

COMPLIANCE PLAN CAPITAL ITEMS

REACTOR VALVE LIMIT SWITCH REPLACEMENT

ABERDEEN CHEMICAL PLANT

October 25, 1985

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COMPLIANCE PLAN CAPITAL ITEMSREACTOR VALVE LIMIT SWITCH REPLACEMENTABERDEEN CHEMICAL PLANTI. Purpose and Process Description

The purpose of this design is to provide the valves on the reactors with accurate indication in the control room of the valve position. The existing limit switches do not provide this accuracy, since they are operated by the position of the actuator and not the actual valve stem. This type of operation does not take into account the possibility of shearing between the valve stem and actuator, which has occurred here in the plant. This poses a potentially hazardous situation for a VCM release.

This design will provide each of the designated valves on the reactors with a new limit switch that operates on the position of the valve stem. These new limit switches will provide accurate indication in the control room and eliminate the hazard of a valve being open when it's actuator position is showing closed.

A total of 70 valves will be equipped with this new type of limit switch. These limit switches will be mounted on the bracket between the valve and the actuator. Drawings of several different types of valves with the new limit switches are attached. Table I lists the valve location and manufacturer. Table II lists the different types of valves, quantity of each and actuator type.

TABLE I

| <u>Reactor</u> | <u>Valve Location</u>       | <u>Size</u> | <u>Manufacturer</u> |
|----------------|-----------------------------|-------------|---------------------|
| 745            | Chem Wash Rtrn.             | 6"          | Jamesbury (Ball)    |
|                | Hot H <sub>2</sub> O Charge | 6"          | TuFlne (Plug) 150   |
| 700            | Sewer                       | 6"          | Jamesbury (Ball)    |
|                | Dump                        | 6"          | Jamesbury (Ball)    |
|                | Evacuation                  | 8"          | TuFlne (Plug) 150   |
|                | Recovery                    | 6"          | TuFlne (Plug) 150   |
|                | Vent                        | 4"          | TuFlne (Plug) 300   |
| 600            | Chem Wash Rtrn.             | 6"          | KTM EO106 (Ball)    |
| 300            | Hot H <sub>2</sub> O Charge | 6"          | TuFlne (Plug) 150   |
|                | Sewer                       | 6"          | TuFlne (Plug) 150   |
|                | Dump                        | 6"          | WKM 6FB112 (Ball)   |
|                | Evacuation                  | 6"          | TuFlne (Plug) 150   |
|                | Recovery                    | 6"          | TuFlne (Plug) 150   |
| 600            | Vent                        | 3"          | WKM (Ball) 3RB100   |
| 500            | Vent                        | 3"          | TuFlne (Plug) 300   |
| 400            | Chem Wash Rtrn.             | 6"          | WKM (Ball) 6FB123   |
|                | Hot H <sub>2</sub> O Charge | 6"          | Module 310C         |
|                | Sewer                       | 6"          | TuFlne (Plug) 150   |
|                | Dump                        | 6"          | Durco (Plug) 6411   |
|                | Evacuation                  | 6"          | WKM (Ball) 310      |
|                | Recovery                    | 6"          | TuFlne (Plug) 150   |
|                | Vent                        | 3"          | TuFlne (Plug) 150   |
|                |                             |             | WKM (Ball) 3RB100   |
|                |                             |             | 310C                |
| 300            | Chem Wash Return            | 6"          | KTM (Ball) EO106    |
|                | Hot H <sub>2</sub> O Charge | 6"          | TuFlne (Plug) 150   |
|                | Sewer                       | 6"          | TuFlne (Plug) 150   |
|                | Dump                        | 6"          | WKM (Ball) 6FB112   |
|                |                             |             | 310 B               |

| <u>Reactor</u> | <u>Valve Location</u>       | <u>Size</u> | <u>Manufacturer</u>     |
|----------------|-----------------------------|-------------|-------------------------|
|                | Evacuation                  | 6"          | TuFlne (Plug) 150       |
|                | Recovery                    | 6"          | TuFlne (Plug) 150       |
|                | Vent                        | 3"          | TuFlne (Plug) 300       |
| 744            |                             |             |                         |
| 743            |                             |             |                         |
| 742            | Chem Wash Rtrn.             | 6"          | WKM (Ball) 6F-B130 310B |
| +741           | Hot H <sub>2</sub> O Charge | 6"          | WKM (Ball) 6X4-B102     |
|                | Sewer                       | 6"          | WKM (Ball) 6X4-B102     |
|                | Dump                        | 6"          | WKM (Ball) 6F-B112 310B |
|                | Evacuation                  | 6"          | TuFilne (Plug) 150      |
|                | Recovery                    | 6"          | TuFlne (Plug) 150       |
|                | Vent                        | 3"          | WKM (Ball) 3KB150       |



COMPLIANCE PLAN CAPITAL ITEMSREACTOR VALVE LIMIT SWITCH REPLACEMENTABERDEEN CHEMICAL PLANTIII. Instrument Specification

| <u>Item</u>         | <u>Description</u>       |
|---------------------|--------------------------|
| PLS-101 through 170 | Proximity Limit Switches |



