TM-30-95

TECHNICAL MANUAL

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INSTALLATION MANUAL

OMEGA-TEK

82-30 PIN COUNTER

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21 OCTOBER 1995

The Omega-Tek 82-30 Pin Counter provides a low cost replacement for the mechanical counter on the 82-30 utilizing the existing housing and wiring with no cutting, drilling, soldering or power connection required.

INSTALLATION

1. Remove the mechanical counter from the pinspotter.

2. Remove all shafts, gears and switch from the housing assembly using a small punch. Note: Leave the main shaft and cam assembly in place.

3. Inspect the main shaft, cam assembly, return spring and stop and assure that these items are in serviceable condition. It is recommended that the return spring be present in order to dampen rotation caused by bounce in the pin follower.

4. Carefully clean the housing and shaft using a degreaser and dry. This step is very important as some greases can form a leakage path if in contact with the P.C. board. Erratic operation or shortened memory battery life could occur. The bearing on the main shaft can be lubricated with light oil.

5. When handling the P.C. Board hold by the standoffs. The board is shipped with memory battery in place, hand handling of the P.C. board could shorten battery life. Note: Do not lay the board down on conductive surfaces.

6. Locate the screws and washers for the ends of both standoffs that mount against box. Note the position and orientation of the conical washers. See Fig. 1.

7. Position the board with the micro switch directly over the cam assembly. At this point the standoffs should line up with the existing oversize hole for the switch adjustment and the hole for the gear shaft.

8. Install an 8-32 Hex Hd. screw with conical washer in the gear shaft hole and into the standoff. The conical washer should be on the outside of the housing such that it will be compressed when tightened. Do not fully tighten at this time.

9. Install a conical washer between the standoff and the housing on the oversize hole as shown in fig. 1. Install an 8-32 Hex Hd screw with conical washer into the standoff. Do not tighten down at this time. See Fig 1 to determine the location and orientation of both washers.

10. Center the micro switch over the cam assembly such that about 20-30° of rotation is required to actuate switch.

11. With the micro switch actuated, adjust the clearance between switch lever and switch housing to 1/64-1/32. Note: Do not let the switch lever cause a bind when actuated or erratic operation will occur and damage to the switch will result. The adjustment can be done by moving the board up or down with the standoff at the oversize hole.

12. When adjustment is complete tighten screws and punch holes in existing cover for LED and Reset switch. See Fig 2.

13. Reinstall pin follower on main shaft.

14. Reinstall counter on pinspotter.

15. Set the pin follower exactly as with mechanical counter. 20-30° of rotation should be required to actuate micro switch.

16. With power off and Russell-Stoll plug disconnected, determine which wire goes to J24 and which to J25 and connect as shown in Fig. 1. Use the ty rap supplied as a strain relief between grommet and terminal strip. There is a connection for ground. Some installations have a wire from housing to frame which should be satisfactory. If erratic operation of PR1 occurs, ground should be added. Connect ground under either screw attaching standoff to counter housing.

17. Momentarily close reset switch on pin counter. Turn on pinspotter power and note that PR-1 is deenergized. Actuate the pin follower long enough to cause a count (½ sec). PR-1 should energize and the LED on the pin counter should come on. Count 10 pins. The LED should go out and PR-1 deenergize.

OPERATION

The circuit has a ½ second delay on actuation and a ½ second delay on deactuation to prevent a bouncing pin or pin follower from causing an incorrect count. Adjustment of the pin follower should ensure that contact with the pin is made long enough to ensure that both of these delays can be met.

If less than 10 pins are fed before PR-1 opens, the counter is overcounting and things such as follower bounce and too low a setting should be checked.

If more than 10 pins are fed before PR-1 opens, the counter is undercounting and the pin follower should be checked for a too high setting or spacing between pins may not be sufficient to meet the ½ sec deactuation delay. See Maintenance section for a more accurate way to determine count input.

Worst case pin spacing may be checked by manually feeding pins placed head to toe and determine if the count is correct.

NOTE: THE COUNTER WILL COUNT AND REMEMBER COUNT WITH CHASSIS POWER OFF. CHASSIS MUST BE ON FOR LED INDICATOR TO LIGHT.

MAINTENANCE

The memory battery has an anticipated life of over five years. The battery can easily be replaced by the customer and is inexpensive.

Normal lubrication of the main shaft should be performed taking care not to get grease on the P.C. board.

There are two test points on the P.C. board. See Fig 1. Using a voltmeter with an input impedance of at least 10 megohms, the battery voltage can be measured from the case to test point. 3.2 to 2.5 should be the correct operating range with 3 v typical.

The input signal can be measured at the second test point, it will normally be high (less than the battery voltage) and will go low ½ second after actuation of pin follower and back high ½ second after pin follower is deactuated.

NOTE

The above description is for a 6525 or 5850 with stepper or OMEGA-TEK conversion. Proper operation with other products (AMF MP or Compuboard) is typical, however, the count LED may not function. If so, consult your distributor or Omega-Tek for the necessary installation instructions.

NOTE

DO NOT use any type of liquid or spray lubricant in the area of the P.C. Board or micrswitch.

DO NOT use any type of liquid or spray degreaser or cleaner in the area of the P.C. board or microswitch.

WARRANTY

PLEASE NOTE - NEW WARRANTY INFORMATION AS OF 1/07

The pin counter is warrantied for (1) year from date of purchase. Typical battery life is 5+ years. Please call if you have any questions.

The warranty shall apply only to the original purchaser and does not cover electrical or mechanical abuse. Omega-Tek shall be the sole judge in defining electrical or mechanical abuse.

NOTE

COVER MUST BE ON COUNTER WITH VIBRATION DAMPING FOAM (SUPPLIED) ON THE INSIDE OF THE COVER AT THE LOCATION SHOWN IN FIG 2. BOTH SCREWS MUST BE SECURED ON COVER. VIBRATION DAMAGE IS POSSIBLE IF THIS IS NOT DONE

NOTE

THE TERMINAL BLOCK WILL ACCEPT 16GA OR SMALLER DIAMETER WIRES. DO NOT TIN OR SOLDER WIRES WHEN INSERTING.

IF WIRE REMOVAL IS NECESSARY, THE WIRE COMPRESSION TAB INSIDE THE TERMINAL BLOCK MUST BE RESET BY TURNING THE SET SCREW FULLY OPEN AND INSERTING THE UNFLUTED END OF AN .060 DRILL FULLY INTO THE HOLE.

USE ONLY A SCREWDRIVER WITH A 1.5-2 mm WIDE TIP Craftsman 41671 OR EQUIVALENT WHEN TIGHTENING SCREWS IN TERMINAL BLOCK.

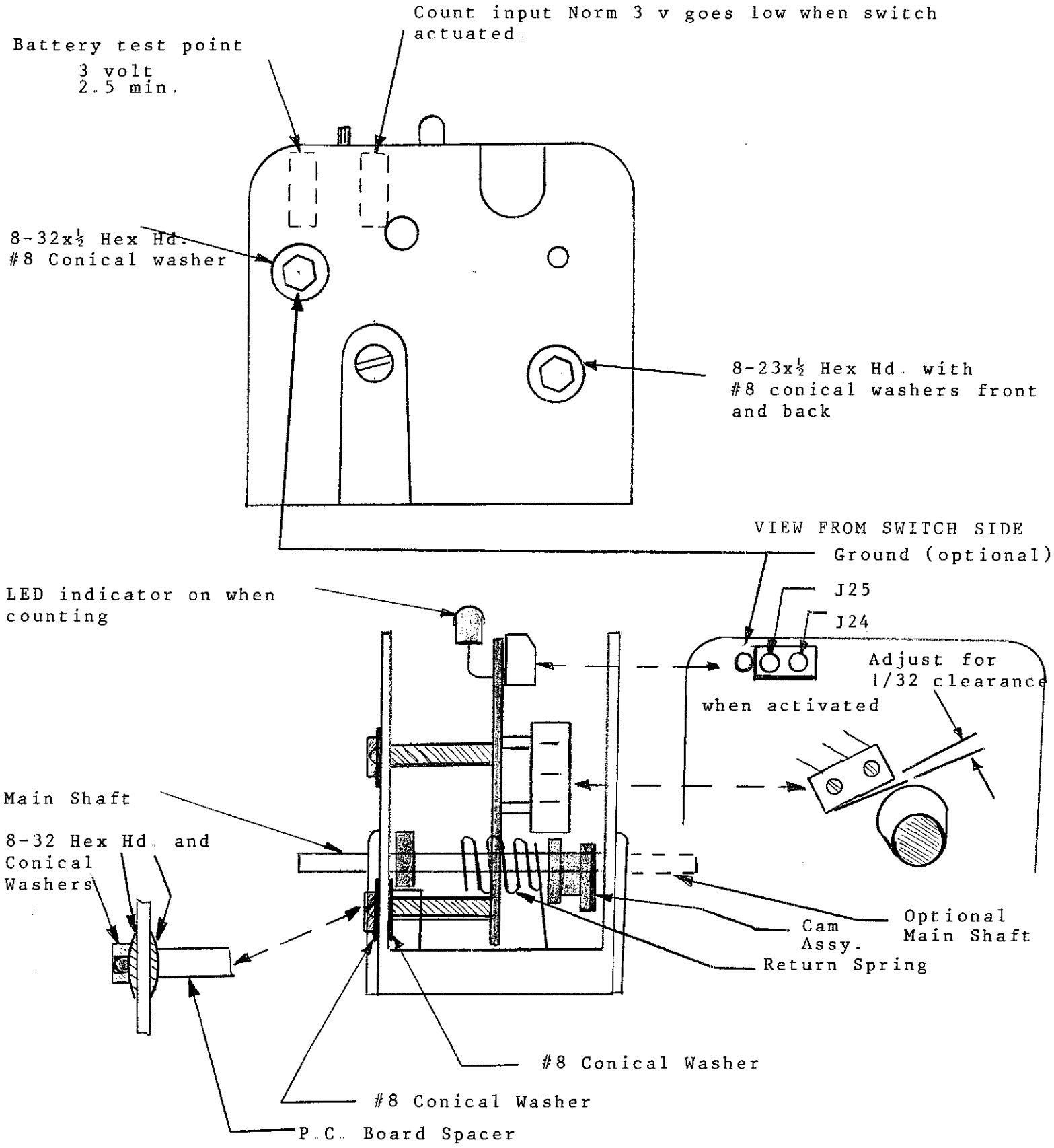
Count input Norm 3 v goes low when switch actuated.
Battery test point
3 volt
2.5 min.
8-32x½ Hex Hd.
#8 Conical washer
8-23x½ Hex Hd. with
#8 conical washers front
and back
VIEW FROM SWITCH SIDE
Ground (optional)
J25
J24
LED indicator on when
counting
Adjust for
1/32 clearance
when activated
Main Shaft
8-32 Hex Hd. and
Conical
Washers
Optional
Main Shaft
Cam
Assy.
Return Spring
#8 Conical Washer
#8 Conical Washer
P.C. Board Spacer

