



2021 PRODUCT CATALOGUE

SEEDING, FERTILIZER & TILLAGE TOOLS



PRODUCTS ADDED



**MAX LIFE™
HARROW TINES**
(PG 96)



**BOURGAULT MRB &
NIAUX 200 DISK BLADES**
(PG 100-104)



**BLUE ARMOUR
PRODUCTS** (PG 87)



**MAX LIFE™ REVERSIBLE
CHISELS** (PG 95)



**SPEED-LOC™ QUICK
CHANGE ADAPTER**
(PG 81)



**REPLACEABLE CARBIDE
TIPS** (PG 14-15)



**HOLDER FOR JOHN DEERE
AND SALFORD S-TINE
SHANKS** (PG 93)



FERTILIZER KNIVES
• BOURGAULT (PG 32)
• SALFORD (PG 50)
• VADERSTAD (PG 54)



OPENERS
• BOURGAULT SINGLE SHOOT (PG 32)
• C-SHANK VOS (PG 24)
• VADERSTAD PAIRED ROW (PG 52)
• VADERSTAD 1/2" SINGLE SHOOT (PG 52)

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WARRANTY

Warranty is limited to the replacement of the failed part and does not cover any consequential damages.

To obtain warranty, the part must be returned to the dealer to complete the warranty claim form.

All products (with the exception of disk blades) have a 3 year Limited Warranty, at our discretion, from the date of purchase 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

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.

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. 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,
- type of seed opener used.

BTT reserves the right to limit warranty claims on trip strengths greater than 400lbs.

Niaux 200 Disk Blades

Our disk blades have a lifetime warranty on breakage due to manufacturer defect.

PERFORMANCE GUARANTEE

BTT 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 correct the situation, we will guarantee you a 100% refund.

Failure to follow our recommendations will render the Performance Guarantee void. To learn more about adverse seeding conditions please refer to page 18.

WHEN YOU SUCCEED, WE SUCCEED.

At Bourgault Tillage Tools (BTT), we think you should expect a lot. We strive to deliver that with exceptional customer service, on-farm visits, high-quality Canadian made products, and the best Warranty and Performance Guarantee in the market.

With on-farm visits our objective is to help farmers become more efficient and profitable. The demands and needs of each farm is unique. We take the time to learn about your operation, discover what products are currently used, and discuss seeding, fertilizing and tilling challenges.

After getting a clear picture of existing practices, we review our product line to discuss options and solutions for your operation. Talking directly with our customers also uncovers opportunities for new projects.

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.



Located in St. Brieux, Saskatchewan, Canada.



Dealer network stretching across 300+ locations.



An independent business since 1991, separate from Bourgault Industries.



Global distribution across North America, Europe and Australia.



A team of more than 65 employees in Canada and the United States.





Ryan Olson
General Manager

Joseph Bourgault
President



“

When faced with challenges, **we remember our past,
live in the present, and build for the future.**

”

CONTINUING TO GROW, NO MATTER WHAT CONDITIONS ARE THROWN AT US.

When faced with challenges, we remember our past, live in the present, and build for the future.

In 2020, the world was reminded that it cannot live without farmers. The industry received very little federal support as farmers were faced with significant headwinds due to strained international trade relations, supply chain uncertainty, and increased operating costs from carbon taxes while trying to adjust operations to deal with the COVID-19 pandemic.

In many cases, farmers were also pulling out the combine to finish the 2019 harvest due to extreme weather conditions in the fall of 2019. This was a year where the entire agricultural industry was challenged, and in true form, agriculture adapted and demonstrated its resiliency and character.

This was my first year as General Manager for Bourgault Tillage Tools, and I could not have asked for a better year to lead our teams and help shape our company strategies, while staying true to our principles of integrity, quality, continuous improvement, and innovation.

It was imperative that we challenged ourselves in every area of our business in order to remain competitive with overseas manufacturing. In addition to efficiency we worked to build bridges by listening to the challenges faced by farmers, dealers, and equipment manufacturers.

Our “Closer to the Farm” strategy has helped customers view us as more than just a tillage tool company. We are a partner who can solve any ground engaging challenge, on any piece of equipment that you have on the farm and we put our money where our mouth is by investing in research and development.

This confidence comes from more than 30 years of experience in manufacturing high quality parts, and equipment, and the fact that many of our employees are also farmers. Innovation remains a top priority for our company, and we have made several advancements in 2020 to improve our product offerings.

The MAX LIFE™ Harrow Tines have been an important product for us, and we continue to add new harrow options this year. R&D has also expanded the MAX LIFE portfolio by adding MAX LIFE Scrapers to enhance the performance and precision of your tillage and seeding equipment.

Through our BTT WearIQ R&D team, we have worked collaboratively with Bourgault Industries to develop both standard and Extended Wear ½” seeding and fertilizer knives for the Bourgault 3330 machines that were launched this year. In addition to this, we will be expanding our product line for the Väderstad Seed Hawk machines by offering various combinations of a low disturbance ½” fertilizer and seed knives.

We also value the opportunity to offer the Forges De Niaux disk blades and continue to demonstrate their value to farmers by providing OEMs and Dealers with this high-quality blade.

Our Weed Clipper Division has also been enhancing both the 30’ and 50’ units to allow for heavier cutting and mulching. With our demo and rental program this year, it was evident that the machine can not only provide excellent weed control, but also provide farmers with the flexibility to cut anything from alfalfa, to clover, to even hemp straw.

There are several other ongoing initiatives that will set a new standard for wear, performance and quality that we are actively testing in 2021. It has been a pleasure to be part of Bourgault Tillage Tools, and moving back to rural Saskatchewan.

Our manufacturing facility is in St. Brieux, SK, where my wife Lise grew up, and where our children, Emmerly and Liam, have been excitedly expanding their relationships with grandparents, aunts, uncles, cousins and friends.

It has also brought me closer to my parents who still run our family farm near Bienfait, SK, and to Joseph Bourgault who continues to provide leadership as the President of Bourgault Tillage Tools.

Community and family is foundational to our company and we're thankful to all of you who have made the conscious decision to support local because it does make a difference in keeping Canada, Saskatchewan, and our rural communities strong and prosperous.

As for the future, we are prepared to handle whatever obstacles come our way because we are also farmers. Our livelihood depends on our ability to grow no matter what conditions are thrown at us. The way we get through these valley's is by learning from our past, reacting to the present, and always thinking about how our actions will impact the future.

With your continued support, our company has a very bright future. Thank you for your loyalty, and we look forward to seeing you in the field!

Ryan Olson,
General Manager

CONTACT US



Patrick Yeager
Managing Director of
Sales & Marketing



Cornelius Chomenchuk
Assistant Sales Manager/
Manitoba Territory Manager
C 204.724.2012



Jen Kjelshus
Marketing Manager



Roger Schierman
Alberta Territory Manager
C 780.781.2134



Chris Miller
Saskatchewan
Territory Manager
C 306.231.3244



Jim Huseh
Western ND, SD, MT
Territory Manager
C 701.640.3516



Rick Eberle
Eastern ND, MN
Territory Manager
C 701.381.8385



Penny Ulledal
Inside Sales
C 306.874.8322



Kelly Stevenson
BTT WEAR IQ
Business Development
C 306.921.7888



Len Horvath
BTT WEAR IQ
Business Development
C 306.921.6995



Dean Bigelow
R&D Manager
C 306.921.3888



Dylan Theis
Service & Warranty Manager
C 306.921.4794



Rick Schemenauer
Corporate Account Manager
C 306.921.5967

PARTNERS IN GLOBAL DISTRIBUTION

NORTH AMERICA

F.P. Bourgault Tillage Tools Ltd.

Canada & Northern United States
200-5th Ave South, St. Brieux, SK, Canada
S0K 3V0
P 1.800.878.7714
F 1.306.275.4720
tillagetools.ca

EUROPE & UK

Industriehof GmbH

Western & Central Europe
Im Winkel 5 D-30900
Wedemark, Germany
P +49 (0) 5130.6072.0
industriehof.com

Martin Lishman Ltd.

United Kingdom
Unit 2B, Roman Bank,
Bourne, Lincs PE10 9LQ UK
P +44 (0) 1778 426600
martinlishman.com

EASTERN EUROPE

Bourgault Industries Ltd. Head Office

Eastern Europe | Kiev
P/F +38(044)563-71-91
bourgault.com

000 CanAgro

Russia | Omsk
P +7(3812)551-500
can-agro.com

000 Industriehof

Russia
Marshall Katukov Str. 20 123592 Moskau
P +7(495)638-5142
industriehof.com

T00 CanAgro

Kazakhstan | Kokschetau
P +7 (7162) 77 52 76
can-agro.com

Kramp

Russia
107045 Moscow, Kolokolnikov Alley 24/3
P +7(495)505-69-89
grenekramp.ru

Bourgault Industries Ltd.

Kazakhstan | Kostanay
P/F +7(7142) 223 955

Bourgault Industries Ltd.

Russia | Krasnodar
P +7(861)252-79-33

T00 CT Agro

Kazakhstan | Kokschetau
P +7(7162) 77 52 77
ctagro.com

AUSTRALIA

Bourgault Australia Pty Ltd.

Australian Western Distribution Centre
70 Gillam Drive, Kelmscott, WA 6111
P 08-9399-9700
bourgault.com

Bourgault Australia Pty Ltd.

Australian Eastern Distribution Centre
604 Wagga Rd, Ettamogah, NSW 2640
P 02-6025-8298
bourgault.com

HIGH QUALITY. GREAT VALUE. ALWAYS CANADIAN MADE.



HIGH CHROME MATERIAL

Replaceable tips are cast with high chrome material, increasing the life span of the tip.

TUNGSTEN CARBIDE INSERTS

The highest quality tungsten carbide 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

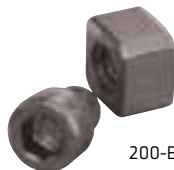
All of our primary wearing replaceable tips are made in North America, giving you the superior wear resistance you've come to expect from us.

EASY INSTALLATION

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



600-BNC-5000



200-BNC-3100

CANADIAN PARTNERS

Replaceable tips are cast by Leth Iron in Lethbridge, Alberta, Canada using only the best materials available. Look for their mark on BTT products.





REPLACEABLE TIPS

- SINGLE SHOOT
- PAIRED ROW
- SIDE BAND
- FERTILIZER

SINGLE SHOOT TIPS

THESE TIPS USE BOLT & NUT COMBO 200-BNC-3100.



200-TIP-0511

CARBIDE TIP

1/2" (13mm) tip with carbide insert on the nose. **Not recommended in highly abrasive conditions.**



200-TIP-0800

CHROME TIP

3/4" (19mm) tip. **Not recommended in highly abrasive conditions.**



200-TIP-0801

CARBIDE TIP

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



200-TIP-0802

CARBIDE TIP

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



200-TIP-0803

CARBIDE TIP

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



200-TIP-1011

VERTICAL CARBIDE TIP

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



200-TIP-2011

CARBIDE SPREAD TIP

2" (51mm) 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" (76mm) tip. **Not recommended in highly abrasive conditions.**



200-TIP-3001

CARBIDE SPREAD TIP

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



200-TIP-3011

CARBIDE SPREAD TIP

3" (76mm) 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" (102mm) 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" (19mm) long-wearing single shoot tip with 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 page 58.



200-BNC-3100

BOLT & NUT COMBO

It is important not to over tighten the bolt (200-BLT-3102). Turn bolt in by hand until the shoulder of the bolt makes contact with the nut (200-NUT-3101) before torquing to 84 in/lbs or 7 ft/lbs (9.5Nm).

It is recommended the bolt and nut be changed when changing the tip. **Over torquing will result in difficulty when removing.**

PAIRED ROW TIPS

THESE TIPS USE BOLT & NUT COMBO 200-BNC-3100 (SEE PAGE 13).



610-TIP-3500

CARBIDE TIP

3-1/2" (89mm) 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.

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



610-TIP-4041

CARBIDE TIP

4" (102mm) cast chrome tip with carbide insert on the nose for excellent penetration and wear resistance.

Carbide inserts on the underside of the wing to maintain a sharp cutting edge.

This Paired Row liquid or granular double shoot tip has no vertical seed/fertilizer separation.



NEW!

610-TIP-3581

CARBIDE TIP

AVAILABLE SOON!

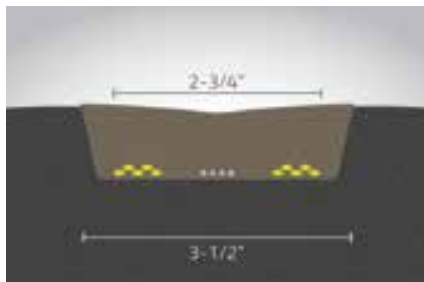
3-1/2" (89mm) cast chrome tip with 3/4" (19mm) vertical separation of liquid, granular, or aqua NH3 fertilizer.

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

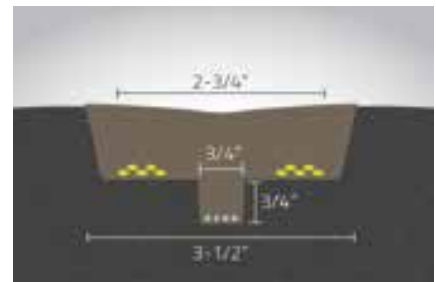
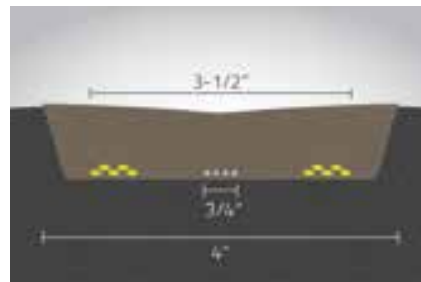
Carbide inserts at the back of the underside of the wings seals up fertilizer trench prior to seed placement.

Fits VOS (Versatile Opener System).

See page 58.



seed fertilizer



Drawings 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. See precautions and risk factors on page 18.

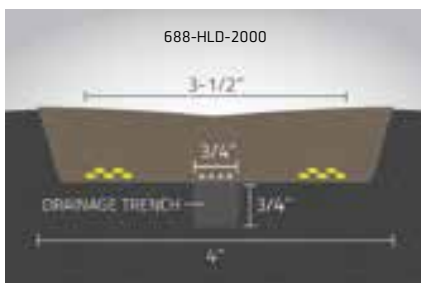
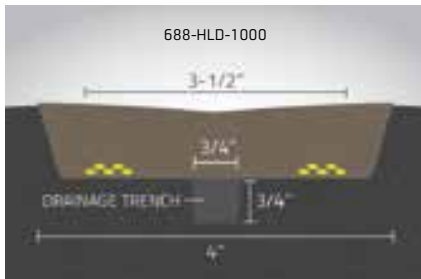


610-TIP-4030

CARBIDE TIP

4" (102mm) cast tip with carbide insert on the nose for excellent penetration and wear resistance. Carbide inserts on the underside of 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



610-TIP-4081 & 610-TIP-4082

CARBIDE TIP

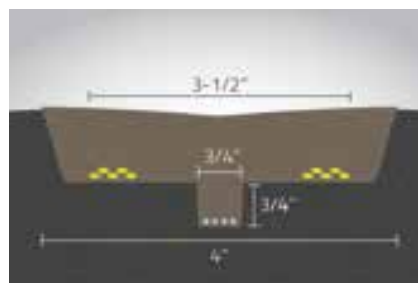
4" (102mm) cast chrome tip with carbide insert on the nose for excellent penetration and wear resistance. These tips have 3/4" (19mm) vertical separation of granular, liquid, aqua NH₃ or aqua NH₃ + phos fertilizer.

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.

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

Not recommended for use on Case IH 800/900 or NH P2070.

Fits VOS (Versatile Opener System).
See page 58.



610-TIP-6082

CARBIDE TIP

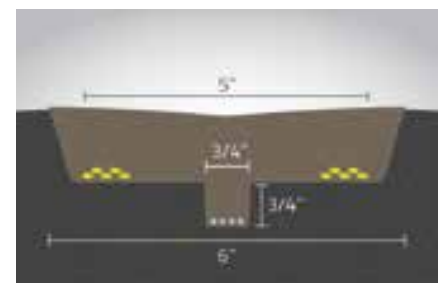
AVAILABLE SOON!

6" (152mm) cast tip with carbide insert on the nose for excellent penetration and wear resistance.

These tips have 3/4" (19mm) vertical separation of liquid, granular, aqua NH₃ or aqua NH₃ + phos fertilizer.

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. Additional carbide is placed along the sides of the fertilizer trench, below the wings, to provide extra-wear life.

Fits VOS (Versatile Opener System).
See page 59.



Drawings 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. See precautions and risk factors on page 18.

SIDE BAND TIPS

THESE TIPS USE BOLT & NUT COMBO 200-BNC-3100 (SEE PAGE 13).



(LEFT WING)

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

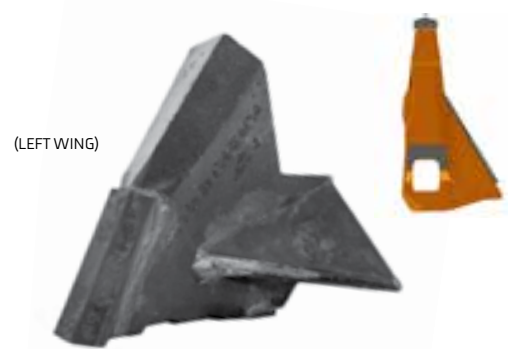
CHROME TIP

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" (19mm) 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.

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.



(LEFT WING)

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

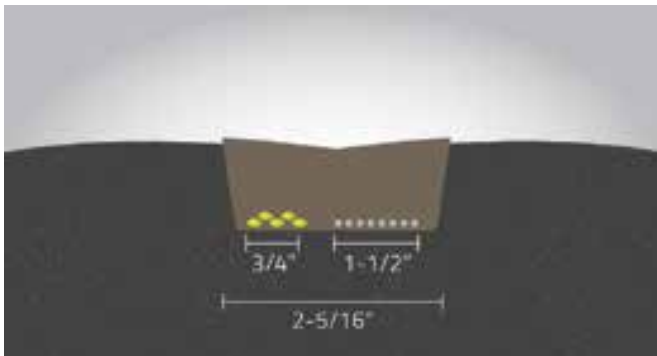
CARBIDE TIP

Cast chrome tip with carbide inserts on the nose and the wing for excellent penetration and wear resistance. A carbide wafer on the bottom of the fertilizer trough prevents bottom wear and keeps the fertilizer trench open.

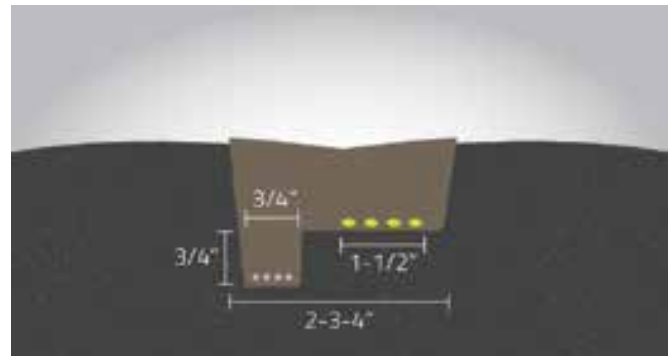
The seed is placed in a 1-1/2" (38mm) band 3/4" (19mm) above and to the side of the fertilizer row after the fertilizer trench has been sealed and seed bed has been firmed up.

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.



●●●● seed ●●●● fertilizer



Drawings 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. See precautions and risk factors on page 18.

FERTILIZER TIPS

THESE TIPS USE BOLT & NUT COMBO 600-BNC-5000.



600-TIP-3011

CARBIDE TIP

3" (76mm) 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.

Fits 410, 599, 600, 602 & 607 Series knife holders.



600-TIP-7500

CHROME TIP

3/4" (19mm) chrome tip.

Fits 410, 599, 600, 602 & 607 Series knife holders.



600-TIP-7501

CARBIDE TIP

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

Fits 410, 599, 600, 602 & 607 Series knife holders.



600-TIP-7502

CARBIDE TIP

3/4" (19mm) chrome tip with extra long carbide on the nose.

Fits 410, 599, 600, 602 & 607 Series knife holders.



600-TIP-7507

CARBIDE TIP & WING

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

Only used with 600-KNH-7562.
See page 24.



600-BNC-5000

BOLT & NUT COMBO

Used to secure 600 series tips onto the 410, 599, 600 & 602 Series knife holders. The nut (600-NUT-3754) and bolt (600-BLT-5004) can be ordered separately.

It is recommended the bolt and nut be changed when changing the tip to maintain locking ability of the nut.

FOR GUARANTEED DELIVERY OF MULTI-SHOOT OPENERS, PLACE ORDERS BY JANUARY 31ST.

MULTI-SHOOT OPENER PRECAUTIONS & RISK FACTORS

The development and increased use of multi-shoot knives for one-pass seed and fertilizer placement often brings up the question of how much fertilizer can be safely placed with the seed without causing germination problems or seedling damage. The answer to this question is very complex. In less than ideal conditions, mixing between seed and fertilizer may occur.

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 below. 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.

CONSIDER THESE FACTORS WHEN USING MULTI-SHOOT OPENERS:

FERTILIZER SOURCE: Depending on the type of fertilizer used, damage can occur either through NH₃ 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 NH₃.

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 (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.

FERTILIZER TYPES





047-ASY-1000

047-KNH-1000

047-ASY-1000 047-KNH-1000

FITS: 47° and 50° C-shank

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only

TUBE SIZE: 1-1/4" (32mm) O.D.

BOLT HOLE SPACING: N/A

TIP OPTIONS: Any 200 Series Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions.

Tips sold separately. See pages 12-13.

OVERVIEW: 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.

NOTES: **Installation bolts sold separately.**

047-ASY-1000 uses Grade 8 carriage bolts. See page 110.

047-KNH-1000 uses plow bolts. See page 111.

047-KNH-1000 is only used directly beside the Bourgault MRB® for improved trash clearance. **Not sold as a complete set, must be ordered separately.** Customers must look at the machine to determine what quantity of shanks are directly beside the MRB®.

50° shanks require either 880-WDG-0300 or 880-WDG-0301. See page 106.

For an expanded view of this opener see page 116.



047-ASY-1005P



FITS: 47° and 50° C-shank

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only + Liquid Phos or just Liquid Phos

TUBE SIZE:

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

Liquid Phos: 3/16" (5mm) O.D. This can be converted to work with 1/4" (6mm) I.D. delivery hoses with **880-ASY-1010**. See page 106.

BOLT HOLE SPACING: N/A

TIP OPTIONS: Any 200 Series Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions.

Tips sold separately. See pages 12-13.

OVERVIEW: Liquid Phos is delivered onto the seed bed, below the seed. 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.

NOTES: **Installation bolts sold separately.** Use Grade 8 carriage bolts. See page 110.

50° shanks require either 880-WDG-0300 or 880-WDG-0301. See page 106

For an expanded view of this opener see page 116.



047-VRT-1040

FITS: 47° C-shank

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only

TUBE SIZE: 1-1/4" (32mm) O.D.

BOLT HOLE SPACING: 1-3/4" (44mm)

TIP OPTIONS: Comes with 1" (25mm) welded tip with extra carbide for long-lasting wear life.

OVERVIEW: The vertical approach of this opener reduces rock pulling and soil throw.

NOTES: **Installation bolts sold separately.** Use plow bolts. See page 111.

SINGLE SHOOT OPENERS TO FIT C-SHANK



050-KNH-0812

FITS: 47° and 50° C-shank

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only

TUBE SIZE: 1-1/4" (32mm) O.D.

BOLT HOLE SPACING: 1-3/4" to 2-1/2" (44 - 64mm) slotted bolt hole spacing provides the ability to fit many different makes and models.

TIP OPTIONS:

- 200-TIP-1001
- 200-TIP-2011
- 200-TIP-3001
- 200-TIP-4011

Tips sold separately. See pages 12-13.

OVERVIEW: The rear delivery of this opener provides extra trash clearance.

NOTES: **Installation bolts sold separately.** Use Grade 8 hex head bolts. See page 114.

Due to plugging, this opener is not recommended with the following tips:

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



599-KNH-7540

FITS: 47° C-shank

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only

TUBE SIZE: 1-1/4" (32mm) O.D.

BOLT HOLE SPACING: 1-3/4" (44mm)

TIP OPTIONS:

3/4" (19mm) tips:

- 600-TIP-7500 (cast chrome)
- 600-TIP-7501 (regular carbide)
- 600-TIP-7502 (extra-long nose carbide)

3" (76mm) tip:

- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

OVERVIEW: This opener is designed for a better fit on the Bourgault Shank. The larger tip provides extra long wear while reducing wear on the holder.

NOTES: **Installation bolts sold separately.** Use Grade 8 carriage bolts. See page 114.



**600-KNH-7540
600-KNH-7640**

FITS: 47° and 50° C-shank

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only

TUBE SIZE:

600-KNH-7540: 1-1/4" (32mm) O.D.

600-KNH-7640: 1-1/2" (38mm) O.D.

BOLT HOLE SPACING: 1-3/4" to 2-1/2" (44 - 64mm) slotted bolt hole spacing provides the ability to fit many different makes and models.

TIP OPTIONS:

3/4" (19mm) tips:

- 600-TIP-7500 (cast chrome)
- 600-TIP-7501 (regular carbide)
- 600-TIP-7502 (extra-long nose carbide)

3" (76mm) tip:

- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

OVERVIEW: The larger tip on these holders provides extra long wear while reducing wear on the holder.

410-KNH-7540 is also available to fit the 410 Series *Speed-Loc™*. See page 67.

NOTES: **Installation bolts sold separately.** Use Grade 8 carriage bolts. See page 114.



610-ASY-4020



610-ASY-4026

**PAIRED ROW
OPENERS TO FIT:**

G

Granular N

L

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.

See precautions and risk factors on page 18.

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

TIP OPTIONS: Replaceable 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" (102mm) or wider.

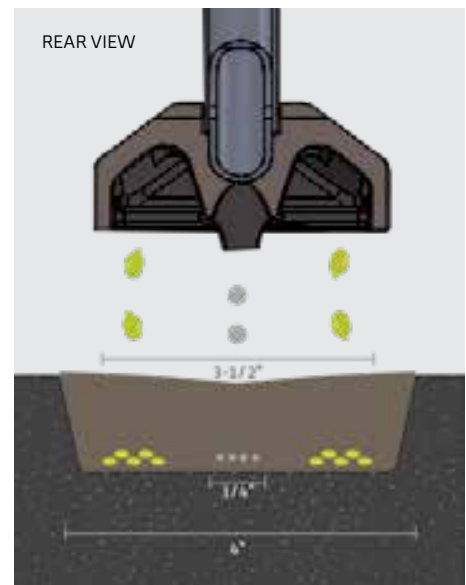
OVERVIEW: Hard facing is placed on critical wear points to ensure a long-lasting holder. The streamlined holder design reduces plugging and allows for better trash clearance. Designed for use with 1-1/4" (32mm) O.D. hose. Bushings available for smaller hoses.

These openers provide the flexibility to easily switch between Granular and Liquid fertilizer. The above openers are available with Liquid Phos options. Please call the factory for more information.

NOTES: **Installation bolts sold separately.** Use Grade 8 carriage bolts. See page 110.

When installing on 50° shanks other than Bourgault or Ezee-On use wedge 880-WDG-0300 or 880-WDG-0301. See page 106.

For an expanded view of these openers see page 123.



Drawings 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. See precautions and risk factors on page 18.

MULTI-SHOOT OPENERS TO FIT C-SHANK



610-ASY-2711G



610-ASY-2711L

**SIDE BAND
OPENERS TO FIT:**



Granular N



Liquid N

C-SHANK

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

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

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

FERTILIZER PLACEMENT: Fertilizer is placed in the center 3/4" (19mm) 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. **See precautions and risk factors on page 18.**

TIP OPTIONS: Replaceable 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" (76mm) or wider. **V-Packer not recommended with these openers.**

OVERVIEW: 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" (32mm) O.D. hose. Bushings available for smaller hoses.

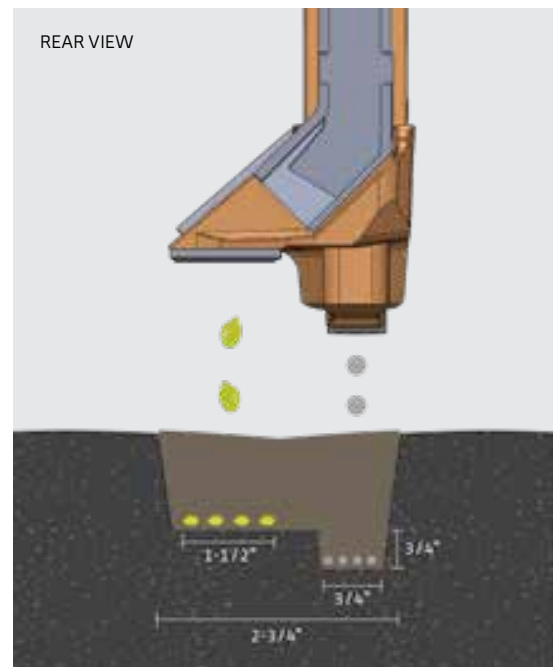
NOTES: **Installation bolts sold separately.** Use Grade 8 carriage bolts. See page 110.

When installing on 50° shanks other than Bourgault or Ezee-On use wedge 880-WDG-0300 or 880-WDG-0301. See page 106.

For an expanded view of these openers see page 120.

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.



●●●● seed ○○○○ fertilizer

Drawings 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. See precautions and risk factors on page 18.



SIDE BAND OPENERS TO FIT:	G	G P	L	L P
	Granular N	Granular N + Liquid Phos	Liquid N	Liquid N + Liquid Phos
C-SHANK		610-ASY-0711GP 610-ASY-0712GP		610-ASY-0711LP 610-ASY-0712LP
C-SHANK	612-ASY-0711 612-ASY-0712	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" (19mm) 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. **See precautions and risk factors on page 18.**

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

TIP OPTIONS: Replaceable 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.

OVERVIEW: 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" (32mm) O.D. hose. Bushings available for smaller hoses.

NOTES: **Installation bolts sold separately.** Use Grade 8 carriage bolts. See page 110.

When installing on 50° shanks other than Bourgault or Ezee-On use wedge 880-WDG-0300 or 880-WDG-0301. See page 106.

For an expanded view of these openers see page 118.

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.



Drawings 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. See precautions and risk factors on page 18.



600-KNH-7562



SIDE BAND OPENER

FITS: 47° and 50° C-shank

FERTILIZER TYPE: Liquid N

TUBE SIZE:

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

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

BOLT HOLE SPACING: 1-3/4" to 2-1/2" (44 - 64mm) slotted bolt hole spacing provides the ability to fit many different makes and models.

TIP OPTIONS: Used with 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. **Tip sold separately.** See page 17.

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. The replaceable tips ensure high-wear points can be replaced at a lower cost.

NOTES: **Installation bolts sold separately.** Use 1/2" Grade 8 hex head bolts. See page 114.



610-HLD-2080 610-HLD-2080HD

VOS (VERSATILE OPENER SYSTEM)

FITS: 47° and 50° C-shank

FERTILIZER TYPE: Multiple options. See pages 58-59.

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.**

NEW! **610-HLD-2080HD** is designed for use in rocky conditions. The HD version of this opener has two plates welded to the sides of the funnel to help strengthen it, making it stiffer and less prone to bending in extreme conditions.

Components sold separately. See pages 58-59.

NOTES: **Installation bolts sold separately.** Use Grade 8 carriage bolts. See page 110.

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 106.



620-HLD-5000

TITAN OPENER SYSTEM

FITS: 47° and 50° C-shank

FERTILIZER TYPE: Multiple options. See pages 56-57.

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 pages 56-57.

NOTES: **Installation bolts sold separately.** Use 1/2" x 2-1/4" Grade 8 hex head bolts. See page 114.

**FOR GUARANTEED
DELIVERY OF MULTI-SHOOT
OPENERS, PLACE ORDERS
BY JANUARY 31ST.**

MAX LIFE™

HARROW TINES

6X
MORE WEAR



**IMPROVED WEAR.
EXCEPTIONAL VALUE.**

The MAX LIFE™ process infuses tungsten carbide onto the harrow tine creating the toughest and most economical option available. BTT applies its MAX LIFE coating to tines manufactured by S3 Wireform, which are known for consistency and longer coil life.

