Part Installation Procedure

CrossTrainer – Upper Pulley Assy

FIGURE 1

FIGURE 2-A

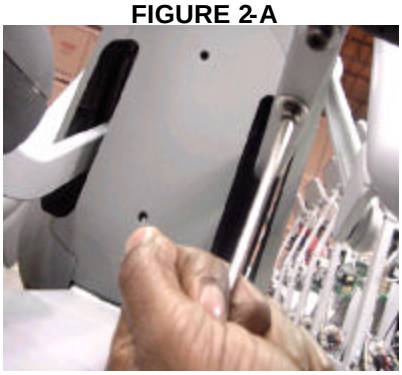
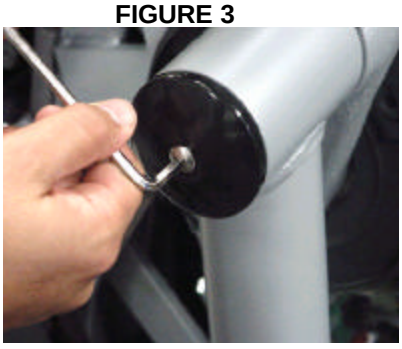


FIGURE 2-B

FIGURE 3



The following procedure explains how to install the "Upper Pulley Assembly" for the Pro / Elite Cross Trainer.

Parts Needed

- Upper Pulley Assembly (Part # 721-1057)

Tools Needed

- ½" or ¼" Cold Chisel & Pair of large pliers
- Allen Wrenches: (3/16) (5/16) (5/32) (3/32)
- Open Head Wrenches: (5/8) (1/2) (9/16)
- Ratchet Sockets: (5/8) (1/2) (9/16)
- Retaining Ring Remover
- Large Flathead Screwdriver & Phillips Screwdriver

Estimated Time

- 30 minutes to disassemble and reassemble the shroud
- 2 hours to complete reinstalling the upper pulley
- Total time 2 hours and 30 minutes

Removing Upper Pulley Assembly

1. Remove the *Dog Bone* bolt from *Lower Crank Arm Assy* using a 5/16 Allen wrench. Note: Once the *Dog Bone* bolt has been removed the *Leg Beam* will shift forward due to the weight of the of it, so be careful not to wedge your hand between moveable parts of the *Leg Beam assy*. **(See figure 1)**
2. Remove upper shroud, lower shroud, and *Guard Disk Plate* on the left and right side using a Phillips screwdriver, ¼, and 3/32 Allen wrench Note: See shroud removal instructions in the service manual for further instruction.
3. Remove the right *Pedal Arm* using a 3/16 Allen wrench to disassemble the screws, then separate the *Pedal Arm* from the *Pedal Base* by pulling them apart from each other after the two bolts have been removed. **(See figure 2A & B)**
4. Remove the right *Leg Beam cap* using a 3/16 Allen wrench to disassemble the screw. **(See figure 3)**
5. Remove the *e-clip* from the *Upper Crank Arm* shaft by prying between the shaft and *e-clip*. **(See figure 4)**

Remove the right *Leg Beam* by sliding it off of the *Upper Crank Arm* shaft. Note: If the *Leg Beam* assy has seized and will not come off pulling with your hands, then use a *pulley puller* to remove the Leg Beam assy from the shaft. **(See figure 5A & 5B)**

