

North Star TRAILER

Assembly Guide for SPORTSTAR I Trailer



Congratulations! You are the proud owner of a **NORTHSTAR** trailer. Please follow the instructions and steps in this manual for proper assembly.

TRAILER PARTS LIST

Part No.	Part Description	Qty.
1	Frame (deck)	1
2	Tongue (with wiring harness) and Coupler (hitch)	1
3	Side-Rail	2
4	Front-Rail	1
5	Rear Corner Bracket	2
6	Side-Rail Supports	6
7	Wheel and Hub Assembly	2
8	Leaf Spring	2
9	Axle	1
10	Fender	2
11	Front Rail Support (angled)	3
12	Wiring Harness (installed in frame)	1
13	Rear Gate	1

HARDWARE

Part No.	Description	Qty.
A	U-Bolt	4
B	Spring Plates	2
C	17mm Lock-nut	34
D	3 ½" 22mm Bolt	6
E	Rear Gate-pin	2
F	22mm Lock-nut	6
G	17mm Flat-washer	47
H	22mm Flat-washer	12
I	1" 17mm Bolt	13
J	1" 17mm Flange Bolt (14mm head/17mm thread)	21
K	Cotter-Pin	4
L	Spare Tire Lug-nuts 22mm	2
M	Tail-light/Brake Light	2
N	Running Light (screws included)	2
O	Tail-light/Brake Light L-Bracket	2
P	License Plate Bracket	1
Q	3" 19mm Bolt	2
R	19mm Flat-washer	6
S	19mm Lock-nut	2
T	Safety Chain	1
U	Wire Clips	6

Make sure that all parts, as listed above, are included in your shipment. If any parts are missing please contact NORTHSTAR at 1-801-375-3088. Other tools needed for assembly: grease gun, flathead screwdriver, socket set, wrench set, small zip-ties, small rubber mallet.

