Instruction Manual for 1416, 1616, 1420, and 1420-XL

(Part #s: 50-FC-1416, 50-FC-1616, 50-FC-1420, 50-FC-1420-XL)

Includes Rear Steering Kit Instructions for 1416, 1420, and 1420-XL

(Part #s: 30-50-1516; 30-50-1520; 30-50-1420-XL)
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>About AmTrykes®</td>
<td>1</td>
</tr>
<tr>
<td>About This Manual</td>
<td>1</td>
</tr>
<tr>
<td>Safety</td>
<td>2</td>
</tr>
<tr>
<td>Safe Riding Tips</td>
<td>2</td>
</tr>
<tr>
<td>Brakes</td>
<td>4</td>
</tr>
<tr>
<td>Shift Gears</td>
<td>4</td>
</tr>
<tr>
<td>Assembly Instructions</td>
<td>5</td>
</tr>
<tr>
<td>Getting Started</td>
<td>5</td>
</tr>
<tr>
<td>Frames</td>
<td>7</td>
</tr>
<tr>
<td>Wheels</td>
<td>9</td>
</tr>
<tr>
<td>Parking Brake</td>
<td>17</td>
</tr>
<tr>
<td>Handlebar</td>
<td>17</td>
</tr>
<tr>
<td>Seat</td>
<td>18</td>
</tr>
<tr>
<td>Pedals</td>
<td>20</td>
</tr>
<tr>
<td>Pedal Leveler Pulley</td>
<td>21</td>
</tr>
<tr>
<td>Basket</td>
<td>21</td>
</tr>
<tr>
<td>Steering Pin</td>
<td>22</td>
</tr>
<tr>
<td>Wheel Reflectors</td>
<td>22</td>
</tr>
<tr>
<td>Additional Assembly Instructions</td>
<td>23</td>
</tr>
<tr>
<td>Front Brake (Models 1416 and 1420)</td>
<td>23</td>
</tr>
<tr>
<td>Brake Lever and Cable</td>
<td>23</td>
</tr>
<tr>
<td>Brake Caliper</td>
<td>24</td>
</tr>
<tr>
<td>Brake Adjustment</td>
<td>25</td>
</tr>
<tr>
<td>3-Speed Model (1416 and 1420)</td>
<td>25</td>
</tr>
<tr>
<td>Rear Steering Bar with Hand Brake (Models 1516 and 1520)</td>
<td>27</td>
</tr>
<tr>
<td>Fitting AmTryke for Rider</td>
<td>31</td>
</tr>
<tr>
<td>Optional Accessories</td>
<td>32</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td>32</td>
</tr>
<tr>
<td>Maintenance</td>
<td>33</td>
</tr>
<tr>
<td>Wheels and Tires</td>
<td>33</td>
</tr>
<tr>
<td>Brakes</td>
<td>33</td>
</tr>
<tr>
<td>Chain</td>
<td>33</td>
</tr>
<tr>
<td>Maintenance Schedule</td>
<td>34</td>
</tr>
<tr>
<td>Warranty</td>
<td>35</td>
</tr>
<tr>
<td>Useful Information</td>
<td>35</td>
</tr>
<tr>
<td>AmTryke Therapeutic Tricycle Program</td>
<td>35</td>
</tr>
</tbody>
</table>

Revised: 12/16/2015
About AmTrykes®

AmTryke® therapeutic tricycles, owned and operated by National AMBUCS™ Inc., are designed for people with disabilities who are unable to operate a traditional bicycle. AmTryke tricycles or “trykes,” can be operated by feet, hands or both, and include a wide variety of models. The trykes can also be adjusted to fit the needs of different riders, including frame size, type of seat, trunk and leg supports.

ProSeries models 1416, 1616, 1420, and 1420-XL are positive drive trykes that provide full support to riders with low tone, or who need additional trunk support. Some of the features include a sliding seat post bracket, adjustable seat and seatback (up/down and in/out) and lateral supports with a chest strap. Telescoping handlebar allows flexible positioning, pedals can be expanded and foot positioning is also adjustable. These trykes also have a Parking brake that makes transfer of rider safe and easy and a safety steering pin for parental control.

Models also feature a front brake, which can be controlled by rider or caregiver. In addition, these models are available as a 3-speed version, which allows coasting. The 3-speed version is suitable for higher functioning children and adults. Riders must be able to make a complete pedal rotation on their own and they must also have the cognitive level and ability to steer successfully, apply the coaster brake and/or the hand brake.

Select models also feature a rear steering bar with hand brake. This feature allows parents or caregivers the ability to assist the rider.

All models can be adapted with several accessories. See Optional Accessories in this manual for more information. You can also visit our website for most up to date information at www.ambucs.org.

About This Manual

Read this manual carefully before assembling your tryke or using it for the first time. This manual includes important information about safety, assembly and maintenance. Keep this manual in a safe place for information and for ordering accessories/parts.

AMBUCS/AmTryke reserves the right to make changes to the design and technology of AmTrykes. The assembly instructions are accurate as of the date of this manual’s printing.

