



M268176C

ITEM NUMBER: 268176

SERIAL NUMBER: _____

Owner's Manual

Instructions for Assembly, Testing, Operation, and Servicing

Trailer Kit: High speed upgrade kit used with Item# 268175

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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Table of Contents

Summary of Important Safety Information	4
During Assembly	
During Operation	
During Storage / Troubleshooting	
Unpacking	
Unpacking.....	5
Unpacking the Manual Bag	6
Assembly	
Step One: Attach the coupler to the A-frame towbar.....	7
Step Two: Attach the safety chains to the A-frame towbar	7
Step Three: Attach the light housings to the frame	8
Step Four: Insert cable bushings	8
Step Five: Run the light wiring through the frame and connect ground wire	9
Step Six: Attach the side marker light to the side marker light bracket.....	10
Step Seven: Wire side marker light	10
Step Eight: Attach the side marker light bracket to the frame	11
Step Nine: wire and attach the other side marker	11
Step Ten: Wire the taillights and attach to the light housing	11
Step Eleven: Test the wiring to ensure proper installation and fasten wires securely.....	11
Machine Components	13
Operation	
Operation - Important Safety Information	14
• Before Towing	
• After Towing	
• Transporting Safety	
Operation – Using the Trailer Kit	
Step One: Inspect/Repair.....	15
Step Two: Tow the trailer sprayer	15
Specifications and Accessories	16
Parts Breakdown	17
Limited Warranty	19

Summary of Important Safety Information

WARNING

Read and understand **this owner's manual** completely before using the high speed trailer upgrade kit. *Improper use of the high speed trailer upgrade 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 -----

- DO NOT MODIFY the high speed 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 over the posted speed limit.** Faster speeds may result in loss of control.
- **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 and signage, as needed to comply.
- **TURN OFF both sprayer and vehicle, and SET BRAKES** before leaving unattended.

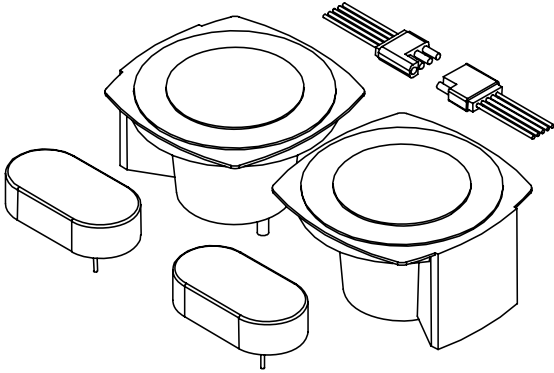
----- DURING STORAGE / TROUBLESHOOTING -----

- **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.

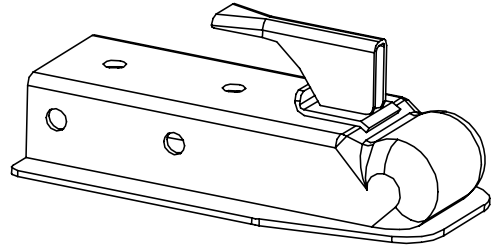
Unpacking

Closely inspect all contents in the shipping carton.

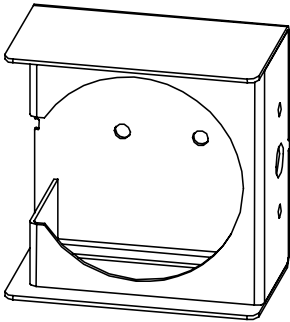
- **If you have damaged components:** Contact the freight company that delivered the unit and file a claim.
- **If you have missing components:** Contact NorthStar Product Support at 1-800-270-0810.



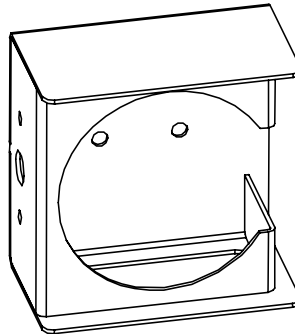
Light Kit



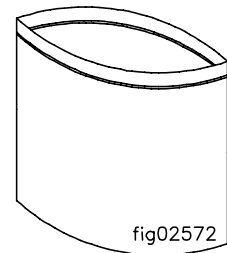
Coupler



Left Light Housing



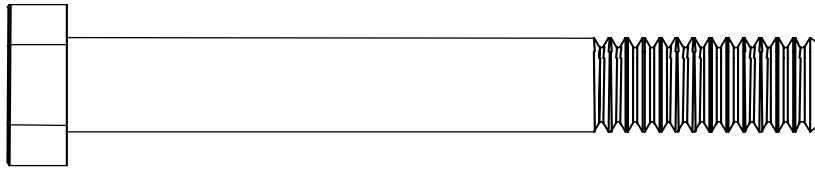
Right Light Housing



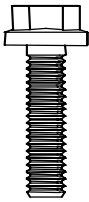
Manual Bag

Unpacking the Manual Bag

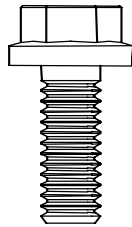
The following items are found in the manual bag.