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FIGURE 4

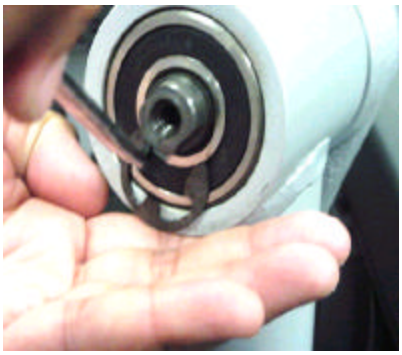


FIGURE 5-A

FIGURE 5-B

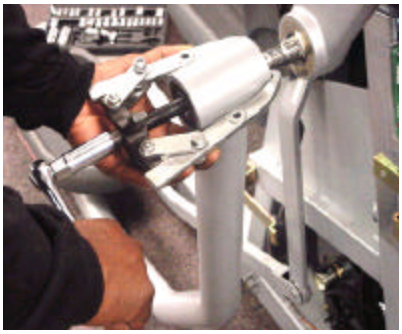


FIGURE 6

6. Remove the right *Upper Crank Arm Cap* by prying it off with a flathead screwdriver. **(See figure 6)**
7. Remove *Upper Crank Arm* retaining ring using a retaining ring remover. **(See figure 7)**
8. Remove both *Upper Crank Arm* bolts on the right side using a 5/16 Allen wrench to unscrew them from the crank. Note: Bolts are on the oppose sides of each other.
9. Wedge a chisel between the *Upper Crank Arm* gap, and hammer the chisel in just enough to slide the *Crank Arm* off the shaft of the *Upper Pulley Assembly* on the right side. Note: When hammering the chisel into the crank, do not let the chisel go so far down that it touches the crank shaft to prevent damage to the *Upper Pulley Assembly*. **(See figure 8)**
10. Once the chisel has been wedged into the *Upper Crank Arm,* slide the crank arm off the *Upper Pulley* shaft on the right side. Note: If the crank does not slide off easy, hammer the chisel in some more to create a larger gap in the crank.
11. Remove the *plastic Disk Shroud* by disassembling the two screws using a Phillips screwdriver.
12. Complete the same process of the previous fourteen steps on the left side of the unit.
13. Remove the three idler pulley screws on the *Brake Assembly* using a 5/32 Allen wrench to disassemble them. **(See figure 9)**
14. After removing the idler pulley screws loosen the *Brake tension bolt* approximately thee complete turns using a ½ inch socket & ratchet. **(See figure 10)**
15. Unplug all wires from the *Load Control, and Upper body* electronics board that's mounted to the *Brace Plate*.
16. Remove the four *Brace Plate bolts* using a 5/8 open head wrench on the nut to stabilize it from turning and a 5/8 socket & ratchet on the head of the *Brace Plate bolts* to unscrew the bolt from the nut. **(See figure 11)**
17. Once the *Brace Plate bolts* have been taken off, completely remove the *Brace Plate* from the frame. Note: Be careful not the damage the electronic boards or wires when removing the *Brace Plate*.
18. Remove the four *Lower Pulley Bolts* using a 9/16 open head wrench on the nut to stabilize it from turning and a 9/16 socket & ratchet on the head of the *Lower Pulley bolts* to unscrew the bolt from the nut. **(See figure 12)**

FIGURE 7

FIGURE 8

FIGURE 9

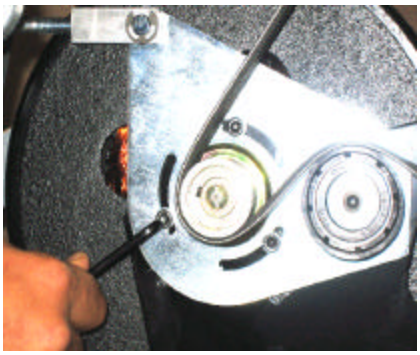
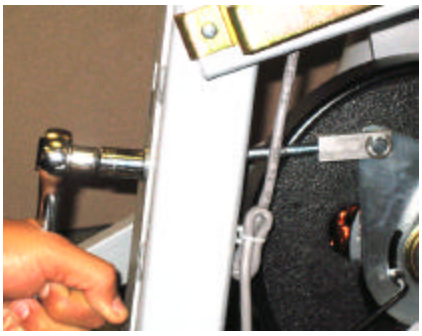


FIGURE 10



19. Once all four nuts have been taken off the *Lower Pulley Assembly,* slide the bolts out and remove the *Lower Pulley* from the frame. **Note: DO NOT TURN THE JACKSCREWS TO KEEP THE CORRECT MANUFACTURE TENSION ON THE TIMMING BELT. (See figure 13)**
20. Remove the four *Upper Pulley Bolts* using a 9/16 open head wrench on the nut to stabilize it from moving and a 9/16 socket ratchet on the head of the *Upper Pulley Bolts* to unscrew the bolt from the nut.
21. Once all four nuts have been taken off the *Upper Pulley Assembly,* slide the bolts out and remove the *Upper Pulley* from the frame. Note: Be careful, once the last bolt has been removed the *Upper Pulley Assembly* will drop out and could cause damage to other components in the unit if it drops.