Revised: 12/16/2015
Safety

Safety is very important to us. AmTryke products are designed in accordance with the latest safety standards and are constantly monitored for quality. We use information from this quality control to develop our products.

We urge all riders to seek the opinion of their health-care provider(s) before riding their tryke.

AmTrykes should be used for their intended purpose only.

Safe Riding Tips

Before riding, familiarize yourself how the tryke operates—it’s steering, braking and shift gears (if applicable). Adjust the seat, handlebars and pedals to fit the rider. See Fitting AmTryke for Rider in this manual for more information.

Here are some tips about riding safety:

• AmTrykes should be used with close adult supervision.
• Riders must wear helmets. All our trykes include a free safety-rated helmet. The helmet must fit appropriately. A properly fitting helmet sits on the head comfortably—a helmet that sits high on the head is too small. Some movement is acceptable, but a helmet that moves a lot is too large. See the illustration below for reference:

**Correct Way to Wear Helmet**

<table>
<thead>
<tr>
<th>RIGHT</th>
<th>WRONG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wear the helmet flat atop your head, not tilted back at an angle.</td>
<td>Make sure the helmet fits snugly and doesn’t obstruct your vision. The chin strap should fit securely and the buckle stay fastened.</td>
</tr>
</tbody>
</table>

**NOTE:** Be careful not to pinch the skin when fastening helmet buckle.

For more information about finding the correct size helmet, see Helmet Sizing Chart on page 30.
• Riders must wear shoes. If shoes have laces, they must be tied properly.

**WARNING: NEVER ALLOW MORE THAN ONE RIDER ON AMTRYKE.**

• Most trykes are equipped with a steering pin and have three steering options available:
  o **Full steering**: No steering pin. This option allows riders to make sharp turns and is appropriate for riders who ride at slow speeds or in close quarters. Close adult supervision is required.
  o **Limited steering**: This option allows riders to turn 20 degrees in either direction, thus, reducing the risk of over-steering or tipping over.
  o **No steering**: This option allows for riding straight only. A supervising adult is required to turn the tryke.

• To avoid tipping the tryke over, approach wheelchair ramps or thresholds at a 90-degree angle.

**WARNING: DO NOT RIDE IN OR NEAR TRAFFIC, OR WHERE THERE IS A RISK OF FALLING OFF CURBS, STAIRS, POTHOLES OR OTHER HAZARDS.**

• Use caution on sloped parking lots, driveways and sidewalks. Avoid excess speed by having an adult restrain the tryke from behind on sloped surfaces. The trykes have many options for control features. Consult AmTryke to find out the best solution for your rider.

• Many riders do not have the motor skills required to be able to use the hand brake effectively.

**WARNING: DO NOT RESTRAIN TRYKE BY GRABBING HANDLEBARS OR HAND BRAKE — THIS MAY CAUSE IT TO TURN SHARPLY AND TIP OVER.**

• Depending on trunk stability, behavioral compliance and body awareness, some riders may need supports (e.g., lateral, head), belts (e.g. lap, shoulder), hip abductors or other specialized equipment. A physical therapist/health professional can assist you with any recommendations.

• Riders should only be allowed to ride trykes that are the appropriate size. If you are uncertain, refer to *AmTryke Sizing Charts* in this manual or contact a physical therapist.

• Before riding, always check that all tires are inflated properly.

• If parts are broken or missing, the tryke should not be used until repaired.

Revised: 12/16/2015

n:\amtryke\manuals and instructions - 2016\models\1416, 1420, 1420-xl\1416, 1616, 1420, 1420xl includes rear steering instructions.docx
**Brakes**

If your tryke has brakes (front or coaster brakes) be careful when using the brakes. Operate the brakes gradually. If your tryke has front brakes (front caliper brake or both front caliper brake and rear disk brake) squeeze the brake lever(s) gradually until you feel brake(s) working. The left brake lever operates the front caliper brake and the right lever operates the rear brake. To stop your tryke, use both brakes. It is advisable to start braking by operating the rear brake slightly before the front brake.

⚠️ **WARNING: BE CAREFUL WHEN OPERATING BRAKES. SUDDEN BRAKING MAY CAUSE TRYKE TO TIP OVER.**

**Shift Gears**

If your tryke has shift gears, use precaution when shifting gears. When shifting gears keep pedaling but reduce pedaling pressure. Do not try to change gears when pedals or wheels are not moving. Also, never change gears while back pedaling and do not force the gear shifter when changing gears.

⚠️ **CAUTION: USE CAUTION WHEN SHIFTING GEARS.**
Assembly Instructions

Refer to the following instructions on how to assemble your tryke. Study the instructions carefully before beginning assembly and follow the sequence shown in the instructions.

**NOTE: AmTryke must be assembled by an adult.**

Be careful when assembling your tryke. Make sure that your working area is free of possible sources of danger, such as tools lying around.

**WARNING: THERE IS ALWAYS A DANGER OF INJURY WHEN WORKING WITH TOOLS OR DOING MANUAL WORK.**

Always dispose of packaging material properly. Do not let children play with plastic bags.

