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Johnson Industries (Shanghai) Co., Ltd

ICR50 Indoor Cycle

Service Manual

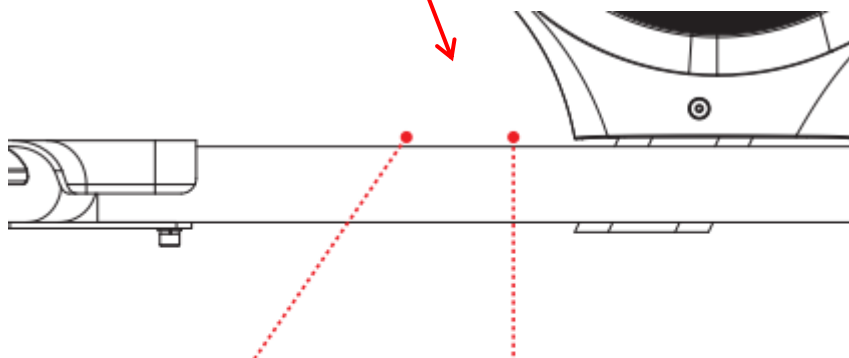


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CHAPTER 1: SERIAL NUMBER LOCATION



FCC Label



Serial Number Label

CHAPTER 2 : PREVENTATIVE MAINTENANCE

WHAT KIND OF ROUTINE MAINTENANCE IS REQUIRED?

Minimal maintenance and cleaning is required. Adhering to this schedule will extend the life of your machine.

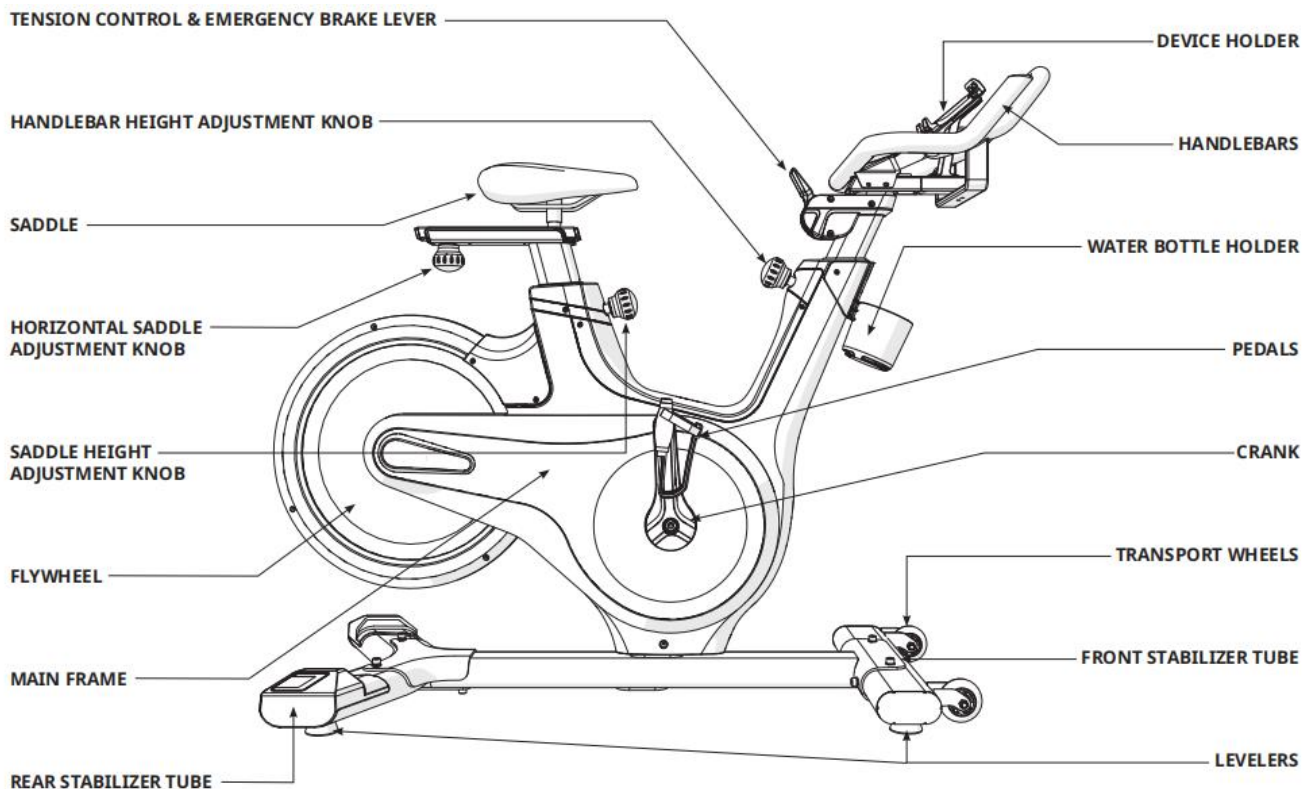
We use sealed bearings throughout our bikes so lubrication is not needed. The most important maintenance step is to simply wipe your perspiration off the bike after each use.

