



48in. Plug Aerator

Owner's Manual



⚠ WARNING: Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item # 49167

06082015

SAVE THESE INSTRUCTIONS

Thank you very much for choosing a Strongway product!

For future reference, please complete the owner's record below:

Serial Number/Lot Date Code: _____

Purchase Date: _____

Save the receipt, the warranty, and this manual. It is important that you read the entire manual to become familiar with this product before you begin using it.

This 48" Plug Aerator is designed for certain applications only. Northern Tool and Equipment cannot be responsible for issues arising from modification or use of this product in an application for which it was not designed. We strongly recommend that this product not be modified and/or used for any application other than that for which it was designed.

For technical questions, please call **1-800-222-5381**.

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Intended Use

This 48" Plug Aerator is the perfect aerator for getting water and nutrients to the roots of plants in compacted soil.

Technical Specifications

| Property | Specification |
|-------------------------|---------------|
| Aerator Type | Plug |
| Spikes (qty.) | 32 |
| Spike Length | 3" |
| Spike Penetration Depth | 2.5" |
| Working Width | 48" |
| Maximum Weight Capacity | 120 lbs. |

Important Safety Information

⚠ WARNING

- Read and understand all instructions. Failure to follow all instructions may result in serious injury or property damage.
- The warnings, cautions, and instructions in this manual cannot cover all possible conditions or situations that could occur. Exercise common sense and caution when using this tool. Always be aware of the environment and ensure that the tool is used in a safe and responsible manner.
- Do not allow persons to operate or assemble the product until they have read this manual and have developed a thorough understanding of how it works.
- Do not modify this product in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the product. There are specific applications for which the product was designed.
- Use the right tool for the job. DO NOT attempt to force small equipment to do the work of larger industrial equipment. There are certain applications for which this equipment was designed. It will do the job better and more safely at the capacity for which it was intended. DO NOT use this equipment for a purpose for which it was not intended.
- Industrial or commercial applications must follow OSHA requirements.

⚠ WARNING

WORK AREA SAFETY

- Inspect the work area before each use. Keep work area clean, dry, free of clutter, and well lit. Cluttered, wet, or dark work areas can result in injury. Using the aerator in confined work areas may put you dangerously close to other cutting tools and rotating parts.
- Do not allow the aerator to come into contact with an electrical source. The tool is not insulated and contact will cause electrical shock.
- Keep children and bystanders away from the work area while operating the tool. Do not allow children to handle the aerator.
- Be aware of all power lines, electrical circuits, water pipes, and other mechanical hazards in your work area. Some of these hazards may be hidden from your view and may cause personal injury and/or property damage if contacted.

⚠ WARNING

PERSONAL SAFETY

- Stay alert, watch what you are doing, and use common sense when operating the tool. Do not use the tool while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating the tool may result in serious personal injury.
- Dress properly. Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts. Air vents on the tool often cover moving parts and should be avoided.
- Wear the proper personal protective equipment when necessary. Use ANSI Z87.1 compliant safety goggles (not safety glasses) with side shields, or when needed, a face shield. Use a dust mask in dusty work conditions. Also use non-skid safety shoes, hardhat, gloves, dust collection systems, and hearing protection when appropriate. This applies to all persons in the work area.
- Do not overreach. Keep proper footing and balance at all times.
- Do not use the tool when tired or under the influence of drugs, alcohol or medication.
- Remove keys or wrenches before connecting the tool to an air supply, power supply, or turning on the tool. A wrench or key that is left attached to a rotating part of the tool may cause personal injury.
- Secure the work with clamps or a vise instead of your hand when practical. This safety precaution allows for proper tool operation using both hands.

⚠ CAUTION

AERATOR USE AND CARE

- Do not force the aerator. Products do a better and safer job when used in the manner for which they are designed. Plan your work, and use the correct product for the job.
- Check for damaged parts before each use. Carefully check that the aerator will operate properly and perform its intended function. Replace damaged or worn parts immediately. Never operate the aerator with a damaged part.
- Store the aerator when it is not in use. Store it in a dry, secure place out of the reach of children. Inspect the tool for good working condition prior to storage and before re-use.
- Use only accessories that are recommended by the manufacturer for use with your aerator. Accessories that may be suitable for one product may create a risk of injury when used with another tool. Never use an accessory that has a lower operating speed or operating pressure than the tool itself.
- Keep guards in place and in working order. Never operate the product without the guards in place.

Specific Operation Warnings

⚠ WARNING

CRUSHING AND LACERATION HAZARD

- Implement is heavy. Be careful when moving or lifting as hands, fingers, feet, and other body parts can be crushed.
- Implement has sharp spikes. Keep hands clear as these spikes can cut.
- DO NOT exceed this implement's maximum speed of 5 MPH. Exceeding this speed may result in loss of control during transport or braking.
- Never allow riders on equipment.
- Keep bystanders at least 20 feet away while operating.
- Operate from tractor seat only.
- Lower equipment to ground, stop engine, remove key and set brake before dismounting tractor.
- DO NOT use if equipment is damaged. Repair equipment before continuing use.
- Keep seat belt securely fastened while operating. Falling off can result in impalement or being run over.
- Sharp points can cause injury. Be cautious when replacing tines.
- Store out of reach of children. Not for use by or around children.
- If equipped, parking stands must be functional, kept in good repair, and stored on the unit. Park and store on a hard, level surface.

