



## REPLACEMENT/REMOVAL OF MAIN SHAFT CLUTCH ASSEMBLY (PT-9034)

NEVER STAND IN FRONT OF A TRAP MACHINE. THE TRAP MACHINE MUST BE TURNED OFF AND THE SPRING RELEASED BEFORE ENTERING THE TRAP HOUSE. NEVER ATTEMPT TO MAKE ANY ADJUSTMENT WHILE THE THROW ARM IS COCKED.

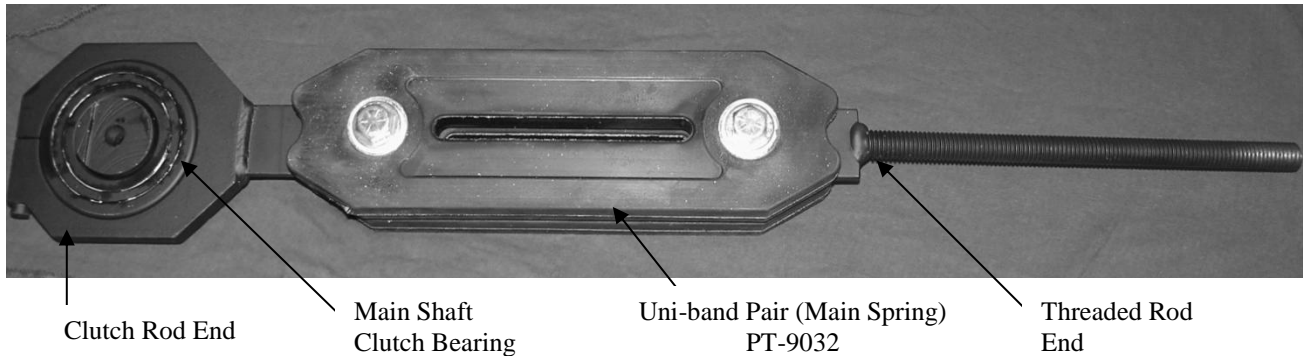


Diagram 51

### Main Shaft Clutch Assembly (PT-9034)



Diagram 52

### Clutch Rod End of Main Shaft Clutch Assembly

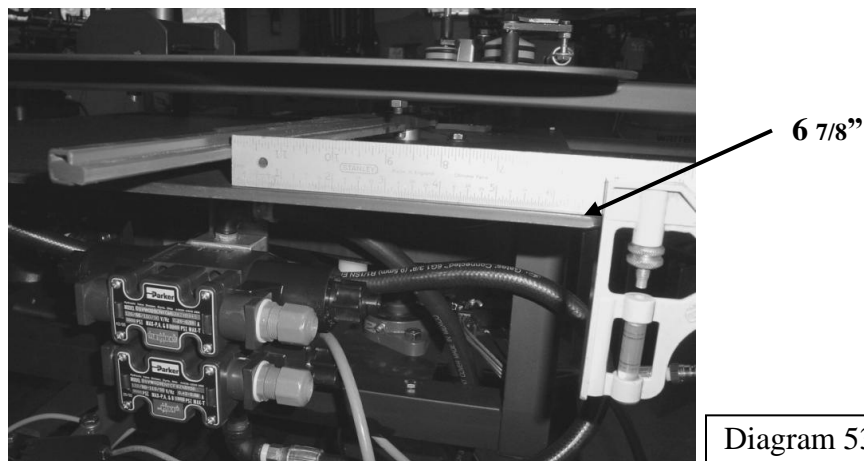


## **PAT-TRAP, Inc.**

**\*Choice of the ATA\***

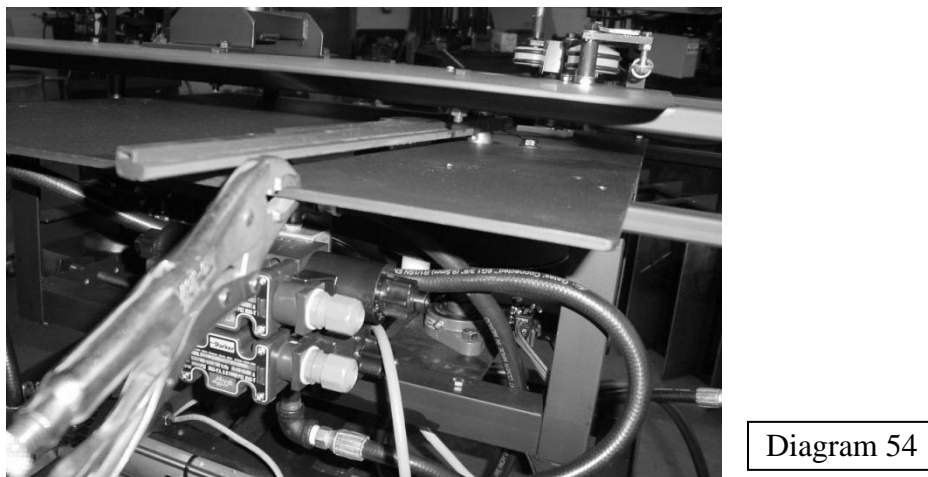
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1. Back off the tension on the Main Spring crank handle by rotating it counter clockwise.
2. Turn the machine on to cock the throw arm.
3. When the throw arm stops at the throw arm brake, turn the machine off without releasing the throw arm.