HOW DO I CLEAN MY BIKE?

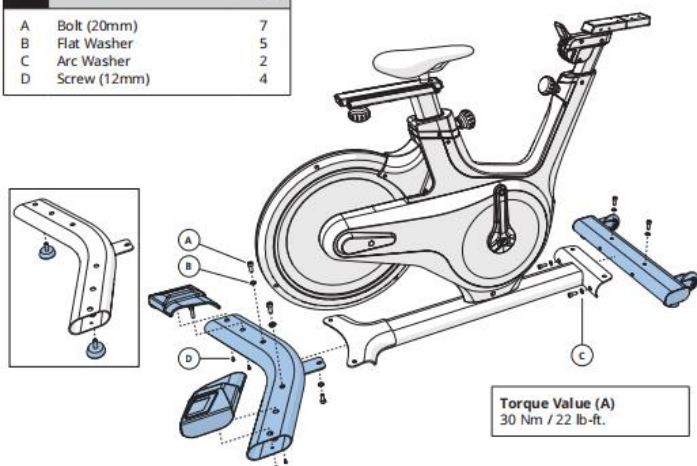
Clean with mild soap and water cleaners only. Never use solvents on plastic parts. Cleanliness of your bike and its operating environment will keep maintenance problems and service calls to a minimum. For this reason, we recommend that the following preventive maintenance schedule be followed.

MAINTENANCE SCHEDULE	
ACTION	FREQUENCY
Clean the indoor cycle using soft cloths or paper towels or other Matrix approved solution (cleaning agents should be alcohol and ammonia free). Disinfect the saddle and handlebars and wipe off all bodily residues.	AFTER EACH USE
Make sure that the indoor cycle is level and does not rock. Ensure that the pedals are tight in crank arms and not crossthreaded, all screws on pedals are tight, and pedal straps are not frayed.	BEFORE EACH USE
Clean entire machine using water and a mild soap or other Matrix approved solution (cleaning agents should be alcohol and ammonia free). Clean all exterior parts, the steel frame, front and rear stabilizers, seat and handlebars.	WEEKLY
Test the emergency brake to make sure it is functioning properly. To do this, press down the red emergency brake lever while pedaling. When functioning properly, it should immediately slow down the flywheel until it comes to a complete stop.	BI-WEEKLY
Inspect all assembly bolts and pedals on the machine for proper tightness.	MONTHLY

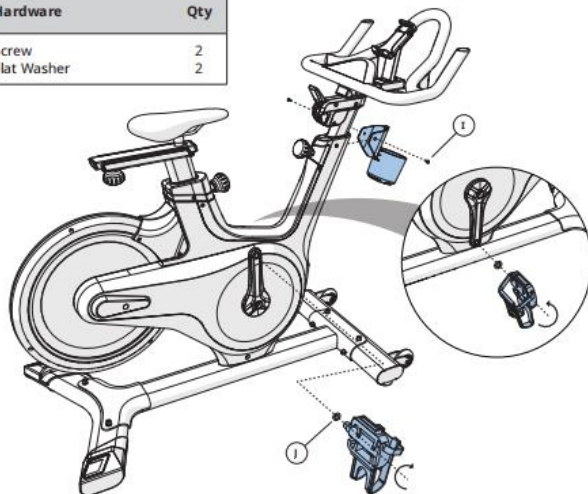
CHAPTER 3 : ASSEMBLY



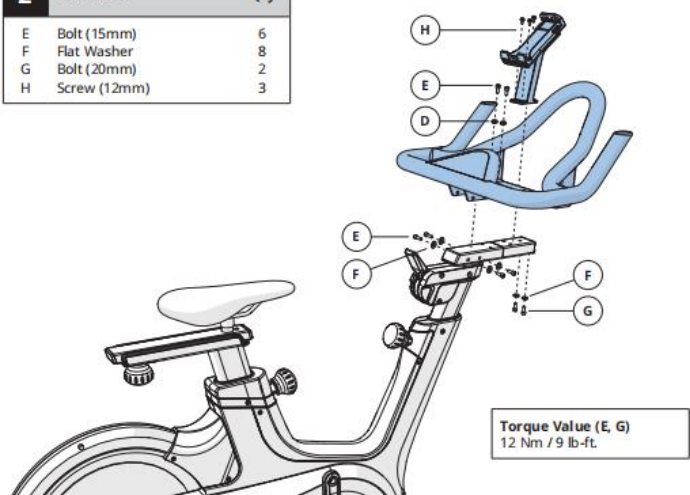
1	Hardware	Qty
A	Bolt (20mm)	7
B	Flat Washer	5
C	Arc Washer	2
D	Screw (12mm)	4



