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INSTRUCTIONS FOR THE REPLACEMENT OF GAS OR MECHANICAL SPRING TO FIT PELTON & CRANE LFII AND LFIII SERIES

Instruction sheet for use with the following RPI parts:

UNIT MOUNT

PCS602 Gas Spring with Anchor
PCS647 Gas Spring (175 lbs.)
PCS648 Gas Spring (185 lbs.)
PCA653 Gas Spring Assembly (175 lbs.)
PCA654 Gas Spring Assembly (185 lbs.)
PCA700 Mechanical Spring Unit Mount

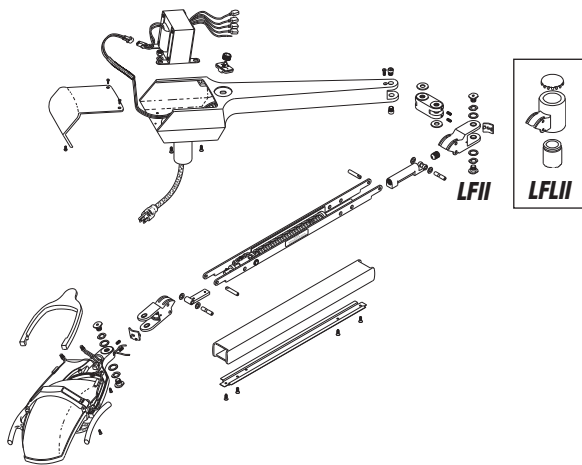
CEILING MOUNT

PCS601 Gas Spring with Anchor
PCS649 Gas Spring (195 lbs.)
PCS650 Gas Spring (210 lbs.)
PCA655 Gas Spring Assembly (195 lbs.)
PCA656 Gas Spring Assembly (210 lbs.)
PCA701 Mechanical Spring Ceiling Mount

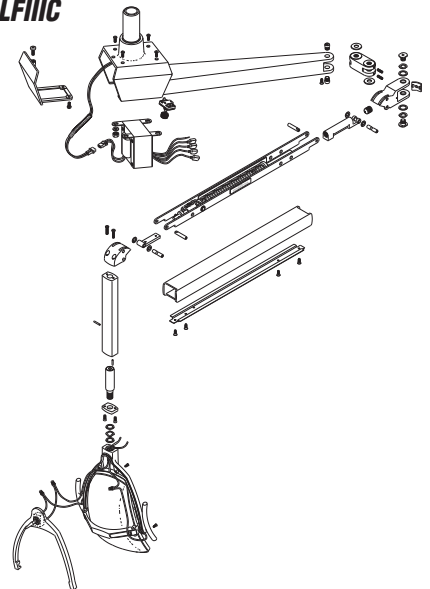
TIE BARS

PCB667 Tie Bars
Replacement for PCA653, PCA654,
PCA655, PCA656, PCS647, PCS648,
PCS649 & PCS650.

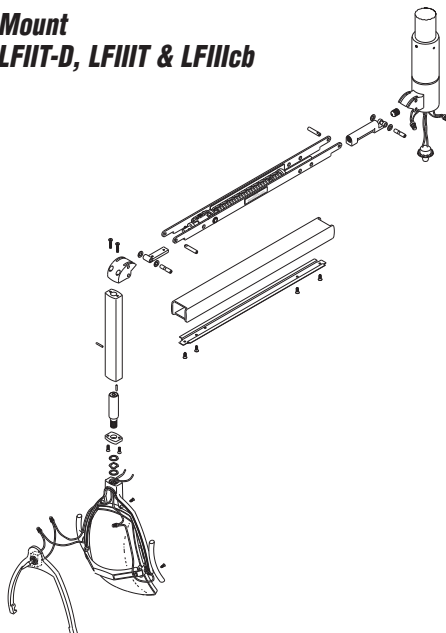
Unit/Chair Mount LFII, LFIIIL & LFIII



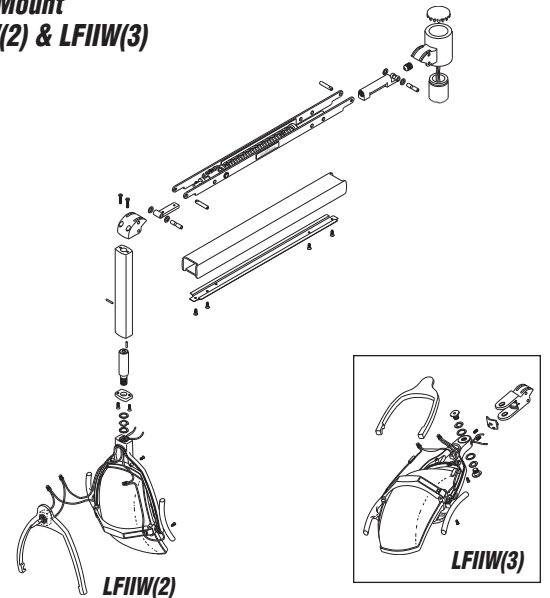
Ceiling Mount LFIIIC, LFIIIC-D & LFIIICB