4. **WHEN THE THROW ARM IS COCKED, BE SURE TO STAND BEHIND THE PAT-TRAP® AND STAY CLEAR OF THE THROW ARM.** To completely release the main spring tension on the throw arm carefully, manually, release the throw arm by first looping a rope or cord around the end of the throw arm. Then, holding back on the rope at 90 degrees to the throw arm, slowly move the throw arm past the brake and guide it around to the front of the machine.
5. Move the throw arm so that it is 6 7/8" from the right hand corner of the throw plate. (Diagram 53.)



### **Positioning Throw Arm When Installing Main Shaft Clutch Assembly**

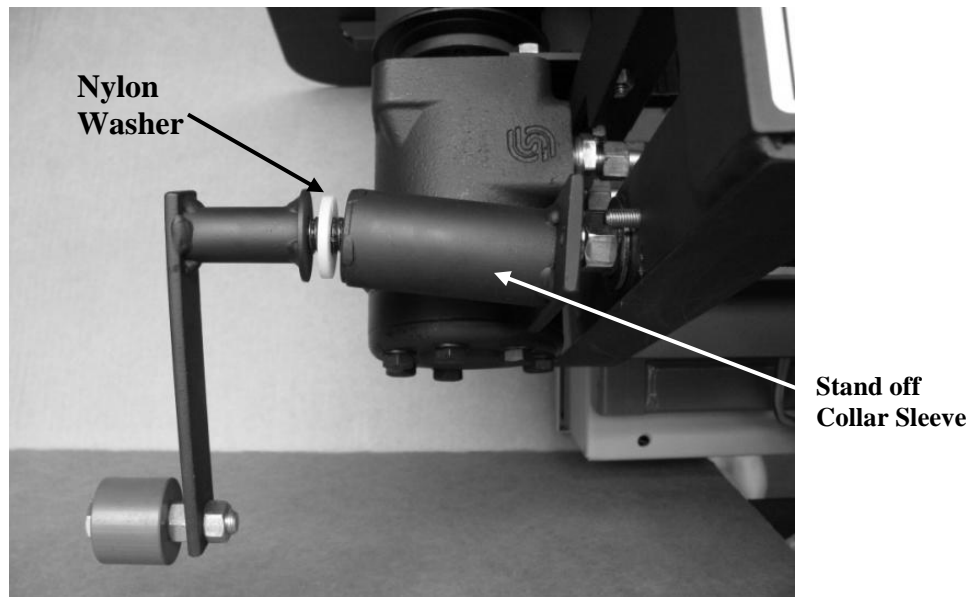
6. Clamp a vise-grip onto the throw plate with the throw arm at 6 7/8" to prevent the throw arm from moving forward. See Diagram 54.



