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Tech Service Notes

I. General Assembly

A. Installation -

Assembly tools included with bike:

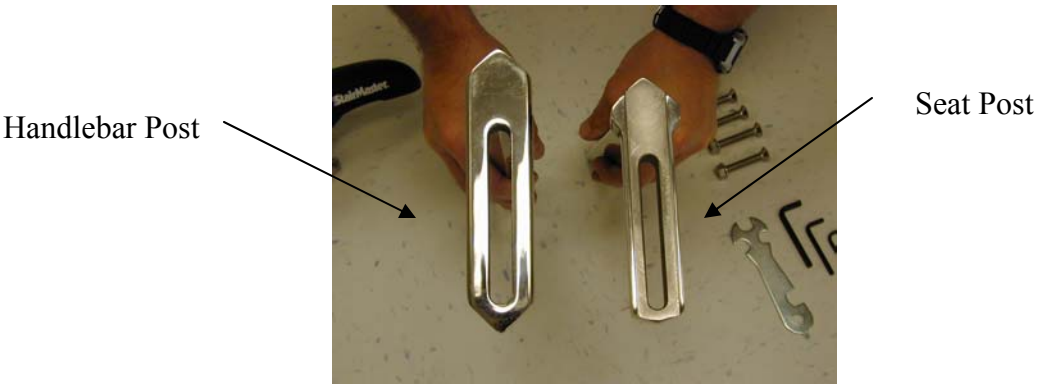
Multi-tool wrench
Used for: pedals and the cross arm mounting nuts
3-mm Hex key
Used for: H_2O bottle mounting screw (mounts the cage to the handlebar clamp)
4-mm Hex key
Used for: right cover screws, tension knob cover screws, brake pad screws
5-mm Hex key
Used for: cross arm mounting bolts

Other tools/lubricant recommended

5/8" Pedal wrench - easier to set up multiple bikes quickly with lower risk of cross-threading the cranks.
Grease – for use on the belt tension screw and handle threads.
T-handle 3mm – easier to use
Longer 5mm hex key – easier to hold and get more leverage on the cross arm bolt
2 X 14-mm wrench – for seat tilt adjustment

1. Open the box –
   Remove the staples from the bottom of box, lift box up, and remove components
2. Bases – front has wheels that point out when properly oriented.
   Show the mounting bolts and nuts, and the tools used to attach the mounting bolts and nuts

3. Handlebar post – insert
   V-Plunger may need to be pushed back in pocket (show and explain)
   Smooth finish on top face - faces forward - no slot in top



   Adjustment handle and grease
4. Handle bars – install
   1 washer and adjustment handle and grease
5. H_20 bottle cage – install
   Point out 3-mm tool, positioning
6. Seat post – insert
   V-Plunger may need to be pushed back in pocket (show and explain)
   Textured finish on top face - Faces rear - Slot in top
   Keeps seat and seat slider from twisting
   Adjustment handle and grease
7. Saddle – install and check level
   Adjustment handle, washer and grease
8. Pedals – install
   Note the dual sided upgrade option for clip less pedals that may
   Labeled left and right
   Left side reverse threaded
   Toe strap

II. Service

Tools/Lubricant/Glue Required:

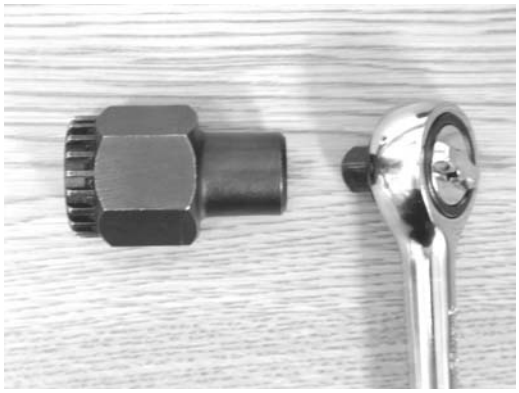
Cover Removal:
4-mm hex key – right cover screws (Qty – 4)
Philips Screwdriver – left cover screws (Qty – 2)

Belt Removal:
4-mm hex key – belt tensioner screw
Adjustable Wrench – idler bolt
Belt tension gauge
Torque wrench – for idler bolt
Multi-purpose grease – for belt tensioner screw

Bottom Bracket Removal/Adjustment:
8-mm hex key – crank bolts
Crank Puller

Lock Ring Wrench –lock ring on left bearing cup

Bottom Bracket Socket (Shimano®-compatible cartridge style) + ½" drive



Locktite® 242 (United States) **or** Locktite® 243 (International) – Medium strength (blue)
Rubber Mallet/ Dead-blow hammer – used to check for spindle radial end play
Torque wrench – for crank bolts, right bearing cup, & lock ring

Flywheel Assembly:
4-mm hex key – flywheel pulley mounting screw
5-mm hex key - pillow block bearing mounting bolt
*Flywheel pulley puller – flywheel pulley
Custom-made tool – the pulley is pressed onto the spline shaft
*Flat base pry bar/lever – pillow block bearing

Necessary only if the pillow block housing pulls off the bearing during removal and leaves the bearing stuck on the spline shaft
Block of wood/metal – use to tap the pillow block bearings onto the spline shaft.

