

**AM-12/AM-16 Hand & Foot Trykes**

**AmTryke Therapeutic Trykes**

#50-HFC-0210; #50-HFC-0411



Revised: 12/23/2015

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# Contents

|   |                              |
|---|------------------------------|
| About AmTrykes® .....                       | 1                            |
| About This Manual .....                     | 1                            |
| Safety .....                                | 2                            |
| Safe Riding Tips .....                      | 2                            |
| Brakes .....                                | 3                            |
| Shift Gears .....                           | 4                            |
| Assembly Instructions .....                 | 5                            |
| Getting Started .....                       | 5                            |
| Front Wheel .....                           | 7                            |
| Adjusting Front End (AM-12 and AM-16) ..... | 8                            |
| Frames .....                                | 8                            |
| Back Wheels .....                           | 9                            |
| Loading Brake .....                         | 9                            |
| Seat .....                                  | 10                           |
| Pedals and Hand Cranks .....                | 12                           |
| Steering Pin .....                          | 12                           |
| Fitting AmTryke for Rider .....             | 13                           |
| Optional Accessories .....                  | 14                           |
| Troubleshooting .....                       | 14                           |
| Maintenance .....                           | 15                           |
| Wheels and Tires .....                      | 15                           |
| Brakes .....                                | 15                           |
| Chain .....                                 | 15                           |
| Maintenance Schedule .....                  | 16                           |
| Warranty .....                              | Error! Bookmark not defined. |
| Useful Information .....                    | Error! Bookmark not defined. |
| AmTryke Therapeutic Tricycle Program .....  | Error! Bookmark not defined. |
| Donations .....                             | Error! Bookmark not defined. |
| Returns .....                               | Error! Bookmark not defined. |
| Refunds .....                               | Error! Bookmark not defined. |
| AmTryke Sizing Charts .....                 | 17                           |
| Tools .....                                 | 17                           |

## 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.

AmTryke's **AM-12S**, **AM-12** and **AM-16** therapeutic tricycles have been designed to build strength and coordination for a wide range of children with disabilities. These trykes feature a continuous chain mechanism for hand/foot movement and adjustable seating (up/down and forward/back). Foot plates feature a heel trap, with toe and instep strap, to secure rider's feet to pedals. A loading brake makes transfer of rider safe and easy. These trykes also have a safety steering pin for parental control.

All AM models can also be converted to a hand cycle with the installation of a permanent foot platform. Foot cups and pedal blocks can be added on the platform for lower extremity support.

**AM-12** and **AM-16** also feature a hinged front end with three positions for adjustable hand crank/foot crank seat alignment.

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](http://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.

# 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.

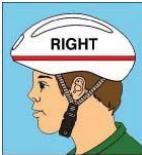
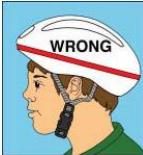
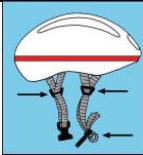
AmTrykes should be used for their intended purpose only.

## 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* section 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   |   |
|--|---|
|    |   |
| <p>Wear the helmet flat atop your head, not tilted back at an angle.</p>   |   |
|   |  |
| <p>Make sure the helmet fits snugly and doesn't obstruct your vision. The chin strap should fit securely and the buckle stay fastened.</p> |   |

**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 21.

GRAPHIC COURTESY OF BUDDY BIKE LLC

- 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:
  - **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.
  - **Limited steering:** This option allows riders to turn 20 degrees in either direction, thus, reducing the risk of over-steering or tipping over.
  - **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.

## 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 lock nuts by hand until snug; then use proper tools to tighten nuts completely.



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

## Getting Started

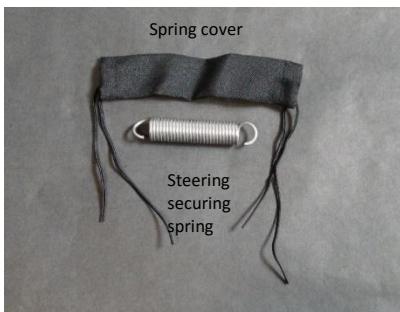
Your AmTryke is shipped in parts. Carefully remove and lay out all parts from the carton so that you don't scratch or lose any parts or pieces. Check that you have all the necessary parts. If any parts are missing, please call us at 1-888-AMTRYKE for assistance.

Remove packaging material and discard. See the following picture to identify different parts (model **AM-12S** has a different seat):



**AM-12 and AM-16 parts**

Your AmTryke also includes the following small parts not shown in the photo above:



**Additional small parts**

You need the following tools for assembly (to see a picture of different tools, see page 22):

**TOOLS REQUIRED:**

- 4 mm Allen wrench
- 10 mm wrench/socket
- 14 and 15 mm wrench (incl.)
- 22 mm socket or adjustable wrench
- Quick release wrench (incl.)
- Screwdriver/pliers

## Front Wheel

Start assembling your tryke by first attaching the front wheel assembly to the main frame. Choose which of the three front wheel positions your rider will best fit rider (vertical or middle position, or wheel fully extended).

