

PLC128 LAB 1.2: ALLEN BRADLEY COMPACTLOGIX TROUBLESHOOTING

Student Name: _____

Student ID: _____

LAB OUTCOMES:

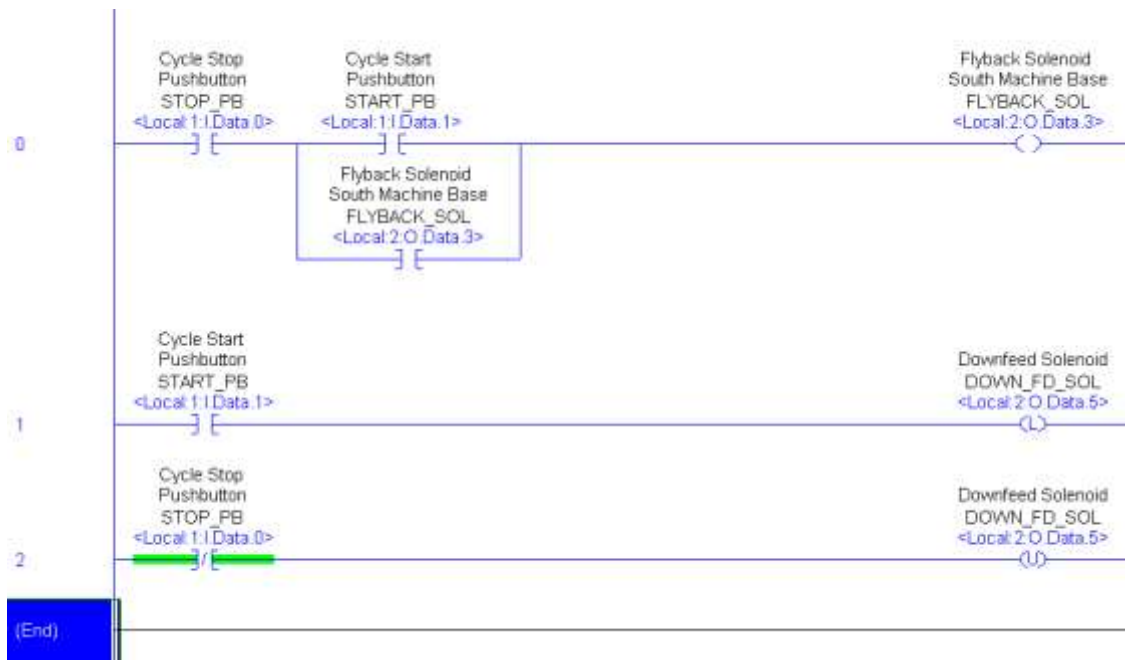
1. Explain how retentive and non-retentive coils respond after recovery from a power loss
2. Demonstrate how to turn the address descriptions on and off within the ladder program display
3. Demonstrate how to monitor the image tables

LAB PROCESS:

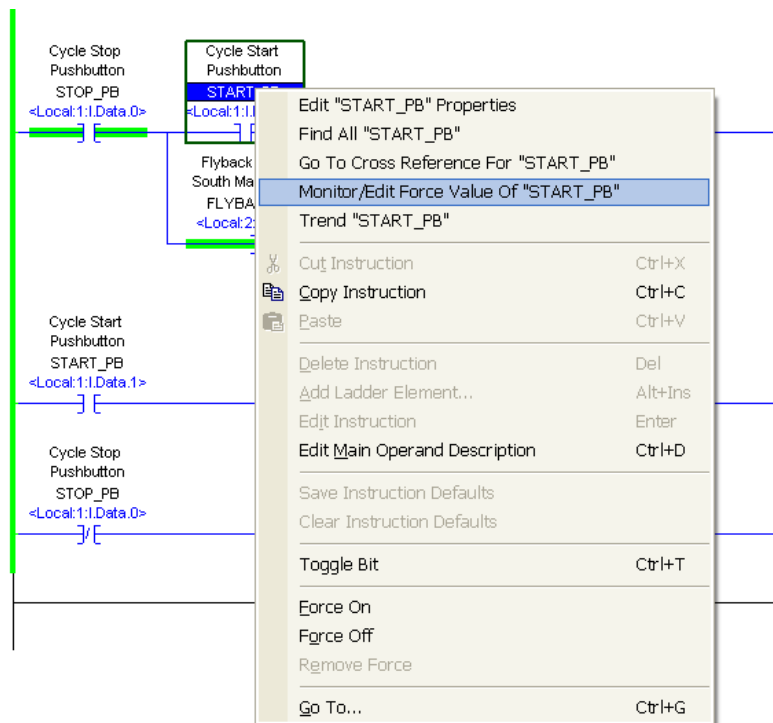
Key in the Alias tags for the Base I/O Tag addresses. Write the program with RSLogix5000 as shown in part 1 and then save it to the hard drive of the computer. You will then download the program to the ControlLogix processor. Once that it is complete you will go online with the ControlLogix and place the processor in RUN mode.