Track Mount LFIIIT, LFIIIT-D, LFIIITB & LFIIITcb



Wall Mount LFIIW(2) & LFIIW(3)



LFII SERIES LIGHTS Figure 1

1. Disconnect power.
2. Remove the four yoke cover screws and pull off cover. **(Figure 1)**
3. Disconnect the wires (RPI Part #PCW603) that extend from the front/drop arm to the yoke, one wire to the switch (RPI Part #PCS604) and the other to the light socket (RPI Part #PCS607). **(Figure 1)**

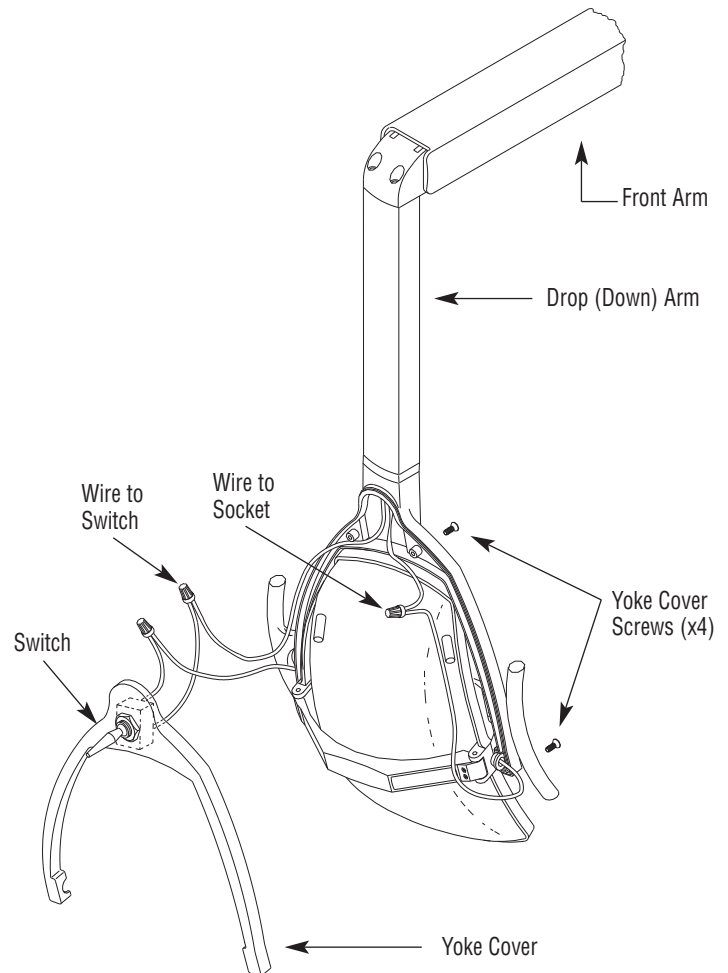
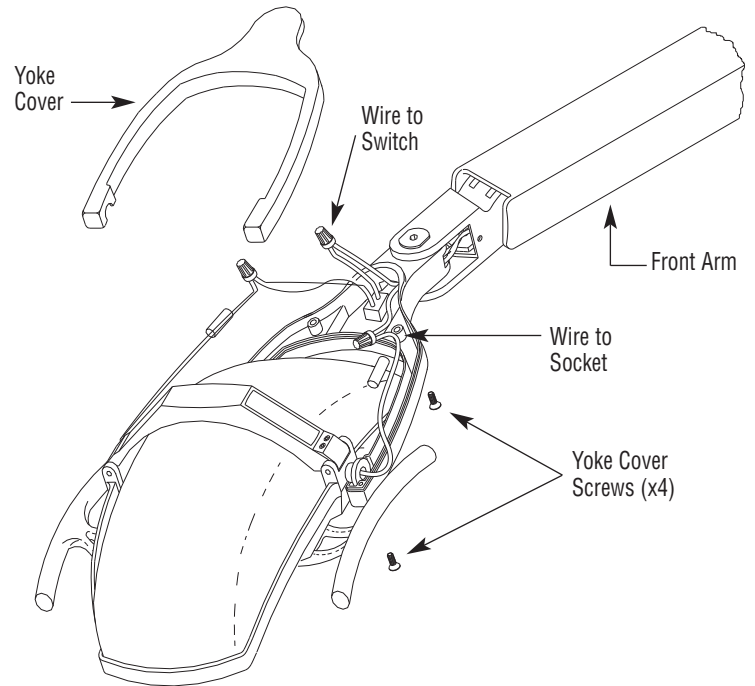
LFIII SERIES LIGHTS

For LFIII series lights, refer to the instructions below. (Do not refer to Figure 1 because the wiring illustrations in the figure represent only the LFII series lights.)

1. Disconnect power.
2. Remove the four yoke cover screws and pull off cover.
3. Disconnect the wires from the Front Arm.

Figure 1

Wiring illustrations shown in Figure 1 represent the LFII series lights only.



