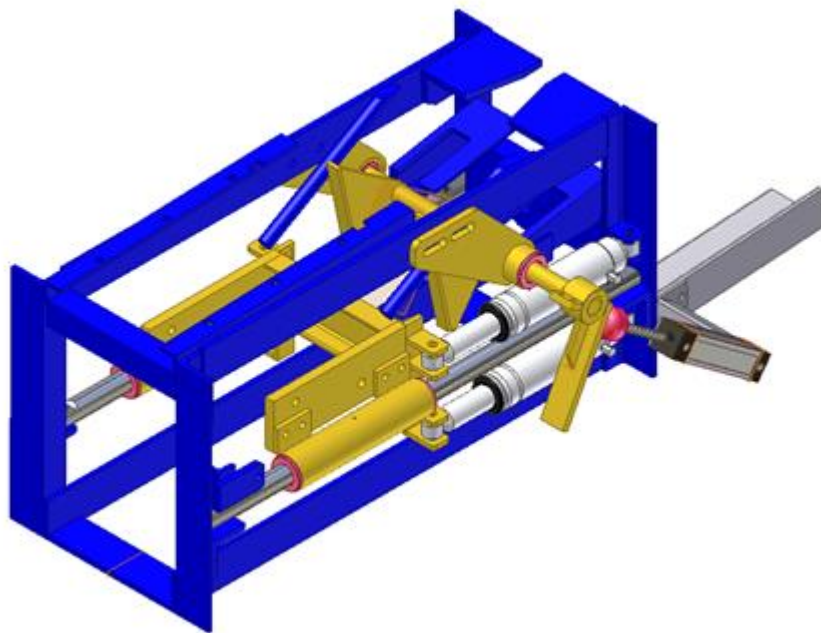




Air Shock Take-Up Upgrade Over-Under Conveyor



Owner's Manual

Sonny's Enterprises, Inc.
5605 Hiatus Road
Tamarac, Florida 33321
15v2



Equipment Program – Manuals Air Shock Take-Up Upgrade Over-Under Conveyor

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WARNING *SAFETY REQUIREMENTS* WARNING

1. All employees must be thoroughly trained in safe operation and standard maintenance practices. All employees must review this entire manual monthly.
2. Do not enter the wash tunnel when the equipment is operating. Death or dismemberment may occur.
3. Do not wear loose fitting clothing or jewelry around moving equipment. Do not allow any part of your body or other objects (including ladders, hoses or tools) to come in contact with moving equipment. Entanglement may result causing death or dismemberment.
4. Do not leave a ladder or any other items such as wash down hoses or tools in the wash tunnel while equipment is running. Vehicle damage and injury, including death, can occur.
5. Always exercise caution when walking (never run) through the wash tunnel as there may be slippery conditions. Be careful so you do not bump into or trip over equipment.
6. Only those employees specifically instructed and trained by the location management are permitted to enter the wash tunnel to perform inspections or maintenance. At least two qualified maintenance people must be present when performing equipment repairs or preventive maintenance.
7. Do not perform any maintenance or work on equipment unless you first perform Lock-Out Safety Precautions. All electrically powered equipment must have manually operated disconnects capable of being locked in the "OFF" position. Equipment that has been "locked out" for any reason must be restarted only by the person who performed the "lock out" operation.
8. When working on any equipment that is higher than your shoulders, always use a fiberglass ladder that is in good condition.
9. Do not attempt to repair or adjust any pressurized liquid or pneumatic part, hose, pipe or fitting while that equipment is in operation.
10. Electrical connections and repairs must be performed by a Licensed Electrician Only.
11. Emergency "STOP" buttons must be well marked and their location and proper use reviewed with all personnel. Any activated "STOP" button must be reset only by the person who activated it. Clear the wash tunnel of any people, ladders, hoses, tools and other loose items before restarting the equipment. An audible device must sound to warn people that the equipment is starting.
12. Do not operate any piece of equipment that requires safety covers with those covers removed or improperly installed. Do not operate any piece of equipment if any component of that piece is suspected to be defective or malfunctioning.



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13. Store all cleaning and washing solutions and oils in a well-ventilated area. Clean up fluid spills immediately to prevent hazardous safety conditions. Be certain to follow all safety procedures on SDS Sheets for each chemical product used.
14. All hydraulic and electric systems in the wash tunnel equipped with a torque relief or overload should be checked and set at the minimum amount that will allow for proper functionality under normal washing conditions.
15. No unauthorized people should ever be permitted in the wash tunnel or near the equipment at any time.

