

Instruction Bulletin

Limit Switches Plunger-Operated and Lever-Operated Class 9007 Type AW

Retain for future use.

INTRODUCTION

This instruction bulletin describes plunger-operated and lever-operated Class 9007 Type AW limit switches.

DANGER

HAZARDOUS VOLTAGE

Turn off all power before servicing this equipment.

Failure to follow this instruction will result in death or serious injury.

ADJUSTMENT

WARNING

UNINTENTIONAL EQUIPMENT OPERATION

After any adjustment, always check for correct operation before placing the equipment in service.

Failure to follow this instruction can result in death or serious injury.

When changing operation, following adjustment procedures, or replacing parts, tighten the screws to the torque measurements shown in Table 1 on page 2.

Table 1: Factory-Recommended Tightening Torques

Item	Description	Tightening Torques	
		N•m	lb-in
A	Retaining Screw (1 per device)	0.7–0.85	6–7.5
C	Plug Screw (1 per device)	0.7–0.85	6–7.5
D	Limit Switch Mechanism Screw (2 per device)	2.7–3.2	24–28
E	Snap Switch Screw or Retaining Nut (2 per device)	1.0–1.4	9–12
F	Plug-in Terminal block Screw (1 per device)	1.0–1.4	9–12
G	Terminal Screw (4 per terminal block, where fitted)	0.7–1.0	6–9
H	Base Plate Mounting Screw (2 per device)	1.0–1.4	9–12

Lever Operation

Limit switches are factory set to operate in the counterclockwise direction. To reverse the direction of operation as shown in Figure 1, interchange the retaining screw (A) and the return spring (B) with the plug screw (C). Use care to ensure that the return spring (B) is always used with the spring retaining screw (A).

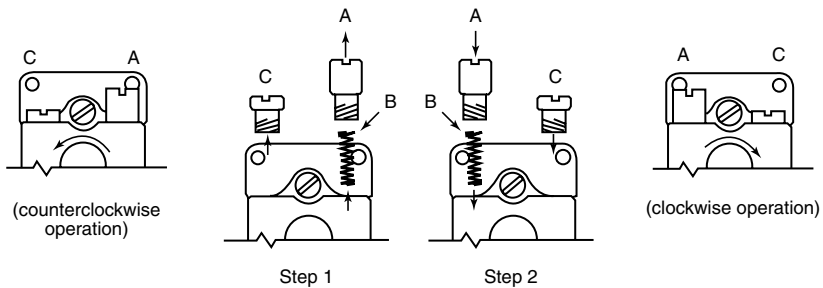


Figure 1: Reversing the Direction of Operation—Lever Type

Plunger Adjustment

To adjust the initial position of the roller or straight plunger through a range of 0.125 in. (3 mm), loosen the locking screw in the center of the knurled knob and turn the knob. To lock the adjusting knob in position, tighten the screw in the center of the knob.

Roller Direction

The roller is factory-positioned parallel to the bottom of the box. To position it perpendicular to the bottom of the box:

1. Remove the limit switch from the box.
2. Referring to Figure 2, depress the roller plunger (A) and hold it down.
3. Push in on the snap switch operating tab (B) and hold it in this position.
4. Release the roller plunger (A) and pull it outward until it is free to turn. Rotate the roller plunger 90 degrees and again depress it fully. Release the operating tab (B) and roller plunger (A).

To return the roller to its normal operating position, repeat the above sequence, rotating the roller plunger 90 degrees in the opposite direction.

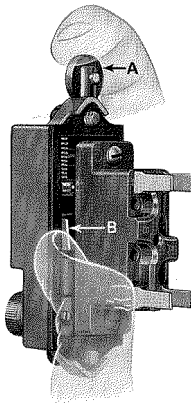


Figure 2: Setting the Roller Direction

REPLACEMENT PARTS

When ordering replacement parts, specify quantity, Class, and Type number. See Figure 3 on page 5.

Table 2: Parts List

Item	Description	Class	Type	Used in Class 9007 Type
1	Snap Switch, Single Pole	9007	AO2	AW12, AW14, AW32, AW34, AW42, AW44
2	Snap Switch, Single Pole Plug-in	9007	AO6	AW16, AW36, AW46
1 ^[1]	Snap Switch, Double Pole	9007	CO3	AW18, AW38, AW48
2 ^[1]	Snap Switch, Double Pole Plug-in	9007	CO6	AW19, AW39, AW49
3	Plug-in Terminal Block Assembly	9998	2441-S914-G1	AW16, AW19, AW36, AW46, AW49
4	Gasket Kit	9998	2441-S913-G1	All Types
Limit Switch Mechanism—Roller Plunger Type				
	Single Pole Plug-in	9007	AO36	AW36
	Double Pole Plug-in	9007	AO39	AW39
	Single Pole Non-Plug-in	9007	AO32	AW32, AW34
	Double Pole Non-Plug-in	9007	AO38	AW38
Limit Switch Mechanism—Push Rod Plunger Type				
5	Single Pole Plug-in	9007	AO46	AW46
	Double Pole Plug-in	9007	AO49	AW49
	Single Pole Non-Plug-in	9007	AO42	AW42, AW44
	Double Pole Non-Plug-in	9007	AO48	AW48
Limit Switch Mechanism—Lever Arm Type				
	Single Pole Plug-in	9007	AO16	AW16
	Double Pole Plug-in	9007	AO19	AW19
	Single Pole Non-Plug-in	9007	AO12	AW12, AW14
	Double Pole Non Plug-in	9007	AO18	AW18

^[1] Not shown in Figure 3 on page 5.

