



M268175M

ITEM NUMBER: 268175

SERIAL NUMBER: _____

Owner's Manual

Instructions for Assembly, Testing, Operation, and Servicing

Trailer Kit: Outdoor agricultural product used to tow Item# 268170

WARNING

READ and UNDERSTAND the Owner's Manual completely before using this trailer kit.

Assemble, test, and use only in accordance with the Owner's Manual instructions.

EXERCISE CAUTION in vehicle handling when towing sprayer to avoid loss of control or rollover.

Improper use of the trailer kit could result in serious injury to the operator or nearby persons.

Any Questions, Comments, Problems, or Parts Orders

Call NorthStar Product Support 1-800-270-0810

Hazard Signal Word Definitions






	<p>This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.</p>
	<p>DANGER (red) indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.</p>
	<p>WARNING (orange) indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.</p>
	<p>CAUTION (yellow) indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.</p>
	<p>CAUTION (yellow) used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.</p>

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Summary of Important Safety Information

WARNING

Read and understand this owner's manual completely before using the trailer kit.

Improper use of the trailer kit could result in serious injury for the operator or nearby persons.

LISTED BELOW is a summary of safety information of particular importance. See individual sections of this owner's manual for more details.

----- DURING ASSEMBLY -----

- **EXERCISE CAUTION** when installing heavy parts. Follow the steps listed in the assembly section of this manual to properly install the trailer kit.
- **DO NOT MODIFY** trailer kit design.

----- DURING OPERATION -----

WARNING

Serious injury can occur if the vehicle to which the sprayer trailer is attached is driven in an unsafe manner.

WARNING

The sprayer trailer is very heavy. It can cause serious injury if it rolls out of control or tips over. Follow the safety instructions below for safely moving the sprayer trailer.

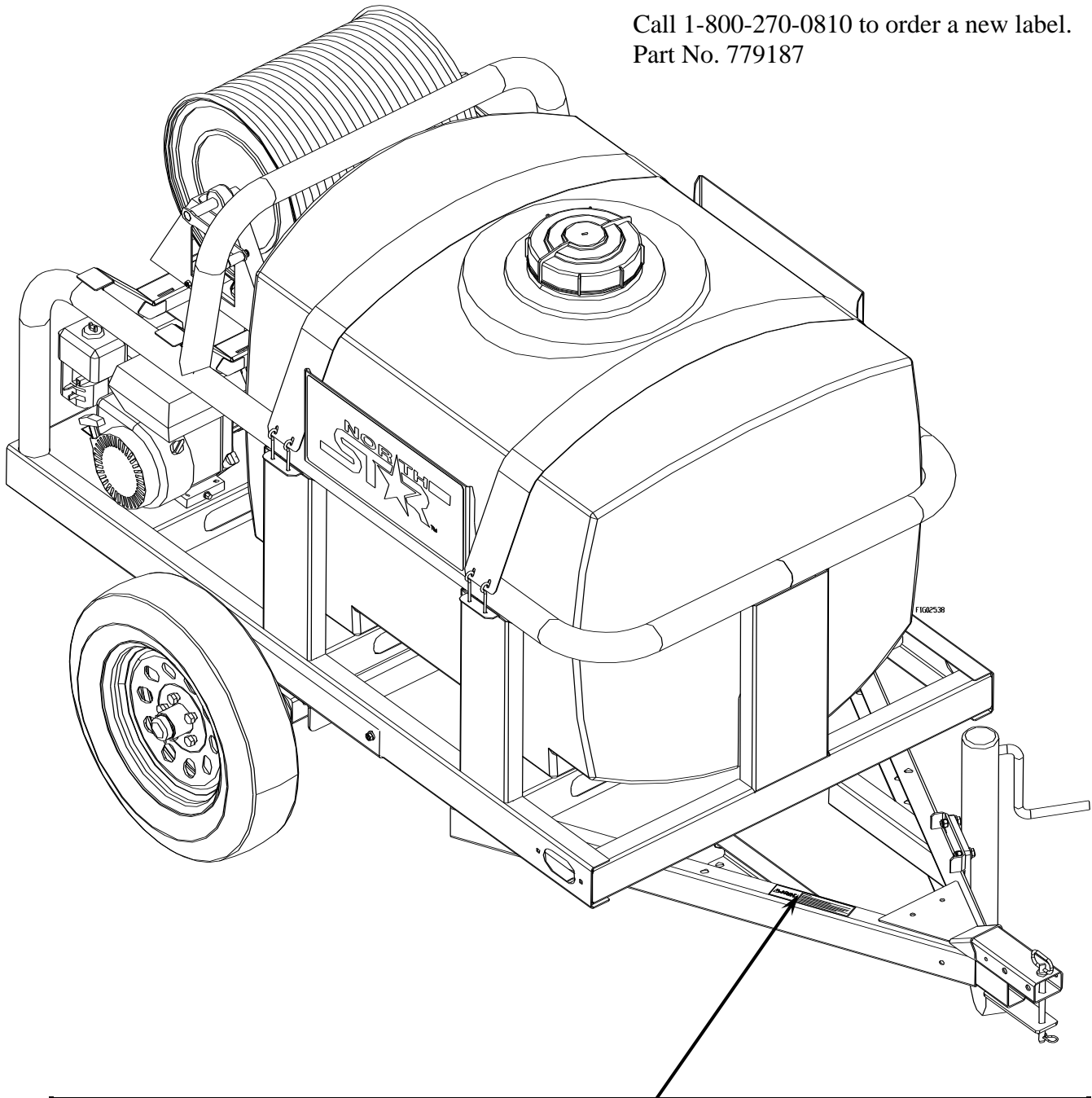
- **READ safety instructions** in your vehicle manual with regard to towing heavy cargo loads.
- **DO NOT ALLOW drivers younger than 16** to drive the vehicle with the sprayer attached.
- **MAKE SURE the tires are fully inflated and in good repair** before towing the sprayer trailer. When adding air to the tires, do not over-inflate – serious injury could occur if tire explodes.
- **MAKE SURE SPRAYER IS SECURELY ATTACHED to vehicle.**
- **EXERCISE CAUTION in vehicle handling when towing filled sprayer** to avoid loss of control or sprayer overturning.
- **Keep speed to a minimum** so you can maintain control. Reduce speed prior to turns.
- **Allow for more distance to stop.**
- **Avoid any sudden** steering maneuvers, starts, or stops that could create liquid sloshing in the sprayer and instability.
- **SLOW DOWN and EXERCISE EXTRA CAUTION on sloped or uneven terrain.** Pick the most level route possible across fields--drive up and down slopes when necessary, rather than across. Use a vehicle equipped with a roll over protection system (ROPS) if you will be working on non-level terrain.
- **BE AWARE that visibility may be reduced** when making turns or backing up.
- **BE AWARE** of the added length of the sprayer trailer.
- **DO NOT RIDE or TRANSPORT cargo on the sprayer trailer.**
- **NEVER TOW this sprayer trailer** while under the influence of alcohol, drugs, or medication.
- **NEVER TOW this sprayer trailer over 12 mph.** Faster speeds may result in loss of control. Order optional Item# 268176 (high speed upgrade kit) if you want to tow at highway speeds.
- **If towing on a public road,** make sure to comply with all local, state, and federal towing requirements. It is the sole responsibility of the purchaser to obtain licensing, trailer lights, safety chains or signage, as needed to comply. Order optional Item# 268176, which includes towing coupler, trailer lights and safety chains.
- **TURN OFF both sprayer and vehicle and SET BRAKES** before leaving unattended.