Brake Pad Assembly
4-mm hex key – brake pad mounting screws, brake pad holder mounting screw
10-mm box end wrench – brake pad mounting nut

Grips
Carpet knife
Hair spray

Tension knob assembly
Metal round file – older frames may need to be de-burred to allow clearance for the new tension knob assembly to drop down into the frame.

Instructions:

Brake Pad Replacement

1. Remove the brake pad holder from the spring steel using a 4-mm hex key and a 10-mm box end wrench.
2. Use a 4-mm hex key to remove each screw at both ends of the brake pad holder.
3. Pull the old brake pad and foam away from the brake pad holder.
4. Scrap any remaining foam tape off of the brake pad holder.
5. Remove the protective backing from the foam tape on the new brake pad and align the two holes in the brake pad with the holes in the brake pad holder (The hole closest to the end of the leather pad faces toward the front wheels of the bike). Press the foam tape firmly against the groove in the brake pad holder along the length of the entire brake pad.
6. Insert and evenly tension the two screws that hold the new brake pad in place. The tapered head screw is mounted closest to the spring steel.
7. Re-attach the brake pad holder to the spring steel.
8. Make sure that the new pad is properly lubricated and broken in.

Cover Removal

1. Use the 4-mm hex keys to remove the four cover screws on the right cover.
2. Use the Philips screwdriver to remove the two screws on the left side cover.
3. Rotate the right crank up and slide the cover off the right crank.
4. Rotate the left crank up and slide the left cover off the left crank.

Bottom Bracket Removal

1. Remove the right cover and belt.
2. Use an 8-mm hex key to remove the left crank bolt.
3. Remove the left crank with a crank puller.

4. Use a lock ring tool to loosen and then remove the bottom bracket lock ring.

5. Use a 4-mm hex key to loosen the belt tension adjustment screw.
6. Use an adjustable wrench to loosen the belt tensioner (idler pulley) bolt. Slide the belt tensioner bearings up.

7. Remove the drive belt.
8. Use an 8-mm hex key to remove the right crank bolt.
9. Remove the right crank with a crank puller.
10. Use a bottom bracket removal tool to remove the left bearing cup.

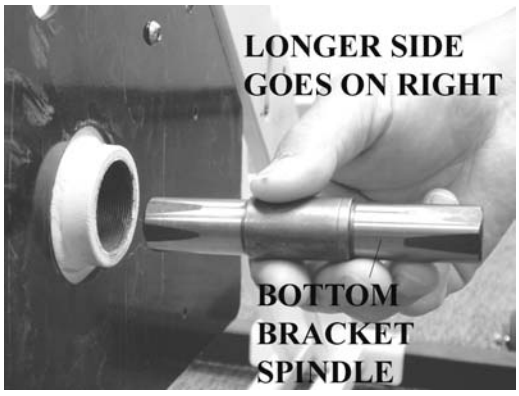
11. Pull the spindle out of the frame from the left side.
12. Use a bottom bracket removal tool to remove the right bearing cup. ***Note: The right bearing cup is reverse threaded.***

Bottom bracket adjustment

Note: If not adjusted properly the bike will feel as though the crank bearings, crank arms and/or spindle are damaged/ worn and you may hear a knocking noise.

1. Verify that the right side bearing cup is seated against the frame. If loose, remove the bearing cup, apply Locktite 242/243 on 2-3 threads 2/3rds around the cup and reinstall.
2. Verify that the left bearing cup is threaded far enough in the frame to eliminate any lateral end play of the spindle. Lightly tap the end of the spindle with a rubber mallet or 'dead blow' hammer to test for lateral end play. If you need to adjust the bearing cup, remove it first from the frame, apply Locktite 242/243 on 2-3 threads 2/3rds around the cup and reinstall.

   Note: If reinstalling the spindle, ensure that the longer side is positioned on the right side.



3. Once the left bearing cup is reinstalled, check the spindle again for lateral end play. Re-adjust as needed.
4. Apply Locktite 242/243 to the lock ring and reinstall the lock ring.
5. Apply a thin coating of grease on each side of the spindle and reinstall each crank.
6. Use Locktite 242/243 on each crank bolt and reinstall the bolts. Torque the crank bolts to

Changing grips

1. Use a cutter to remove the old grips from the handlebar.
2. Spray hair spray on the handlebar and inside the new grips.
3. Slide the new grips onto the handlebar assembly.

Tension knob assembly

Note: An additional spring was added to the tension knob assembly (09/01 starting sn 0108503374), the new assembly is backward compatible.

