# **abiattachments**

## Owner's Manual Broadcast Spreader

Ground Drive Model: ABI-BS-GD-339



**NOTE:** This Owner's Manual covers several models. Features may vary by model. Not all features in this manual are applicable to all models and the model depicted may differ from yours.

## **For Your Records**

Located on the front of the hopper above the main support frame is an ID decal showing the model/serial numbers. Record your machine's information and serial number in the space provided below. ABI will use this information to give you prompt, efficient service when you order parts or need product support.



### **Model and Serial Number**

Model Number:
Serial Number:
Version Number:
Purchaser's Name:

### **Contact Information**

ABI Attachments, Inc 520 S. Byrkit Ave. Mishawaka, IN 46544

### **Customer Support**

Email: abicustomerservice@abiattachments.com Phone: 877-788-7253 Website: www.abisupport.com

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### **Product Manual Information**

**NOTE:** This operators manual covers several models, Features may vary by model. Not all features in this manual are applicable to all models depicted may differ from yours.

## **General Information**



### LIMITED WARRANTY

CHMENTS Chain Harrows, Cultipackers, & Broadcast Spreaders

#### **TERMS & CONDITIONS**

"ABI" means ABI Attachments, Inc. 520 S Byrkit Ave, Mishawaka, Indiana 46544, 877.788.7253. The above referenced models are warrantied for 24 months, from the original invoice date, against defects in materials and/or workmanship when put to normal and designed residential, farm, & ranch consumer use; 3 months for commercial use and 3 months for rental use. Options are warranted for 12 months (3 Month Commercial & 3 months rental). This limited warranty is only valid on new equipment to the original purchaser with proof of purchase. Non-transferable.

For the purpose of the warranties, "normal & designed use" refers to such uses shown in ABI marketing materials, websites, & videos specific to this product and does not include misuse, abuse, accidents, or damage due to inadequate maintenance, storage, or exposure to corrosive materials including airborne salt. However, a final judgment of "normal & designed use" is the sole opinion of ABI.

The warranty holder is responsible for performing reasonable and proper maintenance. The warranty holder is further responsible for purchasing and performing replacement of normally wearing parts at own expense.

ABI's obligation and or liability, under this warranty, of any product defect or claim for injury or damages is limited to repair or replacement of the product, or payment of the reasonable cost of repair or replacement of the product, at ABI's sole discretion and direction. During the warranty period, warranty replacement parts or replacement product will ship by a standard method at no charge to the warranty holder, in the United States & Canada only. Expedited shipping costs or international shipping costs (Outside of US or Canada) of warranty parts or replacement product is the responsibility of the warranty holder.

To secure warranty service, the warranty holder must, (1) report the defect immediately to ABI customer service, in writing, for warranty consideration within the applicable warranty term and discontinue use of the product; (2) present photographic evidence of the warranty claim and valid proof of purchase; (3) return the product or part to ABI or independent service technician within 30 days of defect discovery or failure, for return, inspection, or repair; if required. If ABI is unable to repair the product to conform to the warranty in a reasonable number of attempts, ABI will provide, at its option, one of the following: (a) a replacement for the product or, (b) a full refund of the purchase price. Repair, replacement, or refunds are the warranty holder's EXCLUSIVE remedies against ABI under this limited warranty.

ABI IS NOT RESPONSIBLE FOR THE FOLLOWING: (1) Equipment purchased used; (2) Any equipment that has been altered or modified in ways not approved by ABI, including, but not limited to, unauthorized repair, and acts of God; (3) Depreciation or damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow operating instructions/ recommendations; misuse, lack of proper protection during storage or use, vandalism, the elements, collision or accident; (4) Normal maintenance/wear parts and/or service, including but not limited to, tips, shanks, teeth, scarifiers, top-links, finish rakes, pins, bolts, leveling blades, profile blades, tires, rims, and bearings. Periodic replacement of normally wearing parts is the responsibility of the warranty holder.

To the extent permitted by law, the limited warranty stated above is the exclusive warranty given by ABI to the original purchaser, and ABI disclaims any other warranties. There are no other warranties, either express or implied, including any warranty of merchantability, fitness for a particular purpose, or arising from course of dealing or trade usage. ABI shall not be liable in any event for incidental or consequential or other special damages under any theory of strict liability or negligence, or expenses of any kind, including, but not limited to, personal injury, damage to property, cost of equipment rentals, loss of profit, loss of time, loss of wages, or cost of hiring services to perform tasks normally performed by this product. ABI reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to owners of units previously sold.

Some jurisdictions do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from jurisdiction to jurisdiction.

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**WARNING!** The *SAFETY ALERT SYMBOL* indicates there is a potential hazard to personal safety involved and extra safety precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. In addition to design and configuration of equipment, hazard control, and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.



### **CALIFORNIA PROPOSITION 65**

WARNING! Cancer and reproductive harm- www.P65Warnings.ca.gov

#### SAFETY AT ALL TIMES

Careful operation is your best assurance against an accident. All operators, no matter how much experience they may have, should carefully read this manual and other related manuals, or have the manuals read to them, before operating the tow vehicle and this implement.

