



Tire Shine PLC Timer Retrofit: Allen-Bradley



Owner's Manual

Sonny's Enterprises, Inc.
5605 Hiatus Road
Tamarac, Florida 33321
16v1



Equipment Program - Manuals Tire Shine Timer Retrofit Allen-Bradley PLC

Table of Contents

WARNING *SAFETY REQUIREMENTS* WARNING	3
INTRODUCTION	5
Product Specifications	6
Utilities Requirements	7
Electrical Diagram	8
Equipment Installation	9
Installation Steps	9
Adjustments and Testing	11
GENERAL OPERATION	14
PREVENTIVE MAINTENANCE	15
WARRANTY	16
CUSTOMER SERVICE	17



Equipment Program - Manuals Tire Shine Timer Retrofit Allen-Bradley PLC

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.



Equipment Program - Manuals Tire Shine Timer Retrofit Allen-Bradley PLC

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.



**Equipment Program - Manuals
Tire Shine Timer Retrofit
Allen-Bradley PLC**

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 !!!!!





Equipment Program - Manuals Tire Shine Timer Retrofit Allen-Bradley PLC

Product Specifications

- Designed to automatically control the Tire Shine Assembly functioning
- Complete kit, including PLC
- Requires 24 VAC



Equipment Program - Manuals Tire Shine Timer Retrofit Allen-Bradley PLC

Utilities Requirements

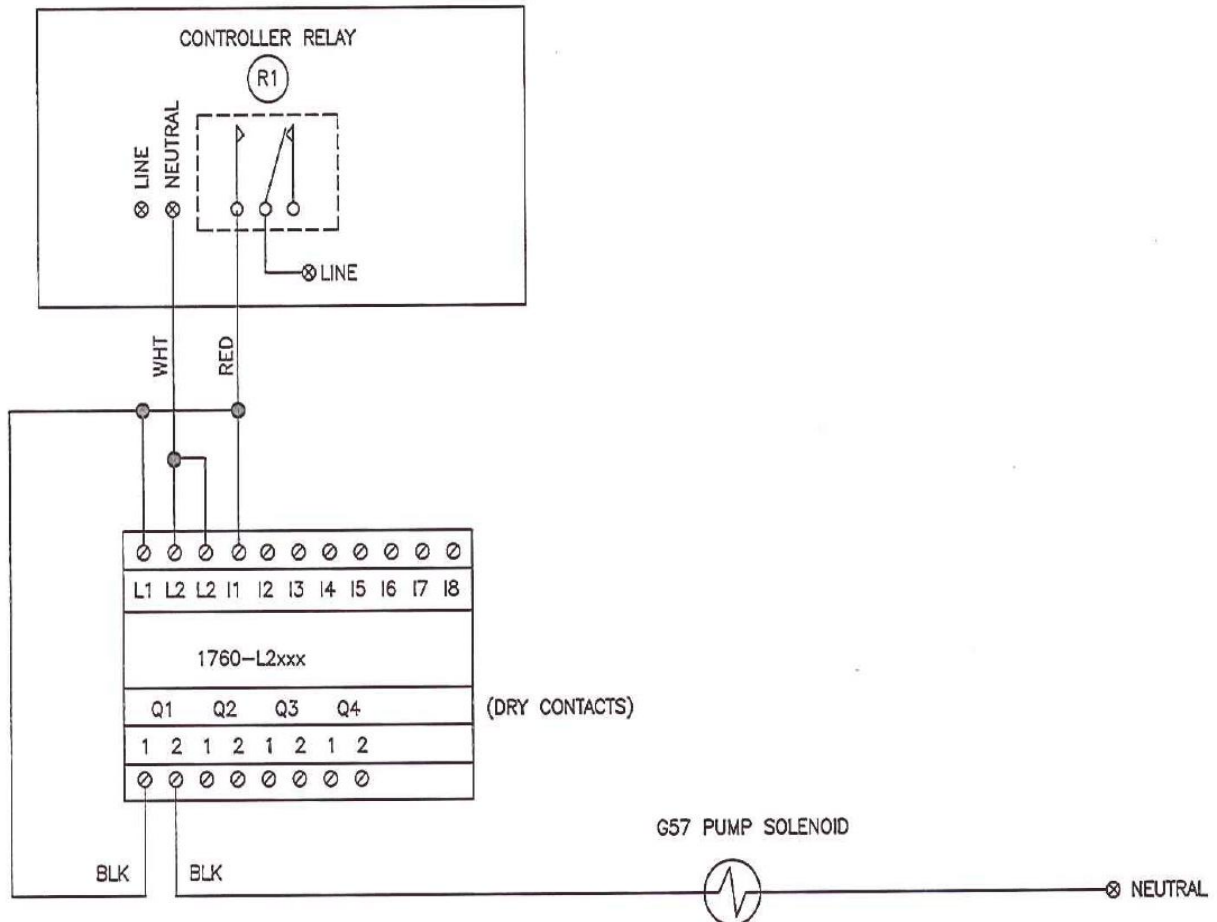
**UTILITIES INTERCONNECTION AND THE MATERIALS REQUIRED FOR
INTERCONNECTION TO SONNY'S EQUIPMENT ARE THE RESPONSIBILITY OF THE
CUSTOMER!**

