

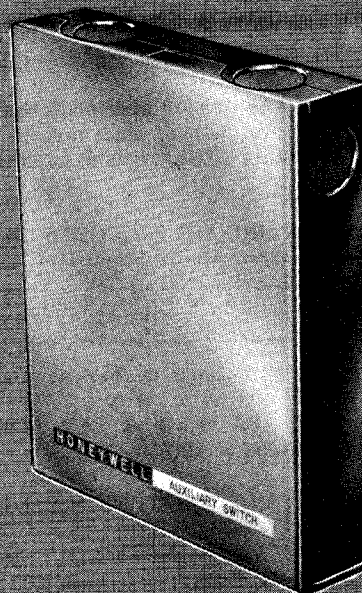
Honeywell

Q607 AUXILIARY SWITCHES PROVIDE ADDITIONAL SWITCHING CAPABILITY FOR CONTROLLING AUXILIARY EQUIPMENT FROM A MODUTROL MOTOR.

- Switches operate as a function of motor shaft position.
- Q607 mounts on either end of most Modutrol motors.
- Available with either 1 or 2 spdt snap-acting switches.
- Integral scaleplate indicates motor shaft position.
- Switches can be adjusted either on or off the motor.
- Zinc-plated steel case and cover.
- Q607C,D have terminal board and metric grounding screw.

J.A.
REV. 9-75

AUXILIARY SWITCHES



Q607A-D

Residential Div. Form Number

60-2123-2

SPECIFICATIONS

TRADELINE MODELS

Tradeline models are selected and packaged to provide ease of stocking, ease of handling, and maximum replacement value. Tradeline model specifications are the same as those of standard models except as noted below.

TRADELINE MODELS AVAILABLE:

- Q607A Auxiliary Switch—1 spdt switch.
- Q607B Auxiliary Switch—2 spdt switches.

ACCESSORIES INCLUDED: 4074BPQ and 7640JK bag assemblies.

ADDITIONAL FEATURE: Tradeline pack with cross reference label and special instruction sheet.

STANDARD MODELS

MODELS:

- Q607A Auxiliary Switch—1 spdt switch; with or without mounting adapter plate.
- Q607B Auxiliary Switch—2 spdt switches; with or without mounting adapter plate.
- Q607C Auxiliary Switch—1 spdt switch, with terminal board for wiring and metric grounding screw. Available with or without mounting adapter plate.
- Q607D Auxiliary Switch—2 spdt switches; with terminal board for wiring and metric grounding screw. Available with or without mounting adapter plate.

ELECTRICAL RATING OF SWITCHES (in amperes):

	120V AC	240V AC	480V AC
Full Load	9.80	4.90	2.45
Locked Rotor	58.8	29.4	14.7

Pilot Duty: 75 volt-amperes at 24V ac and 277V ac.

Resistive Load: 22 amperes at 24V, 120V, 240V, 277V ac; 15 amperes at 480V ac.

SWITCHING: Spdt MICRO SWITCH switches.

DIFFERENTIAL: Adjustable within the motor's travel; minimum 5 angular degrees.

UNDERWRITERS' LABORATORIES, INC. COMPONENT RECOGNIZED (Q607A, B only): File No. E4436, Guide No. XAPX2.

CANADIAN STANDARDS ASSOCIATION CERTIFIED (Q607A, B only): File No. LR1620.

DIMENSIONS: See Fig. 1.

FINISH: Zinc-plated steel.

MOUNTING ACCESSORIES: 4074BPQ is included with all models; other mounting accessories required by the installation (see Table I) must be ordered separately.

NOTE: Tradeline models include mounting adapter assembly 7640JK.

