# Arc Trainer® Pulley and Crank Shaft

Kit No. 600AK002

Installation Instructions

***NOTE:*** *This instruction sheet describes how to replace the crank shaft in the 600A/610A Arc Trainer.*

## *TOOLS REQUIRED*

- Cloth or rag (2)
- Phillips screwdriver
- 1/8” Allen wrench
- 3/16” Allen wrench
- Loctite #242
- 3/8” Nut driver or socket wrench
- 7/16” Socket wrench
- 9/16” Socket wrench
- 9/16” Open end wrench
- Torque wrench

***NOTE:*** *A cordless drill with a Phillips bit is recommended but not required.*

***If tension belt needs to be reset:***

- 1/2” Socket wrench
- 1/2” Open end wrench
- 3/8” Square hole torque wrench

1. **Read and understand all instructions thoroughly before installing this kit.**

2. **Verify kit contents.**

   **A.** Remove all packing and shipping supports.

   **B.** Verify kit contents. See Figure 1.

   **C.** Carefully inspect the pulley and crank shaft assembly for damage.

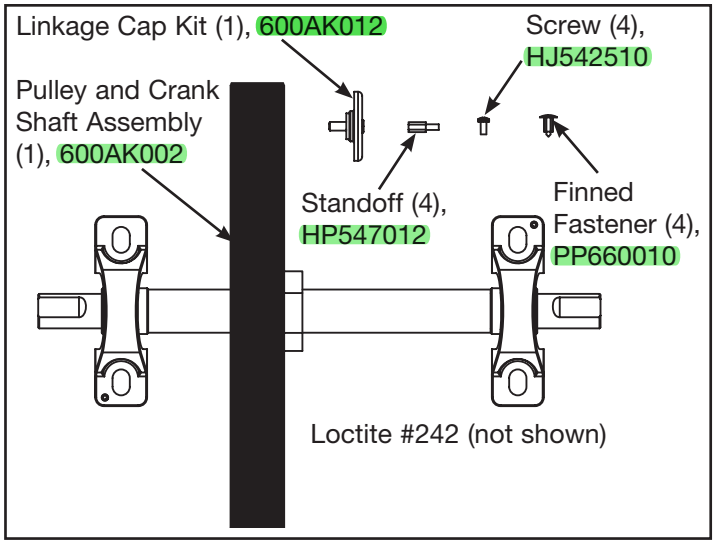


Figure 1

3. **Elevate the unit and disconnect the power source.**

   **A.** Elevate the unit to a minimum of level 7 incline.

   **B.** While the unit is elevated, turn the main power switch to the off (0) position and unplug the power cord from the power outlet.

***! WARNING: Disconnect the power cord before continuing this procedure. Keep wet items away from inside parts of the unit. Electrical shock could occur even if the unit is unplugged.***

4. **Remove the access cover.**

   **A.** Using a Phillips screwdriver, remove the four screws and four washers securing the access cover. See Figure 2.

   **B.** Remove the access cover.

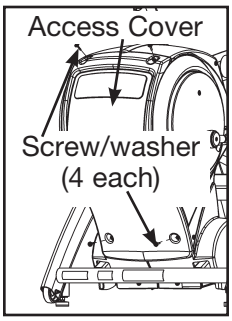


Figure 2

***! WARNING: Flywheel may be hot. Wait until it cools before servicing.***

5. **Detach the connecting rods.**

   **A.** Using a 3/16” Allen wrench, remove the SHCS and spacer securing the linkage arm. See figure 3. ***NOTE:*** *Figure 3 shows the contents of the linkage cap kit that will be installed in step 23A.*

   **B.** Lay the linkage bar down on the frame. ***NOTE:*** *Place a cloth in between the linkage arm and the frame to prevent scratches.*