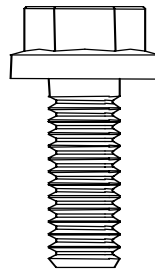
1/2 x 4" Bolt
Qty. 2



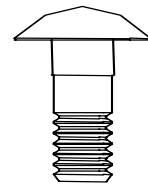
1/4 x 3/4" Bolt
Qty. 1



5/16 x 3/4" Bolt
Qty. 4



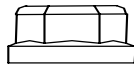
3/8 x 1" Bolt
Qty. 2



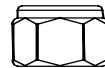
5/16 x 3/4" Carriage Bolt
Qty. 4



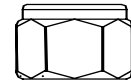
1/4" Nut
Qty. 1



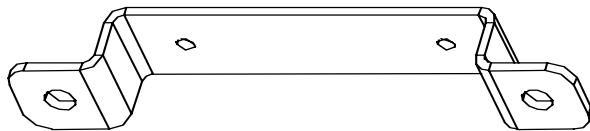
5/16" Nut
Qty. 8



3/8" Nyloc Nut
Qty. 2



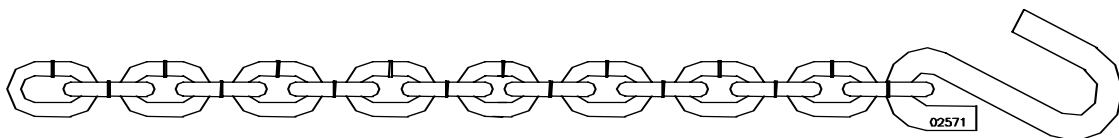
1/2" Nyloc Nut
Qty. 2



Side Marker Light Bracket
Qty. 2



Cable Bushing
Qty. 4

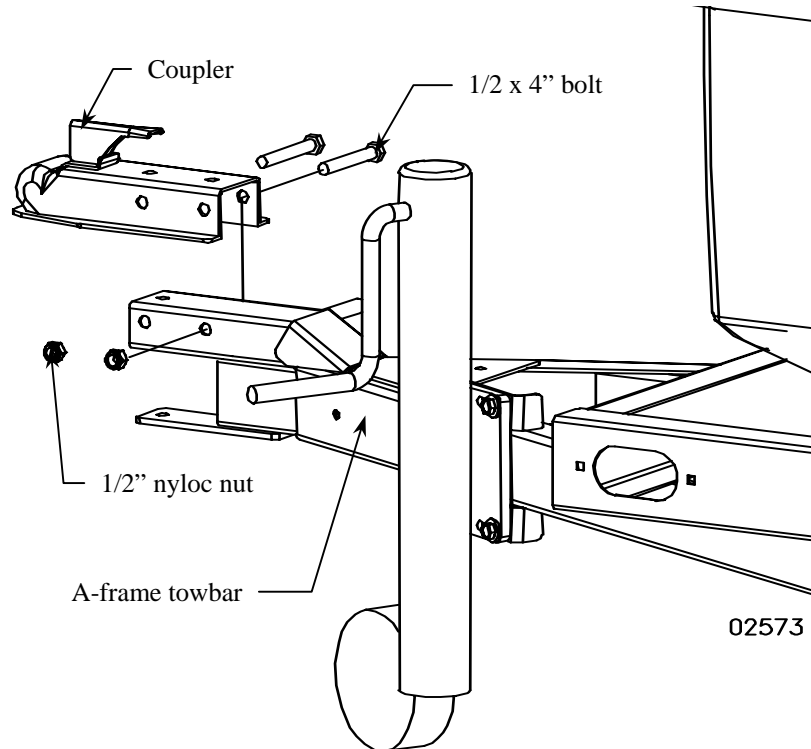


Safety Chain
Qty. 2

Assembly

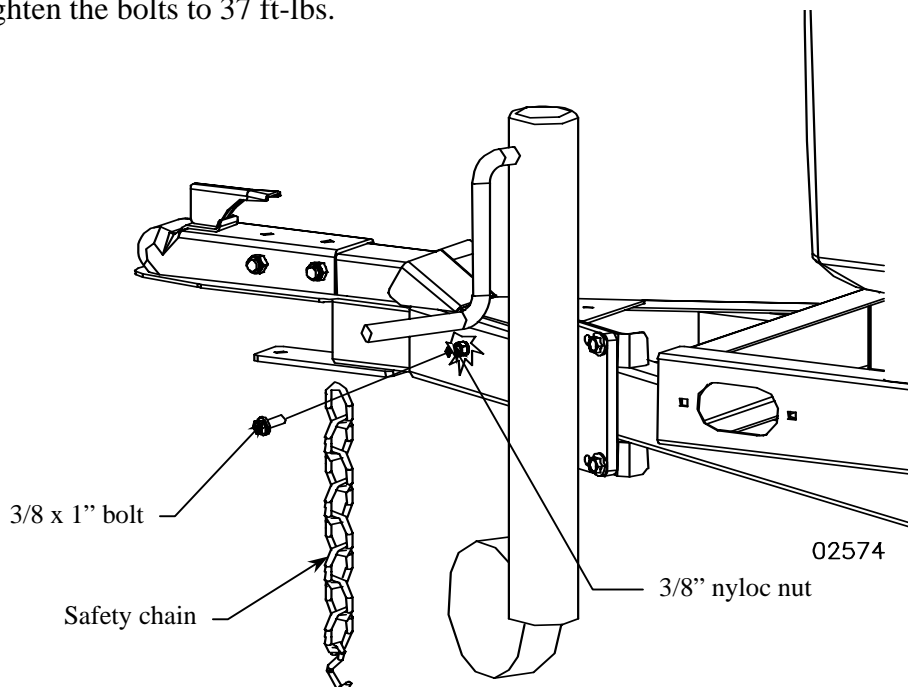
Step One: Attach the coupler to the A-frame tow bar.