----- DURING STORAGE / TROUBLESHOOTING -----

- **READ and FOLLOW the safety rules for troubleshooting / servicing** the sprayer trailer.
- **If a part needs replacement,** only use parts that meet the manufacturer's specifications. Replacement parts that do not meet specifications may result in a safety hazard or poor operation of the trailer sprayer.

Warning Label Location

Call 1-800-270-0810 to order a new label.
Part No. 779187



! WARNING

Towing Hazard

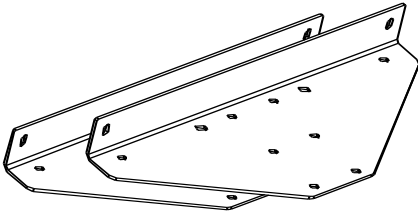
Serious injury or death can happen if towing safety rules are not followed.

- When tank is full, tongue weight is 400 lbs. Make sure vehicle and towing equipment are properly rated.
- When tank is empty, trailer is extremely light. Caution must be used when towing at higher speeds.
- NEVER tow sprayer with jack in down position.
- Chock sprayer wheels before unhooking from tow vehicle.

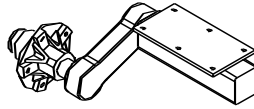
Unpacking

Closely inspect all contents in the shipping carton.

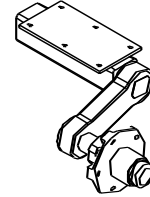
- If you have missing or damaged components: Contact NorthStar Product Support at 1-800-270-0810.



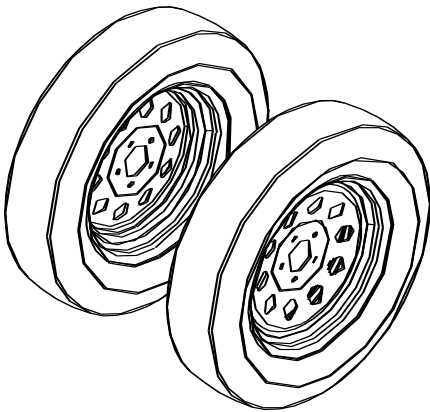
Axle Support
Qty 2



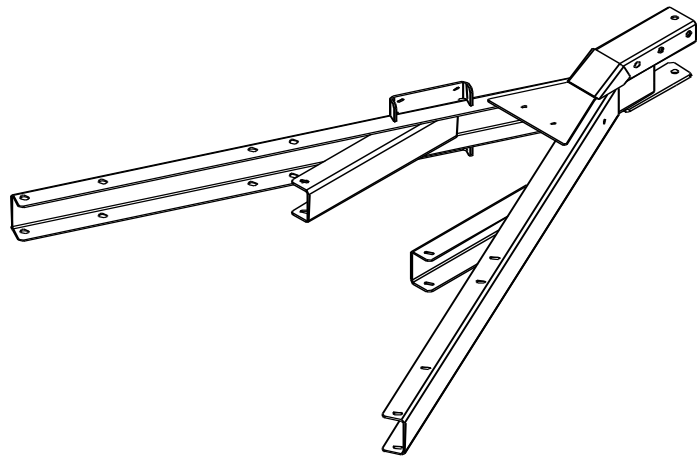
Left Torsion Axle



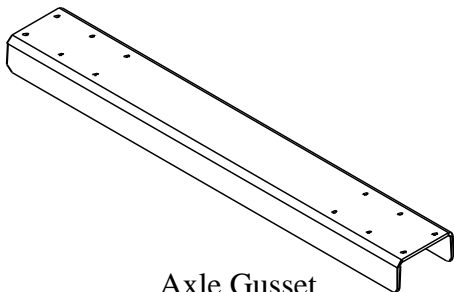
Right Torsion Axle



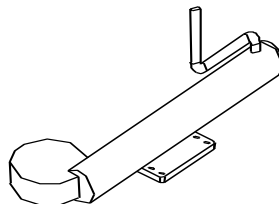
13" Wheel Assembly
Qty 2



A-Frame Towbar



Axle Gusset



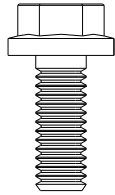
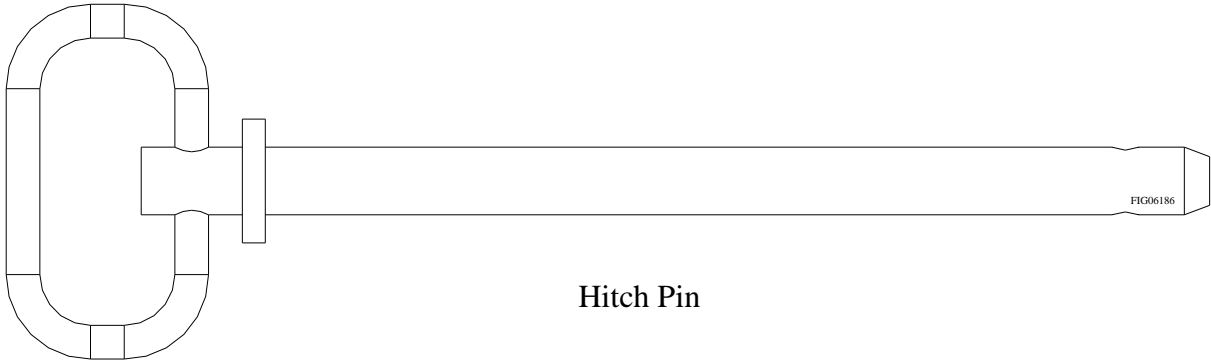
Jack



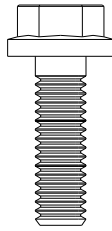
Manual Bag

Unpacking the Manual Bag

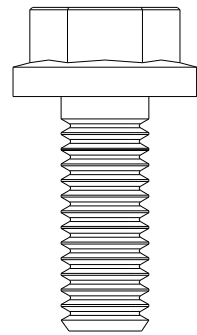
The following items are found in the manual bag.



