



# SEEDING, FERTILIZER & TILLAGE TOOLS

PRODUCT CATALOGUE 2019

 **BTT** | *FITS ANY COLOR*

**REPLACEABLE TIPS**

10



SEEDING OPENERS TO FIT  
**C-SHANK**

20



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**CASE, NEW HOLLAND  
& FLEXI-COIL**

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# 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.

**Corny Chomenchuk**

Assistant Sales Manager,  
Manitoba Territory Manager

**Cell: 204.724.2012**

**Kelly Stevenson**

Sask. Territory Manager

**Cell: 306.921.7888**

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Alberta Territory Manager

**Cell: 780.781.2134**

**Penny Ulledal**

Sales Development

**Cell: 306.874.8322**





# PERFORMANCE GUARANTEE

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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

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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.

# THE #1 ORIGINAL CARBIDE TIPS.

## CARBIDE INSERTS

The highest quality tungsten carbide from North America is placed on our tips in-house ensuring long wear.

Extra-long carbide is used in extremely abrasive conditions ensuring the longevity of the tip while maximizing seed bed utilization.

## NORTH AMERICAN MADE

All of our primary wearing tips are made in North America, giving you the superior wear resistance you have come to expect.





# QUALITY YOU CAN TRUST.

## HIGH CHROME MATERIAL

All of our replaceable tips are made in North America, giving you the superior wear resistance you have come to expect from us. They are cast with high chrome material, increasing the life span of the tip.



## EASY INSTALLATION

Quickly & easily install new tips with our bolt & nut combo, proven to work when roll pins won't.

**BTT** | FITS ANY COLOR

# 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.

**Not recommended in highly abrasive conditions.**



**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.

**Not recommended in highly abrasive conditions.**



**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 56-57 for more details.



**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.**

## PAIRED ROW TIPS

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



**610-TIP-3500**

### CARBIDE TIP

3-1/2" (89 mm) 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.

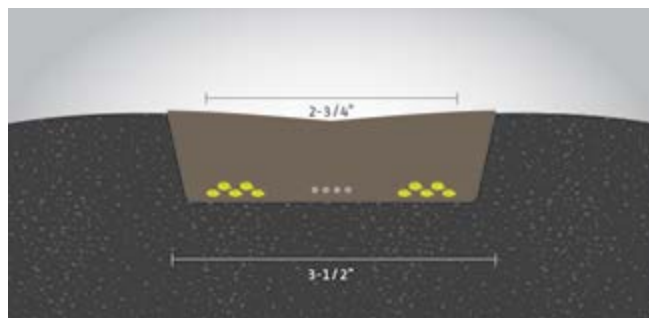
Single shoot Paired Row tip with no vertical separation used on Seed Hawk Inc. **(686-ASY-3500)**.

See page 50 for more information.

Paired Row **liquid option only** tip. This double shoot tip has no vertical seed/fertilizer separation.

Fits **VOS** (Versatile Opener System).

See pages 56-57 for more details.



seed fertilizer

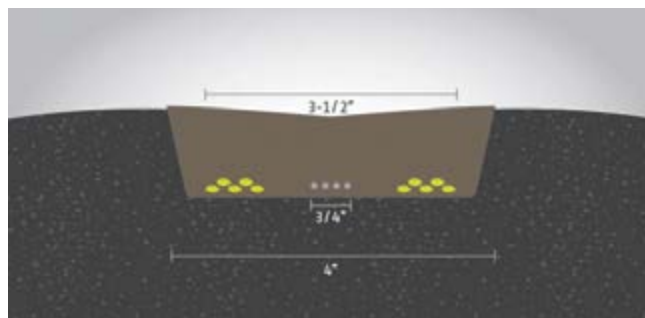


**610-TIP-4041**

### CARBIDE TIP

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



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 18-19.





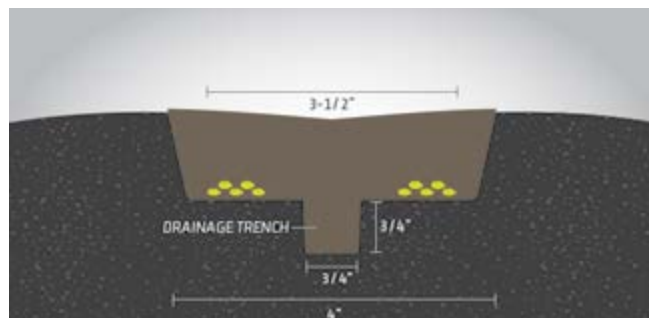
**610-TIP-4030**

## CARBIDE 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 56-57 for more details.

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



seed fertilizer



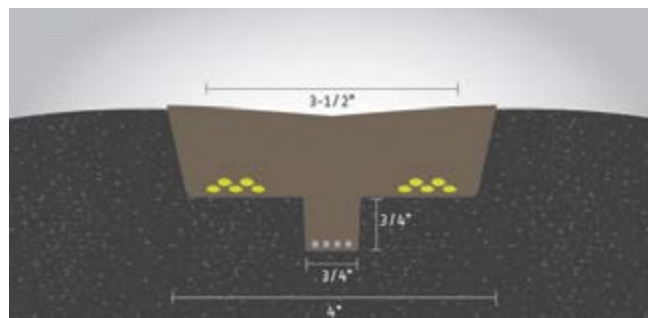
**610-TIP-4081 & 610-TIP-4082**

## CARBIDE TIP

4" (102 mm) 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. These Paired Row tips have 3/4" (19 mm) vertical separation of liquid, granular, or NH<sub>3</sub> fertilizer.

**610-TIP-4082** has additional carbide along the sides of the fertilizer trench, below the wings, to provide extra-wear life.

Fits **VOS** (Versatile Opener System).  
See pages 56-57 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 18-19.

## SIDE BAND TIPS

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



(LEFT WING)



(LEFT WING)



(LEFT WING)



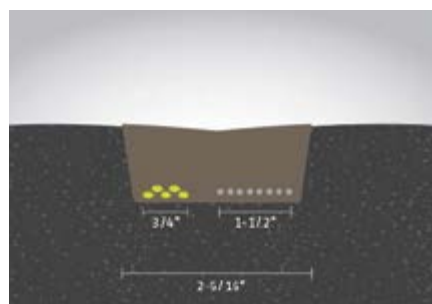
**610-TIP-1711** (LEFT WING)  
**610-TIP-1712** (RIGHT WING)

### 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 56-57 for more details.



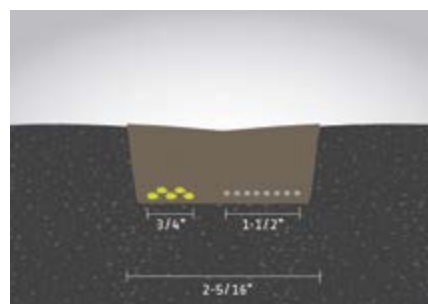
●●●● seed ●●●● fertilizer

**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.



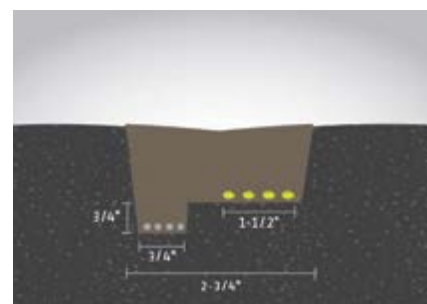
●●●● seed ●●●● fertilizer

**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 18-19.



**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.**



## 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.

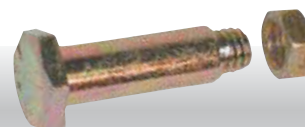
Only used with **600-KNH-7562**.  
For more information see page 25.



**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.

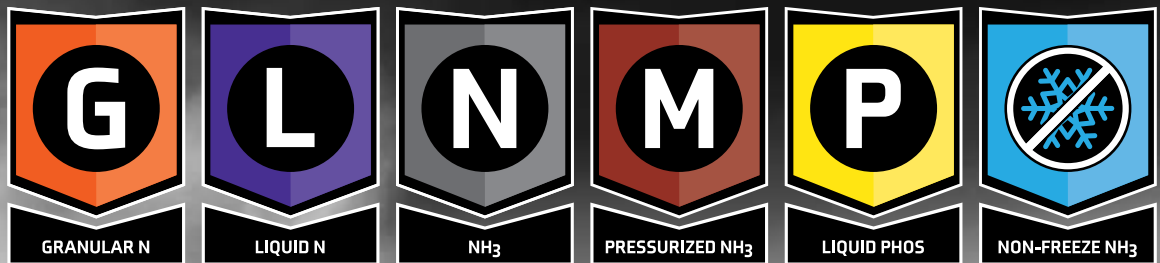




# **BTT** | *FITS ANY COLOR*

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.

## FERTILIZER TYPES





# 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<sub>3</sub> 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<sub>3</sub>.

**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	047-ASY-1005P <span style="background-color: yellow; border: 1px solid black; border-radius: 50%; padding: 2px;">P</span>	047-VRT-1040
<p><b>Fits:</b> 47° and 50° C-Shank</p> <p><b>Fertilizer Type:</b> Starter Fertilizer w/ Seed Only</p> <p><b>Tube Size:</b> 1-1/4" (32 mm) O.D.</p> <p><b>Bolt Hole Spacing:</b> N/A</p> <p><b>Tip Options:</b> Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. <i>Tips sold separately. See page 10-11 for more details.</i></p> <p><b>Overview:</b> Seed is delivered through the precision funnel opening. The front delivery provides precise seed delivery and reduces plugging with better soil flow. Extra hard surfacing on critical wear areas increases the life of the holder.</p> <p><b>Notes:</b> Use Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 106 for more details.</i></p> <p><b>047-KNH-1000</b> is only used directly beside the Bourgault MRBs for improved trash clearance. <i>Not sold as a complete set, must be ordered separately.</i></p> <p>Customers must look at the machine to determine what quantity of shanks are directly beside the MRBs.</p> <p>50° shanks require either the <b>880-WDG-0300</b> or <b>880-WDG-0301</b>. See page 104 for more information.</p> <p><i>For an expanded view of this opener see page 114.</i></p>	<p><b>Fits:</b> 47° and 50° C-Shank</p> <p><b>Fertilizer Type:</b> Starter Fertilizer w/ Seed Only + Liquid Phos</p> <p><b>Tube Size:</b> Granular: 1-1/4" (32 mm) O.D.</p> <p><b>Liq. Phos.:</b> 3/16" (5 mm) O.D. This can be converted to work with 1/4" (6 mm) I.D. delivery hoses with <b>880-ASY-1010</b>. See page 104 for more details.</p> <p><b>Bolt Hole Spacing:</b> N/A</p> <p><b>Tip Options:</b> Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. <i>Tips sold separately. See page 10-11 for more details.</i></p> <p><b>Overview:</b> Liquid Phosphorus is delivered onto the seed bed, <b>below the seed</b>. The 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 increases the life of the holder.</p> <p><b>Notes:</b> Use Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 106 for more details.</i></p> <p>50° shanks require either the <b>880-WDG-0300</b> or <b>880-WDG-0301</b>. See page 104 for more information.</p> <p><i>For an expanded view of this opener see page 114.</i></p>	<p><b>Fits:</b> 47° C-Shank</p> <p><b>Fertilizer Type:</b> Starter Fertilizer w/ Seed Only</p> <p><b>Tube Size:</b> 1-1/4" (32 mm) O.D.</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" (44 mm)</p> <p><b>Tip Options:</b> Comes with 1" (25 mm) welded tip with extra carbide for long-lasting wear life.</p> <p><b>Overview:</b> The vertical approach of this opener reduces rock pulling and soil throw.</p> <p><b>Notes:</b> Use Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 106 for more details.</i></p>

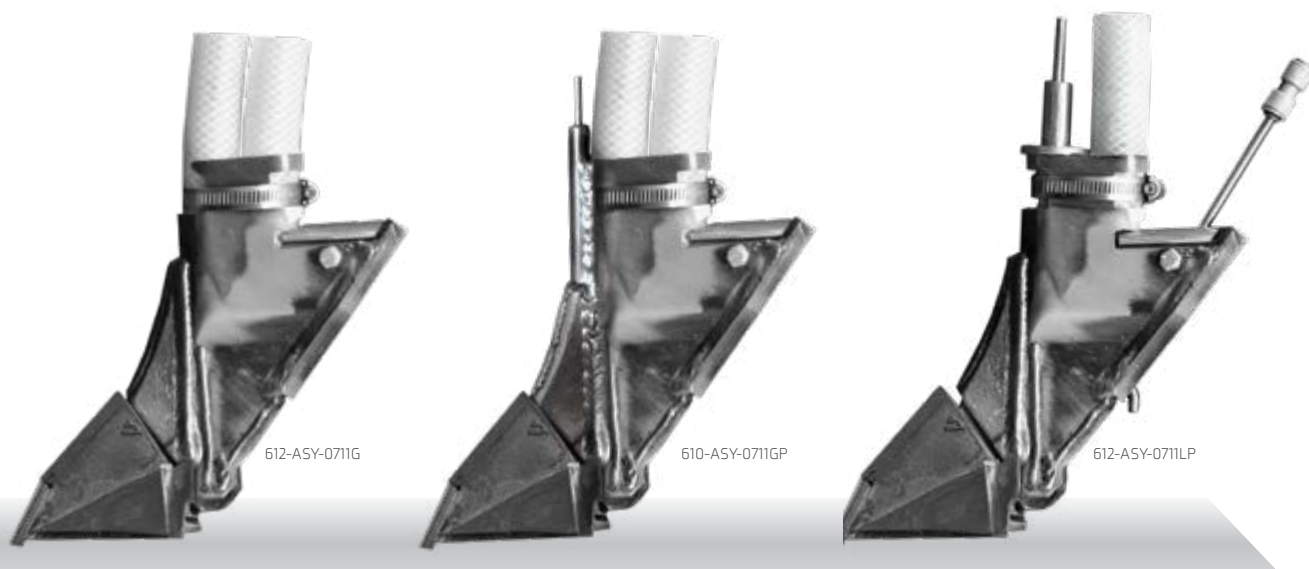
# SINGLE SHOOT OPENERS TO FIT C-SHANK



050-KNH-0812	599-KNH-7540	600-KNH-7540 600-KNH-7640
<p><b>Fits:</b> 47° and 50° C-Shank</p> <p><b>Fertilizer Type:</b> Starter Fertilizer w/ Seed Only</p> <p><b>Tube Size:</b> 1-1/4" (32 mm) O.D.</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" to 2-1/2" (44 - 64 mm) slotted bolt hole spacing provides the ability to fit many different makes and models.</p> <p><b>Tip Options:</b> Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. <i>Tips sold separately. See page 10-11 for more details.</i></p> <p><b>Overview:</b> The rear delivery of this opener provides extra trash clearance.</p> <p><b>Notes:</b> Use 1/2" Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p>	<p><b>Fits:</b> 47° C-Shank</p> <p><b>Fertilizer Type:</b> Starter Fertilizer w/ Seed Only</p> <p><b>Tube Size:</b> 1-1/4" (32 mm) O.D.</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" (44 mm)</p> <p><b>Tip Options:</b> Your choice of three 3/4" (19 mm) tips available in:  <b>600-TIP-7501</b> - regular carbide,  <b>600-TIP-7502</b> - extra-long nose carbide,  <b>600-TIP-7500</b> - cast chrome, or 3" (76 mm) tip: <b>600-TIP-3011</b> - carbide.  <i>Tips sold separately. See page 15 for more details.</i></p> <p><b>Overview:</b> This opener is designed for a <b>better fit on the Bourgault Shank</b>. The larger tip provides extra long wear while reducing wear on the holder.</p> <p><b>Notes:</b> Use 1/2" Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p>	<p><b>Fits:</b> 47° and 50° C-Shank</p> <p><b>Fertilizer Type:</b> Starter Fertilizer w/ Seed Only</p> <p><b>Tube Size:</b> <b>7540:</b> 1-1/4" (32 mm) O.D., <b>7640:</b> 1-1/2" (38 mm) O.D.</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" to 2-1/2" (44 - 64 mm) slotted bolt hole spacing provides the ability to fit many different makes and models.</p> <p><b>Tip Options:</b> Your choice of three 3/4" (19 mm) tips available in:  <b>600-TIP-7501</b> - regular carbide,  <b>600-TIP-7502</b> - extra-long nose carbide,  <b>600-TIP-7500</b> - cast chrome, or 3" (76 mm) tip: <b>600-TIP-3011</b> - carbide.  <i>Tips sold separately. See page 15 for more details.</i></p> <p><b>Overview:</b> The larger tip on these holders provides extra long wear while reducing wear on the holder.</p> <p><b>410-KNH-7540</b> is also available to fit the 410 Series Speed-Loc™. <i>See page 67 for more details.</i></p> <p><b>Notes:</b> Use 1/2" Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p>



# MULTI-SHOOT OPENERS TO FIT C-SHANK



THESE SIDE BAND OPENERS FIT:	<b>G</b> Granular N	<b>G P</b> Granular N + Liquid Phos	<b>L</b> Liquid N	<b>L P</b> Liquid N + Liquid Phos
<b>C-SHANK</b>		610-ASY-0711GP 610-ASY-0712GP		610-ASY-0711LP 610-ASY-0712LP
<b>C-SHANK</b>	612-ASY-0711G 612-ASY-0712G	612-ASY-0711GP 612-ASY-0712GP	612-ASY-0711L 612-ASY-0712L	612-ASY-0711LP 612-ASY-0712LP

**Seed Placement:** The seed is placed in a 3/4" (19 mm) band onto a firm, unfractured seedbed. The **610 GP & LP** openers deliver the liquid phos **below the seed**. The **612 GP & LP** openers deliver the liquid phos **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 18-19.*

**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.

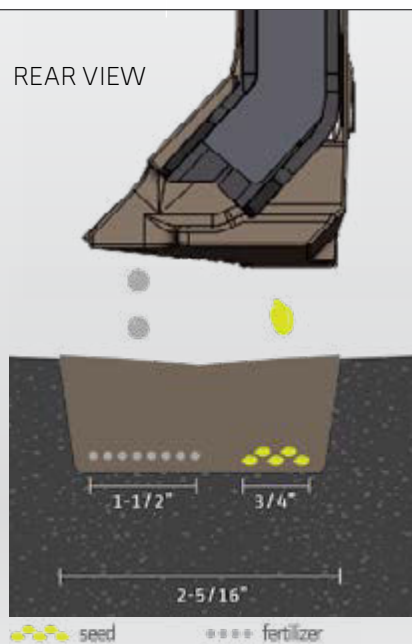
**Installation Notes:** Use Grade 8 carriage bolts to install these openers. **Sold separately.** See page 106 for more details.

When installing on 50° shanks other than Bourgault or Ezee-On use wedge **880-WDG-0300** or **880-WDG-0301**. See page 104 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.**

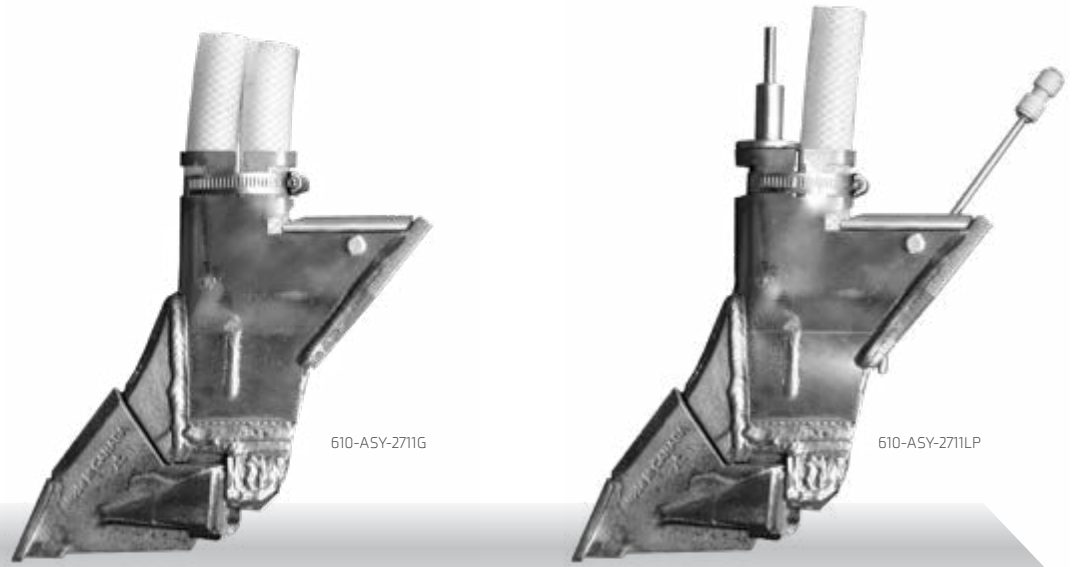
For an expanded view of these openers see page 116.

REAR VIEW



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 18-19.*

# MULTI-SHOOT OPENERS TO FIT C-SHANK



THESE SIDE BAND OPENERS FIT:

C-SHANK



Granular N



Granular N + Liquid Phos



Liquid N



Liquid N + Liquid Phos

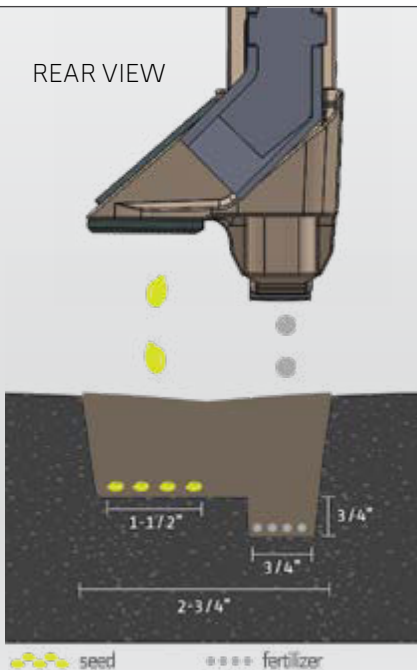
610-ASY-2711G  
610-ASY-2712G

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

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

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

REAR VIEW



seed

fertilizer



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors. In less than ideal conditions, mixing between seed and fertilizer may occur. For more information please refer to precautions and risk factors on page 18-19.

**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. The **GP & LP** openers deliver the phosphorus onto the seed bed **on top of the seed**.

**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 18-19.

**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.

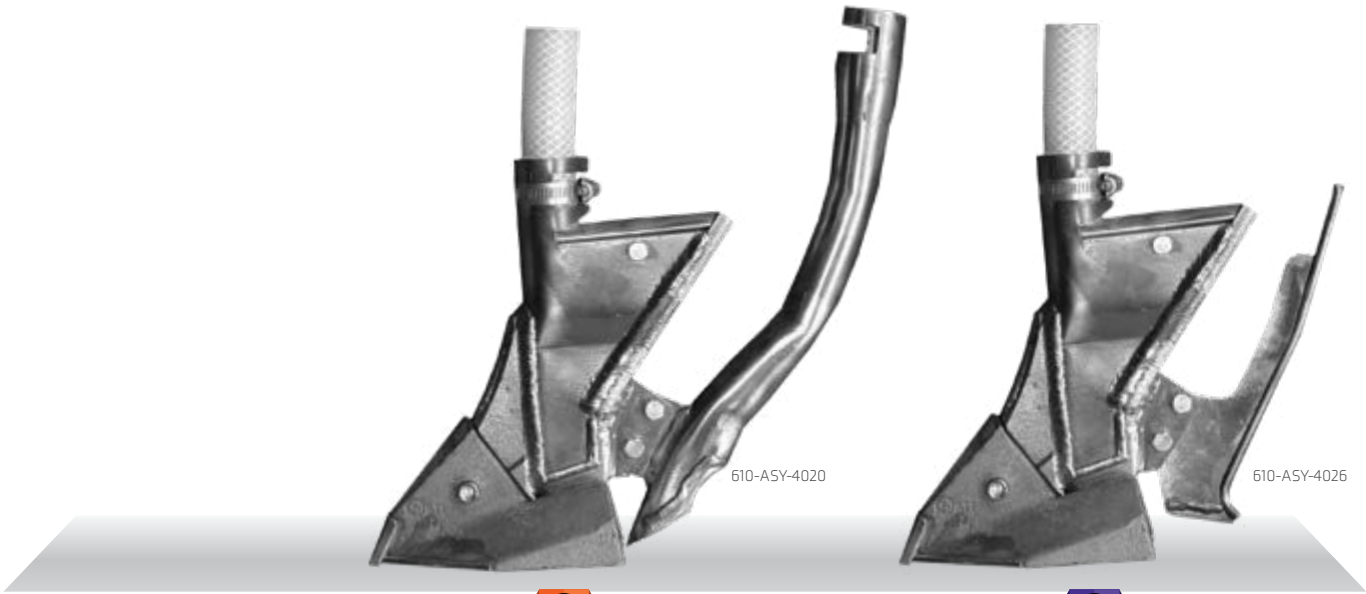
**Installation Notes:** Use Grade 8 carriage bolts to install these openers. **Sold separately.** See page 106 for more details.

When installing on 50° shanks other than Bourgault or Ezee-On use wedge **880-WDG-0300** or **880-WDG-0301**. See page 104 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 an expanded view of these openers see page 118.

# MULTI-SHOOT OPENERS TO FIT C-SHANK



THESE **PAIRED ROW**  
OPENERS FIT:



Granular N



Liquid N

**C-SHANK**

**610-ASY-4020**

**610-ASY-4026**

**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 18-19.*

**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.*

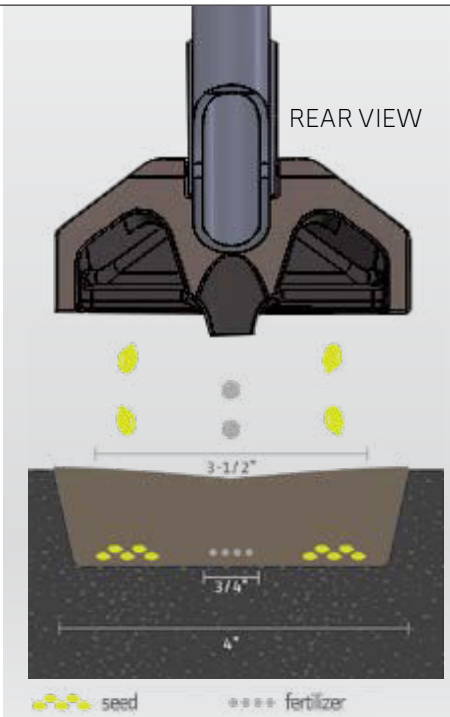
**Packer Recommendation:** 4" (102 mm) or wider.

**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 Grade 8 carriage bolts to install these openers. *Sold separately.* See page 106 for more details.

When installing on 50° shanks other than Bourgault or Ezee-On use wedge **880-WDG-0300** or **880-WDG-0301**. See page 104 for more information.

*For an expanded view of these openers see page 121.*



*Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors. In less than ideal conditions, mixing between seed and fertilizer may occur. For more information please refer to precautions and risk factors on page 18-19.*



# MULTI-SHOOT OPENERS TO FIT C-SHANK



**L**

## 600-KNH-7562

**Fits:** 47° and 50° C-Shank

**Fertilizer Type:** Liquid N

**Tube Size:** Granular: 1-1/4" (32 mm) O.D.  
Liquid: 1/4" (6 mm) O.D.

**Bolt Hole Spacing:** 1-3/4" to 2-1/2"  
(44 - 64 mm) slotted bolt hole spacing providing the ability to fit many different makes and models.

**Tip Options:** Used with the replaceable tip **600-TIP-7507**. The high-chrome tip is protected with a carbide insert on the nose and a solid carbide wing. The carbide placement provides sharp cutting edges for excellent penetration. **Tips sold separately.** See page 15 for more details.

**Overview:** These unique Side Band openers provide good horizontal separation with a slight vertical seed/fertilizer separation. They work well when used with a pressurized liquid system. They are used with a replaceable tip to ensure high-wear points can be replaced at a lower cost.

**Notes:** Use 1/2" Hex Head Grade 8 bolts to install these openers. **Sold separately.** See page 113 for more details.

## 610-HLD-2080

**Fits:** 47° and 50° C-Shank

**Fertilizer Type:** Multiple options. See page 56-57 for more details.

**Overview:** This holder is part of the **VOS** (Versatile Opener System) which gives you the flexibility to choose the right tip and fertilizer tubes for your needs. Shown with **610-TIP-4081** and **880-TUB-1003**.

**Notes:** Use Grade 8 carriage bolts to install these openers. **Sold separately.** See page 106 for more details.

When installing on 50° shanks other than Bourgault or Ezee-On you will require either the **880-WDG-0300** or **880-WDG-0301**. See page 104 for more information.

**Components sold separately.** See page 56-57 for more details.

## 620-HLD-5000

**Fits:** 47° and 50° C-Shank

**Fertilizer Type:** Multiple options. See page 53-55 for more details.

**Overview:** This holder is part of the **Titan Opener System**, an innovative system giving you the most horizontal and vertical seed separation. This system gives you the flexibility to choose the right tip, seed shoe and fertilizer tubes for your needs. Shown with **620-TIP-0510** and **620-SSH-1000**.

**Components sold separately.** See page 53-55 for more details.

**Notes:** Use 1/2" x 2-1/4" Hex Head Grade 8 bolts to install these openers. **Sold separately.** See page 113 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

**Fertilizer Type:** Starter Fertilizer w/ Seed Only

**Tube Size:** 1-1/4" (32 mm) O.D.

**Tip Options:** Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. **Tips sold separately.** See page 10-11 for more details.

**Overview:** 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 increases the life of the holder and reduces breakage in rocky conditions.

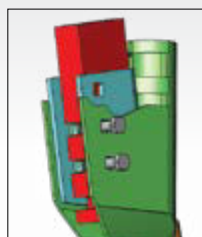


Fig.1

**Notes:** Use 3/8" x 2-1/4" Grade 8 carriage bolts to install these openers. **Sold separately.** See page 106 for more details.

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

For an expanded view of this opener see page 115.

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



**This Single Shoot Opener Fits:** Bourgault PHD

**Fertilizer Type:** Starter Fertilizer w/ Seed Only + Liquid Phos

**Tube Size:** Granular: 1-1/4" (32 mm) O.D.

**Liq. Phos.:** 3/16" (5 mm) O.D. This can be converted to work with 1/4" (6 mm) I.D. delivery hoses with **880-ASY-1010**. See page 104 for more details.

**Tip Options:** Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. **Tips sold separately.** See page 10-11 for more details.

**Overview:** Liquid 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 increases the life of the holder and reduces breakage in rocky conditions.

**Notes:** Use 3/8" x 2-1/4" Grade 8 carriage bolts to install these openers. **Sold separately.** See page 106 for more details.

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

For an expanded view of this opener see page 115.



680-ASY-0711GP



680-ASY-0711LP

THESE **SIDE BAND**  
OPENERS FIT:



Granular N



Granular N + Liquid Phos



Liquid N



Liquid N + Liquid Phos

**BOURGAULT PHD**

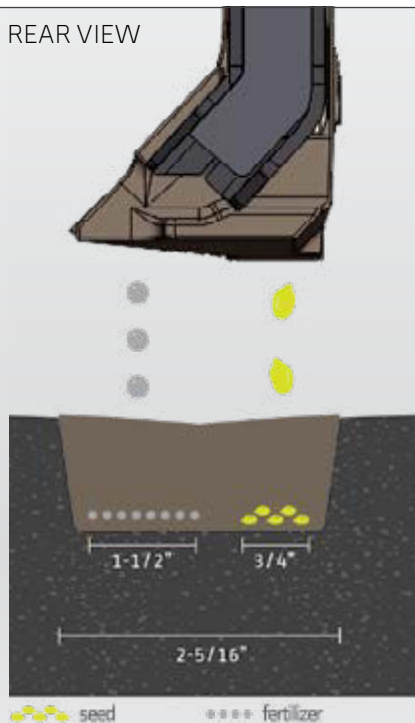
680-ASY-0711G  
680-ASY-0712G

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

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

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

REAR VIEW



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors. In less than ideal conditions, mixing between seed and fertilizer may occur. For more information please refer to precautions and risk factors on page 18-19.