**WARNING: THERE IS A RISK OF SUFFOCATION WITH PLASTIC BAGS. KEEP PLASTIC BAGS AWAY FROM CHILDREN.**

When assembling your tryke, bolt all parts together loosely at first and check that they have been put together correctly. Tighten locknuts by hand until snug, and then use proper tools to tighten nuts completely.

**CAUTION: CHECK THAT ALL SCREWS HAVE BEEN SECURELY TIGHTENED BEFORE USING YOUR TRYKE.**

Getting Started

Your AmTryke is shipped in parts. Carefully remove and lay out all parts from the carton so that you don’t scratch or lose any parts or pieces. Check that you have all the necessary parts. If any parts are missing, please call us at 1-888-AMTRYKE for assistance.

Remove packaging material and discard. Refer to the following picture to identify different parts:
Your tryke also includes the following hardware/small parts:

- Knobs (3)
- Safety pin
- Brake noodle (1416, 1420)
- Brake cable boot (1416, 1420)
- Basket screws (2)
- Steering pin

1416, 1420, 1516 & 1520 parts
You need the following tools for assembly (too see a picture different tools, see page 31):

**TOOLS REQUIRED:**
- 5 and 6 mm Allen wrench (incl.)
- 10 mm wrench/socket
- 14 and 15 mm wrench (incl.)
- 22 mm socket or adjustable wrench
- Quick release wrench (incl.)
- #2 Phillips head screwdriver

**Frames**

Start assembling your tryke by first attaching the main and rear frames together:

**Step 1:** Slide the main frame onto the rear frame.

**Step 2:** Insert the safety pin through both sections.
Step 3: Install the frame knob by turning it clockwise ½ a turn at a time. Picture shot above the underside of tryke.

NOTE: The frame knob is spring-loaded. Once it is threaded into the frame, pull the knob out to rotate it backward without loosening it. You can then tighten it further.
Rear Steering 1500 Kit - optional
Available on ProSeries 1416, 1420, and 1420-XL Amtrykes
(Part #: 30-50-1516; 30-50-1520; 30-50-1420-XL)

1. Install Rear Disc Brake Rotor and Disc Caliper on the left rear wheel axle of the main frame. The left side is determined from the perspective of riding the tryke.
   a.) Turn axle until the oblong oval slot in the axle faces upwards
   b.) IMPORTANT: Insert 15mm Key Way into the slot in the axle
   c.) Slide on the disc brake rotor (with screw opening on the hub to the outside) until it is flush with rear frame. There is a notch in the rotor that will allow it to slide over the Key Way is no longer visible.

⚠️ Please skip this section if not installing rear steering option
2. Install the 3mm set screw through rotor using a 3mm Allen wrench, tighten securely.

3. Install rear wheels (do not use the 22mm silver spacer tube on the left side axle if you are installing the rear steering kit).
4. Install front wheel (see assembly manual).
5. Install Disc Brake Caliper.
a.) Flip the bike upside down. It is easier to install the disc brake caliper and steering control arm support plate from the bottom.
b.) Insure brake pads slide smoothly over brake rotor or disk.

c.) Put in black bolts with 5mm Allen wrench. Hint: tighten the rear bolt first as it will touch the bracket. Then tighten the front bolt until the brake is secure. Be sure both sides of the brake bracket contacts the red rear axle tube evenly.
d.) Test the rear axle rotation. It should spin easily without binding.

6. Install Disc Brake Caliper.
   a.) Use two (2) of the 15mm hex screws provided in the parts bag to install the chrome support plate in the center of the rear tryke frame. The groove in the plate should be on the left side of the tryke when upright.
   b.) While you have the tryke upside down. Loosen the two (2) screws holding the black basket plate on the main frame. Do not remove—just loosen!
7. Install Disc Brake Caliper.
   a.) Be sure to loosen the two (2) screws holding the basket plate to the bottom rear of the main frame first. Just loosen, do not remove.
   b.) It is important that all the screws and bolts be loosely installed at first. This will allow you to line up all the holes and get the screws started easily. The final step is to tighten all bolts and screws.
   c.) Flip tryke right side up.
   d.) Remove silver basket bracket, screws and washers from the black basket plate and save them for later.

   e.) Flip tryke upside down again.
   f.) Slide on red rear steering bracket until the holes line up. The silver push bar brackets should be below and the black steering linkage should be on top (when tryke is upside down) for easy installation. The bottom side (with tryke upside down) of the red bracket must rest between tryke frame and black basket plate.
   g.) Install two (2) of the 15mm hex head screws but do not tighten yet.
   h.) Flip tryke over so it is now right side up
   i.) Now you can install the basket and top of the red rear steering assembly. The red bracket goes on top of the rear frame holes and underneath the black basket plate.
   j.) Position the basket and loosely install the Phillips head screw in the rear center hole. Do not tighten yet.
   k.) Place two (2) washers over the bracket holes.
   l.) Lay the silver basket bracket over the basket and center over the two sets of washers. Re-install the 25mm hex head screws and one washer through the silver bars. Get all bolts and screws started by hand first. Once all are correctly installed; and started, you can tighten the whole assembly.

