

S E R I E S

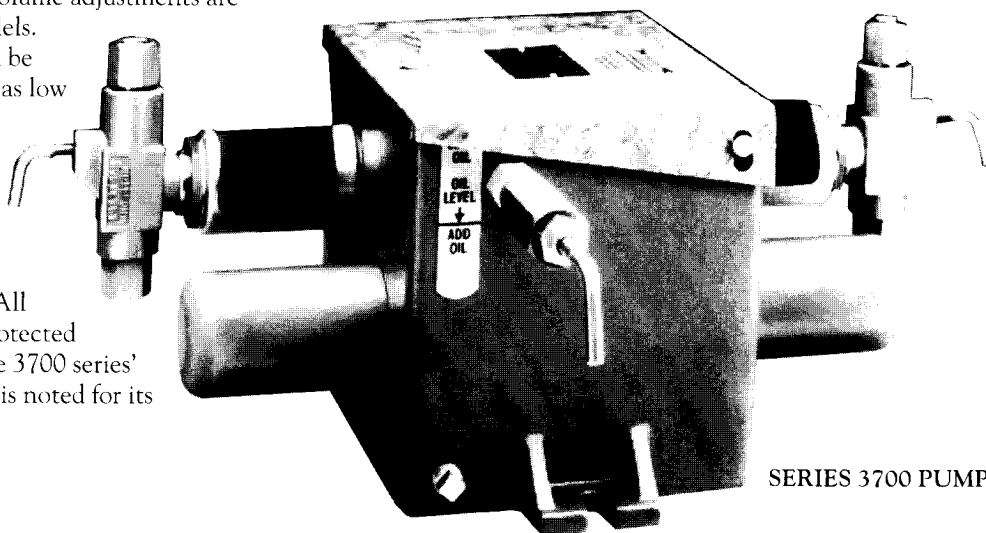
# 3700

## Gas or Air Powered Chemical Injectors

### Description

Texsteam Series 3700 chemical injectors are gas or air powered and designed for handling many types of aqueous solutions and other chemicals. Single or double-headed units with three volume adjustments are available in a wide variety of models.

Injection pressure to 1500 psi can be achieved with air or gas pressures as low as 50 psi. Units can be furnished with or without reservoirs (5 or 10 gallon, other sizes available on request). Texsteam 3700 injectors feature a unitized gas motor and pump. The gas motor operates in an enclosed oil bath. All motor and pump parts are fully protected against dirt and the elements. The 3700 series' efficient ratchet-type mechanism is noted for its long-life and accurate control.



SERIES 3700 PUMP

### Applications

- Blending and proportioning chemical compounds in general process plant operation
- Introducing oil country solvents, de-emulsifiers, desalters and flocculants
- High pressure bearing lubrication
- Injection of methanol into gas pipe-lines
- Lubrication of mechanical seals in pumps and machinery relying upon this type seal
- Water treatment
- Corrosion Inhibitor injection
- Sampling
- Introduction of measured quantities of highly toxic bactericides
- Both low and high-viscosity fluids and non-abrasive slurries can be handled with this pump



S E R I E S 3 7 0 0

# General Assembly

## Outstanding Features – Chemical Injectors

**SPRING-LOADED LID** on chemical container seals against contamination, yet is easily opened.

**CHEMICAL RESERVOIR** – Choices available:  
5 gallon 430 Stainless Steel  
5 gallon 316 Stainless Steel  
10 gallon 430 Stainless Steel

**TANK GAUGE** enables an operator to check the pumping rate of any chemical pump in one minute under actual pumping conditions. This simplified procedure eliminates errors resulting from pump and valve leakage.  
TB-871 for 5 gallon SS tank  
TB-1285 for 10 gallon SS tank

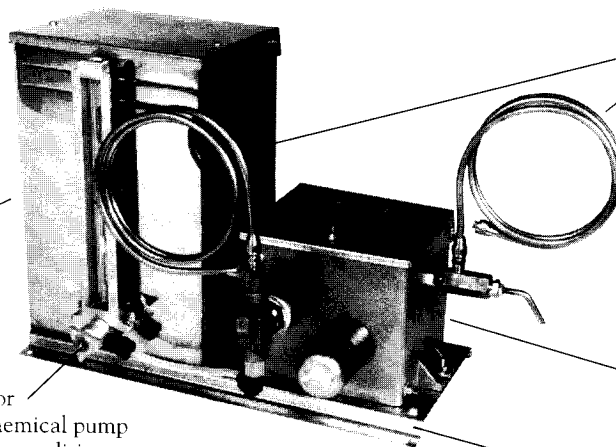
**SINGLE AND DOUBLE HEADED UNITS AVAILABLE** (one tank furnished with each head)

**ACCESSORIES AVAILABLE** include power gas line, gas regulator, regulator gauge, inlet needle valve, line checks, fluid discharge line, necessary fittings

**3 SEPARATE VOLUME ADJUSTMENTS** for controlling volume range (see page 5)

**POWER UNIT** is available without tank and base.

**HEAVY GALVANIZED STEEL BASE** with bolt holes for simple and easy mounting



## Models Available

**Type 3700 S** is designed for operation off low uniform pressures of 50 psi and less. Unitized with five gallon container and single injector head. Furnished with slight feed only ... no fittings. *Shipping Weight: 55 pounds (packed in cardboard carton).*