1. Remove the hitch pin, if installed.
2. Attach the coupler to the A-frame tow bar using (2) 1/2 x 4" bolts and (2) 1/2" nyloc nuts. Tighten the bolts to 90 ft-lbs.



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

1. Attach the safety chains to the A-frame tow bar with (2) 3/8 x 1" bolts and (2) 3/8" nyloc nuts. Only one chain shown for clarity.
2. Tighten the bolts to 37 ft-lbs.

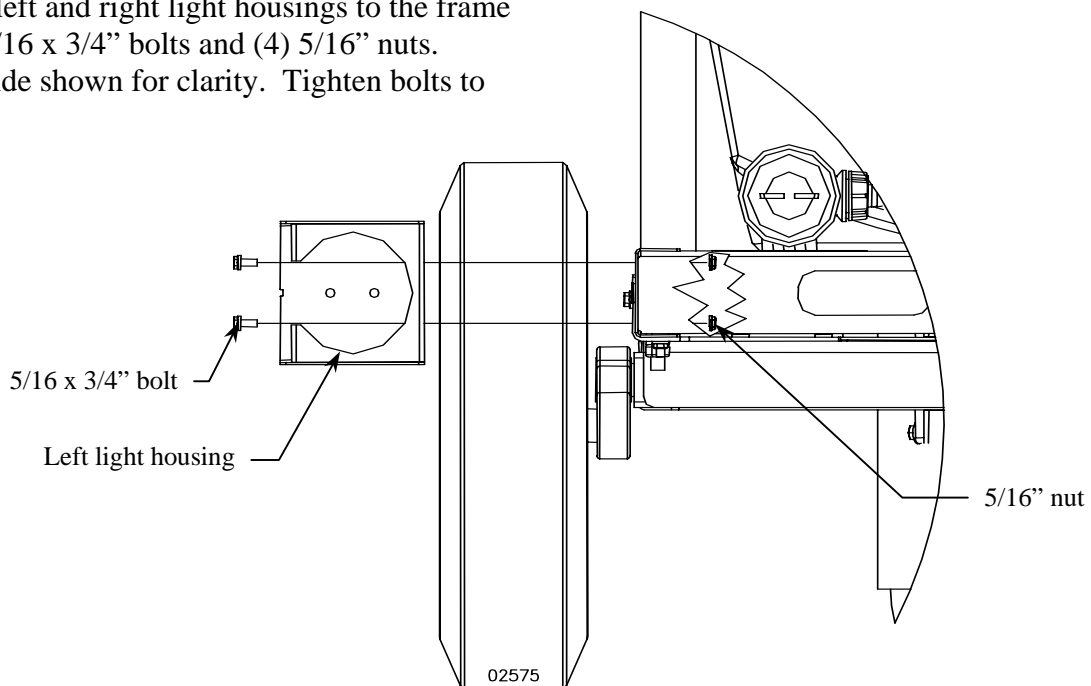


Assembly

Step Three: Attach the light housings to the frame.

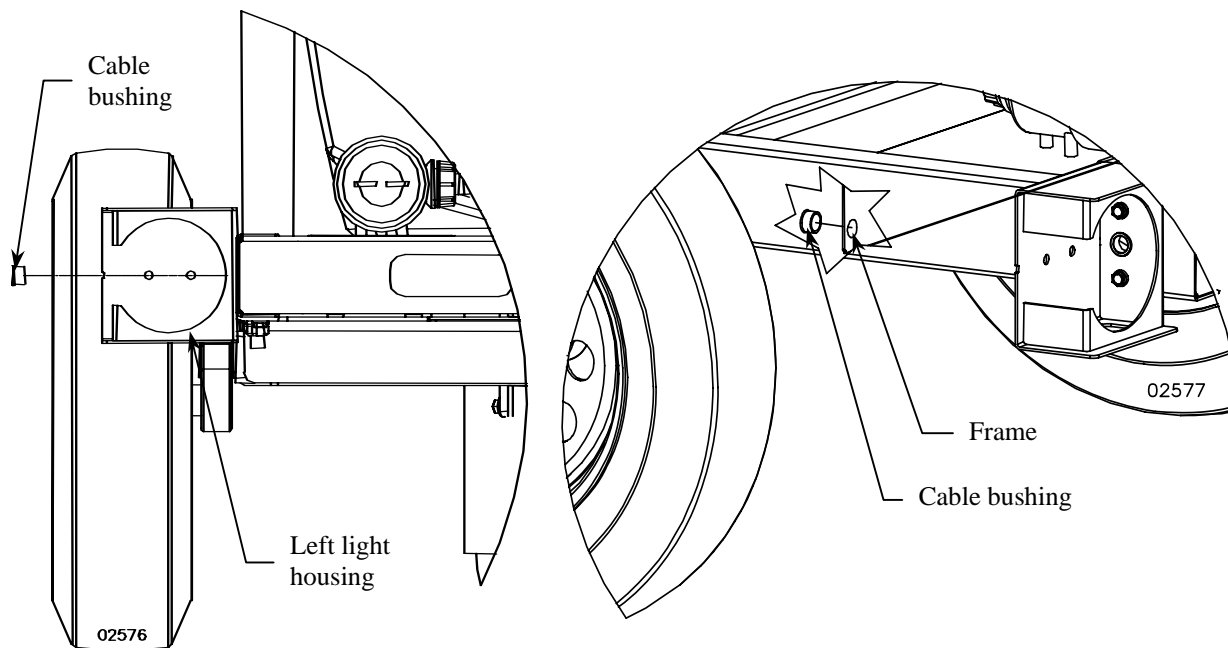
Attach the left and right light housings to the frame using (4) 5/16 x 3/4" bolts and (4) 5/16" nuts.

