



Lilliston® Rolling Cultivator® Generation 3 Operators Manual



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Do Not Use or Operate This Equipment Until You Have Read and Understand 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 Ag
705 E. Slaton Rd.
P.O. Box 3338
Lubbock, TX 79452
Office: (800) 692-4449
Fax: (806) 745-1082**

SAFETY FIRST

**PREVENT ACCIDENTS BY “THINKING SAFETY” IN
UNLOADING, SETTING UP, MOVING, STORAGE AND
OPERATING ALL EQUIPMENT**



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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 machine's performance depends on how you operate and care for it.

After each 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 rear left side of the tool bar mast.

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

WARRANTY

Bigham Ag warrants all products of its manufacture to be free from defects in materials and workmanship for a period of one year 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.

Model Number: _____
Serial Number: _____
Date Of Purchase: _____

LIMITED LIFETIME WARRANTY ON TOOL BAR CLAMPS

Bigham Ag 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 Ag after December 31, 1987.

Clamps that fail should be returned to Bigham Ag, 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.

Safety Requirements

TAKE NOTE! THIS SAFETY ALERTS SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.



THIS SYMBOL MEANS

- ATTENTION!
- BECOME ALERT!
- YOUR SAFETY IS INVOLVED!

Signal Words

Note the use of the signal words DANGER, WARNING and CAUTION with the safety messages. The appropriate signal word for each has been selected using the following guidelines:

DANGER

DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, an includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION

CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



General Safety Guidelines

Safety of the operator and any bystanders is one of the main concerns in designing and developing a new piece of equipment. Designers and manufacturers build in as many safety features as possible. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury, study the following precautions and insist those working with you, or for you, follow them.

- Replace any CAUTION, WARNING, DANGER or instruction safety decal that is not readable or is missing. Location of such decals is indicated in this booklet.
- Do not attempt to operate this equipment under the influence of drugs or alcohol. Do not use the equipment if alertness or coordination is impaired.
- Review the safety instructions with all users annually.
- This equipment is dangerous to children and persons unfamiliar with its operation. The operators should be a responsible adult familiar with farm machinery and trained in this equipment's operations. Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.
- Do not read, eat, drink, talk or text or use a mobile phone while using this equipment.
- To prevent injury or death, use a tractor equipped with a Roll Over Protective System (ROPS). Do not paint over, remove or deface any safety signs or warning decals on your equipment. Observe all safety signs and practice the instructions on them.
- Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question.
 - DO NOT TRY IT.
- Stay clear of any moving parts, such as shafts, couplings and universal joints.
- If adjustments need to be made, make them in small steps, shutting down all motions for each adjustment.
- Do not allow anyone to ride on any part of the equipment for any reason.
- Assure that all bystanders are at a safe distance before operating or maintaining this equipment.

Bigham Ag Serial Tag

The Bigham Ag serial tag provides important information for service and warranty work. The model number and serial number provide Bigham Ag Dealers and the Bigham Ag Customer Service department with exact specifications of your implement.

- Serial tags are located on the rear left side of toolbars that incorporate a top mast. On toolbars that do not use a top mast the serial tag is located on the front left of the toolbar.



Bigham Ag Manual Holder

Manual holders contain all relevant owners manuals for the product they are attached to. Please keep the manual in the tube so that it is easily available to reference back to.

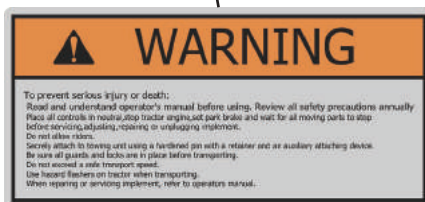
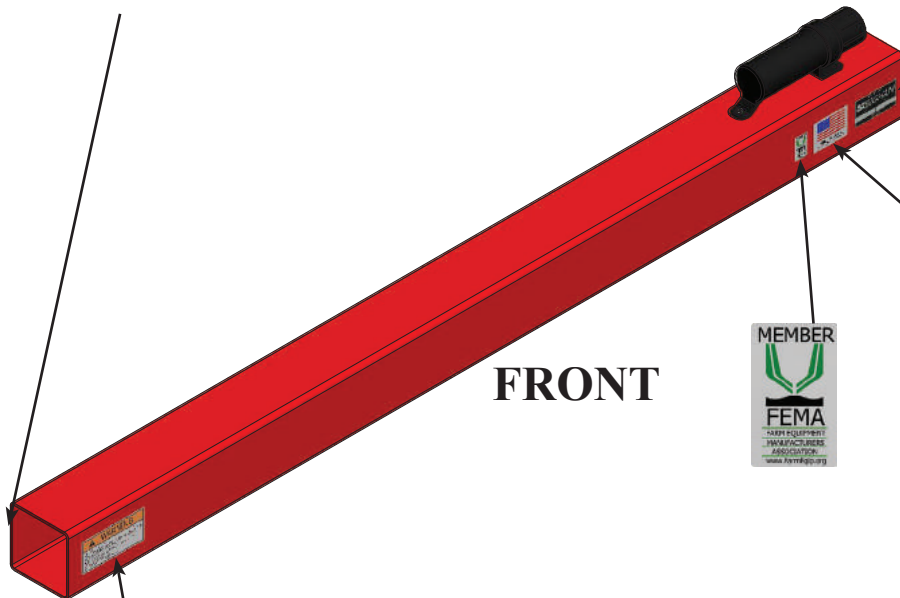
- For toolbars with a top mast manual tubes are located on the front left of the toolbar mast. For toolbars without a top mast manual tube holders are located on the top left side of the toolbar.





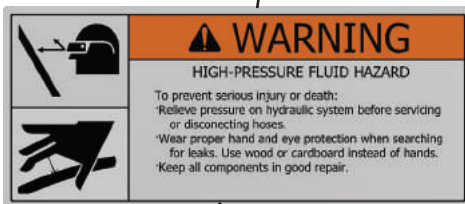
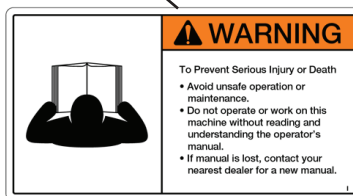
Safety Decal Locations

- Safety decals are located around the toolbar to warn you of potentially dangerous situations.
- Please pay close attention to all safety decals.
- Please replace any safety decals that are missing or have become illegible.

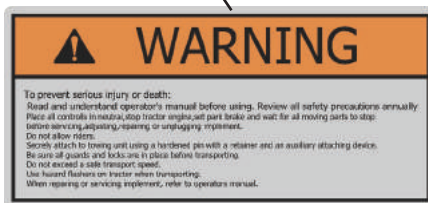




FRONT



REAR





Safety Decal Care

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or have become illegible.
- Replaced parts that displayed a safety sign should also display the current safety sign.
- Safety signs are available from your Distributor or Dealer Parts Department or the factory.

How to Install Safety Signs:

- Be sure that the installation area is clean and dry.
- Decide on the exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of decal backing paper.



Tire Safety

- Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death.
- Do not attempt to mount a tire unless you have the proper equipment and experience to do the job.
- Inflating or servicing tires can be dangerous. Whenever possible, trained personnel should be called to service and/or mount tires.
- Always order and install tires and wheels with appropriate capacity to meet or exceed the anticipated weight to be placed on the equipment.



Lighting and Marking

- It is the responsibility of the customer to know the lighting and marking requirements of the local highway authorities and to install and maintain the equipment to provide compliance with the regulations. Add extra lights when transporting at night or during periods of limited visibility.
- Lighting kits are available from your dealer or from the manufacturer.



Before Operation

- Carefully study and understand this manual.
- Do not wear loose-fitting clothing which may catch in moving parts.
- Always wear protective clothing and substantial shoes.
- Keep wheel lug nuts or bolts tightened to specified torque.
- Assure that agricultural implement tires are inflated evenly.
- Give the unit a visual inspection for any loose bolts, worn parts or cracked welds, and make necessary repairs. Follow the maintenance safety instructions included in this manual.
- Be sure that there are no tools lying on or in the equipment.
- Do not use the unit until you are sure that the area is clear, especially children and animals.
- Don't hurry the learning process or take the unit for granted. Ease into it and become familiar with your new equipment.
- Practice operation of your equipment and its attachments. Completely familiarize yourself and other operators with its operation before using.
- Use a tractor equipped with a Roll Over Protective System (ROPS) and fasten your seat belt prior to starting the engine.
- The manufacturer does not recommend usage of tractor with ROPS removed.
- Securely attach to towing unit. Use a high strength, appropriately-sized hitch pins with a mechanical retainer.
- Do not allow anyone to stand between the tongue or hitch and the towing vehicle when backing up to the equipment.



During Operation

- Children should never be allowed on the equipment.
- Clear the area of small children and bystanders before moving the equipment.
- Securely attach equipment to towing unit, using correct hitch pin , a metal retainer, and safety chains if required. Shift towing unit to a lower gear before going down steep downgrades, thus using the engine as a retarding force. Keep towing vehicle in gear at all times. Slow down for corners and rough terrain.
- Make sure you are in compliance with all local and state regulations regarding transporting equipment on public roads and highways. Lights and slow moving signs must be clean and visible by overtaking or oncoming traffic when cultivator is transported.
- Install the safety chain by crossing the chains under the tongue and secure to the draw bar cage or hitch or bumper frame.
- Beware of bystanders, particularly children! Always look around to make sure that it is safe to start the engine of the towing vehicle or move the unit. This is particularly important with higher noise levels and quiet cabs, as you may not hear people shouting.
- **NO PASSENGERS ALLOWED** - Do not carry passengers anywhere on, or in, the tractor or equipment, except as required for operation.
- Keep hands and clothing clear of moving parts.
- Always keep all shields and guards in place and securely fastened.
- Do not clean, lubricate or adjust your equipment while it is moving.
- When halting operation, even periodically, set the tractor or towing vehicle brakes, shut off the engine and remove the ignition key.
- Be especially observant of the operating area and terrain - watch for holes, rocks or other hidden hazards. Always inspect the area prior to operation.
 - DO NOT operate near the edge of drop-offs or banks.
 - DO NOT operate on steep slopes as overturn may result.
 - Operate up and down (not across) intermediate slopes. Avoid sudden starts and stops.
- Adopt safe driving practices:
 - Keep the brake pedals latched together at all times. **NEVER USE INDEPENDENT BRAKING**



Highway and Transport Operations

WITH MACHINE IN TOW A LOSS OF CONTROL AND/OR UPSET OF UNIT CAN RESULT.

- Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop to be safe and secure. Keep speed to a minimum.
- Reduce speed prior to turns to avoid the risk of overturning.
- Avoid sudden uphill turns on steep slopes.
- Always keep the tractor or towing vehicle in gear to provide engine braking when going downhill. Do not coast.
- Do not drink and drive!
- Comply with state and local laws governing highway safety and movement of farm machinery on public roads.
- Use approved accessory lighting flags and necessary warning devices to protect operators of other vehicles on the highway during daylight and nighttime transport. Various safety lights and devices are available from your dealer.
- The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.
- When driving the tractor and equipment on the road or highway under 20 mph at night or during the day, use flashing amber warning lights and a slow moving vehicle (SMV) identification emblem.
- Plan your route to avoid heavy traffic.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.
- Be observant of bridge loading ratings. Do not cross bridges rated lower than the gross weight as which you are operating.
- Watch for obstructions overhead and to the side while transporting.
- Always operate equipment in a position to provide maximum visibility at all times. Make allowances for increased length and weight of the equipment when making turns, stopping the unit, etc.
- Pick the levellest possible route when transporting across fields. Avoid the edges of ditches or gullies and steep hillsides.
- Be extra careful when working on inclines.
- Maneuver the tractor or towing vehicle at safe speeds.

- Avoid overhead wires or other obstacles. Contact with overhead lines could cause serious injury or death.
- Avoid loose fill, rocks and holes; they can be dangerous for equipment operation or movement.
- Allow for unit length when making turns.
- Operate the towing vehicle from the operator's seat only.
- Never stand alongside of unit with engine running or attempt to start engine and/or operate machine while standing alongside of unit.
- Never leave running equipment attachments unattended.
- As a precaution, always recheck the hardware on equipment following every 100 hours of operation. Correct all problems. Follow the maintenance safety procedures.



Following Operation

- Following operation, or when unhitching, stop the tractor or towing vehicle, set the brakes, shut off the engine and remove the ignition keys.
- Store the unit in an area away from human activity.
- Do not permit children to play on or around the stored unit.
- Make sure all parked machines are on a hard, level surface and engage all safety devices.
- Wheel chocks may be needed to prevent unit from rolling.



Performing Maintenance

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble. Proper servicing and adjustments are key to the long life of any implement. With careful inspection and routine maintenance, costly downtime and repairs can be avoided.
- Some parts and assemblies can be quite heavy. Before attempting to unfasten any part or assembly, arrange to support it by means of a hoist, by blocking or by use of an adequate arrangement to keep it from falling, tipping, swinging or moving in any manner which may hurt somebody or damage the equipment.
- Always use lifting equipment that is adequately rated to do the job. Never lift equipment over people.
- Make sure there is plenty of ventilation. Never operate the engine of the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.
- Before working on the equipment, stop the towing vehicle, set the brakes, disengage all power drives, shut off the engine and remove the ignition keys.

- Be certain all moving parts on attachments have come to a complete stop before attempting to perform maintenance.
- Always use a safety support and block the wheels. Never use a jack to support the equipment.
- Always use the proper tools or equipment for the job at hand.
- Use extreme caution when making adjustments.
- Never replace hex bolts with less than grade five bolts unless otherwise specified.
- After servicing, be sure all tools, parts and service equipment are removed.
- Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not claim responsibility for use of unapproved parts and/or accessories and other damages as a result of their use.
- If equipment has been altered in any way from original design, the manufacturer does not accept any liability for injury or warranty.
- If repairs require the use of a torch or electric welder, be sure that all flammable and combustible materials are removed.
- Do not weld or cut on any tank containing oil, fuel or their fumes or other flammable material, or any container whose previous contents are unknown.
- Cleaning solvents should be used with care. Petroleum based solvents are flammable and present a fire hazard. Don't use gasoline. All solvents must be used with adequate ventilation and their vapors should not be inhaled.



Hydraulic Fluid and Equipment Safety

Only adequately trained and qualified persons should work on hydraulics systems. You may be severely injured or killed by being crushed under a falling piece of equipment. Always have transport locks in place and frame sufficiently blocked when working on any implement.

Hydraulic fluid escaping under pressure can have sufficient force to cause injury. Keep all hoses and connections in good serviceable condition. Failure to heed may result in serious personal injury or death. Escaping hydraulic fluid under pressure can have sufficient pressure to penetrate the skin causing serious injury. Avoid the hazard by relieving the pressure before disconnecting lines or performing work on the system.

Make sure hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system. Use a piece of paper or cardboard, NOT BODY PARTS, to check

for suspected leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. **DO NOT DELAY!** If an accident occurs, see a doctor familiar with this type of injury immediately. Any fluid injected into the skin or eyes must be treated within a few hours or gangrene may result.

Always secure equipment with solid supports before working on or under it. Never work under equipment supported by hydraulics. Hydraulics can drop equipment if controls are actuated or hydraulic lines burst or pressure is lost while disconnecting lines. Either situation can drop machinery instantly even when power to hydraulics is off. Do not attempt to disconnect a hydraulic cylinder or hose while the system is under pressure! Check hydraulic hoses and fittings frequently. Brush and other debris can damage hoses and fittings. Inspect and maintain equipment daily. Loose, broken, and missing hardware can cause equipment to not perform properly and can result in bodily injury or death.

Hydraulic systems and oil can be hot and cause burns. Before working on any system, wait until the oil has cooled.



Lockout / Tagout

Think, plan and check. Think through the entire procedure and identify all the steps that are required. Plan what personnel will be involved, what needs to be shut down, what guards need to be removed, and how (and under what conditions) the power will be restarted. Check the machine over to verify all power sources and stored energy have been identified including engines, hydraulic and pneumatic systems, springs and accumulators, and suspended loads. Shutoff and lockout power before adjusting, servicing, maintaining, or clearing an obstruction from this machine. Failure to heed may result in serious injury or death. Communicate with everyone involved in a repair or maintenance operation, including bystanders, that work is being done which involves keeping this machine safety at a **ZERO ENERGY STATE**.

OSHA's requirements for lockout/tagout are covered in Section 1910.147 of the OSHA standards. The LOTO standard establishes the employer's responsibility to protect workers from hazardous energy. Employers are required to train each worker to ensure that they know, understand, and are able to follow the applicable provisions of the hazardous energy control procedures:

- Proper lockout/tagout (LOTO) practices and procedures safeguard workers from the release of hazardous energy. The OSHA standard for The Control of Hazardous Energy (Lockout/Tagout) for general industry, outlines specific action and procedures for addressing and controlling hazardous energy during servicing and maintenance of machines and equipment. Employers are also required to train each worker to ensure that they know, understand, and are able to follow the applicable provisions of the hazardous energy control procedures. Workers must be trained in the purpose and function of the energy control program and have the knowledge and skills required for the safe application, usage and removal of the energy control devices.

- All employees who work in the area where the energy control procedure(s) are utilized need to be instructed in the purpose and use of the energy control procedure(s) and about the prohibition against attempting to restart or reenergize machines or equipment that is locked or tagged out.
- All employees who are authorized to lockout machines or equipment and perform the service and maintenance operations need to be trained in recognition of applicable hazardous energy sources in the workplace, the type and magnitude of energy found in the workplace, and the means and methods of isolating and/or controlling the energy.
- Specific procedures and limitations relating to tagout systems where they are allowed.
- Retraining of all employees to maintain proficiency or introduce new or changed control methods.

