



# ACCUSUMP™ INSTALLATION & OPERATION INSTRUCTIONS

ACCUSUMP™ oil accumulators are covered under one or more of the following patents:  
#4,094,293 #4,513,704 #4,513,705 #5,014,820



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### UNITS COVERED

These instructions cover the following CM Accusumps™

- #24-006 3 quart 4 1/4" Dia. by 16" long Accusump™
- #24-016 3 quart 4 1/4" Dia. by 22" long high pressure Accusump™
- #24-026 2 quart 4 1/4" Dia. by 12" long Accusump™
- #24-046 1 quart 3 1/4" Dia. by 12" long Accusump™
- #24-126 2 quart 4 1/4" Dia. by 12" long Marine Accusump™
- #24-146 1 quart 3 1/4" Dia. by 12" long Marine Accusump™

# ACCUSUMP™ BASICS & INITIAL SETUP

## PURPOSE OF THE ACCUSUMP™

**Pre-oiling:** supplying oil pressure to the engine before start up for the purpose of lubricating engine components

**Surge control:** supplying oil to the moving components of the engine when there is a momentary interruption of the normal oil supply

## HISTORY

The Accusump™ oil accumulator was designed to stop loss of oil pressure in racing applications. In road racing as cornering speeds increased and ground clearance decreased the ability for shallow wet sump oil systems to provide continuous oil pressure was becoming a problem. To solve this oiling problem an oil accumulator was designed to provide the oil required during the high load periods when the oil pickup became uncovered and pressure was compromised. Eliminating the momentary loss of oil pressure saved engines.

The Accusump's success on the road racing circuit was soon noticed by drag racers who had their own set of oiling problems because of high acceleration and deceleration rates. The Accusump™ became the accepted way to provide more continuous oiling and add longevity to drag race engines.

Over 25 years the simplicity and effectiveness of the Accusump™ has spread to all areas of motorsports and into all types of applications.

The realization that most wear on a normal engine occurs during startup before oil pressure is established has made the Accusump™ popular in many non-performance areas. By providing pre-oiling the Accusump™ can extend the life of any engine.

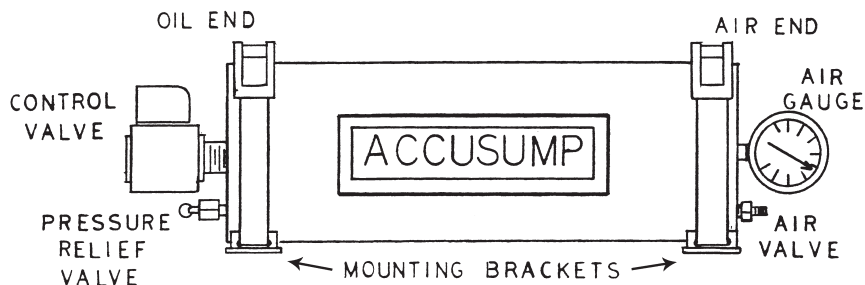
## ACCUSUMP™ FUNDAMENTALS

Accumulators are used in many applications to limit surges in hydraulic systems. The basic concept of using a gas cushion to smooth out pressure spikes has been used in industry for years, with different designs for different applications. The Accusump™ is an accumulator that is specifically designed for the protection of automotive engines.

The Accusump™ consists of a specially designed tube and a piston that separates the oil from the air within the tube. As oil enters one side of the Accusump™ under pressure the piston is pushed back, compressing the air in the other side of the tube. The piston will always move toward equilibrium where the pressure in the air side equals the pressure of the oil side. The Accusump™ holds the oil in the oil side under the engine's operating pressure and can supply the engine with that oil if the normal supply is interrupted. It releases the stored oil when a pressure loss in the engine puts the Accusump™ out of equilibrium and causes the oil to exit the Accusump™ in an attempt to regain equilibrium. Most accumulators are designed to limit high pressure spikes, the Accusump™ limits low pressure drops.

The Accusump™ piston keeps the oil from mixing with air, which allows the units to be mounted in any position and also permits a pre-charge of pressure in the air side. The pre-charge of air pressure ensures that the unit empties under pressure. However, since the piston always moves to equilibrium the pre-charge cannot create more oil pressure or effect the pressure oil is stored at.