Basic Contact Mechanism

The Class 9007 Type AO or Type CO snap switch (items 1 and 2 in Figure 3 on page 5) serves as the contact mechanism. Replace it as a complete unit.

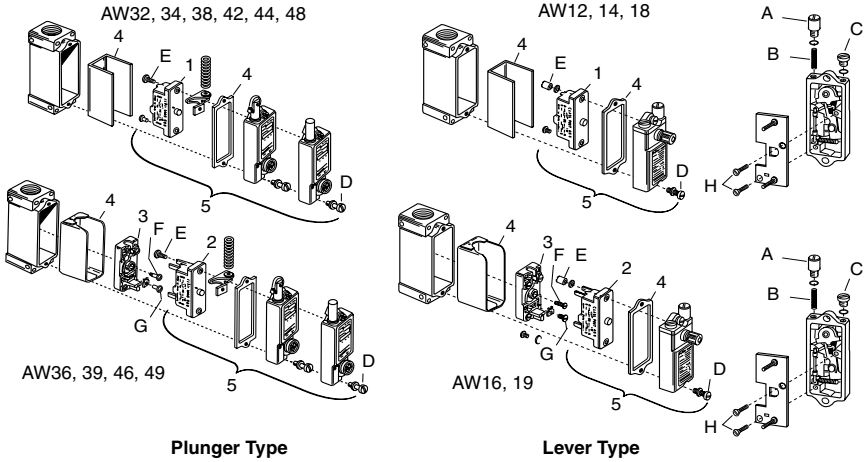


Figure 3: Class 9007 Type AW Limit Switches

CAM DESIGN DATA

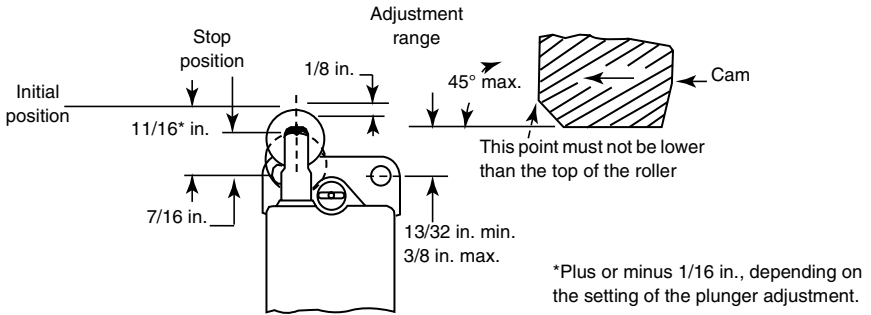


Figure 4: Cam Design Data for Plunger Type

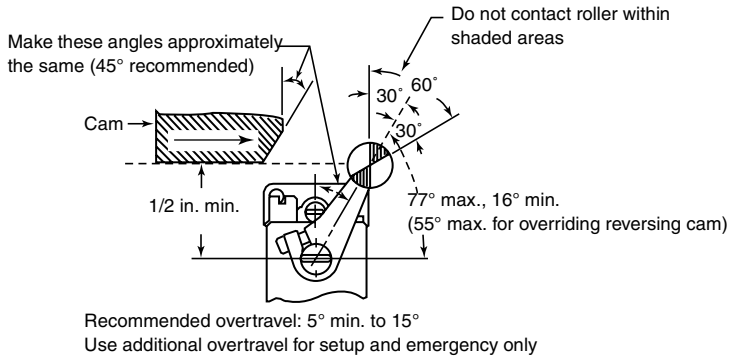


Figure 5: Cam Design Data for Lever Type, Leading Edge

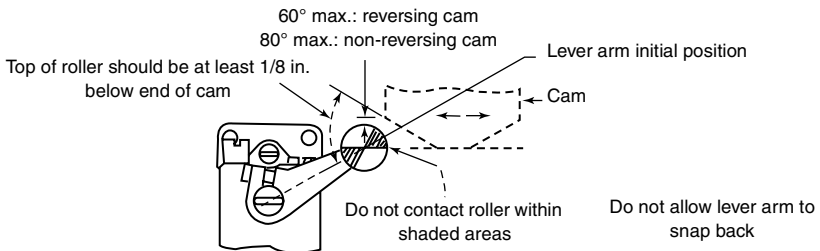


Figure 6: Cam Design Data for Lever Type, Trailing Edge

Overtravel Limitations

Do not operate the limit switch beyond its overtravel limit position. Select an operating mechanism which ensures that the limit switch operates within its range under all normal and emergency conditions. *Do not use a limit switch as a mechanical stop.*

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