OSHA outlines a six-step procedure for controlling hazardous energy:

- **Step 1:** Prepare for shutdown. It must be determined what type of power system is going to be deactivated including electrical, hydraulic, pneumatic or other energy sources. Knowledge of shut down methods is necessary.
- **Step 2:** Shutdown the equipment. This should be completed consistent with the manufacturer's instructions for the shutdown procedure and could be as simple as placing a switch in the "off" position or pressing a button.
- **Step 3:** Isolate the equipment. This step involves closing of valves, throwing the main disconnects or circuit breakers and disconnecting or capping any auxiliary power sources or secondary electrical systems.
- **Step 4:** Apply the lockout/tagout device. This is done to prevent restoration of the flow of energy and is done at all disconnect switches, valves or other energy isolating devices. Locks are the preferred method of controlling energy and should be supplemented with tags. Various lockout devices are available including group lockout hasps. Locks should be individually assigned and have only one key.
- **Step 5:** Control the stored energy. This step includes the release, disconnect or restraint of any residual hazardous energy which may be present and a check that all moving parts have stopped moving. It may also include the installation of "pancakes" or blanking of pipe flanges, the installation of ground wires to discharge electrical capacitors and the blocking or supporting of elevated equipment.
- **Step 6:** Verify isolation of equipment. Double-check the steps and verify that the equipment indeed has been shut down and that the lock and tag do control the stored energy. Employees should be warned and the system tested, including pressing of all start buttons to assure that the equipment will not start.

Maintenance Chart

Lubrication

- Lubricate the grease fitting in the hinge pivots of the folding toolbars with a multi purpose grease every 50 hours of operation.

Fasteners

- All fasteners should be checked and re-tightened after the initial thirty minutes of operation.
- All fasteners should be checked and re-tightned after every 25 hours of operation.

Seasonal Maintenance

- Clean the cultivator thoroughly to remove dirt and trash which could hold moisture and cause rusting.
- Apply a good rust preventative to all land polished surfaces, such as spiders and sweeps.
- Lubricate all toolbar grease fittings to fill cavities and prevent moisture build up.

Troubleshooting

Problem	Cause	Correction
Insufficient penetration of rear gangs while cultivating or mulching beds.	Gangs angled in the wrong direction.	Reverse angle. Gang number 1 cuts and moves soil to the left. Gang number 2 cuts and moves soil to the right.
	Not enough angle.	Increase angle of gangs. Tilt gang an additional 10 degrees on tilt adjustment plate.
	Incorrect toolbar angle.	Lengthen top link linkage to roll the toolbar backward until the front and rear spider gangs engage the soil evenly.
	Not enough pressure on gangs.	Decrease implement height on three point lift.
Excessive penetration of rear gangs while cultivating or mulching beds.	Incorrect toolbar angle.	Shorten top link linkage to roll the toolbar forward until the front and rear spider gangs engage to soil evenly.
Gangs clogging between fork and spider.	Soil contains rocks, hard clods, crop residue.	Add scraper between fork and spider.
Covering small crop when cultivating.	Too much angle on the spider gangs.	Decrease spider gang angle unit until the crop is bigger.
Insufficient dirt movement towards the row crop.	Not enough angle on the spider gangs.	Increase spider gang angle until a sufficient amount of dirt is moving towards the row crop.
Side draft on tractor. (Cultivator does not trail behind tractor)	Row units not in the center of the furrow.	Check row spacing at the point of the sweep. Adjust units on bar as necessary.
	Toolbar not level	Adjust three point lift arm linkages to level the toolbar.
	Unequal penetration of rear gangs.	Decrease implement height on three point lift.
Row gangs wearing unevenly.	Soil compaction behind tractor.	Rotate rear gangs that operate behind tractor tires.
Row gangs wearing rapidly or unevenly.	Cultivator toolbar not positioned properly.	Adjust top link until the front and rear spider gangs are evenly engaging the ground.
	Row gangs are being run too deep.	Increase the set height of the three point lift.

Troubleshooting Continued

Problem	Cause	Correction
Toolbar bending.	Loading beyond design limit with deep tillage tools such as bed rippers, irrigation shovels, etc.	Attach cable pull ears from each end of the toolbar to the front of the tractor.
Bending and twisting of coulter assembly.	Turning with the coulter in the ground with rigid tractor hitch.	Make sure coulter clears ground before turning at the end of the row.
Coulter bearing failure.	Running coulter too deep.	Adjust coulter setting. Never run coulter hub or bearing in the dirt.

Use and Care Tips From the Factory

- Spending the time to properly set your cultivator in the beginning will pay dividends in the end.
- When rebuilding spider gangs make sure the spiders are timed properly. Number 1 spiders are equipped with a single timing mark and number 2 spiders are equipped with a double timing mark. Timing marks are to be set 90 degrees out from any adjacent spiders.

Assistance

- If you have questions not answered in this manual or require additional copies, please contact your dealer or Bigham Ag.

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



INTRODUCTION:

- The primary function of the Lilliston® Rolling Cultivator® Generation 3 is for general purpose row crop cultivation. It can also be utilized for throwing up beds, mulching existing beds and incorporating chemicals.
- When configured as a cultivator, a combination of Number 1 spider gangs, Number 2 spider gangs and cultivator sweeps clear weeds from areas between rows of growing plants. The spiders can either be used to push soil under the canopy of the growing crop or pull soil from the bed back to the furrows.
- With the more aggressive settings the Lilliston® Rolling Cultivator® Generation 3 can throw up and freshen beds before planting. This helps create optimal seed bed structure.
- The Lilliston® Rolling Cultivator® Generation 3 spider tines do an excellent job of mixing the soil. The makes to cultivator and ideal tool for incorporating herbicide or fertilizer.

Lilliston Cultivator Overview

- The Lilliston® Rolling Cultivator® Generation 3 is equipped with an uneven number of row units. One for each crop seedbed plus one. Normal configuration includes a Lilliston row unit bundle, Lilliston arm bundle, Number 1 and Number 2 Lilliston spider gangs and rear cultivation shank.

Gang Placement

- Lilliston® Rolling Cultivator® Generation 3 cultivator row units will need to be centered on the torsion spring unit.
- Check/set row spacing from the center line at the point of the sweep — not at the top of the clamp on the tool bar. Manufacturing tolerances may affect position at the end of the tool. Set center gang on the center line of the toolbar. Ensure center of sweep is on center. Run a tape from center point and ensure each point is the right distance from this point. For example, for 38" rows, points should be at 38", 76", 114", 152", 190", 228", etc. from the center point. Do not measure one point to the next, because any error can be compounded to the next gang.

Rear Gangs

- The function of the rear gang is to remove weed growth, mulch and condition the soil in the area between the crop rows. There are three different types of rear gangs, non hardfaced 16 inch spider tines, hardfaced 16 inch spider tines and the 16 inch disc gang. The spider gangs are less sensitive to the angle of operation and work best where high residue does not exist. The disc gangs work good in high residue and are more aggressive yet more sensitive to the angle at which they operate. The operation and setup of spider gangs and disc gangs is the same.

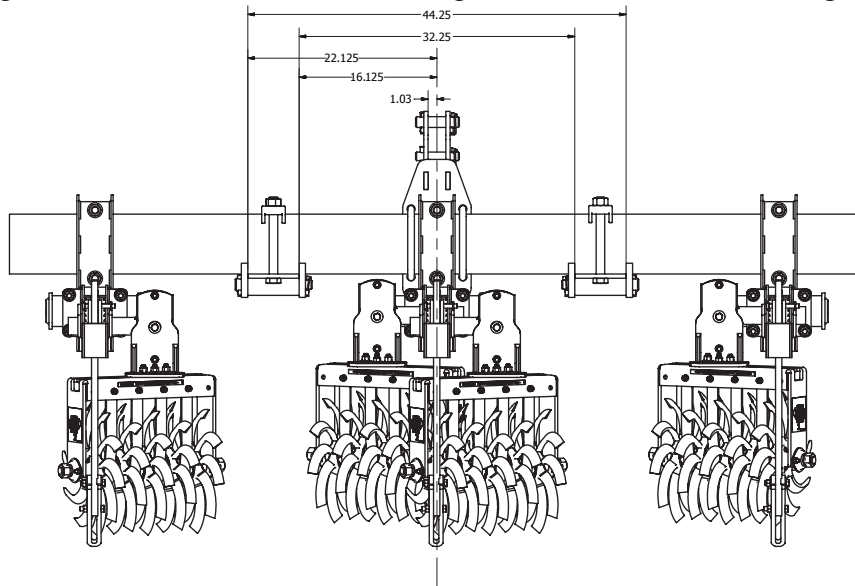
Toolbars

- Many toolbar configurations are available for your Lilliston® Rolling Cultivator®. Standard toolbars offered are rigid, vertical fold, over fold and stack fold.
- Cut length rigid toolbars require a bolt on hitch P/N 804-787. Cut length toolbars are available up to six row widths.
- Top mast equipped rigid bars are available from 6 row to 10 row configurations.
- Vertical fold toolbars are available in 7"x7" single bar and double bar configurations.
- Over fold toolbars are available in 7"x7" single bar and double bar configurations.
- Stack fold toolbars are available in 7"x7" single bar and double bar configurations.

Field Use and Adjustments

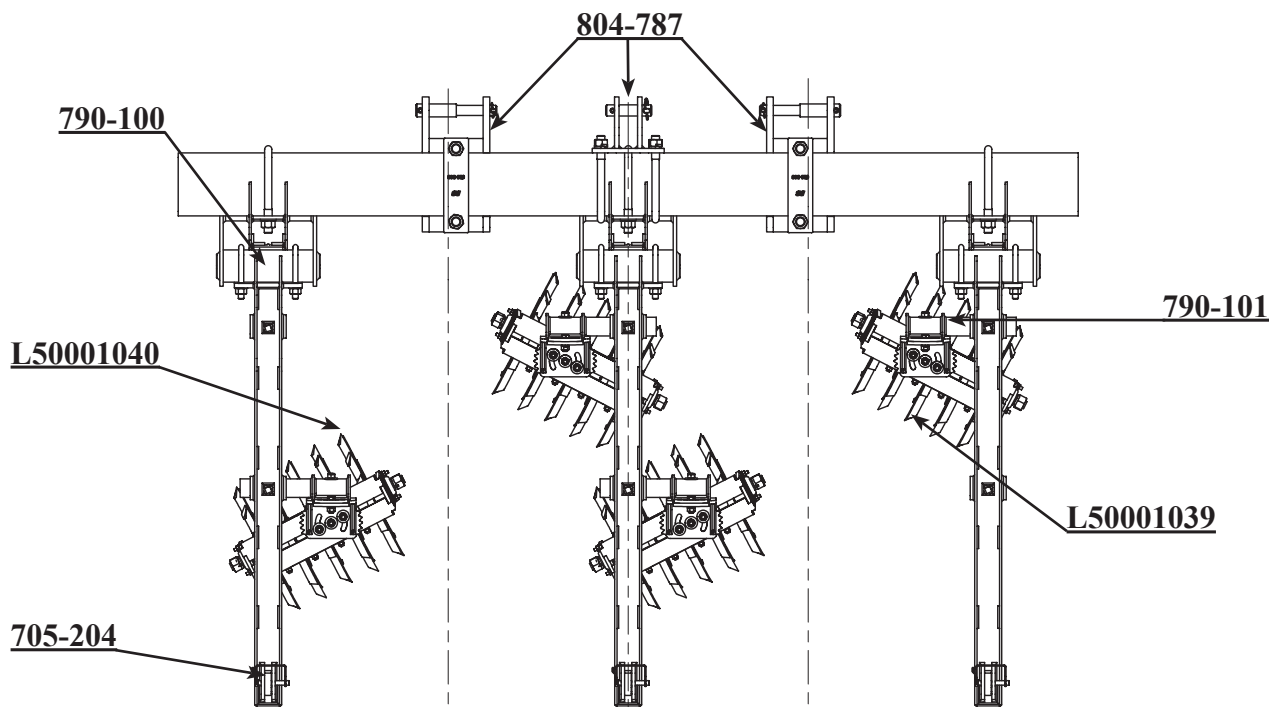
Hitch Setup

- There is one style of hitch available for rigid single toolbars. The hitch is Category II and Category III Wide. The hitch part number is 804-787. Hitch set up dimensions are shown in figure .



Assembly Diagram

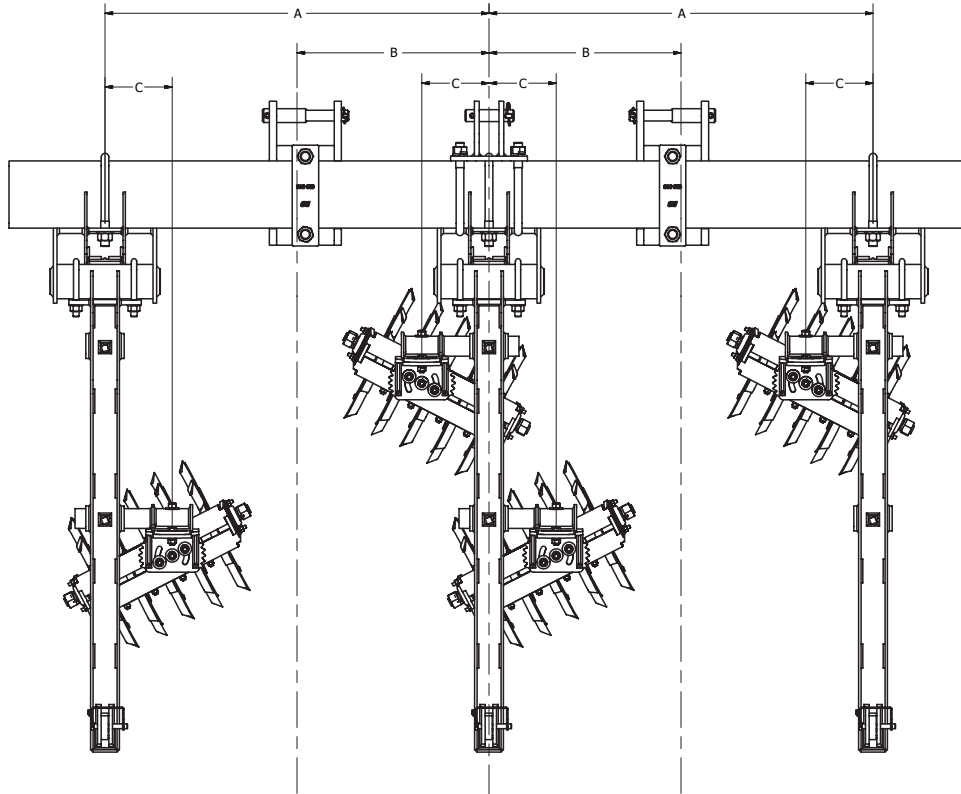
- All Lilliston® Rolling Cultivators® will have to same basic set up. The cultivator is set up to operate in the bottom of the furrows. The number of row units will equal the number of rows plus one. One unit will line up exactly in the center of the toolbar. See figure for a basic assembly layout and part numbers.



Field Use and Adjustments

Cultivation

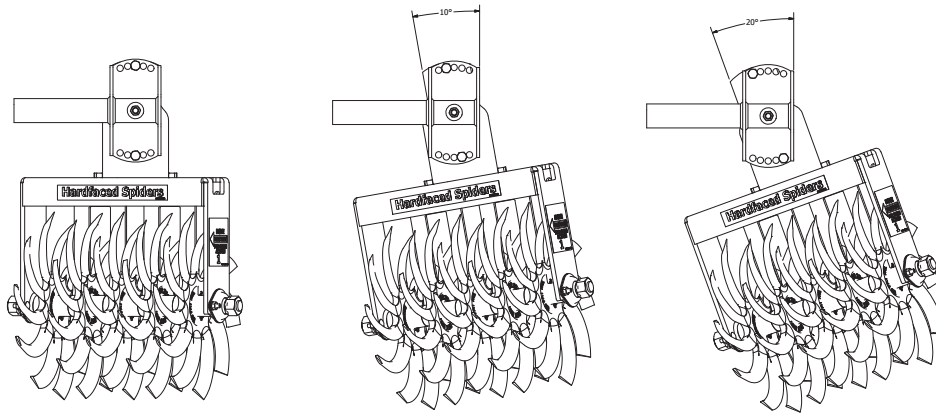
- The primary function of the Lilliston® Rolling Cultivator® Generation 3 is to cultivate row crops. The standard cultivation setup includes a number 1 spider gang, a number 2 spider and a furrow clean out sweep.
- Each row spacing requires a specific set up. See table below.



