



Super Duty Strip Till

Operator's & Repair Parts Manual

**For Models: 789-210
789-211
789-212**

**Gang Bundle Assembly Strip Till 4x7"
Gang Bundle Assembly Strip Till 7x7"
Gang Bundle Assembly Strip Till 7x7" (Wrap Around)**



Do Not Use or Operate This Equipment



Until You Have Read and Understood This Manual

The purpose of this manual is to explain maintenance requirements and adjustments which are necessary for the most efficient operation of the machine. Read this manual thoroughly and completely before using your machine. Keep this manual handy for reference when questions arise.

Should you have questions or difficulties which your dealer or representative are unable to answer, please call or write:

**Bigham Brothers, Inc. 705 E. Slaton Rd. P.O. Box 3338 Lubbock, TX 79452
Telephone: (806) 745-0384 Fax: (806) 745-1082**



**SAFETY FIRST
PREVENT ACCIDENTS BY "THINKING SAFETY"
IN UNLOADING, SETTING UP, MOVING, STORAGE
AND OPERATING ALL EQUIPMENT.**

BB BIGHAM BROTHERS, INC.
806-745-0384 • 705 E. Slaton Road • P.O. Box 3338 • Lubbock, Texas 79452

BIGHAM BROTHERS, INC.

A MESSAGE TO THE OWNER AND OPERATOR:

This machine was carefully designed and manufactured to give you dependable service. To keep it running efficiently, read the instructions in this Operator's Manual. Check each item and acquaint yourself with the adjustments required to obtain efficient operation and maximum performance. Remember, the machines performance depends on how you operate and care for it.

After the operating season, thoroughly clean your machine and inspect it. Preventive maintenance saves time and pays dividends. Your dealer has original equipment parts which assure proper fit and best performance. Record the model number, serial number and date of purchase in the space provided on this page. Your dealer needs this information to give you efficient service when you order parts or attachments. The model number and serial number appear on the identification plate on the front left side of the tool bar mast.

The Warranty on your machine is included with this manual. Your dealer will review both this manual and the warranty with you when you take delivery of your machine.

WARRANTY

Bigham Brothers, Inc. warrants all products of its manufacture to be free from defects in materials and workmanship for a period of six months from date of delivery to the retail purchaser. Parts assumed to be defective must be returned F.O.B. Lubbock, Texas for our inspection or inspected in the field by our authorized representative. Our obligation under this warranty is limited to replacement or repair of the defective part and does not cover other damages to persons or property. Other than the aforesaid, no warranties of merchantability or fitness for a particular purpose will apply. We do not assume liability for altered or remanufactured components or machines or applications beyond their intended use. Some states do not allow limitation of how long an implied warranty lasts, or exclusions of, or limitations on relief such as incidental or consequential damages, so the above limitations or exclusion may not apply to you. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

Warranty does not cover damage due to abuse, neglect, collision, towing, pulling, normal wear and tear or any other factor beyond the control of the manufacturer. Tool bars that are bent, bowed or that have been welded on or modified in any way are specifically excluded from any warranties.

LIMITED LIFETIME WARRANTY ON TOOL BAR CLAMPS

Bigham Brothers, Inc. will replace any ductile iron clamp body that breaks or cracks under normal use for as long as the original purchaser owns them. This includes all replaceable bolt ductile iron clamps sold by Bigham Brothers, Inc. after December 31, 1987.

Clamps that fail should be returned to Bigham Brothers, Inc. freight prepaid along with caps, bolts, set screws and nuts for evaluation. If found to have failed under normal operating conditions, a new clamp body will be returned along with your old caps, bolts, set screws and nuts. Only clamps that have been used with Grade 2 bolts of the proper size will be replaced. All other provisions of the above warranty apply.

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Safety Precautions:



Be alert when you see this symbol in the instructions.

It warns of a hazard which might lead to injury.

It means: “Attention! Become alert! Your Safety Is Involved!”

Before Use:



DO NOT operate this equipment until you



have read and understood this manual.

- * Assure operators have read and are familiar with the instructions contained in the Operator’s Manual
- * If working on the Super Duty Strip Till, make sure it is level and stable. Proper stands should be lowered and secured. Use support blocks when necessary. The work area should be on a level, load bearing surface, e.g. concrete floor. NEVER, NEVER work under a Strip Till while it is supported by only the tractor’s hydraulics.
- * Consult the “Tractor Manufacturers Manual” for instructions on safe mounting of implements and operating methods.
- * Never stand between the Strip Till and tractor with engine running.

During Use:



- * Check and tighten all bolts after 30 minutes of initial operation and after adjustments have been made.
- * Assure the Super Duty Strip Till is correctly attached to the tractor.
- * Be alert to underground obstructions, e.g. large stones, tree roots, cables, pipe lines, etc. Should an obstruction be encountered, **STOP IMMEDIATELY AND INVESTIGATE.**
- * **⚠ NOTIFY THE APPROPRIATE AUTHORITY IF BURIED CABLES OR PIPELINES ARE SUSPECTED.** Non-hazardous obstructions should be removed before continuing operation.
- * Keep operating speeds at a safe level.
- * Never allow anyone to ride on the Super Duty Strip Till during operation.
- * Never travel in reverse with the Super Duty Strip Till in the operating position.
- * Never carry out adjustments or repairs to a mounted Super Duty Strip Till unless the tractor engine is stopped and the Super Duty Strip Till is firmly supported or lowered to the ground.
- * Inspect the Super Duty Strip Till for wear or damage on a regular basis.
- * Check all nuts, bolts and other fasteners for tightness on a regular basis. Replace worn fasteners as needed.
- * Carry out maintenance and lubrication procedures as detailed in this manual.
- * When disconnecting the Super Duty Strip Till do so on a level, hard surface. Assure it is left in a stable position with proper stands in the correct position.

Always:



- * Wear gloves and safety footwear when handling worn parts with sharp edges.
- * Assure the Super Duty Strip Till is not operated by untrained persons.
- * Use the Super Duty Strip Till only for the purpose for which it was designed and tested, and always according to the instructions contained in this manual.
- * Reduce speed when transporting over uneven or rough terrain.
- * Place a “Slow Moving Vehicle” emblem on the rear of the unit before driving on open roads.
- * Keep hands, feet and clothing away from all moving parts.
- * Exercise care when adjusting gangs, disc coulters or other tooling. The assemblies are heavy and may have sharp edges.

“Left” and “Right” of the machine refers to the side when standing behind the Strip Till and facing the tractor.



**BE A SAFE OPERATOR, THINK BEFORE OPERATING.
READ ALL INSTRUCTIONS BEFORE
ASSEMBLY OR OPERATION OF THE STRIP TILL!**



Strip Till on Stack Fold Tool Bar

INTRODUCTION:

Soil compaction and hardpan can quickly become a limiting factor to crop yields. These conditions can be created by many factors including field traffic, livestock and working fields that are too wet. As soil density increases, a physical barrier develops which seriously inhibits plant root development and water movement through the soil.

In addition, seed germination can be limited by cool soil temperatures early in the planting season when soil is left untilled and covered with residue.

Tillage helps alleviate the problems associated with hard pan and cool soil temperatures, but full tillage can destroy surface residue and lead to erosion. Tilling the full width of the field also has a cost in horsepower, fuel, tooling, and mechanical maintenance.

The Bigham Brothers Super Duty Strip Till is a unique soil loosener that prepares a mellow seed bed, but leaves other surface areas intact. Standing stalks, surface residue, or cover crops outside of seedbed lanes prevents wind and water erosion. Deep placement of fertilizer may also be accomplished by use of delivery tubes to the rear of each tillage shank. The Super Duty Strip Till should not be operated in wet soils nor in actively growing crops. It should be operated only in dry soil conditions, prior to planting, or prior to Fall and Winter precipitation. This will allow maximum absorption and storage of water for future use.

The BIGHAM BROTHERS Super Duty Strip Till is equipped with parallel linkage tooling gangs—one for each crop seedbed. Each gang works approximately 17” of soil. Normal configuration includes a leading trash-cutting coulter, row cleaners, a tillage shank, covering discs and rolling basket. **NOTE:** It is strongly advised that the depth of the desired soil loosening be identified and the working depth of the Super Duty Strip Till tillage shank set to operate at that depth. Working deeper than necessary rarely has any economic response. Operating deeper than necessary increases fuel consumption and horsepower requirements.

Gang Placement

Place the gang so the point runs under the center of the stalk row.

Checking Tillage Performance and Loosening

The degree and extent of loosening may be checked by several methods.

Probe: A penetrometer can be purchased which will provide a reading in lbs./in required to push the unit into the ground.

One can make a probe from a piece of 48” x 3/8” round rod. Sharpen one end as you would a pencil, and bend the opposite end to form an “L-shaped” handle. Although no readings can be taken, one can easily determine the amount of force required to push the probe into the soil and if compaction has been eliminated.

Mount Gangs to Tool Bar

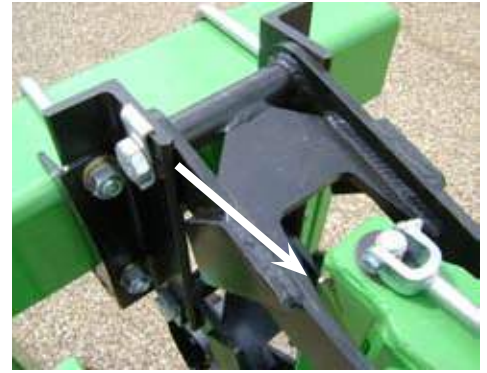
Two types of gang mounting assemblies are available: the Rear Mount assembly and the Wrap-around assembly. Each is fastened by use of two u-bolts for each gang. See pictures 1-5. Position each clamp so the tillage shank point is centered on the crop row. Note alignment cuff on rear mounted clamp assembly. If equipped with screw jack, fill the jack cavity with grease once each season through the grease zerk in picture three.



