



Owner's Manual

LevALERT® INDICATOR MODEL 540

SECTION ONE - HOW IT WORKS

In a glance, the LevALERT Indicator shows you the level of material in your bin while you remain safely on the ground. When filling your bin and the material reaches the level of the installed LevALERT a color tube (located within the indicator) changes from a *BLACK* to a bright *YELLOW* color. As the material is emptied and recedes below LevALERT the color tube automatically changes back to a *BLACK* color.

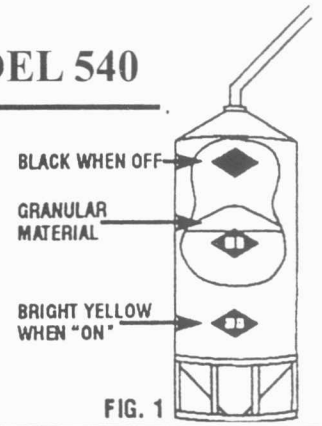


FIG. 1

SECTION TWO - SELECTING THE BEST LOCATION

A- Where NOT TO install LevALERT Indicator:

The LevALERT Model 540 is designed to be installed at any position along a 90° vertical wall section. *Do Not Install on sloped areas of bin or within 8" (21 cm) of obstructions inside the bin (protruding nuts/bolts, ladders, wall stiffeners, etc.)* See Fig. 2

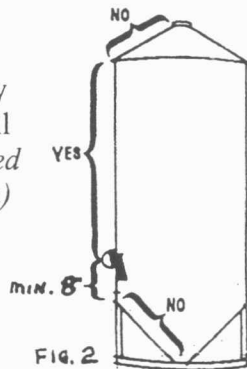


FIG. 2

Determine "*ANGLE OF REPOSE*" of the material you are storing in your bin. Do you store more than one material in same bin? Material weight, size of particulate and moisture content all affect Repose Angles.

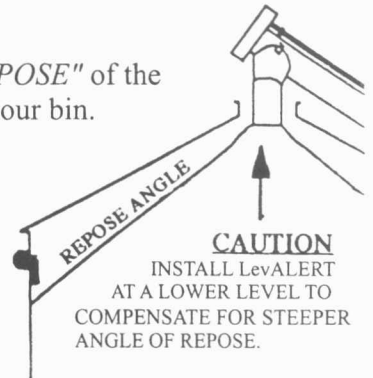


Fig. 3

B - WHERE TO INSTALL LevALERT Indicator

LevALERT will work best when positioned at a level which will alert you "IN ADVANCE" (Lead Time) of critical turn-off/turn-on of filling/emptying equipment. Lead Time is generally based on the container size of the unit that fills or empties the bin such as truckloads, batch size or is based on amount of time. Install several LevALERT at mid-point levels on bins that are filled/emptied more frequently. See Fig. 4

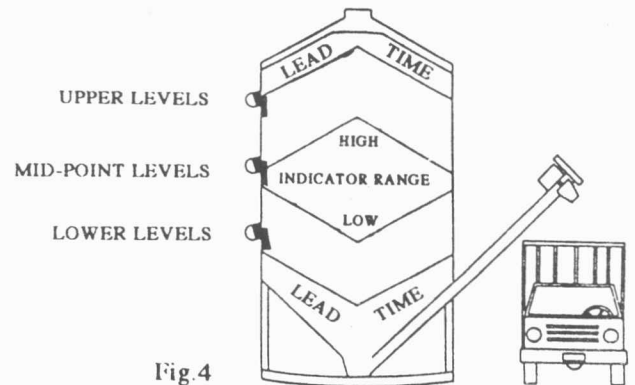


Fig. 4

*****ATTENTION*****

C - SPECIAL INSTRUCTIONS FOR CORRUGATED BIN WALL

Install LevALERT Indicator through the INCURVE of the corrugation **ONLY!**

Always use a center punch and hammer to mark location to prevent drill bit from walking.