Only one side shown for clarity. Tighten bolts to 20 ft-lbs.



Step Four: Insert cable bushings.

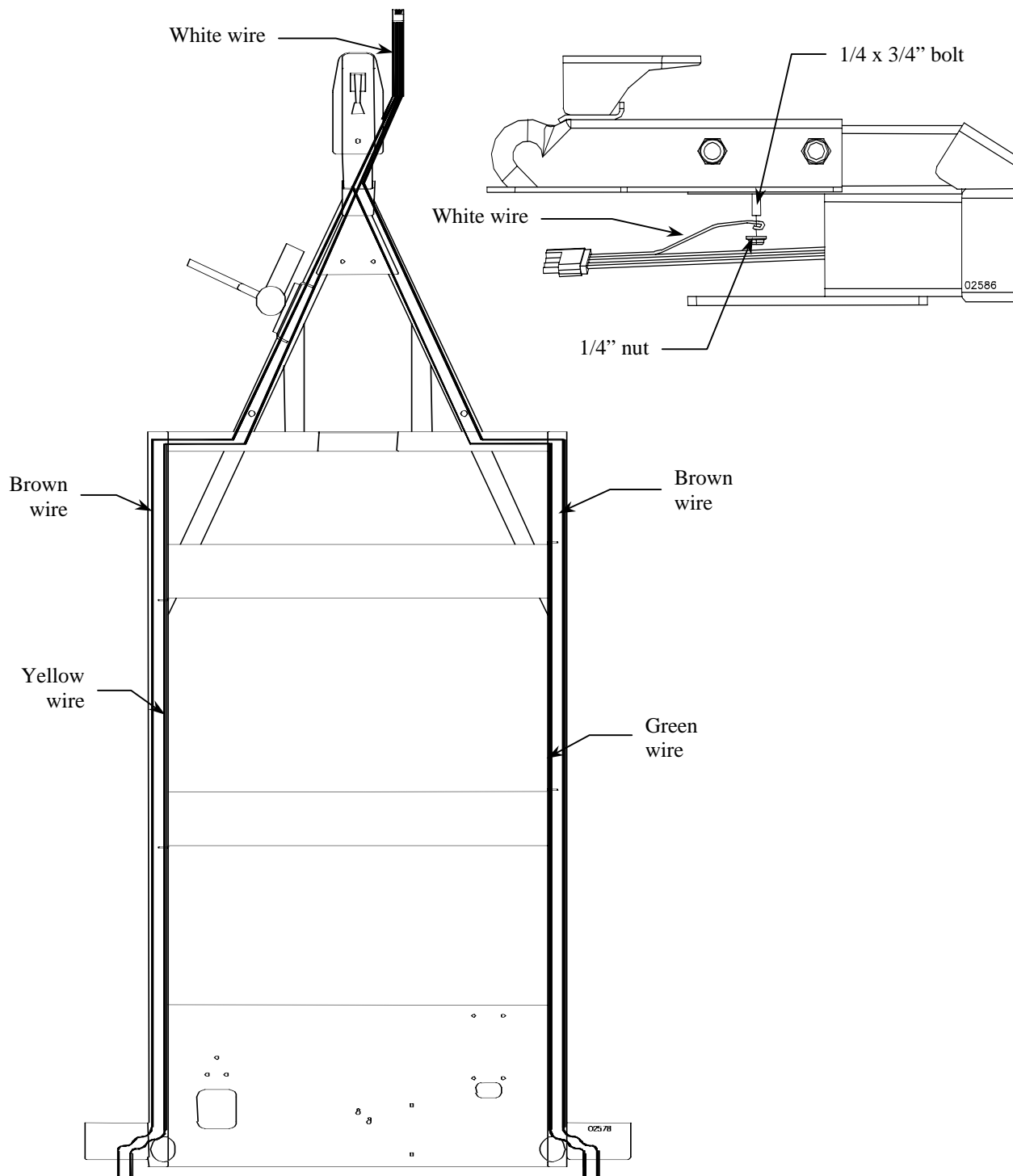
1. Snap (2) cable bushings into light housings. Only one side shown for clarity.
2. Snap (2) cable bushings into the frame. Only one side shown for clarity.



Assembly

Step Five: Run the light wiring through the frame and connect ground wire.