Picture 1



Picture 2



Picture 3



Picture 4



Picture 5

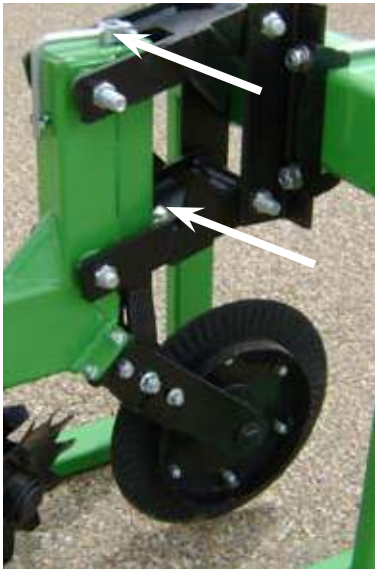
Adjust Front Coulter

Two types of front-mounted residue cutting coulters with depth control bands are available, a Rigid Coulter that mounts directly to the gang and does not adjust vertically. The Adjustable Coulter allows vertical adjustment via the screw jack (picture 6).

Using the adjustable coulters allows working height of the gang independently of the other tooling. Loosen the set-screw on the front of the gang (picture 6) and the bunting bolts on the side plates (picture 7) before adjusting. After adjusting, retighten bolts.

On a gang with rigid coulters, all tooling heights are set to the rigid coulters.

See pictures 6-8.



Picture 6



Picture 7



Picture 8

Adjust Row Cleaners

Row cleaners come in equal numbers of left- and right-hand units, and should be mounted in an alternating pattern.

Height adjustment is made by use of two set screws. Row cleaner blades should set only deep enough to brush residue aside. Setting the row cleaners blades too far into soil can cause premature blade wear or damage.

See pictures 9-10.



Picture 9



Picture 10

Adjust Tillage Shank

A variety of tillage shanks may be installed on the gang.

Most common is the 1x4" ripper shank. It may also come in the break away shear bolt model. The shear bolt is mounted in the front bolt hole (pictures 11-13).

Other ripper shanks or fertilizer knives may be installed.

Shank height is adjusted by use of two set screws on the side of the main gang tube.

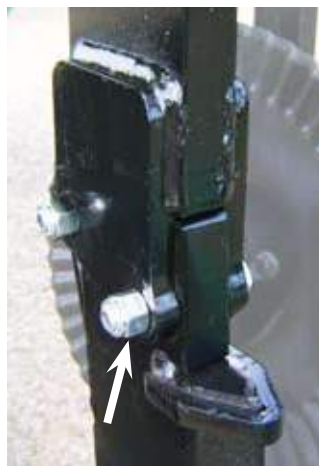
See pictures 11-15.



Picture 10



Picture 11



Picture 12



Picture 13



Picture 14



Picture 15

Adjust Covering Discs

Two basic versions of covering discs are available: the Covering Disc Bundle with 16" or 17" blades, or the Super Duty Disc Hiller Bundle with heavier cast hubs and 20" disc bedder blades.

Each is mounted on the rear 4x4 inch tooling tube with 1x3" shanks and matching clamps.

Working width is adjusted by sliding the clamps along the tooling bar. Height is adjusted by use of two set screws mounted in the clamp.

Blade pitch on the Covering Disc Bundle is adjusted by rotating the spindle where it is attached to the covering disc shank. The shank is twisted to a 10 degree angle. The spindle is cut at a 10 degree angle, or "cam," to provide from 0 degrees to 20 degrees in pitch.

Caution: Make sure covering disc hubs are mounted on the correct side of the gang. The hub is fastened to the spindle with either a left-hand or right hand bolt, and **MUST** be run in the proper direction or the spindle nut will loosen and fall off. See next page for details.

See pictures 16-19.



Picture 16

Covering Disc Bundles



Picture 17



Picture 18



Picture 19

Disc Hiller Bundle

Warning! Position covering disc hubs as detailed below.

712-170, 712-171 Covering Disc Hubs Mounted on Strip Till Gangs

Description:

- (1.) Covering Disc Hubs **MUST** run in the correct direction or the spindle bolt will work loose, resulting in loss of disc and bearings. The spindle is fastened with either a left-handed or right-handed bolt. It **MUST** be installed on the proper side of the row to insure that the bolt stays tight during operation.
- (2.) Spindles are different on left- and right-handed hubs (left-handed bolt/right handed bolt).
- (3.) Spindles are made to run with **EITHER** a Link Belt/BBI Premium bearing **OR** a Fafnir (a few older models) bearing. They will not interchange.



Picture 20

Right-hand hub on LEFT side



Picture 21

Right hand bolt with red marking



Picture 22

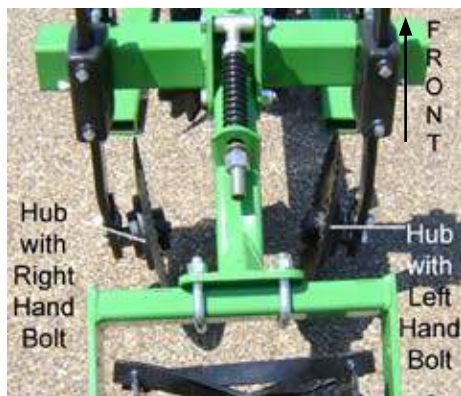
Left hand spindle detail

Identification of Left-Hand and Right-Hand hubs

Hubs are made left- or right-handed by the **Spindle Bolt**. Upper right shows marking on the hex spindle shaft. There are three markings:

(A.) F/L: The spindle marked 'F' takes the Fafnir bearing only. The 'L' spindle will use either Link Belt or BBI Premium bearings. Order bearings accordingly.

(B.) LH/RH Marks spindle as either Left-Hand or Right Hand. This refers to the **direction the spindle bolt tightens**. A left-hand spindle uses a left-hand thread spindle bolt. A right-hand spindle uses a right-hand thread spindle bolt. The right hand bolt may be marked with RED paint.



(C.) Soil Flow Direction - The arrow points to the REAR of the machine.

Strip Till Field Installation Instructions:

Locate the Covering Disc assemblies as shown in the photo at left. Note that the hub with the right-hand bolt is placed on the **left** side of the gang as seen from the rear. The right-hand bolt points right and the left-hand bolt points left as seen from the **rear** of the plow.

Picture 23

Adjust Rolling Baskets or Optional Roller

Basket (or roller) pressure is adjusted by tightening or loosening the spring tension on the basket arm. Loosen the jam nut on the spring pressure bolt (picture 25) and loosen main spring pressure nut to INCREASE basket pressure on soil, or tighten main spring pressure nut to DECREASE basket pressure on soil.

Adjust until desired firming/clod breaking pressure is achieved.

Note two greaseable flange bearings (picture 27) are located at either end of the basket/roller axle. Grease these bearings once per day.

See pictures 24-28.



Picture 24



Picture 25



Picture 26



Picture 27



Picture 28

Attaching Tractor to Super Duty Strip Till

Choosing the proper tractor:

1. It is extremely important to utilize a tractor with sufficient horsepower and traction. Soil conditions will effect horsepower requirements, but allow 20-30 HP per row, i.e., 4 rows requires a 80-120 HP tractor.
2. The Super Duty Strip Till is equipped with rear-extending gangs. The three-point linkage of the tractor must allow 36 inches between the ground and the lower hitch points in the "fully raised" position to provide adequate transport clearance.
3. Ensure that both the right and left lift arms are identical in length, and the tool bar is level (right to left). They must be equal to achieve uniform operating depth and transport clearance.
4. The three-point lift linkage should be locked into the fixed position, not the float position.
5. Sway blocks or stabilizing chains should be adjusted to minimize lateral movement.
6. Insure tractor has sufficient front end weight to permit constant positive steering at all times.
7. Insure tire pressures are equal and set at manufacturer's recommended pressures.
8. Traction and horsepower are the two most limiting factors effecting Super Duty Strip Till tractor operation.



CAUTION



NEVER STAND BETWEEN TRACTOR AND SUPER DUTY STRIP TILL WITH THE TRACTOR ENGINE RUNNING.

A. Tractors Equipped With Quick Hitches:

1. Attach quick hitch to the Super Duty Strip Till and make sure lower pin locks are secured.
2. Raise the parking stand into the clamp body or remove to allow the Super Duty Strip Till into a working position.
3. When disconnecting the Super Duty Strip Till adjust stands to leave the Tool Bar tilted slightly forward. This will permit easier disconnecting and reattaching.

⚠ WARNING: Never Work under the Super Duty Strip Till When it is in the raised position. Always lower the unit to the ground before making any adjustments.

Tractors Without Quick Hitch:

1. Attach lower lift arms of the tractor to the Super Duty Strip Till utilizing appropriate pins. Standard equipment for all units is a Category III wide hitch with 1-7/16" Lower and 1-1/4" Upper Pin diameters.
2. Attach top link after connecting lower lift arms. Raise parking stands into clamps or remove. When disconnecting, place stand to leave the Super Duty Strip Till in a stable position.



CAUTION



DO NOT MOVE TRACTOR WITHOUT MAKING SURE TOP HITCH IS CONNECTED TO TRACTOR.

Field Use and Adjustments



NEVER ALLOW ANYONE TO RIDE ON THIS EQUIPMENT DURING OPERATION



1. Maximum operating speed 4 - 6 mph. If obstructions are present, lower operating speed to a safe level. This will help minimize damage.
2. Adjust the depth by raising or lowering the depth control wheels.
3. **The frame must be horizontal (level) front to back when in use.** Adjust by lengthening or shortening the tractor's top link.
4. Check and adjust if necessary the coulter position in relation to the tillage shank working depth.
5. Never reverse the tractor when the Super Duty Strip Till is in the ground.
6. Do not raise the Super Duty Strip Till out of the ground unless the tractor is moving forward.
7. Do not make sharp turns when the Super Duty Strip Till is in the ground.
8. For best results make sure to operate on matching rows.

