

# Arc Trainer® Main Frame Assembly

Kit No. 610AK019-4  
Kit No. 630AK019-4

Installation Instructions

**NOTE:** This instruction sheet describes how to replace the main frame assembly in the Arc Trainer 610A.

## Tools Required

- 3/16" Allen wrench
- 7/32" Allen wrench (2)
- 9/16" Socket
- 9/16" Open end wrench
- 6" Phillips screwdriver
- Rubber mallet
- Side cutter
- Punch
- Torque wrench

**NOTE:** Two people is recommended for this procedure.

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

2. Verify kit contents.

- A. Main Frame Assembly (1)
- B. Foot Pad (2), **11090-405**
- C. CE Decal (1), CM000242
- D. Loctite 242 (2), **YA000201**

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.

4. Remove console

A. Using a 7/32" Allen wrench, remove the four .375-16 x 1.50 BHCS (Button Head Cap Screw) and four washers. See Figure 1.

B. Unplug upper display cable from lower display cable.

C. Set console aside. **NOTE:** Console will be attached to the new frame later.

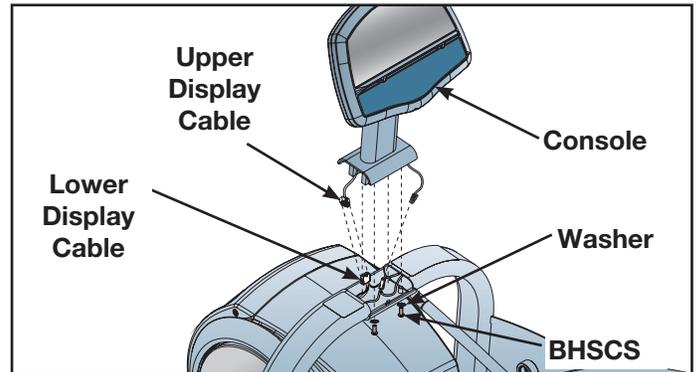


Figure 1

5. Remove lower left linkage rod.

A. Using a 3/16" Allen wrench, remove each SHCS (Socket Head Cap Screw), spacer, cap and washer securing both ends of the lower linkage rod. See Figure 2

B. Remove lower linkage rod and set aside along with hardware removed in step 5A. **NOTE:** These will be attached to the new frame later.

C. Repeat steps 5A and 5B to remove other linkage rod.

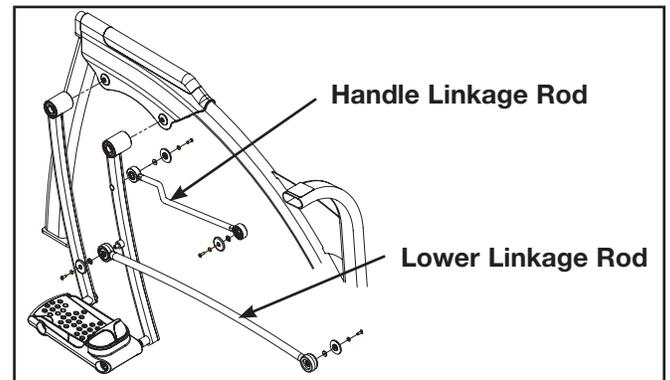


Figure 2

6. Remove handle linkage rod and arm handle.

A. Using a 3/16" Allen wrench, remove each SHCS, spacer, cap and washer securing both ends of the linkage rod. See Figure 2.



- B. Remove handle linkage rod and set aside along with hardware removed in step 6A. **NOTE:** These will be attached to the new frame later.
- C. Unplug the heart rate cable. See Figure 3.