TABLE I—ADDITIONAL MOUNTING ACCESSORIES REQUIRED

Q607 MOUNTING	MOTOR TYPE	ACCESSORIES REQUIRED
Power end of motor ^a	Motor with bosses on power end	None
	Motor without bosses on power end	7640JK
Auxiliary end of motor	Nonspring-return motors	None
	Spring-return motors—	
	a. with bosses on auxiliary end	a. None
b. M436	b. 7640JM, 4074BRU	
c. all others	c. 7640JK	

^aQ607 cannot be mounted over spring-return assembly on power end of spring-return motor.

(continued on page 3)

ORDERING INFORMATION

WHEN ORDERING REFER TO THE TRADELINE CATALOG OR PRICE SHEETS FOR COMPLETE ORDERING SPECIFICATION NUMBER, OR . . .

SPECIFY—

1. MODEL NUMBER, TRADELINE IF DESIRED.
2. MOUNTING ACCESSORIES, IF REQUIRED.

ORDER FROM—

1. YOUR USUAL SOURCE, OR
 2. HONEYWELL
1885 DOUGLAS DRIVE NORTH
MINNEAPOLIS, MINNESOTA 55422
(IN CANADA—HONEYWELL CONTROLS LIMITED
740 ELLESMERE ROAD
SCARBOROUGH, ONTARIO)
- INTERNATIONAL SALES AND SERVICE OFFICES
IN ALL PRINCIPAL CITIES OF THE WORLD.

INSTALLATION

CAUTION

1. Installer must be a trained, experienced serviceman.
2. Disconnect power supply before beginning installation.
3. Do not attempt to turn motor shaft by hand or with a wrench.
4. On motors with exposed spring-return mechanism, at least 2 screws must hold mechanism to motor at all times.
5. Conduct a thorough checkout before leaving installation.

MOUNTING

The auxiliary switch cams may be adjusted before or after the Q607 is mounted on the motor; however, it is easier to adjust the switches before mounting. Refer to the Setting and Adjustments section for adjusting procedure; then complete the installation by mounting or wiring the Q607.

1. Make sure motor is in full closed position.
2. Determine motor type and select Q607 mounting accessories. See Table II.
3. Install adapter, if required.
4. Fasten Q607 bracket to motor or adapter.
5. Insert mounting bracket catch (bottom) into slot in back of Q607 and push until catch snaps into place. Secure top of Q607 to mounting bracket with 2 round-head screws.

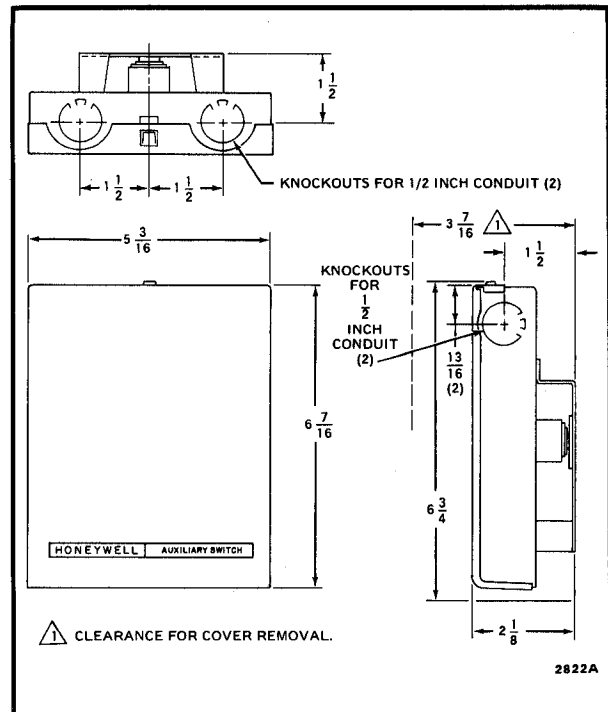


FIG. 1—APPROXIMATE MOUNTING DIMENSIONS (IN INCHES) OF THE Q607 WITH MOUNTING PLATE.

WARNING

On motors with exposed spring-return mechanism, spring is always under tension. As each screw is removed, immediately replace it with a stud to avoid personal injury.

