

Worksman WTC4X4 Quadricycle - Assembly Manual and Parts List

Worksman Cycles . PO Box 170732 . Ozone Park, NY 11417 (888) 3-WHEELER . www.worksmancycles.com

Manual # 4X419

Model WTC4X4



Thank you for choosing your Worksman 4X4 Quadricycle. Your new Worksman business cycle is an American-made work vehicle with over 120 years of heavy duty, cargo-lugging experience in hundreds of industries around the world! Worksman Industrial Cycles are incredibly durable and, with proper maintenance, will lead to decades of reliable service.

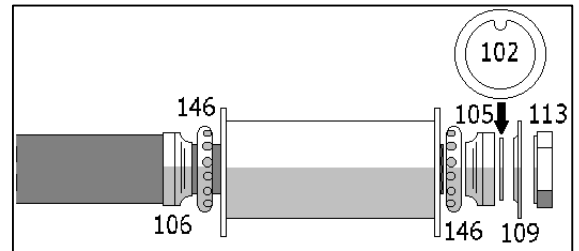
Since we use heavy-duty components, and not standard bicycle parts, it is important that only Worksman factory replacement parts be used when repairing your cycle. Ride safely, and follow the rules of the road.

This manual will assist you in assembling the cycle and identifying proper parts when they need repair or replacement. **Assembly should always be performed by a qualified mechanic.** If you have any further questions, feel free to call our customer service department. (Shown here w/ custom side rails, fenders, and 3 speed upgrade.)

ASSEMBLY INSTRUCTIONS: These instructions are predominately for the front end of the cycle. Read them fully prior to assembly. The rear chassis is mostly assembled already with the exception of the seat and the pedals. You will need a socket set, a flat-head screwdriver, Phillips screwdriver, pliers, an adjustable wrench, and grease.

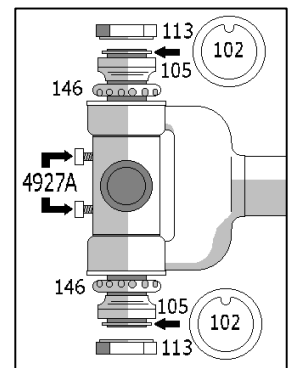
Attaching Front Wheels to Axle: (See illustration.)

- 1) Grease the wheel hub cups (103) using bicycle bearing grease. (Vaseline consistency.)
- 2) Insert one bearing (146) onto axle so that the balls of the bearings are facing the wheel hub cup. Place wheel onto the axle. Place second bearing onto the axle so that the balls face the cup of the wheel.
- 3) Thread on the outside adjusting cone (105). (Note: Left-hand thread!) Hand-tighten using a punch, ice pick, or small Phillips head screwdriver. After hand tightening back off a ¼ turn.
- 4) Install key washer (102) and dust washer (109).
- 5) Install left hand lock nut (113). Thread down and tighten fully. Wheels should spin freely without any wobble left to right or up and down. If too tight or too loose, readjust adjusting cone.



Attaching Axle to the Frame: (See illustration.)

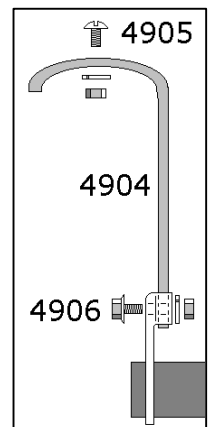
- 1) Remove the top nut (113), adjusting cone (105), and washer (102) from the head spindle assembly, which is shipped in the head lug of the frame. The spindle will drop out through the bottom of the head lug.
- 2) Position the center of the axle into the front portion of the frame with the spring-mounting plates facing up and spindle set-screws (already installed) facing forward.
- 3) Re-insert the spindle with the two flat spots on the spindle facing the set-screws.
- 4) Tighten the set-screws against the flat spots on the spindle, thus holding the axle firmly in place.
- 5) Re-install bearing (146), adjusting cone (105), keywasher (102), and locknut (113) as shown.



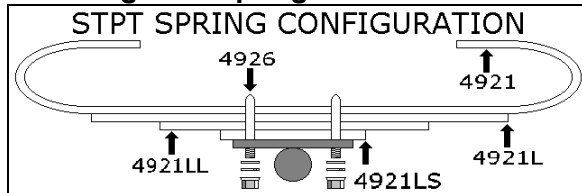
Fender Installation: (Fenders are optional. See illustration.)

If your cycle is equipped with fenders (4902A) for the front wheels, the axle will have a three pronged wing on each side upon which the individual L-shaped steel fender braces (4904) are to be attached.

- 1) Using ¼ x ¾ HEX head bolts, lockwashers (shown), and serrated nuts (4906), attach brace to wing.
- 2) Place fenders over the top of the braces, align holes, and use ¼ x ½ ROUND head slotted screws on top of fender and the lockwashers and nuts (4905) on bottom.



Mounting Leaf Springs to Axle:



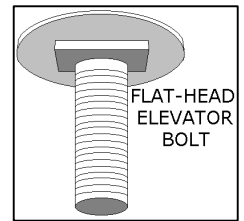
- 1) Position one short 4+spring spacer (4921LS) on the axle plate.
- 2) Place the 4921LL (9+) and 4921L (17+) spring spacers on top of the short 4+spacer.
- 3) Place the leaf spring with the curve facing UP on top of the spacers, centering it on the axle.
- 4) Using both of the $\frac{1}{2}$ +bolts provided, clamp the spring and spacers through the axle plate and tighten. Be sure to put a lockwasher between the flat washer and the serrated hex nut.
- 5) Repeat for other side of axle.

Attaching Platform or Cabinet to Leaf Springs:

NOTE: Make sure handlebar mount holes on platform or cabinet are facing the rear of the cycle.

Platform

- 1) Place platform onto springs, lining up the holes in the platform with the holes in the open springs.
- 2) Insert FLATHEAD elevator bolts through the platform and tighten using the flat washer, lockwasher, and serrated hex nut . in that order.
- 3) Tighten to pull bolt square through hole in platform to lock in place.



Cabinet

For front cabinets, elevator bolts are already mounted through the undercarriage. The 2x4 wood strips, which protect these bolts, must be removed BEFORE positioning the cabinet onto the springs.

Mounting the Handlebars: Position handlebar, lining up the holes in handlebar with the holes in the platform or cabinet. Insert 5/16+X $\frac{3}{4}$ +ROUND-HEAD bolts and hardware provided.

Install Pedals: Pedals are marked "R" or "L" on the threaded end of the pedal. Attempts to install the pedals on the wrong side or tighten in the wrong direction will damage the threads and will NOT be warranted.

- 1) Slightly grease pedal threads prior to attaching to crankarms.
- 2) Install $\frac{1}{2}$ R+pedal on right side and tighten CLOCKWISE.
- 3) Install $\frac{1}{2}$ L+pedal on left side and tighten COUNTER-CLOCKWISE.



Install Seat and Seatpost:

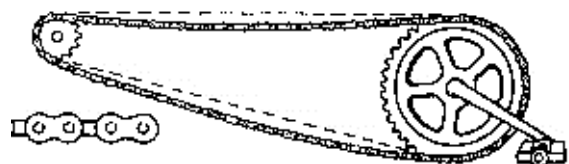
- 1) Insert seatpost into seat clamp on bottom of seat. Do not tighten yet.
- 2) Install seatpost into frame. Do not tighten yet.
- 3) Adjust angle of seat with nose raised slightly. Tighten seat clamp bolt securely. (240 IN. LBS.)
- 4) Adjust the seat height to your desired level. Make sure a minimum of 3 1/2+of the post remains in the frame tube. Never adjust post above this level, which is marked on the seat post.
- 5) Tighten seat tube clamp at top of seat tube.

MAINTENANCE TIPS:

Always inspect your Worksman Cycle to ensure that all nuts, bolts, screws and hardware are tight and that no parts are worn or damaged. Do not attempt to straighten bent frames.

Chain:

Lubricate chains once a month or as needed with bicycle chain lubricant. Replace sprockets when teeth become worn, bent or broken. Keep chains adjusted so there is no more than 3/8+slack. Note that we leave the chains tight at the factory, as we do know they will stretch during the break-in period. Lubricate crank parts every six months. Replace pedals when the surface is worn or if axle becomes $\frac{1}{2}$ ight+or frozen.



Coaster Brake (if applicable):

FRONT LOAD CYCLES ARE INTENDED FOR FLAT AREAS. BECAUSE FRONT LOADERS HAVE ONLY A REAR BRAKE, USE CAUTION WHEN GOING DOWN SLIGHT GRADES, AND KEEP LIGHT PRESSURE ON THE BRAKE TO AVOID BUILDING UP TOO MUCH SPEED.

Foot-activated coaster brakes are reliable and easy to use. To activate the brake, reverse the pedaling motion until the brake engages. To avoid skidding and maintain control, apply care when braking. This is especially true on wet surfaces. Apply brakes gently, gradually increasing pressure. Replace coaster brakes when they become worn. Check chain tension regularly. Coaster brake hubs may make a vibrating noise under braking when new until they are broken in. For three-speed units, pause pedaling to help mesh gears. (Let the cycle coast.) This will make shifts smoother and will reduce wear and tear on the hub. Do not shift when pedals are not moving as damage could occur.

Tires:

Always check for worn or damaged tires. We recommend 40 PSI as proper level of inflation. Replace or repair tubes that show leaks.

LIMITED WARRANTY:

This cycle is warranted against faulty parts under the following conditions: this warranty does not cover any failure due to accident, abuse, misuse, neglect or as the result of normal wear and tear, or improper assembly. The entire frame, including all welded joints, is warranted to be free from defects and material for one year while in possession of the original purchaser. All other parts on this cycle, except tires and tubes, are warranted for ninety days from the date of purchase. Repair and replacement of these parts is to be according to the Worksmen cycles parts and service procedures and must be handled directly through the source where the cycle was purchased. If upon examination of the parts in question, the Worksmen Cycle dealer determines that it is defective, either repair or replacement will be made at no cost except the cost of transportation and labor charges (if any). Unauthorized repairs or replacement automatically voids warranty. Proper maintenance is required for warranty to be valid. In the event that it was determined that the warranty claim is the result of misuse, abuse, improper maintenance or simply not defective or beyond the warranty period, Worksmen Cycles or the dealer will advise you as to the cost of repair, replacement or labor prior to performing any work or replacing any parts. If you choose not to have the dealer or Worksmen Cycles perform the work, the parts will be returned to you at your expense or discarded if no reply is received within two weeks of notification. The sole responsibility of the manufacturer to the terms of this warranty, if any, shall be the repair and/or replacement of the parts as indicated above. The liability of the manufacturer shall in no event exceed the original purchase price of the product, and the manufacturer shall not be responsible for any consequential damages of any nature, including, but not by way of limitation, damages for personal injury or property. This statement constitutes the exclusive expression of warranties by the manufacturer and is in lieu of any or all other warranties such as expressed warranties, implied warranties, including but not limited to warranties of merchantability, and fitness or purpose, are limited in duration for one year from the date of purchase of the frame only and 90 days for all other parts, except tires and tubes which are not warranted. Worksmen Trading Corporation is the manufacturer. Misuse of the cycles including off road riding, installation of motors or power assists, alterations, repairs using parts other than genuine Worksmen Cycle parts voids warranty. Worksmen Trading Corporation is not responsible for maintaining records of serial numbers. Void where prohibited by state law.

WORKSMAN CYCLES ACCESSORIES: Worksmen offers a complete line of accessories for added safety and customization. If your Worksmen Front-Load Business Cycle is to be used outdoors, reflectors are recommended and may be required by law.

PART #	DESCRIPTION	WHY SHOULD YOU GET IT?
P2	Ding-Dong Warning Bell	Alerts others to your presence with a loud, crisp sound.
P3	Squeeze Bulb Horn	Alerts others to your presence with a loud honking noise.
P4	Vinyl Covered Cable w/ Padlock	Prevents / deters cycle theft. Secures cycle components.
P5	Chrome Rear View Mirror	Allows riders to see behind themselves for better safety.
P6	Reflector Kit for Tricycles	Lets others see cycle from all directions. Increases safety.
P7	Headlight (Battery Operated)	Lights area ahead and allows others to see cycle coming.
P8	Safety Flag on Pole (Bright Orange)	Increases height of visibility. Allows others to see cycle.
P18	LED Light Pedals - Glowspeck	Flashing pedals – w/o batteries! Very bright & safe!
P19	Bicycle Helmet (Adult)	Provides added safety. (May be required by law.)
101710	Flashing Strobe Light (Clear)	Increases cycle visibility.
101714	Flashing Strobe Light (Red)	Increases cycle visibility. (May be required by law.)
3973	Mega Horn (Super-Loud Battery Operated)	Alerts others with a 105-dB electronic sound.
1000	Tool-Spoke Tightening Wrench	Adjust spokes as needed.
1001	Tool-Pedal Wrench	Makes Pedal Installation and removal convenient.
1006	Air Pump (for tire inflation)	Keep tires properly inflated for best ride characteristics.
1265TW	Tool-Crank Cone Wrench	Makes crank cone adjustment more convenient.
2000	Tool-Chain Rivet Remover	Makes chain removal and repairs convenient.
3961	Cup Holder (Tube or basket mounted)	Holds cans, bottles, and mugs with handles!



Mega-Horn



Head Light



Flashing Light

PLEASE CALL OR EMAIL FOR PRICING FOR ALL PARTS AND ACCESSORIES!

888-3-WHEELER / 718-322-2000 / EMAIL: CYCLES@WORKSMAN.COM

WORKSMAN 4X4 QUADRICYCLE - REPLACEMENT PARTS LIST: (WTC4X4)

FRONT AXLE & FREE-WHEEL PARTS		CRANK PARTS	
4918A	Axle: STPT: 37½+(w/ opt fender wings)	7217	Pedals (pair)
4927A	Bolt . Square head for axle spindle	1265	Crank parts set (1266,1268,1269,1271,1272,1273,1274)
131	Front wheel parts set to attach wheels (2-105,2-102,2-109,2-113,2-146)	1266	Crank bearings (pair)
4937	Head lug spindle	1267D	Crank assembly . COMPLETE (1265,1275,1380D)
4937A	Head lug spindle w/ attachment parts (1-4937,2-105,2-102,2-113,2-146)	1268	Ball cups
102	Key washer (for free wheels, spindle)	1269	Inside stationary washer
103	Wheel cups (pressed into hub)	1271	Key washer (for cranks)
105	Adjusting cone	1272	Adjusting cone . Outside
106	Stationary cone (pressed on axle)	1273	Stationary cone . Inside
109	Dust washer	1274	Outside locknut
113	Axle locknut (left-hand thread)	1275	Crank (6 ½+)
146	Wheel bearings (pair)	1380D	36 tooth front sprocket
		1380F	32 tooth front sprocket
		1380H	28 tooth front sprocket
COASTER BRAKE HUB AND PARTS		FENDERS AND BRACES	
301	Coaster brake hub . Shimano E110		Fender (Chrome)
404N	Coaster brake hub - 3 speed w/ shifter & cable	4902A	Front Braces for front fender (set of 3)
SS721	Coaster brake (Shimano E110) internal parts	4904	Rear Fender %Wing+Mounting Bracket
SS148	Coaster brake sprocket (22T. Shimano)	92	Bolt/nut/washer (to mount fender to brace)
SS12N-DEL	Shifter Trigger and Cable for Nexus	4905	Bolt/nut/washer (to mount brace to wing)
SS-5R	Shimano Non-Turn Washer (Yellow)	4906	Front fender set w/ hardware (complete)
4915	Chain Adjuster w/ hardware (each)	FSFL	Rear fender set w/ hardware (complete)
		AD20	
WHEELS AND RELATED PARTS		FRAME & FRONT-END PARTS	
1008A	Wheel: Front/Free-Side w/o tire & tube		Frame
1008	Wheel: Front/Free-Side w/ tire & tube	49004X4	Leaf Springs (each)
1008S	Wheel: Front/Free-Side w/ solid tire	4921	U-bolt w /nut, washers for 4921
1008KVPR	Wheel: Front/Free-Side w/ Kevlar tire/PR tube	4926	Elevator bolt, nut, washers
8132SA	Wheel: Mag Front/Free-Side w/o tire & tube	4125	Spacer leafs springs (4+- STPT)
8132	Wheel: Mag Front/Free-Side w/ tire & tube	4921LS	Spacer leafs springs (9+- STPT)
8132S	Wheel: Mag Front/Free-Side w/ solid tire	4921LL	Spacer leafs springs (17+- STPT)
8132KVPR	Wheel: Mag Front/Free-Side w/ Kevlar/PR	4921L	Handlebar for cabinet models
1009A	Wheel: Drive-Side w/o tire & tube	4929	Handlebar for platform models
1009	Wheel: Drive-Side w/ tire & tube	4931	Handlebar bolt/nut/washer set
1009S	Wheel: Drive-Side w/ solid tire	4935	Platform . STPT . 38+x 26+x 3+
1009KVPR	Wheel: Drive-Side w/ Kevlar tire/PR tube	3927STPT	Cabinet . (42-Lx23-Wx25-H - Call for Ice Cream boxes.)
8133SA	Wheel: Mag Drive-Side w/o tire & tube	3927T	Chainguard (Black resin)
8133	Wheel: Mag Drive-Side w/ tire & tube	4910P-BLK	Reflector Kit (Front, rear, 4 wheels) (Optional)
8133KVPR	Wheel: Mag Drive-Side w/ KV tire & PR tube	5030Q	
8133S	Wheel: Mag Drive-Side w/ solid tire		
101	Hub (Hub only . front/free side)		
3980	Hub for Drive Side Wheel		
1015	Rim ONLY: 20x2.125+Clincher . Chrome	58A	REAR AXLE & DRIVE WHEEL PARTS
1014E	Spokes (7 3/16+, 11 Gauge, .120+)	91	Rear Axle (31 ½+, Square Drive)
1017A	Rim Strip	91A	Pillow Block Bearings (each)
		69	Bolt, Nut, Washer for 91 Bearing
		62B	Fixed Drive Sprocket (7/8+)
		62C	Set screw for 69
		130	Keyway for Rear Sprocket
		59A	Axle Parts Set (102,105,109,113,146,59A,93D)
		93	Locknut - Drive Side
			Spacer Washer - Inside for Drive Wheel
TUBES ARE TIRES		CHAINS	
4922	Tire . 20+front		Chain Connecting Link (1/2x3/16+)
4922KV	Tire . 20+front . Kevlar	4914C	Chain (Long for 32T)
4923	Tube . 20+front	4914F	Chain (Long for 36T)
6023	Tube . 20+front . Puncture Resistant	4914EE	Chain (Short)
4938A	Tire . 20+front - SOLID		
SEAT, SEATPOST, AND RELATED PARTS			
4912V	Seat (10+wide w/ springs . standard)		
6911V	Seat (13+wide w/ springs . optional)		
4908B	Seatpost (7/8+x .984" x 15")		
7913A-V	Seat clamp (under seat)		
REAR CABINETS & BASKETS			
3927	Rear Cabinet (22x15x16+)		
7227-P	Rear Flat Steel Basket (24x17x12+)		
5927BLK-C	Rear Wire Basket (21x15x9+, Black Vinyl)		