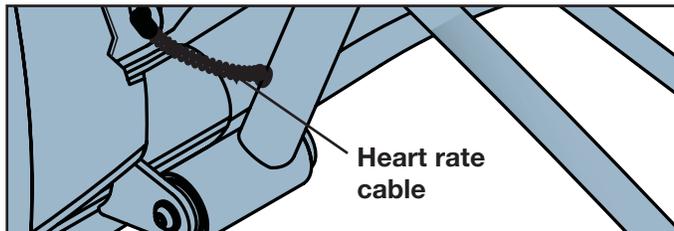


Figure 3

- D. Using two 7/32" Allen wrenches, remove the two BHSCS, washers and pivot pin securing the arm handle onto the frame. **NOTE:** You may need a rubber mallet and punch to remove the pivot pin. See Figure 4
- E. Carefully remove the arm and set aside along with hardware removed in step 4A. **NOTE:** These will be attached to the new frame later.

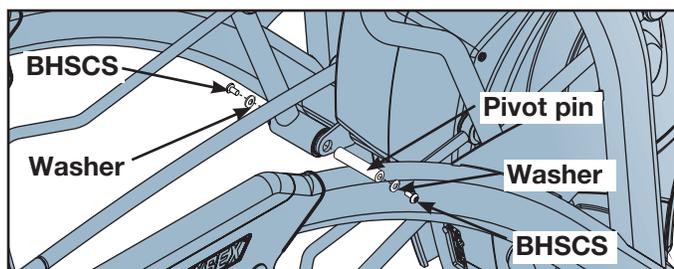


Figure 4

- F. Repeat steps 6A-6E to remove other handle linkage rod and arm handle.

#### 7. Remove left front foot plate arm.

- A. Using two 7/32" Allen wrenches, remove the inside BHSCS and retainer. While holding the left front foot plate arm remove the pivot pin. **NOTE:** You may need a rubber mallet and punch to remove the pivot pin.
- B. Carefully remove the left front foot plate arm and tilt forward to lay on the floor. See Figure 5.

#### 8. Remove left rear foot plate arm.

- A. Using two 7/32" Allen wrenches, remove the inside BHSCS and retainer. While holding the left rear foot plate arm remove the pivot pin. **NOTE:** You may need a rubber mallet and punch to remove the pivot pin.

- B. Carefully remove the left foot plate arm assembly and set aside. See Figure 5.

#### 9. Remove left pivot cover.

- A. Remove left pivot cover and set aside. See Figure 5.

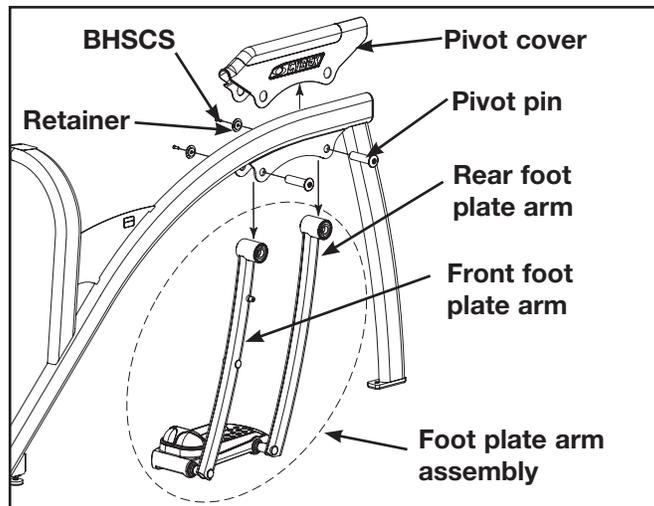


Figure 5

#### 10. Install left pivot cover.

- A. Place pivot cover on frame. See Figure 5

#### 11. Install left foot plate arm assembly.

- A. Place foot plate arm assembly on floor and raise rear foot plate arm so that the holes align with holes in frame and pivot cover.
- B. Insert pivot pin (removed in step 8A). See Figure 5.
- C. Place a drop of loctite #242 on the BHSCS (removed in 8A). Place another drop of loctite #242 inside the shaft (where the BHSCS will be tightened into).
- D. Install BHSCS and retainer (removed in step 8A) and tighten using two 7/32" Allen wrenches. See Figure 5.
- E. Raise front footplate arm so that the holes align with holes in frame and pivot cover.
- F. Insert pivot pin (removed in step 7A). See Figure 5.
- G. Repeat steps 11C-11D.

