

Control sequence to be followed in order 1 through 5

| Step number      | Description of operation | A1 port condition  | B1 port condition  | A2 port condition  | B2 port condition  |
|------------------|--------------------------|--------------------|--------------------|--------------------|--------------------|
| 1.               | Home (retracted)         | Exhausted          | <b>Pressurized</b> | Exhausted          | <b>Pressurized</b> |
| 2. (Cycle Start) | Fast Approach extend     | <b>Pressurized</b> | Exhausted          | Exhausted          | <b>Pressurized</b> |
| 3.               | High Pressure extend     | <b>Pressurized</b> | Exhausted          | <b>Pressurized</b> | Exhausted          |
| 4. (Cycle End)   | Fast Approach retract    | Exhausted          | <b>Pressurized</b> | <b>Pressurized</b> | Exhausted          |
| 5.               | High Pressure retract    | Exhausted          | <b>Pressurized</b> | Exhausted          | <b>Pressurized</b> |
|                  | (Cylinder now at Step 1) |                    |                    |                    |                    |

Notes for 3 position exhaust-centered valves, for e-stops or light curtain breaches:

**In cycle** (steps 2 through 5).

The mid position of the valves is used only for an E-Stop condition (cycle interrupted), or shutdown. Normally, the valve is shifted to one side or the other, and not in the mid position.

**Not in cycle** (step 1)

When not in cycle, and the e-stop is cleared, B1 and B2 must return to their pressurized condition prior to the start of the cycle. For example, the operator breaches the light curtain to load, unload, or change a part. The machine is not in cycle. The valves shift to their mid position. When the operator is clear of the light curtain, the valves must be shifted to the position in which B1 and B2 are pressurized before the start of the next cycle.

A typical 3 position, exhaust-centered schematic:

