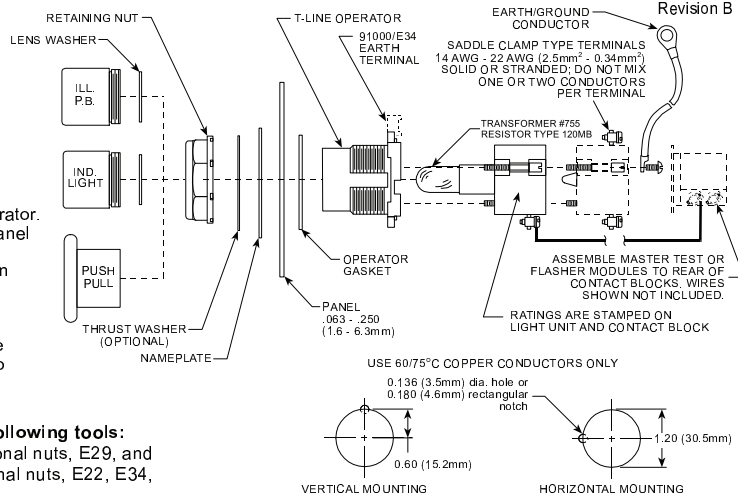


**GENERAL**

- 1) Drill mounting hole for vertical or horizontal mounting per one of the figures below.
- 2) Ensure sealing gasket is in place on the operator. Align locating nib of operator with notch in panel and insert operator through mounting hole. Exception: See special instruction publication 20437 for placement of sealing gasket when using 10250T/91000T protective boots.
- 3) Place legend plate and mounting nut over operator. Tighten mounting nut. If applicable assemble lenses, mushroom buttons, etc., to operator. Tighten securely (5 ft-lbs)(6.8Nm).
- 4) Torque terminals to 7 in-lbs (0.8Nm).

**For ease of assembly, we recommend the following tools:** 10250T/91000TA95 for 10250T/91000T octagonal nuts, E29, and E30 lines. E22CW for 10250T/91000T octagonal nuts, E22, E34, and E30 lines.



**PUSH - PULL OPERATORS**

**Application Guide -**

To assist in the selection of contact blocks, the sketch above shows pictorially by symbols "A" and "B" locations of contact circuits after assembly of contact blocks to the operator. The chart at right shows the effect of the push and pull operations on either NO or NC contacts.

Type of Operator	Contact Block Circuit	Operator Mode and Contact Circuit		
		Pushed	Intermediate	Released
		Circuits A B	Circuits A B	Circuits A B
Momentary Push and Pull and Momentary Pull Maintained Push	2 NC	X X	O X	O O
	1 NO	O	O	X
	1 NC	X or X	O or O	O or O
Maintained Push and Pull (2 Positions)	2 NC	X X	No Intermediate Position	O O
	1 NO	O or O		O O
	2 NO	O O		X X
Momentary Push and Pull (3 Positions)	1 NO - 1 NC	O X	O O	X O

X = contacts closed, O = contacts open

Control	Line - Diagram	Operator	Circuits	Operator Mode
3 Wire Three Position Momentary		Momentary Push & Pull	2NC Contact Blocks	START (Mom.) Normal Pos. (Maint.) STOP (Mom.)
2 Wire Two Position Maintained		Maintained Push & Pull	1NC Contact Blocks	START (Maint.) No Intermediate Position STOP (Maint.)
3 Wire Momentary Pull Maintained Push		Maintained Push & Maintained Ready Momentary Pull to Start	2NC Contact Blocks	START (Mom.) Normal Pos. (Maint.) STOP (Mom.)

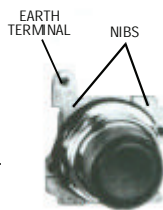
A maximum of 2 contact blocks may be used with each operator. Maximum torque of stacking screws is 9 in-lbs. Adding more than 2 blocks may cause this switch to malfunction. Single circuit contact must be mounted under circuit "A". Special function contact blocks are not available for use with the 3 position push-pull operator.

**Notes:** Buttons and lenses in various colors are ordered and packaged separately. This pushbutton unit is oiltight when the adapter gasket and button or lens gasket are securely tightened.

**GROUNDING OF 10250T/91000T AND E34 COMPONENTS**

**GENERAL**

With any electrical component there is the possibility an external factor (loose wire, moisture, etc.) can cause a short circuit between the component and ground. If the device is adequately grounded, the condition causes the protective fuse or circuit breaker to open and remove the potential, if not, an electrical hazard may remain unnoticed.



**GROUNDING NIBS - 10250T**

This 10250T device is designed to make direct metallic contact to the rear of the panel (with no intervening spacer washers to interfere with component-to-panel ground continuity). As a further aid in establishing an electrical ground, the device has four metal points, "grounding nibs" designed to penetrate most paints or other protective coatings.

Penetration of these nibs is dependent upon the torque applied to the mounting nut. Recommended torque is 5 ft-lbs (6.8Nm). More or less may be necessary to penetrate the specific type and thickness of your panel coating. Test for continuity to ground after installation. If a short circuit to ground does occur, the fault should be corrected and the device replaced.

**EARTH TERMINALS - 91000/E34**

These devices are supplied with an earth/ground terminal incorporated. These devices have a 6-32 terminal screw and will accommodate ring type terminations for bonding to international specifications.

**GROUNDING KITS**

For grounding 10250T devices to non-metallic panels or metal panels having excessive surface coating or for grounding E34 with any panel we offer the following grounding kits which provide for a separate grounding circuit, daisy chained between components and then to ground.