* * *

!! CAUTION !!

When a piece of equipment must be in operation during inspection or maintenance, one qualified technician must stay at the power disconnect switch while another qualified technician performs the inspection or maintenance.



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INTRODUCTION

This Manual contains information that is vital to the successful installation, operation and maintenance of your SONNY'S vehicle washing equipment.

Please read, and understand, the full contents of this manual before installation and operation of the equipment. Keep this booklet in a location where it may be used for ongoing reference.

Should you have any questions on the operation or servicing of this equipment please contact

**TECHNICAL SERVICES DEPT.
SONNY'S ENTERPRISES INC.**

5605 Hiatus Road

TAMARAC, FLORIDA 33321

TELEPHONE: 800-327-8723 FAX: 800-495-4049

THANK YOU FOR YOUR CONFIDENCE IN SONNY'S !!!!





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Utilities Requirements

Utilities interconnection and the materials required for interconnection to Sonny's equipment are the responsibility of the customer!

Perform all trades work to all applicable local and national codes!

Electric

- The Customer's Electrician is to provide and install three #16AWG wires from the tunnel equipment controller to a pulse sensor switch located in the drive section of the conveyor or to an optional remote pulse switch.
- The Customer's Electrician is to provide and install two #16AWG wires from a 120VAC or 24VAC (specify with order) power source through the remote "Roller Up" control switch to the air solenoid valve or to the tunnel equipment controller.
- The Customer's Electrician is to provide and install two #16AWG wires from the tunnel equipment controller to an optional anti-jam switch located in the Take-Up section of the conveyor.
- The Customer's Electrician is to provide and install single phase power through the conveyor interlock circuit for the Horn Warning Kit and/or the Anti-Collision Control Kit. Reference the electrical schematic for the Horn Warning Kit and the electrical diagram with the Anti-Collision Kit.
- Where applicable, the Customer's Electrician is to provide materials and install 208VAC or 230VAC or 460VAC, 3-phase, 60Hz power to the electric motor on the hydraulic power pack or VFD panel from a properly sized three pole circuit breaker and motor starter with three thermal overloads.

Pneumatic

- The Customer's Plumber is to provide and install a 3/8 inch compressed air line (100PSI @ 0.5CFM) from the air compressor to the air distributor or to the regulator/solenoid manifold for the air cylinder on the conveyor Take-Up section.
- The Customer's Plumber is to provide and install a 3/8 inch compressed air line (100PSI @ 0.5CFM) from the air compressor to the air distributor or to the regulator/solenoid manifold for the optional air Take-Up.



Adjustments and Testing

Conveyor Speed

1. Conveyor speed can be adjusted at the flow control valve on the Hydraulic Power Pack that supplies fluid for the Conveyor.
2. Conveyor speed may be set from 50 to 200 cars per hour depending on the equipment in the tunnel and the quality of wash desired.
3. To determine the speed of the chain measure the length in inches a roller travels in 15 seconds. That number will be the same as the number of cars per hour the conveyor is set to.

Inches of Roller Travel in 15 seconds = Cars Per Hour

Speed and Torque Adjustment

1. Hydraulic
 - a. The speed can be adjusted on the flow control for the power pack.
 - b. To increase the speed move the handle on the flow control closer to the number 10.
 - c. To decrease the speed move the handle on the flow control closer to the number 1.
 - d. The torque must be set prior to operation and should be set between 600 and 900 PSI. For information on how to set the torque please refer to the Hydraulic Power Pack Manual.
2. Electric
 - a. The speed can be adjusted on the Variable Frequency Drive (VFD).
 - b. To increase the speed adjust the Hertz on the VFD to a higher number.
 - c. To decrease the speed adjust the Hertz on the VFD to a lower number.
 - d. The Overload on the Motor Starter protector(s) must be set at the lowest level to allow for operation. Adjust the amps in accordance with motor(s) name plate.

Conveyor Stall Torque

1. Conveyor stall torque can be adjusted at the bypass valve on the Hydraulic Power Pack that supplies fluid for the Conveyor.
2. Pressure gauge should indicate 1200PSI when the Power Pack is running with the conveyor stalled.

