

# Worksman Heavy-Duty Tri-Tandem Tricycle Owner's Manual and Parts List

Worksman Trading Corporation . 94-15 100<sup>th</sup> Street . Ozone Park, NY 11416 . (718) 322-2000

[www.worksmancycles.com](http://www.worksmancycles.com)

Parts list: Tandem Trike

Model: TT, TT-3CB

## Worksman Heavy-Duty Bicycles - The Strongest Bikes in the World!



Congratulations! You have purchased an American-made Worksman Tandem Tricycle. Worksman tricycles are considered the most durable bicycles available.

Before assembling and riding, make certain to read this manual and any other literature provided thoroughly. Always follow the rules of safe riding. Always keep your Worksman in tip-top shape by replacing worn parts as needed with genuine Worksman Cycles parts. (Do not use generic bicycle parts.) With simple maintenance, your Worksman will perform reliably day after day, year after year.

Your bicycle has been hand-made in the USA by our American craftspeople. Our reputation rides along with you, so your ultimate satisfaction is our goal.

*This manual is intended as an assembly and maintenance guideline for a professional and qualified bicycle mechanic.*

*Failure to have this cycle professionally assembled could result in injury or death.*

### Worksman Tri-Tandem Parts List (For all coaster brake and three-speed coaster brake Tandem Tricycles.)

#### Frame, Fork and Related Parts (Forks include Bottom Cone # 51.)

<u>Part #</u>	<u>Description</u>	<u>Part #</u>	<u>Description</u>
3400	Tri-Tandem Frame (Specify color)		
60HD	Fork w/ Drum Brake Tab - Black		
50A	Headset Complete (48, 49, 52, 53, 54)	48	Headset Cups (pair)
49	Headset Bearings (pair)	51	Bottom Cone (Pressed on fork)
52	Top Adjusting Cone (threaded)	53	Key Washer
54	Fork Top Lock nut	55B	Handgrips (pair)
55F	Handlebar - Junior High Rise (Chrome)	55F-BLK	Handlebar - Junior High Rise (Black)
55A	Stem for Front Handlebar (Chrome)	55GA	Stem for Rear Handlebar (Chrome)

#### Front Drum Brake Parts (Old style hubs had loose bearings. New style hub has pressed bearings.)

<u>Part #</u>	<u>Description</u>	<u>Part #</u>	<u>Description</u>
<i>OLD STYLE pre 2010 models</i>			
L918	Bearing Cup (pair)	L709	Front Axle Set for Drum Brake
F817	Wheel Bearings . Loose, 11 Balls	L725-1	Drum Brake Plate Kit (Old or new style)
<i>NEW STYLE since 2010</i>			
L500-F	Hub - NEW STYLE w/ pressed bearing	L509	Axle - NEW STYLE for pressed bearing
L517	Pressed Bearing - NEW STYLE	L725-1	Drum Brake Plate Kit (Old or new style)
F719	Drum Brake Cable w/ F769 and F770	F816	Axle Washer
F769	Anchor Bolt Assembly for F719 Cable	F770	Adjusting Barrel for F719 Cable
L752R	Brake Lever (Right) w/ Parking Lock	160B	Fork Retention Clip (each)
L752L	Brake Lever (Left) w/ Parking Lock	L815	Outside Axle Nut (each)

#### Rear Axle and Related Parts

<u>Part #</u>	<u>Description</u>	<u>Part #</u>	<u>Description</u>
101	Hub for Free Wheel w/ Cups	102	Key Lock Washer
103	Cups for 101 Hub	105	Adjusting Cone (threaded)
106	Stationary Cone (presses onto axle)	109	Dust Washer
113	Locknut - Left Hand Thread - Free Wheel Side	146	Wheel Bearings (pair)
130	Axle Parts Set (102, 105, 109, 113, 146, 59A, 93D)	58A	Rear Axle (31 1/2")
3980	Drive Wheel Hub	58	Rear Axle (34+- Pre 1965)
59A	Locknut - Drive Side	69	Fixed Drive Sprocket
4129	Freewheel Sprocket (22T)	63AD	Bushing for 4129 (freewheel models)
63B	Set Screw for 69 and 4129	62C	Keyway for Rear Sprocket
91	Pillow Block Bearings (each)	91A	Bolt, Nut, Washer for 91 Bearing
93	Spacer Washer for Left Side Wheel	93D	Washer - Drive Side Spacer
301	1 Speed Coaster Brake Hub	404N	3 Speed Coaster Brake Hub

302	Coaster Brake Conversion Kit (for freewheel)	SS13N-1	3 Speed Cable and Trigger for 404N
405	3 Speed Conversion Kit (for freewheel)	SS721	Coaster Brake Internal Part Kit (for 301)

### Crank Parts (Pedal Section)

<u>Part #</u>	<u>Description</u>	<u>Part #</u>	<u>Description</u>
1265	Crank Parts Set (1266, 1268, 1269, 1271-1274)	1265BMXS	Deluxe Sealed Crank Set-front crank (only for front crank-does not fit rear)
1266	Crank Bearings (pair)	1268	Cups for Crank Housing (pair)
1267J	Complete Front Crank Set (1380EA, 1265, 1275)	1269	Stationary Washer (inside)
1267K	Complete Rear Crank Set (1380AA, 1265, 1275)		
1271	Key Washer (outside)	1272	Adjusting Cone (threaded, outside)
1273	Stationary Cone (inside)	1274	Crank Locknut
1275	Crank (one piece, forged, 6½+, plated)	1275-EDB	Crank (one piece, forged, 6½+, black)
1380EA	Sprocket . 40T (3/16+, Black)		
1380AA	Double Rear Sprocket . 40T/48T		
7217	Pedal Set . ½+Reflectorized	7217-EXT	Pedal Extenders

Note - The Tri-Tandem comes standard with a 40-Tooth front sprocket and 1265 crank parts set. Smaller sprockets in the front will reduce the gear ratio, making it easier to start pedaling. The 1265BMXS is a sealed, heavier duty upgrade for crank parts, but only fits front crank

### Chain Parts

<u>Part #</u>	<u>Description</u>	<u>Part #</u>	<u>Description</u>
4910B	Chainguard . Extra Long (Specify Color)		
4914B	Chain (freewheel models)	4914M	Chain Connecting Link (1/2x1/8+)
4914EE	Chain (for coaster brake)	4914P	Front Chain (1/2x1/8x132.5)
4915	Chain Adjusters (for coaster brake)	4914Q	Rear Chain (1/2x1/8x113)
4916	Chain Idler Sprocket		

### Seats, Seatpost, Baskets, Cabinets and Fenders (Black Polycarbonate Fenders standard since 2013.)

<u>Part #</u>	<u>Description</u>	<u>Part #</u>	<u>Description</u>
6910V	Saddle (wide w/o springs - standard)	6911V	Saddle (wide w/ springs - optional) Only for upgrade on rear seat
4909	Bolt, Nut, Washer for 4911C	4911C	Seatpost Clamp (seatpost to frame)
4908C	Seatpost Front (12x7/8+)	4908D	Seatpost Rear
3927	Rear Cabinet (22x15x16+)	5927	Rear Wire Basket (21x15x9+)
7227-P	Rear Flat Steel Basket (24x17x12+)	133WH	Removable Front Basket (14.5x9.5x9+)
7228	Front Wire Basket (21x15x9+)	139	Front Wire Basket (18x13x6+)
82	Front Fender (Chrome)	82-C	Front Fender w/ all parts attached (Chr)
82P-BLK	Front Fender (Black Polycarbonate)	82P-BLK-C	Front fender w/ all parts attached (Blk)
83A	Front Fender U-Brace		
82K	Front Fender Hardware Kit (95, 4907, 4907A)	95	Front % Bracket (fender to fork)
4907	Bolts, Nut, Washer (U-brace to fender)	4907A	Bolt, Nut, Washer (% bracket to fork)
4902	Rear Fender (Fits 24+ & 26+ - Chrome)	AD26*	Complete Rear Fender Kit (26+Chrome)
4902P-BLK	Rear Fender (Fits 24+ & 26+ . Black)	AD24*	Complete Rear Fender Kit (24+Chrome)
84	Rear Fender Brace Set (26+, one side)	AD26P-BLK*	Complete Rear Fender Kit (26+Black)
84A	Rear Fender Brace Set (24+, one side)	AD24P-BLK*	Complete Rear Fender Kit (24+Black)
4902K	Rear Fender Hardware (6-4905, 6-4906)	4905	Bolt, Nut, Washer (rear fender to brace)
4906	Bolt, Nut, Washer (rear fender brace to 92)	92	Rear Fender Brace Bracket (on frame)

\* Complete rear fender kits include 2 rear fenders, 6 braces, and all nuts and bolts. Bracket #92 is not included.

### Wheels and Tires

<u>Part #</u>	<u>Description</u>	<u>Part #</u>	<u>Description</u>
77A	26+Front Wheel w/ Drum Brake	77	26+Front Drum Brake Wheel w/ Air Tire
77S	26+Front Wheel w/ Drum Brake w/ Solid Tire		
77CAR	26+Alloy Front Wheel w/ Stainless Steel Spokes and Drum Brake (No tire or tube.)		
78A	24+Free Side Wheel	79A	24+Drive Wheel
78	24+Free Side Wheel w/ Air Tire	79	24+Drive Wheel w/ Air Tire
78SA	26+Free Side Wheel	79SA	26+Drive Wheel
1007	26+Free Side Wheel w/ Air Tire	1010	26+Drive Wheel w/ Air Tire

1007CAR	26+Alloy Rear Free Side Wheel w/ Stainless Steel Spokes (No tire or tube.)		
79SA-ALUM	26+Alloy Rear Drive Side Wheel w/ Stainless Steel Spokes (No tire or tube.)		
4922A	26x2.125+WTC Sup-r-Tire	4922E	24x2.125+WTC Sup-r-Tire
4922AKV	26x2.125+WTC KEVLAR Sup-r-Tire	4922EKV	24x2.125+WTC KEVLAR Sup-r-Tire
4922AWSW	26x2.125+White Wall Sup-r-Tire	4922EWSW	24x2.125+White Wall Sup-r-Tire
4923A	26x2.125+Tube	4923E	24x2.125+Tube
6023A	26x2.125+Puncture Resistant Tube	6023B	24x2.125+Puncture Resistant Tube
1017	26+Rim Strip	1017B	24+Rim Strip
1017T	26+Tire Liner	1017T24	24+Tire Liner
101	Hub for Free Side Wheel	3980	Hub for Drive Side Wheel
1016	26+Rim Only (no spokes - rim only)	1016C	24+Rim Only (no spokes - rim only)
1016A	26+Alloy Rim Only (no spokes - rim only)		
1014A	Spokes for 78S, 78SA, 1007 (11G, 10 9/16+)	1014B	Spokes for 77A, 77, 77S (11G, 9 13/16+)
1014C	Spokes for 79, 79A (11G, 9 9/16+)		

**CALL FOR PART #'s TO UPGRADE TO KEVLAR TIRES AND PUNCTURE RESISTANT TUBES!**

Tri-Tandems come standard with WTC Clincher Wheels with 11 gauge spokes. They are very durable. Kevlar tires are belted air tires - ideal for preventing flats alloy rim upgrades increase rear wheels to 26+ Tri-Tandems come with 26+front and 24+rear wheels

**Safety and Comfort Accessories**

<u>Part #</u>	<u>Description</u>	<u>Part #</u>	<u>Description</u>
3979	Ding Dong Chime Bell	303	Squeeze Bulb Horn (chrome w/ rubber)
3973	Mega-Horn (battery operated)	201	Cable and Lock set (with keyed padlock)
4963	Rear View Mirror (Chrome, rectangular)	5030T	Reflector Kit
3978	Safety Flag on Pole	P19	Bicycle Helmet
101710	Flashing Strobe Light (clear lens)	101714	Flashing Strobe Light (red lens)
7217-41197	Pedals with Velcro Foot Straps (pair)	3975	Generator Light Set
1006	Air Foot Pump	1000	Spoke Wrench
202	Mini-Frame Pump w/ Attachment Strap	2000	Chain Rivet Remover Tool
1265TW	Crank Cone Wrench	95021	Water Bottle w/ Cage, Attachment Strap
1001	Pedal Wrench	7917A	Backrest w/ Mounting Hardware
6001A	Patch Kit (5)	3976	Battery Operated Headlight
7217GS12	Lowspok+Flashing Pedals . Flashes without batteries!		

*Part #'s and Specifications subject to change without notice, as we are constantly seeking ways to improve our products.*

## **ASSEMBLY INSTRUCTIONS FOR THE WORKSMAN TRI-TANDEM™ TRICYCLE (rev. Aug 2014):**

Please read this manual carefully prior to performing the finishing assembly and prior to riding. **We recommend that a qualified bicycle mechanic assemble this cycle.** Carefully remove the tricycle components from the carton, and follow the instructions in the order presented. Keep in mind that the "left" or "right" side of the cycle is when viewed from the rear.

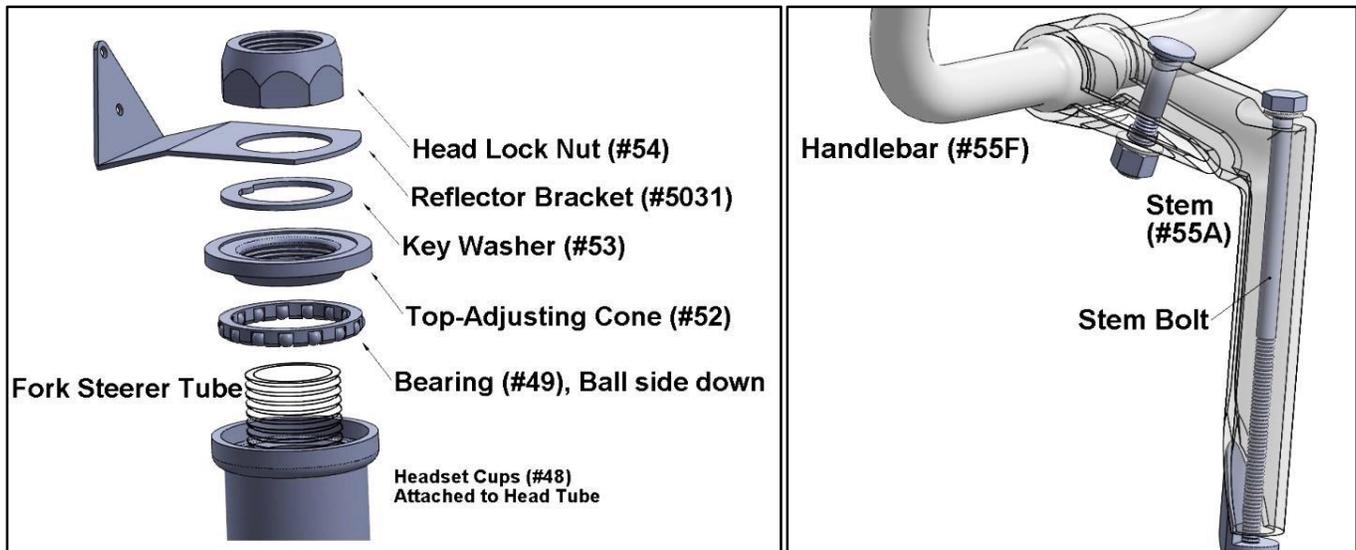
### **TOOLS REQUIRED FOR ASSEMBLY**

Socket Set                      Flat-head Screwdriver                      Phillips-head Screwdriver  
Allen Wrench Set              Adjustable Wrench                          Pliers

You will notice the tandem tricycle is mostly pre-assembled at the factory. Some finishing assembly is required. The front wheel and fork assembly is pre-assembled at the factory.

### **1) FRONT ASSEMBLY (See illustrations)**

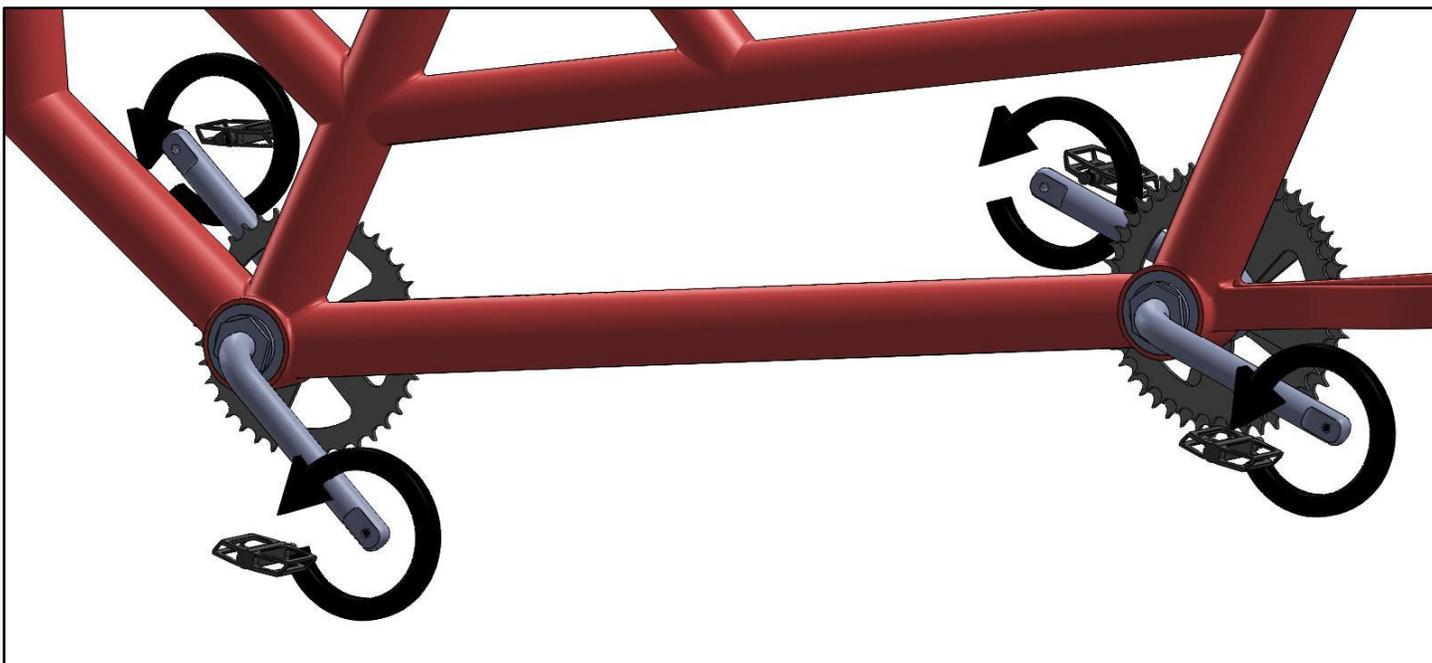
Bearing cups have been pressed into the headtube at the factory.



1. Grease bearing cups (#48) with *Rustolene 200* or equivalent lubricant. Bearings are pre-greased.
2. Place one bearing (#49) onto the fork steerer tube, balls facing up.
3. Slide the steerer tube through the headtube from the bottom.
4. Place the other bearing (#49) onto the steerer tube, balls facing down.
5. Install the top-adjusting cone (#52) onto the steerer tube. Hand-tighten until just before the bearings bind, then turn back a quarter-turn.
6. Slide the key washer (#53) onto the steerer tube, then the reflector bracket (#5031).
7. Install the head lock nut (#54) and securely tighten, again making sure the bearings do not bind. The fork should rotate freely without excess play.
8. Install the handlebar stem (#55A) into the steerer tube, with the handlebar clamp facing forward. It must be inserted beyond the minimum insertion line. Loosen the handlebar clamp nut. Insert and center the handlebar into the clamp.
9. Rotate the handlebar within the clamp to the desired angle, then tighten the clamp. Pivot the handlebar about the steerer fork until it is perpendicular to the front wheel, then tighten the stem bolt. Recommended torques are 300 in.lbs. and 240 in.lbs., respectively.
10. Attach brake hand lever (and shift lever for three-speed models) onto the handlebar. Cables should not be tangled. Slide handlebar grips completely onto the handbar until tight. Do not use lubricants.

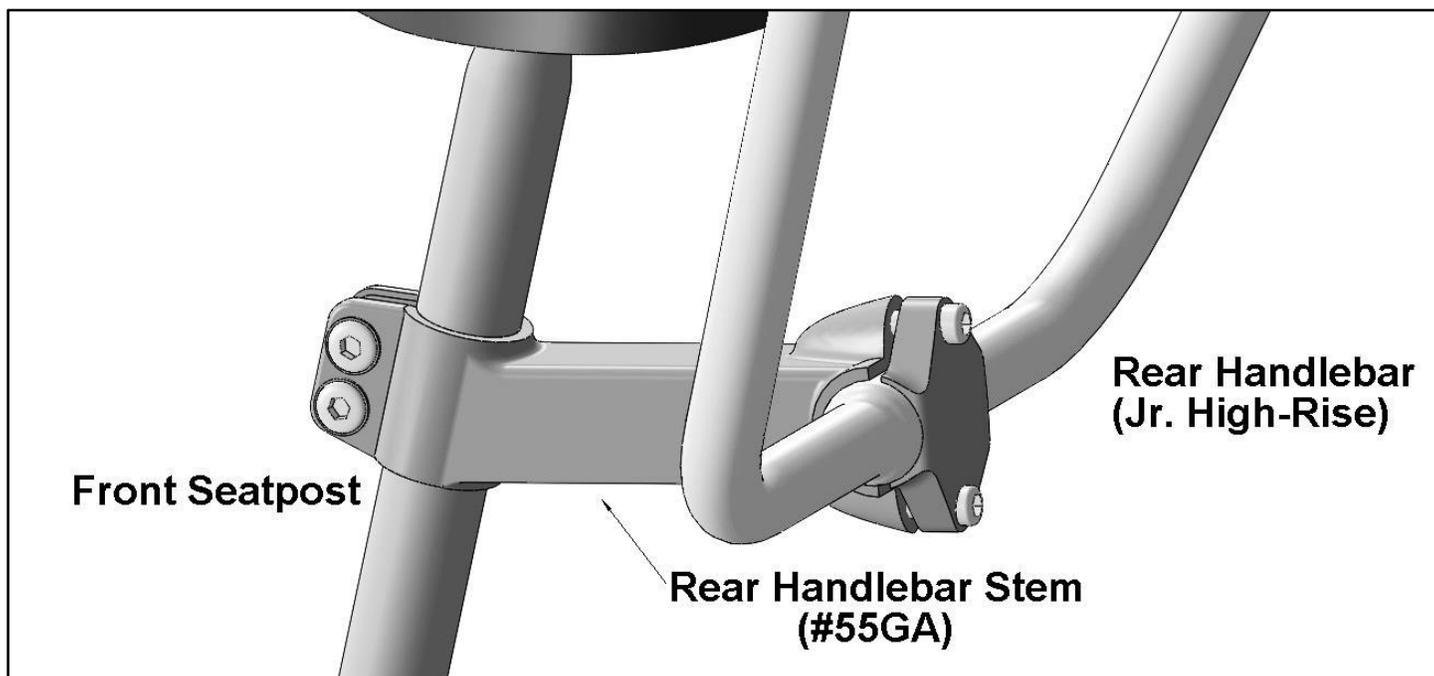
### **2) PEDAL ASSEMBLY (See illustrations)**

Pedals are marked on the shaft with either an **L** or **R** denoting left or right. The **R** pedal fits on the right (sprocket) side of the crank arm. Tighten clockwise. The **L** pedal fits on the left side of the crank arm and is reverse-threaded. Tighten **counter-clockwise**. Tightening in the wrong direction will strip the threads. Recommended torque for the pedals is 275 in.lbs.



### 3) REAR STEM ASSEMBLY (See illustrations)

1. Slide rear stem over front seatpost.
2. Adjust stem to desired height and tighten hex bolts.
3. Slide rear handlebar through stem.
4. Center handlebar in stem, set to desired angle, and tighten stem bolt.
5. Install handlebar grips, as instructed for front handlebar.



### SEAT ADJUSTMENTS

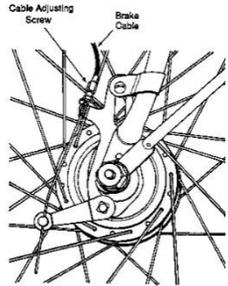
Although the seats are already installed at the factory, adjust the heights to your desired levels by loosening the seat clamp nut at the top of the frame's seat tube. Re-tighten at desired height. Make sure a minimum of 3 1/2" of the post remains in the frame tube. Never adjust post above this level. Adjust angle of seat with nose raised slightly. Tighten seat clamp securely. Recommended torque for the seat clamps nuts is 240 in.lbs.

## MAINTENANCE TIPS

Always inspect your Worksmen 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 forks or frames.

### Chain:

Lubricate chain once a month or as needed with light oil. Replace sprockets when teeth become worn, bent or broken. Keep chain adjusted so there is no more than 3/8" slack. Note that we make 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 tight or frozen.



### Drum Brake:

Some Worksmen bicycles are equipped with a front drum brake. It is engaged by squeezing the hand lever on the handlebar. To use Park+ feature, when cycle is completely stopped, squeeze hand lever and push in parking plunger button on lever. To disengage, simply squeeze lever until parking plunger button releases. Drum brakes are pre-adjusted at the factory. Readjust the cable tension as necessary using the adjusting barrel so that wheel spins freely and stops when brake is applied. Always replace worn brake cables and damaged hand levers.

### Coaster Brake (if applicable):

Foot activated coaster brakes are easy to use and reliable. To activate this internal 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 until they are broken in. For multi-speed units, pause pedaling when shifting to help mesh gears. (Let the cycle coast.) Multi-speed hubs make a slight ticking sound.

### Tires:

Always check for wear or damage. See tire sidewall for proper level of inflation. Replace worn or cut tires and leaking tubes immediately.

Tri Tandems should only be ridden in safe environments, away from traffic areas as these are long vehicles requiring a longer turning radius than many other bicycles and tricycles. Tri-Tandems will pull slightly to one side when pedaled, which is perfectly normal and easy to compensate for when steering. Always have the captain in front position and smaller or less able riders on rear. When going down inclines, always engage the front drum brake to control speed. Turns should be subtle, not sharp.

### 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 90 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 Cycles 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 2 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 Worksmen Cycles parts voids warranty. Worksmen Trading Corporation is not responsible for maintaining records of serial numbers. Void where prohibited by state law.

### RULES FOR SAFE RIDING AND RESPONSIBLE OPERATION: Carefully read this manual before operating the cycle.

- It is the responsibility of the assembler to properly install all parts included and to inspect the cycle prior to riding to insure proper operation.
- Operator is responsible for required maintenance and for observing all traffic regulations in the operating environment. (Stop signs, etc.)
- Keep to the right and in a straight line. Ride in single file. Operate cycle at slow speeds, particularly in high traffic areas.
- Do not ride outdoors at night, and have appropriate signaling device as needed. (We recommend the 3973 Mega Horn.)
- Give pedestrians the right of way. Always look around you to understand the riding environment and hazards.
- Do not carry passengers, and check brakes prior to riding. Never ride the cycle if there are known repairs required.
- Slow down when approaching turns or intersections. Use proper hand signals when turning or stopping.
- Recommended safety options include, but are not limited to, an approved helmet, audible warning device, front/rear lights and/or reflectors.
- Do not exceed the recommended weight capacity. (300 lbs., including the rider.) Always secure cargo with appropriate tie down straps.
- Wipe surface of cycle clean and dry when exposed to corrosive substances or environment.
- Operators of cycles should be in good physical condition. Ride at your own risk.
- Wear proper riding attire. Check shoelaces and pant legs prior to riding so they do not become engaged in the chain and sprocket.
- Ride only on smooth, paved surfaces. Do not use off road. Always keep both hands on the handlebars.
- Always replace worn parts with genuine Worksmen Cycle Repair Parts.

Visit us online at [www.worksmancycles.com](http://www.worksmancycles.com) or call us at 888-3WHEELER!