

PARTS LIST

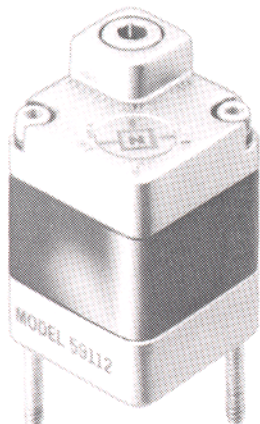
ARO PNEUMATIC LOGIC CONTROL LOGIC FUNCTION ASSEMBLY

MODEL 59112

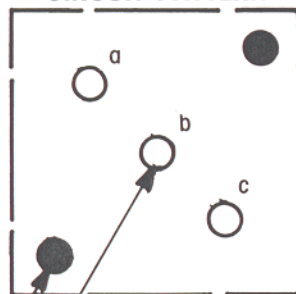
FORM 5045

REV. 3/88

"NOT" LOGIC ELEMENT



CIRCUIT PATTERN



(3) CIRCUIT HOLES

(2) MOUNTING HOLES

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

LOGIC SYMBOL	LOGIC FUNCTION	PORT DESIGNATION
	$\overline{a} \rightarrow c$ output c is on if input a is off and vice versa	a = input b = supply c = output
VALVE SYMBOL	VALVE FUNCTION	PORT DESIGNATION
	3-way passing	a = pilot b = supply c = output

For other Functions see Technical Manual

DESCRIPTION

This element performs the logic function "NOT" with one input and one output. The output is on if the input is off and visa versa. The element has three bottom ports which are designated a, b, c and are marked on the cover to correspond to their position on the base. These ports connect to the circuit board or function bases, and through circuit passages in the circuit module allow the required circuitry to be performed.

OPERATING PRESSURE RANGE

30 to 150 P.S.I.G.

TEMPERATURE RANGE

+ 32°F to + 160°F

RESPONSE TIME

"a" on → "c" Off = 8.5 MS.

"a" Off → "c" On = 9 MS.

FLOW CHARACTERISTICS

Flow b → c at 100 P.S.I.G. = 16.2 C.F.M. free air.

Capacity factor $C_v = 0.28$

INSTALLATION

- Pressure regulation is recommended for applications where optimum repeatability is required.
Lubrication is not required.
- Filtration is recommended to assure a clean, dry air supply for optimum repeatability.
 - Mandatory when element is used with a timing element on timing circuits.

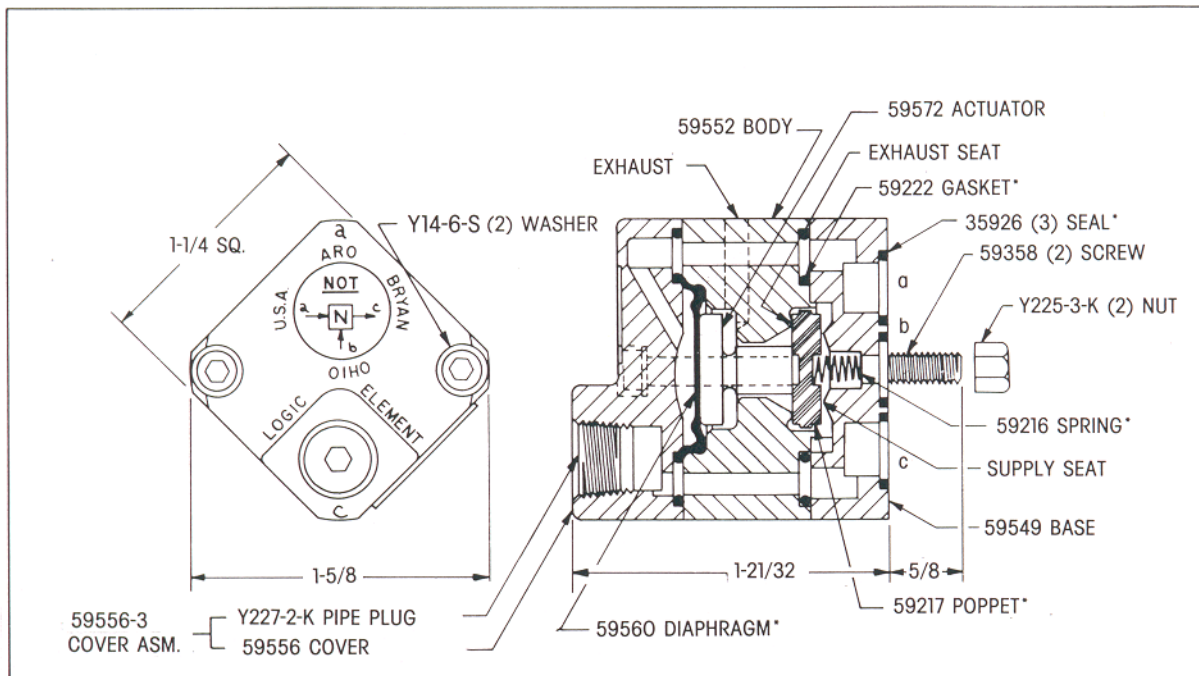
OPERATING DESCRIPTION

When input **a** is off, supply air from port **b** can pressurize output **c**. Exhaust seat is closed, therefore, output **c** is on.

When input **a** is on, diaphragm 59560 forces actuator 59572 and poppet 59217 downward, which opens output **c** to exhaust and closes supply seat. Therefore output **c** is off (discharged).

Screws 59358 thread into base to assemble element, but also extend beyond the base for insertion into mounting holes in the circuit board assembly (or function bases.) Y225-3-K nuts are used to attach the assembly to the circuit board. 35926 seals provide sealing between circuit base plate and element ports.

PARTS LIST



***Parts included in repair kit**

SERVICE (Use repair Kit No. 59573)

In the event of a malfunction;

Check diaphragm 59560 for rupture or defects.

Check poppet 59217 for excessive wear or defects.

Check supply seat and exhaust seats for damage.

Check 59222 gasket and 35926 seals for imperfections if external leakage occurs.

Test (element mounted on function base)

Apply pressure at port **b**, output pressure appears at port **c**.

Apply pressure at port **a** and port **b**, pressure absent at port **c**.