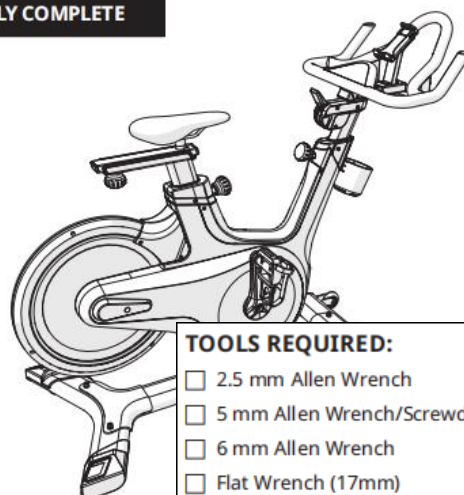
3	Hardware	Qty
I	Screw	2
J	Flat Washer	2



2	Hardware	Qty
E	Bolt (15mm)	6
F	Flat Washer	8
G	Bolt (20mm)	2
H	Screw (12mm)	3



ASSEMBLY COMPLETE



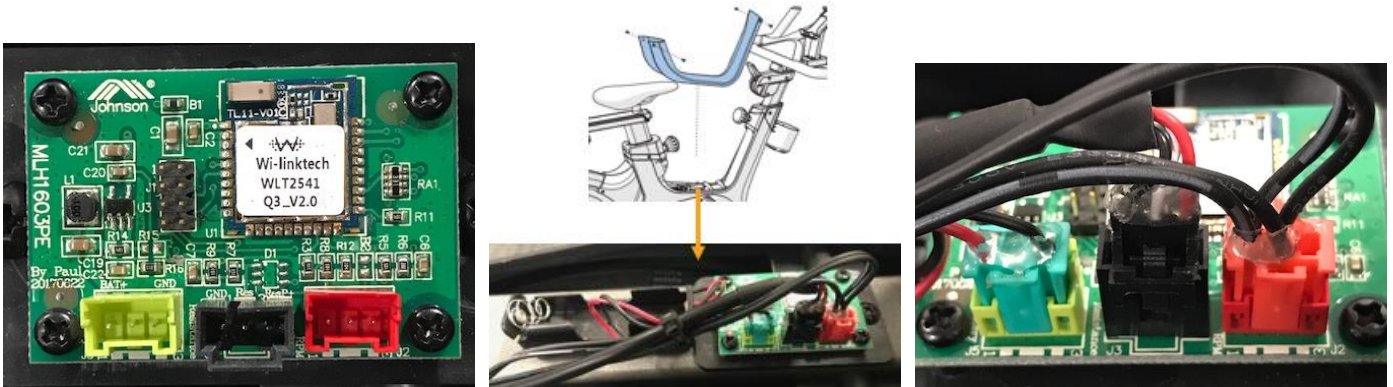
TOOLS REQUIRED:

- ☐ 2.5 mm Allen Wrench
- ☐ 5 mm Allen Wrench/Screwdriver
- ☐ 6 mm Allen Wrench
- ☐ Flat Wrench (17mm)

CHAPTER 4 : KEY COMPONENTS

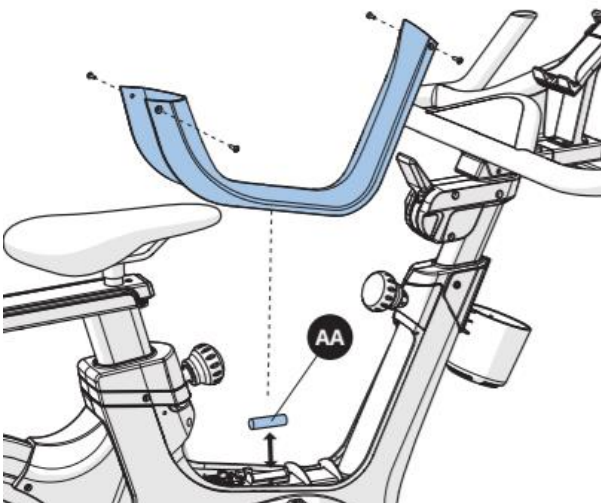
4.1 PCB

The Power Control Board is located on the frame beneath the cover between the saddle and handlebar. This board has the battery, variable resistance potentiometer, RPM wire and RF sensor wire connected to it.