To remove light head assembly.

**LFII, LFIW(3), LFIL,
LFIII & LFIIC
Figures 2 & 3**

4. To remove light head assembly:

Loosen both socket head set screws (RPI Part #RPH208) in the yoke. Remove knuckle cover and plastic sleeve. Pull wires out from light head. (See Figure 2)

While holding the light head, remove the light head assembly using a 3/16 hex wrench. Remove the top snubbing pin and washers (Drift Kit - RPI Part #PCK651) and bottom snubbing pin and washers (Drift Kit - RPI Part #PCK651). (See Figure 3)

Figure 2

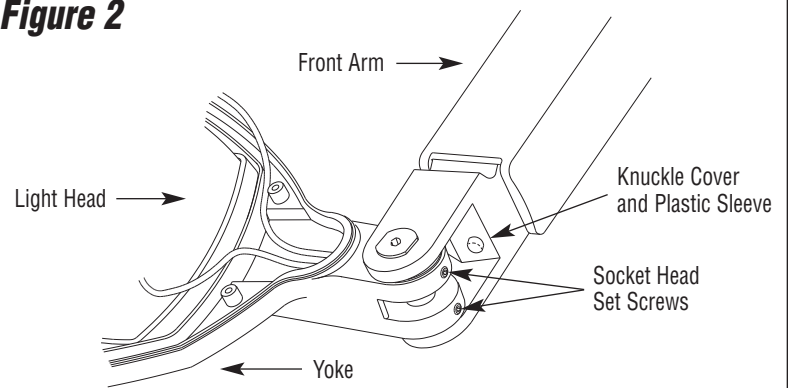
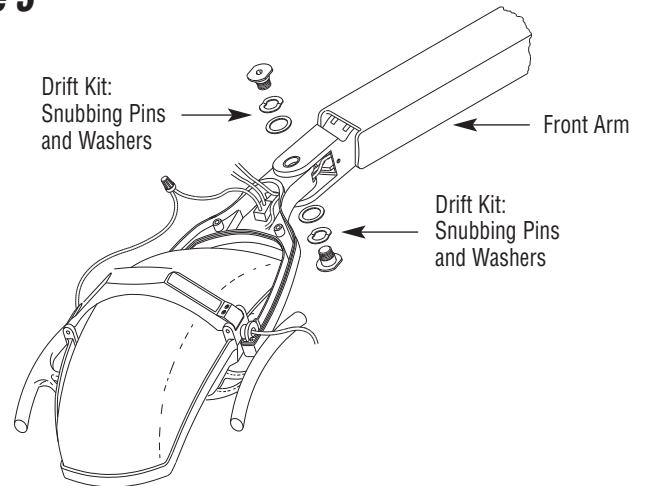


Figure 3



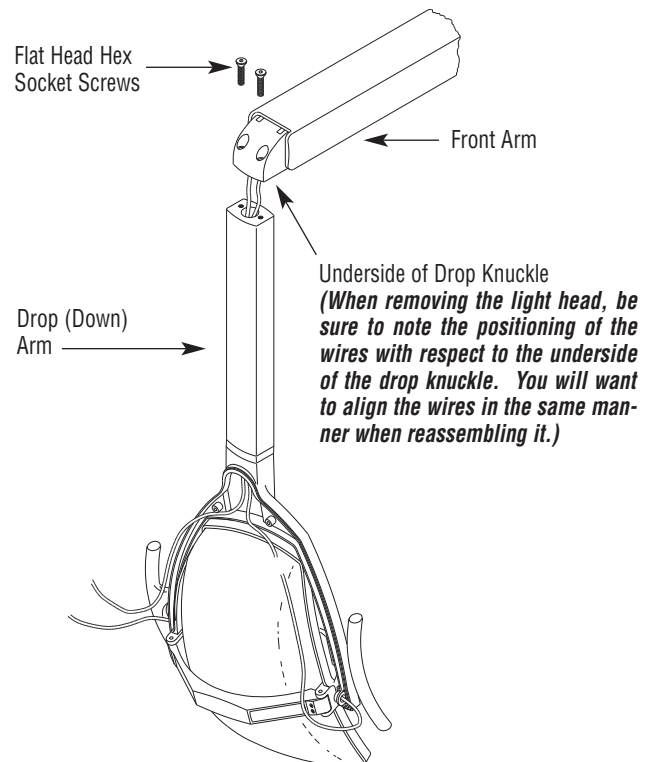
To remove light head assembly.

**LFIIIC, LFIIT, LFIW(2), LFIIC
LFIIT, LFIICb & LFIWI
Figure 4**

4. To remove light head assembly:

While holding the drop (down) arm, remove the light head assembly and the drop (down) arm by removing the two flat head hex socket screws (RPI Part #RPH212). (See Figure 4)

Figure 4



To release the spring tension.