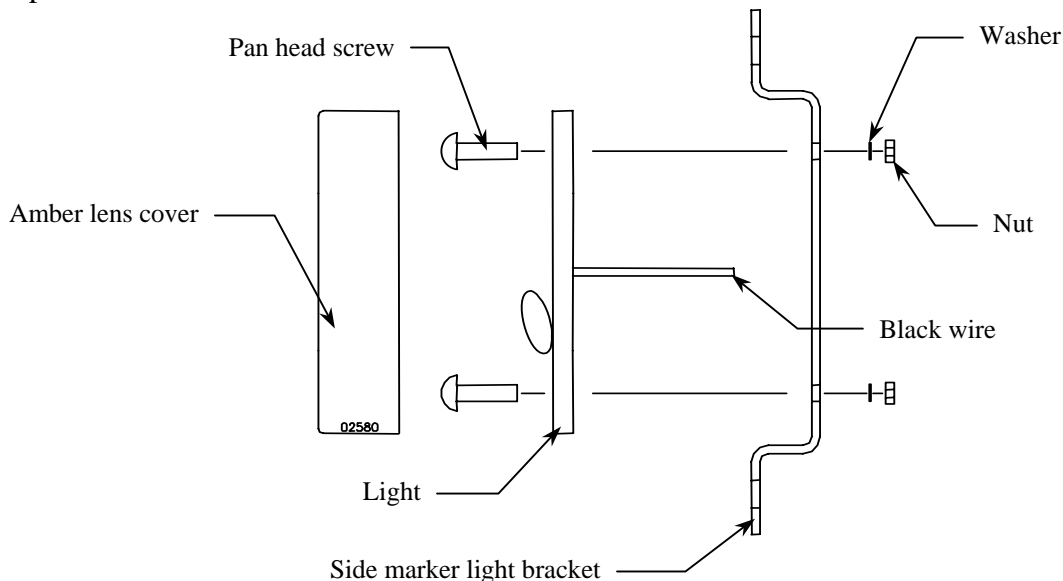
1. Pull wires through frame as shown below. Wires will pass through the holes in the frame and sit on the inside of the side channels. Only the frame and A-frame tow bar are shown for clarity.
2. Use (1) 1/4 x 3/4" bolt and (1) 1/4" nut to connect the white ground wire. Wrap bare wire from the ground wire around the shaft of the bolt and secure to the frame in the hole below the coupler. Ensure the flange nut breaks the paint to get a proper ground.



Assembly

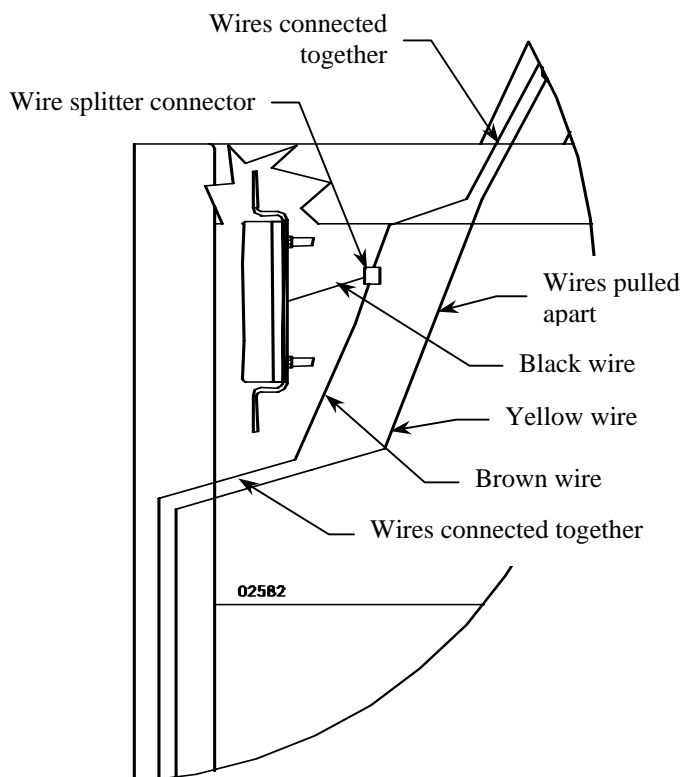
Step Six: Attach the side marker light to the side marker light bracket.

1. Remove amber lens cover and feed black wire through the bottom hole in the back housing.
2. Use (2) of the supplied pan head screws, (2) supplied lock washers, and (2) supplied nuts from the light kit to attach the light to the side marker light bracket. Tighten until the lock washers are flat.
3. Snap the amber lens cover back into place.



Step Seven: Wire side marker light.

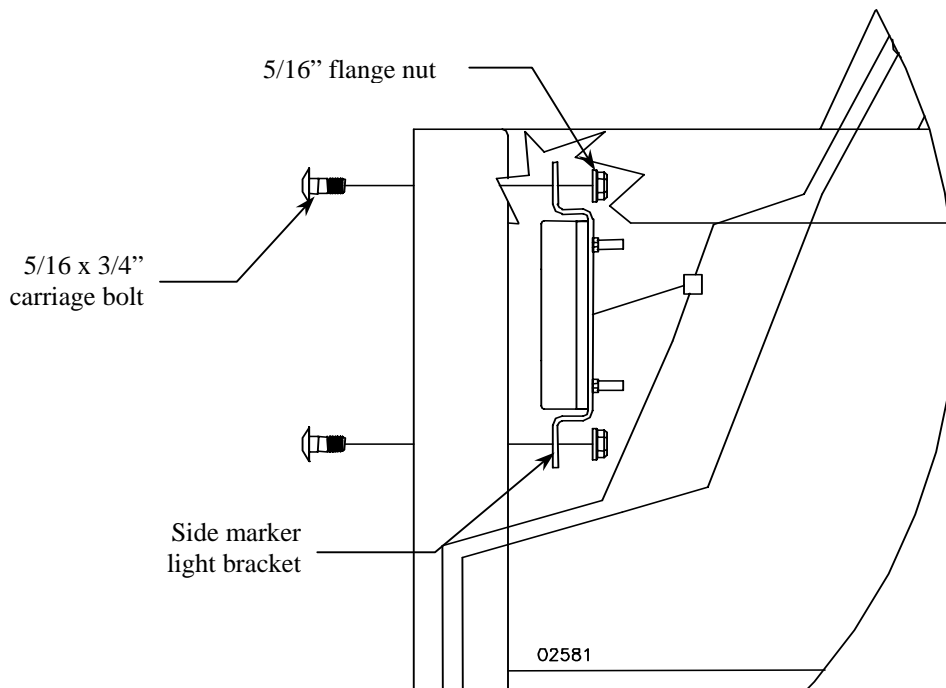
1. Pull apart the two wires running down the side of the trailer frame near the side marker mounting location. Be careful not to damage the insulation on the wires. To make the next step easier the wires should be spilt apart for a length of 6 inches.
2. Wire the side marker light to the brown wire using a supplied wire splitter connector from the light kit. Lay the black wire on the inside recessed area with the end of the wire pushed against the stop. Lay the brown wire in the outside recessed area and snap the wire splitter connector shut.