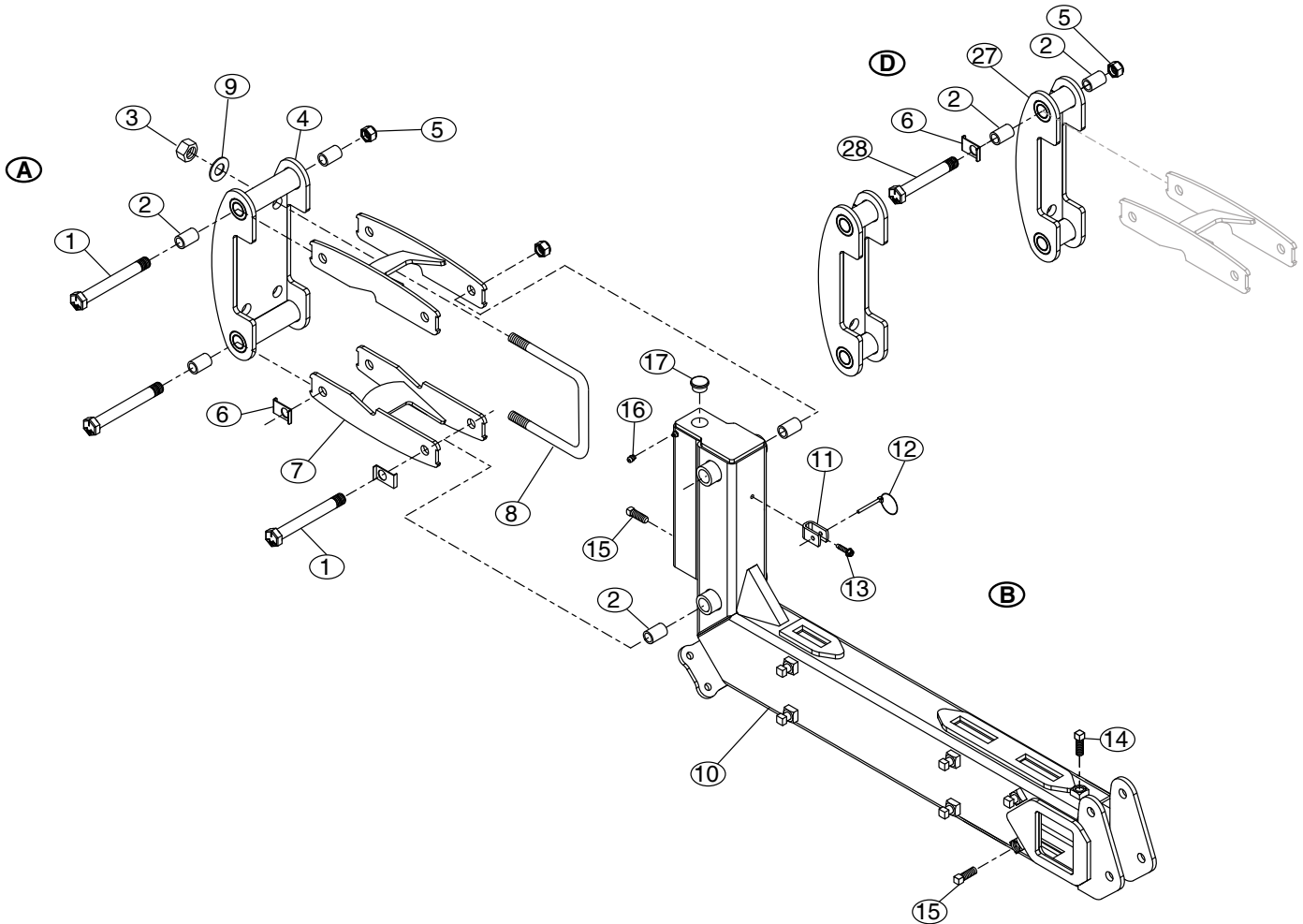
Troubleshooting

SYMPTOM	CAUSE	SOLUTION
Cloddy	Operating too shallow Insufficient pressure on rolling basket Wire or foreign object on leg or foot Soils too dry	Raise gauge wheels Increase spring pressure on basket arm Remove wire or object Wait for moisture
Shearing bolts	Too much load Rocks	Reduce operating depth
Trash clogging rear tooling	Insufficient spacing between shank and covering discs Soil too wet causing hairpinning of residue	Move shank to front slot Stagger covering discs front/back Let soil dry
Tractor tire slippage	Third link too short Insufficient traction Soil too wet	Lengthen third link Add weight; lock axles (if tractor is equipped) Adjust tractor's draft control Let soil dry
Tractor will not pull Super Duty Strip Till	Insufficient horsepower Insufficient traction	Larger, heavier tractor Set tillage shanks to operate at shallower depth
Wear on tillage shanks	Wear surfaces worn	Replace wear surfaces
Not going into ground	Points dull Unit not level	Replace points Level unit
Uneven results from right to left.	Tire pressures unequal or not at manufacturer's recommended level.	Set tire pressures to recommended level.

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Super Duty Strip Till Parts Breakdown

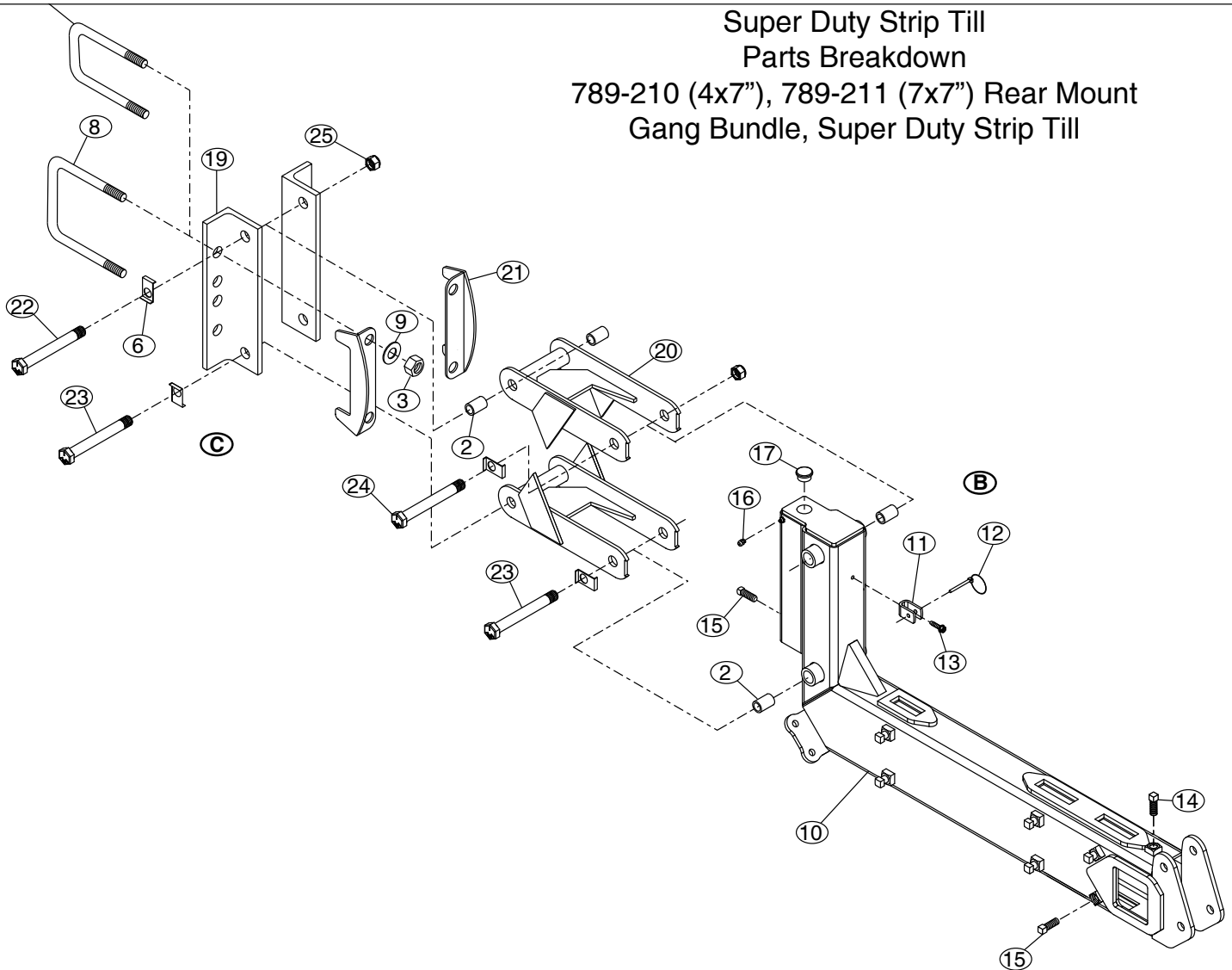
789-212 7x7" Wrap Mount and 789-213 Split Mount Gang Bundle, Super Duty Strip Till



Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
A. Wrap Around Clamp				17.	632-710	Insert, Plastic Plug (1.339")	1
1.	602-1635Z	Bolt, Pivot 1"x8-1/4" (Gr 5) ZP	4	D. Split Wrap Around Clamp			
2.	624-110	Bushing, 1x1-1/8x1-1/2" (Plastic)	8	27.	689-233S	Bracket, 7" Split Wrap Around	2
3.	611-1401Z	Nut, Hex ZP 7/8"	4	28.	602-1620Z	Bolt, HCS 1"x5" (Gr 5) ZP	4
4.	689-232S	Bracket, 7" Wrap Around	1	Note: Four 1x5" Bolts for front part of clamp, plus two 1x8-1/4" (item #1) for rear as in other clamps and a total of 6 nuts (item #5).			
5.	613-1603Z	Nut, Hex Nylock ZP 1" Striptill	4				
6.	689-208	Bolt Retainer, Striptill	4				
7.	689-234S	Linkage Arm, Wrap Striptill	2				
8.	610-0047	U-Bolt, 7/8" For 7"x7" (Gr 5) ZP	2				
9.	616-1403Z	Washer, Flat 7/8" S.A.E. Hard ZP	4				
10.	789-200	Tail Gang, 4x4" Rear-Strip Till	1				
B. 789-200 Tail Gang, 4x4" Rear-Strip Till							
(Includes 11-16)							
11.	301-357	Clevis, Handle Retainer ZP	1				
12.	617-103	Klik Pin, 1/4 x 1-1/2"	1				
13.	605-0406Z	Screw, Hex Washer HD. 12-14X3/4" ZP	1				
14.	606-1010Z	Set Screw, Square Head 5/8"x2-1/2" ZP	6				
15.	606-1006Z	Set Screw, Square Head 5/8"x1-1/2" ZP	1				
16.	617-008	Zerk, 1/8 NPT Threaded	1				