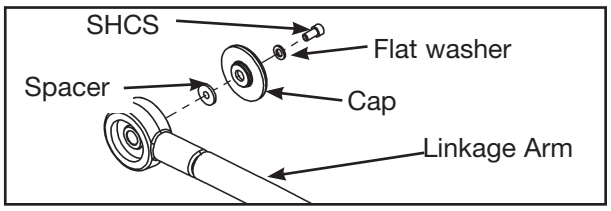


Figure 3

CYBEX®

6. **Remove the side covers.**

   **A.** Remove the six screws and six washers securing each side cover in place. See Figure 4.

   **B.** Remove both side covers. ***NOTE:*** *The gasket will come off with one of the side covers.*

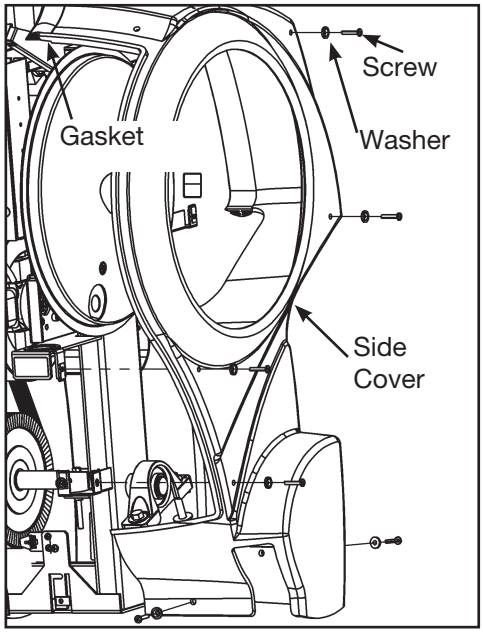

Figure 4

7. **Remove the crank covers and the crank arm disk supports.**

   **A.** Using a Phillips screwdriver, remove the three screws securing each crank cover (and remove the crank covers). See Figure 5.

   **B.** Using a Phillips screwdriver, remove the screw securing each crank arm disk support. See Figure 6.

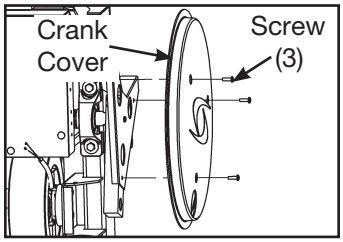

Figure 5

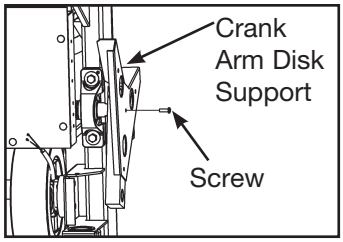

Figure 6

***! WARNING: Failure to release the drive belt tension may cause potential injury and may damage the unit.***

8. **Release the drive belt tension.**

   **A.** Using a 7/16" socket wrench, remove the two screws, two lock washers and two flat washers from from the lower pivot shaft. See Figure 7.

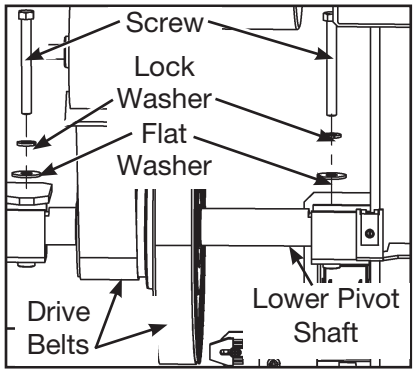

Figure 7

***NOTE:*** *Tension is now released. Leave lower pivot assembly in place.*

***! WARNING: Do not touch components on the lower board. A charge can remain after unplugging the power cord and turning off the unit.***

9. **Remove the lower board assembly.**

   **A.** Pull out on the lower board shield (it will snap out). See Figure 8.

   **B.** Disconnect the elevation motor cable from the lower board. See Figure 9.

   **C.** Using a Phillips screwdriver, loosen or remove the top two screws from the lower board assembly and loosen the bottom two screws. See Figure 10.

   **D.** Slide the lower board assembly to the left and off the two screws, then gently suspend it by the cables.

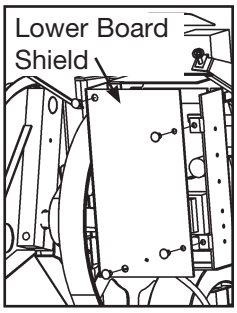

Figure 8

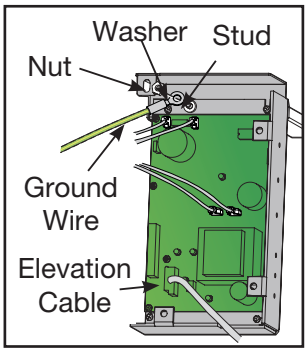

Figure 9

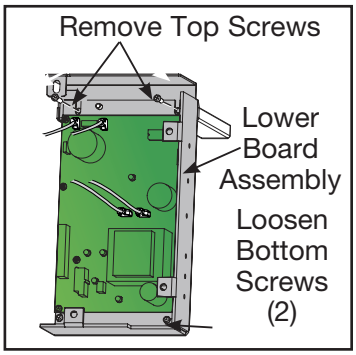

Figure 10

10. **Remove the crank arms.**

    **A.** Using a 9/16" socket wrench, loosen but do not remove the screw on each crank arm.

    **B.** Remove the crank arms.

11. **Remove the crank shaft assembly.**

    **A.** Using a 9/16" socket wrench and a 9/16" open end wrench, remove the two bolts, four flat washers and two nuts from each of the pillow blocks.