- Thoroughly read and understand the "Safety Label" section. Read all instructions noted on them.
- Do not operate the equipment while under the influence of drugs or alcohol as they impair the ability to safely and properly operate the equipment.
- The operator should be familiar with all functions of the tow vehicle and attached implement and be able to handle emergencies quickly.
- Make sure all guards and shields appropriate for the operation are in place and secured before operating implement.
- Keep all bystanders 50 yards away from equipment and work area.
- Start tow vehicle from the driver's seat with hydraulic controls in neutral.
- Operate tow vehicle and controls from the driver's seat only.
- Never dismount from a moving tow vehicle or leave tow vehicle unattended with engine running.
- Do not allow anyone to stand between tow vehicle and implement while backing up to implement.
- Keep hands, feet, and clothing away from powerdriven parts.
- While transporting and operating equipment, watch out for objects overhead and along side such as fences, trees, buildings, wires, etc.
- Do not turn tow vehicle so tight as to cause hitched implement to ride up on the tow vehicle's rear wheel.
- Store implement in an area where children normally do not play. When needed, secure attachment against falling with support blocks.

#### SAFETY PRECAUTIONS FOR CHILDREN

Tragedy can occur if the operator is not alert to the presence of children. Children generally are attracted to implements and their work.

- Never assume children will remain where you last saw them.
- Keep children out of the work area and under the watchful eye of a responsible adult.
- Be alert and shut the implement and tractor down if children enter the work area.
- Never carry children on the tractor or implement. There is not a safe place for them to ride. They may fall off and be run over or interfere with the control of the tow vehicle.
- Never allow children to operate the tow vehicle or implement, even under adult supervision.
- Never allow children to play on the tow vehicle or implement.
- Use extra caution when backing up. Before the tractor starts to move, look down and behind to make sure the area is clear.

#### SHUTDOWN & STORAGE

- If engaged, disengage power take-off.
- Park on solid, level ground and lower implement to ground or onto support blocks.
- Put tractor in park or set park brake, turn off engine, and remove switch key to prevent unauthorized starting.
- Relieve all hydraulic pressure to auxiliary hydraulic lines
- Wait for all components to stop before leaving operator's seat.
- Use steps, grab-handles and anti-slip surfaces when stepping on and off the tractor.
- Detach and store implement in an area where children normally do not play. Secure implement using blocks and supports.



#### TIRE SAFETY

- Tire changing can be dangerous and must be performed by trained personnel using the correct tools and equipment.
- Always maintain correct tire pressure. Do not inflate tires above recommended pressures shown in the Operator's Manual.
- When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.
- Securely support the implement when changing a wheel.
- When removing and installing wheels, use wheel handling equipment adequate for the weight involved.
- Make sure wheel bolts have been tightened to the specified torque.
- Some attachments may have foam or sealant inside them and must be disposed of properly.



#### **OPERATION SAFETY**

- Stay alert for holes, rocks, and roots in the terrain and other hidden hazards. Keep away from drop-offs.
- Stop implement immediately upon striking an obstruction. Turn engine off, remove key, inspect and repair any damage before resuming operation.
- Never operate tractor and implement under trees with low hanging limbs. Operators can be knocked off the tractor and then run over by implement.

#### TRANSPORT SAFELY

- Comply with federal, state, and local laws.
- Use towing vehicle and trailer of adequate size and capacity Secure equipment towed on a trailer with tie downs and chains.
- Sudden braking can cause a towed trailer to swerve and upset. Reduce speed if towed trailer is not equipped with brakes.
- Avoid contact with any overhead utility lines or electrically charged conductors.
- Always drive with load on end of loader arms low to the ground.
- Always drive straight up and down steep inclines with heavy end of a tow vehicle with loader attachment on the "uphill" side.



- Engage park brake when stopped on an incline.
- Maximum transport speed for an attached equipment is 20 mph. DO NOT EXCEED. Never travel at a speed which does not allow adequate control of steering and stopping. Some rough terrains require a slower speed.
- As a guideline, use the following maximum speed weight ratios for attached equipment:
  - **20 mph** when weight of attached equipment is less than or equal to the weight of machine towing the equipment.
  - **10 mph** when weight of attached equipment exceeds weight of machine towing equipment but not more than double the weight.
- **IMPORTANT:** Do not tow a load that is more than double the weight of the vehicle towing the load.



#### PRACTICE SAFE MAINTENANCE

- Understand procedure before doing work. Refer to the Operator's Manual for additional information.
- Work on a level surface in a clean dry area that is well-lit.
- Lower implement to the ground and follow all shutdown procedures before leaving the operator's seat to perform maintenance.
- Do not work under any hydraulic supported equipment. It can settle, suddenly leak down, or be lowered accidentally. If it is necessary to work under the equipment, securely support it with stands or suitable blocking beforehand.
- Use properly grounded electrical outlets and tools.
- Use correct tools and equipment for the job that are in good condition.
- Allow equipment to cool before working on it.