Our standard units come with a safety pressure relief valve, air fill valve, and air gauge. The air fill valve is used to set the pre-charge; the air gauge is to be used as referenced for setting the pre-charge and checking pressure in the Accusump™. The patented safety pressure relief valve is to protect the unit. In cases where the unit is set up incorrectly and/or there is a leak in the airside of a unit, it could become Hydraulically locked (totally full of oil). Under this condition, if the unit is heated the safety valve will open, releasing the excess pressure and protecting the unit. If this does occur you should be aware that there is a problem and you should review your Accusump™ setup as described in this manual.



## VALVE OPTIONS

We offer a few different valving options to choose from for our Accusumps™ so we may provide the best fit for your application. The exception is the marine units, which are already matched with the best valve choice for the marine application.

**The Manual Valve Part # 24-260:** The manual valve is the simplest valve and the easiest to install. It provides quick response time and has no restrictions. It is recommended for hard core racing applications.

**The Manual Valve with Cable Kit Part # 24-506:** The manual valve with cable kit allows the use of a manual valve when the Accusump™ is mounted in a hard to reach location.

**The Standard Electric Valve Part # 24-270:** The standard electric valve wires to the ignition and provides hands free operation of the Accusump™. This allows the unit to be mounted almost anywhere. Fast discharge and slow refill makes this valve option ideal for street and pre-oiling only applications.

**The E.P.C. Electric Valve Part #'s 24-271, 24-273, 24-275:** These valves have the convenience of an electric valve for remote mounted units and the rapid refill rate of a manual valve as required in racing. They will only allow the Accusump™ to discharge oil when the engine's oil pressure drops below a predetermined level and refill when the pressure rises above that level. Three different preset pressure levels are available. The E.P.C. valve is the recommended electric valve for racing applications as it is good for both pre-oiling and surge control.

## INSTALLATION

The Accusump™ connects into the pressure side of the engine's oiling system. There are several different ways to accomplish this, depending on the specific application.

### 1) Applications with remote oil filters, coolers, or with external oil pumps

In systems that have either an external oil cooler, a remote oil filter, or have an external oil pump the oil is routed outside the engine through hydraulic hoses. Figure 2 shows the routing of an external oil system with a remote filter and oil cooler. On all of these systems we recommend that the Accusump™ be connected on the oil return side of the system, close to the engine and after the oil filter and/or the oil cooler. Figure 2 shows a "T" fitting adapter being used inline to connect the Accusump™ into an external oil line. A "T" fitting adapter can also be used to connect directly into the adapter on the engine block. In addition, many remote filter mounts that use spin-on cartridges have an extra port into which the Accusump™ can be directly connected. We offer adapters, "T" fittings, and filter mounts for most applications as well as hose and fittings.