Revised: 12/16/2015
8. Install Steering Control Arm
   a.) For Model 1420-XL—Connect the two red steering control arm sections by using the two small Allen bolts followed by locknuts as seen in first picture (1420-XL Version Only!). Please skip to step B if you are working on a 1416 or 1420 tryke.
   
   b.) Screw red steering control arm into black steering linkage at rear of tryke and tighten all the way. Then, unscrew it one rotation to allow adjustments.
   
   c.) Note: This is the straight end. The curved end of the red linkage bar goes at the front and attaches to the front fork.
d.) **Important Step:** Attach the red steering control arm to the silver steering control arm support plate. The Allen screw is already installed on the steering control arm support plate inside a plastic bushing. Use the 5mm Allen wrench to fully tighten into the steering control arm.

e.) Flip tryke right side up.

f.) Remove black plastic cap from tab/stud/ shaft on the left upper fork and discard.

g.) Slide steering rod bushing over tad/stud/ shaft at the front of the tryke.
9. Install Rear Steering Bar
   a.) Note: Very important—the steering bar must be inserted fully into the
       cinch collar—the minimum insertion lines must be down inside the
       collar. If not installed correctly you risk breaking the steering bar.

   b.) Once the steering bar is fully inserted—align with front wheel for
       straight ahead position—then tighten the two 5mm Allen screws on
       the cinch collar.
Wheels

Before you begin to install the wheels, inflate the tires to proper pressure – 35 psi. Start with the back wheels, make sure tire tread direction indicated on sidewall:

**Step 1:** Remove nuts and washers from both sides of the rear axle and slide back wheels onto the axle.

**Step 2:** Replace washers and nuts on both sides. Use a 22 mm socket or adjustable wrench to tighten.

**Step 3:** Place a cover onto the axle nut. Press firmly and lightly tap with the palm of your hand.

**CAUTION:** DO NOT OVER TIGHTEN NUTS; BEARINGS WILL BE DAMAGED. Spin wheels, if there is drag, loosen wheel nut ¼ turn.

Follow these steps to install the front wheel:

d.) Loosen nuts on both sides of the wheel axle and slide the front fork onto the axle.

**NOTE:** Safety washers go on the outside of fork. The serrated tooth side of the washer installs against the red fork blade.

e.) Tighten nuts and washers securely using a 15 mm wrench or socket.

**NOTE:** Make sure the wheel is centered between the blades of the fork.
Parking Brake

Parking brake is used to help transition rider on/off the tryke safely and easily. To install it:

1. Remove the two Allen bolts from the brake’s extension tube.
2. Place the extension tube over the right rear axle so that the handle is pointing toward the front of tryke.
   NOTE: Make sure the handle is in the down position and over the tire.
3. Install the two Allen bolts up through the attached fender bracket on the axle and turn them clockwise into the extension tube.
   NOTE: The tube angles slightly outward to position the brake over the tire. Be sure the foot of the bracket is fully on top of the red axle tube.
4. Tighten the two Allen head screws from the bottom.

WARNING: DO NOT USE PARKING BRAKE FOR BRAKING. DOING SO MAY CAUSE SERIOUS INJURY.

Handlebar

Handlebar is installed by first placing the handlebar stem into the front fork steering tube.

CAUTION: PAY CLOSE ATTENTION TO MAXIMUM HEIGHT LINE. HASH MARKS SHOULD BE COMPLETELY INSIDE FRONT FORK TUBE.
When the stem is securely tightened, remove the two 6 mm Allen bolts from the handlebar clamp (see image below). Insert the handlebar with the quick release levers oriented up and replace the handlebar clamp. Tighten the bolts.

**NOTE:** The levers are spring-loaded. Once engaged, pull out the levers to rotate them backward without loosening the screw. Repeat until you have the seat post bracket fully tightened.

**TIP:** Use the quick release wrench to easily tighten quick release levers.

---

**Seat**

Seat assembly consists of a seat post bracket, saddle seat and seat post. Start by installing the seat post bracket onto the rear frame:

1. Unscrew the two levers (counterclockwise) from the clamping plate, place the seat post bracket onto the frame and the clamping plate onto the bottom of the frame with the two levers going through the plate.
2. Screw (clockwise) to secure.

**NOTE:** Seat clamps should be tightened equally from both sides. Do not tighten one side only.

3. Place the seat with seat post into the seat post bracket and tighten the seat clamps with a 14 mm wrench or socket (see photo on the next page).

4. Loosen the seat back securing knob (on the bottom corner of the seat post) and insert the seat back into the seat post. Tighten the knob securely.

Revised: 12/16/2015

n:\amtryke\manuals and instructions - 2016\models\1416, 1420, 1420-xl\1416, 1616, 1420, 1420xl includes rear steering instructions.docx
5. Insert lateral support T-bars into the seat back so that quick release levers are facing outward and behind the seat post.

6. Insert the lateral supports into the T-bars and tighten the levers.

NOTE: Make sure that the seat back can slide up and down the assembly. Position it where desired and tighten with the two knobs on the back.