Part 1

1. Key in the following program and save it to the hard drive. Name the project something you will be able to easily remember.



2. Do any instructions (contacts or coils) have highlight? Which ones?
3. Momentarily push or toggle on the **START_PB** (Local:1:I.Data.1). Do both outputs come on?
4. When the Downfeed Solenoid is on (Local:2:O.Data.5) are both the latch and unlatch coils highlighted? Explain.
5. Now monitor the input tag table with RSLogix5000 by right clicking while pointing the mouse on an input addresses instruction. Choose "Monitor/Edit Force Value of "START_PB"" from the menu. The image table will be shown



The data should be shown in the following graphic

Scope: CL_Relay3 Show... Show All							
Name	Value	Force Mask	Style	Data Type	Description		
DOWN_FD_SOL	1		Decimal	BOOL	Downfeed Solenoid		
FLYBACK_SOL	1		Decimal	BOOL	Flyback Solenoid ...		
+ Local:1:I	{...}	{...}		AB:1769_DI16:I:0			
+ Local:2:C	{...}	{...}		AB:1769_DO16:C:0			
+ Local:2:I	{...}	{...}		AB:1769_DI16:I:0			
+ Local:2:O	{...}	{...}		AB:1769_DO16:O:0			
+ Local:3:C	{...}	{...}		AB:1769_IF4×OF...			
+ Local:3:I	{...}	{...}		AB:1769_IF4×OF...			
+ Local:3:O	{...}	{...}		AB:1769_IF4×OF...			
+ Local:4:I	{...}	{...}		AB:1769_SDN_4...			
+ Local:4:O	{...}	{...}		AB:1769_SDN_3...			
START_PB	0		Decimal	BOOL	Cycle Start Pushb...		
STOP_PB	1		Decimal	BOOL	Cycle Stop Pushb...		

6. Now toggle the START_PB input. Does the value change to a "1"?

7. Toggle the Stop Pushbutton (Local:1:I.Data.0)

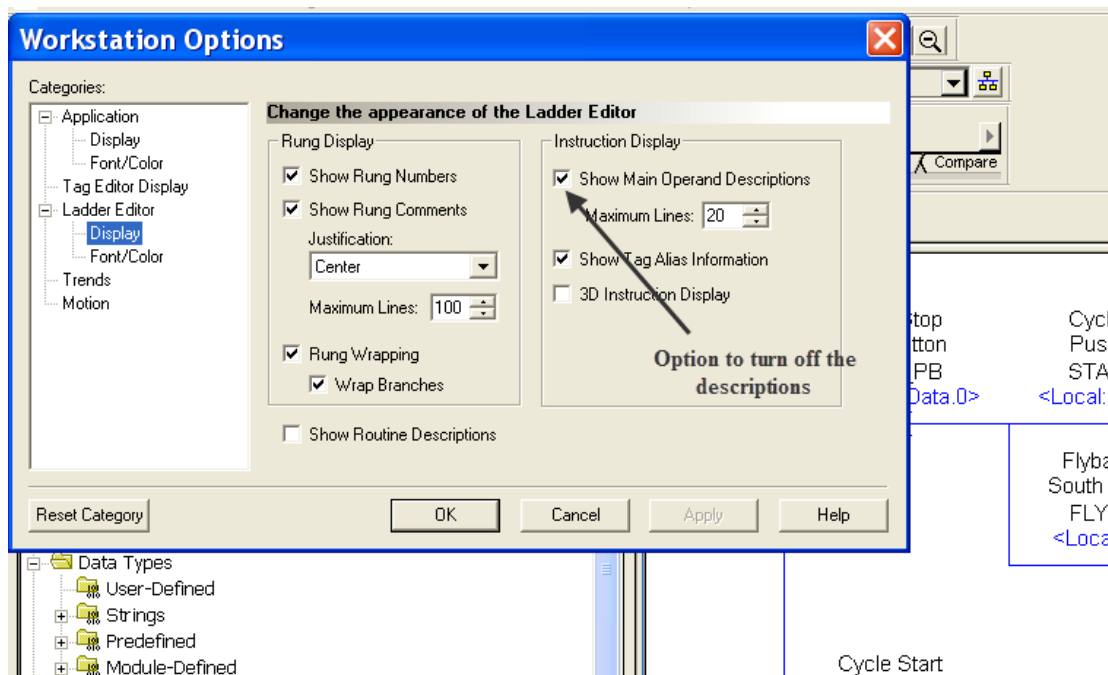
Does the Flyback Solenoid go off? Explain.