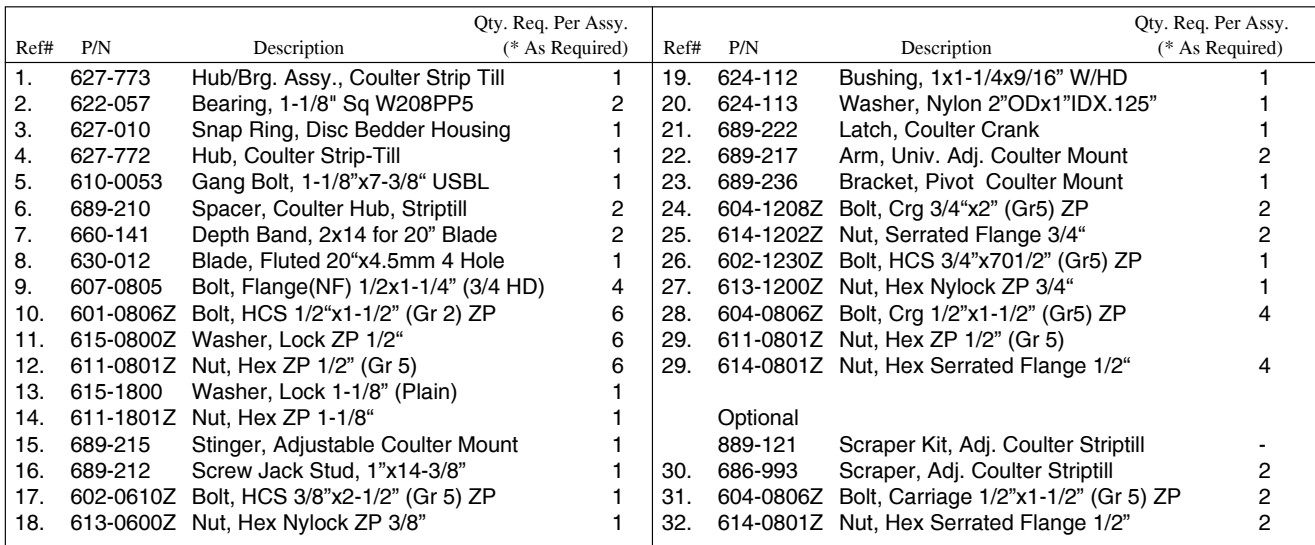
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Super Duty Strip Till Parts Breakdown 789-210 (4x7"), 789-211 (7x7") Rear Mount Gang Bundle, Super Duty Strip Till

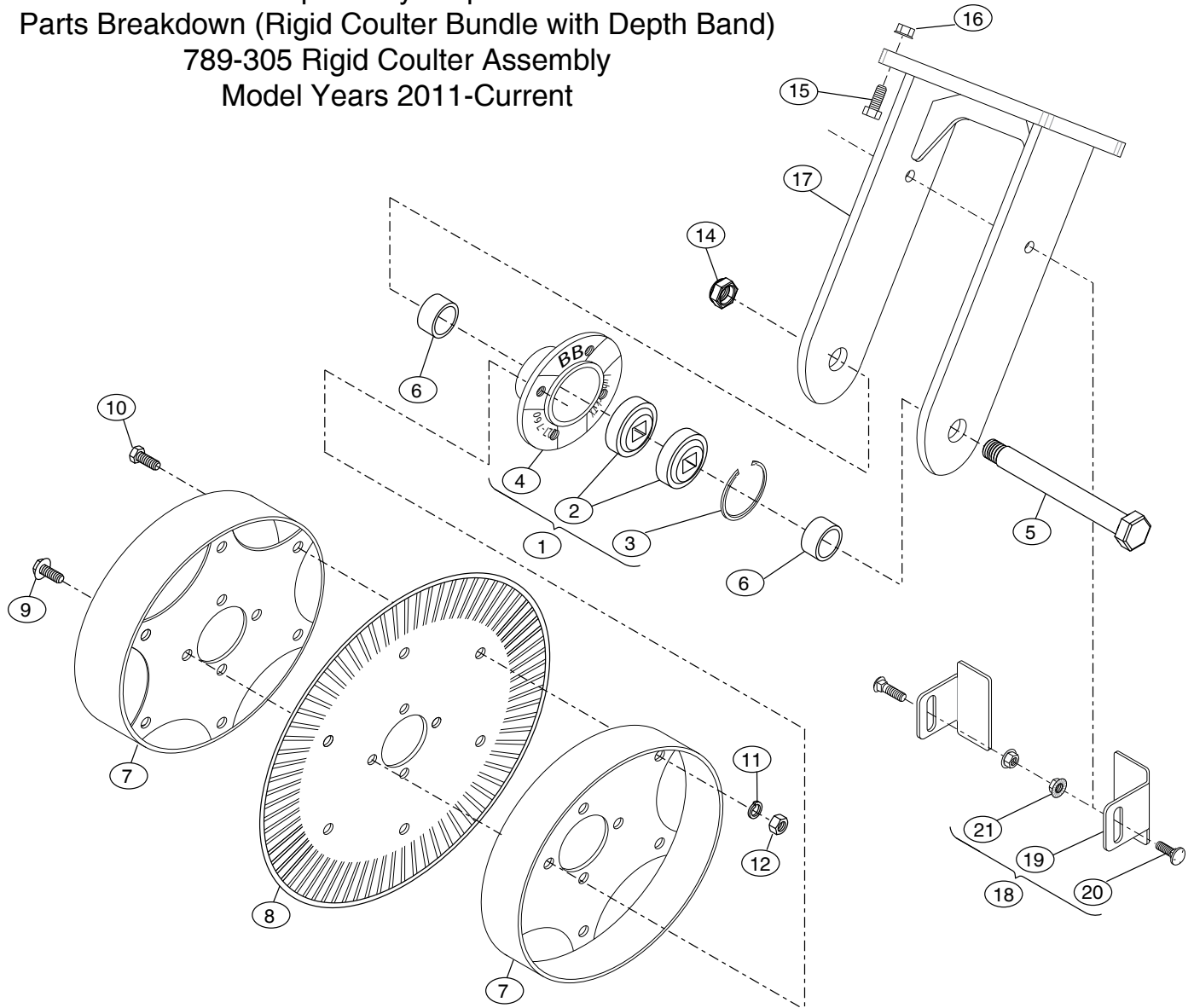


Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
2.	624-110	Bushing, 1x1-1/8x1-1/2" (Plastic)	8	C.	Rear Mount Clamp		
3.	611-1401Z	Nut, Hex ZP 7/8"	4	19.	689-200	Mount Angle, Universal	2
6.	689-208	Bolt Retainer, Striptill	4	20.	689-206	Linkage Arm	2
8.	610-0047	U-Bolt, 7/8" For 7"x7" (Gr 5) ZP	2	21.	686-992	Bracket, 7" Mount Support (for 7x7")	2
9.	616-1403Z	Washer, Flat 7/8" S.A.E. Hard ZP	4		686-991	Bracket 4" Mount Support (for 4x7")	2
10.	789-200	Tail Gang, 4x4" Rear-Strip Till	1	22.	602-1640Z	Bolt, HCS 1"x10" (Gr 5) ZP	1
B.	789-200	Tail Gang, 4x4" Rear-Strip Till (Includes 11-16)		23.	602-1638Z	Bolt, HCS 1"x9-1/2" (Gr 5) ZP	2
11.	301-357	Clevis, Handle Retainer ZP	1	24.	602-1636Z	Bolt, HCS 1"x8-1/2" (Gr 5) ZP	1
12.	617-103	Klik Pin, 1/4 x 1-1/2"	1	25.	614-1606Z	Nut, Hex Nylock Jam ZP 1"	4
13.	605-0406Z	Screw, Hex Washer HD. 12-14X3/4" ZP	1	26.	610-0039	U-Bolt 7/8" for 4x7" Gr5 ZP (for 4x7")	2
14.	606-1010Z	Set Screw, Square Head 5/8"x2-1/2" ZP	6				
15.	606-1006Z	Set Screw, Square Head 5/8"x1-1/2" ZP	1				
16.	617-008	Zerk, 1/8 NPT Threaded	1				
17.	632-710	Insert, Plastic Plug (1.339")	1				

Super Duty Strip Till
Parts Breakdown (Coulter Bundle with Depth Band)
789-310 Adjustable Coulter Assembly
Model Years 2008-2011



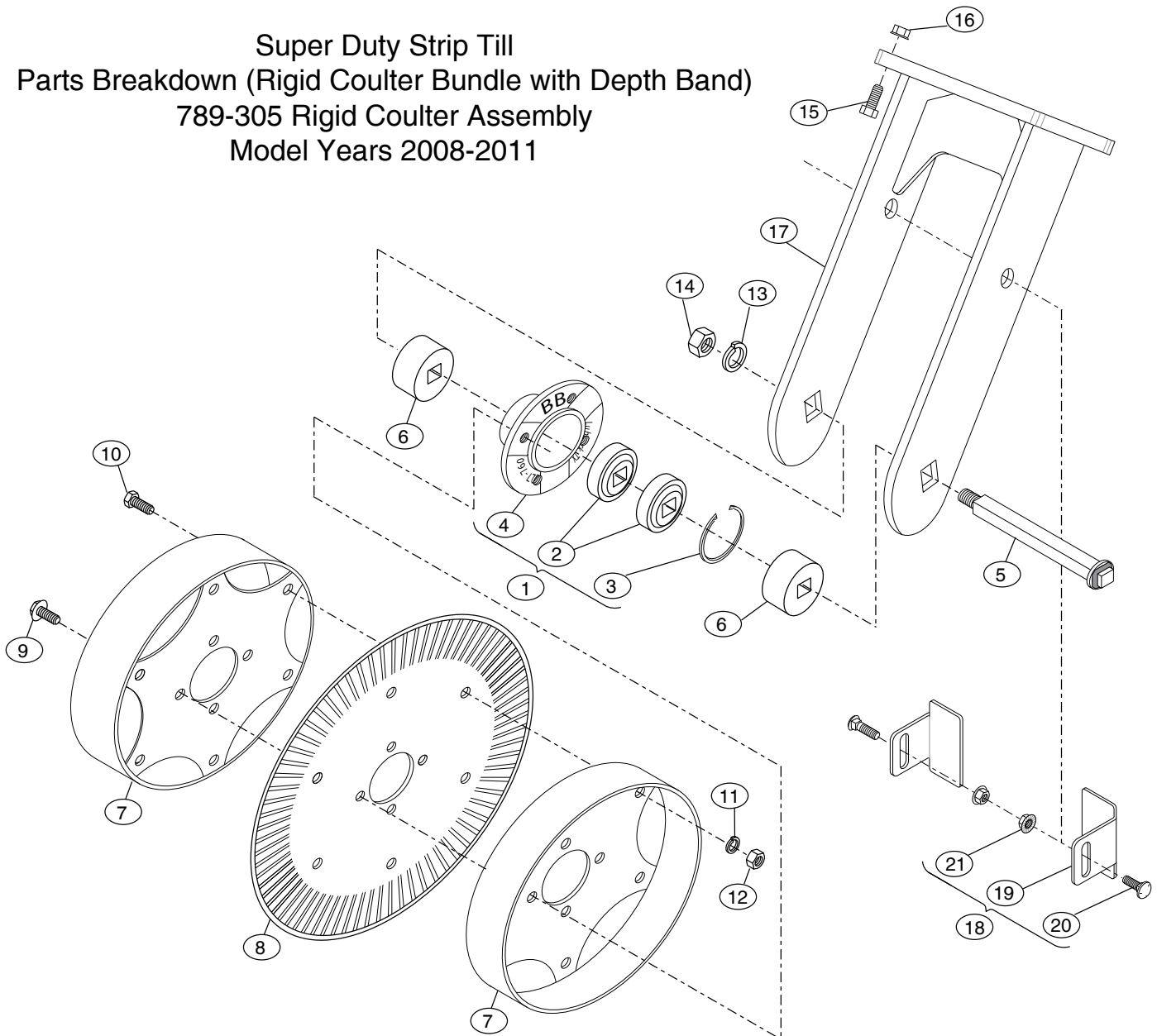
**Super Duty Strip Till
Parts Breakdown (Rigid Coulter Bundle with Depth Band)
789-305 Rigid Coulter Assembly
Model Years 2011-Current**



Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	627-773	Hub/Brg. Assy., Coulter Strip Till	1	15.	602-0806Z	Bolt, HCS 1/2"x1-1/2" (Gr 5) ZP	4
2.	622-057	Bearing, 1-1/8" Sq W208PP5	2	16.	614-0801Z	Nut, Hex Serrated Flange 1/2"	4
3.	627-010	Snap Ring, Disc Bedder Housing	1	17.	689-207R	Bracket, Rigid Coulter Striptill (New Style April 2011)	1
4.	627-772	Hub, Coulter Strip-Till	1			Optional	
5.	610-0061	Axle, 1.209"X 6.25" Usbl.	1	18.	889-121	Scraper Kit, Adj. Coulter Striptill	-
6.	689-210N	Spacer, Coulter Hub, Striptill	2	19.	686-993	Scraper, Adj. Coulter Striptill	2
7.	660-141	Depth Band, 2x14 for 20" Blade	2	20.	604-0806Z	Bolt, Carriage 1/2"x1-1/2" (Gr 5) ZP	2
8.	630-012	Blade, Fluted 20"x4.5mm 4 Hole	1	21.	614-0801Z	Nut, Hex Serrated Flange 1/2"	2
9.	607-0805	Bolt, Flange(NF) 1/2x1-1/4" (3/4 HD)	4				
10.	601-0806Z	Bolt, HCS 1/2"x1-1/2" (Gr 2) ZP	6				
11.	615-0800Z	Washer, Lock ZP 1/2"	6				
12.	611-0801Z	Nut, Hex ZP 1/2" (Gr 5)	6				
14.	614-1800M	Nut, Hex Nylock Jam 1-1/8"	1				

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Super Duty Strip Till Parts Breakdown (Rigid Coulter Bundle with Depth Band) 789-305 Rigid Coulter Assembly Model Years 2008-2011

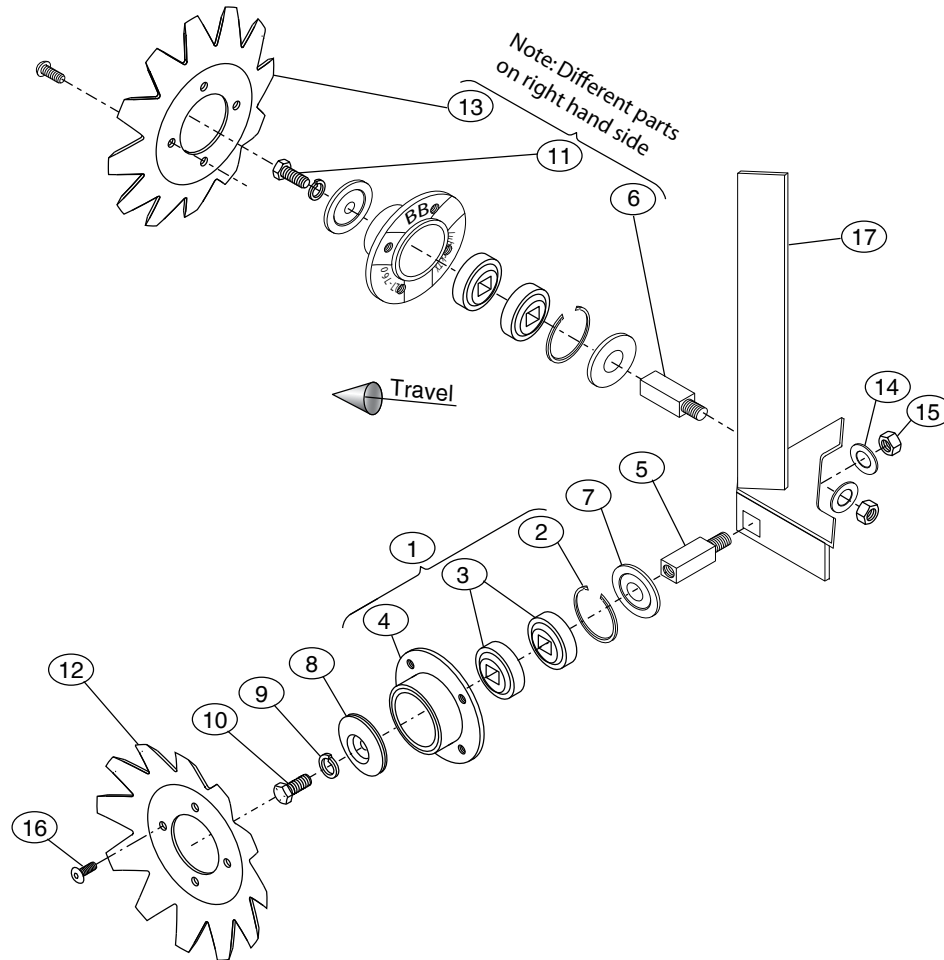


Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	627-773	Hub/Brg. Assy., Coulter Strip Till	1	16.	614-0801Z	Nut, Hex Serrated Flange 1/2"	4
2.	622-057	Bearing, 1-1/8" Sq W208PP5	2	17.	689-207	Bracket, Rigid Coulter Striptill	1
3.	627-010	Snap Ring, Disc Bedder Housing	1			Optional	
4.	627-772	Hub, Coulter Strip-Till	1	18.	889-121	Scraper Kit, Adj. Coulter Striptill	-
5.	610-0053	Gang Bolt, 1-1/8"x7-3/8" USBL	1	19.	686-993	Scraper, Adj. Coulter Striptill	2
6.	689-210	Spacer, Coulter Hub, Striptill	2	20.	604-0806Z	Bolt, Carriage 1/2"x1-1/2" (Gr 5) ZP	2
7.	660-141	Depth Band, 2x14 for 20" Blade	2	21.	614-0801Z	Nut, Hex Serrated Flange 1/2"	2
8.	630-012	Blade, Fluted 20"x4.5mm 4 Hole	1				
9.	607-0805	Bolt, Flange(NF) 1/2x1-1/4" (3/4 HD)	4				
10.	601-0806Z	Bolt, HCS 1/2"x1-1/2" (Gr 2) ZP	6				
11.	615-0800Z	Washer, Lock ZP 1/2"	6				
12.	611-0801Z	Nut, Hex ZP 1/2" (Gr 5)	6				
13.	615-1800	Washer, Lock 1-1/8" (Plain)	1				
14.	611-1801Z	Nut, Hex ZP 1-1/8"	1				
15.	602-0806Z	Bolt, HCS 1/2"x1-1/2" (Gr 5) ZP	4				

BIGHAM BROTHERS, INC.

Parts Breakdown (Row Cleaners)

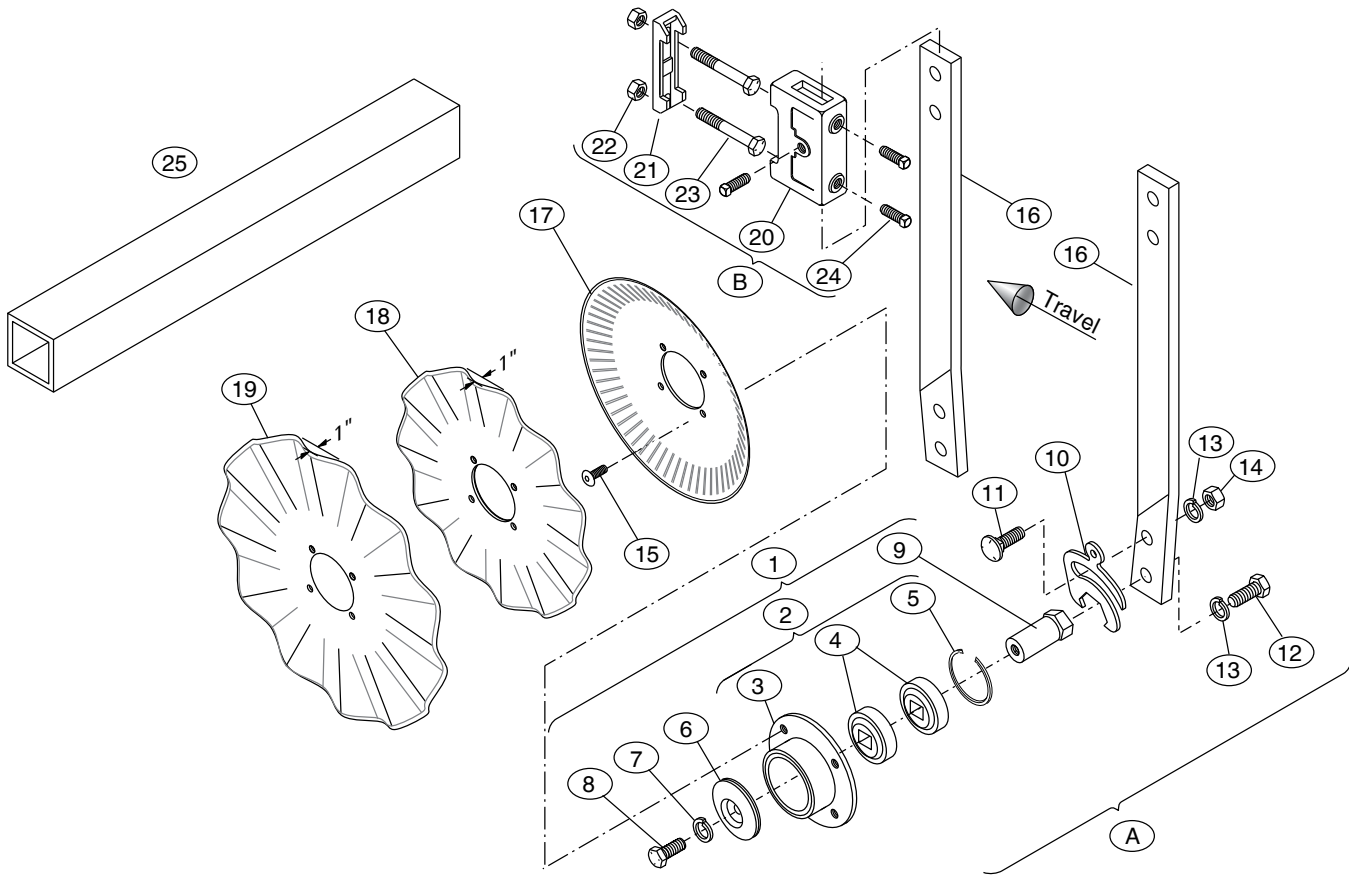
712-660 Row Cleaner Assy, Heavy Duty LH (Left Hand)
712-661 Row Cleaner Assy, Heavy Duty RH (Right Hand)



Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	627-773	Hub/Brg. Assy., Coulter Strip Till	2	16.	607-0804Z	Button Head SS 1/2"-20x1" ZP	2
2.	627-010	Snap Ring, Disc Bedder Housing	2	17.	712-610	Bracket, LH H.D. Row Cleaner (Pictured)	1
3.	622-057	Bearing, 1-1/8" Sq W208PP5	4		712-611	Bracket, RH H.D. Row Cleaner	1
4.	627-772	Hub, Coulter Strip-Till	2	Note: Both left- and right-hand gangs include left- and right-hand discs (items 12 and 13). They also both require different spindles (items 5 and 6), as well as left- and right hand spindle bolts (items 10 and 11).			
5.	310-054TL	Stud, LH Row Cleaner 5.28" HD	1				
6.	310-054T	Stud, RH Row Cleaner 5.28" HD	1				
7.	636-600	Shield, H.D. Row Cleaner	2				
8.	636-884D	Shield, H.D. Covering Disc	2				
9.	615-1000Z	Washer, Lock ZP 5/8"	2				
10.	602-1005L	Bolt, HCS 5/8"x1-1/4" LH (GR5) ZP	1				
11.	602-1005R	Bolt, HCS 5/8"x1-1/4" RH (GR5) ZP	1				
12.	630-007L	Disc, 13.5" Trash Whipper LH	1				
13.	630-007R	Disc, 13.5" Trash Whipper RH	1				
14.	616-1605Z	Washer, Flat 1" S.A.E.	2				
15.	613-1600Z	Nut, Hex Nylock ZP 1"	2				

BIGHAM BROTHERS, INC.

Parts Breakdown (Covering Discs) 889-521, 889-521N (16" Fluted Smooth Blades) 889-522, 889-522N (17" Wavy Blades)



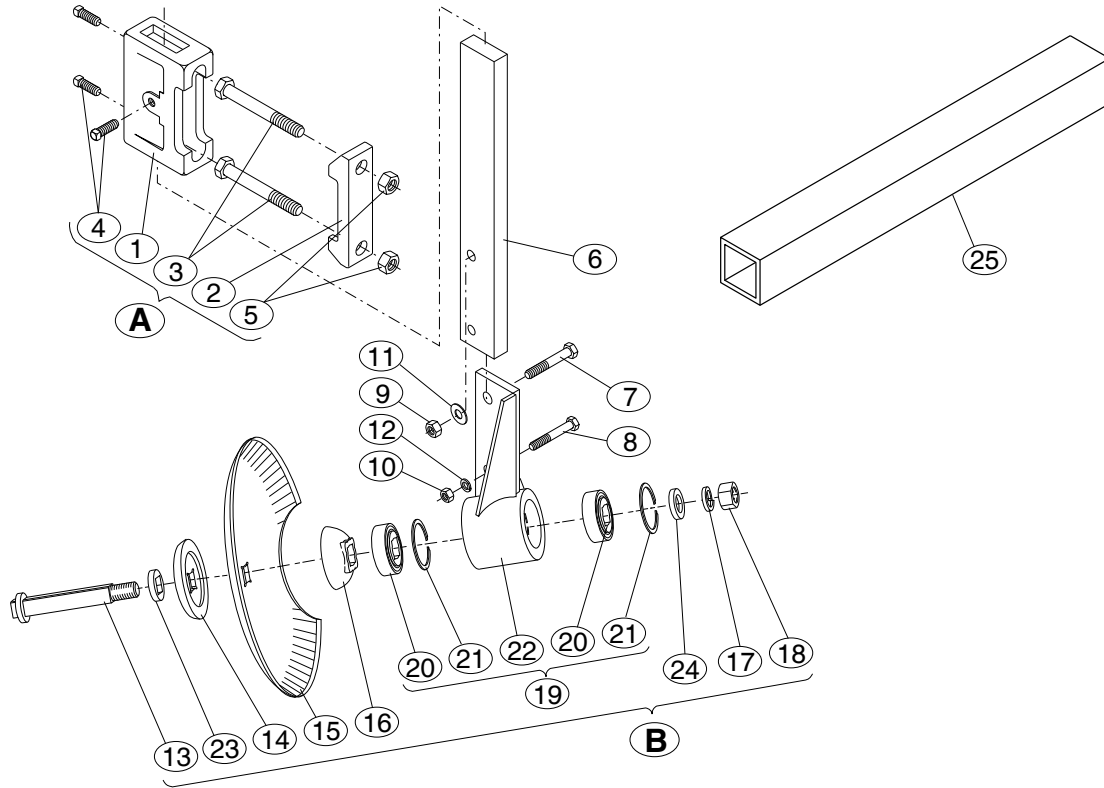
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
A.	712-170	Blade/Shank/Hub 16" Conc. 3/4" LH	-	16.	712-135	Shank, LH 3/4x2.5x27" Covering Disc	*
	712-171	Blade/Shank/Hub 16" Conc. 3/4" RH	-	17.	712-136	Shank, RH 3/4x2.5x27" Covering Disc	*
1.	712-139	Spindle/Hub Assy., LH Cov. Disc HD	1	17.	630-028	Disc, concentric 16"x4.5mm 4 Hole	1
	712-140	Spindle/Hub Assy., RH Cov. Disc HD	1	18.	630-008	Coulter, Wavy 17"x1"x4.5mm 4 Hole	*
2.	627-773	Hub/Brg. Assy., Coulter Strip Till	1	19.	630-011	Coulter, Wavy 20"x1"x4.5mm 4 Hole	*
3.	627-772	Hub, Coulter Strip Till	1			(20" Wavy discs optional)	
4.	622-057	Bearing, 1-1/8" Sq W208PP5	2	B.	806-402	Clamp, 4x4 For 3/4x2-1/2" Shank	1
5.	627-010	Snap Ring, Disc Bedder Housing	1	20.	628-600	Body, Clamp 4" 3/4x2-1/2" Shank	-
6.	636-884D	Shield, H.D. Covering Disc	1	21.	628-200	Cap, 4" 3/4 Bolt Holes (Cast)	-
7.	615-1000Z	Washer, Lock ZP 5/8"	1	22.	611-1201Z	Nut, Hex ZP 3/4"	-
8.	602-1005L	Bolt, HCS 5/8"x1-1/4" LH (GR5) ZP	1	23.	601-1224Z	Bolt, HCS 3/4"x6" Gr2 ZP	-
	602-1005R	Bolt, HCS 5/8"x1-1/4" RH (GR5) ZP	1	24.	606-1006Z	Set Screw, Sq Head 5/8"x1-1/2" ZP	-
9.	627-242LL	Spindle, 1.5" Hex 4 Hole LH LB	1	25.	644-0304	Tube, 4X4X.250 30"	-
	627-242LR	Spindle, 1.5" Hex 4 Hole RH LB	1		644-0284	Tube, 4x4x.250 28" (For Narrow Row)	-
10.	636-220	Lock Plate, Adj. Cov. Disc	1				
11.	610-1208Z	Machine Bolt, Crg 3/4"x2" Gr5	1				
12.	610-1207Z	Bolt, HCS 3/4"x1-3/4" Gr5	1				
13.	615-1200	Washer, Lock 3/4" (Plain)	2				
14.	611-1201Z	Nut, Hex ZP 3/4"	1				
15.	607-0804Z	Bolt, Button HD SS 1/2"-20X1" ZP (Allen head)	4				

(Clamps are not included with Blade/Shank/Hub Assemblies.)
Note: Shank and blade assemblies are pre-set at the factory. Adjustments may be made by rotating the hex spindle (Ref. #9) through the lock plate (Ref. #10). Upper (flat) portion of the shank (Ref. #16) may be utilized for intermediate blade setting by flipping the shank top to bottom.

BIGHAM BROTHERS, INC.

Super Duty Strip Till

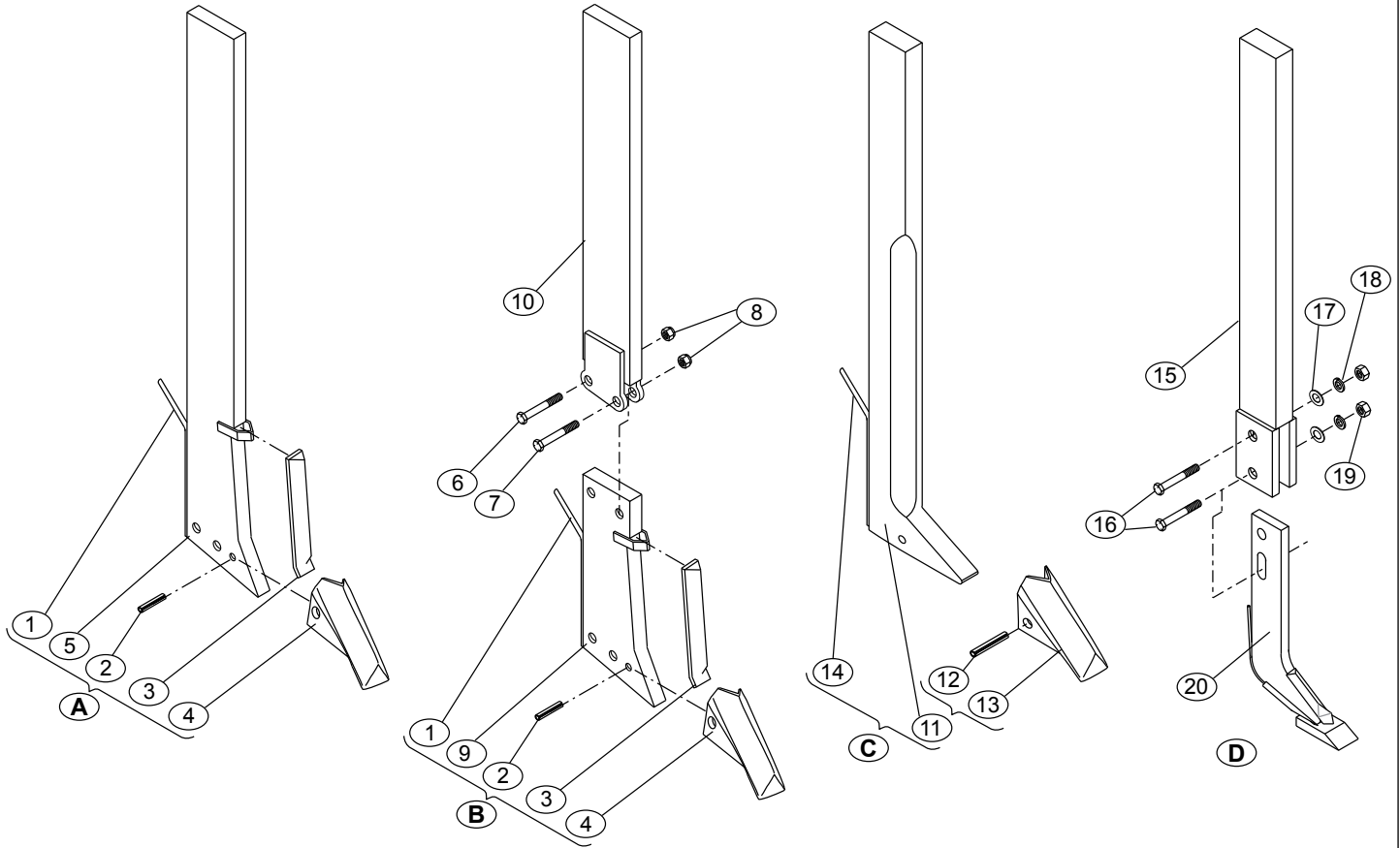
Parts Breakdown (Covering Discs) 889-520 Dics Bundle, 20" Fluted S.D.S.T. 889-520N Narrow Row



Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
A.	806-403	Clamp, 4x4" For 1x3" Shank	-	18.	611-1801Z	Nut, Hex ZP 1-1/8"	2
1.	628-700	Body, Clamp 4" 1x3 Shank	2	19.	710-727F	Housing, 2 Bearing Assy. LH (Fab.)	1
2.	628-400	Cap, 4" 7/8 & 1" Bolt Holes	2		710-728F	Housing, 2 Bearing Assy. RH (Fab.)	1
3.	601-1424Z	Bolt, HCS 7/8"x6" (Gr 2)	4	20.	622-057	Bearing, 1-1/8" Sq W208PP5	4
4.	606-1006Z	Set Screw Sq Head 5/8"x1-1/2" ZP	6	21.	627-010	Snap Ring, Disc Bedder Housing	4
5.	611-1401Z	Nut, Hex ZP 7/8"	4	22.	628-010F	Housing, LH Disc Bedder Top Mt. (Fab.)	1
6.	631-324H	Shank, 1x3x24" H-5160 Heat Treated	2		628-011F	Housing, RH Disc Bedder Top Mt. (Fab.)	1
7.	602-1011Z	Bolt, HCS 5/8"x2-3/4 (Gr 5) ZP	2	23.	310-940	Head Plate 5/16x2RD x 1-1/8 Sqr.	2
8.	602-0811Z	Bolt, HCS 1/2"x2-3/4" (Gr 5) ZP	2	24.	615-1805Z	Washer, 1-1/8" Gang Bolt ZP	2
9.	611-1001Z	Nut, Hex ZP 5/8"	2	25.	644-0304	Tube, 4x4x.250 Cut 30"	1
10.	611-0801Z	Nut, Hex ZP 1/2" (Gr 5)	2				
11.	616-1000Z	Washer, Flat ZP 5/8"	2				
12.	615-0800Z	Washer, Lock ZP 1/2"	2				
B.	712-450	Gang Assy., LH Disc Hiller 1x3" (Pictured)					
	712-451	Gang Assy., RH Disc Hiller (Not Pictured)					
13.	610-0055	Gang Bolt, 1-1/8"x 6-5/8" USBL	2				
14.	636-854	Spring Washer, 7" w/1-1/8" Sqr. Hole	2				
15.	630-020D	Disc, Conc. 20"x5mm 1.125 Sqr Fluted	2				
16.	628-019R	Front Plate, Covering Disc	2				
17.	615-1800	Washer, Lock 1-1/8" (Plain)	2				

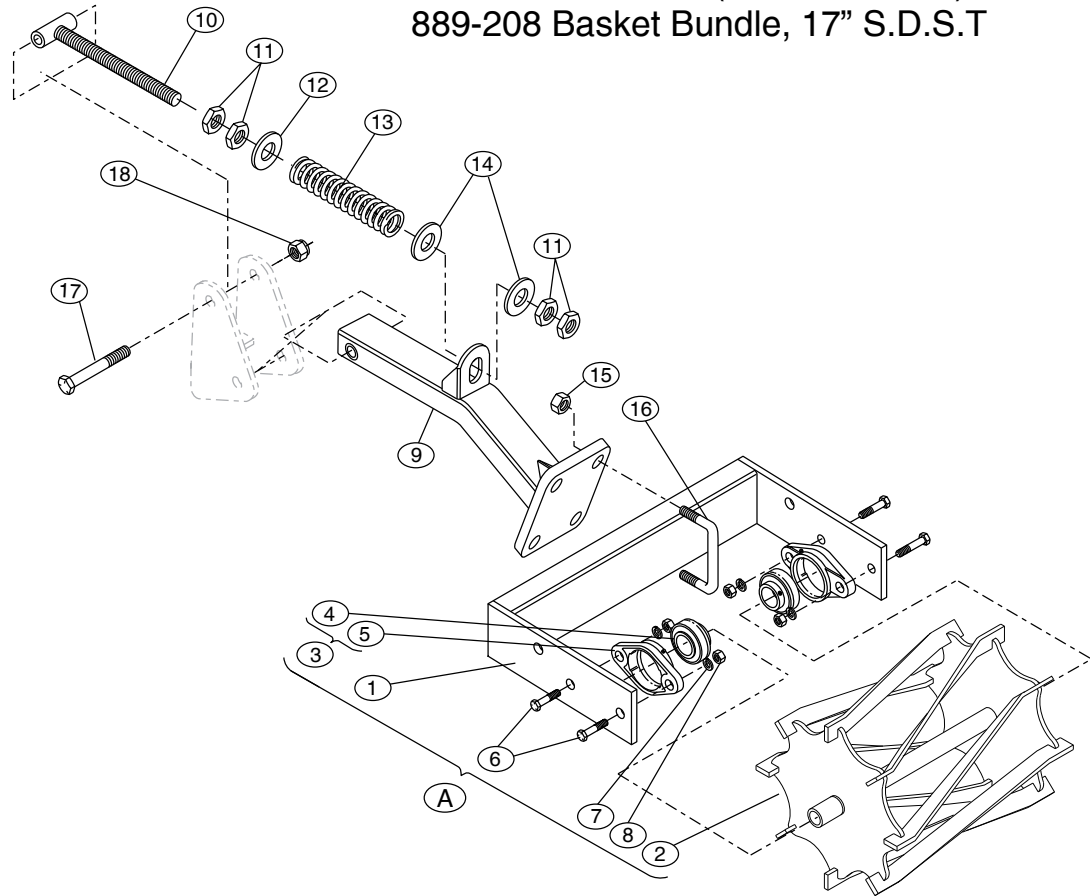
BIGHAM BROTHERS, INC.

Super Duty Strip Till Parts Breakdown (Ripper and Tillage Shanks) 709-024 Ripper Shank, 709-028 Ripper Shank (Trip) 709-020L, 709-020R Subsoil Shank, 789-292 Fertilizer Shank



Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
A.	709-024	Shank, Subsoil 1x4x35.5"	-	C.	709-020L	Shank, Subsoil 1x3x34" LH w/Tube	-
1.	116-0200	Pipe, 1/8" Sch 40 18"	1	709-020R	Shank, Subsoil 1x3x34" RH w/Tube	-	
2.	617-052	Pin, Roll 3/8"x2"	1			(Pictured)	
3.	709-023	Shin, Chrome Barb 1-1/8"x8.25"	1	11.	709-007L	Shank, Subsoil 1x3x34" LH w/Point	1
4.	709-014	Point, Ripper Chromium Carbide	1		709-007R	Shank, Subsoil 1x3x34" RH w/Point	1
5.	380-712	Shank, 1x4x36" w/Holes	1	12.	615-052	Pin, Roll 3/8"x2"	1
B.	709-028	Shank Assy., Trip Subsoil 1x4x36"	-	13.	709-014	Point, Ripper Chromium Carbide ER	1
		(Requires 1-4 above)		14.	116-0200	Pipe, 1/8" Sch 40 18"	1
6.	602-0811Z	Bolt, HCS 1/2"x2-3/4 (Gr 5) ZP	1	D.	789-292	Fertilizer Shank Assy., 1x3" Striptill	-
7.	601-0811Z	Bolt, HCS 1/2"x2-3/4 (Gr 2) ZP	1				
8.	613-0800Z	Nut, Hex Nylock ZP 1/2"	2	15.	705-292	Shank, Fertilizer Striptill 1x3x20"	1
9.	709-027	Shank, Trip Subsoil (Bottom)	1	16.	602-0811Z	Bolt, HCS 1/2"x2-3/4" (Gr 5) ZP	2
10.	709-026	Shank, Trip Subsoil (Top)	1	17.	616-0800Z	Washer, Flat ZP 1/2"	2
				18.	615-0800Z	Washer, Lock ZP 1/2"	2
				19.	611-0801Z	Nut, Hex ZP (Gr 5)	2
				20.	630-712	Knife, HD Fertilizer Mole Point/Carb Ins	1