**Seed Placement:** The seed is placed in a 3/4" (19 mm) band onto a firm, unfractured seedbed. The **GP & LP** openers deliver the liquid phos **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 18-19.*

**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.

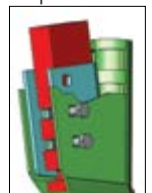
**Opener Features:** Hard facing is placed on critical wear points to ensure a long-lasting holder and proper seed placement. The streamlined holder design reduces plugging and allows for better trash clearance.

**Installation Notes:** Use 3/8" x 2-1/4" Grade 8 carriage bolts to install these openers. *Sold separately.* See page 106 for more details.

When installing use bolt holes pictured right.

**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 an expanded view of these openers see page 116.





OPENERS TO FIT **BOURGAULT**



680-ASY-2711G



680-ASY-2711LP

THESE SIDE BAND OPENERS FIT:	 Granular N	 Granular N + Liquid Phos	 Liquid N	 Liquid N + Liquid Phos
	<b>BOURGAULT PHD</b> 680-ASY-2711G 680-ASY-2712G	680-ASY-2711GP 680-ASY-2712GP	680-ASY-2711L 680-ASY-2712L	680-ASY-2711LP 680-ASY-2712LP

**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. The **GP & LP** openers deliver the liquid phos **on top of the seed**.

**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 18-19.*

**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:** Use 3/8" x 2-1/4" Grade 8 carriage bolts to install these openers.

**Sold separately.** See page 106 for more details.

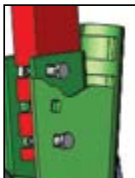


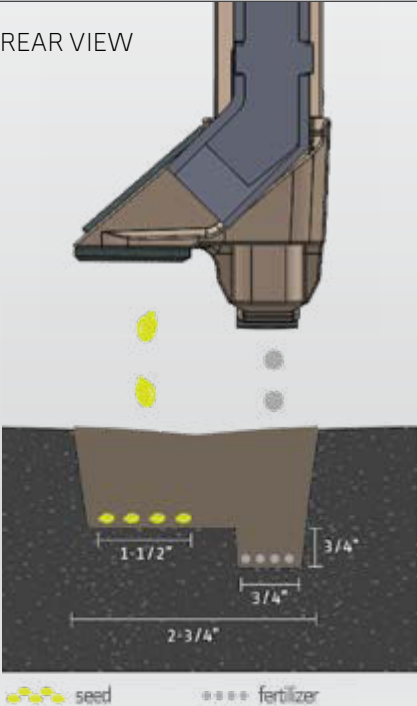
Fig.1

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 an expanded view of these openers see page 118.

REAR VIEW



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 18-19.*

## OPENERS TO FIT **BOURGAULT**



THESE **SIDE BAND**  
OPENERS FIT:

**L**  
DOUBLE SHOOT: Liquid N

**L P**  
TRIPLE SHOOT: Liquid N + Liquid Phos

**M**  
DOUBLE SHOOT: Pressurized NH<sub>3</sub>\*

**BOURGAULT PHD**

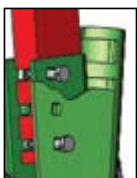
682-ASY-2063  
682-ASY-2064

682-ASY-2063P  
682-ASY-2064P

682-ASY-2063M  
682-ASY-2064M

\*For Pressurized NH<sub>3</sub> 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 NH<sub>3</sub> + 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 **on top of the seed**.
- The streamlined holder design reduces plugging and allows for better trash clearance.



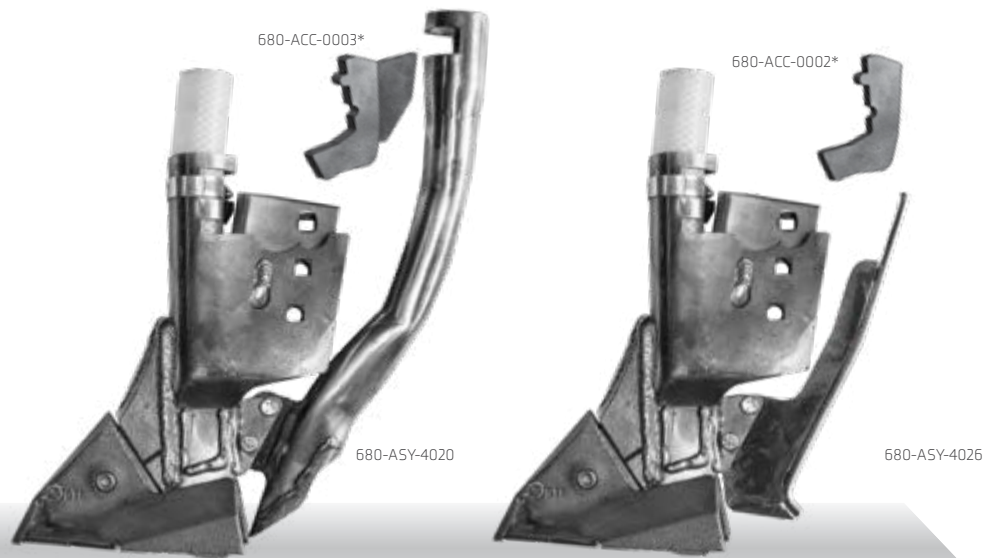
**Installation Note:** When installing on a Bourgault PHD use bolt holes pictured in Fig.1. Use 3/8" x 2-1/4" Grade 8 carriage bolts to install these openers. **Sold separately.** See page 106 for more details.

**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 an expanded view of these openers see page 127.

Fig.1

# OPENERS TO FIT **BOURGAULT**



THESE **PAIRED ROW**  
OPENERS FIT:



Granular N



Liquid N

**BOURGAULT PHD**  
EXCEPT XTC

**680-ASY-4020\***

**680-ASY-4026\*\***

**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 18-19.*

**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. See page 105 for more information. 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.

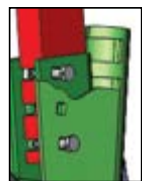


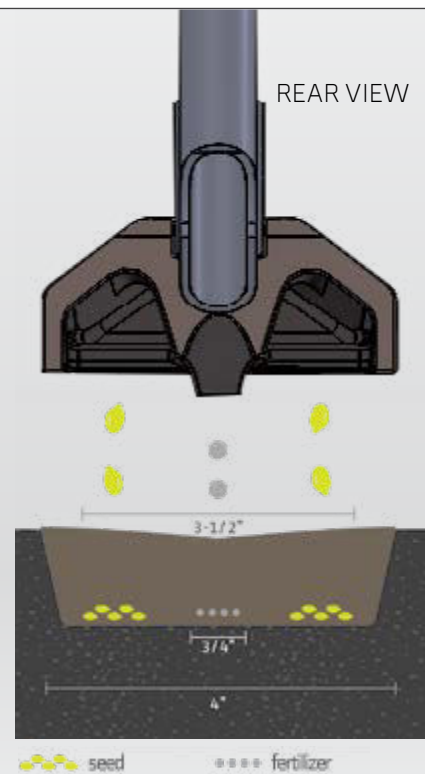
Fig.1

**Installation Notes:** Use 3/8" x 2-1/4" Grade 8 carriage bolts to install these openers. **Sold separately.** See page 106 for more details.

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

This opener can be converted to a single shoot opener by using the conversion tab **680-ACC-0004**. See page 104 for more details.

For an expanded view of these openers see page 121.



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 18-19.*



\*When installing on a Bourgault 3310 & 3320 PHD Drill spacer **680-ACC-0003** is required. See page 104 for more details.

\*\*When installing on a Bourgault 3310 & 3320 PHD Drill spacer **680-ACC-0002** is required. See page 104 for more details.



# OPENERS TO FIT **BOURGALT**



## 673-HLD-2080

**Fits:** Bourgault PHD

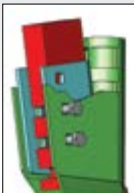
**Fertilizer Type:** Multiple options. See page 56-57 for more details.

**Overview:** This holder is part of the **VOS (Versatile Opener System)** which gives you the flexibility to choose the right tip and fertilizer tubes for your needs. Shown with **610-TIP-0802**.

**Notes:** Use 3/8" x 2-1/4" Grade 8 carriage bolts to install these openers. **Sold separately.** See page 106 for more details.

Use bolt holes shown right when installing on Bourgault 3310 & 3320 PHD Drills.

**Components sold separately.** See page 56-57 for more details.



## 628-HLD-5000

**Fits:** Bourgault PHD (Except XTC)

**Fertilizer Type:** Multiple options. See page 53-55 for more details.

**Overview:** This holder is part of the **Titan Opener System**, an innovative system giving you the most horizontal and vertical seed separation. This system gives you the flexibility to choose the right tip, seed shoe and fertilizer tubes for your needs. Shown with **620-TIP-0510** and **620-SSH-1000**.

**Notes:** Use bolt and nut combo **620-BNC-3100** (5/16" x 1-1/2") to install these openers. **Included with Holder.**

**Components sold separately.** See page 53-55 for more details.

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**Looking for C-Shank Openers?**

Refer to our *C-Shank Section* on pages 20-25.

## 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 PD5700

**Fertilizer Type:** Starter Fertilizer w/ Seed Only + Liquid Phos

**Tube Size:** Granular: 1-1/4" (32 mm) O.D.

**Liq. Phos.:** 3/16" (5 mm) O.D. This can be converted to work with 1/4" (6 mm) I.D. delivery hoses with **880-ASY-1010**. See page 104 for more details.

**Tip Options:** Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions.

**Tips sold separately.** See page 10-11 for more details.

**Overview:** This single shoot opener applies Liquid Phos **on top of the seed**, the narrow design allows for more accurate seed placement behind the tip. Extra hard surfacing on critical wear areas increases the life of the holder. **684-KNH-1000** is available without the liquid phosphorus tube.

**Notes:** Use 1/2" x 2" Grade 8 Hex Head bolts to install these openers. **Sold separately.** See page 113 for more details.

## 684-KNH-1010

### This Single Shoot Opener Fits:

Case IH 800  
New Holland P2070  
Flexi-Coil PD5700

**Fertilizer Type:** Starter Fertilizer w/ Seed Only

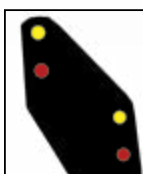
**Tube Size:** 1-1/4" (32 mm) O.D.

**Tip Options:** Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions.

**Tips sold separately.** See page 10-11 for more details.

**Overview:** This single shoot opener is designed to clear heavy trash build up, the narrow design allows for more accurate seed placement behind the tip. Extra hard surfacing on critical wear areas increases the life of the holder. This holder has an extra set of bolt holes on the body for deeper seed placement where required.

**Notes:** Use 1/2" x 2" Grade 8 Hex Head bolts to install these openers. **Sold separately.** See page 113 for more details.



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 5500  
(84° Shanks Only)

**Fertilizer Type:** Starter Fertilizer w/ Seed Only + Liquid Phos

**Tube Size:** Granular: 1-1/4" (32 mm) O.D.

**Liq. Phos.:** 3/16" (5 mm) O.D. This can be converted to work with 1/4" (6 mm) I.D. delivery hoses with **880-ASY-1010**. See page 104 for more details.

**Tip Options:** Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions.

**Tips sold separately.** See page 10-11 for more details.

**Overview:** This single shoot opener applies Liquid Phos **on top of the seed**, the narrow design allows for more accurate seed placement behind the tip. Extra hard surfacing on critical wear areas increases the life of the holder. **694-KNH-1000** is available without the liquid phosphorus tube.

**Notes:** Use 1/2" x 2-1/4" Grade 8 Hex Head bolts to install these openers. **Sold separately.** See page 113 for more details.

## Looking for C-Shank Openers?

Refer to our C-Shank Section on pages 20-25.



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

694-ASY-0711G



684-ASY-0711L



THESE **SIDE BAND**  
OPENERS FIT:

	<b>G</b> Granular N	<b>G P</b> Granular N + Liquid Phos	<b>L</b> Liquid N	<b>L P</b> Liquid N + Liquid Phos
<b>CASE IH ATX 700</b> <b>NH P2060</b> <b>FLEXI-COIL 5500</b> <b>CONCORD</b> (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
<b>CASE IH 800</b> <b>NH P2070</b> <b>FLEXI-COIL PD5700</b>	684-ASY-0711G 684-ASY-0712G	684-ASY-0711GP 684-ASY-0712GP	684-ASY-0711L 684-ASY-0712L	684-ASY-0711LP 684-ASY-0712LP

**Seed Placement:** The seed is placed in a 3/4" (19 mm) band onto a firm, unfractured seedbed. The **GP & LP** openers deliver the liquid phos **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 18-19.*

**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.

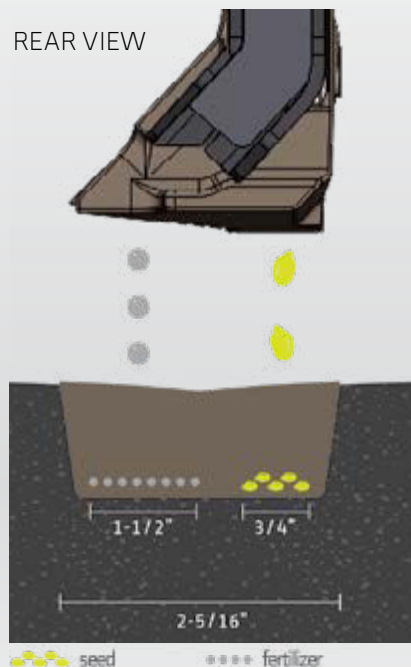
**Opener Features:** Hard facing is placed on critical wear points to ensure a long-lasting holder and proper seed placement. The streamlined holder design reduces plugging and allows for better trash clearance.

**Installation Notes:** Use 1/2" x 2" Grade 8 Hex Head bolts to install **684** openers. Use 1/2" x 2-1/4" Grade 8 Hex Head bolts to install **694** openers. **Sold separately.** See page 113 for more details.

**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 an expanded view of these openers see page 117.

REAR VIEW



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 18-19.*

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

694-ASY-2711LP

684-ASY-2711G

THESE **SIDE BAND**  
OPENERS FIT:



Granular N



Granular N + 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**

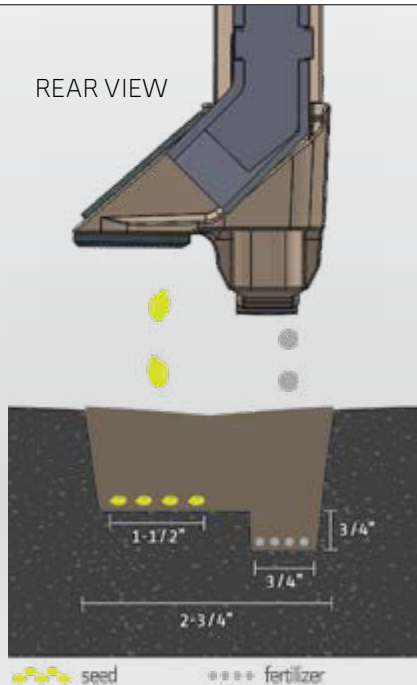
684-ASY-2711G\*  
684-ASY-2712G\*

684-ASY-2711GP\*  
684-ASY-2712GP\*

684-ASY-2711L\*  
684-ASY-2712L\*

684-ASY-2711LP\*  
684-ASY-2712LP\*

REAR VIEW



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 18-19.*

**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. The **GP & LP** openers deliver the liquid phos **on top of the seed**.

**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 18-19.*

**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.

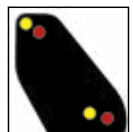
**Assemblies on this page include the tip.**

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

**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:** Use 1/2" x 2" Grade 8 Hex Head bolts to install **684** openers. Use 1/2" x 2-1/4" Grade 8 Hex Head bolts to install **694** openers. **Sold separately.** See page 113 for more details.

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



**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 an expanded view of these openers see page 119.

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



694-ASY-4020G



694-ASY-4020L

THESE **PAIRED ROW**  
OPENERS FIT:

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



Granular N + Liquid Phos



Liquid N

694-ASY-4020G

694-ASY-4020L

**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 18-19.*

**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.

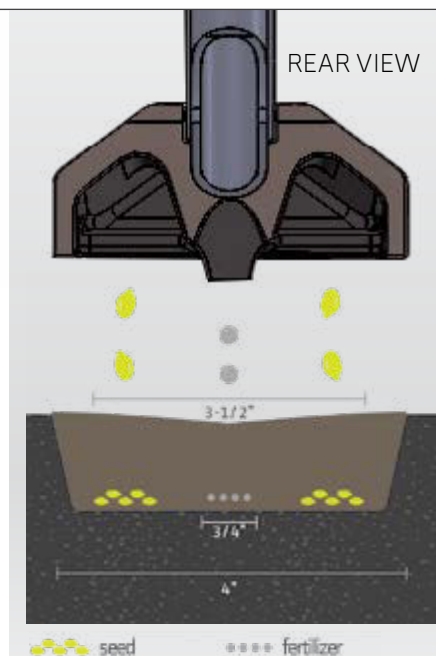
**Assemblies on this page includes the tip.**

**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.*

**Installation Notes:** Use 1/2" x 2-1/4" Grade 8 Hex Head bolts to install these openers. **Sold separately.** See page 113 for more details.

For an expanded view of these openers see page 120.



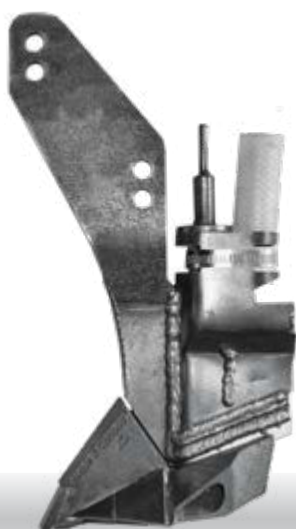
Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 18-19.*

## Looking for C-Shank Openers?

Refer to our C-Shank Section on pages 20-25.



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



## 684-HLD-2080

**Fits:** Case IH 800  
New Holland P2070  
Flexi-Coil PD5700

**Fertilizer Type:** Multiple options. See page 56-57 for more details.

**Overview:** This holder is part of the **VOS** (Versatile Opener System) which gives you the flexibility to choose the right tip and fertilizer tubes for your needs. Shown with **610-TIP-1711** and **880-TUB-1003**.

**Components sold separately.**  
See page 56-57 for more details.

**Notes:** Use 1/2" x 2" Grade 8 Hex Head bolts to install these openers. **Sold separately.** See page 113 for more details.



## 694-HLD-2080

**Fits:** Case IH ATX 700  
New Holland P2060  
Flexi-Coil 5500  
Concord  
(84° Shanks Only)

**Fertilizer Type:** Multiple options. See page 56-57 for more details.

**Overview:** This holder is part of the **VOS** (Versatile Opener System) which gives you the flexibility to choose the right tip and fertilizer tubes for your needs. Shown with **610-TIP-4081**.

**Components sold separately.**  
See page 56-57 for more details.

**Notes:** Use 1/2" x 2-1/4" Grade 8 Hex Head bolts to install these openers. **Sold separately.** See page 113 for more details.



## 694-HLD-5000

**Fits:** Case IH ATX 700  
New Holland P2060  
Flexi-Coil 5500  
Concord  
(84° Shanks Only)

**Fertilizer Type:** Multiple options. See page 53-55 for more details.

**Overview:** This holder is part of the **Titan Opener System**, an innovative system giving you the most horizontal and vertical seed separation. This system gives you the flexibility to choose the right tip, seed shoe and fertilizer tubes for your needs. Shown with **620-TIP-0510** and **620-SSH-1000**.

**Components sold separately.**  
See page 53-55 for more details.

**Notes:** Use 1/2" x 2-12" Grade 8 Hex Head bolts to install these openers. **Sold separately.** See page 113 for more details.

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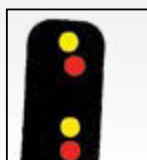
**NOW STOCKING DISK BLADES TO FIT CNH, SEE PAGES 98-102 FOR MORE DETAILS.**



# OPENERS TO FIT HORSCH



688-HLD-1000	688-ASY-4020G 688-ASY-4020L	688-HLD-5000
<p><b>This Single Shoot Opener Fits:</b> Horsch 84° Shank</p> <p><b>Fertilizer Type:</b> Starter Fertilizer w/ Seed Only</p> <p><b>Tube Size:</b> 1-1/4" (32 mm) O.D.</p> <p><b>Tip Options:</b> Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. <i>Tips sold separately. See page 10-11 for more details.</i></p> <p><b>Overview:</b> This single shoot opener has a narrow design allowing for more accurate seed placement behind the tip. Extra hard surfacing on critical wear areas increases the life of the holder. This holder comes with a second set of holes allowing you to adjust the pitch by 3° when required.</p> <p><b>Notes:</b> Use 16 mm x 55 mm Grade 8 Hex Head bolts to install these openers. <b>Sold Separately.</b></p> <p><i>Hose clamps used to secure seed hoses from drill are Sold Separately.</i></p> <p>Standard installation uses the bottom holes (pictured red), for 1.5" more depth use the top holes (pictured yellow).</p>	<p><b>These Paired Row Openers Fit:</b> Horsch 84°</p> <p><b>Seed Placement:</b> Seed is directed rearward through the tip which places the seed in two rows onto a firm, unfractured seedbed.</p> <p><b>Fertilizer placement:</b> Fertilizer is delivered on the same level, between the rows of seed. In less than ideal conditions, mixing between seed and fertilizer may occur. <i>For more information please refer to precautions &amp; risk factors on page 18-19.</i></p> <p><b>Disturbance:</b> Ultra-low draft, low disturbance and smoother fields.</p> <p><b>Replaceable tip:</b> Cast chrome tip with carbide inserts on the nose and narrow carbide on the cutting edges of the wings for great penetration. <b>Assemblies include the tip.</b></p> <p><b>Packer Recommendation:</b> 4" (102 mm) or wider.</p> <p><b>Opener Features:</b> 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.</p> <p><b>Notes:</b> Use 16 mm x 55 mm Grade 8 Hex Head bolts to install these openers. <b>Sold Separately.</b></p> <p><i>Hose clamps used to secure seed hoses from drill are Sold Separately.</i></p> <p><i>For an expanded view of these openers see page 120.</i></p>	<p><b>Fits:</b> Horsch 84° Shank</p> <p><b>Fertilizer Type:</b> Multiple options. See page 53-55 for more details.</p> <p><b>Overview:</b> This holder is part of the <b>Titan Opener System</b>, an innovative system giving you the most horizontal and vertical seed separation. This system gives you the flexibility to choose the right tip, seed shoe and fertilizer tubes for your needs. Shown with <b>620-TIP-0510</b> and <b>620-SSH-1000</b>.</p> <p><i>Components sold separately. See page 53-55 for more details.</i></p> <p><b>Notes:</b> Use 16 mm x 55 mm Grade 8 Hex Head bolts to install these openers. <b>Sold Separately.</b></p>



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## 688-HLD-2080 w/ 610-TIP 4081 PART OF VOS (VERSATILE OPENER SYSTEM)

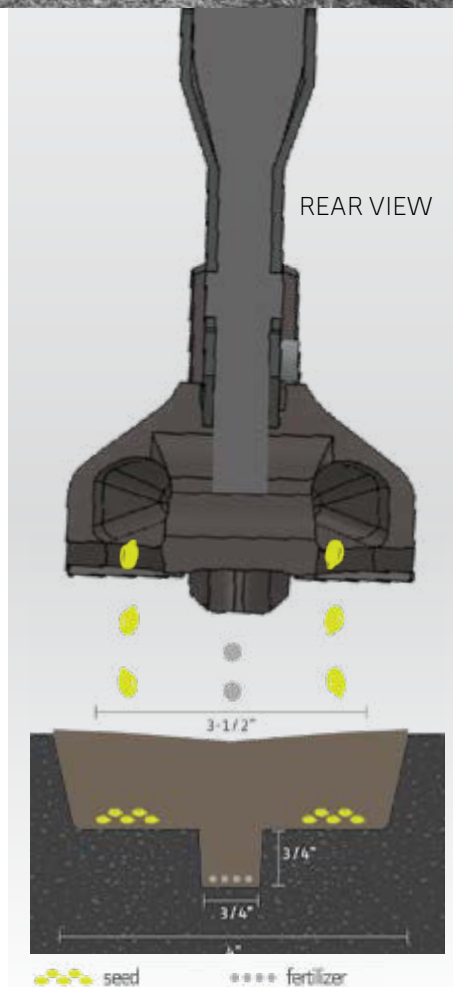
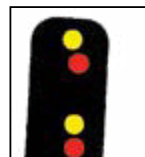
**Fits:** Horsch 84° Shank

**Fertilizer Type:** Multiple options. See page 56-57 for more details.

**Overview:** This holder is part of the **VOS** (Versatile Opener System) which gives you the flexibility to choose the right tip and fertilizer tubes for your needs. Shown with **610-TIP 4081**. This holder comes with a second set of holes allowing you to adjust the pitch by 3° when required. **Components sold separately.** See page 56-57 for more details.

**Notes:** Use 16 mm x 55 mm Grade 8 Hex Head bolts to install these openers. **Sold Separately.**

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



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors. In less than ideal conditions, mixing between seed and fertilizer may occur. **For more information please refer to precautions and risk factors on page 18-19.**



# OPENERS TO FIT JOHN DEERE



650-ASY-0711  
(LEFT WING SHOWN)



## 650-ASY-0711 & 650-ASY-0712 650-ASY-0711P & 650-ASY-0712P



**This Side Band Opener Fits:** John Deere 1870 Conserva Pak

**Fertilizer Type:** Starter Fertilizer w/ Seed Only + Liquid Phos

**Tube Size:** Granular: 1-1/4" (32 mm) O.D. **Liq. Phos.:** 3/16" (5 mm) O.D. This can be converted to work with 1/4" (6 mm) I.D. delivery hoses with **880-ASY-1010**. See page 104 for more details.

**Tip Options:** 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. **Assemblies includes the tip.**

**Overview:** The seed is directed rearward through the holder which places the seed in one row off to the side on a firm, unfractured seed bed. Extra hard surfacing on critical wear areas increases the life of the holder. For Liquid Phosphorus option order **650-ASY-0711P** (left) and **650-ASY-0712P** (right).

**Notes:** Use M8x30 Grade 8 Hex Head bolts to install these openers. **Sold Separately.**

For an expanded view of this opener see page 123.

## 650-ASY-3011 & 650-ASY-3011P



**This Paired Row Opener Fits:** John Deere 1870 Conserva Pak

**Fertilizer Type:** Starter Fertilizer w/ Seed Only + Liquid Phos

**Tube Size:** Granular: 1-1/4" (32 mm) O.D. **Liq. Phos.:** 3/16" (5 mm) O.D. This can be converted to work with 1/4" (6 mm) I.D. delivery hoses with **880-ASY-1010**. See page 104 for more details.

**Tip Options:** 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.**

**Overview:** 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 increases the life of the holder. For Liquid Phosphorus option order **650-ASY-3011P**.

Use M8x30 Grade 8 Hex Head bolts to install these openers. **Sold Separately.**

For an expanded view of this opener see page 123.

# FERTILIZER KNIVES TO FIT JOHN DEERE



650-HLD-1000L



650-HLD-1000N



650-HLD-1000GL



650-HLD-1000GN



650-ACC-1000



650-HLD-1000G



650-HLD-1001

## 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 NH<sub>3</sub> application, it has a 0.4" O.D. stainless steel tube.

The bracket, **650-ACC-1000** is required, it limits the tripping distance of the fertilizer knives on this page. **Bracket sold separately. Mounting bolts included.** See page 122 for more details.

**Notes:** Use roll pins to install. **Sold Separately.**

### 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** NH<sub>3</sub>

**G L** Granular & Liquid

**G N** Granular & NH<sub>3</sub>

For an expanded view of these openers see page 122.

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**NOW STOCKING DISK BLADES TO FIT JOHN DEERE, SEE PAGES 98-102 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)



**These Single Shoot Openers Fit:** Morris Maxim Edge On

**Fertilizer Type:** Starter Fertilizer w/ Seed Only + Liquid Phos

**Tube Size:** **Granular:** 1-1/4" (32 mm) O.D. **Liq. Phos.:** 3/16" (5 mm) O.D. This can be converted to work with 1/4" (6 mm) I.D. delivery hoses with **880-ASY-1010**. See page 104 for more details.

**Tip Options:** Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. **Tips sold separately.** See page 10-11 for more details.

**Overview:** Liquid 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 increases the life of the holder and reduces breakage in rocky conditions.

**Notes:** Use 3/8" x 2-1/4" Grade 8 carriage bolts to install these openers. **Sold separately.** See page 106 for more details.

For an expanded view of this opener see page 115.

## 683-ASY-1000P (FITS MORRIS CONTOUR I)

**683-KNH-1000** (FITS MORRIS CONTOUR I)

**693-ASY-1000P** (FITS MORRIS CONTOUR II)

**693-KNH-1000** (FITS MORRIS CONTOUR II)



**These Single Shoot Openers Fit:** Morris Contour I & II

**Fertilizer Type:** Starter Fertilizer w/ Seed Only + Liquid Phos

**Tube Size:** **Granular:** 1-1/4" (32 mm) O.D. **Liq. Phos.:** 3/16" (5 mm) O.D. This can be converted to work with 1/4" (6 mm) I.D. delivery hoses with **880-ASY-1010**. See page 104 for more details.

**Tip Options:** Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. **Tips sold separately.** See page 10-11 for more details.

**Overview:** This single shoot opener applies Liquid Phos **on top of the seed**, the narrow design allows for more accurate seed placement behind the tip. Extra hard surfacing on critical wear areas increases the life of the holder. **683-KNH-1000 & 693-KNH-1000** are available without the liquid phosphorus tubes.

**Notes:** Use 1/2" x 2" Grade 8 Hex Head bolts to install these openers. **Sold separately.** See page 113 for more details.



680-ASY-0711LP



683-ASY-0711L



693-ASY-0711GP



THESE SIDE BAND OPENERS FIT:



Granular N



Granular N + 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**

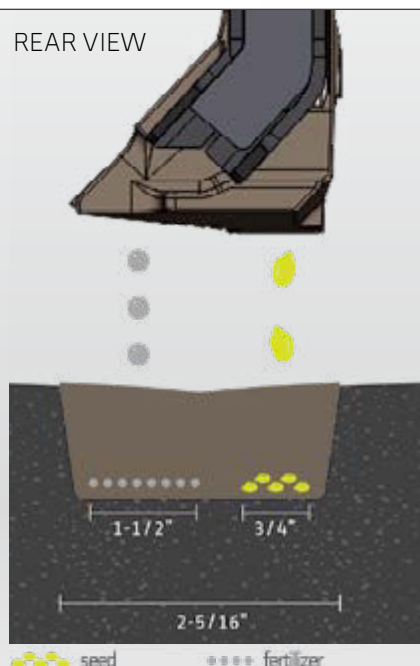
693-ASY-0711G  
693-ASY-0712G

693-ASY-0711GP  
693-ASY-0712GP

693-ASY-0711L  
693-ASY-0712L

693-ASY-0711LP  
693-ASY-0712LP

REAR VIEW



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors. In less than ideal conditions, mixing between seed and fertilizer may occur. For more information please refer to precautions and risk factors on page 18-19.

**Seed Placement:** The seed is placed in a 3/4" (19 mm) band onto a firm, unfractured seedbed. The **GP & LP** openers deliver the liquid phos **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 18-19.*

**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. See page 105 for more information.

**Installation Notes:** Use 3/8" x 2-1/4" Grade 8 carriage bolts to install **680** openers. **Sold separately.** See page 106 for more details.

Use 1/2" x 2" Grade 8 Hex Head bolts to install **683 & 693** openers. **Sold separately.** See page 113 for more details.

**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 an expanded view of these openers see page 116-117.

# OPENERS TO FIT MORRIS

680-ASY-2711LP



683-ASY-2711G



693-ASY-2711LP



THESE **SIDE BAND**  
OPENERS FIT:



Granular N



Granular N + 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

**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. The **GP & LP** openers deliver the liquid phos **on top of the seed**.