Field tests have proven that MAX LIFE tines outlast regular tines by a minimum of 6X.

MAX LIFE

SEE MAX LIFE HARROW TINE OPTIONS ON PAGE 96.



680-ASY-1000



680-ASY-1000P

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

SINGLE SHOOT OPENER

FITS: Bourgault PHD

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only

TUBE SIZE: 1-1/4" (32mm) O.D.

TIP OPTIONS: Any 200 Series Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions.

Tips sold separately. See pages 12-13.

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.

NOTES: **Installation bolts sold separately.** Use 3/8" x 2-1/4" Grade 8 carriage bolts. See page 110.

When installing use bolt holes pictured in Fig. 1.

For an expanded view of this opener see page 117.

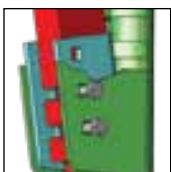


FIG. 1

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



SINGLE SHOOT OPENER

FITS: Bourgault PHD

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only + Liquid Phos or just Liquid Phos

TUBE SIZE:

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

Liquid Phos: 3/16" (5mm) O.D. This can be converted to work with 1/4" (6mm) I.D. delivery hoses with 880-ASY-1010. See page 106.

TIP OPTIONS: Any 200 Series Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions.

Tips sold separately. See pages 12-13.

OVERVIEW: Liquid phos 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: **Installation bolts sold separately.** Use 3/8" x 2-1/4" Grade 8 carriage bolts. See page 110.

When installing use bolt holes pictured in Fig. 1.

For an expanded view of this opener see page 117.



680-ASY-0711GP



680-ASY-0711LP

SIDE BAND OPENERS TO FIT:	G	G P	L	L P
	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

SEED PLACEMENT: Seed is placed in a 3/4" (19mm) 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. **See precautions and risk factors on page 18.**

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

TIP OPTIONS: Replaceable 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.

OVERVIEW: 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.

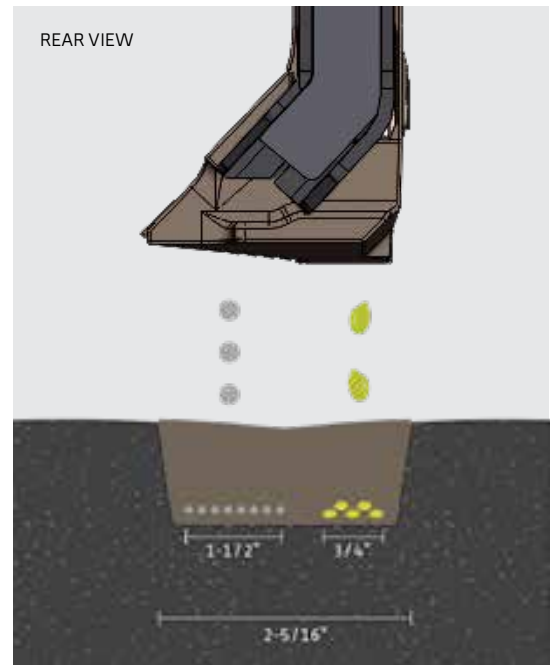
NOTES: **Installation bolts sold separately.** Use 3/8" x 2-1/4" Grade 8 carriage bolts. See page 110.

When installing use bolt holes pictured in Fig.1 on page 26.

For an expanded view of these openers see page 118.

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.



●●●● seed ●●●● fertilizer

Drawings 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. See precautions and risk factors on page 18.

OPENERS TO FIT BOURGAULT



680-ASY-2711G



680-ASY-2711LP

SIDE BAND OPENERS TO FIT:	G	G P	L	L P
	Granular N	Granular N + Liquid Phos	Liquid N	Liquid N + Liquid Phos
BOURGAULT PHD	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" (19mm) 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" (19mm) 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. **See precautions and risk factors on page 18.**

TIP OPTIONS: Replaceable 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 a longer wear life. 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" (114mm) Semi-Pneumatic Packer recommended. **V-Packer not recommended with these openers.**

OVERVIEW: 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.

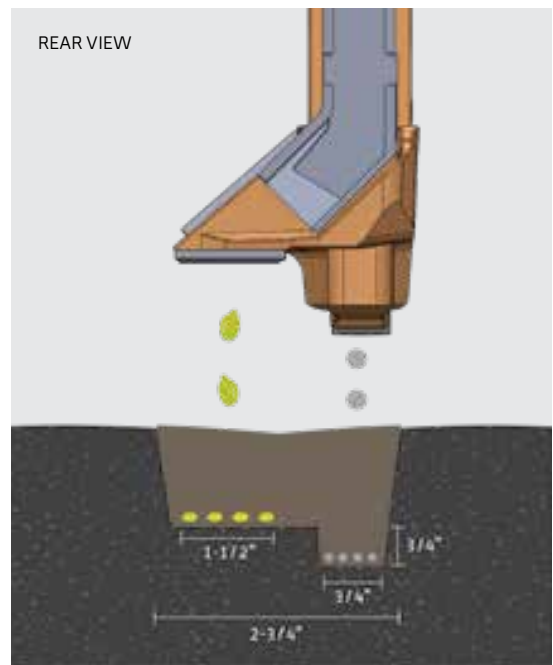
NOTES: **Installation bolts sold separately.** Use 3/8" x 2-1/4" Grade 8 carriage bolts. See page 110.

When installing use bolt holes pictured in Fig. 2 on page 29.

For an expanded view of these openers see page 120.

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.



Drawings 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. See precautions and risk factors on page 18.



SIDE BAND
OPENERS TO FIT:

DOUBLE SHOOT Liquid N

BOURGAULT PHD

682-ASY-2063
682-ASY-2064

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

SEED PLACEMENT: The slim body provides a low draft and low soil disturbance for better trash clearance, while ensuring great seed placement. The seed is placed in a 3/4" (19mm) band onto a firm, unfractured seedbed.

TIP OPTIONS: Cast chrome tip with extra long carbide inserts on the nose of the tip provides excellent penetration and wear resistance. Top face of the wing is covered with two carbide inserts providing a longer wear life. The tip is non-replaceable and welded to the seed boot.

FERTILIZER PLACEMENT: Liquid N or Pressurized NH3 openers are fitted with a 1/4" (6mm) O.D. stainless steel tube which places fertilizer behind the wing and 1-1/2" outward to the side away from the seed band. This provides increased separation of seed and fertilizer. In less than ideal conditions, mixing between seed and fertilizer may occur. **See precautions and risk factors on page 18.**

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

LIQUID PHOS OPTIONS: The P openers deliver the liquid phos on top of the seed row. A 1/4" (6mm) stainless steel tube is welded to the back of the seed boot.

NOTES: **Installation bolts sold separately.** Use 3/8" x 2-1/4" Grade 8 carriage bolts. See page 110.

When installing on a Bourgault PHD use bolt holes pictured in Fig. 2

For an expanded view of these openers see page 129.

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.

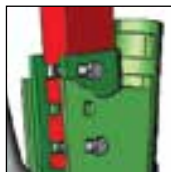


FIG. 2

**FOR GUARANTEED
DELIVERY OF MULTI-SHOOT
OPENERS, PLACE ORDERS
BY JANUARY 31ST.**



**PAIRED ROW
OPENERS TO FIT:**

G

Granular N

L

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.

See precautions and risk factors on page 18.

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

TIP OPTIONS: Replaceable 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" (102mm) or wider.

OVERVIEW: 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" (32mm) O.D. hose. Bushings available for smaller hoses. See page 109. These openers provide the flexibility to easily switch between granular and liquid fertilizer. The above openers are available with liquid phos options. Please call the factory for more information.

NOTES: **Installation bolts sold separately.** Use 3/8" x 2-1/4" Grade 8 carriage bolts. See page 110.

When installing on Bourgault 3310 & 3320 PHD drills use bolt holes shown in Fig.3.

This opener can be converted to a single shoot opener by using the conversion tab 680-ACC-0004. See page 106.

For an expanded view of these openers see page 123.

***When installing on a Bourgault 3310 & 3320 PHD Drill spacer 680-ACC-0003 is required.** See page 106.

****When installing on a Bourgault 3310 & 3320 PHD Drill spacer 680-ACC-0002 is required.** See page 106.

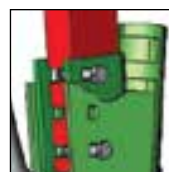
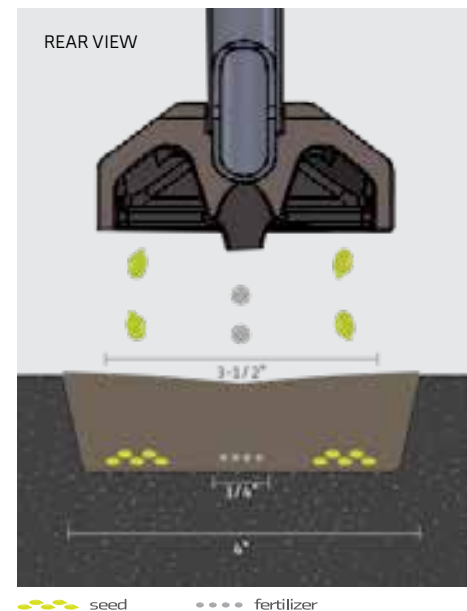


FIG.3



Drawings 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. See precautions and risk factors on page 18.



673-HLD-2080

VOS (VERSATILE OPENER SYSTEM)

FITS: Bourgault PHD

FERTILIZER TYPE: Multiple options. See pages 58-59.

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.**

Components sold separately. See pages 58-59.

NOTES: **Installation bolts sold separately.** Use 3/8" x 2-1/4" Grade 8 carriage bolts. See page 110.

Use bolt holes shown below in Fig. 4 when installing on Bourgault 3310 & 3320 PHD Drills.

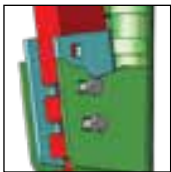


FIG. 4



628-HLD-5000

TITAN OPENER SYSTEM

FITS: Bourgault PHD (Except XTC)

FERTILIZER TYPE: Multiple options. See pages 56-57.

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 pages 56-57.

NOTES: **Installation bolts sold separately.** Use 3/8" x 2-1/4" Grade 8 carriage bolts. See page 110.

**FOR GUARANTEED
DELIVERY OF MULTI-SHOOT
OPENERS, PLACE ORDERS
BY JANUARY 31ST.**

THESE OPENERS FIT BOURGAULT:

3330SE Series PLD & 3335QDA Series PLD



333-KNF-2000

SINGLE SHOOT SEED OPENER

FITS: Bourgault 3330 & 3335

FERTILIZER TYPE: N/A

TUBE SIZE: N/A

BOLT HOLE SPACING: N/A

TIP OPTIONS: N/A

OVERVIEW: This is the replacement seeding knife portion as supplied by the OEM for this drill. Long wear back swept carbide approach angle for minimal soil disturbance around the opener.

NOTES: **Installation bolts sold separately.** Use 1/2" Grade 8 hex head bolts and locking nuts.



**333-KNF-1000
333-KNF-1010**

FERTILIZER KNIFE

FITS: Bourgault 3330 & 3335

FERTILIZER TYPE: N/A

TUBE SIZE: N/A

BOLT HOLE SPACING: N/A

TIP OPTIONS: N/A

OVERVIEW: This is the replacement fertilizer knife portion as supplied by the OEM for this drill. Carbide applied to the nose for longer wear.

333-KNF-1010 has extra hard surfacing on the sides for long wear.

NOTES: **Installation bolts sold separately.** Use 1/2" Grade 8 hex head bolts and locking nuts.

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TRY BEFORE YOU BUY!

With our demo program, we'll gladly send a few parts your way so you can compare how BTT parts perform against products you're currently using.

No pressure. No obligation to buy.

TALK TO YOUR LOCAL BTT DEALER OR TERRITORY MANAGER.

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



694-HLD-2080

VOS (VERSATILE OPENER SYSTEM)

FITS: (84° Shanks Only)

- Case IH ATX 700
- New Holland P2060
- Flexi-Coil 5500
- Concord

FERTILIZER TYPE: Multiple options. See pages 58-59.

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 pages 58-59.

NOTES: **Installation bolts sold separately.** Use 1/2" x 2-1/4" Grade 8 hex head bolts. See page 114.



694-HLD-5000

TITAN OPENER SYSTEM

FITS: (84° Shanks Only)

- Case IH ATX 700
- New Holland P2060
- Flexi-Coil 5500
- Concord

FERTILIZER TYPE: Multiple options. See pages 56-57.

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 pages 56-57.

NOTES: **Installation bolts sold separately.** Use 1/2" x 2-1/2" Grade 8 hex head bolts. See page 114.

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



694-ASY-0711G



684-ASY-0711L

SIDE BAND OPENERS TO FIT:	G	G P	L	L P
	Granular N	Granular N + Liquid Phos	Liquid N	Liquid N + Liquid Phos
CASE IH ATX 700				
NH P2060				
FLEXI-COIL 5500	694-ASY-0711G	694-ASY-0711GP	694-ASY-0711L	694-ASY-0711LP
CONCORD (84° SHANKS ONLY)	694-ASY-0712G	694-ASY-0712GP	694-ASY-0712L	694-ASY-0712LP
CASE IH 800 / 900				
NH P2070 / 2075				
FLEXI-COIL PD5700	684-ASY-0711G	684-ASY-0711GP	684-ASY-0711L	684-ASY-0711LP
/ 7200	684-ASY-0712G	684-ASY-0712GP	684-ASY-0712L	684-ASY-0712LP

SEED PLACEMENT: Seed is placed in a 3/4" (19mm) 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. **See precautions and risk factors on page 18.**

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

TIP OPTIONS: Replaceable 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.

OVERVIEW: 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.

NOTES: **Installation bolts sold separately.** See page 114.

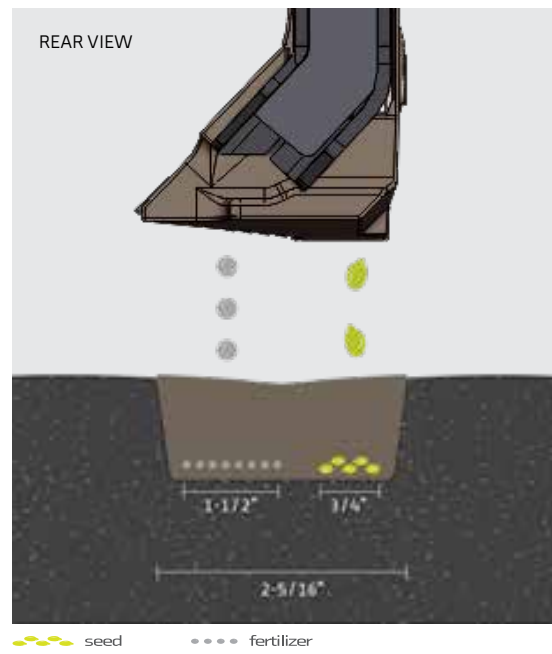
684 openers use 1/2" x 2" Grade 8 hex head bolts.

694 openers use 1/2" x 2-1/4" Grade 8 hex head bolts.

For an expanded view of these openers see page 119.

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.



Drawings 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. See precautions and risk factors on page 18.

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

694-ASY-2711LP



684-ASY-2711L



SIDE BAND OPENERS TO FIT:	G Granular N	G P Granular N + Liquid Phos	L Liquid N	L P Liquid N + Liquid Phos
CASE IH 800 / 900 NH P2070 / 2075 FLEXI-COIL PD5700 / 7200	NOT OFFERED FOR GRANULAR		684-ASY-2711L* 684-ASY-2712L*	684-ASY-2711LP* 684-ASY-2712LP*
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

SEED PLACEMENT: The seed is placed 3/4" (19mm) 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" (19mm) 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. **See precautions and risk factors on page 18.**

TIP OPTIONS: Replaceable 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 a longer wear life. 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" (76mm) or wider. **V-Packer not recommended.**

OVERVIEW: 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.

NOTES: **Installation bolts sold separately.** **684 openers** use 1/2" x 2" Grade 8 hex head bolts. **694 openers** use 1/2" x 2-1/4" Grade 8 hex head bolts. See page 114.

***When installing 684 openers** use bottom holes for standard installation (pictured red in Fig. 5). Use top holes to add 3° more pitch (pictured yellow in Fig. 5).

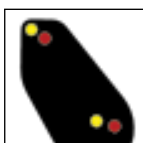


FIG. 5

For an expanded view of these openers see page 121.

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.



694-ASY-4020G



694-ASY-4020L

PAIRED ROW
OPENERS TO FIT:



Granular N + Liquid Phos



Liquid N

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

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. **See precautions and risk factors on page 18.**

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

TIP OPTIONS: Replaceable 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.**

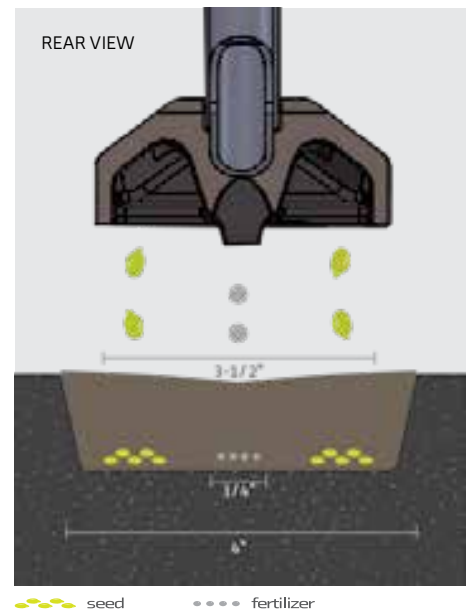
PACKER RECOMMENDATION: 4" (102mm) or wider.

OVERVIEW: 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" (32mm) O.D. hose.

These openers provide the flexibility to easily switch between Granular and Liquid fertilizer. The above openers are available with liquid phos options. Please call the factory for more information.

NOTES: **Installation bolts sold separately.** Use 1/2" x 2-1/4" Grade 8 hex head bolts. See page 114.

For an expanded view of these openers see page 122.



Drawings 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. See precautions and risk factors on page 18.



684-KNH-1010

SINGLE SHOOT OPENER

FITS:

- Case IH 800 / 900
- New Holland P2070 / 2075
- Flexi-Coil PD5700 / 7200

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only

TUBE SIZE: 1-1/4" (32mm) O.D.

TIP OPTIONS: Any 200 Series Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions.

Tips sold separately. See pages 12-13.

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: **Installation bolts sold separately.** Use 1/2" x 2" Grade 8 hex head bolts. See page 114.

Standard installation uses the bottom holes (pictured red in Fig. 6). For 1.5" more depth use the top holes (pictured yellow in Fig. 6).

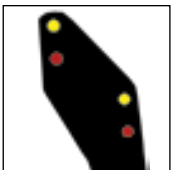


FIG. 6



694-ASY-1000P

694-ASY-1000P 694-KNH-1000



SINGLE SHOOT OPENER

FITS: (84° Shanks Only)

- Case IH ATX 700
- New Holland P2060
- Flexi-Coil 5500

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only + Liquid Phos or just Liquid Phos

TUBE SIZE:

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

Liquid Phos: 3/16" (5mm) O.D. This can be converted to work with 1/4" (6mm) I.D. delivery hoses with 880-ASY-1010. See page 106.

TIP OPTIONS: Any 200 Series Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions.

Tips sold separately. See pages 12-13.

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 phos tube.

NOTES: **Installation bolts sold separately.** Use 1/2" x 2-1/4" Grade 8 hex head bolts. See page 114.

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BOURGAULT VOS (VERSATILE OPENER SYSTEM) FITS

HORSCH SPRINTER & CO



SUSTAINABLE FARMING. REDUCED INPUT COSTS.

1. Drill into a wide variety of situations across a range of soil types.
2. Minimized soil disturbance and draft due to low rake angle design.
3. Less draft and reduced wear rates at a lower cost per hectare.
4. Even crop establishment due to great consistency in seed placement.
5. Increased moisture retention.



"In 2018 we changed to VOS and it was a real game changer! We thought that the knock-on points we were using previously created low disturbance, but the VOS single shoot is something else. I had to check that the field had been drilled, and even questioned the student to make sure he had done the job!"



The main reason we changed was because of how VOS distributes the fertilizer; alternative openers just spray the fertilizer on the soil after the coulters. I wanted the fertilizer to be under the seed or at least under the soil. VOS does just this, plus I can go straight from rape seed to beans without changing anything on the drill leg."

Leigh Donger
Peacock Farm



"We'd been min-tilling OSR ground and found that producing satisfactory seedbeds that would allow for the timely and reliable establishment of the crop without them drying out and losing moisture was becoming more and more difficult to achieve. I'd looked at a number of competing drill coulters but was always drawn back to the level of low disturbance of the VOS."



We spent a few hours with Stuart discussing how the coulters would work and the types of soil conditions we'd expect to be working in, and we finally concluded the VOS would suit our needs. We have to date achieved an acreage of 4,655 and believe we will successfully break the 5,000 acre barrier."

James Mayes
Bentfield Bury Farms (Sentry Ltd)



688-HLD-1000
W/ 610-TIP-0802

SINGLE SHOOT OPENER

FITS: Horsch 84° Shank

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only

TUBE SIZE: 1-1/4" (32mm) O.D.

TIP OPTIONS:

- 200-TIP-0802 (shown)
- 200-TIP-1011
- 200-TIP-2011
- 200-TIP-3011
- 610-TIP-4030

Tips sold separately. See pages 12-15.

OVERVIEW: 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.

NOTES: Installation bolts sold separately. Use M16 x 55 10.9 hex head bolts. Standard installation uses the bottom holes (pictured red in Fig. 7), for 4° more pitch use the top holes (pictured yellow in Fig. 7).

Hose clamps used to secure seed hoses from drill are sold separately.

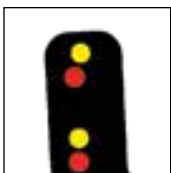


FIG. 7



688-HLD-1000
W/ 610-TIP-4030

SINGLE SHOOT OPENER

FITS: Horsch 84° Shank

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only

TIP OPTIONS:

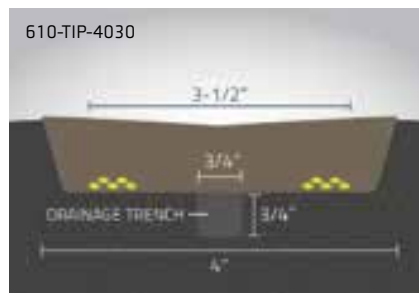
- 200-TIP-0802
- 200-TIP-1011
- 200-TIP-2011
- 200-TIP-3011
- 610-TIP-4030 (shown)

Tips sold separately. See pages 12-15.

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. This holder comes with a second set of holes allowing you to adjust the pitch by 3° when required.

Components sold separately. See pages 58-59.

NOTES: Installation bolts sold separately. Use M16 x 55 10.9 hex head bolts. Standard installation uses the bottom holes (pictured red in Fig. 7), for 4° more pitch use the top holes (pictured yellow in Fig. 7).



●●●● seed ●●●● fertilizer



688-HLD-2080
W/ 610-TIP-4082

VOS (VERSATILE OPENER SYSTEM)

FITS: Horsch 84° Shank

FERTILIZER TYPE: Multiple options. See pages 58-59 for more details.

TIP OPTIONS:

- 610-TIP-0802
- 610-TIP-4082 (shown)

Tips sold separately. See pages 12-15.

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. This holder comes with a second set of holes allowing you to adjust the pitch by 3° when required.

Components sold separately. See pages 58-59.

NOTES: Installation bolts sold separately. Use M16 x 55 10.9 hex head bolts. Standard installation uses the bottom holes (pictured red in Fig. 7), for 4° more pitch use the top holes (pictured yellow in Fig. 7).



Drawings 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. See precautions and risk factors on page 18.



688-HLD-2000

PAIRED ROW OPENER

FITS: Horsch 84° Shank

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

FERTILIZER PLACEMENT: Fertilizer is delivered on the same level, between the rows of seed. In less than ideal conditions, mixing between seed and fertilizer may occur. **See precautions and risk factors on page 18.**

TIP OPTIONS:

- 610-TIP-4041
- 610-TIP-4030 (shown)

Tips sold separately. See pages 14-15.

OVERVIEW: Hard facing is placed on critical wear points. The streamlined holder design reduces plugging and allows for better trash clearance. Designed for use with 1-1/4" (32mm) O.D. hose. These openers provide the flexibility to easily switch between granular and liquid fertilizer.

NOTES: **Installation bolts sold separately.** Use M16 x 55 10.9 hex head bolts.

Standard installation uses the bottom holes (pictured red in Fig. 7), for 3° more pitch use the top holes (pictured yellow in Fig. 7).

688-ASY-4020G

688-ASY-4020L



688-ASY-4020G **G L**
688-ASY-4020L

PAIRED ROW OPENER

FITS: Horsch 84° Shank

FERTILIZER TYPE: Granular N, Liquid N

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. **See precautions and risk factors on page 18.**

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

TIP: Cast chrome tip (610-TIP-4041) with carbide inserts on the nose and narrow carbide on the cutting edges of the wings for great penetration. **Assembly includes the tip.**

PACKER RECOMMENDATION: 4" (102mm) or wider.

OVERVIEW: Hard facing is placed on critical wear points. The streamlined holder design reduces plugging and allows for better trash clearance. Designed for use with 1-1/4" (32mm) O.D. hose. **Shown with 610-TIP-4041.** These openers provide the flexibility to easily switch between granular and liquid fertilizer.

NOTES: **Installation bolts sold separately.** Use M16 x 55 10.9 hex head bolts. **Hose clamps used to secure seed hoses from drill are sold separately.**

For an expanded view of these openers see page 122.



688-HLD-5000

TITAN OPENER SYSTEM

FITS: Horsch 84° Shank

FERTILIZER TYPE: Multiple options. See pages 56-57.

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 pages 56-57.

NOTES: **Installation bolts sold separately.** Use M16 x 55 10.9 hex head bolts.

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OPENERS TO FIT JOHN DEERE



650-ASY-0711
(LEFT WING SHOWN)

650-ASY-0711
650-ASY-0712

650-ASY-0711P
650-ASY-0712P



SIDE BAND SEED OPENER

FITS: John Deere 1870 Conserva Pak

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only + Liquid Phos or just Liquid Phos

TUBE SIZE:

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

Liquid Phos: 3/16" (5mm) O.D. This can be converted to work with 1/4" (6mm) I.D. delivery hoses with 880-ASY-1010. See page 106.

TIP OPTIONS: Cast chrome tip (612-TIP-0711, 612-TIP-0712) with carbide inserts on the nose and the wing for excellent penetration and wear resistance. The seed is placed in a 3/4" (19mm) band onto a firm, unfractured seed bed.

Assembly 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 phos option order 650-ASY-0711P (left) and 650-ASY-0712P (right).**

NOTES: **Installation bolts sold separately.** Use M8x30 Class 10.9 carriage head bolts (purchase through your John Deere dealer).

For an expanded view of this opener see page 125.

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.



650-ASY-3011
650-ASY-3011P



PAIRED ROW SEED OPENER

FITS: John Deere 1870 Conserva Pak

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only + Liquid Phos or just Liquid Phos

TUBE SIZE:

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

Liquid Phos: 3/16" (5mm) O.D. This can be converted to work with 1/4" (6mm) I.D. delivery hoses with 880-ASY-1010. See page 102.

TIP OPTIONS: 3" (76mm) cast chrome tip (200-TIP-3011) 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 Phos option order 650-ASY-3011P.**

NOTES: **Installation bolts sold separately.** Use M8x30 Class 10.9 carriage head bolts (purchase through your John Deere dealer).

For an expanded view of this opener see page 125.

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THESE FERTILIZER KNIVES FIT: JD 1870 CONSERVA PAK

FERTILIZER OPTIONS:

G Granular 1-1/4" (32mm) O.D.

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

N NH3 1/2" (12mm) O.D.

G L Granular & Liquid

G N Granular & NH3

TIP OPTIONS:

- 200-TIP-0801
- 200-TIP-0802 (shown)
- 200-TIP-0803
- 200-TIP-0811

Tips Sold Separately. See page 12.

OVERVIEW: 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-ACC-1000 bracket is required on single fertilizer knives and limits the tripping distance of the knives. **Bracket sold separately. Mounting bolts included.** See page 124.

650-ACC-1010 bracket is required for 650-HLD-1000GN and 650-HLD-1000GL. **Bracket sold separately. Mounting bolts included.** See page 124.

NOTES: Use roll pins to install. Must be purchased through your John Deere dealer.

For an expanded view of these openers see page 124.



650-HLD-1001

Shown with 200-TIP-0802

TUBE SIZE: 0.4" O.D. stainless steel pipe

NOTES: Use with 650-ACC-1000 or 650-ACC-1010.



650-HLD-1000G

NOTES: Use with 650-ACC-1000



650-HLD-1000L

TUBE SIZE: 0.25" O.D. stainless steel pipe

NOTES: Use with 650-ACC-1000



650-HLD-1000N

TUBE SIZE: 0.5" O.D. NH3 pipe

NOTES: Use with 650-ACC-1000



650-HLD-1000GN

TUBE SIZE: 0.5" O.D. NH3 pipe

NOTES: Use with 650-ACC-1010



650-HLD-1000GL

TUBE SIZE: 0.25" O.D. stainless steel pipe

NOTES: Use with 650-ACC-1010



650-ACC-1000



650-ACC-1010

NOTES: Required on units prior to 2017.

OPENERS TO FIT MORRIS



680-ASY-1000 680-ASY-1000P **P**
 680-HLD-1000 680-HLD-1000P

683-ASY-1000P¹ 693-ASY-1000P^{2,3} **P**
 683-KNH-1000¹ 693-KNH-1000^{2,3}

SINGLE SHOOT OPENER

SINGLE SHOOT OPENER

FITS: Morris Maxim Edge On

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only + Liquid Phos or just Liquid Phos

TUBE SIZE:

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

Liquid Phos: 3/16" (5mm) O.D. This can be converted to work with 1/4" (6mm) I.D. delivery hoses with 880-ASY-1010. See page 106.

TIP OPTIONS: Any 200 Series Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions.

Tips sold separately. See pages 12-13.

OVERVIEW: Liquid phos 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: **Installation bolts sold separately.** Use 3/8" x 2-1/4" Grade 8 carriage bolts. See page 110.

680-HLD-1000 and 680-HLD-1000P do not have bushings.

For an expanded view of this opener see page 117.

FITS: Morris Contour I, Morris Contour II and Morris Quantum

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only + Liquid Phos or just Liquid Phos

TUBE SIZE:

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

Liquid Phos: 3/16" (5mm) O.D. This can be converted to work with 1/4" (6mm) I.D. delivery hoses with 880-ASY-1010. See page 106.

TIP OPTIONS: Any 200 Series Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions.

Tips sold separately. See pages 12-13.

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 phos tubes.

NOTES: **Installation bolts sold separately.** Use 1/2" x 2" Grade 8 hex head bolts. See page 114.

¹Morris Contour I, ²Morris Contour II, ³Morris Quantum



SIDE BAND OPENERS TO FIT:	G	G P	L	L P
	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 MORRIS QUANTUM	693-ASY-0711G 693-ASY-0712G	693-ASY-0711GP 693-ASY-0712GP	693-ASY-0711L 693-ASY-0712L	693-ASY-0711LP 693-ASY-0712LP

SEED PLACEMENT: The seed is placed in a 3/4" (19mm) 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. **See precautions and risk factors on page 18.**

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

TIP OPTIONS: Replaceable 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.

OVERVIEW: 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" (31mm) O.D. hose. Bushings available for larger hoses. See page 107.