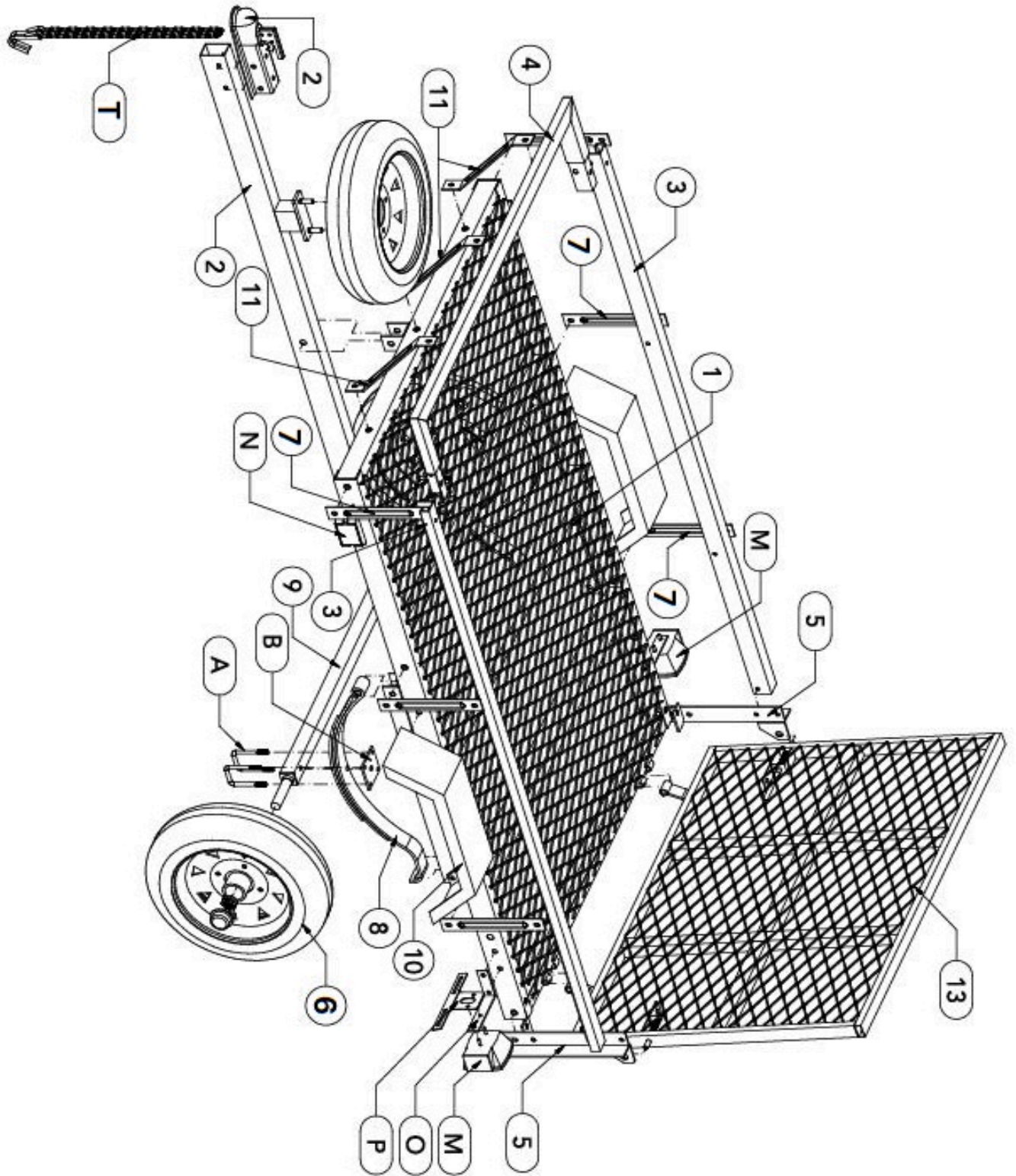


Figure 1: Expanded view of trailer

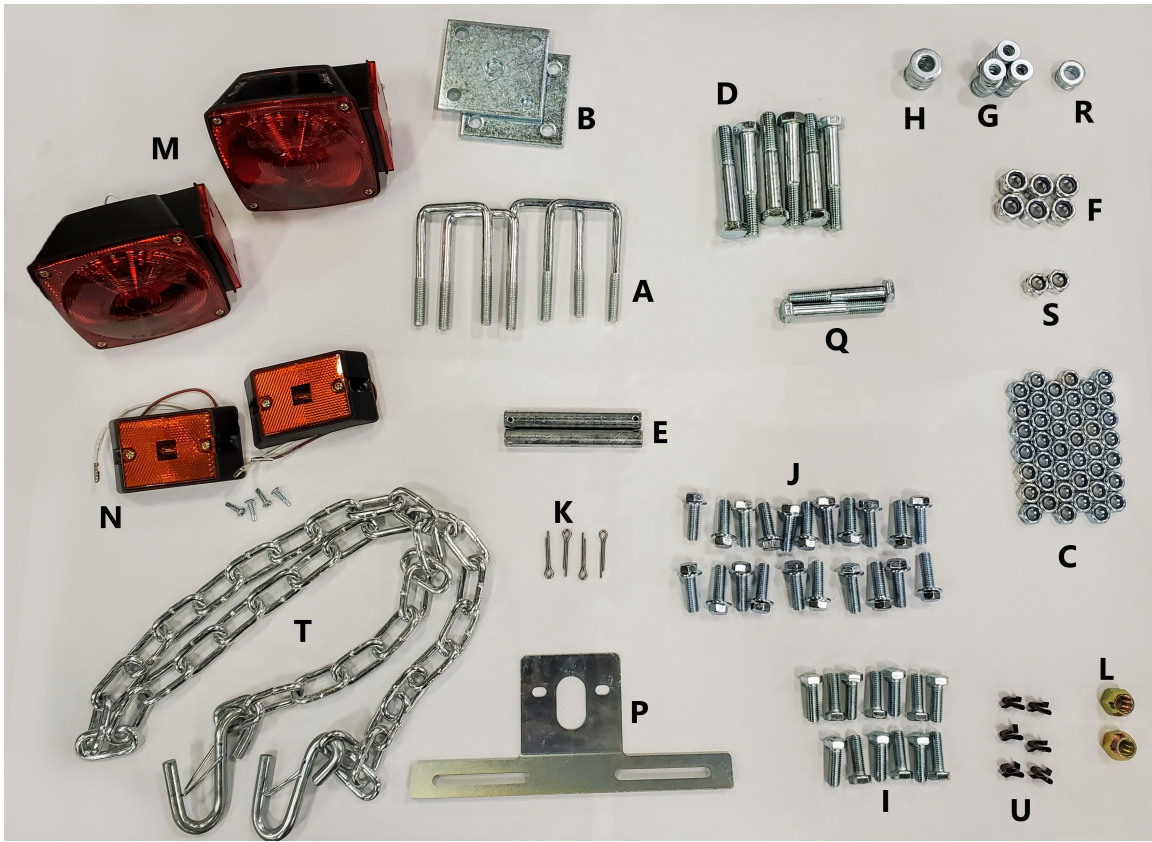


Figure 2: Labeled contents of hardware box

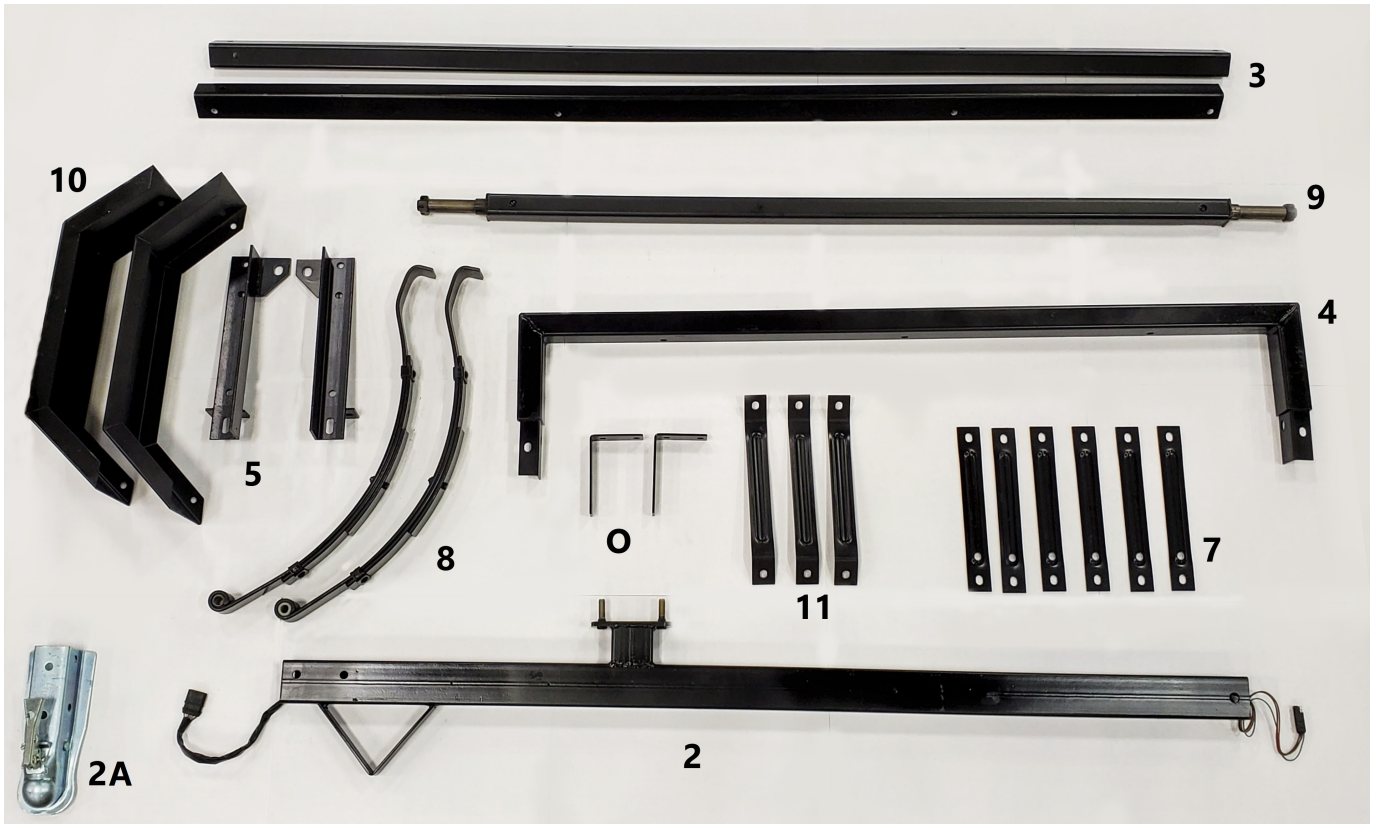


Figure 3: Labeled parts

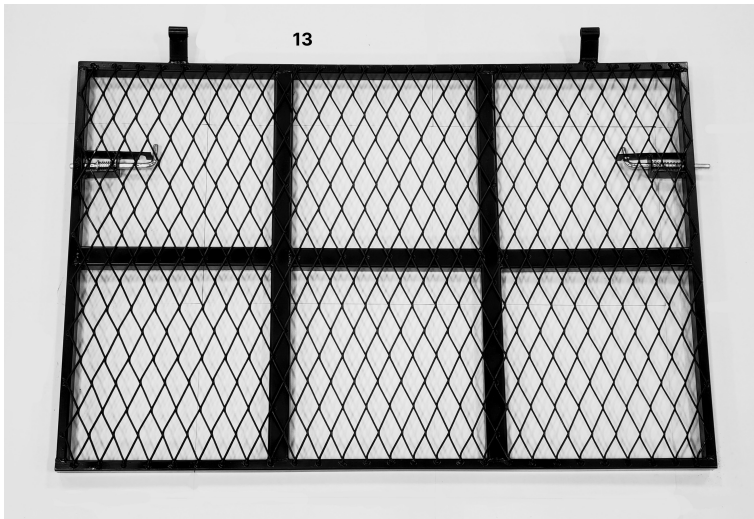


Figure 4: Labeled parts continued.



Figure 5: Regular bolt, washer, and lock-nut diagram.



Figure 6: Flanged bolt, washer, and lock-nut diagram. 14mm head, 17mm flat-washer, and 17mm lock-nut. Flat-washer will be on the lock-nut end of the bolt when installed.

This trailer requires inverted assembly. (Assembled upside-down). Start by turning the trailer frame upside-down so the trailer deck is facing the ground. Use a table robust enough to support the weight of the trailer frame and high enough to elevate the frame to waist-height, or place the corners of the frame on buckets, or use sawhorses to elevate each end.

CAUTION: *This trailer is heavy. More than one person is required to flip the trailer frame and assemble this trailer. Personal injury may occur if you try to assemble this trailer alone.*