**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 18-19.*

**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.**

**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. See page 105 for more information.

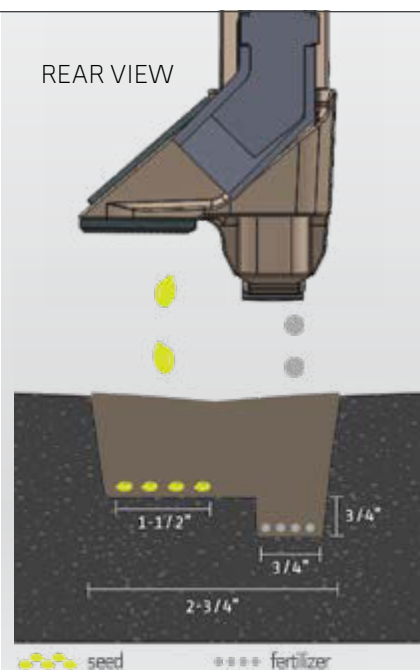
**Installation Notes:** Use 3/8" x 2-1/4" Grade 8 carriage bolts to install **680** openers. **Sold separately.** See page 106 for more details.

Use 1/2" x 2" Grade 8 Hex Head bolts to install **683 & 693** openers. **Sold separately.** See page 113 for more details.

**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 an expanded view of these openers see pages 118-119.

REAR VIEW



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 18-19.*



THESE **SIDE BAND**  
OPENERS FIT:

**L**

**DOUBLE SHOOT:** Liquid N

**L P**

**TRIPLE SHOOT:** Liquid N + Liquid Phos

**M**

**DOUBLE SHOOT:** Pressurized NH<sub>3</sub>\*

**MORRIS MAXIM  
EDGE ON**

682-ASY-2063  
682-ASY-2064

682-ASY-2063P  
682-ASY-2064P

682-ASY-2063M  
682-ASY-2064M

\*For Pressurized NH<sub>3</sub> 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 NH<sub>3</sub> + 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 **on top of the seed**.
- The streamlined holder design reduces plugging and allows for better trash clearance.

**Installation Notes:** Use 3/8" x 2-1/4" Grade 8 carriage bolts to install these openers. **Sold separately.** See page 106 for more details.

**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 an expanded view of these openers see page 127.



# OPENERS TO FIT MORRIS

680-ASY-4020

683-ASY-4020G

693-ASY-4020L

THESE PAIRED ROW  
OPENERS FIT:



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

**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 18-19.*

**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.**

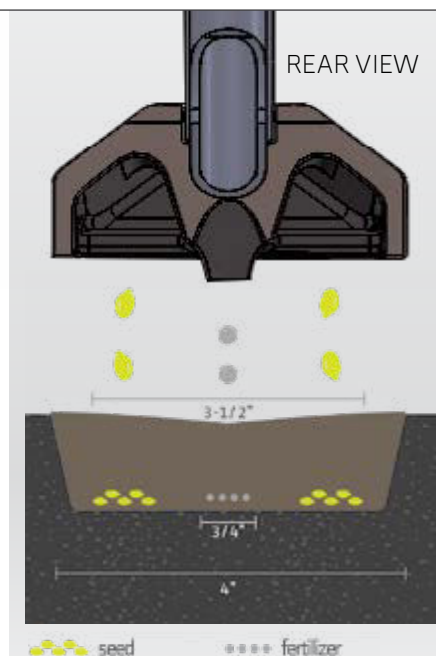
**Packer Recommendation:** 4" (102 mm) or wider.

**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.*

**Installation Notes:** Use 3/8" x 2-1/4" Grade 8 carriage bolts to install **680** openers. **Sold separately.** See page 106 for more details.

Use 1/2" x 2" Grade 8 Hex Head bolts to install **683 & 693** openers. **Sold separately.** See page 113 for more details.

For an expanded view of these openers see page 120-121.



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors. In less than ideal conditions, mixing between seed and fertilizer may occur. *For more information please refer to precautions and risk factors on page 18-19.*



673-HLD-2080



683-HLD-2080



693-HLD-2080



## 673-HLD-2080

**Fits:** Morris Maxim Edge On

**Fertilizer Type:** Multiple options. See page 56-57 for more details.

**Overview:** This holder is part of the **VOS** (Versatile Opener System) which gives you the flexibility to choose the right tip and fertilizer tubes for your needs. Shown with **610-TIP-1711** and **880-TUB-1003**.

**Components sold separately.** See page 56-57 for more details.

**Notes:** Use 3/8" x 2-1/4" Grade 8 carriage bolts to install these openers. **Sold separately.** See page 106 for more details.

## 683-HLD-2080 693-HLD-2080

**Fits:** Morris Contour I & II

**Fertilizer Type:** Multiple options. See page 56-57 for more details.

**Overview:** This holder is part of the **VOS** (Versatile Opener System) which gives you the flexibility to choose the right tip and fertilizer tubes for your needs. Shown with **610-TIP-4081**.

**Components sold separately.** See page 56-57 for more details.

**Notes:** Use 1/2" x 2" Grade 8 Hex Head bolts to install these openers. **Sold separately.** See page 113 for more details.

## 628-HLD-5000

**Fits:** Morris Maxim Edge On

**Fertilizer Type:** Multiple options. See page 53-55 for more details.

**Overview:** This holder is part of the **Titan Opener System**, an innovative system giving you the most horizontal and vertical seed separation. This system gives you the flexibility to choose the right tip, seed shoe and fertilizer tubes for your needs. Shown with **620-TIP-0510** and **620-SSH-1000**.

**Notes:** Use bolt and nut combo **620-BNC-3100** (5/16" x 1-1/2") to install these openers. **Included with Holder.**

**Components sold separately.** See page 53-55 for more details.

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# FERTILIZER KNIVES TO FIT SALFORD

## 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.

**Non-Freeze Version:** NH<sub>3</sub> is delivered through a nylon insert, insulating the NH<sub>3</sub> 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. NH<sub>3</sub> tube size is 1/2" (12 mm) O.D. and is designed to work with cold-flow NH<sub>3</sub> units.

**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.

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

### Fertilizer Options:

- G** Granular
- L** Liquid
- N** NH<sub>3</sub>
-  **N** Non-Freeze NH<sub>3</sub>

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670-HLD-1000G



670-HLD-1000



670-HLD-1000L



670-ASY-7523



670-HLD-1000N



**NOW STOCKING DISK BLADES TO FIT SALFORD, SEE PAGES 98-102 FOR MORE DETAILS.**





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



686-HLD-1010GN



686-HLD-1020G



686-HLD-1020L



686-HLD-1020N



686-HLD-1010GL

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 N or NH<sub>3</sub>.

**Notes:** Use 1/2" x 2" Grade 8 Hex Head bolts to install these openers.

**Sold separately.** See page 113 for more details.

**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** NH<sub>3</sub>

**G L** Granular & Liquid

**G N** Granular & NH<sub>3</sub>

For an expanded view of these openers see page 124.

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



686-KNH-1001



<b>686-KNH-1001</b> <b>686-KNH-1001P</b> <span style="background-color: yellow; border: 1px solid black; border-radius: 50%; padding: 2px 5px; font-weight: bold;">P</span>	<b>686-ASY-1711 &amp; 1712</b> <b>686-ASY-1711P &amp; 1712P</b> <span style="background-color: yellow; border: 1px solid black; border-radius: 50%; padding: 2px 5px; font-weight: bold;">P</span>	<b>686-ASY-3500</b> <b>686-ASY-3500P</b> <span style="background-color: yellow; border: 1px solid black; border-radius: 50%; padding: 2px 5px; font-weight: bold;">P</span>
<p><b>These Single Shoot Openers Fit:</b> Seed Hawk Inc.* / Väderstad</p> <p><b>Fertilizer Type:</b> Starter Fertilizer w/ Seed Only + Liquid Phos</p> <p><b>Tube Size: Seed Tube:</b> 1-1/4" (32 mm) O.D. <b>Liq. Phos.:</b> 3/16" (5 mm) O.D. This can be converted to work with 1/4" (6 mm) I.D. delivery hoses with <b>880-ASY-1010</b>. See page 104 for more details.</p> <p><b>Tip Options:</b> Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. <i>Tips sold separately.</i> See page 10-11 for more details.</p> <p><b>Overview:</b> The seed shank is offset to the fertilizer shank. This single shoot opener applies Liquid Phos <b>on top of the seed</b>, the narrow design allows for more accurate seed placement behind the tip. <b>686-KNH-1000</b> is available without the liquid phosphorus tube.</p> <p><b>Notes:</b> Use 1/2" x 2" Grade 8 Hex Head bolts to install these openers. <i>Sold separately.</i> See page 113 for more details.</p>	<p><b>These Side Band Openers Fit:</b> Seed Hawk Inc.* / Väderstad</p> <p><b>Fertilizer Type:</b> Starter Fertilizer w/ Seed Only + Liquid Phos</p> <p><b>Tube Size: Seed Tube:</b> 1-1/4" (32 mm) O.D. <b>Liq. Phos.:</b> 3/16" (5 mm) O.D. This can be converted to work with 1/4" (6 mm) I.D. delivery hoses with <b>880-ASY-1010</b>. See page 104 for more details.</p> <p><b>Tip Options:</b> Cast chrome tip with carbide inserts on the nose and the wing for excellent penetration and wear resistance. <i>Assemblies includes the tip.</i></p> <p><b>Overview:</b> The seed shank is in-line with the fertilizer shank. Extra hard surfacing on critical wear areas increases the life of the holder. For Liquid Phosphorus option order <b>686-ASY-1711P &amp; 686-ASY-1712P</b>.</p> <p><b>Notes:</b> Use 1/2" x 2" Grade 8 Hex Head bolts to install these openers. <i>Sold separately.</i> See page 113 for more details.</p>	<p><b>This Paired Row Opener Fits:</b> Seed Hawk Inc.* / Väderstad</p> <p><b>Fertilizer Type:</b> Starter Fertilizer w/ Seed Only + Liquid Phos</p> <p><b>Tube Size: Seed Tube:</b> 1-1/4" (32 mm) O.D. <b>Liq. Phos.:</b> 3/16" (5 mm) O.D. This can be converted to work with 1/4" (6 mm) I.D. delivery hoses with <b>880-ASY-1010</b>. See page 104 for more details.</p> <p><b>Tip Options:</b> 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. <i>Assembly includes the tip.</i></p> <p><b>Overview:</b> The seed shank is in-line with the fertilizer shank. Extra hard surfacing on critical wear areas increases the life of the holder. For Liquid Phosphorus option order <b>686-ASY-3500P</b>.</p> <p><b>Notes:</b> Use 1/2" x 2" Grade 8 Hex Head bolts to install these openers. <i>Sold separately.</i> See page 113 for more details.</p>

...For an expanded view of the openers on these pages see page 125.

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



686-ASY-0711G



686-ASY-0711GP



686-ASY-0711LP

THESE SIDE BAND OPENERS FIT:

**SEED HAWK INC.\*  
VÄDERSTAD**



Granular N



Granular N + Liquid Phos



Liquid N



Liquid N + Liquid Phos

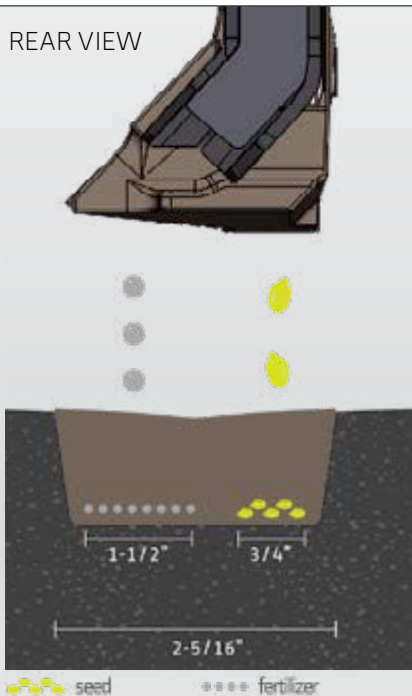
686-ASY-0711G  
686-ASY-0712G

686-ASY-0711GP  
686-ASY-0712GP

686-ASY-0711L  
686-ASY-0712L

686-ASY-0711LP  
686-ASY-0712LP

REAR VIEW



Drawing for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors. In less than ideal conditions, mixing between seed and fertilizer may occur. For more information please refer to precautions and risk factors on page 18-19.

**Seed Placement:** The seed is placed in a 3/4" (19 mm) band onto a firm, unfractured seedbed. The **GP & LP** openers deliver the liquid phos **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 18-19.*

**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:** Use 1/2" x 2" Grade 8 Hex Head bolts to install these openers. **Sold separately.** See page 113 for more details.

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 an expanded view of these openers see page 117.

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# OPENERS TO FIT **SEED MASTER**



689-KNH-1001	689-HLD-1000G <b>G</b> 689-HLD-1000L <b>L</b> 689-HLD-1000N <b>N</b>	689-HLD-1000GL <b>G L</b> 689-HLD-1000GN <b>G N</b>
<p><b>These Single Shoot Openers Fit:</b> Seed Master</p> <p><b>Fertilizer Type:</b> Starter Fertilizer w/ Seed Only</p> <p><b>Tube Size:</b> 1-1/4" (32 mm) O.D.</p> <p><b>Tip Options:</b> Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. <i>Tips sold separately. See page 10-11 for more details.</i></p> <p><b>Overview:</b> The narrow design allows for more accurate seed placement behind the tip. Extra hard surfacing on critical wear areas increases the life of the holder.</p> <p><b>Notes:</b> Use 3/8" x 1-1/2" Grade 8 Carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p>	<p><b>These Fertilizer Knives Fit:</b> Seed Master</p> <p><b>Fertilizer Types:</b> Granular N, NH3, Liquid N, Granular N + NH3 &amp; Granular + Liquid N</p> <p><b>Tube Size:</b> 1-1/4" (32 mm) O.D. Granular, 1/2" (12 mm) NH3 Tube, 1/4" (6 mm) O.D. stainless steel Liquid Tube</p> <p><b>Tip Options:</b> Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. <i>Tips sold separately. See page 10-11 for more details.</i></p> <p><b>Overview:</b> These fertilizer knives are narrow with additional hard-surfacing on critical wear areas to increase the life of the holder.</p> <p><b>Notes:</b> Use 3/8" x 2" Grade 8 Carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p>	<p><i>For an expanded view of these openers see page 126.</i></p>

## TITAN OPENER SYSTEM

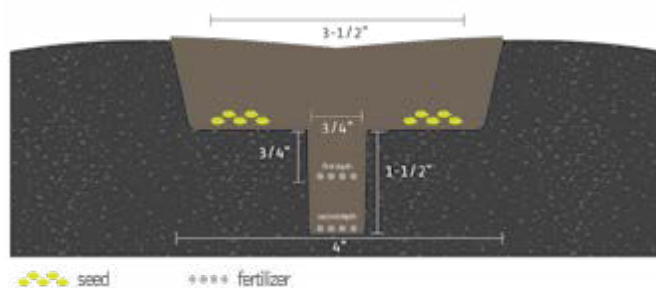
### HORIZONTAL & VERTICAL SEED/FERTILIZER SEPARATION



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](http://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. In less than ideal conditions, mixing between seed and fertilizer may occur. For more information please refer to precautions and risk factors on page 18-19.*

For an expanded view of these openers see page 128-129.

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



### 694-HLD-5000\*

THIS TITAN HOLDER FITS:  
CASE IH ATX 700, NH P2060,  
FLEXI-COIL 5500 & CONCORD  
EDGE ON  
(84° SHANKS ONLY)

## 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.



### 628-SBT-2000

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





# MULTI-SHOOT SEEDING: TITAN OPENER SYSTEM

## 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**.

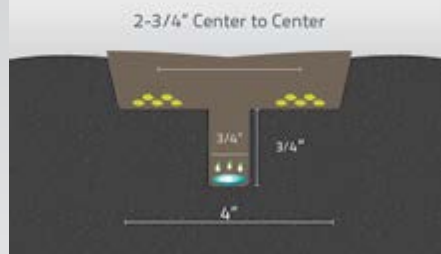


### 620-TIP-4060 TRIPLE SHOOT UNIBODY TIP + SEED SHOE

This unibody Tip/Seed Shoe fits the **620, 688 & 694** holders. Extra-long carbide inserts are placed on the nose of the tip. The nose carbides have a continuous roofed profile, producing exceptional soil flow with minimal disturbance. The seed is placed in a distinct 4" paired row, 2-3/4" center to center. The seed is deposited prior to the Aqua NH3 + Liquid Phos being placed 3/4" deeper, between the seed rows.

The shoe portion is 4" wide, with carbide fully covering the leading edges.

**NOTE:** This tip replaces the standard tip, seed shoe, fertilizer tube combinations, and is to be used with **620, 688 & 694** holders.



## 4: CHOOSE YOUR FERTILIZER

### N 620-TUB-1021

1/2" (12 mm) O.D. 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

1/4" (6 mm) O.D. 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

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

### L N 620-TUB-4000XL

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

### N 628-TUB-1021

1/2" (12 mm) O.D. 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 104 for more information.

\*\*When using these 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 128-129.

Drawings for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors. In less than ideal conditions, mixing between seed and fertilizer may occur. For more information please refer to precautions and risk factors on page 18-19.



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

## 1: CHOOSE YOUR HOLDER



**610-HLD-2080**

**FITS: C-SHANK**

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



**673-HLD-2080**

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

When installing on Bourgault PHD, this holder is only recommended for use with 3/4" single shoot tip **610-TIP-0802**.



**683-HLD-2080**

**FITS: MORRIS CONTOUR I**



**693-HLD-2080**

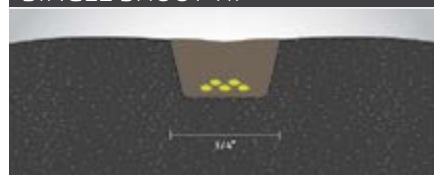
**FITS: MORRIS CONTOUR II**

## 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 TIPS**



**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:** Granular or 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:** Liquid

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



**684-HLD-2080**

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

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.



**694-HLD-2080**

**FITS: CASE IH ATX 700,  
NEW HOLLAND P2060,  
FLEXI-COIL 5500 &  
CONCORD EDGE ON  
(84° SHANKS ONLY)**



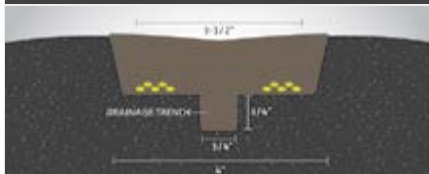
**688-HLD-2080**

**FITS:  
HORSCH 84° SHANK**

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.



**610-TIP-4030**  
PAIRED ROW TIP



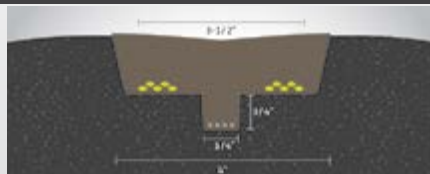
**Overview:** 4" (102 mm) Paired Row tip with extra long nose carbide and narrow carbide on the cutting edges of the wings. Two carbide inserts under the wings firm up the trench prior to seed placement.

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

**Fertilizer Options:**  
Used for seeding only.



**610-TIP-4081 & 610-TIP-4082**  
PAIRED ROW TIPS



**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.

**610-TIP-4082** has additional carbide along the sides of the fertilizer trench, below the wings, to provide extra-wear life.

**Not recommended for use on Case IH 800 or NH P2070.**

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

**Fertilizer Options:** Granular, Liquid, NH3 or NH3 + Phos

## 3: CHOOSE YOUR FERTILIZER

**N 880-TUB-1001\***  
**Precision Drills NH<sub>3</sub>**  
1/2" (12 mm) O.D. Stainless Tube

**N 880-TUB-1002\***  
**C-Shank Drills NH<sub>3</sub>**  
1/2" (12 mm) O.D. Stainless Tube

\* For pressurized NH<sub>3</sub> order NH<sub>3</sub> tube and consult your pressurized system dealer for tubing inserts.

**L 880-TUB-1003**  
**Precision Drills Liquid**  
1/4" (6 mm) O.D. Stainless Tube

**L 880-TUB-1004**  
**C-Shank Drills Liquid**  
1/4" (6 mm) O.D. Stainless Tube

**L N 880-TUB-1009**  
**Precision Drills Liquid or NH<sub>3</sub>**  
3/8" (10 mm) O.D. Stainless Tube

**L N 880-TUB-1010**  
**C-Shank Drills Liquid or NH<sub>3</sub>**  
3/8" (10 mm) O.D. Stainless Tube

**N P 880-TUB-1011**  
**Precision Drills Aqua NH<sub>3</sub> + Phos**  
1/4" (6 mm) O.D. Stainless Tube

**N P 880-TUB-1012**  
**C-Shank Drills Aqua NH<sub>3</sub> + Phos**  
1/4" (6 mm) O.D. Stainless Tube

For an expanded view of these openers see pages 130-131.

Drawings for illustration purposes only. All measurements shown are approximate. Results may vary with multiple factors. In less than ideal conditions, mixing between seed and fertilizer may occur. **For more information please refer to precautions and risk factors on page 18-19.**





SEEDING OPENERS TO FIT: **SPEED-LOC™**



200-KNF-7501	200-KNF-0811 (CARBIDE) 200-KNF-0810	200-KNF-0813
<p><b>This Single Shoot Opener Fits:</b> 200 Series Speed-Loc™</p> <p><b>Fertilizer Type:</b> N/A</p> <p><b>Tube Size:</b> N/A</p> <p><b>Tip Options:</b> The high-chrome welded tip has a carbide insert on the nose for a sharp cutting edge and extra wear life.</p> <p><b>Driver for Installation:</b> 200-DRV-1010</p> <p><b>Overview:</b> This opener is designed for use with the Technotill System.</p>	<p><b>These Single Shoot Openers Fits:</b> 200 Series Speed-Loc™</p> <p><b>Fertilizer Type:</b> N/A</p> <p><b>Tube Size:</b> N/A</p> <p><b>Tip Options:</b> 3/4" (19 mm) weld-on tip available with carbide: <b>200-KNF-0811</b>, or without carbide: <b>200-KNF-0810</b>.</p> <p><b>Driver for Installation:</b> 400-DRV-1010</p> <p><b>Overview:</b> This low disturbance opener is low in draft and provides easy pulling. It is designed to work with <b>300-ATM-1035</b> of the <b>Seed Boot System</b>.</p> <p><i>For more information on the Seed Boot System see pages 64-65.</i></p>	<p><b>This Single Shoot Opener Fits:</b> 200 Series Speed-Loc™</p> <p><b>Fertilizer Type:</b> N/A</p> <p><b>Tube Size:</b> N/A</p> <p><b>Tip Options:</b> 3/4" (19 mm) weld-on tip with extra-long nose carbide for long-lasting wear life.</p> <p><b>Driver for Installation:</b> 400-DRV-1010</p> <p><b>Overview:</b> The more vertical approach of this opener reduces rock pulling. It is designed to work with <b>300-ATM-1035</b> of the <b>Seed Boot System</b>.</p> <p><i>For more information on the Seed Boot System see pages 64-65.</i></p>

Proper Installation & Removal of Speed-Loc™ Products



To ensure proper installation of Speed-Loc™ products, the appropriate driver should be used. The correct drivers are listed above with each product, for a full chart of all drivers please See page 105.



200-REL-1010

The Speed Release tool must be used when removing openers, sweeps & spikes from the Speed-Loc™ Adapters. For more information please see page 104.

410-KNF-0800


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

**These Single Shoot Openers Fits:**  
 410 Series Speed-Loc™

**Fertilizer Type:** N/A

**Tube Size:** N/A

**Tip Options:** 3/4" (19 mm) weld-on tip available with carbide: **410-KNF-0801**, or without carbide: **410-KNF-0800**.

**Driver for Installation:** **400-DRV-1010**

**Overview:** This low disturbance opener is low in draft and provides easy pulling. It is designed to work with **300-ATM-1031** of the Seed Boot System.

*For more information on the Seed Boot System see pages 64-65.*

**200-VRT-1000**

**This Single Shoot Opener Fits:**  
 200 Series Speed-Loc™

**Fertilizer Type:** N/A

**Tube Size:** N/A

**Tip Options:** 1" (25 mm) weld-on tip with nose carbide provides long-lasting wear life.

**Driver for Installation:** **200-DRV-1030**

**Overview:** The vertical approach of this opener reduces rock pulling. It is designed to work with **300-ATM-1031** of the Seed Boot System.

*For more information on the Seed Boot System see pages 64-65.*

**410-VRT-1000**

**This Single Shoot Opener Fits:**  
 410 Series Speed-Loc™

**Fertilizer Type:** N/A

**Tube Size:** N/A

**Tip Options:** 1" (25 mm) weld-on tip with nose carbide provides long-lasting wear life.

**Driver for Installation:** **200-DRV-1030**

**Overview:** The vertical approach of this opener reduces rock pulling. It is designed to work with **300-ATM-1031** of the Seed Boot System.

*For more information on the Seed Boot System see pages 64-65.*

# SEEDING OPENERS TO FIT: **SPEED-LOC™**

200-KNF-7511



## **200-KNF-7511** (CARBIDE) **P** **200-KNF-7511P** (CARBIDE) **200-KNF-7510**

**These Single Shoot Openers Fits:**  
200 Series *Speed-Loc™*

**Fertilizer Type:** Liquid Phosphorus

**Tube Size:** 3/16" (5 mm) O.D. This can be converted to work with 1/4" (6 mm) I.D. delivery hoses with **880-ASY-1010**. See page 104 for more details.

**Tip Options:** 3/4" (19 mm) weld-on tip available with carbide: **200-KNF-7511**, or without carbide: **200-KNF-7510**.

**Driver for Installation:** **200-DRV-1010**

**Overview:** Precise seed placement due to the funnel being close to the tip and to the bottom of the furrow. The funnel is reinforced with hard surfacing for longer wear life. The funnel fits Bourgault and Flexi-Coil square tube seed boots. Also works with the square tube seed boot of the **Seed Boot System**.

*For more information on the Seed Boot System see pages 64-65.*

This opener is also available with a phosphorus tube: **200-ASY-7511P**.

## **200-KNF-7512**

**This Single Shoot Opener Fits:**  
200 Series *Speed-Loc™*

**Fertilizer Type:** N/A

**Tube Size:** N/A

**Tip Options:** The high-chrome welded tip has a carbide insert on the nose for a sharp cutting edge and extra wear life.

**Driver for Installation:** **200-DRV-1010**

**Overview:** This funnel is reinforced with hard surfacing for longer wear life. It works with the square tube seed boot of the **Seed Boot System**. It also fits the Bourgault or Flexi-Coil square tube seed boot.

*For more information on the Seed Boot System see pages 64-65.*

## **200-KNF-0863** **L**

**This Single Shoot Opener Fits:**  
200 Series *Speed-Loc™*

**Fertilizer Type:** Liquid N

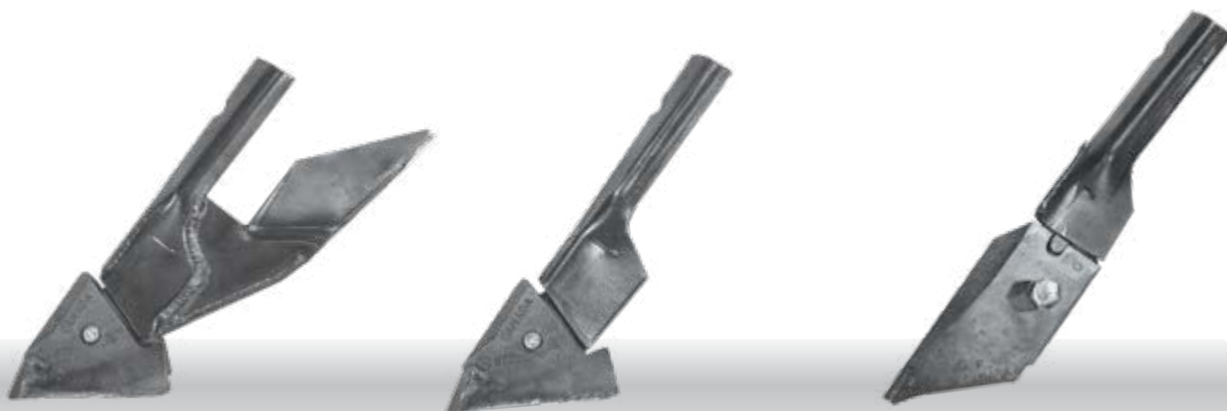
**Tube Size:** 1/4" (6 mm) O.D.

**Tip Options:** The welded high-chrome tip is protected with a carbide insert on the nose and a solid carbide wing. The carbide placement provides sharp cutting edges for excellent penetration.

**Driver for Installation:** **200-DRV-1010**

**Overview:** This is the only multi-shoot opener available for use with the *Speed-Loc™* system. It provides all of the benefits of the *Speed-Loc™* System with the seed placement you trust. This unique side band opener provides good horizontal separation with a slight vertical seed/fertilizer separation. These openers work very well when used with a pressurized liquid system.





200-KNH-4010	200-KNH-4000	410-HLD-7500
<p><b>This Single Shoot Opener Fits:</b> 200 Series Speed-Loc™</p> <p><b>Fertilizer Type:</b> N/A</p> <p><b>Tube Size:</b> N/A</p> <p><b>Tip Options:</b> Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. <i>Tips sold separately. See page 10-11 for more details.</i></p> <p><b>Driver for Installation:</b> Depends on tip used. See page 105 for more details.</p> <p><b>Overview:</b> This funnel is reinforced with hard surfacing for longer wear life. This opener works with the square tube seed boot of the <b>Seed Boot System</b>. It also fits the Bourgault or Flexi-Coil square tube seed boot.</p> <p><i>For more information on the Seed Boot System see pages 64-65.</i></p>	<p><b>This Single Shoot Opener Fits:</b> 200 Series Speed-Loc™</p> <p><b>Fertilizer Type:</b> N/A</p> <p><b>Tube Size:</b> N/A</p> <p><b>Tip Options:</b> Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. <i>Tips sold separately. See page 10-11 for more details.</i></p> <p><b>Driver for Installation:</b> Depends on tip used. See page 105 for more details.</p> <p><b>Overview:</b> This opener is designed to work with <b>300-ATM-1035</b> of the <b>Seed Boot System</b>.</p> <p><i>For more information on the Seed Boot System see pages 64-65.</i></p>	<p><b>Fits:</b> 410 Series Speed-Loc™</p> <p><b>Fertilizer Type:</b> N/A</p> <p><b>Tube Size:</b> N/A</p> <p><b>Tip Options:</b> Your choice of three 3/4" (19 mm) tips available in: <b>600-TIP-7501</b> - regular carbide, <b>600-TIP-7502</b> - extra-long nose carbide, <b>600-TIP-7500</b> - cast chrome, or 3" (76 mm) tip: <b>600-TIP-3011</b> - carbide. <i>Tips sold separately. See page 15 for more details.</i></p> <p><b>Driver for Installation:</b> <b>400-DRV-1010</b></p> <p><b>Overview:</b> This knife is to be used in conjunction with the <b>Seed Boot System</b>.</p> <p><i>For more information on the Seed Boot System see pages 64-65.</i></p>

### Proper Installation & Removal of Speed-Loc™ Products



To ensure proper installation of Speed-Loc™ products, the appropriate driver should be used. The correct drivers are listed above with each product, for a full chart of all drivers please See page 105.



**200-REL-1010**

The Speed Release tool must be used when removing openers, sweeps & spikes from the Speed-Loc™ Adapters. For more information please see page 104.