FALLING OFF CAN RESULT IN IMPALEMENT OR BEING RUN OVER

- Tractor must be equipped with Roll Over Protection Structure (or ROPS CAB) and seat belt. Keep foldable ROPS system in "locked up" position at all times.
- Keep seat belt securely fastened.
- Never allow riders on equipment.
- Raised equipment can drop and crush.
- Before working underneath, follow all instructions and safety rules in operator's manual and securely block all corners of equipment with jack stands.
- Securely blocking prevents equipment dropping from mechanical component failures.

FALLING OFF OR FAILING TO BLOCK SECURELY CAN RESULT IN SERIOUS INJURY OR DEATH

Assembly

Step 1: Attach Wheel Bracket to Axle Shaft

Step 1 Hardware Needed:

- 1 – Wheel Bracket (9)
- 1 – Axle Shaft (6)
- 1 – Hex Bolt $1/4" \times 1-1/2"$ (B)
- 1 – Lock Nut $1/4"$ (T)

Attach one Wheel Bracket (9) to the middle hole of the Axle Shaft (6).

Note: the wheel bracket ring should point toward the shortest side of the axle. See Figure 2.

Secure Wheel Bracket (9) using a Hex Bolt $1/4" \times 1-1/4"$ (B) and Lock Nut $1/4"$ (T). Fully tighten connection.

See Figure 2.

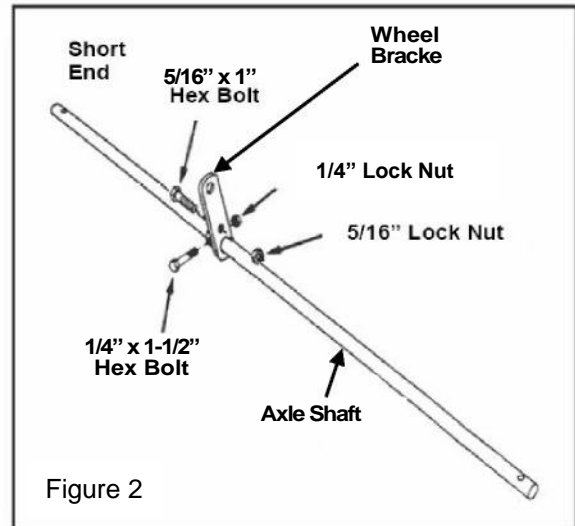


Figure 2

Step 2: Insert Hex Bolt

Step 2 Hardware Needed:

- 1 – Hex Bolt $5/16" \times 1"$ (E)
- 1 – Lock Nut $5/16"$ (K)

Preassembly for Step 11: Insert Hex Bolt $5/16" \times 1"$ (E) from the short side of the axle insert Lock Nut (K) into the hole closest to the axle.

Finger tighten Lock Nut to the Hex Bolt.

Do not tighten until Step 11.

See Figure 2.

Step 3: Assemble Short Side of Axle Shaft

Step 3 Hardware Needed:

- 2 – Double Spool Assembly (10)
- 1 – 5.29 Spacer Tube (U)
- 1 – 1" Spacer Tube (S)
- 1 – Flat Washer $7/8"$ (P)

Assemble below items onto short side of the Axle Shaft (6) in the following order:

1. Start with one Double Spool Assembly (10)
2. 5.29 Spacer Tube (32)
3. Double Spool Assembly (10)
4. 1" Spacer Tube (S)
5. Flat Washer $7/8"$ (P)

Note the Plug Knives (15) should face out.

See Figure 3.