STEP 1: LEAF SPRING & AXLE ASSEMBLY

PART ONE: ATTACH LEAF-SPRINGS TO FRAME

- a. Flip the trailer frame (1) upside-down, and place the frame on a waist-high table or other elevated supports in order to facilitate assembly.
- b. Position the leaf-spring (8) on the frame's spring casing (welded to the frame) so the eye in the leaf-spring is positioned toward the front of the trailer and aligns with the bolt eye-hole in the spring casing.
- c. Fasten the circular end of the leaf-spring to the casing with a 3 ½" 22mm bolts (D), two 22mm flat-washers (H), and one 22mm lock-nuts (F) by inserting the bolt through the leaf-spring and through the eye-holes in the casing. (*Leave tension loose to allow play when aligning the axle; you will securely tighten bolts in step "i".*)
- d. Secure the hooked end of the leaf-spring to the casing by running a 3 ½" 22mm bolts (D), two 22mm flat-washers (H), and one 22mm lock-nuts (F) through the eye-holes of the leaf-spring casing and over the flat side of the leaf-spring.

PART TWO: FASTEN AXLE TO LEAF SPRINGS

- e. Lay the axle (9) on top of the leaf-springs, and align the holes in the axle with the posts on the leaf-springs. The axle will lie snug on top of the springs.
- f. Take two U-bolts (A) and slide them over the axle, so the bolts hang over the axle and on both sides of the leaf-springs. Attach the spring-plate (B) to the U-bolts using four 17mm lock-nuts (C), and then tighten the lock-nuts to finger-tightness.
- g. Once all of the lock-nuts are on the U-bolts, tighten the lock-nuts in alternating sequence in order to ensure an even, level plate pressure.
- h. Continue to tighten the lock-nuts until the spring-plate just begins to bend and conform to the shape of the leaf-spring. (Approximately 35 ft-lbs of torque).
- i. Securely tighten the bolts from step "c" and "d".

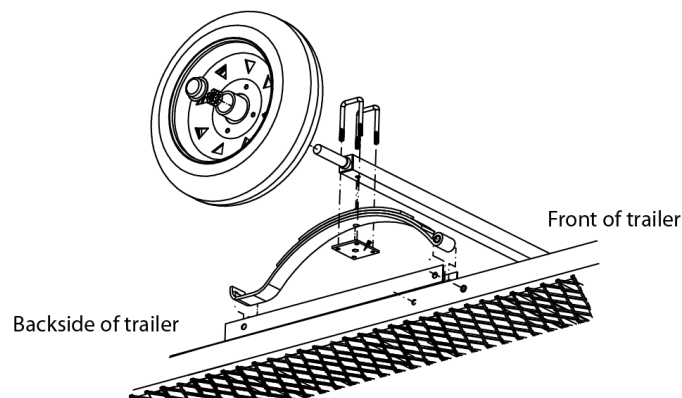


Figure 7: Expanded view of leaf-spring and axle assembly.

