

## System Saver Throttle Controller

Model **8100**

### FEATURES

- Reduces engine RPM when pump is in by-pass resulting in reduced engine wear.
- Prolongs pump life by reducing potential liquid heat build-up while pump is in by-pass.
- Reduces fuel consumption because engine is not continually running at full RPM.
- Instant on/off response eliminating pressure delays when pump operation resumes.

**INSTALLATION:** The Throttle Controller will function in any position, however, a minimum number of bends should be in the throttle cable to insure smooth consistent operation. If multiple discharge ports are available, **install directly into the discharge manifold port. If not, tee into the discharge line between the unloader valve and the pump.**

**OPERATION:** When the shut-off gun is closed (trigger released) the unloader will go into by-pass and drop the system pressure to 250 PSI or less. This change in pressure moves the piston in the throttle controller, reducing the tension on the throttle cable to permit the engine to idle.

**NOTE:** The **Throttle Controller cannot be used with a pressure regulator** as a regulator maintains system pressure and will not give the required low pressure drop to activate the piston in the Controller.

**SETTING AND ADJUSTMENT:** Connect the Throttle Controller **cable** by turning the threaded cable end into the **cable retainer**. Thread hand tight until **Locking Nut and Housing** are flush with the cable retainer. Then secure locking nut with wrench. Torque to 100 in/lbs. Slide cable wire through the hole in the **“L” connecting rod**. Apply a small amount of Loctite® 242® to the I.D. of the **socket head screw**.

### SPECIFICATIONS

	U.S. Measure	Metric Measure
Max. System Pressure .....	4000 PSI	(275 BAR)
Actuation Pressure .....	250 PSI	(18 BAR)
Max. Temperature .....	160°F	(71°C)
Fitting Size .....	3/8" NPTM	(3/8" NPTM)
Cable Length.....	48"	(1219 mm)
Weight .....	22 oz.	(0.62 kg)
Dimensions .....	5.25 x 1.75"	(133 x 45 mm)

Only partially thread onto “L” connecting rod until remaining connection is made. Slide “Z” end of cable through the housing clamp. Then insert “Z” end into cable insert on the engine throttle rack. Only partially tighten screw on housing clamp now to allow later fine tuning of the throttle cable. With the engine in idle position, tighten the **socket head screw** on the “L” connecting rod. Torque to 8-10 in/lbs.

Start the engine and make the necessary pressure adjustment to your unit to obtain full operating pressure at rated RPM. Check this pressure with the trigger gun open. Leave gun open and adjust the engine to full RPM by sliding the cable housing back and forth to obtain a minimum of 5/1000ths of a gap at the stop on the engine throttle rack. When the engine gap is reached tighten screw on cable housing clamp. Torque to 10 in/lbs.

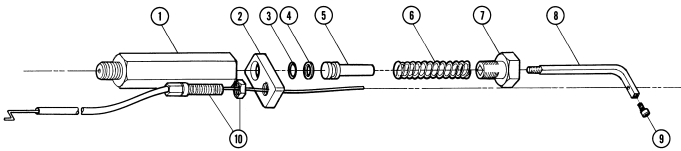
#### CAUTION

The engine throttle should not be allowed to hammer against the throttle rack stop. Be certain to leave a small air gap between the throttle and the stop to prevent stress on the cable, the throttle stop and the “L” connecting rod (see Tech Bulletin 061).

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*“Customer confidence is our greatest asset”*

## EXPLODED VIEW

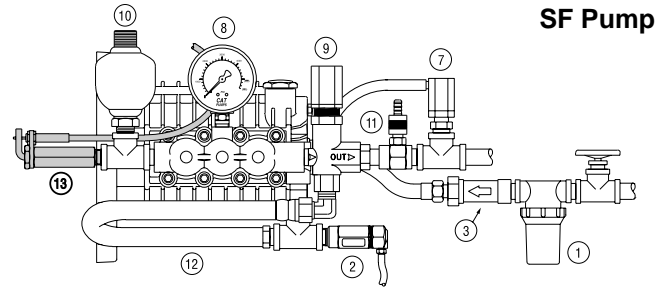


## PARTS LIST

ITEM	P/N	MATL	DESCRIPTION	QTY
1	—	BB	Body, TCV	1
2	34201	STL	Retainer, Cable	1
3	34209	NBR	O-Ring - 70D	1
4	34206	PTFE	Back-up Ring	1
5	34202	S	Piston	1
6	34205	S	Spring, Piston	1
7	34203	STL	Retainer, Spring	1
8	34204	S	Rod, "L" Connecting	1
9	34207	STL	Screw (#6-32x3/8)	1
10	34210	STL	Cable, 48"	1
—	34113	STL	Wrench, Allen - 7/64"	1

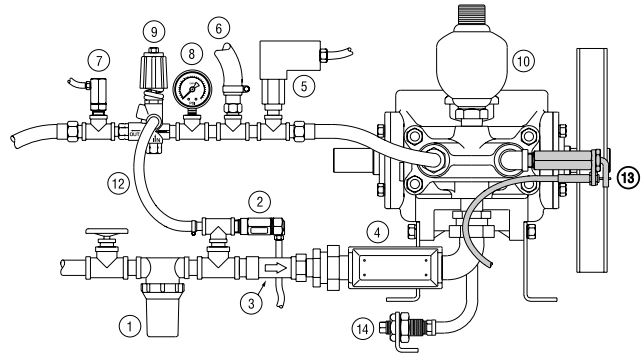
Material Codes (Not Part of Part No.) BB=Brass NBR=Medium Nitrile (Buna-N)  
PTFE=Pure Polytetrafluoroethylene S=304SS STL=Steel

## TYPICAL INSTALLATION

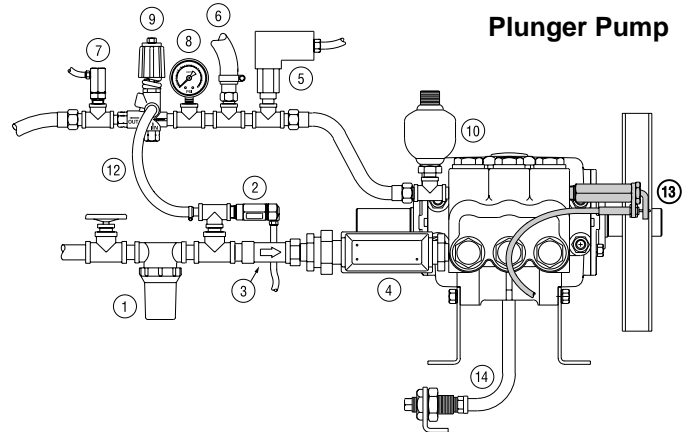


SF Pump

Piston Pump



Plunger Pump



## TROUBLESHOOTING

Water leaking around "L" connecting port	<ul style="list-style-type: none"> <li>• O-ring worn. Replace as needed.</li> </ul>
Engine does not drop to idle	<ul style="list-style-type: none"> <li>• Regulator incorrectly installed or pressure lock-up unloader incorrectly installed.</li> <li><b>Use only Unloader with low pressure of less than 250 PSI in by-pass.</b></li> <li>• Plugged orifice in throttle controller. Clean as needed.</li> <li>• Cable broken or restricted with severe bends.</li> </ul>
Engine does not return to full system RPM	<ul style="list-style-type: none"> <li>• Cable broken or restricted with severe bends.</li> <li>• Cable extremely dirty. Lubricate and resume operation.</li> </ul>

## WARRANTY

### 90 Day Warranty

Refer to complete CAT PUMPS Warranty for further information.

- |                                      |                      |                        |
|--------------------------------------|----------------------|------------------------|
| 1 Inlet Filter                       | 5 Pressure Switch    | 10 Pulsation Dampener* |
| 2 Thermo Valve                       | 6 Pop-Off Valve      | 11 Chemical Injector   |
| 3 Inlet Pressure Regulator           | 7 Quick Start Valve  | 12 By-Pass Hose        |
| 4 C.A.T. (Captive Acceleration Tube) | 8 Pressure Gauge     | 13 Throttle Controller |
|                                      | 9 Regulator/Unloader | 14 Oil Drain Kit       |

These illustrations show the basic elements for a typical installation of a high pressure piston or plunger pump. Not all components shown are required for all applications or systems. Each component presents potential problems that too often are ascribed to a perfectly functioning pump, such as: a clogged strainer, a partially closed shut-off valve, a faulty gauge, or a malfunctioning regulator/unloader. Proper system installation, routine lubrication and monitoring of components are your basic guarantees of optimum pump performance. CAT PUMPS does not assume any liability or responsibility for the design or operation of a customer's high pressure system.

\*Preferred mounting of Pulsation Dampener (Prrrr-O-Lator) is directly on the discharge manifold of the pump. The preferred mounting of the by-pass hose (when returning to the inlet) is before the Pressure Reducing Valve. If this is not possible, then mount the Prrrr-O-Lator after the Pressure Unloading Valve to prevent pressure spikes to the pump inlet.

Products described hereon are covered by one or more of the following U.S. patents 3558244, 3652188, 3809508, 3920356, 3930756 and 5035580

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