- Disconnect battery ground cable (-) before servicing or adjusting electrical systems or before welding on implement.
- Inspect all parts. Make certain parts are in good condition & installed properly.
- Replace parts on this implement with genuine ABI Attachments parts only.
- Do not alter this implement in a way which will adversely affect its performance.
- Do not grease or oil implement while it is in operation.
- Remove buildup of grease, oil, or debris.
- Always make sure any material and waste products from the repair and maintenance of the implement are properly collected and disposed.
- Remove all tools and unused parts before operation.



#### PREPARE FOR EMERGENCIES

- Be prepared if a fire starts.
- Keep a first aid kit and fire extinguisher handy.
- Keep emergency numbers for doctor, ambulance, hospital,and fire department near phone.



#### **USE SAFETY LIGHTS AND DEVICES**

- Slow moving tractors, skid steers, self-propelled machines, and towed equipment can create a hazard when driven on public roads. They are difficult to see, especially at night. Use the Slow Moving Vehicle sign (SMV) when on public roads.
- Flashing warning lights and turn signals are recommended whenever driving on public roads.



- **Dig Safe, Call 811 (USA** Always contact your local utility companies (electrical, telephone, gas, water, sewer, and others) before digging so that they may mark the location of any underground services in the area.
- Be sure to ask how close you can work to the marks they positioned.



#### WEAR PERSONAL PROTECTION EQUIPMENT (PPE)

- Wear protective clothing and equipment appropriate for the job such as safety shoes, safety glasses, hard hat, and ear plugs.
- Clothing should fit snug without fringes and pull strings to avoid entanglement with moving parts.
- Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
- Operating equipment safely requires the operator's full attention. Avoid wearing headphones while operating equipment.



#### **USE SEAT BELT AND ROPS**

- ABI Attachments recommends the use of a CAB or roll-over protective structures (ROPS) and seat belt in almost all tow vehicles. Combination of a CAB or ROPS and seat belt will reduce the risk of serious injury or death if the tow vehicle should be upset.
- If ROPS is in the locked-up position, fasten seat belt snugly and securely to help protect against serious injury or death from falling and machine overturn.



#### AVOID HIGH PRESSURE FLUIDS HAZARD

- Escaping fluid under pressure can penetrate the skin causing serious injury.
- Before disconnecting hydraulic lines or performing work on the hydraulic system, be sure to release all residual pressure.
- Make sure all 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.



#### **KEEP RIDERS OFF MACHINERY**

- Never carry riders on tractor or implement.
- Riders obstruct operator's view and interfere with the control of the tow vehicle.
- Riders can be struck by objects or thrown from the equipment. Never use tractor or implement to lift or transport riders.



## **Safety Labels**

### **A CAUTION**

To avoid serious injury:

- · Read Operator's Manual before operating, servicing or repairing equipment. Follow all safety rules and instructions. (Manuals are available from your selling dealer.)
- Never allow riders.
- · Keep bystanders away from equipment during operation.
- · Operate from tractor seat only.
- · Keep all shields in place and in good condition.
- · Lower equipment to ground, stop engine, remove key and set brake before dismounting tractor.
- · Never allow children or untrained persons to operate equipment.
- If equipped, parking stands must be functional, kept in good repair, and stored on the unit. Park and store on a hard, level surface.

60-4178



### **AWARNING**

Toxic chemical hazard Chemicals may cause eye, skin or breathing problems.
Fo prevent serious injury or death:
Wear face mask, gloves, and goggles.
Read and follow safety instructions of the chemical supplier's label.

Failure to follow these instructions can cause serious injury or death.



- Do not load hopper until it has been properly attached to the transport unit.
- Do not disconnect spreader until material has been removed from unit.

950-341B

## **Uncrating Instructions**

#### **Tools Needed:**

- Gloves
- Safety Glasses
- Safety Shoes
- Tin Snips / wire cutters
- Razor Blade or knife
- (2) large adjustable wrenches
- (2) 10mm wrenches or socket set
- (2) 13mm wrenches or socket set

## 1. Cut the banding securing the unit to the pallet. Use caution when cutting metal straps that they do not spring toward you and cause injury (Fig 1 & 2).

**2.** Remove the hopper, tires, owner's, packages and owner's manual from the skid and set them in an area where all parts can be viewed (**Fig 3**).

**3.** Cut open main support frame/towing hitch package and remove zipties then set parts off to the side (**Fig 4 & 5**).

**4.** Open white bag of components and set them in an area where all parts can be viewed (**Fig 6 and 7**).

**5.** Open plastic bag of hardware from the white bag and set in an area where all parts can be viewed (**Fig 8**).

**6.** Set all hopper components in an open with area with room to build the unit (**Fig 9**).



# **Initial Setup**

#### ABI recommends assembling the broadcast spreader be done by 2 people.

1. Locate the hopper, mobile shutter, black threaded bushing and the M30 nut (Fig 1).

2. Slide the black threaded bushing (from note 1) through the bottom hole of the hopper (Fig 2). Place the mobile shutter on the bottom of the hopper with the black threaded bushing going thru the hole in the mobile shutter (make sure the sliding grooves on the mobile shutter are facing away from the hopper and in the same direction as the hole pointed out on the side of the hopper shown in Fig 2). Hold the black threaded bushing by reaching thru the square hole in the mobile shutter to keep it from spinning while threading the M30 nut onto the black threaded bushing and tighten using two large adjustable wrenches (one person will need to be on the inside of the hopper holding the hex portion of the threaded bushing with an adjustable wrench while the 2nd person is on the outside of the hopper tightening the M30 nut with an adjustable wrench while keeping the mobile shutter facing the direction as the hole in the side of the hopper) (Fig 3 & 4). Then set aside.