**PERFORM ALL TRADES WORK TO ALL APPLICABLE LOCAL AND
NATIONAL CODES !**

Electrical

- The Customer's Electrician is to provide and install single phase power 24 VAC to the unit for power.
- The Customer's Electrician is to provide the wiring of the system and 24 VAC from the controller to the unit.

Electrical Diagram



Equipment Installation

Tire Shine Retrofit Control

Tools

1. Safety Glasses
2. 1/4" Nut Driver
3. Screw Driver

Consumables

None

Work Force

One (1) person

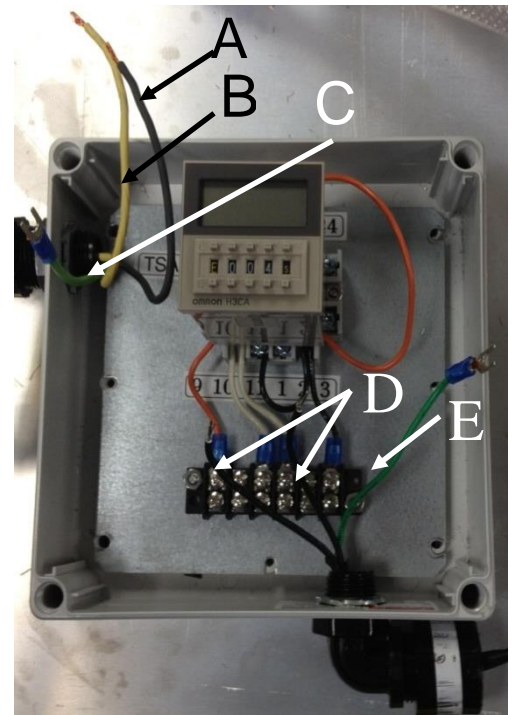
Time

1.00 – 2.00 hours

Installation Steps

Note: Before servicing, disconnect all power to the equipment.

1. Remove timer box cover.
2. Disconnect the wire connections in the existing Tire Shine Panel.
3. Disconnect the 3 wires coming from Electric Box A.
 - A. 24 VAC Black Wire
 - B. 24 ACN White Wire
 - C. Ground Green Wire
4. Disconnect the 3 wires going to the G57 pump solenoid.
 - D. The 2 Black Wires
 - E. Ground Green Wire
5. Remove the 4 screw (1/4" hex head) holding the timer box.
6. Remove the timer box from the tire shine panel.
7. Replace the Timer Box by the PLC Box.

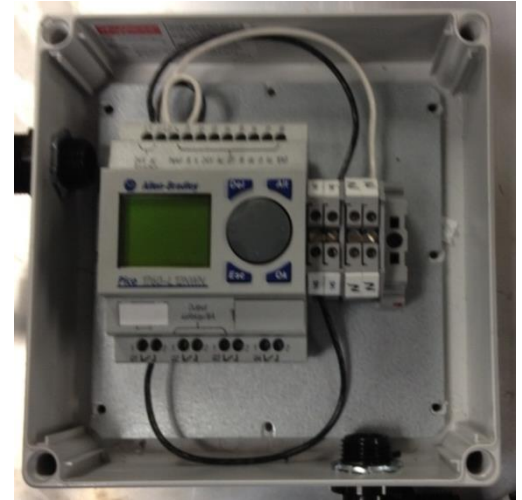


Equipment Program - Manuals

Tire Shine Timer Retrofit

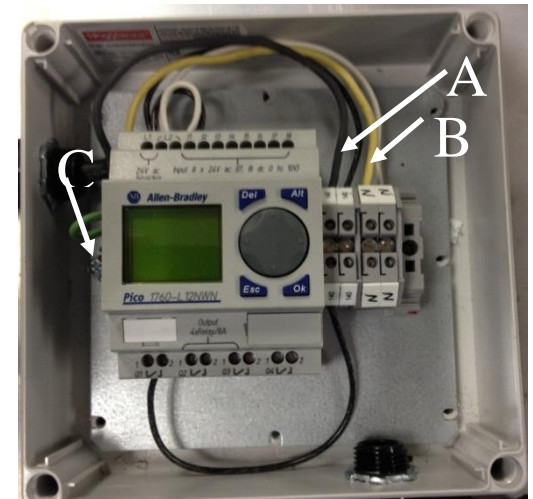
Allen-Bradley PLC

Note: The PLC Box is pre-wired from the factory as you can see on the picture to the right.