**LFII, LFIIC, LFIII & LFIIC
Figure 5**

5. To release the spring tension:

A. The knuckle cover must be released and the wire harness (RPI Part #PCW603) must be pulled out about 2-3 inches. **(Figure 5)**

B. The front arm must be in the horizontal position and the arm adaptor (RPI Part #PCA670) must be at a 90° angle to the straight knuckle (RPI Part #PCK699) in order for the spring tool (RPI Part #PCT615) to pass into the rear arm. **(Figure 5)**

C. Using your hand, support the arm. Insert the spring tool as shown being careful not to pinch the wires. Turn the tool counter-clockwise and release all tension – turn approximately 10 turns. **(Figure 5)**

To release the spring tension.

**LFIIIT, LFIIT & LFIICb
Figure 6**

5. To release the spring tension:

A. The dimmer switch assembly must be pulled out from the column. The arm must be in the horizontal position.

B. Using your hand, support the arm. Insert the spring tool as shown **being careful not to pinch the wires**. Turn the tool counter-clockwise and release all tension. **(See Figure 6)**

To release the spring tension.

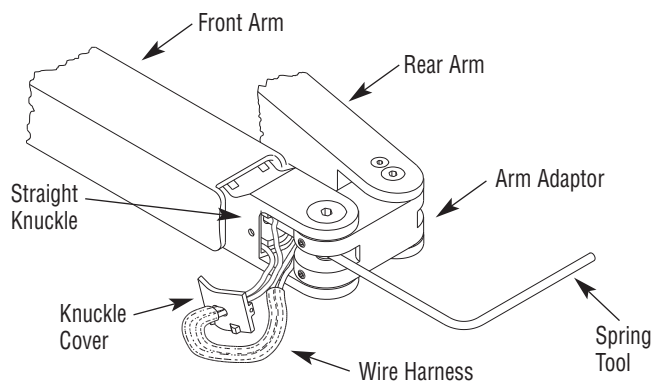
**LFIIIL, LFIW(2),
LFIW(3) & LFIWI
Figure 7**

5. To release the spring tension:

A. The arm must be in the horizontal position.

B. Using your hand, support the arm. Insert the spring tool as shown **being careful not to pinch the wires**. Turn the tool counter-clockwise and release all the tension. **(See Figure 7)**

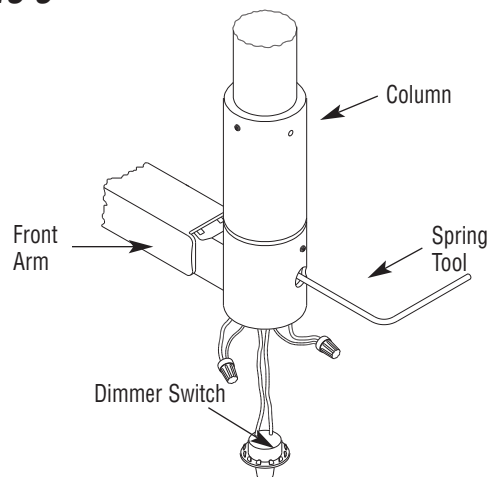
Figure 5



Note: As more tension is released from the spring, the arm becomes heavier to support.



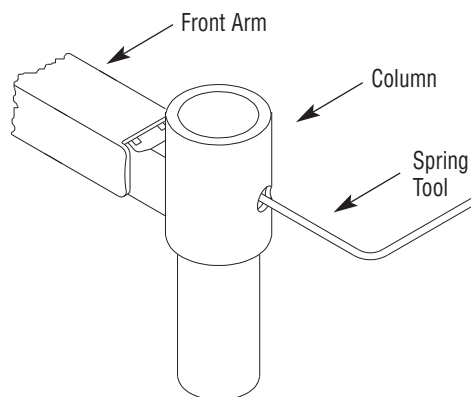
Figure 6



Note: As more tension is released from the spring, the arm becomes heavier to support.



Figure 7



Note: As more tension is released from the spring, the arm becomes heavier to support.



To remove the front arm cover and the spring assembly.

**ALL LIGHTS
Figures 8, 9 & 10**

6. To remove the front arm cover and the spring assembly:

Using a 1/8" Allen wrench, remove all four flat head hex socket cap screws (RPI Part #RPH214) from the bottom of the arm cover. Holding the arm in the up-right position, slide the arm cover toward the arm adaptor. **(See Figure 8 for models LFII, LFIC, LFIII & LFIIC. For all other models, the purpose of Figure 8 is to show only the location of the (4) flathead socket cap screws that must be removed.)**

7. Remove the tie bar pivot pin (RPI Part #PCP677) from the front end by tapping out on the flat side. Set aside the knuckle with the attached front knuckle support (RPI Part #PCS671) and slide the arm cover and raceway off and set them to the side. **(See Figure 9)**

8. Remove the tie bar pivot pin (RPI Part #PCP677) from the rear end by tapping out on the flat side. Discard the old gas spring or mechanical spring. **(See Figure 10)**

