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**DIGITAL VIPER
INSTALLATION
INSTRUCTIONS**

(07-22)

INSTALLATION INSTRUCTIONS FOR THE DIGITAL VIPER ADDITIVE INJECTION SYSTEM GTP-9076D-N

These instructions are for systems with the Veeder-Root VC-772 control.

This additive injection system was designed to be used with a remotely located additive supply tank, which we can supply. The system is supplied with an additive injection pump, a mounting bracket, a sight flow indicator, a three-way valve (test, off and inject), a pulse counter and a combination air pressure regulator and lubricator. Installation is simple; all that is required is a compressed air supply capable of at least 1 scfm, a 1/4" n.p.t. port in your piping after the filter for our exclusive injector nozzle and installing a pulse counter in the line from the electronic pulse transmitter on your existing Veeder Root register. We include all of the compression fittings, tubing and electrical cable that are needed for the installation. An insulated NEMA 4 enclosure complete with a thin film heater is provided for the pulse counter.

INSTALLATION

1. Install the mounting bracket in a convenient location.
2. Mount the additive pump on the mounting bracket with the 3/8" bolts supplied by Gammon. Be sure to mount the pump with the outlet facing up. Refer to the diagram attached.
3. Mount the NEMA 4 enclosure.
4. Wire the counter to the pulse transmitter on your register and to the solenoid on the additive pump. Refer to the attached wiring diagram. If you are using the LC LectroCount LCR refer to the attached wiring diagrams.
5. Wire the heater in such a way that it will have power when the ignition is on. This heater was designed with a built-in thermostat that will only operate if the temperature inside the enclosure drops below 40 degrees.
6. Install the pressure gauge in the regulator. Be sure to install the plug in the port behind the regulator. Mount the combination air pressure regulator/lubricator in a convenient location. Leave sufficient room to fill and adjust the regulator and lubricator.
7. Mount the sight flow indicator on the fueling side of the truck, where it can be observed while fueling.
8. Install the three-way selector valve into the outlet port of the pump. This is a special selector valve with the test port having a restricted orifice. This port must be used for testing and calibration but not for injection. Install a 3/8" stainless steel compression fitting into the test port and install a bent piece of 3/8" tubing into the fitting. This piece of tubing is used for taking samples while calibrating.
9. Install the injection nozzle into a 1/4" NPT port in your piping, after the filter.

10. Install 3/8" stainless steel tubing from the injection nozzle to the outlet of the sight flow indicator. Use the 3/8" stainless steel tubing and stainless steel compression fittings supplied by Gammon. Refer to the attached flow diagram.
11. Install 3/8" stainless steel tubing from the inlet of the additive pump to your additive supply tank. Use the Gammon-supplied 3/8" stainless steel tubing and stainless steel compression fittings. Refer to the attached flow diagram.
12. Install 3/8" stainless steel tubing from the injection port on the three-way valve to the inlet of the sight flow indicator. Use the Gammon-supplied 3/8" stainless steel tubing and compression fittings.
13. Install 3/8" Synflex tubing from your compressed air supply to the inlet of the air regulator. We supply 3/8" Synflex tubing and brass compression fittings for this connection. Refer to the attached flow diagram.
14. Install 3/8" Synflex tubing from the outlet of the air regulator to the supply port on the four-way pilot valve. Use the supplied 3/8" Synflex tubing and brass compression fittings. Refer to the attached flow diagram.
15. Install the two GTP-5855 filter silencers into the two vent ports in the four-way pilot valve. Refer to the attached flow diagram.
16. Fill the lubricator with SAE 5 or 10 weight non-detergent oil up to the full mark on the plastic bowl.
17. Set the lubricator to the minimum setting.

TESTING

We recommend that neoprene gloves and an eye shield be used.

1. Close the three-way selector valve on the pump outlet.
2. Open your compressed air supply valve.
3. Set the air pressure to 50psi using the air regulator.
4. Place a calibrated container under the tubing on the test port of the three-way selector valve.
5. Turn the handle on the three-way selector valve to test.
6. Start the flow of fuel and allow the system to prime into the test container. Each time the pump cycles there will be a noticeable thump. This will be the adjusting wheels hitting their bumpers and is normal.
7. If the system has a problem priming, stop the flow of fuel and close the air valve. Remove the two 1/8" NPT plugs on the outlet of the pump and then fill the pump with additive. Replace the plugs using PTFE tape to seal the threads. Turn your air supply valve on and start the flow of fuel.
8. Once all of the air has been forced from the system, stop the flow of fuel.
9. Reset the meter and then restart the fuel flow to check the calibration of the system. The system has been adjusted to deliver 1000ppm. That is equivalent to 380mL of additive per 100 gallons of fuel pumped. To change or adjust the injection rate of the system, refer to the section on calibration.

FINAL ADJUSTMENT

This adjustment causes the Viper to operate smoothly, injecting additive continuously for perfect blending. Since our pump is double-acting, it is capable of excellent blending.

1. Once calibrated correctly, adjust your fuel system to operate at the maximum normal pressure.
2. Reduce the air pressure until the system stops injecting correctly.
3. Slowly increase the air pressure until the Viper injects correctly. Raise the air pressure about 5psi higher.

CALIBRATION

There are two ways to calibrate the system. Use one method only.

- A. Change the presets in the pulse counter. To increase the amount of additive, decrease the preset values. To decrease the amount of additive, increase the preset values. Refer to the section of this manual on programming the counter presets.
- B. Adjust the stroke of the Viper piston.
 1. Close your air supply valve.
 2. Remove the two socket head screws from the guard to expose the calibrating wheels located below the four-way pilot valve.
 3. To increase the flow of additive, first remove the two upper set screws on both of the calibration wheels C and D, refer to the diagram attached for identification. Next, loosen the two lower set screws on each wheel. Then turn both wheels away from each other. This will increase the stroke of the piston. Each 360 degrees of rotation will equal 0.005 gallons or 19mL of additive pumped.
 4. To decrease the flow of additive, first remove the two upper set screws on both of the calibration wheels. Next, loosen the two lower set screws on each wheel. Then turn both wheels towards each other. This will decrease the stroke of the piston.
 5. Once adjusted, tighten the lower set screws ensuring they are in the shaft groove. Install and tighten the upper set screws, and replace the guard.
 6. Retest and re-calibrate as needed.

PROGRAMMING THE PRESETS INTO THE PULSE COUNTER

1. Press E and DOWN to set preset #1 (typically 0000050). Use the right and left arrows to change the selected digit. Use UP or DOWN to change the value of that digit. Press E when complete.
2. Press E and UP to set preset #2 (typically 0000100). Use the right and left arrows to change the selected digit. Use UP or DOWN to change the value of that digit. Press E when complete.

COUNTER RESET

If the counter does not reset to zero, hold UP and DOWN at the same time to reset it.

TABLE OF PRESETS

Type of Pulse		Veeder Root Model 7697 10 to 1				Veeder Root Model 7671 100 to 1			
Type of Register	Whole gallon	Preset 1	5	Preset 2	10	Preset 1	50	Preset 2	100
	1/10 gallon	Preset 1	50	Preset 2	100	Preset 1	500	Preset 2	1000
	Liter	Preset 1	18	Preset 2	36	Preset 1	180	Preset 2	360
	Dekaliter	Preset 1	2	Preset 2	4	Preset 1	18	Preset 2	36

TABLE OF PULSES PER UNIT

Type of Pulse		Veeder Root Model 7697 10 to 1		Veeder Root Model 7671 100 to 1	
Type of Register	Whole gallon	Pulses per gallon	1	Pulses per gallon	10
	1/10 gallon	Pulses per gallon	10	Pulses per gallon	100
	Liter	Pulses per liter	1	Pulses per liter	10
	Dekaliter	Pulses per 10 liters	1	Pulses per liter	1

The LC LectroCount LCR will pulse once per least significant digit of the display, i.e., a system set to read in 1/10 gallon will provide 1 pulse per 1/10 gallon (10 pulses per gallon). A system set to read in gallons will pulse once per gallon.

PROGRAMMING THE VC-772 FOR PULSE COUNTING

Note: The default factory setting is PULSE COUNTER.

1. Power off.
2. Press and hold E and UP and turn the power ON.
3. Press UP or DOWN to scroll to PULSE on display.
4. Press E to enter and save.
5. Turn power off.

PROGRAMMING THE VC-772 PULSE COUNTER SETTINGS

1. Press and hold E and DOWN and turn the power on.
2. Press and hold UP and DOWN to select F Code or FUNCTION.
3. Press DOWN to scroll.
4. Use RIGHT to save and change to next function.

**DO NOT PRESS RIGHT ARROW.
PRESS E TO SAVE SETTINGS!**

PULSE COUNTER SETTINGS

F CODE	INPUT	FUNCTION	INPUT
F0	0	FCTSET	NO
F1	5	COUNT	AAR
F2	0	QUAD	1
F3	1	INPLOG	PNP_H
F4	1	IN ATT	HIFRq
F5	1	FS AOD	ARES0
F6	1	RESET	DYN
F8	0	PRES 1	PrES 1
F9	0	OUTSIG	ACT ON
F10	0	SIG TO	DISABLE
F11	1	SIG T1	BISTAB
F12	1	SIG T2	BISTAB
F13	0	D POINT	0
F14	0	FLASH	NOFLSH
F15	2	2.LINE	P2
F16	0	OUTRES	NO
F17	1	PONRES	RES
F18	0	OUTNEN	YES
F19	1	ADDTOT	NO
F22	3	APLIMP	CNT UP
F32	0	P1 LOC	UNLOC
F33	0	P2 LOC	UNLOC
F34	0	PSCLOC	UNLOC
F35	2	GLOBAL	INPLOC

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Pump will not cycle.	Low or no air pressure.	Turn on air supply. Increase air pressure to 50psi.
	No power.	Turn on the power. Check the wiring and correct as required.
	Outlet ball valve is closed.	Open outlet ball valve.
	Pulse counter is not counting.	Check the wiring and correct as required. Check the pulse counter and reprogram as required. Check pulse transmitter and repair as needed. Replace pulse counter.
	Pulse counter presets set too high or not entered.	Check the presets and adjust as needed.
	Presets in pulse counter were changed and counter was not reset.	Reset pulse counter.
	Four-way air valve or solenoid bad.	Repair or replace as needed.
Pump cycles but does not pump.	Inlet ball valve closed.	Open the inlet ball valve.
	Additive fluid level is low.	Refill additive tank.
	Pump was not primed.	Remove the prime port plugs and prime the pump.
	Air leak in the suction line.	Check suction line for loose fittings and repair as required.
	Pump strainer clogged.	Remove strainer and clean.
	Additive tank not vented.	Vent the tank.
	Worn or dirty check valve o-rings in the pump.	Check the check valve o-rings for wear or debris and replace or clean as required.
Pump injects the incorrect amount of additive.	Presets in the pulse counter not set correctly.	Check presets in pulse counter and adjust as required. Refer to calibration section of manual.
	Calibration wheels not set correctly.	Check and adjust calibration wheels as required. Refer to calibration section of manual.
	Three-way test inject valve is oriented incorrectly.	Verify the three-way valve is oriented as per the installation instructions.
	Worn or dirty check valve o-rings in the pump.	Check the check valve o-rings for wear or debris and replace or clean as required.
	Air pressure set too low.	Increase air pressure to 50psi.
	Pump was not primed.	Remove the prime port plugs and prime the pump.
	Air leak in the suction line.	Check suction line for loose fittings and repair as required.

VIPER PUMP COMPLETE REBUILD

Drawing: GTP-8776-4E

Tools: 1 3/8" wrench or large adjustable wrench
5/8" wrench
11/16" wrench
15/16" wrench
1/4" wrench
7mm wrench
3/4" wrench
7/16" wrench
1/2" wrench
7/8" wrench
9/16" wrench
Set of Allen wrenches
Flade blade screwdriver
Needle-nose pliers

Materials: PTFE tape
Petroleum jelly
Loctite 242

CHECK VALVE AND STRAINER REPAIR PROCEDURE

1. Remove the Viper pump assembly from its mounting location. Be sure to shut off and vent the air supply, disconnect the power and close all inlet and outlet ball valves.
2. Remove the four valve port plugs (GTP 8689-3). Be careful not to lose the inlet and outlet check valve springs. Remove and replace the valve port plug o-rings (GTP-2200-914C). Lightly coat these o-rings with petroleum jelly.
3. Remove the four check valve poppets (GTP-8689-4). There are two style check valve poppets. One style has a 3/8"-16 female thread in the center - use a 3/8"-16 bolt to remove this type. The other style has a 5/16" counterbore in the center - use an internal snap ring pliers to remove this type. Remove and replace the four poppet o-rings (GTP-2200-206C). Lightly coat these o-rings with petroleum jelly.
4. Reinstall the four poppets.
5. Inspect the inlet poppet springs and replace as required. Install the inlet springs (GTP-8720-7). These are the lighter of the two springs.
6. Install the two inlet valve port plugs. Tighten securely.
7. Inspect the outlet poppet springs and replace as required. Install the oulet springs (GTP-8720-8).
8. Install the two outlet valve port plugs. Tighten securely.
9. Remove the strainer port plug. Remove and replace the o-ring (GTP-2200-017C). Lightly coat the o-ring with petroleum jelly.
10. Remove the strainer (GTP-8689-14). Remove and replace the o-ring (GTP-2200-014C). Lightly coat the o-ring with petroleum jelly.

11. Reinstall the strainer assembly. Be sure the strainer snaps into place below the level of the inlet port.
12. Install the strainer port plug. Tighten securely.

PISTON SEAL AND GLAND BODY REPAIR PROCEDURE

1. Unthread the cylinder joint (GTP-8689-17) from the pump drive rod (GTP-8689-6).
2. Remove the four 5/16"-24 bolts that secure the cylinder support assembly (GTP-8689-10) to the pump body.
3. Remove the cylinder support assembly.
4. Remove the screws that secure the gland body to the pump body. There are two style gland bodies. One type has four screws to secure it to the pump body and the second type has three screws.
5. Remove the gland body, pump drive rod, and piston assembly from the pump body.
6. Remove the cotter pin from the pump drive rod.
7. Remove the 1/4"-28 castle nut and washer from the pump drive rod.
8. Unthread the piston (GTP-8689-5) from the pump drive rod.
9. Pull the pump drive rod from the gland body assembly.
10. Remove the three Allen head screws that secure the seal carrier to the gland body. Remove the seal carrier.
11. Remove the pump drive rod seal (GTP-8776-26) from the gland body.
12. Remove and replace the gland body o-rings (GTP-2200-110C and either GTP-2200-129C for the four-screw gland body or GTP-2200-126C for the three-screw gland body). Lightly coat these o-rings with petroleum jelly.
13. Install the new pump drive rod seal into the gland body. This is a special seal and must be handled and installed with extreme care. To install this seal:
 - A. Coat the inside of the gland body with petroleum jelly.
 - B. Insert the pump drive rod through the gland body, then coat the upper end of the drive rod with petroleum jelly.
 - C. Slide one of the cupped seal halves onto the drive rod, cup end facing up. Slide the seal half down the drive rod until it rests in counter-bore in the gland body.
 - D. Install the spring over the seal half. The spring should rest in the cup groove in the seal.
 - E. Carefully slide the second seal half over the drive rod and into the gland body, cupped end facing in. The seal will protrude slightly from the gland body.
14. Install the seal carrier on the gland body. Align the three holes in the seal carrier with the three holes in the gland body. Place a drop of Loctite 242 on the threads of each socket head screw. Thread the three screws into the gland body. Do not tighten. The seal carrier should just touch the pump drive rod seal without compressing it.
15. Install the gland body cover on the gland body.
16. Coat the pump drive rod end and the inside of the pump drive rod seal with petroleum jelly.

17. Insert the pump drive rod through the gland body cover, gland body, and rotate the pump drive rod to push it through the pump drive rod seal.
18. Tighten the three socket head screws into the gland body.
19. Install the piston half with the machined recess on the pump drive rod. The recess should face toward the threaded end of the pump drive rod.
20. Install the new piston seal on the installed piston half. The cupped end of one half against the piston then the spring and then the other half over the spring.
21. Thread the second half of the piston on the pump drive rod. Tighten securely by hand.
22. Install the flat washer, castle nut, tighten securely, and the cotter pin on the pump drive rod.
23. Lightly coat the piston seal with petroleum jelly.
24. Install the gland body into the pump body. Be sure to align the holes in gland body with the holes in the pump body.
25. Install the gland body screws. Tighten securely.
26. Position the cylinder support assembly on the pump body. The air cylinder compression fittings should face out toward the valve port plugs.
27. Install the four 5/16" flat washers and 5/16"-24 bolts to secure the cylinder support assembly to the pump body.
28. Thread the pump drive rod into the cylinder joint. Tighten securely.
29. Install the brass tubing into the compression fittings on the air cylinder and four-way air valve. Tightly snug.

AIR CYLINDER REPAIR PROCEDURES

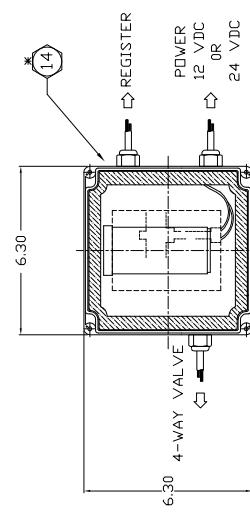
1. Remove the copper tubing from between the four-way pilot valve (GTP-8695) and the air cylinder (GTP-8689-16).
2. Unthread the cylinder joint (GTP-8689-17) from the pump drive rod (GTP-8689-6).
3. Remove the four 5/16"-24 bolts that secure the cylinder support assembly (GTP-8689-10) to the pump body.
4. Remove the cylinder support assembly.
5. Remove the plastic enclosure (GTP-9124) from the solenoid on the four-way air valve.
6. Remove the three socket head screws that secure the four-way air valve to the cylinder support assembly.
7. Remove the four-way air valve. Remove and replace the two air stones (GTP-5855) from the cylinder support.
8. Remove the guard assembly (GTP-8689-11A) and assembly brackets (GTP-8689-11B).
9. Loosen the two set screws on the adjusting collar (GTP-8689-8) closest to the air cylinder.
10. Thread the adjusting collar that is closest to the air cylinder toward the air cylinder.
11. Unthread the adjusting rod (GTP-8689-7) from the air cylinder (GTP-8689-16).

12. Remove the eight truss head screws that secure the air cylinder to the support bracket.
13. Remove the air cylinder from the air cylinder support bracket.
14. Remove the two compression elbows from the air cylinder. Clean any remaining PTFE tape from the threads of the compression fittings. Remove the cylinder joint from the air cylinder shaft.
15. Install PTFE tape on the NPT threads of the compression fittings. Coat the threads with petroleum jelly.
16. Reinstall the compression fittings into the new air cylinder. The ends of the compression fittings should face toward each end of the air cylinder. Do not over-tighten. Install the cylinder joint on the air cylinder shaft.
17. Reinstall the air cylinder into the air cylinder support assembly.
18. Thread the adjustment rod into the air cylinder. Tighten securely.
19. Install the guard brackets on the cylinder support bracket.
20. Thread the adjusting collar away from the air cylinder until it is in approximately the same location it was before moving. Be sure to align the set screws with the flats machined on the adjustment rod. Tighten the set screws.
21. Install the four-way air valve on the air cylinder support assembly. Tighten the three screws securely.
22. Install the copper tubing into the compression fittings and tighten the compression nuts snug.
23. Install the plastic enclosure on the four-way air valve.
24. Install the guard on the air cylinder support assembly.

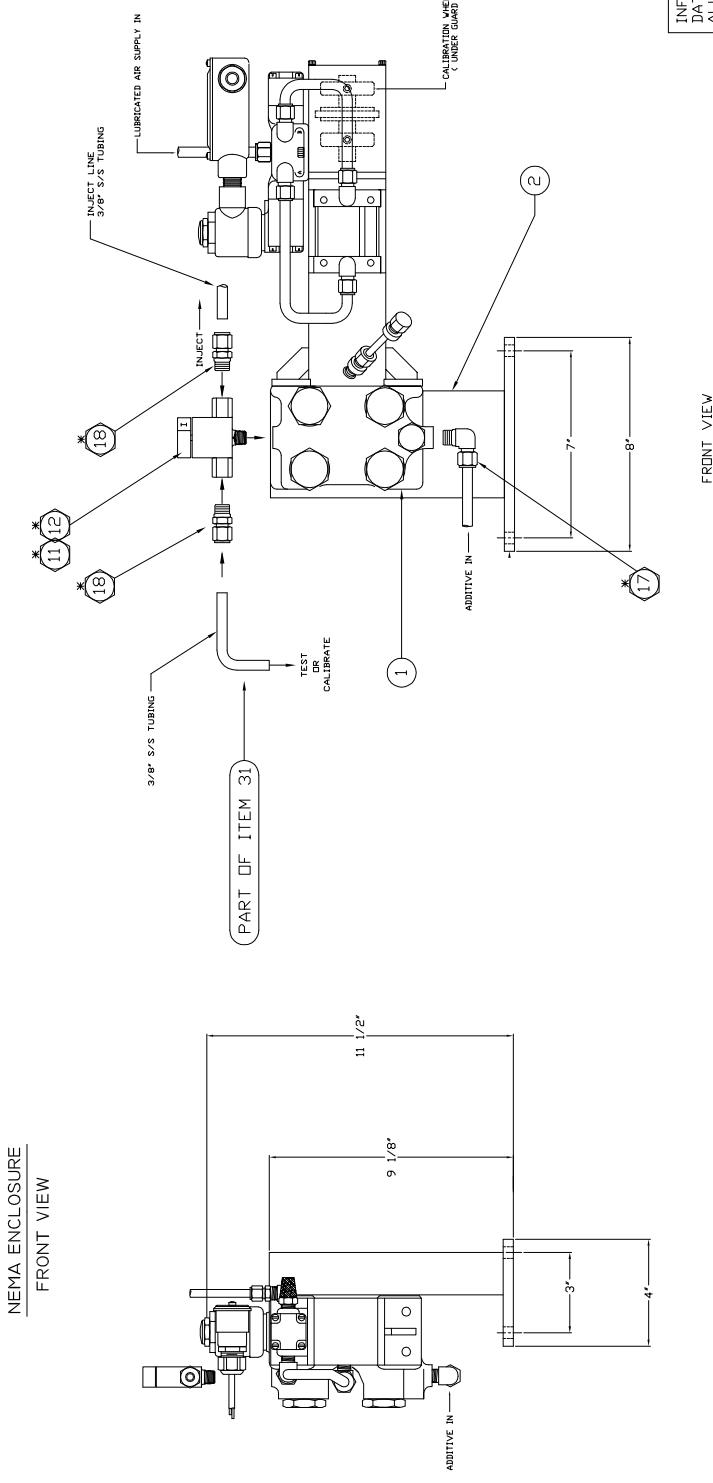
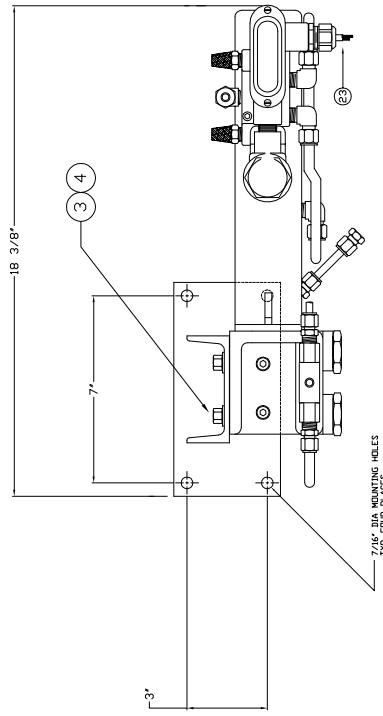
FOUR-WAY AIR VALVE REPAIR PROCEDURES

1. Remove the copper tubing from between the four-way pilot valve (GTP-8695) and the air cylinder (GTP-8689-16).
2. Remove the plastic enclosure (GTP-9124) from the solenoid on the four-way air valve.
3. Remove the three socket head screws that secure the four-way air valve to the cylinder support assembly.
4. Remove the four-way air valve.
5. Remove all of the compression fittings from the air valve. Clean any remaining PTFE tape from the threads of the compression fittings.
6. Install PTFE tape on the NPT threads of the compression fittings. Coat the threads with petroleum jelly.
7. Install the compression fittings into the new air valve.
8. Install the air stones (GTP-5855) in the new air valve.
9. Install the air valve on the air cylinder support assembly. Tighten three socket head screws securely.
10. Install the copper tubing into the compression fittings and tighten the compression nuts snug.
11. Install the plastic enclosure on the four-way air valve.

THIS DRAWING IS FOR
GENERAL DESCRIPTION PURPOSES



FRONT VIEW



- NOTES:**
- 1- MOUNTING FASTENERS AND LOCATION BY CUSTOMER.
 - 2- USE TEFLON TAPE ON ALL TAPERED THREADS.
 - 3- USE BLUE LOC-TITE ON ALL THREADED FASTENERS.
 - 4- FOR ADD-ONS AND OPTIONS SEE SHEET 4 OF 4.

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OF GAMMON TECHNICAL PRODUCTS, INC.

GAMMON TECHNICAL PRODUCTS, INC			
REVISIONS	DATE BY	DRAWN BY	SCALE
No.	DESCRIPTION		MATERIAL
1			
2			
3			
4			

PART OF ITEM 31

2000 P/T 44
MANASQUAN, NEW JERSEY - U.S.A.
APR 30

TITLE: DIGITAL VIPER SYSTEM
BASIC ADDITIVE INJECTION SYSTEM

DRAWN BY: JAM

DATE: 10/10/01

SHEET: 2 OF 3

DRAWING NO.: GTP-9076D

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GTP-9076D-0

ENCLOSURE BOX ASSEMBLY

GTP-9094	12 VDC
GTP-9094-1	24 VDC
GTP-9094-2	120 VAC
GTP-9094-3	240 VAC

REFERENCE

VIPER ASSEMBLY	O-RING MATERIAL
GTP-9076D-N	NEDPRENE
GTP-9076D-O	VITON/GLT
GTP-9076D-F	VITON/GLT
GTP-9076D-Q	VITON/GLT
GTP-9076D-X	VITON/GLT

REFERENCE

LETTER CODE	VOLTAGE
R	12 VDC
S	24 VDC
T	120 VAC
U	240 VAC

* ITEMS SENT DUE SEPARATELY - NOT ON PUMP ASSEMBLY *

QTY	QTY	QTY	ITEM	PART No.	DESCRIPTION	MATERIAL
*	1	1		8 GTP-8726-B	FLOW INDICATOR	
*	1	1		9 GTP-8726-L	FLOW INDICATOR	
*	1	1	1	10 GTP-8726-VG	FLOW INDICATOR	
*	1	1	1	11 GTP-2305-1-070	3-WAY INJECTION VALVE	STAINLESS STEEL
*	1	1	1	12 GTP-2305-2-070	3-WAY INJECTION VALVE	STAINLESS STEEL
*	1	1	1	13 GTP-9651	AIR REGULATOR / LUBRICATOR	
*	1	1	1	14 GTP-9094-	ENCLOSURE BOX ASSEMBLY AS PER P/N	
*	1	1	1	15 GTP-8807	INJECTOR - 1/4" NPT	STAINLESS STEEL
*	1	SET 1	SET 1	SET 1	EXTRA SET OF O-RINGS AS PER P/N	
*	2	2	2	2	17 SS-600-2-4	MALE ELBOW - 3/8" TUBING X 1/4" NPT
*	9	9	9	9	18 MALE CONNECTOR - 3/8" TUBING X 1/4" NPT	STAINLESS STEEL
*	2	2	2	2	19 BI469-4-6	MALE ELBOW - 3/8" TUBING X 1/4" NPT
*	2	2	2	20 BI468-6-4	MALE CONNECTOR - 3/8" TUBING X 1/4" NPT	BRASS
*	30 FT	30 FT	30 FT	21 GTP-9132	18-3 CABLE	
*	20 FT	20 FT	20 FT	20 FT	22 3/8" O.D. TUBING - COIL	STAINLESS STEEL
*	20 FT	20 FT	20 FT	23	3/8" O.D. TUBING	SYNTEX
*	1	1	1	1	24 GTP-9204	SQUEEZE BOTTLE
*	1	1	1	1	25 SC-B-2-GI	CALIBRATED BOTTLE - 250 ML
*	5	5	5	26 GTP-8987	STRAIN RELIEF	PLASTIC
*	1	1	1	27 GTP-9245	CHECK VALVE	STAINLESS STEEL
*	1	1	1	28 GTP-2223	BALL VALVE - 1/4" NPT	BRASS
*	2 FT	2 FT	2 FT	29	3/8" O.D. TUBING	STAINLESS STEEL
*	1	1	1	30 SE-4B	STREET ELBOW - 1/4" NPT	BRASS
*	1	1	1	31 NH-NS	HEX NIPPLE - 1/4" NPT	STAINLESS STEEL
*	1	1	1	32 NH-DB	HEX NIPPLE - 1/4" NPT	BRASS
*	1	1	1	33	1/4" PIPE NIPPLE X 4" TUBING - REF. 9076C-Q	STAINLESS STEEL
*	1	1	1	34	HEX NIPPLE - 1/4" NPT - REF. 9076C-Q	STAINLESS STEEL
*	2	2	2	35 NH-AS	STREET ELBOW - 1/4" NPT - REF. 9076C-Q	STAINLESS STEEL
*	2	2	2	37 SS-600-1-6	3/8" TUBING X 3/8" NPT	STAINLESS STEEL

VIPER ASSEMBLY

GTP-9076D-X

GTP-9076D-F

GTP-9076D-Q

GTP-9076D-O

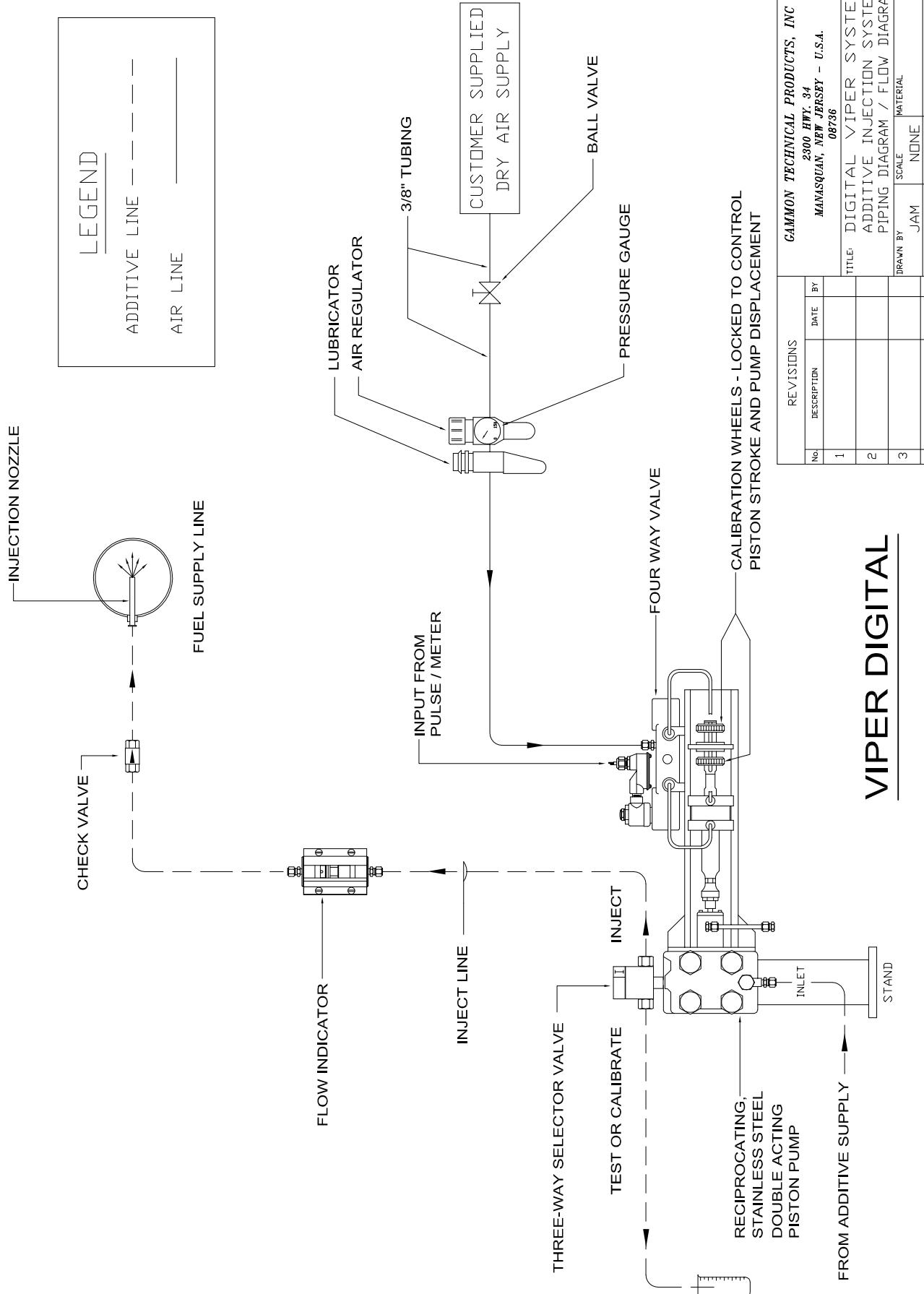
GTP-9076D-P

GTP-9076D-R

GTP-9076D-S

GTP-9076D-T

GAMMON TECHNICAL PRODUCTS, INC		
	2300 HWY. 34	
	MANASQUAN, NEW JERSEY - U.S.A.	
	08756	
TITLE	-- MINI VIPER SYSTEM --	
	ADDITIONAL INJECTION SYSTEM	
	- BASIC SYSTEM --	
DRAWN BY	JAM	SCALE MATERIAL
DATE	10/06/16	DRAWING NO. GTP-9076D-
REVISONS		
No.	DESCRIPTION	DATE BY
1		
2		
3		
4		
5		
6		

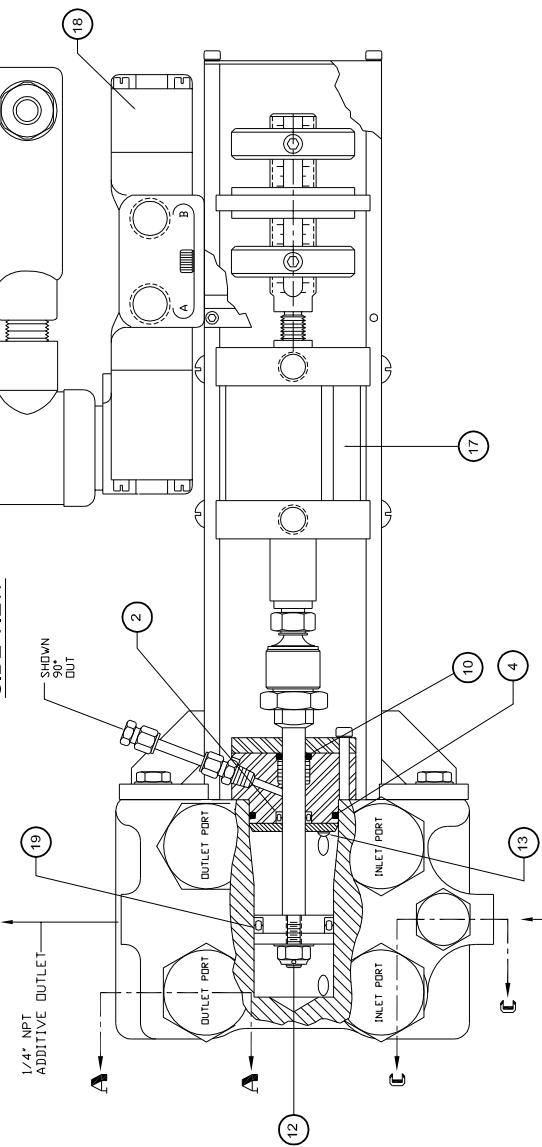


SEE SHEET 2 OF 2 FOR PARTS LIST

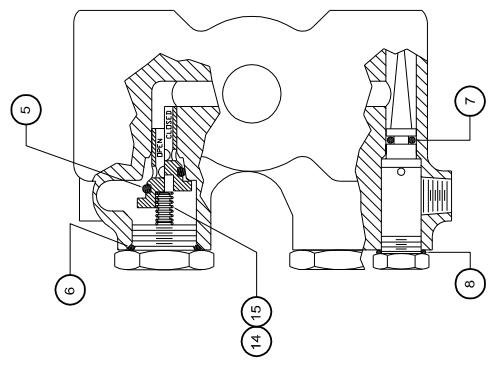
GTP-8776, GTP-9076, GTP-9276

1.50 DIA. BORE

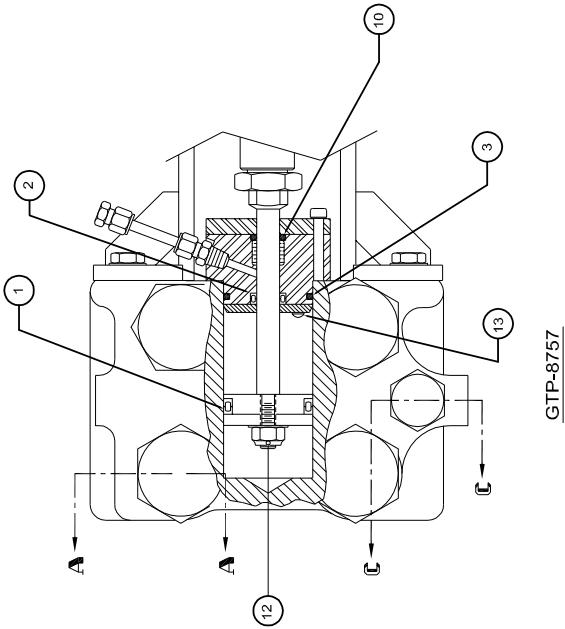
SIDE VIEW



SECTION A

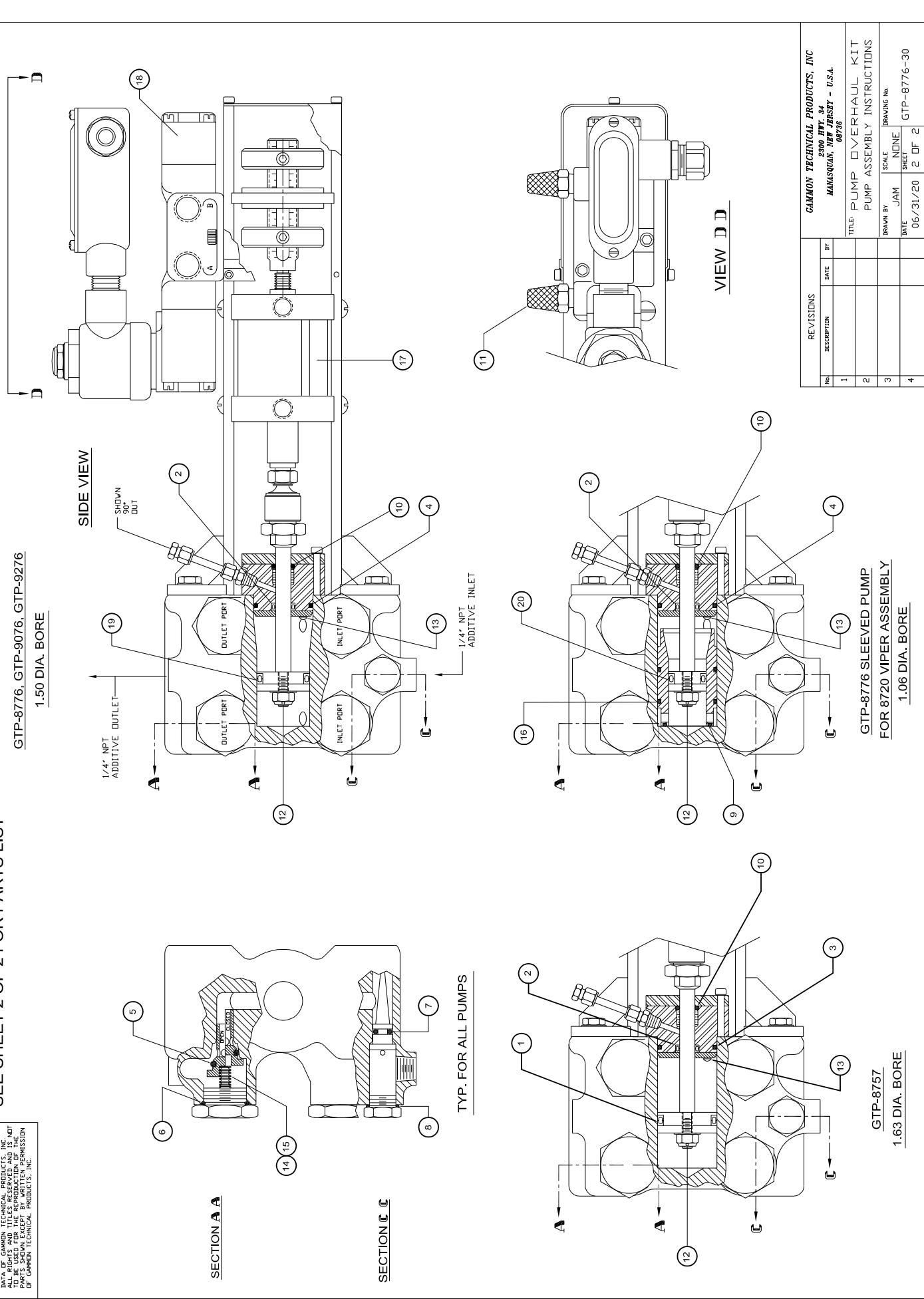


TYP. FOR ALL PUMPS



GTP-8757
1.63 DIA. BORE

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TO BE COPIED OR DISCLOSED EXCEPT BY WRITTEN PERMISSION
OF GAMMON TECHNICAL PRODUCTS, INC.



GAMMON TECHNICAL PRODUCTS, INC		
2300 HFT, 3rd	DATE	BY
MASSACHUSETTS, MASS - U.S.A.	06/756	
TITLE	PUMP OVERHAUL KIT	
PARTS	ASSEMBLY INSTRUCTIONS	
DRAWN BY	JAM	SCALE
DATE	06/31/20	INCHES
REV. NO.		GTG-8776-30

GTP-8776 SLEEVED PUMP
FOR 8720 VIPER ASSEMBLY
1.06 DIA. BORE

VIPER ASSEMBLY DESIGNATION FOR O-RING MATERIAL

VIPER ASSEMBLY	D-RING MATERIAL	D-RING DESIGNATION	ADDITIVE TYPE				
GTP-9076N	GTP-9276N	GTP-8776N	GTP-8720N	GTP-8757N	NEOPRENE	C	DIETMANN
GTP-9076D	GTP-9276D	GTP-8776D	GTP-8720D	GTP-8757D	VITON/GLT	VG	B1080R
GTP-9076F	GTP-9276F	GTP-8776F	GTP-8720F	GTP-8757F	VITON/GLT	VG	BF1Z + 100
GTP-9076X	GTP-9276X	GTP-8776X	GTP-8720X	GTP-8757X	VITON/GLT	VG	KATHIN

VIPER PUMP USED IN VIPER ASSEMBLY

PUMP	PUMP	PUMP	PUMP	PUMP
8776-4EN	8776-4EN	8776-4EN	8776-4EN	8757-4EN
8776-4ED	8776-4ED	8776-4ED	8776-4ED	8757-4ED
8776-4EF	8776-4EF	8776-4EF	8776-4EF	8757-4EF
8776-4EX	8776-4EX	8776-4EX	8776-4EX	8757-4EX

**VOLTAGE TABLE
REFERENCE**

LETTER CODE	VOLTAGE
R	12 VDC
S	24 VDC
T	120 VAC
U	240 VAC

NOTES:

WHEN ORDERING SPECIFY:

1- SERIAL NUMBER ON PUMP

2- VOLTAGE

3- ADDITIVE

ITEM	PUMP 1.5 BORE GTP-8776	PUMP 1.63 BORE GTP-8757	PUMP 1.63 BORE REFERENCE SILICONE GTP-8082-2	PUMP 1.63 BORE REFERENCE SILICONE GTP-8082-2	PUMP 1.63 BORE REFERENCE SILICONE GTP-8082-2	PISTON SEAL	DESCRIPTION
1	1	1	1	1	1	8757-25	PISTON SEAL
2	1	1	1	1	1	8776-26	SHAFT SEAL
3	1	1	1	1	1	2200-129	O-RING FOR 1.63 DIA PUMP BORE
4	1	1	1	1	1	2200-126	O-RING FOR 1.50 DIA PUMP BORE
5	4	4	4	4	4	2200-206	O-RING
6	4	4	4	4	4	2200-914	O-RING
7	1	1	1	1	1	2200-014	O-RING
8	1	1	1	1	1	2200-017	O-RING
9				1	1	2200-024	O-RING FOR SLEEVE
10	1	1	1	1	1	2200-110	O-RING
11	2	2	2	2	2	5955	FILTER/SILENCER
12	1	1	1	1	1		COTTER PIN
13	3	3	3	3	3		BUTTON HEAD SOCKET SCREW
14	2	2	2	2	2	8720-7	SPRING - INLET
15	2	2	2	2	2	8720-8	SPRING - OUTLET
16			2		2	2200-028	O-RING FOR SLEEVE 1.50Ø BORE
17	1	1	1	1	1	9657	AIR CYLINDER
18	1	1	1	1	1	8695-	FOUR WAY AIR VALVE - REF. TABLE
19	1					8776-25	PISTON SEAL
20			1			8720-25	PISTON SEAL
21				2		2200-029	O-RING FOR SLEEVE 1.63Ø BORE

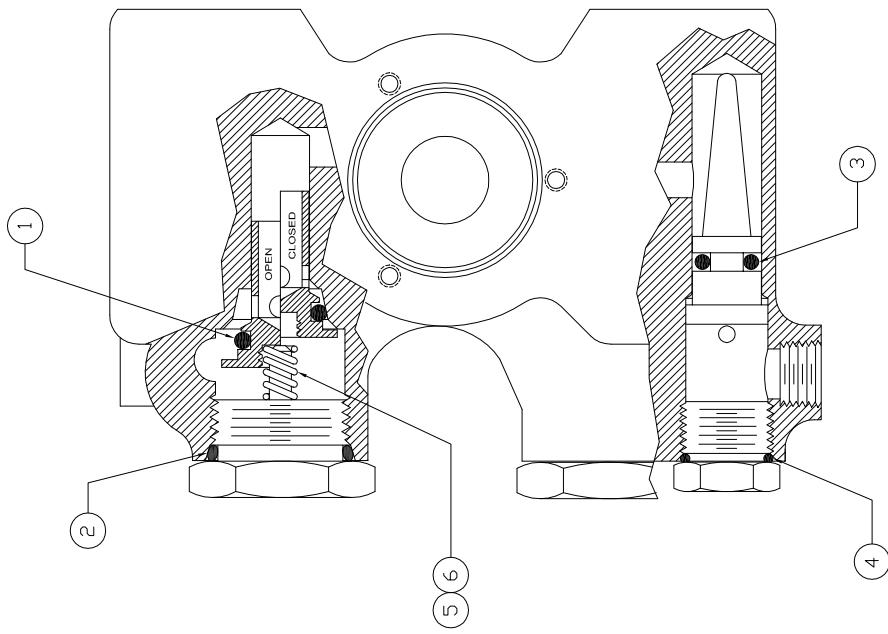
QTY.

REVISIONS	GAMMON TECHNICAL PRODUCTS, INC.		
NO.	DESCRIPTION	DATE	BY
1			MARSHALL, MARY - U.S.A. 07/28
2			TITLE: PUMP OVERHAUL KIT
3			PUMP ASSEMBLY INSTRUCTIONS
4			PRINTED BY: JAM SCALE: NONE PACKAGING NO.: GTP-9775-30 DATE: 06/31/20 SHEET: 1 OF 2

INFORMATION SHOWN HEREIN IS PROPRIETARY DATA OF GAMMON TECHNICAL PRODUCTS, INC. ALL RIGHTS AND TITLES RESERVED AND IS NOT TO BE USED FOR THE REPRODUCTION OF THE PARTS SHOWN EXCEPT BY WRITTEN PERMISSION OF GAMMON TECHNICAL PRODUCTS, INC.

VIPER PUMP DESIGNATION FOR O-RING MATERIAL

VIPER ASSEMBLY	VIPER ASSEMBLY	VIPER ASSEMBLY	O-RING MATERIAL	O-RING DESIGNATION	ADDITIVE TYPE	PUMP
GTP-8776N	GTP-9276N	GTP-9076N	NEOPRENE	C	DIEMME	8776-1
GTP-8776D	GTP-9276D	GTP-9076D	VITON/VLT	VG	BIDOR	8776-1
GTP-8776F	GTP-9276F	GTP-9076F	VITON/VLT	VG	BETZ + 100	8776-1
GTP-8776X	GTP-9276X	GTP-9076X	VITON/VLT	VG	KATHON	8776-1



PARTS LIST

ITEM	QTY	GTP-NUMBER	DESCRIPTION
1	4	2200-206	O-RING
2	4	2200-914	O-RING
3	1	2200-014	O-RING
4	1	2200-017	O-RING
5	2	8720-7	SPRING - INLET
6	2	8720-8	SPRING - OUTLET

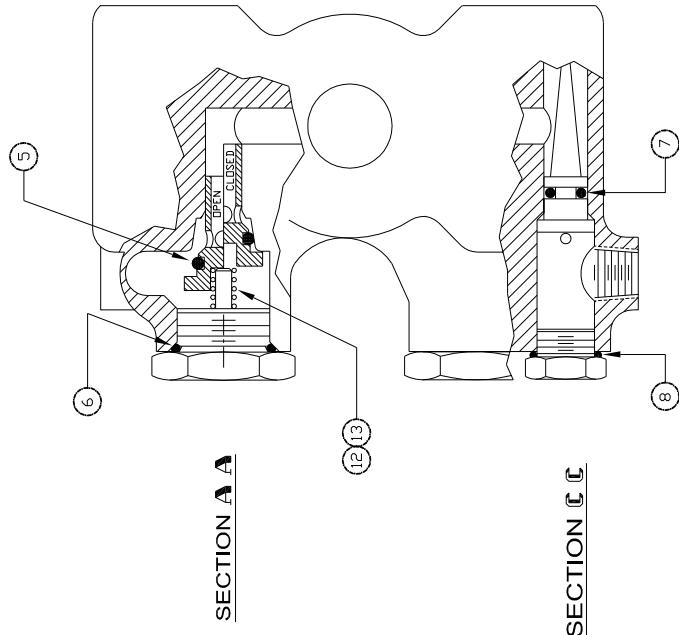
REVISIONS		GAMMON TECHNICAL PRODUCTS, INC	
		MANASQUAN, NEW JERSEY - U.S.A. 08736	
No.	DESCRIPTION	DATE	BY
1	ECN-4060	9/15/20	JM
2			
3			
4			