NOTES: **Installation bolts sold separately.**

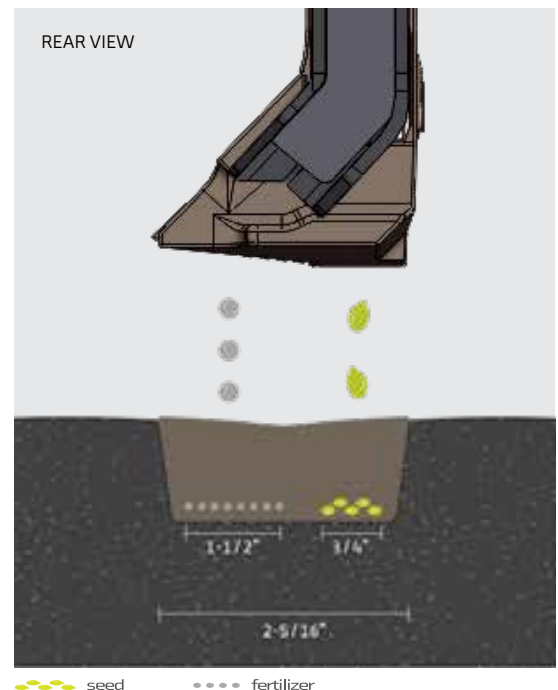
680 openers use 3/8" x 2-1/4" Grade 8 carriage bolts. See page 110.

683 & 693 openers use 1/2" x 2" Grade 8 hex head bolts. See page 114.

For an expanded view of these openers see page 118-119.

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.



Drawings 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. See precautions and risk factors on page 18.

683-ASY-2711G



680-ASY-2711LP



693-ASY-2711LP



SIDE BAND OPENERS TO FIT:	G Granular N	G P Granular N + Liquid Phos	L Liquid N	L P 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 MORRIS QUANTUM	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" (19mm) 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" (19mm) 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. **See precautions and risk factors on page 18.**

TIP OPTIONS: Replaceable 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" (76mm) or wider. **V-Packer not recommended.**

OVERVIEW: 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" (31mm) O.D. hose. Bushings available for larger hoses. See page 107.

NOTES: **Installation bolts sold separately.**

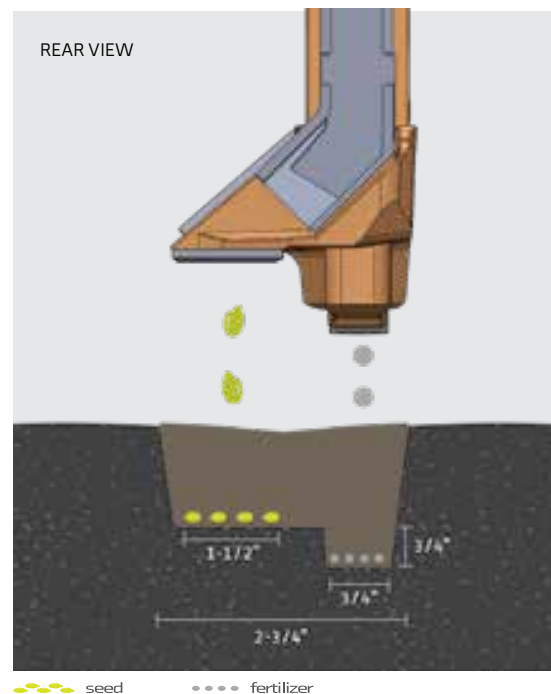
680 openers use 3/8" x 2-1/4" Grade 8 carriage bolts. See page 110.

683 & 693 openers use 1/2" x 2" Grade 8 hex head bolts. See page 114.

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

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.



Drawings 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. See precautions and risk factors on page 18.



SIDE BAND
OPENERS TO FIT:

DOUBLE SHOOT Liquid N

L

MORRIS MAXIM EDGE ON

682-ASY-2063
682-ASY-2064

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

SEED PLACEMENT: The slim body provides a low draft and low soil disturbance for better trash clearance, while ensuring great seed placement. The seed is placed in a 3/4" (19mm) band onto a firm, unfractured seedbed.

TIP OPTIONS: Cast chrome tip with extra long carbide inserts on the nose of the tip provides excellent penetration and wear resistance. Top face of the wing is covered with two carbide inserts providing a longer wear life. The tip is non-replaceable and welded to the seed boot.

FERTILIZER PLACEMENT: Liquid N or Pressurized NH3 openers are fitted with a 1/4" (6mm) O.D. stainless steel tube which places fertilizer behind the wing and 1-1/2" outward to the side away from the seed band. This provides increased separation of seed and fertilizer. In less than ideal conditions, mixing between seed and fertilizer may occur. **See precautions and risk factors on page 18.**

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

NOTES: **Installation bolts sold separately.** Use 3/8" x 2-1/4" Grade 8 carriage bolts. See page 110.

For an expanded view of these openers see page 129.

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 GUARANTEED DELIVERY
OF MULTI-SHOOT OPENERS,
PLEASE PLACE ORDERS BY
JANUARY 31ST.**



680-ASY-4020



683-ASY-4020G



693-ASY-4020L

PAIRED ROW OPENERS TO FIT:	G	L
	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 MORRIS QUANTUM	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.

See precautions and risk factors on page 18.

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

TIP OPTIONS: Replaceable 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" (102mm) or wider.

OVERVIEW: 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" (32mm) O.D. hose. Bushings available for larger hoses.

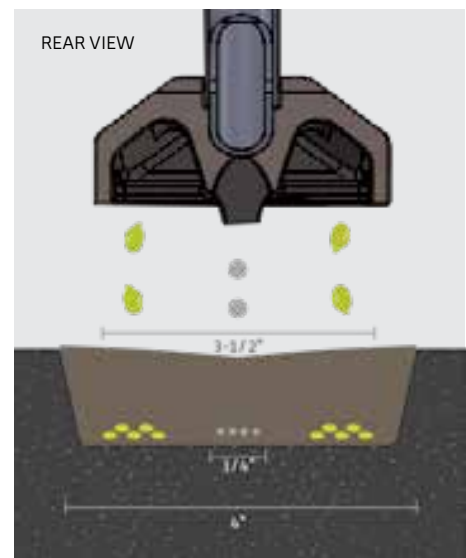
These openers provide the flexibility to easily switch between Granular and Liquid fertilizer. The above openers are available with liquid phos options. Please call the factory for more information.

NOTES: Installation bolts sold separately.

680 openers use 3/8" x 2-1/4" Grade 8 carriage bolts. See page 110.

683 & 693 openers use 1/2" x 2" Grade 8 hex head bolts. See page 114.

For an expanded view of these openers see page 122-123.



Drawings 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. See precautions and risk factors on page 18.



673-HLD-2080



683-HLD-2080



693-HLD-2080



673-HLD-2080

VOS (VERSATILE OPENER SYSTEM)

FITS: Morris Maxim Edge On

FERTILIZER TYPE: Multiple options.
See pages 58-59.

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 and 880-TUB-1003.**

Components sold separately.
See pages 58-59.

NOTES: Installation bolts sold separately.
Use 3/8" x 2-1/4" Grade 8 carriage bolts.
See page 110.

683-HLD-2080¹ 693-HLD-2080^{2,3}

VOS (VERSATILE OPENER SYSTEM)

FITS: Morris Contour I, Morris Contour II & Morris Quantum

FERTILIZER TYPE: Multiple options.
See pages 58-59.

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 pages 58-59.

NOTES: Installation bolts sold separately.
Use 1/2" x 2" Grade 8 hex head bolts.
See page 114.

¹Morris Contour I

²Morris Contour II

³Morris Quantum

628-HLD-5000

TITAN OPENER SYSTEM

FITS: Morris Maxim Edge On

FERTILIZER TYPE: Multiple options.
See pages 56-57.

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 pages 58-59.

NOTES: Installation bolts included.
Use bolt and nut combo 620-BNC-3100 (5/16" x 1-1/2") to install shoe to the holder.

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THESE FERTILIZER KNIVES FIT:
SALFORD
INDEPENDENT SERIES

FERTILIZER OPTIONS:

G Granular 1-1/2" (38mm) O.D.

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

N NH3 1/2" (12mm) O.D.

N Non-Freeze NH3 1/2" (12mm) O.D.

TIP OPTIONS:

3/4" (19mm) tips:

- 600-TIP-7500 (cast chrome)
- 600-TIP-7501 (regular carbide)
- 600-TIP-7502 (extra-long nose carbide)

3" (76mm) tip:

- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

OVERVIEW: Body and fertilizer tubes are narrow with additional hard-surfacing on critical wear areas to increase the life of the holder. This opener features adjustment holes that allow you to adjust the height of the opener by 1.375" (35mm). Designed for use with Granular N, Liquid N, NH3 or Non-Freeze NH3.

NON-FREEZE VERSION: NH3 is delivered through a nylon insert, insulating the NH3 from the knife. This prevents the moist soil from freezing up and building up on the knife, keeping it narrow to reduce disturbance with minimal gassing off. NH3 tube size is 1/2" (12mm) O.D. and is designed to work with Cold Flow NH3 units.



670-HLD-1000G

SHOWN WITH 600-TIP-7501



670-HLD-1000



670-HLD-1000L



670-ASY-7523

SHOWN WITH 600-TIP-7502



670-HLD-1000N



670-HLD-1000GN

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See website for an updated photo

689-KNH-1001

SINGLE SHOOT SEED OPENER

FITS: Seed Master

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only

TUBE SIZE: 1-1/4" (32mm) O.D. and 1/2" (12mm) O.D.

TIP OPTIONS: Any 200 Series Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. **Tips sold separately.** See pages 12-13.

OVERVIEW: 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.

NOTES: **Installation bolts included.** Use 3/8" lock nut and 3/8" x 1-1/2" Grade 8 carriage bolts. See page 114.

689-HLD-1000G **G**
689-HLD-1000L **L**
689-HLD-1000N **N**

689-HLD-1000GL **G L**
689-HLD-1000GN **G N**

FERTILIZER KNIVES

FITS: Seed Master

FERTILIZER TYPES: Granular N, NH3, Liquid N, Granular N + NH3 and Granular + Liquid N

TUBE SIZE:

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

NH3: 1/2" (12mm)

Liquid: 1/4" (6mm) O.D. stainless steel

TIP OPTIONS: Any 200 Series Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. **Tips sold separately.** See pages 12-13.

OVERVIEW: These fertilizer knives are narrow with additional hard-surfacing on critical wear areas to increase the life of the holder.

NOTES: **Installation bolts included.** Use 3/8" lock nut and 3/8" x 1-3/4" Grade 8 carriage bolts. See page 114.

For an expanded view of these openers see page 128.

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OPENERS TO FIT VÄDERSTAD SEED HAWK



1/2" WIDE

686-KNH-5010

1/2" WIDE

686-KNH-5010P



686-KNH-1001



NEW!

686-ASY-3011
686-ASY-3011P

686-KNH-5010 **P**
686-KNH-5010P
1/2" SINGLE SHOOT SEED OPENERS

FITS: Väderstad Seed Hawk

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only + Liquid Phos

TUBE SIZE:

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

Liquid Phos: 3/16" (5mm) O.D. This can be converted to work with 1/4" (6mm) I.D. delivery hoses with 880-ASY-1010. See page 106.

TIP OPTIONS: N/A

OVERVIEW: This 1/2" opener directs seed downward through the holder, placing the seed in a single row onto a firm, unfractured seed bed. Extra hard surfacing on critical wear areas increases the life of the holder. **For liquid phos option order 686-KNH-5010P.**

NOTES: **Installation bolts sold separately.** Use 1/2" x 2" Grade 8 hex head bolts. See page 114.

For an expanded view of this opener see page 127.

686-KNH-1001 **P**
686-KNH-1001P
SINGLE SHOOT SEED OPENER

FITS: Väderstad Seed Hawk

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only + Liquid Phos or just Liquid Phos

TUBE SIZE:

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

Liquid Phos: 3/16" (5mm) O.D. Can be converted to work with 1/4" (6mm) I.D. delivery hoses with 880-ASY-1010. See page 106.

TIP OPTIONS: Any 200 Series Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. **Tips sold separately.** See pages 12-13.

OVERVIEW: The seed shank is offset to the fertilizer shank. **686-KNH-1001** is available without the liquid phos tube. **686-KNH-1001P** is a single shoot opener that applies liquid phos on top of the seed. The narrow design allows for more accurate seed placement behind the tip.

NOTES: **Installation bolts sold separately.** Use 1/2" x 2" Grade 8 hex head bolts. See page 114.

For an expanded view of this opener see page 127.

686-ASY-3011 **P**
686-ASY-3011P
PAIRED ROW SEED OPENER

FITS: Väderstad Seed Hawk

FERTILIZER TYPE: Starter Fertilizer w/ Seed Only + Liquid Phos

TUBE SIZE:

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

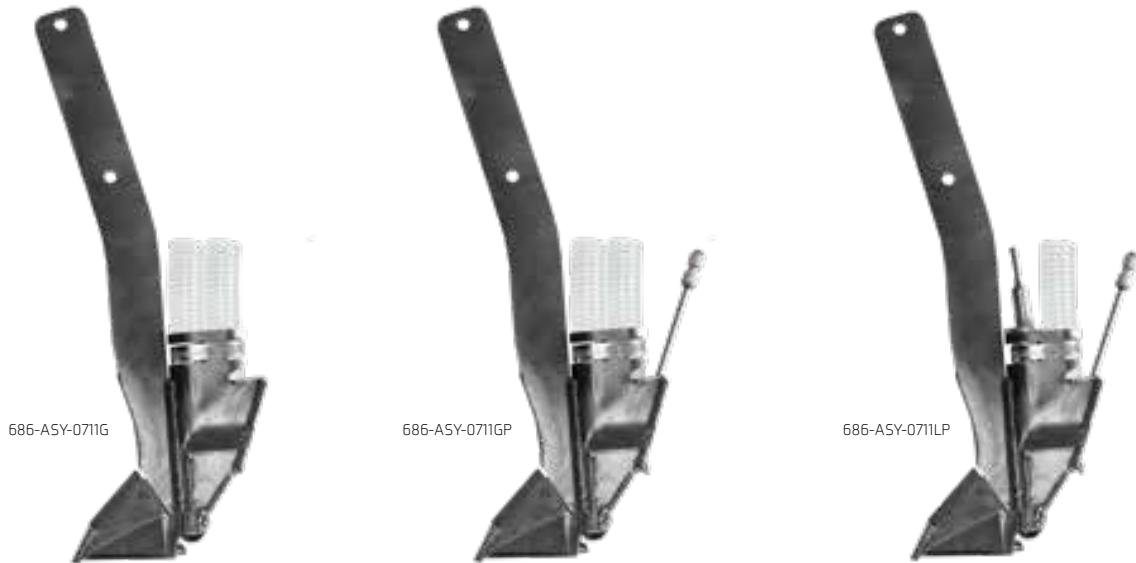
Liquid Phos: 3/16" (5mm) O.D. This can be converted to work with 1/4" (6mm) I.D. delivery hoses with 880-ASY-1010. See page 106.

TIP OPTIONS: 3" (76mm) cast chrome tip (200-TIP-3011) 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 phos option order 686-ASY-3011P.**

NOTES: **Installation bolts sold separately.** Use 1/2" x 2" Grade 8 hex head bolts. See page 114.

For an expanded view of this opener see page 127.



SIDE BAND OPENERS TO FIT:	G Granular N	G P Granular N + Liquid Phos	L Liquid N	L P Liquid N + Liquid Phos
VÄDERSTAD SEED HAWK	686-ASY-0711G 686-ASY-0712G	686-ASY-0711GP 686-ASY-0712GP	686-ASY-0711L 686-ASY-0712L	686-ASY-0711LP 686-ASY-0712LP

SEED PLACEMENT: The seed is placed in a 3/4" (19mm) 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. **See precautions and risk factors on page 18.**

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

TIP OPTIONS: Replaceable 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.

OVERVIEW: 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.

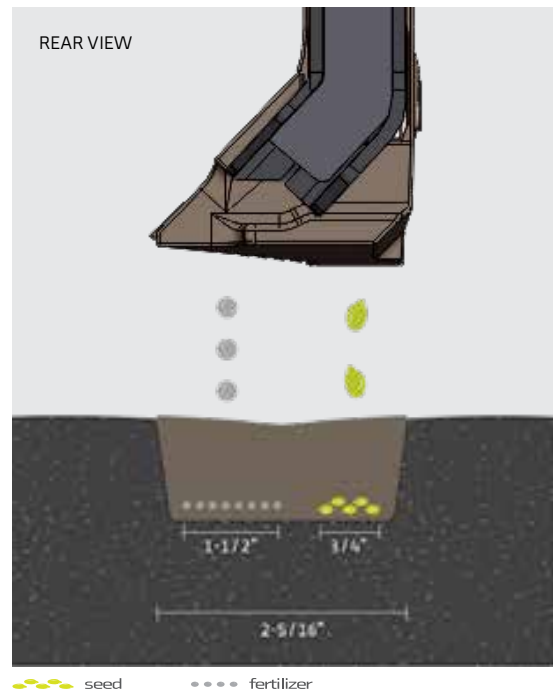
NOTES: **Installation bolts sold separately.** Use 1/2" x 2" Grade 8 hex head bolts to install these openers. See page 114.

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

For an expanded view of these openers see page 119.

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.



Drawings 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. See precautions and risk factors on page 18.

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THESE FERTILIZER KNIVES FIT: VÄDERSTAD SEED HAWK

FERTILIZER OPTIONS:

- G** Granular 1-1/4" (32mm) O.D.
- L** Liquid 1/4" (6mm) O.D.
- N** NH3 1/2" (12mm) O.D.
- G L** Granular & Liquid
- G N** Granular & NH3

TIP OPTIONS: N/A

OVERVIEW: Carbide insert on the nose to fracture the ground. Body and fertilizer tubes are narrow with additional hard-surfacing on critical wear areas to increase the life of the holder.

NOTES: Installation bolts sold separately.
Use 1/2" x 2" Grade 8 hex head bolts.
See page 114.



686-KNH-5020GL



686-KNH-5020G



686-KNH-5020L



686-KNH-5020N



686-KNH-5020GN



686-HLD-1010GL

SHOWN WITH 200-TIP-0802

THESE FERTILIZER KNIVES FIT:
VÄDERSTAD SEED HAWK

FERTILIZER OPTIONS:

G Granular 1-1/4" (32mm) O.D.

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

N NH3 1/2" (12mm) O.D.

G L Granular & Liquid

G N Granular & NH3

TIP OPTIONS:

- 200-TIP-0511
- 200-TIP-0801
- 200-TIP-0802 (shown)
- 200-TIP-0803
- 200-TIP-0811

Tips sold separately. See page 12.

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

686-HLD-1010 holders will apply granular plus Liquid N or NH3.

NOTES: **Installation bolts sold separately.**
Use 1/2" x 2" Grade 8 hex head bolts.
See page 114.

For an expanded view of these openers see page 126.



686-HLD-1020G



686-HLD-1020L



686-HLD-1020N



686-HLD-1010GN

MULTI-SHOOT SEEDING: TITAN OPENER SYSTEM

1 CHOOSE YOUR HOLDER



620-HLD-5000

FITS: 47° and 50° C-shank



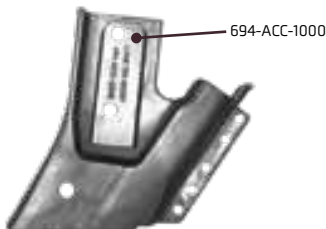
628-HLD-5000

FITS: Morris Maxim Edge On & Bourgault PHD shanks



688-HLD-5000

FITS: Horsch 84° shank (see note on page 130).



694-HLD-5000*

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.



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. Use bolt and nut combo 620-BNC-3100 (5/16" x 1-1/2") to install shoe to holder.



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

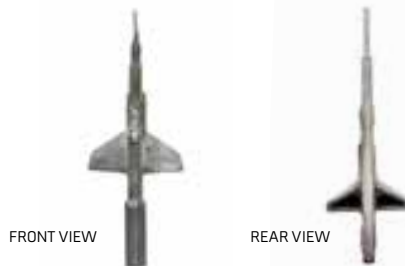
Only fits the **628** holder. This tip has extra long nose carbide inserts and is 1" longer than **628-TIP-0510**.



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

Extra-long carbide inserts 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 tip helps prevent skewing on hill sides. The shoe portion is 4" wide, with carbide fully covering the leading edges.

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



FRONT VIEW

REAR VIEW



●●●● seed ●●●● fertilizer

Drawings 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. See precautions and risk factors on page 18.

4 CHOOSE YOUR FERTILIZER

N **620-TUB-1021**

1/2" (12mm) 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" (6mm) O.D. Aqua NH3 + Phos tube for **620, 688 & 694** series holders.

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

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

N L **620-TUB-4000**

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

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

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

N P **620-TUB-4040**

0.4" O.D. Stainless Steel Aqua NH3 + Phos tube for **620, 688 & 694** series holders.

N **628-TUB-1021**

1/2" (12mm) 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 102.

When installing tip, use 200-BNC-3100. 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 pages 130-131.

MULTI-SHOOT SEEDING: VOS (Versatile Opener System)

1 CHOOSE YOUR HOLDER



610-HLD-2080 / 2080HD

FITS: 47° and 50° 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.



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

2 CHOOSE YOUR TIP



610-TIP-0802

SINGLE SHOOT TIP

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

PACKER RECOMMENDATION: 3/4" (19mm) or wider.

FERTILIZER OPTIONS: Used for seeding only.



610-TIP-3581

PAIRED ROW TIP

AVAILABLE SOON!

OVERVIEW: 3-1/2" (89mm) cast chrome tip with 3/4" (19mm) vertical seed/fertilizer separation. Carbide insert on the nose for excellent penetration and wear resistance. Carbide inserts on the underside of the wing maintain a sharp cutting edge and provide extra-wear life. Carbide inserts at the back of the underside of the wings seals up fertilizer trench prior to seed placement.

FERTILIZER OPTIONS: Granular, Liquid, Aqua NH₃ or Aqua NH₃ + Phos

PACKER RECOMMENDATION: 3" (76mm) or wider.



610-TIP-4081 & 610-TIP-4082

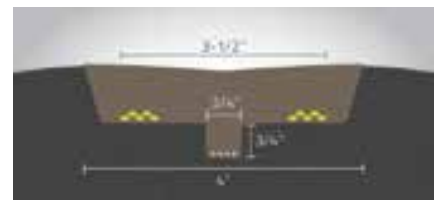
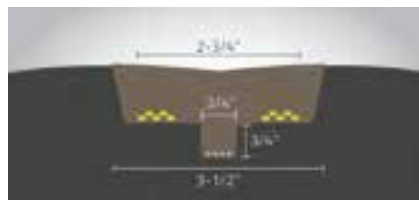
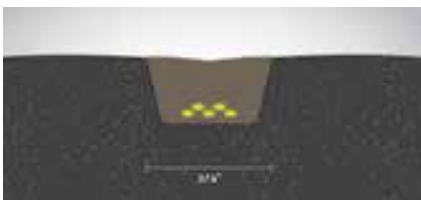
PAIRED ROW TIP

OVERVIEW: 4" (102mm) paired row tip with 3/4" (19mm) 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, to provide extra wear life. **Not recommended for use on Case IH 800 / 900 or NH P2070.**

PACKER RECOMMENDATION: 4" (102mm) or wider.

FERTILIZER OPTIONS: Granular, Liquid, Aqua NH₃ or Aqua NH₃ + Phos



3 CHOOSE YOUR FERTILIZER



693-HLD-2080

FITS: Morris Contour II & Morris Quantum



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 4° more pitch, use the top two holes on the holder.



610-TIP-6082

PAIRED ROW TIP

AVAILABLE SOON!

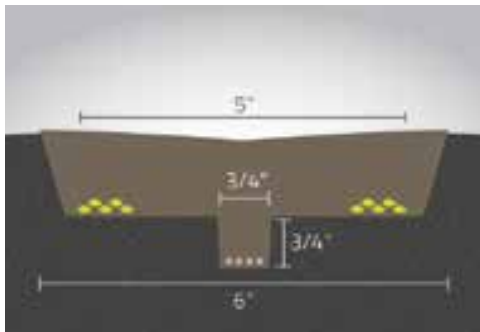
OVERVIEW: 6" (152mm) cast tip with 3/4" (19mm) vertical seed/fertilizer separation. Carbide insert on the nose for excellent penetration and wear resistance.

Carbide inserts on the underside of the wing maintain a sharp cutting edge and provide extra-wear life.

Carbide inserts at the back of the underside of the wings seals up fertilizer trench prior to seed placement.

FERTILIZER OPTIONS: Granular, Liquid, Aqua NH3 or Aqua NH3 + Phos

PACKER RECOMMENDATION: 5-1/2" (140mm) or wider.



●●●● seed ●●●● fertilizer

Drawings 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. See precautions and risk factors on page 18.



880-TUB-1003
880-TUB-1004

PRECISION DRILLS LIQUID 1/4" (6mm) O.D. stainless tube



880-BSH-1000



880-TUB-1009
880-TUB-1010

PRECISION DRILLS LIQUID OR AQUA NH3 3/8" (10mm) O.D. stainless tube



880-BSH-1000



880-TUB-1011
880-TUB-1012

PRECISION DRILLS AQUA NH3 + PHOS 1/4" (6mm) O.D. stainless tube



880-BSH-1003

All tubes come with bushings as pictured above.



200-KNF-0863



SIDE BAND OPENER

FITS: 200 Series *Speed-Loc™*

FERTILIZER TYPE: Liquid N

TUBE SIZE: 1/4" (6mm) O.D.

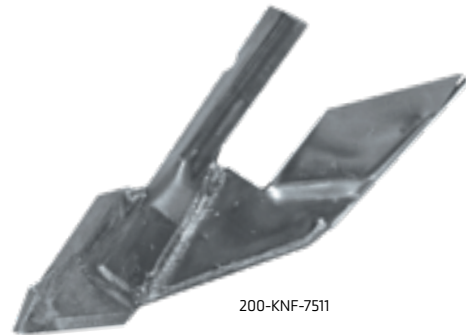
TIP OPTIONS: The welded high-chrome tip is protected with a carbide insert on the nose and a solid carbide wing. The carbide placement provides sharp cutting edges for excellent penetration.

INSTALLATION DRIVER: 100-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-KNF-7511

200-KNF-7510
200-KNF-7511
200-ASY-7511P



SINGLE SHOOT OPENER

FITS: 200 Series *Speed-Loc™*

FERTILIZER TYPE: Liquid Phos

TUBE SIZE: 3/16" (5mm) O.D. This can be converted to work with 1/4" (6mm) I.D. delivery hoses with 880-ASY-1010. See page 106.

TIP OPTIONS: 3/4" (19mm) weld-on tip available with carbide (200-KNF-7511) or without carbide (200-KNF-7510).

INSTALLATION DRIVER: 100-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.

Works with the square tube seed boot of the Seed Boot System. It also fits the Bourgault or Flexi-Coil square tube seed boot. See pages 64-65.

This opener is also available with a liquid phos tube: 200-ASY-7511P.

Proper Installation & Removal of Speed-Loc™ Products



To ensure proper installation of *Speed-Loc™* products, use the appropriate driver listed with each product.

For a chart of all drivers see page 83.



200-REL-1010

The Speed Release tool must be used when removing openers, sweeps & spikes from the *Speed-Loc™* Adapters.

For more information see page 83.

**200-KNF-7501**

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.**INSTALLATION DRIVER:** 100-DRV-1010**OVERVIEW:** This opener is designed for use with the Technotill System.

200-KNF-0811

**200-KNF-0810
200-KNF-0811**

SINGLE SHOOT OPENER

FITS: 200 Series *Speed-Loc™***FERTILIZER TYPE:** N/A**TUBE SIZE:** N/A**TIP OPTIONS:** 3/4" (19mm) weld-on tip available with carbide (200-KNF-0811), or without carbide (200-KNF-0810).**INSTALLATION DRIVER:** 400-DRV-1010**OVERVIEW:** Low disturbance, low draft opener provides easy pulling.**Works with 300-ATM-1035 of the Seed Boot System.** See pages 64-65.**200-KNF-0813**

SINGLE SHOOT OPENER

FITS: 200 Series *Speed-Loc™***FERTILIZER TYPE:** N/A**TUBE SIZE:** N/A**TIP OPTIONS:** 3/4" (19mm) weld-on tip with extra-long nose carbide for longer wear life.**INSTALLATION DRIVER:** 400-DRV-1010**OVERVIEW:** The more vertical approach of this opener reduces rock pulling.**Works with 300-ATM-1035 of the Seed Boot System.** See pages 64-65.

410-KNF-0800

**410-KNF-0800
410-KNF-0801**

SINGLE SHOOT OPENER

FITS: 410 Series *Speed-Loc™***FERTILIZER TYPE:** N/A**TUBE SIZE:** N/A**TIP OPTIONS:** 3/4" (19mm) weld-on tip available with carbide (410-KNF-0801), or without carbide (410-KNF-0800).**INSTALLATION DRIVER:** 400-DRV-1010**OVERVIEW:** Low disturbance, low draft opener provides easy pulling.**Works with 300-ATM-1031 of the Seed Boot System.** See pages 64-65.**200-VRT-1000**

SINGLE SHOOT OPENER

FITS: 200 Series *Speed-Loc™***FERTILIZER TYPE:** N/A**TUBE SIZE:** N/A**TIP OPTIONS:** 1" (25mm) weld-on tip with nose carbide provides long-lasting wear life.**INSTALLATION DRIVER:** 200-DRV-1030**OVERVIEW:** The vertical approach of this opener reduces rock pulling.**Works with 300-ATM-1031 of the Seed Boot System.** See pages 64-65.**410-VRT-1000**

SINGLE SHOOT OPENER

FITS: 410 Series *Speed-Loc™***FERTILIZER TYPE:** N/A**TUBE SIZE:** N/A**TIP OPTIONS:** 1" (25mm) weld-on tip with nose carbide provides long-lasting wear life.**INSTALLATION DRIVER:** 200-DRV-1030**OVERVIEW:** The vertical approach of this opener reduces rock pulling.**Works with 300-ATM-1031 of the Seed Boot System.** See pages 64-65.



200-KNH-4010

SINGLE SHOOT OPENER

FITS: 200 Series *Speed-Loc™*

FERTILIZER TYPE: N/A

TUBE SIZE: N/A

TIP OPTIONS: Any 200 Series Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. **Tips sold separately.** See pages 12-13.

INSTALLATION DRIVER: Depends on tip used. See page 83.

OVERVIEW: This funnel is reinforced with hard surfacing for longer wear life.

Works with the square tube seed boot of the Seed Boot System. It also fits the Bourgault or Flexi-Coil square tube seed boot. See pages 64-65.



200-KNH-4000

SINGLE SHOOT OPENER

FITS: 200 Series *Speed-Loc™*

FERTILIZER TYPE: N/A

TUBE SIZE: N/A

TIP OPTIONS: Any 200 Series Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. **Tips sold separately.** See pages 12-13.

INSTALLATION DRIVER: Depends on tip used. See page 83.

OVERVIEW: Works with 300-ATM-1035 of the Seed Boot System. See pages 64-65.



410-HLD-7500

HOLDER

FITS: 410 Series *Speed-Loc™*

FERTILIZER TYPE: N/A

TUBE SIZE: Used with 300 Series Seed Boot Attachments

TIP OPTIONS:
 3/4" (19mm) tips:
 • 600-TIP-7500 (cast chrome)
 • 600-TIP-7501 (regular carbide)
 • 600-TIP-7502 (extra-long nose carbide)

3" (76mm) tip:
 • 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

INSTALLATION DRIVER: 400-DRV-1010

OVERVIEW: Used with 300-ATM-1031 of the Seed Boot System. See pages 64-65.

Proper Installation & Removal of Speed-Loc™ Products



To ensure proper installation of *Speed-Loc™* products, use the appropriate driver listed with each product.

For a chart of all drivers see page 83.



200-REL-1010

The Speed Release tool must be used when removing openers, sweeps & spikes from the *Speed-Loc™* Adapters.

For more information see page 83.