### **Securing the Position of the Throw Arm at 6-7/8\"**

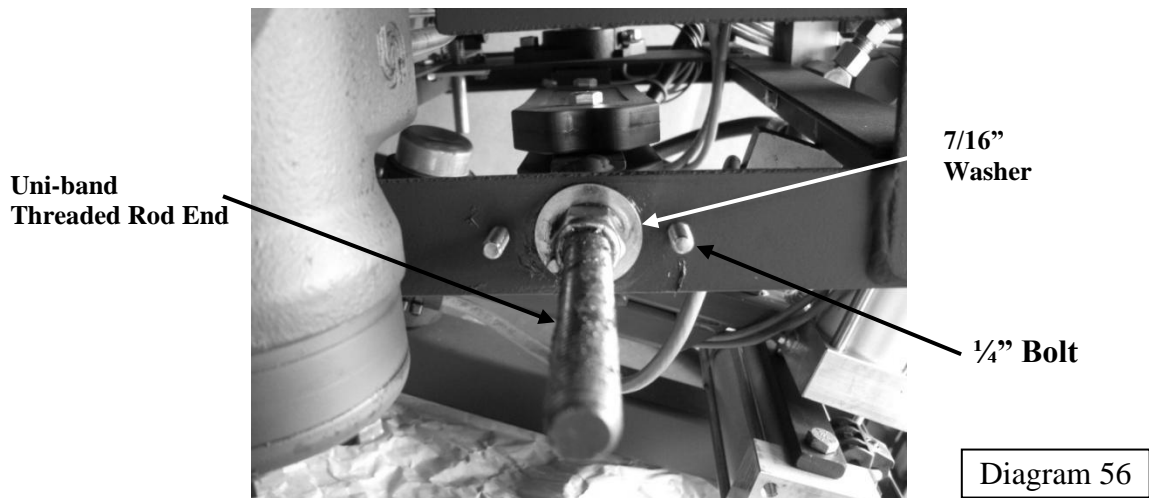


7. Remove the main spring crank handle from the threaded rod by rotating it counter clockwise.



**Backing off the tension on PAT-TRAP® Main Spring Crank Handle**

8. Remove the nylon washer that is sandwiched between the crank handle and the stand off collar sleeve (See Diagram 55).
9. Remove the two (2) 1/4" bolts from the stand off collar sleeve (See Diagram 56)



**Removing Main Spring Standoff Collar Sleeve**

10. Remove the stand off collar sleeve (See Diagram 55).



11. Locate the elastic lock-nut. Use a 3/4" wrench to remove this nut (See Diagram 57).

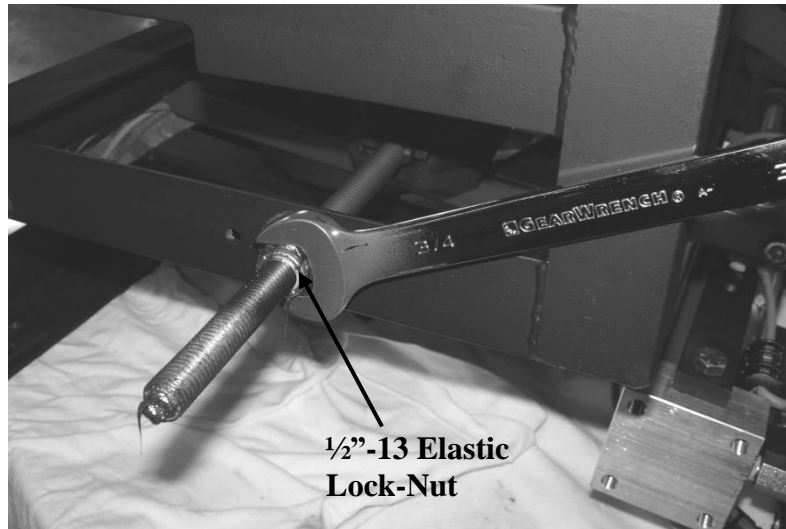


Diagram 57

**Adjusting Elastic Lock Nut with 3/4" Wrench**

12. One can now loosen the set screw (5/32" Hex Wrench) on the clutch rod-end of the Uni-Band. Pull back and down on the rod end to remove it from the clutch. (See Diagram 59).