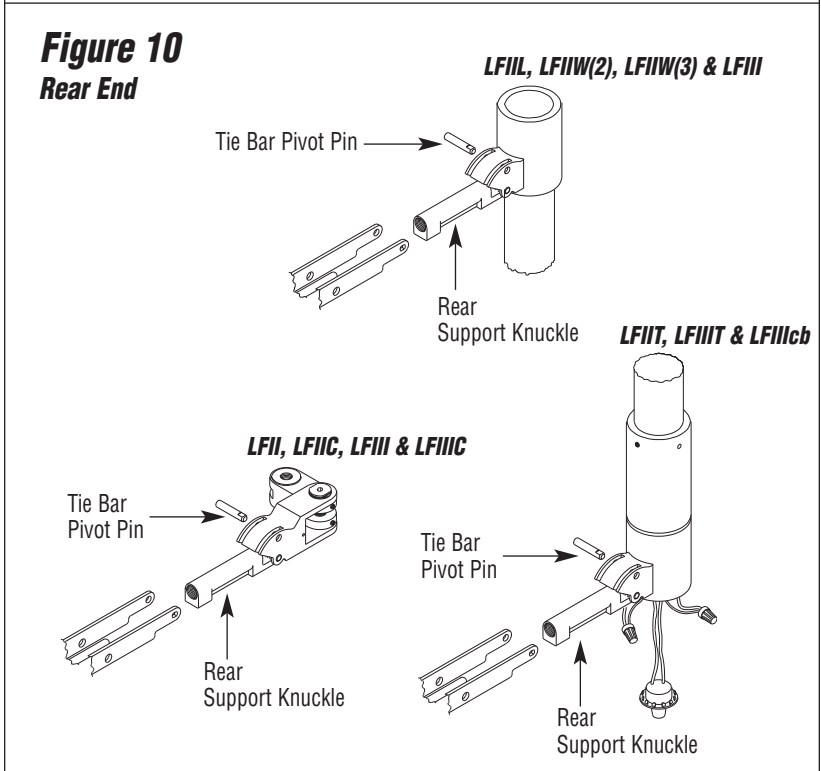
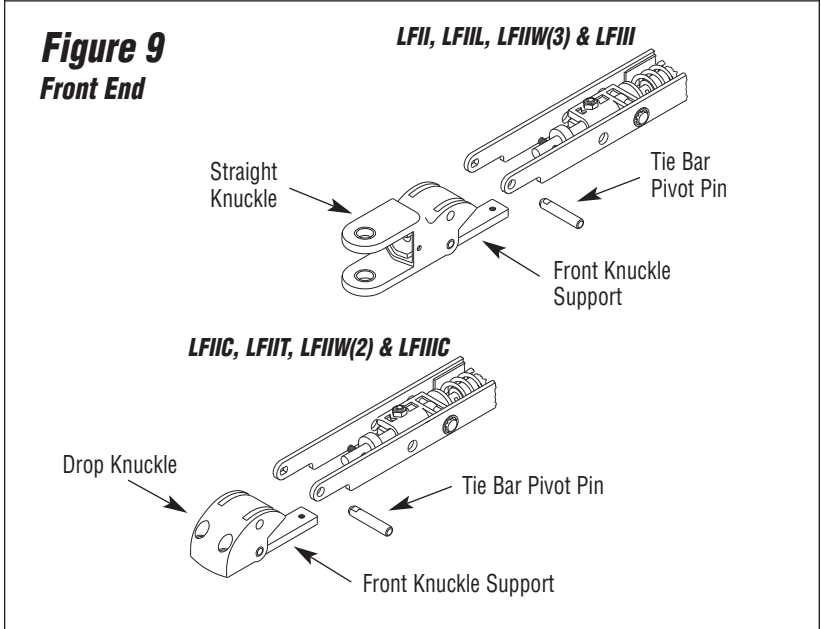
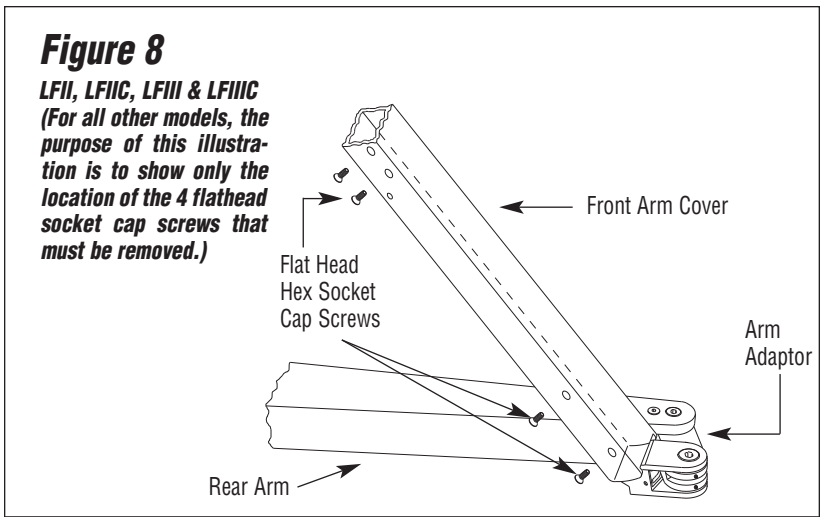
9. Now is a good time to inspect the wiring for damage. If damaged, replace with wire harness assembly (RPI Part #PCW603). It is also a good idea to inspect all of the pivot pins, and the front and rear knuckles and support knuckles.