**200-HOE-1700**

SINGLE SHOOT OPENER

FITS: 200 Series *Speed-Loc™***FERTILIZER TYPE:** N/A**TUBE SIZE:** N/A**TIP OPTIONS:** Long-wearing welded high-chrome tip.**INSTALLATION DRIVER:** 100-DRV-1020**OVERVIEW:** 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 – 44mm) seed spread.**Works best with the 1" (25mm) single tube seed boot.** See pages 64-65.**200-KNF-7542**

SINGLE SHOOT OPENER

FITS: 200 Series *Speed-Loc™***FERTILIZER TYPE:** Granular**TUBE SIZE:** 1-1/4" (32mm) O.D.**TIP OPTIONS:** The high-chrome welded tip is long lasting and provides excellent penetration.**INSTALLATION DRIVER:** 100-DRV-1010**OVERVIEW:** This single shoot opener is perfect for heavy gumbo soils. The extra space between the tip and tube reduce plugging.**200-VRT-1040**

SINGLE SHOOT OPENER

FITS: 200 Series *Speed-Loc™***FERTILIZER TYPE:** Granular**TUBE SIZE:** 1-1/4" (32mm) O.D.**TIP OPTIONS:** 1" (25mm) welded on tip with nose carbide for long-lasting wear life and excellent penetration.**INSTALLATION DRIVER:** 200-DRV-1030**OVERVIEW:** The vertical approach of this opener reduces rock pulling and soil throw.**200-SPN-0200**
200-SPN-0208

SINGLE SHOOT OPENER

FITS: 200 Series *Speed-Loc™***FERTILIZER TYPE:** N/A**TUBE SIZE:** N/A**TIP OPTIONS:** N/A**INSTALLATION DRIVER:** 400-DRV-1000**OVERVIEW:** These spoons have a 2" (51mm) spread. Available in 1/4" (6mm) material (200-SPN-0200) or 5/16" (8mm) material for increased wear life (200-SPN-0208).**200-SPN-0300**
200-SPN-0308

SINGLE SHOOT OPENER

FITS: 200 Series *Speed-Loc™***FERTILIZER TYPE:** N/A**TUBE SIZE:** N/A**TIP OPTIONS:** N/A**INSTALLATION DRIVER:** 400-DRV-1000**OVERVIEW:** These spoons have a 3" (76mm) spread. Available in 1/4" (6mm) material (200-SPN-0300) or 5/16" (8mm) material for increased wear life (200-SPN-0308).**410-SPN-0300**
410-SPN-0308

SINGLE SHOOT OPENER

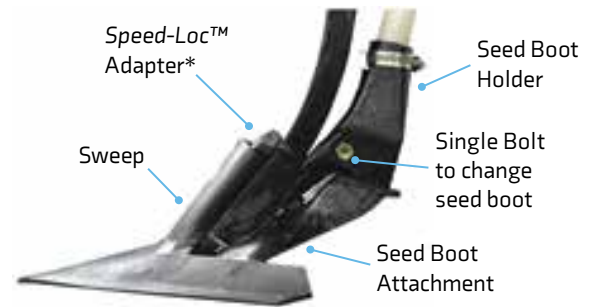
FITS: 410 Series *Speed-Loc™***FERTILIZER TYPE:** N/A**TUBE SIZE:** N/A**TIP OPTIONS:** N/A**INSTALLATION DRIVER:** 400-DRV-1000**OVERVIEW:** These spoons have a 3" (76mm) spread. Available in 1/4" (6mm) material (410-SPN-0300) or 5/16" (8mm) material for increased wear life (410-SPN-0308).

The quick change seed boot system allows you to match seed spread to opener width.

It 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. The attachment is secured with a nut and bolt.

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 HOLDER



300-HLD-4700

FITS: Bourgault and Ezee-On 47° shanks

OVERVIEW: 1-3/4" (45mm) bolt hole spacing. The bolt hole section is designed flat.

NOTES: Use a hose clamp to secure the air hose into the seed boot holder.



300-HLD-4710

FITS: 47° shanks except the Bourgault and Ezee-On

OVERVIEW: 1-3/4" (45mm) bolt hole spacing. The bolt hole section is curved.

NOTES: Use self tapping screw (911-SCR-1051) to secure the air hose into the seed boot holder.



300-HLD-5000

FITS: Bourgault chisel plow shanks, LH755 shank used on the Morris Magnum III and the Morris Concept 2000

OVERVIEW: 2-1/4" (57mm) 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.

NOTES: Use self tapping screw (911-SCR-1051) to secure the air hose into the seed boot holder.



300-HLD-5010

FITS: Any chisel plow shank except the Bourgault and the Morris LH755 shank

OVERVIEW: 2-1/4" (57mm) bolt hole spacing. The bolt hole section is curved.

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

SEED BOOT ATTACHMENTS



300-BNC-4414

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



300-ATM-1000

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



300-ATM-1006

This spreader attachment will distribute the seed evenly in a 6" (152mm) row. Seed spread may vary depending on sweep size, soil type and fan speed.

Works well for organic operations because of the wide seed spread.



300-ATM-1010

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



300-ATM-1020

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

SEED BOOT ATTACHMENTS



300-ATM-1031

This knife attachment will place the seed in a very narrow band.

Designed to be used behind:

- 200-VRT-1000
- 410-VRT-1000
- 410-HLD-7500
- 410-KNF-0800
- 410-KNF-0801



300-ATM-1035

This knife attachment will place the seed in a very narrow band.

Designed to be used behind:

- 200-KNF-0810
- 200-KNF-0811
- 200-KNF-0813
- 200-KNH-4000



300-ATM-1036

For use in Europe.

This knife attachment will place the seed in a band. There is hard facing on the side and the slot is wider than the 300-ATM-1035.

Designed to be used behind 200-KNF-0815.



300-SQR-1500

Slotted top hole to fit 1-3/4" to 2-1/4" (45 - 57mm) bolt spacing. Accepts 1-1/4" (32mm) O.D. air hose.

Designed to fit curved bottom shanks.



300-SQR-1505

Slotted top hole to fit 1-3/4" to 2-1/4" (45 - 57mm) bolt spacing. Accepts 1-1/4" (32mm) O.D. air hose.

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.



200-KNF-7521

200-KNF-7520
200-KNF-7521



FITS: 200 Series *Speed-Loc™*

FERTILIZER TYPE: Cold Flow NH₃

TUBE SIZE: 1/2" (12mm) O.D.

TIP OPTIONS: 3/4" (19mm) welded tip available **with carbide (200-KNF-7521)** which provides extra wear life and better penetration, or **without carbide (200-KNF-7520)**.

INSTALLATION DRIVER: 100-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 NH₃ or liquid system. Please call the factory for more details.



200-KNF-7525

200-KNF-7524
200-KNF-7525



FITS: 200 Series *Speed-Loc™*

FERTILIZER TYPE: Cold Flow NH₃

TUBE SIZE: 1/2" (12mm) O.D.

TIP OPTIONS: 3/4" (19mm) welded tip available **with carbide (200-KNF-7525)** which provides extra wear life and better penetration, or **without carbide (200-KNF-7524)**.

INSTALLATION DRIVER: 100-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 NH₃ system. Please call the factory for more details.



200-KNF-7531

200-KNF-7530
200-KNF-7531



FITS: 200 Series *Speed-Loc™*

FERTILIZER TYPE: Hot Gas NH₃

TUBE SIZE: 3/8" (9mm) O.D.

TIP OPTIONS: 3/4" (19mm) welded tip available **with carbide (200-KNF-7531)** which provides extra wear life and better penetration, or **without carbide (200-KNF-7530)**.

INSTALLATION DRIVER: 100-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 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, use the appropriate driver listed with each product.

For a chart of all drivers see page 83.



200-REL-1010

The Speed Release tool must be used when removing openers, sweeps & spikes from the *Speed-Loc™* Adapters.

For more information see page 83.



200-KNH-4020

N

FITS: 200 Series Speed-Loc™

FERTILIZER TYPE: Cold Flow NH3

TUBE SIZE: 1/2" (12mm) O.D.

TIP OPTIONS: Any Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions. **Tips sold separately.** See pages 12-13.

INSTALLATION DRIVER: Depends on tip used. See page 83.

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.

410-KNF-0826



410-KNF-0824
410-KNF-0825
410-KNF-0826

N

L

FITS: 410 Series Speed-Loc™

FERTILIZER TYPE:

410-KNF-0824: Cold Flow NH3

410-KNF-0825: Cold Flow NH3

410-KNF-0826: Liquid N NH3 PSI

TUBE SIZE:

410-KNF-0824: 1/2" (12mm) O.D.

410-KNF-0825: 1/2" (12mm) O.D.

410-KNF-0826: 1/4" (6mm) O.D.

TIP OPTIONS: 3/4" (19mm) welded tip available **with carbide (410-KNF-0825 & 410-KNF-0826)** which provides extra wear life and better penetration, or **without carbide (410-KNF-0824).**

INSTALLATION DRIVER: 400-DRV-1010

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

410-KNF-0831



410-KNF-0830
410-KNF-0831

N

FITS: 410 Series Speed-Loc™

FERTILIZER TYPE: Hot Gas NH3

TUBE SIZE: 3/8" (9mm) O.D.

TIP OPTIONS: 3/4" (19mm) welded tip available **with carbide (410-KNF-0831)** which provides extra wear life and better penetration, or **without carbide (410-KNF-0830).**

INSTALLATION DRIVER: 400-DRV-1010

OVERVIEW: This knife is designed for heavy-duty use with Hot Gas NH3 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, use the appropriate driver listed with each product.

For a chart of all drivers see page 83.



200-REL-1010

The Speed Release tool must be used when removing openers, sweeps & spikes from the Speed-Loc™ Adapters.

For more information see page 83.



410-KNH-7524



410-KNH-7524
410-KNH-7526 **N**

410-KNF-7540 **G**

410-KNH-7540 **G**

FITS: 410 Series Speed-Loc™

FERTILIZER TYPE: Cold Flow NH3 or NH3 PSI

TUBE SIZE:

- 410-KNH-7524:** 1/2" (12mm) O.D. designed for use with Cold Flow Kits
- 410-KNH-7526:** 1/4" (6mm) O.D. PSI

TIP OPTIONS:

- 3/4" (19mm) tips:
 - 600-TIP-7500 (cast chrome)
 - 600-TIP-7501 (regular carbide)
 - 600-TIP-7502 (extra-long nose carbide)
- 3" (76mm) tip:
 - 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

INSTALLATION DRIVER: 400-DRV-1010

OVERVIEW: This fertilizer knife is designed for use with NH3. 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 NH3 system. Please call the factory for more details.

FITS: 410 Series Speed-Loc™

FERTILIZER TYPE: Granular

TUBE SIZE: 1-1/4" (32mm) O.D.

TIP OPTIONS: 3/4" (19mm) welded tip with nose carbide for long-lasting wear life and excellent penetration.

INSTALLATION DRIVER: 400-DRV-1010

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

Can be converted to 1-1/2" (38mm) O.D. pipe. Please call the factory for more details.

FITS: 410 Series Speed-Loc™

FERTILIZER TYPE: Granular

TUBE SIZE: 1-1/4" (32mm) O.D.

For different hose sizes a bushing may be used. See page 107.

TIP OPTIONS:

- 3/4" (19mm) tips:
 - 600-TIP-7500 (cast chrome)
 - 600-TIP-7501 (regular carbide)
 - 600-TIP-7502 (extra-long nose carbide)
- 3" (76mm) tip:
 - 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

INSTALLATION DRIVER: 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.

Stabilize Your NH3 Hose



600-HHA-0750

This stainless steel hose holder mounts on any C-shank to hold the NH3 hose in place and is completely height adjustable. See page 106.



200-ASY-7523



FITS: 200 Series *Speed-Loc™*

FERTILIZER TYPE: Non-Freeze NH3

TUBE SIZE: 1/2" (12mm) O.D.

TIP OPTIONS: 3/4" (19mm) welded tip with extra carbide for long lasting wear life and better penetration.

INSTALLATION DRIVER: 100-DRV-1010

OVERVIEW: 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.

Not recommended for rocky conditions.



410-ASY-0823



FITS: 410 Series *Speed-Loc™*

FERTILIZER TYPE: Non-Freeze NH3

TUBE SIZE: 1/2" (12mm) O.D.

TIP OPTIONS: 3/4" (19mm) welded tip with extra carbide for long lasting wear life and better penetration.

INSTALLATION DRIVER: 400-DRV-1010

OVERVIEW: 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.

Not recommended for rocky conditions.



410-ASY-7523



FITS: 410 Series *Speed-Loc™*

FERTILIZER TYPE: Non-Freeze NH3

TUBE SIZE: 1/2" (12mm) O.D.

TIP OPTIONS:

3/4" (19mm) tips:

- 600-TIP-7500 (cast chrome)
- 600-TIP-7501 (regular carbide)
- 600-TIP-7502 (extra-long nose carbide)

3" (76mm) tip:

- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

INSTALLATION DRIVER: 400-DRV-1010

OVERVIEW: 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.

Not recommended for rocky conditions.

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



To ensure proper installation of *Speed-Loc™* products, use the appropriate driver listed with each product.

For a chart of all drivers see page 83.



200-REL-1010

The Speed Release tool must be used when removing openers, sweeps & spikes from the *Speed-Loc™* Adapters.

For more information see page 83.



200-KNF-7551

200-KNF-7551
200-KNF-7553



FITS: 200 Series *Speed-Loc™*

FERTILIZER TYPE: Granular + NH3

TUBE SIZE:

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

For different hose sizes a bushing may be used. See page 107.

200-KNF-7551: Cold Flow NH3, 1/2" (12mm) O.D.

200-KNF-7553: Hot Gas NH3, 3/8" (9mm) O.D.

TIP OPTIONS: 3/4" (19mm) welded tip with nose carbide for long-lasting wear life and excellent penetration.

INSTALLATION DRIVER: 100-DRV-1010

OVERVIEW: This fertilizer knife is designed for use with Granular fertilizer and either Cold Flow or Hot Gas NH3 kits.

Not recommended for seeding.



410-KNF-7551
410-KNF-7553



FITS: 410 Series *Speed-Loc™*

FERTILIZER TYPE: Granular + Cold Flow or Hot Gas NH3

TUBE SIZE:

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

For different hose sizes a bushing may be used. See page 107.

410-KNF-7551: Cold Flow NH3, 1/2" (12mm) O.D.

410-KNF-7553: Hot Gas NH3, 3/8" (9mm) O.D.

TIP OPTIONS: 3/4" (19mm) welded tip with nose carbide for long-lasting wear life and excellent penetration.

INSTALLATION DRIVER: 400-DRV-1010

OVERVIEW: This fertilizer knife is designed for use with Granular fertilizer and either Cold Flow or Hot Gas NH3 kits.

Not recommended for seeding.



410-KNH-7551



FITS: 410 Series *Speed-Loc™*

FERTILIZER TYPE: Granular + Cold Flow NH3

TUBE SIZE:

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

For different hose sizes a bushing may be used. See page 107.

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

TIP OPTIONS:

3/4" (19mm) tips:

- 600-TIP-7500 (cast chrome)
- 600-TIP-7501 (regular carbide)
- 600-TIP-7502 (extra-long nose carbide)

3" (76mm) tip:

- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

INSTALLATION DRIVER: 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.

Stabilize Your NH3 Hose



600-HHA-0750

This stainless steel hose holder mounts on any C-shank to hold the NH3 hose in place and is completely height adjustable. See page 106.



200-KNF-7560



FITS: 200 Series *Speed-Loc™*

FERTILIZER TYPE: NH₃ + Liquid Phos

TUBE SIZE: 0.400" stainless steel tube

TIP OPTIONS: 3/4" (19mm) welded tip with extra carbide for long lasting wear life and better penetration.

INSTALLATION DRIVER: 400-DRV-1010

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



410-KNF-7560



FITS: 410 Series *Speed-Loc™*

FERTILIZER TYPE: NH₃ + Liquid Phos

TUBE SIZE: 0.400" stainless steel tube

TIP OPTIONS: 3/4" (19mm) welded tip with extra carbide for long lasting wear life and better penetration.

INSTALLATION DRIVER: 400-DRV-1010

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

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



To ensure proper installation of *Speed-Loc™* products, use the appropriate driver listed with each product.

For a chart of all drivers see page 83.



200-REL-1010

The Speed Release tool must be used when removing openers, sweeps & spikes from the *Speed-Loc™* Adapters.

For more information see page 83.



600-HLD-7500

600-HLD-7500
602-HLD-7500

FITS: 43°, 47° and 50° C-Shank

For 43° shank use a 7° wedge.
See page 106.

FERTILIZER TYPE: N/A

TUBE SIZE: N/A

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

TIP OPTIONS:

3/4" (19mm) tips:

- 600-TIP-7500 (cast chrome)
- 600-TIP-7501 (regular carbide)
- 600-TIP-7502 (extra-long nose carbide)

3" (76mm) tip:

- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

OVERVIEW: This knife uses replaceable tips, giving you the flexibility to choose the right tip for your conditions.

600-HLD-7500 - regular use

602-HLD-7500 - heavy duty use in tough conditions and high shank trip forces.

NOTES: Installation bolts sold separately.
Use 1/2" Grade 8 Hex head bolts.
See page 114.



599-KNH-7540



FITS: 47° C-Shank

FERTILIZER TYPE: Granular

TUBE SIZE: 1-1/4" (32mm) O.D.

For different hose sizes a bushing may be used. See page 107.

BOLT HOLE SPACING: 1-3/4" (45mm)

TIP OPTIONS:

3/4" (19mm) tips:

- 600-TIP-7500 (cast chrome)
- 600-TIP-7501 (regular carbide)
- 600-TIP-7502 (extra-long nose carbide)

3" (76mm) tip:

- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

OVERVIEW: This fertilizer knife is designed to fit on the Bourgault Shank with 1-3/4" bolt hole centers with 47° shanks on air seeder units.

NOTES: Installation bolts sold separately.
Use 1/2" Grade 8 hex head bolts.
See page 114.



600-KNH-7540

600-KNH-7540
602-KNH-7540



FITS: 43°, 47° and 50° C-Shank

For 43° shank use a 7° wedge.
See page 106.

FERTILIZER TYPE: Granular

TUBE SIZE: 1-1/4" (32mm) O.D.

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

TIP OPTIONS:

3/4" (19mm) tips:

- 600-TIP-7500 (cast chrome)
- 600-TIP-7501 (regular carbide)
- 600-TIP-7502 (extra-long nose carbide)

3" (76mm) tip:

- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

OVERVIEW: This knife uses replaceable tips, giving you the flexibility to choose the right tip for your conditions.

600-KNH-7540 - regular use

602-KNH-7540 - heavy duty use in tough conditions and high shank trip forces.

NOTES: Installation bolts sold separately.
Use 1/2" Grade 8 Hex head bolts.
See page 114.

Stabilize Your NH3 Hose



600-HHA-0750

This stainless steel hose holder mounts on any C-shank to hold the NH3 hose in place and is completely height adjustable. See page 106.



602-KNH-7640



FITS: 43°, 47° and 50° C-Shank

For 43° shank use a 7° wedge. See page 106.

FERTILIZER TYPE: Granular

TUBE SIZE: 1-1/2" (38mm) O.D.

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

TIP OPTIONS:

3/4" (19mm) tips:

- 600-TIP-7500 (cast chrome)
- 600-TIP-7501 (regular carbide)
- 600-TIP-7502 (extra-long nose carbide)

3" (76mm) tip:

- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

OVERVIEW: This knife uses replaceable tips, giving you the flexibility to choose the right tip for your conditions. For heavy duty use in tough conditions and high shank trip forces.

NOTES: **Installation bolts sold separately.** Use 1/2" Grade 8 hex head bolts. See page 114.



600-ASY-7523



FITS: 43°, 47° and 50° C-Shank

For 43° shank use a 7° wedge. See page 106.

FERTILIZER TYPE: Non-Freeze NH3

TUBE SIZE: 1/2" (12mm) O.D.

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

TIP OPTIONS:

3/4" (19mm) tips:

- 600-TIP-7500 (cast chrome)
- 600-TIP-7501 (regular carbide)
- 600-TIP-7502 (extra-long nose carbide)

3" (76mm) tip:

- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

OVERVIEW: 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. **Not recommended for rocky conditions.**

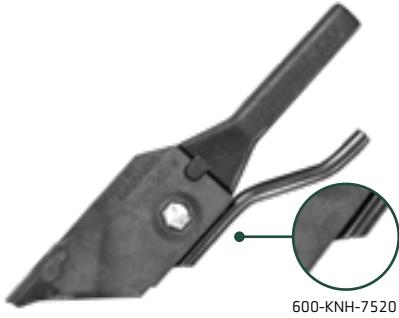
NOTES: **Installation bolts sold separately.** Use 1/2" Grade 8 hex head bolts. See page 114.

Stabilize Your NH3 Hose

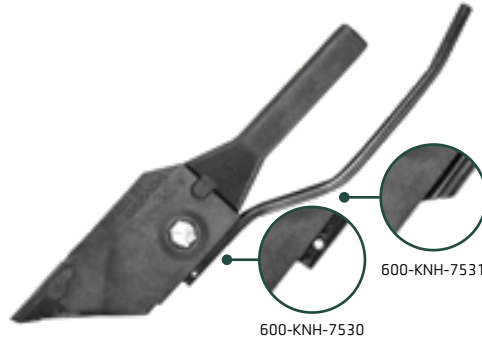


600-HHA-0750

This stainless steel hose holder mounts on any C-shank to hold the NH3 hose in place and is completely height adjustable. See page 106.



600-KNH-7520



600-KNH-7530

600-KNH-7531



600-KNH-7585

600-KNH-7520
602-KNH-7520



FITS: 43°, 47° and 50° C-Shank

For 43° shank use a 7° wedge.
See page 106.

FERTILIZER TYPE: Cold Flow NH₃

TUBE SIZE: 1/2" (12mm) O.D.

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

TIP OPTIONS:

- 3/4" (19mm) tips:
- 600-TIP-7500 (cast chrome)
 - 600-TIP-7501 (regular carbide)
 - 600-TIP-7502 (extra-long nose carbide)
- 3" (76mm) tip:
- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

OVERVIEW: This fertilizer knife is designed for use with Cold Flow NH₃ kits. The replaceable tip gives you the flexibility to choose the right tip for your conditions.

NOTES: **Installation bolts sold separately.**
Use 1/2" Grade 8 hex head bolts.
See page 114.

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

600-KNH-7520 - regular use
602-KNH-7520 - heavy duty use in tough conditions and high shank trip forces.

600-KNH-7530
602-KNH-7530
600-KNH-7531
602-KNH-7531



FITS: 43°, 47° and 50° C-Shank

For 43° shank use a 7° wedge.
See page 106.

FERTILIZER TYPE: Hot Gas NH₃, Liquid or Aqua NH₃

TUBE SIZE:

- 600-KNH-7530** 3/8" (9mm) O.D.
- 600-KNH-7531** 0.400" stainless steel

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

TIP OPTIONS:

- 3/4" (19mm) tips:
- 600-TIP-7500 (cast chrome)
 - 600-TIP-7501 (regular carbide)
 - 600-TIP-7502 (extra-long nose carbide)
- 3" (76mm) tip:
- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

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: **Installation bolts sold separately.**
Use 1/2" Grade 8 hex head bolts.
See page 114.

600-KNH-7530/7531 - regular use
602-KNH-7530/7531 - heavy duty use in tough conditions and high shank trip forces.

600-KNH-7585
602-KNH-7585



FITS: 43°, 47° and 50° C-Shank

For 43° shank use a 7° wedge.
See page 106.

FERTILIZER TYPE: Granular

TUBE SIZE: 1-1/4" (32mm) O.D.

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

TIP OPTIONS:

- 3/4" (19mm) tips:
- 600-TIP-7500 (cast chrome)
 - 600-TIP-7501 (regular carbide)
 - 600-TIP-7502 (extra-long nose carbide)
- 3" (76mm) tip:
- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

OVERVIEW: This granular fertilizer knife is used with a replaceable tip, giving you the flexibility to choose the right tip for your conditions.

NOTES: **Installation bolts sold separately.**
Use 1/2" Grade 8 hex head bolts.
See page 114.

600-KNH-7585 - regular use
602-KNH-7585 - heavy duty use in tough conditions and high shank trip forces.



602-KNH-7586

600-KNH-7586
602-KNH-7586



FITS: 43°, 47° and 50° C-Shank

For 43° shank use a 7° wedge.

See page 106.

FERTILIZER TYPE: Granular + Liquid or NH₃

TUBE SIZE:

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

NH₃: 1/4" (6mm) O.D. Liquid or PSI

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

TIP OPTIONS:

3/4" (19mm) tips:

- 600-TIP-7500 (cast chrome)
- 600-TIP-7501 (regular carbide)
- 600-TIP-7502 (extra-long nose carbide)

3" (76mm) tip:

- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

OVERVIEW: This liquid fertilizer knife is used with a replaceable tip, giving you the flexibility to choose the right tip for your conditions.

NOTES: **Installation bolts sold separately.**

Use 1/2" Grade 8 hex head bolts.

See page 114.

600-KNH-7586 - regular use

602-KNH-7586 - heavy duty use in tough conditions and high shank trip forces.



600-KNH-7587

600-KNH-7587
602-KNH-7587



FITS: 43°, 47° and 50° C-Shank

For 43° shank use a 7° wedge.

See page 106.

FERTILIZER TYPE: Granular + Cold Flow NH₃

TUBE SIZE:

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

NH₃: 1/2" (12mm) O.D.

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

TIP OPTIONS:

3/4" (19mm) tips:

- 600-TIP-7500 (cast chrome)
- 600-TIP-7501 (regular carbide)
- 600-TIP-7502 (extra-long nose carbide)

3" (76mm) tip:

- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

OVERVIEW: This NH₃ fertilizer knife is used with a replaceable tip, giving you the flexibility to choose the right tip for your conditions.

NOTES: **Installation bolts sold separately.**

Use 1/2" Grade 8 hex head bolts.

See page 114.

600-KNH-7587 - regular use

602-KNH-7587 - heavy duty use in tough conditions and high shank trip forces.



600-KNH-7522



FITS: 47° and 50° C-Shank

For 43° shank use a 7° wedge.

See page 106.

FERTILIZER TYPE: Cold Flow NH₃

TUBE SIZE: Dual 1/2" (12mm) O.D.

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

TIP OPTIONS:

3/4" (19mm) tips:

- 600-TIP-7500 (cast chrome)
- 600-TIP-7501 (regular carbide)
- 600-TIP-7502 (extra-long nose carbide)

3" (76mm) tip:

- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

OVERVIEW: 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.

NOTES: **Installation bolts sold separately.**

Use 1/2" Grade 8 hex head bolts.

See page 114.



600-KNH-7552



FITS: 43°, 47° and 50° C-Shank

For 43° shank use a 7° wedge. See page 106.

FERTILIZER TYPE: Granular + Cold Flow NH3

TUBE SIZE:

Granular: 1-1/4" (32mm) O.D. For different hose sizes a bushing may be used. See page 107.

NH3: 1/2" (12mm)

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

TIP OPTIONS:

3/4" (19mm) tips:

- 600-TIP-7500 (cast chrome)
- 600-TIP-7501 (regular carbide)
- 600-TIP-7502 (extra-long nose carbide)

3" (76mm) tip:

- 600-TIP-3011 (full carbide)

Tips sold separately. See page 17.

OVERVIEW: 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.

NOTES: **Installation bolts sold separately.** Use 1/2" Grade 8 hex head bolts. See page 114.

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



050-KNH-0820



FITS: 47° and 50° C-Shank

FERTILIZER TYPE: Cold Flow NH3

TUBE SIZE: 1/2" (12mm) O.D.

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

TIP OPTIONS: Any 200 Series Single Shoot Replaceable Tip, allowing you to choose the right tip for your conditions.

Tips sold separately. See pages 12-13.

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

NOTES: **Installation bolts sold separately.** Use 1/2" Grade 8 hex head bolts. See page 114.

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

Stabilize Your NH3 Hose



600-HHA-0750

This stainless steel hose holder mounts on any C-Shank to hold the NH3 hose in place and is completely height adjustable. See page 106.



SPEED-LOC™

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.

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.

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
- completely depressed locking pin that will not retract back out (damaged spring ball)
- cracks and other signs of wear
- loose bolts

INSTALLATION

When installing any product always use safety glasses and specified driver. For correct drivers please see page 79.

- 1 Firmly install product by sliding it onto the adapter by hand, over the locking pin, until it will no longer travel on the adapter.
- 2 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.
- 3 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 way and going into the field will NOT place the product onto the adapter.
- 4 Verify the pin has sprung into place of the hole in the product.
Failure to do so will cause loss of product.
- 5 After a few hundred acres of work, check adapters. If they are loose on the shank re-torque the bolts.



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

NOTE: New product may move slightly on the adapters. This is normal wear. If you notice any damage to the product or pin, replace damaged parts and 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.

REMOVAL

When removing the product always use safety glasses and Speed-Release Tool 200-REL-1010. See page 83.

- 1 Strike the product sharply with a hammer on both sides of the product to loosen the rust and dirt between the adapter and product.
- 2 Place the hook of the release tool on top of the product stem; pressing down on the handle to depress the locking pin.
- 3 While depressing the locking pin strike the top driving plate of the release tool with a hammer to move the product downward to clear the pin on the adapter and STOP. Driving the release tool beyond the pin will result in damaging the release tool, locking pin and spring ball. See illustration.
- 4 Remove the release tool; strike the top of the stem to remove the product the remainder of the way off the adapter body.
- 5 Clean and inspect the adapter and locking pin for damage. Follow installation instructions for reinstalling products.



200 SERIES QUICK CHANGE ADAPTERS



200-QCA-4700

FITS: 47° Shanks, Bourgault and Ezee-On field cultivators, air seeders and air drills.

BOLT HOLE SPACING: 1-3/4" (45mm) center to center

BOLTS: 1/2" (12mm) hex head bolts



200-QCA-4710

FITS: 47° Shanks, except Bourgault and Ezee-On.

BOLT HOLE SPACING: 1-3/4" (45mm) center to center

BOLTS: 7/16" (11mm) shank holes use oversized head plow bolts.

1/2" (12mm) shank holes use regular plow bolts.



200-QCA-5000

FITS: 50° Shanks, Bourgault and Morris Concept 2000.

BOLT HOLE SPACING: 2-1/4" (57mm) center to center

BOLTS: 1/2" (12mm) hex head bolts

NOTES: Not recommended for primary tillage, use only for seeding.



200-QCA-5010

FITS: 50° Shanks, except Bourgault Chisel Plows.

Can be used on a 43° shank with the addition of a 7° wedge (100-WDG-0700). See page 106.

BOLT HOLE SPACING: 2-1/4" (57mm) center to center

BOLTS: 1/2" (12mm) plow bolts

NOTES: Not recommended for deep, heavy tillage.



200-QCA-5020

FITS: European built shanks

BOLT HOLE SPACING: 63 - 80mm center to center

BOLTS: M12-Din608 10.9 plow bolts

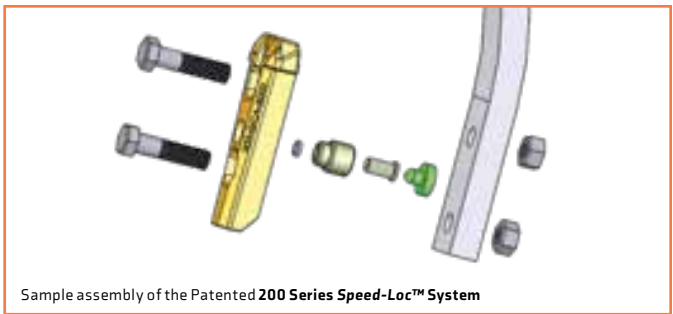


200-QCA-5030

FITS: Horsch Shanks

BOLT HOLE SPACING: 57mm center to center

BOLTS: M12-Din608 10.9 plow bolts



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

Don't forget the Speed Release Tool

The Speed Release Tool 200-REL-1010 must be used when removing openers, sweeps & spikes from the Speed-Loc™ Adapters. See page 83.



Not sure which adapter or bolts you need? Refer to the Speed-Loc™ adapter chart on pages 84-85. For a complete list of bolt lengths, see page 112.

410 SERIES QUICK CHANGE ADAPTERS



410-QCA-5000

FITS: 50° Shanks on Bourgault chisel plows and Morris Concept 2000 with 755 lb trip.

BOLT HOLE SPACING: 2-1/4" (57mm) center to center

BOLTS: See page 113.