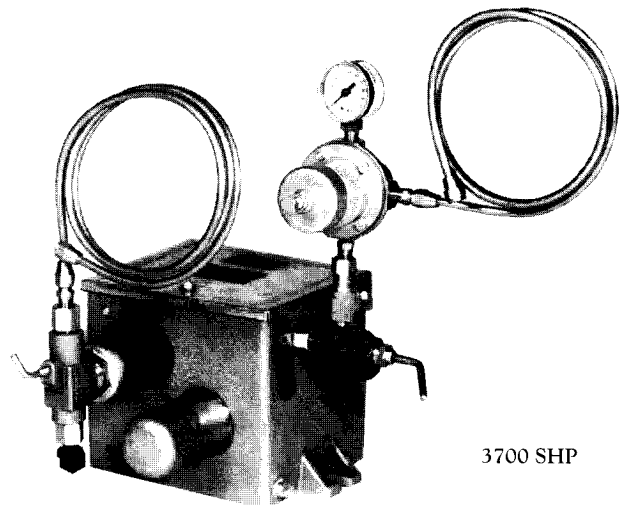
**Type 3700 SL** is designed for operation off low uniform pressure of 50 psi or less. Unitized with five gallon container and single injector head. Furnished with level gage and the following fittings: five feet of  $\frac{5}{16}$ " copper tubing with  $\frac{1}{4}$ " flared fitting,  $\frac{1}{4}$ " x  $\frac{1}{2}$ " bushing and  $\frac{1}{4}$ " gas control needle valve for connecting gas supply line; five feet of  $\frac{3}{16}$ " copper tubing with  $\frac{1}{4}$ " flared fitting,  $\frac{1}{4}$ " x  $\frac{1}{2}$ " bushing and  $\frac{1}{4}$ " high pressure line check for connecting chemical discharge line. *Shipping Weight 58 pounds.*

**Type 3700 SH** is designed for operation off high or erratic pressures up to 1500 psi. Unitized with five gallon container and single injector head. Furnished with level gage and same fittings as The 3700 SL plus a regulator with pressure gauge to reduce supply pressure to pump operating requirements. *Shipping Weight: 62 pounds.*

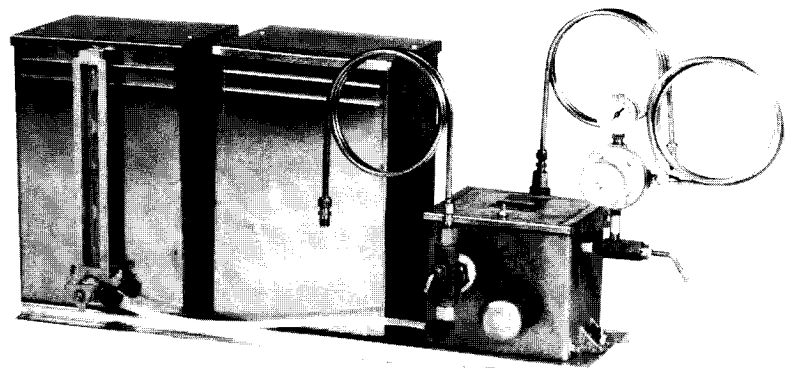
**Type 3700 D** is designed for operation off low uniform pressures of 50 psi or less. Unitized with two five-gallon containers and double injector heads. Furnished with level gage only ... no fittings. *Shipping weight: 72 pounds.*

**Type 3700 DL** is designed for operation off low uniform pressures of 50 psi or less. Unitized with two containers and double injector heads. Furnished with same fittings as Type 3700 SL. *Shipping Weight: 77 pounds.*

**Type 3700 DH** is designed for operation off high or erratic pressures up to 1500 psi. Unitized with two containers and double injector heads. Furnished with same fittings as Type 3700 SH. *Shipping Weight: 81 pounds.*

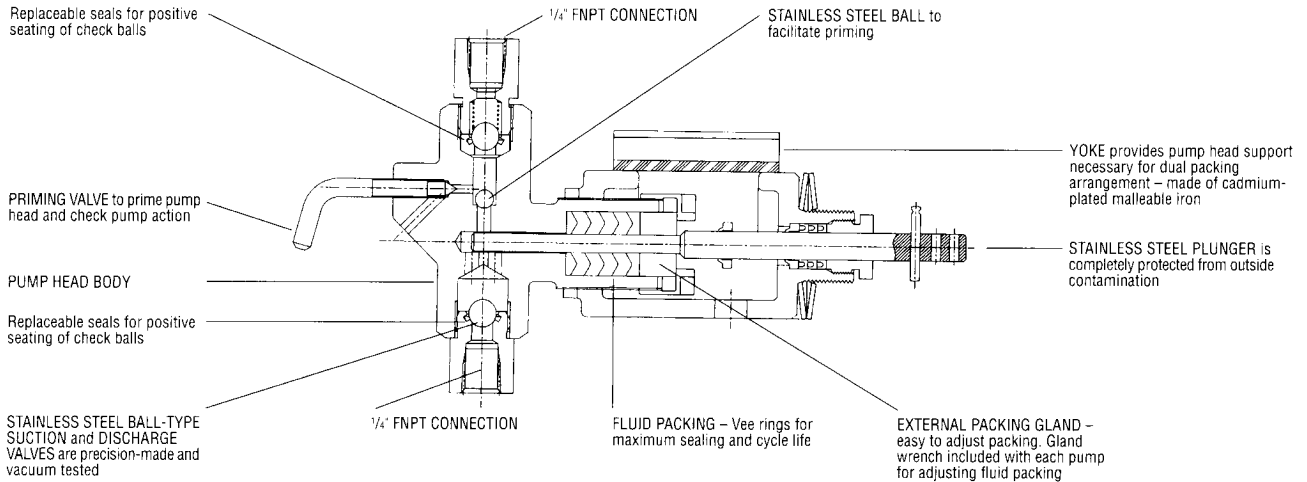


3700 SHP



3700 DH

# S E R I E S 3 7 0 0 Pump Head



The TXT Pump Head is efficient (horizontal plunger and vertical check valves); virtually trouble-free; easy to maintain; stainless steel trim is standard; built-in priming valve to aid in priming and

checking pump action; external packing gland; and protective felt wiper to protect plunger from sand, dirt, etc. Available in eight different heads to meet your particular need (see page 8).