**12. Remove right foot plate arm assembly and right pivot cover.**

A. Repeat steps 7-9. See Figure 5.

**13. Install right foot plate arm assembly and right pivot cover.**

A. Repeat steps 10 and 11. See Figure 5.

**14. Remove the access cover.**

A. Using a Phillips screwdriver, remove the two lower screws (one screw on each side), securing the access cover. See Figure 6.

B. Remove the two upper screws (one screw on each side), securing the access cover.

C. Remove the Access cover.

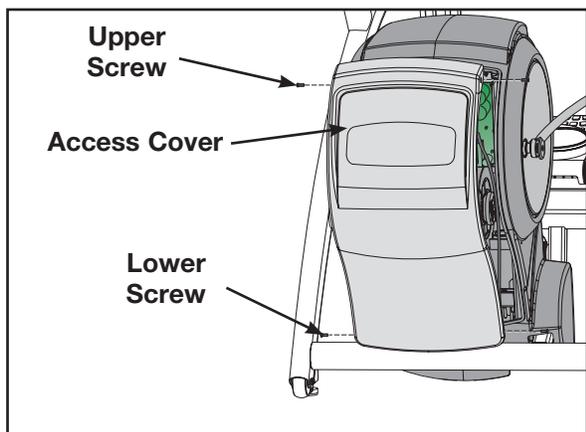


Figure 6

**15. Remove the left and right crank covers.**

A. Using a Phillips screwdriver, remove the screws securing the crank covers and remove. See Figure 7.

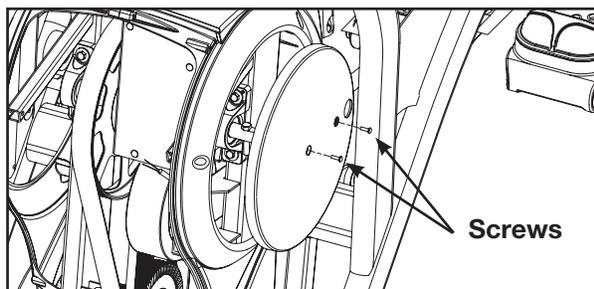


Figure 7

**16. Remove the left shroud.**

A. Using a long phillips head screwdriver remove the ten screws and two washers securing left shroud cover in place. See Figure 8.

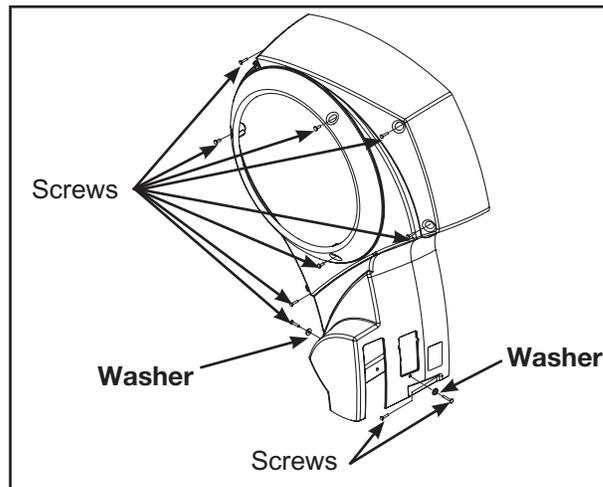


Figure 8

**17. Remove the right shroud.**

A. Using a long phillips screwdriver remove five screws and two washers securing right shroud cover in place. See Figure 9.