3. Locate curved guard, Main support frame, (2) M8x20 bolts, (2) Ø8 flat washers and (2) M8 nuts (Fig 5).

4. Fasten the curved guard onto the frame using the M8x20 bolts, Ø8 washers and M8 nuts (hand tighten only at this time) (Fig 6).

5. Locate spreader disc, main support frame, flat cotter pin and hopper assembly (Fig 7).

6. Slide the spreader disc onto the outgoing shaft with the "X" shaped ribs on the spreader disc facing toward the end of the outgoing shaft (Fig 8). Line up holes in spreader disc and outgoing shaft and secure with flat cotter pin (Fig 9). Slide end of outgoing shaft into black threaded bushing on bottom of hopper assembly.

Depending on which broadcast spreader that was purchased, there is either an M8x40 carriage bolt (on the 103-130 and 106-130 models) or an M8x45 carriage bolt (on the 103-230 and 106-230 models). Insert the M8x40 (or M8x45 depending which model was purchased) carriage bolt from the inside of the hopper thru the hole pointed out in (Fig 2) then thru the hole in the main support frame (Fig 11). Slide the fender washer and lockwasher onto the end of bolt. Thread the M8 nut onto the bolt and tighen using a 13mm wrench or socket set (Fig 12).

**NOTE:** Since the carriage bolt has a square section under its head, the carriage bolt head will not fully seat onto the inside surface of the hopper wall which may not allow enough room after sliding it thru the frame to add the fender washer and lock washer and still thread the nut on.



Fig 1.





Slide threaded bushing thru hole in bottom of hopper.

Face sliding grooves on the mobile shutter as shown.





Guard faces opposite direction than long welded brackets on main frame support.



Fig 6.

9

# Initial Setup (cont'd)

If this is the case, set the lockwasher off to the side and thread the nut as tight as it will go to draw the square section of the carriage bolt into the wall of the hopper. This will give more thread length at the end of the bolt to remove the nut and reinsert the lockwasher onto the bolt then reinsert the nut and tighten.

**7.** Locate stirrer, M6x30 Hex head bolt, (2) Ø6 washers and the M6 locknut (**Fig 13**).

**8.** Looking inside the hopper, slide the stirrer over the outgoing shaft. Slide (1) washer onto the M6x30 bolt then insert the bolt into the slot on the side of the stirrer then thru the hole on the end of the outgoing shaft then thru the 2nd slot on the other side of the stirrer. Slide 2nd washer onto the bolt then thread the M6 locknut onto the bolt and tighten using (2) 10mm wrenches or socket set (**Fig 14**).

**9.** Locate the stirrer guard, (2) M8x20 carriage bolts , (2) fender washers, (2) lockwashers and (2) M8 nuts (**Fig 15**).

10. Looking inside the hopper, place the stirrer guard over the stirrer and align the slots on the stirrer guard over the two holes in the hopper wall on either side of the stirrer (Fig 16). Insert the (2) M8x20 carriage bolts thru the slots on the stirrer guard then thru the holes in the hopper wall and on thru the long hopper support brackets welded on the main support frame (Fig 16 & 17). Slide a fender washer onto each bolt then slide a lockwasher onto each bolt. Thread an M8 nut onto each bolt and tighten using a 13mm wrench or socket set (Fig 17).

**11.** Locate the flow control assembly and remove the lower knob and washer and set aside for the moment (**Fig 18 & 19**).

12. Slide the flow control assembly flat plate into the slots of the mobile shutter (mention in Fig 1 thru 4) while pivoting the bracket on the flow control assembly over and behind the curved guard (Fig 20 & 21). If threaded hole in flow control assembly bracket is not centered in slot on the curved guard, rotate the curved guard up or down as needed to center the hole in the bracket with the slot on the guard (Fig 20 & 21). Once hole in the bracket is cenetered, fully tighten the (2) nuts that hold the curved bracket to the main support frame using (2) 13mm wrenches or socket set (Fig 22 & 23). Re-thread the flow control adjustment knob and washer (that were removed in step 11) thru the curved guard slot and into the threaded hole on the flow control assembly bracket (Fig 25).

**13.** Locate both wheels, (2) Ø28 shims, (2) Ø20 washers, (2) bent cotter pins (**Fig 26**).



14. Slide (1) Ø28 shim onto both left and right axle shaft (Fig 27). Slide (1) wheel onto both left and right axle shafts. The side of the wheel with the long tube portion of the hub (with the small hole going thru the side of the hub) faces inward toward the gearbox on the axle (Fig 28 & 29). Slide (1) Ø20 washer onto both left and right axle shaft (Fig 29). On both left and right axle shafts, insert bent cotter pin into hole at the end of the axle shaft to secure the washer, wheel and shim (Fig 30).