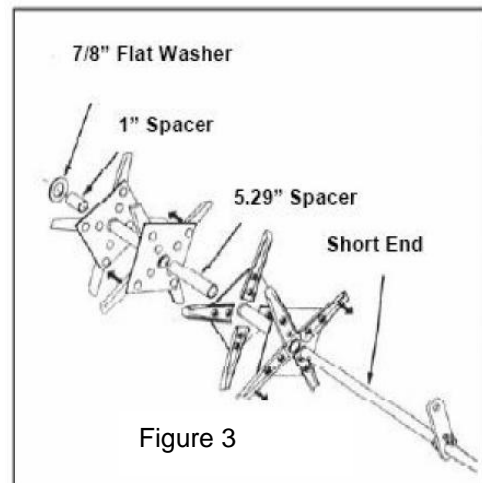


Figure 3

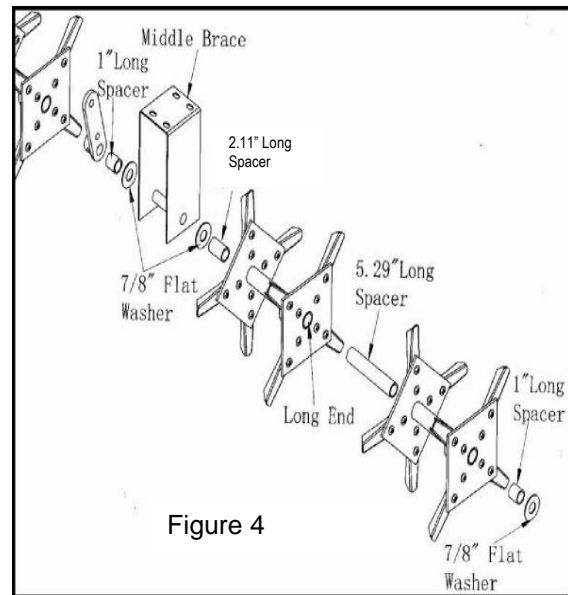
Step 4: Assemble Long Side of Axle Shaft

Step 4 Hardware Needed:

- 1 – Middle Brace (2)
- 2 – Double Spool Assembly (10)
- 1 – 2.11" Spacer Tube (31)
- 1 – 5.29" Spacer Tube (32)
- 2 – 1" Spacer Tube (30)
- 3 – Flat Washer 7/8" (34)

Assemble below items onto LONG SIDE of the Axle Shaft (6) in the following order:

1. Start with 1" Spacer Tube (30)
2. Flat Washer 7/8" (34)
3. Middle Brace (2)
4. Flat Washer 7/8" (34)
5. 2.11" Spacer Tube (31)
6. Double Spool Assembly (10)
7. 5.29" Spacer Tube (32)
8. Double Spool Assembly (10)
9. 1" Spacer Tube (30)
10. Flat Washer 7/8" (34)



Note the Plug Knives (15) should face the same direction when assembled.
See Figure 4.

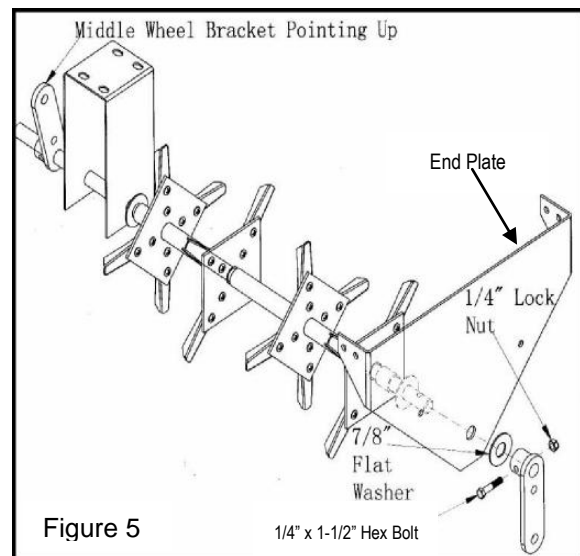
Step 5: Attach End Plates & Wheel Bracket

Step 5 Hardware Needed:

- 2 - End Plates (3)
- 2 - Wheel Brackets (9)
- 2 – Flat Washers 7/8" (P)
- 2 – Hex Bolts 1/4" x 1-1/2" (B)
- 2 – Lock Nuts 1/4" (T)

Start by rotating the Wheel Bracket (9) in the middle of the Axle Shaft (6) so it is pointing upward. Attach one End Plate (3) to one side, followed by Flat Washer 7/8" (P), followed by a Wheel Bracket (9).

Note in Figure 5: Wheel Bracket ring faces inward. Fasten Wheel Bracket (9) to Axle Shaft (6) using Hex Bolt 1/4" x 1-1/2" (B) and 1/4" Lock Nut (T).



Fully tighten connection. Repeat for the opposite side.

Step 6: Attach Wheel Assembly

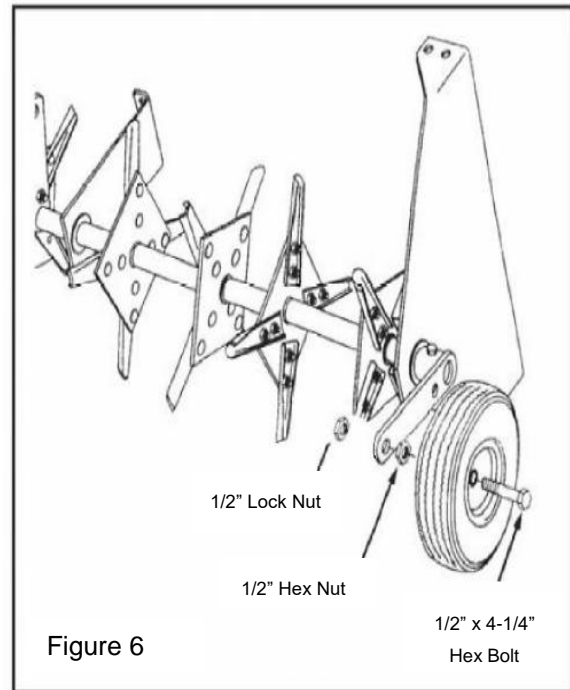
Step 6 Hardware Needed:

- 2 – Wheel Assembly (8)
- 2 – Hex Bolt 1/2" x 4-1/4" (A)
- 2 – Hex Nut 1/2" (I)
- 2 – Lock Nut 1/2" (J)

Insert Hex Bolt 1/2" x 4-1/4" (A) through Wheel Assembly (8). Install Hex Nut 1/2" (I) on Hex Bolt 1/2" x 4-1/4" (A). Tighten the nut on the bolt (wheel should spin freely). Attach assembled wheel and Hex Bolt 1/2" x 4-1/4" (A) on to wheel bracket and fasten with Lock Nut 1/2" (J). Repeat for the opposite side.

