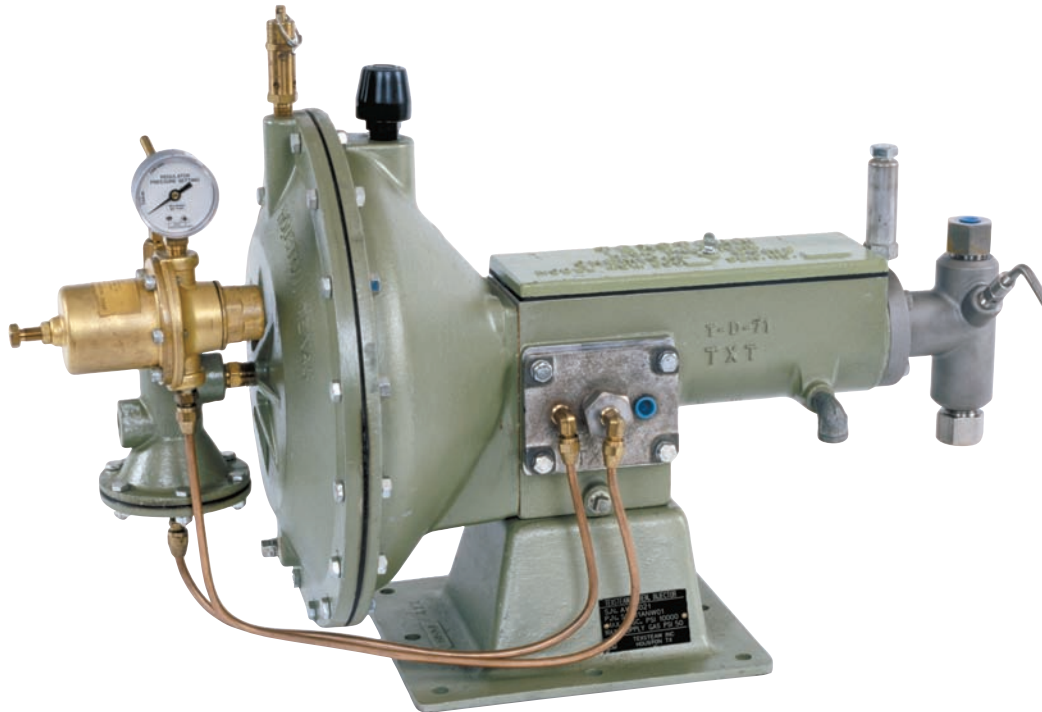


series 5000

GAS/PNEUMATIC DRIVEN INJECTION PUMP



DESCRIPTION

Texsteam Series 5000 chemical injectors are positive displacement units powered by integral gas/air motor. These pumps fill the requirements of a broad range of applications because of their ability to achieve high discharge pressures (up to 12,000 psi) and wide volume ranges. A horizontal plunger and vertical check valve arrangement assure high operating efficiency. The standard pump head has a Ductile Iron body and stainless steel trim. Stainless steel heads are available for high corrosive applications. A built-in priming valve facilitates pump head priming, enables the operator to easily check pump operation, and offers a sample-catching device. The pump frame and body castings are high-strength aluminum. The operating mechanism strokes in oil and is gasket sealed to protect against dust and other atmospheric influences. A standard equipment safety valve offers protection against accidental overpressure of the main diaphragm. The adjustable packing is equipped with a lantern ring and a grease jack (except on 1¹/₄" head) for lubricating the plunger and packing to insure long life.

APPLICATIONS

- Introducing detergents in air-gas drilling operations
- Blending foaming agents in water laden gas wells
- High pressure addition of fluid compounds in blending and chemical processing.
- Introduction of de-salting agents, de-emulsifiers, inhibitors and flocculants in crude oil and gas streams
- High and low pressure lubrication systems
- Methanol and alcohol injection in gas systems to prevent freezing
- General high pressure injection applications
- Fluid blending of extreme pressures within varied, controlled processes
- Hydrostatic testing
- Glycol circulation
- Water treatment

PERFORMANCE DATA

Model #	Plunger Size	Operating Ratio Gas*/Fluid	Maximum Pressure Pressure (PSIG)		Maximum Volume			
			Hard Packing	Soft Packing	Intermittent		Continuous	
					GPH	GPD	GPH	GPD
5002	1/4"	1000/1	10,000	3000	0.83	20	0.67	16
5003	3/8"	497/1	10,000	3000	2.33	56	1.79	43
5005	1/2"	264/1	10,000	3000	4.38	105	3.54	85
5004	3/4"	115/1	5,000	3000	7.42	190	6.67	160
5006	1"	66/1	N/A	3000	16.66	400	13.33	320
5007	1-1/4"	42/1	N/A	2000	26.04	625	20.83	500

Stroke Length - Long: 1 1/4" ; Short: 1/2"
 Hard Packing Available in Buna or Viton only,
 Depending on model

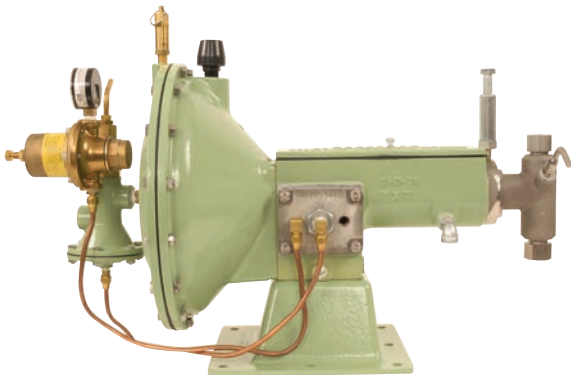
*Maximum Power Gas Pressure: 50 PSI
 Specify a TB-0040 & TA-0129 inlet regulator and gauge
 when the inlet air/gas pressure is over 50 psig.

MODELS AVAILABLE

All models are available trimmed for sour gas as an option.

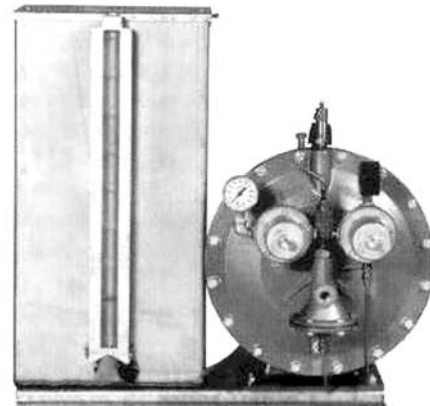
Basic Power Unit

is available with six different plungers.
 Shipping Weight: 63 lbs.



Pump with 10 Gallon Stainless Steel Reservoir

Shipping Weight: 96 lbs.



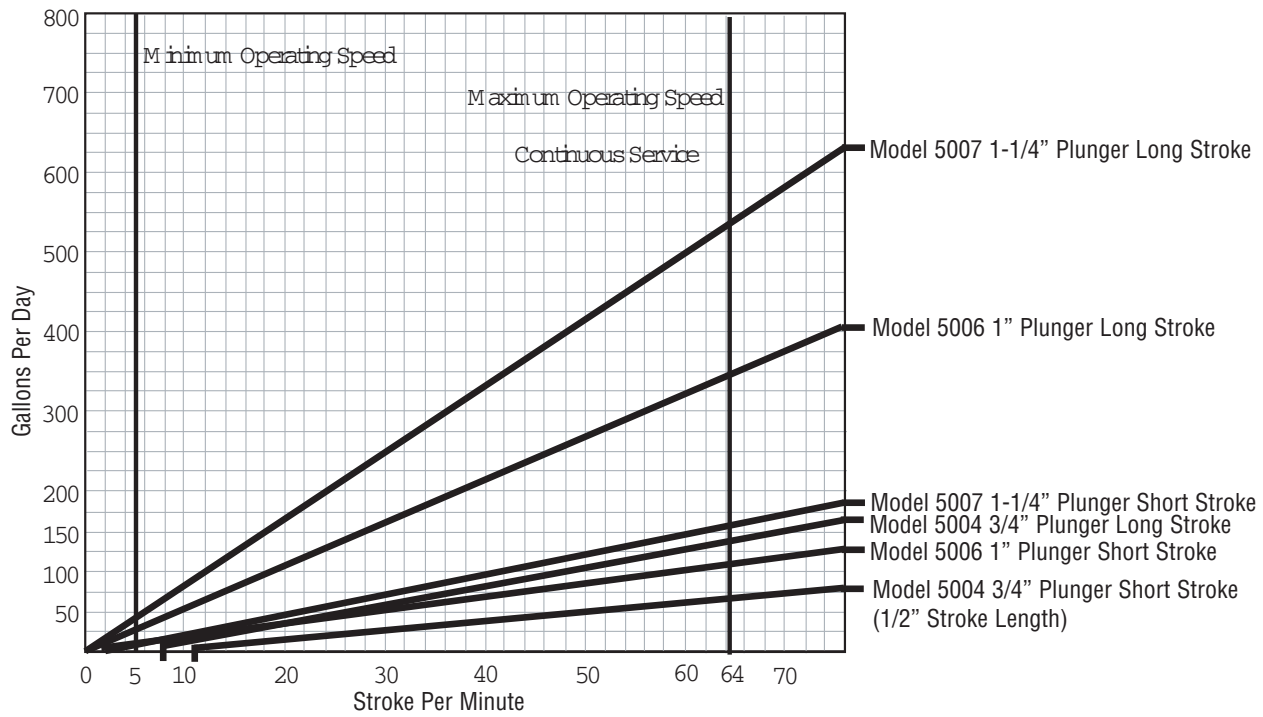
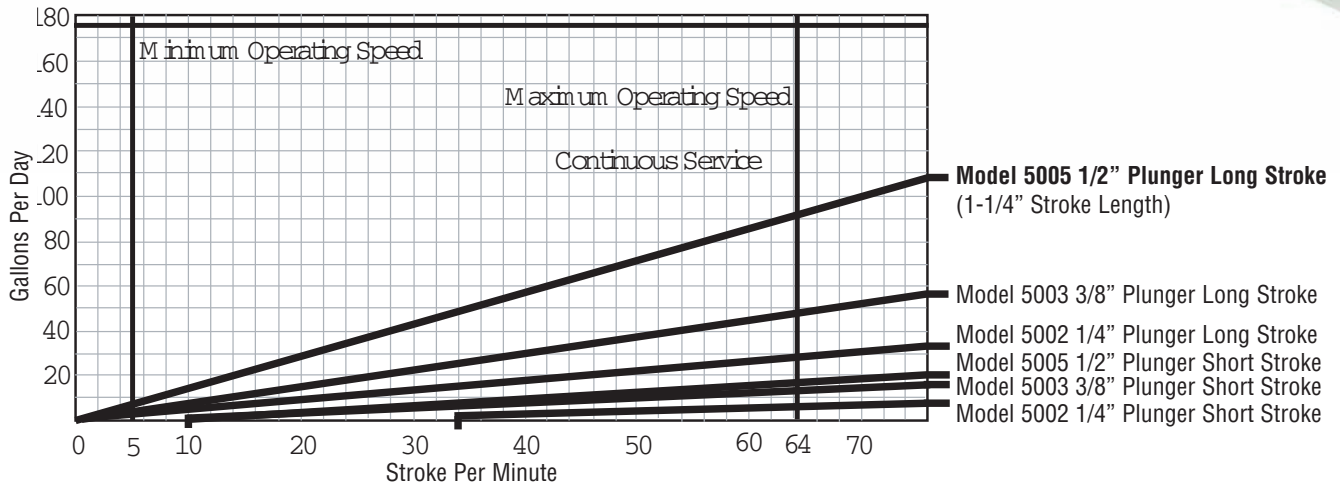
To add a 5 gallon tank, gauge, and base to the Basic Power Unit, order the following Parts:

1-TA-0664	5 gal. tank	1-TA-0141	Base Screw
1-TB-0871	Gauge	4-TA-0143	Bolt
1-TA-3189	Suction Tubing	5-TA-0144	Nut
1-TB-0204	Base	10-TA-0300	Washer
1-TA-3116	ELL	5-TA-0425	Lockwasher

Drum Gauges Available:

TB-1128 Carbon Steel
 TB-1129 304SS

VOLUME & PUMP



GAS CONSUMPTION CHART

(Standard Cubic Feet of Gas Required to Pump One Gallon)
 For inlet regulator sizing, double the requirement indicated

Injection Press in PSI	50	100	150	200	250	300	400	500	600	700	800	900	1000	1500	2000	3000	3500	4000	5000	6000	7000	8000	9000	10000
1/4" Piston Long Stroke 5002	280	281.2	282.4	283.6	284.8	286	289	292	294.6	297.2	300	303	306	318	330	356	368	380	404	428	452	476	500	522
1/4" Piston Short Stroke	700	703	706	707	709	712	720	724	731	737	741	748	756	779	802	854	872	897	937	984	1017	1057	1090	1122
3/8" Piston Long Stroke 5003	140	140.6	141.2	141.8	142.4	143	144.5	146	147.3	148.8	150	151.5	153	159	165	178	184	190	202	214	226	238	250	262
3/8" Piston Short Stroke	355	355.6	356.2	356.8	357.4	358	359.5	361	362.3	363.6	365	366.5	368	374	380	393	399	405	417	429	441	453	465	477
1/2" Piston Long Stroke 5005	80.6	81.2	81.8	82.4	83	83.6	84.8	86	87.2	88.4	89.6	90.8	92	98	104	116	122	128	140	152	164	176	188	200
1/2" Piston Short Stroke	200.6	201.1	201.8	202.4	203	203.6	204.8	206	207	208.4	209.6	210.8	212	218	224	236	242	248	260	272	284	296	308	320
3/4" Piston Long Stroke 5004	36	37	38	39	40	41	43	45	47.3	49.4	51.3	52.8	55.6	66	76.2	97	107	114	121					
3/4" Piston Short Stroke	89	91	92	94	95	96	99	101	105	109	111	113	117	132	145	172	183	190	191					
1" Piston Long Stroke 5006	20.6	21.2	21.8	22.4	23	23.6	24.8	26	27.2	28.4	29.6	30.8	32	38	44	56	62							
1" Piston Short Stroke	50.6	51.2	51.8	52.4	53	53.6	54.8	56	57.2	58.4	59.6	60.8	62	68	74	86								
1 1/4" Piston Long Stroke 5007	13.6	14.2	14.8	15.4	16	16.6	17.8	19	20.2	21.4	22.6	23.8	25	31	37	49								
1 1/4" Piston Short Stroke	32.6	33.2	33.8	34.4	35	35.6	36.8	38	39.2	40.4	41.6	42.8	44	50	56									

INSTALLATION AND OPERATING INSTRUCTIONS

1. After removing pump from carton, inspect for possible damage in transit from factory. If the pump has been damaged, file claim with the carrier.
2. Bolt holes are provided for mounting. See drawing for dimensions on page 5.
3. Connect the suction line to pump head.
 - a. When a reservoir is furnished with the pump, the suction line is already connected. Fill the reservoir and open (all the way) the TB-0871 sight feed shutoff assembly. It is important to have the TB-0871 valve open all the way when the pump is in operation because the TB-0871 valve seals-off in the open position and prevents air from entering the suction line through the valve. A dual strainer is furnished as part of this unit.
 - b. When a power unit model (less tanks) is purchased, a strainer should be piped into the suction line to prevent sand, rust or other particles, which score the plunger or possibly foul the check valves, from entering the pump head. Texsteam manufactures the TB-0021 sight feed assembly which can be used with the 3/8" and 1/2" plungers only. A TA-0075 street ell and TA-0674 nipple is required to pipe the TB-0021 sight feed into the bottom bushing of the pump head. The TB-0021 should be installed as shown on page 6. The inlet connections on the pump head and the sight feed are 1/4" FPT.
4. Connect the discharge line. The top connection on the pump head is the fluid discharge and has a female 1/4" pipe thread connection. A line check should be installed in the discharge line as close to the point of injection as possible. For pumps with ifs" plunger, Texsteam offers a 1/4" line check either in brass (TA-0676) or stainless steel (TA-0675) which will withstand working pressures of 3000 and 6000 psi respectively. For other plunger sizes, 1/2", 1" and 1-1/4", Texsteam offers the TB-0283 stainless steel line check which withstands pressures up to 6000 psi. When installing these check valves note the arrow on the body which indicates the direction of flow.
5. Connect the power gas line.
 - a. First blow power gas line clean to remove any loose rust particles, slag, sand, etc.
 - b. Consider the pressure requirements of the pump. If the gas supply exceeds 50 psi (consider erratic pressure), the supply should be equipped with a regulator to reduce the gas pressure to 50 psi. If the main air or gas supply to the pump is over 50 psig, it must be reduced to 50 pounds. This can be done by installing another TB-0040 regulator and TA-0129 gauge (available as optional components for field installation). The maximum allowable inlet pressure to a TB-0040 regulator for installing in the main gas supply is 1500 psig.
6. Lubrication (30 wt. non-detergent oil - 3 quarts)
 - a. Remove the cover plate TB-0004 and fill the chamber next to diaphragm with oil. Only on pumps with 1-1/4" plungers are both the chambers filled with oil. The model 5007 requires oil in the packing gland chamber in order to lubricate the plunger.
 - b. Insert stick lubricant into the TA-0558 grease jack. Texsteam has available and recommends P/N TA-3179 for most fluids. No lubrication is required if the pump is equipped with teflon packing and chrome-plated plunger. In this case the connection for the grease jack should be plugged with a 1/8" pipe plug.
7. Adjust for desired volume by considering pump speed (see charts) and position of TA-0035 pin. Different volumes can be achieved by short and long stroke setting (see charts). The pump is assembled with TA-0035 plunger travel adjusting pin TA-0035 inserted in the hole of the plunger nearest the plunger packing gland nut. This is the position of longest stroke. To shorten the stroke, place the pin in the other hole. (See Page 6.)
8. Start the pump by slowly opening the TA-0022 inlet valve. Prime the pump head by opening the TA-0123 priming valve. After the pump discharges fluid without bubbles, close the priming valve for normal operation. At this point make a visual check of the plunger drip and using a flat blade screwdriver slowly tighten the gland nut to prevent excess drippage and waste of chemicals. Do not over-tighten plunger packing. It may be necessary to readjust the packing the next day. A slight leak during the break-in period is beneficial. Sufficient time should be allowed to let the packing 'seat-in.' **DO NOT ADJUST PACKING UNDER PRESSURE.** If low volumes are being pumped, the pump head the fluid discharge line and all other fittings up to the line check should be thoroughly purged of all air bubbles.

CAUTION

The TB-0040 regulator (Item 2, Pg. 6) mounted on the pump as a standard component **DOES NOT REDUCE THE MAIN AIR OR GAS SUPPLY PRESSURE** down to 50 psig, which is the maximum allowable for operating the Series 5000 pump. It is factory-set at 12 psi to prevent over-pressuring the TB-0037 master valve (Item 6, page 6).

If the main air or gas supply to the pump is over 50 psig, it must be reduced to 50 lbs. This can be done by installing another TB-0040 regulator and TA-0129 gauge (available as optional components for field installation) on the inlet gas line to the pump. The maximum allowable inlet pressure to a TB-0040 regulator for installing in the main gas supply is 1500 psig.

MAINTENANCE INSTRUCTIONS FOR INSPECTION OR REPLACEMENT OF POWER EQUIPMENT

Inspection of TB-0040 Pressure Regulator

Loosen TA-0402 lock nut, hack out TA-0217 regulator screw, remove the five TA-0223 body screws and lift off TA-3110 bonnet. Lift out and inspect TA-3133 adjusting spring disc and TA-2111 adjusting spring. Unscrew TA-0220 lock nut and lift out TA-3135 adjusting spring plate, TA-0211 diaphragm, TA-0210 body gasket and TA-0213 diaphragm nut gasket. To inspect other parts, unscrew TA-0209 cap, lift out TA-0212 cap gasket. At this point TA-0222 seat block pin must be removed with punch. When pin is removed, TA-0214 valve seat assembly (reversible) and TA-0219 orifice screw can be removed.

Now the TA-0208 valve seat block yoke can be lifted out through other side of TC-0029 body. Check TA-0519 inlet filter screen for obstructions. Reset regulator at 12 psi.

TB-37 Master Valve Assembly

Remove the six TA-0163 cap screws, remove TA-0001 housing cap and inspect TA-1329 diaphragms. After removing the diaphragms, the TA-0197 stem may be removed. To inspect TA-0202 valve spring, TA-0196 valve disc and TA-0201 lower valve seat, unscrew TA-0200 upper valve seat.

Inspecting TB-9 Pilot Valve Assembly

Unscrew TA-0906 disc retainer, lift out TA-0077 valve spring, TA-0579 washer and TA-4668 valve disc. Close inspection of the valve disc sealing surface and drive socket slot is necessary. Very close inspection of the drive pin should be made, if ends are worn, the valve disc should be

replaced. If TB-0001 Body and TA-4668 valve disc are badly scored, replace. Realignment of the valve disc is important. Refer to positioning diagram on page 7.

Replacement of TB-0010 Diaphragms, TA-0025 Spring and Related Parts

Remove TB-0040 regulator, TA-0022 valve, and TB-0037 master valve. Remove 16 TA-0142 bolts. The cover is under tension. Care should be exercised when removing the last TA-0142 bolts. Two C-clamps or 5/16" x 2 (slightly longer than TA-0142 bolts) would be very helpful for this work.

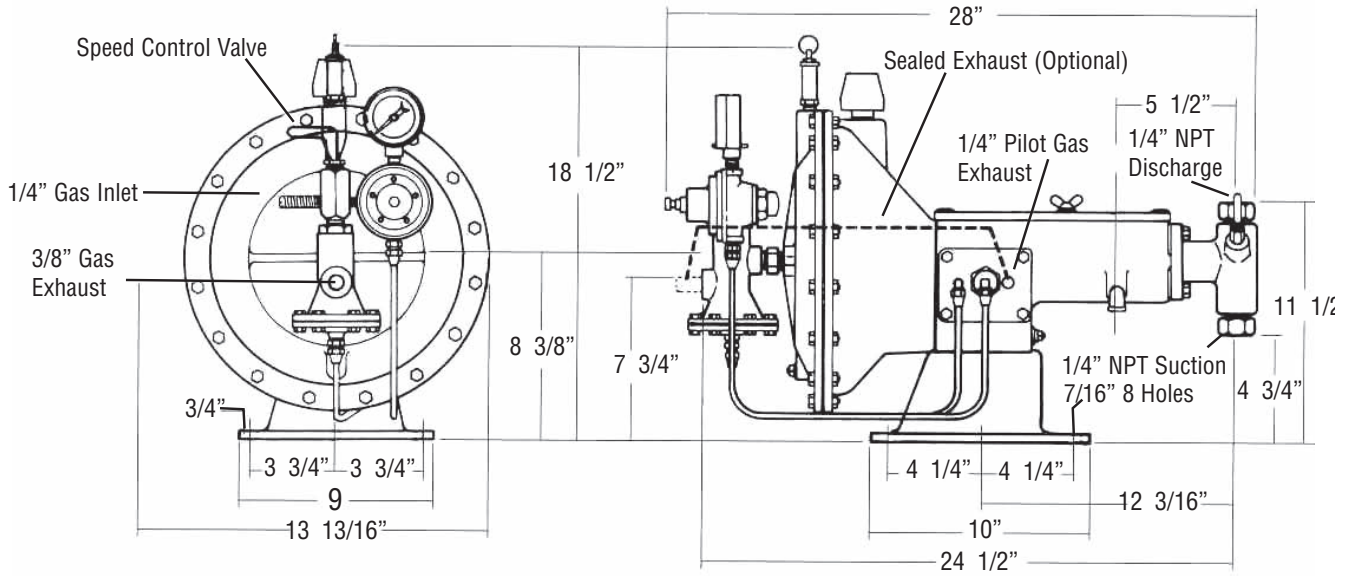
Troubleshooting

1. If pump stops with plunger in extreme discharge position and gas or air is being discharged from the TA-0131 safety valve, or a constant discharge of gas or air is discharged when the safety valve lift ring is pulled, the TA-1329 diaphragm in the TB-0037 master valve is burst.
2. If pump does not move forward and a constant discharge of gas or air is observed in the lubricating oil chamber then the TB-0010 main diaphragms are ruptured.
3. Pump is operating but not pumping fluid.
 - a. Open bleeder valve to break air lock.
 - b. Check if sight feed shutoff assembly TA-0101 is screwed in "out" position.
 - c. Check top and bottom halls and seats for leaking.

(REFER TO PARTS LIST ON PAGES 6 AND 7)

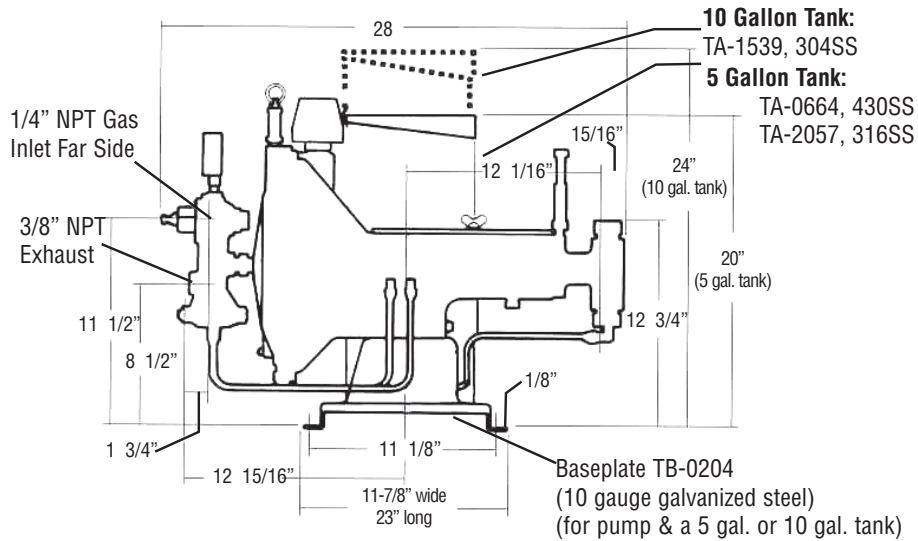
DIMENSIONS

Do Not Use For Construction. Request Certified Dimension Drawing From Factory If Needed.

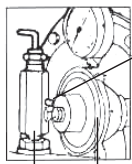


CAUTION

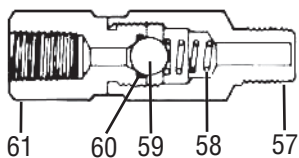
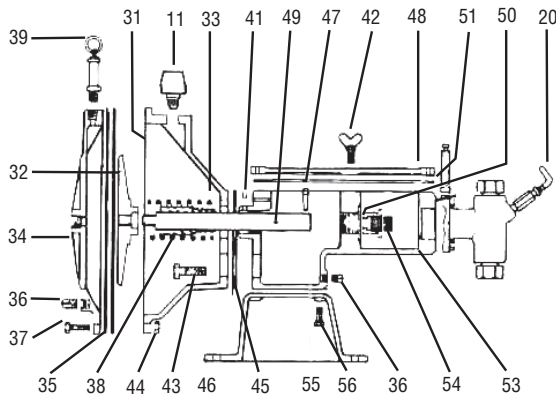
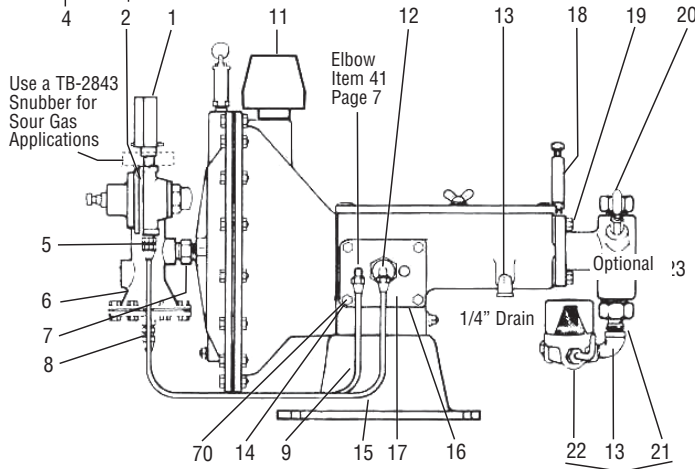
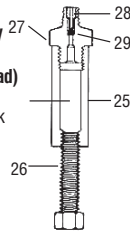
Fill with three quarts S.A.R. 30W non-detergent lubricating oil before starting.



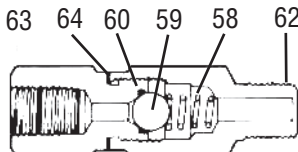
GENERAL ASSEMBLY



**Grease Jack Assembly
TA-0558**
(Not used on the 1-1/4" head)
** Lube Stick
TA-3179-1 One Stick
TA-3179-2 Carton
of 72 Sticks

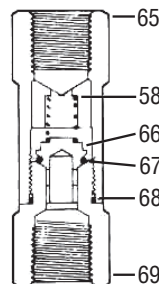


1/4" Brass Line Check
(TA-0676)
3000 PSIG
Maximum Pressure



1/4" Stainless Steel
Line Check (303SS)
(TA-0675)
6000 PSIG
Maximum Pressure

1/2" Stainless Steel (303SS)
Line Check (TB-0283)
6000 PSIG Maximum Pressure

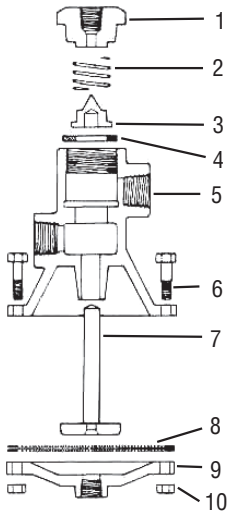


PARTS LIST

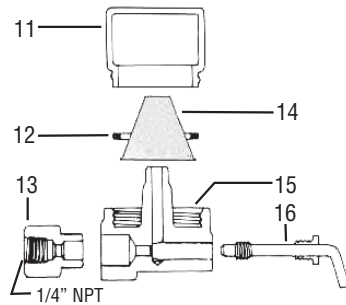
25	TA-0559	Jack Screw Body
26	P02-050125-0200	HHCS
27	TA-0561	Jack Screw Base
28	TA-0562	Jack Screw Retainer
29	TA-0564	Ball
Item	Part No.	Name
1	TA-1295	Pressure Gauge 1-12 psi
2	TB-0040	Regulator
2A	TA-2845	Sour Regulator
3	TA-4692	Nipple
4	TA-0022	Inlet Gas Valve Assembly
4A	TA-2979	Sour
5	TA-0135	Half Union
6	TB-0037	Master Valve
6A	TB-0770	Sour
7	TA-0009	Nipple
8	TA-0137	Half Union
9	TA-1494	Line Assy; Pilot to Master
9A	TB-1256	Sour
11	TA-2599	Air Filter
12	TA-0132	Elbow
12A	TA-3244	Sour
13	TA-0075	Elbow
14	P01-031100-3900	HHCS
15	TA-1493	Line Assy; Regulator to Pilot
15A	TA-1257	Sour
16	TA-0058	Gasket
17	TB-0009	Pilot Valve Assembly
17A	TB-0771	Sour
18	TA-0558	Grease Jack
19	P01-037125-4400	HHCS
20	TA-0123	Priming Valve
21	TA-0674	Nipple (optional)
22	TB-0021	Strainer Sight Feed Assembly (Optional)
23		Fluid End Assembly
31	TD-0434	Housing
32	TB-0002	Diaphragm Disc
33**	TA-0025	Spring
34	TC-0001	Cover
35**	TB-0010	Main Diaphragm
36	P61-025000-8000	Drain Plug
37	P01-031125-3900	Cover - Housing Bolts
38	TA-7127	Bushing
39	TA-0131	Safety Valve
39A	TA-2862	Sour
41	P20-025025-0200	Set Screw
42	P86-025100-0200	Yoke Cover Bolt
43	P01-037125-3900	Bolt
44	P25-031000-3900	Nut
45	TB-0011	Gasket
46	TC-0004	Base
47	TA-0035	Adj Pin
48	TB-0004	Inspection Cover
49	TA-0020	Pin
50	TA-5906	Stuffing Box
51	TB-0036	Gasket
53	TD-0001	Plunger Housing
54**	TA-3230	O-Ring
55	TB-1752	Thrust Rod
56	P01-031100-3900	Screw
57	TA-0677	Outlet Body
58**	TA-0391	Spring
59**	TA-0054	Ball
60**	TA-0479	O-Ring Buna
60**	TA-2093	O-Ring Viton
61	TA-0678	Inlet Body
62	TA-1296	Outlet Body
63	TA-1297	Inlet Body
64	TA-1574	Washer
65	TB-0271	Body
66	TA-1879	Valve Disc
67**	TA-0612	O-Ring-Buna
67**	TA-2184	O-Ring Viton
68**	TA-1959	O-Ring-Buna
68**	TA-3979	O-Ring Viton
69	TA-1880	Bushing
70	P52-031000-3900	Lock Washer

*Furnished on all plungers except 1-1/4" Model 5007
**Recommended spare parts

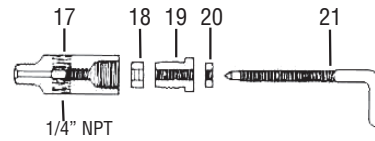
PARTS LIST



Master Valve Assembly
(TB-0037-STD.)
(TB-0770-SOUR GAS)

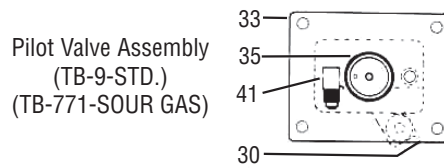
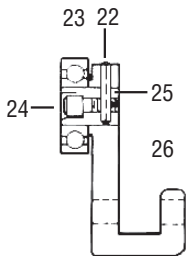


Sight Feed Assembly
(TB-0021)
(Optional)

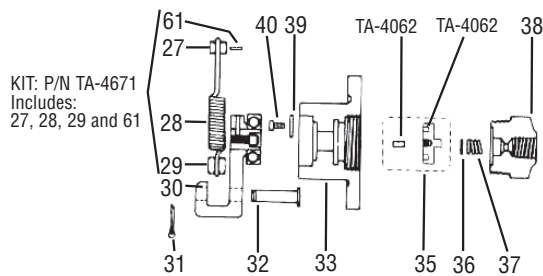


Inlet Valve Assembly
(TA-0022-STD.)
(TA-2979-SOUR GAS)
(303SS)

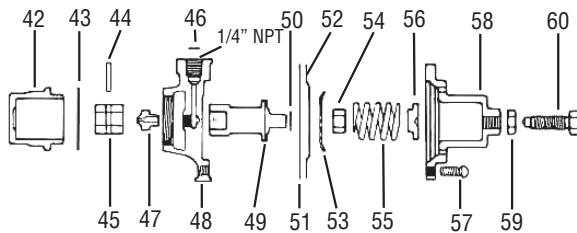
Flipper Arm Assembly
(TB-1756)
Item 30



Pilot Valve Assembly
(TB-9-STD.)
(TB-771-SOUR GAS)



Pressure Regulator Assembly
(TB-40-STD.) 1500 PSIG max. inlet pressure
(TA-2845 SOUR GAS Configuration of TB-40 and TA-2845 is not identical)
250 PSIG max. inlet pressure



PARTS LIST

ITEM	PART NO.	NAME
1**	TA-0200	Master Valve Upper Seat
2**	TA-0202	Master Valve Spring
3**	TA-0196	Master Valve Disc
4**	TA-0201	Master Valve Lower Seat
5	TC-0003	Master Valve Housing
6	P01-025087-0200	Bolt
7	TA-0197	Master Valve Stem Assembly
8**	TA-1329	Master Valve Diaphragm
9	TA-0001	Master Valve Housing Cap
10	P25-025000-0200	Nut
NS	TA-7070	Plug
NS	TA-6502	O-Ring
11**	TA-0098	Sight Feed Bowl
12**	TA-0104	Sight Feed Bowl Gasket
13	TA-0866	Sight Feed Inlet Bushing
14	TA-0206	Sight Feed Strainer
15	TB-0039	Sight Feed Body
16	TA-0101	Sight Feed Shutoff Assembly
17	TA-0010	Inlet Valve Body
17A	TA-2976	Inlet Valve Body (Sour)
18**	TA-0023	Inlet Valve Packing
19	TA-0011	Inlet Valve Gland Nut
19A	TA-2977	Inlet Valve Gland Nut (Sour)
20	P28-031000-2900	Nut
20A	P26-031000-3900	Nut (Sour)
21	TA-0013	Inlet Valve Stem
21A	TA-2975	Inlet Valve Stem (Sour)
22	TA-0067	Lock Pin
23	TA-0457	Bearing
24	P04-N10050-2700	HSCS
25	TA-0815	Flipper Bearing Pin
26	TA-0814	Flipper Arm
27**	TA-4601	Flipper Spring Bushing
28**	TA-4600	Flipper Spring
29**	TA-0772	Spring Bushing
30	TA-0065	Flipper Arm Assembly
31	TA-0168	Cotter Pin
32	TA-0170	Clevis Pin
33	TB-0441	Switching Valve Body
35**	TA-4668	Pilot Valve Repair Kit
36**	TA-0579	Washer
37**	TA-0077	Spring
38	TA-0906	Disc Retainer Nut
39	P53-025000-0200	Washer
40	P01-025050-0200	Cap Screw
41	TA-0132	Regulator Elbow
42	TA-0209	Regulator Cap
43	TA-0212	Regulator Cap Gasket
44	TA-0222	Regulator Seat Block Pin
45**	TA-0214	Regulator Valve Seat Assembly
46	TA-0519	Filter Screen
47	TA-0219	Regulator Screw
48	TC-0029	Regulator Body
49	TA-0208	Valve Seat Block Yoke
50	TA-0213	Regulator Nut Gasket
51**	TA-0210	Regulator Gasket
52**	TA-0211	Regulator Diaphragm
53	TA-3135	Spring Plate
54	P26-037000-2900	Lock Nut
55	TA-3111	Spring
56	TA-3133	Spring Disc
57	P03-025062-3900	Body Screw
58	TA-3110	Regulator Bonnet
59	P28-037000-2900	Lock Nut
60	TA-0217	Regulator Adjusting Screw
61	TA-0020	Pin

** Recommended Spare Parts

OILLESS PARTS LIST

ITEM	PART NO.	NAME
1**	TA-0200	Master Valve Upper Seat
2**	TA-0202	Master Valve Spring
3**	TA-0196	Master Valve Disc
4**	TA-0201	Master Valve Lower Seat
5	TC-0003	Master Valve Housing
6	P01-025087-0200	Bolt
7	TA-0197	Master Valve Stem Assembly
8**	TA-1329	Master Valve Diaphragm
9	TA-0001	Master Valve Housing Cap
10	P25-025000-0200	Nut
NS	TA-7070	Plug
NS	TA-6502	O-Ring
11**	TA-0098	Sight Feed Bowl
12**	TA-0104	Sight Feed Bowl Gasket
13	TA-0866	Sight Feed Inlet Bushing
14	TA-0206	Sight Feed Strainer
15	TB-0039	Sight Feed Body
16	TA-0101	Sight Feed Shutoff Assembly
17	TA-0010	Inlet Valve Body
17A	TA-2976	Inlet Valve Body (Sour)
18**	TA-0023	Inlet Valve Packing
19	TA-0011	Inlet Valve Gland Nut
19A	TA-2977	Inlet Valve Gland Nut (Sour)
20	P28-031000-2900	Nut
20A	P26-031000-3900	Nut (Sour)
21	TA-1329	Inlet Valve Stem
21A	TA-2975	Inlet Valve Stem (Sour)
23	TA-0457	Bearing
24	TA-6406	Retaining Ring
26	TA-7140	Flipper Arm
27**	TA-7134	Top Flip Spr Adap; 5000 OL
28**	TA-1820	Spring
29**	TA-6563	Adapter Flipper Arm Spring
30	TA-1756	5000 OL Flipper Arm Assembly
33	TB-0441	Switching Valve Body
35**	TA-4668	Pilot Valve Repair Kit
36**	TA-0579	Washer
37**	TA-0077	Spring
38	TA-0906	Disc Retainer Nut
39	TA-0167	Washer
40	P01-025050-0200	Cap Screw
41	TA-0132	Regulator Elbow
42	TA-0209	Regulator Cap
43	TA-0212	Regulator Cap Gasket
44	TA-0222	Regulator Seat Block Pin
45**	TA-0214	Regulator Valve Seat Assembly
46	TA-0519	Filter Screen
47	TA-0219	Regulator Screw
48	TC-0029	Regulator Body
49	TA-0208	Valve Seat Block Yoke
50	TA-0213	Regulator Nut Gasket
51**	TA-0210	Regulator Gasket
52**	TA-0211	Regulator Diaphragm
53	TA-3125	Spring Plate
54	P26-037000-2900	Lock Nut
55	TA-3111	Spring
56	TA-3133	Spring Disc
57	P03-025062-0200	Body Screw
58	TA-3110	Regulator Bonnet
59	P28-037000-2900	Lock Nut
60	TA-0217	Regulator Adjusting Screw
61	TA-0020	Pin

** Recommended Spare Parts

5000 MICROSWITCH VALVE INSTALLATION HIGH SPEED VERSION



TA 7107 High Speed 5000 Microswitch Kit

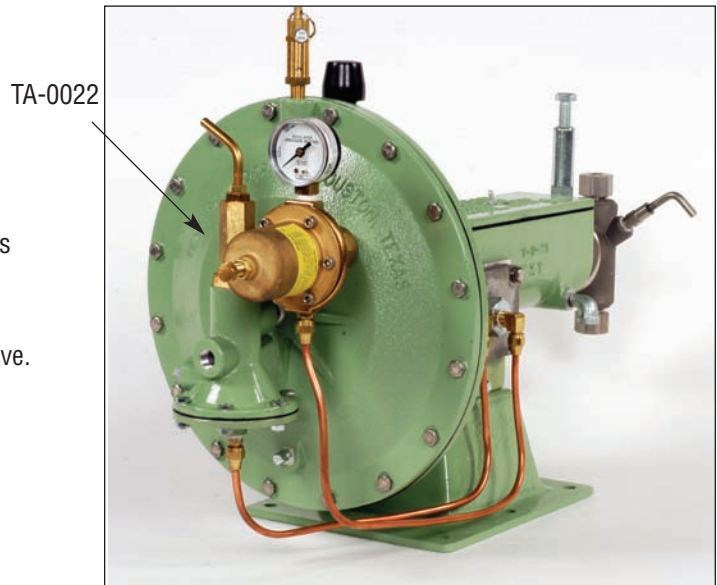
Kit Parts List

Item Number	P/N	Description	QTY. Required
1	P01-031050-0200	HHCS	4
2	P01-025050-0200	HHCS	2
3	P52-031000-0200	Spring Lockwasher	4
4**	TA-7091	Microswitch	1
5	TA-7088	MS Mounting Plate	1
6	TA-7103	Thrust Collar Assembly	1
7**	TA-7127	Guide Bushing	1
8	TA-7095	Reducer Bushing	2
9	TB-1752	Thrust Rod	1
10	TB-1754	Thrust Rod Kit	

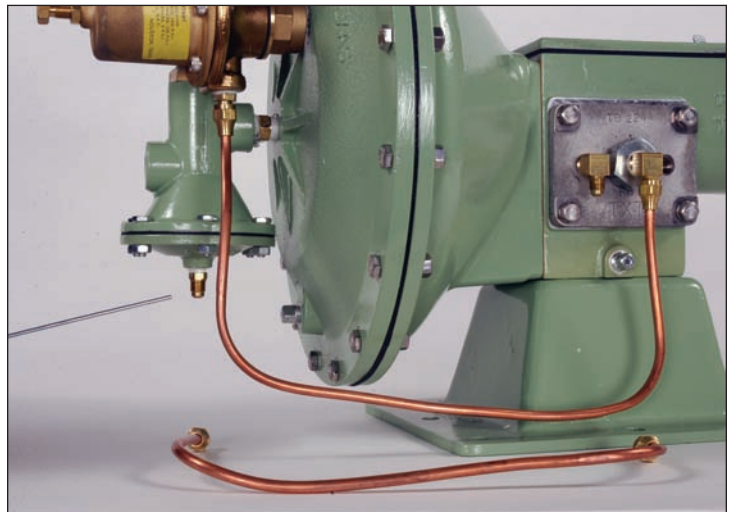
** Recommended Spare Part

INSTALLATION

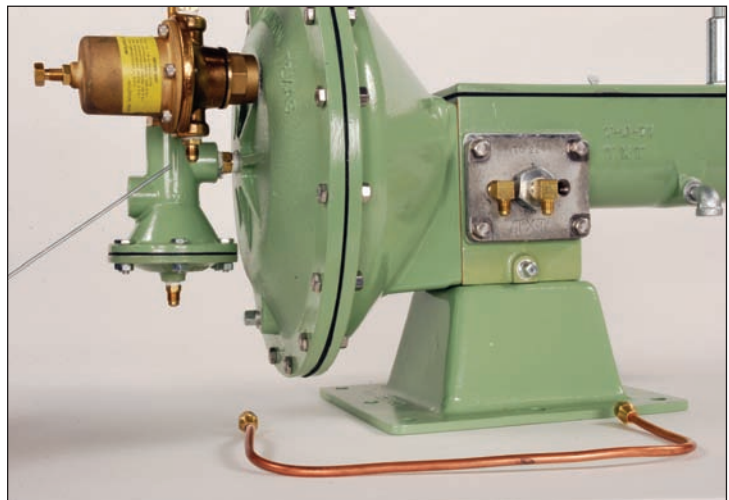
1. If pump is installed in the field, shutoff gas flow to the pump.
2. Disconnect the gas supply pipe from the inlet gas valve assembly, TA-0022.
3. Loosen and remove the line assembly, TA-1494, copper line from the pilot valve to the master valve.



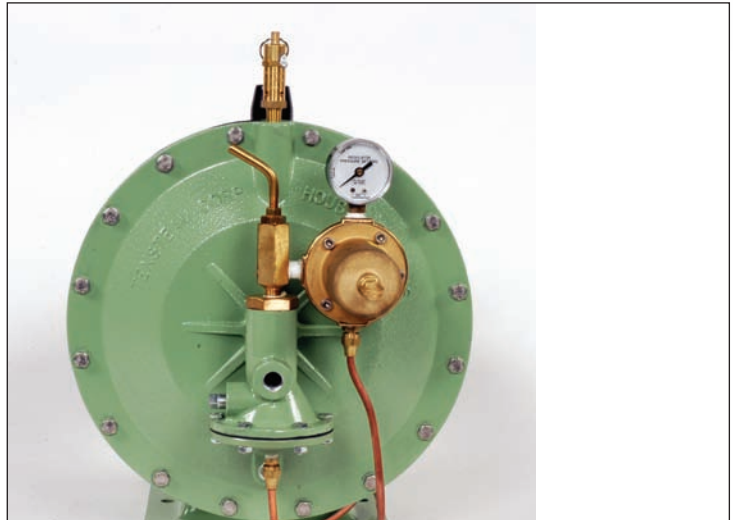
4. Loosen and remove the line assembly, TA-1493, copper line from the pilot valve to the pressure regulator.



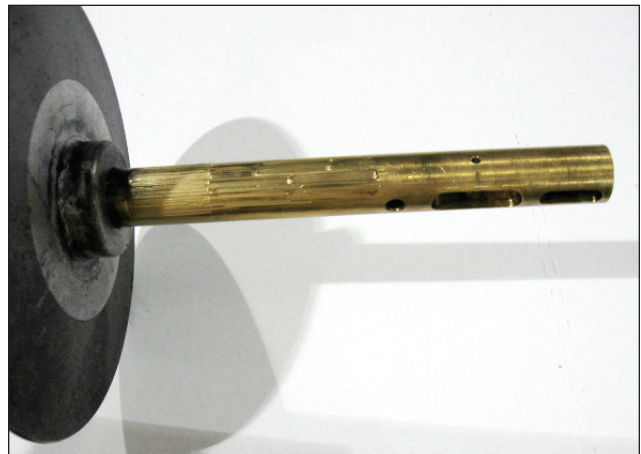
5. Remove the TB-0004 cover.
6. Drain the oil from the pump.
7. Remove the four P01-031050-3900 machine screws and four P52-031000-3900 lock washers and remove the pilot valve assembly, TB-0009, from the pump housing. Inspect and replace TA-0058 gasket if necessary.



8. Remove adjusting pin, TA-0035. If this pin is brass, replace it with the SS version of the pin.
9. Remove TC-0001 diaphragm cover and both TB-0010 diaphragms.
10. Pull Thrust Plate TB 0002 and Thrust Rod (TB-0003 or TB-1752) out of pump. Inspect thrust rod for wear. **If brass thrust rod, TB-0003, is installed, it must be replaced with TB1752!**



11. Clean TA-0025 spring removing the oil and grease. Inspect spring for wear and cracks. Replace spring if necessary. Set spring aside.
12. Remove TA-0146 set screw and TA-0076 bushing.



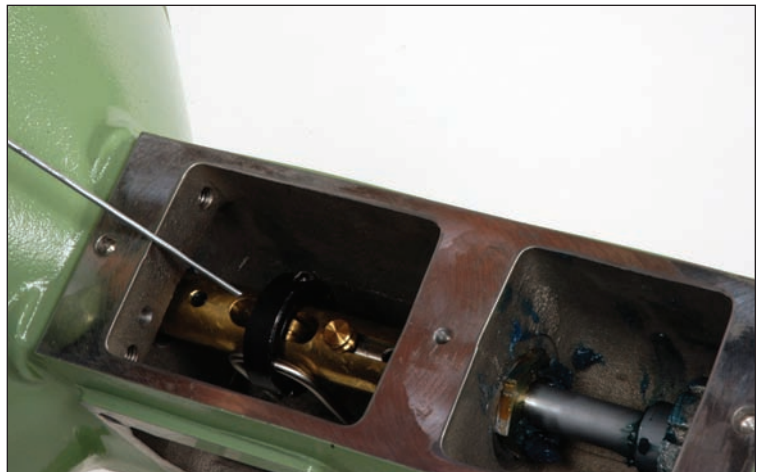
13. Install TA-7127 bushing to hand tight. Reinstall TA-0146 set screw and tighten to snug. **DO NOT OVERTIGHTEN TA-0146!**



14. Reinstall TA-0025 spring and thrust plate assembly. As the thrust rod emerges from the TA-7127 bushing into the pump housing, slip the 5000 pump thrust rod collar assembly, TA-7103, onto the thrust rod. Ensure the clamping bolt is on the opposite side from the opening where the microswitch valve will be installed. Initially position the TA-7103 over the area where the flipper spring normally attaches to the thrust rod. Do not tighten the clamping bolt at this time.
15. Reinstall the TC-0001 diaphragm cover and the two TB-0010 diaphragms.
16. Install TA-0035 stainless steel adjusting pin.



17. Install TA-7092 microswitch valve onto the TA-7088 mounting plate with the two P01-025050-0200 HHCS. Ensure the "TXT" tag is facing up.
18. With the microswitch installed in the mounting plate, ensure the microswitch valve extended shaft is switched to the left position. Place the gasket, TA-0058 between the mounting plate and the housing, then attach the mounting plate to the pump housing, TD-0001 using the four HHCS, P01-031050-0200, with the four lock washers, P52-031000-0200. Ensure the microswitch valve extended shaft is between the forks on the TA-7103 collar assembly.



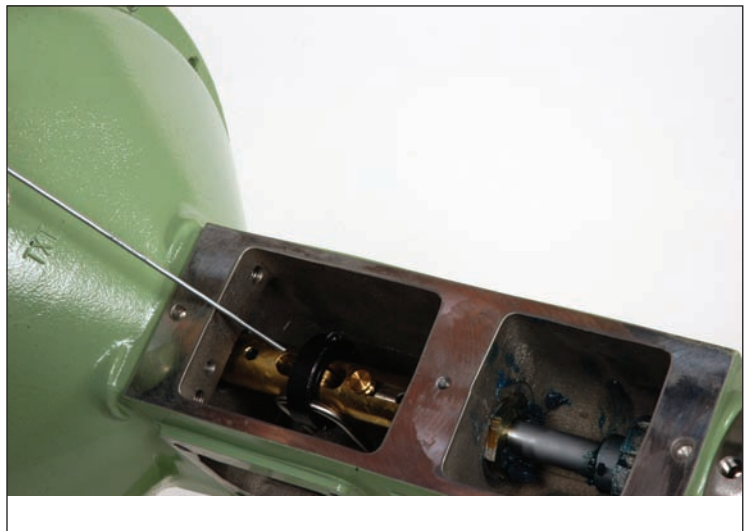
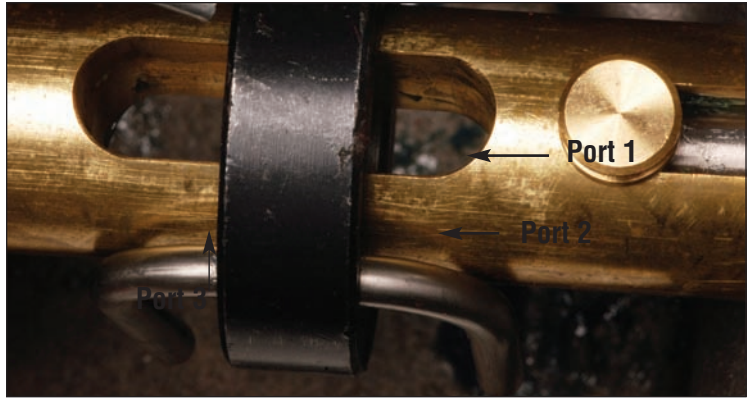
19. Install the two bushings, TA-7095 in Ports 2 and 3 on the microswitch valve.
20. Connect the two TA-0132 elbows to Ports 2 and 3.
21. Connect and tighten the line assembly, TA-1494, copper line from Port 2 on the microswitch valve to the master valve.
22. Connect and tighten the line assembly, TA-1493, copper line from Port 3 on the microswitch valve to the pressure regulator.
23. Tighten the clamping bolt on the thrust rod collar assembly.

CAUTION

Do not add oil to pump. Pump is now an oilless pump with the addition of the microswitch.

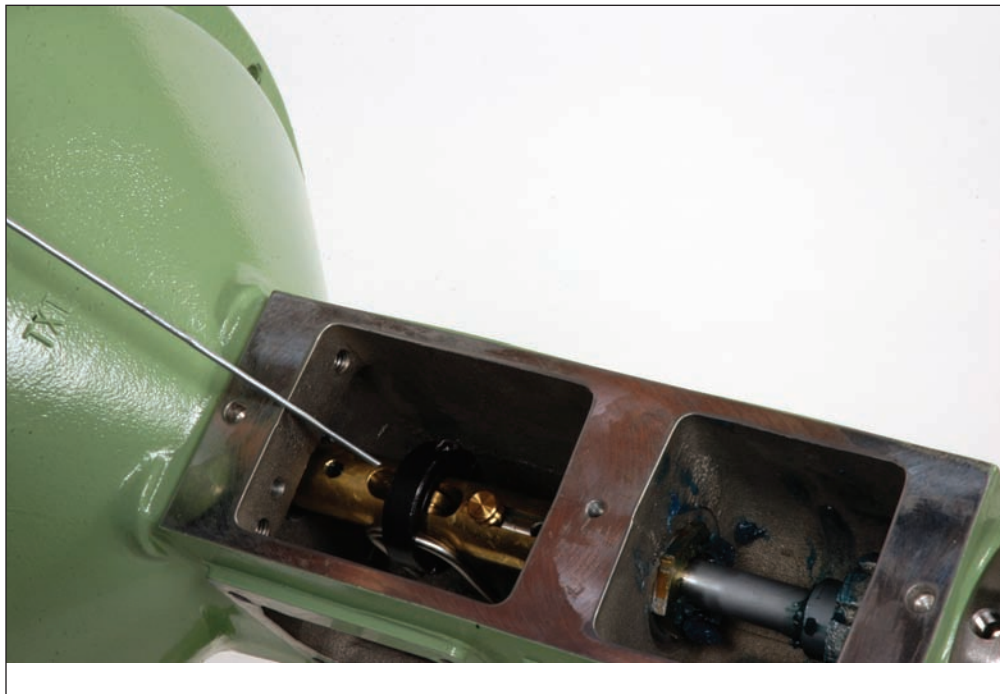
24. Reconnect the gas supply to the inlet gas valve assembly, TA 0022. Stroke the pump several times. You may need to adjust the location of the thrust rod collar to optimize operation of the pump.
25. Reinstall cover TB 0004.
26. Ensure that the pressure regulator is set to 12 psi via the gage at the regulator. Control the speed of the pump using the inlet gas speed control valve to achieve the desired stroke rate.

Min. gas pressure: 18 psi
 Max. gas pressure: 50 psi.



Microswitch Valve Replacement (High Speed Version)

1. Shutoff gas supply to the pump.
2. Loosen and remove the line assembly, TA 1494, copper line from the microswitch valve to the master valve.
3. Loosen and remove the line assembly, TA 1493, copper line from the microswitch valve to the pressure regulator.
4. Remove the TB 0004 cover.
5. Remove the four P01-031-3900 machine screws and four P52-031000-3900 lock washers. Remove the microswitch valve mounting plate assembly from the pump housing.
7. Remove the old microswitch from the mounting plate and replace with the new microswitch. Ensure the "TXT" label is facing up.
8. Reinstall the mounting plate with microswitch valve and gasket using the four machine screws and lock washers. Ensure the microswitch valve extended shaft is between the forks of the TA 7103 collar assembly.
9. Reinstall the TB 0004 cover.
10. Reconnect and tighten the line assembly, TA 1494, copper line from the microswitch valve, Port 2, to the master valve.
11. Reconnect and tighten the line assembly, TA 1493, copper line from the microswitch valve, Port 3, to the pressure regulator.



12. Open the gas supply.

5000 MICROSWITCH VALVE INSTALLATION LOW SPEED VERSION



TA-7094 Low Speed 5000 Microswitch Kit

Kit Parts List

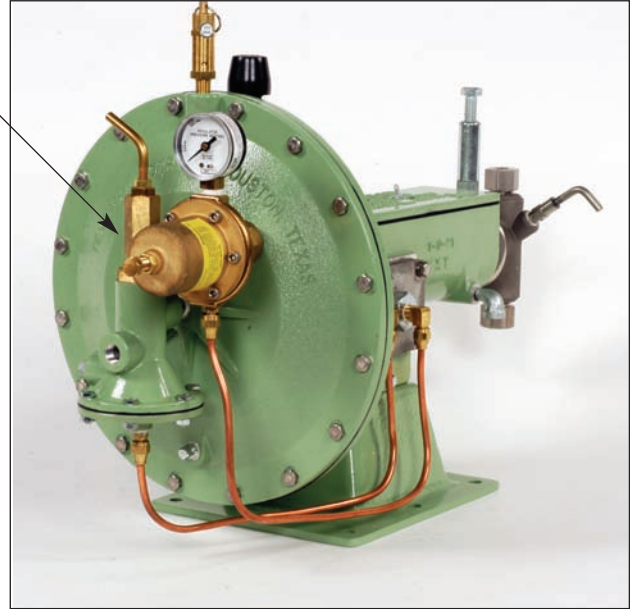
Item Number	P/N	Description	QTY. Required
1	P01-031050-0200	HHCS	4
2	P01-025050-0200	HHCS	2
3	P52-031000-3900	Spring Lockwasher	4
4**	TA-7091	Microswitch	1
5	TA-7088	MS Mounting Plate	1
6	TA-7103	Thrust Collar Assembly	1
7**	TA-7127	Guide Bushing	1
8	TA-7110	NPT To Tube Elbow	1
9	TA-7106	Tubing	1
10	TA-7109	NPT To Tube Straight	1
11	TB-1752	Thrust Rod	2
12**	TA-0058	Switching Valve Gasket	1
13	TB-1754	Thrust Rod Kit	1

** Recommended Spare Part

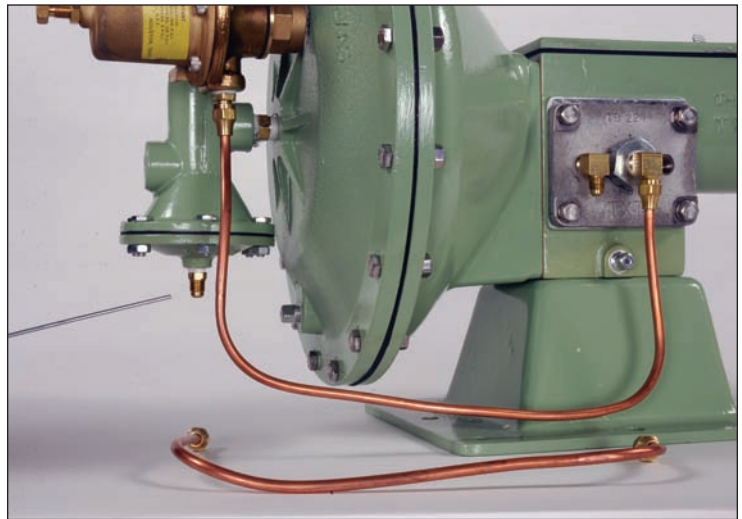
INSTALLATION

1. If pump is installed in the field, shutoff gas flow to the pump.
2. Disconnect the gas supply pipe from the inlet gas valve assembly, TA-0022.

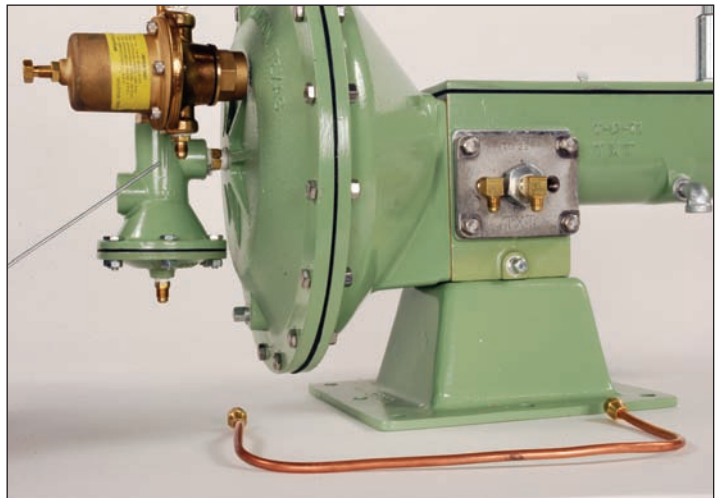
TA-0022



3. Loosen and remove the line assembly, TA-1494, copper line from the pilot valve to the master valve.



4. Loosen and remove the line assembly, TA-1493, copper line from the pilot valve to the regulator.



5. Remove the Master Valve assembly, TB-0037, and the Pressure Regulator assembly, TB-0040.
6. Remove the Brass Attachment Nipple, TA-0009.



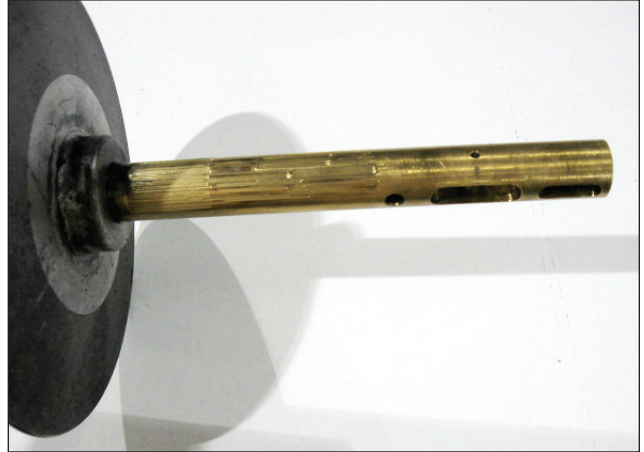
7. Remove the TB-0004 cover.
8. Drain the oil from the pump.
9. Remove the four P01-031100-3900 machine screws and four P52-031000-3900 lock washers and remove the pilot valve assembly, TB-0009, from the pump housing.



10. Remove adjusting pin, TA-0035.
11. Remove TC 0001 diaphragm cover and both TB-0010 diaphragms.
12. Pull Thrust Plate TB-0002 and Thrust Rod (TB-0003 or TB-1752) out of pump. Inspect Thrust Rod for wear. If pump is supplied with a brass thrust rod, TB-0003, must replace with Thrust Rod TB-1752.

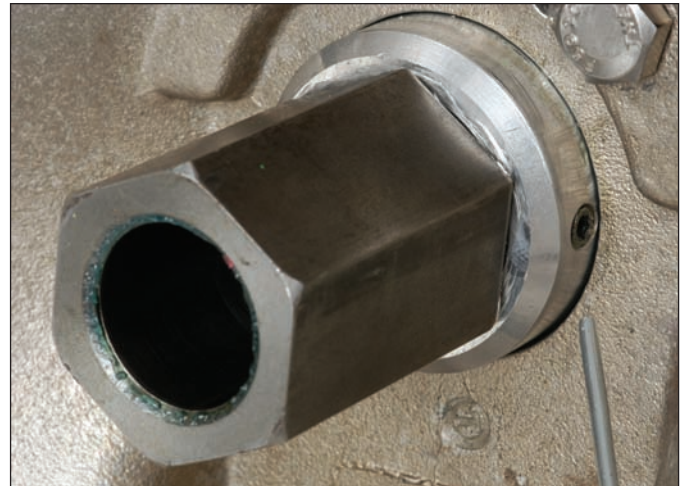


13. Clean TA-0025 spring removing the oil and grease. Inspect spring for wear and cracks. Replace spring if necessary. Set spring aside.
14. Loosen TA-0146 set screw. Remove TA-0076 bushing.

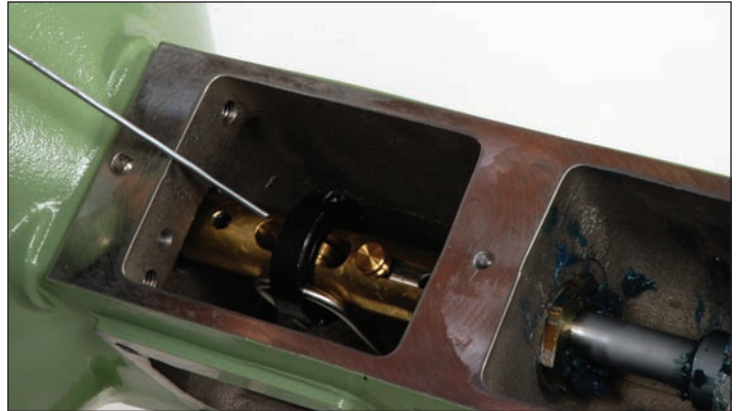


15. Install TA-7127 bushing to hand tight. Tighten TA-0146 Set Screw to snug.

DO NOT OVERTIGHTEN TA-0146!



16. Reinstall TA-0025 spring and thrust plate assembly. As the thrust rod emerges from the TA-7127 bushing into the pump housing, slip the 5000 pump thrust rod collar assembly, TA-7103, onto the thrust rod. Ensure the clamping bolt is on the opposite side from the opening where the microswitch valve will be installed. Initially position the TA-7103 over the area where the flipper spring normally attaches to the thrust rod. Do not tighten the clamping bolt at this time.



17. Reinstall the TC-0001 diaphragm cover and the two TB-0010 diaphragms.
18. Install TA-0035 stainless steel adjusting pin.



19. Install TA 7110 elbow into TC-0001 diaphragm cover.



20. Install TA-7092 microswitch valve onto the TA-7088 mounting plate with the two P01-025050-0200 HHCS. Ensure the “TXT” tag is facing up.
21. With the microswitch installed in the mounting plate, ensure the microswitch valve extended shaft is switched to the left position. Place the gasket, TA-0058 between the mounting plate and the housing, then attach the mounting plate to the pump housing, TD-0001 using the four HHCS, P01-031050-0200, with the four lock washers, P52-031000-0200. Ensure the microswitch valve extended shaft is between the forks on the TA-7103 collar assembly.
22. Attach a speed control valve (not included), to the supply gas Port 1 (right port).
23. Attach the 1/4 MNPT X 5/8 tubing straight, TA-7109, to Port 2 (center port), as shown.
24. Assemble the tubing using the provided ferrules and flareless nuts; then attach the tubing assembly, TA-7106, to the elbow in the diaphragm cover and to the tubing straight in Port 2 of the microswitch valve.
25. Tighten the clamping bolt on the thrust rod collar assembly.



CAUTION

Do not add oil to pump. Pump is now an oilless pump with the addition of the TA-7127 guide bushing.

26. Open the gas supply valve to Port 1 on the microswitch valve and stroke the pump several times. You may need to adjust the location of the thrust rod collar to optimize operation of the pump.
27. Reinstall cover TB-0004.
28. Control the speed of the pump using the gas supply speed control valve to achieve the desired stroke rate.

Min. gas pressure: 18 psi
 Max. gas pressure: 50 psi

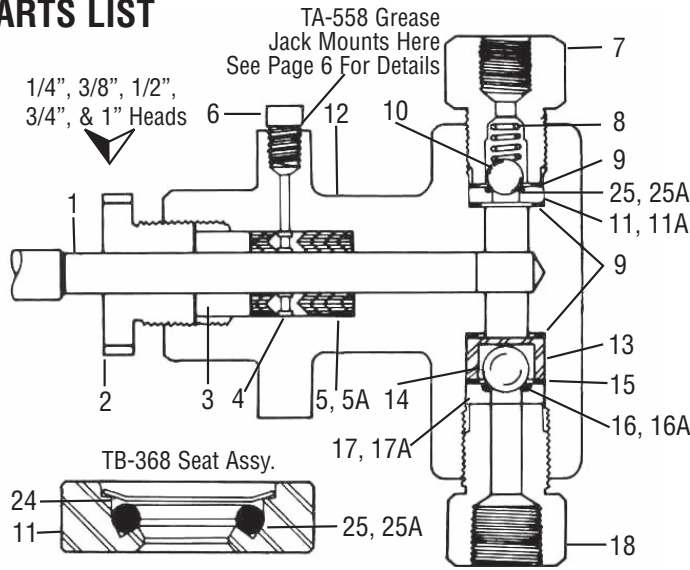


Microswitch Valve Replacement (Low Speed Version)

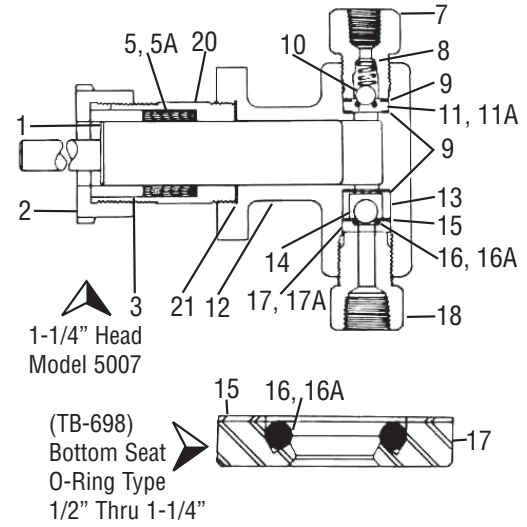
1. Shutoff gas flow to the pump.
2. Disconnect the gas supply pipe from Port 1 on the microswitch valve.
3. Disconnect and remove TA-7106 tubing assembly.
4. Remove TA-7109 from Port 2 on the microswitch valve.
5. Remove the TB-0004 cover.
6. Remove the four P01-031050-3900 machine screws and four P52-031000-3900 lock washers. Remove the microswitch valve assembly from the pump housing.
7. Remove the old microswitch from the mounting plate and replace with the new microswitch. Ensure the "TXT" label is facing up.
8. Reinstall the mounting plate with microswitch valve and gasket using the four machine screws and lock washers. Ensure the microswitch valve extended shaft is between the forks of the TA 7103 collar assembly.
9. Reinstall the TB-0004 cover.
10. Replace the TA-7109 back into Port 2 on the microswitch valve.
11. Reconnect the TA-7106 tubing assembly.
12. Reconnect the gas supply to the speed control valve.



PARTS LIST



INJECTOR HEADS



Item No.	Plunger Size/Model #	1/4" 5002		3/8" 5003		1/2" 5004		3/4" 5005		1" 5006		1 1/4" 5007	
		Ductile w/SS Trim	All Stainless Steel	Ductile w/SS Trim	All Stainless Steel	Ductile w/SS Trim	All Stainless Steel	Ductile w/SS Trim	All Stainless Steel	Ductile w/SS Trim	All Stainless Steel	Ductile w/SS Trim	All Stainless Steel
Head Assembly													
1*	Plunger (Aralloy-17.4ph SS)	TA-2764	TA-2764	TA-0743	TA-0743	TA-0032	TA-0032	TA-2767	TA-2767	TA-0158	TA-0158	TA-0408	TA-0408
2	Packing Gland Nut, C.S. Cad.	TA-2765	TA-2765	TA-0944	TA-0944	TA-0055	TA-0055	TA-2768	TA-2768	TA-0047	TA-0047	TA-0403	TA-0403
3	Packing Gland 303 SS	TA-1463	TA-1463	TA-0954	TA-0954	TA-1219	TA-1219	TA-2769	TA-2769	TA-0043	TA-0043	TA-0404	TA-0404
4	Lantern Ring 303 SS	TA-2766	TA-2766	TA-0742	TA-0742	TA-0447	TA-0447	TA-2770	TA-2770	TA-0448	TA-0448	Not Req'd.	Not Req'd.
5*	Packing, Buna-N (3,000 Max.)	TA-1461	TA-1461	TA-1456	TA-1456	TA-0959	TA-0959	TA-2771	TA-2771	TA-0050	TA-0050	TA-0405	TA-0405
6	Pipe Plug	TA-0516	TA-516	TA-0516	TA-0516	TA-0516	TA-0516	TA-0516	TA-0516	TA-0516	TA-0516	Not Req'd.	Not Req'd.
7	Top Bushing 303 SS	TA-0152	TA-152	TA-0152	TA-0152	TA-0152	TA-0152	TA-0152	TA-0152	TA-0152	TA-0152	TA-0152	TA-0152
8*	Check Ball Spring 316 SS	TA-0077	TA-0077	TA-0077	TA-0077	TA-0077	TA-0077	TA-0077	TA-0077	TA-0077	TA-0077	TA-0077	TA-0077
9*	Gasket 304 SS (3 req'd.)	TA-2350	TA-2350	TA-2350	TA-2350	TA-2350	TA-2350	TA-2350	TA-2350	TA-2350	TA-2350	TA-2350	TA-2350
10*	Top Check Ball 3/8" 316 SS	TA-0054	TA-0054	TA-0054	TA-0054	TA-0054	TA-0054	TA-0054	TA-0054	TA-0054	TA-0054	TA-0054	TA-0054
11*	Top Check Valve Seat Assy. 303	TB-0368	TB-0368	TB-0368	TB-0368	TB-0368	TB-0368	TB-0368	TB-0368	TB-0368	TB-0368	TB-0368	TB-0368
12	Pump Head	TC-1608	TC-1612	TC-0084	TC-0147	TC-0022	TC-0140	TC-0333	TC-0340	TC-0020	TC-0138	TC-0049	TC-1982
13	Ball Cage 17.4 ph SS	TA-0444	TA-0444	TA-0444	TA-0444	TA-0444	TA-0444	TA-0444	TA-0444	TA-0444	TA-0444	TA-0444	TA-0444
14	Bottom Check Ball 316SS	TA-0054-3/8"	TA-0054-3/8"	TA-0054-3/8"	TA-0054-3/8"	TA-0053-1/2"	TA-0053-1/2"	TA-0053-1/2"	TA-0053-1/2"	TA-0053-1/2"	TA-0053-1/2"	TA-0053-1/2"	TA-0053-1/2"
15	Gasket 304 SS	TA-2350	TA-2350	TA-2350	TA-2350	TA-2338	TA-2338	TA-2338	TA-2338	TA-2338	TA-2338	TA-2338	TA-2338
16	O-Ring (Buna-N) Bottom Seat	TA-2097	TA-2097	TA-2097	TA-2097	TA-0612	TA-0612	TA-0612	TA-0612	TA-0612	TA-0612	TA-0612	TA-0612
17	Bottom Check Valve Seat 303	TB-0368	TB-0368	TB-0368	TB-0368	TB-0698	TB-0698	TB-0698	TB-0698	TB-0698	TB-0698	TB-0698	TB-0698
18	Bottom Bushing 303 SS	TA-0153	TA-0153	TA-0153	TA-0153	TA-0153	TA-0153	TA-0153	TA-0153	TA-0153	TA-0153	TA-0153	TA-0153
19	Priming Valve (not shown)	TA-0123	TA-0123	TA-0123	TA-0123	TA-0123	TA-0123	TA-0123	TA-0123	TA-0123	TA-0123	TA-0123	TA-0123
20	Adapter				Not Req'd.					Not Req'd.		TA-0406	N/A
21*	Gasket				Not Req'd.					Not Req'd.		TA-0521	N/A
24	Retainer Ring (included in Item 11)	TA-3523	TA-3523	TA-3523	TA-3523	TA-3523	TA-3523	TA-3523	TA-3523	TA-3523	TA-3523	TA-3523	TA-3523
25	O-Ring (Buna-N) Top Seat (included in Item 11)	TA-2097	TA-2097	TA-2097	TA-2097	TA-2097	TA-2097	TA-2097	TA-2097	TA-2097	TA-2097	TA-2097	TA-2097
Alternative Parts for Service													
5-A	Viton (3,000# Max.)	TA-4102	TA-4102	TA-4102	TA-4102	TA-4102	TA-4102	TA-4102	TA-4102	TA-4102	TA-4102	TA-4102	TA-4102
	Teflon (3,000# Max.)	TA-1642	TA-1642	TA-1642	TA-1642	TA-1642	TA-1642	TA-1642	TA-1642	TA-1642	TA-1642	TA-1642	TA-1642
	Hard* (3,000# Max and above.)	TA-2295	TA-2295	TA-2295	TA-2295	TA-2295	TA-2295	TA-2295	TA-2295	TA-2295	TA-2295	TA-2295	TA-2295
16-A	Viton O-Ring	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336
11-A*	TopSeat (metal to metal) 303	TA-0157	TA-0157	TA-0157	TA-0157	TA-0157	TA-0157	TA-0157	TA-0157	TA-0157	TA-0157	TA-0157	TA-0157
17-A*	Bottom Seat (metal to metal) 303	TA-0157	TA-0157	TA-0157	TA-0157	TA-0157	TA-0157	TA-0157	TA-0157	TA-0157	TA-0157	TA-0157	TA-0157
25-A	Viton O-Ring	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336

* Hard packing for 3000 psi and above service

**Recommended Spare Parts



LEGACY

Pumps & Instruments, LLC

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Mineral Wells, TX 76068-0426
214-384-5303 -or- 817-793-0485
www.legacypumpsllc.com