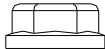
3/8 x 1" Bolt
Qty. 8



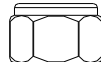
3/8 x 1-1/4" Bolt
Qty. 16



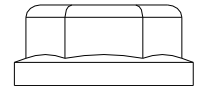
5/8 x 1-3/4" Bolt
Qty. 10



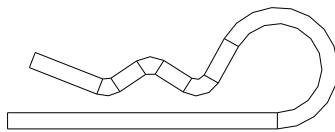
3/8" Class G Nut
Qty. 20



3/8" Nyloc Nut
Qty. 4



5/8" Class G Nut
Qty. 10



Bridge Pin



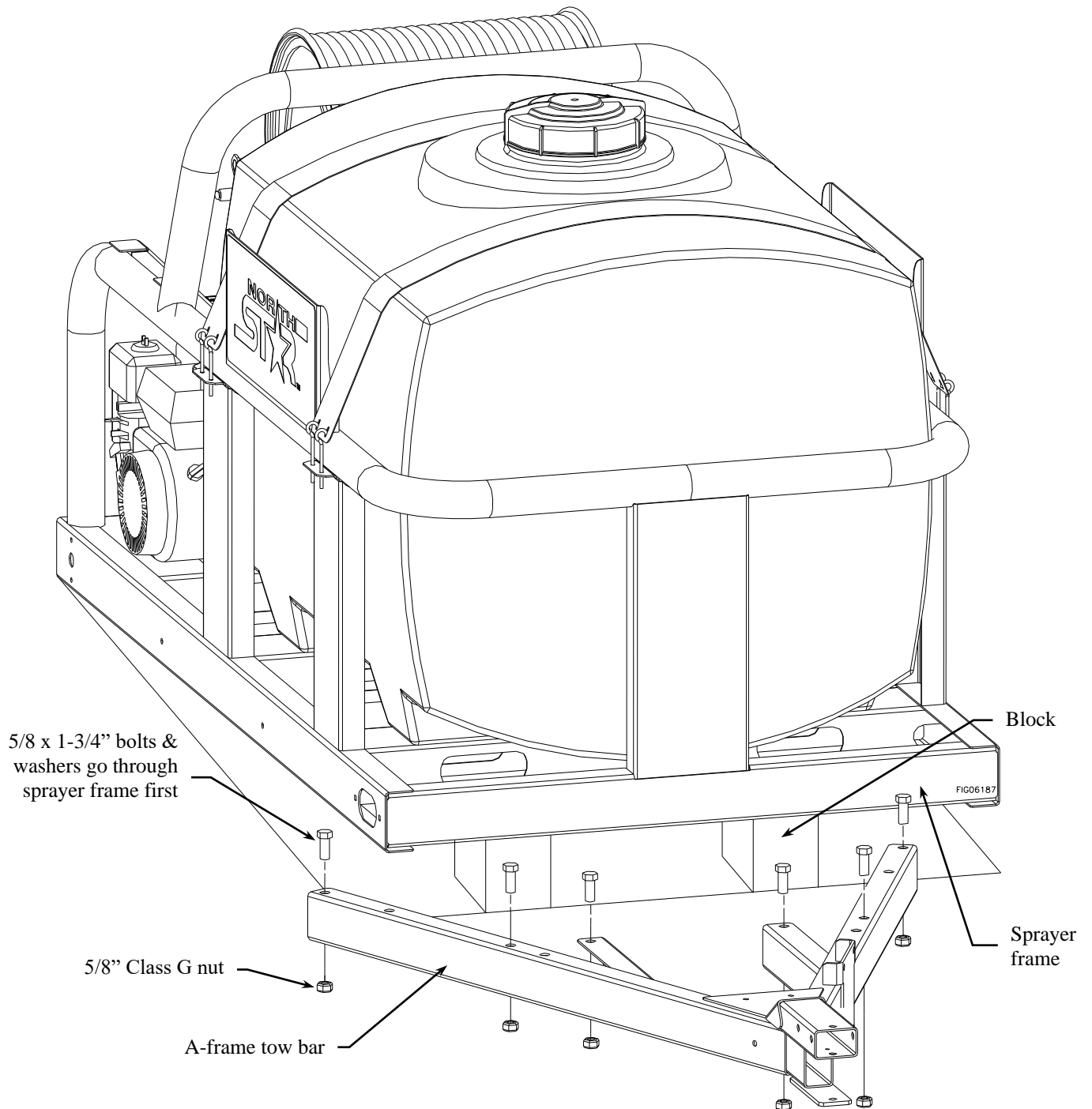
Lug Nut
Qty. 10

Assembly

Step One: Attach the A-frame tow bar to frame.

IMPORTANT: It is recommended that at least two people perform this step.