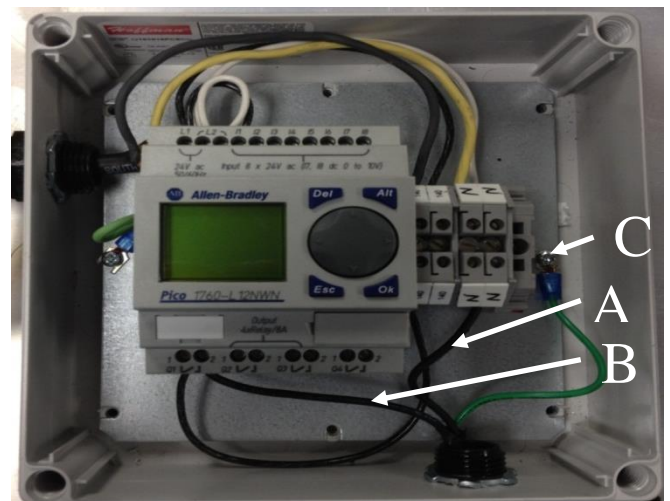
8. Remove the PLC box cover.
9. Replace the 4 screw (1/4" hex head) to hold the PLC Box.
10. Connect the 3 wires coming from Electric Box A.

- A. 24 VAC Black Wire is connected in the terminal block labeled **24 V**
- B. 24 ACN White Wire is connected in the terminal block labeled **N**
- C. Ground wire is connected to the back plate of the PLC enclosure



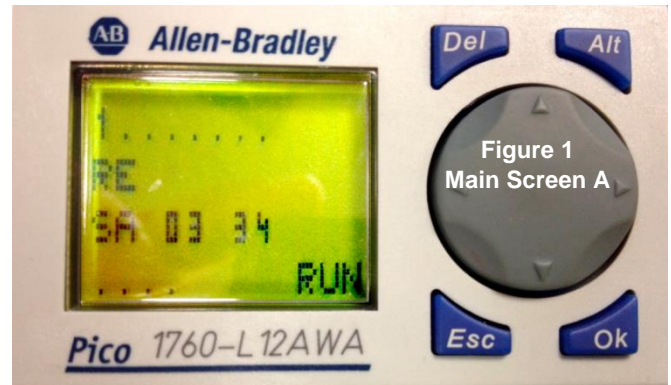
11. Connect the 3 wires going to the G57 pump solenoid.

- A. First Black Wires is connected to the Terminal Block labeled **N**
- B. Second Black Wire is connected **Q1 - 2** – PLC terminal.
- C. Ground wire is connected to the back plate of the PLC enclosure.



Adjustments and Testing

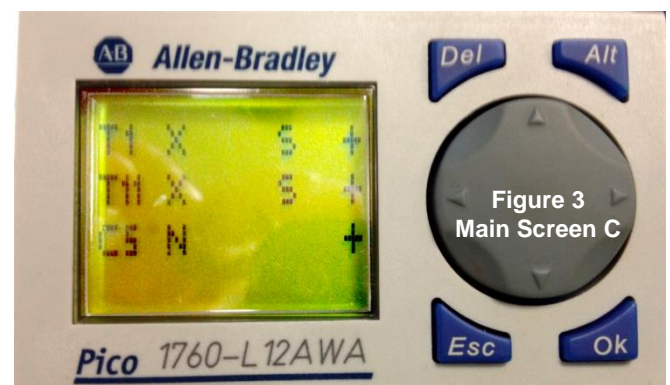
1. Switch on the 24 VAC power from the controller to turn on the PLC.
2. PLC needs to be in the Main Screen A.
3. Press **OK** (blue button) to go to Screen B



4. Press the Arrow Down until **PARAMETER** flashes then press **OK** to go to the next Screen C:



5. To change the value of one of these parameters. Press the Arrow down key to get to the parameter and press **OK**.
6. Once in the parameter screen using the arrow keys and the **OK** button, the parameter values can be changed.



