

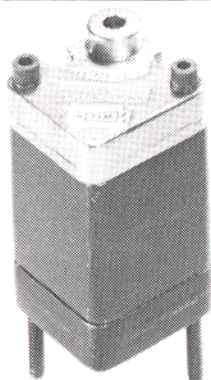
PARTS LIST

ARO PNEUMATIC LOGIC CONTROL LOGIC FUNCTION ASSEMBLY

TIMING ELEMENT (FIXED ORIFICE)

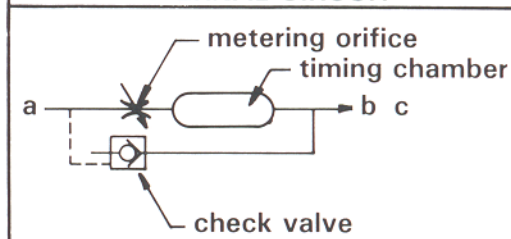
MODEL 59167

FORM 5927
REV. 3/88



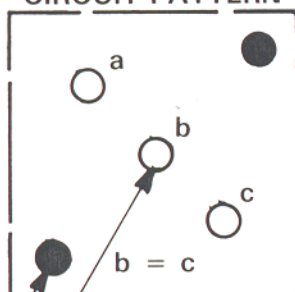
LOGIC SYMBOL	LOGIC FUNCTION	PORT DESIGNATION
	TIM in conjunction with "AND" or "NOT" element for delay function	a = input b,c = output connection to "a" port of AND or NOT element

INTERNAL CIRCUIT



See Technical Manual For Detailed Description

CIRCUIT PATTERN



NOTE: THIS ELEMENT CAN BE ROTATED 180° SO POSITION a, b, c BECOMES c, b, a.

(3) CIRCUIT HOLES

(2) MOUNTING HOLES

DESCRIPTION

Time is measured pneumatically by filling a timing chamber thru a metering orifice. Pressure rise in the chamber is used to actuate a pilot operated valve. The pilot operated valve must switch with a snap-action, at a given pressure level, to assure accurate timing and instant output signal switching. The "AND" element Model 59111 and the "NOT" element Model 59112 are used for the delay function in conjunction with the timing element. Both elements are designed for snap action switching.

DELAY CIRCUITS AND FUNCTIONS

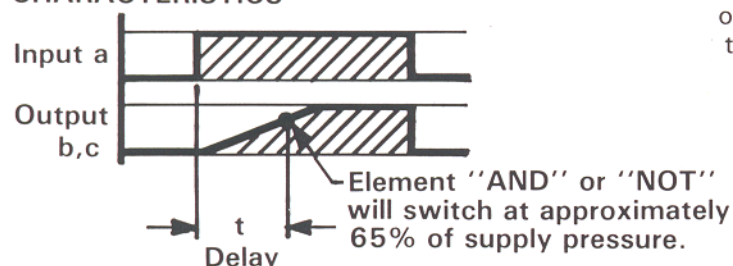
The timing element in various combinations with the "AND" or "NOT" elements will perform six different timing functions: 1.) Timing in, 2.) Timing in inverted, 3.) Timing out, 4.) Timing out inverted, 5.) Timing in and out, 6.) Timing in and out inverted.

See technical manual for detailed description and circuit diagram for each function.

OPERATING PRESSURE RANGE
30 to 150 P.S.I.G.

TEMPERATURE RANGE
+32 °F to +160 °F

CHARACTERISTICS



DELAY CHARACTERISTICS

Typical delays with TIM-AND function and inputs of 100 P.S.I.G.

t (ms.) measured at 65% of supply pressure.

MODEL NO.	DELAY (ms.)
59167-1	140 ± 10
59167-2	220 ± 15
59167-3	390 ± 30
59167-4	680 ± 40

INSTALLATION

Pressure regulation is mandatory for optimum repeatability.

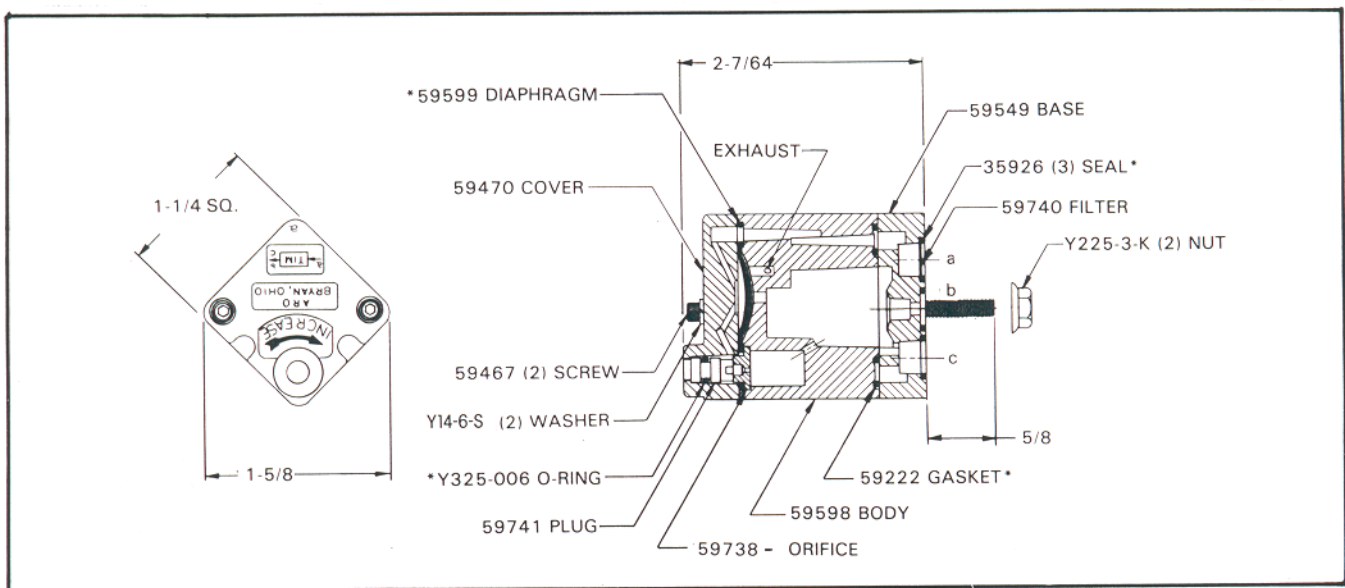
Lubrication is not required.

Filtration is mandatory to assure a clean, dry air supply for optimum repeatability.

OPERATING DESCRIPTION

Air pressure applied at port **a** is metered through an orifice. Pressure on ports **b** and **c** increases at a set rate. Port **b** or **c** must be connected to the input port **a** of the logic element "AND" or "NOT" to obtain the desired delay function. The 59599 diaphragm permits flow to by-pass the metering orifice directly to exhaust when input is discharged. Two Y225-3-K nuts are used to attach the assembly to the circuit board. Three 35926 seals provide sealing between the circuit base plate and the base plate.

PARTS LIST



*Parts included in repair kit

SERVICE (Use Repair Kit No. 59476)

For improper timing:

Check 59599 diaphragm for rupture or defects.

Check seat — diaphragm for damage.

Check metering orifice for plugging.

Check Y325-006 O-ring, 35926 seals, 59599 diaphragm, and 59222 gasket for imperfections if external leakage occurs.

Testing (element mounted on function base)

Apply pressure at port **a**, after a short delay, pressure at port **c** should equal the pressure applied at port **a**.

Remove pressure at port **a**. Pressure at port **c** should disappear instantly.