A. IF INSTALLING THE NEW MECHANICAL SPRING (RPI PART #PCA700 OR PCA701), PROCEED DIRECTLY TO STEP #10.

B. IF INSTALLING THE GAS SPRING ASSEMBLY, SKIP STEPS #10-11, AND PROCEED DIRECTLY TO STEP #12.

C. IF INSTALLING A NEW MECHANICAL SPRING INTO ANY LFIII SERIES, NO DRILLING IS NECESSARY, SO PROCEED DIRECTLY TO STEP #12.



10. Place the drill template over the front arm cover and use the four flat head hex socket screws (RPI Part #RPH214) to hold the template in place.

Using the drill template as a guide, place a center punch on the "+" and tap lightly. Remove the drill template. Drill a 1/4" hole and deburr. **(See Figure 11)**

11. Reuse the drill template to mark the raceway. **(CAUTION: DO NOT use a center punch, for it will damage or collapse the raceway – mark with a pencil then drill and deburr.)** **(See Figure 12.)**

Figure 11

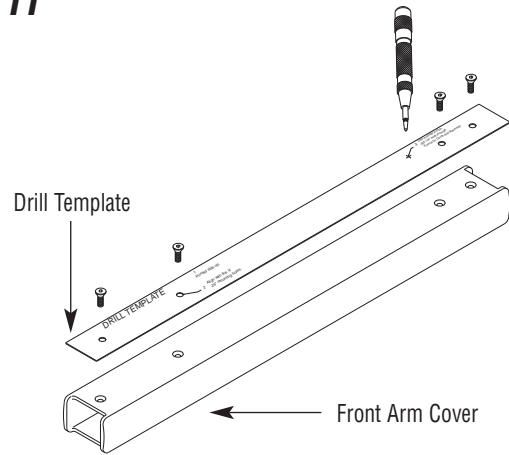
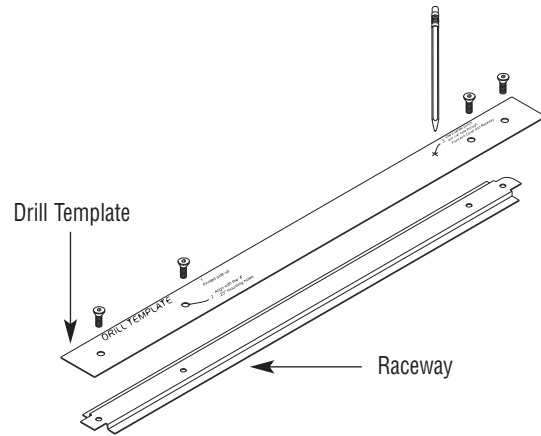


Figure 12



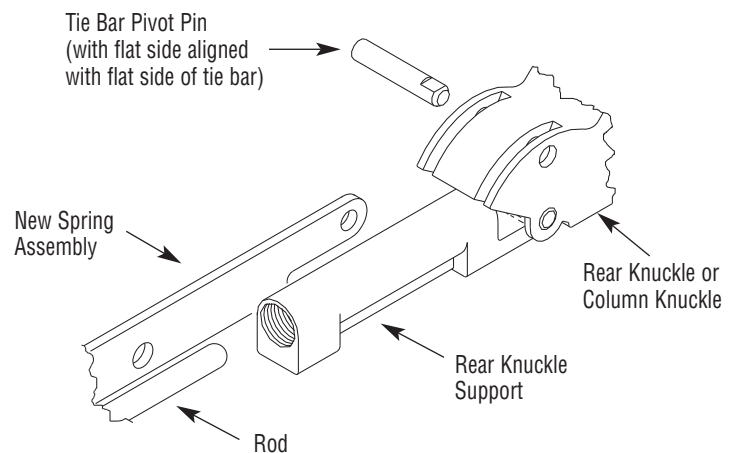
To install the replacement spring.

ALL LIGHTS
Figures 13-16

To install the replacement spring:

12. Insert the mechanical or gas spring rod into the rear support knuckle. Align the holes of the tie bars and the rear knuckle or column knuckle then insert the tie bar pivot pin with flat end in first. Make sure that the flat side of the pivot pin is properly aligned with the flat side of the tie bar. **(See Figure 13)**

Figure 13



13. Slide the arm cover back on over the new mechanical or gas spring with the raceway flaps up and with the wires in each channel of the raceway. **(See Figure 14)**

14. Install the second tie bar pivot pin in the same manner. **(See Figure 9)**

15. Apply a small drop of Threadlocker (RPI Part #RPA032) on the threads of each of the new screws (RPI Part #RPH214).

16. Hold the arm up while installing the two rear screws – do not tighten the screws at this time. **(See Figure 15)**

17. The arm should remain in the downward position in order to install the front two screws – do not tighten the screws all the way at this time.