Check that wheels spin freely after assembly.

See Figure 6.



Step 7: Attach Hitch Bracket & Hitch Pin

Step 7 Hardware Needed:

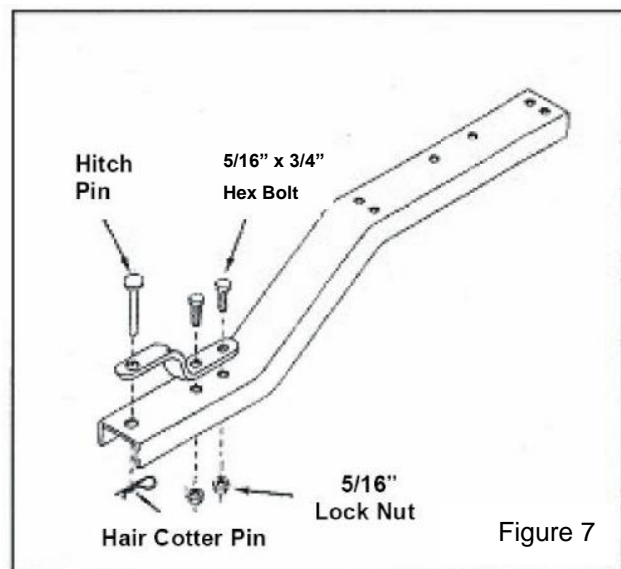
- 1 – Hitch Bracket (7)
- 2 – Hex Bolts 5/16" x 3/4" (D)
- 2 – Lock Nuts 5/16" (K)
- 1 – Hitch Pin (H)
- 1 – Hair Cotter Pin (G)

Attach Hitch Bracket (7) to the Tongue (5) using two Hex Bolt 5/16" x 3/4" (D) and two Lock Nut 5/16" (K). Insert Hitch Pin (H) through Hitch Bracket (7) and the Tongue (5).

Secure with the Hair Cotter Pin (G).

Fully tighten connections.

See Figure 7.



Step 8: Attach Tongue to Top Tray

Step 8 Hardware Needed:

- 4 – Hex Bolt 5/16" x 1-1/4" (C)
- 2 – Hex Bolt 5/16" x 3/4" (D)
- 6 – Lock Nut 5/16" (K)
- 8 – Spacer 1/4" (Q)

Attach the Tongue (5) to the Top Tray (1) with the large opening of the tray slot facing forward. Attach the Tongue (5) using the top tray holes to the **right side** of the long slot (viewing from front). For the **right side** holes of the tongue connection (viewing from front), use Bolt 5/16" x 1-1/4" (C), 2 Spacers 1/4" (Q) per Bolt, and Lock Nut 5/16" (K) for each hole. For left side holes of tongue connection, use Bolt 5/16" x 3/4" (D) and Lock Nut 5/16" (K), no spacers, for each hole.

For holes on the **left side** of long tray slot (viewing from front), use Hex Bolt 5/16" x 1-1-4" (C), two Spacers 1/4" (Q) per bolt, and Lock Nut 5/16" (K). Note: These do not attach to anything. This protects the lift handle from weight added to top tray.

Fully tighten all connections.

See Figure 8.

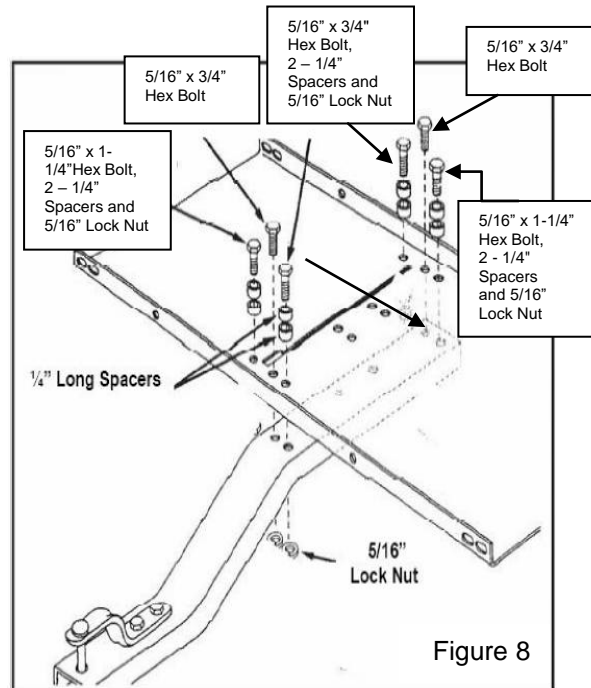


Figure 8

Step 9: Attaching Middle Brace

Step 9 Hardware Needed:

- 4 – Hex Bolt 5/16" x 1" (E)
- 4 – Lock Nuts 5/16" (K)
- 4 – Flat Washers 5/16" (M)

Put the Middle Brace (2) into position and fasten to the Top Tray using Bolts 5/16" x 1" (E), Flat Washers 5/16" (M), and Lock Nuts 5/16" (K).