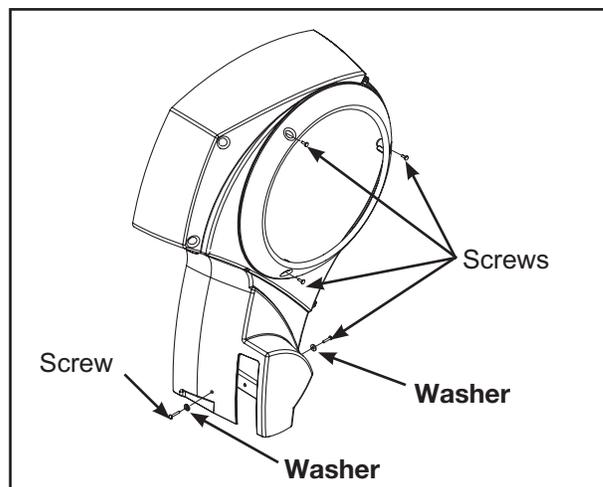


Figure 9

**18. Remove controller cover.**

A. Pull out on the controller cover (it will snap out). See Figure 10.

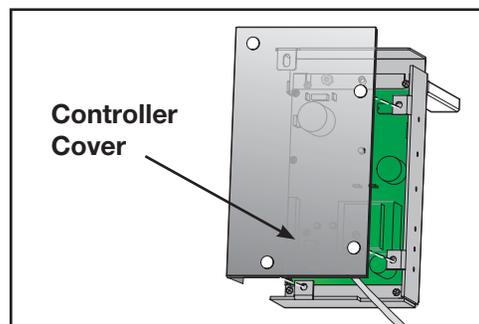


Figure 10

## 19. Unplug and remove the display cable.

- A. Unplug the display cable from the control board and remove cable from drive frame assembly. See Figure 11.

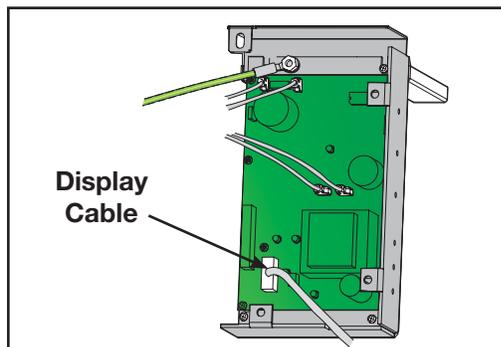


Figure 11

## 20. Remove drive frame assembly.

- A. Using a 9/16" socket and open end wrench, remove HHCS (Hex Head Cap Screw), sleeve and locknut securing the elevation motor to frame. See Figure 12.
- B. Using a 9/16" socket and open end wrench, remove four washers and nuts from HHCS holding the two pillow blocks of the drive frame assembly to the main frame. See Figure 12
- C. Carefully lift drive frame assembly off main frame. See Figure 12. **NOTE:** Two persons is strongly recommended to do this procedure.

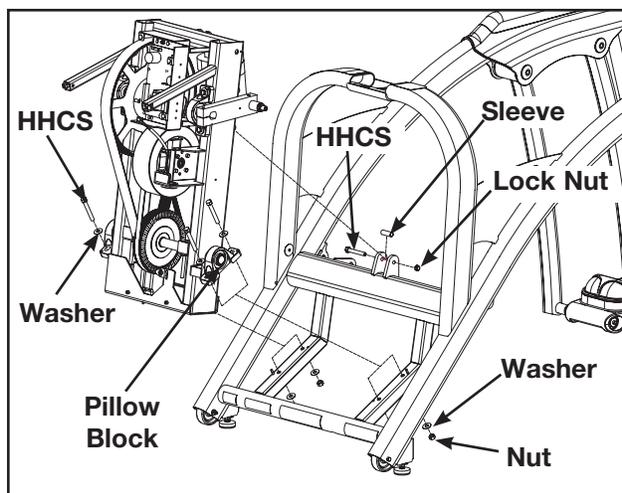


Figure 12

## 21. Attach drive frame assembly.

- A. With two assistants lifting drive frame assembly align pin in pillow blocks with holes in frame and set in place.

- B. Using a 9/16" socket and open end wrench, attach four washers and nuts (removed in step 20B) to HHCS and tighten securing two drive frame assembly pillow blocks to main frame. See Figure 12.

- C. Using a 9/16" socket and open end wrench, attach HHCS, sleeve and locknut (removed in step 20A) and tighten securing elevation motor to frame. See Figure 12.

## 22. Attach display cable to control board.

- A. Route display cable through holes in drive frame assembly following existing wires to control board.
- B. Plug display cable in to display jack on control board. See Figure 11.

## 23. Attach controller cover.

- A. Place cover in position and secure by pushing the finned fasteners in place. See Figure 10.