Assembly

Step Eight: Attach side marker light bracket to frame.

Attach side marker light bracket to the frame using (2) 5/16 x 3/4" carriage bolts and (2) 5/16" flange nuts. Tighten to 20 ft-lbs.

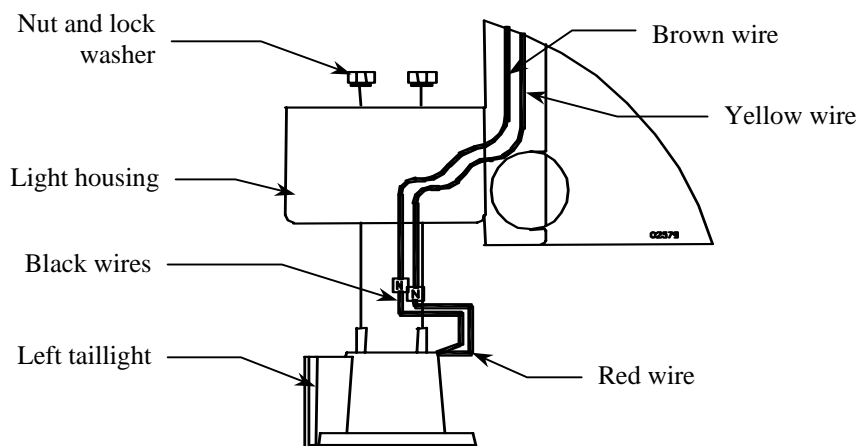


Step Nine: Wire and attach the other side marker.

Repeat steps six (6), seven (7), and eight (8) for the other side marker.

Step Ten: Wire the taillights and attach to the light housings.

1. Cut off excess wire leaving 6 inches hanging out the back of both light housings.
2. For both taillights, connect the brown wire to the two black wires using a provided wire nut from the light kit.
3. For the left taillight, connect the yellow wire to the red wire using a provided wire nut. For the right taillight, connect the green wire to the red wire using a provided wire nut.
4. Ensure the wires are tucked in the recessed area on the back of the taillight and bolt the light to the light housing using the provided hardware. Tighten the nuts until the lock washers are flat.