**NOTE: AM-12S** does not have a hinged front end.

To attach the front wheel assembly:

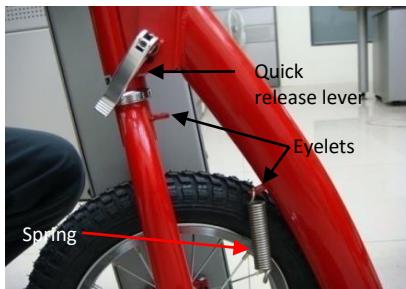
1. Install the lower quick release lever to one of the holes and a thumb nut on the opposite side.

**NOTE:** Chain guard is on the right side of tryke.

2. Next, put one end of the steering centering spring on the eyelet on the main frame and slide a protective cover over the spring.
3. Use a long screwdriver, pliers or small pry bar to attach the other end of the spring to the eyelet on the front fork as shown.

**NOTE:** This can be difficult and requires some strength.

4. Insert the upper quick release lever and thumb nut on the opposite side. Push levers down flat against the frame.



Steps 1 and 2



Step 3



Step 4

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

5. Install the protective hinge wrap over the levers.

**NOTE:** Make sure that the wrap is tightly closed to cover the levers and nuts properly.

**CAUTION: HINGE WRAP MUST BE INSTALLED BEFORE RIDING.**



Step 5

## Adjusting Front End (AM-12 and AM-16)

If you need to adjust the angle of the hinged front end, follow these steps:

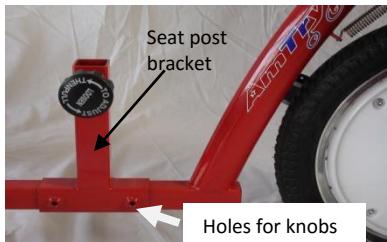
1. Put the left pedal to the lowest position.
2. Remove the pin that limits steering if pin is installed (Head Tube).
3. Turn the front wheel to the left so that the chain guard is facing straight ahead.
4. Remove the lower quick release lever and adjust the position.

## Frames

To attach the main and rear frames together, follow these steps:

1. Slide the seat post bracket onto the main frame.

**NOTE:** Be sure that the holes for the seat post knobs are on the right side of the tryke.



2. Put the two frame knobs into the holes.

**NOTE:** Do not completely tighten the knobs until you adjust the tryke for rider's size.



3. Slide the rear frame onto the main frame.

**NOTE:** Loading brake is on the right side of tryke.

Main and rear frames attached

4. Attach two quick release levers with black plastic washers in the two holes on the rear frame. Add nuts to the other side and tighten securely.



**CAUTION: MAKE SURE QUICK RELEASE LEVERS ARE FULLY TIGHTENED AND DO NOT WOBBLE. TIGHTEN NUT UNTIL SNUG, THEN PUSH LEVERS DOWN UNTIL FLAT AGAINST FRAME.**



Quick release levers

## Back Wheels

To install the back wheels, slide them onto the axle. Install a washer and nut and tighten securely with a 22 mm socket or adjustable wrench.



**CAUTION: DO NOT OVER TIGHTEN WHEEL NUTS. BEARINGS MAY BE DAMAGED.**



Back wheel with nut and washer

**NOTE:** Air inflation valve faces the inside of tryke.

Then, put white plastic nut caps over axel nuts.



Back wheel with nut cover



**CAUTION: MAKE SURE THAT BACK WHEELS ARE FULLY TIGHTENED BEFORE RIDING.**

## Parking Brake

Parking brake is used to help transition rider on/off the tryke safely and easily. To install it, slide it onto the loading brake tube on the rear frame (right side).

**NOTE:** Top of the parking brake should be flush with the top of tube.



### Loading brake (pictured from front)

Check that the lever does not touch the tire and that the handle is in line with the tire and points toward the front of tryke. Tighten the nuts with a 10 mm wrench.

**⚠ CAUTION: ALWAYS ENGAGE PARKING BRAKE WHEN TRANSFERRING RIDER ON/OFF TRYKE.**

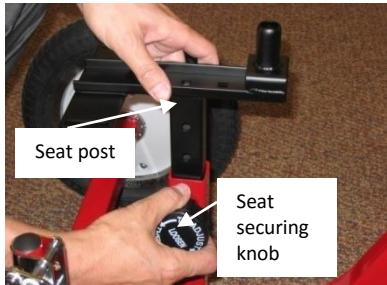
**⚠ WARNING: DO NOT USE PARKING BRAKE FOR BRAKING. DOING SO MAY CAUSE SERIOUS INJURY.**

## Seat

Start seat assembly by installing the seat post:

1. Screw the seat securing knob into hole until the spring locking pin is visible inside the tube.
2. Pull on the knob and drop in seat post. Choose one of four seat height positions. The locking pin will snap into place. Tighten the knob.