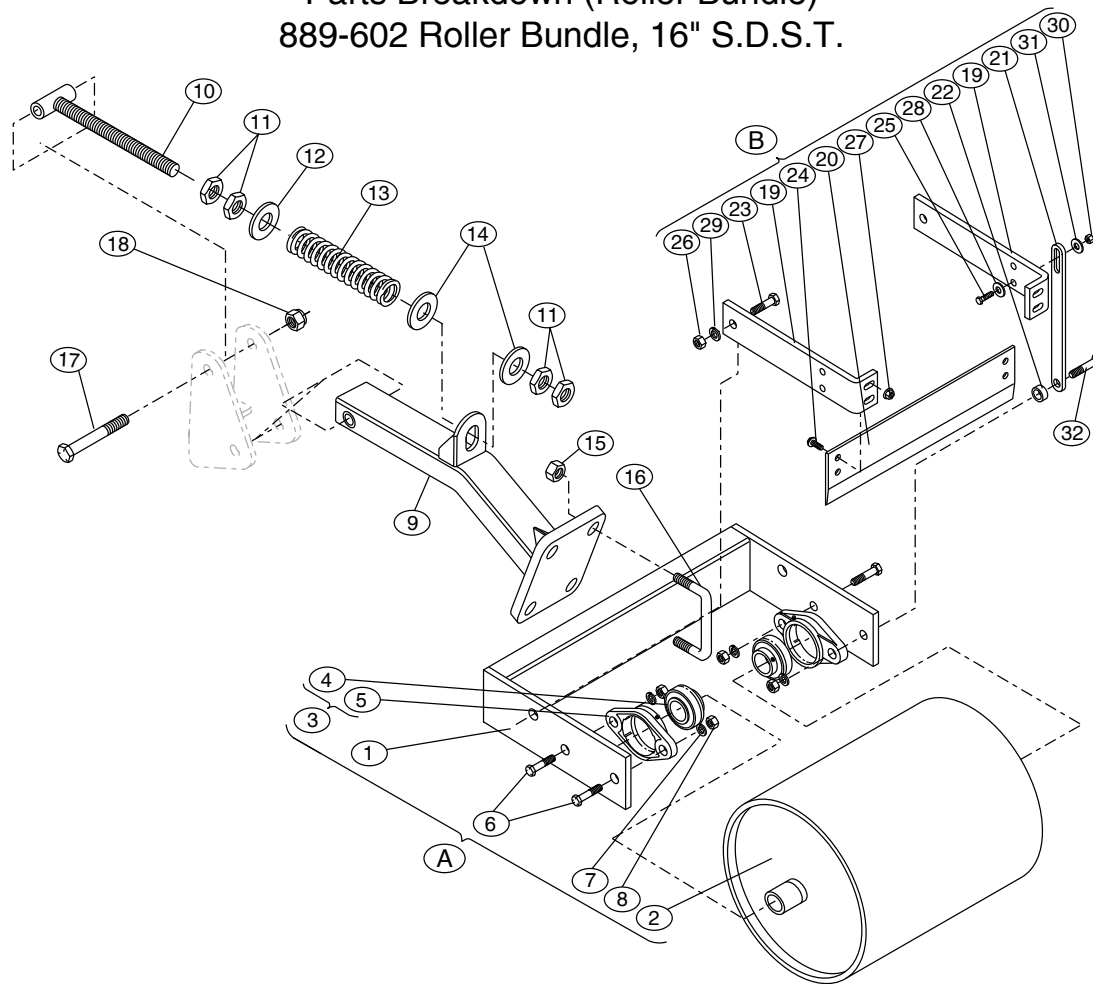
**Super Duty Strip Till
Parts Breakdown (Basket Bundle)
889-208 Basket Bundle, 17" S.D.S.T**



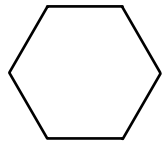
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
A.	785-600	Yoke & 17" Basket Assy.	1				
1.	685-320	Yoke Weldment, 17" Bed Cond.	1				
2.	685-200	Basket Weldment, 17" Wide/16" Dia.	1				
3.	622-084	Bearing Assy. 1-1/2" FL	2				
4.	622-087	Bearing, 1-1/2" Triple Lip	-				
5.	622-091	Housing, 2-Hole 1-1/2"	-				
6.	602-0808Z	Bolt, HCS 1/2"x2" (Gr 5)	4				
7.	615-0800Z	Washer, Lock ZP 1/2"	4				
8.	611-0801Z	Nut, Hex ZP 1/2" (Gr 5)	4				
9.	685-226	Arm Weldment 2x3, Short Striptill	1				
10.	685-234	Threaded Rod w/Bushing, Roller	1				
11.	614-1601Z	Nut, Hex Jam 1" ZP	4				
12.	616-1605Z	Washer, Flat 1" S.A.E.	1				
13.	633-025	Spring, Prepmaster Covering Disc	1				
14.	616-1601	Washer, Flat 1" SAE PFC9 (2" OD)	2				
15.	611-1201Z	Nut, Hex ZP 3/4"	4				
16.	610-0037	U-Bolt, 3/4" for 4"x2" (Gr 5) ZP	2				
17.	602-1220Z	Bolt, HCS 3/4"x5" (Gr 5) ZP	2				
18.	613-1200Z	Nut, Hex Nylock ZP 3/4"	2				

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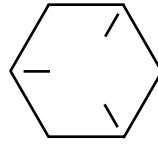
Super Duty Strip Till Parts Breakdown (Roller Bundle) 889-602 Roller Bundle, 16" S.D.S.T.



Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
A.	785-602	Yoke & 16" Roller Assy.	1	B.	686-984	Scraper Assy., 17" Smooth Roller	-
1.	685-320	Yoke Weldment, 17" Bed Cond.	1	19.	686-983	Bracket, Universal (Scraper Assy.)	2
2.	685-205	Pipe Roller, 12 3/4" OD x 15-3/4"	1	20.	686-984	Scraper Blade, 9/32"x4"x18-1/2"	1
3.	622-084	Bearing Assy. 1-1/2" FL	2	21.	686-985	Mount Plate, Adj. Chopper Shield	2
4.	622-087	Bearing, 1-1/2" Triple Lip	-	22.	636-869	Bushing, 27/32"x35/64"x1/2"	2
5.	622-091	Housing, 2-Hole 1-1/2"	-	23.	602-1008Z	Bolt, HCS 5/8"x2" (Gr 5) ZP	2
6.	602-0808Z	Bolt, HCS 1/2"x2" (Gr 5)	4	24.	603-0705Z	Bolt, Whizlock 7/16"x1-1/2" (Gr 5)	4
7.	615-0800Z	Washer, Lock ZP 1/2"	4	25.	602-0606Z	Bolt, HCS 3/8"x1-1/2" (Gr 5)	2
8.	611-0801Z	Nut, Hex ZP 1/2" (Gr 5)	4	26.	611-1001Z	Nut, Hex ZP 5/8"	2
9.	685-226	Arm Weldment 2x3, Short Striptill	1	27.	614-0701Z	Nut, Hex Serrated Flange 7/16"	4
10.	685-234	Threaded Rod w/Bushing, Roller	1	28.	616-0600Z	Washer, Flat ZP 3/8"	2
11.	614-1601Z	Nut, Hex Jam 1" ZP	4	29.	615-1000Z	Washer, Lock ZP 5/8"	2
12.	616-1605Z	Washer, Flat 1" S.A.E.	1	30.	611-0601Z	Nut, Hex ZP 3/8"	2
13.	633-025	Spring, Prepmaster Covering Disc	1	31.	615-0600Z	Washer, Lock ZP 3/8"	2
14.	616-1601	Washer, Flat 1" SAE PFC9 (2" OD)	2	32.	602-0811Z	Bolt, HCS 1/2"x2-3/4" (Gr 5) ZP	2
15.	611-1201Z	Nut, Hex ZP 3/4"	4				
16.	610-0037	U-Bolt, 3/4" for 4"x2" (Gr 5) ZP	2				
17.	602-1220Z	Bolt, HCS 3/4"x5" (Gr 5) ZP	2				
18.	613-1200Z	Nut, Hex Nylock ZP 3/4"	2				



GRADE 2
No Marks



GRADE 5
3 Lines on
Bolt Head

RECOMMENDED ASSEMBLY TORQUES FOR HEXAGON HEAD CAP SCREWS

Based on dry assembly. Variables such as lubrication, plating etc. may reduce the values listed below as much as 20%, and must be taken into consideration.

	Bright Cap Screws 1018 Grade 2			Heat Treated 1038 Hexagon Head Cap Screws, SAE Grade 5			
Cap Screw Diam.	Yield Strength PSI Min.	Recommended Torque (Ft. Lbs.)		Yield Strength PSI Min.	Tensile Strength PSI Min.	Recommended Torque (Ft. Lbs.)	
		UNC	UNF			UNC	UNF
1/4"	58,000	6	7	90,000	120,000	11	13
5/16"	58,000	13	14	90,000	120,000	21	23
3/8"	58,000	23	26	90,000	120,000	38	40
7/16"	58,000	37	41	90,000	120,000	55	60
1/2"	58,000	57	64	90,000	120,000	85	95
5/8"	55,000	111	128	90,000	120,000	175	210
3/4"	55,000	200	223	90,000	120,000	300	330
7/8"	55,000	315	340	81,000	115,000	450	490
1"	50,000	400	460	81,000	115,000	680	715
1-1/8"	50,000	570	635	77,000	105,000	885	990

General Formula for calculating Torque is as follows:

Torque in Inch Lbs. = .2 x Nominal Diameter of Screw x Load in Lbs., where Load = 80% of Yield Strength, expressed in Lbs., not pounds per square inch.

The tension induced in a cap screw may be checked by measuring overall length before torquing and then under torque load. The screw stretches .001" per inch of screw length for each 30,000# P.S.I. induced tension. Applies only to loads below the yield point.

BIGHAM BROTHERS, INC.

Notes: