

MAP-205

USER MANUAL

APPENDIX D:

GRAFCETS



MANIPULATOR CONTROL PROGRAMME

The programme contained in this manual must be viewed like a suggestion, which is not necessarily the most suitable, nor even the only one. It concerns a programming model intended to enable the teacher to consider new programming activities.

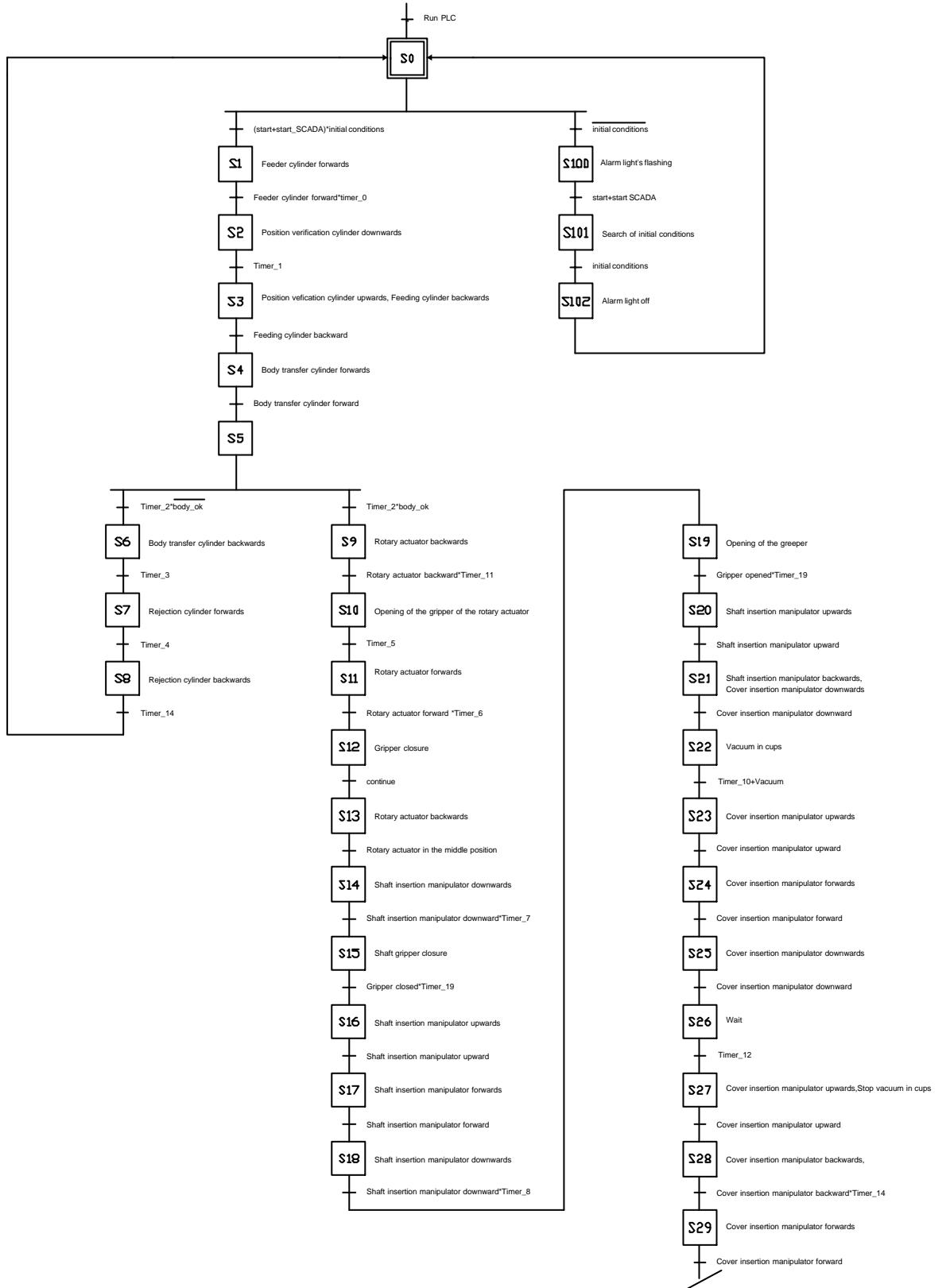
Automatic operation:

The PLC is programmed in such a way that it undertakes an operation cycle. The cycle consists in assembly and disassembly of the different elements of a turning mechanism. These corresponding parts of a complete assembly are body, bearing, shaft and cover. The complete cycle is described in the grafcet in the following page. To select this operation mode, the "MAN/AUTO" switch is turned to AUTO, the operation cycle is initiated by pressing the start button. After the assembly, the system will start again to do the disassembly of the components and will return to its initial position, it will stop and the cycle will be repeated whenever the start button is pressed and will stop at any time when the stop button is pressed.

In starting conditions, all cylinders and grippers will be on standby, the vacuum ejector will not be running and the manipulator will be provided with the parts necessary for assembly. A red pilot light will blink if out with starting conditions and the manipulator will not be started until it comes out of this state.

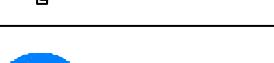
Manual operation:

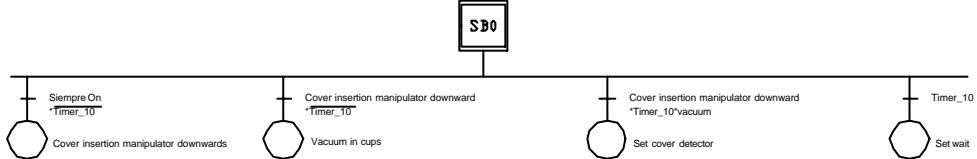
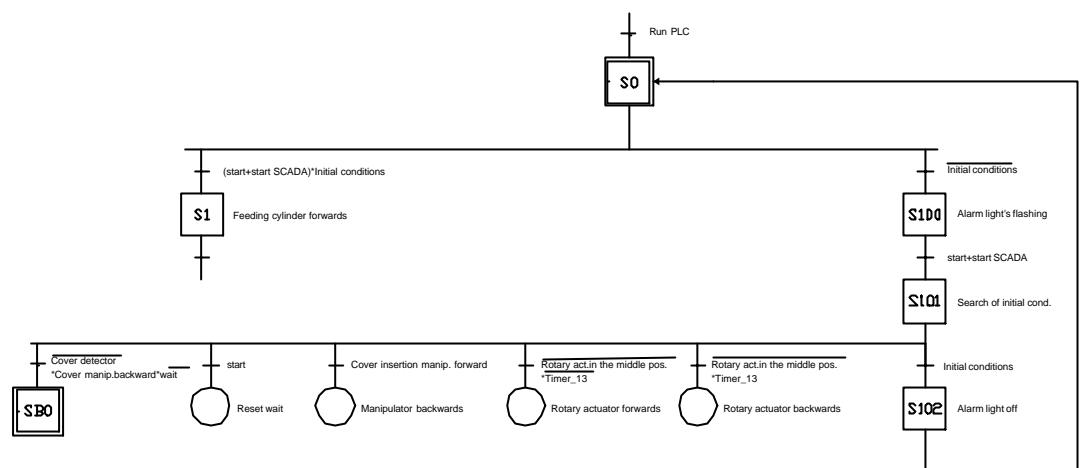
The PLC programme also allows this second operation mode. In order to select this option, the "MAN/AUTO" switch is turned to the MAN position. All operations are automatically carried out consecutively, stopping after finishing the mounting of the assembly. During this manual option, operations are carried out step by step, with a pause in each phase. The transition from one step to next one is carried out by pressing the start button in the control panel. After the assembly and the disassembly, the system will return to its initial position, stopping once again, the cycle will be repeated again when pressing the start button.