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



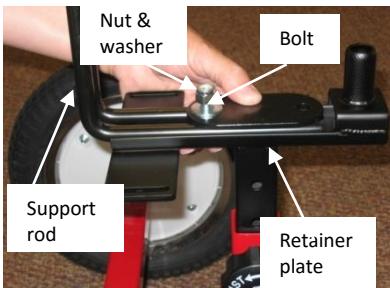
Seat post (for models AM-12 and AM-16 pictured)

**⚠ CAUTION: SPRING LOADED KNOB MUST BE PROPERLY PLACED AND TIGHTENED BEFORE RIDING.**

Next, install the seat back support rod:

1. Install a 9 /16-inch bolt either from bottom or top of bracket.
2. Slide the seat back rod onto the bracket.
3. Place the black retainer plate onto the bolt and add washer and nut. Tighten with 14 mm wrench or socket. Repeat with second bolt.

**NOTE:** Do not over tighten. Final adjustments will be made when the rider is on the bike.



Seat assembly (bolt installed from underside of bracket shown)



**⚠ WARNING: ADJUST AND FULLY TIGHTEN SEAT AND SEAT BACK FOR RIDER BEFORE RIDING TO AVOID INJURY.**

Models **AM-12** and **AM-16** feature a saddle seat (If your model is **AM-12S**, see instructions after these):

1. Install the saddle seat onto the seat post.

**NOTE:** Be sure the seat is fully seated onto the post.

2. Align the seat with the front of tryke and tilt to preferred position. Tighten the seat clamp equally on both sides with a 14 mm wrench.
3. Install the lap strap by threading it through slots in the bracket at the back of seat post assembly.



To install snappy seat (**AM-12S**), place the seat on top of the seat post and align the holes in the seat post with the holes in the seat. Use a 4 mm Allen wrench to tighten screws.

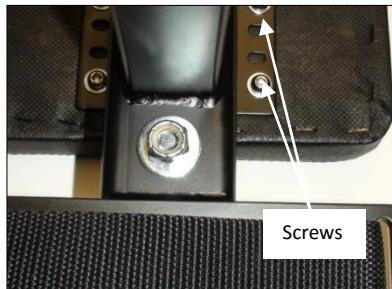
To install the seat back onto the seat back support rod:

1. Remove the two knobs and washers from the seat back.

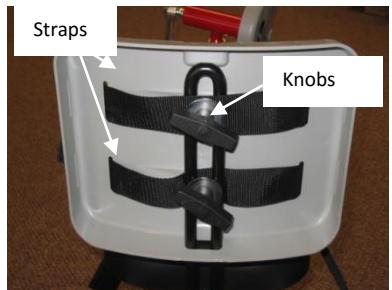
**NOTE:** The slot at the bottom of the seat back fits over the support rod. The screws fit through the seat back and the slot between the rods.

2. Add the larger fender washer and tighten the knob. Choose whichever slots best fits the rider.

**NOTE:** Straps thread through the back of seat back.



Snappy seat pictured from underside



Seat back

## Pedals and Hand Cranks

**TIP:** Pedals and pedal/hand cranks are labeled "R" (right) and "L" (left). Left is Counterclockwise; Right Clockwise

Hand thread until you are certain that the pedals/hand cranks are threaded properly. Use a 15 mm wrench to tighten.

**TIP:** Pedals/hand cranks tighten toward the front of tryke.



Foot pedal



Hand crank

## Steering Pin

If needed, install the steering pin with a loop strap into one of the two holes in the head tube of the front fork. 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. Pin should insert all the way to the split ring to be correctly seated.



Steering pin

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

# Fitting AmTryke for Rider

AM models have been designed for children of various sizes. See the information below for quick reference on rider requirements:

## AM-12S

**Rider's height: Max. 40 inches**

Arm length 12-14.5 inches

Leg length 16-20 inches

**Maximum weight: 150 lbs**

## AM-12

**Rider's height: Max. 47 inches**

Arm length 14-18 inches

Leg length 17-27 inches

**Maximum weight: 150 lbs**

## AM-16

**Rider's height: Max. 66 inches**

Arm length 18-26 inches

Leg length 24-32 inches

**Maximum weight: 175 lbs**

For more information on how to measure rider's size correctly, see *Rider's measurements* graphic on page 21.