Does the Downfeed Solenoid go off? Explain.

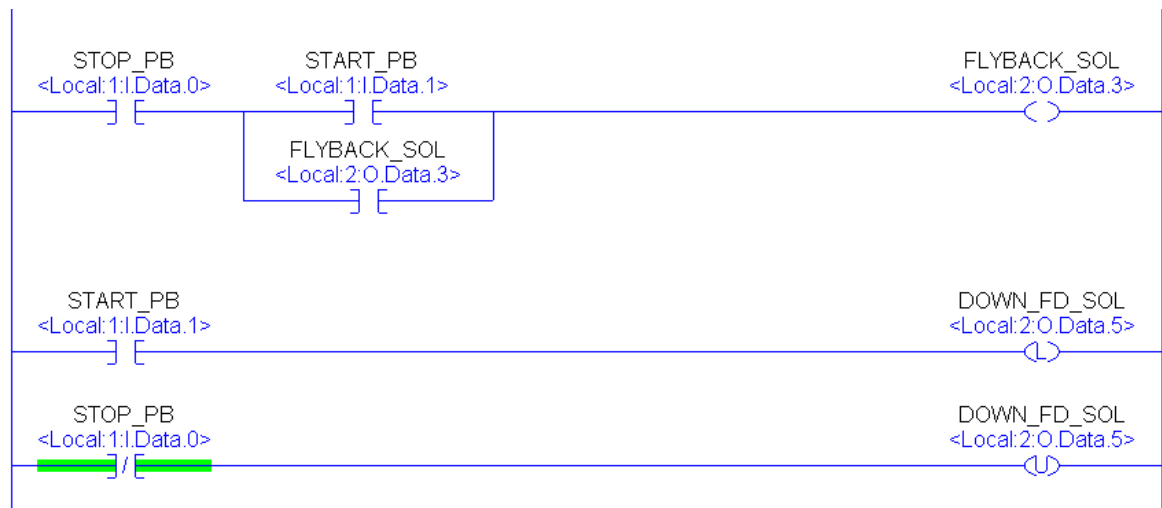
8. Push the START_PB tag (Local:1:I.Data.1) to turn the outputs back on. Turn the power supply off that feeds the rack to simulate a power outage. Turn the power back on. What is the state of the outputs? Explain.
9. Turn off the address descriptions on the ladder display. Click on the “Tools” pull down menu and select “Options” to bring up the display options.



Uncheck the “Show Operand Descriptions”, then click apply or OK.



The ladder program should be displayed as below (without address descriptions).



Now turn the descriptions back on.

Program

1. Create a program that will energize output O:000/04 when any of three start buttons (I:000/02, I:000/03, and I:000/04) are energized. If the Stop Pushbutton (I:000/00) or input I:000/07 is pushed, the output will shut off.

The outcomes of this exercise (listed on page 1) specifies the skills that the Student must demonstrate to the Instructor. Once the Instructor is satisfied with the demonstration of Knowledge & Skills by the individual student, they will sign this document (for the student), then enter a 100% into the Hands-On Lab grade in Sakai.

I verify that this student has completed all of the requirements of this Hands-On Assessment:

Student Name: _____

Faculty Signature: _____ Date: _____

DOL DISCLAIMER:

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