## SEEDING OPENERS TO FIT: **SPEED-LOC™**



200-HOE-1700	200-KNF-7542	200-VRT-1040
<p><b>This Single Shoot Opener Fits:</b> 200 Series Speed-Loc™</p> <p><b>Fertilizer Type:</b> N/A</p> <p><b>Tube Size:</b> N/A</p> <p><b>Tip Options:</b> Long-wearing welded high-chrome tip.</p> <p><b>Driver for Installation:</b> 200-DRV-1020</p> <p><b>Overview:</b> This opener runs through the ground at a fairly vertical angle to provide less rock pulling. Provides 1-1/2" to 1-3/4" (38 – 44 mm) seed spread. Works best with the 1" (25 mm) single tube seed boot.</p> <p><i>For more information on the Seed Boot System see pages 64-65.</i></p>	<p><b>This Single Shoot Opener Fits:</b> 200 Series Speed-Loc™</p> <p><b>Fertilizer Type:</b> Granular</p> <p><b>Tube Size:</b> 1-1/4" (32 mm) O.D.</p> <p><b>Tip Options:</b> The high-chrome welded tip is long lasting and provides excellent penetration.</p> <p><b>Driver for Installation:</b> 200-DRV-1010</p> <p><b>Overview:</b> This single shoot opener is perfect for heavy gumbo soils. The extra space between the tip and tube reduce plugging.</p>	<p><b>This Single Shoot Opener Fits:</b> 200 Series Speed-Loc™</p> <p><b>Fertilizer Type:</b> Granular</p> <p><b>Tube Size:</b> 1-1/4" (32 mm) O.D.</p> <p><b>Tip Options:</b> 1" (25 mm) weld on tip with nose carbide for long-lasting wear life and excellent penetration.</p> <p><b>Driver for Installation:</b> 200-DRV-1030</p> <p><b>Overview:</b> The vertical approach of this opener reduces rock pulling and soil throw.</p>



200-SPN-0200 200-SPN-0208	200-SPN-0300 200-SPN-0308	410-SPN-0300 410-SPN-0308
<p><b>These Single Shoot Openers Fits:</b> 200 Series Speed-Loc™</p> <p><b>Fertilizer Type:</b> N/A</p> <p><b>Tube Size:</b> N/A</p> <p><b>Tip Options:</b> N/A</p> <p><b>Driver for Installation:</b> 400-DRV-1000</p> <p><b>Overview:</b> These spoons have a 2" (51 mm) spread. Available in 1/4" (6 mm) material: <b>200-SPN-0200</b> or 5/16" (8 mm) material for increased wear life: <b>200-SPN-0208</b>.</p>	<p><b>These Single Shoot Openers Fits:</b> 200 Series Speed-Loc™</p> <p><b>Fertilizer Type:</b> N/A</p> <p><b>Tube Size:</b> N/A</p> <p><b>Tip Options:</b> N/A</p> <p><b>Driver for Installation:</b> 400-DRV-1000</p> <p><b>Overview:</b> These spoons have a 2" (51 mm) or 3" (76 mm) spread. Available in 1/4" (6 mm) material: <b>200-SPN-0300</b> or 5/16" (8 mm) material for increased wear life: <b>200-SPN-0308</b>.</p>	<p><b>These Single Shoot Openers Fits:</b> 410 Series Speed-Loc™</p> <p><b>Fertilizer Type:</b> N/A</p> <p><b>Tube Size:</b> N/A</p> <p><b>Tip Options:</b> N/A</p> <p><b>Driver for Installation:</b> 400-DRV-1000</p> <p><b>Overview:</b> These spoons have a 3" (76 mm) spread. Available in 1/4" (6 mm) material: <b>410-SPN-0300</b> or 5/16" (8 mm) material for increased wear life: <b>410-SPN-0308</b>.</p>

### Proper Installation & Removal of Speed-Loc™ Products



To ensure proper installation of Speed-Loc™ products, the appropriate driver should be used. The correct drivers are listed above with each product, for a full chart of all drivers please See page 105.



**200-REL-1010**

The Speed Release tool must be used when removing openers, sweeps & spikes from the Speed-Loc™ Adapters. For more information please see page 104.

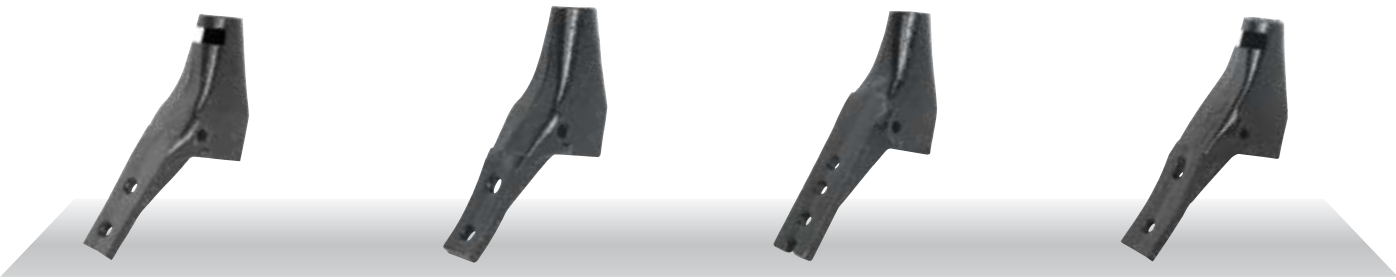


# SEEDING OPENERS: SEED BOOT SYSTEM



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	300-HLD-4710	300-HLD-5000	300-HLD-5010
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.	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 <b>911-SCR-1051</b> to secure the air hose into the seed boot holder.	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 <b>911-SCR-1051</b> to secure the air hose into the seed boot holder.	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.

### NOTES:

- 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 105 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

				 <p>600-NUT-3754 300-BLT-4414</p>
300-ATM-1000	300-ATM-1006	300-ATM-1010	300-ATM-1020	300-BNC-4414
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.	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. <b>Works well for organic operations because of the wide seed spread.</b>	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.	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.	This bolt and nut secure the quick change seed boot attachments into the holders.

## SEED BOOT ATTACHMENTS

## SQUARE TUBE SEED BOOTS

				
300-ATM-1035	300-ATM-1036	300-ATM-1031	300-SQR-1500	300-SQR-1505
This knife attachment will place the seed in a very narrow band. It is designed to be used behind the <b>200-KNF-0810, 200-KNF-0811, 200-KNF-0813 and 200-KNH-4000.</b>	This knife attachment will place the seed in a band. There is hard facing on the side and the slot is wider than the <b>300-ATM-1035</b> . It is designed to be used behind the <b>200-KNF-0815</b> . Designed for use in Europe.	This knife attachment will place the seed in a very narrow band. It is designed to be used behind the <b>200-VRT-1000, 410-VRT-1000, 410-KNF-0800 and 410-KNF-0801.</b>	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 <b>300-SQR-1500</b> seed boot is designed to fit curved bottom shanks. The <b>300-SQR-1505</b> 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







## 410-KNF-7540



**This Single Shoot Opener Fits:**  
410 Series Speed-Loc™

**Fertilizer Type:** Granular

**Tube Size:** 1-1/4" (32 mm) O.D.

**Tip Options:** 3/4" (19 mm) weld on tip with nose carbide for long-lasting wear life and excellent penetration.

**Driver for Installation:** 400-DRV-1010

**Overview:** The weld on tip makes this opener better in rocky conditions.

## 410-KNH-7540



**Fits:** 410 Series Speed-Loc™

**Fertilizer Type:** Granular

**Tube Size:** 1-1/4" (32 mm) O.D. For different hose sizes a bushing may be used. See page 105 for bushing options.

**Tip Options:** Your choice of three 3/4" (19 mm) tips available in:

**600-TIP-7501** - regular carbide,  
**600-TIP-7502** - extra-long nose carbide,  
**600-TIP-7500** - cast chrome,  
or 3" (76 mm) tip: **600-TIP-3011** - carbide.  
*Tips sold separately. See page 15 for more details.*

**Driver for Installation:** 400-DRV-1010

**Overview:** This fertilizer knife is designed for use with Granular fertilizer. It gives you the flexibility of using a replaceable tip allowing you to choose the right tip for your conditions.

## 200-KNH-4020



**Fits:** 200 Series Speed-Loc™

**Fertilizer Type:** Cold Flow NH3

**Tube Size:** 1/2" (12 mm) O.D.

**Tip Options:** Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions.

*Tips sold separately. See page 10-11 for more details.*

**Driver for Installation:** Depends on tip used. See page 105 for more details.

**Overview:** This fertilizer knife is only recommended on light duty units with light trips. **Not recommended for rocky areas.** It is designed for use with Cold-flow NH3 kits.

**Can be converted to a pressurized NH3 or liquid system.** Please call the factory for more details.

## Proper Installation & Removal of Speed-Loc™ Products



To ensure proper installation of Speed-Loc™ products, the appropriate driver should be used. The correct drivers are listed above with each product, for a full chart of all drivers please See page 105.



**200-REL-1010**

The Speed Release tool must be used when removing openers, sweeps & spikes from the Speed-Loc™ Adapters. For more information please see page 104.

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

200-KNF-7521



200-KNF-7525



410-KNF-0826



**N**

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

**Fits:** 200 Series Speed-Loc™

**Fertilizer Type:** Cold Flow NH<sub>3</sub>

**Tube Size:** 1/2" (12 mm) O.D.

**Tip Options:** Welded 3/4" (19 mm) welded tip available with carbide (**7521**) or without (**7520**). The carbide provides extra wear life and better penetration.

**Driver for Installation:** 200-DRV-1010

**Overview:** The shorter tube length on this knife makes it better for cultivators and chisel plows. The welded tip is better for rocky conditions.

**Can be converted to a pressurized NH<sub>3</sub> or liquid system.** Please call the factory for more details.

**N**

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

**Fits:** 200 Series Speed-Loc™

**Fertilizer Type:** Cold Flow NH<sub>3</sub>

**Tube Size:** 1/2" (12 mm) O.D.

**Tip Options:** Welded 3/4" (19 mm) welded tip available with carbide (**7525**) or without (**7524**). The carbide provides extra wear life and better penetration.

**Driver for Installation:** 200-DRV-1010

**Overview:** The longer tube length on this knife makes it better for air seeders and air drills. The welded tip is better for rocky conditions.

**Can be converted to a pressurized NH<sub>3</sub>.** Please call the factory for more details.

**L**

**N**

## **410-KNF-0824** **410-KNF-0825** (CARBIDE) **410-KNF-0826** (CARBIDE)

**Fits:** 410 Series Speed-Loc™

**Fertilizer Type:** Cold Flow NH<sub>3</sub>

**Tube Size:** NH<sub>3</sub> (0824 & 0825): 1/2" (12 mm) O.D.

**0826: Liquid N** (0826): 1/4" (6 mm) O.D.,

**Tip Options:** Welded 3/4" (19 mm) welded tip available with carbide (**0825 & 0826**) or without (**0824**). The carbide provides extra wear life and better penetration.

**Driver for Installation:** 400-DRV-1010

**Overview:** This knife is designed for heavy-duty use, the welded tip makes it better in rocky conditions.

## Stabilize your NH<sub>3</sub> hose.



This stainless steel hose holder mounts on any C-Shank to hold the NH<sub>3</sub> hose in place. It is completely height adjustable.

410-KNH-7524



200-KNF-7531



410-KNF-0831



## **410-KNH-7524** **410-KNH-7526**

**N**

**Fits:** 410 Series Speed-Loc™

**Fertilizer Type:** Cold Flow NH<sub>3</sub> or NH<sub>3</sub>

**Tube Size:** **7524:** 1/2" (12 mm) O.D. designed for use with Cold Flow Kits

**7526:** 1/4" (6 mm) O.D.

**Tip Options:** Your choice of three 3/4" (19 mm) tips available in:

**600-TIP-7501** - regular carbide,

**600-TIP-7502** - extra-long nose carbide,

**600-TIP-7500** - cast chrome,

or 3" (76 mm) tip: **600-TIP-3011** - carbide.

**Tips sold separately.** See page 15 for more details.

**Driver for Installation:** **400-DRV-1010**

**Overview:** This fertilizer knife is designed for use with NH<sub>3</sub>. It gives you the flexibility of using a replaceable tip allowing you to choose the right tip for your conditions.

**Can be converted to a pressurized NH<sub>3</sub> system.** Please call the factory for more details.

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

**N**

**Fits:** 200 Series Speed-Loc™

**Fertilizer Type:** Hot Gas NH<sub>3</sub>

**Tube Size:** 3/8" (9 mm) O.D.

**Tip Options:** Welded 3/4" (19 mm) welded tip available with carbide (**7531**) or without (**7530**). The carbide provides extra wear life and better penetration.

**Driver for Installation:** **200-DRV-1010**

**Overview:** The shorter tube length on this knife makes it better for cultivators and chisel plows. The welded tip is better for rocky conditions.

**Can be converted to a pressurized NH<sub>3</sub> or liquid system.** Please call the factory for more details.

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

**N**

**Fits:** 410 Series Speed-Loc™

**Fertilizer Type:** Hot Gas NH<sub>3</sub>

**Tube Size:** 3/8" (9 mm) O.D.

**Tip Options:** Welded 3/4" (19 mm) welded tip available with carbide (**0831**) or without (**0830**). The carbide provides extra wear life and better penetration.

**Driver for Installation:** **400-DRV-1010**

**Overview:** This knife is designed for heavy-duty use with Hot Gas NH<sub>3</sub> kits. The welded tip makes it better in rocky conditions.

**Can be converted to a Liquid system.** Please call the factory for more details.

## Proper Installation & Removal of Speed-Loc™ Products



To ensure proper installation of Speed-Loc™ products, the appropriate driver should be used. The correct drivers are listed above with each product, for a full chart of all drivers please See page 105.



**200-REL-1010**

The Speed Release tool must be used when removing openers, sweeps & spikes from the Speed-Loc™ Adapters. For more information please see page 104.



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



## 200-ASY-7523

**Fits:** 200 Series Speed-Loc™

**Fertilizer Type:** Non-Freeze NH<sub>3</sub>

**Tube Size:** 1/2" (12 mm) O.D.

**Tip Options:** Welded 3/4" (19 mm) welded tip with extra carbide for long-lasting wear life.

**Driver for Installation:** 200-DRV-1010

**Overview:** NH<sub>3</sub> is delivered through a nylon insert, insulating the knife from the NH<sub>3</sub>. This prevents moist soil from freezing up and building up on the knife, keeping it narrow to reduce disturbance with minimal gassing off.



## 410-ASY-0823

**Fits:** 410 Series Speed-Loc™

**Fertilizer Type:** Non-Freeze NH<sub>3</sub>

**Tube Size:** 1/2" (12 mm) O.D.

**Tip Options:** Welded 3/4" (19 mm) welded tip with extra carbide for long-lasting wear life.

**Driver for Installation:** 200-DRV-1010

**Overview:** NH<sub>3</sub> is delivered through a nylon insert, insulating the knife from the NH<sub>3</sub>. This prevents moist soil from freezing up and building up on the knife, keeping it narrow to reduce disturbance with minimal gassing off.



## 410-ASY-7523

**Fits:** 410 Series Speed-Loc™

**Fertilizer Type:** Non-Freeze NH<sub>3</sub>

**Tube Size:** 1/2" (12 mm) O.D.

**Tip Options:** Your choice of three 3/4" (19 mm) tips available in:

**600-TIP-7501** - regular carbide,

**600-TIP-7502** - extra-long nose carbide,

**600-TIP-7500** - cast chrome,

or 3" (76 mm) tip: **600-TIP-3011** - carbide.

*Tips sold separately. See page 15 for more details.*

**Driver for Installation:** 400-DRV-1010

**Overview:** NH<sub>3</sub> is delivered through a nylon insert, insulating the knife from the NH<sub>3</sub>. This prevents moist soil from freezing up and building up on the knife, keeping it narrow to reduce disturbance with minimal gassing off.




### Stabilize your NH<sub>3</sub> hose.



**600-HHA-0750**

This stainless steel hose holder mounts on any C-Shank to hold the NH<sub>3</sub> hose in place. It is completely height adjustable.



<b>200-KNF-7551</b> <b>200-KNF-7553</b> 	<b>410-KNF-7551</b> <b>410-KNF-7553</b> 	<b>410-KNF-7554</b> <b>410-KNF-7555</b> 
<p><b>Fits:</b> 200 Series Speed-Loc™</p> <p><b>Fertilizer Type:</b> Granular + NH3</p> <p><b>Tube Size: Granular:</b> 1-1/4" (32 mm) O.D. For different hose sizes a bushing may be used. <i>See page 105 for bushing options.</i></p> <p><b>7551:</b> Cold Flow NH3 : 1/2" (12 mm) O.D.</p> <p><b>7553:</b> Hot Gas NH3: 3/8" (9 mm) O.D.</p> <p><b>Tip Options:</b> Welded 3/4" (19 mm) welded tip with extra carbide for long-lasting wear life.</p> <p><b>Driver for Installation:</b> 200-DRV-1010</p> <p><b>Overview:</b> This fertilizer knife is designed for use with Granular fertilizer and either cold-flow or hot-gas NH3 kits.</p> <p><b>Not recommended for seeding.</b></p>	<p><b>Fits:</b> 410 Series Speed-Loc™</p> <p><b>Fertilizer Type:</b> Granular + Cold Flow or Hot Gas NH3</p> <p><b>Tube Size: Granular:</b> 1-1/4" (32 mm) O.D. For different hose sizes a bushing may be used. <i>See page 105 for bushing options.</i></p> <p><b>7551:</b> Cold Flow NH3 : 1/2" (12 mm) O.D.</p> <p><b>7553:</b> Hot Gas NH3: 3/8" (9 mm) O.D. Open Bottom</p> <p><b>Tip Options:</b> Welded 3/4" (19 mm) welded tip with extra carbide for long-lasting wear life.</p> <p><b>Driver for Installation:</b> 400-DRV-1010</p> <p><b>Overview:</b> This fertilizer knife is designed for use with Granular fertilizer and either cold-flow or hot-gas NH3 kits.</p> <p><b>Not recommended for seeding.</b></p>	<p><b>Fits:</b> 410 Series Speed-Loc™</p> <p><b>Fertilizer Type:</b> Granular + Hot Gas NH3</p> <p><b>Tube Size: Granular:</b> 1-1/4" (32 mm) O.D. For different hose sizes a bushing may be used. <i>See page 105 for bushing options.</i></p> <p><b>7554:</b> Hot Gas NH3: 3/8" (9 mm) O.D.</p> <p><b>7555:</b> Hot Gas NH3: 3/8" (9 mm) O.D. Capped Bottom w/ Drilled Cross Holes</p> <p><b>Tip Options:</b> Welded 3/4" (19 mm) welded tip with extra carbide for long-lasting wear life.</p> <p><b>Driver for Installation:</b> 400-DRV-1010</p> <p><b>Overview:</b> This fertilizer knife is designed for use with Granular fertilizer hot-gas NH3 kits. It has a second 3/8" open bottom tube for venting.</p> <p><b>Not recommended for seeding.</b></p>

## Proper Installation & Removal of Speed-Loc™ Products



To ensure proper installation of Speed-Loc™ products, the appropriate driver should be used. The correct drivers are listed above with each product, for a full chart of all drivers please See page 105.



**200-REL-1010**

The Speed Release tool must be used when removing openers, sweeps & spikes from the Speed-Loc™ Adapters. For more information please see page 104.

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



## 410-KNH-7551

**Fits:** 410 Series Speed-Loc™

**Fertilizer Type:** Granular + Cold Flow NH3

**Tube Size:** **Granular:** 1-1/4" (32 mm) O.D. For different hose sizes a bushing may be used. See page 105 for bushing options.

**Cold Flow NH3 :** 1/2" (12 mm) O.D.

**Tip Options:** Your choice of three 3/4" (19 mm) tips available in:

**600-TIP-7501** - regular carbide,

**600-TIP-7502** - extra-long nose carbide,

**600-TIP-7500** - cast chrome, or 3" (76 mm) tip: **600-TIP-3011** - carbide.

**Tips sold separately.** See page 15 for more details.

**Driver for Installation:** 400-DRV-1010

**Overview:** This fertilizer knife is designed for use with Granular fertilizer and cold-flow NH3 kits. It gives you the flexibility of using a replaceable tip allowing you to choose the right tip for your conditions.

**Not recommended for seeding.**



## 200-KNF-7560

**Fits:** 200 Series Speed-Loc™

**Fertilizer Type:** NH3 + Liquid Phos

**Tube Size:** 3/8" (10 mm) O.D. stainless steel tubes

**Tip Options:** Welded 3/4" (19 mm) welded tip with extra carbide for long-lasting wear life.

**Driver for Installation:** 200-DRV-1010

**Overview:** This fertilizer knife is designed for use with Aqua NH3 and Liquid Phosphorus. The welded tip is better in rocky conditions.



## 410-KNF-7560

**Fits:** 410 Series Speed-Loc™

**Fertilizer Type:** NH3 + Liquid Phos

**Tube Size:** 3/8" (10 mm) O.D. stainless steel tubes

**Tip Options:** Welded 3/4" (19 mm) welded tip with extra carbide for long-lasting wear life.

**Driver for Installation:** 400-DRV-1010

**Overview:** This fertilizer is designed for use with Aqua NH3 and Liquid Phosphorus. The welded tip is better in rocky conditions.

## Proper Installation & Removal of Speed-Loc™ Products



To ensure proper installation of Speed-Loc™ products, the appropriate driver should be used. The correct drivers are listed above with each product, for a full chart of all drivers please See page 105.



**200-REL-1010**

The Speed Release tool must be used when removing openers, sweeps & spikes from the Speed-Loc™ Adapters. For more information please see page 104.



# FERTILIZER KNIVES TO FIT: C-SHANK



<b>600-HLD-7500</b> <b>602-HLD-7500</b>	<b>599-KNH-7540</b>	<b>600-KNH-7540</b> <b>600-KNH-7640</b>
<p><b>Fits:</b> 47° and 50° C-Shank</p> <p>Can be used on a 43° shank with the addition of a 7° wedge. See page 104 for more details.</p> <p><b>Fertilizer Type:</b> N/A</p> <p><b>Tube Size:</b> N/A</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" to 2-1/2" (44 - 64 mm) slotted bolt hole spacing providing the ability to fit many different makes and models.</p> <p><b>Tip Options:</b> Your choice of three 3/4" (19 mm) tips available in:  <b>600-TIP-7501</b> - regular carbide,  <b>600-TIP-7502</b> - extra-long nose carbide,  <b>600-TIP-7500</b> - cast chrome, or 3" (76 mm) tip: <b>600-TIP-3011</b> - carbide.  <i>Tips sold separately. See page 15 for more details.</i></p> <p><b>Overview:</b> This knife uses replaceable tips, giving you the flexibility to choose the right tip for your conditions.</p> <p><b>600-HLD-7500</b> is for regular use, and <b>602-HLD-7500</b> is <b>for heavy duty use.</b></p> <p><b>Notes:</b> Use 1/2" Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p>	<p><b>Fits:</b> 47° C-Shank</p> <p><b>Fertilizer Type:</b> Granular</p> <p><b>Tube Size:</b> 1-1/4" (32 mm) O.D. For different hose sizes a bushing may be used. See page 105 for bushing options.</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" (45 mm)</p> <p><b>Tip Options:</b> Your choice of three 3/4" (19 mm) tips available in:  <b>600-TIP-7501</b> - regular carbide,  <b>600-TIP-7502</b> - extra-long nose carbide,  <b>600-TIP-7500</b> - cast chrome, or 3" (76 mm) tip: <b>600-TIP-3011</b> - carbide.  <i>Tips sold separately. See page 15 for more details.</i></p> <p><b>Overview:</b> This fertilizer knife is designed to fit on the Bourgault Shank better than the 600 Series Knives.</p> <p><b>Notes:</b> Use 1/2" Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p>	<p><b>Fits:</b> 47° and 50° C-Shank</p> <p>Can be used on a 43° shank with the addition of a 7° wedge. See page 104 for more details.</p> <p><b>Fertilizer Type:</b> Granular</p> <p><b>Tube Size:</b> <b>7540:</b> 1-1/4" (32 mm) O.D.  <b>7640:</b> 1-1/2" (38 mm) O.D.</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" to 2-1/2" (44 - 64 mm) slotted bolt hole spacing providing the ability to fit many different makes and models.</p> <p><b>Tip Options:</b> Your choice of three 3/4" (19 mm) tips available in:  <b>600-TIP-7501</b> - regular carbide,  <b>600-TIP-7502</b> - extra-long nose carbide,  <b>600-TIP-7500</b> - cast chrome, or 3" (76 mm) tip: <b>600-TIP-3011</b> - carbide.  <i>Tips sold separately. See page 15 for more details.</i></p> <p><b>Overview:</b> These Granular fertilizer knives use a replaceable tip, giving you the flexibility to choose the right tip for your conditions.</p> <p><b>Notes:</b> Use 1/2" Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p>

# FERTILIZER KNIVES TO FIT: C-SHANK



<b>602-KNH-7540</b> <span style="float: right; background-color: orange; color: white; padding: 2px 5px; border-radius: 50%; font-weight: bold;">G</span>	<b>602-KNH-7640</b> <span style="float: right; background-color: orange; color: white; padding: 2px 5px; border-radius: 50%; font-weight: bold;">G</span>	<b>600-KNH-7585</b> <span style="float: right; background-color: orange; color: white; padding: 2px 5px; border-radius: 50%; font-weight: bold;">G</span>
<p><b>Fits:</b> 47° and 50° C-Shank</p> <p>Can be used on a 43° shank with the addition of a 7° wedge. See page 104 for more details.</p> <p><b>Fertilizer Type:</b> Granular</p> <p><b>Tube Size:</b> 1-1/4" (32 mm) O.D.</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" to 2-1/2" (44 - 64 mm) slotted bolt hole spacing providing the ability to fit many different makes and models.</p> <p><b>Tip Options:</b> Your choice of three 3/4" (19 mm) tips available in:  <b>600-TIP-7501</b> - regular carbide,  <b>600-TIP-7502</b> - extra-long nose carbide,  <b>600-TIP-7500</b> - cast chrome,  or 3" (76 mm) tip: <b>600-TIP-3011</b> - carbide.  <i>Tips sold separately. See page 15 for more details.</i></p> <p><b>Overview:</b> These fertilizer knives are the heavy duty version of the <b>600-KNH-7540</b> &amp; <b>600-KNH-7640</b>. They are used with a replaceable tip, giving you the flexibility to choose the right tip for your conditions.</p> <p><b>Designed for Heavy Duty Use.</b></p> <p><b>Notes:</b> Use 1/2" Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p>	<p><b>Fits:</b> 47° and 50° C-Shank</p> <p>Can be used on a 43° shank with the addition of a 7° wedge. See page 104 for more details.</p> <p><b>Fertilizer Type:</b> Granular</p> <p><b>Tube Size:</b> 1-1/2" (38 mm) O.D.</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" to 2-1/2" (44 - 64 mm) slotted bolt hole spacing providing the ability to fit many different makes and models.</p> <p><b>Tip Options:</b> Your choice of three 3/4" (19 mm) tips available in:  <b>600-TIP-7501</b> - regular carbide,  <b>600-TIP-7502</b> - extra-long nose carbide,  <b>600-TIP-7500</b> - cast chrome,  or 3" (76 mm) tip: <b>600-TIP-3011</b> - carbide.  <i>Tips sold separately. See page 15 for more details.</i></p> <p><b>Overview:</b> These fertilizer knives are the heavy duty version of the <b>600-KNH-7540</b> &amp; <b>600-KNH-7640</b>. They are used with a replaceable tip, giving you the flexibility to choose the right tip for your conditions.</p> <p><b>Designed for Heavy Duty Use.</b></p> <p><b>Notes:</b> Use 1/2" Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p>	<p><b>Fits:</b> 47° and 50° C-Shank</p> <p>Can be used on a 43° shank with the addition of a 7° wedge. See page 104 for more details.</p> <p><b>Fertilizer Type:</b> Granular</p> <p><b>Tube Size:</b> 1-1/4" (32 mm) O.D.</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" to 2-1/2" (44 - 64 mm) slotted bolt hole spacing providing the ability to fit many different makes and models.</p> <p><b>Tip Options:</b> Your choice of three 3/4" (19 mm) tips available in:  <b>600-TIP-7501</b> - regular carbide,  <b>600-TIP-7502</b> - extra-long nose carbide,  <b>600-TIP-7500</b> - cast chrome,  or 3" (76 mm) tip: <b>600-TIP-3011</b> - carbide.  <i>Tips sold separately. See page 15 for more details.</i></p> <p><b>Overview:</b> This granular fertilizer knife is used with a replaceable tip, giving you the flexibility to choose the right tip for your conditions.</p> <p><b>Notes:</b> Use 1/2" Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p>

# FERTILIZER KNIVES TO FIT: C-SHANK



## 050-KNH-0820

N

**Fits:** 47° and 50° C-Shank

**Fertilizer Type:** Cold Flow NH<sub>3</sub>

**Tube Size:** 1/2" (12 mm) O.D.

**Bolt Hole Spacing:** 1-3/4" to 2-1/2" (44 - 64 mm) slotted bolt hole spacing providing the ability to fit many different makes and models.

**Tip Options:** Any SINGLe Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. **Tips sold separately.** See page 10-11 for more details.

**Overview:** This fertilizer knife is only recommended for use on light duty units with light trips. **Not recommended for rocky areas.**

**Notes:** Use 1/2" Grade 8 carriage bolts to install these openers. **Sold separately.** See page 113 for more details.

**Can be converted to a pressurized NH<sub>3</sub> or Liquid system.** Please call the factory for more details.

## 600-KNH-7520 602-KNH-7520

N

**Fits:** 47° and 50° C-Shank

Can be used on a 43° shank with the addition of a 7° wedge. See page 104 for more details.

**Fertilizer Type:** Cold Flow NH<sub>3</sub>

**Tube Size:** 1/2" (12 mm) O.D.

**Bolt Hole Spacing:** 1-3/4" to 2-1/2" (44 - 64 mm) slotted bolt hole spacing providing the ability to fit many different makes and models.

**Tip Options:** Your choice of three 3/4" (19 mm) tips available in:  
**600-TIP-7501** - regular carbide,  
**600-TIP-7502** - extra-long nose carbide,  
**600-TIP-7500** - cast chrome,  
 or 3" (76 mm) tip: **600-TIP-3011** - carbide.  
**Tips sold separately.** See page 15 for more details.

**Overview:** This fertilizer knife is designed for use with Cold Flow NH<sub>3</sub> Kits. The replaceable tip gives you the flexibility to choose the right tip for your conditions.

**Notes:** Use 1/2" Grade 8 carriage bolts to install these openers. **Sold separately.** See page 113 for more details.

**Can be converted to a pressurized NH<sub>3</sub> or Liquid system.** Please call the factory for more details.

**600-KNH-7520** is for regular use, and

**602-KNH-7520** is **for heavy duty use.**

## 600-KNH-7530 600-KNH-7531

N L

**Fits:** 47° and 50° C-Shank

Can be used on a 43° shank with the addition of a 7° wedge. See page 104 for more details.

**Fertilizer Type:** Hot Gas NH<sub>3</sub>, Liquid or Aqua NH<sub>3</sub>

**Tube Size:** 3/8" (9 mm) O.D.

**Bolt Hole Spacing:** 1-3/4" to 2-1/2" (44 - 64 mm) slotted bolt hole spacing providing the ability to fit many different makes and models.

**Tip Options:** Your choice of three 3/4" (19 mm) tips available in:  
**600-TIP-7501** - regular carbide,  
**600-TIP-7502** - extra-long nose carbide,  
**600-TIP-7500** - cast chrome,  
 or 3" (76 mm) tip: **600-TIP-3011** - carbide.  
**Tips sold separately.** See page 15 for more details.

**Overview:** These fertilizer knives are designed for use with the replaceable tip, giving you the flexibility to choose the right tip for your conditions.

**Notes:** Use 1/2" Grade 8 carriage bolts to install these openers. **Sold separately.** See page 113 for more details.

## Stabilize your NH<sub>3</sub> hose.






This stainless steel hose holder mounts on any C-Shank to hold the NH<sub>3</sub> hose in place. It is completely height adjustable.