NOTE: Lateral supports are grooved on the bottom and slide into supports.
7. Use the seat securing knob to adjust the height of the seat for your rider. Pull on the knob and adjust so that the pin pops into one of the holes in the seat post. Hand tighten the knob securely.

**TIP:** It is not necessary to remove the seat securing knob; just loosen and pull to release the pin for adjustments.

### Pedals

**TIP:** Pedals and pedal cranks are labeled “R” (right) and “L” (left).

Pedals are mounted onto the pedal cranks. The right pedal tightens clockwise and the left counterclockwise. Hand thread until you are certain that they are threaded properly and then use a 15 mm wrench to tighten securely.

**TIP:** Pedal threads tighten toward front of bike.

**CAUTION:** BE CAREFUL WHEN THREADING PEDALS. DO NOT FORCE. PEDALS THREAD EASILY WHEN INSTALLED PROPERLY.

The size of the pedals can be adjusted (from 7 to 10 inches) as well as the position of the pedals over the pedal cranks. To adjust the pedal size, unscrew the wing nuts on the pedal, adjust the length and screw the wing nuts back to the pedal.

**TIP:** Use the quick release wrench’s slotted end to easily loosen and tighten wing nuts.
**Pedal Leveler Pulley**

Install the pedal leveler pulley by turning it clockwise into the front hole of the black basket plate on the rear frame. Insert the pedal leveler cord through each pedal and tie a knot in one end of the cord to hold in place.

![Pedal leveler pulley](image1)

![Pedal leveler cord](image2)

**Basket**

Start installing the basket by removing the Allen bolts and washers from both ends of the black plate.

1. Place the basket on the plate and align the holes. Insert two Phillips head screws and tighten.
2. Place a metal brace in the basket so that it aligns with the two holes that you removed the Allen bolts from.
3. Put the two Allen bolts through the metal basket brace and rear frame, and tighten with a 6 mm Allen wrench.

![Basket plate](image3)

![Basket assembly](image4)
Steering Pin

If needed, insert the steering pin into the front fork tube from the side. Attach the adhesive hook strip to the frame to keep the pin secure from loss. Three steering positions are available:

- Top position: Locks steering straight.
- Lower position: Limits steering to 20 degrees in either direction.
- No pin: Free steering.

Jiggle the front wheel assembly as you push the pin into the hole and through the other side of the fork tube. The pin should insert all the way to the split ring to be correctly seated.

NOTE: You may find it desirable to limit steering so the rider can concentrate on learning the pedal motion first.

Wheel Reflectors

To install the wheel reflectors, place them in an area on the rim behind a single spoke with two spokes on the opposite side. Align the spoke with the slot in the reflector and insert the reflector holding pin with the slotted end going over the spoke into the hole in the reflector. Press firmly until you hear it click into place.

This is the end of basic assembly instructions for all models in this manual. See Additional Assembly Instructions for instructions that vary by model.
Additional Assembly Instructions

Select models also feature a front brake and are available as a 3-speed model. Refer to following instructions on how to install these additional parts.

Front Brake (Models 1416, 1420, 1420-XL)

The front brake caliper is already installed but you need to install a brake lever onto the handlebar and connect the brake cable to it (the cable is already attached to the frame) and attach the cable to the brake caliper.

TOOLS REQUIRED:
- 5 mm Allen wrench

Brake Lever and Cable

The brake lever has a button on it with a spring underneath it. The brake lever should be installed so that the button is on the top side and hand grip points to the outside of the tryke:

1. Slide the brake lever over one side of the handlebar until just before the curved portion of the handlebar. Adjust the lever to a comfortable position.
2. Tighten the brake lever clamp securely with a 5 mm Allen wrench so that it cannot slide.

To attach the brake cable to the brake lever, follow these steps:

Step 1: Turn the Ferrule so that its slot and the slot in the locking nut align.

Step 2: Pull in on the lever and pull out the cable barrel arm.
Brake Caliper

To install the cable to the brake caliper, follow these instructions:

1. Thread the cable through the large end of the cable noodle.
2. Slide the cable noodle through the slot in the caliper control arm.
3. Slide the rubber boot over the cable and onto the cable noodle.
4. Use a 5 mm Allen wrench to loosen the anchor bolt on the caliper arm and put the cable between the thick washer and caliper arm.

Step 3: Insert the cable barrel into the cable barrel arm.

Step 4: Slide the cable through the slots of the ferrule and locking nut, then turn the locking nut and ferrule 180 degrees from each other.
Brake Adjustment

To adjust the brakes, follow these instructions:

1. Squeeze the top of the caliper arms with your hand until the brake pads lightly touch the rim.
2. While squeezing the caliper arms, tighten the anchor bolt with a 5 mm Allen wrench. Once the anchor bolt is tight, you can release the caliper arms.
3. Pull the brake lever in and hold it while trying to push the bike. If you are unable to move the bike easily, then the brakes are set correctly. If you are able to push the bike then you will need to adjust the brakes more.