Roller-Up Function (Spring)

1. Adjustment is made at air regulator on the air distribution manifold.



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2. Should be set to 70 - 80PSI for up position and 30 – 60PSI for down position.
3. Observe movement of Roller-Up forks should smoothly and completely up and down

Roller-Up Function (Air)

1. Adjustment is made at air regulator on the Control Panel.
2. Should be set to 40-50PSI at the switch.
3. Observe movement of Roller-Up forks should smoothly and completely up and down

Tension

1. The air take-up should have 40 to 50PSI at the switch.



Chain Tension Adjustment - Spring

1. This is the most common service performed on the Conveyor.
2. Run conveyor to position chain so removable links are easy to work on and stop it there.
3. Check the tension bolt in the Take-Up section of the conveyor if there is less 1" of threads between the nut and the cross plate continue.
4. Run the Conveyor until you see the master link section approaching the Take-Up section and stop the Conveyor just before that section reaches the Take-Up Sprocket.

Caution: You must shut off all power to the conveyor and lock out the Motor Control Center before getting in conveyor pit and starting this repair.

5. Shut off all power to the conveyor and lock out the Motor Control Center.
6. Use cable puller to pull chain together to create slack so a chain link can be disconnected.
7. Screw nut down tension bolt so nut is flush with cross beam, this will hold slack in chain if hand wench fails.
8. Remove pin and cotter from a chain link.
9. Remove pin and cotter from other end of the same chain link and remove the link.
10. Reconnect the ends of the chain using pin and cotter, replace cotter if damaged.
11. Screw nut back up tension bolt to the cotter installed in its end.
12. Carefully release cable puller to allow chain to be tensioned.

Caution: Before returning power to the conveyor and removing lock out from the Motor Control Center make sure all personnel are clear of the operational area.

13. Remove lock-out and run conveyor, check tension bolt to ensure there is more than 1" of thread show between nut and cross beam. If not repeat Steps 1 – 10.



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Equipment Installation

Upgrade to Air Shock Take-Up

Tools

1. Safety Glasses
2. ½" Drive Ratchet Set
3. Standard Combo Wrenches
4. Sledge Hammer
5. Standard Allen Wrenches
6. Grease Gun
7. Small Chisel
8. Cable Puller

Work Force

One (1) person

Consumables

1. Anti-Seize Compound
2. Marine Grease
3. Emery Cloth
4. Penetrating Oil

Time (assuming no problems)

2.00 - 3.00 hours

Replacement Parts

Qty	Name of Replacement Part
-----	--------------------------

1	Air Conversion Kit
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Contains the following items:

- | | |
|---|--------------------------------|
| 1 | Air Carriage W/Air shock Mount |
| 1 | Air Panel Complete |
| 4 | Air Shocks |
| 8 | Air Shock Mount Clips |
| 1 | Air Manifold |
| 8 | Pin and Cotters, 5/8" x 2-1/2" |
| 2 | Collar, 2pc Clamp |
| 1 | Fork Mount, Driver Side |
| 1 | Fork Mount, Passenger Side |
| 1 | Roller Take-Up Fork |
| 1 | Air Cylinder Mount |
| 1 | Air Cylinder |
| 1 | Cylinder Cap, UHMW |



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Air Shock Take-Up Upgrade

Over-Under Conveyor

Repair Steps

1. Run the conveyor until the pin and cotter section of chain sits directly below the Take-Up section cover plate.

Caution: You must shut off all power to the conveyor and lock out the Motor Control Center before getting in conveyor pit and continuing this repair.

2. Shut off all power to the conveyor and lock out the Motor Control Center.
3. Shut off air to roller-up 4-way pneumatic valve and drain.
4. Remove the cover plate from the Take-Up section.
5. Attach the cable puller to a fixed point on the conveyor frame. Release the cable and attach it to the Take-Up Slide frame. Compress the tension spring until there is enough slack to break chain.
6. Run the nut down the tension bolt to the cross member.
7. Remove a cotter pin to break the chain.
8. Allow the chain to slide down under the Take-Up.
9. Move the other end of the chain out of the way.
10. Run the nut up the tension bolt to the cotter pin.
11. Release the tension on the cable puller and remove it.
12. Wedge a block of wood underneath the old Take-Up sprocket.

Note: If rusted or frozen hardware is encountered in removing the Take-Up sprocket, apply penetrating oil to the hardware and allow time to work.