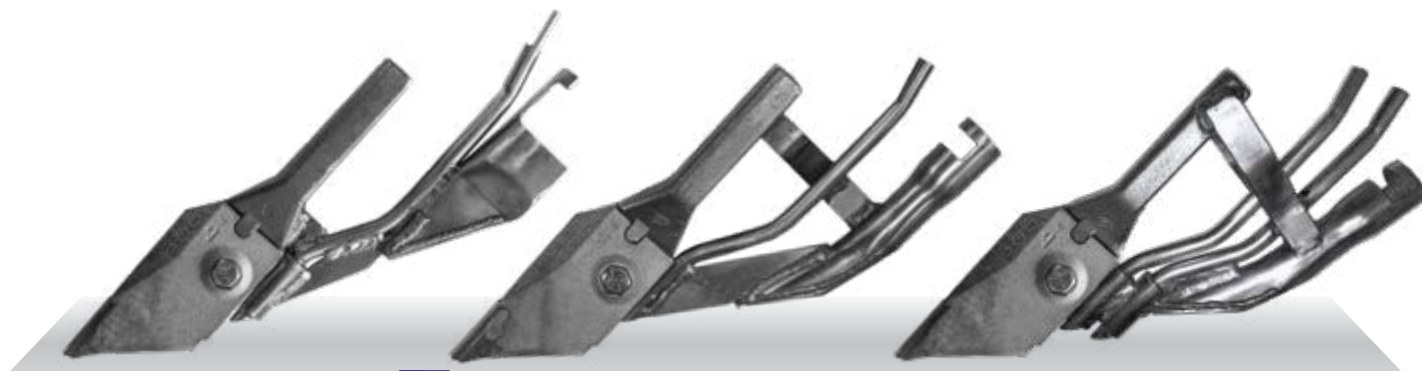


# FERTILIZER KNIVES TO FIT: C-SHANK



 <b>600-ASY-7523</b>	 <b>600-KNH-7522</b>	 <b>600-KNH-7587</b>
<p><b>Fits:</b> 47° and 50° C-Shank</p> <p>Can be used on a 43° shank with the addition of a 7° wedge. See page 104 for more details.</p> <p><b>Fertilizer Type:</b> Non-Freeze NH3</p> <p><b>Tube Size:</b> 1/2" (12 mm) O.D.</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" to 2-1/2" (44 - 64 mm) slotted bolt hole spacing providing the ability to fit many different makes and models.</p> <p><b>Tip Options:</b> Your choice of three 3/4" (19 mm) tips available in:  <b>600-TIP-7501</b> - regular carbide,  <b>600-TIP-7502</b> - extra-long nose carbide,  <b>600-TIP-7500</b> - cast chrome,  or 3" (76 mm) tip: <b>600-TIP-3011</b> - carbide.  <i>Tips sold separately. See page 15 for more details.</i></p> <p><b>Overview:</b> NH3 is delivered through a nylon insert, insulating the knife from the NH3. This prevents moist soil from freezing up and building up on the knife, keeping it narrow to reduce disturbance with minimal gassing off.</p> <p><b>Notes:</b> Use 1/2" Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p>	<p><b>Fits:</b> 47° and 50° C-Shank</p> <p>Can be used on a 43° shank with the addition of a 7° wedge. See page 104 for more details.</p> <p><b>Fertilizer Type:</b> Cold Flow NH3</p> <p><b>Tube Size:</b> Dual 1/2" (12 mm) O.D.</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" to 2-1/2" (44 - 64 mm) slotted bolt hole spacing providing the ability to fit many different makes and models.</p> <p><b>Tip Options:</b> Your choice of three 3/4" (19 mm) tips available in:  <b>600-TIP-7501</b> - regular carbide,  <b>600-TIP-7502</b> - extra-long nose carbide,  <b>600-TIP-7500</b> - cast chrome,  or 3" (76 mm) tip: <b>600-TIP-3011</b> - carbide.  <i>Tips sold separately. See page 15 for more details.</i></p> <p><b>Overview:</b> This fertilizer knife is designed for use with Cold Flow NH3 Kits. The second 1/2" pipe is used for venting. The replaceable tip gives you the flexibility to choose the right tip for your conditions.</p> <p><b>Notes:</b> Use 1/2" Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p>	<p><b>Fits:</b> 47° and 50° C-Shank</p> <p>Can be used on a 43° shank with the addition of a 7° wedge. See page 104 for more details.</p> <p><b>Fertilizer Type:</b> Cold Flow NH3</p> <p><b>Tube Size:</b> 1/2" (12 mm) O.D.</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" to 2-1/2" (44 - 64 mm) slotted bolt hole spacing providing the ability to fit many different makes and models.</p> <p><b>Tip Options:</b> Your choice of three 3/4" (19 mm) tips available in:  <b>600-TIP-7501</b> - regular carbide,  <b>600-TIP-7502</b> - extra-long nose carbide,  <b>600-TIP-7500</b> - cast chrome,  or 3" (76 mm) tip: <b>600-TIP-3011</b> - carbide.  <i>Tips sold separately. See page 15 for more details.</i></p> <p><b>Overview:</b> This NH3 fertilizer knife is used with a replaceable tip, giving you the flexibility to choose the right tip for your conditions.</p> <p><b>Notes:</b> Use 1/2" Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p>

# FERTILIZER KNIVES TO FIT: C-SHANK



<b>600-KNH-7586</b> <span>L</span>	<b>600-KNH-7552</b> <span>G N</span>	<b>600-KNH-7554</b> <span>G N</span>
<p><b>Fits:</b> 47° and 50° C-Shank</p> <p>Can be used on a 43° shank with the addition of a 7° wedge. <i>See page 104 for more details.</i></p> <p><b>Fertilizer Type:</b> Liquid</p> <p><b>Tube Size:</b> 1/4" (6 mm) O.D.</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" to 2-1/2" (44 - 64 mm) slotted bolt hole spacing providing the ability to fit many different makes and models.</p> <p><b>Tip Options:</b> Your choice of three 3/4" (19 mm) tips available in:  <b>600-TIP-7501</b> - regular carbide,  <b>600-TIP-7502</b> - extra-long nose carbide,  <b>600-TIP-7500</b> - cast chrome,  or 3" (76 mm) tip: <b>600-TIP-3011</b> - carbide.  <i>Tips sold separately. See page 15 for more details.</i></p> <p><b>Overview:</b> This Liquid fertilizer knife is used with a replaceable tip, giving you the flexibility to choose the right tip for your conditions.</p> <p><b>Notes:</b> Use 1/2" Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p>	<p><b>Fits:</b> 47° and 50° C-Shank</p> <p>Can be used on a 43° shank with the addition of a 7° wedge. <i>See page 104 for more details.</i></p> <p><b>Fertilizer Type:</b> Granular + Cold Flow NH3</p> <p><b>Tube Size:</b> <b>Granular:</b> 1-1/4" (32 mm) O.D. For different hose sizes a bushing may be used. <i>See page 105 for bushing options.</i>  <b>NH3:</b> 1/2" (12 mm)</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" to 2-1/2" (44 - 64 mm) slotted bolt hole spacing providing the ability to fit many different makes and models.</p> <p><b>Tip Options:</b> Your choice of three 3/4" (19 mm) tips available in:  <b>600-TIP-7501</b> - regular carbide,  <b>600-TIP-7502</b> - extra-long nose carbide,  <b>600-TIP-7500</b> - cast chrome,  or 3" (76 mm) tip: <b>600-TIP-3011</b> - carbide.  <i>Tips sold separately. See page 15 for more details.</i></p> <p><b>Overview:</b> This fertilizer knife is designed for use with Granular and Cold Flow NH3 kits. The replaceable tip gives you the flexibility to choose the right tip for your conditions.</p> <p><b>Notes:</b> Use 1/2" Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p> <p><b>Can be converted to a Liquid system.</b> Please call the factory for more details.</p>	<p><b>Fits:</b> 47° and 50° C-Shank</p> <p>Can be used on a 43° shank with the addition of a 7° wedge. <i>See page 104 for more details.</i></p> <p><b>Fertilizer Type:</b> Granular + Cold Flow NH3</p> <p><b>Tube Size:</b> <b>Granular:</b> 1-1/4" (32 mm) O.D. For different hose sizes a bushing may be used. <i>See page 105 for bushing options.</i>  <b>NH3:</b> Dual 1/2" (12 mm)</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" to 2-1/2" (44 - 64 mm) slotted bolt hole spacing providing the ability to fit many different makes and models.</p> <p><b>Tip Options:</b> Your choice of three 3/4" (19 mm) tips available in:  <b>600-TIP-7501</b> - regular carbide,  <b>600-TIP-7502</b> - extra-long nose carbide,  <b>600-TIP-7500</b> - cast chrome,  or 3" (76 mm) tip: <b>600-TIP-3011</b> - carbide.  <i>Tips sold separately. See page 15 for more details.</i></p> <p><b>Overview:</b> This fertilizer knife is designed for use with Granular and Cold Flow NH3 kits. The second half inch NH3 pipe is used for venting. The replaceable tip gives you the flexibility to choose the right tip for your conditions.</p> <p><b>Notes:</b> Use 1/2" Grade 8 carriage bolts to install these openers. <i>Sold separately. See page 113 for more details.</i></p>





## ***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.



# SPEED-LOC™ PRODUCT

## INSTALLATION & REMOVAL INSTRUCTIONS

### Preparation

Before installing a new set of Seeding Openers, Fertilizer Knives, Sweeps or Spikes on new or existing adapters, ensure that you visually inspect each adapter for the following signs of damage.

- Broken, damaged or missing Locking Pin on Adapter.
- Locking Pin is completely depressed and will not retracting back out. (Damaged Spring Ball).
- Cracked or worn out Adapter.
- Secure any Loose Bolts on the Adapter.

### Opener, Knife, Sweep & Spike Installation

When installing any product always use safety glasses and specified driver. *For correct drivers please see page 105.*

- Firmly install product by sliding it onto the adapter by hand over the Locking Pin unit it will no longer travel on the adapter.
- Place the appropriate driver over the product being installed to prevent damage to the nose or leading edge. With a 4 lb. (1.8 kg) hammer, strike the driver with the hammer several times driving the product upward onto the adapter until it contacts the top stopper on the adapter.
- Product being driven on should be over the Locking Pin and snapped or locked into place in the hole of the product being driven on. Pin should be visible through the hole. See illustration. (Product must be driven all the way on! Putting the product on part ways and going into the field will NOT place the product onto the adapter).
- It is very important to verify the pin has sprung into place of the hole in the product. (Failure to do so will cause loss of product).
- New product installed may move slightly on used the adapters, this is normal wear.
- If you notice any damage to the product or pin, replace damaged parts. Return damaged parts to dealer.
- If product installs very hard and will not drive over the Locking Pin, do not use the product; return it to dealer for replacement and warranty.

**NOTE:** After a few hundred acres of work, check adapters. If they are loose on the shank then re-torque the bolts.

### Opener, Knife, Sweep & Spike Removal

When removing the product always use safety glasses and Speed-Release tool, **200-REL-1010**. See page 104 for more details.

- Strike the product sharply with a hammer on both sides of the product to loosen the rust and dirt between the adapter and product.
- Place the hook of the release tool on top of the product stem; pressing down on the handle to depress the locking pin.
- While depressing the Locking Pin strike the top driving plate of the release tool with a hammer to move the product to clear the pin on the adapter and STOP. *Driving the release beyond the pin will result in damaging the Release Tool, Locking Pin and Spring Ball.* See illustration.
- Remove the release tool; strike the top of the stem to remove the product the remainder of the way off the adapter body.
- Clean and Inspect the Adapter and Lock Pin for damage. Follow Installation Instructions for reinstalling products.



*When installed correctly you should see the whole pin through the hole and the product should be able to move slightly up and down.*

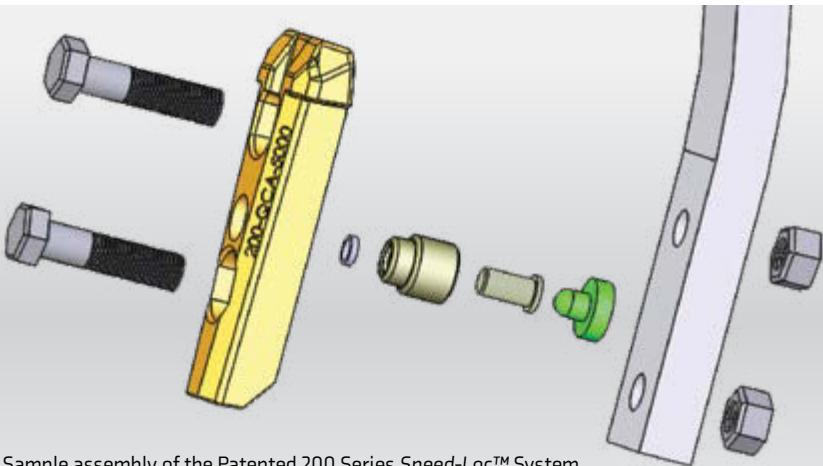


200 SERIES

QUICK CHANGE ADAPTERS



200-QCA-4700	200-QCA-4710	200-QCA-5000
<p><b>Fits:</b> 47° Shanks, Bourgault and Ezee-On field cultivators, air seeders and air drills</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" (45 mm) center to center</p> <p><b>Bolts:</b> 1/2" (12 mm) Hex Head Bolts</p>	<p><b>Fits:</b> 47° Shanks, except Bourgault and Ezee-On</p> <p><b>Bolt Hole Spacing:</b> 1-3/4" (45 mm) center to center</p> <p><b>Bolts:</b> Oversize Head Plow Bolts</p>	<p><b>Fits:</b> 50° Shanks, Bourgault &amp; Morris Concept 2000</p> <p><b>Bolt Hole Spacing:</b> 2-1/4" (57 mm) center to center</p> <p><b>Bolts:</b> 1/2" (12 mm) Hex Head Bolts</p> <p><b>Notes:</b> <i>Not recommended for primary tillage, use only for seeding.</i></p>



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

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

Refer to our *Speed-Loc™* adapter chart on pages 84-85.  
For a complete list of bolt lengths, see page 111.



200-QCA-5010	200-QCA-5020	200-QCA-5030
<p><b>Fits:</b> 50° Shanks, except Bourgault &amp; Morris Concept 2000</p> <p><b>Bolt Hole Spacing:</b> 2-1/4" (57 mm) center to center</p> <p><b>Bolts:</b> 1/2" (12 mm) Plow Bolts</p> <p><b>Notes:</b> <i>Not recommended for deep, heavy tillage.</i></p> <p>This adapter can be used on a 43° shank with the addition of a 7° wedge, <b>100-WDG-0700</b>. See page 104 for more details.</p>	<p><b>Fits:</b> European built shanks</p> <p><b>Bolt Hole Spacing:</b> 63-80 mm center to center</p> <p><b>Bolts:</b> M12-DIN608 10.9 Plow Bolts</p>	<p><b>Fits:</b> Horsch Shanks</p> <p><b>Bolt Hole Spacing:</b> 57 mm center to center</p> <p><b>Bolts:</b> M12-DIN608 10.9 Plow Bolts</p>

**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.





410 SERIES  
QUICK CHANGE ADAPTERS



410-QCA-5000	410-QCA-5010	410-QCA-5020
<p><b>Fits:</b> 50° Shanks, Bourgault &amp; Morris Magnum Chisel Plows, and Morris Concept 2000 with the LH755 shank</p> <p><b>Bolt Hole Spacing:</b> 2-1/4" (57 mm) center to center</p> <p><b>Notes:</b> 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.</p> <p>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.</p>	<p><b>Fits:</b> 50° Shanks on all chisel plows except Bourgault and Morris Units identified under the <b>410-QCA-5000</b></p> <p><b>Bolt Hole Spacing:</b> 1-3/4" - 3" (45-76 mm) center to center slotted bolt hole spacing providing the ability to fit many different makes and models.</p> <p><b>Notes:</b> 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 inside the slot in front of the adapter.</p> <p>This adapter can be used on a 43° shank with the addition of a 7° wedge, <b>400-WDG-0700</b>.</p> <p>Special note for use on John Deere shanks: certain chisel plow models including the 685, 1810, 1820 and 2400 may need a 3° wedge to attain proper sweep pitch. <i>See pages 106 for more information.</i></p> <p>Shanks with the open bottom bolt hole require the <b>047-ACC-1002</b> to keep the bottom bolt in place.</p>	<p><b>Fits:</b> Lemken Shanks</p> <p><b>Bolt Hole Spacing:</b> 45 mm center to center</p> <p><b>Bolts:</b> M12-DIN608 10.9 Plow Bolts</p>

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

Refer to our Speed-Loc™ adapter chart on pages 84-85.  
For a complete list of bolt lengths, see page 112.



## 410-QCA-5050

**Fits:** Kverneland (CLD Grubber) Shanks

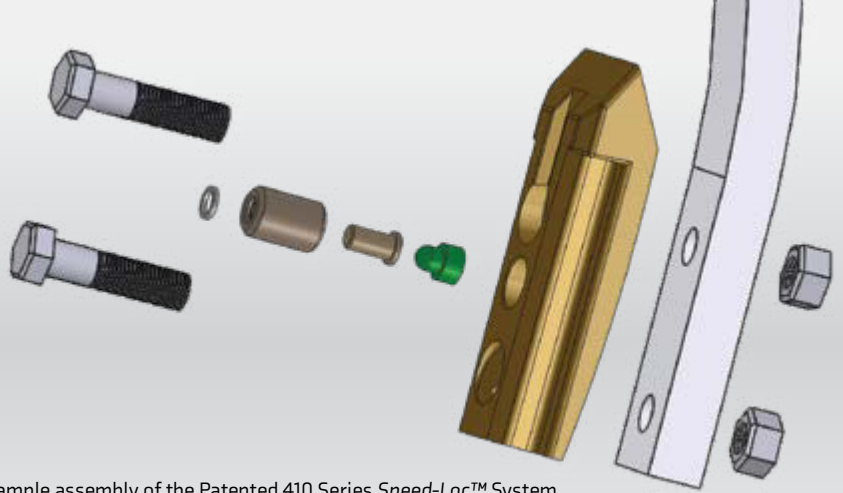
**Bolt Hole Spacing:** 45 mm center to center

**Bolts:** 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



### 200-SLC-1001

Replacement bushing for all 200 Series adapters as well as the 410-QCA-5050. Comes complete with dust seal.



### 200-SLC-1010

Replacement dust seal for all 200 and 410 Series Speed-Loc™ adapters.



### 200-SLC-1020

Replacement locking pin for all 200 and 410\* Series adapters.

\*After Nov. 1/08



### 200-SLC-1030

Replacement spring ball for the 200-QCA-4700 adapters.



### 200-SLC-1035

Replacement spring ball for the 200-QCA-4710, 200-QCA-5000 and 200-QCA-5010 adapters.



### 200-SLC-1037

Replacement spring ball for the 200-QCA-5020 and 410-QCA-5050 adapters.



### 200-SLC-1038

Replacement spring ball for 200-QCA-5020 adapter for special applications.



### 200-SLC-1039

Replacement spring ball for 200-QCA-5030 adapters.



### 410-SLC-1001

Replacement bushing for the 410-QCA-5000, 410-QCA-5010 and 410-QCA-5020. Comes complete with dust seal.



### 410-SLC-1022\*

Replacement locking pin for all the 410 Series adapters\* Go to 200-SLC-1020 if 410 Series adapter was purchased after Nov. 1/08.



### 410-SLC-1030

Replacement spring ball for the 410-QCA-5000, 410-QCA-5010 and 410-QCA-5020.



### 410-SLC-1050

Complete replacement package for the 410 Series, includes bushing, spring ball, pin and dust seal.

\*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	400-WDG-0700	
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	400-WDG-0700	
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						■				
GEISSNER													
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°	7/16	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 (DEPENDING ON SHANK OPTION)	47°	1/2	1-3/4										
ST 830 WITH 550 LB TRIP (DEPENDING 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*™



# TILLAGE: 200 SERIES SWEEPS & SPIKES

4"



7"



10"



12"



14"



5"



9"



11"



13"



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.

## Proper Installation & Removal of Speed-Loc™ Products



400-DRV-1000

To ensure proper installation of Speed-Loc™ products, the appropriate driver should be used. The correct drivers are listed above with each product, for a full chart of all drivers please See page 105.



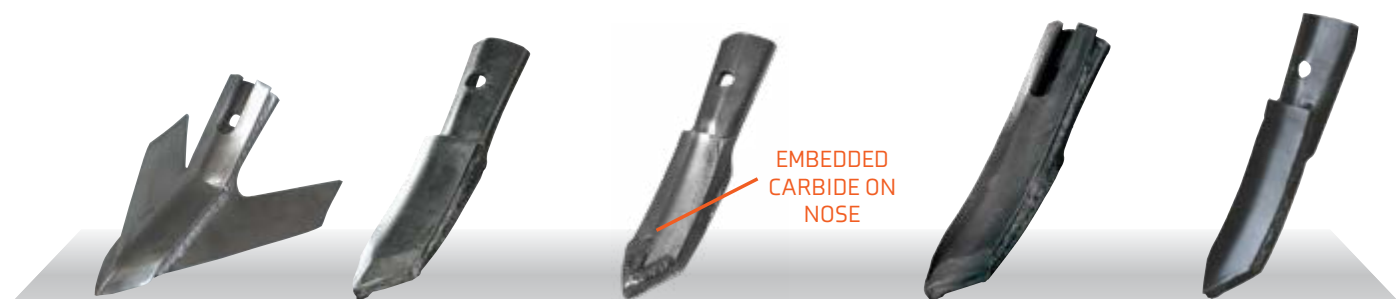
200-REL-1010

The Speed Release tool must be used when removing openers, sweeps & spikes from the Speed-Loc™ Adapters. For more information please see page 104.

# TILLAGE: 200 SERIES SWEEPS & SPIKES



200-GFO-0308	200-PWV-0405	200-PWV-0405ML	200-PWV-0428 200-PWV-0528	200-PWV-0738
GOOSEFOOT	SWEEP WITH HARDENED WEAR PAD	MAX LIFE™ SWEEP W/ HARDENED WEAR PAD	SWEEP WITH HARDENED WEAR PAD	SWEEP WITH HARDENED WEAR PAD
<p>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.</p>	<p>This sweep is 1/4" (6 mm) thick by 4" (100 mm) wide. 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.</p>	<p>The same as <b>200-PWV-0405</b> with the addition of heat applied, embedded carbide on the underside of this sweep. 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.</p> <p><i>For more information see pages 94-95.</i></p>	<p>These sweeps are 5/16" (8 mm) thick. <b>200-PWV-0428</b> is 4" (100 mm) wide and <b>200-PWV-0528</b> 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.</p>	<p>This sweep is 5/16" (8 mm) thick by 7" (178 mm) wide with a 4" wide extended wear pad.</p>



200-PWV-0928	200-SPK-0200	200-SPK-0200ML	200-SPK-0215	200-SPK-0230
SWEEP WITH HARDENED WEAR PAD	SPIKE	MAX LIFE™ SPIKE	SPIKE	SPIKE
<p>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.</p>	<p>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.</p>	<p>The same as <b>200-SPK-0200</b> with the addition of heat applied, embedded carbide on the nose of this quick change spike. <i>For more information see pages 94-95.</i></p>	<p>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.</p>	<p>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.</p>

# TILLAGE: 410 SERIES SWEEPS & SPIKES

4"



8"



12"



16"



SIZE	THICKNESS	PRODUCT NO.
4" (100 mm)	1/4" (6 mm)	410-PWV-0400
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" (200 mm)	5/16" (8 mm)	410-PWV-0808
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" (305 mm)	5/16" (8 mm)	410-PWV-1208
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" (406 mm)	5/16" (8 mm)	410-PWV-1608
18" (457 mm)	1/4" (6 mm)	410-PWV-1800
18" (457 mm)	5/16" (8 mm)	410-PWV-1808

6"



10"



14"



18"



## Proper Installation & Removal of Speed-Loc™ Products



400-DRV-1000

To ensure proper installation of Speed-Loc™ products, the appropriate driver should be used. The correct drivers are listed above with each product, for a full chart of all drivers please See page 105.



200-REL-1010

The Speed Release tool must be used when removing openers, sweeps & spikes from the Speed-Loc™ Adapters. For more information please see page 104.





410-PWV-0418	410-PWV-0418ML	410-PWV-0518	410-SPK-0200	410-SPK-0200ML
<b>SWEEP WITH HARDENED WEAR PAD</b>	<b>MAX LIFE™ SWEEP W/ HARDENED WEAR PAD</b>	<b>SWEEP WITH HARDENED WEAR PAD</b>	<b>SPIKE</b>	<b>MAX LIFE™ SPIKE</b>
<p>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.</p>	<p>The same as <b>410-PWV-0418</b> with the addition of heat applied, embedded carbide on the underside. 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.</p> <p><i>For more information see pages 94-95.</i></p>	<p>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.</p>	<p>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.</p>	<p>The same as <b>410-SPK-0200</b> with the addition of heat applied, embedded carbide on the underside. This tool is ideal for primary tillage or banding fertilizer.</p> <p><i>For more information see pages 94-95.</i></p>



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
12" (305 mm)	1/4" (6 mm)	050-PWV-1200

SIZE	THICKNESS	PRODUCT NO.
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 84-85.

### Not sure which bolts you need?

Refer to our bolt length chart on page 110.



070-RCH-0451	070-RCH-0452	070-RSP-0200A	070-RSP-0210A	070-RSP-0220A
REVERSIBLE CHISEL	REVERSIBLE CHISEL	REVERSIBLE SPIKE	REVERSIBLE SPIKE	REVERSIBLE SPIKE
<p>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.</p>	<p>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.</p>	<p>This reversible spike is 2" (50 mm) wide, 5/8" (16 mm) thick and 14-1/2" (368 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.</p>	<p>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.</p>	<p>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.</p>



# 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.



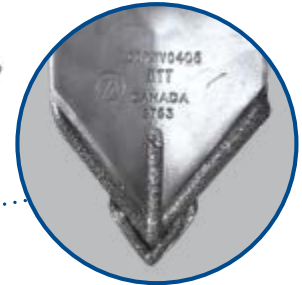
HEAT APPLIED EMBEDDED CARBIDE

# MAX LIFE™

## CARBIDE EDGE SWEEPS & SPIKES

EMBEDDED  
CARBIDE ON  
NOSE**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.

EMBEDDED  
CARBIDE ON  
UNDERSIDE**200-PWV-0405ML****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.

EMBEDDED  
CARBIDE ON  
UNDERSIDE**410-SPK-0200ML****FITS 410 SERIES SPEED-LOC™**

Heat applied, embedded carbide has been added to the underside of this heavy-duty 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.

EMBEDDED  
CARBIDE ON  
UNDERSIDE**410-PWV-0418ML****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.



# INTRODUCING THE **DEEP RIPPER**

with replaceable wings

The **Deep Ripper** is used to penetrate the compacted soils and mechanically break up and shatter the soil hard pan. The replaceable wings can easily be replaced without having to remove the entire ripper from your machine, allowing for quick and easy change overs to different wing profiles. Embedded carbide has been added to the underside of the wings and the main body for extra-long wear life.



FEATURING  
**MAX LIFE**  
CARBIDE EDGE



## 672-ASY-2000

**Fits:** Brillion; CNH 870, 875; DMI; John Deere: 510, 512, 910, 912, 2720, 2730, 3700; Krause: Dominator; Landoll & Wil-Rich

**Bolts:** M12-DIN608 10.9 Plow Bolts

**Overview:** The main body of the Deep Ripper is cast chrome with Max Life™ carbide embedded on the underside of the nose for extra-long wear life. The bolt holes are re-enforced by extra-heavy cast plate to ensure long lasting life.



672-WNG-2000	672-WNG-2007	672-WNG-2010	672-WNG-2110	672-WNG-2112
<b>Profile:</b> N/A	<b>Profile:</b> Standard	<b>Profile:</b> Standard	<b>Profile:</b> Flat Profile for Low Draft	<b>Profile:</b> Flat Profile for Low Draft
<b>Width:</b> No wings, just standard cap	<b>Width:</b> 7" (178 mm)	<b>Width:</b> 12" (305 mm)	<b>Width:</b> 10" (254 mm)	<b>Width:</b> 12" (305 mm)

**Overview:** Heat applied, embedded carbide has been added to the leading edge of the wings for extra-long wear life. Wings are available in two widths, with two different profiles allowing you to choose the right wing for your conditions. The polyurethane caps fit snugly over of the bolts to protect the bolts during the ripping process.



# 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

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

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



**510-200-1000**

**Fits:** GREAT PLAINS

Turbo Chopper, Turbo Till & Turbo Till II

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



**511-200-1000**

**Fits:** GREAT PLAINS

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

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

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**500-200-1010**

**Fits: JOHN DEERE**

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

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

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



**522-200-1000**

**Fits: LEMKEN**

Heliodor 8

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



**522-200-1005**

**Fits: LEMKEN**

Rubin 9 & Rubin 12

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



**522-200-1035**

**Fits: LEMKEN**

Heliodor 9

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



**500-200-1020**

**Fits: PILLAR**

DH Series

<b>OEM Part #:</b>	206-0007
<b>Disk Type:</b>	Flat Coulter
<b>Dimensions:</b>	18" x 5 mm
<b>Pilot Hole Size:</b>	3-5/8"
<b># of Bolt Holes:</b>	4





**505-200-1000**

**Fits: SALFORD**

Salford I-1100 & Salford I-1200

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



**505-200-1005**

**Fits: SALFORD**

Salford I-1100 & Salford I-1200

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

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

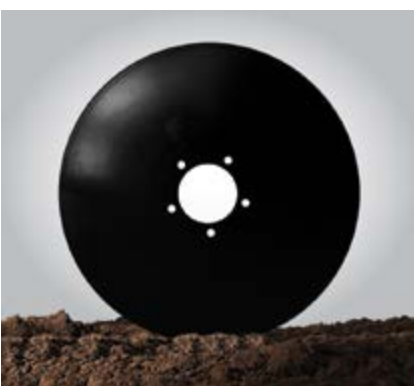


**505-200-1015**

**Fits: SALFORD**

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

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

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



**517-200-1020**

**Fits: SALFORD**

Optional on Salford I-5100

<b>OEM Part #:</b>	CT503059
<b>Disk Type:</b>	Plain Concave
<b>Dimensions:</b>	24-3/4" x 6.5 mm
<b>Pilot Hole Size:</b>	4"
<b># of Bolt Holes:</b>	5

# TILLAGE: DISK BLADES



**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

**LOOKING FOR  
A DIFFERENT  
SIZE?**

If you can't find the disk blade you are looking for, please call the factory. We are always adding new products to our line-up.

For the most up to date listing of our product line-up, please visit us online.

\*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

						
<b>100-WDG-0700</b> This 7° urethane wedge is designed to correct the pitch of the 100-QCA-5010 and the 200-QCA-5010 adapters on 43° shanks.	<b>200-WDG-0206</b> This 2° urethane wedge has 45 mm to 80 mm bolt hole spacing. It is used to obtain proper sweep pitch on certain shanks.	<b>200-WDG-0506</b> This 5° urethane wedge has 45 mm to 80 mm bolt hole spacing. It is used to obtain proper sweep pitch on certain shanks.	<b>200-WDG-1000</b> This 10° urethane wedge has 45 mm to 80 mm bolt hole spacing. It is used to obtain proper sweep pitch on certain shanks.	<b>200-WDG-1006</b> This 10° urethane wedge has 45 mm to 80 mm bolt hole spacing. It is used to obtain proper sweep pitch on certain shanks.	<b>400-WDG-0300</b> 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.	<b>400-WDG-0700</b> 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.
						
<b>880-WDG-0300</b> This cast wedge adapter is designed for our 047, 610 and 612 seeding openers on all <b>John Deere</b> shanks except the John Deere 1830.	<b>880-WDG-0301</b> This cast wedge adapter is designed for our 047, 610 and 612 seeding openers on all <b>50° curved</b> bottom shanks including the John Deere 1830 but excluding all other John Deere models.	<b>880-BSH-2000</b> This bushing is to be used on John Deere split shanks.	<b>200-QAS-4711</b> This sub-plate is used in conjunction with the 200-QCA-4710 adapter on the Kongskilde VFM shank.	<b>200-QAS-4712</b> 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.	<b>100-HAM-4000</b> This 4 lb (1.8 kg) hammer is ideal for installing all quick change products.	<b>200-REL-1010</b> The speed-release tool must be used to remove 200 and 410 Series sweeps and openers off the Speed-Loc™ adapters.
						