Do not fully tighten until final step.

See Figure 9.

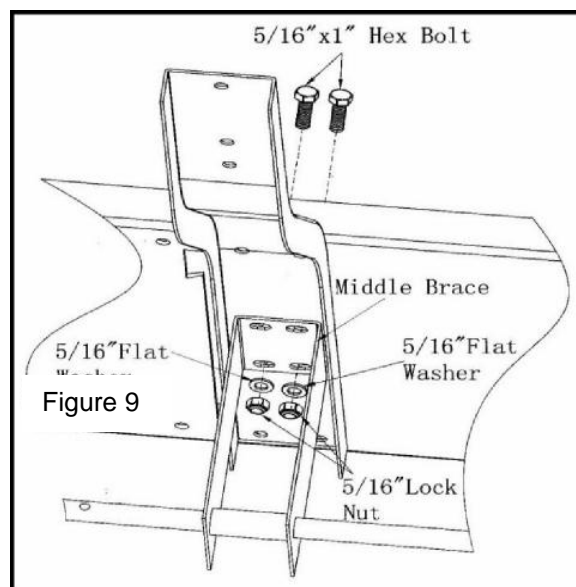


Figure 9

Step 10: Secure Upper Tray

Step 10 Hardware Needed:

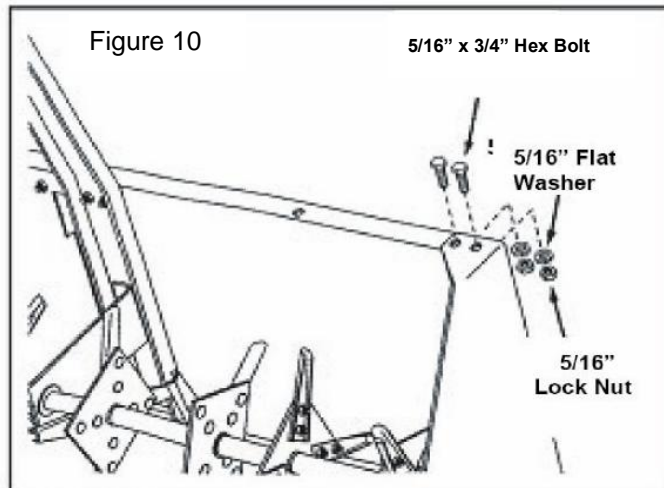
- 8 – Hex Bolt 5/16" x 3/4" (D)
- 8 – Flat Washer 5/16" (M)
- 8 – Lock Nut 5/16" (K)

Attach both End Plates (3) to the Top Tray using Hex Bolt 5/16" x 3/4" (D), Flat Washer 5/16" (M), and Lock Nut 5/16" (K) for each corner (2 connections per corner).

Repeat for each corner.

Do not fully tighten until final step.

See Figure 10.



Step 11: Attach Lift Handle

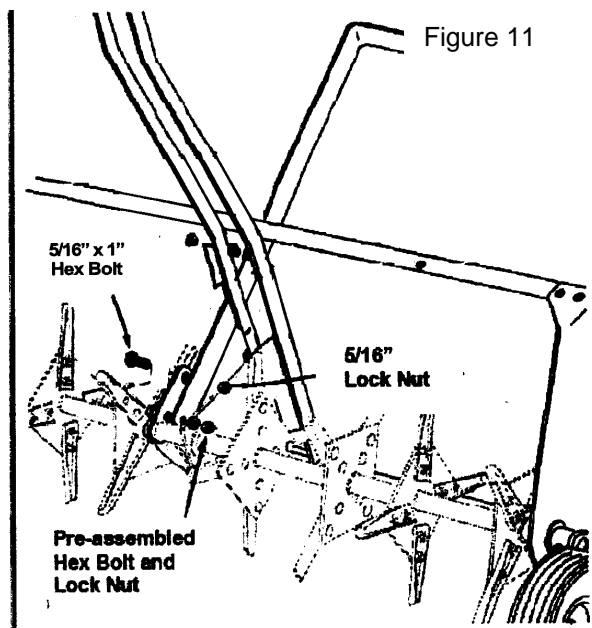
Step 11 Hardware Needed:

- 1 – Lift Handle (4)
- 1 – Hex Bolt 5/16" x 1" (E)
- 1 – Lock Nut 5/16" (K)

Place the Lift Handle (4) through the large opening in the tray slot. Attach the Lift Handle (4) to the Wheel Bracket (9) (see preassembly in Step 2), use Bolt 5/16" x 1" (E) and Lock Nut 5/16" (K). Insert Hex Bolt 5/16" x 1" (E) and Lock Nut 5/16" (K) into top hole of Lift Handle.