Conoco Inc.  
Engineering Center  
Ponca City, Oklahoma  
SPECIFICATION SHEET

## SPECIFICATION SHEET

PROJECT NO. \_\_\_\_\_

A E I NO. \_\_\_\_\_

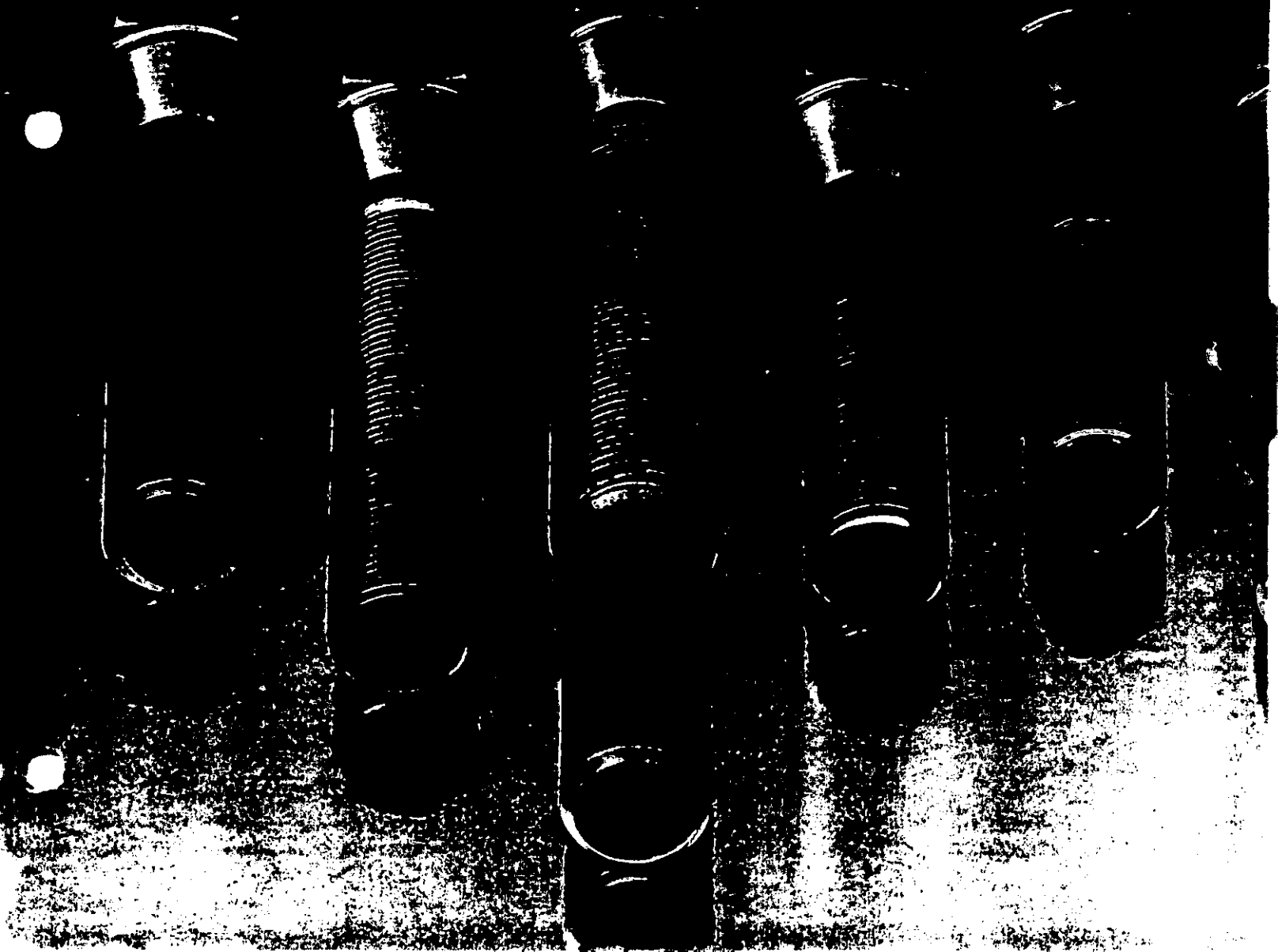
DATE 7-31-85 (NO) NO. \_\_\_\_\_MADE BY EGT (NO) NO. \_\_\_\_\_APPR BY YEM (NO) NO. \_\_\_\_\_PLANT Aberdeen Chemical PROJECT Reactor Valve Limit Switch RpmITEM NO  
SERVICEPLS-101 thru 170 Proximity Limit SwitchesQuantity: 70Service: Valve IndicationLocation: On bracket between valve and actuatorManufacturer: GO or company approved equalModel: 713774

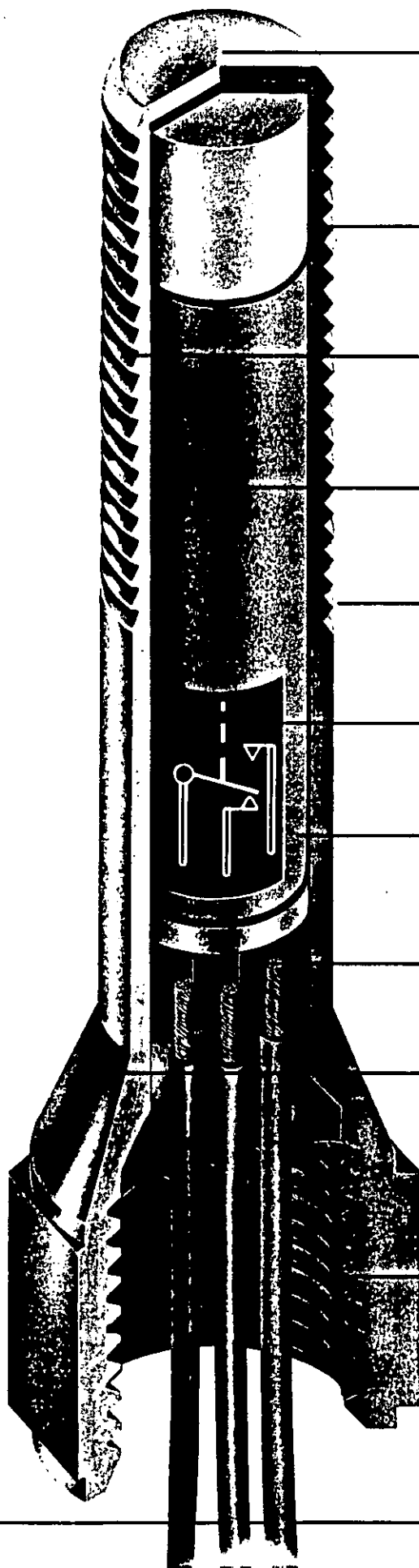
Description: 1/2 NPT conduit outlet with 18"  
potted, 3 wire leads, type 300 stainless  
steel housing with 5/8-18 NF x 2.813" threads.

# GO

## Series 70 Switch

A Rugged and Dependable Line of Totally Enclosed Proximity Limit Switches  
from General Equipment & Manufacturing Company, Inc.





**End Cap:** .050" Stainless Steel (304) End Cap, available with thicker End Caps for higher pressure.

**Pressure Options:** Normally the standard 5/8" diameter will withstand 2000 PSI. Larger cases with thicker walls and front End Caps will allow the switch to function at much higher pressures (up to 10,000 PSI). Certification available as factory option.

**Case:** 300 Series Stainless Steel case, plain or threaded body (5/8-18 NF). Different body lengths available, SEE options on MODELS AVAILABLE.

**Magnets:** Made with a high energy product magnet. An excellent coercive force which converts into grams of Contact Pressure for reliable operation. Meets MMPA Specifications.

**External Threads:** Machines to meet SAE 5/8-18 UNF Specifications. Units available with or without threads.

**Contacts:** Type Silver, Cadmium Oxide, resists welding and is some of the most widely used Contact Material in the industry. Sized to withstand approved ratings. Hermetically Sealed Contact Chamber.

**Bearing:** Consists of a finely ground Stainless Steel Pin and durable plastic housing. Sized to withstand a wide temperature range. Resists seizing and gives millions of free operations.