CAUTION: LevALERT MAY NOT WORK WITH ALL TYPES OF GRAIN SPREADERS

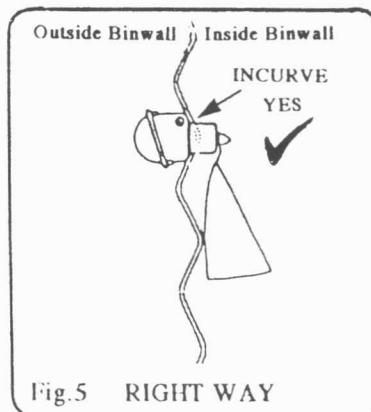


Fig. 5 RIGHT WAY

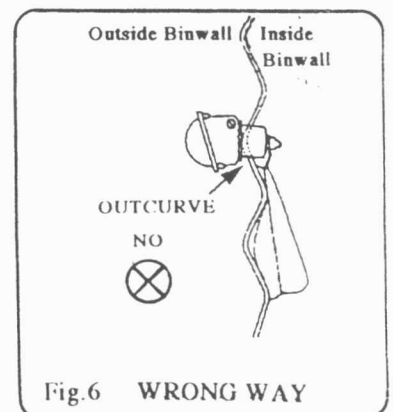
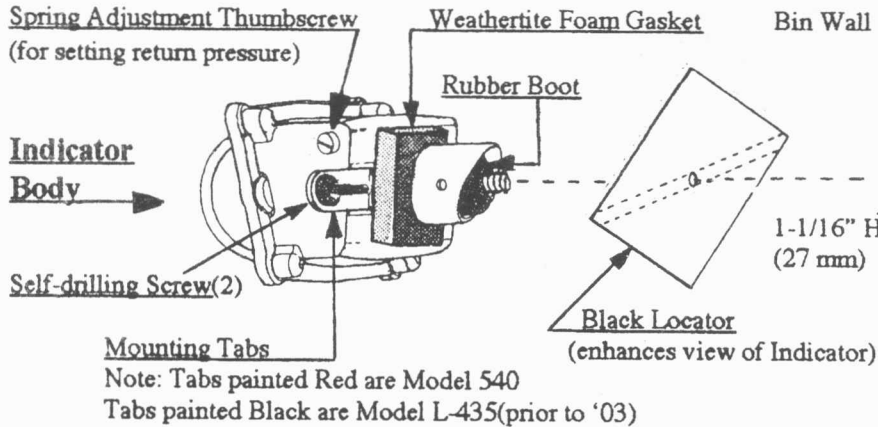


Fig. 6 WRONG WAY

SECTION III - Installing LevALERT INDICATOR - Model 540

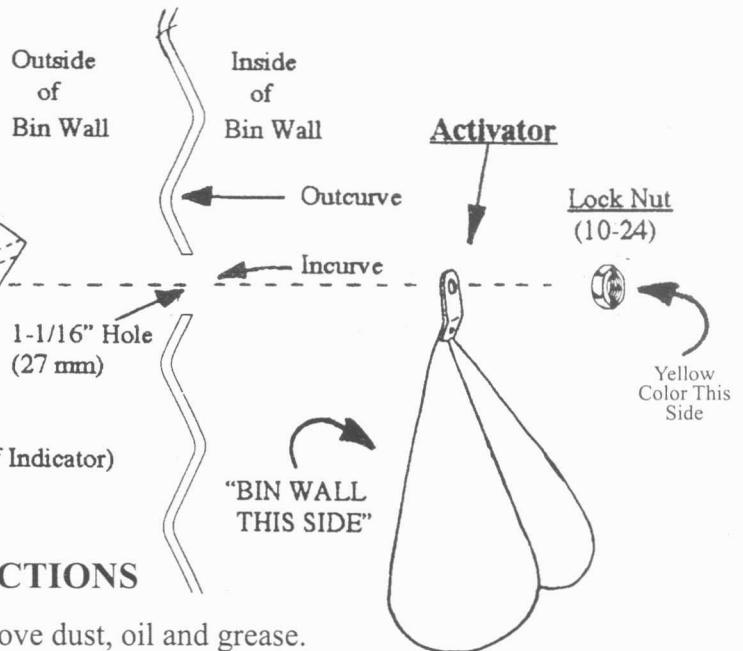
A - TOOLS YOU NEED

- 1) Power Drill with 1/2" Chuck
- 2) 1-1/16" dia. (27mm) Holesaw
- 3) Round Metal File
- 4) Center Punch & Hammer
- 5) 5/16" hex socket driver