TABLE II

Q607 MOUNTING LOCATION	TYPE OF MOTOR	ACCESSORIES REQUIRED	IN BAG ASSEMBLY
Power end of motor	Motor with bosses for self-tapping screws	3 self-tapping screws, Q607 bracket	4074BPQ
	Motor without bosses	Adapter plate, 4 fillister-head screws	7640JK
Auxiliary end of motor	Motor with bosses for self-tapping screws	3 self-tapping screws, Q607 bracket	4074BPQ
	M931C, D or MR7006A	3 self-tapping screws, Q607 bracket	4074BPQ
	M436/M836 (see instructions with 4074BRU)	3 fiber washers (to hold bracket away from motor), 3 No. 10-32 screws, Q607 bracket	4074BPQ
		Shaft extension, 3 No. 8-32 screws	4074BRU
		Motor mounting bracket	7640JM
	Motors with exposed spring-return mechanism (see warning above)	3 self-tapping screws, Q607 bracket	4074BPQ
Adapter plate, 3 studs (studs replace screws holding spring-return mechanism to motor), 3 lock washers, 3 No. 8-32 screws.		7640JK	
	3 self-tapping screws, Q607 bracket	4074BPQ	

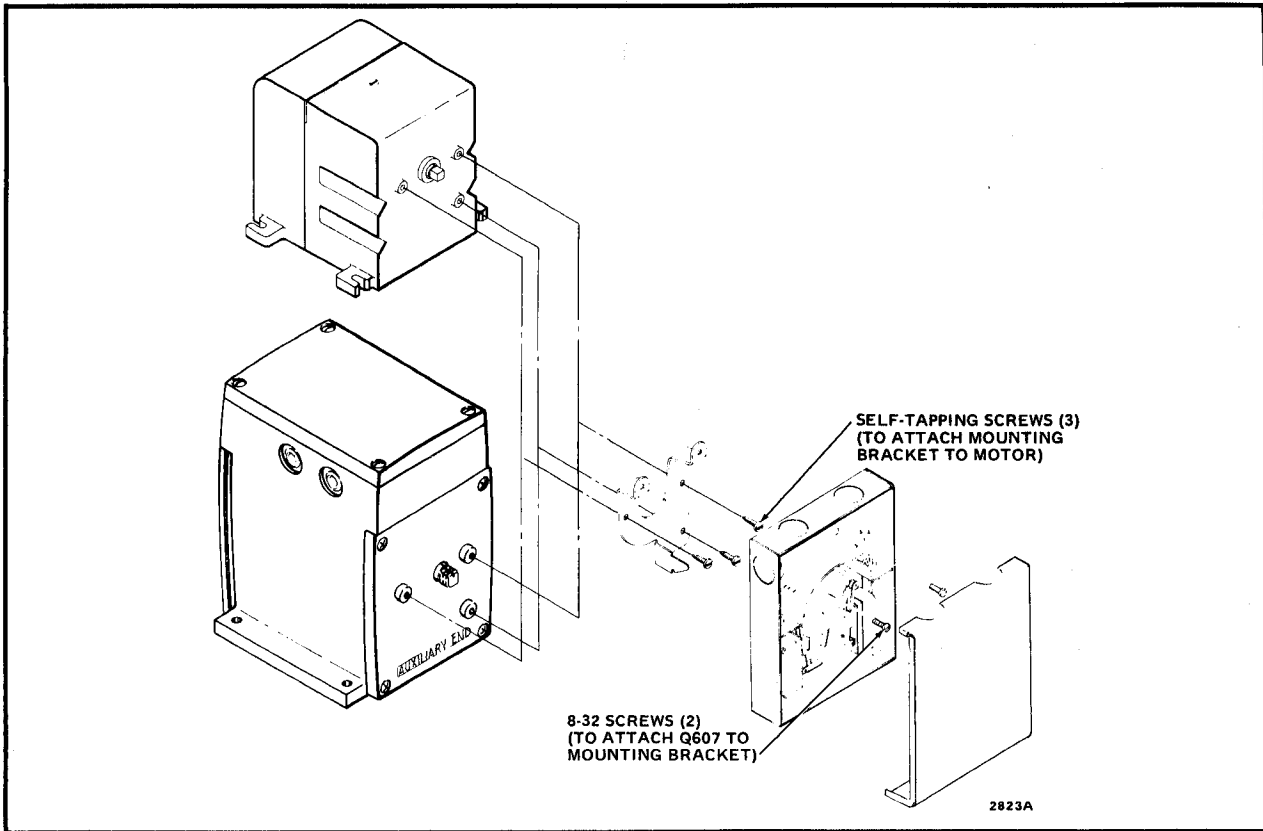


FIG. 2-TYPICAL MOUNTING WITHOUT ADAPTER PLATE.