## Model Designation

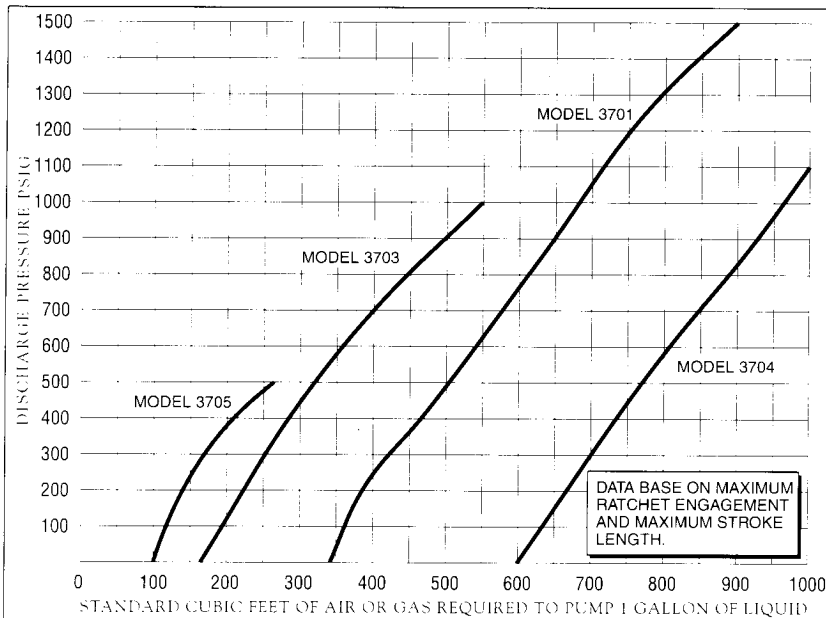
3701 SHP 1/4"

- Always specify plunger size when ordering to insure the correct size is ordered
- Indicates power unit model (without chemical tank). Absence of P indicates chemical injector complete with 5 gallon tank.
- Indicates accessories (H is equipped with regulator, gauge and fittings; L is equipped with fittings only). Absence of H or L indicates no accessories with unit
- Indicates number of injector heads (S is a single head, D is a double head unit)
- Indicates plunger size (4 is 1/16", 1 is 1/4", 3 is 3/8", 5 is 1/2")

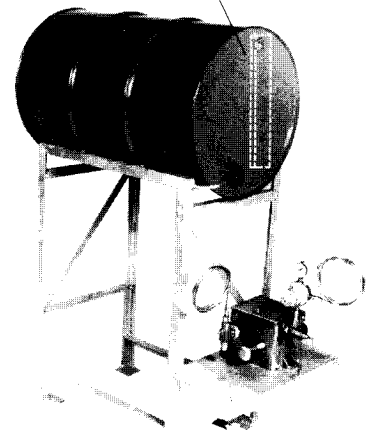
**Choice of Trim Materials:** *Standard* - Ductile Iron Body with stainless steel trim

*All Stainless Steel Heads* - For models with All Stainless Steel and SS is placed after model number (3701 SH-SS).  
Teflon packing • Metal-to-metal seats • Hastelloy ball checks • Viton Seals

## Air/Gas Consumption



OPTIONAL LEVEL & RATE SETTING GAUGE  
(TB-1128 CARBON STEEL)  
(TB-1129 STAINLESS STEEL)  
(304SS)



### TC-169 DRUM RACKS

These racks are constructed of galvanized angle iron to handle a 55-gallon drum. The injector stand is drilled for most TEXSTEAM chemical injectors or pumps.

Use of the truck-height rack permits direct, easy loading of the drum. Weight 84 pounds, less pump and drum.

# Installation and Operating Instructions

1. Remove pump from carton and inspect for possible damage in transit from factory. The cardboard carton was designed especially for this pump. If the pump has been damaged in transit, file claim with the carrier.
2. **Bolt holes** are provided for a permanent mounting (see drawing for dimensions on page 6). If more detailed information is required, request TXT Blueprint TC-187.
3. **Install the TA-1497** priming valve (included with pump, but shipped loose in carton) on the pump head.
4. **Connect the suction line to pump head.**
  - a. If a reservoir is furnished with the pump, the suction line is already connected. Fill the reservoir and open (all the way) the TB-871 shut-off assembly. A strainer is furnished as a part of this unit.
  - b. If a power unit model was purchased, a strainer should be piped into the suction line to prevent sand, rust or other particles which will inure the plunger and foul the check valves.
5. **Connect the discharge line** ( $5/16$ " tubing will suffice). A check valve should be installed as close to the point of injection as possible. Note the arrow on the check valve indicating the direction of flow. The top connection on the pump head is the outlet and has a  $1/4$ " female pipe thread connection.
6. **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 pressures), the pump should be equipped with a regulator to reduce the gas pressure to 50 PSI or below. The TXT TB-40 regulator is capable of handling upstream pressures to 1500 PSI.
- c. Tie-in the gas line to the TA-193 needle valve or TA-866 inlet bushing.
7. **Fill the TA-583 box assembly** with enough SAE-30 oil to cover the TA-457 bearing (approximately  $6\frac{1}{4}$  pts.) If low ambient temperatures are encountered, a lighter oil such as SAE-10 should be used. Check oil level at regular intervals with TA-946 oil gauge stick.
8. **Adjust for desired volumes** by considering Performance Data (opposite page) and Volume Adjustment (opposite page). If more volume is required the pump head assembly can be changed or converted to a larger plunger size. Or, an additional head can be installed on the opposite side of the TA-583 box assembly by removing the TA-434 guide plug assembly. The TA-883 guide sleeve should also be removed and this can be accomplished with a drift and hammer.
9. **Start the pump** by slowly opening the TA-193 needle valve. Prime the pump head by opening the TA-1497 priming valve. After the pump discharges clear fluid without bubbles, close the priming valve for normal operations. At this point make a visual check of the plunger drip, and using the TA-315 gland wrench that is included in the package, slowly tighten the gland to prevent excess drippage and waste of chemicals. Do not overtighten plunger packing. Do not tighten with pressure on head. Keep TA-315 gland wrench handy for future packing adjustment. It may be necessary to readjust the packing the next day. A slight leak during the break-in is beneficial. Sufficient time should be allowed to let the packing "seat-in".

