

COMPLIANCE PLAN CAPITAL ITEMS

REACTOR VALVE LIMIT SWITCH REPLACEMENT

ABERDEEN CHEMICAL PLANT

August 6, 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 and charge systems 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 and charge systems 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 107 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	VCM Charge	6"	TuFlne (Plug) 300
	VCM Charge	6"	TuFlne (Plug) 300
+	Chem Wash Rtrn.	6"	Jamesbury (Ball)
	Hot H ₂ 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
	Evac./Rec.	8"	TuFlne (Plug) 300
	Vent	4"	TuFlne (Plug) 300
600	VCM Charge	6"	TuFlne (Plug) 300
	VCM Charge	6"	TuFlne (Plug) 300
+	Chem Wash Return	6"	KTM E0106 (Ball)
500	Hot H ₂ 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
	Evac./Rec.	6"	TuFlne (Plug) 300
600	Vent	3"	WKM (Ball) 3RB100
500	Vent	3"	TuFlne (Plug) 300
400	VCM Charge	6"	TuFlne (Plug) 150
	VCM Charge	6"	TuFlne (Plug) 150
	Chem Wash Rtrn.	6"	WKM (Ball) 6FB123 Module 310C
	Hot H ₂ O Charge	6"	TuFlne (Plug) 150
	Sewer	6"	Durco (Plug) 6411
	Dump	6"	WKM (Ball) 310
	Evacuation	6"	TuFlne (Plug) 150
	Recovery	6"	TuFlne (Plug) 150
	Evac./Rec.	6"	Jamesbury (Ball)
	Vent	3"	WKM (Ball) 3RB100 310C
300	VCM Charge	6"	TuFlne (Plug) 150
	VCM Charge	6"	TuFlne (Plug) 150
	Chem Wash Return	6"	KTM (Ball) E0106
	Hot H ₂ 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"	TuFline (Plug) 150
	Recovery	6"	TuFline (Plug) 150
	Evac./Rec.	6"	TuFline (Plug) 300
	Vent	3"	TuFline (Plug) 300
744	VCM Charge	6"	Durco (Plug) 6411
743	VCM Charge	6"	TuFline (Plug) 150
742	Chem Wash Rtrn.	6"	WKM (Ball) 6F-B130 310B
+741	Hot H ₂ O Charge	6"	WKM (Ball) 6X4-B102
	Sewer ₂	6"	WKM (Ball) 6X4-B102
	Dump	6"	WKM (Ball) 6F-B112 310B
	Evacuation	6"	TuFline (Plug) 150
	Recovery	6"	TuFline (Plug) 150
	Evac./Rec.	6"	WKM (Ball) 6RB122
	Vent	3"	WKM (Ball) 3KB150

Charge System

New Module Charge Pumps

Suction	8"	WKM (Ball) 8RB10 310
Discharge	6"	WKM (Ball) 6RB102

Old Module Charge Pumps

Suction	8"	TuFline (Plug) 150
	8"	TuFline (Plug) 150
Discharge	6"	Durco (Plug) Fig 0431
	6"	TuFline (Plug) 150

TABLE II

Manufacturer	Size	Fig.No.	Quantity	Actuator Type						Hills		
										Jamesbury ST1200-C ST2400C	Mc- Canna tryx R1503 I250	
				Bettis CB725 721C CB520 CB525		Bettis 731C 722C T3126B-SR4						
1.TuFlne (P)	6"	067(150)	36	22	5	1	1	-	-	7	-	-
2.TuFlne (P)	6"	0367(300)	11	8	1	-	-	2	-	-	-	-
3.TuFlne (P)	8"	067 (150)	6	2	-	-	-	-	3	1	-	-
4.TuFlne (P)	8"	0367(300)	2	-	-	-	2	-	-	-	-	-
5.TuFlne (P)	4"	0367(300)	2	-	-	2	-	-	-	-	-	-
6.TuFlne (P)	3"	0367(300)	2	-	-	-	-	-	-	-	2	-
7.Jamesbury(B)	6"	6300-1-360MT	6	-	-	-	-	6	-	-	-	-
8.Jamesbury(B)	6"	300	1	-	-	-	-	-	-	1	-	-
9.WKM (B)	6"	6F-B112 310B	6	-	4	-	-	-	-	1	1	-
10.WKM (B)	6"	6R-B122 310	4	4	-	-	-	-	-	-	-	-
11.WKM (B)	6"	6X4-B102 310 10	10	8	-	-	2	-	-	-	-	-
12.WKM (B)	6"	6F-B130 310B	4	-	-	-	-	-	4	-	-	-
13.WKM (B)	3"	3KB150 310	4	-	-	4	-	-	-	-	-	-
14.WKM (B)	3"	3RB100 310	2	-	-	-	-	-	-	-	2	-
15.WKM (B)	6"	6F B123 310C	1	-	-	-	-	-	1	-	-	-
16.WKM (B)	8"	8R B10 310	1	-	1	-	-	-	-	-	-	-
17. Durco (P)	6"	G 411	6	4	-	-	-	-	-	1	-	1
18.KTM (B)	6"	ED106	3	-	-	-	-	3	-	-	-	-

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

<u>Item</u>	<u>Description</u>
PLS-101 through 207	Proximity Limit Switches



Conoco Inc.
Engineering Center
Ponca City, Oklahoma
SPECIFICATION SHEET

SPECIFICATION SHEET

PROJECT NO. _____

A/E NO. _____

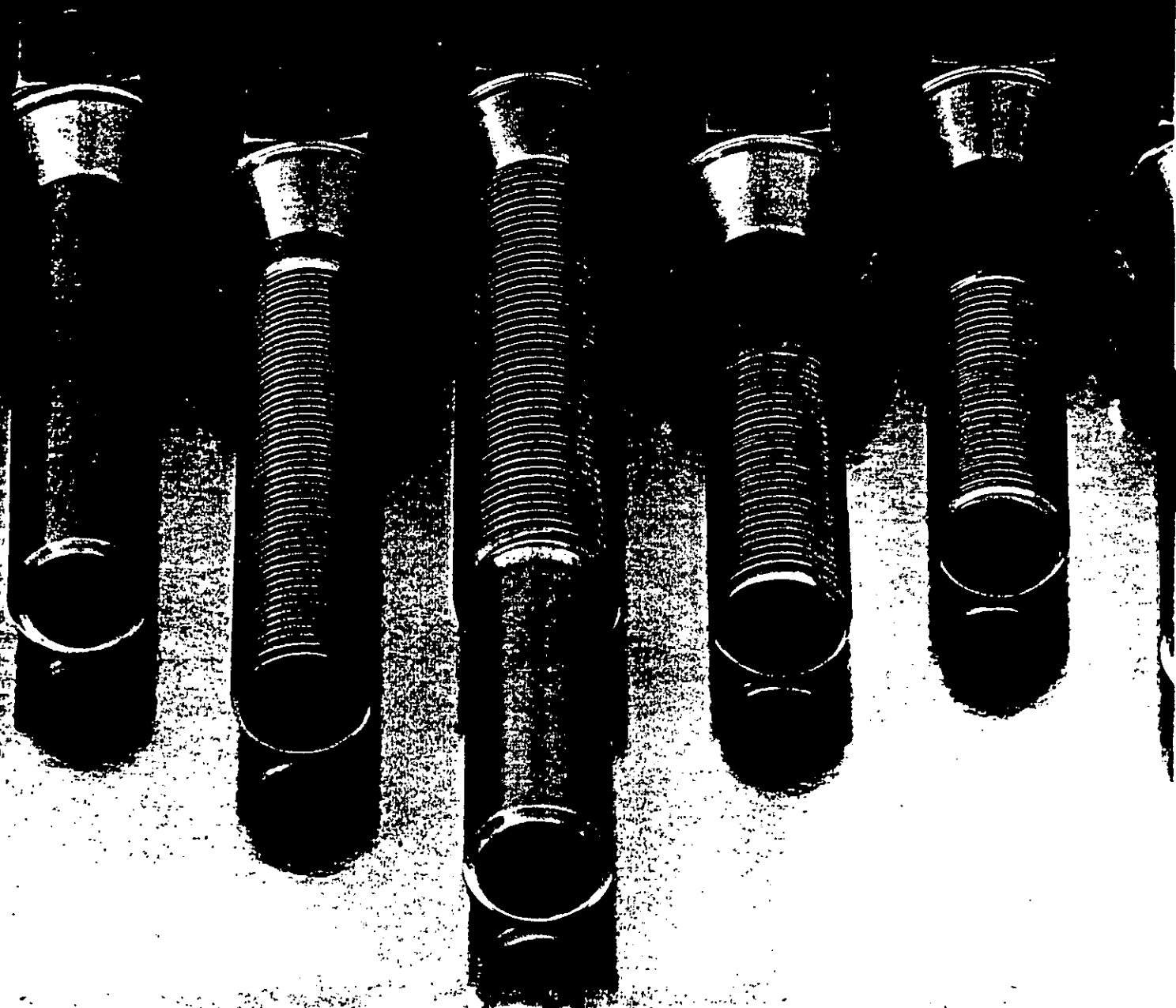
DATE 7-31-85 (NO) NO. _____MADE BY EGJ (REV) NO. _____APPROVED BY JRM (REV) NO. _____PLANT Aberdeen Chemical PROJECT Reactor Valve Limit Switch RepairITEM NO
SERVICEPLS-101 + INR 207 Flexibility Limit SwitchSeries: 1018 IndicationLocation: On reactor between valve and actuatorManufacturer: GO or company approved - equalModel: 713774

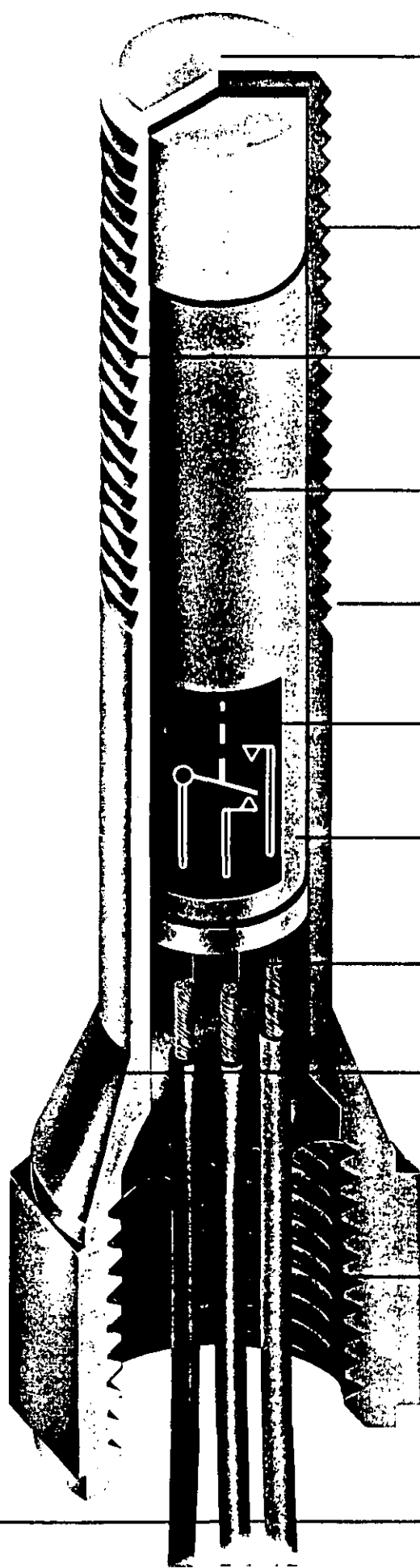
Description: 1/2 NPT conduit outlet with 18"
poised, 3 wire leads, type 300 stainless
steel housing with 5/8-18 NF x 2.813" threads.

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 MPPA 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.

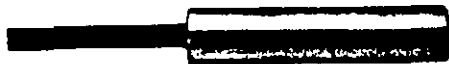
The standard stainless steel housing is impervious to oils, caustic acids, water laden areas and most

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



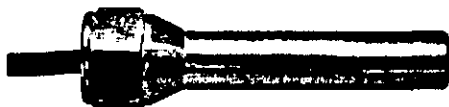
Model 713360
No conduit connection, 18" 3 conductor cable with water resistant squeeze connection, type 300 stainless steel housing with $\frac{1}{2}$ -18 NF x 1.5" threads with 2 lock nuts.



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



Model 713460
No conduit outlet, 18" potted, 3 conductor cable, type 300 stainless steel housing with $\frac{1}{2}$ -18 NF x 1.5" threads with 2 lock nuts.



Model 713520
 $\frac{1}{2}$ NPT conduit outlet, 18" 3 conductor cable, type 300 stainless steel housing; no threads.



Model 713560
 $\frac{1}{2}$ NPT conduit outlet with 18" 3 conductor cable, type 300 stainless steel housing with $\frac{1}{2}$ -18 NF x 1.5" threads with 2 lock nuts.



Model 713570
 $\frac{1}{2}$ NPT conduit outlet, 18" 3 conductor cable, type 300 stainless steel housing with $\frac{1}{2}$ -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 $\frac{1}{2}$ -18 NF x 1.5" threads with 2 lock nuts.



Model 713720
 $\frac{1}{2}$ NPT conduit outlet with 18" potted, 3 wire leads, type 300 stainless steel housing; no threads.



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



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

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



Model 713524
 $\frac{1}{2}$ NPT conduit outlet with 18" potted, 3 conductor cable, type 300 stainless steel housing; no threads.



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



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



Model 713724
 $\frac{1}{2}$ NPT conduit outlet with 18" potted, 3 wire leads, type 300 stainless steel housing; no threads.



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



Model 713774
 $\frac{1}{2}$ NPT conduit outlet with 18" potted, 3 wire leads, type 300 stainless steel housing with $\frac{1}{2}$ -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 $\text{---} T.I.R. \text{---}$

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.)	

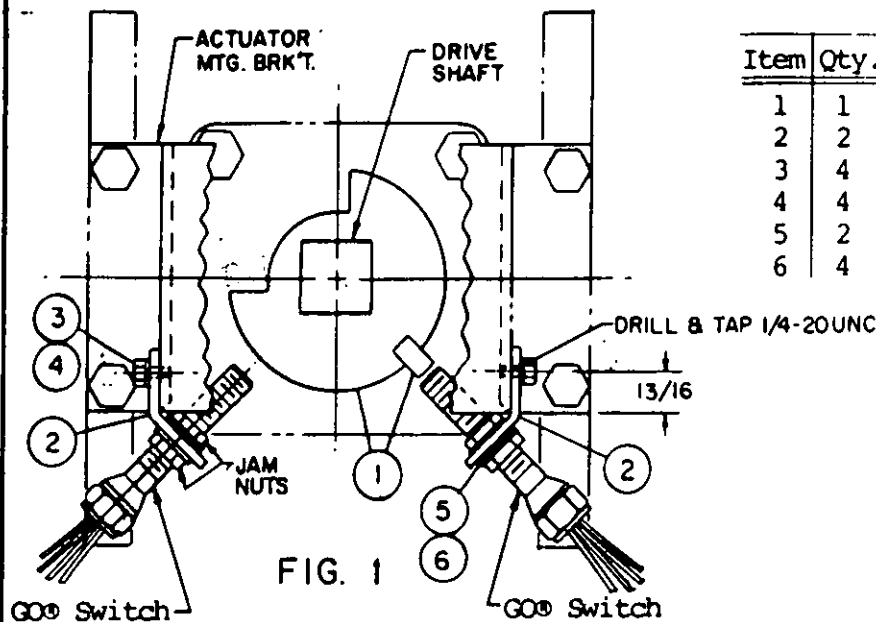


FIG. 1

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.

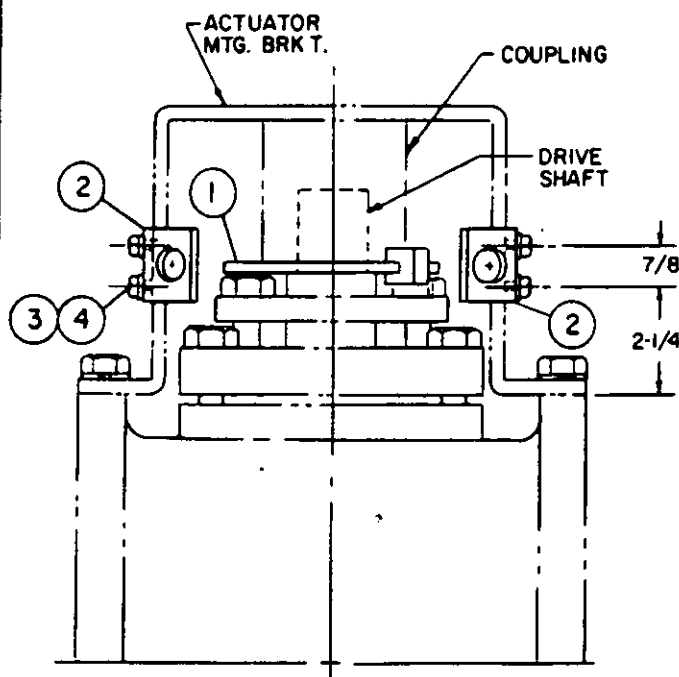


FIG. 2

Tag # 769 BVC

DWN. BY RON S.	DATE 9-28-83
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 & Manufacturing 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) 888-2388, TWX 810-535-2786

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 $\text{---} T.I.R. \text{---}$

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.	

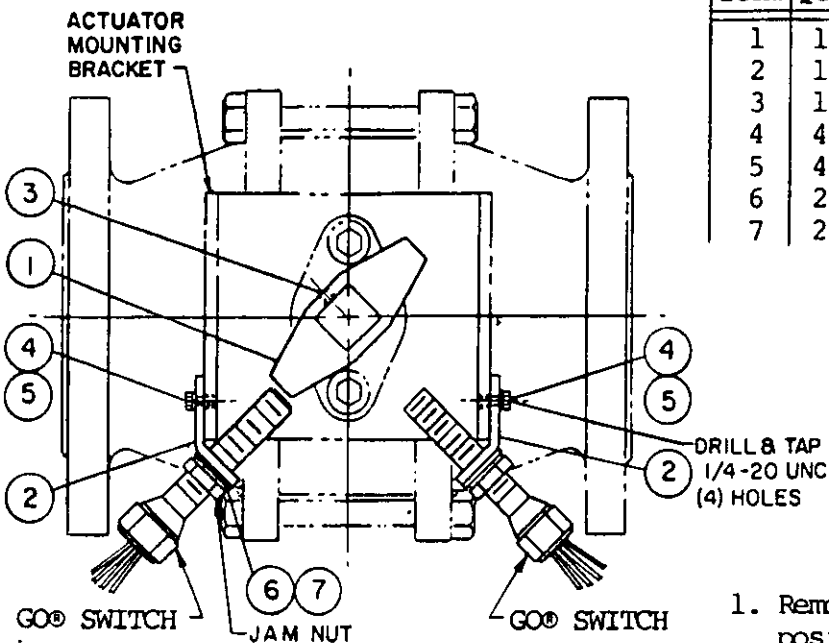


FIG. 1

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.

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

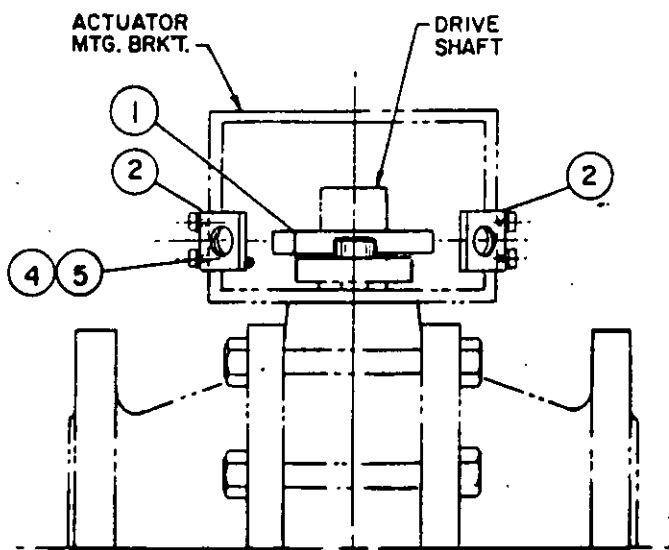


FIG. 2

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.

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 37290
 LOUISVILLE, KENTUCKY, USA, 40233
 (502) 899-2398, TWX 810-635-2788

GO.
SYSTEMS

DWG. NO.	REV.
V 907310-1950	

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	V907310-1955
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.	

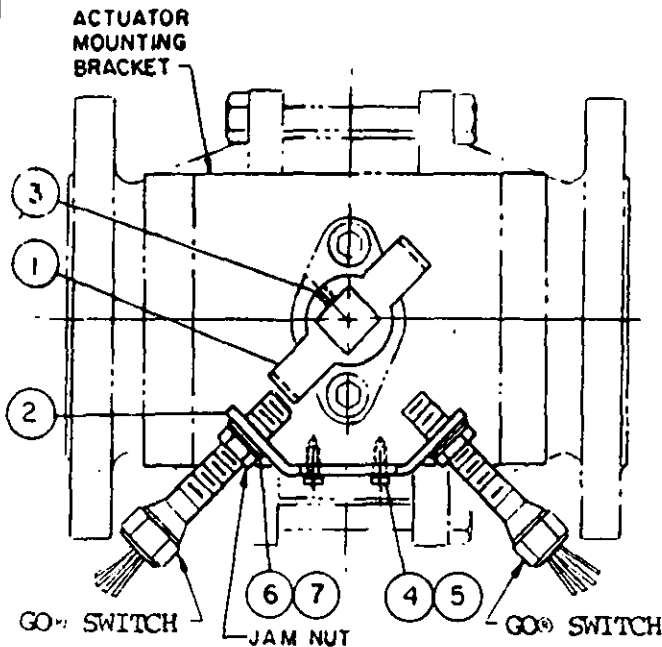


FIG. 1

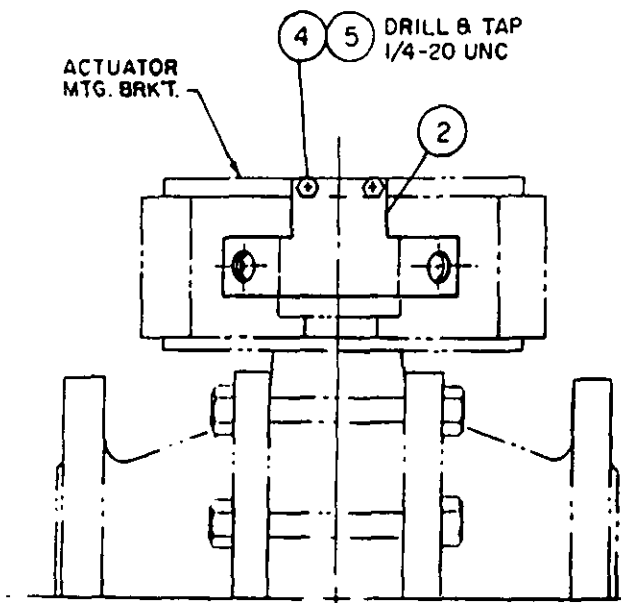


FIG. 2

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 754 & CV 760		70 SERIES GO® SWITCH V.I.P. ON W-K-M 310 BALL VALVE 6" FOR CONOCO		GENERAL EQUIPMENT & MANUFACTURING CO., INC. 3300 FERN VALLEY ROAD P.O. BOX 37200 LOUISVILLE, KENTUCKY, USA, 40233 (502) 908-2388, TWX 810-636-2786			
OWN. BY	DATE			DWG. NO.			REV.
RON S.	10-			V 907310-1953			
CHK. BY							
APPD.							
NOTICE: Drawing contains confidential & proprietary material and is furnished upon condition that it will not be used in any way contrary to the interest 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 T.I.R.

NO.	REVISION	DATE	BY	APPD.

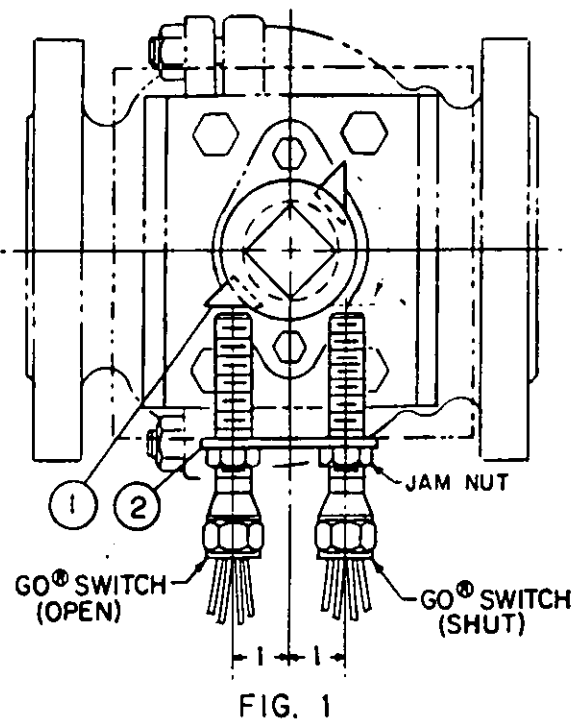


FIG. 1

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

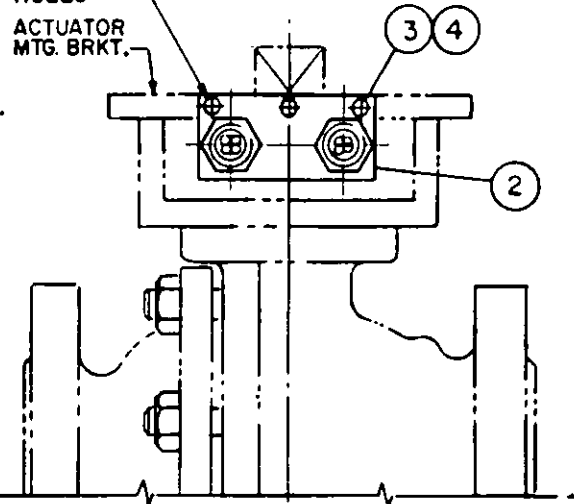


FIG. 2

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.

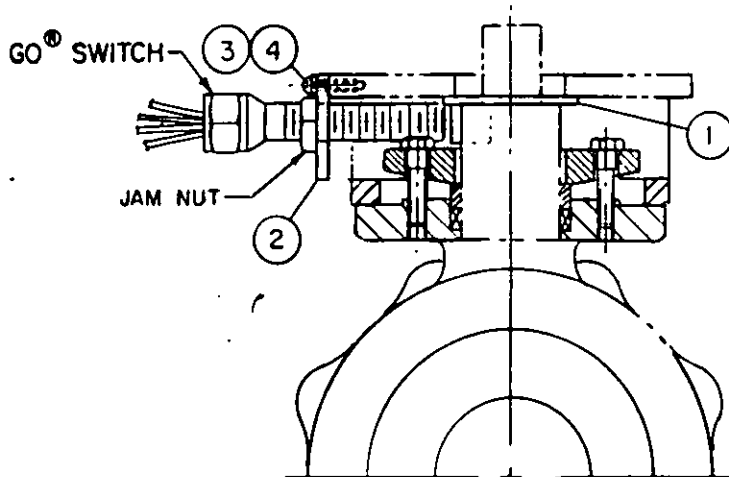


FIG. 3

DWN. BY *Tag # CV 340 D 600*
 RON S. DATE 10-3-83

CHK. BY

APPD.

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 37280
 LOUISVILLE, KENTUCKY, USA, 40233
 (502) 998-2386, TWX 810-535-2786

GO
SYSTEMS

DWG. NO.

V402800-1947

REV.

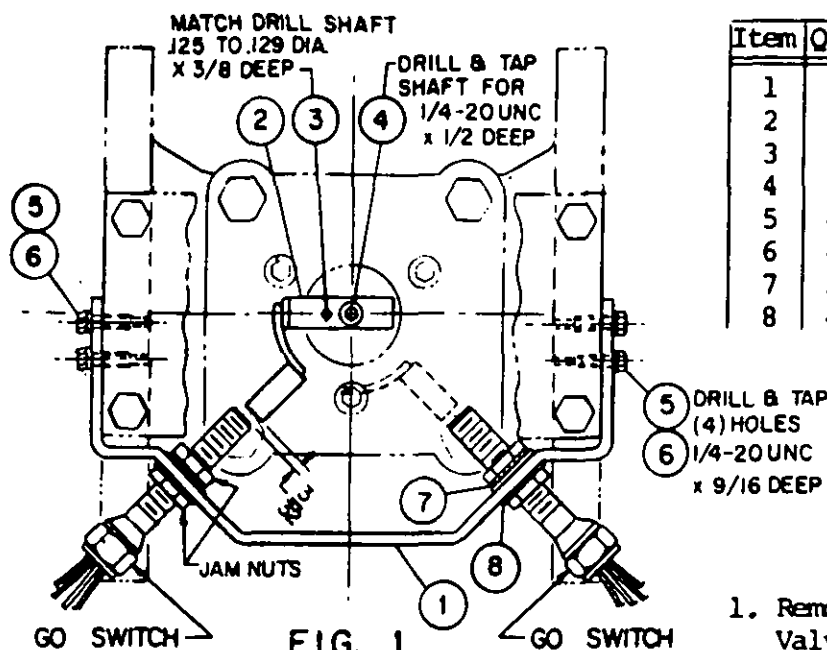
NOTICE: Drawing contains
 confidential & proprietary material
 and is furnished upon condition
 that it will not be used in any way
 detrimental to the interest of
 General Equipment & Mfg. Co., Inc.

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.

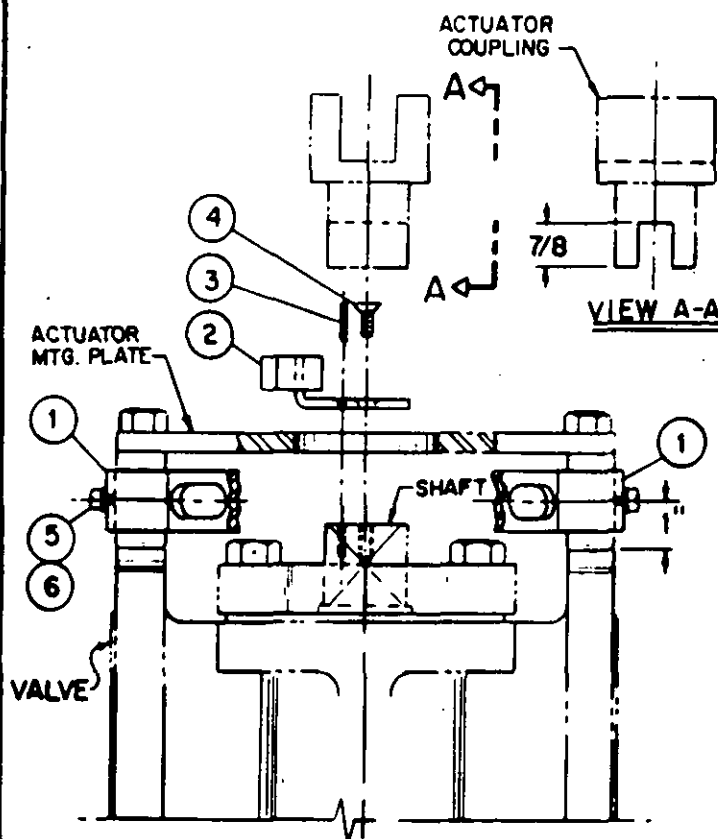
NO.	REVISION	DATE	BY	APPD.

MATERIAL LIST

Item	Qty.	Description	Dwg. No.
1	1	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 1/4-20UNC 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 1/4-20UNC 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 RON S.	DATE 9-12-83
CHK. BY	
APPD.	

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

GENERAL EQUIPMENT
 & MANUFACTURING CO., INC.
 2828 FERN VALLEY ROAD
 P.O. BOX 37288
 LOUISVILLE, KENTUCKY, USA 40233
 (502) 850-6266, TWX 610-635-2738

GO
 SYSTEMS

DWG. NO.
V782067-1934

REV.