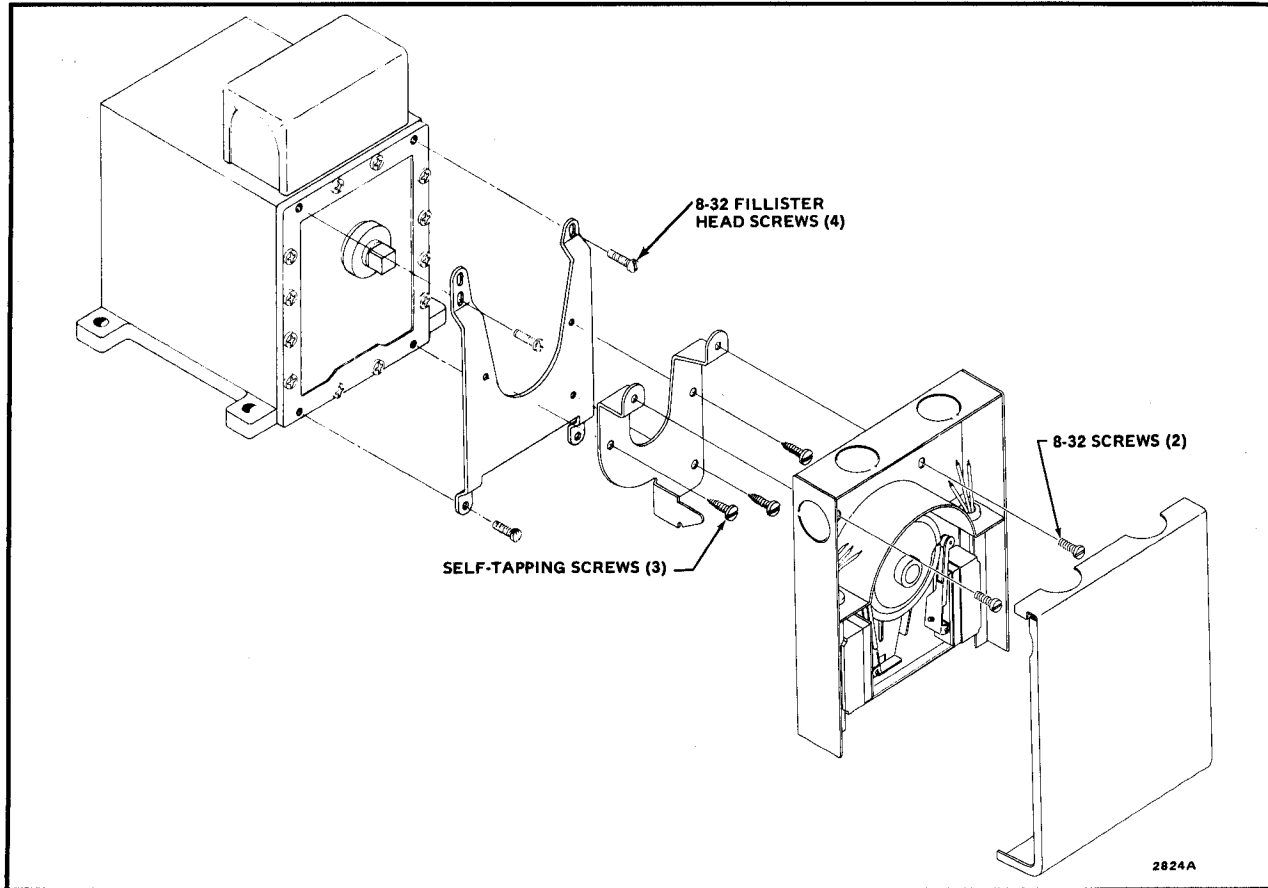


FIG. 3-TYPICAL MOUNTING WITH ADAPTER PLATE.