Fully tighten connections.

See Figure 11.



Step 12: Check Handle & Tighten fasteners

Carefully place the Aerator upright on the wheels.

Check that lift handle moves freely within slot.

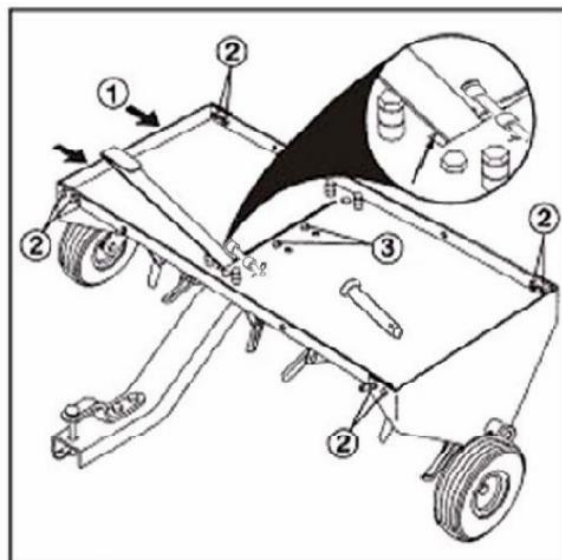
IF NEEDED, make following adjustments:

Lock the lift handle by moving into large offset hole in front of tray slot, and then secure with Lock Pin (F).

Refer to Figure 12.

For #1 in Figure 12:

Adjust the Top Tray side to side until the Lift Handle moves freely from back to front.



For #2 in Figure 12:

Re-straighten end plates, and then fully tighten all 8 corners while making sure lift handle still moves freely.

Tighten Middle Brace and Top Tray connections from Step 9 and 10.

CHECK THAT ALL CONNECTIONS ARE TIGHT.

Figure 12

BEHIND THE LIFT ARM on the top tray is a place for Lock Pin (F) device. Slide Lock Pin through holes when Aerator is in the upright position. This is a safety lock to keep the Aerator from dropping down when it is being towed and when it's not in use. This safety lock can help prevent damage to plug knives.

Your Aerator is now fully assembled and ready for use.

Before Each Use

Check hardware for tightness before each use.

After Each Use

Oil the axle shaft and wheel hubs as need with spray lubricant or a small amount of grease.

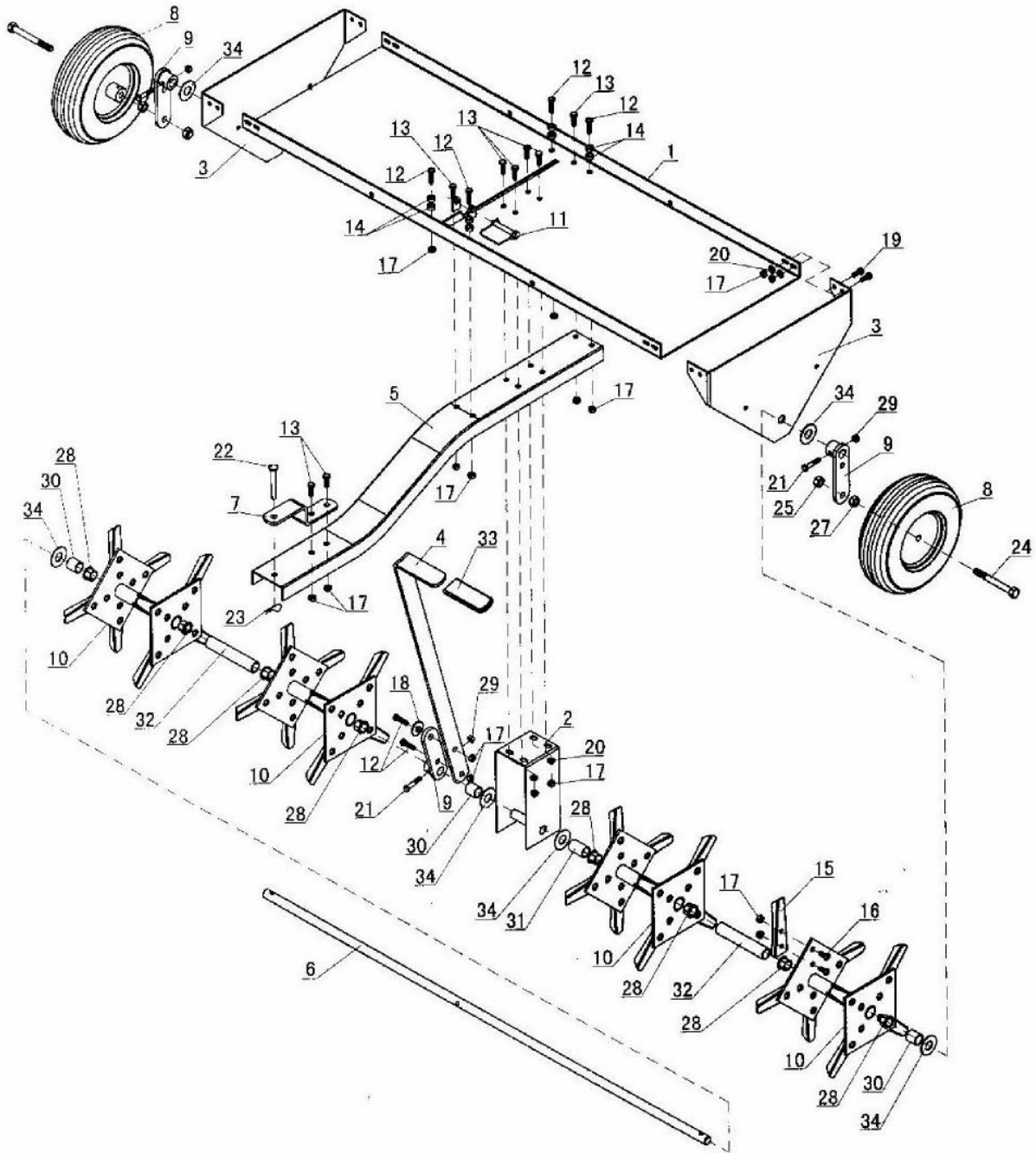
Clean and dry the Aerator before long periods of storage.