**15.** Locate the M6x45 hex head bolt, (2) Ø6 flat washers and the M6 locknut.

On the left axle shaft is a 2nd hole going thru the shaft that will line up with the hole going thru the side of the wheel hub (shown in **Fig 28**). Slide (1) washer onto the M6x45 bolt then slide the bolt thru the hub and axle holes. Slide the other washer onto the bolt then thread the M6 lock nut onto the bolt and tighten using (2) 10mm wrenches or socket set (**Fig 31**).

**16.** Locate towing hitch with pivoting brackets, (6) M8x40 hex head bolts, (6) Ø8 washers and (6) M8 nuts (**Fig 32**).

**17.** Mount 1st pivot bracket to main support frame by inserting (2) M8x40 bolts thru pivot bracket holes then thru main support frame holes. Slide (1) Ø8 washer onto both bolts then thread (1) M8 nut onto each bolt - hand tighten only. Pivot bracket should be parallel to spreader disc when properly mounted. (Fig 33 & 34). Slide towing hitch onto pivot bracket with 2nd pivot bracket attached to towing hitch (Fig 35). Mount 2nd pivot bracket to main support frame by inserting (2) M8x40 bolts thru pivot bracket holes then thru main support frame holes. Slide (1) Ø8 washer onto both bolts then thread (1) M8 nut onto each bolt - hand tighten only. Pivot bracket should be parallel to spreader disc when properly mounted (Fig 36). Rotate both angled brackets (with multiple holes in each bracket) attached to towing hitch until the hole at the end of each bracket line up with the holes on the main support frame. Insert (1) M8x40 bolt thru angle bracket hole and hole in main support frame. Slide (1) Ø8 washer onto bolt then thread (1) M8 nut onto each bolt - hand tighten only. Repeat this with 2nd angled bracket on other side. (Fig 37). Once all (6) bolts and nuts are installed, fully tighten using (2) 13mm wrenches or socket set.

18. The broadcast spreader is now fully assembled (Fig 38 & 39).

**19.** Once the spreader is hitched to the tow vehicle, position the spreader disc to be parallel to the ground by removing the bolts on the two angled brackets using (2) 13mm wrenches or socket set and line up one of the holes in the angled brackets with the holes in the towing hitch that makes the spreader disc parallel to the ground. Replace the bolts, washers and nuts and retighten (**Fig 40**).



# Initial Setup (cont'd)

Slide flat plate on flow control assembly into grooves on mobile shutter attached to the bottom of the hopper.



Rotate curved guard up or down as needed to ge threaded hole in flow control assembly bracket centered in slot of curved guard.

Curved guard.





Fig 22.

Fig 23.

Fully tighten both nuts securing curved guard to main support frame (from **Fig 6**) once flow control bracket hole is centered in slot on curved guard.



Re-thread the flow control adjustment knob and washer thru the curved guard slot and into the threaded hole on the flow control assembly bracket.







The long tube portion of the hub (with the small hole going thru the side of the hub) faces inward toward the gearbox on the axle.

Fig 28.





Fig 30. ben

bent cotter pin







Fig 32.



Fig 33. Mount 1st pivot bracket to main support frame.



Fig 35.



Fig 36.

Mount 2nd pivot bracket to main support frame.



Fig 34. Pivot bracket should be parallel to spreader disc when properly mounted.

Slide towing hitch onto pivot bracket with 2nd pivot bracket attached to towing hitch.

Angled brackets mounted to towing hitch.



Rotate angled brackets (with multiple holes) until hole at the end of the angled brackets line up with holes in the main support frame.





Fig 38.

Fig 39.



## **Operation Guide**

**1.** The rotating spreader disc is ground driven by the pneumatic tires which are attached to a drive axle that runs through a sealed gearbox (with tempered high carbon steel gears).

**2.** Prior to start working, make sure there are no obstructions. Run machine under a no-load condition for a short while to assure that everything is functioning properly.

**3.** Adjust all settings for the desired quantity distribution and spread pattern.

**4.** The working speed depends on ground conditions. Only a test run will enable you to gauge the optimal working speed for your conditions.

**5.** Before loading the fertilizer in the hopper read carefully the instructions printed on the fertilizer canvas bag concerning the precautions to be taken in case of toxicity or corrosivity of the product. Before loading switch off the engine and remove the ignition key.

**6.** Load hopper with product only after the spreader has been properly attached to the tractor.

**7.** Before use, ensure proper lighting is available, sunlight or good artificial lighting.

**8.** Shift the transmission to a slow speed gear and start forward, increase the ground speed by shifting upward until the desired speed is obtained. Do not use in reverse unless absolutely necessary and only after careful observation of the area behind the spreader.

**9.** For emergency reasons learn how to stop the tractor and spreader quickly.

**10.** The quantity of material distributed per acre depends on the following factors:

- A. Spreader ground speed.
- B. Unit weight and size of the material to be spread.
- C. Spreading width.
- D. Position of the Flow Control Assembly lever.