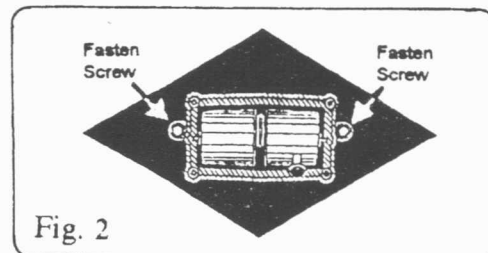
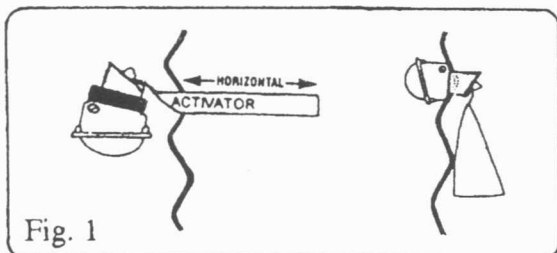
B - SAFETY PRECAUTIONS

- 1) Secure your ladder and use a safety line
- 2) Wear safety goggles while drilling hole



C - STEP BY STEP INSTALLATION INSTRUCTIONS

- Step 1) Wipe bin wall clean with a damp cloth to remove dust, oil and grease.
- Step 2) Locate the center of the 1-1/16" (27mm) installation hole and mark using a center punch/hammer to prevent drill bit from walking. Installation on corrugated walls, See SECTION TWO-C.
- Step 3) Drill a 1/4" (6mm) hole in bin wall.
- Step 4) Apply the black diamond-shaped **Locator** sticker by first removing only the 1/4" wide center strip of backing. Position the **Locator** horizontally, centering it over the 1/4" (6mm) hole in bin wall. **IMPORTANT:** keep the left and right hand tips of **Locator** as horizontal as possible. If not horizontal, lift and reposition the **Locator**. When correct, remove the upper and lower halves of backing, then press firmly onto the bin wall. **NOTE:** minimum temperature for adhesion to metal bin wall is 32 degrees F. (0 degrees C.)
- Step 5) Enlarge the 1/4" (6mm) hole to 1-1/16" (27mm) dia. using a 1-1/16" Holesaw containing a 1/4" rod for greatest accuracy. If using a twist drill bit, gradually increase the hole size to 1-1/16" (27mm).
- Step 6) File hole to remove burrs and sharp edges. **REMOVE METAL SHAVINGS FROM BIN FLOOR.**
- Step 7) Fold **Activator** into tubular shape and push through hole until foam gasket is against bin wall. See Fig. 1
- Step 8) Fasten **Indicator Body** to binwall by driving the 2 **Self-Drilling Screws** into the binwall. Tighten screws evenly until tight. See Fig. 2



During your first filling and emptying of your bin, monitor the operation of the LevALERT Indicator closely to insure the unit is working properly. Adjustments may be necessary.

Optional Electrical Sensor/Relay Information for LevALERT BRAND INDICATORS MODEL L-435 AND 540

There are currently 2 models of LevALERT Brand Indicators. The first was **Model L-435**(manufactured between 1996 and 2002) requires a "proximity" sensor to provide the electrical switching functions. The second, **Model 540** (started production in 2003) requires a "magnetic" sensor. A visible check to determine which model you have is possible by looking at the metal tabs that hold the indicator body to the binwall. If they are Black in color it is the Model L-435, if they are Red in color it is the newer Model 540.

How to select between "Normally Open" and "Normally Closed" sensors:

First, determine *when* you want your electrical equipment to be activated or deactivated by LevALERT Indicator. Is it when the LevALERT changes from a black to a yellow color (indicating when the granular material has reached the unit) or is it when LevALERT changes from yellow to black color (indicating when the granular material recedes away from the unit). Note: located under the yellow portion on the right-hand side of the rolling color tube contains a "metal target" which activates the Sensor.

A) When LevALERT changes from Black to Yellow color:

- 1) To Deactivate Electrical Equipment use a NC (normally closed) sensor.
- 2) To Activate Electrical Equipment use a NO (normally open) sensor.