**Potting:** Terminal cavity filled with epoxy resin compound for sealing and mechanical support of wire/cable connections.

**Body Tube:** Made of Free Mechanical Stainless Steel. Resists most all harsh environments and withstands high working pressures. Impervious to water, oils and gases.

**Internal Threads:** 1/2-14 NPT. complies with CSA requirements for Explosion Proof Applications. Wire or cable leads available to meet Customer's Specifications.

**When time, accuracy, and dependability count . . . you can count on the 70 Series GO® Switch. Maintenance free; engineered for precision, performance and reliability.**

The standard 70 Series GO® Proximity Limit Switch has been designed and built to rugged specifications for use in most industrial and environmental applications. Each switch is totally enclosed, hermetically sealed and capable of operating in hostile environments.

The standard stainless steel housing is impervious to oils, caustic acids, water laden areas and most

atmospheric conditions, with a broad operating temperature range. (See specification) Many different models of the switch are available for your design needs. (See ordering information for specifications, detail and options.)

### Standard Models



**Model 713360**  
No conduit connection, 18" 3 conductor cable with water resistant squeeze connection, type 300 stainless steel housing with 1/2-18 NF x 1.5" threads with 2 lock nuts.



**Model 713420**  
No conduit outlet, 18" potted, 3 conductor cable, type 300 stainless steel housing; no threads.



**Model 713480**  
No conduit outlet, 18" potted, 3 conductor cable, type 300 stainless steel housing with 1/2-18 NF x 1.5" threads with 2 lock nuts.



**Model 713520**  
1/2 NPT conduit outlet, 18" 3 conductor cable, type 300 stainless steel housing, no threads.



**Model 713560**  
1/2 NPT conduit outlet with 18" 3 conductor cable, type 300 stainless steel housing with 1/2-18 NF x 1.5" threads with 2 lock nuts.



**Model 713570**  
1/2 NPT conduit outlet, 18" 3 conductor cable, type 300 stainless steel housing with 1/2-18 NF x 2.813" threads with 2 lock nuts.



**Model 713660**  
No conduit outlet, 18" potted, 3 wire leads, type 300 stainless steel housing with 1/2-18 NF x 1.5" threads with 2 lock nuts.



**Model 713720**  
1/2 NPT conduit outlet with 18" potted, 3 wire leads, type 300 stainless steel housing, no threads.



**Model 713760**  
1/2 NPT conduit outlet with 18" potted, 3 wire leads, type 300 stainless steel housing with 1/2-18 NF x 1.5" threads with 2 lock nuts.



**Model 713770**  
1/2 NPT conduit outlet, 18" potted 3 wire leads, type 300 stainless steel housing with 1/2-18 NF x 2.813" threads with 2 lock nuts.

### Hazardous Location approved models for Class I, Division 1, All Groups



**Model 713524**  
1/2 NPT conduit outlet with 18" potted, 3 conductor cable, type 300 stainless steel housing, no threads.



**Model 713564**  
1/2 NPT conduit outlet with 18" potted, 3 conductor cable, type 300 stainless steel housing with 1/2-18 NF x 1.5" threads with 2 lock nuts.



**Model 713574**  
1/2 NPT conduit outlet with 18" potted, 3 conductor cable, type 300 stainless steel housing with 1/2-18 NF x 2.813" threads with 2 lock nuts.



**Model 713724**  
1/2 NPT conduit outlet with 18" potted, 3 wire leads, type 300 stainless steel housing, no threads.



**Model 713764**  
1/2 NPT conduit outlet with 18" potted, 3 wire leads, type 300 stainless steel housing with 1/2-18 NF x 1.5" threads with 2 lock nuts.



**Model 713774**  
1/2 NPT conduit outlet with 18" potted, 3 wire leads, type 300 stainless steel housing with 1/2-18 NF x 2.813" threads.



Approved switches are in compliance with current bulletins 1243, 1273 and 1308.

**These switches are U/L and CSA approved for industrial control, general purpose use. See hazardous location approved models in Column 3, this page.**

**TOLERANCES** Unless otherwise specified  
 Angles:  $\pm 1^\circ$ , Fractions:  $\pm 1/32"$ ,  $.XX \pm .01"$ ,  $.XXX \pm .005"$   
 Surfaces must be Concentric, Parallel, Flat & Square  
 (as applicable) to each other within  $\text{---} \text{---} \text{---}$  T.I.R.

| NO. | REVISION | DATE | BY | APPD. |
|-----|----------|------|----|-------|
|     |          |      |    |       |

## MATERIAL LIST

| Item | Qty. | Description                | Dwg. No.     |
|------|------|----------------------------|--------------|
| 1    | 1    | Switch Activator           | V126411-1943 |
| 2    | 2    | Mounting Bracket           | V126411-1944 |
| 3    | 4    | 1/4-20 x 1/2 Hex Hd. Screw |              |
| 4    | 4    | 1/4 L.W.                   |              |
| 5    | 2    | 5/8 Shakeproof L.W.        |              |
| 6    | 4    | 5/8 F.W. (1-5/16" O.D.)    |              |

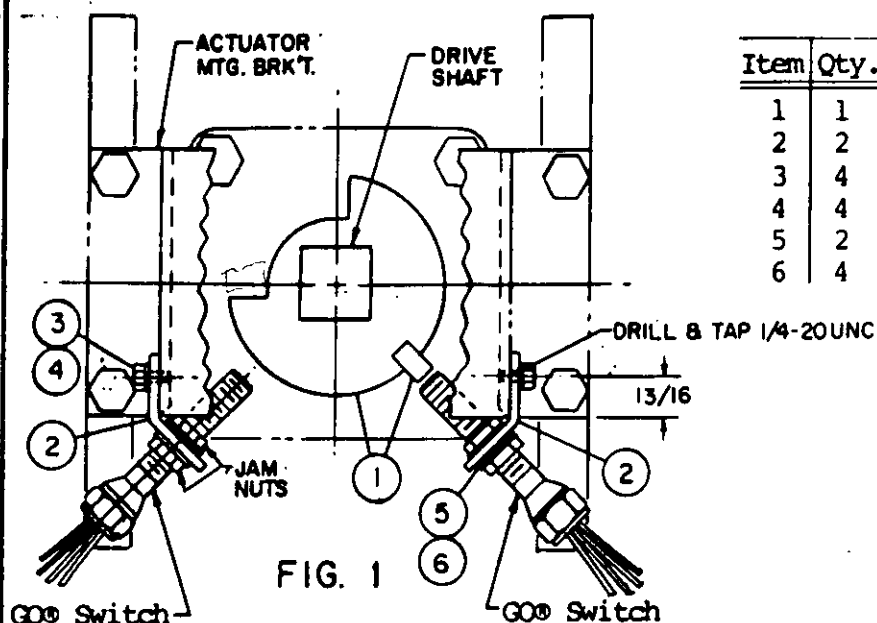


FIG. 1

## INSTALLATION INSTRUCTIONS

1. Disassemble Actuator and Coupling from Valve and remove existing pointer.
2. Slide Switch Activator (item 1) onto drive shaft.
3. Drill and Tap Actuator Mtg. Brk't. for 1/4-20UNC screws and attach Mounting Bracket (item 2) with items 3 & 4.
4. Mount GO® Switches in Mounting Bracket (item 2) with two jam nuts supplied with switch and washers items 5 & 6.
5. Adjust Switches in slots on Mounting BRacket (item 2) to sense Switch Activator (item 1) in full open and full closed positions.