Installing Upper Pulley Assembly

1. Rap the drive belt around the *Upper Pulley* and align *the Pillow Block bearing* with the holes in the frame.
2. Once the holes in the bearings and the frame have been aligned, mount the Upper Pulley down by sliding the bolts through the holes, and screw the nuts on hand tight. Note: The bolts need to go back in the same position they were in originally in, to prevent the linkage arm from hitting the end of the bolt. **(See figure 14)**
3. Tighten the bolts down using a 9/16 open head wrench on the nut to stabilize it from moving and a 9/16 ratchet socket on the head of the *Upper Pulley Bolts* then tighten. Note: Before tightening the nuts down with a ratchet make sure all four bolts are in. Also the bolts should be tightened down approximately 50-foot pounds of torque.

Installing Timing Belt:

1. Align the timing mark on the *Timing Belt* with the line on *the Upper Pulley*. Note: There's two timing lines on the timing belt that's 47 teeth apart from each other, so make sure the top mark on the belt is align with the mark on the Upper Pulley. **(See figure 15)**
2. Slide the *Lower Pulley* through the bottom loop of the *drive belt*, but do not mount the *Lower Pulley* to the frame yet. Note: At this time the Lower Pulley should be just hanging and, supported by the *timing belt*.

FIGURE 11

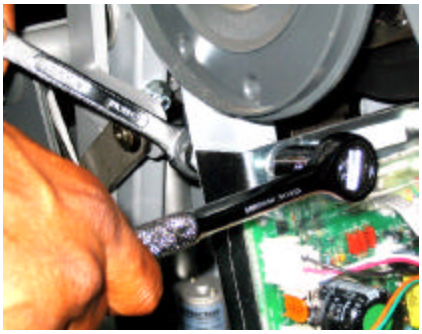


FIGURE 12

FIGURE 13

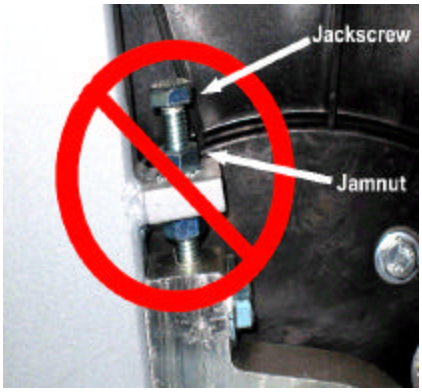
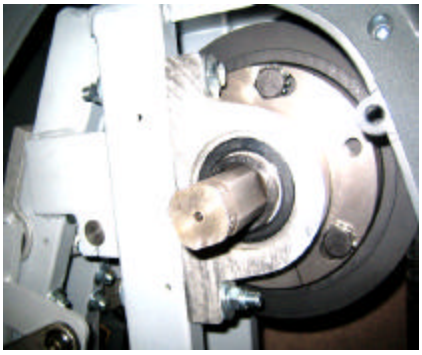


FIGURE 14



3. Adjust the *Lower Pulley* so the timing mark on it is aligned with the timing line on the belt. Note: If the timing line on the belt is not aligned with the timing mark on the Lower Pulley, then, hold the timing belt with one hand by the Upper Pulley to prevent throwing the Upper Pulley out of timing. And with your other hand turn the shaft of the Lower Pulley until the timing line on the belt is aligned with the mark on the Lower Pulley. **(See figure 16)**
4. Once the Upper and lower Pulley have been timed properly then mount the Lower Pulley down by sliding the bolts through the holes, and screw the nuts on hand tight.
5. Tighten the bolts down using a 9/16 open head wrench on the nut to stabilize it from moving and a 9/16 ratchet socket on the head of the *Lower Pulley bolts* then tighten. Note: Before tightening the nuts down with a ratchet make sure all four bolts are in. Also the bolts should be tightened down approximately to 50-foot pounds of torque.

Installing Brace Plate and Electronics

1. Install the *Brace Plate* to the frame by aligning the holes in the *Brace Plate* with the holes in the frame. Note: When installing the Brace Plate be careful not to damage any of the wires.
2. Slide all four bolts through the Brace Plate and the frame, and tighten the nuts hand tight.
3. With a torque wrench tighten the nuts to 60 foot pounds of torque using a 5/8 open head wrench on the nut to stabilize the nut from turning and a 5/8 socket on the torque wrench to the head of the *Brace Plate bolts* then tighten.
4. Once the *Brace Plate* has been installed plug in all the wires to the electronic boards.