Follow these instruction to fit your child properly:

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

1. Engage the parking brake.
2. To adjust the seat height, start with the seat post in the lowest position and adjust upward if needed. Tighten the seat securing knob securely.
3. Adjust the seat back up or down for the best support of your child's trunk. Tighten the seat back knobs.
4. Slide the seat post assembly forward/back to suit your child's needs. When his/her feet are on the pedals, the knees should be slightly bent. Tighten the seat post levers securely.
5. Adjust the front end (**AM-12** and **AM-16** have a hinged front end).
6. Adjust the lap, chest and pedal straps.

If you need to adjust the tryke more, see *Optional Accessories* on the next page for different options.

## 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 **AM-12S**, **AM-12** and **AM-16**:

| OPTIONAL ACCESSORIES                             |                                 |
|--|---------------------------------|
| <b>Snappy seat system (AM-12 and AM12S only)</b> | Brachial plexus kit             |
| <b>Bench seat</b>                                | Foot cups                       |
| <b>Tractor seat (AM-16 only)</b>                 | Pedal blocks                    |
| <b>1400 seatback system</b>                      | Exercise pedals                 |
| <b>1400 lumbar pad</b>                           | Expanding pedals                |
| <b>1400 head rest</b>                            | AM foot platform                |
| <b>1400 Full padded back</b>                     | Knee separator                  |
| <b>Full padded back</b>                          | Knee adductor positioning strap |
| <b>Hand straps</b>                               | Push bar                        |
| <b>Wrist wraps</b>                               | Safety flag                     |
| <b>Wrist brace holding mitts</b>                 | License plate                   |
| <b>Vertical hand grips</b>                       | H-harness                       |

For a complete and updated list of available accessories, please visit our website at [www.ambucs.org](http://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.*

***Chain is loose or makes noise.***

*Chain tensioner needs to be adjusted.*

***Rear of bike is wobbly.***

*Spacers and quick release levers are not installed correctly.*

# **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.

| MAINTENANCE SCHEDULE |  |                |
|----------------------|--|----------------|
| PART                 | TO DO LIST                               | WHEN           |
| All handlebar bolts  | Check tightness                          | Every 4 months |
| Brake cables         | Check for slack, frayed cable            | Every 6 months |
| Brake arms           | Check mounting bolt tightness            | Every 6 months |
| Brake levers         | Check tightness on handlebars            | Every 6 months |
| Brake shoes          | Inspect for wear, alignment              | Every 6 months |
| Chain                | Check for wear, clean, relube or tension | Every 6 months |
| Pedals               | Check tightness                          | Every 9 months |
| Rear axle nuts       | Check tightness                          | Every 4 months |
| Tires                | Check tire pressure                      | Weekly         |
| Wheel alignment      | Check wheels for out of trueness         | Every 6 months |
| Seat post            | Check tightness of levers                | Weekly         |
| Seat                 | Check tightness                          | Monthly        |

[amtryke@ambucs.org](mailto:amtryke@ambucs.org).

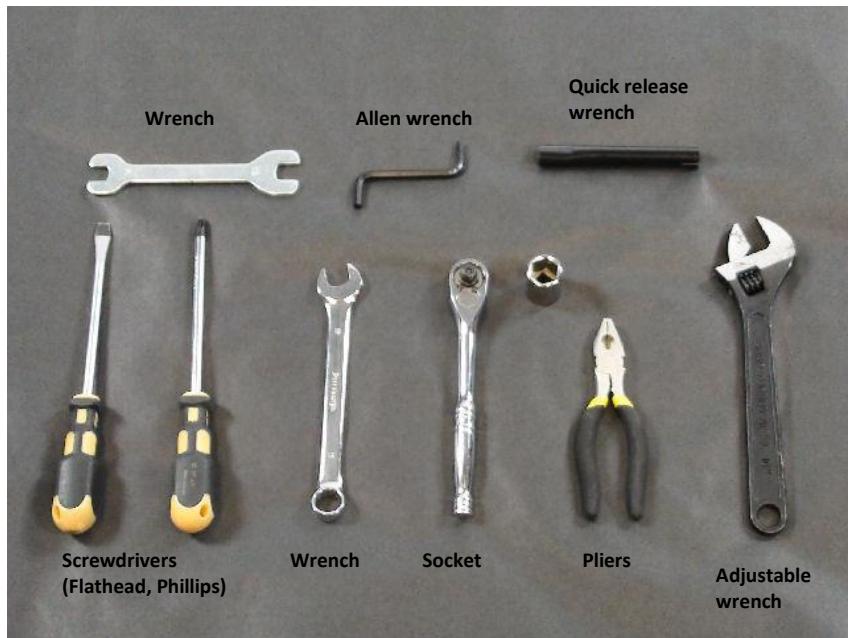
## AmTryke Sizing Charts

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.

<http://www.ambucs.org/?s=sizing+chart>

## Tools

Refer to the photo below to identify different tools:



Tools (top row tools are included with your AmTryke)