Sharpen plug knives periodically with a small grinder, so they continue to aerate soil effectively.

Maintenance

Maintain your aerator. It is recommended that the general condition of any aerator be examined before it is used. Keep your aerator in good repair by adopting a program of conscientious repair and maintenance in accordance with the recommended procedures found in this manual. Keep all cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control. Keep handles dry, clean, and free from oil and grease.

Parts Diagram

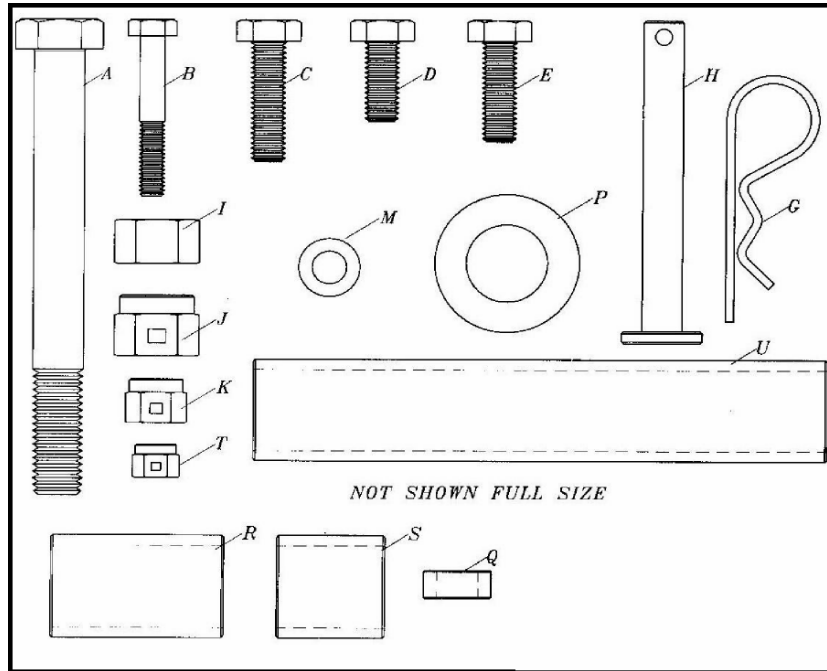


Parts List

| Reference No. | Part No. | Description |
|---------------|----------|------------------------------|
| 1 | AE48-01 | Top Tray |
| 2 | AE48-03 | Middle Brace |
| 3 | AE48-06 | End Plate |
| 4 | AE48-07 | Lift Handle |
| 5 | AE48-05 | Tongue |
| 6 | AE48-08 | Axle Shaft |
| 7 | AE48-04 | Hitch Bracket |
| 8 | AE48-10 | Wheel Assembly |
| 9 | AE48-02 | Wheel Bracket |
| 10 | AE48-09 | Double Spool Assembly |
| 11 | AE48-F | Lock Pin |
| 12 | AE48-C | Hex Bolt 5/16" x 1-1/4" |
| 13 | AE48-E | Hex Bolt 5/16" x 1" |
| 14 | AE48-Q | Spacer 1/4" Long |
| 15 | AE48-11 | Plug Knife |
| 16 | AE48-Z | Carriage Bolt 5/8/16" x 3/4" |
| 17 | AE48-K | Lock Nut, 5/8/16" (13mm) |
| 19 | AE48-D | Hex Bolt 5/16" x 3/4" |
| 20 | AE48-M | Flat Washer, 5/16" |
| 21 | AE48-BT | Hex Bolt 1/4" x 1-1/4" |
| 22 | AE48-H | Hitch Pin |
| 23 | AE48-G | Hair Cotter Pin |
| 24 | AE48-A | Hex Bolt 1/2" x 4-1/4" |
| 25 | AE48-J | Lock Nut, 1/2" (9mm) |
| 27 | AE48-I | Hex Nut, 1/2" (9mm) |
| 28 | AE48-X | Split Plastic Bearing |
| 29 | AE48-TT | Lock Nut, 1/4" (11mm) |
| 30 | AE48-S | Spacer Tube, 1.00" |
| 31 | AE48-RT | Spacer Tube, 2.11" |
| 32 | AE48-U | Spacer Tube, 5.29" |
| 33 | AE48-W | Handle Grip |
| 34 | AE48-P | Flat Washer, 7/8" |

Parts Diagram

Hardware Parts – not actual size



| Ref. No. | Part No. | Description | Quantity |
|----------|----------|---------------------------|----------|
| A | AE48-A | Hex Bolt 1/2" x 4-1/4" | 2 |
| B | AE48-BT | Hex Bolt 1/4" x 1-1/2" | 3 |
| C | AE48-C | Hex Bolt 5/16" x 1-1/4" | 4 |
| D | AE48-D | Hex Bolt 5/16" x 3/4" | 12 |
| E | AE48-E | Hex Bolt 5/16" x 1" | 6 |
| F | AE48-F | Lock Pin (not shown) | 1 |
| G | AE48-G | Hair Cotter Pin | 1 |
| H | AE48-H | Hitch Pin | 1 |
| I | AE48-I | Hex Nut, 1/2" (19mmOD) | 2 |
| J | AE48-J | Lock Nut, 1/2" (19mm OD) | 2 |
| K | AE48-K | Lock Nut, 5/16" (13mm OD) | 22 |
| M | AE48-M | Flat Washer, 5/16" | 12 |
| P | AE48-P | Flat Washer, 7/8" | 6 |
| Q | AE48-Q | Spacer 1/4" Long | 8 |
| R | AE48-RT | Spacer Tube, 2.11" | 1 |
| S | AE48-S | Spacer Tube, 1.00" | 3 |
| T | AE48-TT | Lock Nut, 1/4" (11mm OD) | 3 |
| U | AE48-U | Spacer Tube, 5.29" | 2 |

Replacement Parts

- For replacement parts and technical questions, please call Customer Service at **1-800-222-5381**.
- Not all product components are available for replacement. The illustrations provided are a convenient reference to the location and position of parts in the assembly sequence.
- When ordering parts, the following will be required: Model Number, Serial Number/Lot Date Code, and Description.
- The distributor reserves the rights to make design changes and/or improvements to product lines and manuals without notice.

Limited Warranty

Northern Tool and Equipment Company, Inc. ("We" or "Us") warrants to the original purchaser only ("You" or "Your") that the Strongway product purchased will be free from material defects in both materials and workmanship, normal wear and tear excepted, for a period of **one year** from date of purchase. The foregoing warranty is valid only if the installation and use of the product is strictly in accordance with product instructions. There are no other warranties, express or implied, including the warranty of merchantability or fitness for a particular purpose. If the product does not comply with this limited warranty, Your sole and exclusive remedy is that We will, at our sole option and within a commercially reasonable time, either replace the product or product component without charge to You or refund the purchase price (less shipping). This limited warranty is not transferable.

Limitations on the Warranty

This limited warranty does not cover: (a) normal wear and tear; (b) damage through abuse, neglect, misuse, or as a result of any accident or in any other manner; (c) damage from misapplication, overloading, or improper installation; (d) improper maintenance and repair; and (e) product alteration in any manner by anyone other than Us, with the sole exception of alterations made pursuant to product instructions and in a workmanlike manner.

Obligations of Purchaser

You must retain Your product purchase receipt to verify date of purchase and that You are the original purchaser. To make a warranty claim, contact Us at 1-800-222-5381, identify the product by make and model number, and follow the claim instructions that will be provided. The product and the purchase receipt must be provided to Us in order to process Your warranty claim. Any returned product that is replaced or refunded by Us becomes our property. You will be responsible for return shipping costs or costs related to Your return visit to a retail store.

Remedy Limits

Product replacement or a refund of the purchase price is Your sole remedy under this limited warranty or any other warranty related to the product. We shall not be liable for: service or labor charges or damage to Your property incurred in removing or replacing the product; any damages, including, without limitation, damages to tangible personal property or personal injury, related to Your improper use, installation, or maintenance of the product or product component; or any indirect, incidental or consequential damages of any kind for any reason.

Assumption of Risk

You acknowledge and agree that any use of the product for any purpose other than the specified use(s) stated in the product instructions is at Your own risk.

Governing Law

This limited warranty gives You specific legal rights, and You also may have other rights which vary from state to state. Some states do not allow limitations or exclusions on implied warranties or incidental or consequential damages, so the above limitations may not apply to You. This limited warranty is governed by the laws of the State of Minnesota, without regard to rules pertaining to conflicts of law. The state courts located in Dakota County, Minnesota shall have exclusive jurisdiction for any disputes relating to this warranty.



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