Set-Up Dimensions	A	B	C
30 In. Row Spacing	30	15	5
32 In. Row Spacing	32	16	5
34 In. Row Spacing	34	17	5.5
36 In. Row Spacing	36	18	6
38 In. Row Spacing	38	19	6.5
40 In. Row Spacing	40	20	7
42 In. Row Spacing	42	21	7
44 In. Row Spacing	44	22	7
46 In. Row Spacing	46	23	7
48 In. Row Spacing	48	24	7

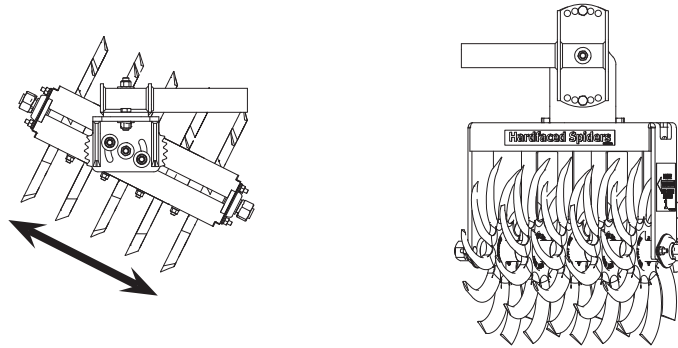
Tilt Angle Adjustment

- The Lilliston® Rolling Cultivator® comes with three tilt angle adjustment positions. The adjustments are 0 degrees, 10 degrees and 20 degrees.



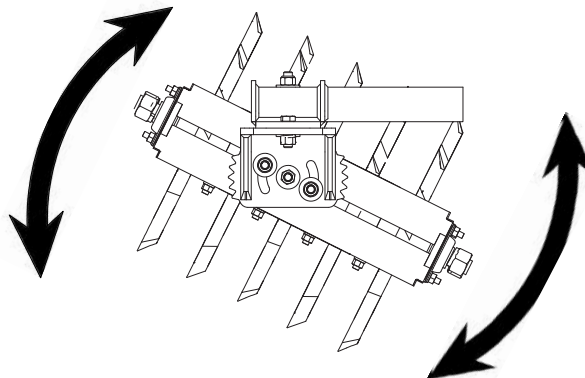
Spacing Adjustment

- Spider gangs can be adjusted in and out to achieve proper clearance around the crop.



Angle Adjustment

- Spider gang angle can be changed to increase or decrease the amount of soil moved.
- The spider gang mounting plate is equipped with tabs to indicate angle severity. This allows the operator to make consistent settings across the machine. Each tab indicate 10 degrees of angle.



Bed Mulching

- For mulching heavily crusted bed with large weed growth, bed rippers are recommended for shaving the bed tops.
- The rear gangs with number 1 spiders on the right and number 2 spiders on the left, should be set at the maximum angle possible and tilted so that each spider penetrates the bed at an equal depth.
- Under less extreme conditions the bed ripper may not be required and the spider gangs will sufficiently mulch the beds.

Chemical Incorporation

- The Lilliston Rolling Cultivator Generation 3 can be used to incorporate chemical in either a band or broadcast application.

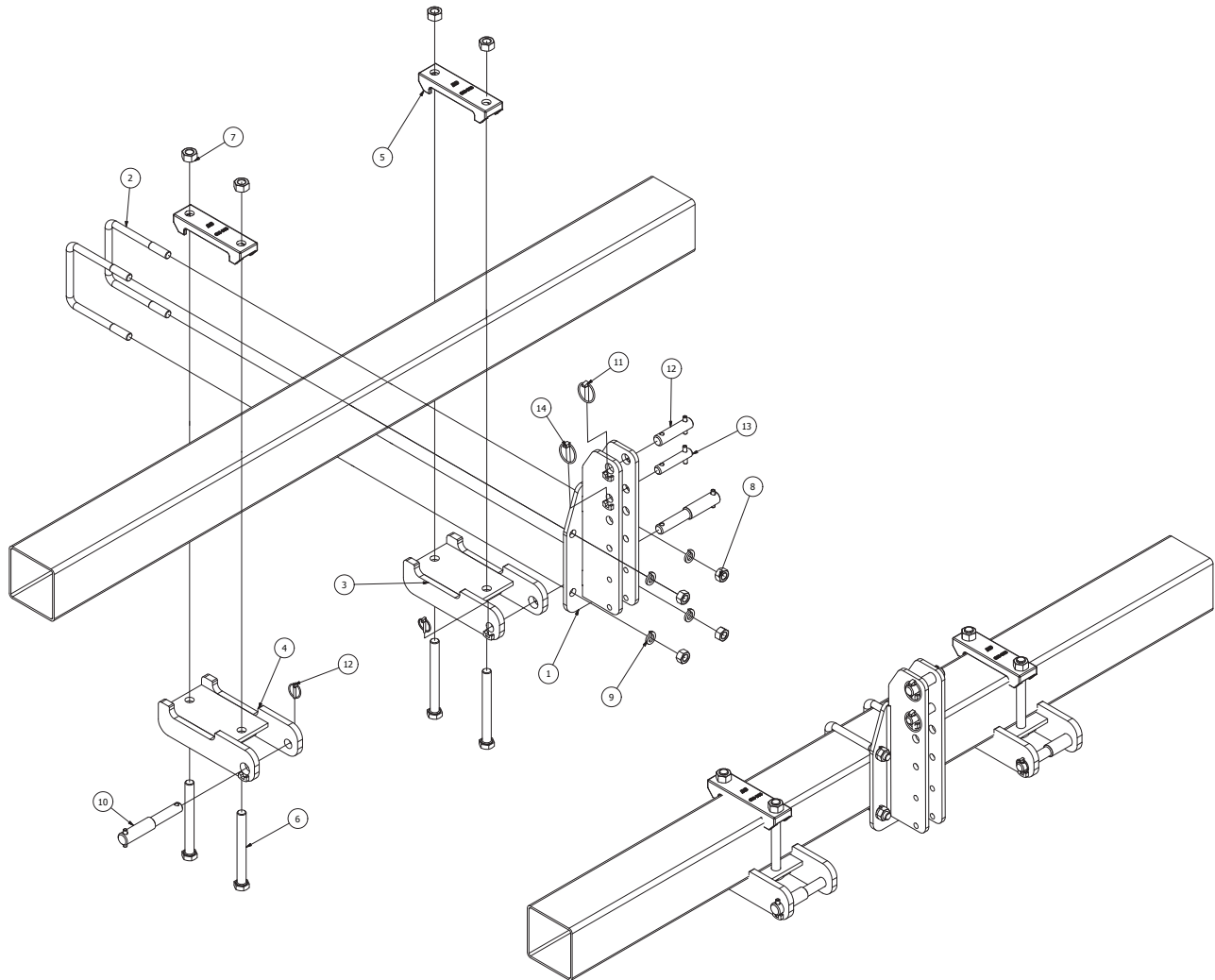
Banding Incorporation

- For band incorporation move the spider gangs out to cover the top of the seed bed.
- Angle the gangs at about 5 degrees in opposite directions so the rear gang picks up soil moved by the first gang and places it back into the desired bandwidth thoroughly mixing the chemical with the soil. As a general rule, run the spiders twice as deep as the level of incorporation desired.

Broadcast Incorporation

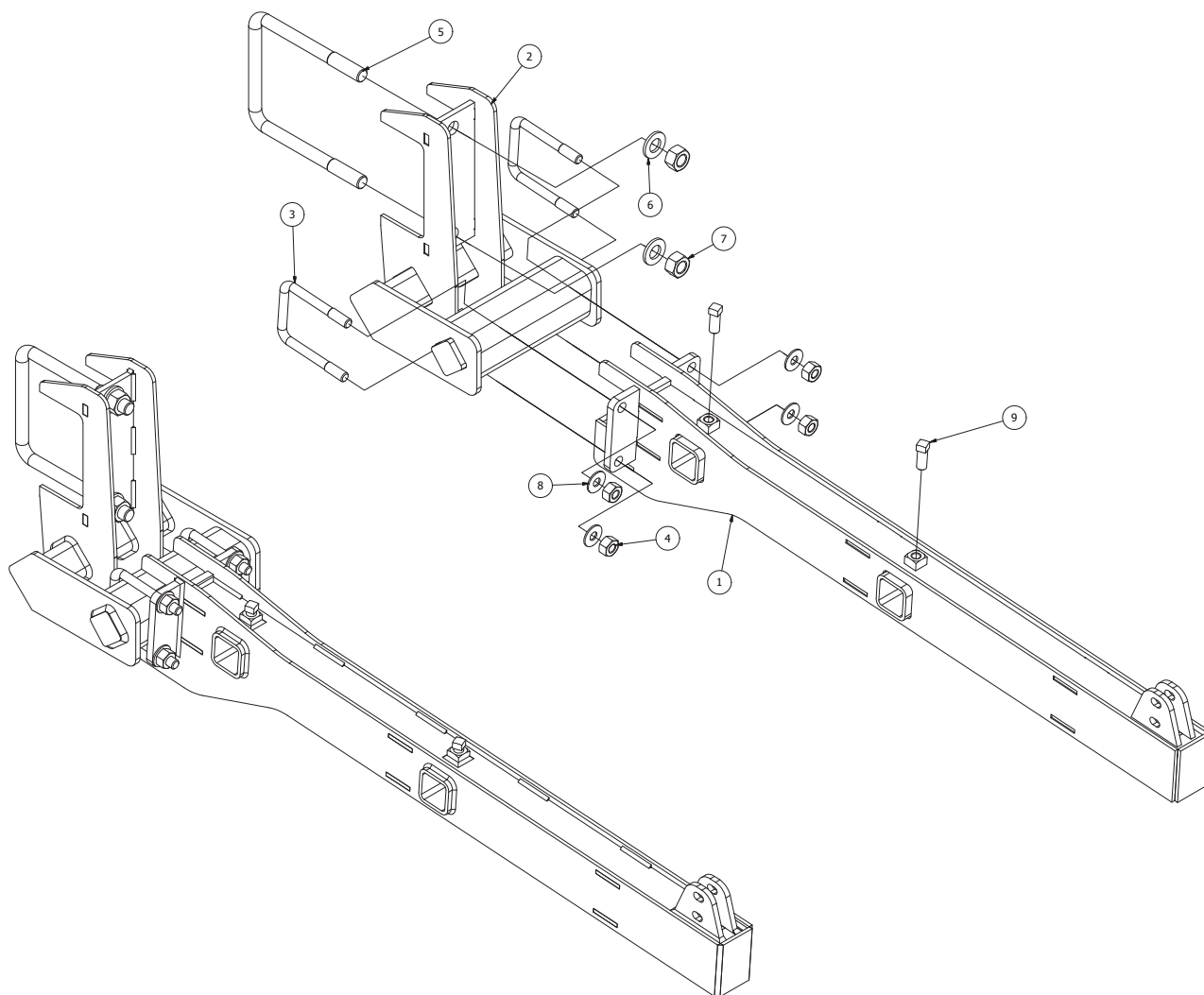
- For broadcast incorporation the spider gangs should be set with the number 1 spiders on the left and the number 2 spiders on the right of the cultivator unit. The gangs should be angled to move soil back towards the center and to lap over in the middle.
- In Flat planted crops, the gangs will be set the same as for bedded crops, except gangs are not angle and run flat through the field.

Lilliston Rolling Cultivator Generation 3
Parts Break Down
804-787 Hitch, 7X7 Bar (Combination CAT II / III)
Model Year 2015 - Current



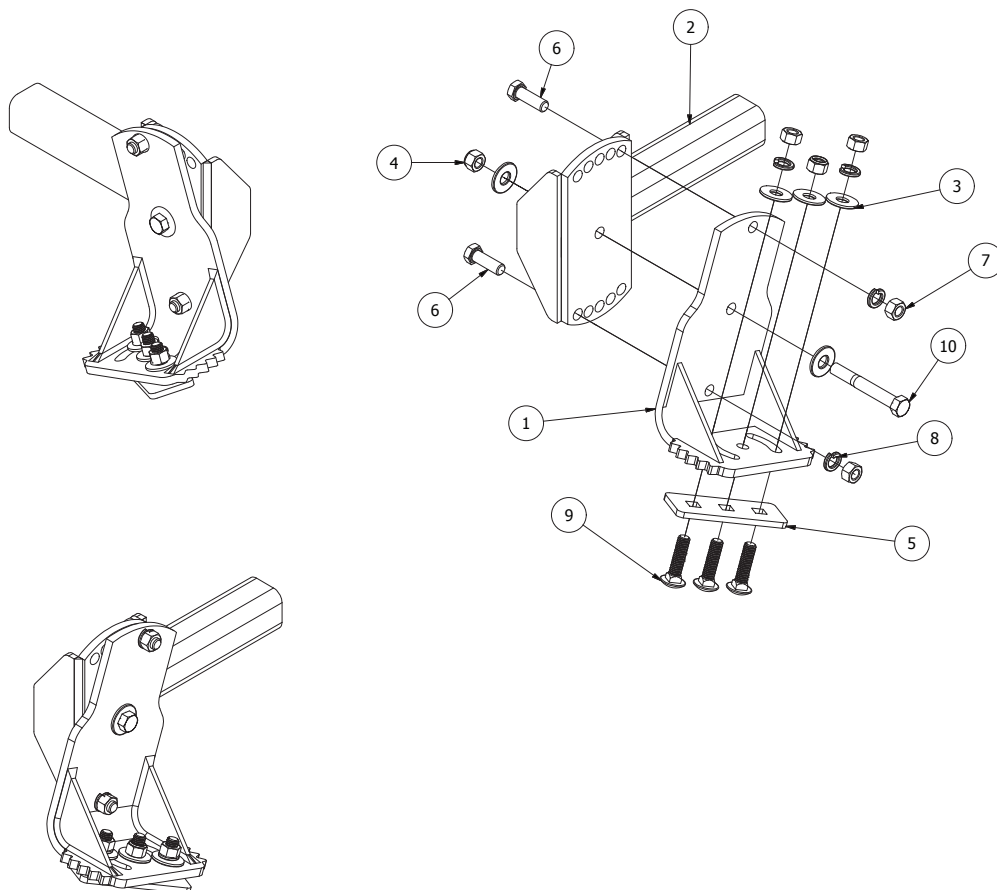
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	704-312	MAST, TOP LINK FOR 7"X7"	1				
2.	610-0047	U-BOLT, 7/8" FOR 7"X7" GR5 ZP	2				
3.	704-742	BRACKET, PULL PT. 7.00 (LH COMB.)	1				
4.	704-743	BRACKET, PULL PT. 7.00 (RH COMB.)	1				
5.	628-308	CAP, 7.00 BAR 1.00 BOLT HOLE	2				
6.	602-1638Z	BOLT, HCS 1"X9-1/2" (GR. 5) ZP	4				
7.	611-1601Z	NUT, HEX ZP 1"	4				
8.	611-1401Z	NUT, HEX ZP 7/8"	4				
9.	615-1400Z	WSHR, LOCK 7/8"	4				
10.	617-200	PIN, CLEVIS COMB. II & III Z.P.	2				
11.	617-103	KLICK PIN, 1/4 X 2.50	2				
12.	617-306	PIN, CLEVIS 1-7/16" 3.1875" USBL.	1				
13.	617-307	PIN, CLEVIS CAT II TOP LINK	1				
14.	617-105	KLICK PIN, 7/16 X 2.00	2				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
790-100 Bundle, Lilliston Row Unit
Model Year 2015 - Current



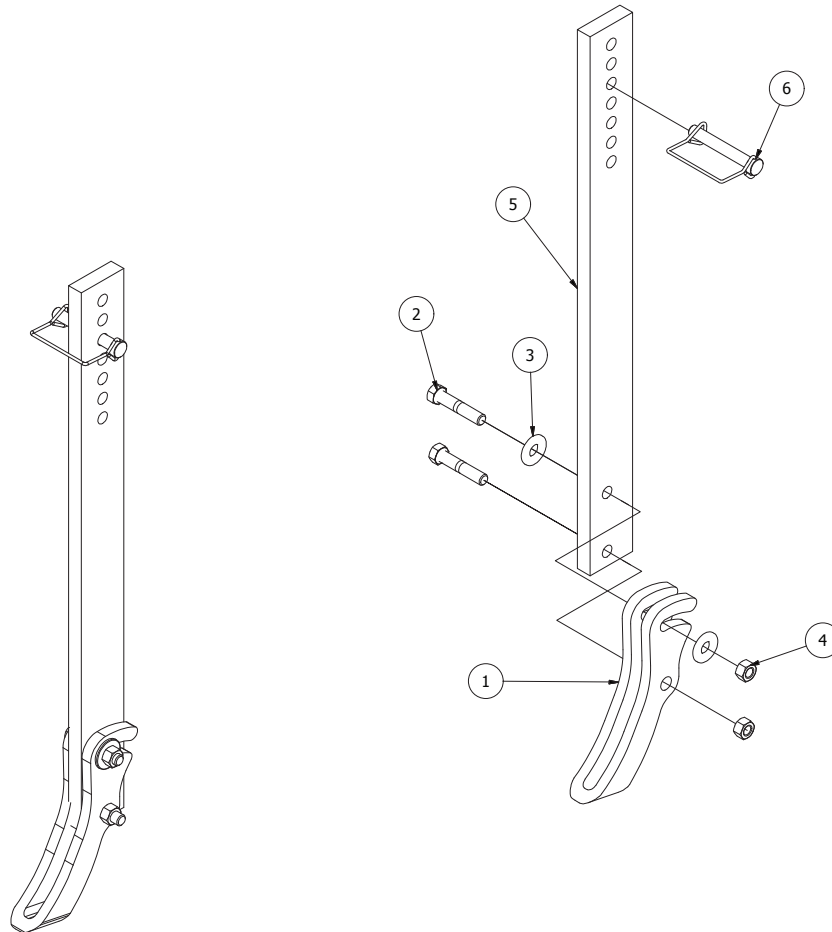
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	689-338	UNIT, LILLISTON ROW	1				
2.	689-339	BRACKET, LILLISTON WRAP AROUND	1				
3.	L50005405	U-BOLT, 5/8 FOR 3.50 X 3.50	2				
4.	613-1005Z	NUT, HEX NYLOCK ZP 5/8	4				
5.	610-0047	U-BOLT, 7/8" FOR 7X7 GR5 ZP	1				
6.	616-1403Z	WSHR, FLAT 7/8 (SAE L9 HARD) ZP	2				
7.	611-1401Z	NUT, HEX ZP 7/8"	2				
8.	L1050018	WASHER, 5/8 F436 HARD ZP	4				
9.	606-1006Z	SET SCREW, SQ HD 5/8"X1-1/2" ZP	2				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
790-101 Bundle, Lilliston Arm
Model Year 2015 - Current