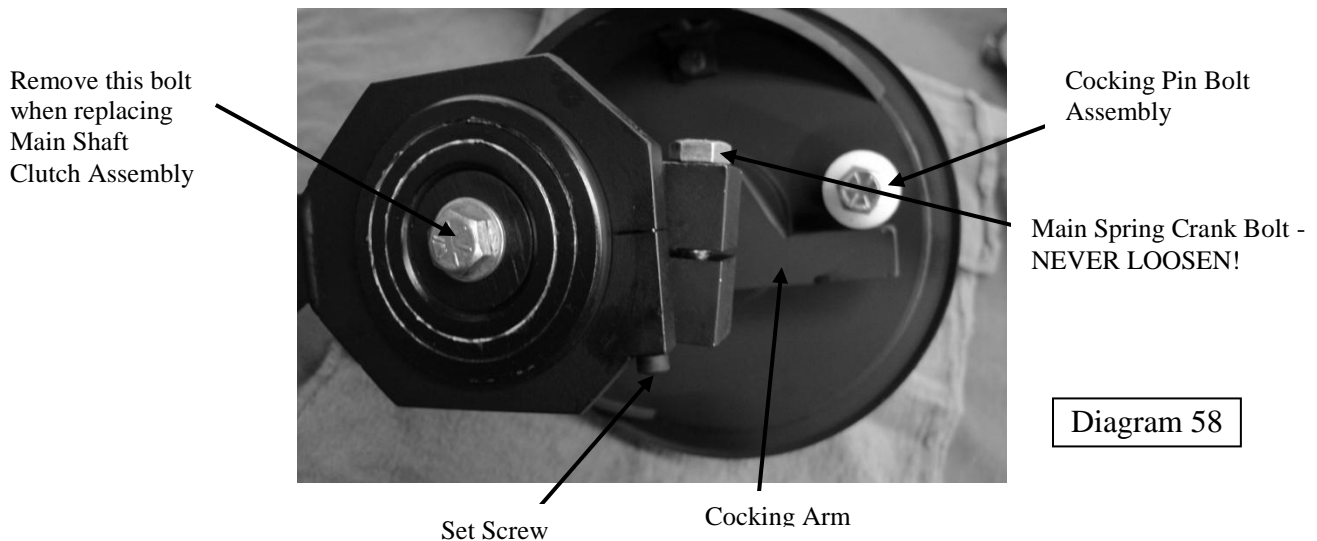


Diagram 58

**Main Shaft Clutch Assembly Connection to Throw Arm Crank**

13. Remove the old main shaft clutch assembly from the machine.

14. To reassemble put the threaded rod-end through the hole in the frame, and then pull the rod-end onto the clutch. Refer to Diagram 61 for proper positioning of the clutch within the rod-end (note 1/16" gap). Tighten up the rod-end to the clutch using a 5/32" hex head wrench, while keeping the rod-end level to the clutch.



15. Put the 7/16" washer onto threaded rod-end. Then screw on the elastic lock-nut. Refer to "Setting Distance and Speed" page 19. Regarding spring tension and adjustment of the elastic lock-nut.
16. Remove Vise Grip for the Throw Plate.
17. Once the proper distance and speed have been set, re-attach the crank handle, stand-off collar and the crank handle.
18. Inspect the hydraulic hoses to make sure that the rod-end does not rub against them.

**WARNING:** Do not work on the hoses when the throw arm is cocked. The throw arm must be released and the machine turned off when performing any work on the Pat-Trap®.

### **CHANGING A PAIR OF UNI-BANDS ON A MAIN SHAFT CLUTCH SYSTEM**

1. Let off the crank handle tension.
2. Turn the machine on to cock the throw arm.
3. When the throw arm stops at the throw arm brake, turn the machine off without releasing the throw arm.
4. **WHEN THE THROW ARM IS COCKED, BE SURE TO STAND BEHIND THE TRAP AND STAY CLEAR OF THE THROW ARM.** To completely release the tension on the throw arm carefully, manually, release the throw arm by first looping a rope or cord around the end of the throw arm. Then, holding back on the rope at 90 degrees to the throw arm, slowly move the throw arm past the brake and guide it around to the front of the machine.
5. Move the throw arm so that it is 6 7/8" from the right hand corner of the throw plate. See Diagram 53.
6. Clamp a vise-grip onto the throw plate with the throw arm at 6 7/8" to prevent the throw arm from moving forward. See Diagram 54.
7. Do not loosen the throw arm crank bolt. Diagram 43.
8. Changing the Uni-Bands can be done without removing the threaded rod-end from the machine.



9. Remove the Uni-Band connecting bolts. Disconnect the rod-end from the clutch by loosening the rod-end bolt using a 5/32" hex head wrench; pull down on the rod-end to remove it. See Diagrams 60, 61 and 62
10. When re-assembling with the new pair of Uni-Bands, leave the 3/8 –24 x2 1/4" Grade 8 bolts slightly loose at first. Then, pull the rod-end onto the clutch. Refer to Diagram 61 for proper positioning of the clutch within the rod-end (note 1/16" gap). Tighten the rod-end bolt using a 5/32" hex head wrench. Keep the rod-end level on the clutch. Refer to Diagram 60 for right side up.

Align the Uni-Bands as follows: See diagrams 60, 61 and 62

- A. Keep the clamp in front of the throw arm at 6 7/8" (Step 2)
  - B. With the rod-ends and Uni-Bands in alignment to one another, torque the bolts to 10 ft/lbs.
  - C. Tension the Uni-Bands with ten turns of the crank handle.
  - D. Use two 9/16" wrenches. Hold back on the bolt head (on top) while tightening the nut (on bottom)
  - E. Put equal pressure on both of the wrenches and torque the bolts to 35 ft/lbs minimum – 40 ft/lbs maximum. If using the sprocket toothed washers torque to 25 lbs. "Sprocket toothed washer must be used if the area around the holes is not indented."
11. Remove the vise grip from the throw plate.
  12. Refer to the section on *Setting Distance and Speed (page 19)*, regarding minimum spring tension and adjustment of the elastic lock-nut.
  13. Begin normal operation of the machine.