STEP 2: ATTACH WHEELS TO AXLE

Note: the hub assembly comes attached to the wheels with washers and pre-lubricated bearings (to prevent rust). Upon removing the dust caps, take special care to not drop the bearings or get them dirty. Pack bearings before inserting them inside the hub on axle.

- a. Using a 32mm wrench or socket, remove the castle nut from the end of the axle.
- b. Carefully remove the dust-cap from the wheel (7) by gently prying around the edges of the cap with a small, flathead screwdriver, or by using a long bolt to gently drive through the backside of the hub and into the cap.
- c. Remove the outer bearing, flat-washer and cotter-pin from the interior of the hub, then set aside.
- d. Carefully slide the wheel onto the end of the axle with lug studs and nuts facing out.
- e. Slide the bearing into the hub; press into place carefully as to not remove any grease.
- f. Place the flat-washer on the bearing, followed by the castle-nut. Ensure that the washer is snug with and pressed flat against the bearings.
- g. Fully tighten the castle-nut against the bearings to the point that the nut applies enough pressure against the bearings to lock them into place. Then, loosen the castle nut approximately $\frac{1}{4}$ ", or to the point where the wheel can spin; the nut should be loose enough that the wheel freely spins, yet tight enough that the wheel does not have horizontal play or wiggle. The final castle-nut tension will be approximately 35 ft-lbs. (Proper tension is critical to the longevity of the bearings).
- h. Insert the cotter-pin through the small hole located near the end of the axle. Ensure that the pin lies flat inside the castle-nut notches. The cotter-pin maintains the integrity of the hub and secures the wheel to the axle.
- i. Replace the dust-cap by tapping it into place with a rubber mallet. RTV sealant or silicon may be applied to the circumference of the dust-cap before installation to ensure that the cap will not fall off while in tow. Let the sealant completely dry before towing.
- j. Attach a grease gun to the hub's Zirk fittings, located on the back-side of the hub, and apply pressure for approximately 8-10 pumps.

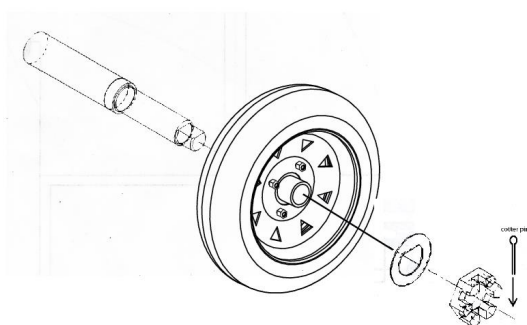


Figure 8: Expanded view of hub assembly.

Note:. Grease the wheel bearings a minimum of 1x per year for normal use, and up to 3x per year for frequent use in order to ensure the longevity of the bearings. Adjust and re-grease the bearings after the first 100 miles.

STEP 3: ATTACH COUPLER TO TONGUE

- a. *Note: In rare cases the tongue's wiring harness may fall inside the tongue after shipping and unpacking, you may need to fish the wires and pull them out of the tongue.*
- b. *Tip: Lay the tongue on its side on a table or propped up on something to install the coupler (2).*
- c. Slip the coupler (hitch) (2) over the end of the tongue (2) with the welded V support, making sure to align the holes on the coupler with the corresponding holes on the tongue.
- d. Using a 3" 19mm bolt (Q), two 19mm flat-washers (R), and one 19mm lock-nut (S), thread the 3" bolt through the rear hole of the coupler, ensuring the tongue wiring harness is not pinched by the bolt. Finger tighten the 19mm lock-nut (S) onto the rear bolt of the coupler.

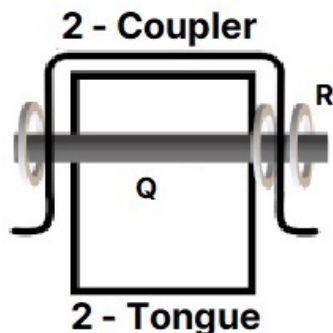


Figure 8: To prevent pinching the coupler while tightening, use an extra 19mm flat-washer (R) threaded onto the 3" bolt (Q), between the tongue (2) and the coupler (2).