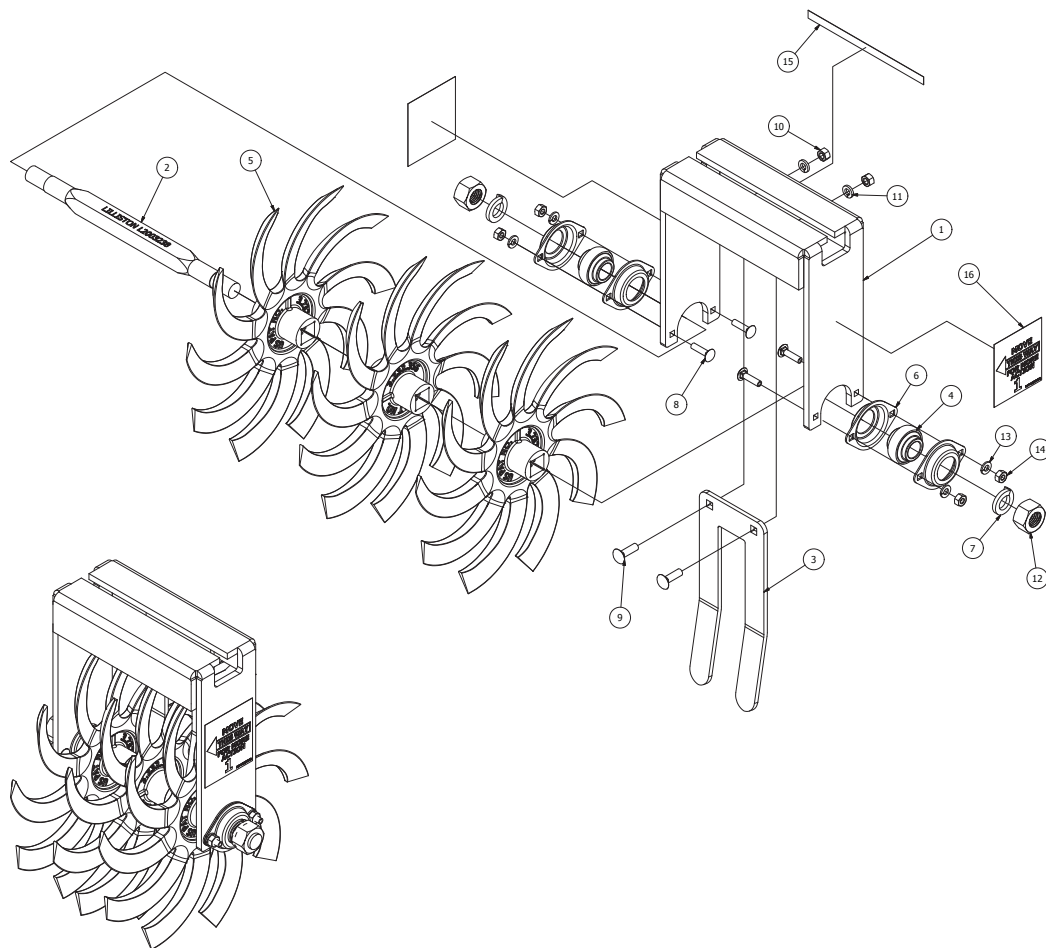
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	689-340	WELDMENT, SPIDER GANG ANGLE ADJUSTMENT	1				
2.	689-341	WELDMENT, ROW SPACING ADJUSTMENT	1				
3.	616-0800Z	WASHER, FLAT ZP 1/2"	5				
4.	613-0800Z	NUT, HEX NYLOCK ZP 1/2"	2				
5.	310-790	PLATE, SPIDER BACKING	1				
6.	602-0806Z	BOLT, HCS 1/2"X1-1/2"	2				
7.	611-0801Z	NUT, HEX ZP 1/2" GR. 5	4				
8.	615-0800Z	WASHER, LOCK ZP 1/2"	4				
9.	604-0808Z	BOLT, CRG 1/2"X2" (GR5) ZP	3				
10.	602-0815Z	BOLT, HCS 1/2" X 3 3/4" GR. 5 ZP	1				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
705-204 Shank Assembly, Lilliston 3/4" X 2-1/2" Alloy
Model Year 2015 - Current



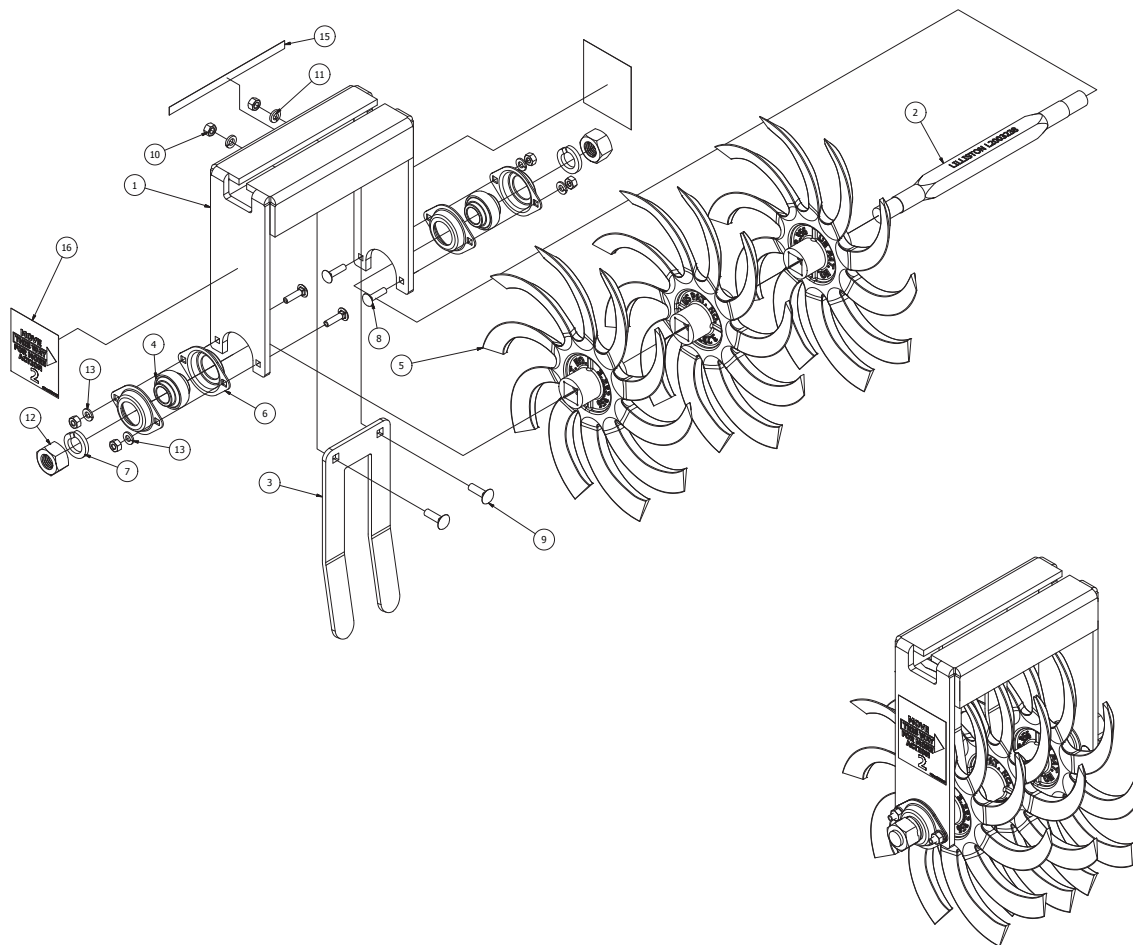
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	628-005	FOOT PIECE, 3/4 X 2-1/2" SHANK	1				
2.	601-0810Z	BOLT, HCS 1/2 X 2 1/2" (GR. 2) ZP	2				
3.	616-0800Z	WASHER, FLAT ZP 1/2"	2				
4.	611-0801Z	NUT, HEX ZP 1/2" GR. 5	2				
5.	310-782	SHANK, LILLISTON 3/4" X 2-1/2" X 27.5"	1				
6.	617-134	PIN, LOXALL 1/2X3" USBL.	1				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
L6499003 3-Spider Gang, 16" # 1 H.D.
Model Year 2015 - Current



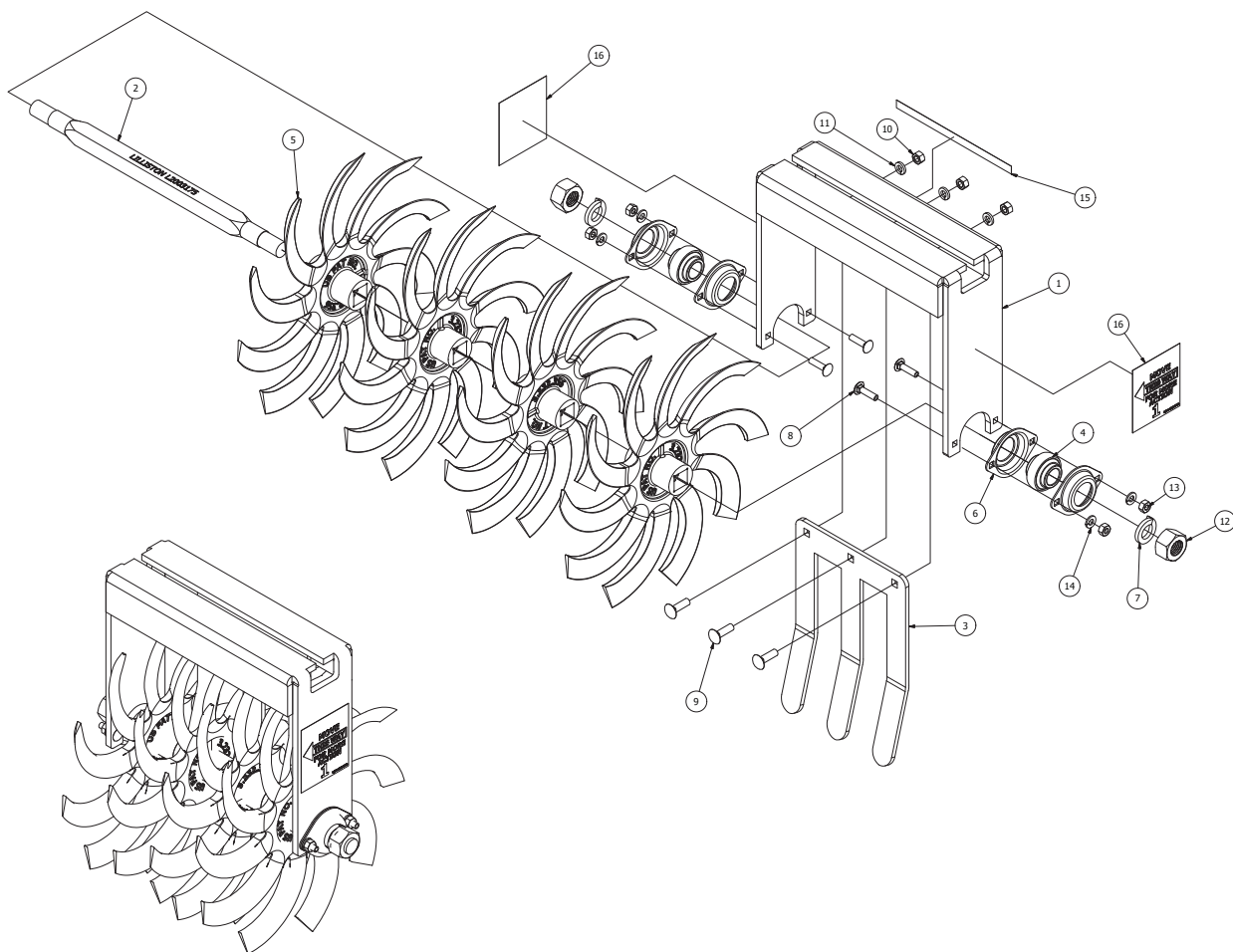
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	L6408002M	REAR FORK, 3 SPIDER GANG 16" H.D.	1	14.	611-0501Z	NUT, HEX ZP 5/16"	4
2.	L2003238	AXLE, 3-SPDR GANG (14-31/32") HD	1	15.	L2050072	REAR GANG DECAL, LT.	1
3.	310-792	SCRAPER, 3 SPIDER GANG	1	16.	L50012725	NO.1 MOVE THIS WAY DECAL	2
4.	L2061001	BEARING, 15/16" (MADE IN USA)	2				
5.	L6400001	SPDR, 16" NO.1, BLACK 15/16"SQ	3				
6.	L461099C	TWO HOLE STEEL FLANGE/GUARD, 52 MST	4				
7.	615-1400Z	WSHR, LOCK 7/8"	2				
8.	604-0505Z	BOLT, CRG 5/16" X 1-1/4" (GR5) ZP	4				
9.	604-0605Z	BOLT, CRG 3/8" X 1-1/4" (GR5) ZP	2				
10.	611-0601Z	NUT, HEX ZP 3/8	2				
11.	615-0600Z	WASHER, LOCK ZP 3/8	2				
12.	611-1410Z	NUT, HEX (HEAVY) 7/8"-9 THRD ZP	2				
13.	615-0500Z	WASHER, LOCK ZP 5/16"	4				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
L6499004 3-Spider Gang, 16" #2 H.D.
Model Year 2015 - Current



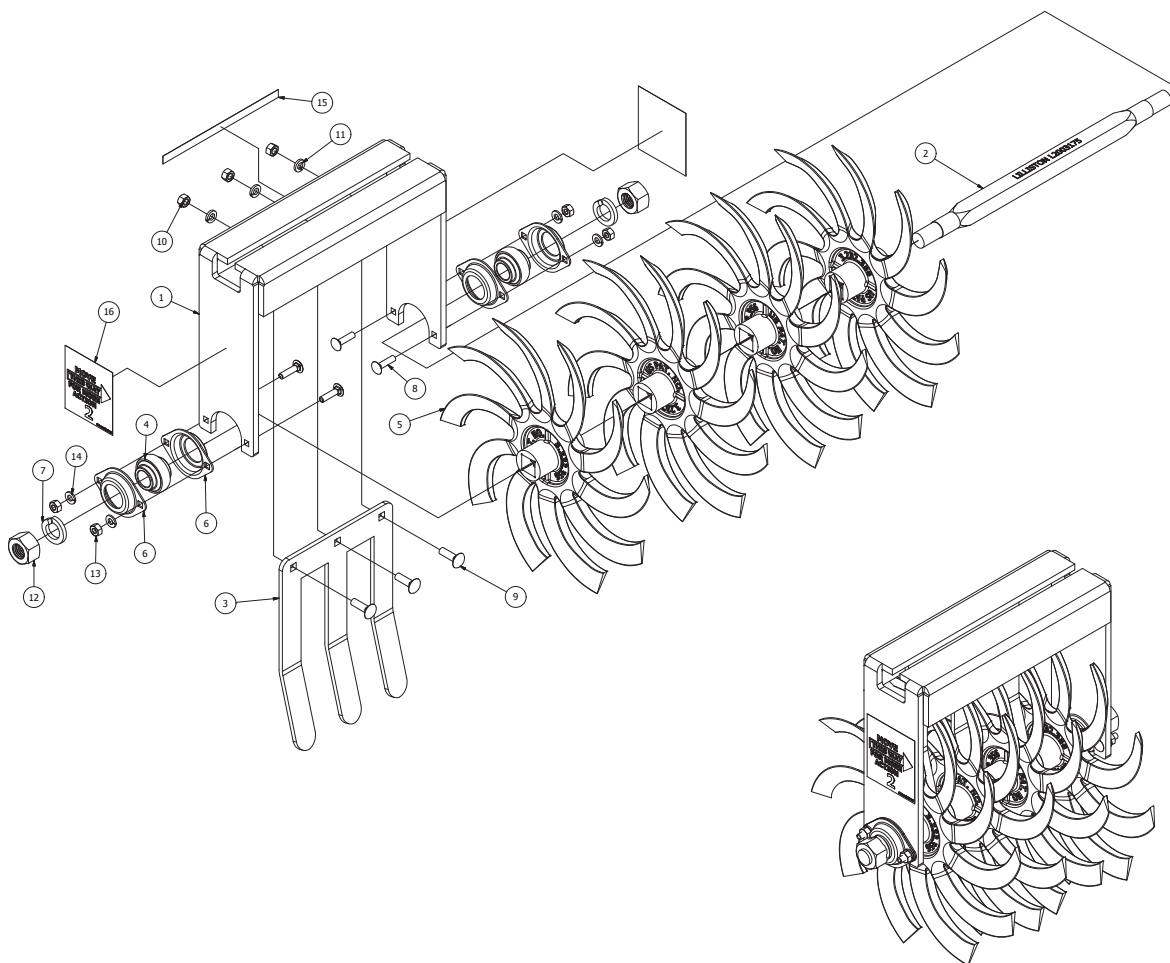
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	L6408002M	REAR FORK, 3 SPIDER GANG 16" H.D.	1	14.	611-0501Z	NUT, HEX ZP 5/16"	4
2.	L2003238	AXLE, 3-SPDR GANG (14-31/32") HD	1	15.	L2050073	REAR GANG DECAL, RT.	1
3.	310-792	SCRAPER, 3 SPIDER GANG	1	16.	L50012726	NO.2 MOVE THIS WAY DECAL	2
4.	L2061001	BEARING, 15/16" (MADE IN USA)	2				
5.	L6400002	SPDR, 16" NO.2, BLACK 15/16"SQ	3				
6.	L461099C	TWO HOLE STEEL FLANGE/GUARD, 52 MST	4				
7.	615-1400Z	WSHR, LOCK 7/8"	2				
8.	604-0505Z	BOLT, CRG 5/16" X 1-1/4" (GR5) ZP	4				
9.	604-0605Z	BOLT, CRG 3/8" X 1-1/4" (GR5) ZP	2				
10.	611-0601Z	NUT, HEX ZP 3/8	2				
11.	615-0600Z	WASHER, LOCK ZP 3/8	2				
12.	611-1410Z	NUT, HEX (HEAVY) 7/8"-9 THRD ZP	2				
13.	615-0500Z	WASHER, LOCK ZP 5/16"	4				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
L6499005 4-Spider Gang, 16" #1 H.D.
Model Year 2015 - Current