B) When LevALERT changes from Yellow to Black color:

- 1) To Deactivate Electrical Equipment use a NO (normally open) sensor.
- 2) To Activate Electrical Equipment use a NC (normally closed) sensor.

Proximity Sensors for Model L-435 - There are 4 different Proximity Sensors which can be used with Model L-435. All are made of a corrosion resistant metal body type 8mm in size. Flying leads are 6.5' length. Please contact your dealer or call 1-800-962-8896 to determine sensor type you need and availability.

Magnetic Sensor for Model 540 - There is only one magnetic sensor used with this model and contains both a "Normally Open" and "Normally Closed" switching designation and also can be used with both AC and DC supply voltage. These sensors are hermetically sealed (water proof), constructed of weather resistant plastic and have a barrel size of 5/16" with 24 TPI.

Magnetic Sensor Number: 59065-952

Cable: 36" length, 3 conductor, 24 AWG, UL 2464, Grey

Contact Rating: 5 Watts Max. Voltage, Switching: 175V DC Max.

125V AC RMS Max.

Voltage, Breakdown: 200V DC Min.

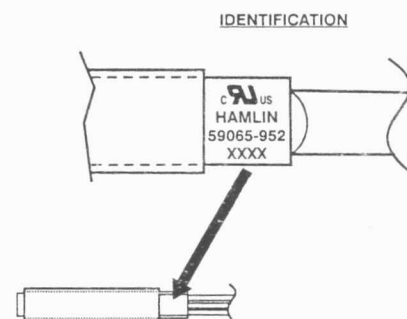
Current, Switching: 0.25 A DC Max.

0.17 A AC RMS Max.

Current, Carry: 1.5 A DC Max.

1.0 A AC RMS Max.

Operating Temperature: -40 to +105 C (-40 to +428 F)



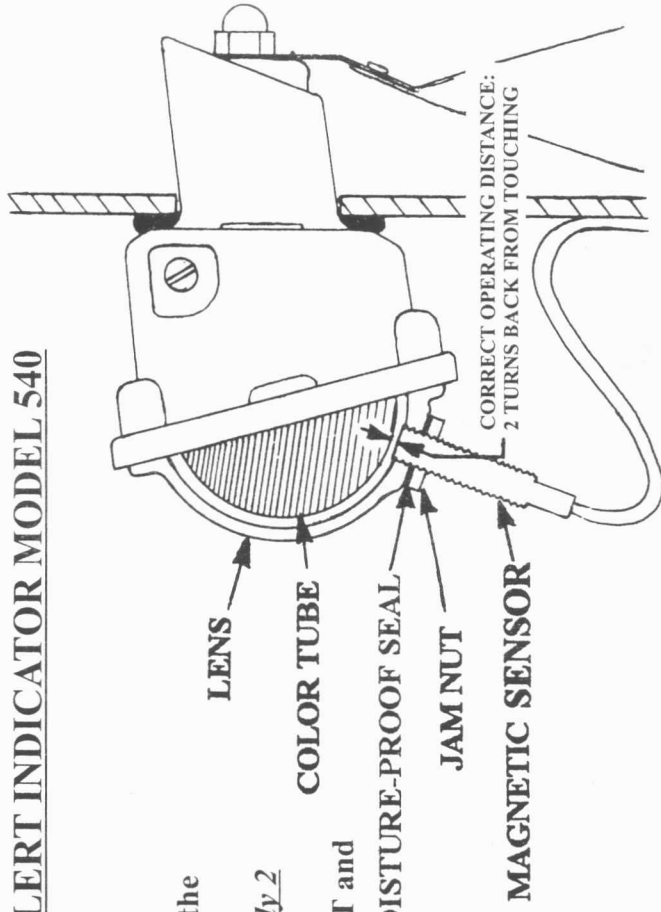
Important Note- Relays: The maximum current load of both the proximity and magnetic sensors are less than what is typically found in most applications, therefore a **Relay** must be used. This relay will isolate the sensors from damage from excessive line voltage to the sensor and of your load. In selecting the proper relay you need consider the requirements of the load (light, audible alarm, motor, etc.) to be activated/deactivated by the sensor. Relays most commonly used are an 8-pin ice-cube style relay. UL rated.

Relay Type	Contact Form	Coil Voltage	Contact Rating	Relay Order Number
AC	DPDT	120V AC	10A @ 220V AC	MK2P-S-AC120
DC	DPDT	12V DC	10A @ 28V DC	MK2P-S-DC12
DC	DPDT	24V DC	10A @ 28V DC	MK2P-S-DC24

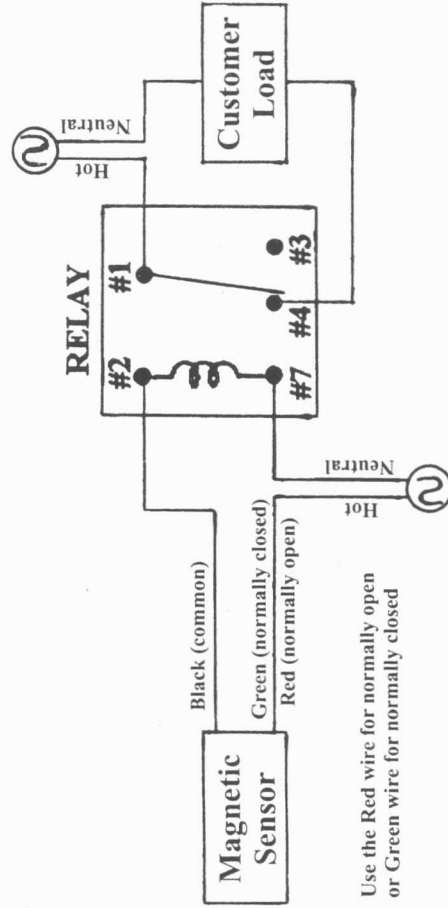
If you are installing multiple LevALERT units each containing electrical sensors on a *single bin*, one relay can be used to perform multiple functions. consult your electrician if you have questions on how to design your system to fit your needs.

HOW TO INSTALL THE MAGNETIC SENSOR ON LevALERT INDICATOR MODEL 540

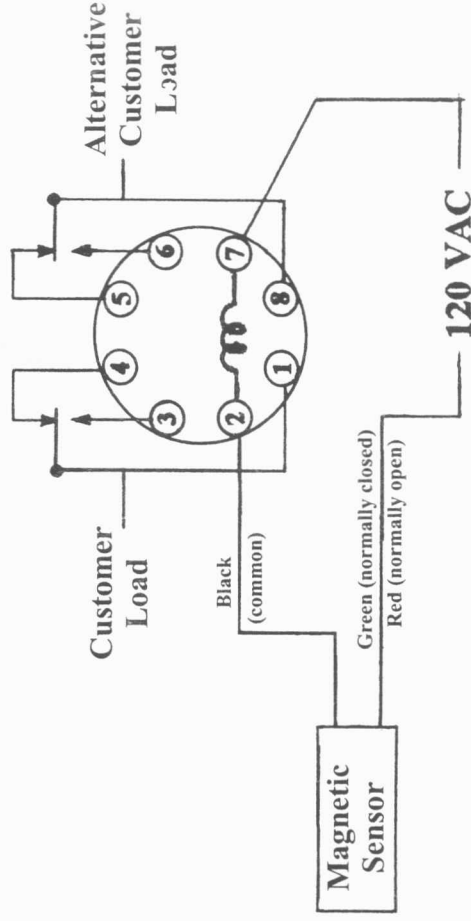
- #1 - Remove red plastic plug on clear Lens.
- #2 - Thread-on one (1) plastic Jam Nut onto Magnetic Sensor.
- #3 - Thread-in Magnetic Sensor into threaded hole in Lens until the face of the Sensor *first* touches the Color Tube.
- #4 - Note position of Magnetic Sensor and *back-off* (unthread) Sensor *exactly 2 turns* and lock into place using the Jam Nut.
- #5 - During the first fill of your bin, monitor the operation of the LevALERT and Magnetic Sensor to make certain it is operating correctly.



TYPICAL WIRING DIAGRAM - AC (shown with Ice Cube Style Relay)



TYPICAL WIRING DIAGRAM - AC (shown with Octal Type Relay)



Because of the wide array of electrical applications for the Magnetic Sensor on the LevALERT Indicator, we recommend that you consult a qualified electrician to make certain it is compatible in your application.