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

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



410-QCA-5010

FITS: 50° Shanks on all chisel plows except Bourgault, Morris Concept 2000 with 755 lb trip and some John Deere models.

Can be used on a 43° shank with the addition of a 7° wedge(400-WDG-0700). See page 106.

BOLT HOLE SPACING: 1-3/4" to 3" (45 - 76mm) center to center slotted bolt hole spacing providing the ability to fit many different makes and models.

BOLTS: See page 113.

NOTES: 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.



410-QCA-5020

FITS: Lemken Shanks

BOLT HOLE SPACING: 1-3/4" (45mm) center to center

BOLTS: M12-DIN 608 10.9 plow bolts



410-QCA-5060

FITS: Köckerling

BOLT HOLE SPACING: N/A

BOLTS: M12-DIN 608 12.9 plow bolts



410-QCA-5080

FITS: 50° Shanks on some older and current model John Deere 2410 and 2430 chisels plows, and Summers Superchisel.

BOLT HOLE SPACING: 2-1/4" (57mm) center to center

BOLTS: For John Deere 1-1/4" shank use 1/2" x 3" Grade 8 hex head bolt prevailing torque lock nuts.

NOTE: Bushing 880-BSH-2000 is required for installation on all John Deere shanks having the split bottom bolt hole and for Summers chisel plows. See page 106.



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

SPEED-LOC™ REPLACEMENT PARTS



200-SLC-1001

Replacement bushing for all 200 Series adapters. Comes complete with dust seal.



200-SLC-1010

Replacement dust seal for all 200 and 410 Series adapters.



200-SLC-1020

Replacement locking pin for all 200 and 410 Series adapters purchased after Nov 1, 2008.



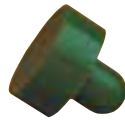
200-SLC-1030

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



200-SLC-1035

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



200-SLC-1037

Replacement spring ball for 200-QCA-5020 adapters.



200-SLC-1038

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



200-SLC-1039

Replacement spring ball for 200-QCA-5030 adapters.



410-SLC-1001

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



410-SLC-1022

Replacement locking pin for all 410 Series adapters purchased prior to Nov 1/08.

Use 200-SLC-1020 if 410 Series adapter was purchased after Nov 1/08.



410-SLC-1030

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



410-SLC-1050

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

SPEED-LOC™ DRIVERS



PART #	100-DRV-1010	100-DRV-1020	200-DRV-1013	200-DRV-1030	400-DRV-1000	400-DRV-1010
200-ASY-7523	■					
200-HOE-1700		■				
200-KNF-0800, 0801, 0810, 0811, 0813, 7560						■
200-KNF-0863, 7501, 7510, 7511, 7511P, 7512, 7520, 7521, 7524, 7525, 7530, 7531, 7542, 7551, 7553	■					
200-KNH-7551						■
200-TIP-0511, 0801, 0802, 0803, 0811 when used on 200-KNH-4000, 4010 OR 4020						■
200-TIP-1011						■
200-TIP-2011, 3000, 3001, 3011, 4011 when used on 200-KNH-4000, 4010 OR 4020			■			
200-VRT-1000, 1040					■	
410-ASY-0823, 7523						■
410-HLD-7500						■
410-KNF-0800, 0801, 0824, 0825, 0826, 0830, 0831, 7540, 7551, 7553, 7560						■
410-KNH-7524, 7526, 7540, 7551						■
410-VRT-1000					■	
SWEEPS & SPOONS					■	

SPEED-LOC™ ACCESSORIES



100-HAM-4000

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



200-REL-1010

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



200-QAS-4712

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

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	410-QCA-5080	400-WDG-0300
AFM												
180, 200, 250, 880	43°	7/16	1-3/4	■	■							
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			■						
BOURGALT												
FIELD CULTIVATORS 6200, 6800, 8800, 8810, 8910	47°	1/2	1-3/4	■								
SPS 270, 360	50°	1/2	2-1/4									
5710, 5810 AIR DRILL	47°	1/2	1-3/4	■								
CHISEL PLOWS 9200, 9400, 9500, 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												
255 TIGER-MATE II	47°	7/16	1-3/4	■								
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												
BOURGALT 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	410-QCA-5080	400-WDG-0300
EZEE-ON												
FIELD CULTIVATORS 3500, 3550, 5550	47°	1/2	1-3/4	■								
6000 WITH FIELD CULTIVATOR SHANK OPTION	47°	1/2	1-3/4	■								
6000 WITH CHISEL PLOW SHANK OPTION	50°	1/2	2-1/4			■						
ALL CHISEL PLOWS INCLUDING 7450	50°	1/2	2-1/4			■						
7560, 7550	47°	1/2	1-3/4	■								
FLEXI-COIL												
200, 400, 800	47°	7/16	1-3/4	■								
300, 340, 600	50°	1/2	2-1/4			■						
820 & 5T820 WITH 350 LB & 550 LB TRIPS	47°	1/2	1-3/4	■								
820 & 5T820 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			■						
FRIGSTAD												
FIELD CULTIVATORS	47°	7/16	1-3/4	■								
CHISEL PLOWS (OLDER MODELS)	50°	7/16	2-1/4			■						
CHISEL PLOWS	50°	1/2	2-1/4			■						
GASON												
5100 SERIES	46°	7/16	1-3/4	■								
SCARITILL & EH SCARITILL	47°	1/2	BOTH	■								
7100 ECOTILL	50°	1/2	2-1/4			■						
GESSNER												
HR 1200	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 BNOSS 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 ²	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			■						

NOTES: 200 Series adapters should not be used on a chisel plow or heavy duty cultivator unless being used for seeding. ¹ Sweeps will not work with this combination, for knife openers only. ² 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	410-QCA-5080	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								■		
JEFFROY													
450	47°	3/8	1-3/4	■									
JOHN DEERE³													
1000, 1010, 1050	43°	3/8	1-5/8	(NO ADAPTER FOR THIS APPLICATION)									
726, 2200, 2210, 2230	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 ⁵	2-1/4				■ ⁴			■ ⁵	■ ⁶		
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 ⁵	2-1/4							■ ⁵	■ ⁶		
2400, 2410, 2430	50°	1/2 ⁵	2-1/4							■ ⁵	■ ⁶		
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 L2 480	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	410-QCA-5080	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				■					■	

NOTES: ³ 880-BSH-2000 should be used with all split John Deere shanks. ⁴ Use wedge 880-WDG-0300 to correct pitch. ⁵ Shanks that are mounted with a vertical bolt (28" standard). ⁶ Shanks that are mounted with a horizontal bolt (28" and 32" standard).



TILLAGE

These sweeps and disks are manufactured with the highest grade steel available, using special heat treatment processes to create superior products with:

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



24-30% LONGER WEAR LIFE

♥ Increased durability | ♥ Reduced stem wear | ♥ Better value = more acres per dollar

DECREASING WEAR

A number of field tests have been conducted in North America and Europe. Results have shown that Blue Armour improves wear life by 24-30%. The variation in these results is attributed to the variety of soil and field conditions encountered during testing.

The sweeps, as shown in the photos to the right, were taken from a test conducted by an OEM in Germany on a small 4 metre machine. These tests substantiate that Blue Armour has raised the bar in wear life and overall value.



BTT REGULAR SWEEP
105 HA WORKED

BTT BLUE ARMOUR™ SWEEP
140 HA WORKED

Blue Armour is available in select products within our 200 and 410 Series Quick Change sweeps and spoons. It is unavailable in anything that has a wear pad welded to it.

LOOK FOR THE BLUE ARMOUR SHIELD.



200 SERIES



4" (200-PWV-0400)



7" (200-PWV-0700)



10" (200-PWV-1000)



12" (200-PWV-1208)



14" (200-PWV-1408)

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



5" (200-PWV-0500)



9" (200-PWV-0908)



11" (200-PWV-1108)



13" (200-PWV-1308)



16" (200-PWV-1608)

*These sweeps are only available in 5/16" (8mm) 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. Driver 400-DRV-1000 should be used with all 200 & 410 Series sweeps and spikes.



200-REL-1010

The Speed Release tool must be used when removing openers, sweeps & spikes from the *Speed-Loc™* Adapters. For more information see page 83.



200-GFO-0308

GOOSEFOOT

This "Goosefoot" tillage tool is 5/16" (8mm) thick by 2-1/2" (63mm) wide.

Designed specifically for vibrating S-tine cultivators.



200-PWV-0405

SWEEP W/ HARDENED WEAR PAD

This sweep is 1/4" (6mm) thick by 4" (100mm) wide with a 3/8" hardened wear pad (52-56 HRC) which increases the life expectancy.

The nose runs 1/2" (12mm) lower than the other 200 Series sweeps. This increased pitch improves penetration in hard or compacted ground and increases disturbance.

Ideal for primary tillage or banding fertilizer.



200-PWV-0405ML

MAX LIFE™ SWEEP W/ HARDENED WEAR PAD

The same as 200-PWV-0405 with the addition of heat applied, embedded carbide on the underside.

See pages 94-95.



200-PWV-0428
200-PWV-0528

SWEEP W/ HARDENED WEAR PAD

These sweeps are 5/16" (8mm) thick with a 3/8" x 2" hardened wear pad (52-56 HRC) which increases the life expectancy.

200-PWV-0428 is 4" (100mm) wide.

200-PWV-0528 is 5" (127mm) wide.

Designed mainly for fall tillage or deep working.



200-PWV-0738

SWEEP W/ HARDENED WEAR PAD

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



200-PWV-0928

SWEEP W/ HARDENED WEAR PAD

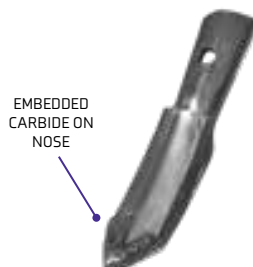
This sweep is 5/16" (8mm) thick by 9" (230mm) wide. It has a 3/8" x 2" hardened wear pad (52-56 HRC) that extends up the entire stem which increases its life expectancy.



200-SPK-0200

SPIKE

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



200-SPK-0200ML

MAX LIFE™ SPIKE

The same as 200-SPK-0200 with the addition of heat applied, embedded carbide on the nose.

See pages 94-95.



200-SPK-0215

SPIKE

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



200-SPK-0230

SPIKE

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

This tool is made specifically for slurry injection.

410 SERIES



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



Proper Installation & Removal of Speed-Loc™ Products



400-DRV-1000

To ensure proper installation of Speed-Loc™ products, the appropriate driver should be used. Driver 400-DRV-1000 should be used with all 200 & 410 Series sweeps and spikes.



200-REL-1010

The Speed Release tool must be used when removing openers, sweeps & spikes from the Speed-Loc™ Adapters.

For more information see page 83.



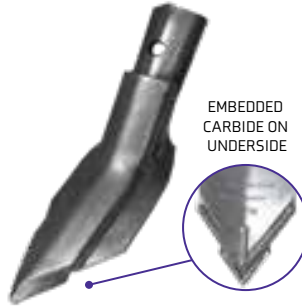
410-PWV-0418

SWEEP W/ HARDENED WEAR PAD

This sweep has a 3/8" by 2" hardened wear pad (52-56 HRC) for longer life. The sweep is 5/16" (8mm) thick and 4" (100mm) wide.

This sweep runs at a 13° pitch, which is steeper than the regular 410 sweep and provides more disturbance.

This tool is ideal for primary tillage or banding fertilizer.



410-PWV-0418ML

MAX LIFE™ SWEEP W/
HARDENED WEAR PAD

The same as **410-PWV-0418** with the addition of heat applied, embedded carbide on the underside.

See pages 94-95.



410-PWV-0518

SWEEP W/ HARDENED WEAR PAD

This sweep is 5/16" (8mm) thick by 5" (127mm) wide. It has a 3/8" x 2" hardened wear pad (52-56 HRC) for longer life.

It runs at a 3° pitch, the same as a standard sweep.

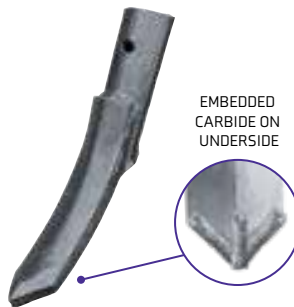


410-SPK-0200

SPIKE

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

This tool is ideal for primary tillage or banding fertilizer.



410-SPK-0200ML

MAX LIFE™ SPIKE

The same as 410-SPK-0200 with the addition of heat applied, embedded carbide on the underside.

See pages 94-95.

THE EXTENDED STEM ADVANTAGE

Bolt-on sweeps fit all makes and models of tillage equipment. The stem, or neck, on these bolt-on sweeps are longer than that of our competitors. This extended stem allows us to punch the bolt holes higher than on any other brand of sweep.

The results are reduced stem breakage, 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, while less stone damage on the bottom bolt means fewer problems when changing shovels.

The extended stem feature saves you time and money.



043 SERIES

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

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

047 SERIES

FITS: Field cultivators with 47° shanks and 1-3/4" (45mm) hole centers.

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

050 SERIES

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

SIZE	THICKNESS	PRODUCT NO.
6" (150mm)	1/4" (6mm)	050-PWV-0600
8" (200mm)	1/4" (6mm)	050-PWV-0800
10" (254mm)	1/4" (6mm)	050-PWV-1000
12" (305mm)	1/4" (6mm)	050-PWV-1200

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



070-RCH-0451
REVERSIBLE CHISEL

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



070-RCH-0452
REVERSIBLE CHISEL

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



070-RSP-0200A
REVERSIBLE SPIKE

This reversible spike is 2" (50mm) wide, 5/8" (16mm) thick and 14-1/2" (368mm) long. It has 1-3/4" to 2" (45 - 57mm) bolt hole spacing. It is shorter than our other two reversible spikes, and is designed for light- to medium-duty field cultivators or for chisel plows where ground clearance in transport is a concern.



070-RSP-0210A
REVERSIBLE SPIKE

FITS: Bourgault chisel plow and Morris LH 755 shank.

On 43° machines the shank curvature may interfere with installation.

This reversible spike is 2" (50mm) wide, 5/8" (16mm) thick and 17" (431mm) long. It has 2-1/4" (57mm) bolt hole spacing and is flat through the bolt hole section.



070-RSP-0220A
REVERSIBLE SPIKE

FITS: Any chisel plow shank except Bourgault chisel plow and Morris LH 755 shank.

On 43° machines the shank curvature may interfere with installation.

This reversible spike is 2" (50mm) wide, 5/8" (16mm) thick and 16-1/2" (419mm) long. It has 2-1/4" to 2-1/2" (57 - 63mm) bolt hole spacing and is curved at the bolt hole section.



030-HLD-2000
HOLDER

FITS: John Deere 2210 47° shank, Salford Curved Flat S-Tine two piece shank.

This holder allows the use of our 200 Series tips, thus providing a much longer wearing alternative to what is currently common in the industry.

Shown with 200-TIP-0802.



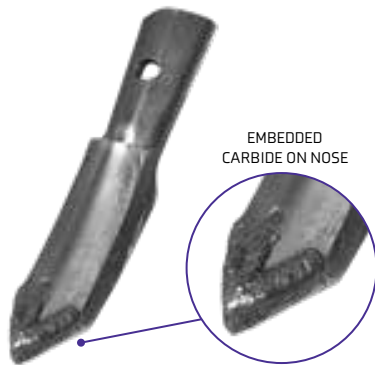
MAX LIFE

EXTEND THE LIFE OF YOUR WEAR PARTS.

The *MAX LIFE*[™] process infuses tungsten carbide onto wear parts, creating the toughest, most economical, and longest-lasting tillage tools available. *MAX LIFE* tungsten carbide hard facing is cost effective and increases the useful life of wear parts longer than other hard facing processes.

Years of rigorous field tests consistently show that the useful life is extended many times over, depending on the application.

TO LEARN MORE VISIT maxlifeproducts.ca.

MAX LIFE™ TUNGSTEN CARBIDE SWEEPS & SPIKES**200-SPK-0200ML**

QUICK CHANGE SPIKE

FITS: 200 Series Speed-Loc™ (47° shank)

Heat applied, embedded carbide has been added to the nose.

The spike is 5/8" (15mm) thick, 2-1/4" (57mm) wide and 6" (150mm) long. It has a hardened wear pad (52-56 HRC) for extra life.

Ideal for primary tillage or banding fertilizer.

**200-PWV-0405ML**

QUICK CHANGE SWEEP

FITS: 200 Series Speed-Loc™ (47° shank)

Heat applied, embedded carbide has been added to the underside.

The sweep is 1/4" (6mm) thick and 4" (100mm) wide. It has a hardened wear pad (52-56 HRC) which increases the life expectancy.

The nose on this sweep runs 1/2" (12mm) lower than the other 200 Series sweeps. This increased pitch improves penetration in hard or compacted ground.

Ideal for fall tillage or deep working.

**410-SPK-0200ML**

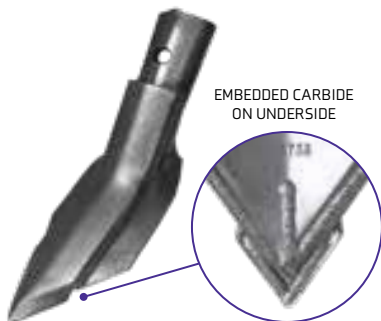
QUICK CHANGE HD SPIKE

FITS: 410 Series Speed-Loc™ (47° shank)

Heat applied, embedded carbide has been added to the underside.

The spike is 2" (50mm) wide, 5/8" (15mm) thick and 9" (230mm) long. It has a hardened wear pad (52-56 HRC) for extra life.

Ideal for primary tillage or banding fertilizer.

**410-PWV-0418ML**

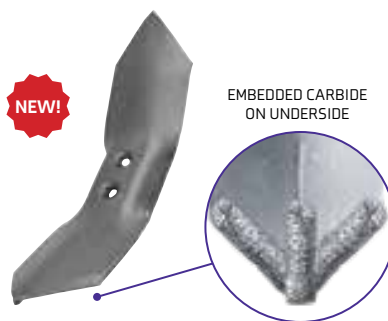
QUICK CHANGE SWEEP

FITS: 410 Series Speed-Loc™ (47° shank)

Heat applied, embedded carbide has been added to the underside.

The sweep has a 3/8" hardened wear pad (52-56 HRC) for longer life. The sweep is 5/16" (8mm) thick and 4" (100mm) wide.

This sweep runs at a 13° pitch, which is steeper than the regular 410 sweep.

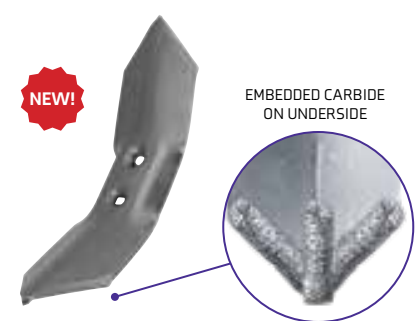
**070-RCH-0451ML**

REVERSIBLE CHISEL

This reversible chisel has heat applied, embedded carbide added to the underside.

It is 5/16" (8mm) thick and 4" (100mm) wide. It has 1-3/4" (45mm) bolt hole spacing to fit light- and medium-duty field cultivators.

It is used mostly for primary tillage in the fall or early spring.

**070-RCH-0452ML**

REVERSIBLE CHISEL

This reversible chisel has heat applied, embedded carbide added to the underside.

It is 5/16" (8mm) thick and 4" (100mm) wide. It has 2-1/4" to 2-1/2" (57 - 63mm) bolt hole spacing.

It is used mostly for primary tillage in the fall or early spring.

MAX LIFE™ TUNGSTEN CARBIDE HARROW TINES

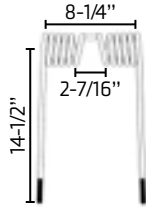
3 YEAR LIMITED WARRANTY*

NEW! **010-HAR-3814ML**

COIL I.D.: 1-15/16"

DIMENSIONS: 3/8" X 8-1/4" X 14-1/2"

FITS:
Summers/Herman (OEM #8H1110S)

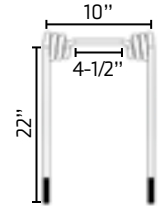


NEW! **010-HAR-5001ML**

COIL I.D.: 2-11/16"

DIMENSIONS: 1/2" X 10" X 22"

FITS:
Bourgault XR770 (OEM #2070-79, 2070-79-01)

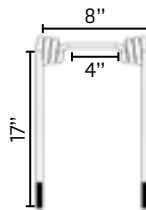


010-HAR-3817ML

COIL I.D.: 1-13/16"

DIMENSIONS: 3/8" X 8" X 17"

FITS:
Bourgault (OEM #2070-27)

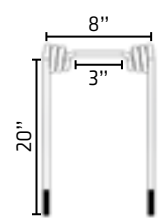


NEW! **010-HAR-5008ML**

COIL I.D.: 2-5/8"

DIMENSIONS: 1/2" X 8" X 20"

FITS:
Bourgault 9500CP (OEM #2070-76)

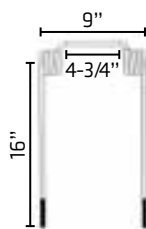


NEW! **010-HAR-4309ML**

COIL I.D.: 2-1/16"

DIMENSIONS: 7/16" X 9" X 16"

FITS:
John Deere (OEM #N236890)

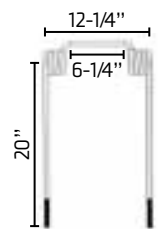


NEW! **010-HAR-5020ML**

COIL I.D.: 2"

DIMENSIONS: 1/2" X 12-1/4" X 20"

FITS:
John Deere (OEM #N236516)

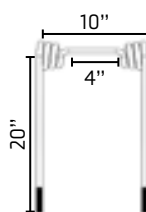


NEW! **010-HAR-4375ML**

COIL I.D.: 2-1/8"

DIMENSIONS: 7/16" X 10" X 20"

FITS:
Bourgault/Delmar (OEM #2070-77, #2070-77-01)

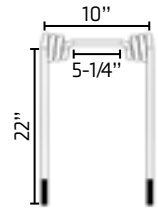


010-HAR-5022ML

COIL I.D.: 2-3/4"

DIMENSIONS: 1/2" X 10" X 22"

FITS:
Elmer's (OEM #21370, 12137000)

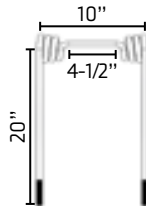


010-HAR-5000ML

COIL I.D.: 2-9/16"

DIMENSIONS: 1/2" X 10" X 20"

FITS:
Salford (OEM #R60000)

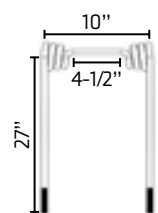


NEW! **010-HAR-5027ML**

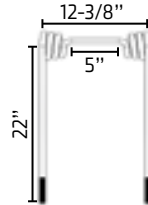
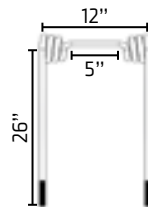
COIL I.D.: 2-9/16"

DIMENSIONS: 1/2" X 10" X 27"

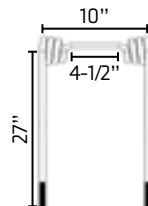
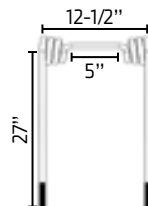
FITS:
Morris (OEM #H27900)



*Harrow tines are warranted from the date of purchase against breakage for three years prorated to a maximum of 100%.

NEW!**010-HAR-5028ML UNIVERSAL****COIL I.D.:** 2-9/16"**DIMENSIONS:** 1/2" X 12-3/8" X 22"**FITS:**CNH/Flexi-Coil (OEM #87505461)
Summers/Herman (OEM #8H1180S)**010-HAR-5625ML UNIVERSAL****COIL I.D.:** 2-5/8"**DIMENSIONS:** 9/16" X 12" X 26"**FITS:**Bourgault/Delmar (OEM #2070-28)
Brandt (OEM #B021750)
Degelman (OEM #143112)
Flexi-Coil (OEM #90081C, 87445314)
Gates (OEM #120240, 120241)
Pillar (OEM #212-033, 212-145)
Rite Way (OEM #404-0010, 404-0028)
Summers/Herman (OEM #8H1190S)**NEW!****010-HAR-5627ML****COIL I.D.:** 2-5/8"**DIMENSIONS:** 9/16" X 10" X 27"**FITS:**

Morris (OEM #H49499)

**010-HAR-6250ML UNIVERSAL****COIL I.D.:** 2-5/8"**DIMENSIONS:** 5/8" X 12-1/2" X 27"**FITS:**Bourgault (OEM #2070-70, 8606-13)
Brandt (OEM #B021751, C516584)
Degelman (OEM #143113, 143509)
Gates (OEM #120229, 120230)
Summers/Herman (OEM #8H1195S)

“

**MAX LIFE™ Harrow Tines
have proven to outperform a
regular tine many times over.**

There is no more need to worry about excessive tine wear in dry soil conditions prior to the fall rain. People tend to put off harrowing when the soil is too dry but the sooner you can harrow straw and chaff behind the combine maximizes the benefits of straw management and even germination the next year.

This new product will now change a harrowing/time management decision and there is a good chance the life of this tine will be close to the life of the harrow bar itself.

I wouldn't hesitate to recommend the MAX LIFE tine to anyone.

Shawn Blandin
Synergy Farms, St. Brieux, SK

”



10,000 acres of wear comparing a MAX LIFE tine to a regular tine.

MAX LIFE™ TUNGSTEN CARBIDE DEEP RIPPER

The Deep Ripper is used to penetrate compacted soils and mechanically break up the soil hard pan. Replaceable wings allow for quick and easy change overs to different wing profiles without having to remove the entire ripper from your machine. Embedded carbide is added to the underside of the wings and the main body for extra-long wear life.



672-ASY-2000

FITS:

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

BOLTS: 672-BNC-2000 bolt & nut combo (included with 672-ASY-2000).

OVERVIEW: The main body 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-ASY-2000

Bolt & Nut Combos (672-BNC-2000) and Caps (672-CAP-2000) included with 672-ASY-2000.



672-WNG-2000

PROFILE: N/A

WIDTH: No wings, just standard cap



672-WNG-2007

PROFILE: Standard

WIDTH: 7" (178mm)



672-WNG-2112

PROFILE: Flat Profile for Low Draft

WIDTH: 12" (305mm)

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.

WHY CONSIDER FALL TILLAGE?

It can improve your bottom line.

- Incorporates organic matter back into the soil, feeding soil microbes and improving soil health.
- Breaks up hard-pan to encourage strong root growth and allow spring snow melt to soak in.
- Suppresses stubborn weeds and reduces the possibility of chemical resistance.
- Aerates the soil, allowing oxygen and nutrients to flow through and feed microbes.
- Exposes black soil, warming soil quicker in the spring and promoting faster germination.
- Smooths uneven ground and wheel ruts while drying out wet fields.
- Saves time in the spring by applying fertilizer with fall tillage.



FIND FALL TILLAGE PRODUCTS TO FIT YOUR FARM

**Blue Armour™
Sweeps**
PG 87-93

**MAX LIFE™
Harrow Tines**
PG 96-97

**Non-Freeze
Fertilizer Knives**
PG 70-74

Spikes
PG 89-93

**Niaux 200
Disks**
PG 100-104

BOOST YOUR PERFORMANCE



The research and development efforts in metallurgy and heat treatment have resulted in a line of coulters and disk blades that outperform the competition. Special boron-carbon steel along with patented transitional heat treatment results in a consistently longer wearing blade with less dulling on the leading edge without sacrificing durability.

Niaux 200 is the disk blade of choice for leading OEMs and farmers around the world. When replacing coulters or disk blades on your seeding or tillage equipment, ask for Niaux 200 quality blades.

LONG-LASTING

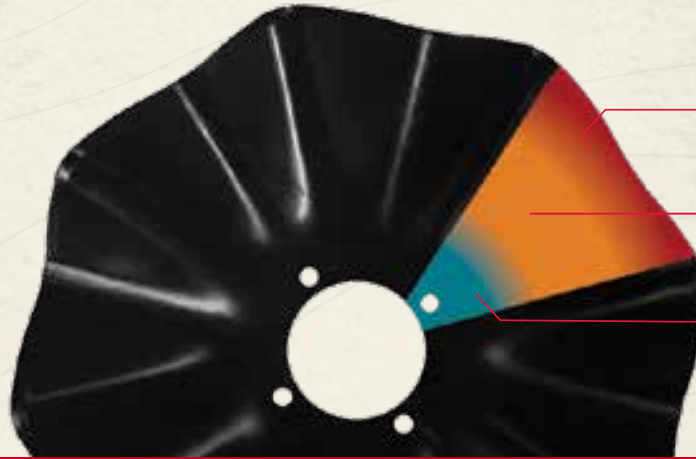
Thanks to increased hardness in the working area, Niaux 200 disks have a 20-40% longer lifespan than other disks on the market.

EFFECTIVE

Niaux 200 disk blades ensure a perfect cutting quality throughout their lifetime.

ROBUST

Niaux 200 disk blades are very resilient and are designed to resist extreme shocks and deformations. **Backed with our life time replacement warranty against breakage.**



Maximum hardness & wear resistance
(55-58 HRC)

Transition area
(50-55 HRC)

Maximum flexibility
(48-50 HRC)

TO LEARN MORE VISIT forgesdeniaux.com or tillageertools.ca.