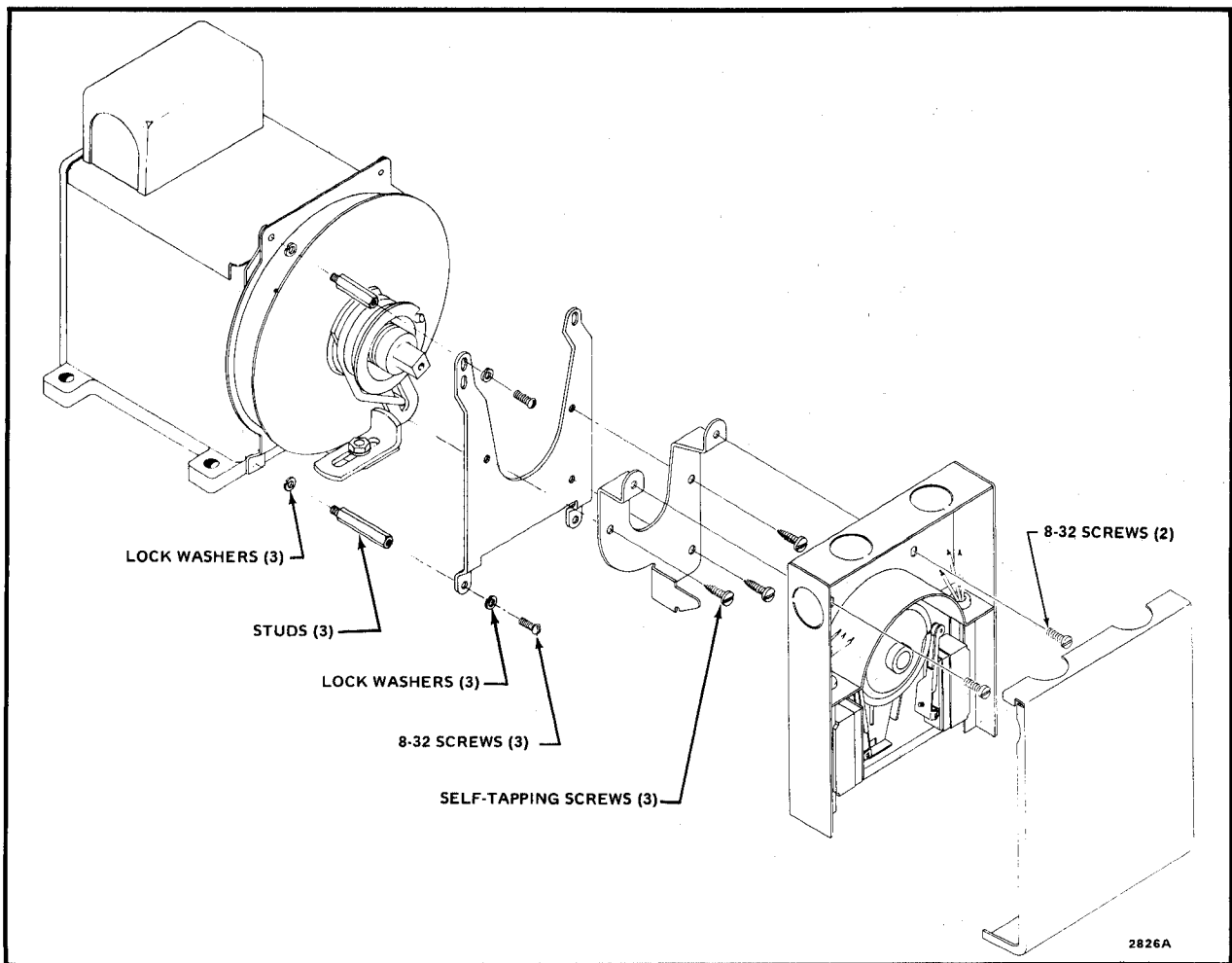


FIG. 4—MOUNTING Q607 ON MOTOR WITH EXPOSED SPRING-RETURN MECHANISM.

WIRING

CAUTION
Disconnect power supply before connecting wiring to prevent electrical shock or equipment damage.

All wiring must comply with local codes and ordinances. Do not exceed the load rating of the switch contacts (see Specifications section).

When wiring to auxiliary equipment, remember that the inner cam operates the left switch; outer cam operates the right switch. Models with one switch have left switch only. Do not connect Q607 to controlled equipment until all switch adjustments are complete.

Use solderless connectors to splice the switch leads to the system wiring on Q607A, B. Insulate the ends of all unused wires by attaching connectors to the ends of the individual leads. Refer to Fig. 5.

NOTE: Q607C, D have a terminal board for wiring.

These are spdt switches. To close the circuit to auxiliary equipment at operational cam set point and break it at differential cam set point, wire to red and blue leads on switch. Wire to red and yellow leads if reverse operation is desired. See Fig. 5.