Note: 1. GO® Switches are not included in V.I.P. (Valve Indication Package) and should be ordered separately.

2. Use Model 713774 GO® Switches.

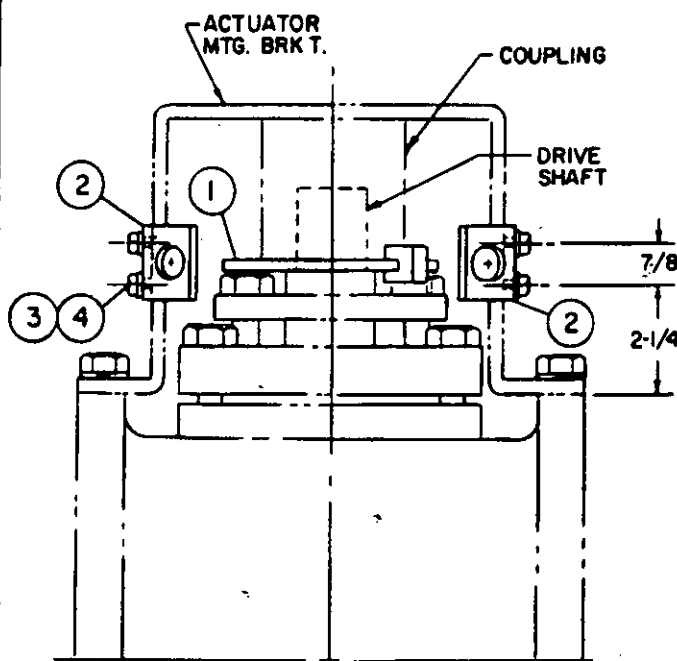


FIG. 2

Tag # 769 BVC

|                   |                 |
|-------------------|-----------------|
| DWN. BY<br>RON S. | DATE<br>9-28-83 |
| CHK. BY           |                 |
| APPD.             |                 |

NOTICE: Drawing contains confidential & proprietary material and is furnished open condition that it will not be used in any way connected to the interest of General Equipment & Mfg. Co., Inc.

70 SERIES GO® SWITCH V.I.P.  
 ON DURCO 6" 150# G411 Valve  
 WITH BETTIS ACTUATOR  
 FOR CONOCO

GENERAL EQUIPMENT  
 & MANUFACTURING CO., INC.  
 3300 FERN VALLEY ROAD  
 P.O. BOX 37280  
 LOUISVILLE, KENTUCKY, USA, 40233  
 (502) 988-2388, TWX 810-636-2788

**GO**  
 SYSTEMS

DWG. NO.  
 V126411-1942

REV.

**TOLERANCES** Unless otherwise specified  
 Angles:  $\pm 1^\circ$ , Fractions:  $\pm 1/32"$ ,  $XX \pm .01"$ ,  $XXX \pm .005"$   
 Surfaces must be Concentric, Parallel, Flat & Square  
 (as applicable) to each other within T.I.R.

| NO. | REVISION | DATE | BY | APPD. |
|-----|----------|------|----|-------|
|     |          |      |    |       |

## MATERIAL LIST

| Item | Qty. | Description                | Dwg. No.     |
|------|------|----------------------------|--------------|
| 1    | 1    | Switch Activator           | V907310-1951 |
| 2    | 1    | Mounting Bracket           | V907310-1952 |
| 3    | 1    | Set Screw #12-24 x 1/4     |              |
| 4    | 4    | 1/4-20 x 1/2 Hex Hd. Screw |              |
| 5    | 4    | 1/4- L.W.                  |              |
| 6    | 2    | 5/8 Ext. Tooth L.W.        |              |
| 7    | 2    | 5/8 F.W.                   |              |

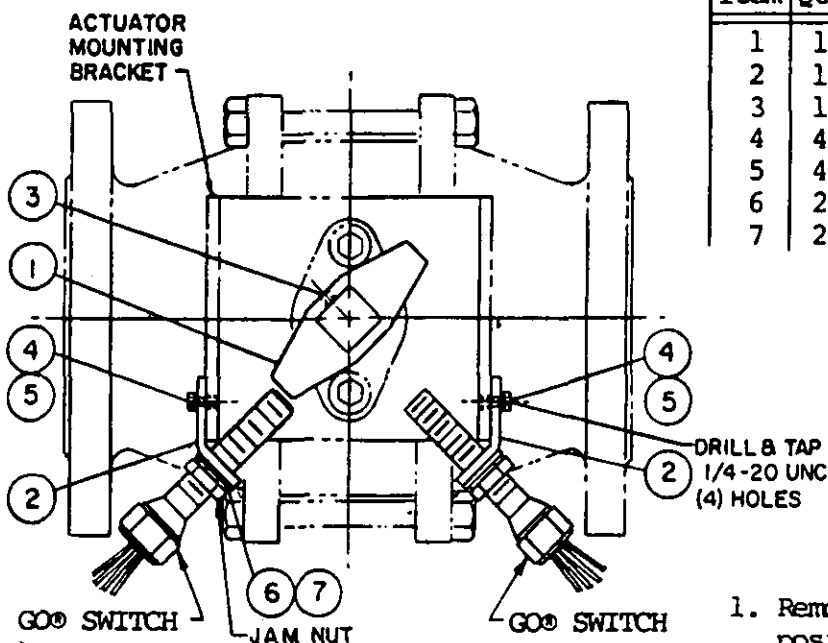


FIG. 1

## INSTALLATION INSTRUCTIONS

1. Remove Actuator, Coupling and Existing position indication plate.
2. Slide Switch Activator (item 1) onto drive shaft and secure with set screw (item 3).
3. Assemble GOO Switches to Mounting Bracket (item 2) with Jam Nuts supplied with switches and washers items 6 & 7.
4. Place Switch mounted on bracket on sides of Actuator mounting bracket and align switch with Activator (item 1) then match drill Actuator mounting bracket with holes in Mounting Bracket (item 2). Secure with items 4 & 5.
5. Switches should sense Switch Activator when Valve is in full open and full closed positions.

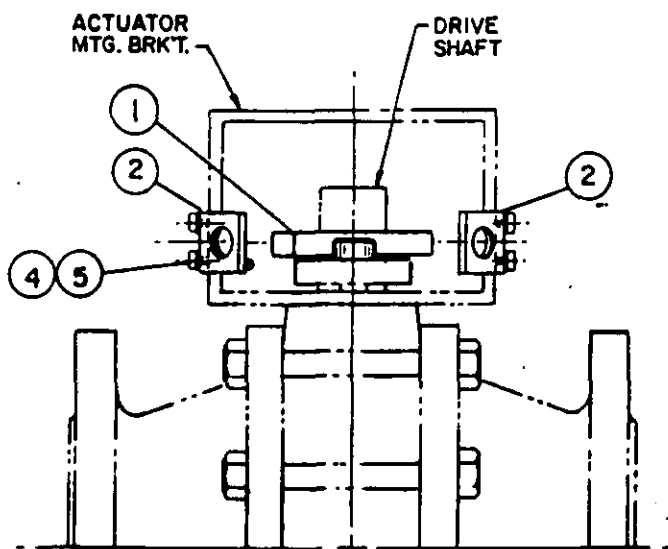


FIG. 2

NOTE: GOO Switches are not included in V.I.P. (Valve Indication Package) and should be ordered as a Separate item.

|         |         |
|---------|---------|
| DWN. BY | DATE    |
| RON S.  | 10-5-83 |
| CHK. BY |         |
| APPD.   |         |

NOTICE: Drawing contains confidential & proprietary material and is furnished upon condition that it will not be used in any way detrimental to the interest of General Equipment & Mfg. Co., Inc.

Tag # CV 755

70 SERIES GOO SWITCH V.I.P.  
 ON  
 W-K-M 310 BALL VALVE 4"  
 FOR  
 CONOCO

GENERAL EQUIPMENT  
 & MANUFACTURING CO., INC.  
 3300 FERN VALLEY ROAD  
 P.O. BOX 37280  
 LOUISVILLE, KENTUCKY, USA, 40233  
 (502) 898-2388, TWX 610-636-3788

**GO.**  
**SYSTEMS**

DWG. NO.

V 907310-1950

REV.

Angles:  $\pm 1^\circ$ , Fractions:  $\pm 1/32"$ , XX  $\pm .01"$ , XXX  $\pm .005"$   
 Surfaces must be Concentric, Parallel, Flat & Square  
 (as applicable) to each other within T.I.R.

| NO. | REVISION | DATE | BY | APPO. |
|-----|----------|------|----|-------|
|     |          |      |    |       |

## MATERIAL LIST

| Item | Qty. | Description                | Dwg. No.     |
|------|------|----------------------------|--------------|
| 1    | 1    | Switch Activator           | V907310-1955 |
| 2    | 1    | Mounting Bracket           | V907310-1954 |
| 3    | 1    | Set Screw #12-24 x 1/4     |              |
| 4    | 4    | 1/4-20 x 1/2 Hex Hd. Screw |              |
| 5    | 4    | 1/4- L.W.                  |              |
| 6    | 2    | 5/8 Ext. Tooth L.W.        |              |
| 7    | 2    | 5/8 F.W.                   |              |

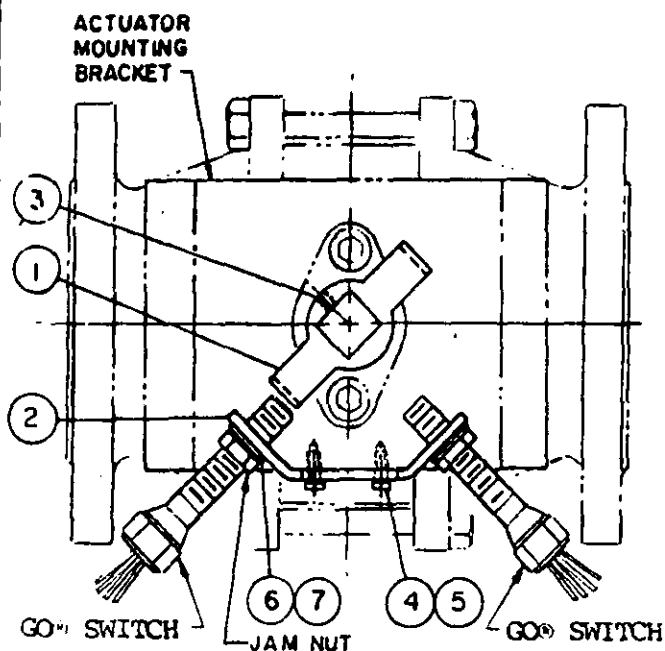


FIG. 1

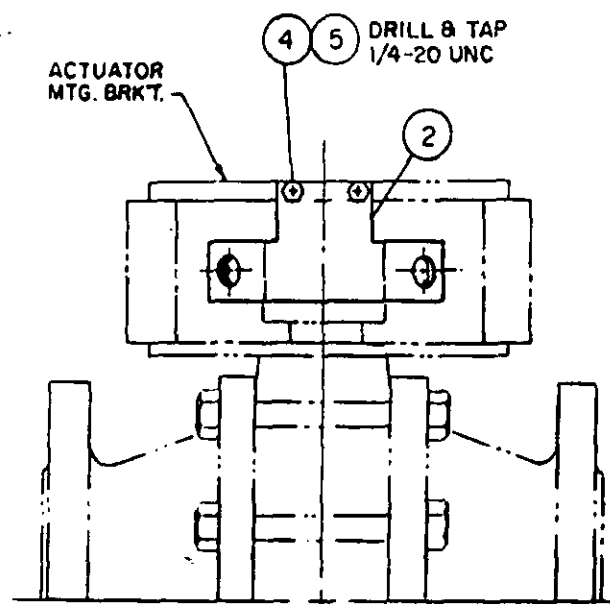


FIG. 2

## INSTALLATION INSTRUCTIONS

1. Remove Actuator, Coupling and Existing position indication plate.
2. Slide Switch Activator (item 1) onto drive shaft and secure with set screw (item 3).
3. Place Mounting Bracket (item 2) onto Actuator Mtg. Brk't. and mark position of two holes. Drill and tap for 1/4-20 UNC holes. Secure Mounting Bracket (item 2) with items 4 & 5.
4. Screw GO® Switches into Mounting Brk't. (item 2) till Gap between end of switch & Switch Activator (item 1) is approx. 1/16". Secure with Jam Nuts that are included with Switches and with washers (items 6 & 7).
5. Switches should sense Switch Activator when Valve is in full open and full closed positions.