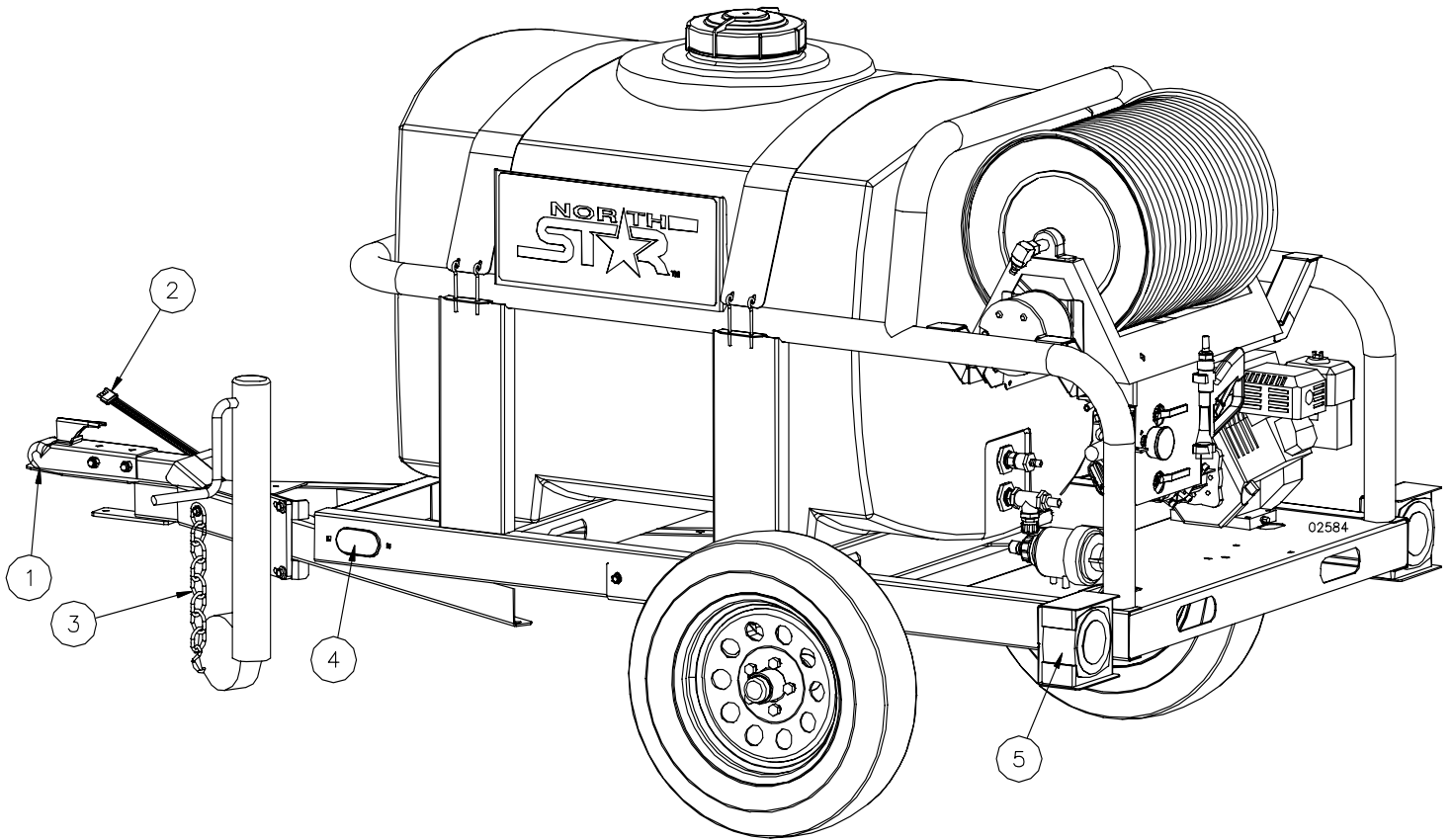


Assembly

Step Eleven: Test the wiring to ensure proper installation and fasten wires securely.

1. Turn the vehicle ignition to run and turn on the lights.
2. Check that all of the trailer lights are on.
3. Have someone press the brake pedal. The taillights should become brighter.
4. Test that the left and right blinker function properly.
5. If the blinkers flash very fast or very slow, or a taillight goes off when a blinker is activated, the trailer lights may not be properly grounded.
 - a. Ensure that the nut has broken paint and contacts bare metal.
 - b. You may have to remove some paint under the nut to get a proper ground.
6. Once the lights are working, correctly fasten the wiring to the frame using the supplied wire clips.

Machine Components



1. **Coupler:** Allows the trailer unit to be hooked up to a 2" ball hitch.
2. **Wire Harness:** Allows for the use of lights on the trailer.
3. **Safety Chains:** Secures trailer to vehicle in case of accidental disconnection of ball and coupler.
4. **Side Marker Lights:** Lights increase trailer visibility.
5. **Taillight Assembly:** Steel housings protect taillights.

Operation – Important Safety Information

Now that you have installed 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

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

Step Two: Tow the trailer sprayer.

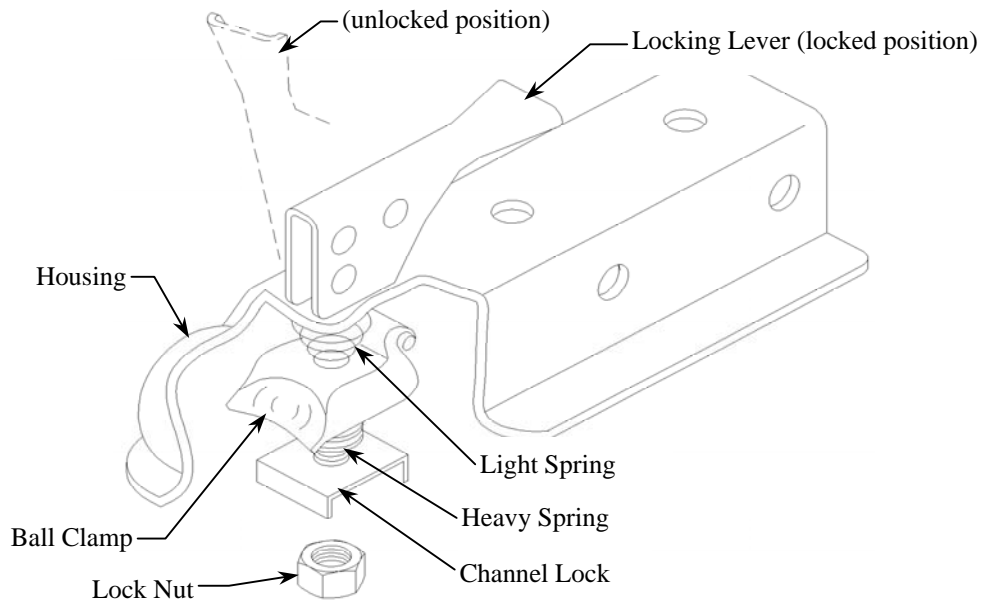
1. Review safety information

Review the “Operation – Important Safety Information” related to Transportation Safety provided in this manual.

2. Attach to hitch.

Attach sprayer to vehicle hitch

1. Attach sprayer’s coupler to a class 3 or higher hitch with 2” ball (only).
2. Adjust coupler to ball by raising locking lever and turning lock nut with fingers.
3. Proper adjustment is obtained when coupler is as tight as possible on ball and locking lever can still be opened and closed.
4. Lock lever closed to secure the attachment. An optional locking pin or padlock may be inserted in the locking lever hole for extra security.



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.

