Draftmaster Rack Systems

Atoc Inc.

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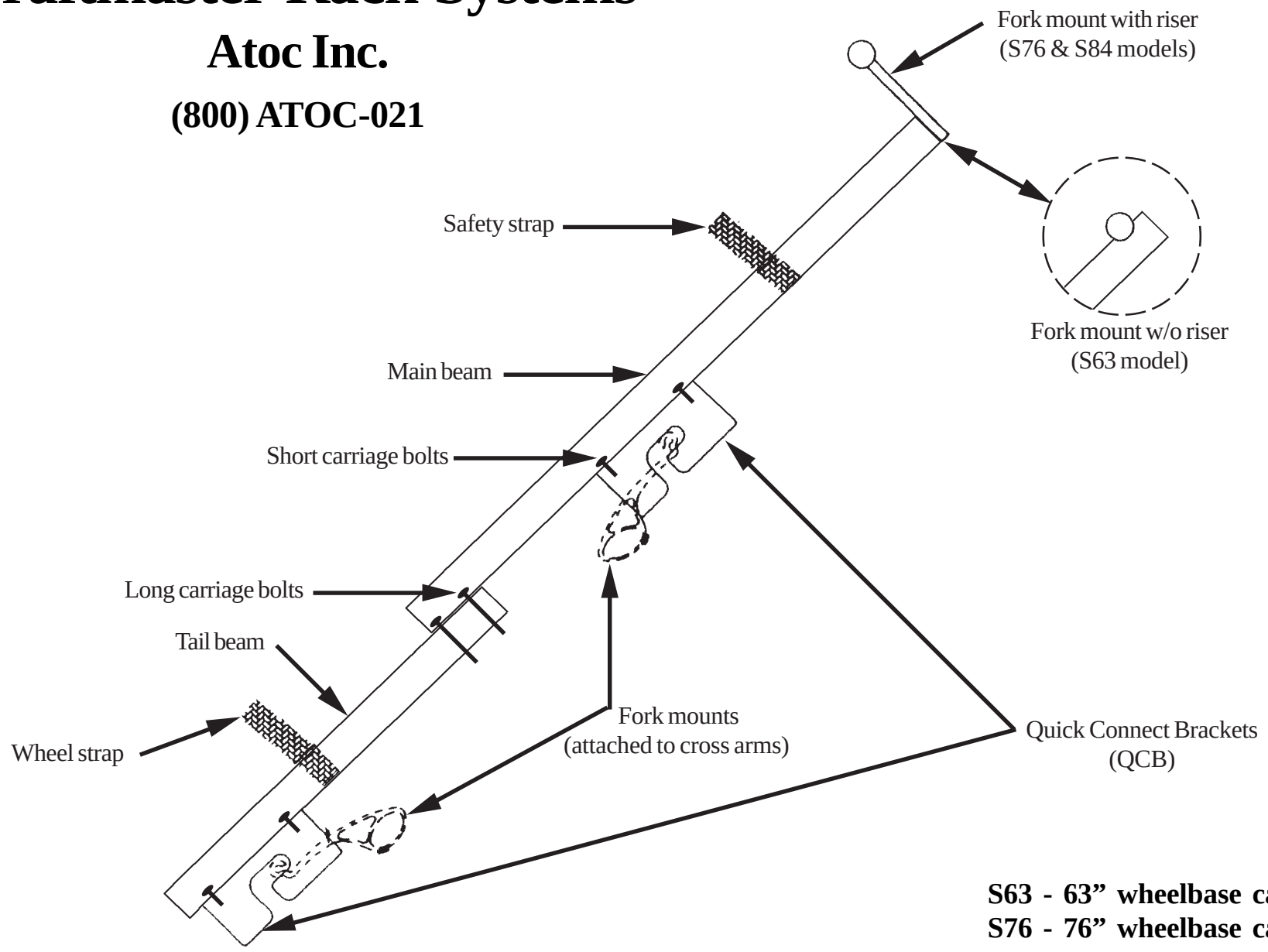

S63 - 63” wheelbase capacity
S76 - 76” wheelbase capacity
S84 - 84” wheelbase capacity

SPECIALTY RAIL

DraftMaster Specialty Rail Instruction Manual

S63, S76, & S84 models

Description	Quantity		
	S63	**S76**	**S84**
38 inch Main Beam w/o fork mount riser	1	-	-
50 inch Main Beam with fork mount riser	-	1	1
30 inch Tail Beam	1	1	-
38 inch Tail Beam	-	-	1
Quick Connect Brackets	2	2	2
Safety Strap Assembly (long)	1	1	1
Wheel Strap Assembly (short)	1	1	1
Quick Release Skewer	1	1	1
Carriage Bolt, short	8	8	8
Carriage Bolt, long	4	4	4
Washer	12	12	12
Nut, self-locking	12	12	12