500-200-1000	
FITS: BOURGAULT	
Bourgault MRB® III, 3720 Coulter Drill	
Replaces OEM Part #	2085-04
Disk Type	Flat Coulter Single Bevel
Dimensions	20-1/2" x 5mm
Pilot Hole Size	3.660"
# of Bolt Holes	4 Beveled Holes



500-200-1015	
FITS: BOURGAULT	
Bourgault 3820 Coulter Drill	
Replaces OEM Part #	2085-05
Disk Type	Flat Coulter Single Bevel
Dimensions	20-1/2" x 5mm
Pilot Hole Size	3.660"
# of Bolt Holes	4



500-200-1035	
FITS: BOURGAULT	
Bourgault MRB® I / Series 20	
Replaces OEM Part #	6407-25
Disk Type	Flat Coulter Dbl Bevel
Dimensions	18-3/8" x 4.5mm
Pilot Hole Size	3.645"
# of Bolt Holes	4



500-200-1040	
FITS: BOURGAULT	
Bourgault MRB® II / Series 25	
Replaces OEM Part #	6717-99
Disk Type	Flat Coulter Dbl Bevel
Dimensions	20-3/8" x 4.5mm
Pilot Hole Size	3.645"
# of Bolt Holes	4



500-200-1025

FITS: **AMITY/CONCORD**

Replaces OEM Part #	34354
Disk Type	Flat Coulter
Dimensions	18" x 5mm
Pilot Hole Size	3-5/8"
# of Bolt Holes	4



500-200-1005

FITS: **CNH**

Case: IH 500, 500T
NH: P2080 & NH P2085

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



517-200-1020

FITS: **CNH**

CIH, DMI: 530C, 730C

Replaces OEM Part #	87457566
Disk Type	Plain Concave
Dimensions	24-3/4" x 6.5mm
Pilot Hole Size	4"
# of Bolt Holes	5



510-200-1000

FITS: **GREAT PLAINS**

Turbo Chopper, Turbo-Max , Turbo Till & Turbo Till II

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



511-200-1000

FITS: **GREAT PLAINS**

Vantage I Fertilizer Coulter, Zone Coulter & HD Utility Coulter

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



500-200-1010

FITS: **JOHN DEERE**

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

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



517-200-1030	
FITS: JOHN DEERE & NORWOOD	
JD: 2680H Norwood: Kwik-Till	
Replaces OEM Part #	JD NS90340003 NW 18199A & 19028A
Disk Type	Plain Concave Flat Center
Dimensions	20" x 6.5mm
Pilot Hole Size	N/A
# of Bolt Holes	4



522-200-1040	
FITS: JOHN DEERE & NORWOOD	
JD: 2680H Norwood: Kwik-Till	
Replaces OEM Part #	JD NS90340002 NW 18354A
Disk Type	Notched Concave Flat Center
Dimensions	20" x 6.5mm
Pilot Hole Size	N/A
# of Bolt Holes	4



522-200-1000	
FITS: LEMKEN	
Heliodor 8	
Replaces OEM Part #	3490471
Disk Type	Notched Concave
Dimensions	18" x 5mm
Pilot Hole Size	N/A
# of Bolt Holes	6



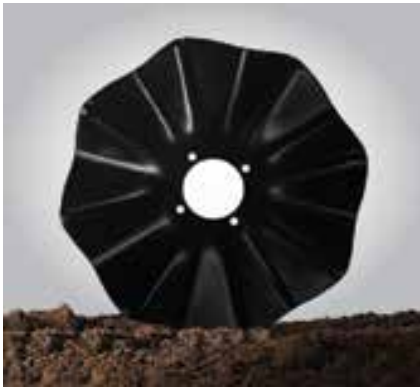
522-200-1005	
FITS: LEMKEN	
Rubin 9	
Replaces OEM Part #	3490467
Disk Type	Notched Concave
Dimensions	24-5/8" x 6mm
Pilot Hole Size	N/A
# of Bolt Holes	5



522-200-1035	
FITS: LEMKEN	
Heliodor 9	
Replaces OEM Part #	34910027
Disk Type	Notched Concave
Dimensions	20" x 5mm
Pilot Hole Size	N/A
# of Bolt Holes	4



500-200-1020	
FITS: PILLAR	
DH Series	
Replaces OEM Part #	206-007
Disk Type	Flat Coulter
Dimensions	18" x 5mm
Pilot Hole Size	3-5/8"
# of Bolt Holes	4



505-200-1000

FITS: **SALFORD**

Salford I-1100 & Salford I-1200

Replaces OEM Part #	10010764 & CT512008
Disk Type	8 Wave Coultter
Dimensions	20" x 4.5mm
Pilot Hole Size	4"
# of Bolt Holes	4

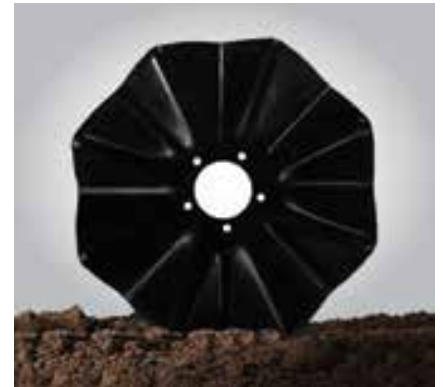


505-200-1005

FITS: **SALFORD**

Salford I-1100 & Salford I-1200

Replaces OEM Part #	10010766 & CT512013
Disk Type	13 Wave Coultter
Dimensions	20" x 4.5mm
Pilot Hole Size	4"
# of Bolt Holes	4



505-200-1010

FITS: **SALFORD**

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

Replaces OEM Part #	10010768 & CT512208
Disk Type	8 Wave Coultter
Dimensions	21-3/4" x 5mm
Pilot Hole Size	4"
# of Bolt Holes	5



505-200-1015

FITS: **SALFORD**

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

Replaces OEM Part #	CT512213 & 10010769
Disk Type	13 Wave Coultter
Dimensions	22-3/4" x 5mm
Pilot Hole Size	4"
# of Bolt Holes	5



517-200-1015 & 517-200-1017

FITS: **SALFORD & SUNFLOWER**

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

Replaces OEM Part #	CT512250 & 10010771
Disk Type	Plain Concave
Dimensions	
517-200-1015	22-1/4" x 5mm
517-200-1017	22-1/4" x 6.5mm
Pilot Hole Size	4"
# of Bolt Holes	5

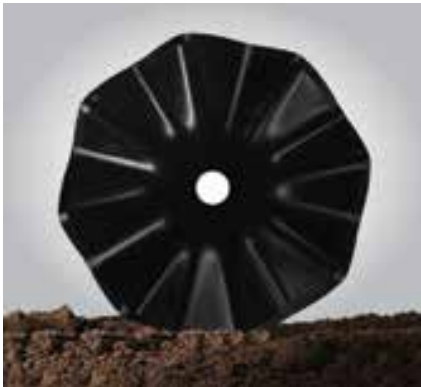


517-200-1020

FITS: **SALFORD**

Optional on Salford I-5100 & 5200

Replaces OEM Part #	CT503059 & 10010727
Disk Type	Plain Concave
Dimensions	24-3/4" x 6.5mm
Pilot Hole Size	4"
# of Bolt Holes	5



505-200-1020	
FITS: SUMMERS	
Summers Super Coulters & Coulters Chisel	
Replaces OEM Part #	8J1020
Disk Type	8 Wave Coulters
Dimensions	20" x 6.5mm
Pilot Hole Size	2" Round
# of Bolt Holes	N/A



505-200-1025	
FITS: SUMMERS	
Summers Super Coulters & Coulters Chisel	
Replaces OEM Part #	8J1021N
Disk Type	8 Wave Notch Coulters
Dimensions	22-1/2" x 6.5mm
Pilot Hole Size	2" Round
# of Bolt Holes	N/A



515-200-1000	
FITS: SUMMERS	
Summers DK Series Disk	
Replaces OEM Part #	8K5026
Disk Type	Plain Concave
Dimensions	26-1/4" x 6.5mm
Pilot Hole Size	2" Round
# of Bolt Holes	N/A



521-200-1000	
FITS: SUMMERS	
Summers DT Series Disk	
Replaces OEM Part #	8K5025N
Disk Type	Notched Concave
Dimensions	25" x 8mm
Pilot Hole Size	2" Round
# of Bolt Holes	N/A



500-200-1030	
FITS: YETTER & AGPRO	
Replaces OEM Part #	Yetter 2571-169
Disk Type	Flat Coulters
Dimensions	18" x 4.5mm
Pilot Hole Size	3-15/16" Round
# of Bolt Holes	4

**AVAILABLE SOON!
BLADES TO FIT**

AMAZONE
22" x 5mm
Notched

SPEED-TILLER / CASE IH
24" x 6.5mm
Notched

WISHEK
28" x 8mm
Smooth

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ACCESSORIES & REFERENCE

- ACCESSORIES
- BOLT SIZE & FASTENER CHARTS
- EXPANDED OPENER DRAWINGS
- INSTALLATION NOTES
- PRODUCT DEPTH CHART
- REPLACEMENT PARTS

ACCESSORIES



100-WDG-0700	200-WDG-0206	200-WDG-0506	200-WDG-1000	200-WDG-1006	400-WDG-0300	400-WDG-0700
This 7° urethane wedge is designed to correct the pitch of the 100-QCA-5010 and the 200-QCA-5010 adapters on 43° shanks.	This 2° urethane wedge has 45 - 80mm bolt hole spacing. It is used to obtain proper sweep pitch on certain shanks.	This 5° urethane wedge has 45 - 80mm bolt hole spacing. It is used to obtain proper sweep pitch on certain shanks.	This 10° urethane wedge has 45 - 80mm bolt hole spacing. It is used to obtain proper sweep pitch on certain shanks.	This 10° urethane wedge has 45 - 80mm bolt hole spacing. It is used to obtain proper sweep pitch on certain shanks.	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.	This 7° urethane wedge is designed to correct the pitch of the 410-QCA-5010 adapter when installing on a 43° shank. It should also be used with the 600 Series knives when installing on a 43° shank.



880-WDG-0300	880-WDG-0301	880-BSH-1000	880-BSH-2000	200-QAS-4711	047-ACC-1000	047-ACC-1002
This cast wedge adapter is designed for our 047, 610 and 612 seeding openers on all John Deere shanks.	This cast wedge adapter is designed for our 047, 610 and 612 seeding openers on all 50° curved bottom shanks.	This bushing is to be used with all VOS tips.	This bushing is to be used on John Deere split shanks with bolt ons & QCAs.	This sub-plate is used in conjunction with the 200-QCA-4710 adapter on the Kongskilde VFM shank.	Helps direct the flow of seed in a focused row behind the 047-ASY-1000, 047-ASY-1005P or 675 Series openers.	2-1/4" center to center hole spacing. 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.



047-CAP-1000	600-HHA-0750	614-ACC-1000	650-ACC-1000	650-ACC-1010	880-ORF-0001	680-ACC-0001
This cap is a replacement cap for the 047-ASY-1000 and 047-ASY-1005P. See expanded assemblies for the right cap for your opener.	This stainless steel hose holder mounts on any C-shank to hold the NH3 hose in place. It is completely height adjustable.	This bushing is necessary when using NH3 with the 614-TIP-2711 and 614-TIP-2712.	This bracket limits the tripping distance of 650 fertilizer knives on JD 1870 Conserva Pak drills. Use with all fertilizer knives excluding the 650-HLD-1000GL & 650-HLD-1000GN knives.	This bracket limits the tripping distance of 650 fertilizer knives on JD 1870 Conserva Pak drills. Use with the 650-HLD-1000GL & 650-HLD-1000GN knives.	This orifice is used to concentrate and direct the flow of liquid fertilizer on the 200-VRT-1061 and 200-KNF-0863.	This spacer plate is required for the Concord when installing any edge on product.



680-ACC-0002	680-ACC-0003	680-ACC-0004	680-ACC-1000	694-ACC-1000	880-ASY-1010	880-CPL-1010
Spacer required when a 680-ASY-4026 is mounted on a Bourgault 3310 & 3320 PHD Drill.	Spacer required when a 680-ASY-4020 is mounted on a Bourgault 3310 & 3320 PHD Drill.	This conversion tab replaces the fertilizer tube on the 680-HLD-2000 so it can be converted to a single shoot opener.	Helps direct the flow of seed in a focused row behind the opener. Use with 680-ASY-1000 openers prior to 2012.	This spacer is required when installing Titan Openers on anything except Concord.	This assembly is required to convert the standard 3/16" (5mm) O.D. liquid phos hose to 1/4" I.D. liquid phos delivery hoses on the 047-ASY-1005P and 680-ASY-1000P.	This barb and compression fitting are used when going from 1/4" (6mm) I.D. liquid phos tube to 3/16" stainless steel liquid phos tubes.



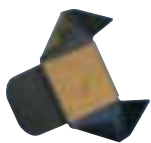
880-CPL-2500	880-GRD-1000	880-GRD-1010	880-HCL-0001	880-HCL-0002	880-HCL-0004
This coupler is used to attach a 1/4" (6mm) O.D. liquid phos tube. Included with all new liquid phos openers.	This guard is used to protect liquid hose on all side band liquid openers in heavy trash conditions.	This guard is used to protect liquid phos tubes on 047 & 680 liquid phos openers in heavy trash conditions.	This clip eliminates hose movement, as the sharp corners embed into the granular pipe.	Spacer clip may be required on the rear tube of the following side band openers: 683, 684, 686, 693, 694 where 1-1/8" (29mm) hose is used.	This 3/4" ear clamp is used to secure the rubber sleeve to the 1/2" pipe to protect the liquid phos tube.

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" (28mm) O.D. air hose up to a 1-1/4" (32mm) O.D. air hose.	This bushing adapts from 1-1/8" (28mm) O.D. air hose to 1-1/8" (28mm) O.D. air hose.	This bushing is needed when you are using 1-1/8" (28mm) O.D. hose.	This bushing adapts from 1-1/4" (32mm) O.D. air hose up to a 1-1/2" (38mm) O.D. air hose.	This bushing adapts 1-1/2" (38mm) O.D. hose to 1-1/4" (32mm) hose.

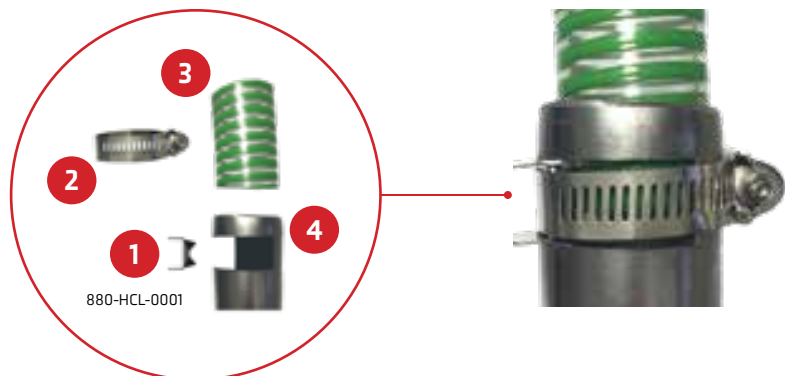
HOSES POPPING OUT? DON'T FORGET THE HOSE CLIP



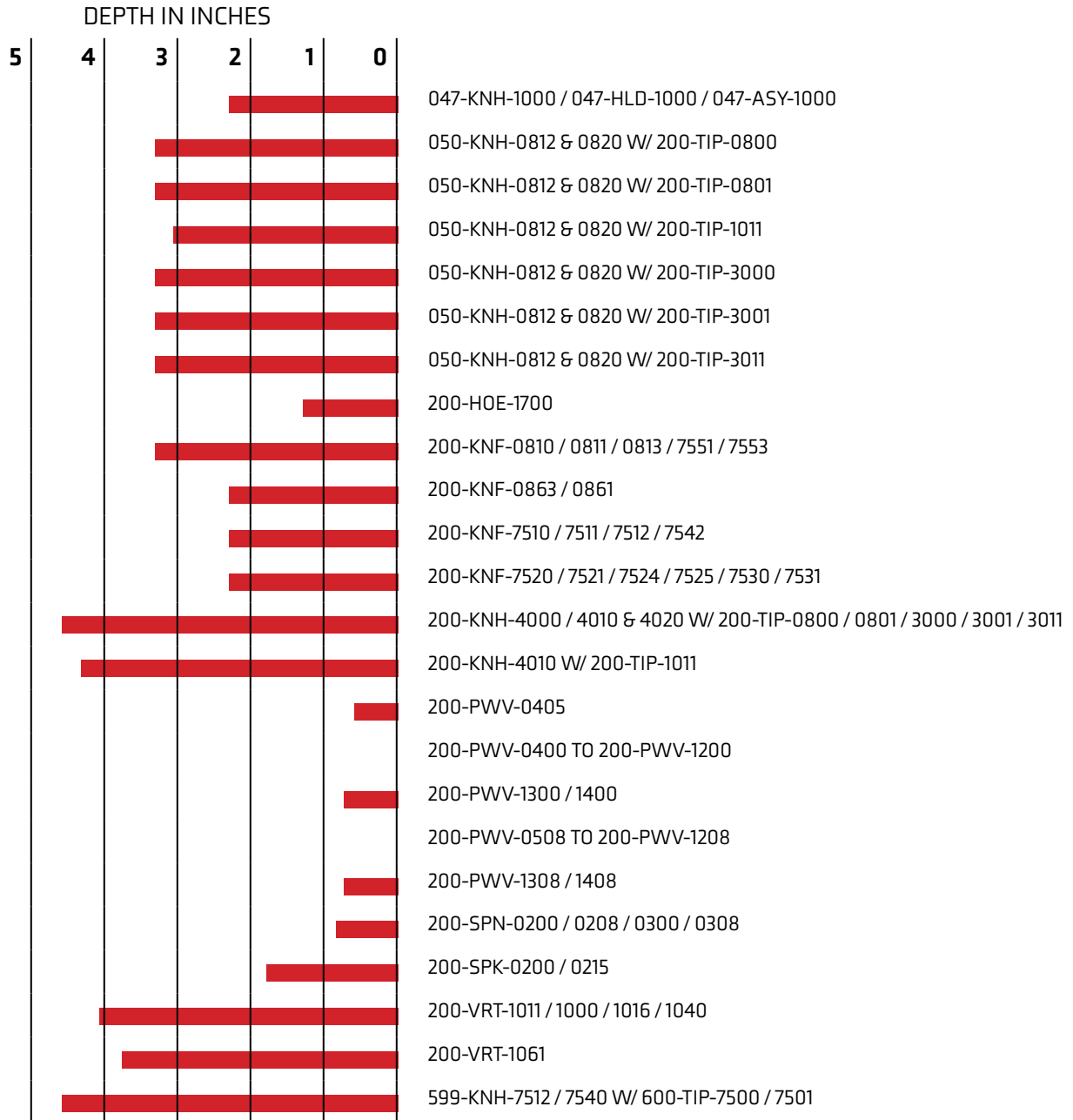
880-HCL-0001

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

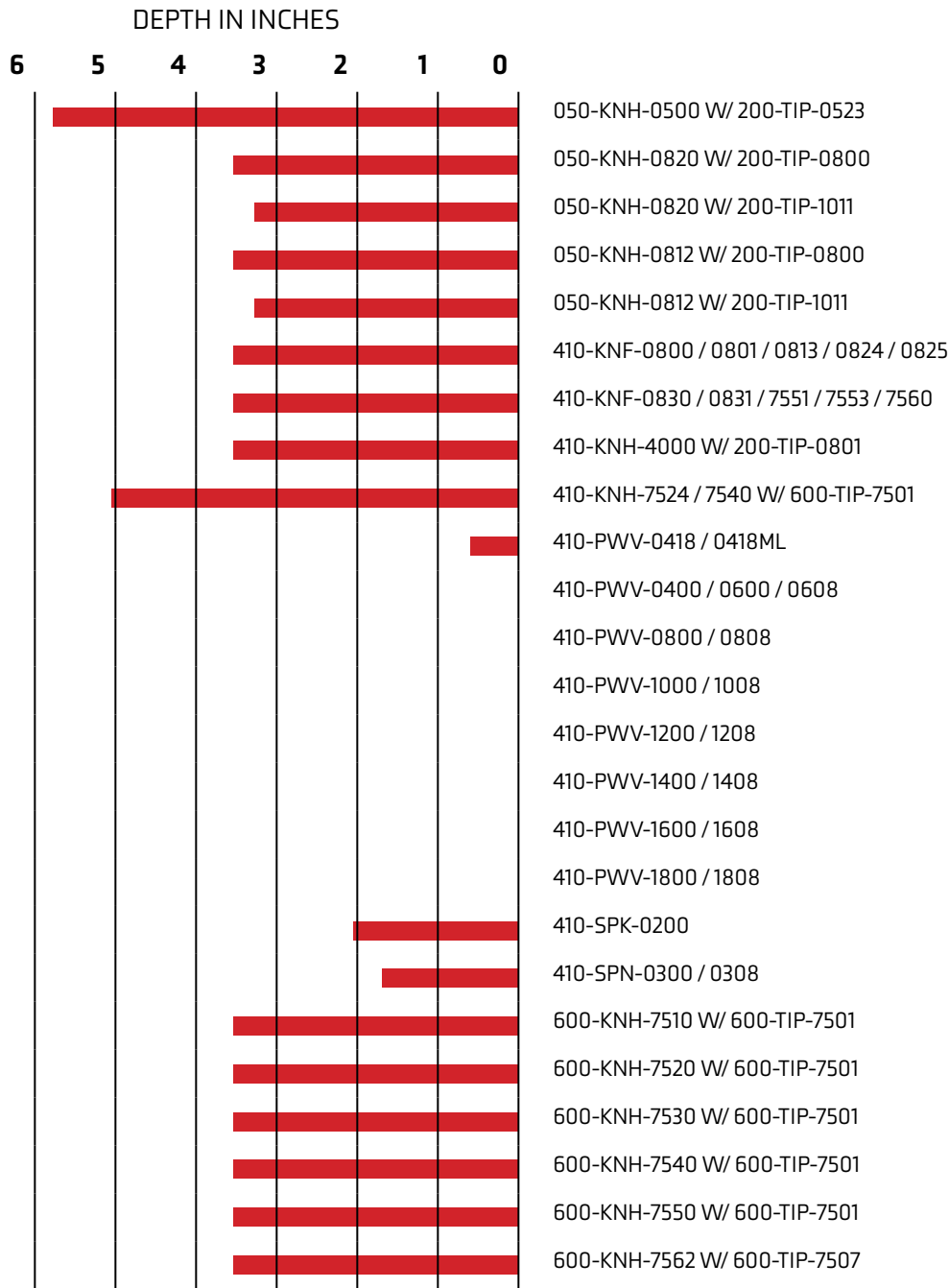
For proper installation see illustration to right.



200 SERIES



410 SERIES



C-SHANK

FOR 047-ASY-1000, 610 & 612 SERIES OPENERS

- **1" SHANKS** use 1/2" x 2" Grade 8 carriage bolt (961-CRG-2005)
- **1-1/4" SHANKS** use 1/2" x 2-1/4" Grade 8 carriage bolt (961-CRG-2255)
- **50° SHANK other than Bourgault or Ezee-On** require a cast wedge adapter (880-WDG-0300 or 880-WDG-0301). See page 106.

When using wedges, different bolt lengths are required:

- **1" SHANKS** use 1/2" x 2-1/4" Grade 8 bolt (961-CRG-2255)
- **1-1/4" SHANKS** 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 047-VRT-1040 and 047-KNH-1000 refer to page 19.

FOR 600 & 620 SERIES OPENERS

- Use 1/2" Hex head Grade 8 bolt.
- Blue Loctite is also recommended

Torque shank bolts to 120 - 130 ft/lbs.

EDGE ON

FOR BOURGAULT 3310 & 3320 EDGE ON SHANK

- **Use 3/8" x 2-1/4" Grade 8 Carriage bolts** (960-CRG-3755)
- **Use 3/8" Stover Lock Nut** (906-NPT-3755)
- **680-ASY-4020** openers require a spacer (680-ACC-0003)
- **680-ASY-4026** openers require a spacer (680-ACC-0002)

FOR MORRIS MAXIM:

- **Use 3/8" x 2-1/4" Grade 8 carriage bolts** (960-CRG-3755)
- **Use 3/8" Stover Lock Nut** (906-NPT-3755)

For more detailed installation instructions refer to the individual part pages.

PACKING CONSIDERATIONS

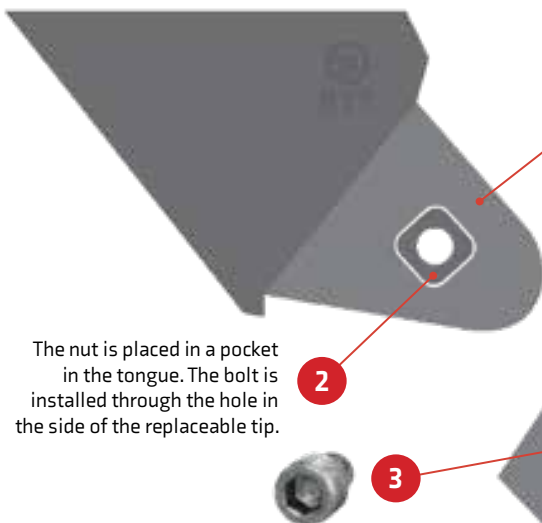
On-row packing is recommended to achieve good soil to seed contact for even germination. Generally, the packer wheel width should be equal to, or greater than, the width of the tip on the opener.

The ideal result is a 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:



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

1 When installing new tips it is important to use a new bolt and nut combination. Before installing a new tip, clean the tongue of the holder of any rust or debris with a wire brush.



4 TIP REMOVAL
If a worn out tip is seized on the tongue, you can use two 3lb 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.

5 When installing a knife on the Speed-Loc™ adapter, always use the correct driver.

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

047 SERIES BOLT-ON SWEEPS (LIGHT & MEDIUM-DUTY CULTIVATORS)

APPLICATION	TOP BOLT	BOTTOM BOLT	SPECIAL NOTES
1" Bourgault shank w/o seed boot	1/2" x 2"	1/2" x 2"	Plow bolts, no lock washer, regular nut
1" Bourgault shank w/ Bourgault round tube seed boot	1/2" x 2"	1/2" x 2"	Plow bolts, no lock washer, regular nut
1" Bourgault shank w/ 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 w/o 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 w/ 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 w/ 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 w/o 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 w/ 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 w/ 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 w/o 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 w/o 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 w/o 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 w/o 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 w/o 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 w/o 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 w/o 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 (HEAVY-DUTY CHISEL PLOWS)

APPLICATION	TOP BOLT	BOTTOM BOLT	SPECIAL NOTES
1" Bourgault shank w/o seed boot	1/2" x 2"	1/2" x 2"	Plow bolts, no lock washer, regular nut
1" Bourgault shank w/ 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 w/o 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 w/ 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 w/o seed boot	1/2" x 1-3/4"	1/2" x 2"	Plow bolts, no lock washer, regular nut
3/4" Degelman shank (50°) w/o 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 w/o 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°) w/o seed boot	1/2" x 2"	1/2" x 2"	Plow bolts, no lock washer, regular nut
7/8" Shulte shank w/o seed boot	1/2" x 2"	1/2" x 2"	Plow bolts, no lock washer, regular nut
1-1/4" CIL shank w/o 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 w/o 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 w/o 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 w/o 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 w/ 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 w/ 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 w/o seed boot	1/2" x 2" no lock washer	1/2" x 2" no lock washer	Hex head bolts
7/8" Bourgault shank w/ 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 w/ 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 w/o seed boot	1/2" x 2" no lock washer	1/2" x 2" no lock washer	Hex head bolts
3/4" Bourgault shank w/ 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 w/ square tube Bourgault seed boot	1/2" x 2-1/4" w/ lock washer	1/2" x 1-3/4" no lock washer	Hex head bolts
3/4" Ezee-On shank w/o seed boot	7/16" x 1-3/4"	7/16" x 1-3/4"	Hex head bolts ³
7/8" Ezee-On shank w/o seed boot	7/16" x 2"	7/16" x 2"	Hex head bolts ³

NOTES: **1)**Above bolt lengths are determined using prevailing torque side lock nuts – 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 (O/S) 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 w/o seed boot	7/16" x 2-1/4" no lock washer	7/16" x 2-1/4" no lock washer	Plow bolt ²
7/8" Flexi-Coil shank w/ 5649 seed boot	7/16" x 2-1/2" no lock washer	7/16" x 3-7/8" no lock washer	Plow bolt ²
1/2" Morris Challenger shank w/o seed boot	3/8" x 1-3/4" no lock washer	3/8" x 1-3/4" no lock washer	Plow bolt ²
5/8" Morris Challenger shank w/o seed boot	3/8" x 2" no lock washer	3/8" x 2" no lock washer	Plow bolt ²
7/8" Morris shank w/o seed boot	7/16" x 2-1/4" no lock washer	7/16" x 2-1/4" no lock washer	Plow bolt ²
9/16" CIL shank w/o seed boot	3/8" x 2" no lock washer	3/8" x 2" no lock washer	Plow bolt ²
5/8" John Deere shank w/o seed boot	7/16" x 2" no lock washer	7/16" x 2" no lock washer	Plow bolt ²
3/4" Degelman shank	7/16" x 2-1/4" no lock washer	7/16" x 2-1/4" no lock washer	Plow bolt ²
9/16" Wil-rich shank w/o 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 w/o seed boot or wedge	1/2" x 2-1/2" w/ lock washer	1/2" x 2-1/2" w/ lock washer	Plow bolt
1-1/4" shank w/o seed boot or wedge	1/2" x 2-3/4" w/ lock washer	1/2" x 2-3/4" w/ lock washer	Plow bolt

NOTES: **1)**Above bolt lengths are determined using prevailing torque side lock nuts – Grade C. This special locknut is necessary to keep the adapter tight. **2)**Shanks with 3/8" and 7/16" holes require special oversize (O/S) 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.

410 SERIES QC ADAPTER: 410-QCA-5000

APPLICATION	TOP HOLE	BOTTOM HOLE	SPECIAL NOTES
1" Bourgault shank w/o seed boot	1/2" x 2-1/2"	1/2" x 2-1/2"	Hex head
1" Bourgault shank w/ 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 w/o seed boot	1/2" x 2-3/4"	1/2" x 2-3/4"	Hex head
1-1/4" Bourgault shank w/ 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 w/o seed boot or wedge	1/2" x 2-1/2"	1/2" x 2-1/2"	Hex head
1-1/4" shank w/o 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 lock nuts – 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 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. **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.

600/602 SERIES QUICK TIP KNIVES

APPLICATION	TOP HOLE	BOTTOM HOLE	SPECIAL NOTES
FOR 47° & 50° APPLICATIONS NO WEDGE IS REQUIRED			
1-1/4" Bourgault shank	1/2" x 2-3/4"	1/2" x 2-3/4"	Hex head bolt, regular nut & lock
1" Bourgault shank	1/2" x 2-1/2"	1/2" x 2-1/2"	Hex head bolt, regular nut & lock
7/8" Bourgault shank	1/2" x 2-1/2"	1/2" x 2-1/2"	Hex head bolt, regular nut & lock
3/4" Bourgault shank	1/2" x 2-1/4"	1/2" x 2-1/4"	Hex head bolt, regular nut & lock
1-1/4" Flexi-Coil shank	1/2" x 2-3/4"	1/2" x 2-3/4"	Hex head bolt, regular nut & lock
1-1/4" Morris shank	1/2" x 2-3/4"	1/2" x 2-3/4"	Hex head bolt, regular nut & lock ¹
1" John Deere shank	1/2" x 2-1/2"	1/2" x 2-1/2"	Hex head bolt, regular nut & lock
7/8" Shulte shank	1/2" x 2-1/2"	1/2" x 2-1/2"	Hex head bolt, regular nut & lock
3/4" Degelman shank	1/2" x 2-1/4"	1/2" x 2-1/4"	Hex head bolt, regular nut & lock
FOR 43° APPLICATIONS WEDGE 400-WDG-0700 IS REQUIRED			
1" Morris shank for NH3 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 & lock ²
3/4" Case IH Vibra chisel shank	1/2" x 2-3/4"	1/2" x 2-1/2"	Hex head bolt, regular nut & lock

NOTES: 1) Some material may have to be ground off the bottom of the 1-1/4" Morris shank (front face) to get the knife holder to seat down tight against the shank. **2)** The 1-1/4" IH shank will fit the NH3 knives, but not the granular knife. **3)** All knives come with holes to accommodate 1/2" bolts. If cultivator shanks have 7/16" holes, substitute 7/16" bolts for 1/2" and use a flat washer on the bolt head.

BOLT & NUT PART NUMBERS

DESCRIPTION	SIZE	PART NUMBER
Carriage Bolt – Grade 8	3/8" x 1-1/2"	960-CRG-1505
Carriage Bolt – Grade 8	3/8" x 1-3/4"	960-CRG-1755
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
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	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-3254
Hex Bolt	1/2" x 3-1/2"	946-HRG-3504
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 – 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
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
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
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
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
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

DESCRIPTION	SIZE	PART NUMBER
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
Screw – Pan Head	3/8"	911-SCR-1038
Screw – Self Drill	1/2"	911-SCR-1051

LEGEND: O/S Hd = Oversized Head; Low Shld = Low Shoulder; Shld Blt = Shoulder Bolt

COMMON TORQUE VALUES: USS/SAE GRADE 8

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.

All highlighted values are common bolt sizes used for our products.