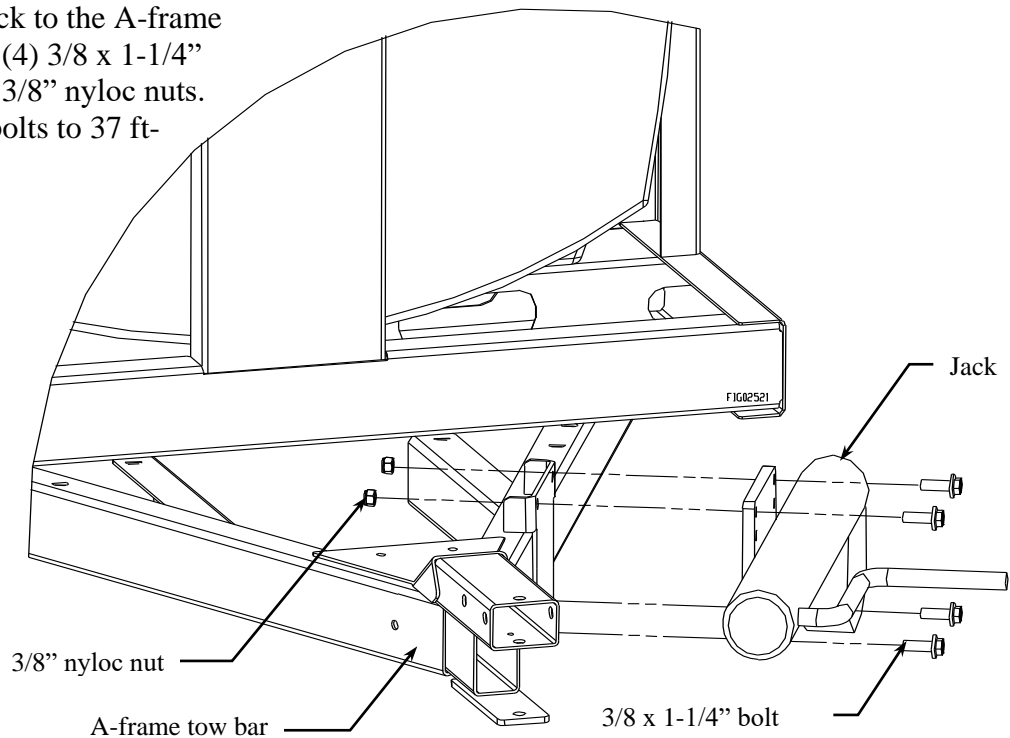
1. Raise the front of the sprayer frame until there is enough room for the A-frame tow bar to fit underneath. Place blocks under the frame to hold it up.
2. Attach the A-frame tow bar to the frame using (6) 5/8 x 1-3/4" bolts, and (6) Class G 5/8" nuts. Tighten all bolts to 180 ft-lbs.



Assembly

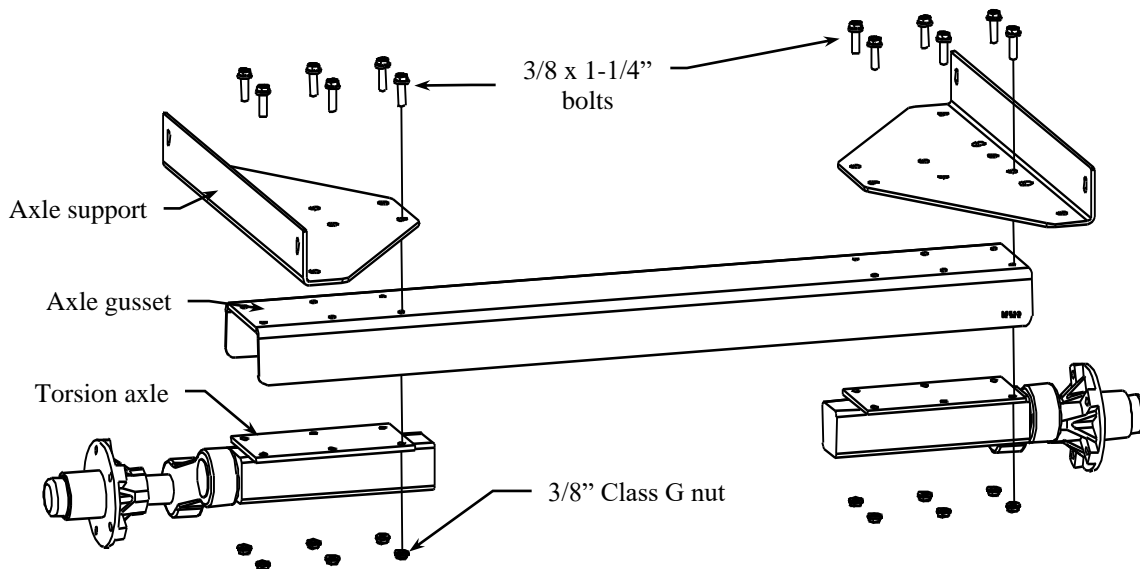
Step Two: Attach the jack to the A-frame tow bar.

1. Attach the jack to the A-frame tow bar with (4) 3/8 x 1-1/4" bolts and (4) 3/8" nyloc nuts.
2. Tighten the bolts to 37 ft-lbs.



Step Three: Build the axle assembly.

Attach the torsion axles to the axle gusset and axle supports using (12) 3/8 x 1-1/4" bolts and (12) 3/8" Class G nuts. Leave bolts loose until next step.