NOTICE: Drawing contains
 information & proprietary material
 and is limited open system
 and is not to be used in any way
 without the written consent 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 T.I.R.

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.)	

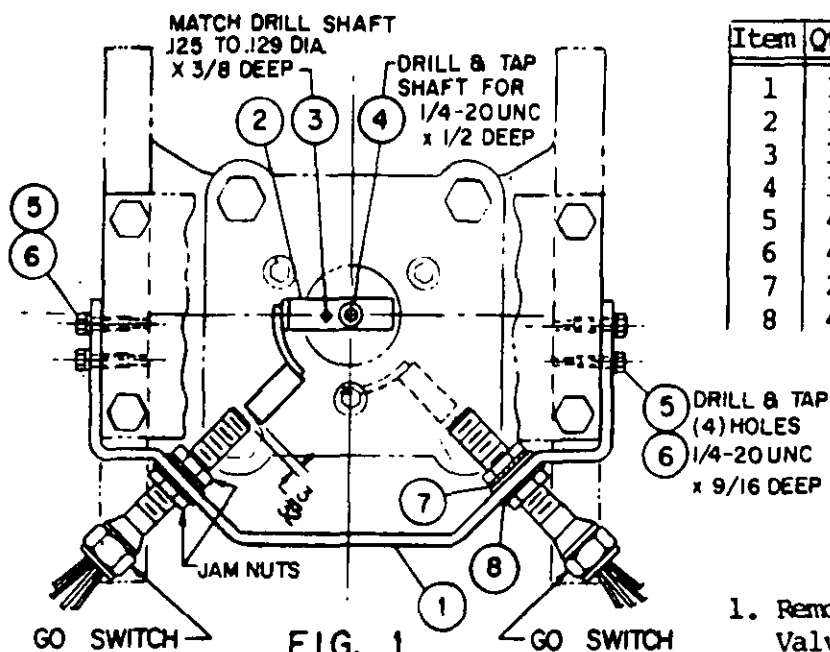


FIG. 1

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 1/4-20UNC x 1/2" deep hole.
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5. Fit Mounting Bracket (item 1) to sides of Actuator mounting plate support and mark location of four mounting holes, drill and tap four 1/4-20UNC 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.

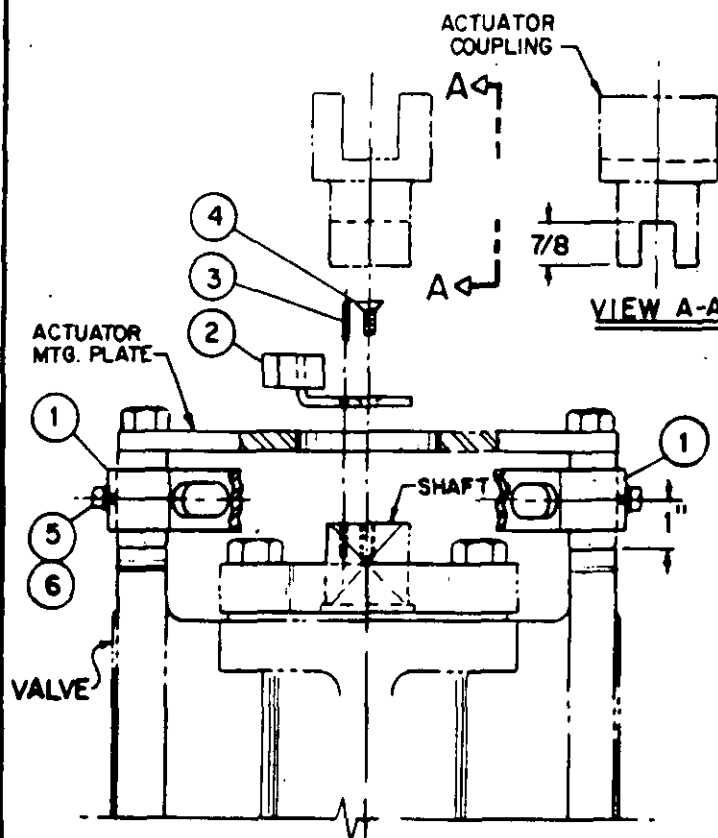


FIG. 2

DWN. BY RON S.	DATE 9-12-83
CHK. BY	
APPD.	

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

GENERAL EQUIPMENT
 & MANUFACTURING CO., INC.
 2888 PEPIN VALLEY ROAD
 P.O. BOX 87280
 LOUISVILLE, KENTUCKY, USA 40223
 (502) 690-6266, TWX 610-626-6788

GO
SYSTEMS

DWG. NO.
 V782067-1934

REV.

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