NOTE: On M405, M7022, and M7024 motors manufactured before 1966 and adjusted to operational cam setting greater than 105 degrees, wire to red and yellow leads on switch if auxiliary equipment circuit must close when operational cam setting is reached.

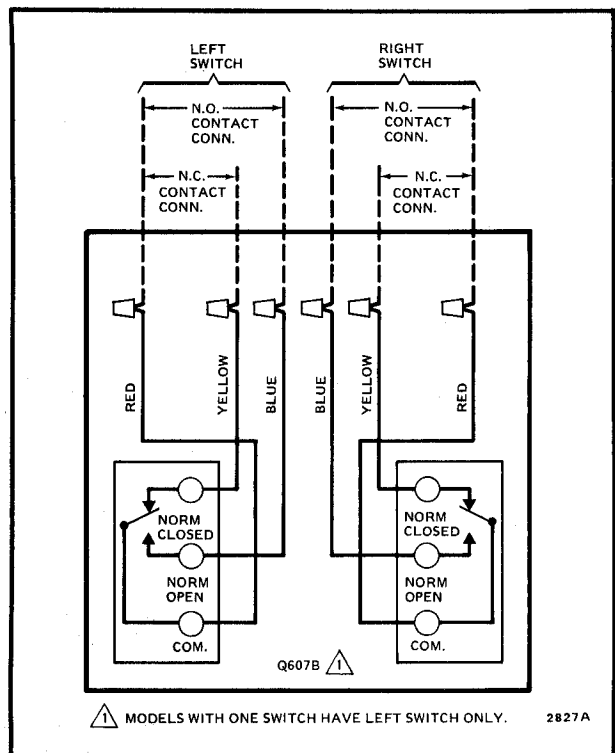


FIG. 5—INTERNAL SCHEMATIC AND TYPICAL CONNECTIONS FOR Q607.

SETTING AND ADJUSTMENTS

Settings and adjustments for all Q607 models are basically the same. Each switch is adjusted separately by moving the operational cam and differential cam to the desired positions. The operational cam has 2 levels; as the cam roller moves between levels it makes one set of switch contacts and breaks the other. The differential cam also has 2 levels, but only one has any effect on switch operation. This level is intermediate to the operational cam levels; it allows adjustment of the number of degrees between the switch make and break points.