    **B.** Remove the crank shaft assembly along with the pillow blocks out of the unit.

**12. Attach the crank shaft assembly.**

***NOTE:*** *The new bearings have been pre-assembled on the new crank shaft assembly and are not adjustable.*

**A.** Place the assembly into the primary belt and slide the pins into the holes on the frame. See Figure 11. ***NOTE:*** *You may need to tap the pins in so they are flush with the top of the pillow blocks.*

**B.** Using a 9/16” socket wrench and a 9/16” open end wrench, secure the two bolts, four flat washers and two nuts (removed in step 11B) to each pillow block. See Figure 11.

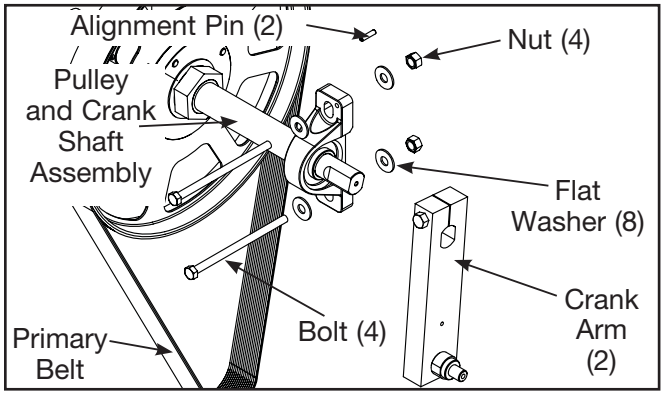


Figure 11

**13. Secure the lower shaft assembly.**

**A.** Confirm that both drive belts are straight and centered in place.

**B.** Confirm that the two spacers are still in place under the lower pulley shaft.

**C.** Using a 7/16” socket wrench, tighten the two screws, two lock washers and two flat washers securing the lower pivot assembly in place.

**14. Secure the crank arms.**

**A.** Slide each crank arm in place. See Figure 11. ***NOTE:*** *The face of each crank arm should be flush with the end of each shaft.*

**B.** Using a 9/16” socket wrench, tighten the screw on each crank arm.

**15. Attach the lower board assembly.**

**A.** Attach the four standoffs as shown in Figure 12.

**B.** Slide the lower board assembly over the two bottom screws and to the right.

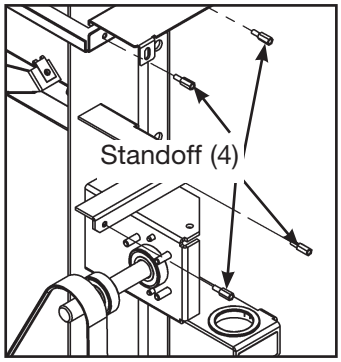


Figure 12

**C.** Using a Phillips head screwdriver, attach the top two screws and tighten the two bottom screws securing the lower board assembly in place.

**D.** Connect the elevation motor cable into the lower board. See Figure 9.

**E.** Place the shield into position and secure using the four new finned fasteners supplied with this kit (the shield will snap in). See Figure 8.

**16. Check the tension of the primary drive belt.**

**A.** Check to see if idler pulley is present. See Figure 13. ***NOTE:*** *If idler pulley is present then perform steps 16B - 18B. If idler pulley is not present then skip steps 16B - 18B.*

**B.** Press on the primary belt with your hand. You should not feel any “give” in the primary belt. If the belt “gives”, follow step 18 through 19. Otherwise, skip to step 20. ***NOTE:*** *The secondary belt is self-tensioning.*

**17. Release the tension of the primary drive belt (if applicable).**

**A.** Using a 1/2” socket wrench, loosen the bottom screw on the idler pulley. See Figure 13.

**B.** Using a 1/2” socket wrench, loosen the top screw on the idler pulley. See Figure 13.

**18. Torque the primary belt (if applicable).**

**A.** Using a 3/8” square-hole torque wrench, pull up until the idler wheel rocks against the brake and is torqued to 75 ft-lbs. ***NOTE:*** *Continue holding the torque wrench at 75 ft-lbs during the next step.*

**B.** While holding the torque wrench at 75 ft-lbs, use a 1/2” socket wrench to tighten the top screw on the idler pulley. See Figure 13.