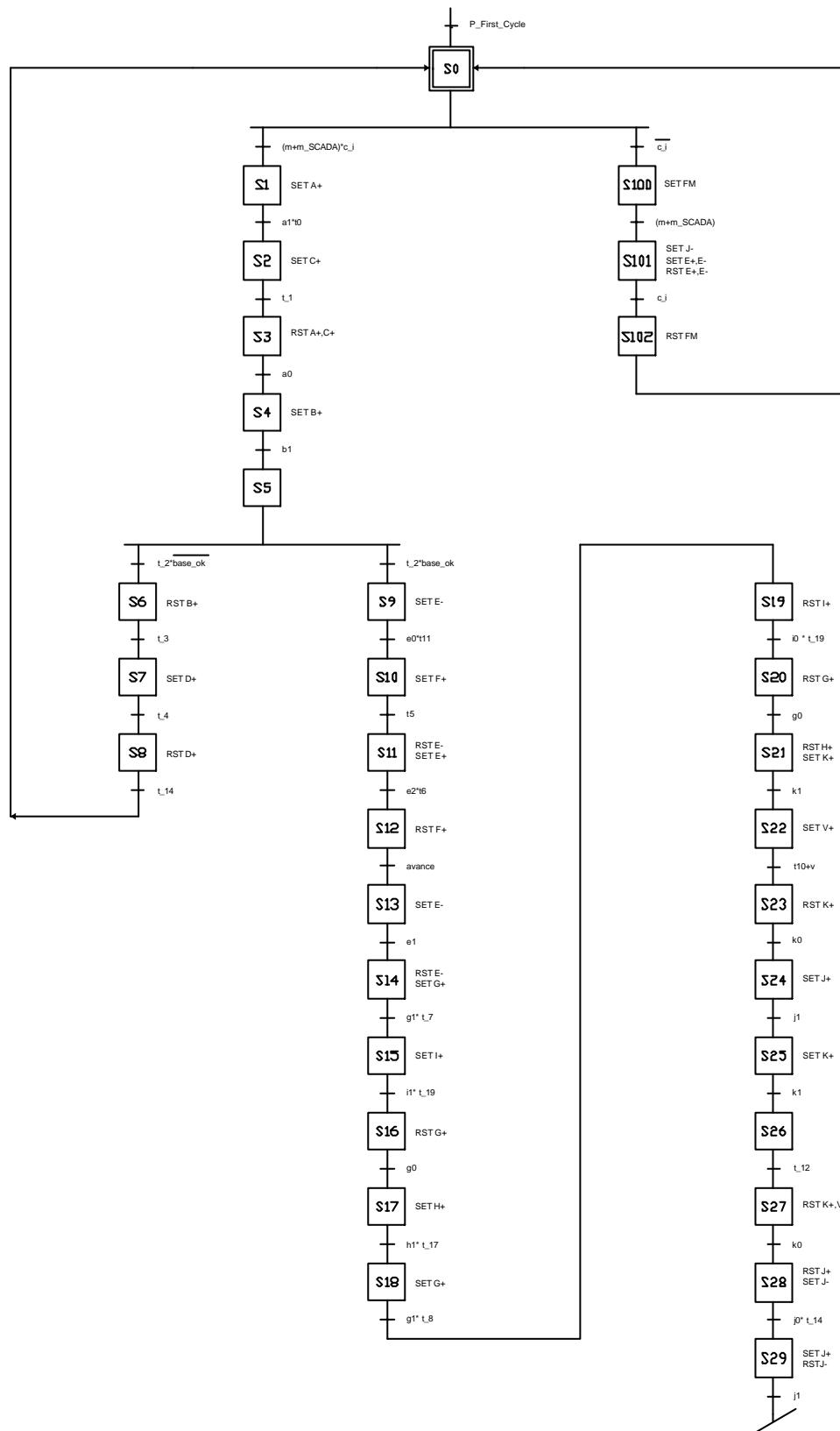
Tolerancia General: Segun ISO-2768 m	Ref:	Fecha:	Nombre:	Modificaci&on:	MATERIAL:			ESCALA:
	a	16-12-09	Burreal	Se agrego el timer 19 en las etapas 15, 19, 20 y 24				
					TRATAMIENTO:	Dibujado:	Comprobado:	Fecha: 2-03-2008
					CANTIDAD:	Fagoaga	Fdz de Antona	Nº DE PLANO:
	MAP-205			DESIGNACION: GRAFCET				1-6



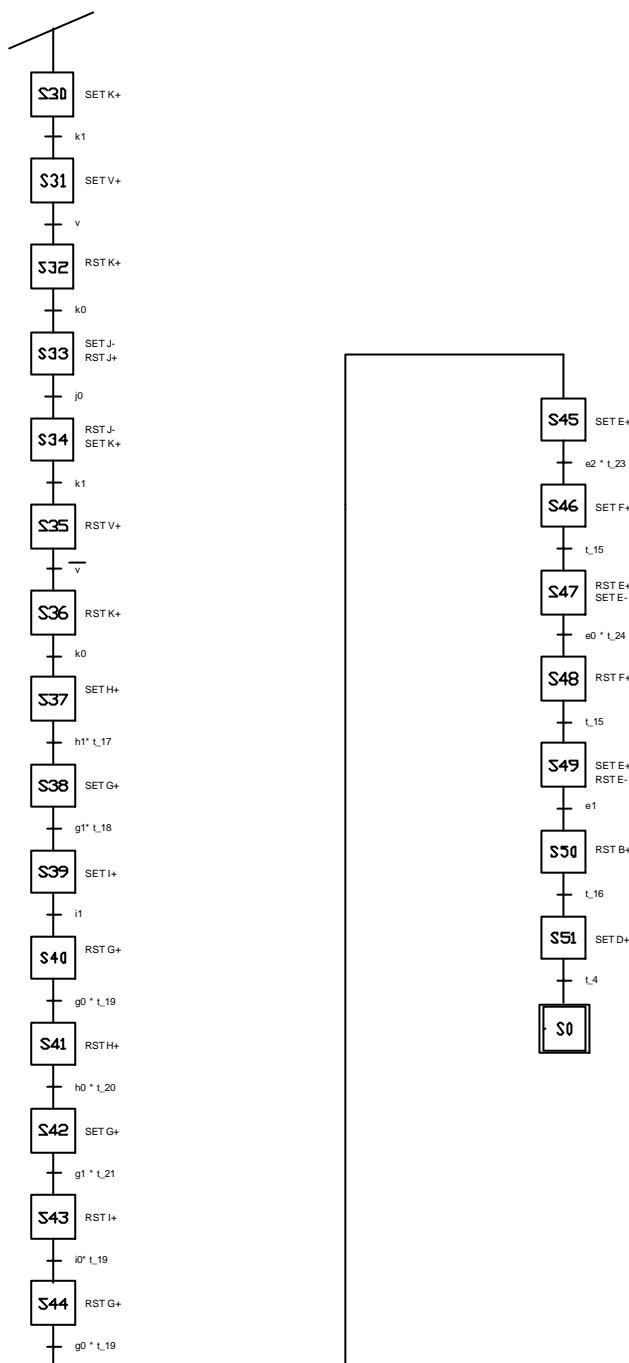
Tolerancia General: Segun ISO-2768 m	Ref:	Fecha:	Nombre:	Modificacion:	MATERIAL:			ESCALA:
	a	18-12-09	Barreal	Se añade el tñmer 19 en las etapas 15, 19, 10 y 14				
					TRATAMIENTO	Fecha: 2-03-2008		
						Dibujado: Fagoaga		
					Comprobado: Fdz de Antona			
					CANTIDAD:			
						Nº DE PLANO:		
	MAP-205			DESIGNACION: GRAFCET	2-6			



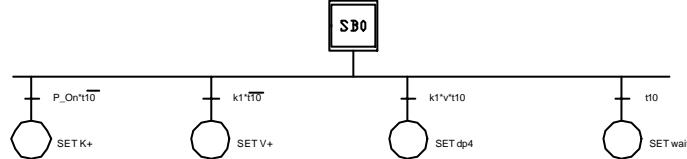
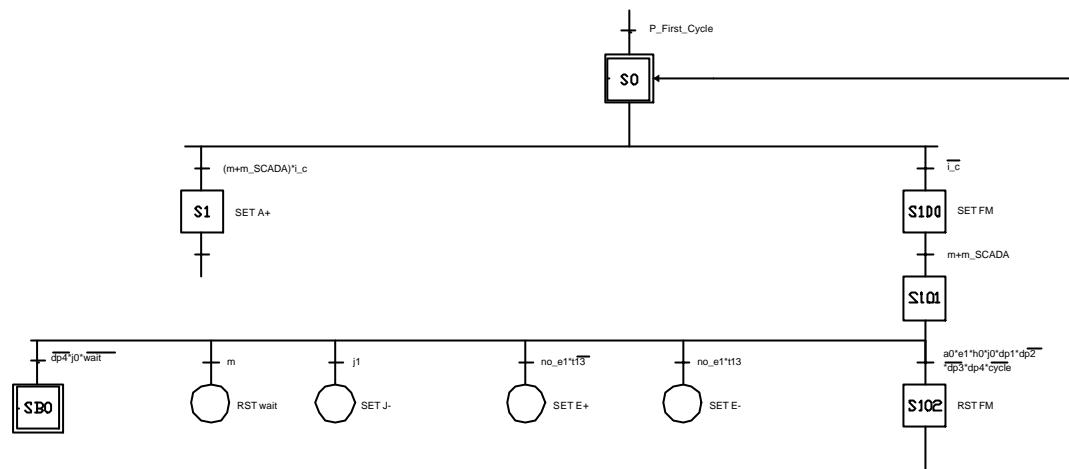
Tolerancia General: Segun ISO-2768 m	Ref:	Fecha:	Nombre:	Modificaciones:	MATERIAL:	TRATAMIENTO	CANTIDAD:	DESIGNACION:	FECHA: 2-03-2006	Dibujado:	Comprobado:	Fdz de Antona	ESCALA:
SMC INTERNATIONAL TRAINING	MAP-205				GRAFCET			Cnd.Ini/Subrutina dp4					Nº DE PLANO: 3-6



Tolerancia General: Segun ISO-2768 m	Ref:	Fecha:	Nombre:	Modificacion:	MATERIAL:	TRATAMIENTO	CANTIDAD:	DESIGNACION:	Nº DE PLANO:			ESCALA:
	A	29/10/2009	Maria	Añadir Timers								
	b	18-12-09	Borreal	Se añade el timer 19 en las estapas 15, 19, 40 y 44								Fecha: 2-03-2008
												Dibujado: Fagoaga
												Comprobado: Fdz de Antona
												Nº DE PLANO: 4-6



Tolerancia General: Segun ISO-2768 m	Ref:	Fecha:	Nombre:	Modificacion:	MATERIAL:			ESCALA:
	A	29/10/2009	Maria	Amadir Timers				
	B	16-12-09	Barreal	Se añade el timer 19 en las etapas 15, 19, 40 y 44	TRATAMIENTO	Fecha: 2-03-2008		
						Dibujado:	Fagoaga	Comprobado:
				CANTIDAD:	Fdz de Antonia			
					Nº DE PLANO:	MAP-205		
				DESIGNACION:	GRAFCET			



Tolerancia General: Segun ISO-2768 m	Ref:	Fecha:	Nombre:	Modificaciones:	MATERIAL:	Dibujo:	Escala:
					TRATAMIENTO		
					CANTIDAD:	Fecha: 2-03-2006 Dibujado: Fagoaga Comprobado: Fdz de Antonia	
					DESIGNACION:		
SMC INTERNATIONAL TRAINING	MAP-205			GRAFCET	Nº DE PLANO: 6-6		
				Cnd.Ini/Subrutina dp4			