CAUTION

Do not attempt to turn the motor shaft by hand or with a wrench as damage to the gear train will result.

When adjusting Q607 off the motor, hold down the scale lock whenever the scaleplate must be turned.

1. Select the proper sector of the scaleplate. Use the black scale for power end mounting and the aluminum scale for auxiliary end mounting.

2. One switch models—loosen thumbnut and cam locking screws.

Two switch models—inner cams are adjusted first. Remove thumbnut and outer cams, and loosen cam locking screws on inner cams.

3. Set operational and differential cams. See Fig. 7 for standard procedure. NOTE: M405, M7022, and M7024 spring-return motors manufactured before 1966 may overcoast the zero point by about 70 angular degrees when de-energized. With normal cam adjustment and switch settings of 105 degrees or more, the switch will remake when motor is de-energized. If switch setting of 105 degrees or more is desired with these motors, follow procedure outlined in Fig. 8.

4. Check switch adjustment by turning scaleplate up- and downscale to simulate motor operation. Switch should click when desired make and break points are lined up with index mark.

5. One switch models—tighten thumbnut.

Two switch models—place outer cams on shaft. Right switch and operational cam locking screw must be on opposite sides of shaft when scaleplate is at zero. Put thumbnut on loosely, adjust right switch, then tighten thumbnut.

6. Refer to mounting and wiring instructions.

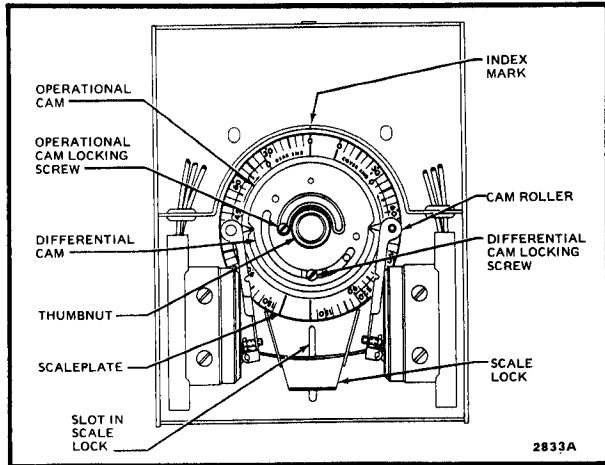


FIG. 6—INTERNAL VIEW OF Q607B.

ADJUSTING THE SWITCH CAMS

The following procedure assumes that the switch cams are being adjusted before the Q607 is mounted on the motor. However, the Q607 can be adjusted after mounting if required by the installation. To adjust the Q607 on the motor, follow the same procedure, but run the motor to move the scaleplate and motor shaft.