- e. *Note: when attaching the front bolt of the coupler to the tongue, you will need to secure the coupler safety chain (T).*
- f. Using a 3" 19mm bolt (Q), two 19mm flat-washers (R), and one 19mm lock-nut (S), thread the 3" bolt halfway through the coupler, then, from the bottom of the coupler, attach the center link of the coupler safety chain (T) to the bolt, and thread the bolt through the rest of the tongue and coupler. Finger tighten the 19mm lock-nut (S) onto the bolt. *Ensure that the coupler safety chain is securely attached to the trailer through the front coupler bolt, and that the tongue wiring harness is not pinched by any of the coupler mounting hardware.*
- g. Securely tighten the bolts in an alternating pattern until the coupler is in contact with the tongue using two 19mm wrenches or sockets.
- h. Push the tongue's wiring harness back inside the tongue, leaving only the shielded portion exposed. This will ensure longevity of the trailer wires.

STEP 4: ATTACH TONGUE TO FRAME

Remember: the trailer is still upside-down, so all components must be installed upside-down.

PART ONE: INSTALL MIDDLE FRONT RAIL SUPPORT

- a. *Note: you will need to install the front, middle support (11) for the front rail (4) before installing the tongue. If tongue installed first, the bolt hole for the rail cannot be accessed.*
- b. Remember! The trailer is upside down and the rail support (11) will need to be installed upside down for correct orientation when flipped over.
- c. Attach the front middle support with one 17mm bolt (I), two 17mm flat-washers (G), and one 17mm lock-nut(C) through the bolt hole below the tongue channel at the front of the trailer frame.
- d. Feed the bolt (I) through the hole in the front rail support (11) bolt tab and then through the hole in the trailer so the head of the bolt is visible from the front of the trailer. *The front rail support (11) should bend away from the trailer towards the ground.*
- e. Tighten the bolt with two 17mm wrenches or sockets until the rail support is straight and flush with the trailer without any wiggle or play.
- f. *Note: you will attach the rest of the supports in Step 7, Part Three.*

PART TWO: ATTACH TONGUE TO FRAME

- a. *Make sure that the tongue's wiring harness extends through both the back and the front of the tongue.
- b. Thread spare tire lug-nuts (L) onto spare tire mount on tongue.
- c. Align the tongue's (2) eye-holes with the eye-holes on the frame. *Be sure the tongue is mounted upside down with the V support facing up for proper orientation when trailer is flipped over.*
- d. Use two 3-1/2" 22mm bolts (D), four 22mm flat-washers (H), and two 22mm lock-nuts (F) to fasten the tongue to the frame.

Note: Be careful not to pinch or cut the tongue's wiring harness when inserting the bolts.

- d. Tighten the 3-1/2" 22mm bolts from step "c" with two 22mm wrenches or sockets until the tongue channels begin to conform to the shape of the tongue.
- e. Plug together the tongue's wiring harness with the trailer frame's wiring harness at the base of the tongue.
- f. Tuck any excess wire and the plug into the base of the tongue.

TIGHTEN AND SECURE ALL BOLTS! After the tongue is installed in its proper position, make sure to securely tighten all bolts.

ROTATE THE TRAILER TO AN UPRIGHT POSITION.

Position the trailer so the tires are on the ground. More than one person is required to rotate the trailer; **DO NOT ATTEMPT TO ROTATE THE TRAILER TO THIS POSITION ALONE.**

STEP 5: ASSEMBLE AND INSTALL LIGHTS

PART ONE: INSTALL TAIL/BRAKE LIGHTS

- a. *Note: In rare cases the tongue's wiring harness may fall inside the tongue after shipping and unpacking, you may need to fish the wires and pull them out of the tongue.*
- b. Locate the drivers side tail light (M) connection point (located on the side of the frame, toward the rear). There should be brown, white, and yellow wires sticking out the side of the trailer frame.
- c. Fasten the tail light/brake light L-bracket (O) to the frame using two, 1" 17mm bolts (P), two 17mm washers (U) and 17mm locknuts (S). Tighten the bolts using two 17mm sockets or wrenches.
- d. Remove the 12mm nuts from the back of the tail light assembly (F), and slide the tail light assembly through the holes the L bracket.
- e. Slide the license plate bracket (I) onto the tail light assembly bolts
- f. Secure the license plate bracket (I), and tail light (F) to the L bracket (H) using the the two 12mm nuts, and a 12mm wrench or socket.
- g. Connect the wires from the taillight with the corresponding wires from the trailer wiring by pushing the wire connectors together. Push any excess wire back into the frame.
 - i. Driver Wiring: Brown-Brown, White-White, and Yellow-Yellow.
 - ii. Passenger Wiring: Brown-Brown, White-White, and Green-Green.
- h. Repeat steps "a."-"f." above on the passenger side taillight assembly, without attaching the license plate bracket (the license plate bracket is only attached to the driver side L bracket).