Tools Required

½ inch or 13 mm wrench
tape measure
torque wrench (if you do not have a torque wrench note that 120 in-lbs of torque is equivalent to pushing on the end of a 12 inch lever (wrench) with 10 lbs of force)

Assembling Your Specialty Rail

NOTE: There are three slots on the back of the Specialty Rail beams. The center slot is not used here. Similarly, there may be extra holes on the centerline of the Quick Connect Brackets that are not used here.

1) Attach the Safety Strap to the Main Beam:

NOTE: The strap and bolt hardware is already assembled for you. You can remove the bolt from the strap before step A below if you prefer.

a) Insert the head of the Safety Strap's carriage bolt into either of the outer slots on the back of the Main Beam.
b) Position the bolt approximately 12 inches from the top (front) end of the beam.
c) Position the Safety Strap so that the buckle hangs over the side of the beam.
d) Tighten the nut until the strap is held firmly in place.

2) Attach the Upper Quick Connect Bracket to the Main Beam:

a) Insert 2 of the short carriage bolts in each of the outer slots on the back of the Main Beam. (4 bolts total)
b) Place a Quick Connect Bracket over the bolts with the open end of the side slots towards the bottom end of the beam.
c) Place a washer and nut on each bolt. Only tighten the nuts finger tight at this time.

3) Connect the Tail Beam to the Main Beam:

a) Insert 2 of the long carriage bolts in each of the outer slots on the back of the Main Beam. (4 bolts total)
b) Place the Tail Beam on the Main Beam by passing the long carriage bolts thru the holes in the Tail Beam.
c) Place a washer and nut on each bolt. Only tighten the nuts finger tight at this time.

4) Adjust the Specialty Rail to Fit Your Bicycle:

HINT: You can leave your Specialty Rail adjusted to its maximum length and skip to the next step; however, adjusting the Specialty Rail to fit your bicycle is simple and will make it easier to use when

mounting your bicycle.

a) Measure the axle-to-axle wheelbase of your bicycle. Be sure that the fork is pointed straight ahead when you take the measurement.
b) Add 2-4 inches (5-10 cm) (1 inch minimum) to your wheelbase measurement. This is the optimum length of your Specialty Rail.
c) Adjust the overlap of the Main and Tail Beams so that the overall length of your Specialty Rail matches the optimum length determined in the previous step.

5) Tighten the Beam Joint:

a) ***IMPORTANT: Make sure that the Tail Beam covers the minimum overlap mark on the back of the Main Beam.*** *The minimum overlap is 3.75 inches (9.5 cm). The shortest you should make your Specialty Rail is 1 inch longer than your bicycle's wheelbase. For example, if your wheelbase is 59 inches your Specialty Rail should be at least 60 inches long. If your bicycle is too long to fit your Specialty Rail contact your retailer or Atoc Inc. for further information.*

b) Tighten the nuts on the 4 connecting bolts to 120 in-lbs (13.5 N-m).

6) Attach the Wheel Strap and Lower Quick Connect Bracket to the Tail Beam:

a) Insert the head of the Wheel Strap's carriage bolt into either of the outboard slots on the back of the Tail Beam. Do not tighten the nut yet.
b) Insert 2 of the short carriage bolts in each of the outer slots on the back of the Tail Beam. (4 bolts total)
c) Place a Quick Connect Bracket over the bolts with the open end of the side slots towards the bottom end of the beam.
d) Place a washer and nut on each bolt.
e) Position the bracket 1 inch (2.5 cm) from the end of the Tail Beam and gently tighten 1 of the nuts closest to the bottom of the beam. This is only a temporary position.

HINT: The above assumes that you want to mount your Specialty Rail high on the Cross Arms to achieve maximum ground clearance. If your receiver hitch rides high enough above the ground you may want to lower your Specialty Rail by positioning the Quick Connect Brackets higher up on the Specialty Rail. If you do this you may also want to place the wheel strap below rather than above the bracket.

7) Position the Upper Quick Connect Bracket:

a) Position the upper Quick Connect Bracket 46 inches (116.8 cm) above the lower bracket. Be sure to measure from the same point on both brackets. On the upper bracket, gently tighten the two nuts closest to the top of the Specialty Rail.

8) Attach the Quick Release Skewer:

a) Read the safety and use instructions provided with the Quick Release Skewer.
b) Remove the nut from the Quick Release Skewer, pass the skewer thru the Specialty Rail's fork mount, and re-attach the nut.

Mounting Your Specialty Rail

9) Assemble the Cross Arms:

NOTE: If the Cross Arms on your hitch rack are already configured for a Specialty Rail skip to the next step.

a) Attach the fork mounts to your Cross Arms in the orientation shown in the illustration. You can position the fork mounts anywhere right-left along the Cross Arms as long as the fork mounts are vertically aligned with each other. Tighten the set screws on the fork mounts to secure them into position.
b) Attach the Cross Arms to the Interconnect.

10) Adjust the Position of Your Specialty Rail:

HINT: This step is best done with your vehicle on flat and level ground.

a) Mount the Specialty Rail to the Cross Arms by sliding the slots in the Quick Connect Brackets over the quick release skewers in the fork mounts on the Cross Arms. Close the quick release skewers to secure the Specialty Rail to the Cross Arms.
b) Press the Latch Pedal on the Interconnect and *gently* swing your Draftmaster system back and down. As you do, watch the bottom of the Specialty Rail and the long Upright (the vertical strut on the Interconnect). The system will stop when either the Specialty Rail touches the ground or the Upright bumps against the cushioned bolt.

c) Adjust the vertical position of your Specialty Rail on the Cross Arms so that the bottom of the Specialty Rail touches the ground just before the Upright bumps against the cushioned bolt.
d) IF THIS DRAFTMASTER WAS CONFIGURED FOR DELTA TRIKE MOUNTING: Measure the front-back wheelbase of your trike. Be sure that the fork is pointed straight ahead when you take the measurement. The distance from the Specialty Rail's quick release skewer to the lower Cross Arm should be about the same as your trike's wheelbase. Adjust the vertical position of your Specialty Rail as needed.
e) Loosen the nut on the *lower* Quick Connect Bracket that you temporarily tightened before and adjust the bracket so that it is fully seated on the skewer.
f) Gently tighten 2 of the nuts on each of the Quick Connect Brackets, then remove the Specialty Rail from the Cross Arms.
g) Tighten all of the nuts on both Quick Connect Brackets to 120 in-lbs (13.5 N-m).
h) Position the Wheel Strap about 6 inches (15 cm) from the end of the Specialty Rail and with the buckle hanging over the side of the beam. Tighten the nut until the strap is held firmly in place.
i) Remount your adjusted Specialty Rail to the Cross Arms as in step A above.

11) Final Fit Check:

a) Load your bicycle onto the Specialty Rail. Are the Wheel Strap and Safety Strap in a reasonable position? Will the handlebars and seats clear the adjacent bicycles? When your bicycle and Draftmaster are in the driving position is there enough ground clearance under your bicycle's rear wheel to clear driveways, speed bumps, etc.? Don't forget that your vehicle will ride lower when people are in it and that it may bounce lower when going over bumps. Are all of the nuts and bolts tight? Re-adjust as needed.

12) CONGRATULATIONS! YOU ARE DONE.

Using Your Specialty Rail

13) Loading:

a) Make sure your vehicle is parked in a safe area away from traffic.
b) With the Specialty Rail attached to your Cross Arms, press the Latch Pedal on the Interconnect and gently swing your Draftmaster system to the lowered position.
c) Remove the front wheel from your bicycle.
d) Do a "wheelie" with your bicycle and roll it up to the Specialty Rail. Secure the fork into the fork mount by closing the quick release skewer.
NOTE: Your bicycle's rear wheel will still be on the ground and away from the Specialty Rail.
e) Raise your Draftmaster system into the latched driving position by pushing forward and up on either your bicycle or the upper Cross Arm. You should hear the Latch Pedal click into place.
HINT: If the pegs on the short Upright do not move smoothly over the Latch Pedal, lubricate the contact surfaces on the pedal by rubbing it with candle wax.
f) Make sure that your bicycle's rear wheel is in the Specialty Rail's wheel tray. Pass the Wheel Strap through the wheel and secure the strap in the buckle.
g) Pass the Safety Strap thru your bicycle frame and secure the strap in the buckle.
h) Secure all other bicycles and tighten the Stability Straps.
i) Go for a drive!

14) Unloading:

a) Make sure your vehicle is parked in a safe area away from traffic.
b) Unloading your bicycle is simply the reverse of loading it.
c) Go for a bicycle ride!