107	684-ASY-0712GP	38	693-KNH-1000	46
610-ASY-2712GP	27	680-ACC-0002	107	684-ASY-0712L	38	694-ACC-1000	59, 107
610-ASY-2712L	27	680-ACC-0003	107	684-ASY-0712LP	38	694-ASY-0711G	38
610-ASY-2712LP	27	680-ACC-0004	107	684-ASY-1000P	37	694-ASY-0711GP	38
610-ASY-4020	28	680-ACC-1000	107	684-ASY-2711G	39	694-ASY-0711L	38
610-ASY-4026	28	680-ASY-0711G	31, 47	684-ASY-2711GP	39	694-ASY-0711LP	38
610-HLD-2080	29, 60	680-ASY-0711GP	31, 47	684-ASY-2711L	39	694-ASY-0712G	38
610-TIP-0802	15, 60	680-ASY-0711L	31, 47	684-ASY-2711LP	39	694-ASY-0712GP	38
610-TIP-1711	16, 60	680-ASY-0711LP	31, 47	684-ASY-2712G	39	694-ASY-0712L	38
610-TIP-1712	16, 60	680-ASY-0712G	31, 47	684-ASY-2712GP	39	694-ASY-0712LP	38
610-TIP-3500	17, 60	680-ASY-0712GP	31, 47	684-ASY-2712L	39	694-ASY-1000P	37
610-TIP-4030	15, 61	680-ASY-0712L	31, 47	684-ASY-2712LP	39	694-ASY-2711G	39
610-TIP-4041	17	680-ASY-0712LP	31, 47	684-HLD-2080	41, 61	694-ASY-2711GP	39
610-TIP-4081	17, 61	680-ASY-1000	30, 46	684-KNH-1000	37	694-ASY-2711L	39
612-ASY-0711G	26	680-ASY-1000P	30, 46	684-KNH-1010	37	694-ASY-2711LP	39
612-ASY-0711GP	26	680-ASY-2711G	32, 48	686-ASY-0711G	56	694-ASY-2712G	39
612-ASY-0711L	26	680-ASY-2711GP	32, 48	686-ASY-0711GP	56	694-ASY-2712GP	39
612-ASY-0711LP	26	680-ASY-2711L	32, 48	686-ASY-0711L	56	694-ASY-2712L	39
612-ASY-0712G	26	680-ASY-2711LP	32, 48	686-ASY-0711LP	56	694-ASY-2712LP	39
612-ASY-0712GP	26	680-ASY-2712G	32, 48	686-ASY-0712G	56	694-ASY-4020G	40
612-ASY-0712L	26	680-ASY-2712GP	32, 48	686-ASY-0712GP	56	694-ASY-4020L	40
612-ASY-0712LP	26	680-ASY-2712L	32, 48	686-ASY-0712L	56	694-HLD-2080	41, 61
612-TIP-0711	16	680-ASY-2712LP	32, 48	686-ASY-0712LP	56	694-HLD-5000	41, 59
612-TIP-0712	16	680-ASY-4020	34, 50	686-ASY-1711G	54	694-KNH-1000	37
614-TIP-2711	16	680-ASY-4026	34, 50	686-ASY-1711P	54	880-ASY-1010	107
614-TIP-2712	16	680-HLD-1000	30, 46	686-ASY-1712G	54	880-BSH-1130	107
620-HLD-5000	29, 58	680-HLD-1000P	30, 46	686-ASY-1712P	54	880-BSH-1150	107
620-SSH-1000	58	682-ASY-2063	33, 49	686-ASY-3500	54	880-BSH-1170	107
620-SSH-4000	58	682-ASY-2063M	33, 49	686-ASY-3500P	54	880-BSH-2000	107
620-SSH-6000	58	682-ASY-2063MP	33, 49	686-HLD-1010GL	55	880-CPL-1010	107
620-TIP-0510	59	682-ASY-2063P	33, 49	686-HLD-1010GN	55	880-CPL-2500	107
620-TIP-0517	59	682-ASY-2064	33, 49	686-HLD-1020G	55	880-GRD-1000	107
620-TUB-1021	59	682-ASY-2064M	33, 49	686-HLD-1020L	55	880-GRD-1010	107
620-TUB-1070	59	682-ASY-2064MP	33, 49	686-HLD-1020N	55	880-HCL-0001	107
620-TUB-1070XL	59	682-ASY-2064P	33, 49	686-KNH-1001	54	880-HCL-0002	107
620-TUB-4000	59	683-ASY-0711G	47	686-KNH-1001P	54	880-ORF-0001	107
620-TUB-4000XL	59	683-ASY-0711GP	47	688-ASY-4020G	43	880-TUB-1001	61
628-HLD-5000	35, 51, 58	683-ASY-0711L	47	688-ASY-4020L	43	880-TUB-1002	61
628-SBT-2000	59	683-ASY-0711LP	47	688-HLD-1000	42	880-TUB-1003	61
628-TIP-0510	59	683-ASY-0712G	47	688-HLD-2080	42, 61	880-TUB-1004	61
628-TIP-0512	59	683-ASY-0712GP	47	688-HLD-5000	42, 58	880-TUB-1009	61
628-TUB-1021	59	683-ASY-0712L	47	693-ASY-0711G	47	880-TUB-1010	61
650-ACC-1000	45, 107	683-ASY-0712LP	47	693-ASY-0711GP	47	880-TUB-1011	61
650-ASY-0711	44	683-ASY-1000P	46	693-ASY-0711L	47	880-TUB-1012	61
650-ASY-0711P	44	683-ASY-2711G	48	693-ASY-0711LP	47	880-WDG-0300	106
650-ASY-0712	44	683-ASY-2711GP	48	693-ASY-0712G	47	880-WDG-0301	106
650-ASY-0712P	44	683-ASY-2711L	48	693-ASY-0712GP	47		



For more information about Bourgault Tillage Tools
or to find your local dealer,
go to TillageTools.com or call 1.800.878.7714

www.tillagetools.com

F.P. Bourgault Tillage Tools Ltd.
P.O. Box 310, 200-5th Avenue South
St. Brieux, Saskatchewan, Canada S0K 3V0

P: 1.800.878.7714 | F: 1.306.275.4720
www.tillagetools.com

Printed in Canada.

2017 ©F.P. Bourgault Tillage Tools Ltd.

Bourgault Tillage Tools, BTT, Speed-Loc™, Max Life™, the Bourgault Tillage Tools logo, Bourgault Tillage Tools product designations, and all other related marks, images and symbols are the exclusive properties and/or are registered trademarks of F.P. Bourgault Tillage Tools Ltd.

Bourgault Tillage Tools has made every attempt to accurately portray our product lineup. However, due to our commitment to continually innovating our technologies to provide our customers with the best possible products, some products may not be manufactured exactly as shown.