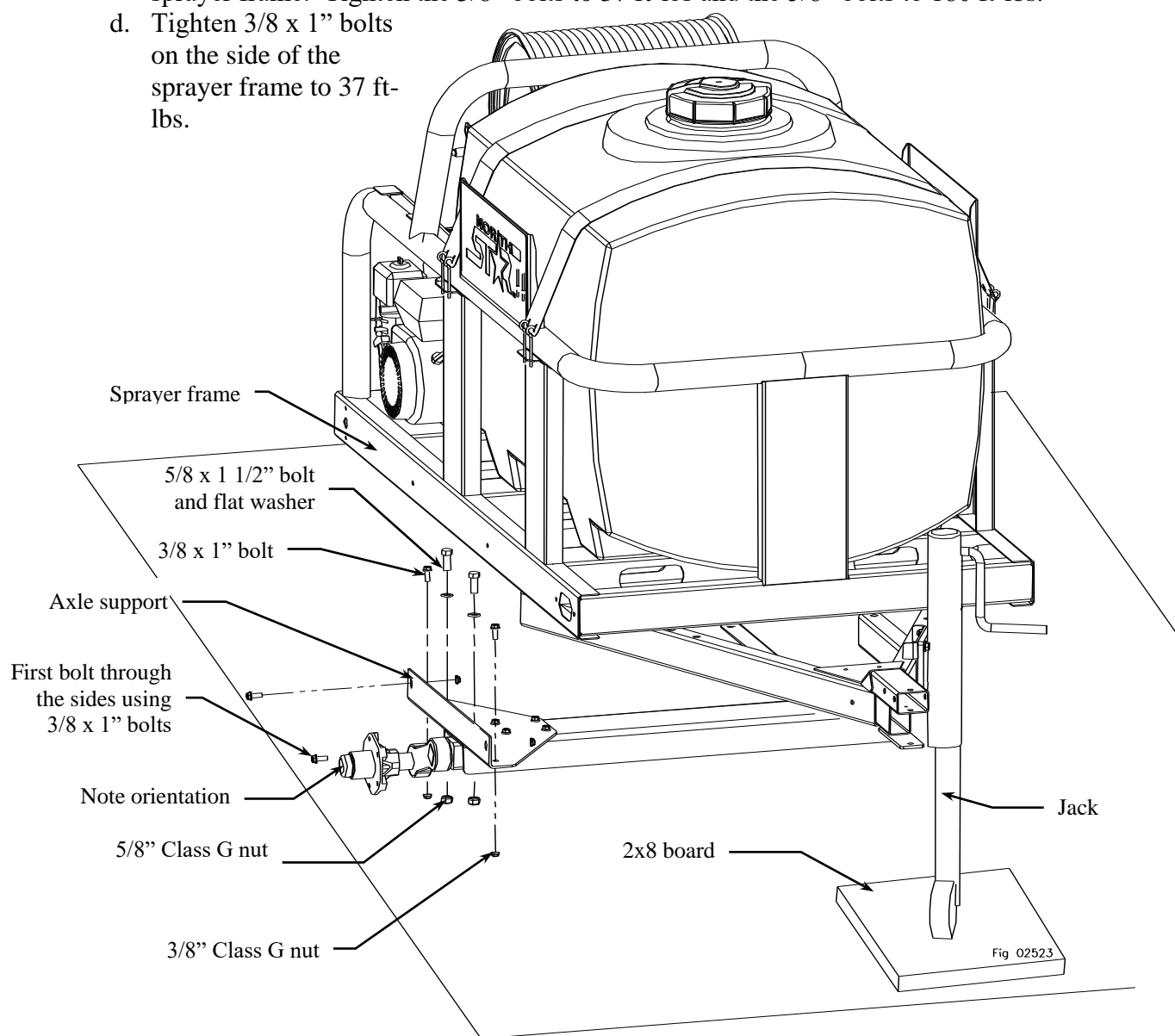


Assembly

Step Four: Attach axle assembly to the frame.

NOTE: For this step, the broadcast kit and taillight kit cannot be in place, if equipped.

1. Place the jack's wheel on a 2x8 or other suitable block to gain 1-1/2" of additional height. Completely extend the jack to raise the front of the sprayer frame.
2. Roll the axle assembly into place under the sprayer frame. Note that torsion axles point to the rear of the sprayer frame.
 - a. Slide the axle supports in or out to match the width of the sprayer frame. Tighten bolts from Step 3 to 37 ft-lbs.
 - b. Attach the axle supports to the side of the sprayer frame using (4) 3/8 x 1" bolts and (4) 3/8" Class G nuts. Do not tighten completely.
 - c. Use (4) 3/8 x 1" bolts, (4) 3/8" Class G nuts, (4) 5/8 x 1-1/2" bolts, (4) 5/8" flat washers, and (4) 5/8" Class G nuts to attach the axle assembly to the bottom of the sprayer frame. Tighten the 3/8" bolts to 37 ft-lbs and the 5/8" bolts to 180 ft-lbs.
 - d. Tighten 3/8 x 1" bolts on the side of the sprayer frame to 37 ft-lbs.



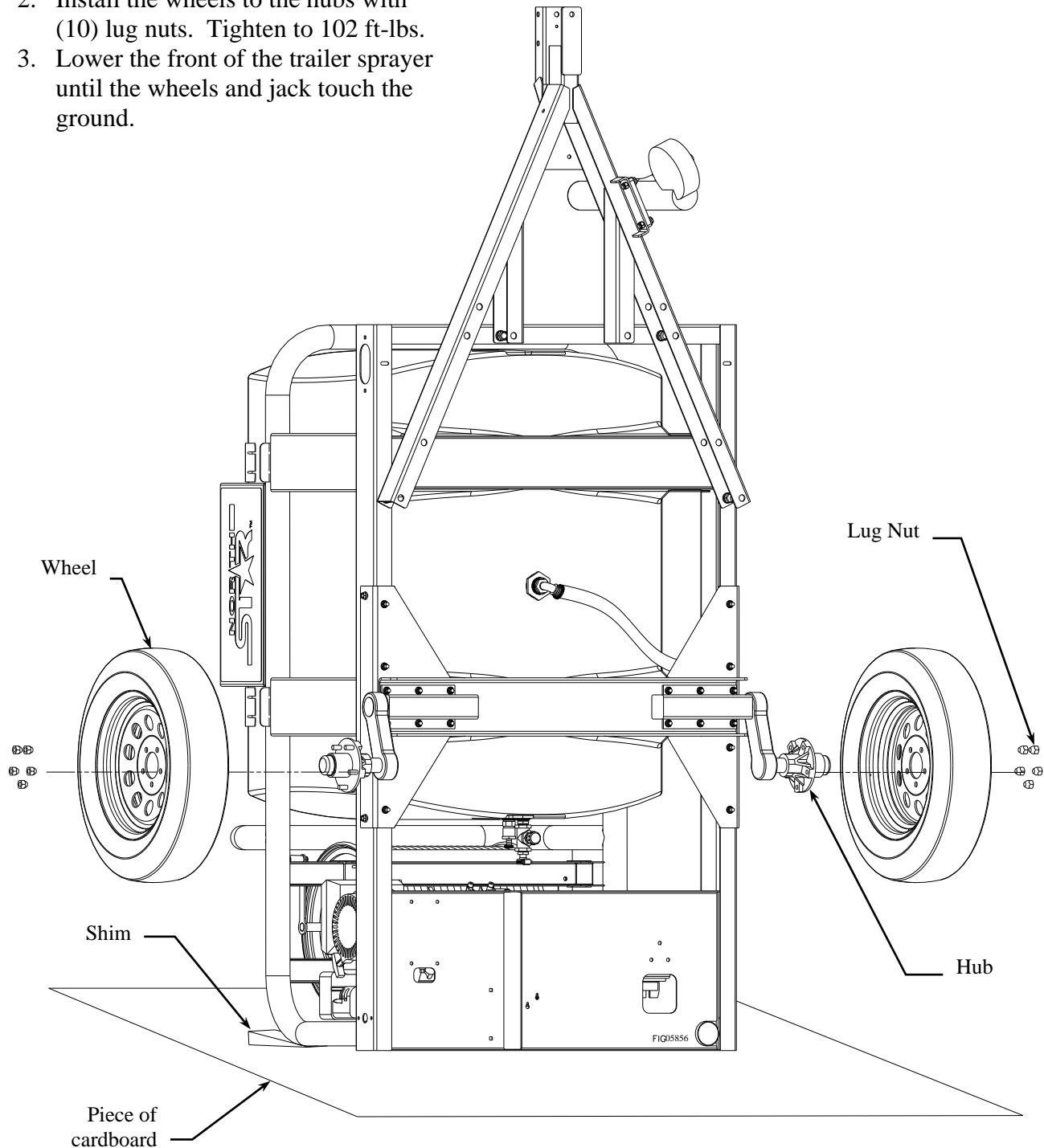
Assembly

Step Five: Attach the wheels.