If you need to adjust them more, follow these steps:

1. Loosen the lock nut on the brake lever by turning it to the left (counterclockwise).
2. Loosen the Ferrule by turning it to the left two complete turns.
3. Tighten the locking nut by turning it to the right (clockwise).
4. Test the brakes to see if they hold – if they do then you are finished. If the brakes do not hold and the bike still moves freely repeat step 1.
5. When you are satisfied with the brakes, pull the brake lever in all the way ten times to make sure the cable is not going to slip.

3-Speed Model (1416 and 1420)

Models 1416 and 1420 are also available as a 3-speed version, which is suitable for higher functioning children and adults. This version features a 3-speed internal hub and coaster brakes.

The 3-speed model has the following additional parts:
To install the 3-speed shift mechanism, follow the steps below:

1. Insert the shifter pin into the rear hub.

2. Slide the shift mechanism over the hub bolt and firmly hold in place while tightening the set screw with a 5 mm Allen wrench.

3. Install the combination shift control and brake lever on the handlebar. Use a 5 mm Allen wrench to tighten.

**NOTE:** The hand brake lever can be removed from the shift control and mounted on the handlebar.

**NOTE:** The shift control can be mounted on the handlebar or the parking brake stem.

**TOOLS REQUIRED:**
- 5 mm Allen wrench
Rear Steering Bar with Hand Brake

To install the rear steering bar, follow the instructions below:

**TOOLS REQUIRED:**
- 5 mm Allen wrench

There is a steering knuckle (tie rod end) at the rear of the tryke (see the picture below).

1. Install the long steering control arm into the steering knuckle by turning it clockwise. Rotate the arm to its farthest back position.

On the underside of the tryke, there is a steering control arm support plate.

2. Attach the plate to the steering control arm using the screw pre-installed in the black plastic bushing. With the control arm rotated to the back, the screw will be positioned behind the rear axle. Screw it into the control arm and tighten using a 5 mm Allen wrench.
3. Remove the black knob on the left side of the fork and put the other end of the steering control arm onto the shaft. Replace the knob and tighten.
4. Remove the rear steering bar securing knob and insert the rear steering bar. Align the holes of the bar and the control arm, and replace the knob.

The hand brake is preinstalled to the rear steering bar but you need to attach the hand brake cable to it. Follow these steps:

Step 1: Turn the Ferrule so that the slot in it and the locking nut align.

Step 2: Pull in on the lever and pull out the cable barrel arm.

Step 3: Insert the cable barrel into the cable barrel arm.

Step 4: Slide the cable through the slots of Ferrule and locking nut, then turn the locking nut and Ferrule 180 degrees from each other.
Step 5: Feed cable through eyelets on the steering bar.

Step 6: Loosen a 5 mm cable securing bolt on the rear disc brake.

Step 7: Feed the cable through the eyelet on the rear disc brake and then into the cable securing bolt. Pull all slack out of the cable and while holding the cable tight, tighten the 5 mm cable securing bolt.
Fitting AmTryke for Rider

The ProSeries models **1416, 1420, 1420-XL, 1516** and **1520** can be adapted to different types of riders. See the information below for quick reference on rider size requirements:

<table>
<thead>
<tr>
<th>1416 and 1516</th>
<th>1420, 1520 and 1420-XL*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rider’s height: Max. 60 inches</td>
<td>Rider’s height: Max. 72 inches 76*</td>
</tr>
<tr>
<td>Arm length 14-22 inches</td>
<td>Arm length 18-28 inches 20-32*</td>
</tr>
<tr>
<td>Leg length 24-32 inches</td>
<td>Leg length 27-35 inches 28-43*</td>
</tr>
<tr>
<td><strong>Maximum weight: 175lbs</strong></td>
<td><strong>Maximum weight: 250lbs &amp; 275lbs</strong></td>
</tr>
</tbody>
</table>

For more information on how to measure rider’s size correctly, refer to *Rider’s measurements* graphic on page 30.

Follow these instruction to adjust the tryke for the rider:

1. **Engage the parking brake.**
2. **Adjust the seat height.** Start with the seat post in the lowest position and adjust upward if needed. Tighten the seat securing knob.
3. **Slide the seat post bracket forward/back.** Rider’s knees should be slightly bent when legs are extended. Tighten the levers securely.
4. **Adjust the seat back and lateral supports to suit the rider.** Tighten the levers securely.
5. **Adjust the handlebar (up/down, forward/back).**
6. **Adjust the pedals to fit the rider’s feet and secure the straps.**
7. **Adjust the lateral support, chest straps and seat belt.**

If you need further adjustments, see *Optional Accessories* on the next page for different options.