<b>047-ACC-1001</b> Helps direct the flow of seed in a focused row behind the 047-ASY-1000, 047-ASY-1005P or 675 Series openers.	<b>047-ACC-1002</b> Allows you to adapt to any shank with an open bottom hole. Keeps the bottom bolt in place on the John Deere 1820, 1830 & 2410.	<b>047-CAP-1000</b> This cap is a replacement cap for the 047-ASY-1000 and 047-ASY-1005P. <b>See expanded assemblies for the right cap for your opener.</b>	<b>600-HHA-0750</b> This stainless steel hose holder mounts on any C-Shank to hold the NH3 hose in place. It is completely height adjustable.	<b>614-ACC-1000</b> This bushing is necessary when using NH3 with the 614-TIP-2711 & 614-TIP-2712.	<b>650-ACC-1000</b> This bracket limits the tripping distance of the 650 Series fertilizer knives for the JD 1870 Conserva Pak.	<b>880-ORF-0001</b> This orifice is used to concentrate and direct the flow of liquid fertilizer on the 200-VRT-1061 and 200-KNF-0863.
						
<b>680-ACC-0001</b> This spacer plate is required for the Concord when installing any edge on product.	<b>680-ACC-0002</b> Spacer required when a 680-ASY-4026 is mounted on a Bourgault 3310 & 3320 PHD Drill.	<b>680-ACC-0003</b> Space required when a 680-ASY-4020 is mounted on a Bourgault 3310 & 3320 PHD Drill.	<b>680-ACC-0004</b> This conversion tab replaces the fertilizer tube on the 680-HLD-2000 so it can be converted to a single shoot opener.	<b>680-ACC-1000</b> Helps direct the flow of seed in a focused row behind the opener. Use with 680-ASY-1000 openers prior to 2012.	<b>694-ACC-1000</b> This spacer is required when installing Titan Openers on anything except Concord.	<b>880-ASY-1010</b> 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.
						
<b>880-CPL-1010</b> 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.	<b>880-CPL-2500</b> This coupler is used to attach a 1/4" (6 mm) O.D. liquid phosphorus tube. Included with all new liquid phosphorus openers.	<b>880-GRD-1000</b> This guard is used to protect liquid hose on all side band liquid openers in heavy trash conditions.	<b>880-GRD-1010</b> This guard is used to protect liquid phosphorus tubes on 047 & 680 liquid phosphorus openers in heavy trash conditions.	<b>880-HCL-0001</b> This clip eliminates hose movement, as the sharp corners embed into the granular pipe.	<b>880-HCL-0002</b> 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.	<b>880-HCL-0004</b> This 3/4" ear clamp is used to secure the rubber sleeve to the 1/2" pipe to protect the Liquid Phos tube.

## WHAT DRIVER DO I NEED?

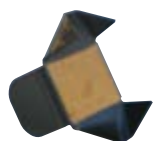
	200-DRV-1010	200-DRV-1020	200-DRV-1013	200-DRV-1030	400-DRV-1000	400-DRV-1010	200-DRV-1010	200-DRV-1020	200-DRV-1013	200-DRV-1030	400-DRV-1000	400-DRV-1010
												
												
												
												
												
												
<b>PART #</b>												
<b>200-ASY-7523</b>							■					
<b>200-HOE-1700</b>								■				
<b>200-KNF-0800, 0801, 0810, 0811, 0813</b>												■
<b>200-KNF-0863, 7501, 7510, 7511, 7511P, 7512, 7520, 7521, 7524, 7525, 7530, 7531, 7542, 7551, 7553, 7560</b>							■					
<b>200-KNH-7551</b>												■
<b>200-TIP-0511, 0801, 0802, 0803, 0811 when used on 200-KNH-4000, 4010 OR 4020</b>												■
<b>200-TIP-1011</b>										■		
<b>200-TIP-2011, 3000, 3001, 3011, 4011 when used on 200-KNH-4000, 4010 OR 4020</b>									■			
<b>200-VRT-1000, 1040</b>										■		
<b>410-ASY-0823, 7523</b>												■
<b>410-HLD-7500</b>												■
<b>410-KNF-0800, 0801, 0824, 0825, 0826, 0830, 0831, 7540, 7551, 7553, 7560</b>												■
<b>410-KNH-7524, 7526, 7540, 7551</b>												■
<b>410-VRT-1000</b>										■		
<b>SWEEPS &amp; SPOONS</b>											■	

## BUSHINGS TO ADAPT TO DIFFERENT AIR HOSE SIZES.



300-BSH-1200	300-BSH-1205	880-BSH-1130	880-BSH-1150	880-BSH-1170
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.	This bushing adapts from 1-1/8" (28 mm) O.D. air hose to 1-1/8" (28 mm) O.D. air hose.	This bushing is needed when you are using 1-1/8" (28 mm) O.D. hose.	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.	This bushing adapts 1-1/2" (38 mm) O.D. hose to 1-1/4" (32 mm) hose.

## HOSES POPPING OUT? DON'T FORGET THE HOSE CLIP.



880-HCL-0001

This clip eliminates hose movement, as the sharp corners embed into the granular pipe. For proper installation see illustration to right.

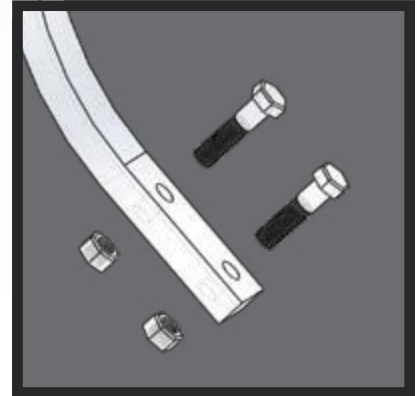


880-HCL-0001

## 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 Bourgault or Ezee-On use wedge **880-WDG-0300** or **880-WDG-0301**. See page 104 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

## EDGE ON

### For Bourgault 3310 & 3320 Edge on shank:

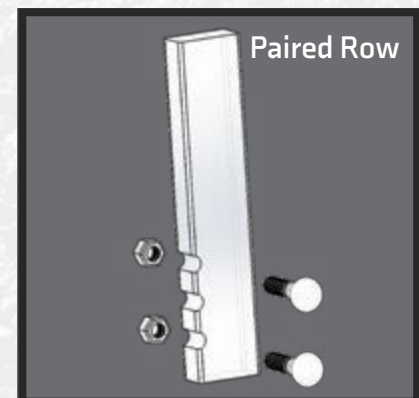
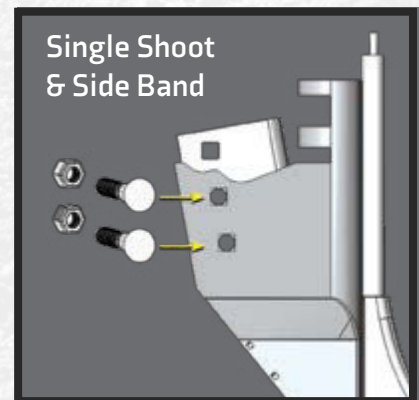
- 3/8" X 2-1/4" **Grade 8** Carriage Bolts, **960-CRG-3755**
- 3/8" Stover Lock Nut, **906-NPT-3755**
- For the **680-ASY-4020** use spacer plate **680-ACC-0003**
- For the **680-ASY-4026** use the **680-ACC-0002**

### 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 to the right.

### For Morris Maxim:

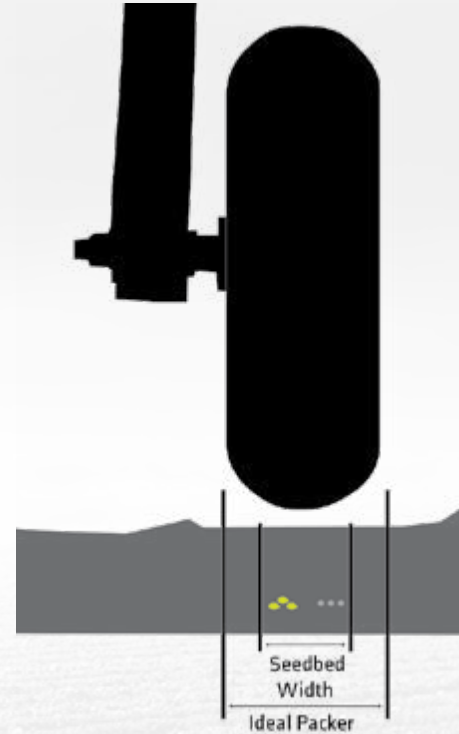
- 3/8" X 2-1/4" **Grade 8** Carriage Bolts, **960-CRG-3755**
- 3/8" Stover Lock Nut, **906-NPT-3755**





## PACKING CONSIDERATIONS

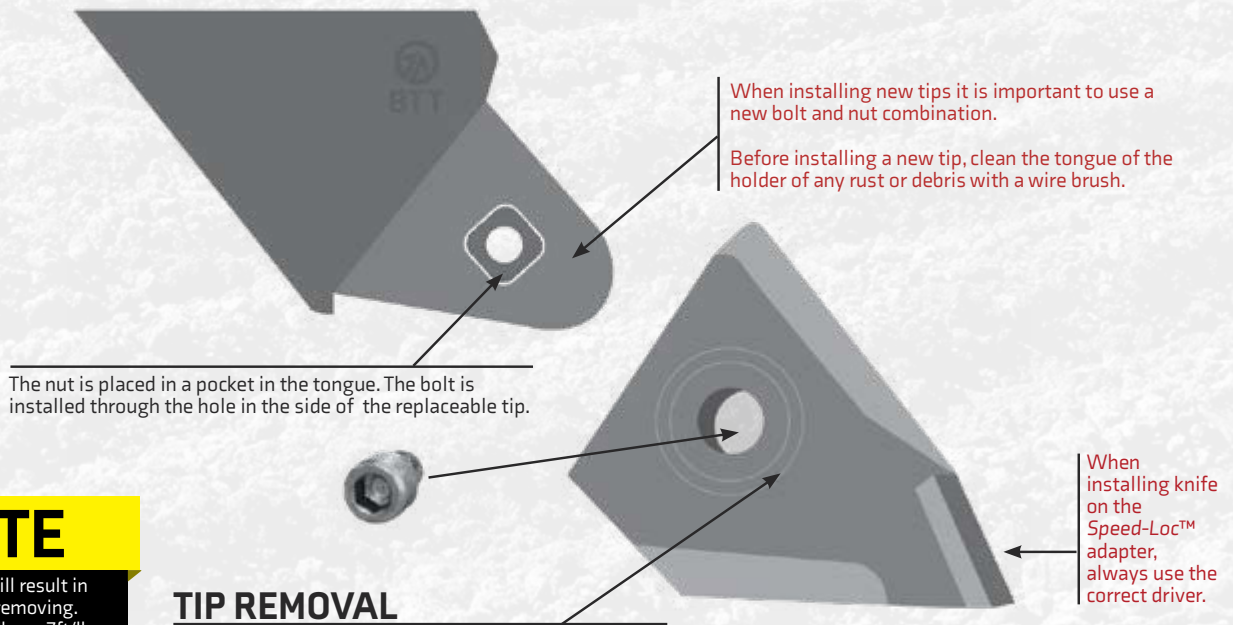
It is recommended to use on-row packing to achieve good soil to seed contact for even germination. Generally, the packer wheel width should be equal to or greater than the width of the tip on the opener. The ideal result is to have uniform depth of firm soil over the full seed row.



## 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:



### NOTE

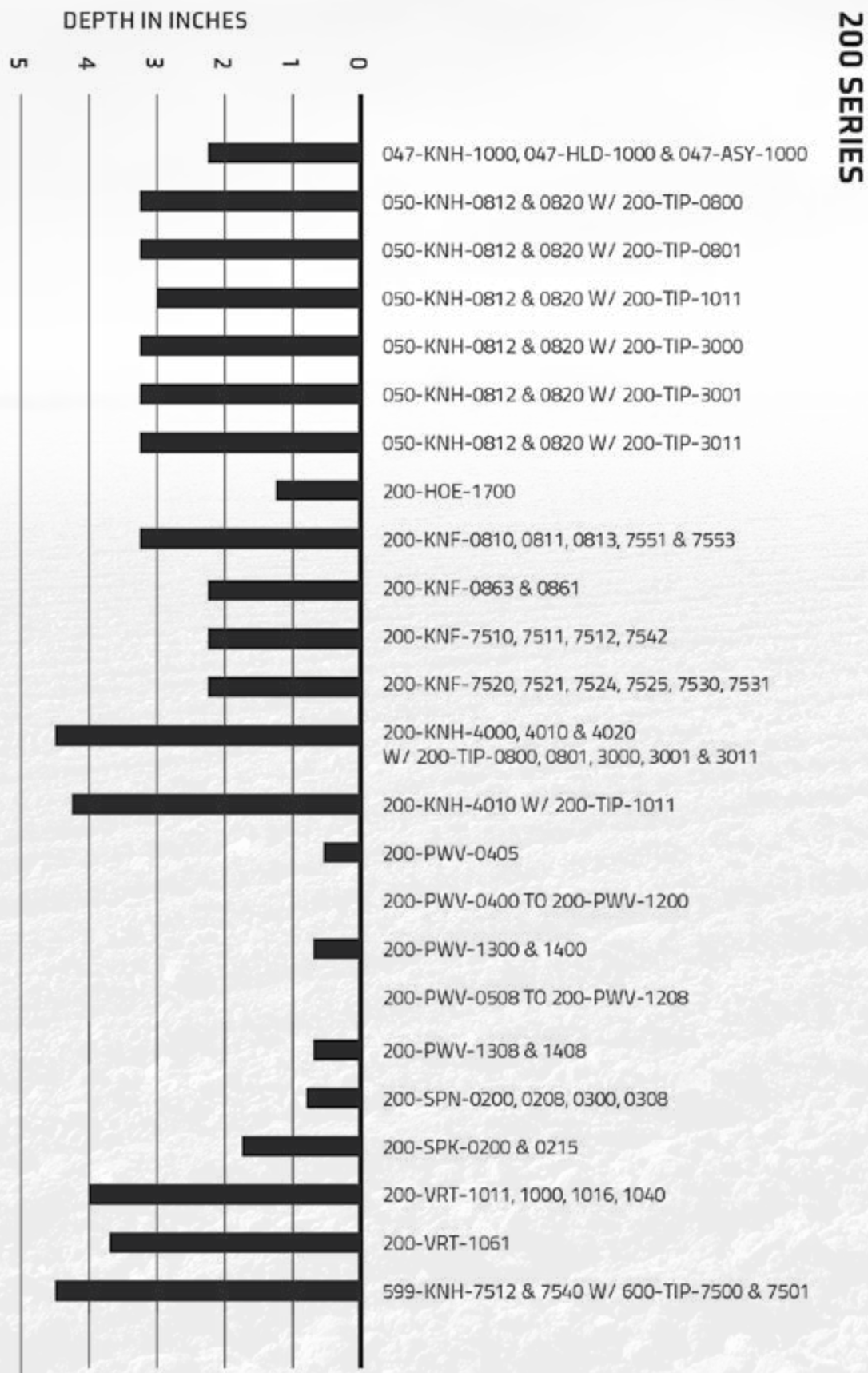
Over torquing will result in difficulty when removing. Torque to 84 in/lbs or 7ft/lbs.

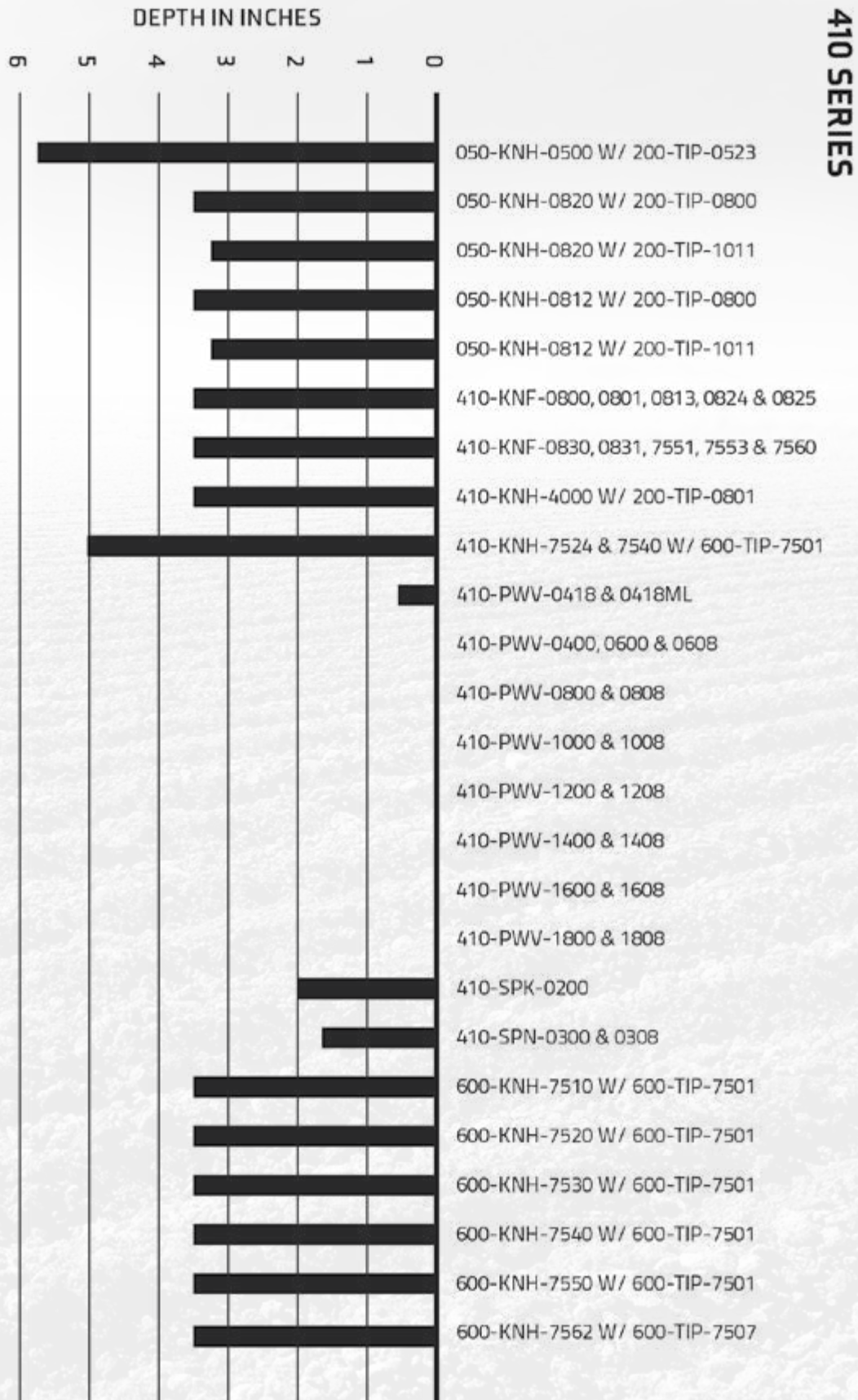


**ALWAYS WEAR  
SAFETY GLASSES!**

### 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.







# 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 2-1/4" no lock washer	1/2" x 2" no lock washer	Hex-head bolts, grade 8 required
1" Bourgault shank with square tube Bourgault seed boot	1/2" x 2" no lock washer	1/2" x 2-1/2" 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 2-1/4" no lock washer	1/2" x 2" no lock washer	Hex-head bolts, grade 8 required
7/8" Bourgault shank with square tube Bourgault seed boot	1/2" x 2-1/4" no lock washer	1/2" x 2" 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 2" c/w with lock washer	1/2" x 1-3/4" no lock washer	Hex-head bolts
3/4" Bourgault shank with square tube Bourgault seed boot	1/2" x 2-1/4" with lock washer	1/2" x 1-3/4" no 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
<b>For 47° and 50° applications, no wedge is needed</b>			
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
<b>For 43° applications, wedge 400-WDG-0700 is required</b>			
1" Morris shank for NH <sub>3</sub> 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 NH<sub>3</sub> 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

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
Plow Bolt	1/2" x 2-1/4"	926-PRG-2254

DESCRIPTION	SIZE	PART NUMBER
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.

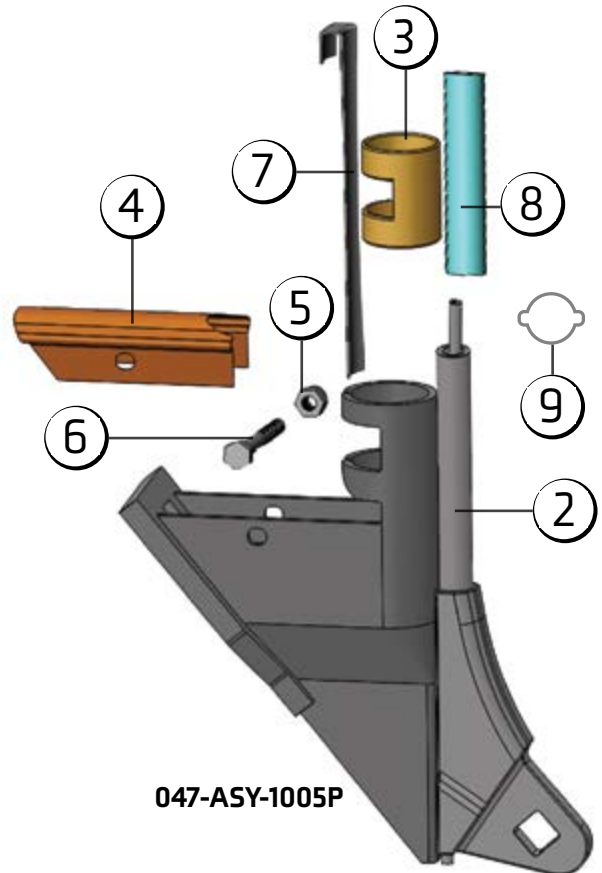
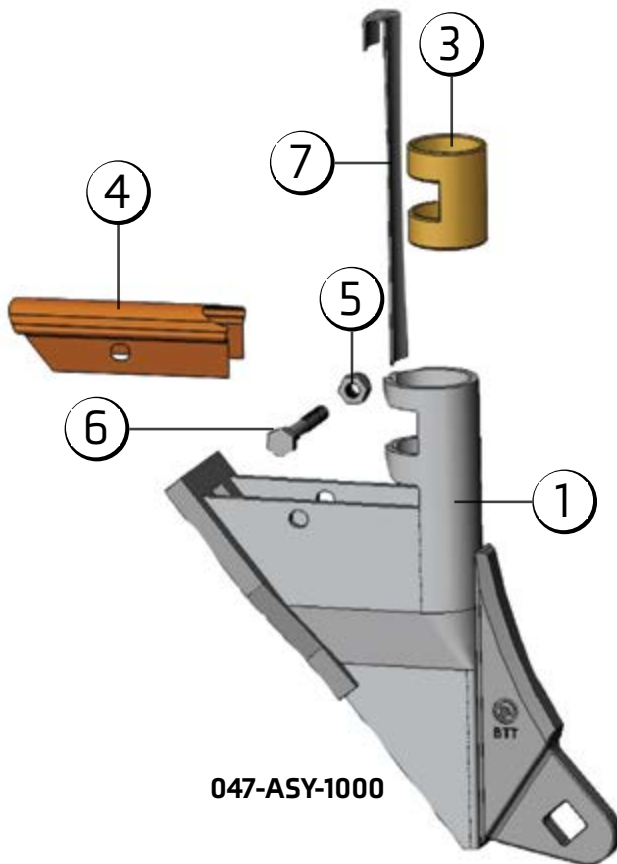
## USS/SAE Grade 8

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 20



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**		■
9	880-HCL-0004		■

### NOTES :

\* Use focus strip 047-ACC-1001 for more concentrated seed placement.

\*\* 680-HOS-1000 is a 6" x 1/2" I.D. NH3 hose.

Curved 50° shanks require either the 880-WDG-0300 or 880-WDG-0301.  
**Sold separately.** See page 104 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 10-11 for more information.

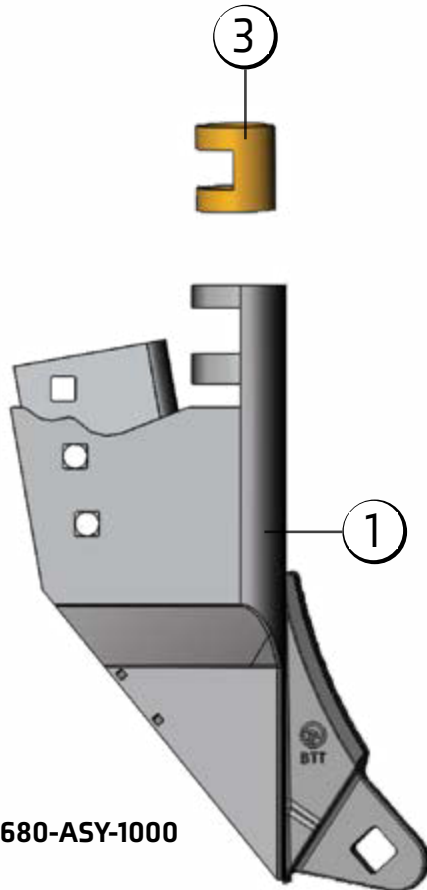
### 880-ASY-1010 **Sold Separately.**

**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.

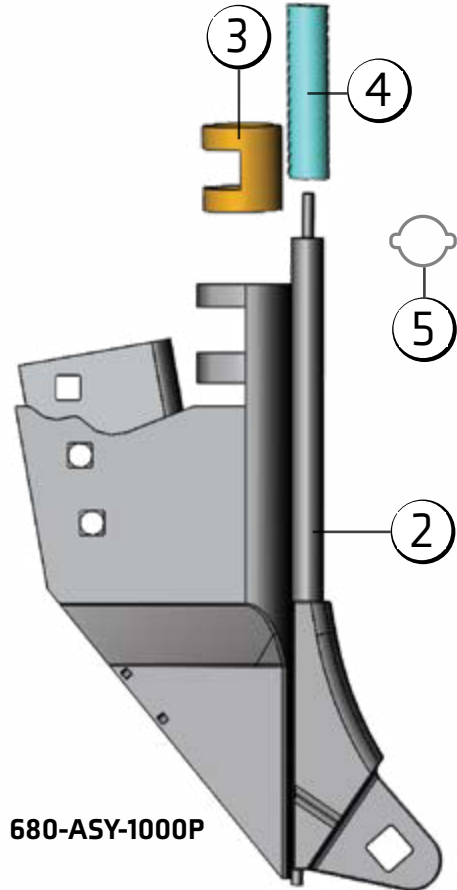


# 680-ASY-1000 & 680-ASY-1000P

SINGLE SHOOT PAGES 26 & 42



**680-ASY-1000**



**680-ASY-1000P**

## 880-ASY-1010 *Sold Separately.*

**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.



**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 10-11 for more information.

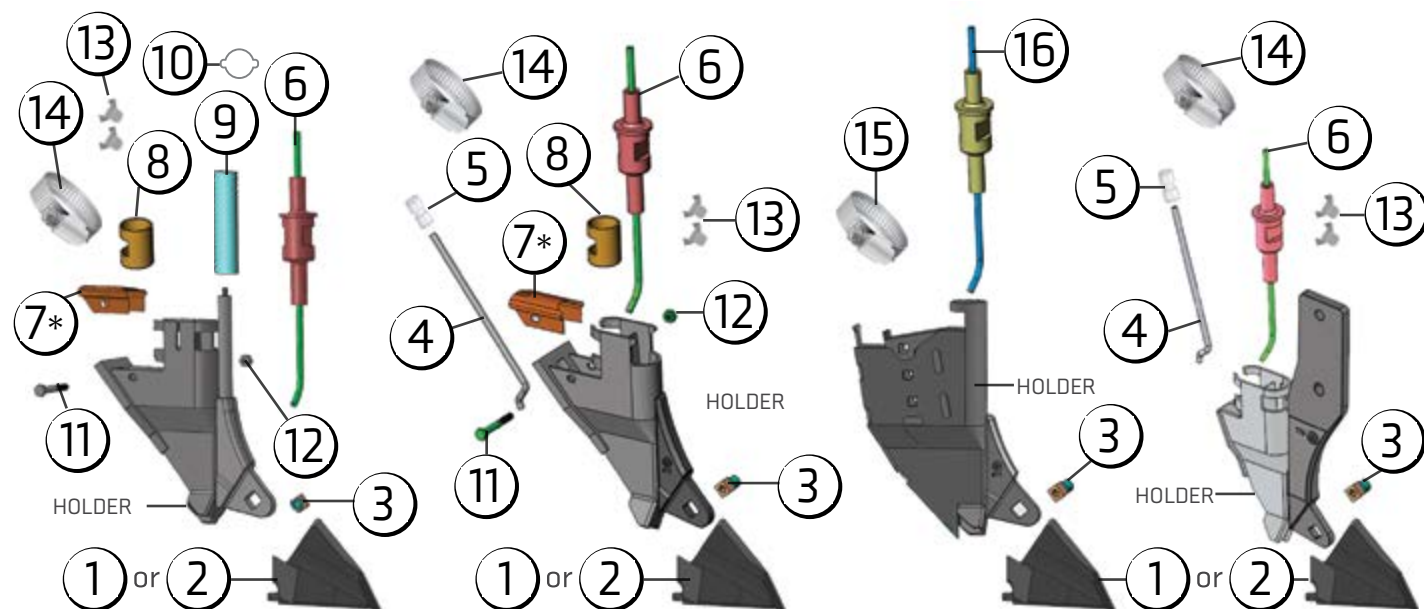
### NOTES :

\*\* 680-HOS-1000 is a 6" x 1/2" I.D. NH3 hose.

		P	
		680-ASY-1000	680-ASY-1000P
PART#			
1	680-HLD-1000	■	
2	680-HLD-1000P		■
3	880-BSH-1130	■	■
4	680-HOS-1000**	■	■
5	880-HCL-0004		■

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 22  
\* NOTE : If your C-Shank Holder looks different than those pictured above, you have a pre-2014 style holder. These holders require the Galvanized Steel cap 612-CAP-1001.