## ASSEMBLY/INSTALLATION OF THE UNI-BAND (Main Spring) to the MAIN SHAFT CLUTCH

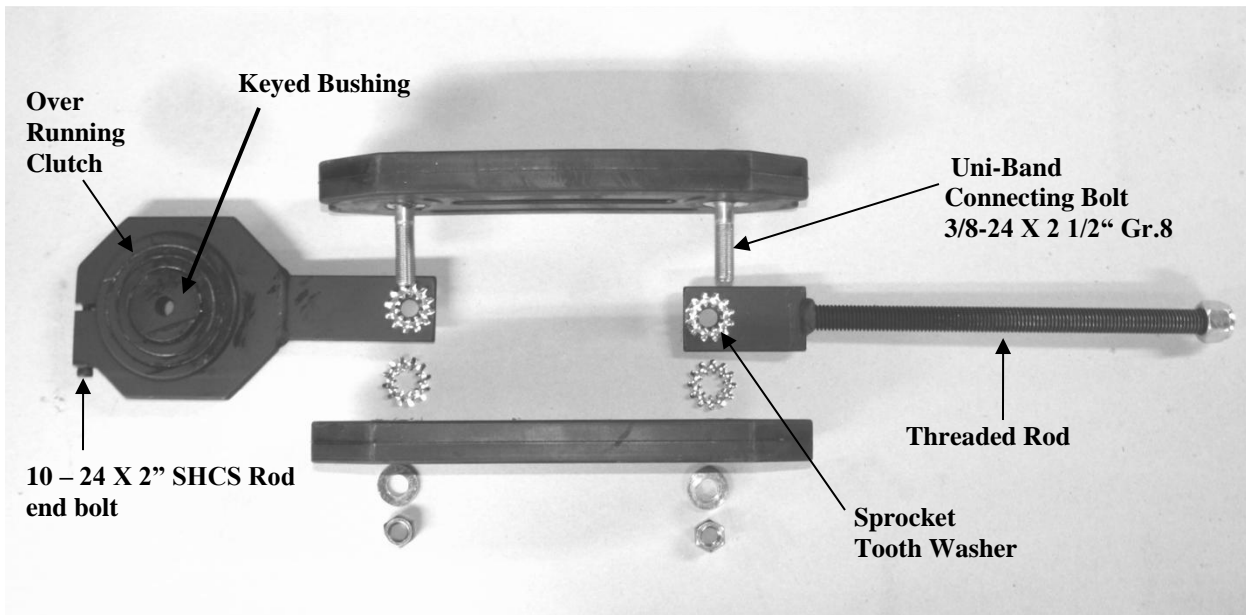
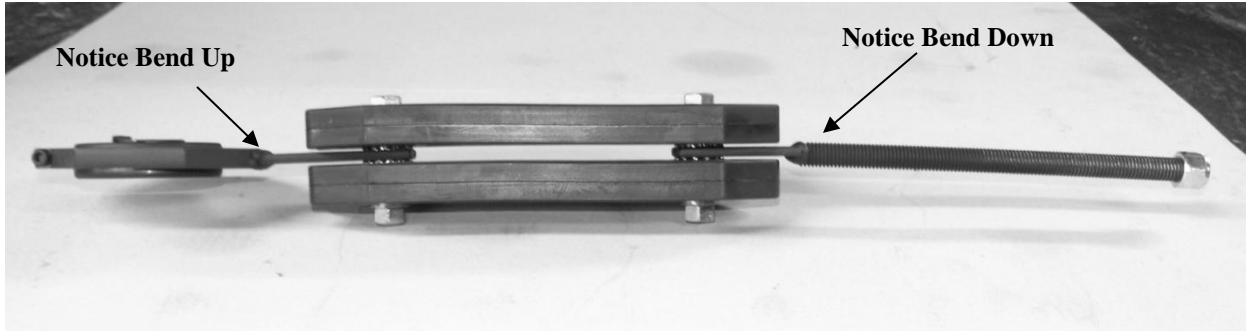
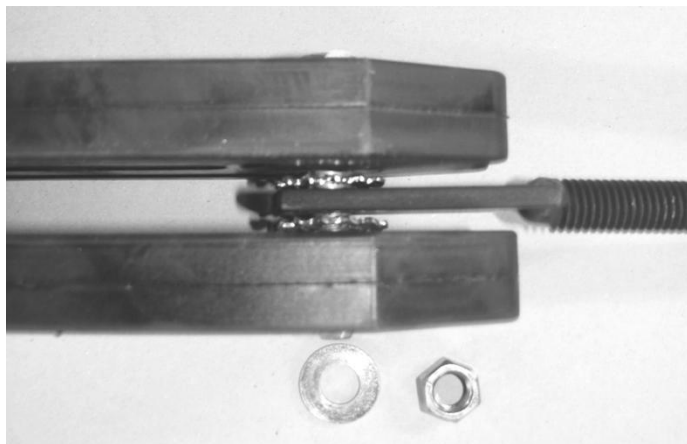