If low volumes are being pumped, the fluid end, the discharge line and all other fittings up to the line check should be thoroughly purged of all air bubbles.

Check pump action by opening TA-1497 priming valve.

## Maintenance Instructions for Inspection or Replacement of

Shut off the power gas pressure. Unscrew TA-390 cylinder shell. This will expose TA-597 piston assembly and TA-881 piston rod. To replace piston cup TA-867 or tapped washer TA-890, unscrew TA-1211 piston cup retainer. TA-881 piston rod is hex material and is easily removed from TC-28 valve body.

### TO INSPECT PUMP HEAD PARTS

Suction and discharge balls and seats can be inspected or replaced without removing pump head from the power unit. To do this it is necessary to disconnect suction and discharge lines at the head and unscrew TA-1496 top bushing and TB-736 bottom bushing.

### TO REMOVE PUMP HEAD FROM GEAR BOX

1. Disconnect suction and discharge line.
2. Pull TA-290 pin.

3. Entire fluid head can now be unscrewed from gear box.
4. Loosen gland nut.
5. Pull chemical plunger from head.
6. Remove TA-810 packing nut. This gives access to the yoke packing.
7. Loosen TA-225 lock nut. Yoke can then be unscrewed from fluid head (while unscrewing the yoke the gland nut must also be backed-off). At this point, wiper washer, gland nut and packing gland nut can be removed. This gives access to the main plunger packing.

### TO REPLACE TB-47 GAS HOSE

Unscrew the hex nut (attached to hose) from TA-137 half union. Then unscrew TB-47 hose from TA-866 inlet bushing.

# S E R I E S 3 7 0 0

## Performance Data

### Pressure-Volume Range Chart

NOTE\* — For double-headed units increase maximum volume by two.

Plunger Size	Maximum Pressure	Model	Pint Per Day Volume	
			Max.	Min.
1/16"	3000#	3704	8	.3
1/4"	1500#	3701	16	.5
3/8"	1000#	3703	40	.5
1/2"	500#	3705	70	1

### Volume Output Table—Pints Per Day

Cycles Per Min. Air Motor	**Ratchet Teeth Engagement	3/16" Plunger			1/4" Plunger		
		Short Stroke	Medium Stroke	Long Stroke	Short Stroke	Medium Stroke	Long Stroke
10	1						
20	1						
40	1						
60	1	.3	.6	1.0	.5	1.0	1.8
80	1	.4	.8	1.3	.7	1.4	2.6
100	1	.5	1.0	1.6	1.0	2.0	3.4

Cycles Per Min. Air Motor	**Ratchet Teeth Engagement	3/8" Plunger			1/2" Plunger		
		Short Stroke	Medium Stroke	Long Stroke	Short Stroke	Medium Stroke	Long Stroke
20	2	.5	.7	1.0	1.0	1.5	2.0
40	1	.8	1.5	3.0	1.2	3.0	5.3
60	1	1.1	2.6	4.5	2.3	5.0	8.2
80	1	1.7	3.7	6.0	3.2	6.7	10.5
100	1	2.3	4.8	7.7	4.3	8.7	14.0

NOTES: \*\* Multiply volume by number of ratchet teeth engaged. Maximum number of teeth is 6.

### Volume Adjustment

There are three principal adjustments involved in controlling injector volumes on the Series 3700 chemical injector. They are pointed out in the diagram at right under the headings of Adjustments A, B and C.

#### Adjustment A:

1. Gas valve to control speed or number of strokes per minute of motor.

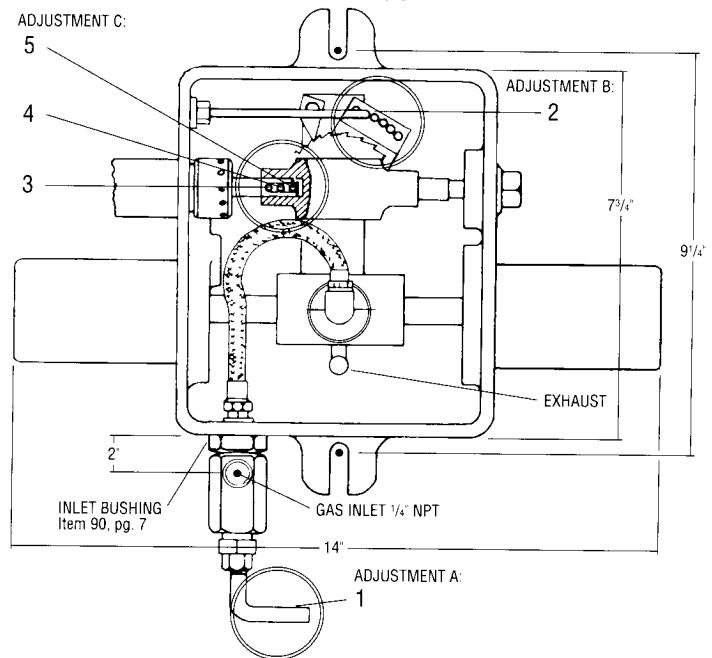
#### Adjustment B:

2. Ratchet control determines number of teeth drive pawl will engage each stroke of motor. Place ratchet latch TA-949 in hole on left to engage maximum number of teeth to pump maximum volume.

#### Adjustment C:

3. First position, long stroke (most volume).
4. Second position, medium stroke.
5. Third position, short stroke (least volume).

For maximum efficiency at any desired discharge rate, make adjustments in order A-B-C.



## Power Cylinder or Piston Parts (Refer to parts list on page 6)

#### TO INSPECT OR REPLACE TA-457 RATCHET BEARING

First remove TA-434 guide plug assembly. Then remove the pump head from the gear box (in case of double-headed pumps, both heads should be removed). TA-585 cross head assembly can then be lifted out. TA-457 ratchet bearing and TA-458 washer can now be inspected or replaced by removing TA-433 bearing bolt. TB-139 ratchet assembly can now be lifted out. TA-948 ratchet control can be disconnected from TA-949 ratchet latch and lifted out. TA-312 cross arm assembly can be slipped from under the TA-793 bushing and lifted out. TA-455 ratchet pawl, TA-955 pawl spring, TA-576 cotter key and TA-577 washer can now be inspected or replaced. TA-793 bushing can be removed exposing TA-77 ball check spring, TA-579 washer and TB-136 valve disc for inspection.

#### TO REMOVE TB-107 SWITCHING VALVE

Remove both TA-390 cylinder shells. Unscrew both TA-881 piston rods (TA-597 piston assemblies may be left on the TA-881 piston rod).

At this point TB-107 valve and TA-65 flipper arm assembly can be lifted from gear box. TA-508 flipper spring sub-assembly can be replaced by removing TA-168 cotter pin and TA-170 clevis pin.

#### TO REPLACE TA-65 FLIPPER ARM ASSEMBLY AND BEARING

Remove both TA-166 cap screws and TA-167 washer from the underside of TC-28 valve body. To remove TA-947 bearing insert, loosen TA-107 lock nut. TA-126 valve ball should be inspected and replaced if necessary.

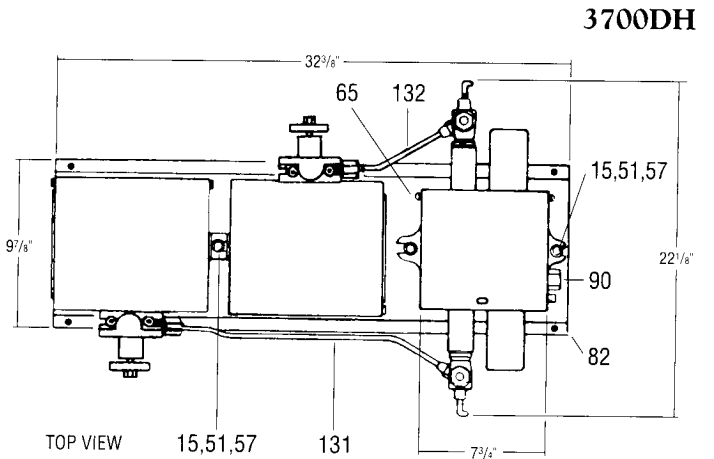
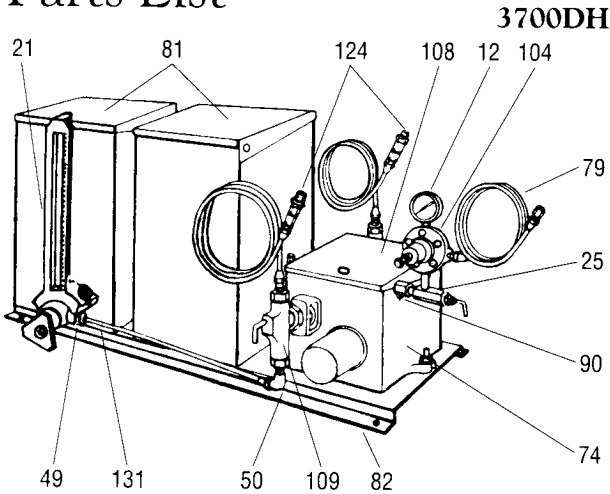
#### TO REMOVE TB-38 SIGHT FEED ASSEMBLY

Remove TA-322 suction line. Then remove TA-302 strainer bushing assembly and TA-306 gasket from inside TA-664 reservoir. TB-38 sight feed assembly can now be pulled away from TA-664 reservoir assembly.

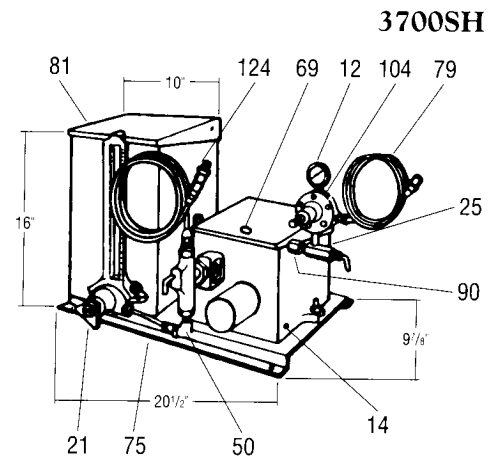
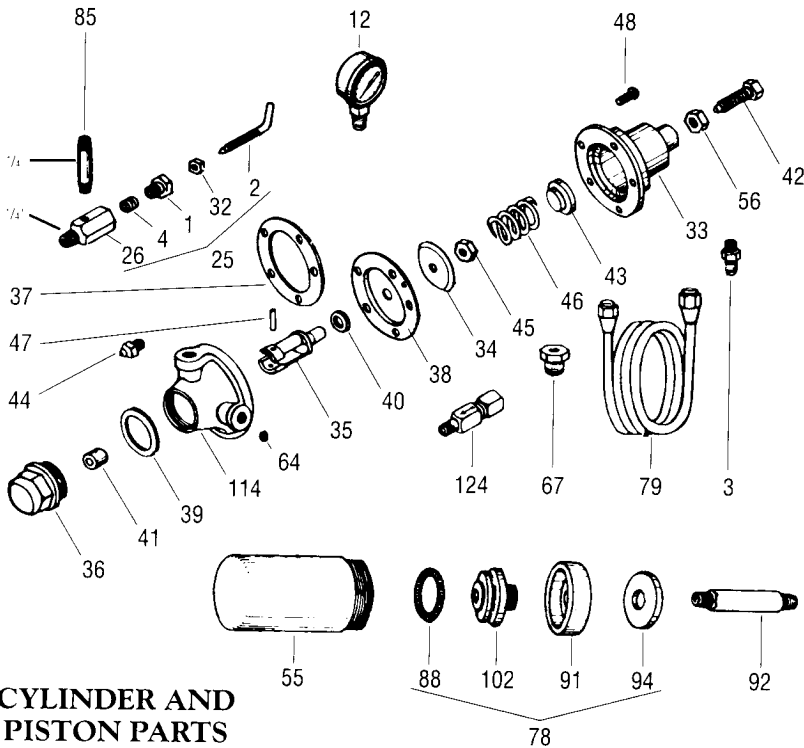
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## Technical Data

### Parts List

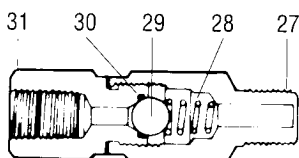


### REGULATOR & POWER GAS PIPING



### CYLINDER AND PISTON PARTS

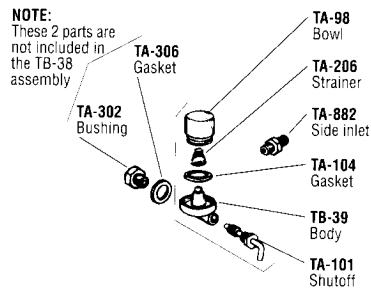
**TA-676 BRASS**  
**TA-675 303 SS**



LINE CHECK 1/2

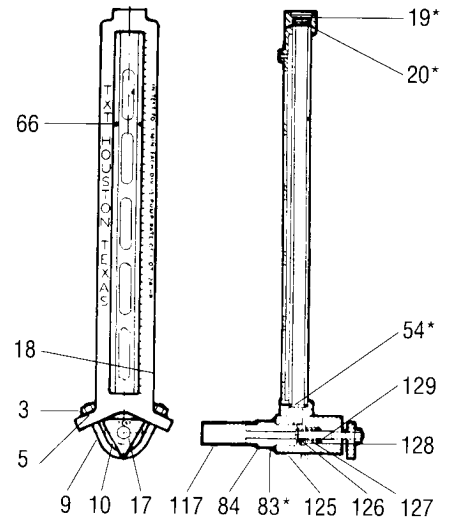
### SIGHT FEED ASSEMBLY

(TB-38) Alternate to the gauge, Item 21



### TANK GAUGE

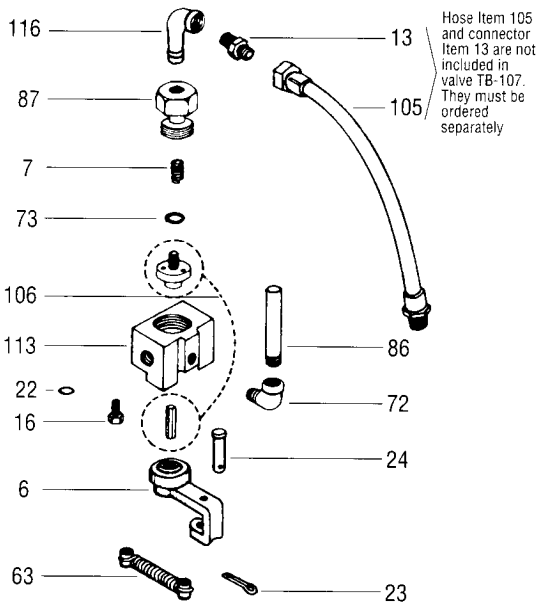
(TB-871) Item #21



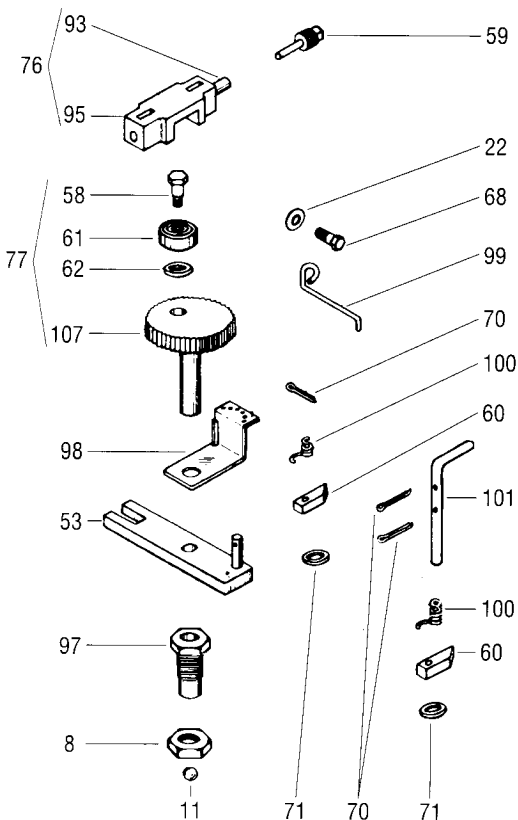
\*Supplied in a TB-0874 repair kit

# Parts List

## VALVE ASSEMBLY (TB-107)



## RATCHET DRIVE PARTS



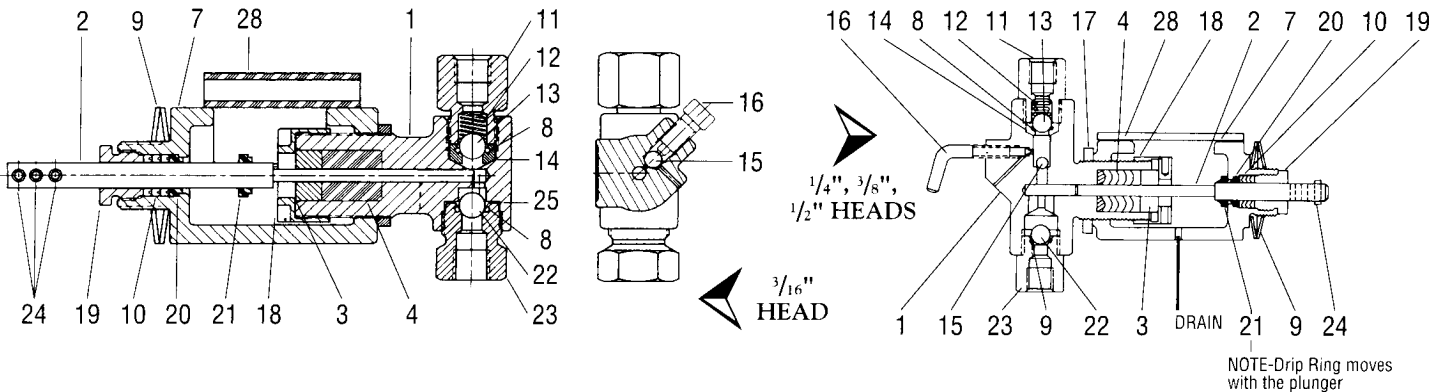
Item	Part No.	Name	Item	Part No.	Name
* 1	TA-11	Gland Nut	† 64	TA-519	Filter Screen
* 2	TA-13	Stem	65	TA-528	Cover Rivets - 2 Reqd.
3	TA-882	Half Union	66	TA-2163	O-Ring Buna-N
† * 4	TA-23	Packing	67	TA-573	Bushing
5	TA-577	Washer	68	TA-574	Latch Bolt
6	TA-65	Flipper Arm Assembly	69	TA-575	Thumb Screw
7	TA-77	Spring	70	TA-2598	Cotter Pin
8	TA-107	Lock Nut	71	TA-577	Washer
9	TA-3106	U-Bolt	72	TA-578	Street Elbow
10	TA-3112	Handle Valve	73	TA-579	Washer
† 11	TA-126	Ball	74	TD-64	Box Assembly
12	TA-129	Pressure Gauge 0-100 psig	† 75	TB-1584	Base - 3700 Single Tank
13	TA-137	Half Union	76	TA-585	Cross Head Assembly
14	TA-138	Drain Plug	77	TA-586	Ratchet Sub-Assembly
15	TA-144	Bolt Nut - 3 Reqd.	78	TA-597	Piston Assembly
16	TA-166	Cap Screw	79	TA-608	Copper Tubing w/fittings
17	TA-164	Nut	81	TA-664	Reservoir, 5 gallon, 430 SS
18	TC-393	Frame	82	TA-665	Base - 3700 Double SS Tanks
19	TA-3100	Spring	83	TA-3199	O-Ring Viton
20	TA-3101	Flat Washer	84	TA-3104	Retainer Nut 303 SS
21	TB-871	Tank Ga. - 5 gal. SS Tank	85	TA-674	Nipple
	TB-1285	Tank Ga. - 10 gal. SS Tank	86	TA-761	Exhaust Nipple
22	TA-167	Washer	87	TA-793	Bushing
23	TA-168	Cotter Pin	† 88	TA-808	Cup Spring
24	TA-170	Clevis Pin	90	TA-866	Inlet Bushing
25	TA-193	Needle Valve & stem assy.	† 91	TA-867	Piston Cup
* 26	TA-194	Needle Valve Body	92	TA-881	Piston Rod
27	TA-677	Outlet Body	93	TA-883	Guide Sleeve
† 28	TA-391	Spring	94	TA-890	Tapped Washer
29	TA-54	Ball	95	TA-939	Cross Head
30	TA-479	O-Ring-Buna-N	97	TA-947	Bearing Insert
31	TA-678	Inlet Body	98	TA-948	Ratchet Control
* 32	TA-195	Needle Valve Nut	99	TA-949	Ratchet Latch
33	TA-3110	Bonnet	† 100	TA-955	Pawl Spring
34	TA-3135	Spring Plate	101	TA-956	Check Pawl Stud
35	TA-208	Valve Seat Yoke	102	TA-1211	Cup Retainer (Alum.)
36	TA-209	End Cap	104	TB-40	Pressure Regulator
† 37	TA-210	Gasket	† 105	TB-47	Gas Inlet Hose
† 38	TA-211	Diaphragm	† 106	TA-4669	Valve Disc & Drive Pin Assy.
† 39	TA-212	End Cap Gasket	107	TB-139	Ratchet Assembly
40	TA-213	Nut Gasket	108	TB-206	Injector Box Cover
† 41	TA-214	Valve Seat Assembly	109		Injec. Hds. -See pg. 8 for details
42	TA-217	Regulator Adj. Screw	113	TC-28	Valve Body
43	TA-3133	Spring Disc	114	TC-29	Regulator Body
44	TA-219	Screw	116	TA-0578	Street Elbow
45	TA-220	Lock Nut	117	TA-3103	Strainer
† 46	TA-3111	Adjusting Spring	124	TA-676	Line Check Brass
† 47	TA-222	Seat Block Pin	125	TA-3115	Valve Body 303 SS
48	TA-223	Screw	126	TA-3114	Stem Valve 303 SS
49	TA-3118	Connector Half & Comp. Nut	127	TA-3113	Spring 316 SS
50	TA-3116	Elbow & Comp. Nut	128	TA-3328	Washer 303 SS
51	TA-300	Washer - 3 Reqd.	129	TA-3107	O-Ring Viton
53	TA-312	Cross Arm Assembly	131	TA-3162	Polypropylene Suction Line
54	TA-2184	O-Ring	132	TA-3163	Polypropylene Suction Line
55	TA-390	Cylinder Shell	<b>OPTIONAL PARTS</b>		
56	TA-402	Lock Nut	81	TA-2057	Reservoir (5 gal. 316 SS)
57	TA-425	Lock Washer - 3 Reqd.	81	TA-1539	Reservoir (10 gal. 430-2B SS)
58	TA-433	Bearing Bolt		TA-675	Stainless Steel Line Check
59	TA-434	Guide Plug Assembly	<b>Following Parts for TA-675 Line Check</b>		
† 60	TA-455	Ratchet Pawl		TA-1296	Outlet Body End
61	TA-457	Ratchet Bearing		TA-1297	Inlet Body End
62	TA-458	Washer		TA-1574	Washer
† 63	TA-508	Flipper Spring			