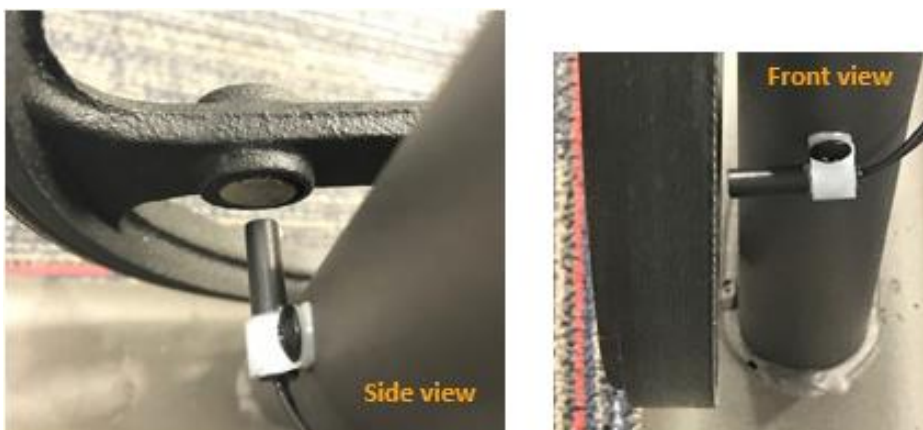
4.2. Battery

If you are not getting workout readings while using the optional console or a third-party app, you may need to change the battery (AA).



4.3 RPM Wire

The RPM sensor should be approx. 2-3.5mm away from the drive belt pulley magnet.



4.4 Potentiometer

Found on the user left side of the resistance handle, this sensor assists in Watts calculation as far as measuring the resistance. The other end of this potentiometer is plugged into the PCB.



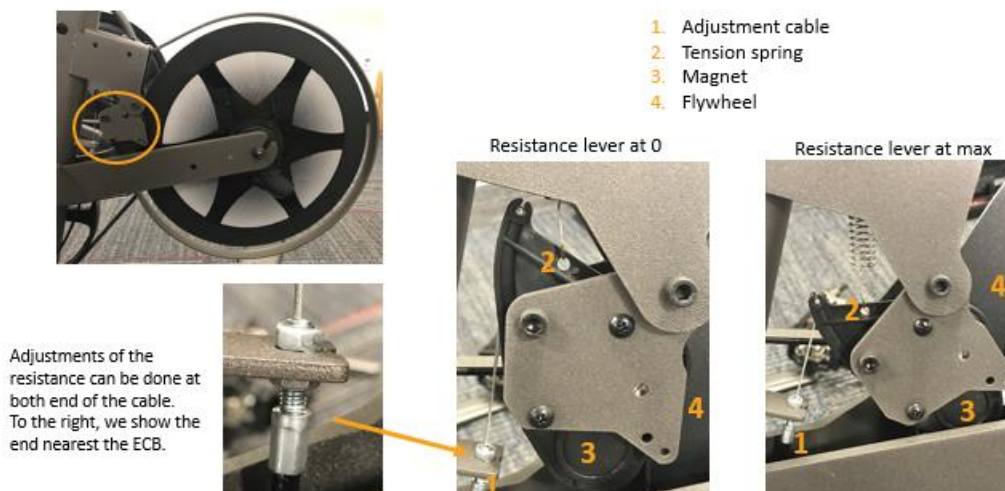
4.5 Resistance/E-Brake Lever

The resistance lever is located in front of the handlebars and provides 11 levels of pedaling resistance. To increase the resistance, push the tension control lever towards the ground. To decrease the resistance, push the lever upwards.

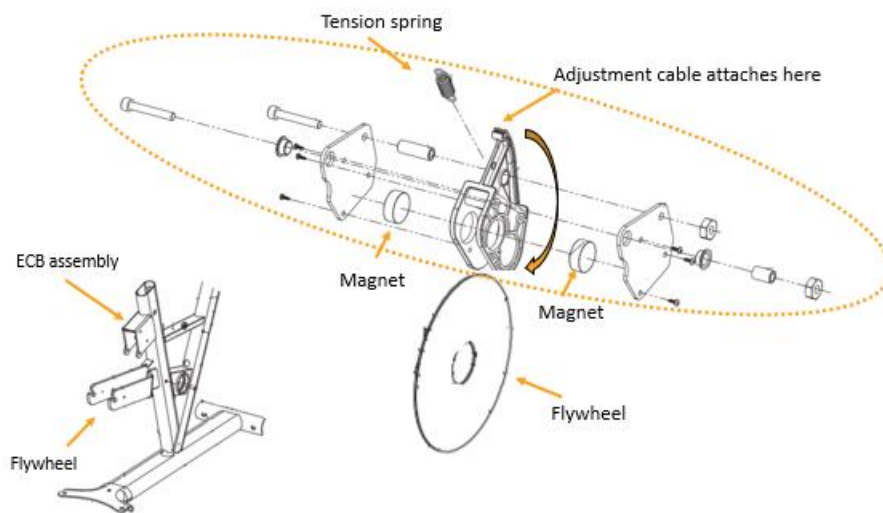
Important:

- To stop the flywheel while pedaling, push down hard on the lever.
- The flywheel should quickly come to a complete stop.
- Make sure your shoes are fixed into the toe clip or pedal straps
- Apply full resistance load when the bike is not in use to prevent injuries from moving drive gear components.

4.6 ECB Assembly



When adjusting the resistance lever to high resistance levels, the ECB adjusts downward moving the magnets more over the flywheel.



CHAPTER 5 : TROUBLESHOOTING

5.1 Mast/Seat Tube Cannot Hold Position

1) SYMPTOM:

Mast/Seat tube cannot hold its position.

2) SOLUTION:

1. Check to see the knob is well locked.
2. Loosen half of the knob, fine tuning the tube to make sure the knob is engaged in the groove.
3. Replace the knob if it is damaged. (Fig A)
4. Replace the mast tube if the groove is damaged. (Fig B)
5. Replace the slide sleeve if it is damaged. (Fig C)



Fig A



Fig B



Fig C

5.2 Noise Appears During Workout

1) SYMPTOM:

1. Noise appears near controller disk.
2. Noise appears near flywheel.

2) SOLUTION:

Controller disk:

1. Remove crank and left/right cover sets. (Fig A)
2. Observe if controller disk hit the fixing plate during workout. (Fig B)
3. Loosen the plate screws to adjust the gap of 2 plates and make sure there is no interference. (Fig B)
4. Replace the fixing plate/controller disk/hardware if damaged.

Flywheel:

1. Make sure the crank screws are well tightened. (Fig C)
2. Remove crank and left/right cover sets. (Fig A)
3. Check if the drive belt can hold its position. (Fig D)
4. Check if there is interference between crank/flywheel/cover sets.
5. Replace the crank/flywheel/cover sets/belt/hardware if damaged.



Fig A

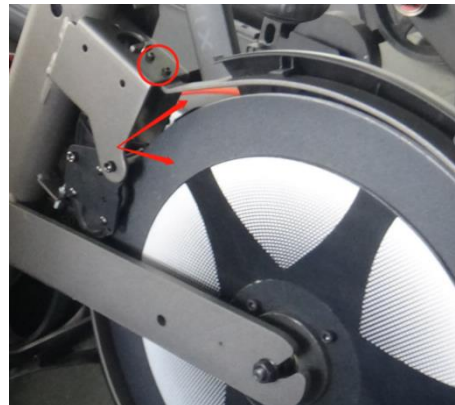


Fig B



Fig C



Fig D

5.3 Resistance Abnormal

1) SYMPTOM:

Resistance cannot match with the adjustment.

2) SOLUTION:

1. Remove crank and left/right cover sets.
2. Make sure flywheel set and controller disk is proper assembled.
3. Adjust the idler until the belt has a proper degree of tightness. (Fig A)
4. Observe if ECB gets closer to controller disk when increase the resistance. (Fig B)
5. If ECB moves in a constant speed, the magnets may be damaged, replace the ECB. (Fig C)
6. If ECB cannot move or moves irregularly, check whether the end of steel rope is connected properly and the adhesive is well. If not, hang rope to right position and add adhesive. (Fig D)
7. Replace the steel rope if damaged.



Fig A



Fig B



Fig C



Fig D

CHAPTER 6 : PARTS REPLACEMENT

6.1 Side Cover & Crank

- 1) Remove all screws from Fig A to Fig E on both sides.
- 2) Remove crank fixing screws together with crank and pedal. (Fig F)
- 3) Reverse step 1-3 to install covers or crank.



Fig A



Fig B



Fig C



Fig D



Fig E



Fig F

6.2 LCB

- 1) Remove the front cover.
- 2) Disconnect the speed sensor wire and remove 4 fixing screws. (Fig A)
- 3) Reverse step 1-3 to install new LCB



Fig A

6.3 ECB Generator

- 1) Remove crank and side covers as section 5.1.
- 2) Set the bike in the lowest resistance.
- 3) Remove the fixing screws and spring hock on ECB. (Fig A)
- 4) Reverse step 1-3 to install new ECB.