Diagram 60





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Diagram 61

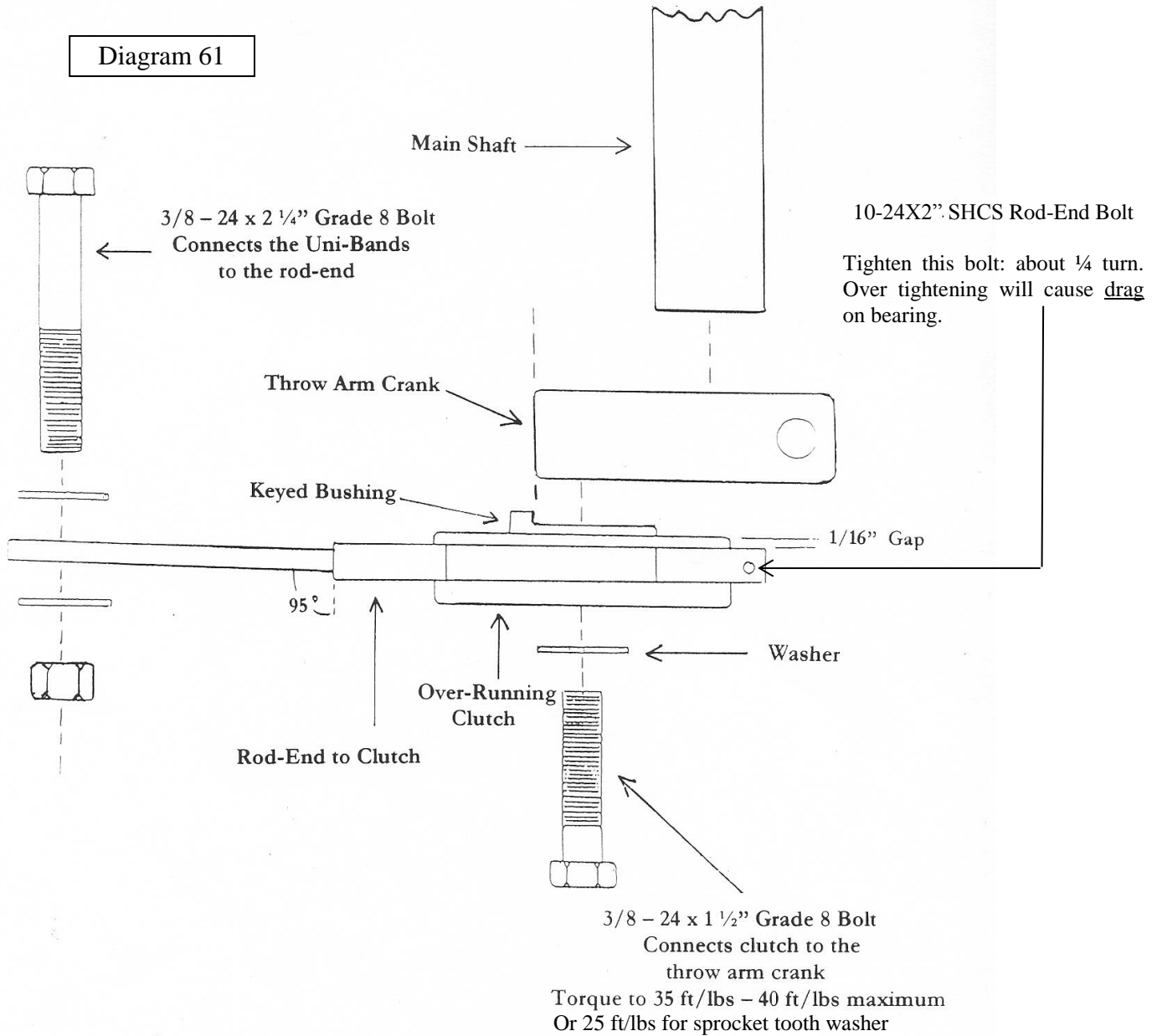
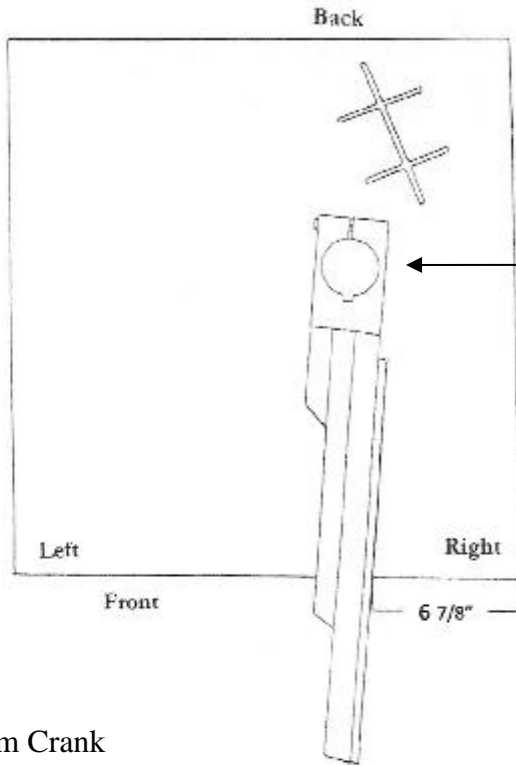