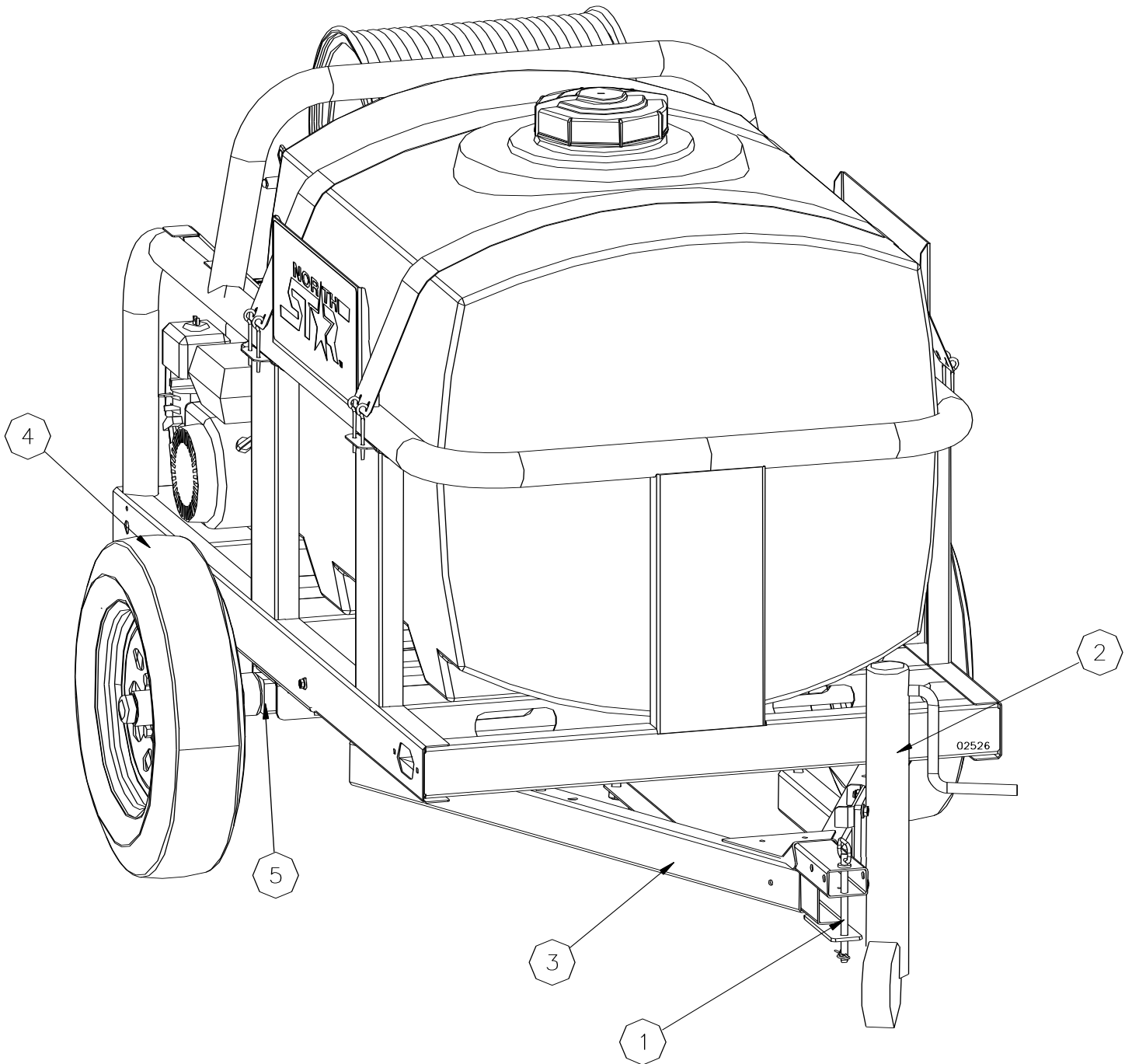
NOTE: For this step, the engine must be free of oil and gas. The broadcast kit and taillight kit cannot be in place, if equipped.

IMPORTANT: At least two people should perform this step.

1. Place a piece of cardboard on the ground behind the sprayer. The ground should be a hard, level surface. Lift the tongue of the sprayer until the unit is resting on end in a vertical position. It may be necessary to place a shim under the tubes so the sprayer stands in a vertical position.
2. Install the wheels to the hubs with (10) lug nuts. Tighten to 102 ft-lbs.
3. Lower the front of the trailer sprayer until the wheels and jack touch the ground.



Machine Components



1. **Hitch Pin:** Allows the trailer unit to be hooked up to an agricultural style coupler.
2. **Jack:** Supports the trailer when it is not in use. Eases moving and connecting the trailer to a tow vehicle.
3. **Tongue:** The tongue connects the sprayer frame to the tow vehicle.
4. **Wheels:** Thirteen-inch high speed wheel assemblies.
5. **Torsion Axles:** Suspension reduces vibration and improves towing at high and low speeds.

Operation – Important Safety Information

Now that you have completed and tested your assembly, there is some important safety information you need to know with regard to vehicle handling with the sprayer attached.

WARNING

Carefully read and make sure you understand the following safety information before using the trailer kit.

Before Towing

- **Trailer prep.** ALWAYS inspect and prepare the trailer kit before use according to the directions provided in this manual.
- **Operator age.** You must be 16 years of age or older to operate this trailer kit.
- **Mechanical parts.** Check to be sure all nuts and bolts are tight to make sure the trailer kit is in safe working condition.

After Towing

- **Unattended.** ALWAYS turn off vehicle and set brake or block wheels.

Transporting Safety:

WARNING

The trailer sprayer is very heavy. It can cause serious injury if it rolls out of control or tips over. Follow the safety instructions below for safely moving the trailer sprayer.