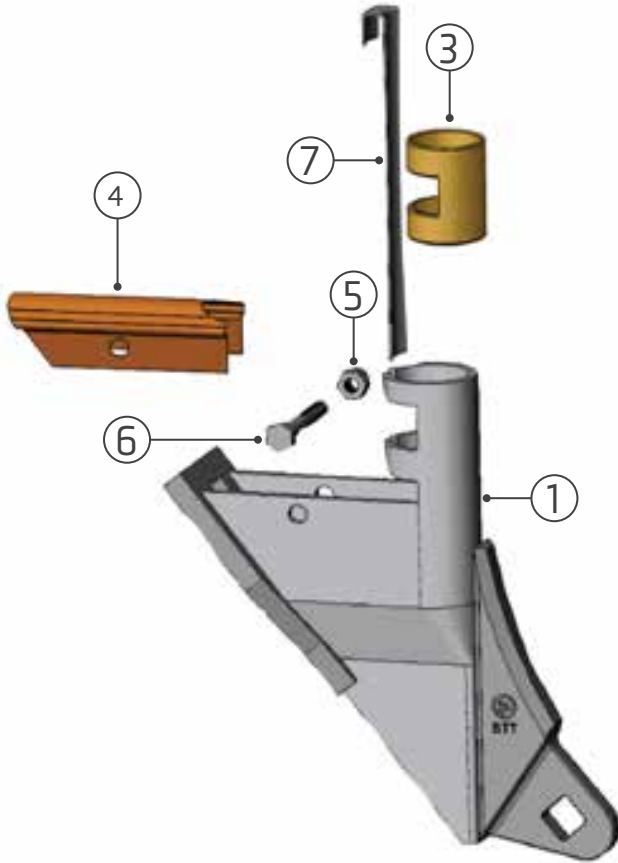
BOLT DIAMETER	TORQUE DRY FT. LBS.	LUBRICATED FT. LBS.
1/4"	12	9
5/16"	24	18
3/8"	45	35
7/16"	70	50
1/2"	110	80
9/16"	150	110
5/8"	210	160
3/4"	380	280
7/8"	600	450
1"	910	680

COMMON TORQUE VALUES: METRIC

BOLT DIAMETER	CLASS 10.9		CLASS 12.9	
	TORQUE DRY FT. LBS.	LUBRICATED FT. LBS.	TORQUE DRY FT. LBS.	LUBRICATED FT. LBS.
M4	3.2	2.4	3.8	2.8
M5	6.5	4.9	7.6	5.7
M6	11.1	8.3	13	9.7
M7	18.5	13.9	21.7	16.3
M8	26.9	20.2	31.4	23.6
M10	53.2	39.9	62.2	46.7
M12	92.8	69.6	108.5	81.4
M14	148.4	111.3	173.4	130
M16	230	173	269	202
M18	318	239	372	279

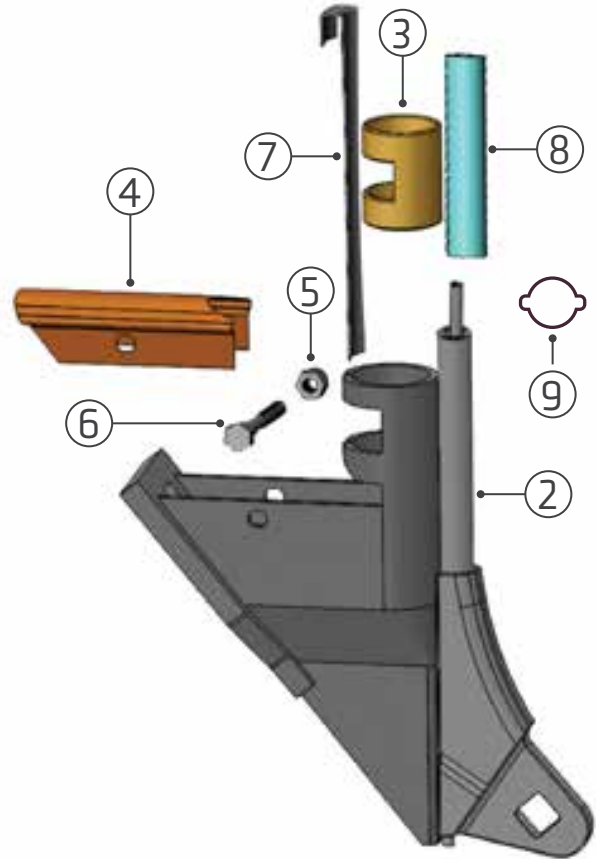
047-ASY-1000

SINGLE SHOOT (PAGE 19)



047-ASY-1005P

SINGLE SHOOT (PAGE 19)



PART		047-ASY-1000	047-ASY-1005P
1	047-HLD-1000	■	
2	047-HLD-1005P		■
3	880-BSH-1130	■	■
4	047-CAP-1001	■	■
5	908-NNI-2504	■	■
6	942-HRG-2004	■	■
7	047-ACC-1000*	■	■
8	680-HOS-1000**		■
9	880-HCL-0004		■

TIP OPTIONS:

- 200-TIP-0511 200-TIP-1011
- 200-TIP-0800 200-TIP-2011
- 200-TIP-0801 200-TIP-3000
- 200-TIP-0802 200-TIP-3001
- 200-TIP-0803 200-TIP-3011
- 200-TIP-0811 200-TIP-4011

Tips sold separately. See pages 12-13.

NOTES:

*Use focus strip 047-ACC-1000 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 106.

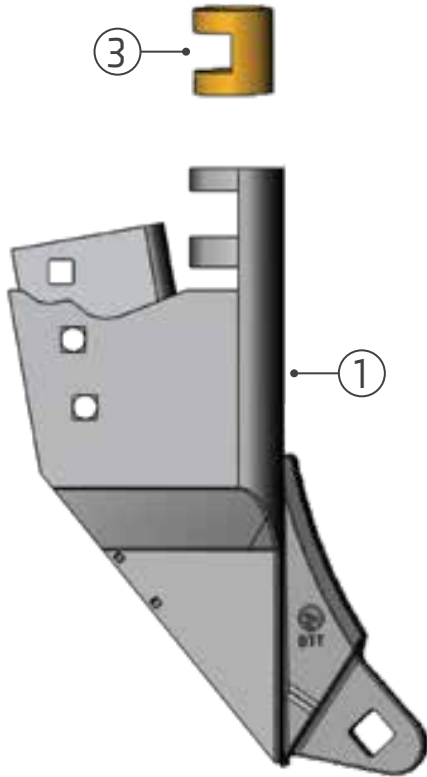
880-ASY-1010 REQUIRED

This assembly is sold separately and is required to convert the standard 3/16" O.D. liquid phos tube to 1/4" I.D. liquid phos delivery hoses.



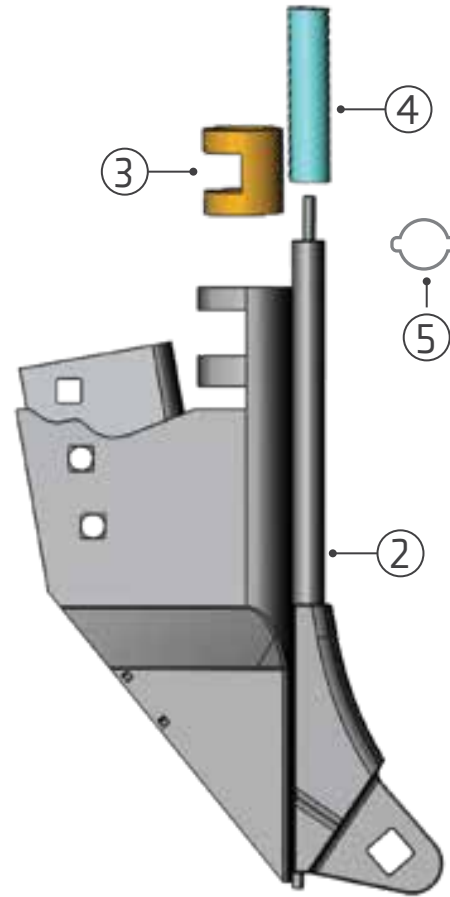
680-ASY-1000

SINGLE SHOOT (PAGE 26)



680-ASY-1000P

SINGLE SHOOT (PAGE 44)



PART		680-ASY-1000	680-ASY-1000P
1	680-HLD-1000	■	
2	680-HLD-1000P		■
3	880-B5H-1130	■	■
4	680-HOS-1000*	■	■
5	880-HCL-0004		■

TIP OPTIONS:

- 200-TIP-0511 200-TIP-1011
- 200-TIP-0800 200-TIP-2011
- 200-TIP-0801 200-TIP-3000
- 200-TIP-0802 200-TIP-3001
- 200-TIP-0803 200-TIP-3011
- 200-TIP-0811 200-TIP-4011

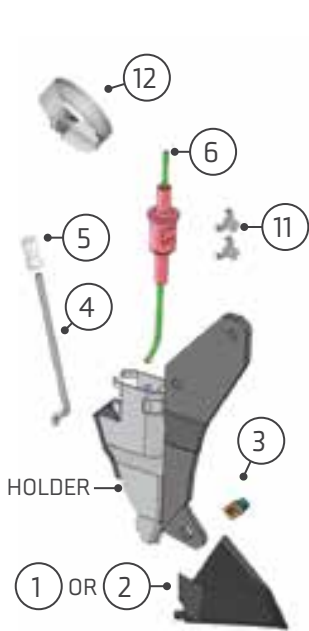
Tips sold separately. See pages 12-13.

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

880-ASY-1010 REQUIRED

This assembly is sold separately and is required to convert the standard 3/16" O.D. liquid phos tube to 1/4" I.D. liquid phos delivery hoses.

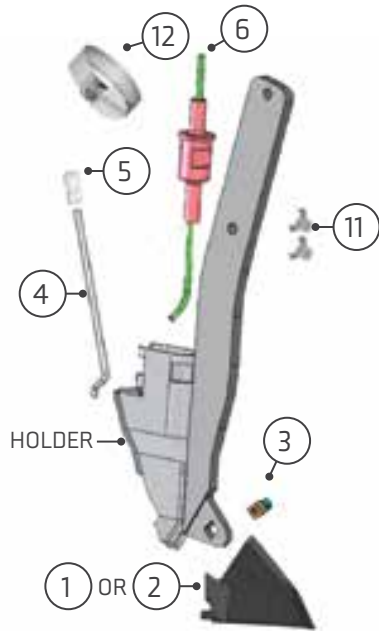




684-ASY-0711
684-ASY-0712 (SHOWN)

HOLDERS:
684-HLD-0711
684-HLD-0712 (SHOWN)

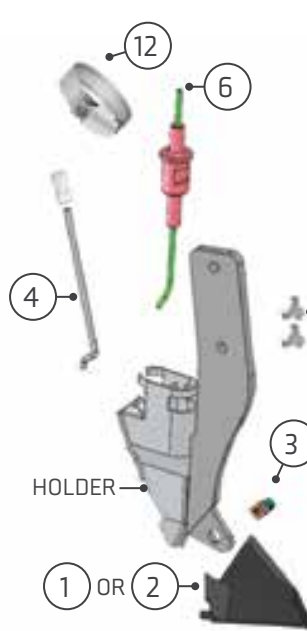
FITS: Case IH 800/900,
NH P2070, Flexi-Coil PD5700
& 7200 (page 35)



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

HOLDERS:
686-HLD-0711
686-HLD-0712 (SHOWN)

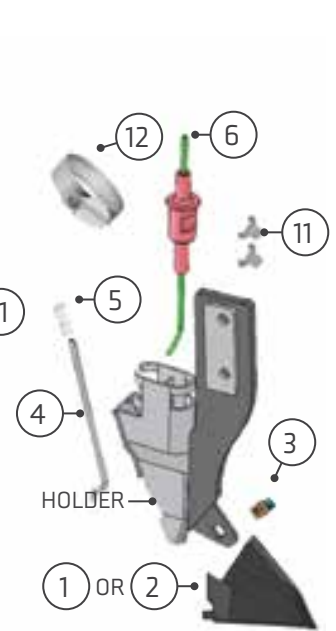
FITS: Väderstad Seed Hawk
(page 53)



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

HOLDERS:
693-HLD-0711
693-HLD-0712 (SHOWN)

FITS: Morris Contour II & Morris
Quantum (page 45)



694-ASY-0711
694-ASY-0712 (SHOWN)

HOLDERS:
694-HLD-0711
694-HLD-0712 (SHOWN)

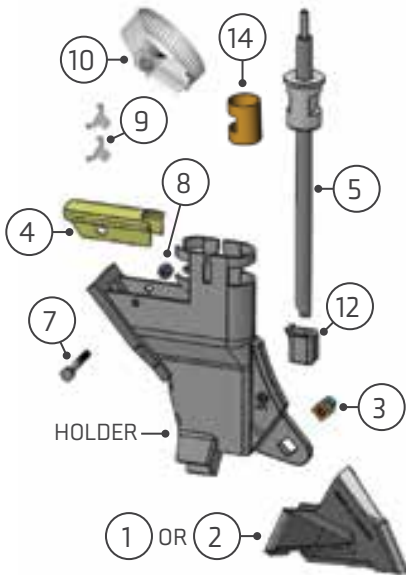
FITS: Case IH ATX 700,
NH P2060, Flexi-Coil 5500
& Concord (page 35)

PART		684-ASY-0711G	684-ASY-0711GP	684-ASY-0711L	684-ASY-0711LP	684-ASY-0712G	684-ASY-0712GP	684-ASY-0712L	684-ASY-0712LP	686-ASY-0711G	686-ASY-0711GP	686-ASY-0711L	686-ASY-0711LP	686-ASY-0712G	686-ASY-0712GP	686-ASY-0712L	686-ASY-0712LP	693-ASY-0711G	693-ASY-0711GP	693-ASY-0711L	693-ASY-0711LP	693-ASY-0712G	693-ASY-0712GP	693-ASY-0712L	693-ASY-0712LP	694-ASY-0711G	694-ASY-0711GP	694-ASY-0711L	694-ASY-0711LP	694-ASY-0712G	694-ASY-0712GP	694-ASY-0712L	694-ASY-0712LP		
1	612-TIP-0711	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
2	612-TIP-0712 (SHOWN)																																		
3	200-BNC-3100	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
4	047-TUB-2540		■				■				■				■				■				■				■								
5	880-CPL-2500		■				■				■				■				■				■				■								
6	612-TUB-6061			■	■			■	■			■	■			■	■			■	■			■	■			■							
11	880-HCL-0001	■	■			■	■			■	■			■	■			■	■			■	■			■	■								
12	880-HCL-1828	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

NOTES: Two 880-HCL-0001 are included with the granular openers only. They are intended to provide additional security to installed hoses. **See page 107 for proper hose clip installation.**

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

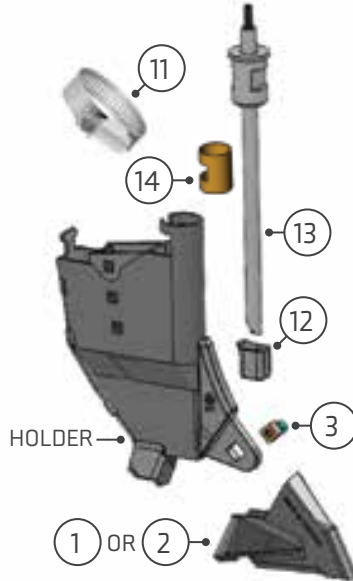
SIDE BAND (ASSEMBLIES ON THESE PAGES INCLUDE THE TIP)



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

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

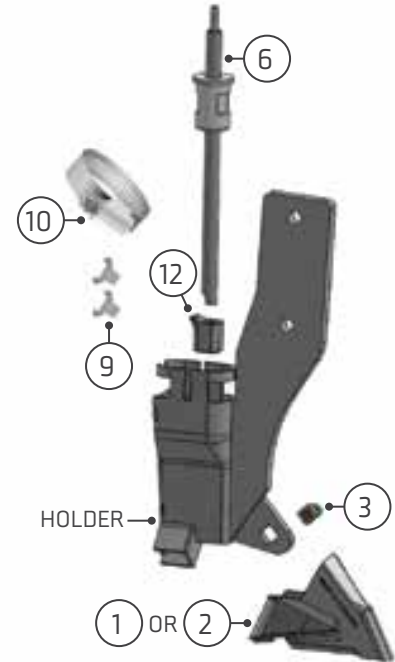
FITS: C-shank (page 22)



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

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

FITS: Edge On, Bourgault PHD
& Morris Maxim (pages 28 & 42)



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

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

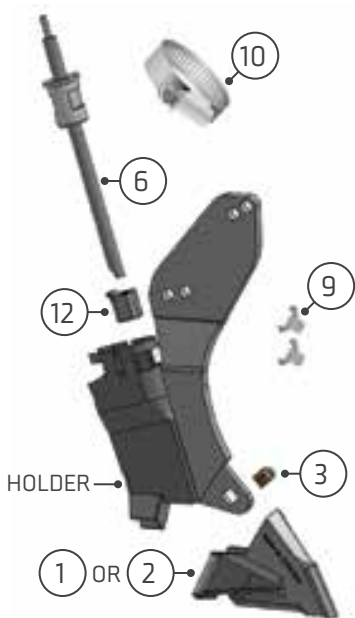
FITS: Morris Contour I (page 46)

PART		G	L	G	L	G	G	L	L	G	G	L	L	G	G	L	L
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							■	■								■
14	880-BSH-1130	■		■													

NOTES: Two 880-HCL-0001 are included with the granular openers only. They are intended to provide additional security to installed hoses. **See page 103 for proper hose clip installation.**

When ordering liquid phos openers call the factory for tube sizes.

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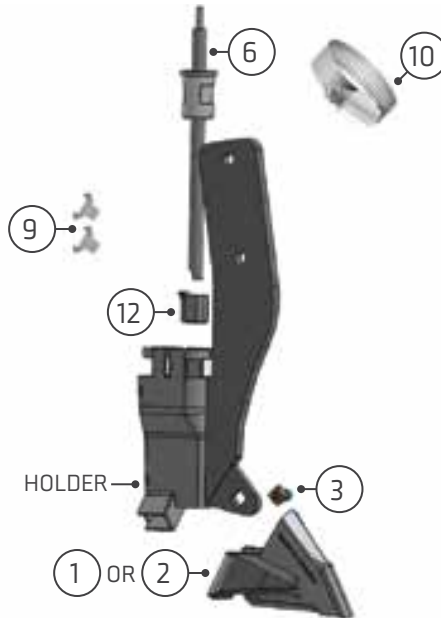


684-ASY-2711 (LEFT)
684-ASY-2712 (RIGHT SHOWN)

HOLDERS:

684-HLD-2711
 684-HLD-2712 (SHOWN)

FITS: Case IH 800/900,
 NH P2070, Flexi-Coil PD5700
 & 7200 (page 36)

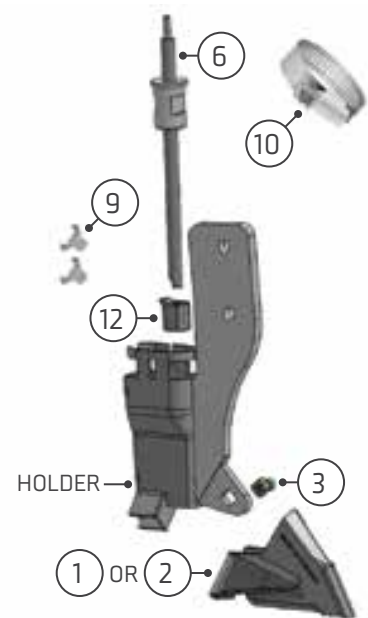


693-ASY-2711 (LEFT)
693-ASY-2712 (RIGHT SHOWN)

HOLDERS:

693-HLD-2711
 693-HLD-2712 (SHOWN)

FITS: Morris Contour II & Morris
 Quantum (page 46)



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 36)

PART		L	L	L	L	G	G	L	L	G	G	L	L	G	G	L	L
1	614-TIP-2711	■	■			■	■	■	■								
2	614-TIP-2712 (SHOWN)			■	■					■	■	■	■				
3	200-BNC-3100	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
6	880-TUB-2711	■	■	■	■												
9	880-HCL-0001					■	■			■	■			■	■		
10	880-HCL-1828	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
12	614-ACC-1000	■	■	■	■			■	■								

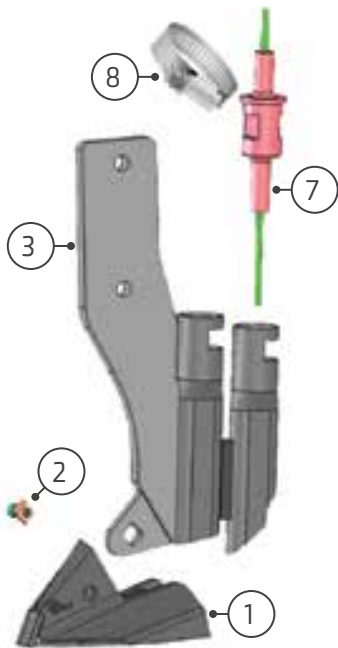
NOTES: Two 880-HCL-0001 are included with the granular openers only and are intended to provide additional security to installed hoses. **See page 103 for proper hose clip installation.** When ordering liquid phos openers call the factory for tube sizes.

When installing openers on Case IH 800/900, New Holland P2070/2075 & Flexi-Coil PD5070 you have two options as shown in the diagram below.



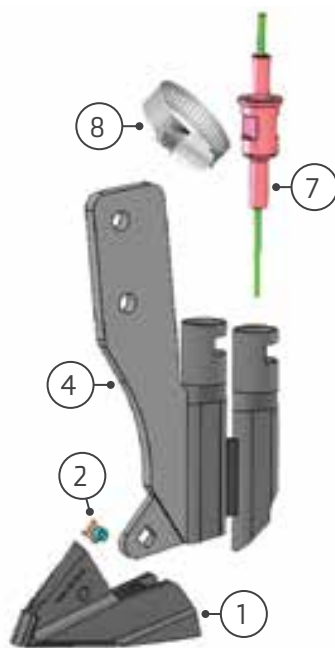
610-TIP-4041 ASSEMBLIES

PAIRED ROW (ASSEMBLIES ON THESE PAGES INCLUDE THE TIP)



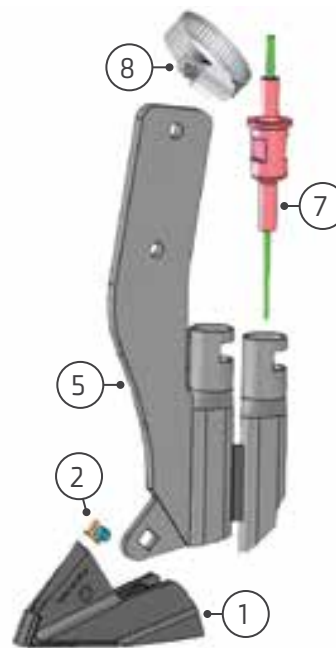
683-ASY-4020

FITS: Morris Contour I (page 48)



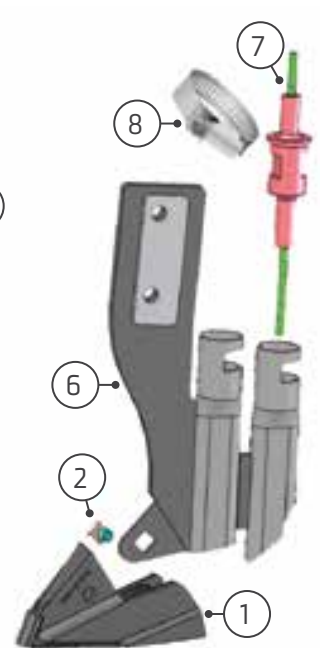
688-ASY-4020

FITS: Horsch 84° Shank (page 41)



693-ASY-4020

FITS: Morris Contour II & Morris Quantum (page 48)

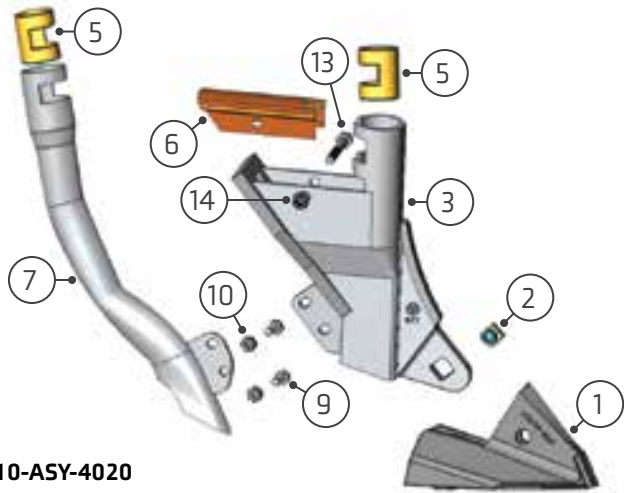


694-ASY-4020

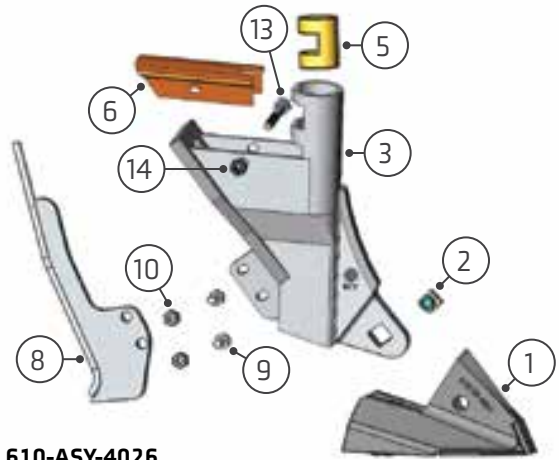
FITS: Case IH ATX 700, NH P2060, Flexi-Coil 5500 & Concord (page 37)

PART		G	L	G	L	G	L	G	L
		683-ASY-4020G	683-ASY-4020L	688-ASY-4020G	688-ASY-4020L	693-ASY-4020G	693-ASY-4020L	694-ASY-4020G	694-ASY-4020L
1	610-TIP-4041	■	■	■	■	■	■	■	■
2	200-BNC-3100	■	■	■	■	■	■	■	■
3	683-HLD-2000	■	■						
4	688-HLD-2000			■	■				
5	693-HLD-2000					■	■		
6	694-HLD-2000							■	■
7	683-TUB-6061		■		■		■		■
8	880-HCL-8117		■		■		■		■

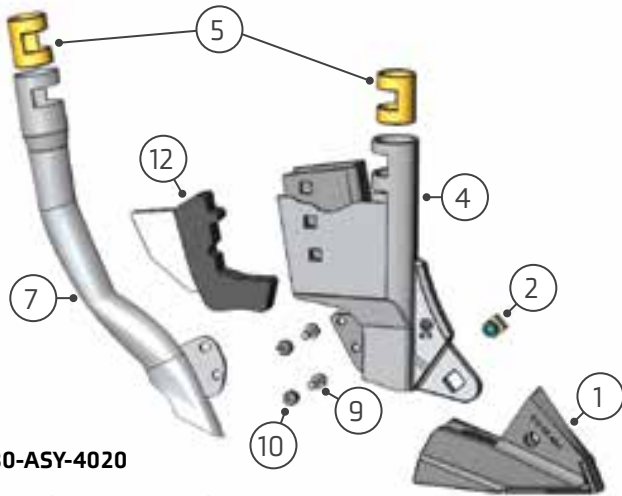
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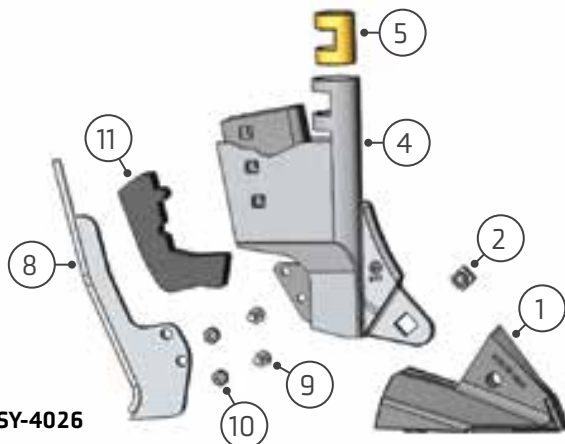
610-ASY-4020
FITS: C-shank (page 21)



610-ASY-4026
FITS: C-shank (page 21)



680-ASY-4020
FITS: Edge On, Bourgault PHD & Morris Maxim (pages 30 & 48)



680-ASY-4026
FITS: Edge On, Bourgault PHD & Morris Maxim (pages 30 & 48)

PART	610-ASY-4020		610-ASY-4026		680-ASY-4020		680-ASY-4026	
	G	L	G	L	G	L	G	L
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	■	■						

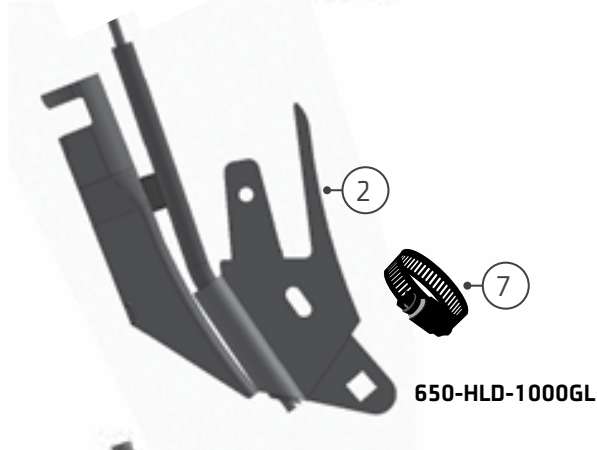
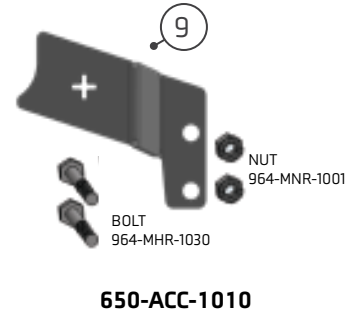
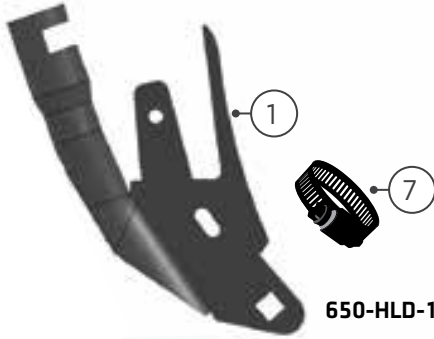
NOTES: *680-ACC-0002 is a spacer plate required for Bourgault 3310 & 3320 only, not included in assembly. See page 106.

**680-ACC-0003 is a spacer plate required for Bourgault 3310 & 3320 only, not included in assembly. See page 106.

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 106.

JOHN DEERE 1870 CONSERVA PAK

FERTILIZER KNIVES (PAGE 43)



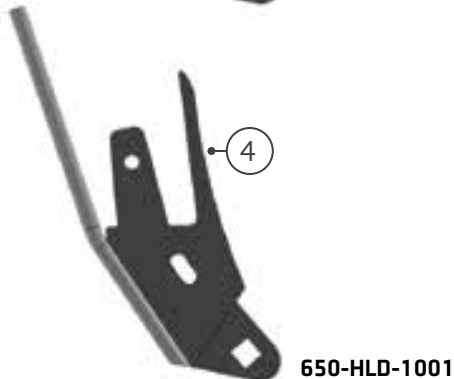
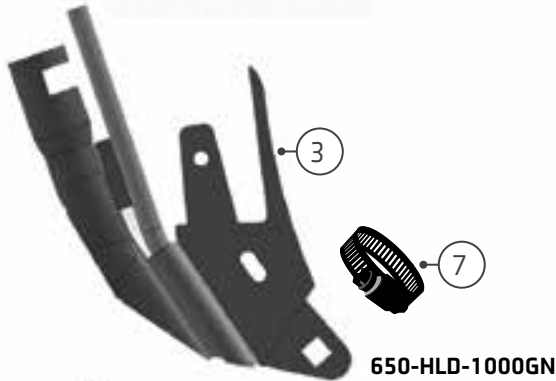
PART	TIP OPTIONS					
	G	L	N	G	G	N
1 650-HLD-1000G	■					
2 650-HLD-1000GL		■				
3 650-HLD-1000GN			■			
4 650-HLD-1001						■
5 650-HLD-1000L		■				
6 650-HLD-1000N			■			
7 880-HCL-8117	■			■	■	
8 650-ACC-1000*	■	■	■			■
9 650-ACC-1010*				■	■	

TIP OPTIONS:

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

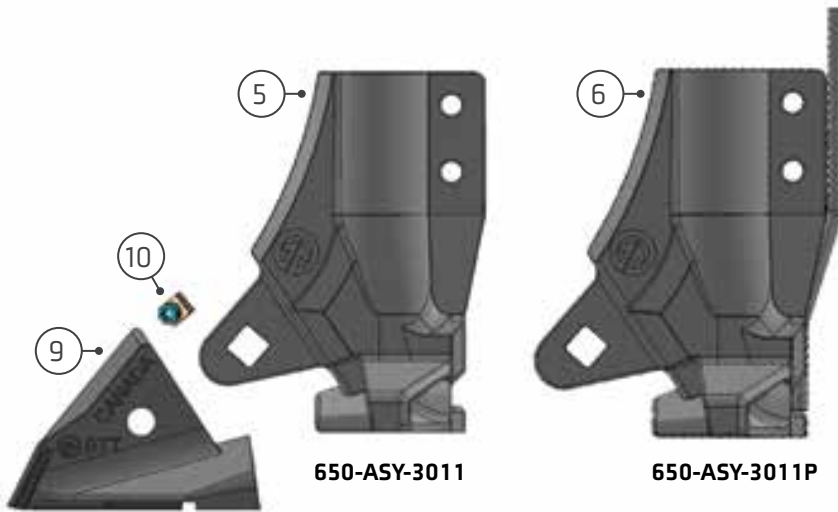
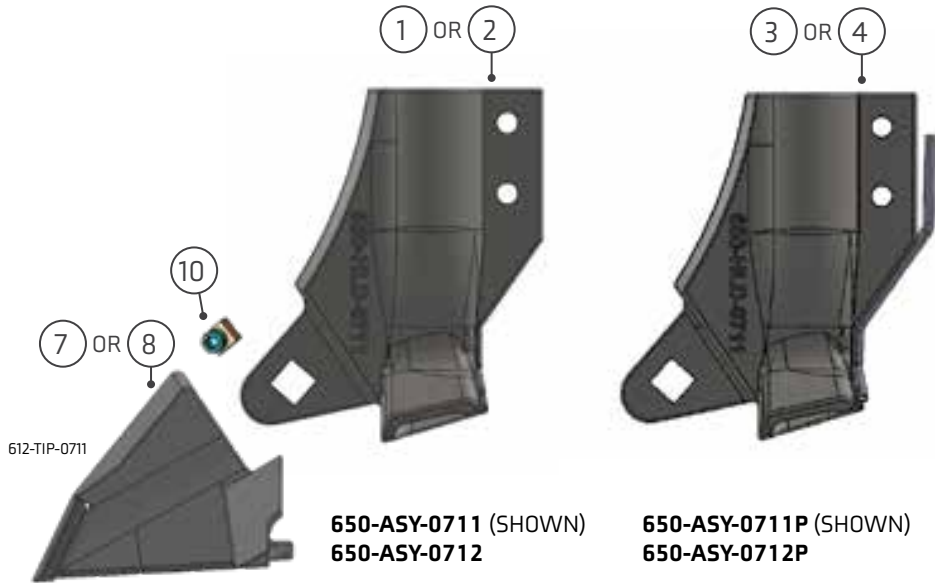
Tips sold separately. See pages 12-13.