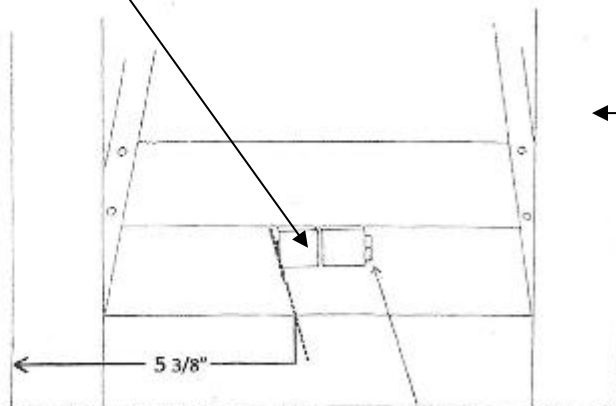
Diagram 62



Throw Arm Crank location at the bottom of the throw arm shaft.

Throw Arm Crank

FRONT



Box Frame

BACK

Diagram 63

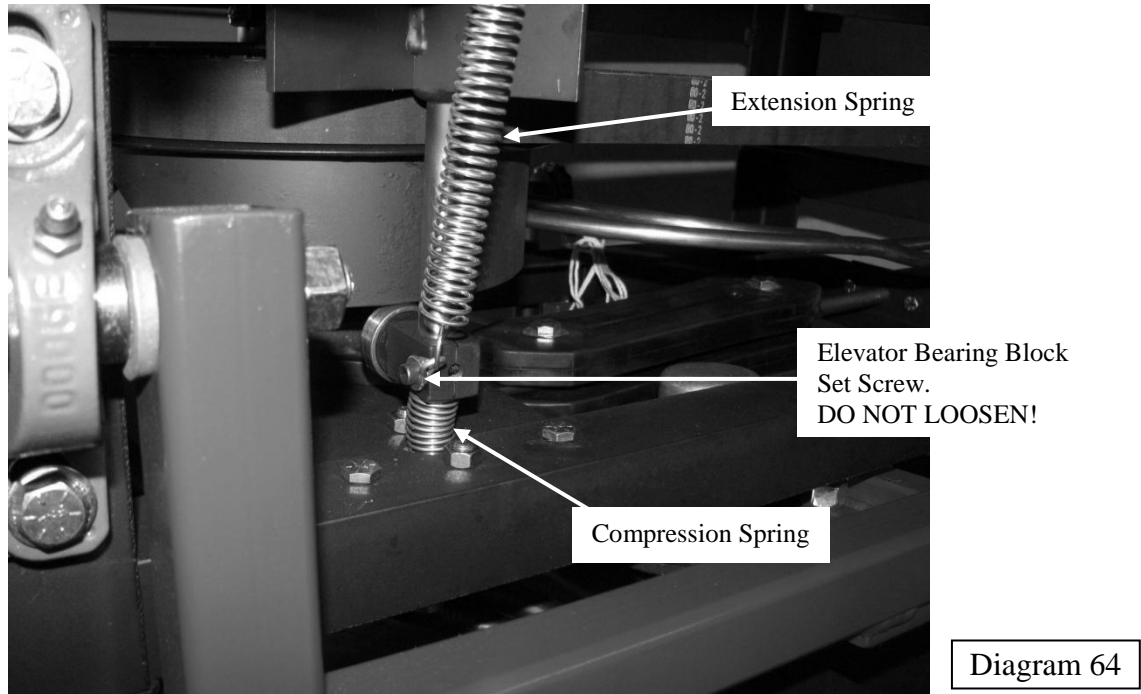
**DO NOT LOOSEN or REMOVE unless repairing or replacing. Contact Pat-Trap for instructions.**