- **Read vehicle instructions.** Review safety instructions in your vehicle manual with regard to towing heavy cargo loads.
- **Driver age.** You must be 16 years of age or older to drive the vehicle with the trailer sprayer attached.
- **Vehicle handling.** Be aware that vehicle handling will be affected when driving with the filled sprayer. Exercise caution to avoid loss of control or sprayer overturning:
 - **Keep speed to a minimum** so you can maintain control at all times. Reduce speed prior to turns.
 - **Allow for more distance to stop.**
 - **Avoid any sudden** steering maneuvers, starts, or stops that could create liquid sloshing in the sprayer and instability.
- **Rough or sloped terrain.** Slow down and exercise extra caution on rough or sloped terrain in order to reduce risk of rollover. Pick the most level route possible when transporting across fields. Drive up and down slopes that cannot be avoided, rather than across. Use a vehicle equipped with a Roll Over Protection System (ROPS) if you will be operating on non-level terrain.
- **Reduced visibility.** Be aware that visibility may be reduced with trailer sprayer attached. Be extra cautious when backing up or turning.
- **Ride / transport.** Never ride or transport cargo on the trailer sprayer.
- **Under the influence.** Never transport or operate this trailer sprayer while under the influence of alcohol, drugs, or medication
- **Unattended.** Before leaving the trailer sprayer unattended, turn off the vehicle and set vehicle brakes.
- **Tires.** Be sure tires are fully inflated and in good repair before towing the trailer sprayer. When adding air to tires, do not over-inflate -- serious injury could occur if tire explodes.
- **Replacement parts.** If a part needs replacement, only use parts that meet the manufacturer's specifications. Replacement parts that do not meet specifications may result in a safety hazard or poor operation of the trailer kit.

Operation – Using the Trailer Kit

Step One. Inspect/Repair

If the trailer has been used previously, it must be prepared BEFORE EACH SUBSEQUENT USE.

! WARNING

Read instructions below carefully for inspecting and preparing the trailer kit.

Damaged or missing components could result in injury to the operator, bystanders, or property damage.

Important safety rules:

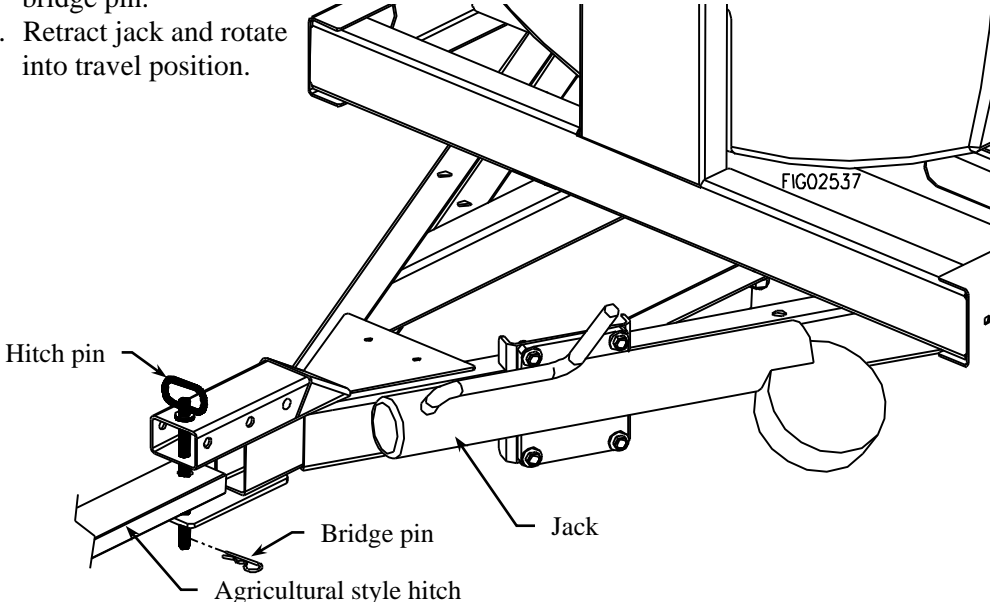
- **Replacement parts.** If a part needs replacement, only use parts that meet the manufacturer's specifications. Replacement parts that do not meet specifications may result in a safety hazard or poor operation of the trailer kit.

Inspect and repair

Inspect and test the trailer kit thoroughly

- Check tires for proper pressure level.
- Check to be sure that all nuts and bolts are tight.

Step Two: Tow the trailer sprayer.

1. Review safety information	Review the "Operation – Important Safety Information" related to <u>Transportation Safety</u> provided in this manual.
2. Attach to vehicle	<ol style="list-style-type: none"> 1. Attach trailer sprayer to agricultural style hitch. Secure with the hitch pin and bridge pin. 2. Retract jack and rotate into travel position.  <p>Important: When filled, the trailer sprayer has a tongue weight of approximately 400lbs. Ensure that the tow vehicle is properly equipped to handle this load.</p>
3. Transport	Tow the trailer sprayer at speeds less than 12mph. If greater speeds are required, a high-speed coupler with safety chains must be used. Order optional Item# 268176, which includes a 2" ball coupler, safety chains, and a trailer light kit designed specifically for this trailer sprayer.
4. Leaving unattended	If the trailer sprayer must be left unattended at any time: <ul style="list-style-type: none"> • Turn off the vehicle. Set brake or block the wheels.

Specifications and Accessories

Trailer Kit Specifications

Maximum Towing Speed..... 12 MPH
 Tire Size..... ST175/80 D13
 Maximum Tire Pressure..... 50 PSI
 Overall Dimensions (boxed)..... 53" L x 45" W x 15" H
 Weight (shipping)..... 250 lbs.

Available Accessories

High Speed Trailer Upgrade Kit..... Item #268176

The manufacturer reserves the right to make improvements in design and/or changes in specifications at any time without incurring any obligation to install them on units previously sold.