13. Remove the bolts that hold the Take-Up bearings in place.
14. Pull the Take-Up sprocket and bearings out of the conveyor.
15. Note the position of the air lines on the Roller-Up air cylinder for proper re-installation.
16. Remove both the air line and fittings from the cylinder.
17. Remove the cotter pins from both ends of the cylinder.
18. Remove the old cylinder and set aside for reinstallation.
19. Remove the bolts from the fork pivot bracket that hold it to the shaft of the Roller-Up fork.
20. Tap a small chisel into the gap in the fork pivot bracket until the bracket opens enough to remove it from the fork shaft.
21. Remove the split collar from the driver's side of the fork shaft.



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22. Remove the bolts from the fork shaft support bracket
23. Slide the bracket off of the shaft.
24. Remove the fork from the other side bracket.
25. Remove the other support bracket.
26. Remove the nut, washer and cotter pin from the end of the tension bolt.
27. Remove the nuts and lock washers that secure the tension bolt to the Take-Up slide.
28. Remove the tension bolt and spring from the Take-Up Slide.
29. Block up the Take-Up Slide Carriage.
30. On the passenger side, remove the bolts that hold the Take-Up Tube Slide to the Take-Up Slide Carriage.
31. On the passenger side, remove the bolts that hold the Take-Up Slide Shaft to the frame of the conveyor.
32. Set the passenger side slide assembly aside for reinstallation.
33. On the driver side, remove the bolts that hold the Take-Up Tube Slide to the Take-Up Slide Carriage.
34. Remove the Take-Up Slide Carriage, it will NOT be reinstalled.
35. On the driver side, remove the bolts that hold the Take-Up Slide Shaft to the frame of the conveyor.
36. Set the driver side slide assembly aside for reinstallation.
37. Have welder install the Air Shock clips as designated in the conversion kit.

NOTE: Refer to Figures 1-11 later in this document for visual representation of step 37.

38. Install the Air Panel in the support equipment air (preferred position close to the air cylinder for the Roller-Up function).
39. Drill holes in frame as designated in the conversion kit and install the air manifold and air cylinder mount.

NOTE: Refer to Figures 12-15 later in this document for visual representation of step 39.

40. Remove the tubing from the push-lock fittings mounted on the bearings
41. Slide the new bearings on to the new shaft and tighten a set screw on each bearing.
42. Slide the new Take-Up sprocket into the conveyor. Be sure tubing fittings are facing up.
43. Bolt in the bearings into place and remove block.
44. Tighten the set screws on both bearings.



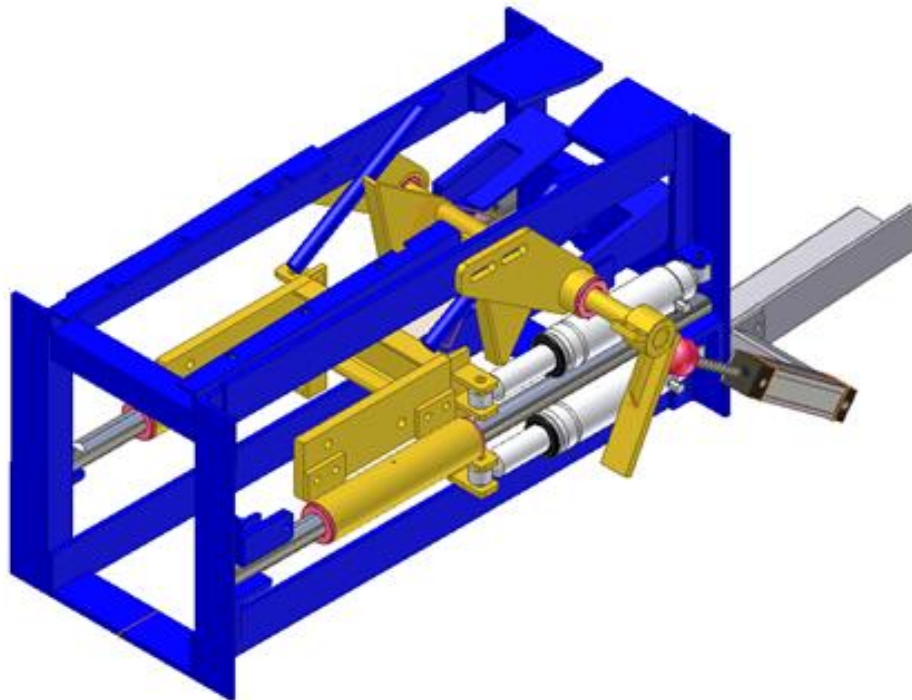
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45. Install the tubing into the new bearings.
46. Attach the cable puller to a fixed point on the conveyor frame. Release the cable and attach it to the Take-Up Slide frame. Compress the tension spring until there is enough slack to break chain.
47. Run the nut down the tension bolt to the cross member.
48. Reassemble the chain.
49. Run the nut up the tension bolt to the cotter pin.
50. Release the tension on the cable puller and remove it.
51. Install the cover plate on the Take-Up section.
52. Remove all tools and equipment from the work area.