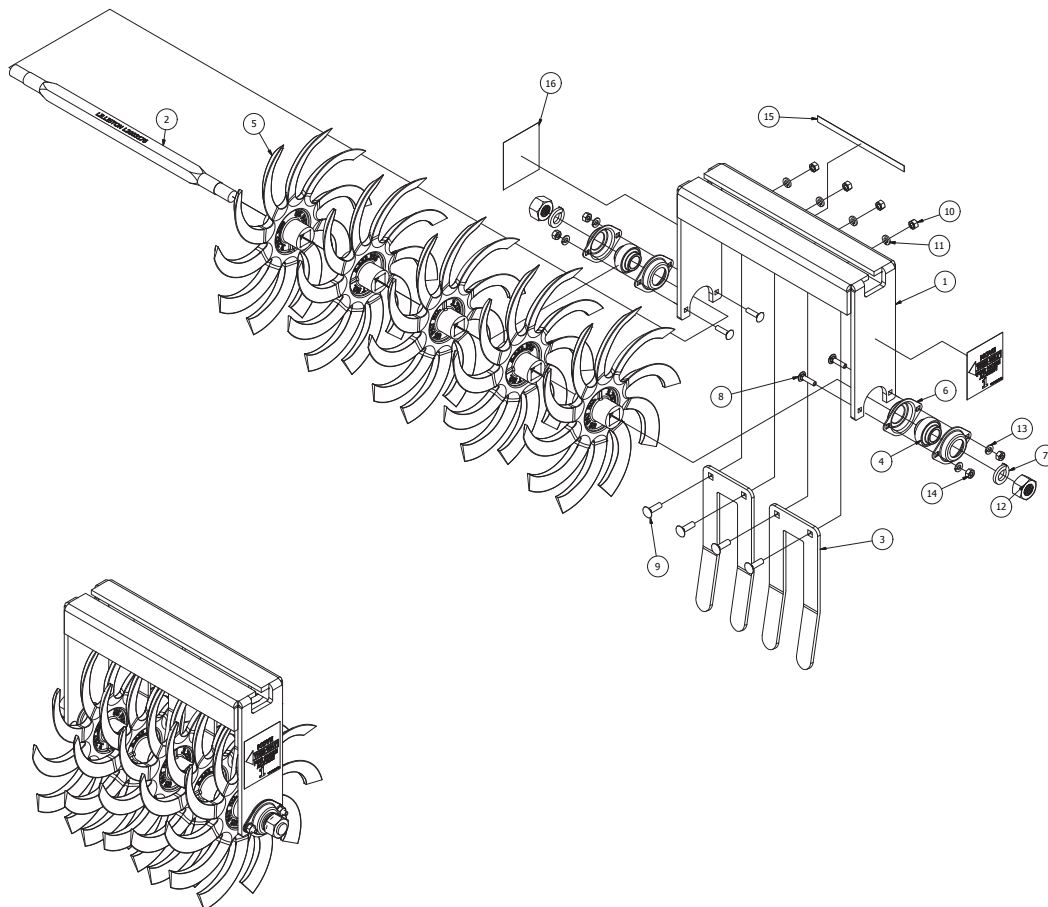
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	L6408003M	REAR FORK, 4 SPIDER GANG 16" H.D.	1	14.	611-0501Z	NUT, HEX ZP 5/16"	4
2.	L2003175	AXLE, 4-SPDR GANG (18-7/32") HD	1	15.	L50001095	REAR GANG DECAL, LT.	1
3.	310-793	SCRAPER, 4 SPIDER GANG	1	16.	L2050072	NO.1 MOVE THIS WAY DECAL	2
4.	L2061001	BEARING, 15/16" (MADE IN USA)	2				
5.	L6400001	SPDR, 16" NO.1, BLACK 15/16"SQ	4				
6.	L461099C	TWO HOLE STEEL FLANGE/GUARD, 52 MST	4				
7.	615-1400Z	WSHR, LOCK 7/8"	2				
8.	604-0505Z	BOLT, CRG 5/16" X 1-1/4" (GR5) ZP	4				
9.	604-0605Z	BOLT, CRG 3/8" X 1-1/4" (GR5) ZP	3				
10.	611-0601Z	NUT, HEX ZP 3/8	3				
11.	615-0600Z	WASHER, LOCK ZP 3/8	3				
12.	611-1410Z	NUT, HEX (HEAVY) 7/8"-9 THRD ZP	2				
13.	615-0500Z	WASHER, LOCK ZP 5/16"	4				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
L6499006 4-Spider Gang, 16" #2 H.D.
Model Year 2015 - Current



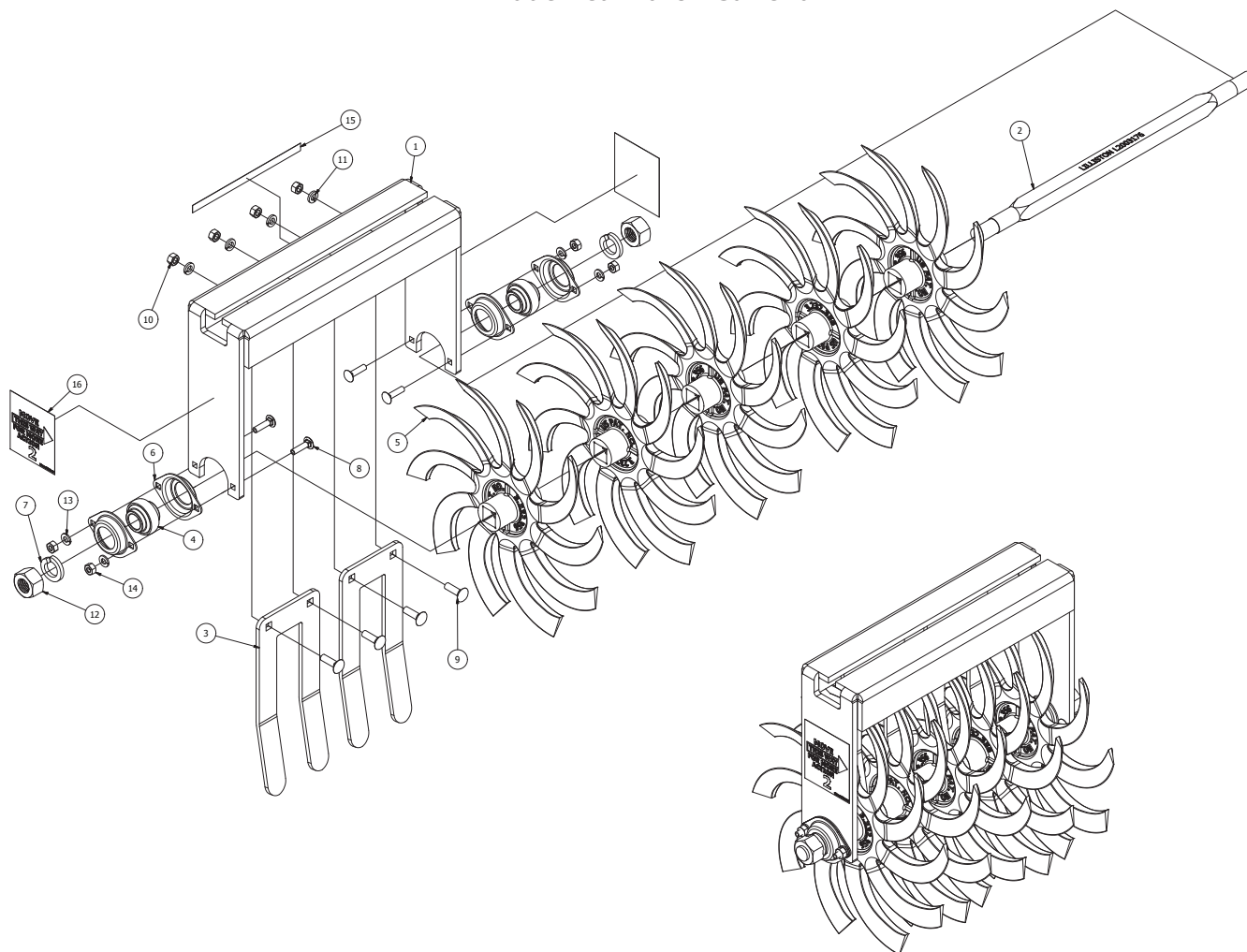
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	L6408003M	REAR FORK, 4 SPIDER GANG 16" H.D.	1	14.	611-0501Z	NUT, HEX ZP 5/16"	4
2.	L2003175	AXLE, 4-SPDR GANG (14-31/32") HD	1	15.	L2050073	REAR GANG DECAL, RT.	1
3.	310-793	SCRAPER, 4 SPIDER GANG	1	16.	L50012726	NO.2 MOVE THIS WAY DECAL	2
4.	L2061001	BEARING, 15/16" (MADE IN USA)	2				
5.	L6400002	SPDR, 16" NO.2, BLACK 15/16"SQ	4				
6.	L461099C	TWO HOLE STEEL FLANGE/GUARD, 52 MST	4				
7.	615-1400Z	WSHR, LOCK 7/8"	2				
8.	604-0505Z	BOLT, CRG 5/16" X 1-1/4" (GR5) ZP	4				
9.	604-0605Z	BOLT, CRG 3/8" X 1-1/4" (GR5) ZP	3				
10.	611-0601Z	NUT, HEX ZP 3/8	3				
11.	615-0600Z	WASHER, LOCK ZP 3/8	3				
12.	611-1410Z	NUT, HEX (HEAVY) 7/8"-9 THRD ZP	2				
13.	615-0500Z	WASHER, LOCK ZP 5/16"	4				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
L6499007 5-Spider Gang, 16" # 1 H.D.
Model Year 2015 - Current



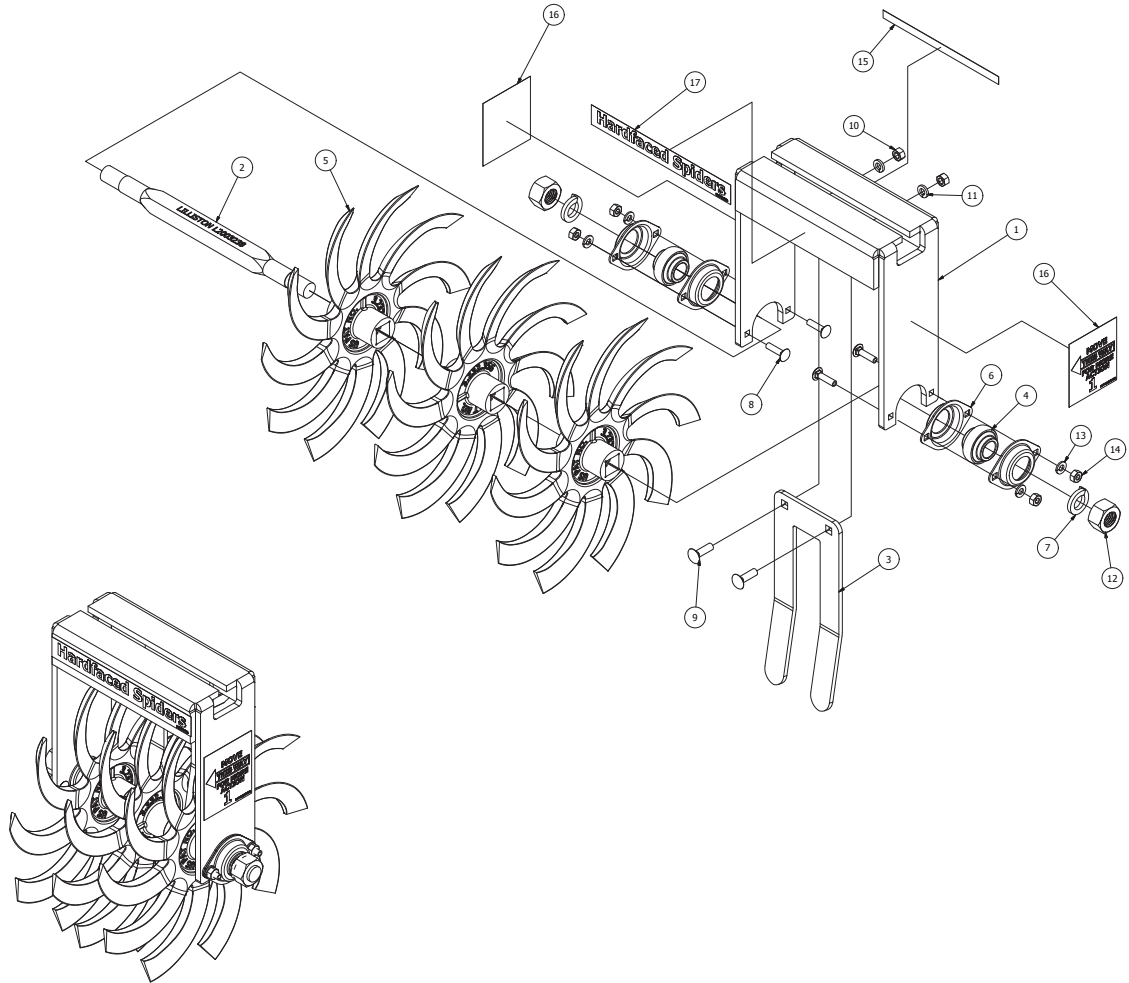
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	L6408004M	REAR FORK, 5 SPIDER GANG 16" H.D.	1	14.	611-0501Z	NUT, HEX ZP 5/16"	4
2.	L2003176	AXLE, 5-SPDR GANG (14-31/32") HD	1	15.	L2050072	REAR GANG DECAL, LT.	1
3.	310-792	SCRAPER, 3 SPIDER GANG	2	16.	L50012725	NO.1 MOVE THIS WAY DECAL	2
4.	L2061001	BEARING, 15/16" (MADE IN USA)	2				
5.	L6400001	SPDR, 16" NO.1, BLACK 15/16"SQ	5				
6.	L461099C	TWO HOLE STEEL FLANGE/GUARD, 52 MST	4				
7.	615-1400Z	WSHR, LOCK 7/8"	2				
8.	604-0505Z	BOLT, CRG 5/16" X 1-1/4" (GR5) ZP	4				
9.	604-0605Z	BOLT, CRG 3/8" X 1-1/4" (GR5) ZP	4				
10.	611-0601Z	NUT, HEX ZP 3/8	4				
11.	615-0600Z	WASHER, LOCK ZP 3/8	4				
12.	611-1410Z	NUT, HEX (HEAVY) 7/8"-9 THRD ZP	2				
13.	615-0500Z	WASHER, LOCK ZP 5/16"	4				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
L6499008 5-Spider Gang, 16" # 2 H.D.
Model Year 2015 - Current