1. Use the 4-mm hex key to remove the two tension knob cover mounting screws.
2. Unscrew the plastic acorn nut from the tension knob rod.
3. Pull the tension knob assembly up and out of the frame.
4. Remove the plastic acorn nut and lower spring from the new tension knob assembly.
5. Insert the new tension knob into the frame. If the tension knob does not easily fit in the frame check for metal burrs that might restrict the new tension knob assembly. If necessary, use the metal round file to de-burr the inside of the frame.
6. Slide the lower spring onto the tension knob rod and thread the acorn nut onto the tension knob rod.

Pedal removal

Note: Be careful putting the pedals on the crank. If you cross thread the crank, you will need to use a tap to clean up the threads. If you can not clean up the threads you will need to replace the crank! A cross-threaded crank is not a manufacturing defect and therefore not covered under warranty.

1. Using a pedal wrench, unscrew the left pedal from the left crank. Note that the left pedal is reverse-threaded.
2. Apply a small amount of grease on the pedal threads. Carefully thread the left pedal into the left crank and tighten with a pedal wrench. Ensure that you do not cross-thread the crank arm.
3. Using a pedal wrench, unscrew the right pedal from the right pedal crank. Apply a small amount of grease on the pedal threads. Carefully thread the new right pedal into the right crank. Ensure that you do not cross-thread the crank arm.

Rear pulley removal

1. Remove the right cover.
2. Remove the belt.
3. Use an 8-mm hex key to remove the right crank bolt.
4. Use a crank puller tool to remove the right crank from the spindle. The right crank will come off with the rear pulley attached.

5. Use a 5-mm hex key to remove the five pulley mounting screws from the crank.

6. Separate the right crank from the rear pulley.
7. Attach the new rear pulley to the right crank.
8. Use the rubber mallet to reinstall the right crank assembly onto the spindle.
9. Apply Locktite® 242/243 to the crank bolt and reinstall the crank bolt.
10. Reinstall the belt and tighten the idler bolt and the belt tensioner screw.
11. Reinstall the cover.

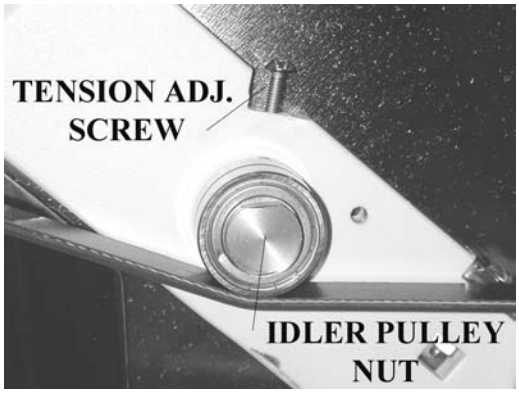
Pillow block bearing removal

1. Remove the right cover.
2. Remove the belt.
3. Use a 5-mm hex key to remove the four pillow block bearing screws.
4. Place a towel between the front forks, under the flywheel (this is to protect the flywheel in case it is dropped on the frame during removal).
5. Remove the flywheel assembly from the frame and place the flywheel on a padded surface. ***Caution: the flywheel weighs 47 pounds***.
6. Use a 4-mm hex key to remove the flywheel pulley mounting screw from the spline shaft.
7. Remove the flywheel pulley washer.
8. Use the flywheel pulley puller tool to remove the flywheel pulley from the spline shaft. The two screws included with the tool insert into the two tapped holes in the flywheel pulley.
9. Remove the flywheel spacer from the spline shaft.
10. Next, use the same flywheel pulley puller tool to remove the pillow block bearings from the spline shaft. The pillow block housing might pull off the bearing and leave the bearing pressed on the spline shaft. If this happens, use a small pry bar as a lever to remove the bearing from the spline shaft.

11. Install the new pillow block bearings on the spline shaft. Note: Do not tap directly on the bearings. Use a block of wood/metal on top of the pillow block bearings and tap the bearings onto the spline shaft.
12. Reinstall the flywheel spacer, pulley, washer, and screw. Remember to use the block when tapping the pulley back on the spline shaft.

Belt Tension Adjustment

1. Remove the right side cover
2. Use a 5-mm hex key to remove the belt tension adjustment screw.



3. Use an adjustable wrench to loosen and remove the idler bolt. Ensure that the idler nut (located on the inside right frame fork) does not get lost.
4. Remove the two idler bearings, the bearing spacer, and the slotted washer from the idler bolt.
5. Install the new bearings on the idler bolt.
6. Reinstall the bearing spacer and slotted washer on the idler bolt.
7. Align the idler nut and idler bolt assembly. Use the adjustable wrench to loosely secure the idler bolt above the belt.
8. Loosely thread the belt tensioner screw into the frame.
9. Slide the idler bolt down on the belt and tighten the idler bolt.
10. Tighten the belt tensioner screw, and use the belt tension gauge to ensure that the belt has 160 lbs. of tension. If necessary, readjust the belt tensioner screw and idler bolt.
11. Reinstall the cover.