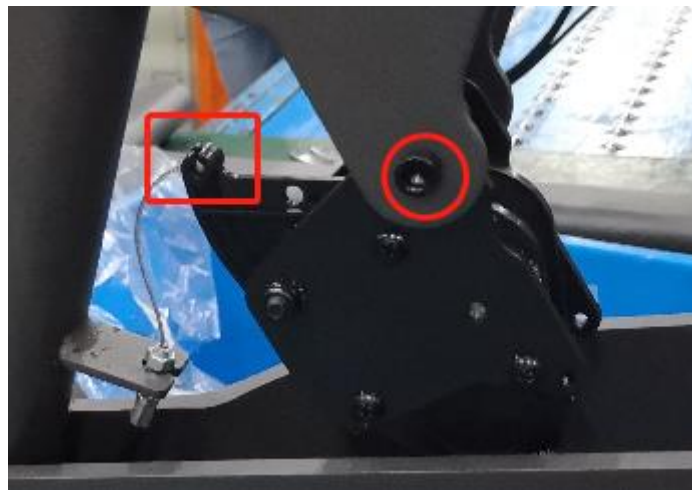


Fig A

6.4 Controller Disk

- 1) Remove crank and side covers as section 5.1.
- 2) Set the bike in the lowest resistance.
- 3) Remove screws on fixing plate. (Fig A)
- 4) Loosen the drive belt as section 4.3.

5) Remove the bearing housing set on controller disk. (Fig B)

6) Reverse step 1-5 to install new controller disk.

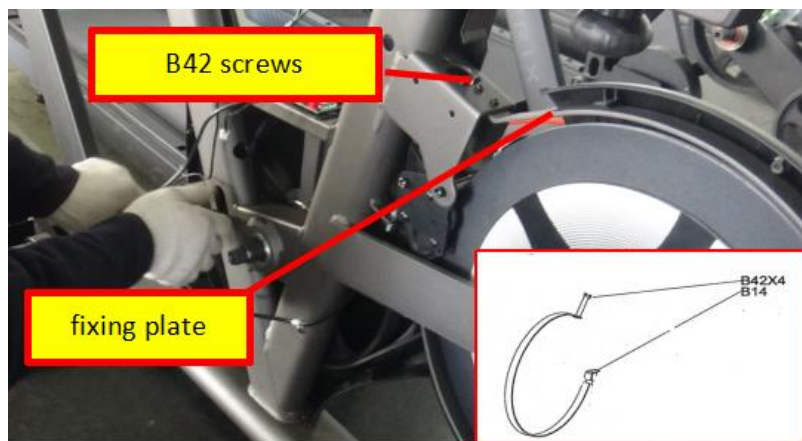


Fig A



Fig B

6.5 Steel Rope

1) Replace or install the steel rope referring to Fig A to Fig D

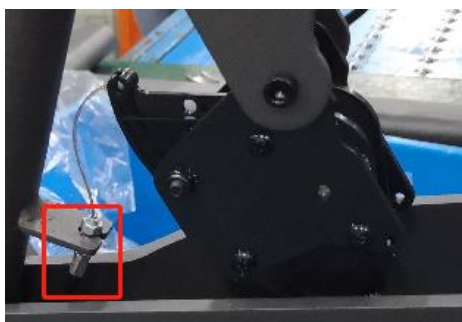


Fig A



Fig B



Fig C



Fig D

6.6 Flywheel

NOTE: A special tool from Matrix is needed to correctly replace a drive axle. Order part # 1000323981.

1. Remove the covers from the machine as outlined in section 4.4.
2. Loosen tension bolts nuts to remove drive belt .
3. On the left side of the frame, remove the retainer clip that holds the drive axle bearings (Figure A).

4. Use a hammer to hit the screw until the drive axle is loose in the frame, and remove it (Figure B).



Fig A

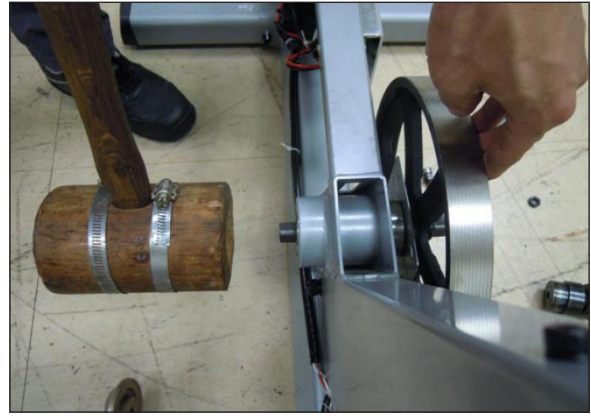


Fig B

5. Install the tool into the hole and use a rubber or wooden mallet to hit the end of the tool until the bearing can be removed from the frame (Fig C & D).