### Spread Adjustment

The hopper's spreading is adjustable in three ways by:

- A. Regulating the spread pattern.
- B. Regulating the amount of material to be spread.
- C. Regulating the **spreading width**.

To regulate the (A) **spread pattern** : loosen the knob (**Fig 25**) in front of the curved guard (**Fig 5 & 6**). Slide (to the left or right) the flow control assembly (mentioned in **Fig. 20 & 21**) which is located under the hopper and runs through the slot in the curved guard. This moves the spread pattern from 180° at position 0 (in the center), to either mostly 90° right with the lever shifted all the way to the left or mostly 90° left when shifted to the right completely (**Fig. 41**).



To regulate the (**B**) **amount of material to be spread**, using the flow control assembly (mentioned in **Fig. 20 & 21**), push/pull the lever handle in and out to regulate the size of opening at the bottom of the hopper. Use the scale located above the lever rod to gauge the size opening needed. Example: if it is determined that the appropriate opening desired is position #6, loosen the knob on the side of the lever rod (not the knob that tightens against the curved guard) (**Fig. 42**) so the blocking plate will slide. Push the lever handle in until the hole in the bottom of the hopper is completely closed then pull the blocking plate out to position #6 (**Fig. 43**) and tighten the knob. The hopper is now ready to spread with that amount of flow rate.



To regulate the (**C**) **spreading width**, ground speed is the most important factor, the faster the ground speed the further the material is thrown. An optional rear deflector (**see P/N #49, Fig. 44**) is available for additional regulation. Move the rear deflector up and down to change the spreading distance. The higher the position of the rear deflector the further the spread width, the lower the less distance the material travels.

In order to give a guide to the operator, Table 1 (**pg 15**) gives the amount of material distributed (lbs./1000 sq.ft) at two spreading widths (6.5 ft. and 13 ft.) versus the lever position.

## **Specifications**

1. Unless otherwise specified, all hardware is metric. Use only metric tools on metric hardware. Other tools that do not fit properly can slip and cause injury.

**2.** Right hand and left hand sides of the implement are determined by facing in the direction the implement will travel when going forward.

**3.** The broadcast spreader should be used to distribute granular fertilizers, seeds, sand and small granular salt. It is not designed for use with powder type material.

**4.** The broadcast spreader ground driven fertilizer spreaders are designed and sized for lawn tractors, ATV's or other equipment without PTO.

Lever position	Spreadi 6.5	ng width feet	Spreading width 13 feet			
	2 mph	4 mph	2 mph	4 mph		
1	6	4	3	2		
2	12	6	6	3		
3	19.5	10	10	5		
4	28	14	14	7		
5	37	18	19	9		
6	46.5	23	23	11.5		
7	56	28	28	14		
8	65.5	33	33	16.5		
9	77	39	38.5	19.5		
10	-	44	-	22		

TABLE 1 - SWATH SPREADING PATTERNS (LBS./1000 SQ.FT)

				ibs.	neight		width f
106-230	5 30 cu ft	339	polvethylene	84	44 4"	35"	3' - 20

Spreader can be used to spread salt on sidewalks, driveways, etc. (2) The optional remote gate control is designed to easily control fertilizer flow from tractor seat. (3) A heavy duty cover that helps to keep moisture out of the material being spread and also prevents light material from being blown over the top of the hopper.



## **Parts Description**

103-230, 106-230 Broadcast Spreader Assembly



Fig 44.

\star See page 19.

	Ref.	Part #	Description	Qty.
	1	001-4772	Bottom plate, stainless steel	1
	2	021-4770	Hopper, polyethylene; 103-230	1
		031-4770	Hopper, polyethylene; 106-230	1
	3	001-4777	Stirrer guard; 103-230, 106-230	1
	4	501-619B	Stirrer	1
	5	001-4806	Bolt HH M06-1.00x30 C8.8 SS P	1
k	6	005-0165	Nut ES M06-1.00 Z TK	2
	7	502-028B	Threaded bushing Ø16	1
	8	005-7385	Bolt CR M08-1.25x45 C4.6 Z	1
	9	001-5230	Washer flat Ø8	10
	10	004-6545	Nut HH M08-1.25 C6 Z MD	13
	11	501-624B	Frame 103	1
		503-883B	Frame 106	1
	14	501-625B	Guard	1
	15	501-626B	Bolt HH M08-1.25x40 C8.8 Z P	8
	16	001-5012	Bolt HH M08-1.25x20 C8.8 Z F	2
	17	501-628B	Hitch adjustment, right	1
	18	501-629B	Hitch adjustment, left	1
	19	501-630B	Flow control assembly	1
	20	501-631B	Adjustment knob M6x16	2
	21	501-632B	Hitch connection, right	1
	22	501-633B	Hitch connection, left	1
	23	502-029B	Nylon bushing Ø21; 103-230	2
		502-029B	Nylon bushing Ø21: 106-230	4
	25	501-999B	Air tire 13"x6": 103-230	1
		503-884B	Air tire 16"x8"; 106-230	1
		001-4878	Bushing for tire; 103-230, 106-230 (not shown)	2
*	26	001-4862	Bolt HH M06-1.00x45 C8.8 Z P	1
	27	001-4514	Washer fender Ø8 Z	3
	28	502-032B	Axle; 103-230	1
		503-682B	Axle; 106-230	1
*	29	005-0166	Washer flat Ø6 Z	3
	30	502-034B	Roll pin Ø3x20	1
	31	004-6555	Washer flat Ø20 Z	2
	32	502-035B	Self tapping screw PN M3.9x25 Z	6
	33	502-036B	Self tapping screw PN M3.9x16 Z	4
	34	501-639B	Adjustment knob	1
	35	502-037B	Gearbox housing	1
	36	502-038B	Gearbox cover	1
	37	502-039B	Bevel gear	1
	38	502-040B	Pinion gear	1
	39	501-644B	Roll pin Ø5x20	1
	40	501-645B	Bearing 6202 ZZ	2
	41	502-041B	Spacer	1
	42	502-042B	Gearbox top cover	1
	43	004-1291	Hairpin cotter Ø5 Z	1
	44	502-043B	Outgoing shaft	1
	45	001-4871	Hairpin cotter Ø4 bent Z	2
	46	502-044B	Spreader disc	1
	47	501-651B	Nut HH M30-2.00 C6 Z TN	1
	48	001-4773	Mobile shutter; 103-230, 106-230	1