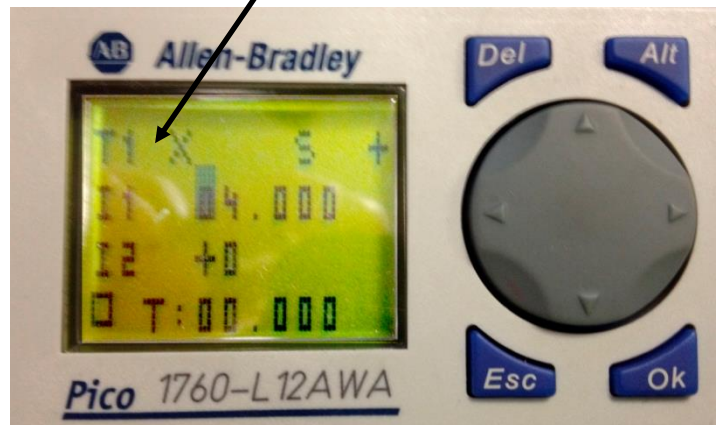
PARAMETERS

- T1** – Set the time that the G57 pump solenoid is turned on (default value is 4 seconds).
- T11** - Debounce the input signal from the controller (default value is 2 seconds).
- C5** - Set how many cars need to be count in order for the G57 pump solenoid to be energized (default value is every 3 cars).

T1 – Set the time that the G57 pump solenoid is turned on (default value is 4 seconds).

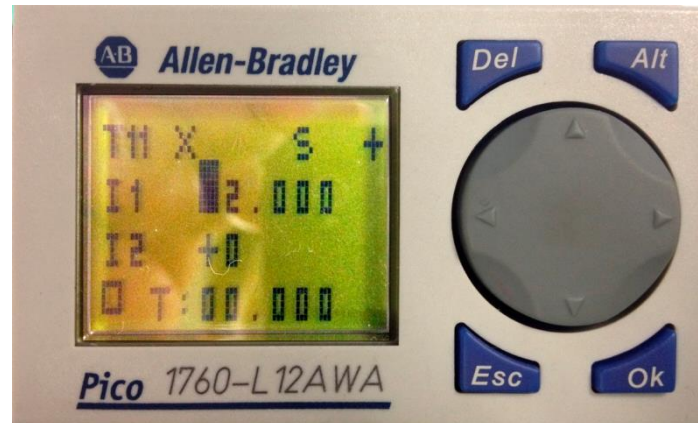
(I1) is the Parameter value to be changed

Note: I1 is the parameter value to be changed. For example: 02.500 = 2.5 seconds. None of the other values are changed.



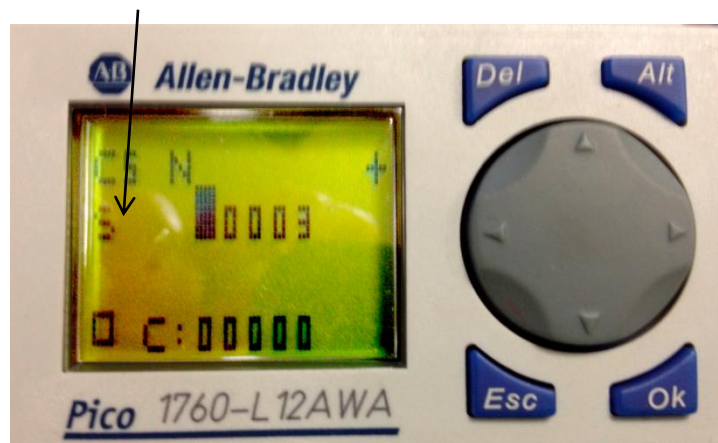
Equipment Program - Manuals Tire Shine Timer Retrofit Allen-Bradley PLC

T11 - Debounce the input signal from the controller (default value is 2 seconds). **This parameter must not be changed.** It is configured to allow the PLC to reboot when power is applied before starts counting.



C5 - Set how many cars need to be counted in order for the G57 pump solenoid to be energized (default value is every 3 cars).

(S) is the Parameter value to be changed



Note: S is the parameter value to be changed. For example 00003 = 3 counts. None of the other values are changed.



Equipment Program - Manuals Tire Shine Timer Retrofit Allen-Bradley PLC

GENERAL OPERATION

Tire Shine Retrofit Operation

Every time the signal (24 VAC) is sent from the controller to the Tire Shine Panel the counter (C5) will increase by 1. When the counter (C5) is equal to the set value (3 as default), the G57 Pump solenoid will energized for the amount of time set in (T1) then the counter will be reset to 0.

Note: Power is cycled on and off from the controller.



Equipment Program - Manuals Tire Shine Timer Retrofit Allen-Bradley PLC

PREVENTIVE MAINTENANCE

DAILY

1. Perform a general examination of operation. Check the wiring and tire shine components condition.

FOR THE FIRST MONTH OF OPERATION CHECK ALL HARDWARE AND FITTINGS FOR TIGHTNESS EACH WEEK. PERFORM THIS INSPECTION TO THE SCHEDULE SHOWN BELOW AFTER THE FIRST MONTH OF OPERATION.



Equipment Program - Manuals Tire Shine Timer Retrofit Allen-Bradley PLC

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.



Equipment Program - Manuals Tire Shine Timer Retrofit Allen-Bradley PLC

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