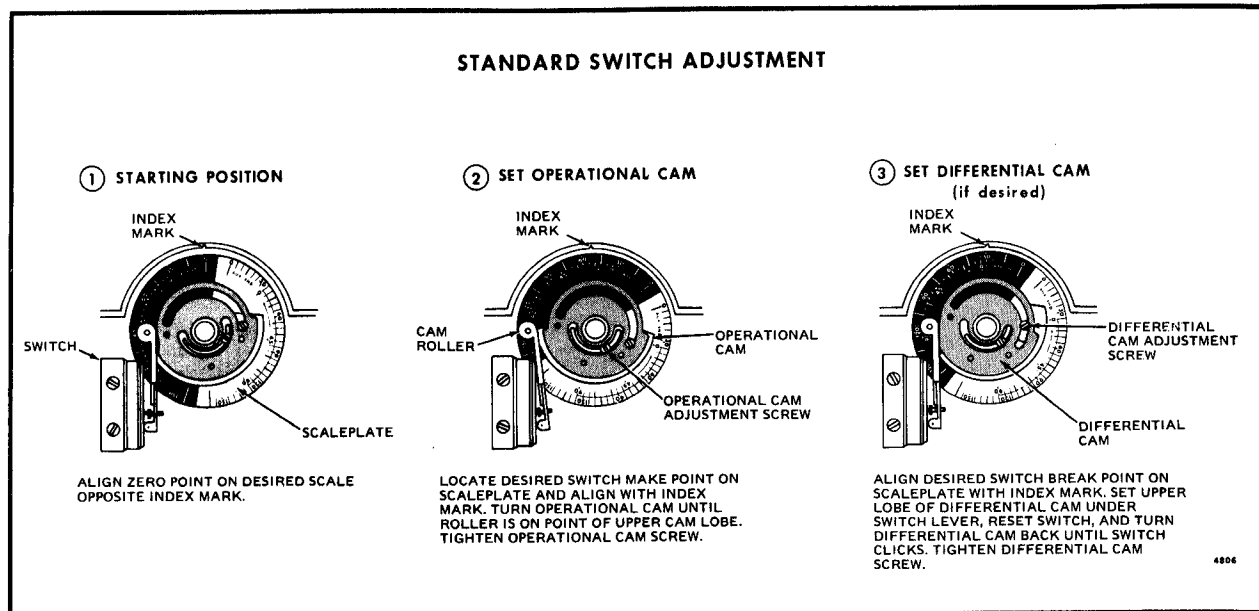
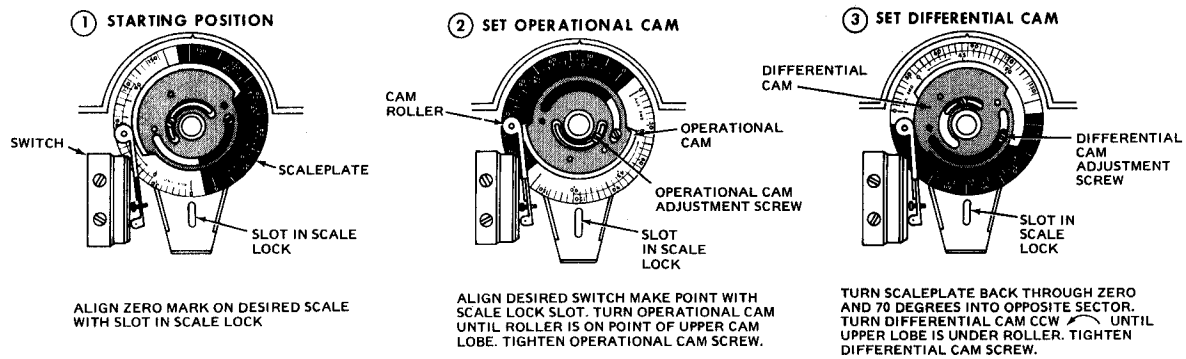


FIG. 7—ADJUSTING Q607 SWITCHES—STANDARD METHOD.

**ADJUSTING SWITCH TO OVER 105 DEGREES -
M405, M7022, M7024 SPRING RETURN MOTORS BUILT BEFORE 1966.**



NOTE: THIS PROCEDURE PREVENTS SWITCH REMAKE IF MOTOR OVERCOASTS. ONLY MINIMUM DIFFERENTIAL BETWEEN SWITCH MAKE AND BREAK POINTS IS POSSIBLE.

4807

FIG. 8—ADJUSTING Q607 SWITCHES ON OLDER SPRING-RETURN MOTORS.

CHECKOUT

After installation and adjustment, run the motor through its complete stroke. Make sure that the Q607 does not interfere with motor operation (mechanical bindage and clearance). Check the make and break points of the switches to see if they correspond to the desired settings. Check wiring to the switches and the operation of controlled equipment. After complete

checkout, place wrap-around cover over the Q607 and secure bottom of cover with small sheet metal screw provided.

If switch does not control properly, an electrical check can be made by removing the Q607 from the circuit and checking continuity across switch contacts while operating the switch manually.