Ref.	Part #	Description	Qty.
48	501-652B	Mobile shutter; 103-130, 106-130	1
49	501-653B	Deflector shield (option)	1
50	501-663B	Bolt CR M08-1.25x25 C4.6 Z	2
51	501-655B	Towing hitch	1
52	502-045B	Deflector connection, right	1
53	502-046B	Deflector connection, left	1
54	001-0122	Snap ring, outer Ø30	1
55	502-048B	Shim Ø30x0.5	1
56	501-999B	Air tire 13"x6"; 103-130	1
	503-884B	Air tire 16"x8"; 106-130	1
	001-4878	Bushing for tire; 103-130, 106-130 (not shown)	2
57	005-2418	Bolt HH M06-1.00x40 C8.8 Z P	1
58	001-1209	Washer fender Ø6 Z	1
59	000-3144	Washer lock Ø8 Z	3
60	001-4810	Cover; #316858 & below	1
61	001-4885	Oil seal 16.24.5	1
62	001-4873	Shim Ø28x0.3	2
	500 054P	Coorthour committee	4
	502-051B	Gearbox, complete	1

## Maintenance

- 1. Tire MAX inflation 28 PSI. Replace tire if cracks or missing chunks in tire are present.
- **2.** Before beginning work:
  - A. Apply a thick layer of grease to all exposed moving parts.
    - B. Apply a film of biodegradable oil in crevasses and corners in order to keep corrosive material from rusting areas that are difficult to clean.
- 3. After each use:
  - A. Be sure to thoroughly wash the machine without using excessive pressure especially on the moving parts. It is particularly important to wash the implement after using salt or fertilizer. This will help prevent the caustic chemicals in the salt and fertilizer from destroying the metal of the machine.
  - B. Carefully dry the machine.
  - C. Apply a thick layer of grease to all exposed moving parts.
  - D. Apply a film of biodegradable oil in crevasses and corners.

**4.** After seasonal use it is important to perform the following for prolonged storage:

- A. Wash and dry the spreader carefully.
- B. Inspect the spreader and replace worn or damaged parts. If corrosive material has eaten under the paint, clean off the area with a wire brush and touchup with primer and paint.
- C. Tighten all hardware.
- D. Apply a thick layer of grease to all exposed moving parts.
- E. Apply a film of biodegradable oil in crevasses and corners.
- F. Cover the spreader from the elements in order to have it in perfect condition for the start of the next season.

**5.** The gearbox has been filled with EP grade grease from the factory. The grease never needs replacing unless internal work is done to the gearbox.

**6.** Inspect the entire machine periodically. Look for loose fasteners, worn or broken parts, and leaky or loose fittings. Use **TABLE 3 - TORQUE SPECIFICATIONS** for any loose bolts or nuts.