TITLE: CHECK VALVE AND STRAINER
----- OVERHAUL KIT -----
FOR 8720, 8757, 8776 PUMPS

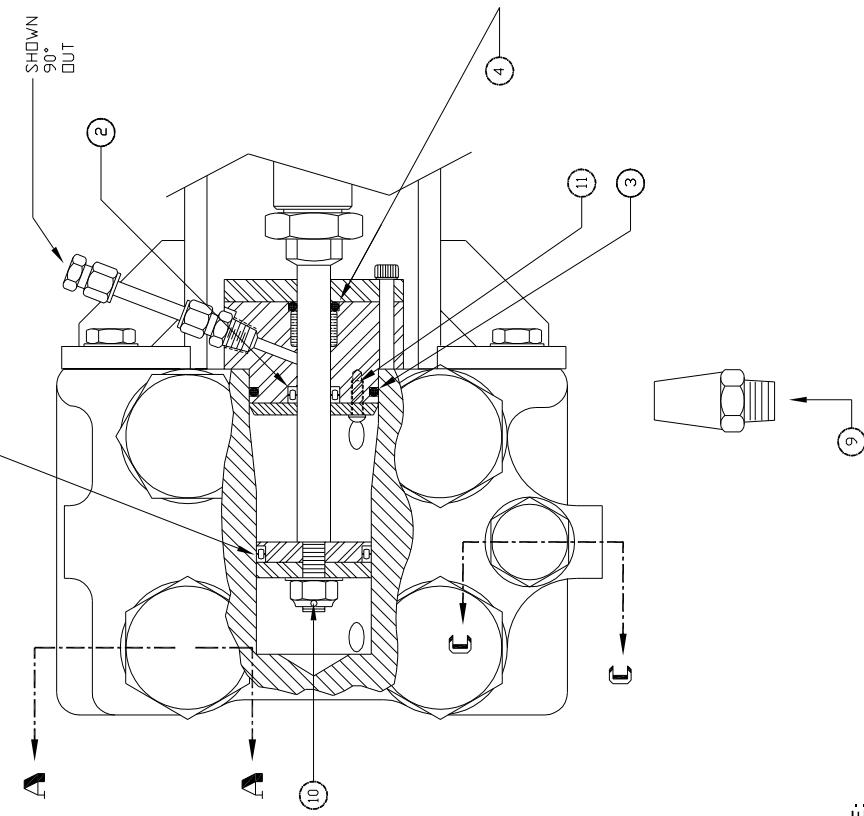
DRAWN BY JAM DATE 06/12/02 SHEET 1 DRAWING No. GTP-8776-31

VIPER PUMP DESIGNATION FOR O-RING MATERIAL

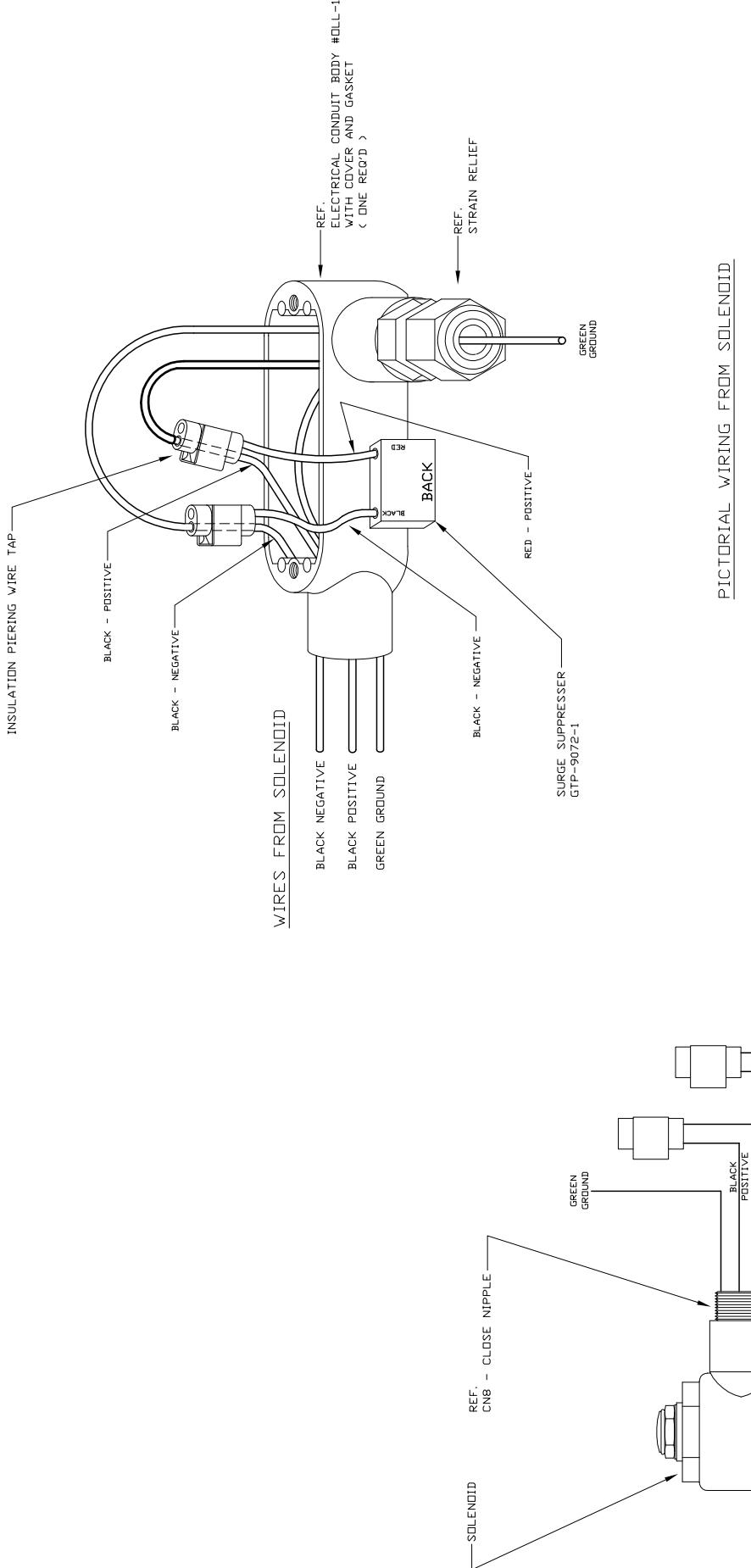
VIPER ASSEMBLY	O-RING MATERIAL	O-RING DESIGNATION	ADDITIVE TYPE	PUMP
GTP-9076N	NEOPRENE	C	DIEGMME	8776-4EN
GTP-9076X	VITON/GLT	GLT	KATHON	8776-4EX



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REVISIONS		GAMMON TECHNICAL PRODUCTS, INC	
NO.	DESCRIPTION	DATE	BY
1		28/01/76	MANASQUAN, NEW JERSEY - U.S.A. 08736
2		8776 / 8757 - 1 1/2 DIA BORE	TITLE: PUMP REBUILT KIT
3			BROWN BY JAM SCALE NONE DRAWING NO.
4		06/12/02 SHEET 1 OF 1	GTP-8776-150 GTP-8757-150



REVISIONS		GAMMON TECHNICAL PRODUCTS, INC	
No.	DESCRIPTION	DATE	BY
1		2300 HTT, 34 MANASQUAN, NEW JERSEY - U.S.A. 08736	
2	TOLERANCES UNLESS OTHERWISE NOTED ANGULAR: #1/2° FRONTAL: .010-.014 DECIMAL: .000 (.000) DECIMAL: .000 (.000)	ENCLOSURE - ASSEMBLY CONDUIT WIRING CONNECTIONS	DRAWN BY: JAM SCALE: NONE MATERIAL: DATE: 03/23/11 DRAWING NO.: 11 IF 1 GTP-3076-200

VEEDER ROOT MODEL #7697
UP TO 250 VAC OR VDC

PULSER

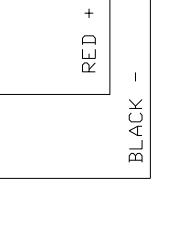
BLACK

BLACK

-
—
GREEN

24 VDC SYSTEMS

12 VDC SYSTEMS



OPTIONAL SECOND REGISTER

PULSER

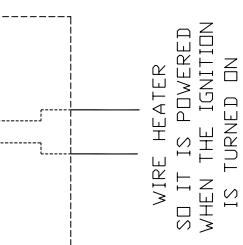
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BLACK