**NOTE:** You may need assistance while fitting the tryke.
Optional Accessories

Most AmTryke models can be adapted with a variety of seating options and accessories, so that most riders can feel safe and secure. See the table below for accessories available for 1416, 1420, 1516 and 1520:

<table>
<thead>
<tr>
<th>OPTIONAL ACCESSORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bucket seat (1416, 1516)</td>
</tr>
<tr>
<td>High rise handlebars</td>
</tr>
<tr>
<td>Bench seat</td>
</tr>
<tr>
<td>Foot cups</td>
</tr>
<tr>
<td>Tractor seat</td>
</tr>
<tr>
<td>Pedal blocks</td>
</tr>
<tr>
<td>R10 degree seat post</td>
</tr>
<tr>
<td>Exercise pedals</td>
</tr>
<tr>
<td>1400 lumbar pad</td>
</tr>
<tr>
<td>Knee separator</td>
</tr>
<tr>
<td>1400 full padded back</td>
</tr>
<tr>
<td>Knee adductor positioning straps</td>
</tr>
<tr>
<td>H-harness</td>
</tr>
<tr>
<td>Push bar</td>
</tr>
<tr>
<td>1400 headrest</td>
</tr>
<tr>
<td>Safety flag</td>
</tr>
<tr>
<td>Wrist wrap</td>
</tr>
<tr>
<td>License plate</td>
</tr>
<tr>
<td>Wrist brace holding mitt</td>
</tr>
</tbody>
</table>

For a complete and updated list of available accessories, please visit our website at www.ambucs.org.

Troubleshooting

Here are some common troubleshooting issues with answers.

**Pedals/handles will not thread into crank arms.**

Check to make sure that the right pedal is used on the right side and the left pedal is used on the left side.

**Rear wheels make noise.**

Axle nut(s) is too tight. You need to loosen it slightly.

**Brakes squeal or rub against the rim/tire.**

Brakes are adjusted too tight. Readjust.

For any issues not answered here, please call AmTryke at 1-888-AMTRYKE or email us at amtryke@ambucs.org.
Maintenance

Maintenance is important to help keep your AmTryke in good working order for years to come. This section includes some general maintenance tips.

Wheels and Tires

Wobbly wheels cut braking power, so keep all wheels running true. Wheels can lose alignment over time when spokes stretch. Wheel alignment takes special tools and know-how, so have this done by a professional/bike shop.

Proper tire pressure is also very important. If tire pressure is too low, it can cause a flat and rolling resistance, and if tire pressure is too high, it can cause a tube to blow out. Keep tires inflated to the pressure marked on the tire. Correct pressure assures longest tire life. Repair tube punctures with a self-adhesive patch, follow instructions that came with the repair kit.

Brakes

Brake shoes wear out so inspect them at least every six months. Make sure that they are properly aligned on the wheel rim for maximum braking power. Make adjustments if necessary.

It is best to let a professional to replace brake shoes. If you, however, decide to replace them yourself, remove the old brake shoes and install new shoes in the brake arm. Tighten the brake shoe clamp bolt.

Chain

Clean the chain at least every six months, more often if you have been riding your tryke over sand and dirt, or through water and mud.

You do not have to remove the chain for cleaning. You may clean the chain with an environmentally safe chain cleaning product and brush. If you use a solvent (such as kerosene) then remove the chain (with a chain rivet tool) and immerse it in the solvent to avoid spilling/staining, particularly on the tires or brake shoes.

Before riding your tryke, always check that it is in proper working order. Check that all quick release lock levers, nuts and bolts are properly tightened, and that tires are properly inflated.
## Maintenance Schedule

Follow this maintenance schedule to keep your AmTryke in safe operating condition.

<table>
<thead>
<tr>
<th>PART</th>
<th>TO DO LIST</th>
<th>WHEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>All handlebar bolts</td>
<td>Check tightness</td>
<td>Every 4 months</td>
</tr>
<tr>
<td>Brake cables</td>
<td>Check for slack, frayed cable</td>
<td>Every 6 months</td>
</tr>
<tr>
<td>Brake arms</td>
<td>Check mounting bolt tightness</td>
<td>Every 6 months</td>
</tr>
<tr>
<td>Brake levers</td>
<td>Check tightness on handlebars</td>
<td>Every 6 months</td>
</tr>
<tr>
<td>Brake shoes</td>
<td>Inspect for wear, alignment</td>
<td>Every 6 months</td>
</tr>
<tr>
<td>Chain</td>
<td>Check for wear, clean, relube or tension</td>
<td>Every 6 months</td>
</tr>
<tr>
<td>Pedals</td>
<td>Check tightness</td>
<td>Every 9 months</td>
</tr>
<tr>
<td>Rear axle nuts</td>
<td>Check tightness</td>
<td>Every 4 months</td>
</tr>
<tr>
<td>Tires</td>
<td>Check tire pressure</td>
<td>Weekly</td>
</tr>
<tr>
<td>Wheel alignment</td>
<td>Check wheels for out of trueness</td>
<td>Every 6 months</td>
</tr>
<tr>
<td>Seat post</td>
<td>Check tightness of levers</td>
<td>Weekly</td>
</tr>
<tr>
<td>Seat</td>
<td>Check tightness</td>
<td>Monthly</td>
</tr>
</tbody>
</table>
Warranty

All AmTrykes come with a three-year residential warranty and one-year institutional warranty. The warranty begins with the date of purchase by the consumer. Address all warranty questions to AmTryke LLC, P.O. Box 5127, High Point, NC 27262; 1-800-838-1845.

