

# Conoflow

ITT Fluid Technology Corporation

Highway 78 P.O. Box 768  
 St. George, South Carolina 29477-0768  
 Telephone: (803) 563-9281  
 Telex 4945706 FAX (803) 563-2131

## INSTRUCTION AND MAINTENANCE MANUAL GJ800 SERIES RANGE SPRING ASSEMBLY

### RANGE SPRING ASSEMBLY

Range Spring Assemblies are supplied as part of an actuator assembly or as an individual component part for field replacement. Each range spring assembly consists of a spring rod, range spring, upper and lower clip, and stem nut assembly. For proper ordering and field calibration, refer to the instructions outlined below.

### ORDERING INFORMATION

Range spring assemblies are ordered by the stem nut size and the color of the range spring required.

#### CHART 1

This chart outlines the various stem nut assemblies that are available. For actuators other than those manufactured by Conoflow, the upper stem thread must be known to determine the proper stem nut thread size.

#### CHART 2

Chart 2 outlines the color of the spring required for various stroke lengths and instrument spans. Referring to this chart, determine the instrument span and the stroke length of the actuator in service.

### CHART 1 STEM NUT IDENTIFICATION

STEM NUT ASS'Y NO.	THREAD	ACTUATOR	CYLINDER BORE O.D.
1	3/8"-24	GB50 1/2" STEM DIA.	3" (76 mm)
2	1/2"-20	GB50 3/4" STEM DIA.	2-1/4" (57.2 mm)
3	1/2"-30	GB51	4"(101.6 mm)
4	9/16"-18	GB52	6"(152.4 mm)
5	5/8"-18	GB53	8"(203.2 mm)
6	7/8"-14	GB54 GB55	10"(254.0 mm) 12-1/2"(317.5 mm)
7	NOT THREADED	--	--

### ORDERING

Example: Number of Stem Nut (GB52) = 4  
 3-15 PSI(21-103 kPa) = 12 PSI  
 Instrument Signal (82.7 kPa)  
 6"(152.4 mm) Stroke = yellow spring  
 Range Spring Assembly: GJ8004Y

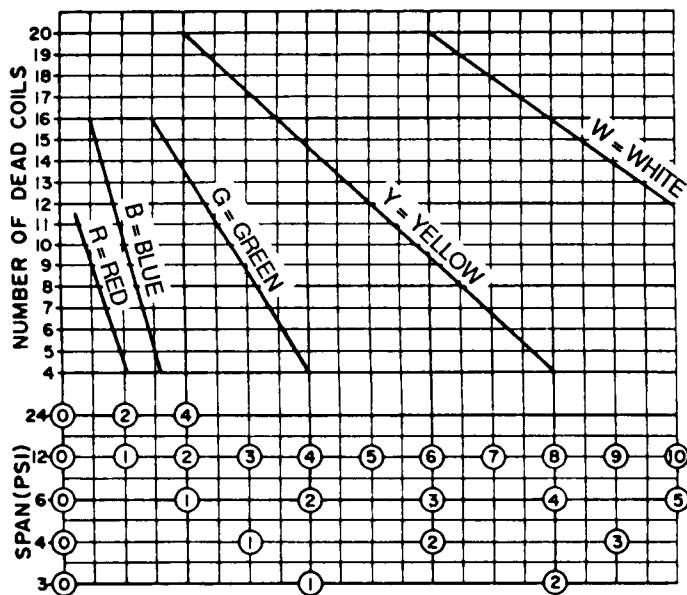
### SETTING

To properly set the range spring assembly, first determine the stroke length and instrument span. In the example above, a 6"(152.4 mm) stroke with a 12 PSI (82.7 kPa) span would utilize a yellow spring. Referring to Chart 2, it would then be determined that 9.5 inactive coils should correspond to a 6"(152.4mm) stroke. Taking the lower clip, spin it down from the top of the range spring 9.5 turns. Then spin the upper clip down to secure the inactive coils.

\*Also refer to pages 2 & 3 for inactive coil settings.

For proper setting of the spring rod height, refer to the appropriate positioner instruction manual.

### CHART 2 RANGE SPRING ADJUSTMENT CHART



NOTE: For travels greater than 10" (254 mm), consult the factory.

**STROKE: 1/4" to 1-15/16"**

No.	Stroke In.	Instrument Span/P.S.I.									
		Span 03	Spring Color	Span 04	Spring Color	Span 06	Spring Color	Span 12	Spring Color	Span 24	Spring Color
04	1/4	11		10		9-1/2		-----		-----	
05	5/16	8-1/4	Blue	8		8	Red	11-1/2		-----	
06	3/8	5-1/2		6	Blue	7-1/2		10-3/4		-----	
07	7/16	15		5		11-3/4		10		-----	
08	1/2	13-3/4		4		10-1/2		9-1/2	Red	-----	
09	9/16	12-1/2		15		9-1/2		9		-----	
10	5/8	11-1/4		14-1/4		8-1/4	Blue	8-1/2		-----	
11	11/16	10	Green	13-1/2		7		8		12-1/2	
12	3/4	8-3/4		12-1/2		5-1/2		7-1/4		12	
13	13/16	7-1/2		11-1/2		4-1/2		12-1/2		11-1/2	
14	7/8	6-1/4		10-1/2	Green	15		11-3/4		11	
15	15/16	5		9-1/2		14-1/2		11		10-1/2	
16	1	15-1/2		8-1/2		13-3/4		10-1/2		10	
17	1-1/16	15		7-1/2		13		9-3/4		9-1/2	Red
18	1-1/8	14-1/4		6-1/2		12-1/2		9-1/4	Blue	9	
19	1-3/16	14		5-1/2		12		8-3/4		8-1/2	
20	1-1/4	13-1/4		4-1/2		11-1/4		8-1/4		8	
21	1-5/16	12-1/4		15		10-3/4		7-1/2		7-1/2	
22	1-3/8	11		14-1/2		10-1/4	Green	7		7	
23	1-7/16	10-1/2	Yellow	14		9-1/2		6-1/4		6-1/2	
24	1-1/2	10		13-1/2		8-3/4		5-1/2		6	
25	1-9/16	9-1/4		13		8		15-3/4		12-1/2	
26	1-5/8	8-1/2		12-1/2	Yellow	7-1/2		15-1/2		12-1/4	
27	1-11/16	7-3/4		12		6-3/4		15-1/4		12	
28	1-3/4	7		11-1/2		6-1/4		15	Green	11-3/4	Blue
29	1-13/16	6-1/4		11		5-1/2		14-3/4		11-1/2	
30	1-7/8	5-1/2		10-1/2		5		14-1/2		11-1/4	
31	1-15/16	4-3/4		10		15-3/4	Yellow	14		11	

**STROKE: 2" to 3-15/16"**

No.	Stroke In.	Instrument Span/P.S.I.									
		Span 03	Spring Color	Span 04	Spring Color	Span 06	Spring Color	Span 12	Spring Color	Span 24	Spring Color
32	2	4		9-1/2		15-1/2		13-3/4		10-3/4	
33	2-1/16	15		9		15-1/4		13-1/2		10-1/2	
34	2-1/8	14-1/2		8-1/2		15		13		10-1/4	
35	2-3/16	14		8		14-1/2		12-3/4		10	
36	2-1/4	13-1/2		7-1/2		14		12-1/2		9-3/4	
37	2-5/16	13		7	Yellow	13-3/4		12		9-1/2	
38	2-3/8	12-1/2		6-1/2		13-1/2		11-3/4		9-1/4	
29	2-7/16	12		6		13-1/4		11-1/2		9	
40	2-1/2	11-1/2		5-1/2		13		11-1/4	Green	8-3/4	
41	2-9/16	11		5		12-1/2		11		8-1/2	
42	2-5/8	10-1/2		4-1/2		12		10-3/4		8-1/4	
43	2-11/16	10	White	4		11-1/2		10-1/2		8	Blue
44	2-3/4	9-1/2		13-3/4		11		10-1/4		7-3/4	
45	2-13/16	9		13-1/2		10-3/4		10		7-1/2	
46	2-7/8	8-1/2		13-1/4		10-1/2		9-1/2		7-1/4	
47	2-15/16	8		13		10-1/4	Yellow	9		7	
48	3	7-1/2		12-3/4		10		8-3/4		6-3/4	
49	3-1/16	7		12-1/2		9-3/4		18-1/4		6-1/2	
50	3-1/8	6-1/2		12-1/4		9-1/4		18		6-1/4	
51	3-3/16	6		12		9		18		6	
52	3-1/4	5-1/2		11-3/4		8-1/2		17-3/4		5-3/4	
53	3-5/16	5		11-1/2	White	8		17-1/2		5-1/2	
54	3-3/8	4-1/2		11-1/4		7-3/4		17-1/4		5-1/4	
55	3-7/16	4		11		7-1/4		17	Yellow	5	
56	3-1/2	-----		10-3/4		7		17		-----	
57	3-9/16	-----		10-1/2		6-3/4		16-3/4		-----	
58	3-5/8	-----		10-1/4		6-1/4		16-1/2		-----	
59	3-11/16	-----		10		6		16-1/2		-----	
60	3-3/4	-----		9-3/4		5-3/4		16-1/4		-----	
61	3-13/16	-----		9-1/2		5-1/4		16		-----	
62	3-7/8	-----		9-1/4		5		16		-----	
63	3-15/16	-----		9		4-1/2		15-3/4		-----	

NOTE: For Dimensional Conversion to Millimeters: Inch(es) x 25.4 = Millimeters (mm)

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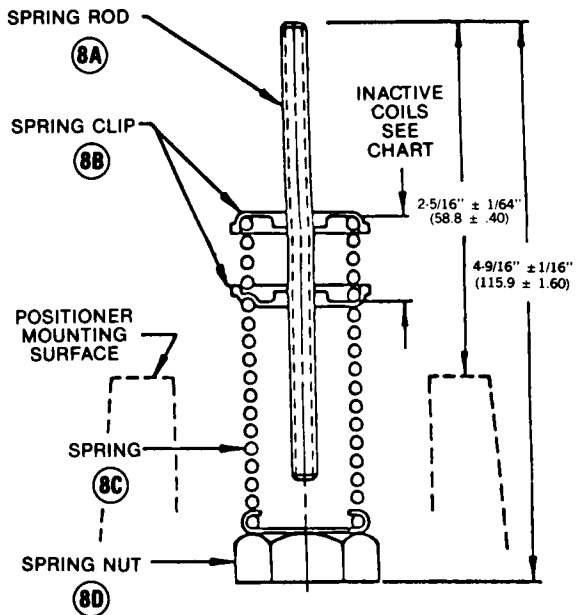
**STROKE: 4" to 5-15/16"**

No.	Stroke In.	Instrument Span/P.S.I.									
		Span 03	Spring Color	Span 04	Spring Color	Span 06	Spring Color	Span 12	Spring Color	Span 24	Spring Color
64	4	----		8-3/4		4		15-1/2		----	
65	4-1/16	----		8-1/2		15-1/4		15-1/4		----	
66	4-1/8	----		8-1/4	White	15		15		----	
67	4-3/16	----		8		14-3/4	15		15		----
68	4-1/4	----		7-1/2		14-1/2		14-3/4		----	
69	4-5/16	----		7		14-1/4		14-1/2		----	
70	4-3/8	----		6-1/2		14		14-1/2		----	
71	4-7/16	----		6		13-3/4		14-1/4		----	
72	4-1/2	----		5-1/2		13-1/2		14		----	
73	4-9/16	----		5		13-1/4		14		----	
74	4-5/8	----		4-1/2		13		13-1/2		----	
75	4-11/16	----				12-3/4		13-1/2		----	
76	4-3/4	----				12-1/2		13-1/4		----	
77	4-13/16	----				12-1/4	White	13-1/4	Yellow	----	
78	4-7/8	----				12		13		----	
79	4-15/16	----				11-3/4		13		----	
80	5	----				11-1/2		12-3/4		----	
81	5-1/16	----				11-1/4		12-1/2		----	
82	5-1/8	----				11		12-1/2		----	
83	5-3/16	----				10-3/4		12-1/4		----	
84	5-1/4	----				10-1/2		12		----	
85	5-5/16	----				10-1/4		12		----	
86	5-3/8	----				10		11-3/4		----	
87	5-7/16	----				9-3/4		11-1/2		----	
88	5-1/2	----				9-1/2		11-1/2		----	
89	5-9/16	----				9-1/4		11-1/4		----	
90	5-5/8	----				9		11		----	
91	5-11/16	----				8-3/4		11		----	
92	5-3/4	----				8-1/2		10-3/4		----	
93	5-13/16	----				8-1/4		10-1/2		----	
94	5-7/8	----				8		10-1/2		----	
95	5-15/16	----				7-3/4		10-1/4		----	

**STROKE: 6" to 10"**

No.	Stroke In.	Instrument Span/P.S.I.									
		Span 03	Spring Color	Span 04	Spring Color	Span 06	Spring Color	Span 12	Spring Color	Span 24	Spring Color
96	6	----		----		7-1/2		10		----	
97	6-1/16	----		----		7-1/4		9-3/4		----	
98	6-1/8	----		----		7		9-1/2		----	
99	6-3/16	----		----		6-3/4		9-1/2		----	
100	6-1/4	----		----		6-1/2		9-1/4		----	
101	6-5/16	----		----		6-1/4		9		----	
102	6-3/8	----		----		6	White	9		----	
103	6-7/16	----		----		5-3/4		8-3/4			----
104	6-1/2	----		----		5-1/2	8-1/2	Yellow		----	
105	6-9/16	----		----		5-1/4	8-1/4				----
106	6-5/8	----		----		5	8			----	
107	6-11/16	----		----		4-3/4	8			----	
108	6-3/4	----		----		4-1/2	7-3/4			----	
109	6-13/16	----		----		4-1/4	7-1/2			----	
110	6-7/8	----		----		4	7-1/2			----	
111	6-15/16	----		----			7-1/4			----	
112	7	----		----			7			----	
113	7-1/16	----		----			16-3/4			----	
114	7-1/8	----		----			16-3/4			----	
115	7-3/16	----		----			16-1/2			----	
116	7-1/4	----		----			16-1/2			----	
117	7-5/16	----		----			16-1/4			----	
118	7-3/8	----		----			16-1/4			----	
119	7-7/16	----		----			16			----	
120	7-1/2	----		----			16			----	
121	7-9/16	----		----			15-3/4	White		----	
122	7-5/8	----		----			15-3/4				----
123	7-11/16	----		----			15-1/2			----	
124	7-3/4	----		----			15-1/2			----	
125	7-13/16	----		----			15-1/4			----	
126	7-7/8	----		----			15-1/4			----	
127	7-15/16	----		----			15			----	
128	8	----		----			15			----	
144	9	----		----			13-1/4			----	
160	10	----		----			11-1/2			----	

A range spring assembly can be purchased as an assembly as noted on page 1 or as individual components per the parts list below.



ITEM NO.	DESCRIPTION	QTY. REQ'D.	PART NUMBER
8	Range Spring Assembly (To be ordered as complete assembly)	1	GJ800
8A(1)	Spring rod	1	6025399
		1	6025415
8B	Spring clips Upper	1	6026587
		1	6026595
8C	Range spring Red (1)	1	6026603
	Yellow	1	6026611
	White	1	6026629
	Blue	1	6026637
	Green	1	6026645
8D	Stem Nut Assembly New Style GB50	1	6025688
	Old Style GB50	1	6025621
	GB51	1	6025639
	GB52	1	6025647
	GB53	1	6025738
	GB54	1	6025746
	Blank nut	1	6025654

NOTE: 1. When a red range spring is used, the 6025415 spring rod is required.



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