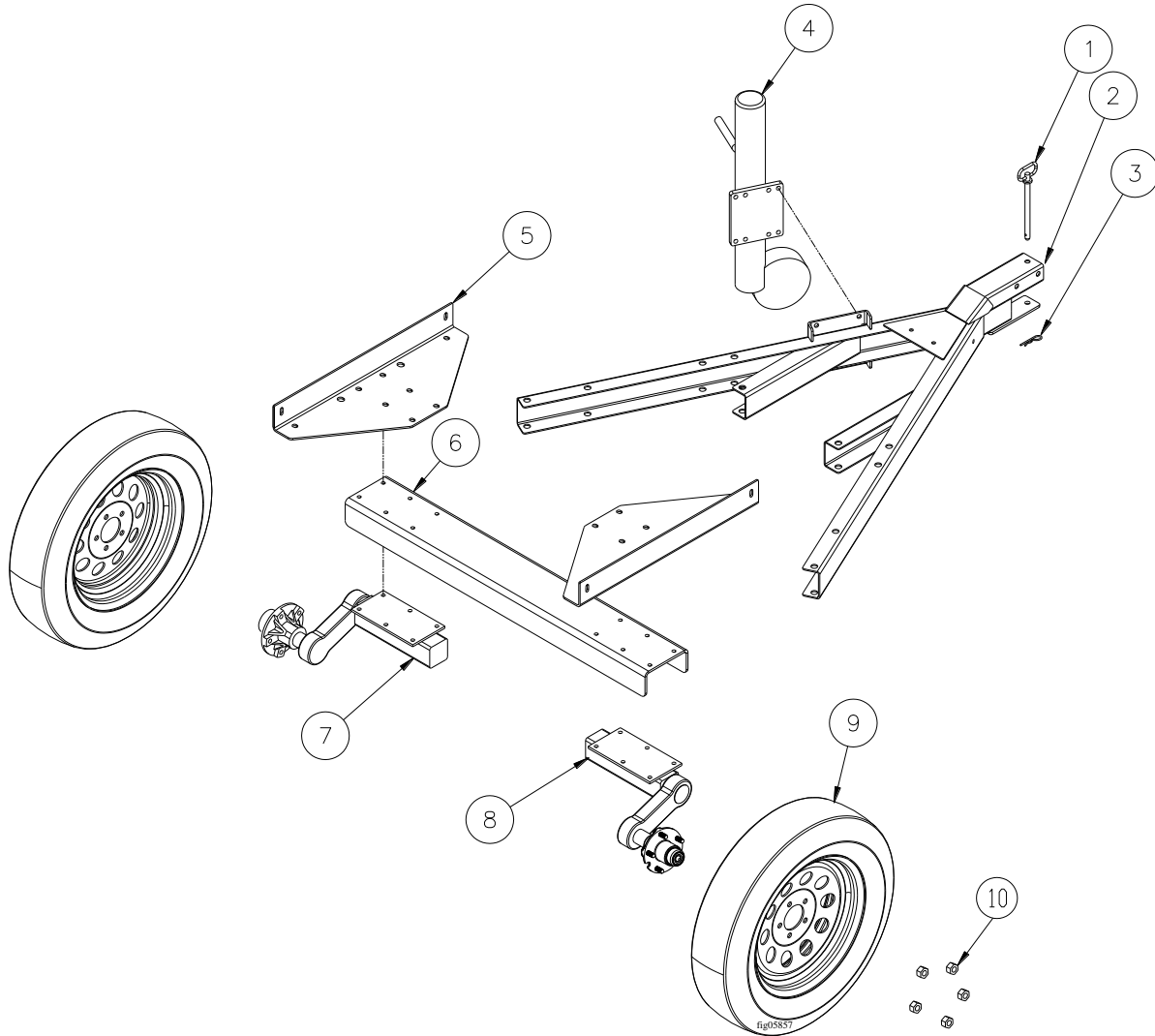
Maintenance

Item	Function Required	3 Months or 1000 Miles	12 Months or 6000 Miles
Bearings	Inspect for wear, clean, and repack		•
Seals	Inspect for leakage, replace if worn		•
Spindle Nut	Check torque value and tightness		•
Wheel Nuts	Check torque value	•	

Any Questions, Comments, Problems or Parts Orders

Call NorthStar Product Support 1-800-270-0810

Exploded View – 268175 – Rev. M



Item	Part#	Description	Qty
1	803106	Hitch Pin	1
2	803111	A-Frame Towbar	1
3	30312	Bridge Pin	1
4	799562	Jack	1
5	779094	Axle Support	2
6	779245	Axle Gusset	1
7	803479	Left Torsion Axle Assembly	1
8	803480	Right Torsion Axle Assembly	1
9	799702	13" Wheel Assembly	2
10	798024	Lug nut	10

Limited Warranty

Dear Valued Customer:

The NorthStar Product you just purchased is built with the finest material and craftsmanship. Use this product properly and enjoy the benefits from its high performance. By purchasing a NorthStar product, you show a desire for quality and durability.

Like all mechanical equipment this unit requires a due amount of care. Treat this unit like the high-quality piece of machinery it is. Neglect and improper handling may impair its performance. Please thoroughly read the instructions and understand the operation before using your product.

Limited Warranty

NorthStar shall warranty any piece of equipment manufactured, or parts of equipment manufactured, to be free from defects in material or workmanship for a period of 1 year from the date of purchase by user. This warranty applies to the original purchaser of the equipment and is nontransferable. Verification of purchase is the responsibility of the buyer. Parts will be replaced or repaired at no charge, except when the equipment has failed due to lack of proper maintenance. Any misuse, abuse, alteration or improper installation or operations will void warranty. Determining whether a part is to be replaced or repaired is the sole decision of NorthStar.

NOTE: Some services performed by parties other than NorthStar may void warranty.

This warranty covers parts only. It will not provide for replacement of complete products due to defective parts. Components not manufactured by NorthStar such as engines are guaranteed by their manufacturer and can be serviced at factory-authorized locations near you. Any costs incurred due to replacement or repair of items outside of a NorthStar approved facility is the responsibility of the buyer and not covered under warranty. NorthStar can supply you with the service center location in your area.

This warranty specifically excludes the following; failure of parts due to damage caused by accident, fire, flood, windstorm, acts of God, applications not approved by NorthStar in writing, corrosion caused by chemicals, use of replacement parts which do not conform to manufacturer's specifications, and damage caused by vandalism. Additional exclusions: loss of running time, inconvenience, loss of income, or loss of use, including any implied warranty of merchantability of fitness for a specific use.

Warranty does not cover items subject to normal wear such as tires, receptacles or any part subject to direct physical contact by the public. This warranty does not cover any personal injury or damage to surrounding property caused by failure of any part.

This warranty is in lieu of any other warranty expressed or implied and NorthStar assumes no other responsibility or liability outside that expressed within this warranty.

Please fill in the following information and have it on hand when you call in a warranty claim.

Customer Number: _____

Date of Purchase: _____

NorthStar Serial Number: _____

Item Number: _____



Manufactured by
Northern Tool + Equipment Co.,
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