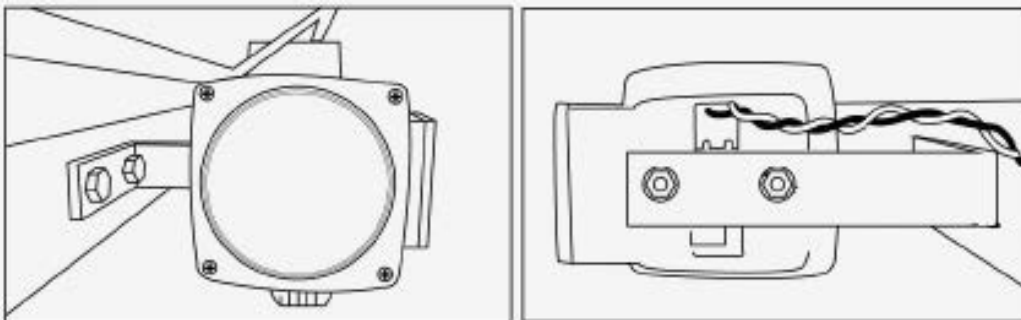


Figure 9: Tail-light/brake lights (M), light bracket (O).

PART TWO: INSTALL RUNNING LIGHTS

- a. Locate the drivers side running light connection point (located on the side of the frame, toward the front). There should be a brown and a white wire sticking out the side of the trailer frame.
- b. Bend back metal tab on the back towards the center of the running light (N)
- c. Connect the brown wire from the running light (N) with the brown wire from the trailer wiring by pushing the wire connectors together.
- d. Connect the white wire from the running light (N) with the white wire from the trailer wiring by pushing the wire connectors together.
- e. Feed the running light wire back into the frame.
- f. Attach the running light to the frame using two self-tapping screws. Be careful not to over-tighten the screws. Over-tightening the screws could crack the plastic housing of the running light assembly.
- g. Repeat steps "a."-"e." on the passenger side to install the passenger side running light.
- h. Use Wire clips (U) to secure excess wires to the frame of the trailer along the inside of the frame.

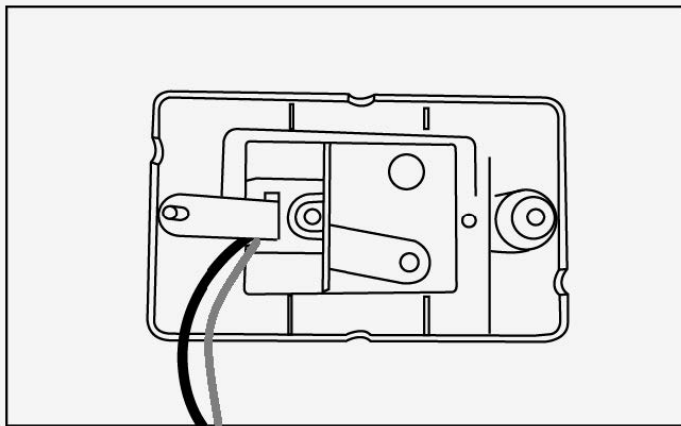


Figure 10: Backside of the running light (N).

STEP 6: ATTACH FENDERS

- a. Align the fender bolt-holes with the bolt-holes in the frame.
- b. Use two 1" 17mm bolts (I), four 17mm flat-washers (G), and two 17mm lock-nuts (H) to fasten fender (10) to the frame above the tire.
- c. Tighten bolts with two 17mm wrenches or sockets until fender is flush and tight against trailer frame without any horizontal play.

STEP 7: INSTALL SIDE RAILS & CORNER BRACKETS

Note: fasten bolts to finger-tightness until the side-braces, brackets and side-rails are all in place—this will allow you to make alignment adjustments if needed. Once all parts are aligned and secured, securely tighten all bolts.

PART ONE: INSTALL REAR CORNER BRACKETS

- a. Attach the rear corner brackets (5) to the rear corners of the trailer frame with two 1" 17mm bolts (I), four 17mm flat-washers (G), and two 17mm lock-nuts (C).
- b. Tighten bolts to finger tightness, you will fully tighten in Step 7, Part Three, "f."