NOTE: GO® Switches are not included in V.I.P. (Valve Indication Package) and should be ordered as a Separate item.

Tag # CV 758 & CV 760

|                                                                                                                                                                                                                                          |             |                                                                               |                                                                                                                                                                  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| OWN. BY<br>RON S.                                                                                                                                                                                                                        | DATE<br>10- | 70 SERIES GO® SWITCH V.I.P.<br>ON<br>W-K-M 310 BALL VALVE 6"<br>FOR<br>CONOCO | GENERAL EQUIPMENT<br>& MANUFACTURING CO., INC.<br>3300 FERN VALLEY ROAD<br>P.O. BOX 37280<br>LOUISVILLE, KENTUCKY, USA 40233<br>(502) 988-2386, TWX 810-636-2786 |  |
| CHK. BY                                                                                                                                                                                                                                  |             |                                                                               |                                                                                                                                                                  |  |
| APPO.                                                                                                                                                                                                                                    |             |                                                                               |                                                                                                                                                                  |  |
| <small>NOTICE: Drawing contains confidential &amp; proprietary material and is furnished under conditions that it not be used or copied in any way without the express written consent of General Equipment &amp; Mfg. Co., Inc.</small> |             |                                                                               |                                                                                                                                                                  |  |
|                                                                                                                                                                                                                                          |             | DWG. NO.<br>V 907310-1953                                                     | REV.                                                                                                                                                             |  |

**TOLERANCES** Unless otherwise specified  
 Angles:  $\pm 1^\circ$ , Fractions:  $\pm 1/32"$ , XX  $\pm .01"$ , XXX  $\pm .005"$   
 Surfaces must be Concentric, Parallel, Flat & Square  
 (as applicable) to each other within T.I.R.

| NO. | REVISION | DATE | BY | APPD. |
|-----|----------|------|----|-------|
|     |          |      |    |       |

**MATERIAL LIST**

| Item | Qty. | Description                | Dwg. No.     |
|------|------|----------------------------|--------------|
| 1    | 1    | Switch Activator           | V402800-1948 |
| 2    | 1    | Mounting plate             | V402800-1949 |
| 3    | 3    | #10-24 x 1/2 Rd. Hd. Screw |              |
| 4    | 3    | #10 Ext. Tooth L.W.        |              |

**INSTALLATION INSTRUCTIONS**

1. With Valve Actuator removed slide Switch Activator (item 1) onto drive shaft as shown in figure 1.
2. To Mount Mounting Bracket (item 2) match drill and tap for three #10-24 UNC screws and attach item 2 to Actuator mounting bracket with items 4 & 5.
3. Screw GO Switches into threaded holes on Mounting Bracket (item 2) and secure with jam nuts included with switches.
4. Adjust Switches to sense triangular bars on Switch Activator when Valve is in full open or full closed positions.

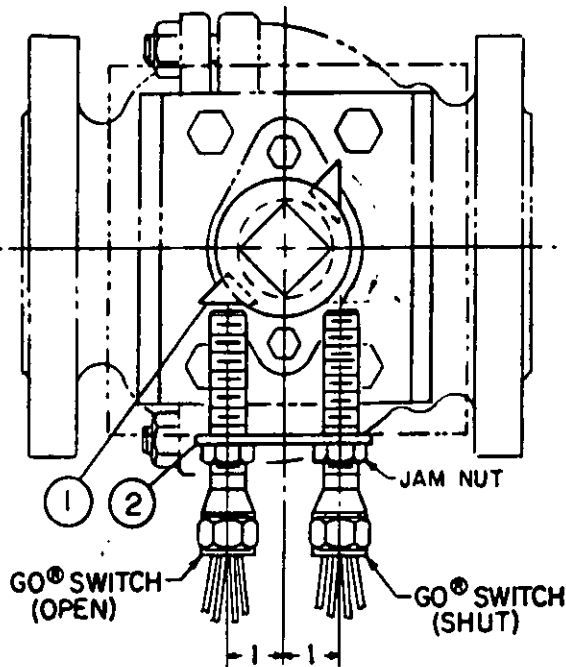


FIG. 1

MATCH DRILL FOR THREE  
 10-24 UNC-2B THREADED  
 HOLES

ACTUATOR  
 MTG. BRKT.

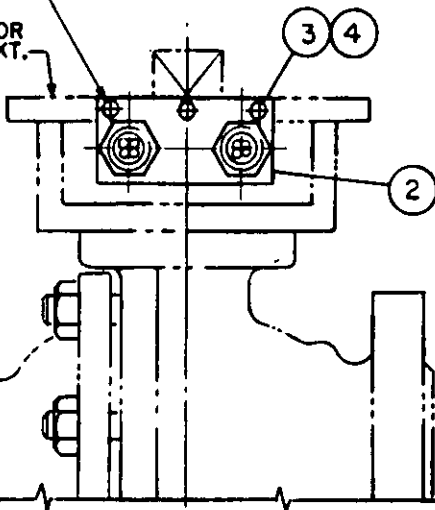


FIG. 2

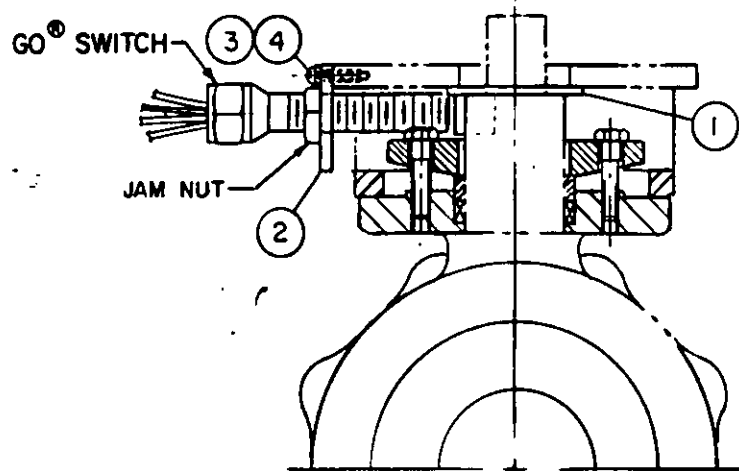


FIG. 3

DWN. BY  
 RON S.  
 CHK. BY  
 APPD.

DATE  
 10-3-83

70 SERIES GO® SWITCH V.I.P.  
 ON KTM 6" VALVE E0800  
 WITH JAMESBURY ACTUATOR  
 FOR CONOCO

GENERAL EQUIPMENT  
 & MANUFACTURING CO., INC.  
 3300 FERN VALLEY ROAD  
 P.O. BOX 37290  
 LOUISVILLE, KENTUCKY, USA, 40233  
 (502) 898-2388, TWX 810-536-2786

**GO**  
**SYSTEMS**

DWG. NO.

V402800-1947

REV.

NOTICE: Drawing contains  
 confidential & proprietary material  
 and is intended for use only  
 as directed by the terms of  
 General Equipment & Mfg. Co., Inc.

**TOLERANCES** Unless otherwise specified  
 Angles:  $\pm 1^\circ$ , Fractions:  $\pm 1/32"$ ,  $.XX \pm .01"$ ,  $.XXX \pm .005"$   
 Surfaces must be Concentric, Parallel, Flat & Square  
 (as applicable) to each other within  $\text{---} T.I.R. \text{---}$

| NO. | REVISION | DATE | BY | APPD. |
|-----|----------|------|----|-------|
|     |          |      |    |       |

## MATERIAL LIST

| Item | Qty. | Description                 | Dwg. No.     |
|------|------|-----------------------------|--------------|
| 1    | 1    | Mounting Bracket            | V782067-1935 |
| 2    | 1    | Switch Activator            | V782067-1936 |
| 3    | 1    | Rollpin 1/8 x 1/2" long     |              |
| 4    | 1    | 1/4-20 x 5/8 Flat Hd. Screw |              |
| 5    | 4    | 1/4-20 x 3/4 Hex Hd. Screw  |              |
| 6    | 4    | 1/4 L.W.                    |              |
| 7    | 2    | 5/8 Ext. Tooth L.W.         |              |
| 8    | 4    | 5/8 F.W. (1-5/16 O.D.)      |              |

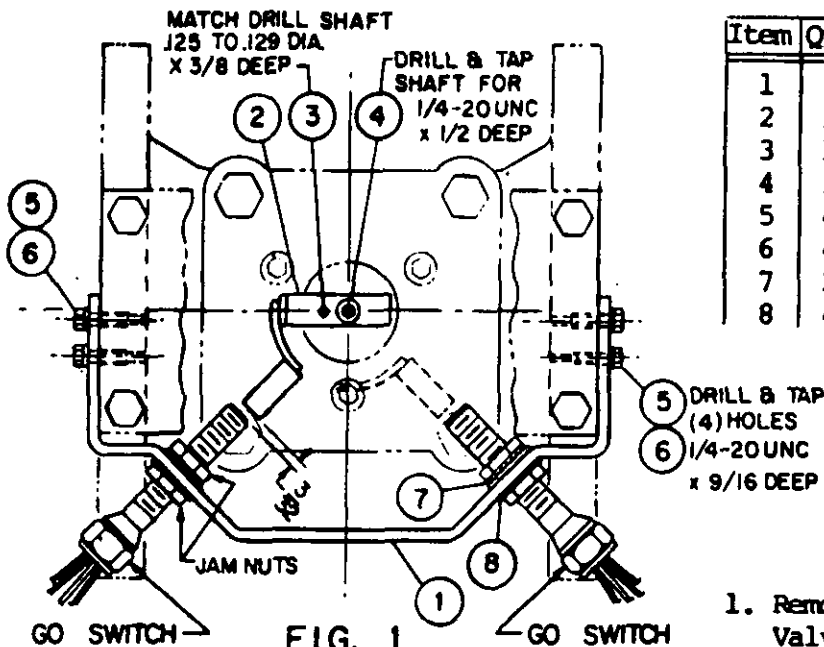


FIG. 1

## INSTALLATION INSTRUCTIONS

1. Remove Valve Actuator and Coupling from Valve.
2. Machine notch in coupling to 7/8" depth as indicated in view A-A.
3. Drill & tap top of shaft for 1/4-20 UNC x 1/2" deep hole.
4. Place Switch Activator (item 2) on shaft and secure with flat head screw (item 4). Then orient Switch Activator as shown in figure 1. Match drill shaft with hole in Switch Activator and drive rollpin (item 3) into hole to prevent rotation.
5. Fit Mounting Bracket (item 1) to sides of Actuator mounting plate support and mark location of four mounting holes, drill and tap four 1/4-20 UNC x 9/16 dp. Then secure Mounting bracket (item 1) with items 5 & 6.
6. Insert GO Switches into slots on Mtg. Bracket (item 1) and secure with two jam nuts that come with switches and washers items 7 & 8.
7. Adjust Switches to sense Activator (item 2) in full open and full closed positions.

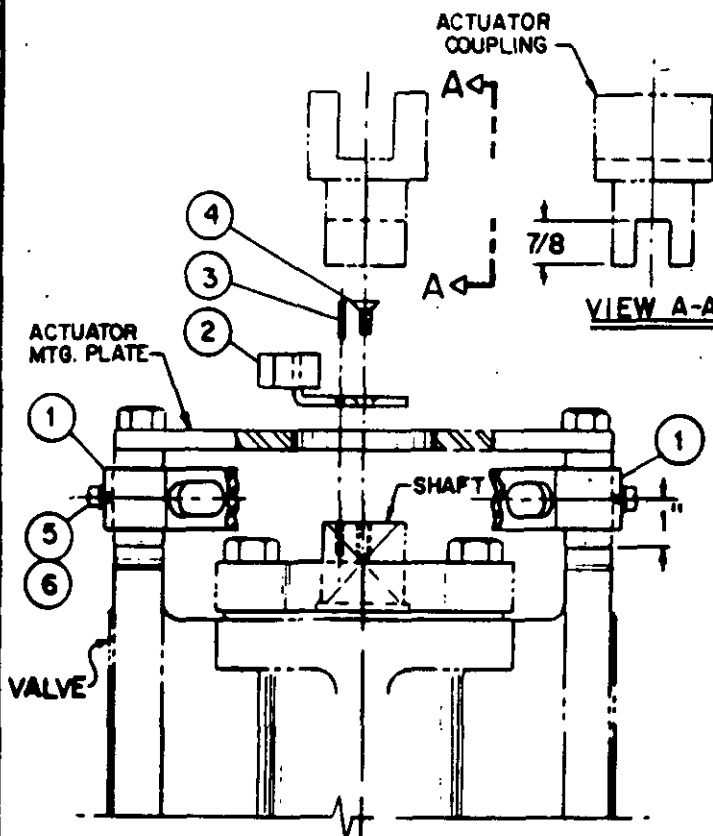


FIG. 2

|                   |                 |
|-------------------|-----------------|
| DWN. BY<br>RON S. | DATE<br>9-12-83 |
| CHK. BY           |                 |
| APPD.             |                 |

70 SERIES GO® SWITCH V.I.P.  
 ON TUPLINE 067 6" PLUG VALVE  
 VALVE SHAFT 150"  
 INDICATION

GENERAL EQUIPMENT  
 & MANUFACTURING CO., INC.  
 2880 PERN VALLEY ROAD  
 P.O. BOX 3788  
 LOUISVILLE, KENTUCKY, USA 40233  
 (603) 689-8888, TWX 610-688-8788

**GO**  
 SYSTEMS

DWG. NO.  
 V782067-1934

NOTES: Drawing is for  
 assembly only. Assembly  
 must be completed before  
 and is not to be used in any  
 way without the approval of  
 General Equipment & Mfg. Co., Inc.