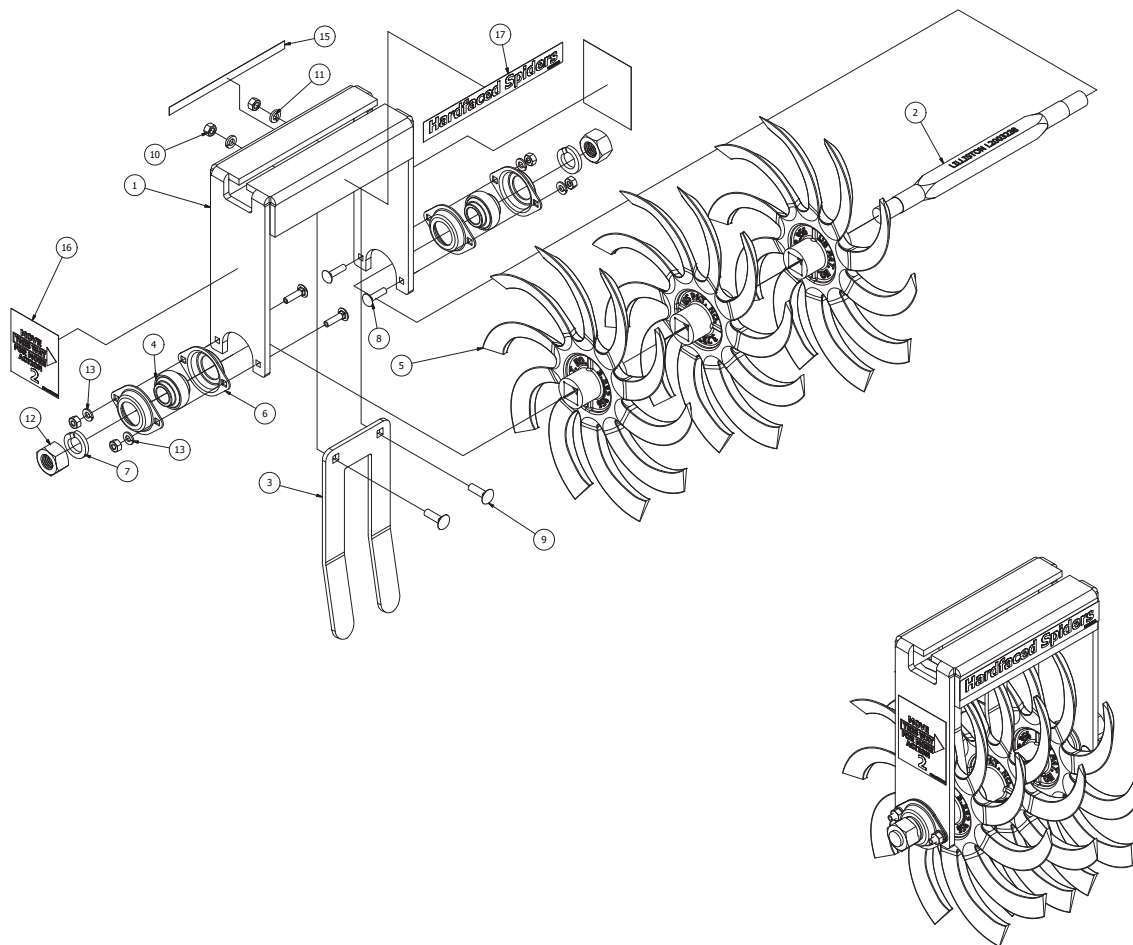
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	L6408004M	REAR FORK, 5 SPIDER GANG 16" H.D.	1	14.	611-0501Z	NUT, HEX ZP 5/16"	4
2.	L2003176	AXLE, 4-SPDR GANG (14-31/32") HD	1	15.	L2050073	REAR GANG DECAL, RT.	1
3.	310-792	SCRAPER, 3 SPIDER GANG	2	16.	L50012726	NO.2 MOVE THIS WAY DECAL	2
4.	L2061001	BEARING, 15/16" (MADE IN USA)	2				
5.	L6400002	SPDR, 16" NO.2, BLACK 15/16"SQ	5				
6.	L461099C	TWO HOLE STEEL FLANGE/GUARD, 52 MST	4				
7.	615-1400Z	WSHR, LOCK 7/8"	2				
8.	604-0505Z	BOLT, CRG 5/16" X 1-1/4" (GR5) ZP	4				
9.	604-0605Z	BOLT, CRG 3/8" X 1-1/4" (GR5) ZP	4				
10.	611-0601Z	NUT, HEX ZP 3/8	4				
11.	615-0600Z	WASHER, LOCK ZP 3/8	4				
12.	611-1410Z	NUT, HEX (HEAVY) 7/8"-9 THRD ZP	2				
13.	615-0500Z	WASHER, LOCK ZP 5/16"	4				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
L50001035 3-Spider Gang, 16" NO. 1, Hardsurfaced H.D.
Model Year 2015 - Current



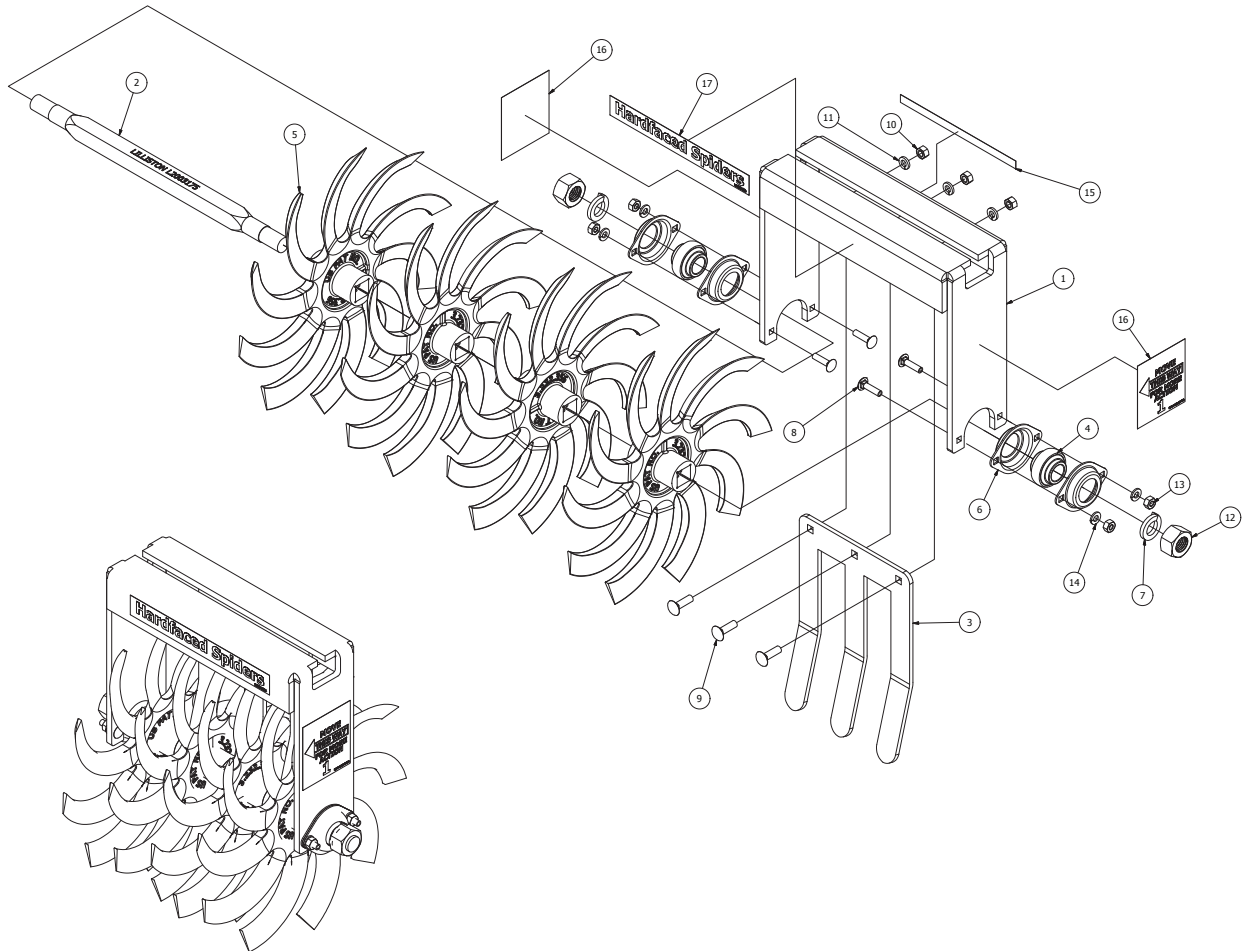
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	L6408002M	REAR FORK, 3 SPIDER GANG 16" H.D.	1	14.	611-0501Z	NUT, HEX ZP 5/16"	4
2.	L2003238	AXLE, 3-SPDR GANG (14-31/32") HD	1	15.	L2050072	REAR GANG DECAL, LT.	1
3.	310-792	SCRAPER, 3 SPIDER GANG	1	16.	L50012725	NO.1 MOVE THIS WAY DECAL	2
4.	L2061001	BEARING, 15/16" (MADE IN USA)	2	17.	L50001095	DECAL, HARDFACED SPIDER	1
5.	L50001027	SPDR, 16" NO.1, 15/16"SQ HS RED	3				
6.	L461099C	TWO HOLE STEEL FLANGE/GUARD, 52 MST	4				
7.	615-1400Z	WSHR, LOCK 7/8"	2				
8.	604-0505Z	BOLT, CRG 5/16" X 1-1/4" (GR5) ZP	4				
9.	604-0605Z	BOLT, CRG 3/8" X 1-1/4" (GR5) ZP	2				
10.	611-0601Z	NUT, HEX ZP 3/8	2				
11.	615-0600Z	WASHER, LOCK ZP 3/8	2				
12.	611-1410Z	NUT, HEX (HEAVY) 7/8"-9 THRD ZP	2				
13.	615-0500Z	WASHER, LOCK ZP 5/16"	4				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
L50001036 3-Spider Gang, 16" NO. 2 , Hardsurfaced H.D.
Model Year 2015 - Current



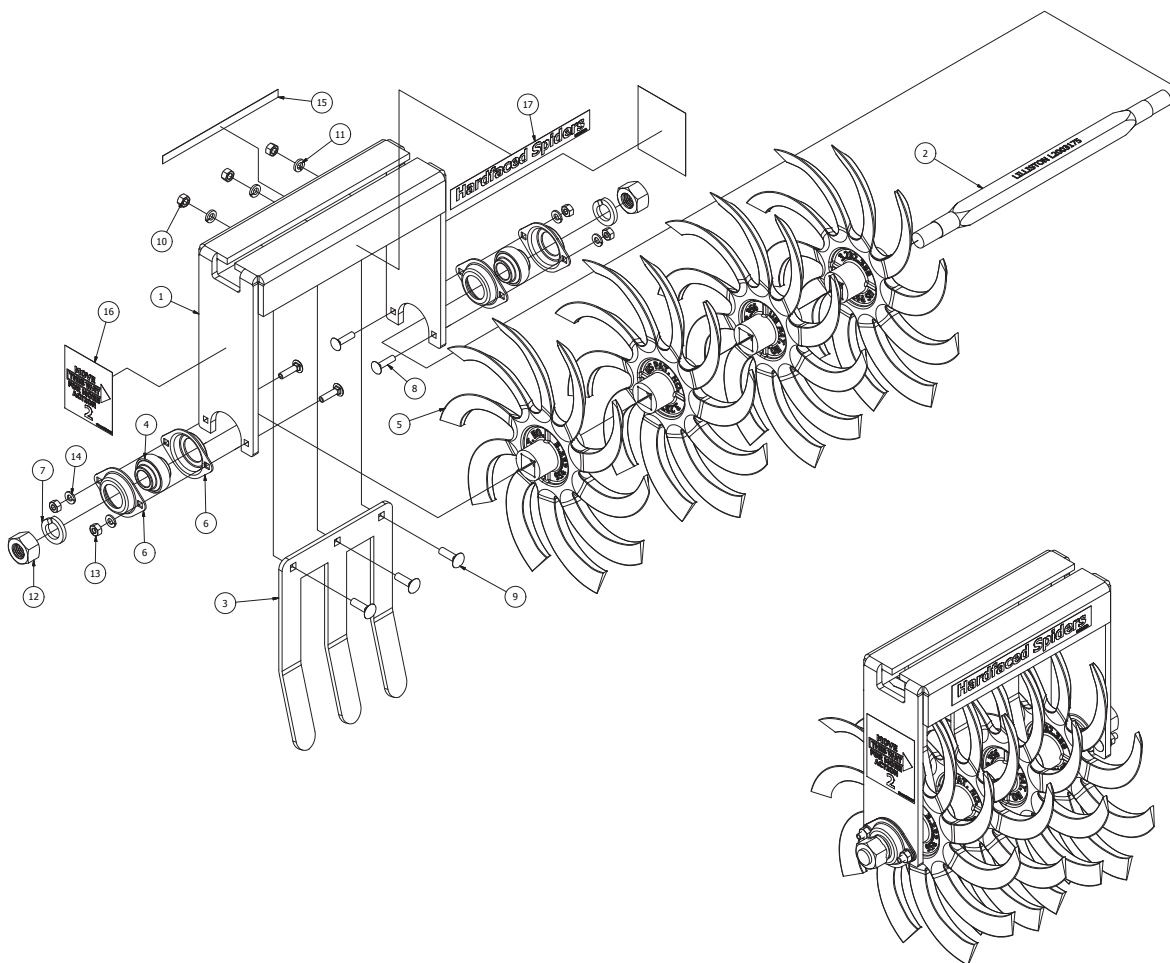
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	L6408002M	REAR FORK, 3 SPIDER GANG 16" H.D.	1	14.	611-0501Z	NUT, HEX ZP 5/16"	4
2.	L2003238	AXLE, 3-SPDR GANG (14-31/32") HD	1	15.	L2050073	REAR GANG DECAL, RT.	1
3.	310-792	SCRAPER, 3 SPIDER GANG	1	16.	L50012726	NO.2 MOVE THIS WAY DECAL	2
4.	L2061001	BEARING, 15/16" (MADE IN USA)	2	17.	L50001095	DECAL, HARDFACED SPIDER	1
5.	L50001028	SPDR, 16" NO.2, 15/16"SQ HS RED	3				
6.	L461099C	TWO HOLE STEEL FLANGE/GUARD, 52 MST	4				
7.	615-1400Z	WSHR, LOCK 7/8"	2				
8.	604-0505Z	BOLT, CRG 5/16" X 1-1/4" (GR5) ZP	4				
9.	604-0605Z	BOLT, CRG 3/8" X 1-1/4" (GR5) ZP	2				
10.	611-0601Z	NUT, HEX ZP 3/8	2				
11.	615-0600Z	WASHER, LOCK ZP 3/8	2				
12.	611-1410Z	NUT, HEX (HEAVY) 7/8"-9 THRD ZP	2				
13.	615-0500Z	WASHER, LOCK ZP 5/16"	4				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
L50001037 4-Spider Gang, 16" NO. 1 , Hardsurfaced H.D.
Model Year 2015 - Current



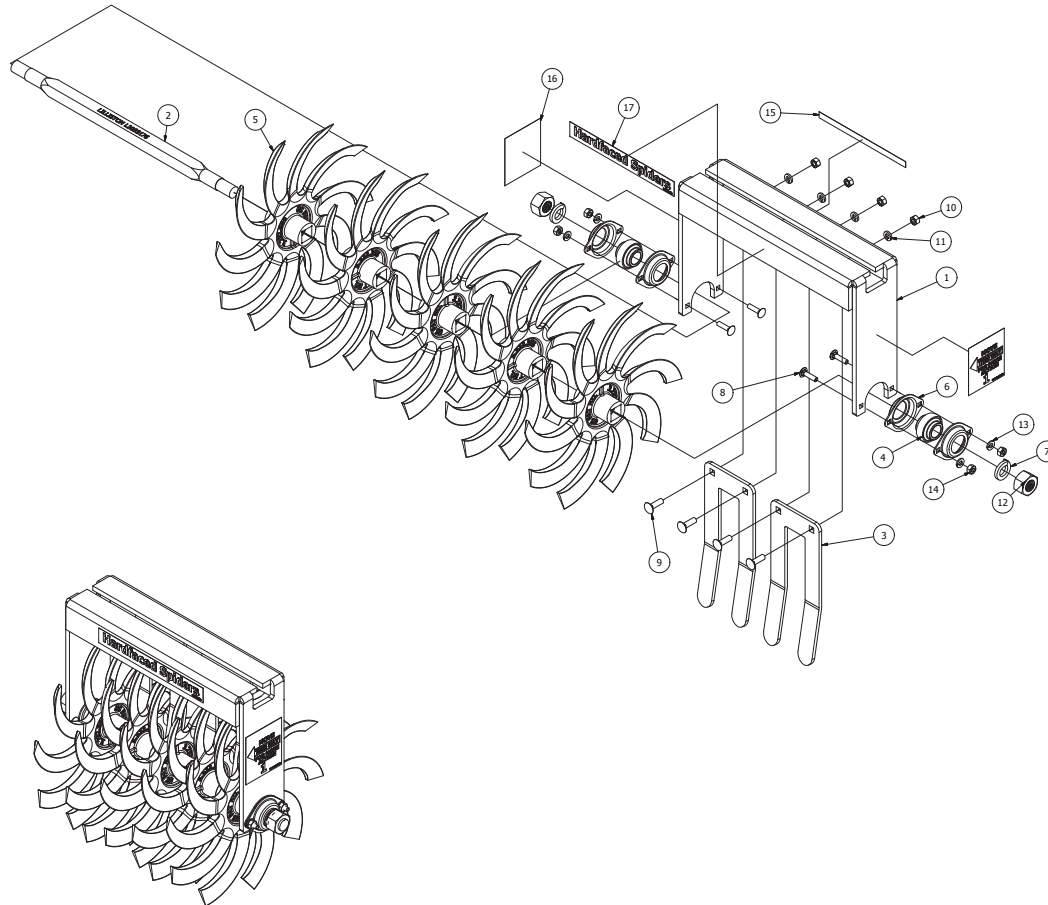
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	L6408003M	REAR FORK, 4 SPIDER GANG 16" H.D.	1	14.	611-0501Z	NUT, HEX ZP 5/16"	4
2.	L2003175	AXLE, 4-SPDR GANG (18-7/32") HD	1	15.	L50001095	REAR GANG DECAL, LT.	1
3.	310-793	SCRAPER, 4 SPIDER GANG	1	16.	L2050072	NO.1 MOVE THIS WAY DECAL	2
4.	L2061001	BEARING, 15/16" (MADE IN USA)	2	17.	L50012725	DECAL, HARDFACED SPIDER	1
5.	L50001027	SPDR, 16" NO.1, 15/16"SQ HS RED	4				
6.	L461099C	TWO HOLE STEEL FLANGE/GUARD, 52 MST	4				
7.	615-1400Z	WSHR, LOCK 7/8"	2				
8.	604-0505Z	BOLT, CRG 5/16" X 1-1/4" (GR5) ZP	4				
9.	604-0605Z	BOLT, CRG 3/8" X 1-1/4" (GR5) ZP	3				
10.	611-0601Z	NUT, HEX ZP 3/8	3				
11.	615-0600Z	WASHER, LOCK ZP 3/8	3				
12.	611-1410Z	NUT, HEX (HEAVY) 7/8"-9 THRD ZP	2				
13.	615-0500Z	WASHER, LOCK ZP 5/16"	4				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
L50001038 4-Spider Gang, 16" NO. 2 , Hardsurfaced H.D.
Model Year 2015 - Current