PART TWO: INSTALL SIDE RAIL SUPPORTS AND SIDE RAILS

Note: the rail supports fasten to the outside of the rails. Install the bolts from the trailer-side of the rail, through the rail and into the rail support. Refer to Figure 6 for flanged bolt, flat-washer, and lock-nut orientation.

- a. Install the side-rail supports (6) to the trailer frame with the end with one hole against the frame and the bevel facing out.
- b. Use one 1" 17mm flanged bolt (J), one 17mm flat-washer (G), and one 17mm lock-nut (C) for each support along the driver and passenger sides of the trailer frame.
- c. *Note: The bolt head should be visible from the outside of the trailer.*
- d. Once all side-rail supports (6) are attached to the frame, attach the side-rails (3) with the curled end of the rail facing away from the trailer and the end with the hole in the top at the front of the trailer with the support on the outside of the top rail.
- e. Use 1" 17mm flanged bolts (J), 17mm flat-washers (G), and 17mm lock-nuts (C) to attach the top rail to the rear corner bracket (5) and the side-rail supports on each side of the fenders through the top hole in the supports with the bolt head on the inside of the side rail and lock-nut side along the outside of the rail facing away from the trailer
- f. *Note: wait to attach the front corner, side-rail support until installing the front rail in Part Three.*

PART THREE: INSTALL FRONT RAIL SUPPORTS AND FRONT RAIL

- a. Install the remaining two front rail supports (11) along the front of the trailer frame with two 1" 17mm flanged bolts (J), two 17mm flat-washers (G), and two 17mm lock-nuts (C) with the bolt heads visible from the front of the trailer.
- b. Slide the front rail (4) into the side-rails (3) with the front support along the outside of the front rail.
- c. Secure the front rail to the side rail and side rail support (with the support on the outside of the rails) with two 1" 17mm flanged bolts (J), two 17mm flat-washers (G), and two 17mm lock-nuts (C) for each side of the trailer.
- d. Use two 1" 17mm flanged bolts (J), two 17mm flat-washers (G), and two 17mm lock-nuts (C) to secure the front rail to the side rails through the bolt hole located on the top of the side rails.

- e. Secure the front rail supports to the outside of the front rail with two 1" 17mm flanged bolts (J), two 17mm flat-washers (G), and two 17mm lock-nuts (C) .
- f. Once all bolts in place, tighten rear corner brackets with two 17mm wrenches or sockets.
- g. Tighten all flanged bolts connecting rails and supports with one 14mm wrench or socket and one 17mm wrench or socket. *Note: the bolt head is 14mm and the lock-nut is 17mm.*

TIGHTEN AND SECURE ALL BOLTS! After all side-rails and supports are in their proper positions, make sure to securely tighten all bolts.

STEP 8: INSTALL REAR GATE

- a. Connect the gate's (13) pin-slots with those on the trailer frame (1) at the rear of the trailer with the mesh side of the gate facing up.
- b. Slide the Rear Gate-pins (E) into each hinge with the cotter pin holes facing up.
- c. Secure the gate-pins with four cotter-pins (K), and then secure the cotter-pins by bending at least one leg to 90 degrees.
- d. *Note: if the gate latches do not line up with the gate latch holes in the rear corner brackets, loosen the rear corner brackets enough to line up the gate latches and then re-tighten the corner brackets to line up correctly.*

CONGRATULATIONS!

You have completed your Allstar, ATV/Utility trailer!

We hope you enjoy your NORTHSTAR TRAILER.

Please contact us at 1-801-375-3088 or email info@northstartrailer.com if you have any questions. Our business hours are Monday-Friday 8:00 a.m. to 4:30 p.m. Mountain Standard Time.

TRAILER SPECIFICATIONS

Trailer Weight: 310 lbs GVWR: 1000 lbs
Cargo Weight: 690 lbs Length (w/ tongue): 121.5" Width: 63"
Tire Size: 4.80/4.00-12

Note: The dealer that sold you this trailer will ship you the trailer's *Certificate of Origin*. The certificate will arrive approximately two weeks after the trailer is delivered.

Need Parts?

Northstar Trailer has a Parts Department! We will help you find the right parts to replace or repair on your trailer.

Phone: 801-375-3088

Ask about our other Accessories!

Big Red Earth Anchor

Gas Can Mount

Jack-stand

Motorcycle Tire Rail