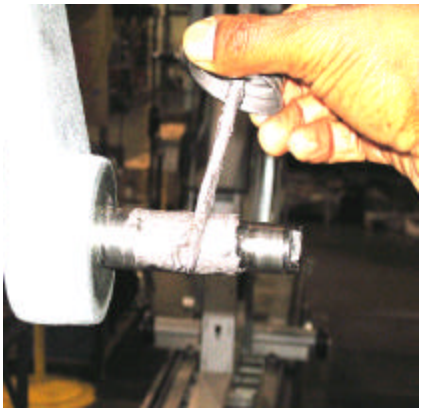
Installing Brake Belt

1. Rap the *Brake belt* around the large plastic pulley that's mounted to the *Lower Pulley assy.*
2. Align the Poly-V grooves on the Brake belt with the grooves on both pulleys.
3. Once the *Brake belt* has been aligned with the large plastic pulley and the small *Brake pulley*, tighten all three idler pulley bolts using a 3/16 Allen wrench. Note: Tighten the bolts just enough for the washer too touch the idler pulley bracket, but do not apply any torque.

FIGURE 15

FIGURE 16

FIGURE 17A



4. Screw the tension bolt for the Brake belt back to it's original tension using a ½ inch ratchet socket.
5. Once the Brake belt has been tightened back to its original tension, tighten the idler pulley bolts using a 3/16 Allen wrench. Note: After the Crank Arms and Leg Beam assemblies have been installed test the unit for slippage. If the unit slips then apply more tension too the Brake tensioning bolt (a half a turn at a time then test again).

Installing Upper Crank Arms

1. Screw the plastic *Upper Shroud Disk* back in with a Phillips head screwdriver.
2. Wedging a chisel between the *Upper Crank Arm* gap opening, and hammer the chisel in just enough to slide the crank onto the *Upper Pulley* shaft. Note: Make sure there is one spacer on each side of the *Upper Pulley* before installing the *Upper Crank*.
3. Slide the *Upper Crank Arm* onto the right side of the shaft. Note: Make sure the *Crank Arm* is flush with the spacer that sits between the *Crank Arm* and the *Pillow Block Bearing.*
4. Pull the chisel out from the *Upper Crank Arm*. Note: It's best to push the crank arm with one hand as you pull the chisel out with the other hand to prevent the crank arm from shifting forward.
5. Install the retaining ring using the retaining ring tool by spreading it out and snapping it into the groove cut out around the end of the *Upper Pulley* shaft.
6. Screw both pinch bolts back into the *Upper Crank* arm using a 5/16 Allen wrench, and torque the bolts down to 50 foot pounds.
7. Snap the *Upper Crank Arm Cap* back onto the *Upper Crank arm* on the right side.
8. Repeat the same process for the *Upper Crank* installation on the left side.

Installing Leg Beam Assembly

1. Apply lubricant to the *Upper Crank Arm* shaft on the right side. Note: We recommend non-seize lubricant. **(See figure 17A & 17B)**
2. Slide the right side *Leg Beam* onto *the Upper Crank Arm* shaft.
3. Snap the e-clip back onto the groove of the *Upper Crank* shaft using a pair of pliers. **(See figure 18)**
4. Screw the *Leg Beam Cap* back onto the shaft of the *Upper Crank arm* using a 3/16 Allen.
5. Repeat the same process to install the left Leg Beam assembly.

FIGURE 17B

FIGURE 18

Installing Dog Bone

1. Install the right metal *Shroud Disk* using a ¼ Allen wrench to screw in all three bolt.
2. Install right lower shroud and tighten all six shroud screws using a Phillips screwdriver.
3. After the *Shroud Disk*, and lower shroud has been installed snap the *Disk Cap* onto the *Shroud Disk*.
4. Attach the right Pivot Arm to the Pedal Base and align the screw holes up.
5. After aligning the *Pivot Arm* to the *Pedal Base*, tighten the two screws down using a 3/16 Allen wrench.
6. Align the hole in the *Dog Bone* with the hole on the *Lower Crank Arm* so they are concentric to each other and screw the bolt in using a 5/16 Allen wrench. Note: Before screwing the *Dog Bone* in make sure there's a *Nord Lock Washer* on each side of the *Dog Bone*.
7. Tighten the *Dog Bone* bolt to 60 foot pounds using a 5/16 Allen socket with a torque wrench.
8. Repeat same process of the Dog Bone installation on the left side.

Finial Inspection:

1. Install upper shroud on the right and left side using a 3/32 Allen wrench too tighten the screws.
2. Inspect all shroud screws to make sure there tight.
3. Start striding on the unit to make sure there's no noises or mechanical failure.

For further question please contact:
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