612-ASY-0711 (LEFT)  
612-ASY-0712 (RIGHT SHOWN)

HOLDERS:  
612-HLD-0711  
612-HLD-0712 (SHOWN)  
FITS C-SHANK

PAGE 22

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)

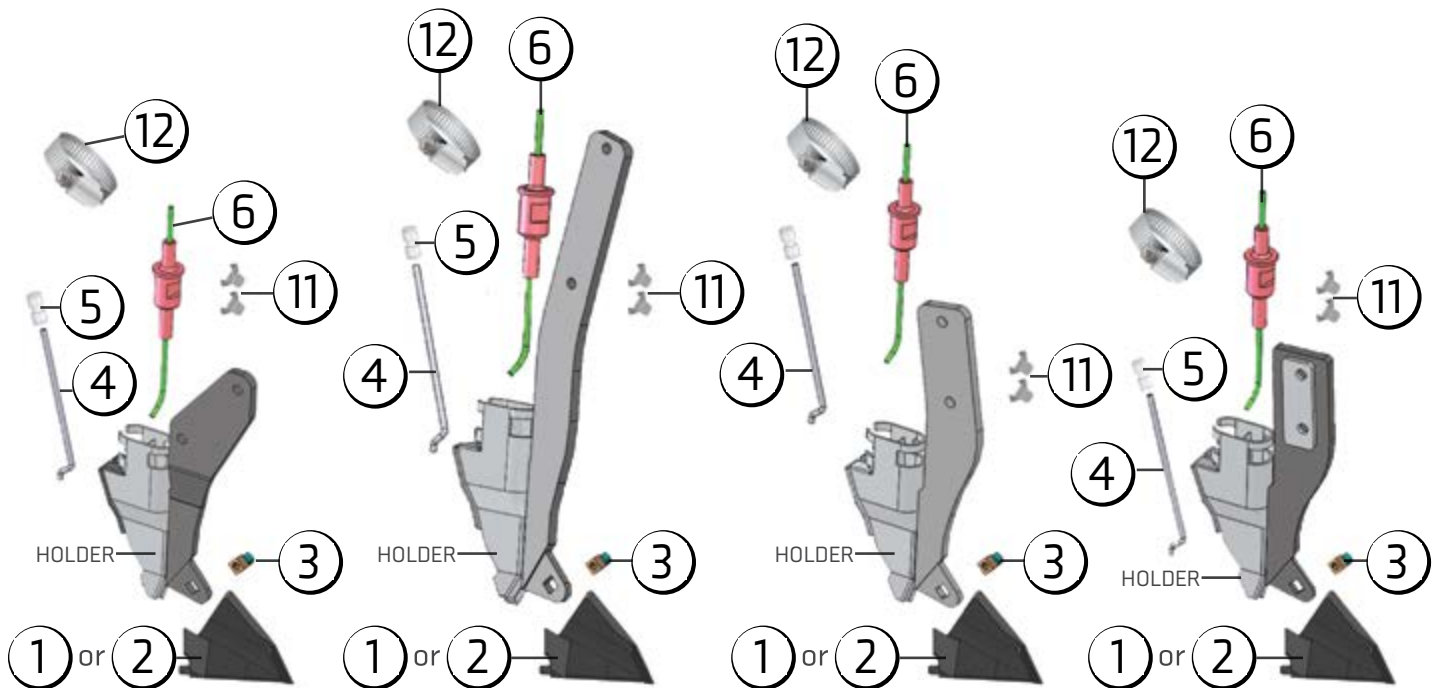
FITS BOURGAULT PHD  
& MORRIS MAXIM EDGE ON  
PAGE 27 & 43

683-ASY-0711  
683-ASY-0712 (SHOWN)

HOLDERS:  
683-HLD-0711  
683-HLD-0712 (SHOWN)  
FITS MORRIS CONTOUR I  
PAGE 43

PART#																													
		610-ASY-0711GP	610-ASY-0711LP	610-ASY-0712GP	610-ASY-0712LP	612-ASY-0711	612-ASY-0711P	612-ASY-0711L	612-ASY-0711LP	612-ASY-0712	612-ASY-0712P	612-ASY-0712L	612-ASY-0712LP	680-ASY-0711	680-ASY-0711P	680-ASY-0711L	680-ASY-0711LP	680-ASY-0712	680-ASY-0712P	680-ASY-0712L	680-ASY-0712LP	683-ASY-0711	683-ASY-0711P	683-ASY-0711L	683-ASY-0711LP	683-ASY-0712	683-ASY-0712P	683-ASY-0712L	683-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																												
7	612-CAP-1002																												
8	880-BSH-1130																												
9	680-HOS-1000*																												
10	880-HCL-0004																												
11	942-HRG-2004																												
12	908-NNI-2504																												
13	880-HCL-0001																												
14	880-HCL-1828																												
15	880-HCL-8117																												
16	682-TUB-6061																												





**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 34

**686-ASY-0711**  
**686-ASY-0712** (SHOWN)

HOLDERS:  
**686-HLD-0711**  
**686-HLD-0712** (SHOWN)  
**FITS SEED HAWK INC.**

PAGE 51

**693-ASY-0711**  
**693-ASY-0712** (SHOWN)

HOLDERS:  
**693-HLD-0711**  
**693-HLD-0712** (SHOWN)  
**FITS MORRIS CONTOUR II**

PAGE 43

**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 34

PART#		<div><div><div><div></div><div>G</div></div><div><div></div><div>P</div></div><div><div></div><div>L</div></div><div><div></div><div>P</div></div><div><div></div><div>G</div></div><div><div></div><div>P</div></div><div><div></div><div>L</div></div><div><div></div><div>P</div></div><div><div></div><div>G</div></div><div><div></div><div>P</div></div><div><div></div><div>L</div></div><div><div></div><div>P</div></div><div><div></div><div>G</div></div><div><div></div><div>P</div></div><div><div></div><div>L</div></div><div><div></div><div>P</div></div><div><div></div><div>G</div></div><div><div></div><div>P</div></div><div><div></div><div>L</div></div><div><div></div><div>P</div></div><div><div></div><div>G</div></div><div><div></div><div>P</div></div><div><div></div><div>L</div></div><div><div></div><div>P</div></div><div><div></div><div>G</div></div><div><div></div><div>P</div></div><div><div></div><div>L</div></div><div><div></div><div>P</div></div><div><div></div><div>G</div></div><div><div></div><div>P</div></div><div><div></div><div>L</div></div><div><div></div><div>P</div></div><div><div></div><div>G</div></div><div><div></div><div>P</div></div><div><div></div><div>L</div></div><div><div></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	<div></div>	<div></div>	<div></div>	<div></div>			<div></div>	<div></div>	<div></div>	<div></div>	<div></div>					<div></div>	<div></div>	<div></div>	<div></div>					<div></div>	<div></div>	<div></div>	<div></div>						
2	612-TIP-0712 (SHOWN)	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
3	200-BNC-3100	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
4	047-TUB-2540	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
5	880-CPL-2500	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
6	612-TUB-6061	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
11	880-HCL-0001	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
12	880-HCL-1828	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	

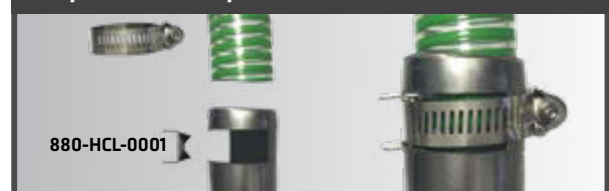
## ASSEMBLIES ON THESE PAGES INCLUDE THE TIP.

### NOTE:

Two 880-HCL-0001 are only included with the granular openers. They are intended to provide additional security to installed hoses.

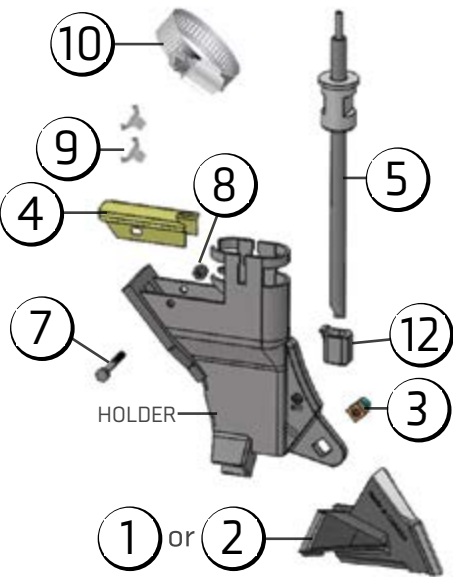
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## Proper Hose Clip Installation:



614-TIP-2711 & 614-TIP-2712 ASSEMBLIES

SIDE BAND ASSEMBLIES ON THESE 2 PAGES INCLUDE THE TIP.

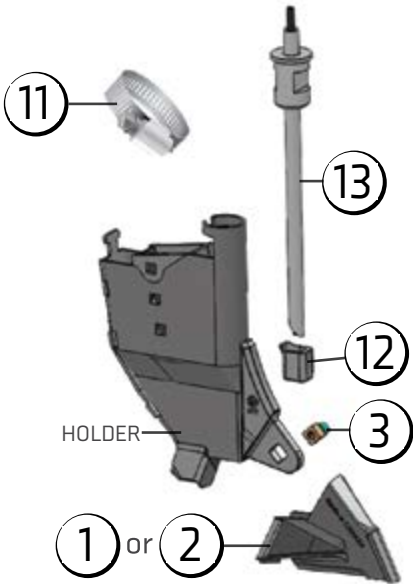


610-ASY-2711 (LEFT)  
610-ASY-2712 (RIGHT SHOWN)

HOLDERS:  
610-HLD-2711  
610-HLD-2712 (SHOWN)

FITS C-SHANK

PAGE 23

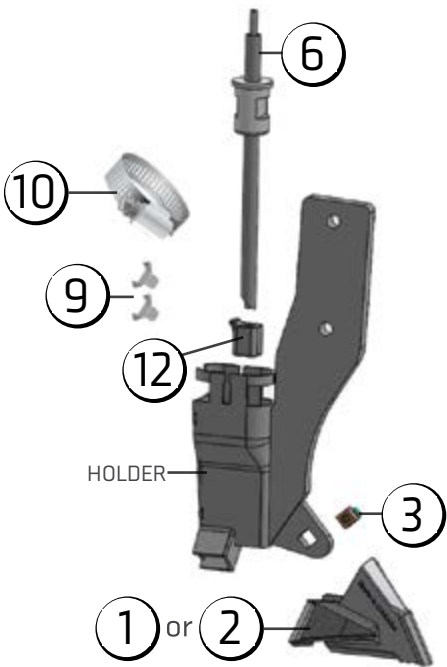


680-ASY-2711 (LEFT)  
680-ASY-2712 (RIGHT SHOWN)

HOLDERS:  
680-HLD-2711  
680-HLD-2712 (SHOWN)

FITS EDGE ON, BOURGAULT PHD  
& MORRIS MAXIM

PAGE 28 & 44



683-ASY-2711 (LEFT)  
683-ASY-2712 (RIGHT SHOWN)

HOLDERS:  
683-HLD-2711  
683-HLD-2712 (SHOWN)

FITS MORRIS CONTOUR I

PAGE 44

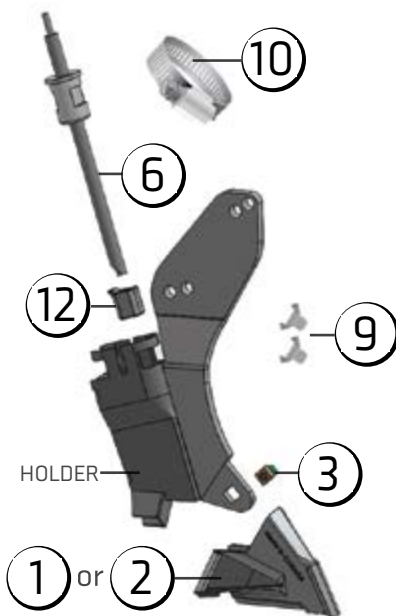
PART#		<div><div><div><div><div></div><div>G</div></div><div><div></div><div>G</div></div></div><div><div><div></div><div>L</div></div><div><div></div><div>L</div></div></div><div><div><div></div><div>G</div></div><div><div></div><div>G</div></div></div><div><div><div></div><div>L</div></div><div><div></div><div>L</div></div></div><div><div><div></div><div>G</div></div><div><div></div><div>G</div></div></div><div><div><div></div><div>L</div></div><div><div></div><div>L</div></div></div><div><div><div></div><div>G</div></div><div><div></div><div>G</div></div></div><div><div><div></div><div>L</div></div><div><div></div><div>L</div></div></div><div><div><div></div><div>G</div></div><div><div></div><div>G</div></div></div><div><div><div></div><div>L</div></div><div><div></div><div>L</div></div></div><div><div><div></div><div>G</div></div><div><div></div><div>G</div></div></div><div><div><div></div><div>L</div></div><div><div></div><div>L</div></div></div><div><div><div></div><div>G</div></div><div><div></div><div>G</div></div></div><div><div><div></div><div>L</div></div><div><div></div><div>L</div></div></div><div><div><div></div><div>G</div></div><div><div></div><div>G</div></div></div><div><div><div></div><div>L</div></div><div><div></div><div>L</div></div></div></div></div>																							
		610-ASY-2711G	610-ASY-2711GP	610-ASY-2711L	610-ASY-2711LP	610-ASY-2712G	610-ASY-2712GP	610-ASY-2712L	610-ASY-2712LP	680-ASY-2711G	680-ASY-2711GP	680-ASY-2711L	680-ASY-2711LP	680-ASY-2712G	680-ASY-2712GP	680-ASY-2712L	680-ASY-2712LP	683-ASY-2711G	683-ASY-2711GP	683-ASY-2711L	683-ASY-2711LP	683-ASY-2712G	683-ASY-2712GP	683-ASY-2712L	683-ASY-2712LP
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.

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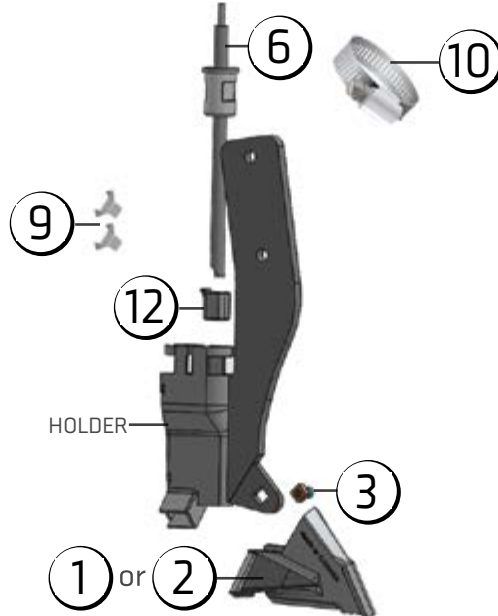


**684-ASY-2711** (LEFT)  
**684-ASY-2712** (RIGHT SHOWN)

HOLDERS:  
**684-HLD-2711**  
**684-HLD-2712** (SHOWN)

**FITS CASE IH 800, NH P2070,  
FLEXI-COIL PD5700** PAGE 35

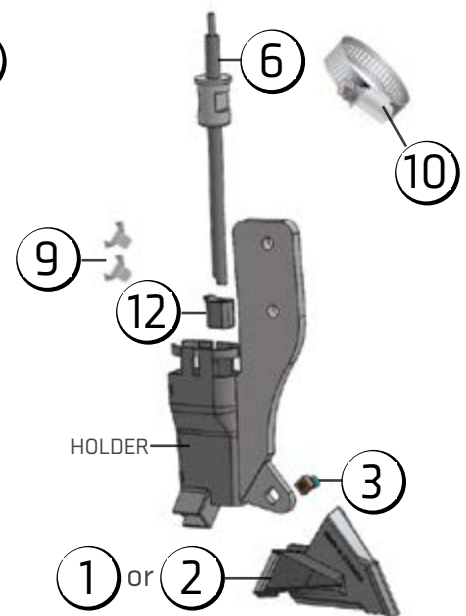
**WHEN INSTALLING OPENERS ON CASE IH  
800, NEW HOLLAND P2070 &  
FLEXI-COIL PD5070 YOU HAVE 2 OPTIONS**



**693-ASY-2711** (LEFT)  
**693-ASY-2712** (RIGHT SHOWN)

HOLDERS:  
**693-HLD-2711**  
**693-HLD-2712** (SHOWN)

**FITS MORRIS CONTOUR II**  
PAGE 44



**694-ASY-2711** (LEFT)  
**694-ASY-2712** (RIGHT SHOWN)

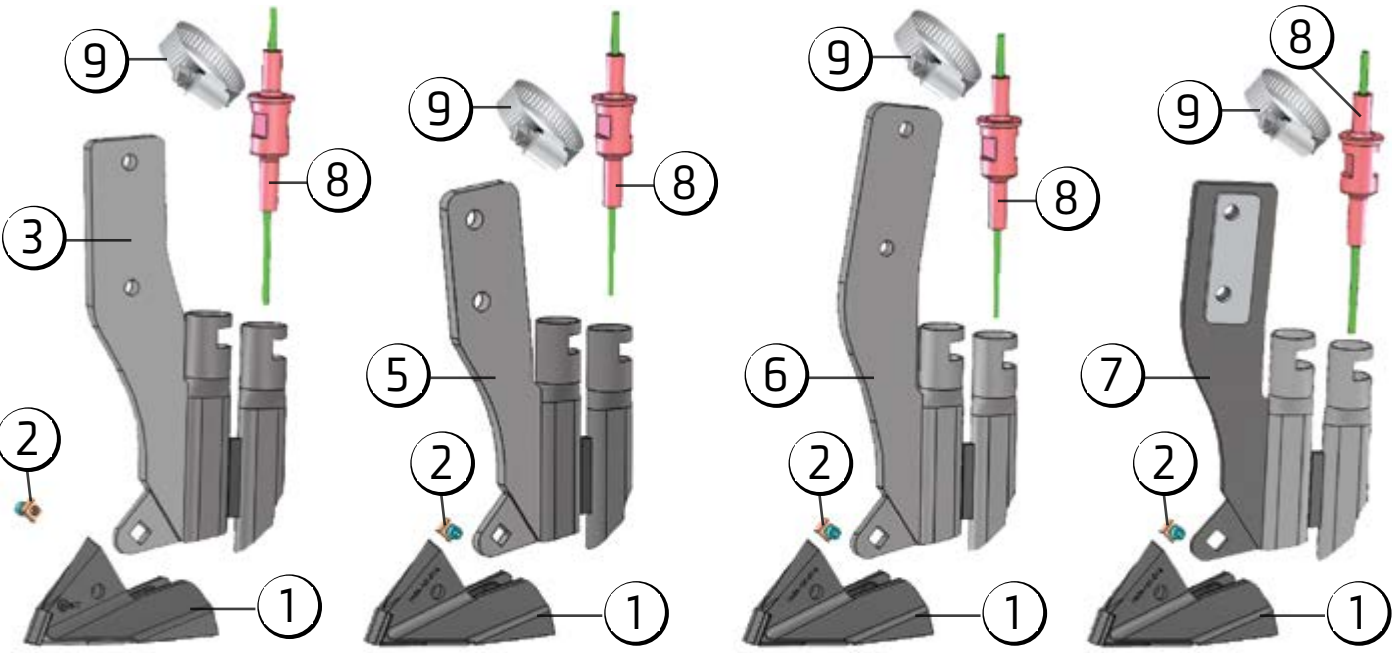
HOLDERS:  
**694-HLD-2711**  
**694-HLD-2712** (SHOWN)

**FITS CASE IH ATX 700,  
NH P2060, FLEXI-COIL 5500  
& CONCORD**  
PAGE 35

PART#																																	
1	614-TIP-2711																																
2	614-TIP-2712 <small>(SHOWN)</small>																																
3	200-BNC-3100																																
6	880-TUB-2711																																
9	880-HCL-0001																																
10	880-HCL-1828																																
12	614-ACC-1000																																

**610-TIP-4041 ASSEMBLIES**

PAIRED ROW ASSEMBLIES ON THESE 2 PAGES INCLUDE THE TIP.



**683-ASY-4020**  
FITS MORRIS CONTOUR I  
PAGE 46

**688-ASY-4020**  
FITS HORSCH 84° SHANK  
PAGE 39

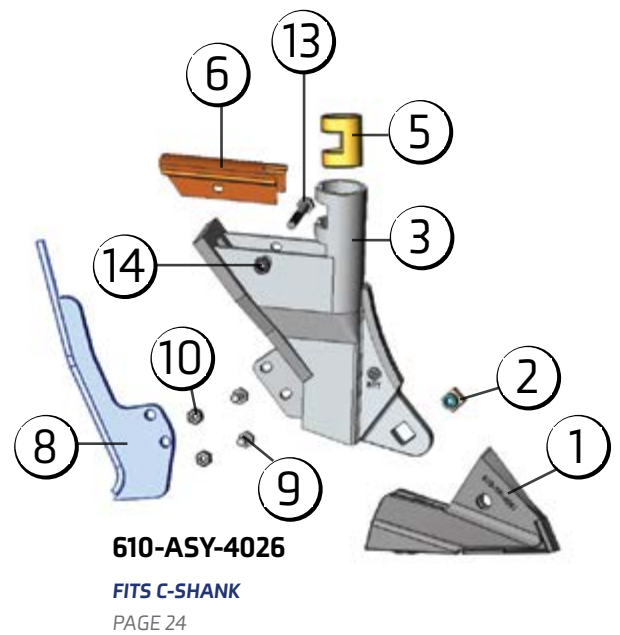
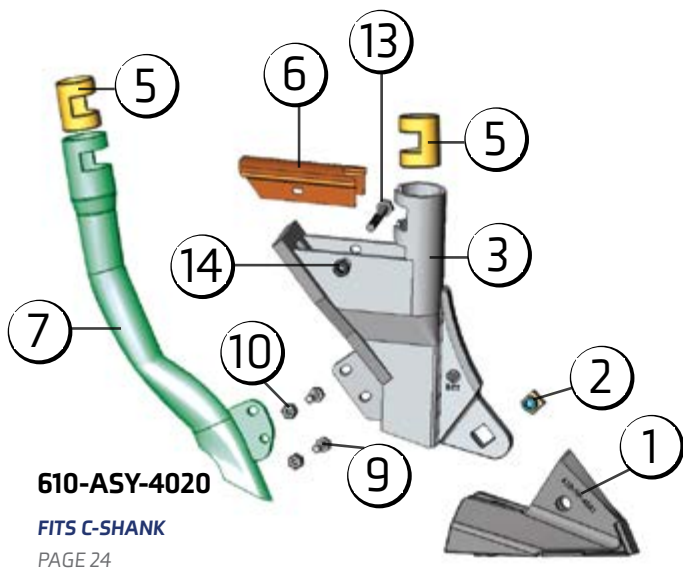
**693-ASY-4020**  
FITS MORRIS CONTOUR II  
PAGE 46

**694-ASY-4020**  
FITS CASE IH ATX 700, NH P2060,  
FLEXI-COIL 5500 & CONCORD  
PAGE 36

		683-ASY-4020G	683-ASY-4020L	688-ASY-4020G	688-ASY-4020L	693-ASY-4020G	693-ASY-4020L	694-ASY-4020G	694-ASY-4020L
PART#									
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.**  
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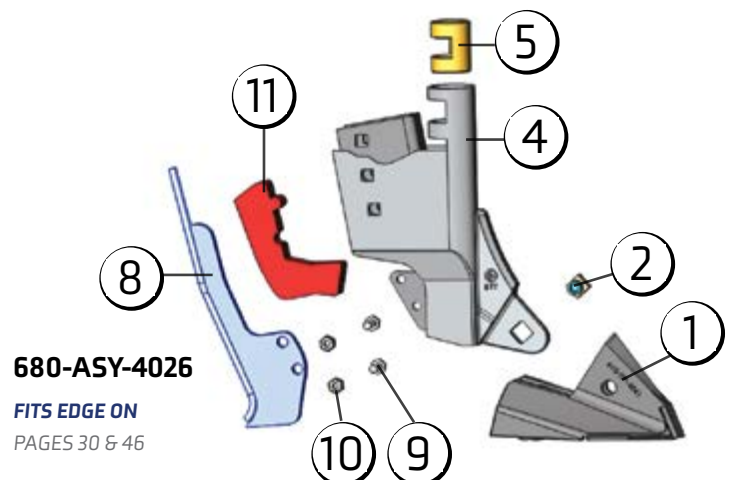
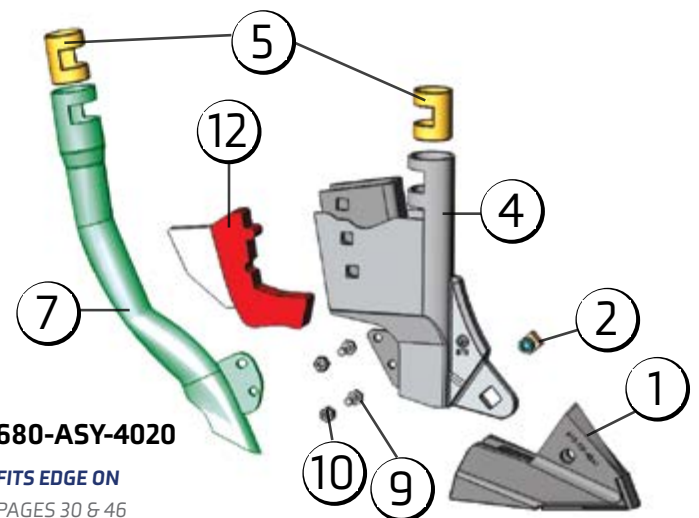
		G		L	
		610-ASY-4020		610-ASY-4026	
		680-ASY-4020		680-ASY-4026	
PART#					
1	610-TIP-4041	■	■	■	■
2	200-BNC-3100	■	■	■	■
3	610-HLD-2000	■	■	■	■
4	680-HLD-2000			■	■
5	880-BSH-1130	■	■	■	■
6	047-CAP-1000	■	■		
7	610-TUB-1001	■		■	
8	610-TUB-2526		■		■
9	942-HRG-0754	■	■	■	■
10	906-NPT-2505	■	■	■	■
11	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 105 for more details.



JOHN DEERE 1870 CONSERVA PAK

FERTILIZER KNIVES PAGE 41



		<div><div>G</div><div>L</div><div>N</div><div>G</div><div>G</div><div>N</div></div>					
		650-HLD-1000G	650-HLD-1000L	650-HLD-1000N	650-HLD-1000GL	650-HLD-1000GN	650-HLD-1000I
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.

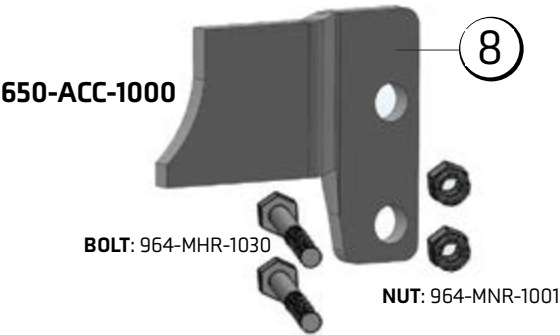
TIP OPTIONS : 200-TIP-0800  
200-TIP-0801  
200-TIP-0802  
200-TIP-0803  
200-TIP-0811

Tips sold separately.  
See page 10-11 for more information.

\* NOTE: The bracket 650-ACC-1000 (pictured below) limits the tripping distance of these fertilizer knives.

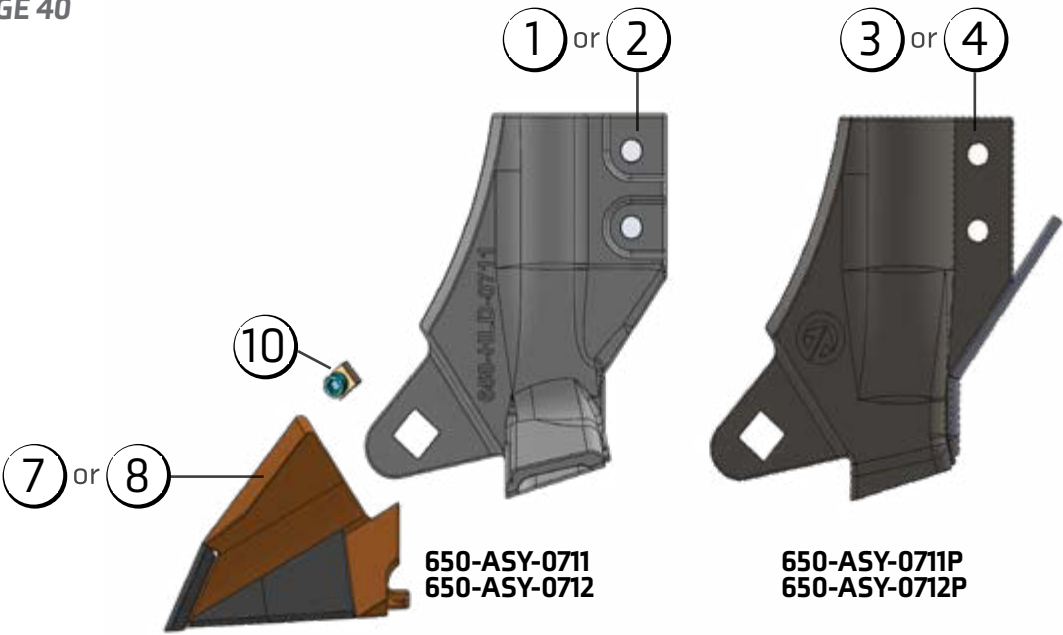
It is **not included in the assembly** and must be ordered separately. The metric bolts needed to install this bracket are included in the assembly.

To see this bracket installed properly see page 41.



# JOHN DEERE 1870 CONSERVA PAK

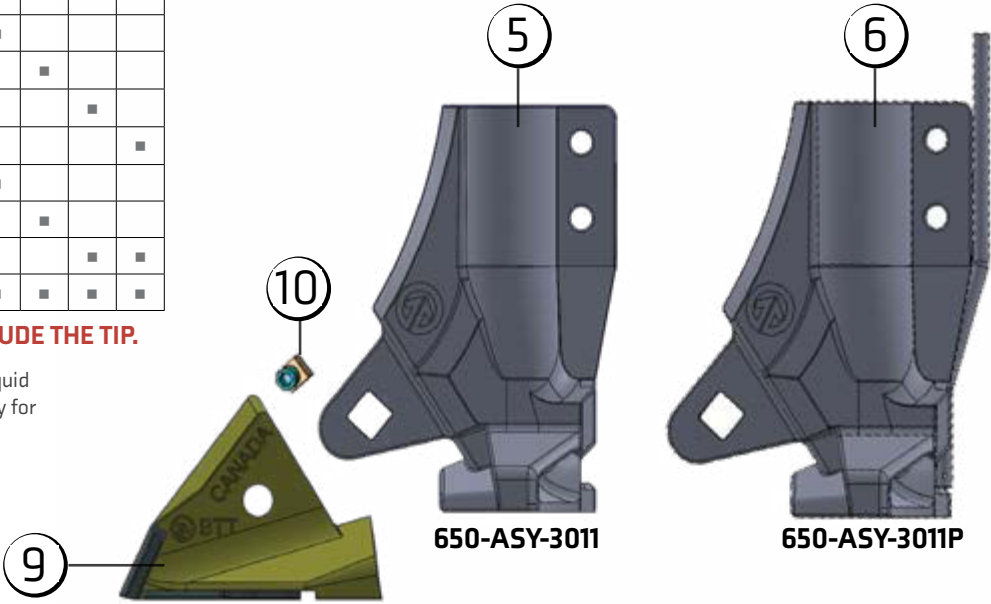
SINGLE SHOOT PAGE 40



		G	G	P	P	G	P
		650-ASY-0711	650-ASY-0712	650-ASY-0711P	650-ASY-0712P	650-ASY-3011	650-ASY-3011P
1	650-HLD-0711	■					
2	650-HLD-0712		■				
3	650-HLD-0711P			■			
4	650-HLD-0712P				■		
5	650-HLD-3000					■	
6	650-HLD-3000P						■
7	612-TIP-0711	■		■			
8	612-TIP-0712		■		■		
9	200-TIP-3011					■	■
10	200-BNC-3100	■	■	■	■	■	■

**ASSEMBLIES ON THIS PAGE INCLUDE THE TIP.**

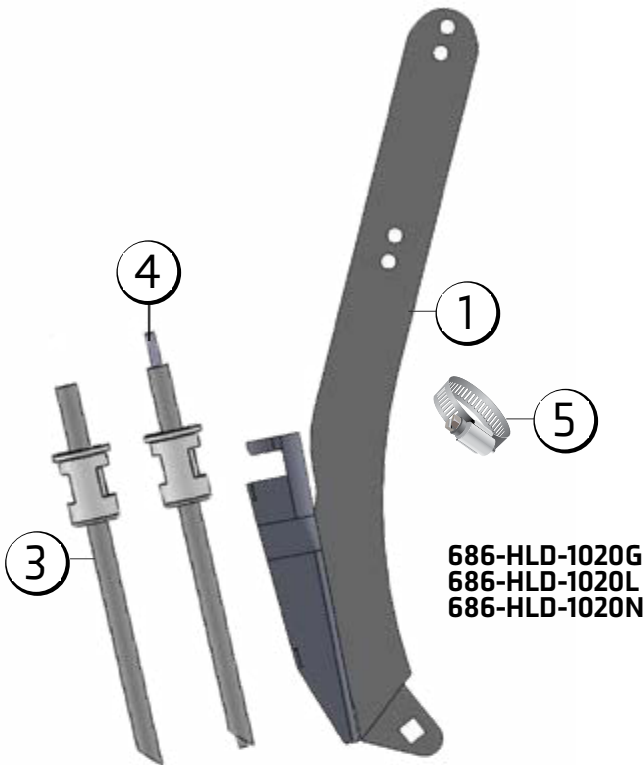
**NOTE:** These openers are available with liquid phosphorus options, please call the factory for more details.