- ALL 10250T LINE (except as noted below) 10250TKG1
- Standard Indicating Lights - 10250TKG2
- Pretest Indicating Lights - 10250TKG3

**10250TKG GROUNDING KITS INSTALLATION INSTRUCTIONS**

1. Crimp ring terminal connectors onto separate #16-14 awg ground conductors. (Not supplied with kit)
2. Fasten ground conductor to stacking screw of contact block/light module with 6-32 X 0.187 screw. See sketch above.

**NOTE:** For Std. or pretest indicating lights, replace one light module mounting screw with stacking screw supplied with kit. Proceed to steps 1 and 2 above.

**PUSHBUTTON WITH CYLINDER LOCK OPERATOR FOR VERTICAL OR HORIZONTAL MOUNTING**

These units are pushbuttons which can be locked in various positions or locked to prevent operation. The chart below lists all of the combinations available and describes their operation. Following the chart is a definition of the terminology used. An individual unit can be identified by the number stamped on the carton or by observing its pattern of operation.

Catalog Code No. 10250T/91000T	PUSHBUTTON OPERATION			Key Removal Positions
	Key Rotation			
	CCW	C	CW	
430	Lock Up	Free	Lock Down	All
431	Lock Up	Free	Lock Down	CW & CCW
432	Lock Up	Free	Lock Down	C & CW
433	Lock Up	Free	Blocked	CCW & C
434	Lock Up	Free	Blocked	CCW
435	Blocked	Free	Lock Down	C & CW
436	Blocked	Free	Lock Down	CW
437	Blocked	Free	Push to Lock	C & CW
438	Blocked	Free	Push to Lock	CW

CW = Clockwise C = Center CCW = Counter-clockwise

**DESCRIPTION OF TERMINOLOGY FOR PUSHBUTTON OPERATION**

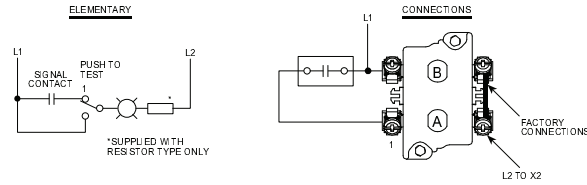
**FREE**-Momentary Operation  
**LOCK DOWN**-Can be locked in a depressed position  
**LOCK UP**-Can be locked in undepressed position  
**BLOCKED**-Cylinder will not turn to the position  
**PUSH TO LOCK**-With cylinder in the position, button will latch in when pressed. Need key to release.

**WIRING INSTRUCTIONS**

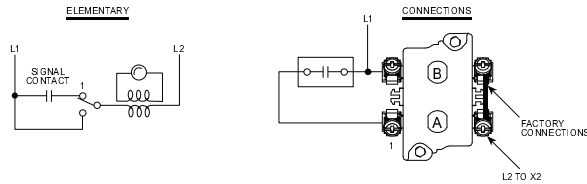
**TRANSFORMER, RESISTOR AND FULL VOLTAGE PRETEST INDICATING LIGHTS**

These indicating lights are provided with a special lamp test circuit. Depressing the lens will switch to a test circuit that will test the lamp filament without affecting the control circuit.

**RESISTOR AND FULL VOLTAGE (10250T/91000T)**



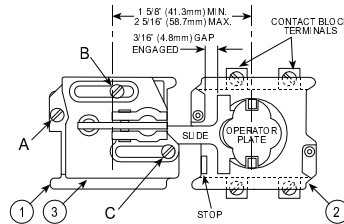
**TRANSFORMER (E34/91000T/10250T)**



**MOUNTING INSTRUCTIONS - 10250T/91000TA1 MAINTAINED CONTACT ATTACHMENT**

**ASSEMBLY INSTRUCTIONS**

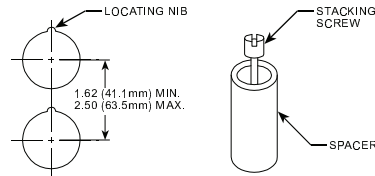
(1) and (2) in the illustration represent two Heavy Duty Oiltight Pushbutton Operators (flush, long button or mushroom head) assembled to a panel with the spacing limitations shown. The maintained contact attachments (3) can be assembled to either operator. The illustration shows it assembled to the operator (1).



NOTE: A padlock attachment cannot be used on this attachment, alternate attachments are available.

- Short screw "A" should be assembled securely.
- Screws "B" and "C" should be threaded in loosely.
- Install so that slide is against stop and operator plate clears slide when button on (2) is depressed.
- With slide in this position and button (2) depressed advance the maintained contact attachment (3) so that slide moves under operator plate and the 3/16" dimension is obtained.
- Tighten screws "B" and "C".
- Press button on operator (1) and slide should disengage from the operator plate.
- Pressing button on operator (2) should re-engage the slide and operator plate.
- Operate several times, re-adjust slightly if necessary.
- Assemble contact block with terminals as shown in the illustration.
- 10250T/91000T44 contact blocks may not be used.
- If a red stop operator is required, it is recommended that position 2 is used.

**MOUNTING INSTRUCTIONS MAINTAINED PUSHBUTTON - 10250T/91000TA66, TA67, TA68, TA69, TA72, TA73, TA75, TA76, TA77**



- To change dimension between operators refer to the following:
- Slightly loosen the two **stacking screws** located inside the spacer and adjust the attachment to your dimension. Refer to the sketch above.
  - Engage **locating nib** when placing the operator with its gasket, through the mounting holes. Secure the operator with its retaining nut.
  - Center the attachment between the operators and tighten loosened stacking screws. Check for proper operation.
- NOTE: A maximum of 2 contact blocks may be mounted behind each one of the two operators.