**TOLERANCES** Unless otherwise specified  
 Angles:  $\pm 1^\circ$ , Fractions:  $\pm 1/32"$ , XX  $\pm 0.1"$ , XXX  $\pm 0.005"$   
 Surfaces must be Concentric, Parallel, Flat & Square  
 (as applicable) to each other within T.I.R.

| NO. | REVISION | DATE | BY | APPD. |
|-----|----------|------|----|-------|
|     |          |      |    |       |

## MATERIAL LIST

| Item | Qty. | Description                | Dwg. No.     |
|------|------|----------------------------|--------------|
| 1    | 1    | Switch Activator           | V402800-1948 |
| 2    | 1    | Mounting plate             | V402800-1949 |
| 3    | 3    | #10-24 x 1/2 Rd. Hd. Screw |              |
| 4    | 3    | #10 Ext. Tooth L.W.        |              |

## INSTALLATION INSTRUCTIONS

1. With Valve Actuator removed slide Switch Activator (item 1) onto drive shaft as shown in figure 1.
2. To Mount Mounting Bracket (item 2) match drill and tap for three #10-24 UNC screws. Attach Mounting Plate to Actuator mounting bracket with items 4 & 5.
3. Screw GO Switches into threaded holes on Mounting Bracket (item 2) and secure with jam nuts included with switches.
4. Adjust Switches to sense triangular bars on Switch Activator when Valve is in full open or full closed positions.

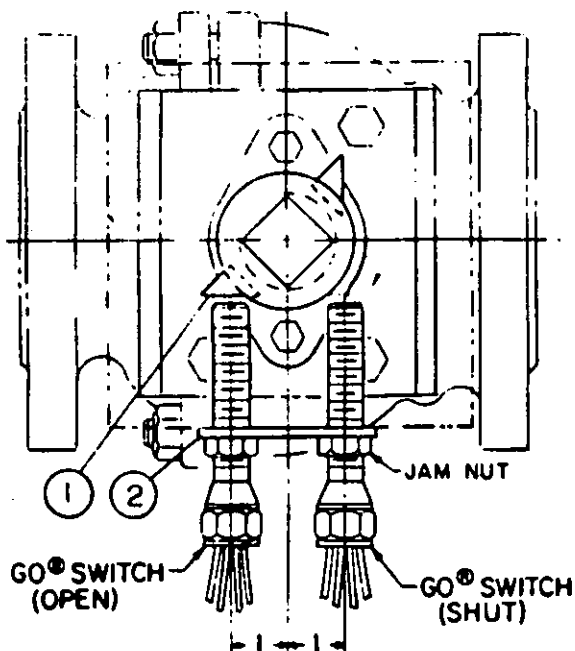


FIG. 1

MATCH DRILL FOR THREE  
 10-24 UNC-2B THREADED  
 HOLES

ACTUATOR  
 MTG. BRKT.

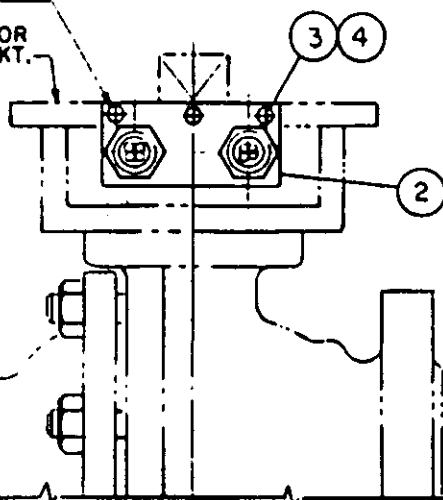


FIG. 2

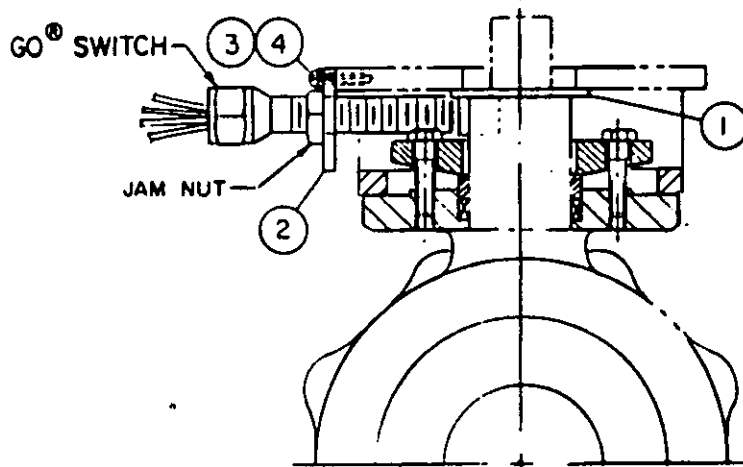


FIG. 3

|                   |                 |
|-------------------|-----------------|
| DWN. BY<br>RON S. | DATE<br>10-3-85 |
| CHK. BY           |                 |
| APPD.             |                 |

NOTICE: Drawing contains  
 confidential & proprietary material  
 and is furnished upon contract  
 that it will not be used in any way  
 detrimental to the interest of  
 General Equipment & Mfg. Co., Inc.

70 SERIES GO® SWITCH V.I.P.  
 ON 6600 JAMASBURY VALVE  
 WITH BETTIS ACTUATOR  
 FOR VISTA POLYMER

GENERAL EQUIPMENT  
 & MANUFACTURING CO., INC.  
 3300 FERN VALLEY ROAD  
 P.O. BOX 37280  
 LOUISVILLE, KENTUCKY, USA, 40233  
 (502) 968-2386, TWX 810-536-2786

**GO.**  
**SYSTEMS**

DWG. NO.  
 V402800-1947 B

REV.