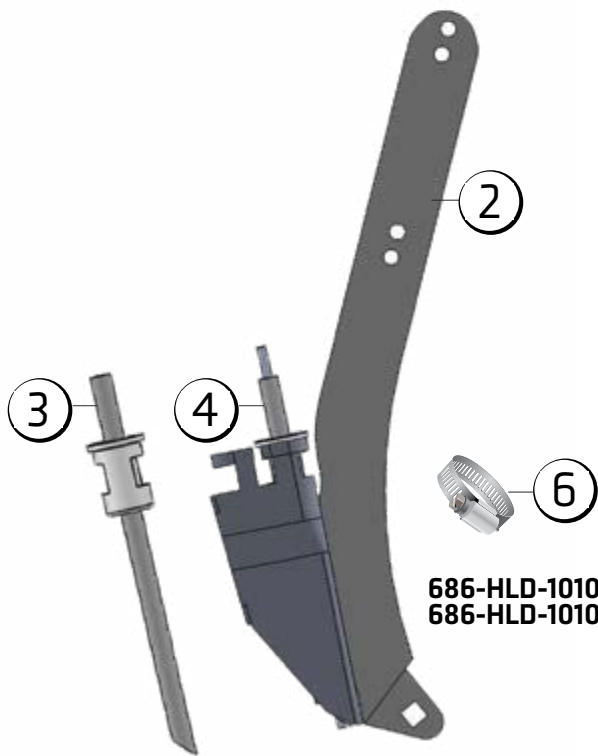
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SEED HAWK INC.\*

FERTILIZER KNIVES PAGE 49



686-HLD-1020G  
686-HLD-1020L  
686-HLD-1020N



686-HLD-1010GL  
686-HLD-1010GN

		<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
PART#						
1	686-HLD-1020	■	■	■		
2	686-HLD-1010				■	■
3	880-TUB-8375			■		■
4	880-TUB-8375L		■		■	
5	880-HCL-8117		■	■		
6	880-HCL-1828				■	■

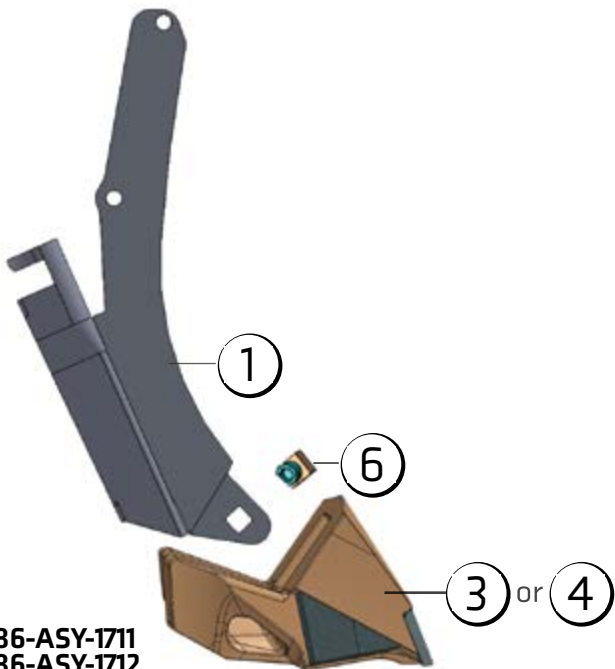
- TIP OPTIONS : 200-TIP-0511  
200-TIP-0800  
200-TIP-0801  
200-TIP-0802  
200-TIP-0803  
200-TIP-0811

Tips sold separately.  
See page 10-11 for more information.



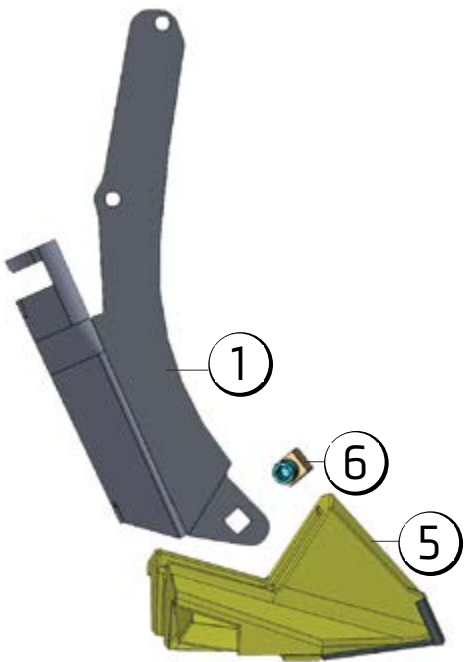
**SEED HAWK INC.\***

*SINGLE SHOOT PAGE 50*



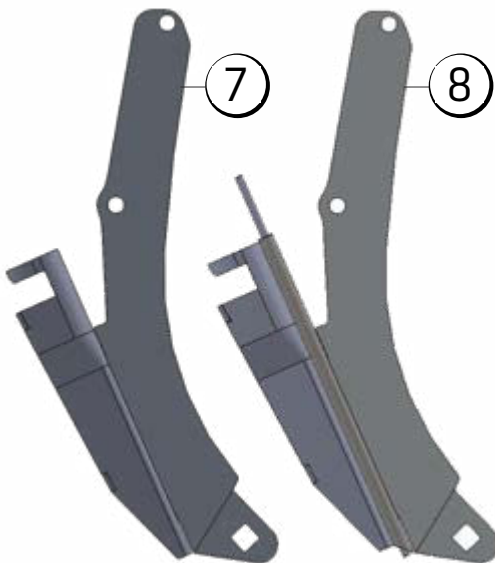
**686-ASY-1711  
686-ASY-1712**

**THIS ASSEMBLY INCLUDES THE TIP.**



**686-ASY-3500**

**THIS ASSEMBLY INCLUDES THE TIP.**



**686-KNH-1001**

**686-KNH-1001P**

- 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 10-11 for more information.*

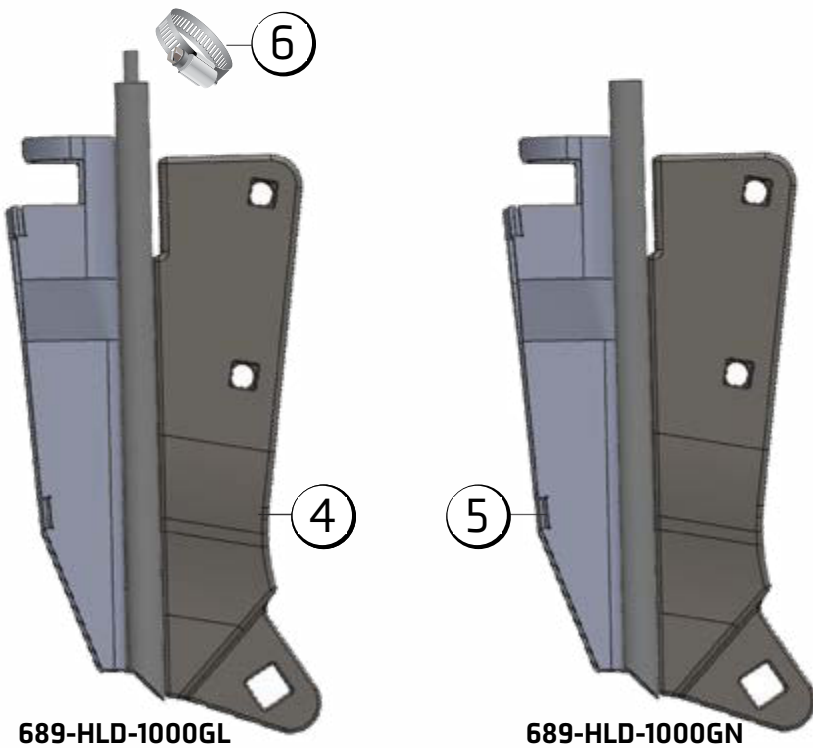
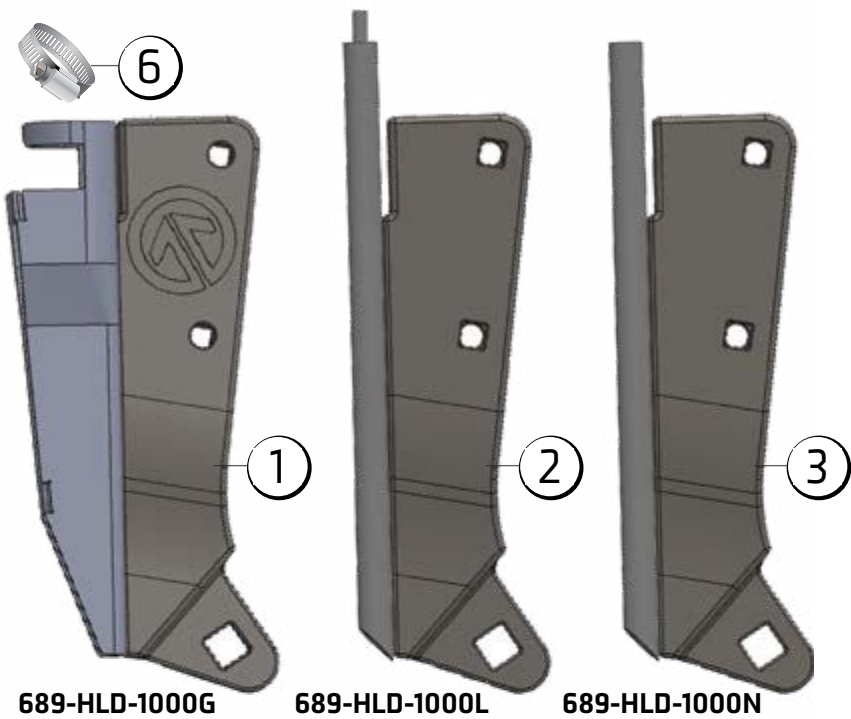
		686-ASY-1711	686-ASY-1712	686-ASY-3500	686-KNH-1001	686-KNH-1001P
PART#						
1	686-KNH-1000	■	■	■		
3	610-TIP-1711 (NOT SHOWN)	■				
4	610-TIP-1712		■			
5	610-TIP-3500			■		
6	200-BNC-3100	■	■	■		
7	686-KNH-1001				■	
8	686-KNH-1001P					■

**NOTE:** These openers are available with liquid phosphorus options, please call the factory for more details.

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# SEED MASTER

FERTILIZER KNIVES PAGE 52



	689-HLD-1000G	689-HLD-1000L	689-HLD-1000N	689-HLD-1000GL	689-HLD-1000GN
PART#					
1	689-HLD-1000G				
2	689-HLD-1000L				
3	689-HLD-1000N				
4	689-HLD-1000GL				
5	689-HLD-1000GN				
6	880-HCL-8117				

- 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 10-11 for more information.

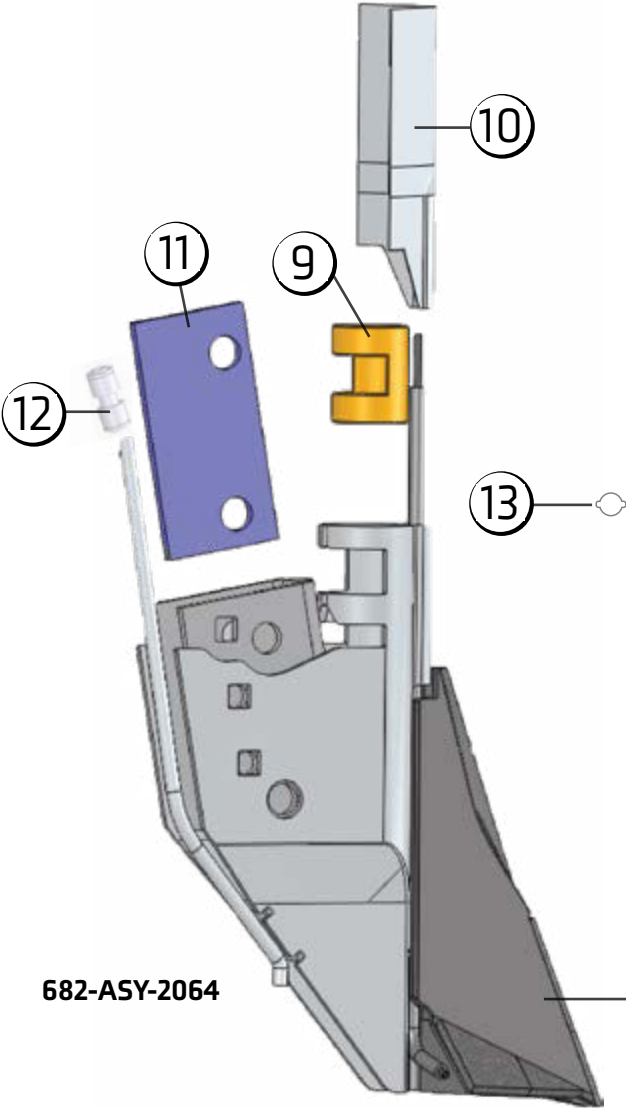
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# 682-ASY-2063 & 682-ASY-2064 ASSEMBLIES

SIDE BAND PAGES 29 & 45

**682-ASY-2063 - LEFT**

**682-ASY-2064 - RIGHT**



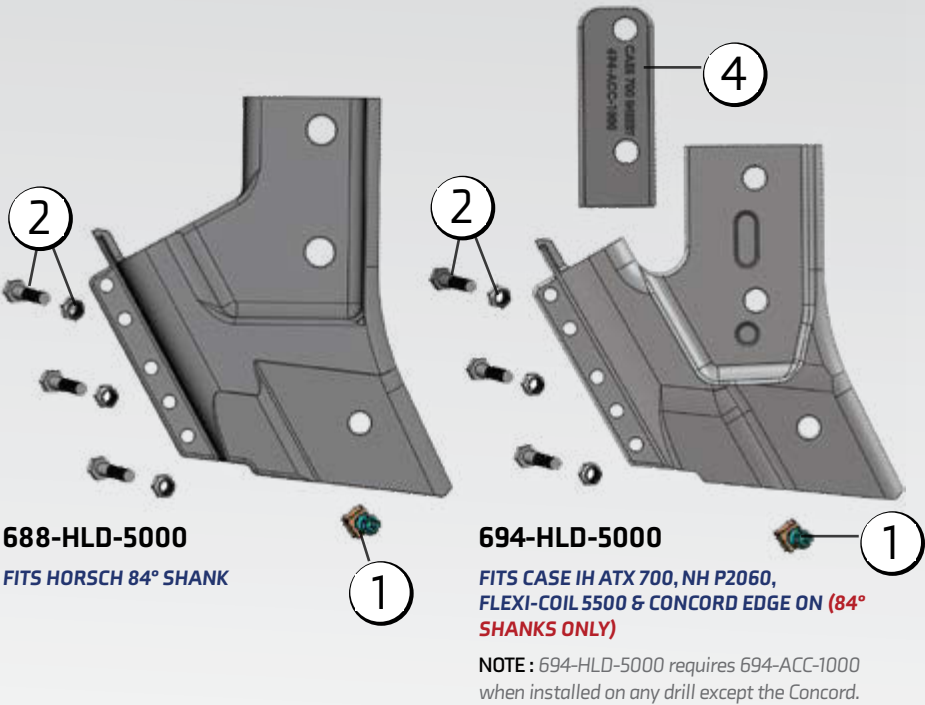
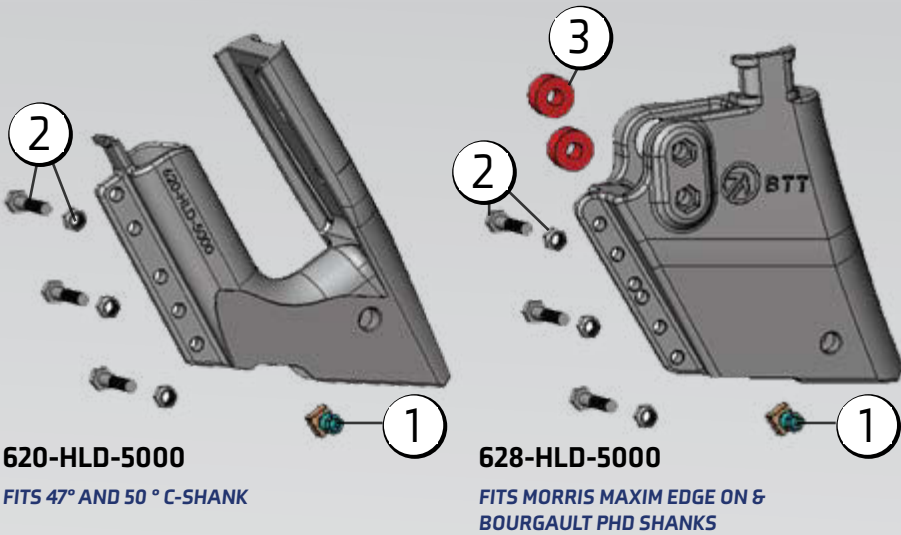
**682-ASY-2064**

		682-ASY-2063				682-ASY-2064			
		G	M	P	M	G	M	P	M
		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.

TITAN OPENER SYSTEM PAGES 53-55

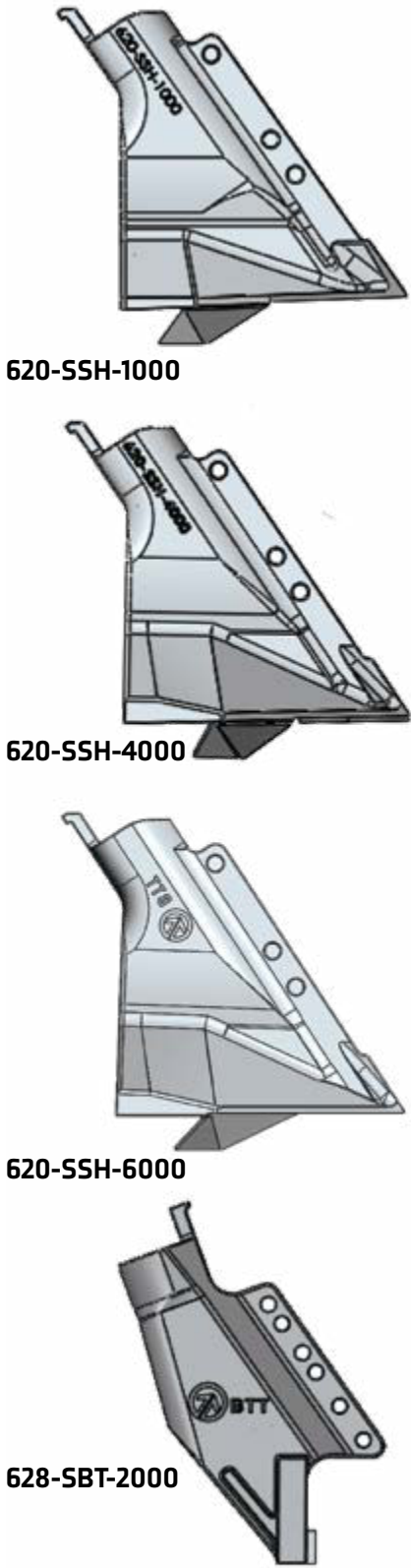
HOLDERS:



PART#		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			■	

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SEED SHOES/BOOT:





## TIPS:



620-TIP-0510



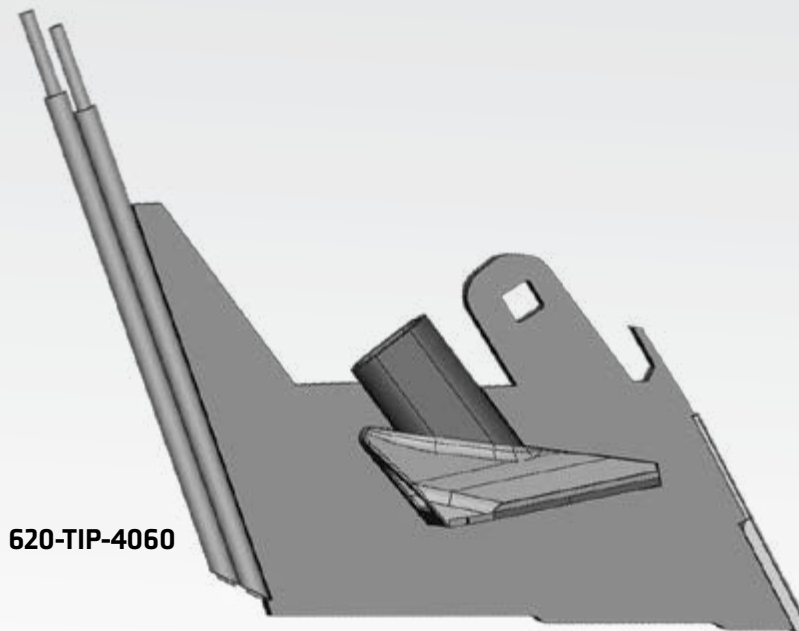
620-TIP-0517



628-TIP-0510



628-TIP-0512



620-TIP-4060

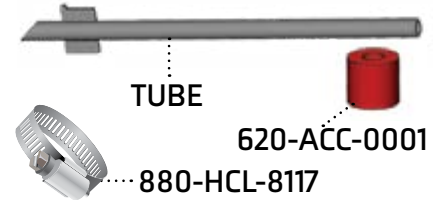
## FERTILIZER TUBES:

\* The tube assemblies pictured below include the tube and any accessories shown with them.

### 620-TUB-1021 \*



1/2" (12 mm) O.D. NH<sub>3</sub> tube for 620, 688 & 694 holders.



### 620-TUB-1070 & 1070XL



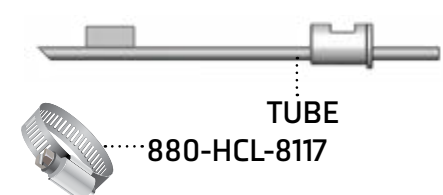
1/4" (6 mm) O.D. Aqua NH<sub>3</sub> + Phos tube for 620, 688 & 694 series holders.



### 620-TUB-4000 & 4000XL



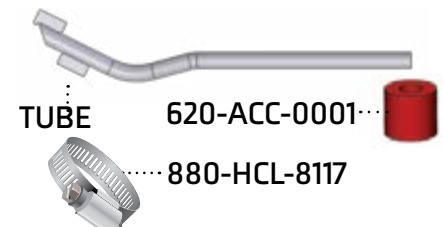
0.4" O.D. Stainless Steel Liquid or NH<sub>3</sub> tube for 620, 688 & 694 series holders.



### 628-TUB-1021\*



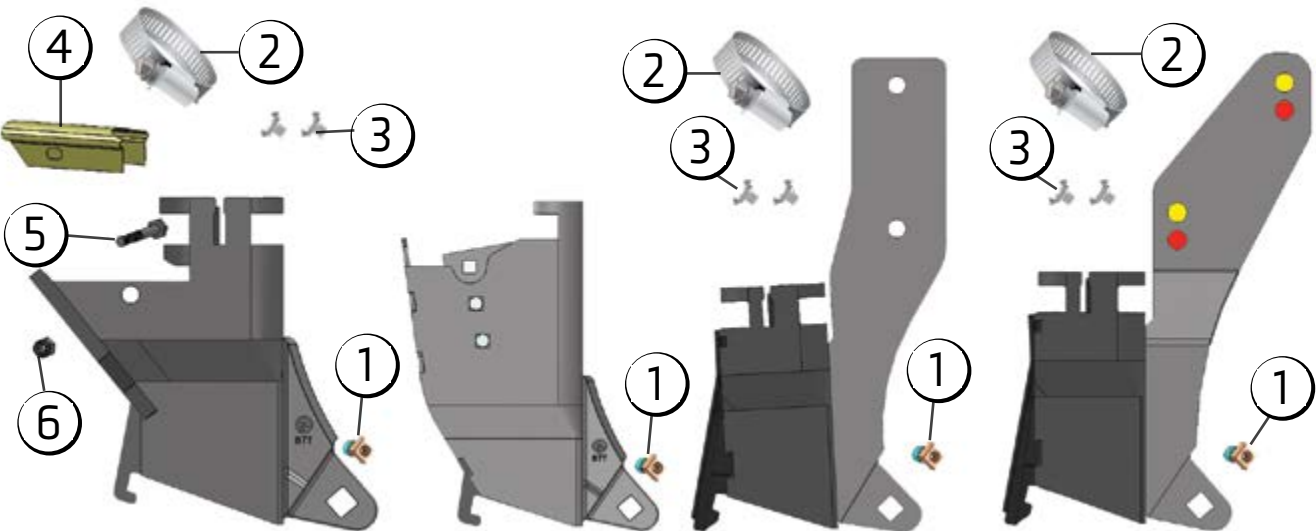
1/2" (12 mm) O.D. NH<sub>3</sub> tube for 628 holders.



\* For pressurized NH<sub>3</sub> Systems (including MaxQuip) you will be given the standard NH<sub>3</sub> tube and then must consult with your pressurized system dealer for tubing inserts.

VOS (VERSATILE OPENER SYSTEM) PAGES 56-57

HOLDERS:



610-HLD-2080

FITS C-SHANK

673-HLD-2080

FITS EDGE ON,  
BOURGAULT PHD  
& MORRIS MAXIM

683-HLD-2080

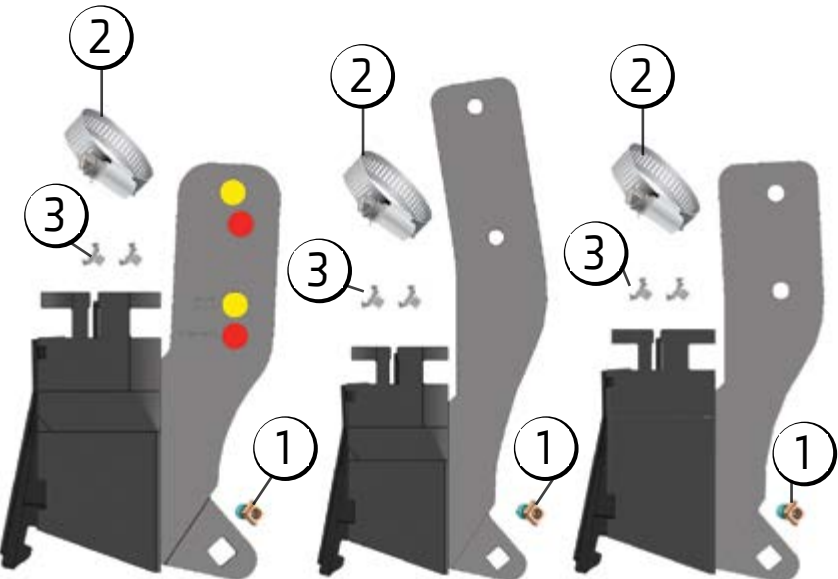
FITS MORRIS CONTOUR I

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
- 3/4" 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

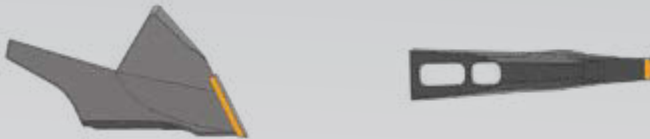
FITS CASE IH ATX 700,  
NEW HOLLAND P2060,  
FLEXI-COIL 5500  
& CONCORD  
(84° SHANKS ONLY)

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	■						

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## 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



### 610-TIP-4082 PAIRED ROW TIP



## FERTILIZER TUBES:

### 880-TUB-1001 OR 880-TUB-1002



Precision Drills NH<sub>3</sub>  
1/2" (12 mm) O.D. Stainless Tube



880-BSH-1000

### 880-TUB-1003 OR 880-TUB-1004



Precision Drills Liquid  
1/4" (6 mm) O.D. Stainless Tube



880-BSH-1000

### 880-TUB-1009 OR 880-TUB-1010



Precision Drills Liquid or NH<sub>3</sub>  
3/8" (10 mm) O.D. Stainless Tube



880-BSH-1000

### 880-TUB-1011 OR 880-TUB-1012



Precision Drills Aqua NH<sub>3</sub> + Phos  
1/4" (6 mm) O.D. Stainless Tube



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:



# 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](http://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](http://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](http://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](http://www.martinlishman.com)



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### **T00 CanAgro**

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Kokshetau P: +7 (716) 27-752-76 [www.can-agro.com](http://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](http://www.ctagro.com)

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P: 08-9399-9700 [www.bourgault.com](http://www.bourgault.com)



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**Cell:** 204.724.2012



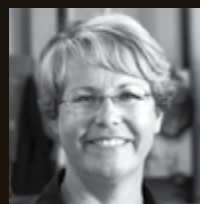
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**Cell:** 306.874.8322



**Marissa Mark**

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Administrative Coordinator



**Len Horvath**

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Manager



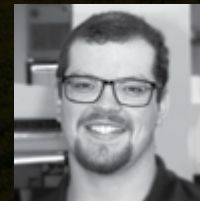
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R&D Manager



**Dylan Theis**

R&D Technician



**Steven Oleksyn**

R&D Design Engineer

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P: 1.800.878.7714 F: 1.306.275.4720 E: [info@tillagetools.com](mailto:info@tillagetools.com) [www.tillagetools.com](http://www.tillagetools.com)



# UPCOMING EVENTS

## NORTH AMERICA

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- Agri-Trade Equipment Expo** – November 7-9, 2018 – Red Deer, Alberta
- Crop Production Show** – January 14-17, 2019 – Saskatoon, Saskatchewan
- Manitoba Ag Days** – January 22-24, 2019 – Brandon, Manitoba
- KMOT Ag Expo** – January 30- February 1, 2019 – Minot, North Dakota
- Spokane Ag Expo** – February 5-7, 2019 – Spokane, Washington
- Farm Progress Show** – June 19-21, 2019 – Regina, Saskatchewan
- Big Iron Farm Show** – September 10-12, 2019 – West Fargo, North Dakota
- Agri-Trade Equipment Expo** – November 6-8, 2019 – Red Deer, Alberta

## INTERNATIONAL

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- Agro Salon 2018** – October 9-12, 2018 – Moscow, Krokus *Find us in the Industriebhof Stand*
- Golden Autumn** – October 10-13, 2018 – Moscow, Russia
- KoneAgria** – October 11-13, 2018 – Tampere, Finland *Find us in the Industriebhof Stand*
- Elmia Lantbruk 2018** – October 24-26, 2018 – Jönköping, Sweden *Find us in the Industriebhof Stand*
- KazAgro** – October 24-26, 2018 – Astana, Kazakhstan
- Agrokomplex Kiev 2018** – October 30 –November 2, 2018 – KievExpoPlaza, Ukraine *Find us in the Industriebhof Stand*
- Agro Expo Siberia** – November 7-9, 2018 – Novosibirsk, Russia
- Emia 2018** – November 7-11, 2018 – Bologna, Italy *Find us in the Industriebhof Stand*
- InterAGRO** – October 30 - November 1, 2018 – KievExpoPlaza, Ukraine
- AgriScot** – November 21, 2018 – Ingliston, Edinburgh, Scotland *Find us in the Martin Lishman Stand*
- Midland Machinery Show** – November 21-22, 2018 – Winthorpe, England *Find us in the Martin Lishman Stand*
- Agromek 2018** – November 27-30, 2018 – Herning, Denmark *Find us in the Industriebhof Stand*
- YugAgro 2018** – November 28 - December 1, 2018 – Krasnodar, Russia
- Lamma** – January 8-9, 2019 – Alwalton, England *Find us in the Martin Lishman Stand*
- Graintech** – February 19-21, 2019 – Kiev, Ukraine
- SIMA** – February 24-28, 2019 – Paris Nord Villepinte, France *Find us in the Industriebhof Stand*
- Agrokomplex** – March 13-16, 2019 – Ufa, Russia
- AgriTec** – March 13-15, 2019 – Astana, Kazakhstan

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