## 24. Install right shroud cover.

- A. Using a Phillips head screwdriver install the five screws and two washers (removed in step 17A) securing right shroud cover in place. See Figure 9.

## 25. Install left shroud cover.

- A. Using a long Phillips head screwdriver install the ten screws and two washers (removed in step 16A) securing left shroud cover in place. See Figure 8.

## 26. Install the left and right crank covers.

- A. Using a Phillips screwdriver, install the screws (removed in step 15A) securing the crank covers. See figure 7.

## 27. Install access cover.

- A. While being sure not to pinch any cables, hold the access cover in place. See Figure 6.
- B. Using a Phillips head screwdriver, install and tighten the two upper screws first (removed in step 14B). **NOTE:** Do not over tighten screws.
- C. Install and tighten the two lower screws (removed in step 14A). **NOTE:** Do not over tighten screws.

## 28. Reinstall Left arm handle.

- A. Place Left arm handle in position and align with holes on frame.
- B. Insert pivot pin (removed in step 6D). See Figure 4. **NOTE:** You may need a rubber mallet to install the pivot pin.
- C. Place a drop of loctite #242 on the BHSCS (removed in step 6D). Place another drop of loctite #242 inside pivot pin shaft (where the BHSCS will be tightened into).
- D. Using two 7/32" Allen wrenches, install the two BHSCS and washers (removed in Step 6D). See Figure 4.
- E. Repeat steps 28A-28D for right arm handle.

## 29. Reinstall left handle linkage rod.

- A. Properly position the left handle linkage rod in place.
- B. Place a drop of loctite #242 on the SHCS that will secure the left handle linkage rod and place another drop of loctite into the shaft (where the SHCS will be tightened into).
- C. Using a 3/16" Allen wrench, install SHCS, spacer, cap and washer (removed in steps 6A-6B) . See Figure 13. **NOTE:** SHCS must be tightened to a minimum of 90 inch-pounds.
- D. Repeat steps 29A-29C for right handle linkage rod.

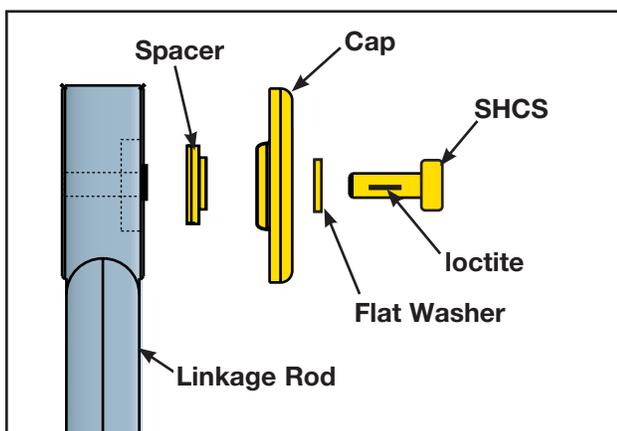


Figure 13

## 30. Reinstall lower left linkage rod.

- A. Properly position the lower left linkage rod in place.
- B. Place a drop of loctite #242 on the SHCS that will secure the lower left linkage rod and place another drop of loctite into the shaft (where the SHCS will be tightened into).
- C. Using a 3/16" Allen wrench, install SHCS, spacer, cap and washer (removed in steps 5A-5B). See Figure 13. **NOTE:** SHCS must be tightened to a minimum of 90 inch-pounds.
- D. Repeat steps 30A-30C for lower right linkage rod.

## 31. Attach Console.

- A. Plug upper display cable into lower display cable. See Figure 1. **NOTE:** Ensure cable connectors are securely fastened.
- B. Place the console in the correct position on the main frame assembly and hand thread each of the four BHSCS and washers. See Figure 1. **NOTE:** Confirm that no cables are pinched lowering the console.
- C. Using a 7/32" Allen washer securely fasten the four BHSCS.

## 32. Connect power and test for proper operation.

- A. Turn the main power switch to the on (I) position.
- B. Test the unit to verify proper operation.



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