18. Before tightening all four screws (using a 1/8" hex wrench), make sure that: 1) the wires are still in the channel under the raceway and are not pinched, and 2) the newly drilled holes in the raceway and the front arm cover are aligned.

19. Reinstall the light head and reconnect both wires – **be sure not to pinch the wires**. Install yoke cover. **NOTE: On the *Unit and Ceiling Mount*, be sure to line up the flat side of the snubbing pin with the set screw.** **(See Figure 16)**

Figure 14

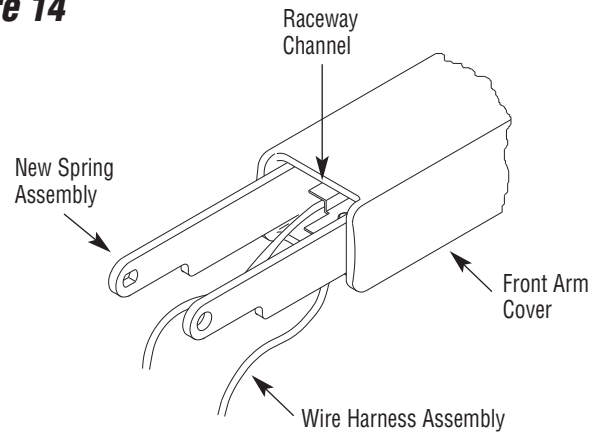


Figure 15

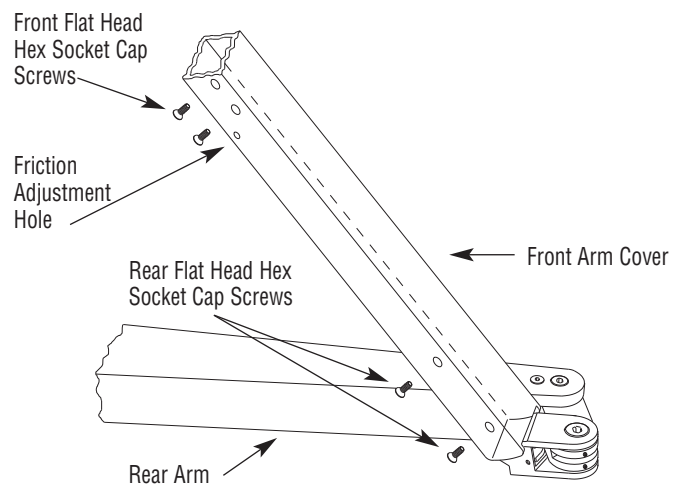
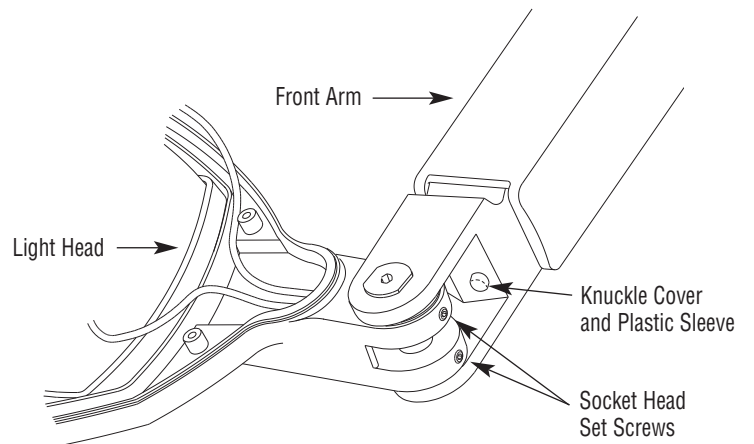


Figure 16



LFI, LFIIC, LFIIC & LFIIC Figure 17

Adjusting the new spring:

20. The front arm must be in the horizontal position and the arm adaptor must be at a 90° angle with the straight knuckle. Adjust the tension by inserting the RPI Spring Tool (RPI Part #PCT615) through the rear knuckle – **Be sure not to pinch the wires.** Turn spring tool clockwise about 5-6 full turns while supporting the arm. Remove the spring tool. **Drift Adjustments:** If the arm drifts, reinstall the spring tool and continue to turn one turn at a time until the light becomes counter-balanced. (For down drifts, turn clockwise. For up drifts, turn counter-clockwise).