Operation – Using the Trailer Kit

3. Attach safety chains	<p>Attach safety chains.</p> <ol style="list-style-type: none"> 1. Two safety chains must be used while towing. 2. Cross safety chains under the coupler allowing only enough slack for vehicle turns.
4. Put jack up	Secure the jack in the up position before towing.
5. Transport	<p>It is recommended that the trailer sprayer be towed at speeds less than 45mph.</p> <p><u>Important safety instructions:</u></p> <ul style="list-style-type: none"> • Added length. Be aware of the added length of the sprayer. • Rough terrain. Drive slowly and take extra caution when traveling over rough terrain. • On public roads. 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 and signage, as needed to comply. • Unattended. Turn off the towing vehicle before leaving the sprayer unattended. • Under the influence. Never tow or operate this sprayer while under the influence of alcohol, drugs, or medication.
6. Leaving unattended	<p>If the trailer sprayer must be left unattended at any time:</p> <ul style="list-style-type: none"> • Turn off the vehicle. Set brake or block the wheels.

Specifications

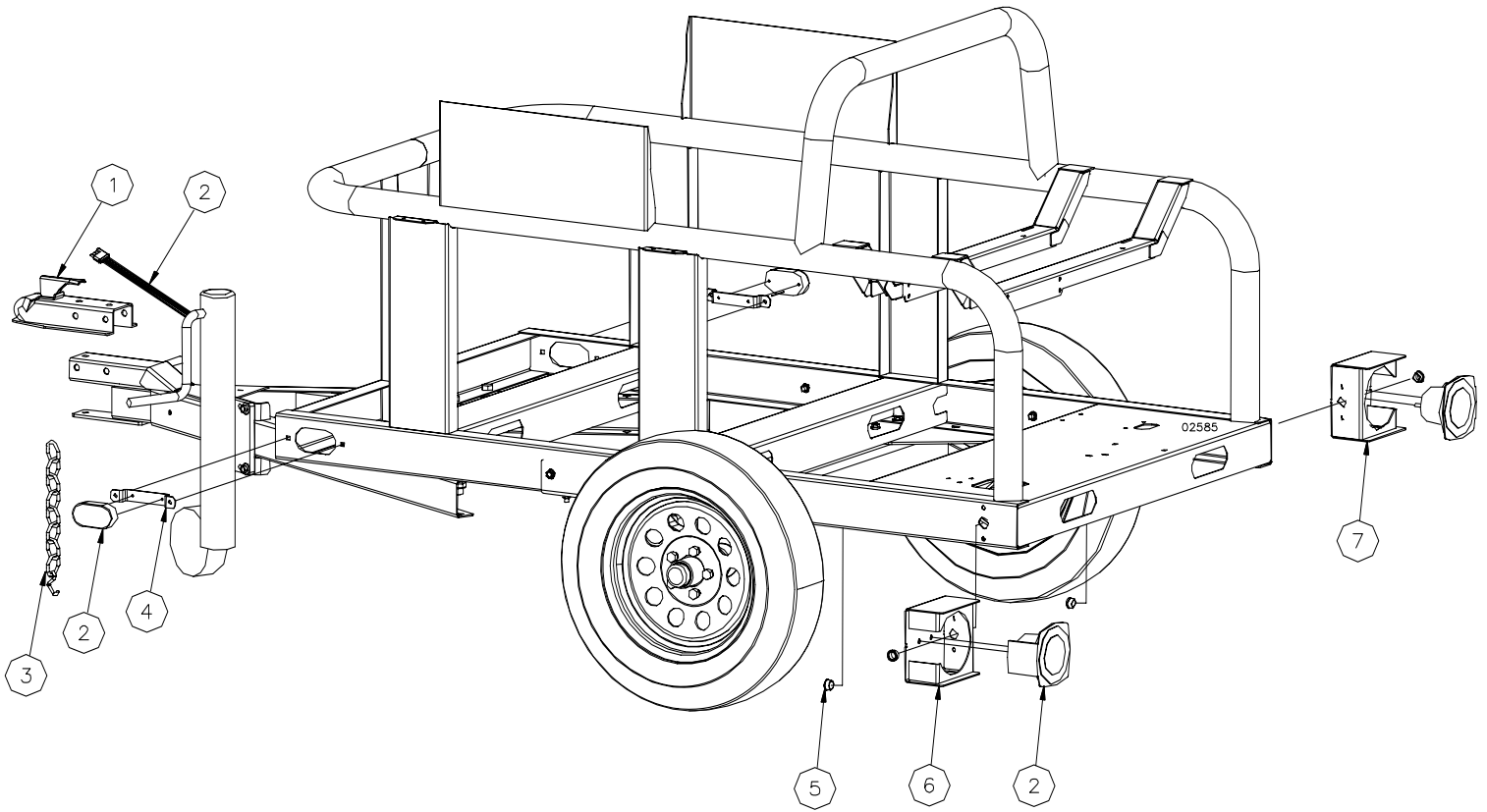
High Speed Trailer Kit Specifications

Maximum Towing Speed.....	45 MPH
Light Kit.....	DOT approved
Overall Dimensions (boxed).....	16”L x 14”W x 12”H
Weight (shipping).....	20 lbs.

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.

Any Questions, Comments, Problems or Parts Orders
Call NorthStar Product Support 1-800-270-0810

Exploded View – 268176 – Rev. C



Item	Part#	Description	Qty
1	777775	Coupler	1
2	127432	Trailer Light Kit	1
3	1130	Safety Chain	2
4	779261	Light Bracket	2

Item	Part#	Description	Qty
5	36290	Cable Bushing	4
6	779252	Left Light Housing	1
7	779254	Right Light Housing	1

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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 non transferable. 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.,
2800 SouthCross Drive West
P.O. Box 1499 Burnsville, MN 55337-0499