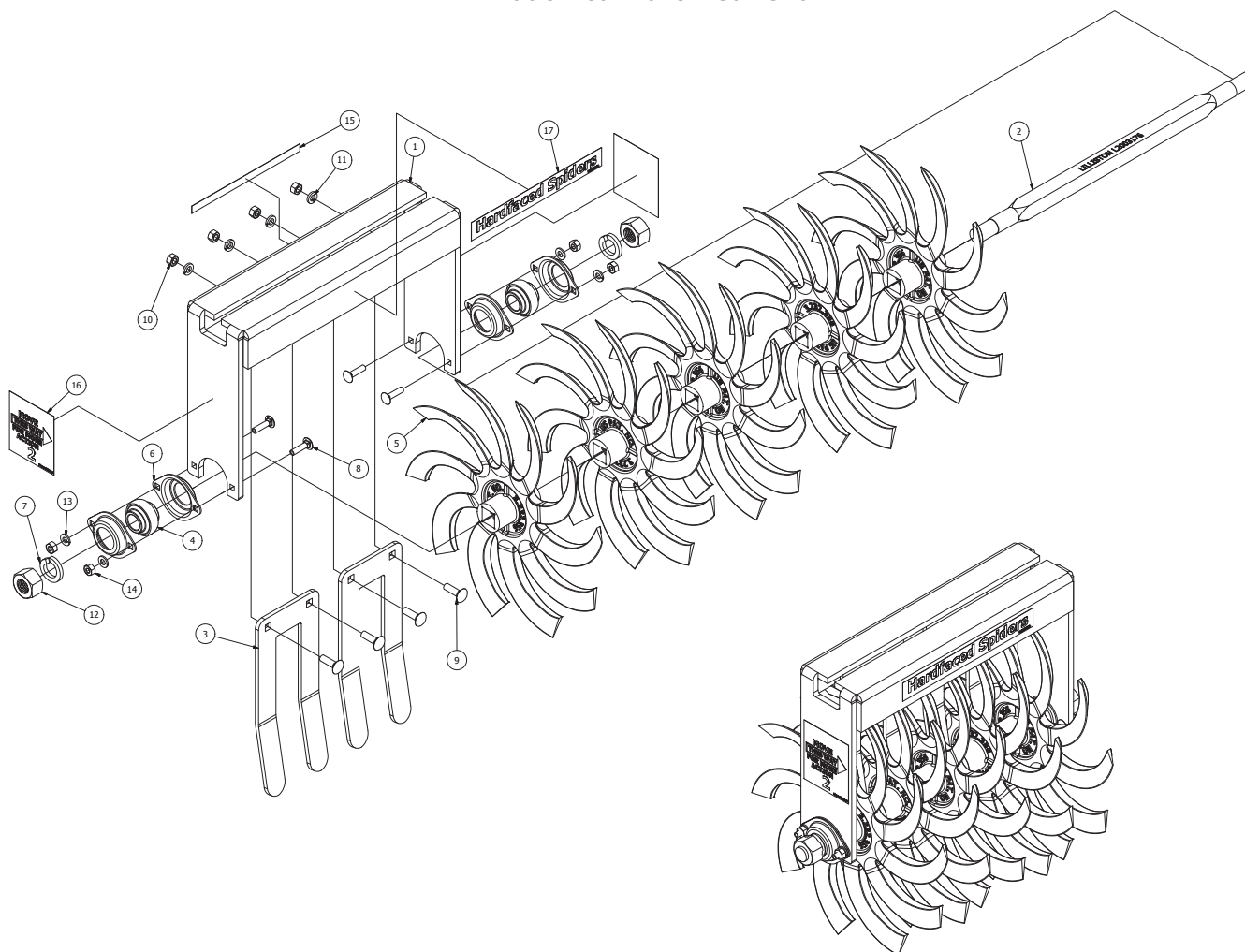
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	L6408003M	REAR FORK, 4 SPIDER GANG 16" H.D.	1	14.	611-0501Z	NUT, HEX ZP 5/16"	4
2.	L2003175	AXLE, 4-SPDR GANG (14-31/32") HD	1	15.	L2050073	REAR GANG DECAL, RT.	1
3.	310-793	SCRAPER, 4 SPIDER GANG	1	16.	L50012726	NO.2 MOVE THIS WAY DECAL	2
4.	L2061001	BEARING, 15/16" (MADE IN USA)	2	17.	L50001095	DECAL, HARDFACED SPIDER	1
5.	L50001028	SPDR, 16" NO.2, 15/16"SQ HS RED	4				
6.	L461099C	TWO HOLE STEEL FLANGE/GUARD, 52 MST	4				
7.	615-1400Z	WSHR, LOCK 7/8"	2				
8.	604-0505Z	BOLT, CRG 5/16" X 1-1/4" (GR5) ZP	4				
9.	604-0605Z	BOLT, CRG 3/8" X 1-1/4" (GR5) ZP	3				
10.	611-0601Z	NUT, HEX ZP 3/8	3				
11.	615-0600Z	WASHER, LOCK ZP 3/8	3				
12.	611-1410Z	NUT, HEX (HEAVY) 7/8"-9 THRD ZP	2				
13.	615-0500Z	WASHER, LOCK ZP 5/16"	4				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
L50001039 5-Spider Gang, 16" NO. 1 , Hardsurfaced H.D.
Model Year 2015 - Current



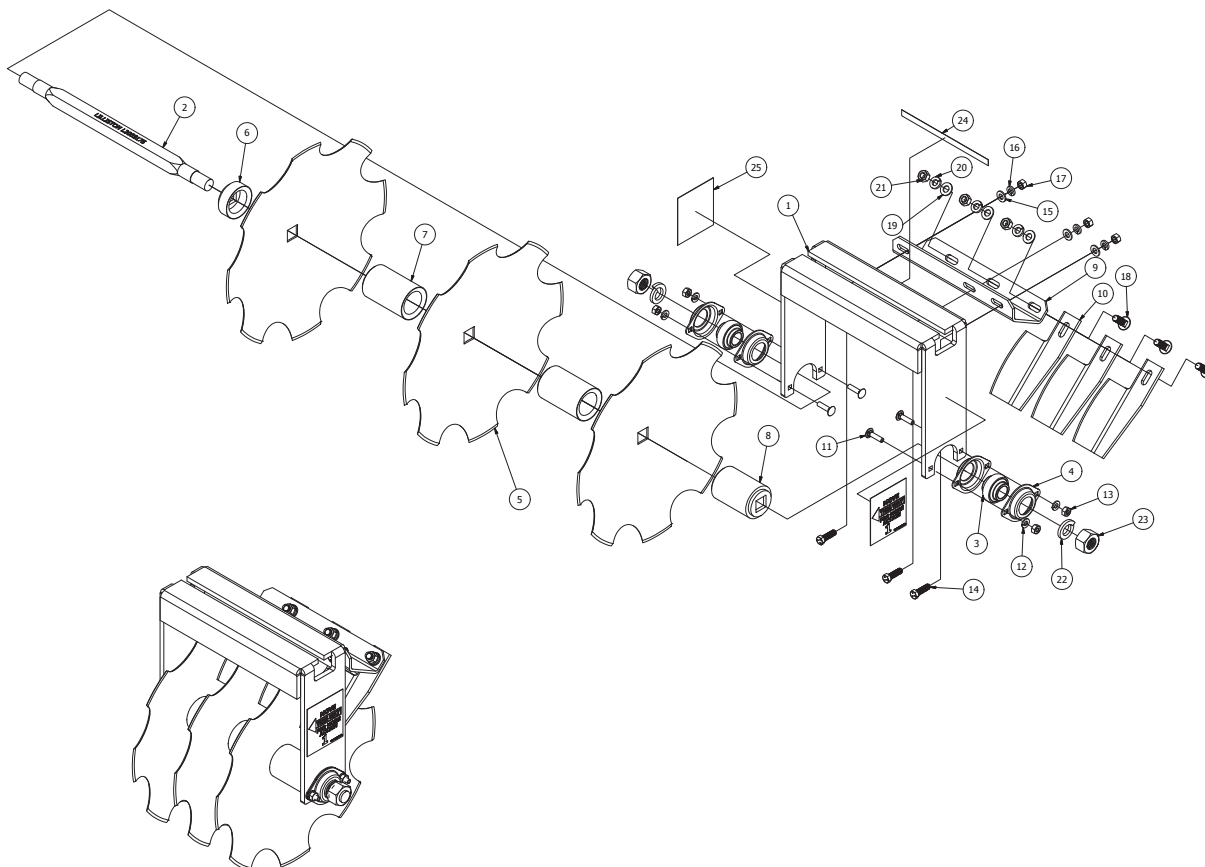
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	L6408004M	REAR FORK, 5 SPIDER GANG 16" H.D.	1	14.	611-0501Z	NUT, HEX ZP 5/16"	4
2.	L2003176	AXLE, 5-SPDR GANG (14-31/32") HD	1	15.	L2050072	REAR GANG DECAL, LT.	1
3.	310-792	SCRAPER, 3 SPIDER GANG	2	16.	L50012725	NO.1 MOVE THIS WAY DECAL	2
4.	L2061001	BEARING, 15/16" (MADE IN USA)	2	17.	L50001095	DECAL, HARDFACED SPIDER	1
5.	L50001027	SPDR, 16" NO.1, 15/16"SQ HS RED	5				
6.	L461099C	TWO HOLE STEEL FLANGE/GUARD, 52 MST	4				
7.	615-1400Z	WSHR, LOCK 7/8"	2				
8.	604-0505Z	BOLT, CRG 5/16" X 1-1/4" (GR5) ZP	4				
9.	604-0605Z	BOLT, CRG 3/8" X 1-1/4" (GR5) ZP	4				
10.	611-0601Z	NUT, HEX ZP 3/8	4				
11.	615-0600Z	WASHER, LOCK ZP 3/8	4				
12.	611-1410Z	NUT, HEX (HEAVY) 7/8"-9 THRD ZP	2				
13.	615-0500Z	WASHER, LOCK ZP 5/16"	4				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
L50001040 5-Spider Gang, 16" NO. 2, Hardsurfaced H.D.
Model Year 2015 - Current



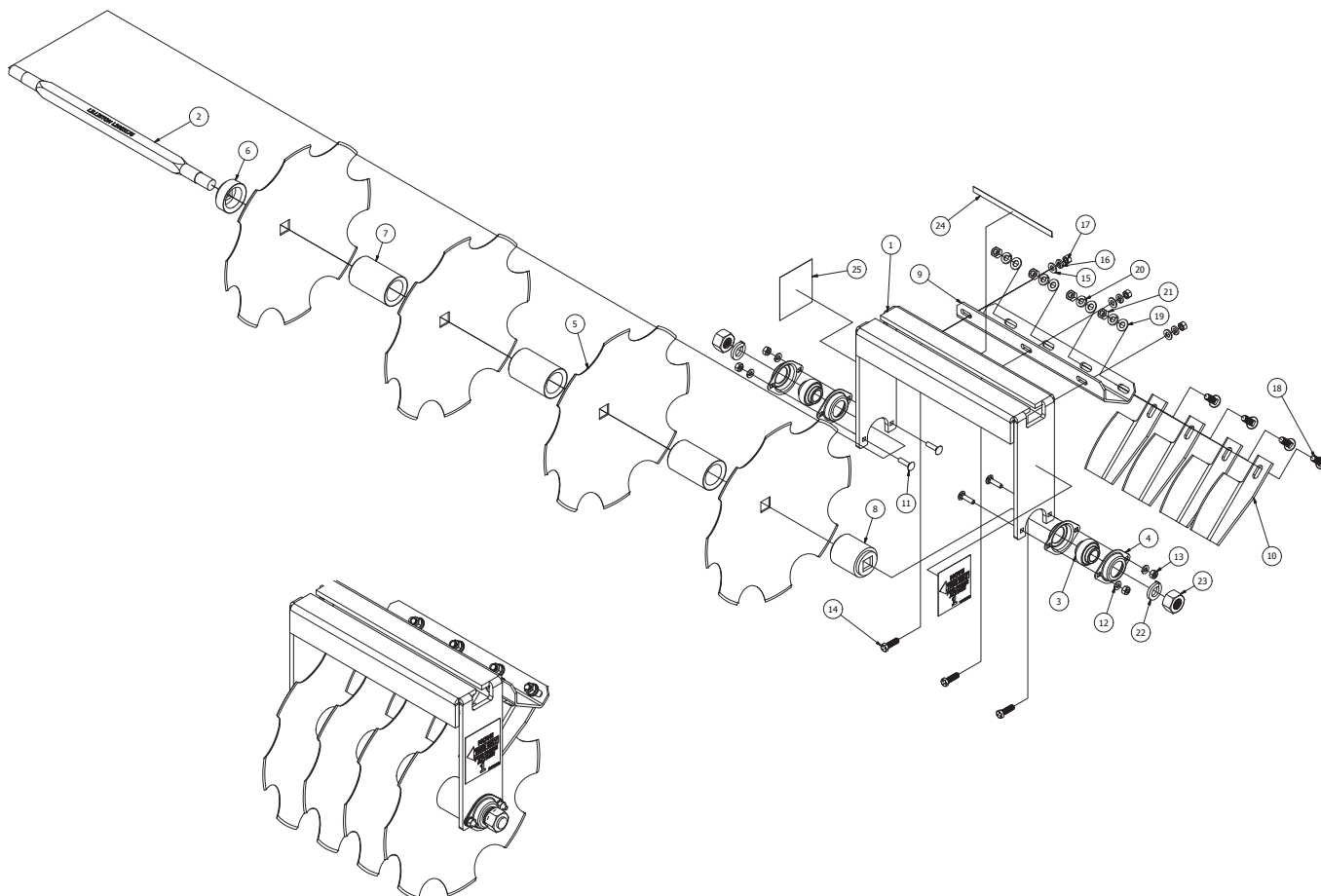
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	L6408004M	REAR FORK, 5 SPIDER GANG 16" H.D.	1	14.	611-0501Z	NUT, HEX ZP 5/16"	4
2.	L2003176	AXLE, 4-SPDR GANG (14-31/32") HD	1	15.	L2050073	REAR GANG DECAL, RT.	1
3.	310-792	SCRAPER, 3 SPIDER GANG	2	16.	L50012726	NO.2 MOVE THIS WAY DECAL	2
4.	L2061001	BEARING, 15/16" (MADE IN USA)	2	17.	L50001095	DECAL, HARDFACED SPIDER	1
5.	L50001028	SPDR, 16" NO.2, 15/16"SQ HS RED	5				
6.	L461099C	TWO HOLE STEEL FLANGE/GUARD, 52 MST	4				
7.	615-1400Z	WSHR, LOCK 7/8"	2				
8.	604-0505Z	BOLT, CRG 5/16" X 1-1/4" (GR5) ZP	4				
9.	604-0605Z	BOLT, CRG 3/8" X 1-1/4" (GR5) ZP	4				
10.	611-0601Z	NUT, HEX ZP 3/8	4				
11.	615-0600Z	WASHER, LOCK ZP 3/8	4				
12.	611-1410Z	NUT, HEX (HEAVY) 7/8"-9 THRD ZP	2				
13.	615-0500Z	WASHER, LOCK ZP 5/16"	4				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
L50010690 Gang Assembly, 3-Disc #1
Model Year 2015 - Current