Caution: Before returning power to the conveyor and removing lock out from the Motor Control Center make sure all personnel are clear of the operational area.

53. Remove the lockout. Return the conveyor to operation. Observe equipment to ensure proper operation.

EXPLODED VIEW



Addendum for Repair Step 37

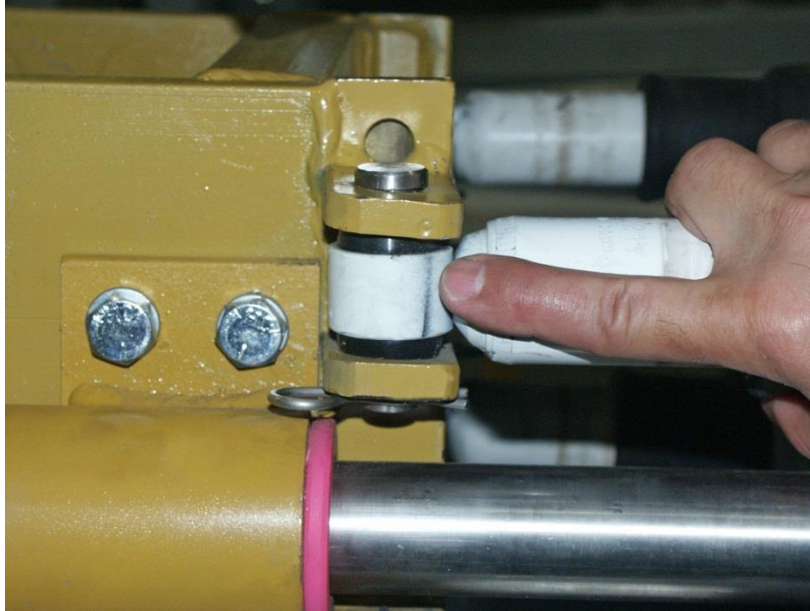


Figure #1



Figure #2