Fig C

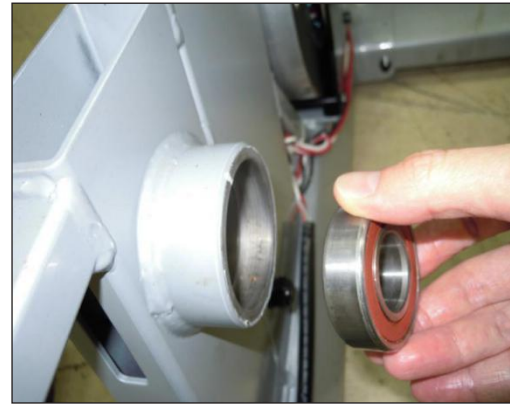


Fig D

6. The drive axle should have come with an iron plate installed (Fig E).

7. Assemble the Matrix tool as shown in Fig F.



Fig E



Fig F

6.7 Drive Set

1. Slide the drive axle assembly onto the frame from the right side. Install the bearing cap portion of the tool into the left side of the frame (Fig G).

2. Mount the other tool from Figure F behind the bearing cap portion of the tool. Use the M10 x 100L x 1.25P screw with a nut to attach the tool to the drive axle (Fig H).

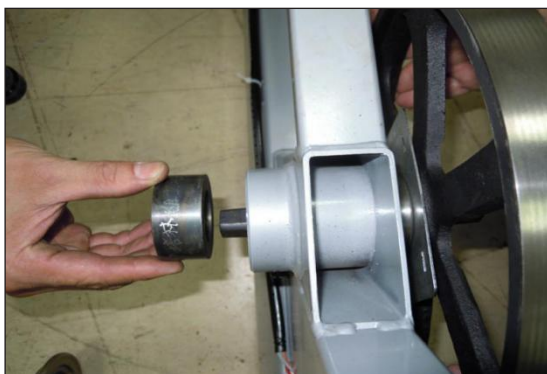


Fig G



Fig H

3. Turn the screw until it is close into the drive axle (Fig I).

4. Then turn the nut until it is close to the cup portion of the tool (Fig J).

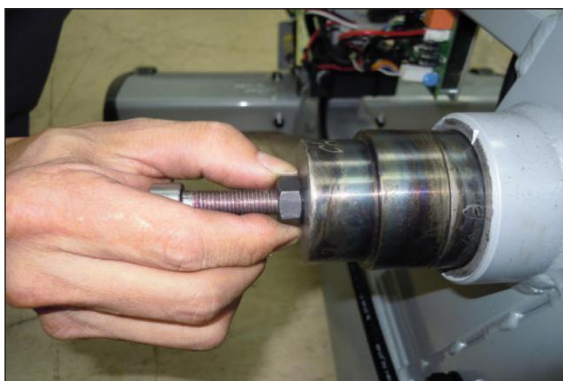


Fig I

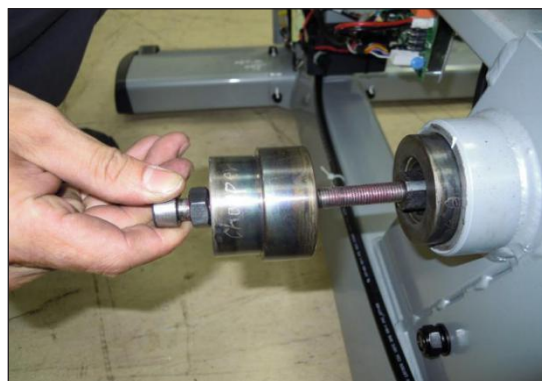


Fig J

5. Use a wrench to hold the screw, then turn the nut to pull the drive axle into the frame (Fig K).

6. Turn the nut until the iron plate is close to the frame on the right side (Fig L).



Fig K

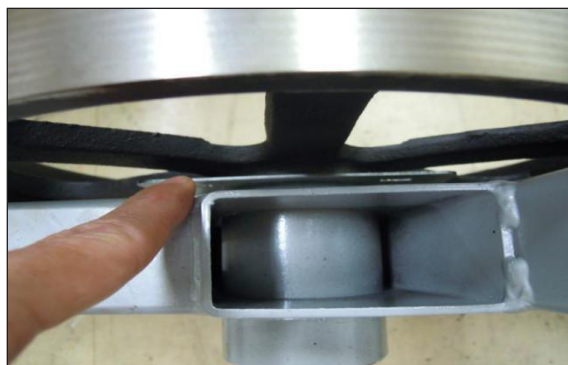


Fig L

7. Remove the tools, then insert the bearing into the hole in the frame on the left side (Fig M).