7. Never replace hex bolts with less than grade five bolts unless otherwise specified (ex: shear bolts).

Metrie tread bolts marki	c (ISO) ed head ing	Clas	.8	Clas	.8	Class	.9)	Inch ( treade bolts marki	SAE) ed head ng	Gra	)	Gra		Gra	
Bolt size mm	Thread mm	N.m	ft-lb	N.m	ft-lb	N.m	ft-lb	Bolt size inch	Thread inch tpi	N.m	ft-lb	N.m	ft-lb	N.m	ft-lk
M5	0.8	4	3	6	4	9	7	1/4"	20	7	5	11	8	16	12
M6	1	6	4	10	7	15	11	1/4"	28	8	6	13	10	19	14
M8	1.25	16	12	25	18	36	27	5/16"	18	15	11	24	17	33	25
M8	1	17	13	26	19	38	28	5/16"	24	17	13	26	19	37	27
M10	1.5	31	23	48	35	71	52	3/8"	16	27	20	42	31	59	44
M10	1.25	33	24	51	38	75	55	3/8"	24	31	23	47	35	67	49
M10	1	35	26	53	39	78	58	7/16"	14	43	32	67	49	95	70
M12	1.75	54	40	84	62	123	91	7/16"	20	48	36	75	55	106	78
M12	1.5	56	41	87	64	128	94	1/2"	13	66	48	102	75	144	10
M12	1.25	59	44	90	66	133	98	1/2"	20	75	55	115	85	163	12
M14	2	84	62	133	98	195	144	9/16"	12	95	70	147	109	208	15
M14	1.5	94	69	142	105	209	154	9/16"	18	106	79	164	121	232	17
M16	2	131	97	206	152	302	223	5/8"	11	132	97	203	150	287	21
M16	1.5	141	104	218	161	320	236	5/8"	18	149	110	230	170	325	24
M18	2.5	181	133	295	218	421	310	3/4"	10	233	172	361	266	509	37
M18	2	196	145	311	229	443	327	3/4"	16	261	192	403	297	569	42
M18	1.5	203	150	327	241	465	343	7/8"	9	226	167	582	430	822	60
M20	2.5	256	189	415	306	592	437	7/8"	14	249	184	642	473	906	66
M20	1.5	288	212	454	335	646	476	1"	8	339	250	873	644	1232	90
M22	2.5	344	254	567	418	807	595	1"	12	371	273	955	704	1348	99
M22	1.5	381	281	613	452	873	644	1-1/8"	7	480	354	1077	794	1746	128
M24	3	444	327	714	526	1017	750	1-1/8"	12	539	397	1208	891	1958	144
M24	2	488	360	769	567	1095	808	1-1/4"	7	677	500	1519	1120	2463	181
M27	3	656	484	1050	774	1496	1103	1-1/4"	12	750	553	1682	1241	2728	201
M27	2	719	530	1119	825	1594	1176	1-3/8"	6	888	655	1992	1469	3230	238
M30	3.5	906	668	1420	1047	2033	1499	1-3/8"	12	1011	746	2268	1673	3677	271
M30	2	1000	738	1600	1180	2250	1659	1-1/2"	6	1179	869	2643	1949	4286	316
M36	4	1534	1131	2482	1830	3535	2607	1-1/2"	12	1326	978	2974	2194	4823	355

TABLE 3 - TORQUE SPECIFICATIONS

# Info and Troubleshooting

WARNING: Be sure tractor engine is off, parking brake is locked, and key is removed before making any adjustments.

PROBLEM	POSSIBLE CAUSE	SOLUTION
NON UNIFORM SPREAD PATTERN	OPENING LEVER NOT POSITIONED CORRECTLY	SET LEVER AT GATE OPENING TO THE PROPER POSITION (SEE "SPREAD ADJUSTMENT" - PG 14)
SPREADER DISC DOES NOT TURN	DRIVE WHEEL BOLT MISSING OR SHEARED. SPREADER DISC COTTER PIN MISSING OR SHEARED. BROKEN RING OR PINION GEAR.	REPLACE BOLT. REPLACE COTTER PIN. REPLACE RING OR PINION GEAR.
NARROW SPREAD WIDTH	SLOW GROUND SPEED. HOPPER TOO FAR BACKWARDS.	INCREASE GROUND SPEED. POSITION SPREADER SO IT RUNS LEVEL OR INCLINED SLIGHTLY FORWARD TOWARD THE TOWING VEHICLE.

★ WARNING: Before towing the spreader on from job site to job site that are far apart, remove M6 bolt P/N 001-4862, washers P/N 005-0166 and nut P/N 005-0165 (items 6, 26 & 29 shown on pages 12 [Fig 31], 16 & 17). This will disengage the gearbox from the wheel and prevent unnecessary wear on the gears and potentially damaging the gearbox. Reinstall bolt, washer and nut before using the spreader so the spreader will function properly.

## **Replacement Parts**

All of the Classic Spreader components are considered wear parts and will need to be replaced as they wear out from use. To reorder, please contact the ABI Support department at 877-788-7253.

Recommended replacement parts to be kept on hand to prevent delaying work.

DESCRIPTION	QTY
SPREADER DISC (P/N 46, PG 17)	1
THREADED BUSHING (P/N 7, PG 17)	1
NYLON BUSHING Ø21 (P/N 23, PG 17)	2

## **Foot Notes**

### **Contact Information**

ABI Attachments, Inc 520 S. Byrkit Ave. Mishawaka, IN 46544

### **Customer Support**

Email: support@abiattachments.com Phone: 877-788-7253 Website: www.abisupport.com

To order parts or to speak to one of ABI's Customer Service Representatives contact us Monday to Friday 9am to 5pm EST.

For additional information on the use or setup of the Ground Drive Broadcast Spreader, please contact the ABI customer support team at 855.211.0598.

Additional support videos are available at the ABI support page (abisupport.com) under each tool.

**Warranty Information and Return Policy** - Warranty and return policy information can also be found on the ABI support page under each tool. For additional questions regarding warranty or return policy, contact the ABI customer support team at 855.211.0598.