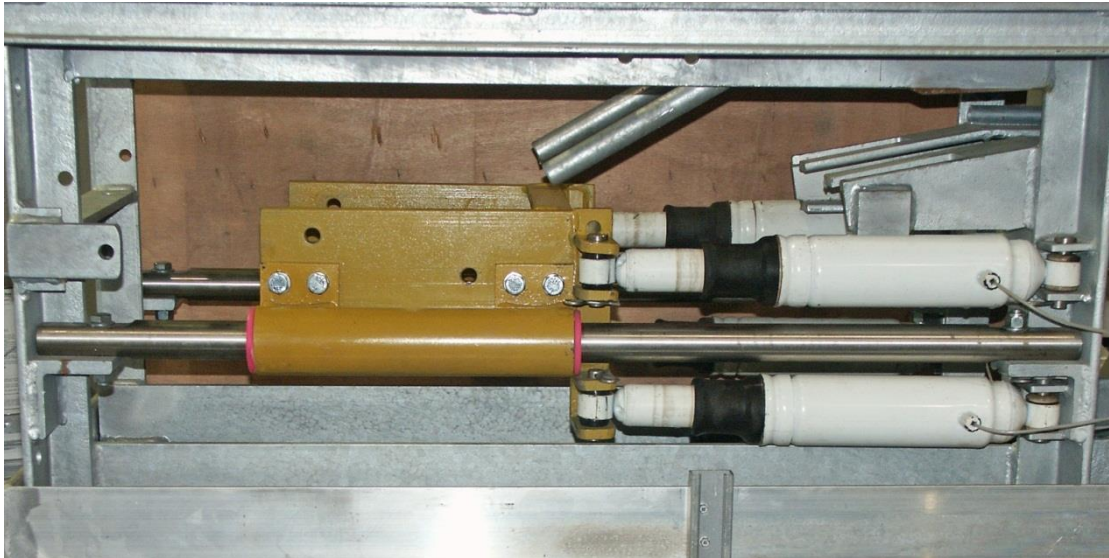


Figure #3



Figure #4



Figure #5



Figure #6



Figure #7



Figure #8

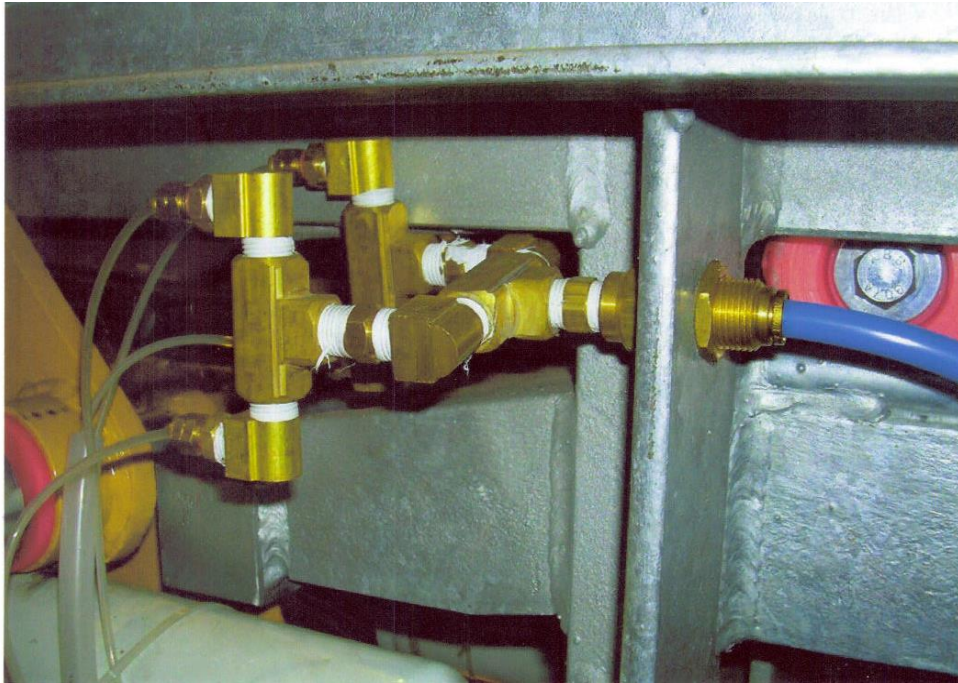


Figure #9



Figure #10



Figure #11

Addendum for Repair Step 39

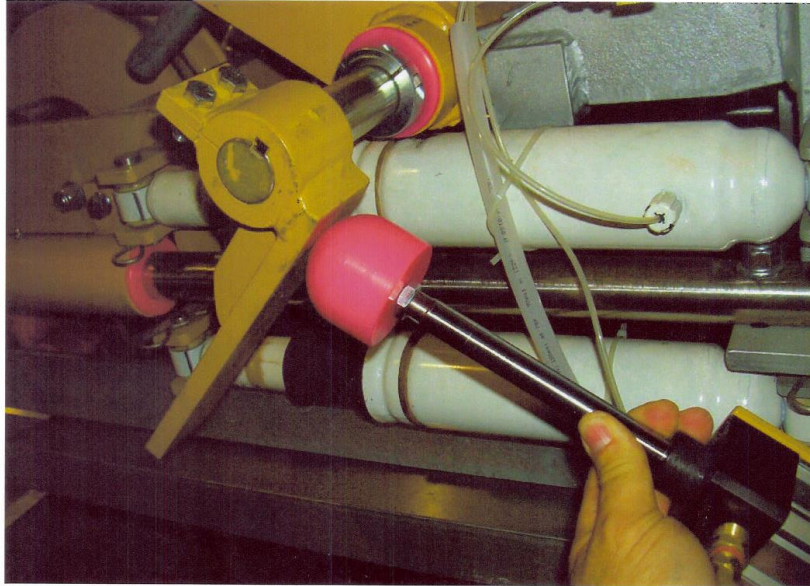


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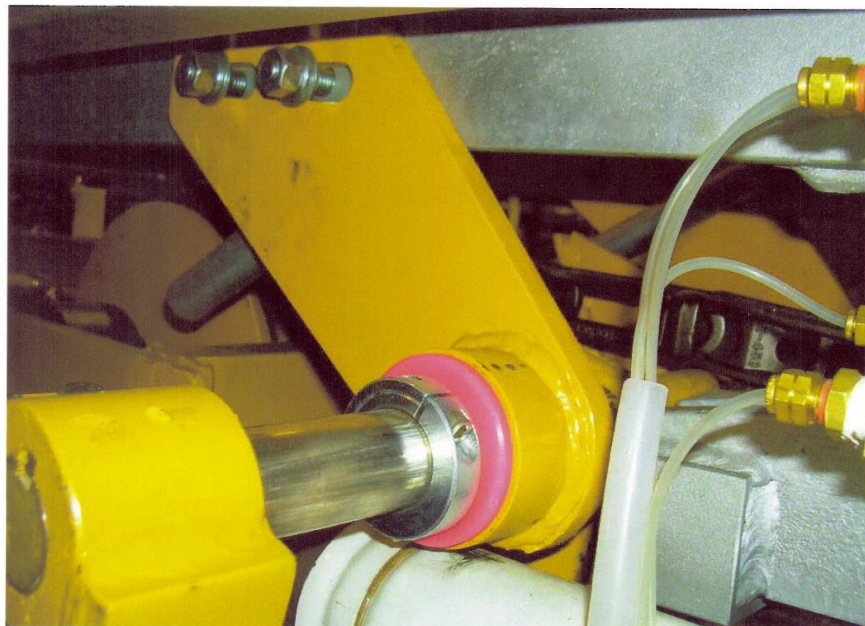