NOTES: *The brackets 650-ACC-1000 AND 650-ACC-1010 (pictured above) limits the tripping distance of these fertilizer knives. **They are not included in the assembly and must be ordered separately.** The metric bolts needed to install this bracket are included with the brackets. To see this bracket installed properly see page 43.



JOHN DEERE 1870 CONSERVA PAK

SINGLE SHOOT (PAGE 42) (ASSEMBLIES ON THIS PAGE INCLUDE THE TIP)

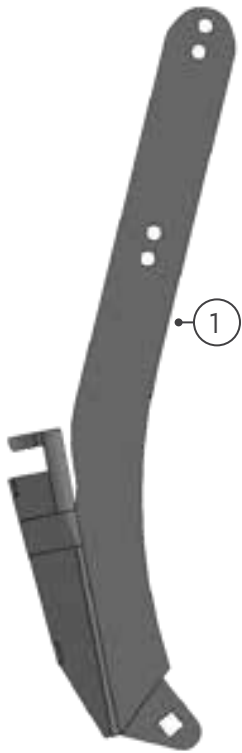


PART		G	G	P	P	G	P
		650-ASY-0711	650-ASY-0712	650-ASY-0711P	650-ASY-0712P	650-ASY-3011	650-ASY-3011P
1	650-HLD-0711	■					
2	650-HLD-0712		■				
3	650-HLD-0711P			■			
4	650-HLD-0712P				■		
5	650-HLD-3000					■	
6	650-HLD-3000P						■
7	612-TIP-0711	■		■			
8	612-TIP-0712		■		■		
9	200-TIP-3011				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

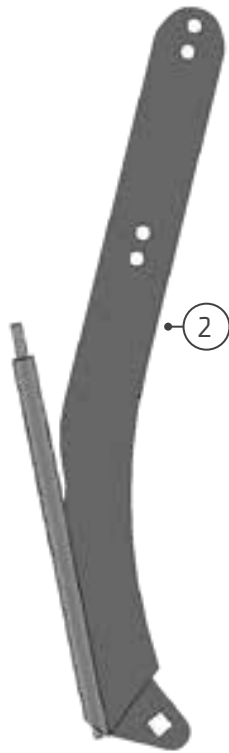
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VÄDERSTAD SEED HAWK*

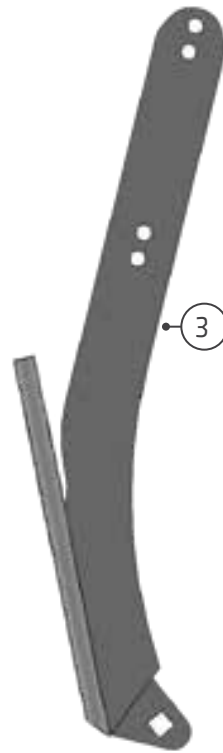
FERTILIZER KNIVES (PAGE 55)



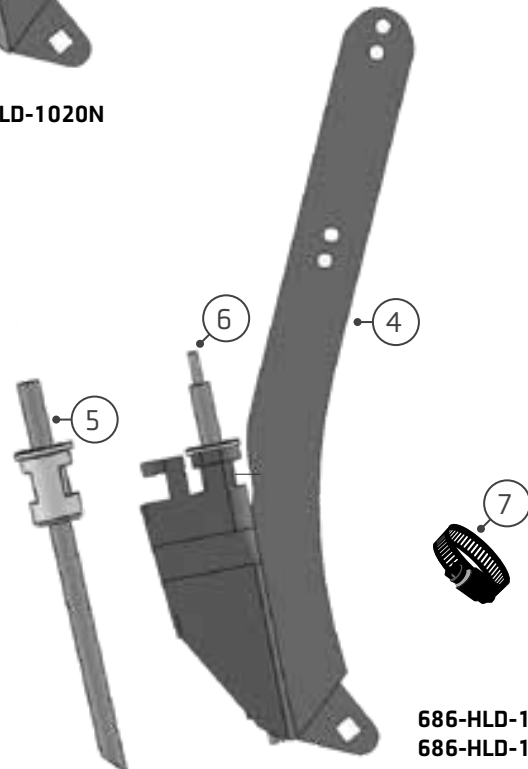
686-HLD-1020G



686-HLD-1020L



686-HLD-1020N



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

PART		G	L	N	G	G
					L	N
1	686-HLD-1020G	■				
2	686-HLD-1020L		■			
3	686-HLD-1020N			■		
4	686-HLD-1010				■	■
5	880-TUB-8375					■
6	880-TUB-8375L				■	
7	880-HCL-1828				■	■

TIP OPTIONS:

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

Tips sold separately.
See pages 12-13.

VÄDERSTAD SEED HAWK*

PAIRED ROW (PAGE 52)



TIP OPTIONS:

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

Tips sold separately.

See pages 12-13 for more information.

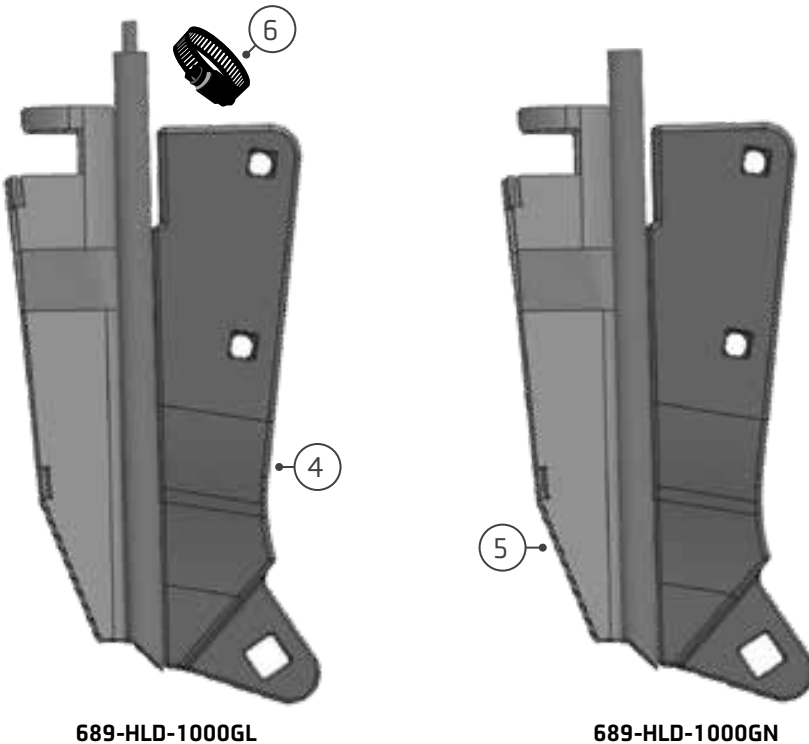
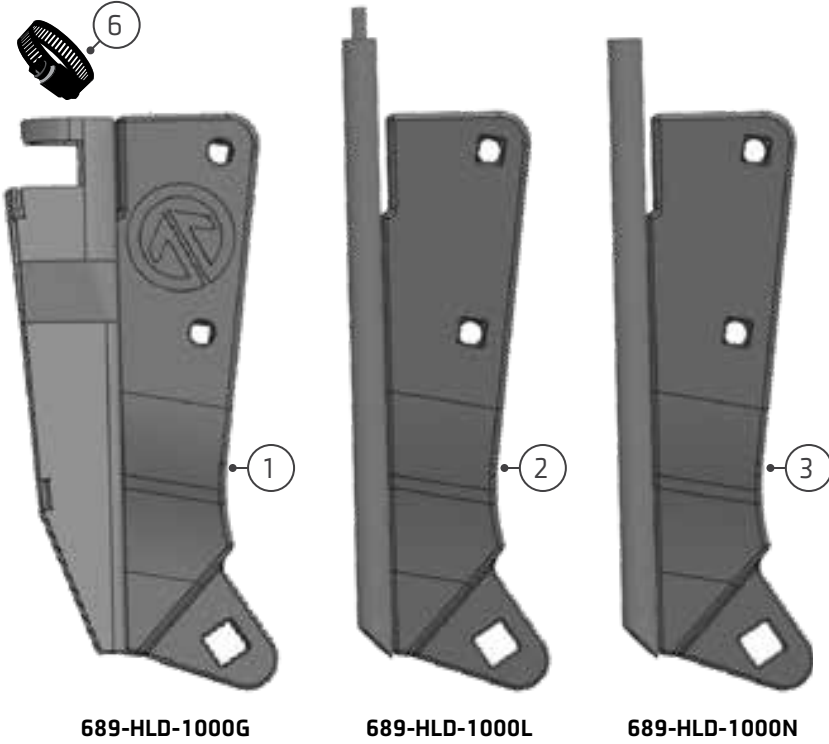
NOTES: These openers are available with liquid phos options, please call the factory for more details.

PART		P	G	P
1	686-HLD-3000	■		
2	200-TIP-3011	■		
3	200-BNC-3100	■		
4	686-KNH-1001		■	
5	686-KNH-1001P			■

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SEED MASTER

FERTILIZER KNIVES (PAGE 51)



	G	L	N	G	G
				L	N
				L	N
PART	689-HLD-1000G	689-HLD-1000L	689-HLD-1000N	689-HLD-1000GL	689-HLD-1000GN
1	689-HLD-1000G	■			
2	689-HLD-1000L		■		
3	689-HLD-1000N			■	
4	689-HLD-1000GL			■	
5	689-HLD-1000GN				■
6	880-HCL-817			■	

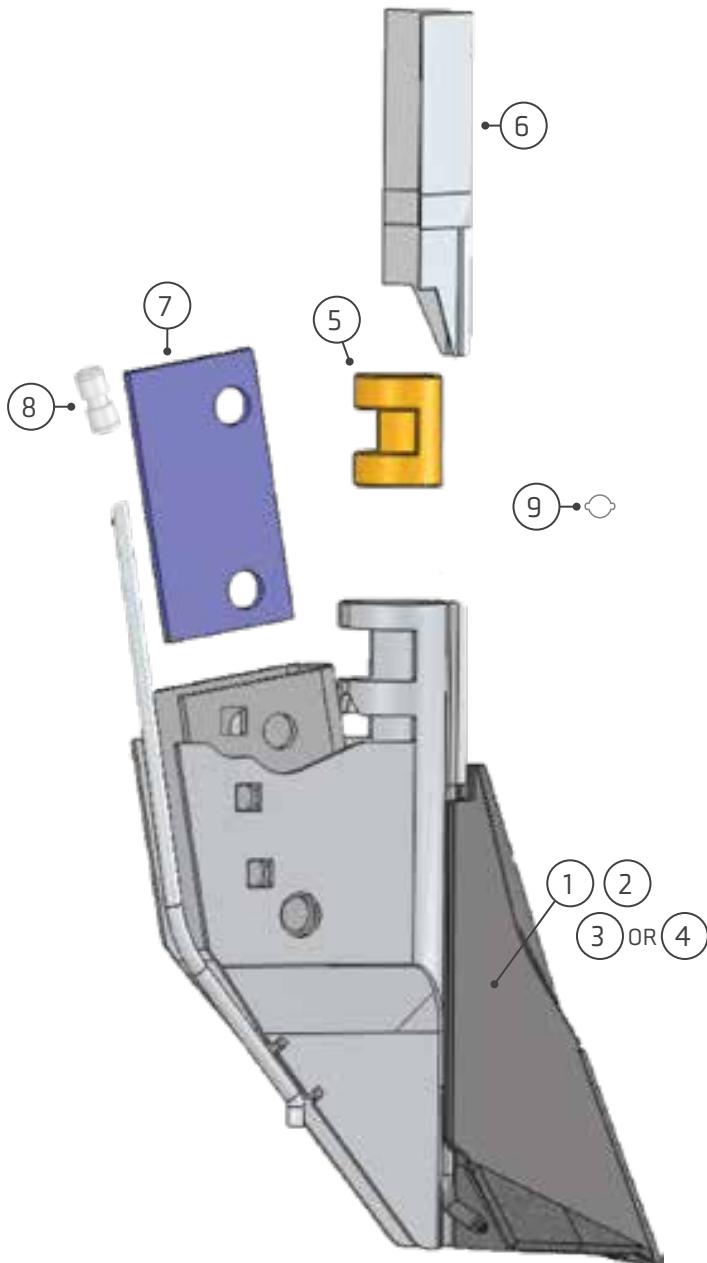
- TIP OPTIONS:**
 200-TIP-0511
 200-TIP-0801
 200-TIP-0802
 200-TIP-0803
 200-TIP-0811

Tips sold separately. See pages 12-13.

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

SIDE BAND (PAGES 29 & 47)



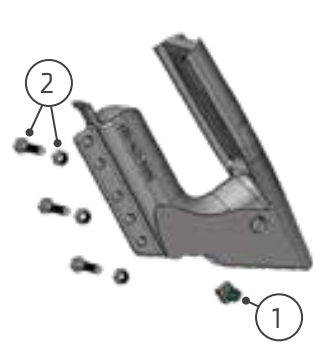
682-ASY-2063 (LEFT)
682-ASY-2064 (RIGHT SHOWN)

PART		682-ASY-2063	682-ASY-2064
1	682-KNF-2063	■	
2	682-KNF-2063P		
3	682-KNF-2064		■
4	682-KNF-2064P		
5	880-BSH-1130	■	■
6	682-DEF-1000	■	■
7	680-ACC-0001*	■	■
8	880-CPL-2500		
9	695-HCL-1220		

NOTES: Accessory **680-ACC-0001** is needed when used on an edge on Concord. See page 106.

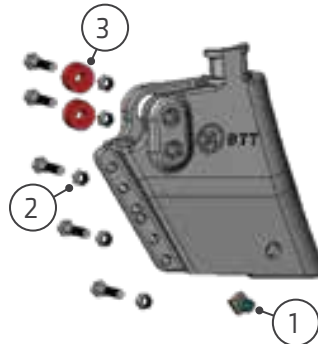
TITAN OPENER SYSTEM (PAGES 56-57)

1 CHOOSE YOUR HOLDER



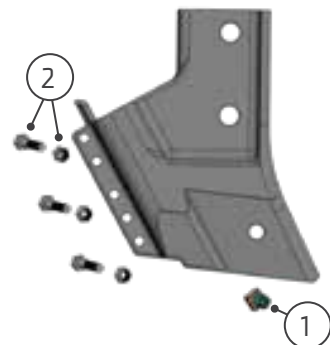
620-HLD-5000

FITS: 47° and 50 ° C-shank



628-HLD-5000

FITS: Morris Maxim Edge On & Bourgault PHD Shanks



688-HLD-5000

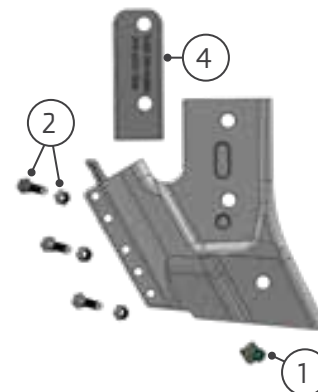
FITS: Horsch 84° Shank

NOTES: On older drills, customer needs to verify mounting bolt holes:

1/2" bolt hole requires **694-HLD-5000**

(does not require 694-ACC-1000)

5/8" bolt hole requires **688-HLD-5000**



694-HLD-5000

FITS: Case IH AXT 700, NH P2060, Flexi-Coil 5500 & Concord Edge On (84° shanks only)

NOTES: 694-HLD-5000 requires 694-ACC-1000 (included). Not required when installing on the Concord.

2 CHOOSE YOUR SEED SHOE/BOOT



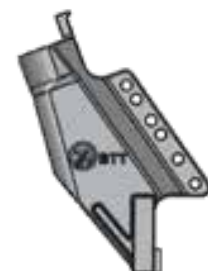
620-SSH-1000



620-SSH-4000



620-SSH-6000



628-SBT-2000

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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3 CHOOSE YOUR TIP



620-TIP-0510



620-TIP-0517



628-TIP-0510



628-TIP-0512



620-TIP-4060

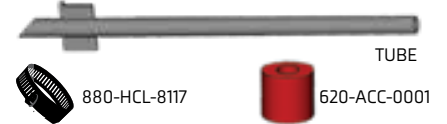
NOTES: 800-CPL-2500 is required (included).

4 CHOOSE YOUR FERTILIZER

The tube assemblies pictured below include the tube and any accessories shown.

N 620-TUB-1021*

1/2" (12mm) O.D. NH3 tube for **620, 688 & 694** holders.



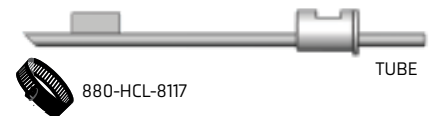
N P 620-TUB-1070 & 1070XL

1/4" (6mm) O.D. Aqua NH3 + Phos tube for **620, 688 & 694** series holders. **880-CPL-2500** sold separately.



N L 620-TUB-4000 & 4000XL

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



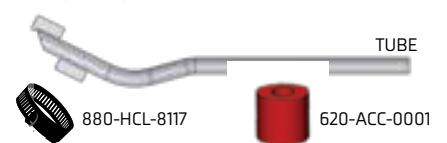
N P 620-TUB-4040

0.4" O.D. Stainless Steel Aqua NH3 + Phos tube for **620, 688 & 694** series holders.



N 628-TUB-1021*

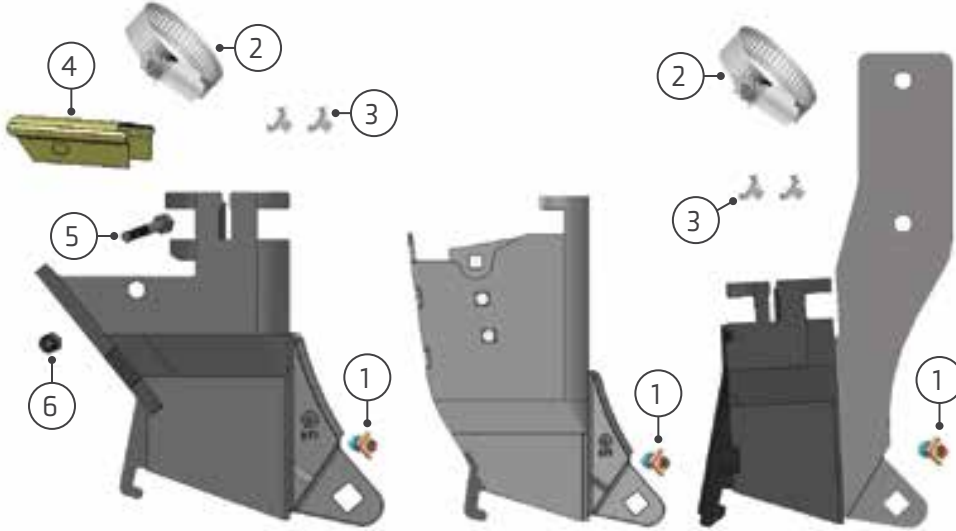
1/2" (12mm) O.D. NH3 tube for **628** holders.



*For pressurized NH3 Systems (including MaxQuip) you will be given the standard NH3 tube and then must consult with your pressurized system dealer for tubing inserts.

VOS (VERSATILE OPENER SYSTEM) (PAGES 58-59)

1 CHOOSE YOUR HOLDER



610-HLD-2080
610-HLD-2080HD

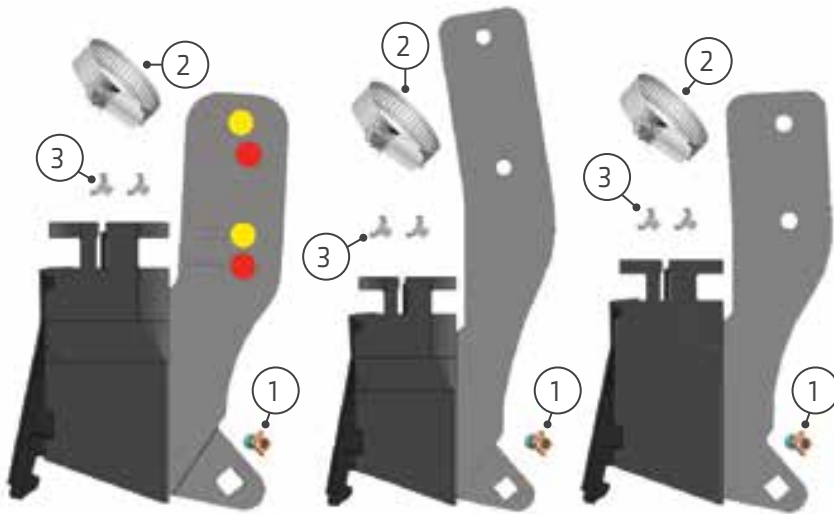
FITS: 47° and 50° C-shank

673-HLD-2080

FITS: Edge On, Bourgault
PHD & Morris Maxim

683-HLD-2080

FITS: Morris Contour I



688-HLD-2080

FITS: Horsch 84° Shank

NOTE: When installing
openers on Horsch 84°
Shanks you have 2 options
shown above.

- Standard installation
- 3/4" more depth

693-HLD-2080

FITS: Morris Contour II
& Morris Quantum

694-HLD-2080

FITS: Case IH ATX
700, New Holland
P2060, Flexi-Coil
5500 & Concord
(84° Shanks only)

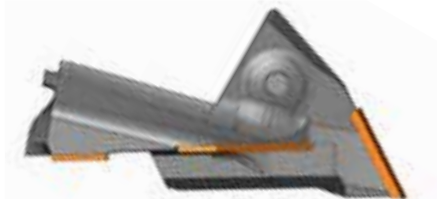
PART		610-HLD-2080	610-HLD-2080HD	673-HLD-2080	683-HLD-2080	688-HLD-2080	693-HLD-2080	694-HLD-2080
1	200-BNC-3100	■	■	■	■	■	■	■
2	880-HCL-1828	■	■	■	■	■	■	■
3	880-HCL-0001	■	■	■	■	■	■	■
4	610-CAP-1080	■	■					
5	942-HRG-2004	■	■					
6	908-NNI-2504	■	■					

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2 CHOOSE YOUR TIP



610-TIP-0802 SINGLE SHOOT TIP



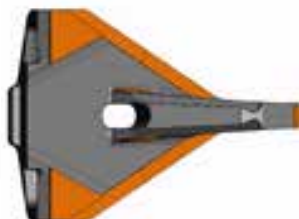
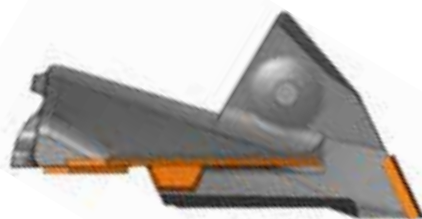
610-TIP-3581 PAIRED ROW TIP



610-TIP-4081 PAIRED ROW TIP



610-TIP-4082 PAIRED ROW TIP



610-TIP-6082 PAIRED ROW TIP

3 CHOOSE YOUR FERTILIZER

The tubes come with bushings as pictured below.

L 880-TUB-1003
880-TUB-1004

PRECISION DRILLS LIQUID
1/4" (6mm) O.D. stainless tube



N L 880-TUB-1009
880-TUB-1010

PRECISION DRILLS LIQUID OR AQUA NH3
3/8" (10mm) O.D. stainless tube



N P 880-TUB-1011
880-TUB-1012

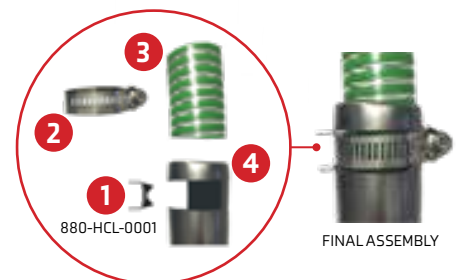
PRECISION DRILLS AQUA NH3 + PHOS
1/4" (6mm) O.D. stainless tube



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.

PROPER INSTALLATION:



PRODUCT INDEX

PRODUCT	PAGE	PRODUCT	PAGE	PRODUCT	PAGE	PRODUCT	PAGE
010-HAR-3814ML	96	200-KNF-0863	60	200-TIP-0802	12	410-PWV-1600	90
010-HAR-3817ML	96	200-KNF-7501	61	200-TIP-0803	12	410-PWV-1608	89
010-HAR-4309ML	96	200-KNF-7510	60	200-TIP-0811	12	410-PWV-1800	89
010-HAR-4375ML	96	200-KNF-7511	60	200-TIP-1011	13	410-PWV-1808	89
010-HAR-5000ML	96	200-KNF-7520	67	200-TIP-2011	13	410-QCA-5000	81
010-HAR-5001ML	97	200-KNF-7521	67	200-TIP-3000	13	410-QCA-5010	81
010-HAR-5008ML	97	200-KNF-7524	67	200-TIP-3001	13	410-QCA-5020	81
010-HAR-5020ML	97	200-KNF-7525	67	200-TIP-3011	13	410-QCA-5060	81
010-HAR-5022ML	97	200-KNF-7530	67	200-TIP-4011	13	410-QCA-5080	81
010-HAR-5027ML	97	200-KNF-7531	67	200-VRT-1000	61	410-SLC-1001	82
010-HAR-5028ML	97	200-KNF-7542	63	200-VRT-1040	63	410-SLC-1022	82
010-HAR-5625ML	97	200-KNF-7551	71	200-WDG-0206	106	410-SLC-1030	82
010-HAR-5627ML	97	200-KNF-7553	71	200-WDG-0506	106	410-SLC-1050	82
010-HAR-6250ML	97	200-KNF-7560	72	200-WDG-1000	106	410-SPK-0200	91
030-HLD-2000	93	200-KNH-4000	62	200-WDG-1006	106	410-SPK-0200ML	91,95
043-PWV-0800	92	200-KNH-4010	62	300-ATM-1000	65	410-SPN-0300	63
043-PWV-1000	92	200-KNH-4020	68	300-ATM-1006	65	410-SPN-0308	63
043-PWV-1200	92	200-PWV-0400	88	300-ATM-1010	65	410-VRT-1000	61
043-PWV-1400	92	200-PWV-0405	89	300-ATM-1020	65	500-200-1005	101
043-PWV-1600	92	200-PWV-0405ML	89,95	300-ATM-1031	65	500-200-1010	101
043-PWV-1800	92	200-PWV-0428	89	300-ATM-1035	65	500-200-1020	102
047-ACC-1000	106	200-PWV-0500	88	300-ATM-1036	65	500-200-1025	101
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047-CAP-1000	106	200-PWV-0708	88	300-HLD-4700	64	505-200-1015	103
047-CAP-1001	116	200-PWV-0738	89	300-HLD-4710	64	505-200-1020	104
047-KNH-1000	19	200-PWV-0900	88	300-HLD-5000	64	505-200-1025	104
047-PWV-0400	92	200-PWV-0908	88	300-HLD-5010	64	505-200-1030	104
047-PWV-0708	92	200-PWV-0928	89	300-SQR-1500	65	510-200-1000	101
047-PWV-0900	92	200-PWV-1000	88	300-SQR-1505	65	511-200-1000	101
047-PWV-0908	92	200-PWV-1008	88	333-KNF-1000	32	515-200-1000	104
047-PWV-1000	92	200-PWV-1100	88	333-KNF-1010	32	517-200-1015	103
047-PWV-1008	92	200-PWV-1108	88	333-KNF-2000	32	517-200-1017	103
047-PWV-1100	92	200-PWV-1200	88	400-DRV-1000	83	517-200-1020	101, 103
047-PWV-1200	92	200-PWV-1208	88	400-DRV-1010	83	517-200-1030	102
047-PWV-1300	92	200-PWV-1300	88	400-WDG-0300	106	521-200-1000	104
047-PWV-1308	92	200-PWV-1308	88	400-WDG-0700	106	522-200-1000	102
047-VRT-1040	19	200-PWV-1400	88	410-ASY-0823	70	522-200-1005	102
050-KNH-0812	20	200-PWV-1408	88	410-ASY-7523	70	522-200-1035	102
050-KNH-0820	77	200-PWV-1608	88	410-HLD-7500	62	522-200-1040	102
050-PWV-0600	92	200-PWV-1808	88	410-KNF-0800	61	599-KNH-7540	20, 73
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050-PWV-1600	92	200-QCA-5000	80	410-KNF-0830	68	600-KNH-7520	75
050-PWV-1608	92	200-QCA-5010	80	410-KNF-0831	68	600-KNH-7522	76
050-PWV-1800	92	200-QCA-5020	80	410-KNF-7540	69	600-KNH-7530	75
070-RCH-0451	93	200-QCA-5030	80	410-KNF-7551	71	600-KNH-7531	75
070-RCH-0451ML	95	200-REL-1010	83	410-KNF-7553	71	600-KNH-7540	20, 73
070-RCH-0452	93	200-SLC-1001	82	410-KNF-7560	72	600-KNH-7552	77
070-RCH-0452ML	95	200-SLC-1010	82	410-KNH-7524	69	600-KNH-7562	24
070-RSP-0200A	93	200-SLC-1020	82	410-KNH-7526	69	600-KNH-7585	75
070-RSP-0210A	93	200-SLC-1030	82	410-KNH-7540	69	600-KNH-7586	76
070-RSP-0220A	93	200-SLC-1035	82	410-KNH-7551	72	600-KNH-7587	76
100-DRV-1010	83	200-SLC-1037	82	410-PWV-0400	90	600-TIP-3011	17
100-DRV-1020	83	200-SLC-1038	82	410-PWV-0418	91	600-TIP-7500	17
100-HAM-4000	83	200-SLC-1039	82	410-PWV-0418ML	91,95	600-TIP-7501	17
100-WDG-0700	106	200-SPK-0200	89	410-PWV-0518	91	600-TIP-7502	17
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200-KNF-0810	61	200-TIP-0511	12	410-PWV-1208	90	602-KNH-7586	76
200-KNF-0811	61	200-TIP-0800	12	410-PWV-1400	90	602-KNH-7587	76
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F. P. Bourgault Tillage Tools Ltd.

PO Box 310 | 200 – 5th Avenue South | St. Brieux, SK, Canada S0K 3V0

P 800.878.7714 | F 306.275.4720

tillagetools.ca



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