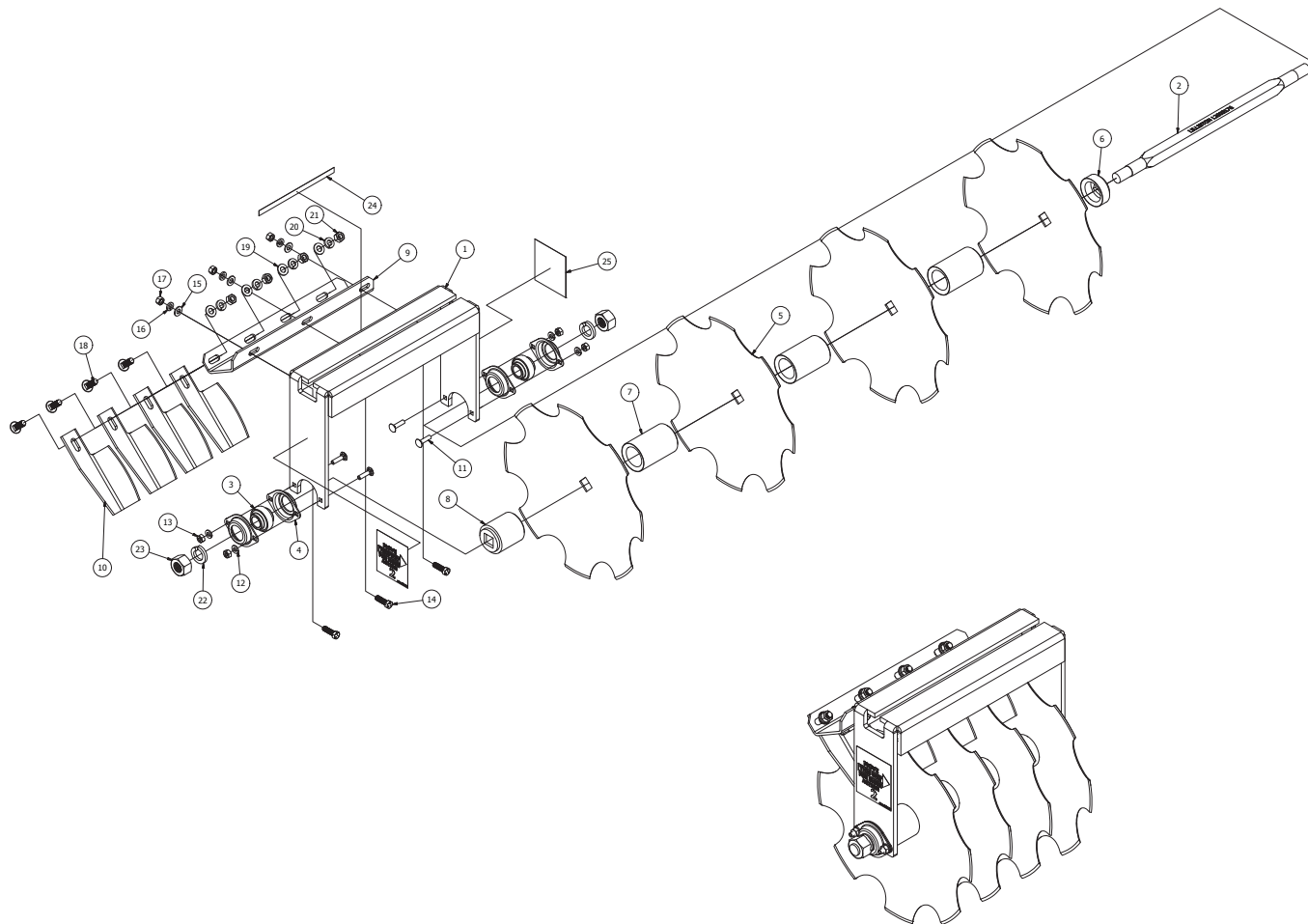
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	L6408003M	REAR FORK, 4 SPIDER GANG 16" H.D.	1	14.	602-0605Z	BOLT, CRG 3/8" X 1-1/4" (GR5) ZP	3
2.	L2003175	AXLE, 4-SPDR GANG (14-31/32") HD	1	15.	616-0600Z	WASHER, FLAT ZP 3/8	3
3.	L2061001	BEARING, 15/16" (MADE IN USA)	2	16.	615-0600Z	WASHER, LOCK ZP 3/8	3
4.	L461099C	TWO HOLE STEEL FLANGE/GUARD, 52 MST	4	17.	611-0601Z	NUT, HEX ZP 3/8	3
5.	L50010691	DISC, NOTCHED 16.00 CONCAVE	3	18.	604-0705Z	BOLT, CRG 7/16" X 1-1/4" (GR5) ZP	3
6.	L50010693	SPACER 2.50 O.D. X 1.035	1	19.	616-0700Z	WASHER, FLAT ZP 7/16	3
7.	L50010692	SPACER 2.50 O.D. X 4.00	2	20.	615-0700Z	WASHER, LOCK ZP 7/16	3
8.	L50010696	SPACER 2.50 O.D. X 3.722	1	21.	611-0701Z	NUT, HEX ZP 7/16	3
9.	L50010699	RAIL SCRAPER (NO.1)	1	22.	615-1400Z	WSHR, LOCK 7/8"	2
10.	L50010698	SCRAPER NO. 1	3	23.	611-1410Z	NUT, HEX (HEAVY) 7/8"-9 THRD ZP	2
11.	604-0505Z	BOLT, CRG 5/16" X 1-1/4" (GR5) ZP	4	24.	L2050072	REAR GANG DECAL, LT.	1
12.	615-0500Z	WASHER, LOCK ZP 5/16"	4	25.	L50012725	NO.1 MOVE THIS WAY DECAL	2
13.	611-0501Z	NUT, HEX ZP 5/16"	4				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
L50010703 Gang Assembly, 4-Disc #1
Model Year 2015 - Current



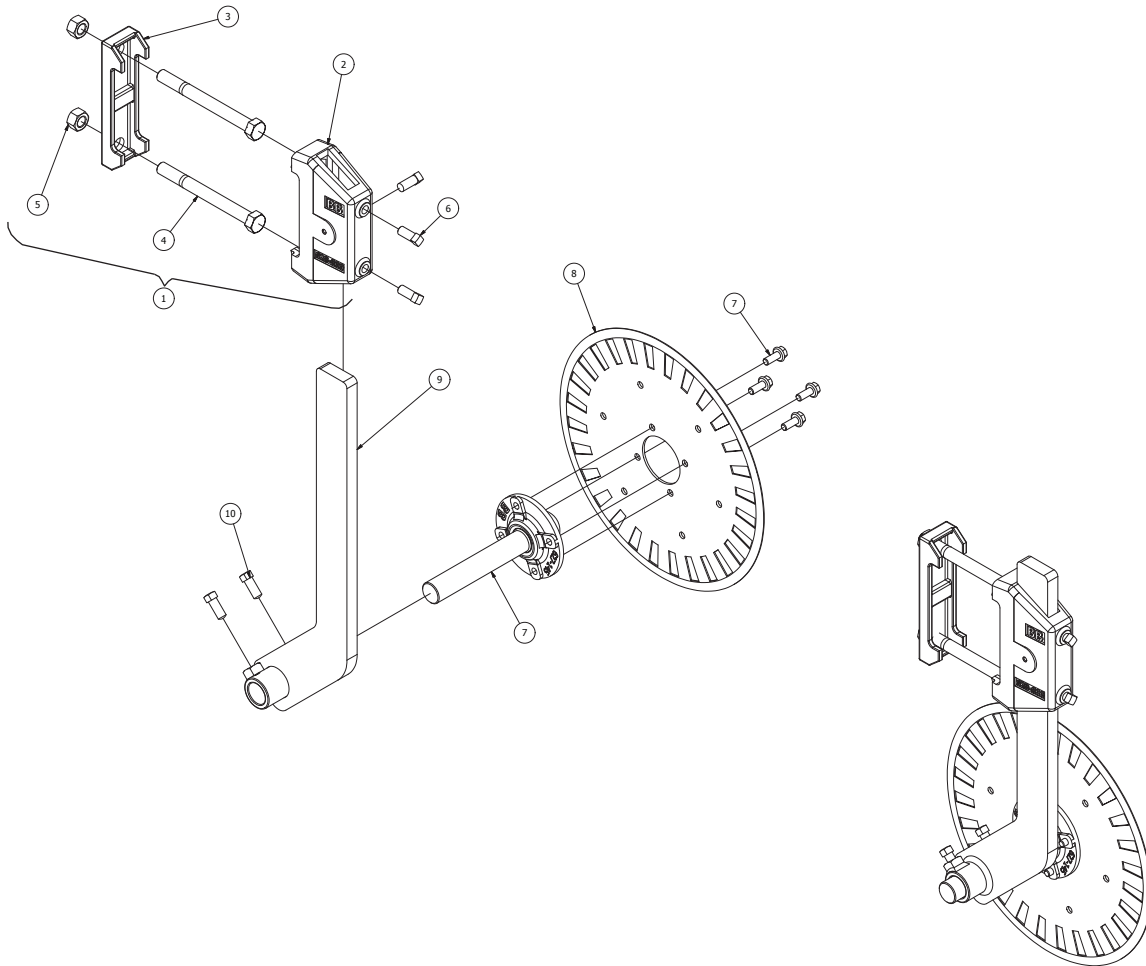
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	L6408004M	REAR FORK, 5 SPIDER GANG 16" H.D.	1	14.	602-0605Z	BOLT, CRG 3/8" X 1-1/4" (GR5) ZP	3
2.	L2003176	AXLE, 5-SPDR GANG (21-15/32") HD	1	15.	616-0600Z	WASHER, FLAT ZP 3/8	3
3.	L2061001	BEARING, 15/16" (MADE IN USA)	2	16.	615-0600Z	WASHER, LOCK ZP 3/8	3
4.	L461099C	TWO HOLE STEEL FLANGE/GUARD, 52 MST	4	17.	611-0601Z	NUT, HEX ZP 3/8	3
5.	L50010691	DISC, NOTCHED 16.00 CONCAVE	4	18.	604-0705Z	BOLT, CRG 7/16" X 1-1/4" (GR5) ZP	4
6.	L50010693	SPACER 2.50 O.D. X 1.035	1	19.	616-0700Z	WASHER, FLAT ZP 7/16	4
7.	L50010692	SPACER 2.50 O.D. X 4.00	3	20.	615-0700Z	WASHER, LOCK ZP 7/16	4
8.	L50010704	SPACER 2.50 O.D. X 2.909	1	21.	611-0701Z	NUT, HEX ZP 7/16	4
9.	L50010706	RAIL SCRAPER (NO.1)	1	22.	615-1400Z	WSHR, LOCK 7/8"	2
10.	L50010698	SCRAPER NO. 1	4	23.	611-1410Z	NUT, HEX (HEAVY) 7/8"-9 THRD ZP	2
11.	604-0505Z	BOLT, CRG 5/16" X 1-1/4" (GR5) ZP	4	24.	L2050072	REAR GANG DECAL, LT.	1
12.	615-0500Z	WASHER, LOCK ZP 5/16"	4	25.	L50012725	NO.1 MOVE THIS WAY DECAL	2
13.	611-0501Z	NUT, HEX ZP 5/16"	4				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
L50010707 Gang Assembly, 4-Disc #2
Model Year 2015 - Current



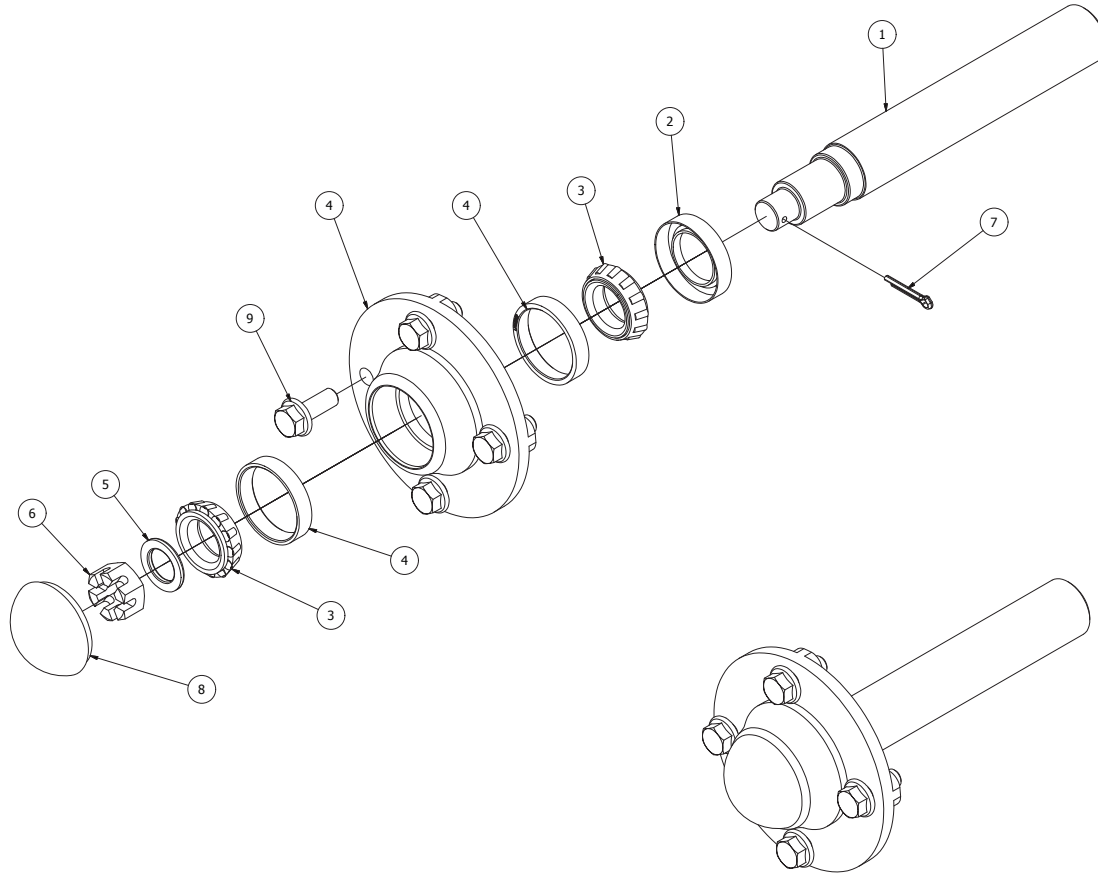
Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	L6408004M	REAR FORK, 5 SPIDER GANG 16" H.D.	1	14.	602-0605Z	BOLT, CRG 3/8" X 1-1/4" (GR5) ZP	3
2.	L2003176	AXLE, 5-SPDR GANG (21-15/32") HD	1	15.	616-0600Z	WASHER, FLAT ZP 3/8	3
3.	L2061001	BEARING, 15/16" (MADE IN USA)	2	16.	615-0600Z	WASHER, LOCK ZP 3/8	3
4.	L461099C	TWO HOLE STEEL FLANGE/GUARD, 52 MST	4	17.	611-0601Z	NUT, HEX ZP 3/8	3
5.	L50010691	DISC, NOTCHED 16.00 CONCAVE	4	18.	604-0705Z	BOLT, CRG 7/16" X 1-1/4" (GR5) ZP	4
6.	L50010693	SPACER 2.50 O.D. X 1.035	1	19.	616-0700Z	WASHER, FLAT ZP 7/16	4
7.	L50010692	SPACER 2.50 O.D. X 4.00	3	20.	615-0700Z	WASHER, LOCK ZP 7/16	4
8.	L50010704	SPACER 2.50 O.D. X 2.909	1	21.	611-0701Z	NUT, HEX ZP 7/16	4
9.	L50010708	RAIL SCRAPER (NO. 2)	1	22.	615-1400Z	WSHR, LOCK 7/8"	2
10.	L50010701	SCRAPER NO. 2	4	23.	611-1410Z	NUT, HEX (HEAVY) 7/8"-9 THRD ZP	2
11.	604-0505Z	BOLT, CRG 5/16" X 1-1/4" (GR5) ZP	4	24.	L2050073	REAR GANG DECAL, RT.	1
12.	615-0500Z	WASHER, LOCK ZP 5/16"	4	25.	L50012726	NO.2 MOVE THIS WAY DECAL	2
13.	611-0501Z	NUT, HEX ZP 5/16"	4				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
841-185 Coulter, 7x7 Bar Rigid Offset
Model Year 2015 - Current



Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	806-773	CLAMP, 7X7 FOR 1X3 SHANK	1				
2.	628-800	BODY, CLAMP 7"X7"	1				
3.	628-308	CAP, 7" BAR 1" BOLT HOLE (CAST)	1				
4.	609-1436Z	BOLT, HMB 7/8"X9" GR2 ZP	2				
5.	611-1401Z	NUT, HEX ZP 7/8"X9" THRD	2				
6.	606-1006Z	SET SCREW, SQ HD 5/8"X1-1/2" ZP	3				
7.	741-204	COULTER SPINDLE/HUB ASS'Y. O.S.	1				
8.	630-012	BLADE, FLUTTED 20"X4.5MM 4 HOLE	1				
9.	741-336	SHANK, WLDMT. LILLISTON STABILIZER	1				
10.	606-1006Z	SET SCREW, SQ. HD 5/8 X 1.50 ZP	2				

Lilliston Rolling Cultivator Generation 3
Parts Break Down
741-204 Coulter Spindle/Hub Assembly Off Set
Model Year 2015 - Current



Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)	Ref#	P/N	Description	Qty. Req. Per Assy. (* As Required)
1.	627-248	SPINDLE, S.L COULT 4 HOLE 11.75"	1				
2.	623-001DL	SEAL, 15235TB Q688 HUB (DBL.LIP)	1				
3.	622-007	BEARING, TAPER (LM67048)	2				
4.	627-145	HUB/CUPS ASS'Y., HD CLTR 4-HOLE	1				
5.	616-1402	WASHER, STRUCTUAL 7/8" F-436	1				
6.	614-1405	JAM NUT, HEX SLOTTED 7/8" NF	1				
7.	617-020	PIN, COTTER 5/32X1-1/2	1				
8.	627-543	DUST CAP 4 HOLE NARROW PROFILE	1				
9.	607-0805	BOLT, FLG (NF) 1/2 X 1.50 (3/4 HD)	4				

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