THIS LIMITED WARRANTY IS THE ONLY EXPRESS OR LIMITED WARRANTY APPLICABLE TO AMTRYKE LLC. THE LIMITED WARRANTY SET FORTH HEREIN MAY NOT BE EXTENDED, ENLARGED OR OTHERWISE MODIFIED BY ANY AMTRYKE DEALER, AGENT OR EMPLOYEE, AND AMTRYKE DOES NOT ASSUME ANY LIABILITY OR MAKE ANY WARRANTY EXCEPT AS STATED IN THIS LIMITED WARRANTY.

PARTS: AmTryke will repair or replace, at its option, defective parts for this tryke at no charge, for a period of one year after the date of original purchase. Parts subject to normal wear and tear, including tires, tubes, seat, pedals and handgrips are not covered by this one year period. Parts subject to normal wear and tear, found to be defective by the purchaser within 30 days of purchase, including tires, tubes, seat, pedals and grips, will be replaced by AmTryke at no charge. This warranty does not include dealer service charges for parts replacement or shipping charges to or from AmTryke.

FRAME: All AmTryke frames and forks are guaranteed to be free from defects in materials and workmanship for a period of three years from the date of original purchase. A frame or fork found defective in materials or workmanship will be repaired or replaced at AmTryke’s option.

Useful Information

AmTryke LLC, owned and operated by National AMBUCS Inc., a national nonprofit service organization, was established in 1994. It is dedicated to creating mobility and independence for people with disabilities.

AMBUCS has provided over 16,000 AmTrykes to riders across the United States. AMBUCS chapters fundraise and provide trykes for people with financial need. Riders must be evaluated by a physical or occupational therapist to be eligible.

AmTryke Therapeutic Tricycle Program

The AmTryke Therapeutic Tricycle Program is about abilities, not disabilities. The program’s goal is to provide people with disabilities the opportunity to ride bikes. AmTryke has designed a wide range of models suitable for many diagnoses at low cost.

AmTryke builds foot and hand trykes, and combination hand/foot driven trykes. To ensure a proper fit, AmTryke can be adapted in many ways, including frame size, type of seat, trunk and leg support. As a therapeutic

Revised: 12/16/2015
tricycle, AmTrykes help children improve motor skills and provide strength training. They are fun to ride and offer the opportunity for inclusive play. For adults, AmTrykes provide a new form of mobility, exercise and freedom to explore the community.

For therapists the trykes provide an age appropriate, safe, dynamic modality for improving balance, coordination and strength. The trykes can build endurance, self-confidence and provide another form of self-mobility aside from the assistive device that the person may routinely use (i.e., wheelchair, crutches, walker). The multiple adjustments and accessories of the trykes make them a valuable addition to the medical therapy units’ repertoire of therapeutic devices.

For parents and families the use of AmTryke fulfills the need of every child to have a bike. All children deserve a chance to have a bike just like their siblings and friends. Given a safe, stable platform, many riders, not previously considered, can ride just like their peers. AmTrykes are designed to look like bikes, not medical equipment, and to be age appropriate.

The AmTryke Road Trip brings the equipment to rehabs, clinics and therapy centers. Training or in-services are offered to teach therapists about the AmTryke program. These are often combined with bike days so families can bring their riders and receive free evaluations for AmTrykes.

Donations

National AMBUCS Inc. supports the AmTryke Therapeutic Tricycle Program through charitable contributions. Please help another child have the same joy your child is experiencing by becoming a Friend of AMBUCS. Your contribution of $25 or more will be used with other donations to buy a child on our Wish List an AmTryke. All contributions are tax deductible. For more information, contact:

AMBUCS Resource Center
P.O. Box 5127
High Point, NC 27262
1-888-AMTRYKE, Ext. 113
ambucs@ambucs.org
www.ambucs.org

Returns and Refunds

No goods may be returned for credit without prior authorization from AmTryke and items must be sent back within 30 days. AmTryke will not be responsible for errors on size or other specifications when you order by telephone.

If you need to return merchandise for exchange or credit, disassemble the item and pack it carefully in the original container to protect it from damage, and

Revised: 12/16/2015
insure the shipment. Credit cannot be issued if merchandise is damaged in return. Claims for damages or shortages must be made within five days of receiving the merchandise.

**Please note:** If there is extensive damage to an item upon delivery, call AMBUCS Resource Center at 1-888-268-7953 ext. 114, 8:30 a.m.-5 p.m. EST Monday – Friday.

The address for UPS, FEDEX is:

**AMBUCS Resource Center**
**4285 Regency Drive**
**Greensboro NC 27410**

After inspecting the returned merchandise, we will reimburse the purchase price of the item, less original shipping costs. You can expect a refund in the same form of payment originally used for purchase within 30 business days of our receiving the items. A restocking fee of $50.00 is charged for returned goods. You will be refunded the shipping cost if the return is a result of our error. For any questions, call us at 1-888-AMTRYKE or send email to amtryke@ambucs.org.

**AmTryke Sizing Charts**

Refer to the following charts for guidance on appropriate sizes for AmTrykes and helmets. See *Rider’s measurements* on the next page for guidance on how the length is measured.

[www.ambucs.org/?s=sizing+chart](http://www.ambucs.org/?s=sizing+chart)