NOTES: † Recommended spare parts

\* These parts are the needle valve & stem assembly Item #25

# S E R I E S 3 7 0 0 Injector Heads

## Parts List



ITEM NO.	MATERIAL SPECIFICATION >	Material Construction	Plunger Size >		3/8"		1/2"		
			3/16"	1/4"	Ductile w/SS Trim	All Stainless Steel	Ductile w/SS Trim	All Stainless Steel	
† 1	HEAD ASSEMBLY NO. >		All Stainless Steel (Ductile Not Avail.)	Ductile w/SS Trim	All Stainless Steel	Ductile w/SS Trim	All Stainless Steel	Ductile w/SS Trim	All Stainless Steel
1	Body		TC-2041	TC-1578	TC-1582	TC-1579	TC-1583	TC-1580	TC-1584
† 2	Plunger	17-4PH SS	TB-1471	TB-1175	TB-1175	TB-1176	TB-1176	TB-1177	TB-1177
3	Plunger Packing Gland	303 SS	TA-5642	TA-1463	TA-1463	TA-0957	TA-0957	TA-1219	TA-1219
† 4	Plunger Packing Set (Standard)	Buna-N	TA-3969	TA-1461	TA-1461	TA-1456	TA-1456	TA-0959	TA-0959
7	Yoke	Malleable Iron	TB-1173	TB-1173	TB-1173	TB-1173	TB-1173	TB-1173	TB-1173
8	O-Ring (included in item 23)	Buna-N	TA-0479	TA-0479	TA-0479	TA-0479	TA-0479	TA-0479	TA-0479
9	Belleville Washer (2 Reqd.)	C. Steel	TA-4256	TA-4256	TA-4256	TA-4256	TA-4256	TA-4256	TA-4256
† 10	Yoke Packing Set	Buna-N	TA-4892	TA-4127	TA-4127	TA-4127	TA-4127	TA-4127	TA-4127
11	Top Busing	302 SS	TA-1496	TA-1496	TA-1496	TA-1496	TA-1496	TA-1496	TA-1496
† 12	Ball Check Spring	316 SS	TA-0077	TA-0077	TA-0077	TA-0077	TA-0077	TA-0077	TA-0077
† 13	Large Top Ball 1/2"	316 SS	TA-0054	TA-0054	TA-0054	TA-0054	TA-0054	TA-0054	TA-0054
† 14	Top Seat-Ass. w Buna-N "O" Ring	303 SS	TA-0737	TB-0737	TB-0737	TB-0737	TB-0737	TB-0737	TB-0737
† 15	Small Top Ball 1/4"	316 SS	TA-0126	TA-0126	TA-0126	TA-0126	TA-0126	TA-0126	TA-0126
16	Priming Valve (Ball & Spring incl. 1/16")	303 SS	TA-5462	TA-1497	TA-1497	TA-1497	TA-1497	TA-1497	TA-1497
17	Lock Nut Yoke	Brass	TA-0225	TA-0225	TA-0225	TA-0225	TA-0225	TA-0225	TA-0225
18	Nut, Plunger Packing Gland	303 SS	TA-4104	TA-4104	TA-4104	TA-4104	TA-4104	TA-4104	TA-4104
19	Nut, Yoke Packing	Brass	TA-4094	TA-4094	TA-4094	TA-4094	TA-4094	TA-4094	TA-4094
† 20	Wiper Ring, Plunger	Buna-N	TA-4095	TA-4095	TA-4095	TA-4095	TA-4095	TA-4095	TA-4095
21	Drip-Ring, Plunger	Buna-N	TA-4095	TA-4095	TA-4095	TA-4095	TA-4095	TA-4095	TA-4095
22	Ball, Suction 1/2"	316 SS	TA-0054	TA-0054	TA-0054	TA-0054	TA-0054	TA-0054	TA-0054
† 23	Bottom Seat (w/Buna-N "O" Ring)	303 SS	TB-1216	TB-0736	TB-0736	TB-0736	TB-0736	TB-0736	TB-0736
24	Pin Plunger	Carbon Steel	TA-0290	TA-0290	TA-0290	TA-0290	TA-0290	TA-0290	TA-0290
25	Gasket	304 SS	TA-4394			Not applicable			
† 26	O-Ring	Buna-N	N/A			Not applicable			
† 27	O-Ring	Buna-N	N/A			Not applicable			
28	Yoke Cover	Plastic	TC-1604	TC-1604	TC-1604	TC-1604	TC-1604	TC-1604	TC-1604
<b>ALTERNATE PARTS FOR SEVERE SERVICE</b>									
† 4	Plunger Packing	Viton	TA-3967	TA-4102	TA-4102	TA-4101	TA-4101	TA-4103	TA-4103
† 4	Plunger Packing	Teflon	TA-3966	TA-1642	TA-1642	TA-1234	TA-1234	TA-1012	TA-1012
† 4	Plunger Packing	Hard	TA-3948	TA-2295	TA-2295	TA-1875	TA-1875	TA-1874	TA-1874
† 8	O-Ring	Viton	TA-2580	TA-2580	TA-2580	TA-2580	TA-2580	TA-2580	TA-2580
† 14	Top Seat Assy (Metal-to-Metal)	303 SS	N/A	TA-0806	TA-0806	TA-0806	TA-0806	TA-0806	TA-0806
† 22	Ball 1/2" Use w/TA-0771	316 SS	N/A	TA-0053	TA-0053	TA-0053	TA-0053	TA-0053	TA-0053
† 23	Bottom Seat (Metal-to-Metal)	303 SS	N/A	TA-0771	TA-0771	TA-0771	TA-0771	TA-0771	TA-0771

NOTES: † Recommended Spare Parts