**\*\*\*Throw Arm Shaft, Bearing and Cog Belt Pulley Wheel not shown.\*\*\***



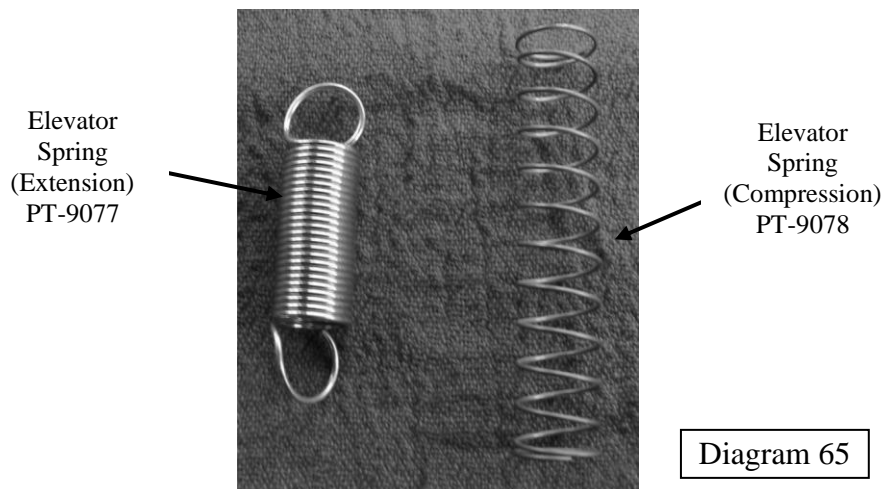
## REPLACEMENT OF THE ELEVATOR EXTENSION SPRING

\*\*\*IMPORTANT: Do not loosen or remove either the lock screw that the bottom of the spring hooks onto or the set screw. The screw is holding the bearing block in position so that the bearing is in alignment with the cam – See Diagram 64.



### Elevator Bearing Block Detailing Bearing on Cam

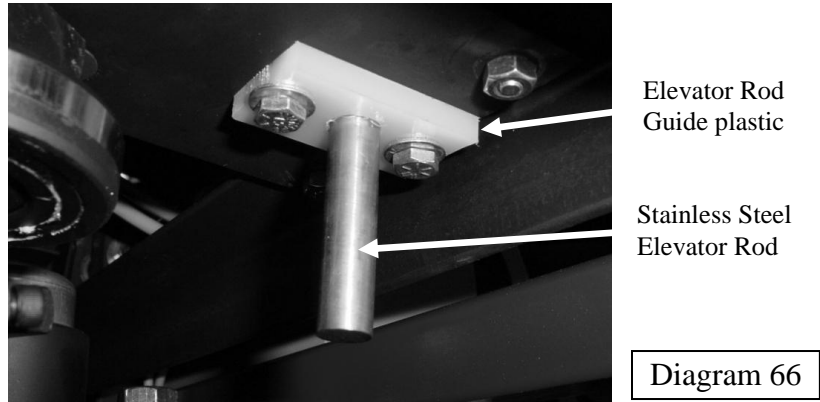
1. Turn the machine on.
2. Fire the throw arm and then turn the machine off as soon as the elevator goes up: When the cam leaves the cam bearing.
3. If disconnecting the spring, remove the top end first.
4. If connecting the spring, connect the bottom end first.





## REPLACEMENT OF THE ELEVATOR COMPRESSION SPRING

1. Turn the machine on. As soon as the elevator goes up, turn the machine off.
2. Remove the two elevator rod guide bolts (7/16" wrench). See Diagram 66.



### Elevator Rod Guide

3. Remove the ELEVATOR ROD GUIDE. The plastic elevator rods guide must be replaced the same way as it was found (i.e., do not flip over).
4. Put the compression spring on over the elevator rod.
5. Replace the Elevator Rod Guide.
6. Fasten the two bolts only slightly snug; over tightening will deform the material and possibly cause the guide to tighten against the elevator rod.