-
—
GREEN

DLT
1 DL T
2 DC-
3 A
4 B
5
6
7
8 PULSE
COUNTER
9 NC
10
11
12
13
14
15
16

GTP-9071-772

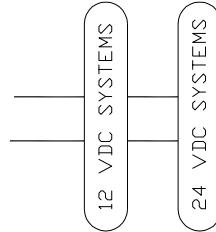


RED +

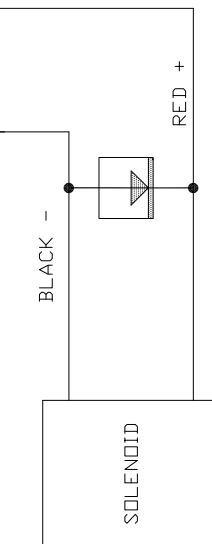
RED -

DC+

DC-

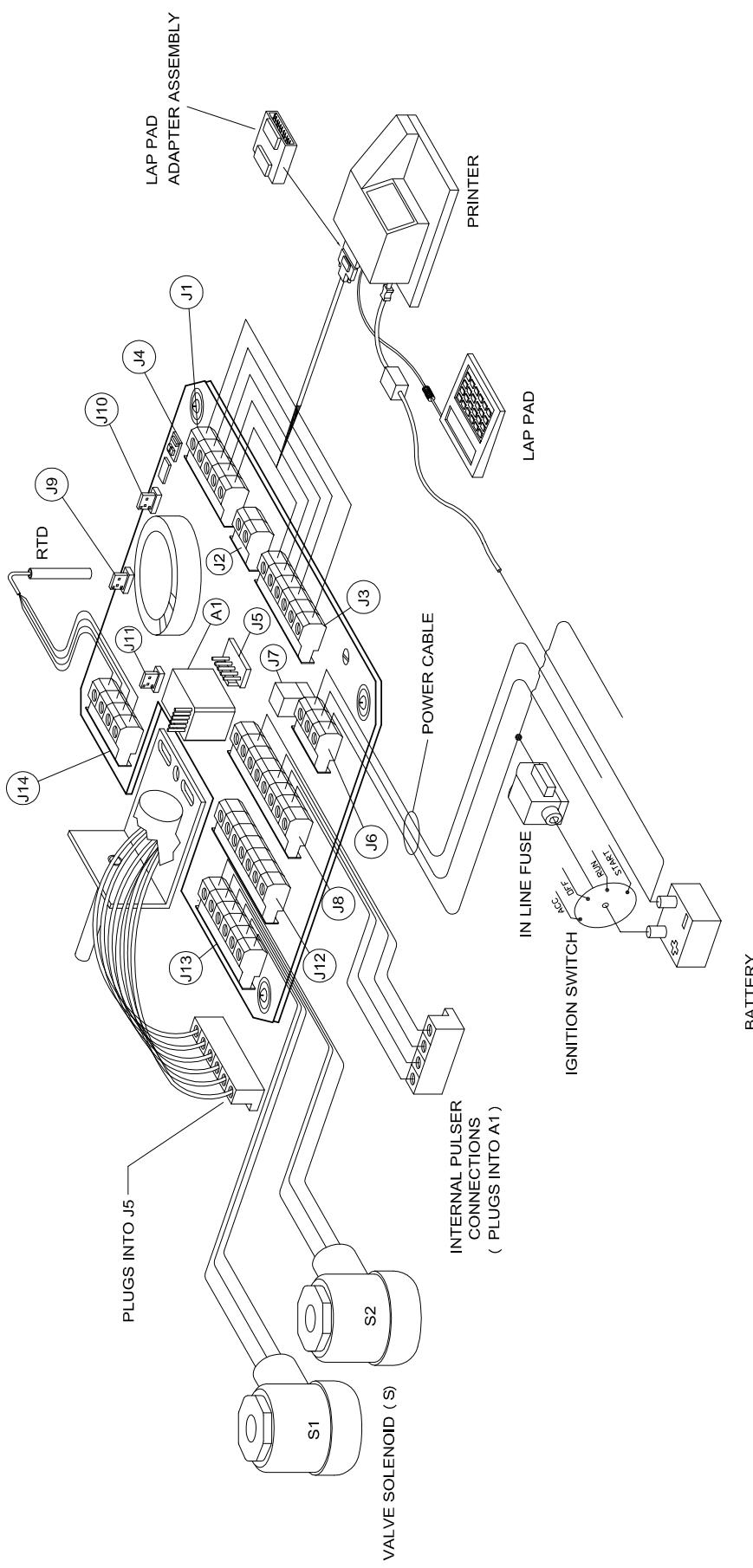


1N4005 DIODE



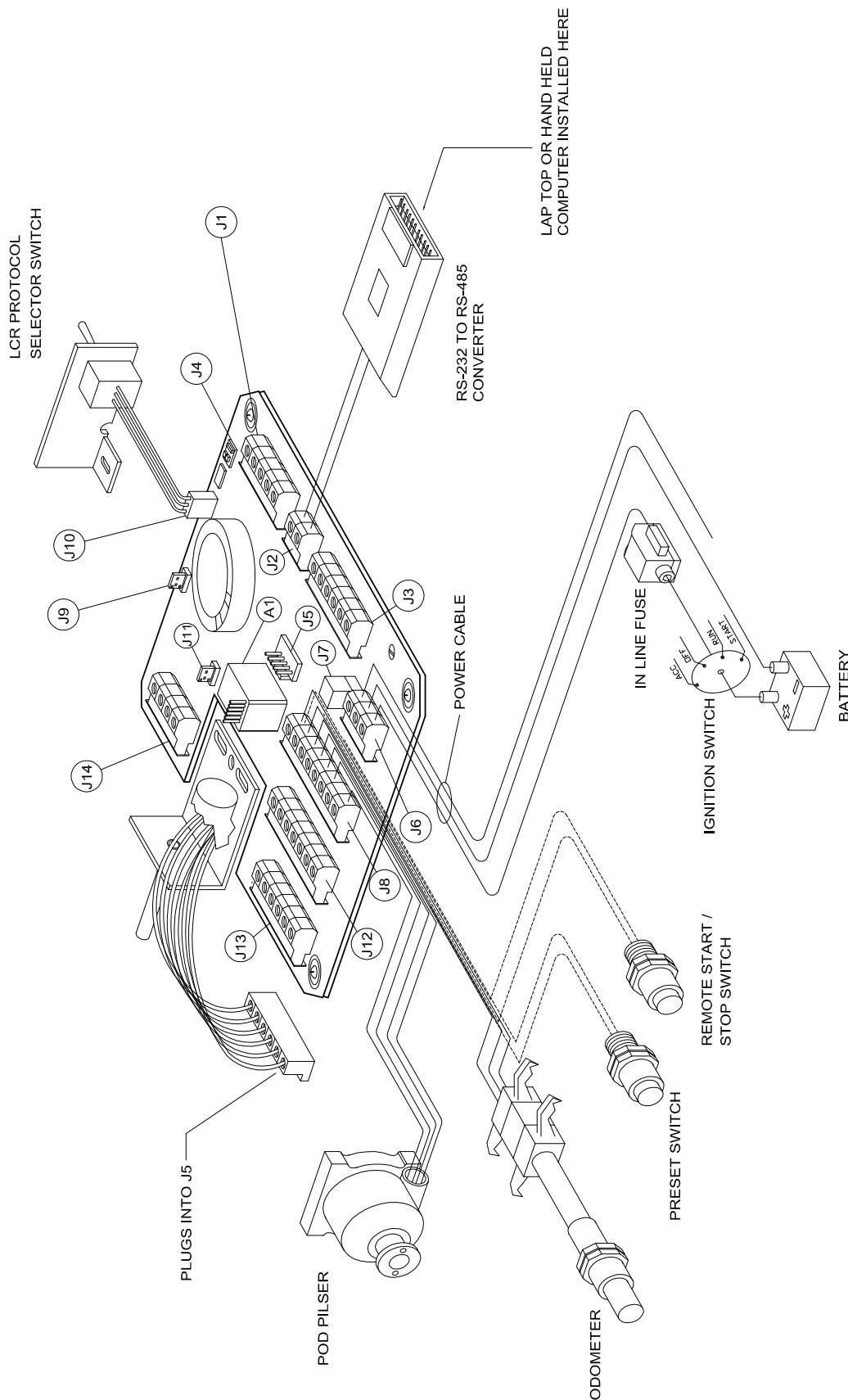
REVISIONS		COMMON TECHNICAL PRODUCTS, INC	
No.	DESCRIPTION	DATE	BY
1			MANASQUAN, NEW JERSEY - U.S.A. 08/36
2			
3			
4			

TITLE: DIGITAL VIPER SYSTEM
ADDITIVE INJECTION SYSTEM
ELECTRICAL DIAGRAM
DRAWN BY: JAM
SCALE: N/D
MATERIAL: SHEET
DATE: 11/30/21
DRAFTING NO.: GTP-2094-ELEC



FOR LIQUID CONTROLS METER
REFER TO SECTION ON PROGRAMMING THE PULSE COUNTER
START AT STEP 2
PRESS THE E KEY UNTIL THE SCREEN READS F10 PRG 1
CHANGE PRG 1 TO PRG 0 AND PRESS THE E KEY
CONTINUE TO FOLLOW THE PROGRAMMING INSTRUCTIONS.

WIRING
A 1K OHM RESISTER IS REQ'D BETWEEN #45 AND #42
RUN WIRE FROM #42 TO COUNETR #3
RUN WIRE FROM #41 GROUND TO #2 COUNTER.



FOR LIQUID CONTROLS METER
WHEN USING POD PILSER OPTION

WIRING
RUN WIRE FROM #33 TO COUNTER #3
RUN WIRE FROM #37 TO COUNTER #2
RUN WIRE FROM #3 TO COUNTER #1