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INSTRUCTIONS FOR INSTALLATION AND OPERATION OF BABCOCK MOTOR  
SPEED CONTROL AND SEQUENCE REVERSING RELAY

The BABCOCK Motor Speed Control and Sequence Reversing Relay is designed to provide complete control of the propelling motor in radio controlled boats and vehicles. Operation is relatively simple. It is operated from the relay contacts of a single channel radio receiver, from the relay contacts of one channel of a multiple channel radio receiver, or from the 3rd position switch of a BABCOCK Super Compound Escapement. When the Motor Speed Control and Sequence Reversing Relay is connected as shown in Fig. 1, the operation is slow reverse, stop, slow forward, stop, slow reverse, stop, full forward, stop, in that order. One pulse from the radio channel is required to move one position where the rotating wheel will remain until another pulse is received. It is not necessary to hold down the command button on the transmitter once the desired motor speed and direction are obtained. If motor rotation is opposite from that desired, the motor leads or motor battery leads should be reversed.

The resistor in Fig. 1 controls the slow speed of the motor. Two 1.5 ohm resistors are supplied with your relay. For one Pittman #9001 motor, use both of these resistors in series. For one Pittman #9002 motor, use one of these resistors only. For two Pittman #9002 motors, use both resistors in parallel. The connections for the resistors are fully shown in Fig. 1. For other types and sizes of motors, various size resistors may be inserted until the desired slow speed is obtained.

The auxiliary contact on top of the unit operates each time and as long as the transmitted control signal is received. This contact may be used to operate a bell signal or other device. The return wire from the auxiliary device should be attached to a solder lug under the head of one of the relay mounting screws.

The maximum current rating of the motor control contacts is 10 amperes at six volts. The auxiliary contact rating is 5 amperes. The actuating coil in this newly designed relay required six volts at  $\frac{1}{2}$  ampere. Minimum size battery would be composed of 4 size "D" dry cells.

The use of a spring return armature has also been added to the relay to give a "snappier" action to the unit. The spring tension can be varied if necessary by carefully bending the attachment lug to give the desired tension.

Each unit is carefully tested at the factory. Moderate contact pressure on the printed circuit contact wheel is necessary, and if faulty operation of the relay should occur, we suggest that you make certain that all contacts are seated on the wheel.

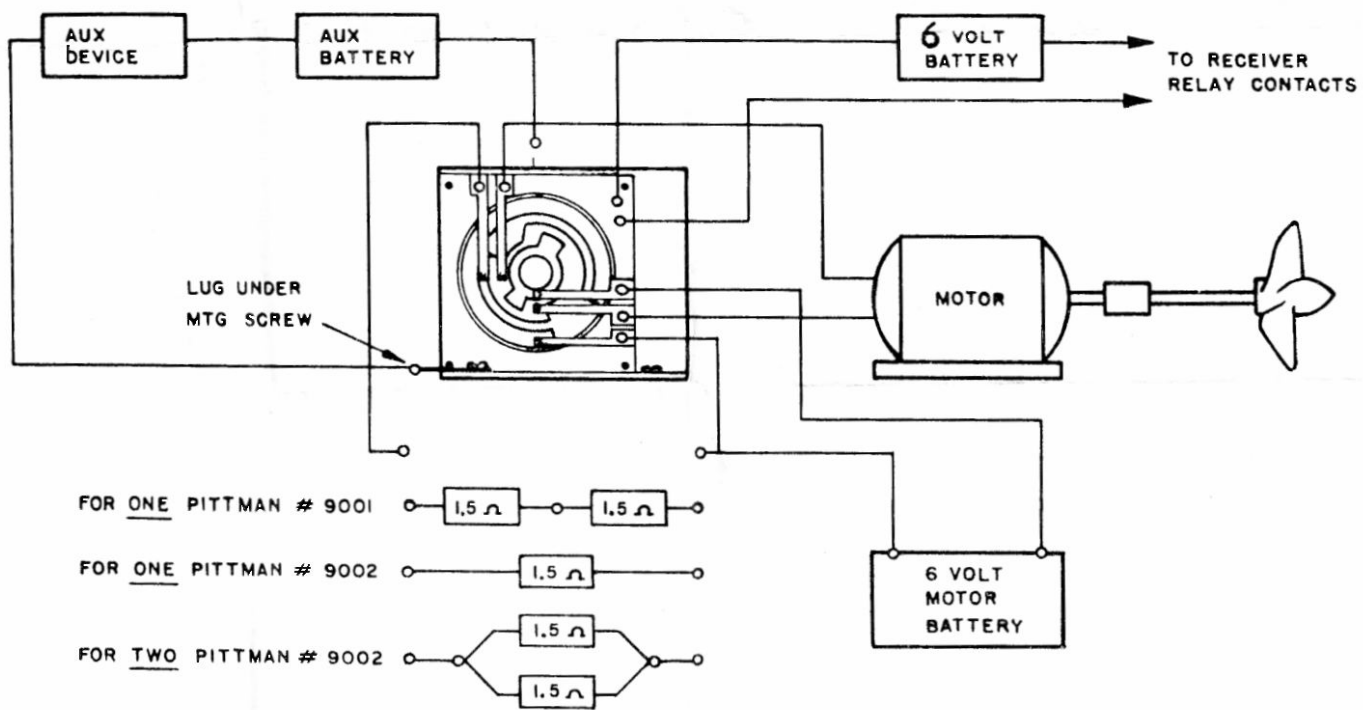


Figure 1. Schematic Diagram