Figure #13

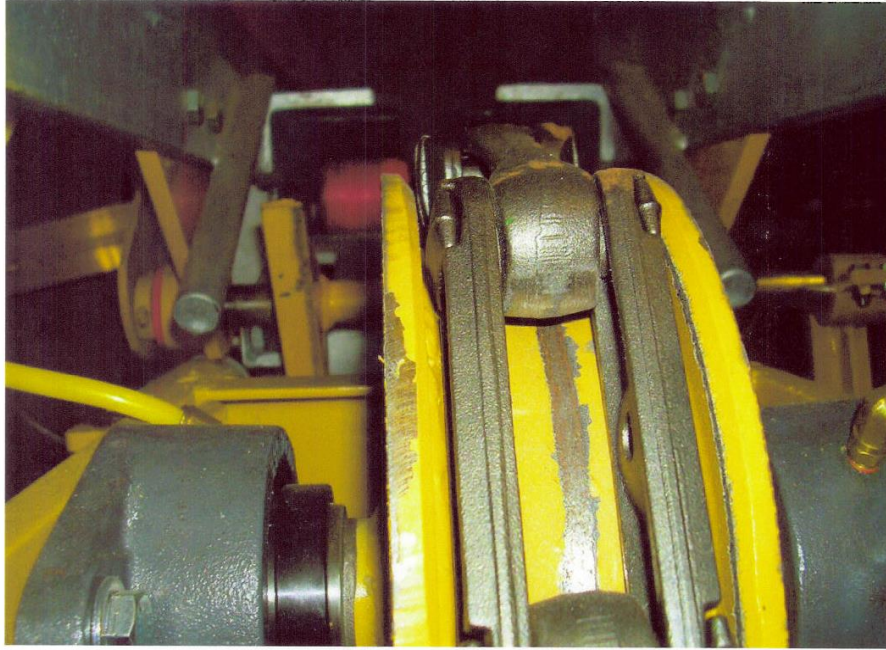


Figure #14

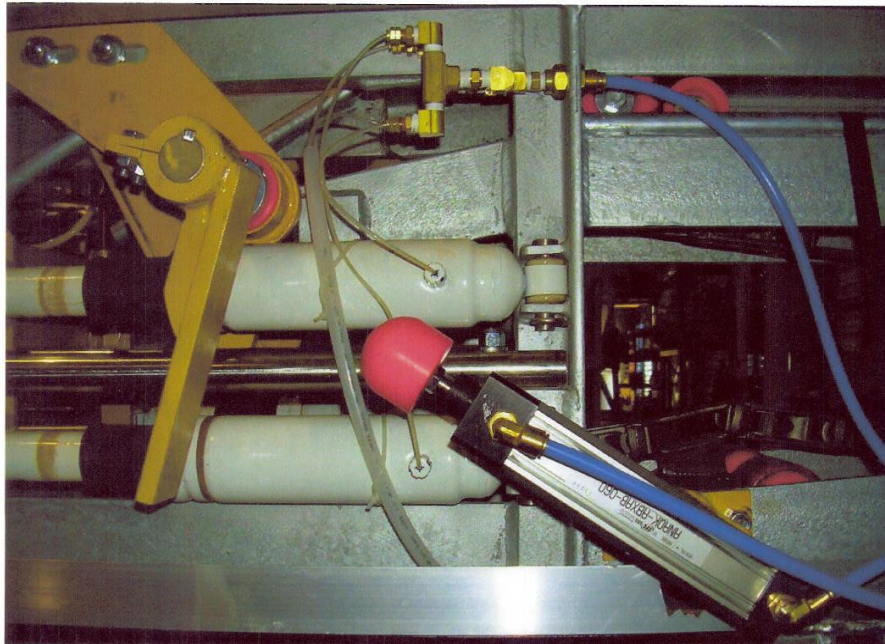


Figure #15



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WARRANTY

SONNY'S ENTERPRISES, INC. FACTORY LIMITED LIFETIME WARRANTY

Equipment manufactured by SONNY'S ENTERPRISES, INC. is warranted to be free from defect in material and workmanship. Welded metal framework and other non-moving, non-wearable fabricated metal components manufactured by SONNY'S are warranted for the life of the equipment to the original purchaser. Fabricated metal wearable surface and moving components manufactured by SONNY'S are warranted for a period of one (1) year to the original purchaser of the equipment.

All components assembled to SONNY'S equipment that are manufactured by others are warranted by the appropriate manufacturer and subject to that manufacturer's limited warranty. Contact SONNY'S for the specific information on other component manufacturer's warranty terms. All new cloth shipped with new SONNY'S equipment is warranted for a period of one (1) year or 80,000, whichever occurs first.

This warranty is not assignable or transferable. The warranty period begins the first day following installation or 30 days from the original invoice date, whichever occurs first. The Seller's liability shall be limited to repair or replacement of materials found to be defective within the warranty period. In the event of repair or replacement this limited warranty is noncumulative. The Purchaser must supply the Seller with immediate written notice when any defects are found. The Seller shall have the option of requiring the return of defective material to establish the Purchaser's claim. Neither labor nor transportation charges are included in this warranty. Transportation damage claims are to be submitted to the carrier of the damaged materials.

This warranty is based upon the Purchaser's reasonable care and maintenance of the warranted equipment. It does not apply to any equipment which has been subject to misuse, including neglect, accident or exposure to harsh chemicals or chemicals that react violently with: water, organic acids (e.g. acetic acid), inorganic acids (e.g. hydrofluoric acid), oxidizing agents (e.g. peroxides), and metals (e.g. aluminum). Chemicals corrosive to: aluminum alloys, carbon steel, and other metals. Nor does it apply to any equipment which has been repaired or altered by anyone not so authorized by SONNY'S. Further, the equipment must be properly installed with proper accuracy of all specified plumbing, electrical, and mechanical requirements. This warranty does not apply to normal wear and tear or routine maintenance components.

EXCEPT AS EXPRESSLY STATED HEREIN, SONNY'S SHALL NOT BE LIABLE FOR DAMAGES OF ANY KIND IN CONNECTION WITH THE PURCHASE, MAINTENANCE, OR USE OF THIS EQUIPMENT INCLUDING LOSS OF PROFITS AND ALL CLAIMS FOR CONSEQUENTIAL DAMAGES. THE LIMITED WARRANTY EXPRESSED HEREIN IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED. SONNY'S NEITHER ASSUMES NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION HEREWITH.



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CUSTOMER SERVICE

Please contact SONNY'S Equipment Department for installation and/or operational questions regarding this piece of equipment.

Please refer to the Parts Catalog and contact SONNY'S Customer Service Order Entry Department for any replacement parts for this piece of equipment.

You can also visit the web at www.SonnysDirect.com.

DEPARTMENT

Toll Free Main Line
Equipment Department

PHONE NUMBERS

800-327-8723
954-720-4100

FAX NUMBERS

800-495-4049
954-720-9292

Or you can email Sales at sales@SonnysDirect.com

Thank you for being a SONNY'S car wash equipment owner!

From all of us here at