8. Again use the M10 x 100L x 1.25P screw with a nut to attach the tool to the drive axle (Fig N).

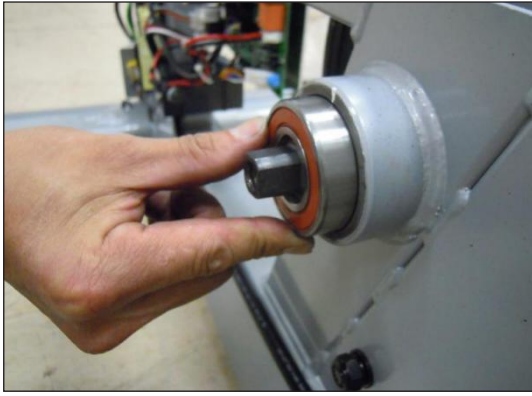


Fig M

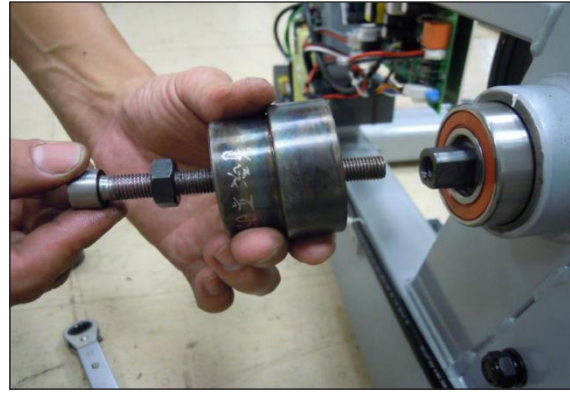


Fig N

9. Turn the screw until it is close into the drive axle (Fig O).

10. Then turn the nut until it is close to the cup portion of the tool (Fig P).

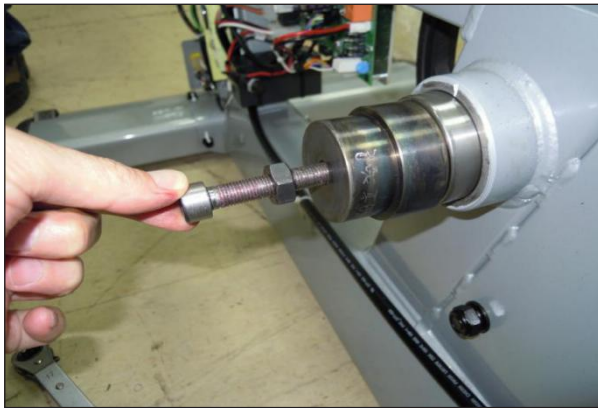


Fig O

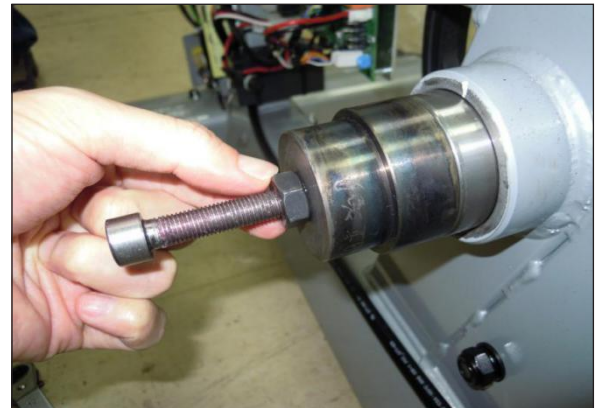


Fig P

11. Use a wrench to hold the screw, then turn the nut to push the bearing into the hole in the frame (Fig Q).

12. Insert the retainer clip to hold the bearing in the frame (Fig R).



Fig Q



Fig R

13. Use a screwdriver to remove the iron plate from the drive axle (Fig S & T).



Fig S



Fig T

14. Rotate the drive axle to make sure that the motion is smooth and that there is no wobbling to one side (Fig U).



Fig U

6.8 Drive Belt

To replace the drive belt, use the belt installation tool, part number 0000093786. If the tool is not available, use industrial zip ties. Align the belt on the rear pulley and the top of the drive axle pulley. Use 3 zip ties to hold the belt to the drive axle pulley, then turn the crank with your foot. Rotate the pulley at least 3 full rotations to ensure that the belt is centered.