Important! **For Gas Springs only,** see **SERVICE TIP** regarding Spring Tool (RPI Part #PCT615) (Figure 17). **This Service Tip does not apply to Mechanical Springs.**

Figure 17

SERVICE TIP PCT615 - SPRING TOOL

Use this Tool to Adjust the Gas Spring Tension

For work on the LFI, LFIIC and LFIIC-D Gas Springs, refer to the marking on the Spring Tool that is approximately 6-3/4" from the tip of the tool. This marking indicates the maximum distance you should insert and turn the Spring Tool to make adjustments to the light. When making adjustments, if you reach the 6-3/4" marking on the Spring Tool, then **STOP** because overtightening the springs may cause a jam. **Important Note:** Reaching the 6-3/4" marking indicates that the arm will no longer respond to tension adjustments and it will continue to drop or drift. **If this is the case, then the Gas Spring must be replaced.**

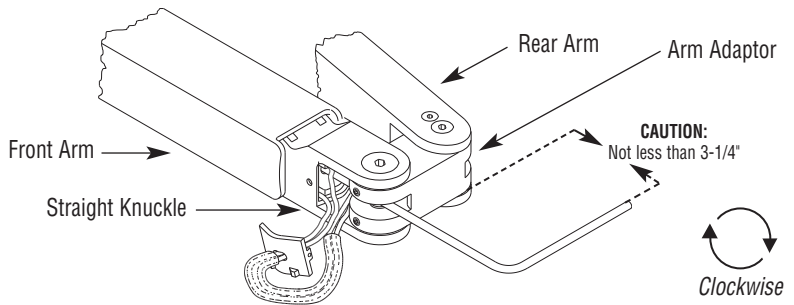
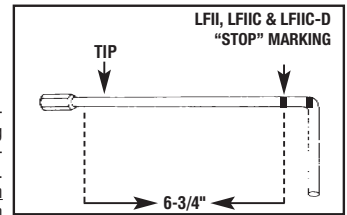
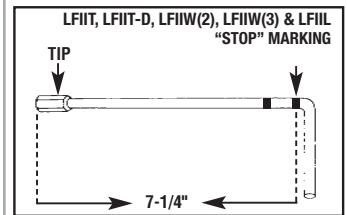


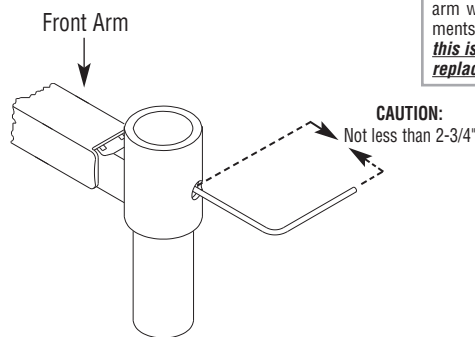
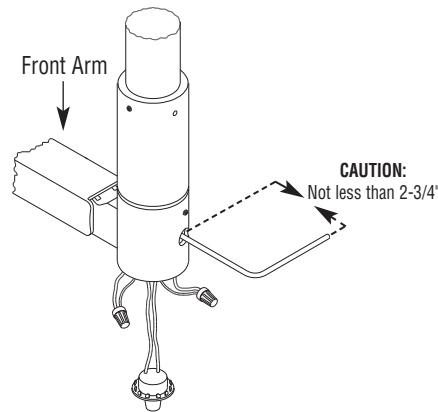
Figure 18



SERVICE TIP PCT615 - SPRING TOOL

Use this Tool to Adjust the Gas Spring Tension

For work on the LFIIT, LFIIT-D, LFIW(2), LFIW(3) & LFIIL Gas Springs, refer to the marking on the Spring Tool that is approximately 7-1/4" from the tip of the tool. This marking indicates the maximum distance you should insert and turn the Spring Tool to make adjustments to the light. When making adjustments, if you reach the 7-1/4" marking on the Spring Tool, then **STOP** because overtightening the springs may cause a jam. **Important Note:** Reaching the 7-1/4" marking indicates that the arm will no longer respond to tension adjustments and it will continue to drop or drift. **If this is the case, then the Gas Spring must be replaced.**



LFIIT, LFIW(2), LFIW(3), LFIIL, LFIIT & LFIICb Figure 18

Adjusting the new spring:

20. The arm must be in a horizontal position. Adjust the tension by inserting the spring tool through the small hole in the column and begin turning clockwise – about 6-7 full turns while supporting the arm. Remove the spring tool. **Drift Adjustments:** If the arm drifts, reinstall the spring tool and continue to turn one turn at a time until the light becomes counter-balanced. (For down drifts, turn clockwise. For up drifts, turn counter-clockwise). (Figure 18)

Important! **For Gas Springs only,** see **SERVICE TIP** regarding Spring Tool (RPI Part #PCT615) (Figure 17). **This Service Tip does not apply to Mechanical Springs.**

ALL LIGHTS WITH MECHANICAL SPRING Figure 19

Friction Adaptor Adjustment:

21. To be used with slight up or down drifts. Arm must be in a horizontal position to gain access to adjustment screw. Using a 9/64" hex allen wrench, make 1/10 turn adjustment (clockwise) at a time checking for drifts after each adjustment. **NOTE: This adjustment must not be over tightened as that will damage the mechanical spring.**

Figure 19

Friction Adaptor Adjustment Screw
9/64" Hex Allen Wrench

NOTE: This adjustment must not be over tightened as that will damage the mechanical spring.

