

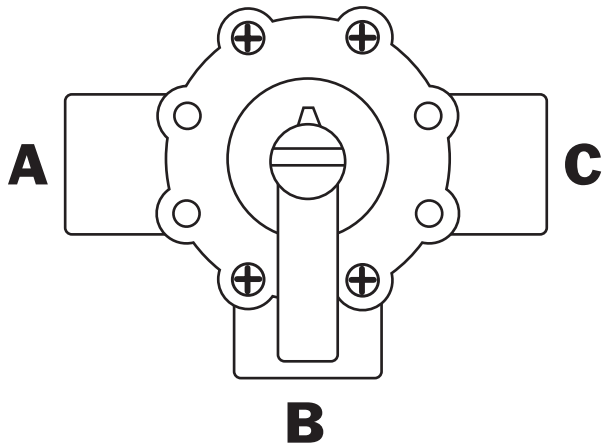
PRAHER 3PVA-SERIES VALVE ACTUATOR MANUAL

1: MOUNTING

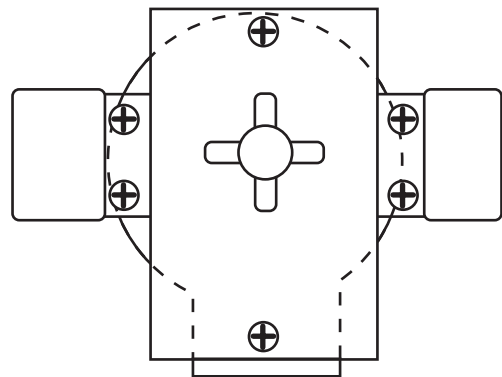
Standard plumbing position is with the middle port (B) as the incoming or common port of the valve. This port B should not be closed. The main body of the actuator is to be over the port B.

There should be no need in readjusting the actuator's cam settings as all actuators are preset for standard mounting. Ports A and C will be closed one at a time depending on the controllers signals.

Standard Plumbing



Standard Mounting



Praher's 3PV-series actuator mount on all Praher OV3-series and OV2-series valves as well as all other valves with an 8 bolt mounting lid assembly.

To mount the actuator on a valve:

- 1: Remove four Phillips head screws from the valve (see above standard plumbing diagram).
- 2: Turn the actuator over so you can see into the grey actuator drive shaft. There are four teeth, the smallest is marked with red ink. Align this smallest tooth with the smallest slot on the valve diverter.
- 3: Rotate the actuator while keeping the two shafts engaged until the mounting holes align with the four holes left open on the valve.
- 4: Use the four long screws to secure the actuator on to the valve.

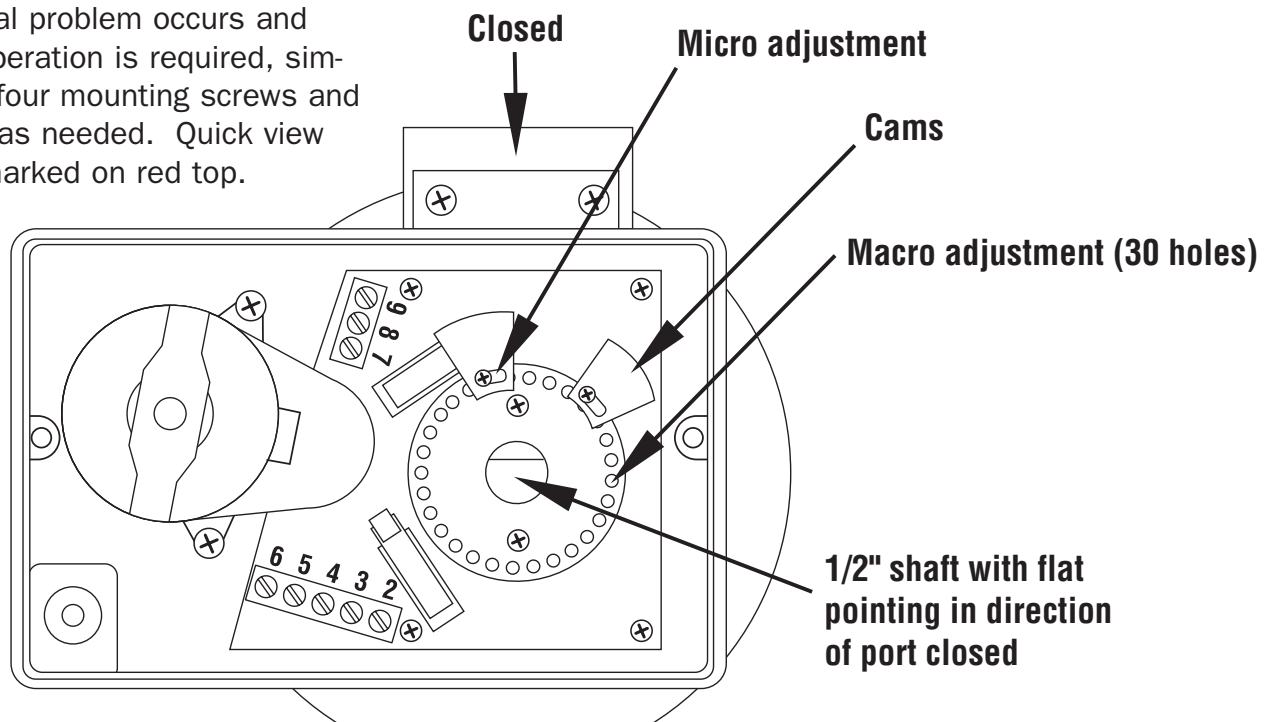
2: Synchronization:

Out of synchronization refers to the situation where either the actuator is rotating in the wrong direction in relation to its controller, or an actuator is rotating incorrectly in relation to another actuator (pool/sap combination). If one of the two actuators turns in the wrong direction, change the position of the toggle switch (located under the actuator body) from i.e. ON1 to ON2 or ON2 to ON1. This will correct the situation. Do not forget to mark the ON1/ON2 label for the right switch position.

3: Resetting cams:

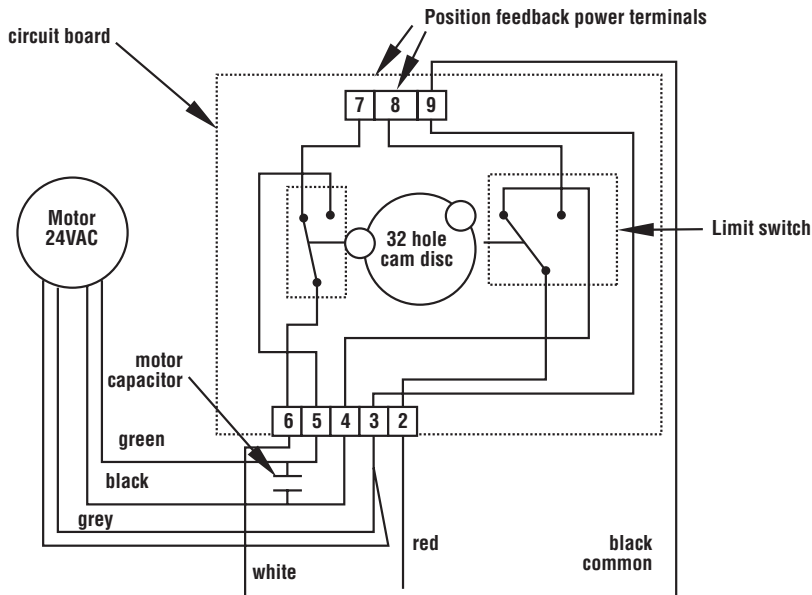
1. Unscrew the two lid screws and pull the actuator cover off.
2. You can now see a disc with 30 holes (12 degree increments) on the outer perimeter which has two grey cams screwed to it. Those cams will push the lever of the black limit switch down and stop actuator rotation. Those cams are factory preset for standard mounting or 180 degrees (full half) rotation. This means that the actuator will close port A or port C depending on the signal. Loosen the cam mounting screw and slide the cam backwards or forwards for fine tuning (about 1/4 inch slide or 15 degree adjustment). Take the mounting screw with the cam out of the base disc and mount in any other hole orientation for coarse or macro adjustment. The distance of one hole is the approximate angle of 12 degrees. To change the cam by 90 degrees or 1/4 turn, you will have to move the cam by seven holes ($7 \times 12 = 84$, 84 degrees), and fine tune it with the 1/4 inch slot of the cam by 6 degrees to achieve 90 degrees. The 30 hole disc has a 1/2" shaft with a flat surface at the end. This flat surface always points in the direction of the internal valve rotor segment. This segment closes the valves' port. The red handle on top of the actuator is an actuator position indicator and is NOT a manual override handle.

Note: If electrical problem occurs and manual valve operation is required, simply remove the four mounting screws and rotate actuator as needed. Quick view Orientation is marked on red top.



4: Electrical wiring: (For service technicians only)

WIRING DIAGRAM FOR ACTUATOR 3PVA-SERIES without toggle switch



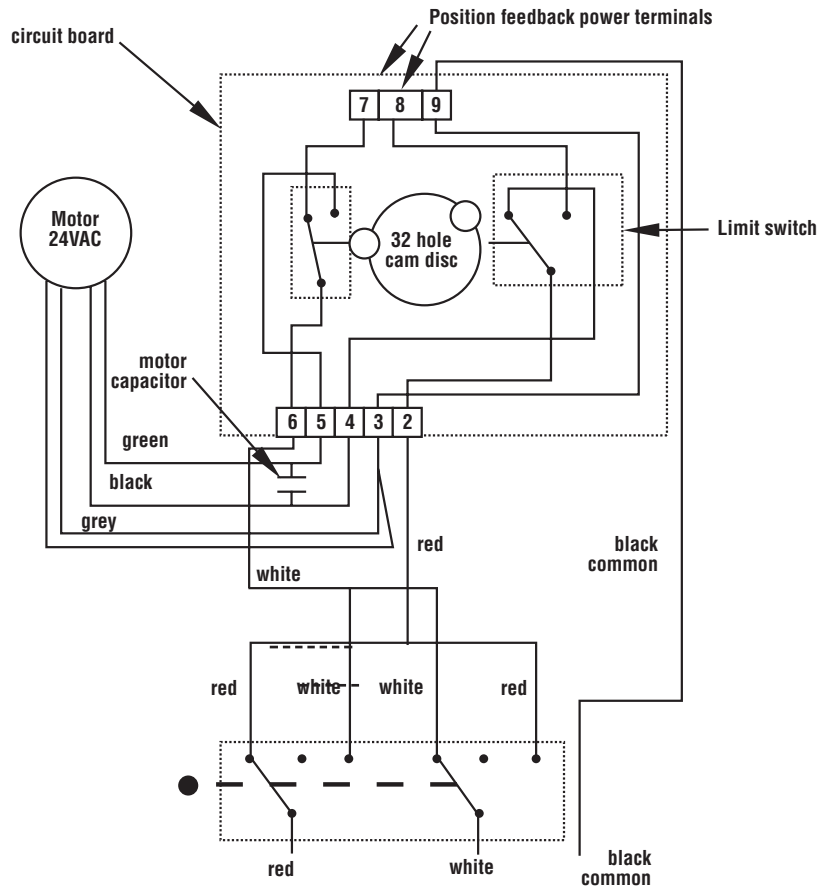
POWER SUPPLY TO ACTUATOR

Black (common)	Terminal 9 of board
Red (motor left)	Terminal 4
White (motor right)	Terminal 5

MOTOR WIRING TO CIRCUIT BOARD

Two grey wires of motor	Terminal 3 of board
Black wire of motor	Terminal 4
Green wire of motor	Terminal 5
10uF Capacitor	Terminal 4 & 5

WIRING DIAGRAM FOR ACTUATOR 3PVA-SERIES



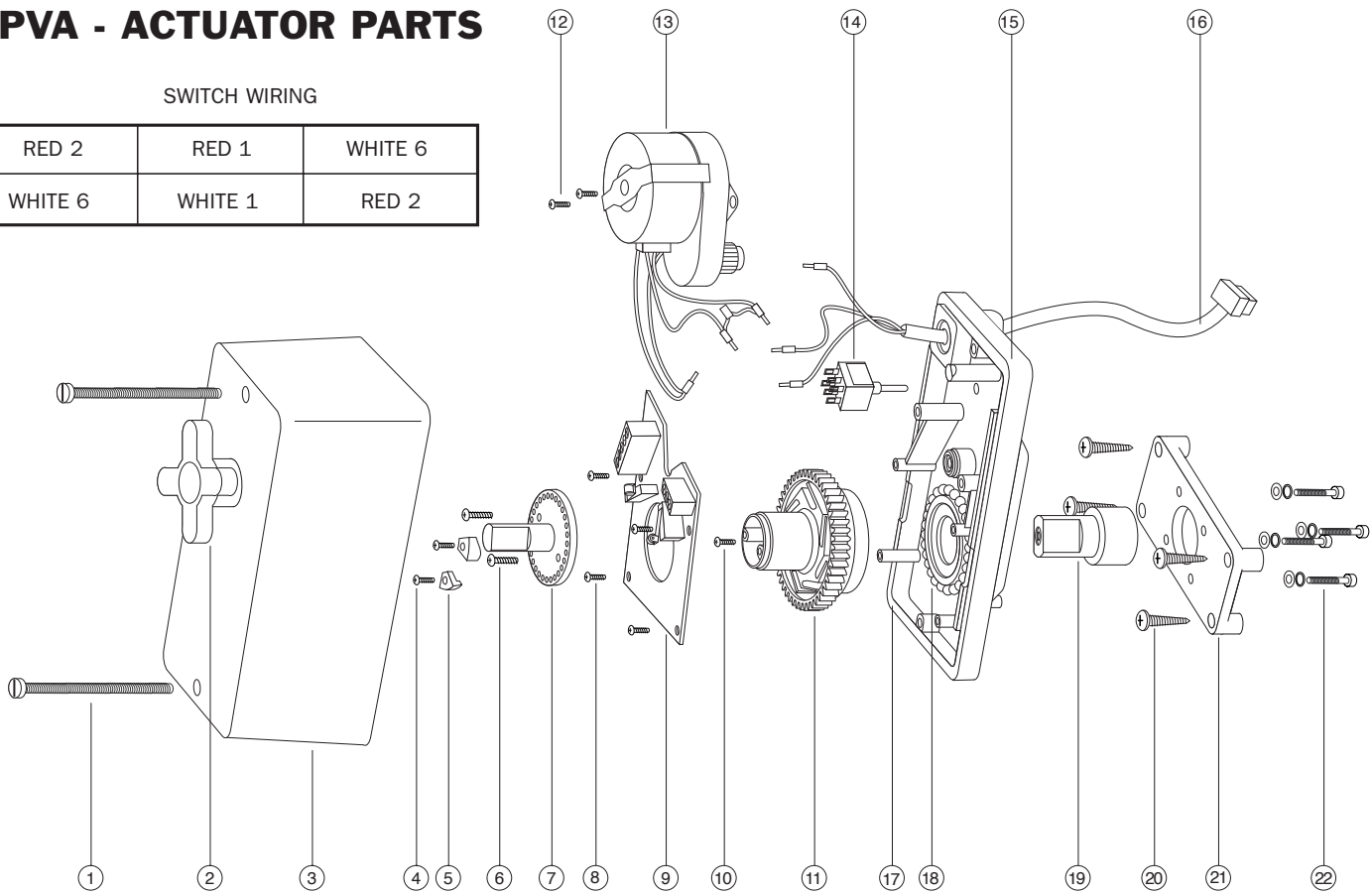
SWITCH WIRING TO CIRCUIT BOARD

Two red wires	Terminal 2 of board
Two white wires	Terminal 6

3 PVA - ACTUATOR PARTS

SWITCH WIRING

RED 2	RED 1	WHITE 6
WHITE 6	WHITE 1	RED 2



POS.	DESCRIPTION	PART#	LIST PRICE
1	SCREW M4 X 75	80085	\$2.00
2	POSITION INDICATOR COMPLETE	100120	\$6.00
3	BLACK ACTUATOR COVER	101180	\$32.00
4	SCREW 2.9 X 9.5	0800012	\$0.60
5	CAM	3 PVA-P5	\$2.00
6	SCREW 4.2.16	08001	\$1.00
7	CAM DISC	3 PVA-P7	\$12.00
8	SCREW 2.9 X 9.5	0800012	\$0.60
9	CIRCUIT BOARD WITHOUT CAPACITOR	180086	\$120.00
10	SCREW 2.9 X 19	80084	\$1.00
11	MAIN GEAR WITH CLUTCH	100113	\$45.00
12	SCREW 2.9 X 13	08002	\$1.00
13	24VAC MOTOR WITH CAPACITOR	140096	\$208.00
14	TOGGLE SWITCH	27941	\$30.00
15	ACTUATOR BASE PLATE	140941	\$56.00
16	WIRE HARNESS 16" WITH PLUG	9491-60	\$40.00
17	GASKET	140900	\$6.00
18	STEEL BALL	50059	\$0.60
19	DRIVER	3PVA-P19	\$5.00
20	SCREW #14 X 1.5"	3PVA-P20	\$1.00
21	ADAPTER PLATE	3PVA-P21	\$12.00
22	SCREW M5 X 16	3PVA-P22	\$1.00



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