Fig. 1

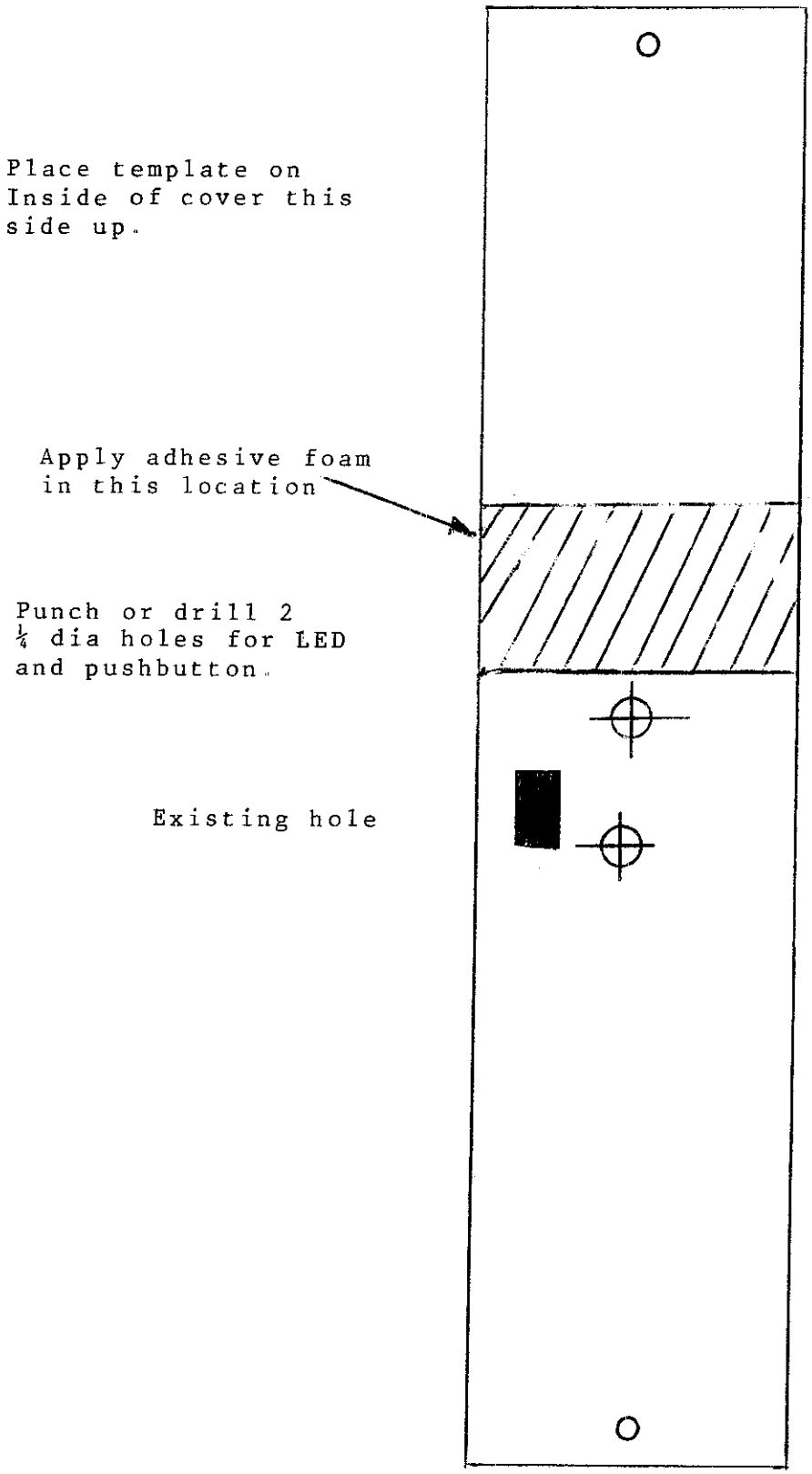
Place template on Inside of cover this side up.
Apply adhesive foam in this location
Punch or drill 2 ¼ dia holes for LED and pushbutton.
Existing hole

Fig 2