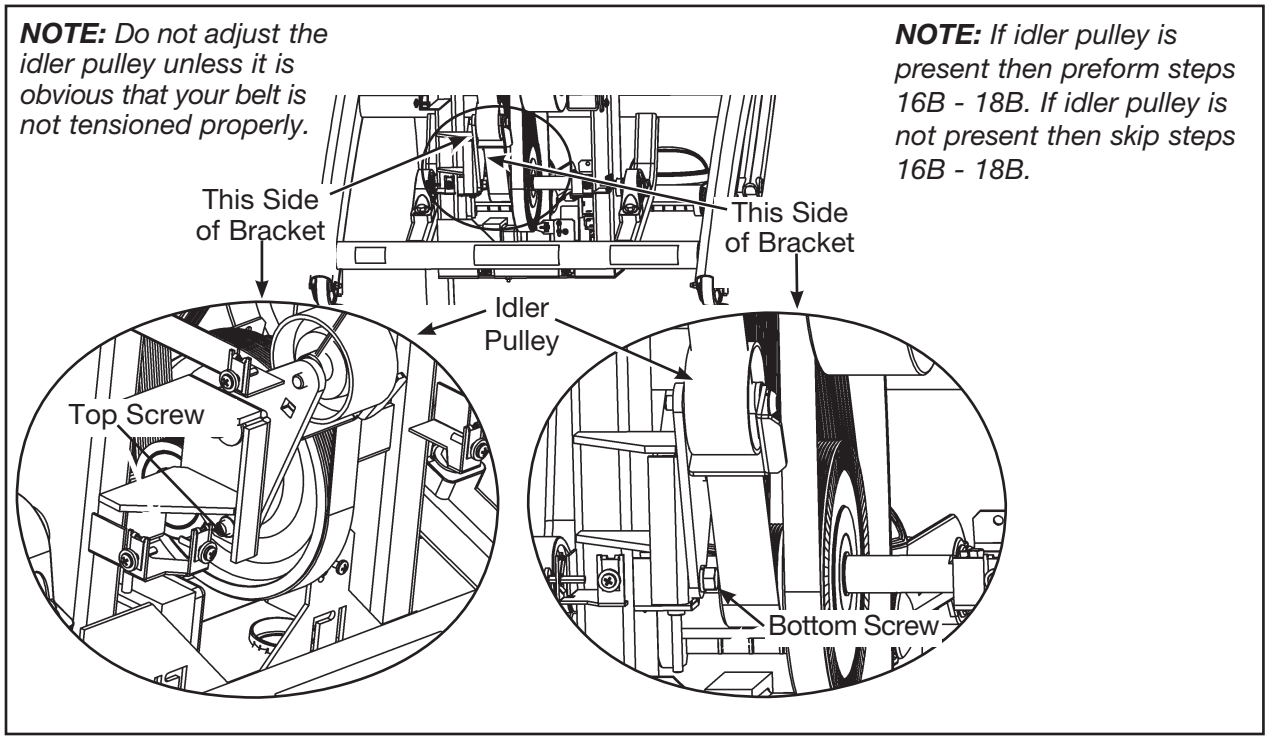


Figure 13

**19. Attach the crank arm disk supports.**

**A.** Place #242 loctite on the screws securing crank arm.

**B.** Using a Phillips head screwdriver, attach the screw securing each crank arm disk support in place. See Figure 6.

**20. Attach the crank covers.**

**A.** Place each crank cover in position.

**B.** Place #242 loctite on the screws securing crank arm.

**C.** Using a Phillips head screwdriver, attach the three screws securing each crank cover in place. See Figure 5.

**21. Attach the side covers.**

**A.** Place each side cover in position in the rubber gasket.

**B.** Using a Phillips head screwdriver, tighten the six screws and six washers securing each side cover. See Figure 5.

**22. Secure the connecting rods.**

**A.** Attach each connecting rod to each crank using the 600AK012 Linkage Cap kit. Follow the instructions in the kit.

**23. Attach the access cover.**

**A.** While being sure not to pinch any cables, hold the access cover in place. See Figure 2

**B.** Using a Phillips head screwdriver, tighten the four screws and washers securing the access cover. See Figure 2.

**24. Test unit for proper operation.**