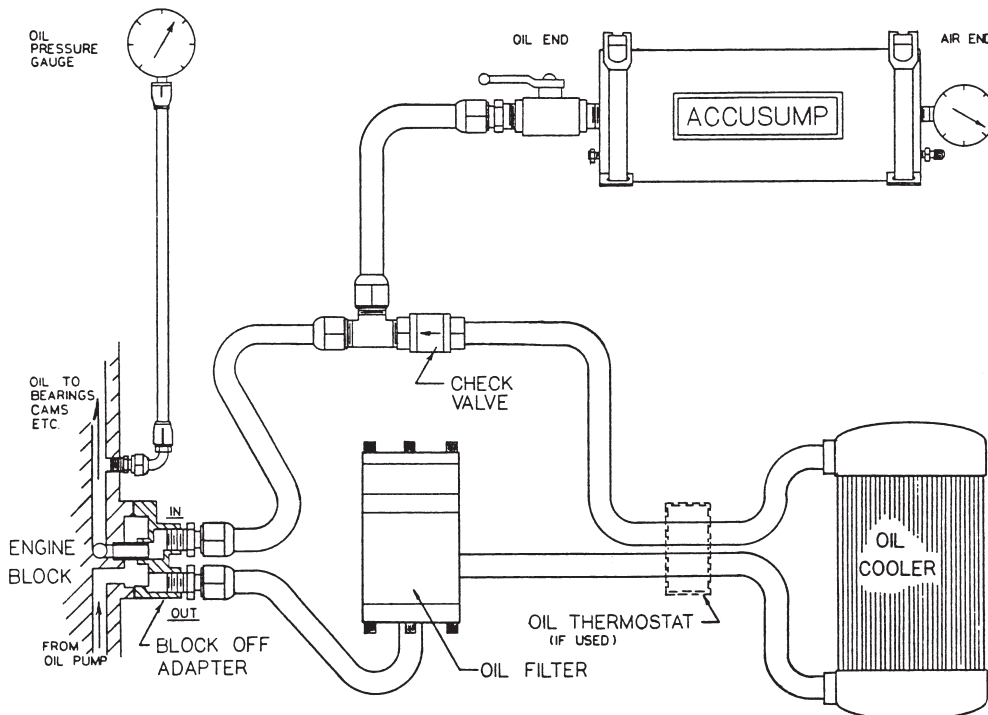


FIG. 2- ACCUSUMP IN EXTERNAL OIL SYSTEM

## 2) Applications with spin on filters

In systems that do not have any external oil pressure line but use a conventional spin on style oil filter the simplest method of connecting an Accusump™ is with a sandwich adapter. These adapters fit between the oil filter and the engine block lowering the filter and providing an input port for the Accusump™. We offer these adapters for most applications.

## 3) Connecting directly into an engines oil passages

Many engines come standard with a threaded port into the oil gallery. Assistance from an engine builder familiar with the engine block can be very helpful in determining if one exists in your engine. Some blocks will require drilling and tapping. The preferred port size is 1/2" N.P.T., however, 3/8" N.P.T. is acceptable. See Figure 3.

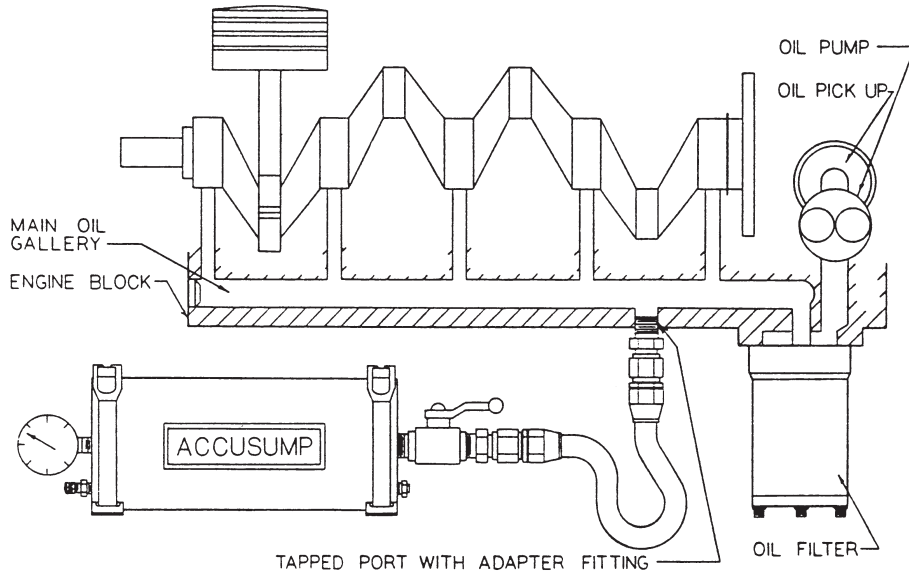


FIG 3 - ACCUSUMP PORTED INTO BLOCK

## MOUNTING

The Accusump™ will work with the tube in any position or orientation; however, if possible, mount the tube with the oil end (the end with the oil valve) slightly higher than the air end. This will prevent accumulation of air bubbles (coming from foam in the oil) by purging any minor air pocket during pre-oiling, when it will not cause any harm. Our mounting brackets are required for all units. The bands of the mounting brackets should be installed at the ends of the tube. Placement of the mounting clamps/brackets near the center of the tube could pinch the tube, causing the piston to hang up. Mount the tube in a way that it does not become twisted, pinched, or in any way distorted, as this will cause erratic operation and/or internal leakage. Be careful that the tube is not exposed to high heat (exhaust pipes), damage from stones or other cars, or used as a step. Attach the mounting brackets to the vehicle using 5/16" bolts of grade 5 or better. Use a reinforcement plate if the brackets are mounted directly to sheet metal. Tighten the bolts on the mounting bracket bands to between 6 and 7 foot-pounds torque.

Do not bend, twist, step on, or mis-shape the tube.

Requires one of our style mounting clamps

1. When manual valve units are used in production style racecars, the unit is often mounted on the passenger side with the valve within reach of the driver when belted in. However, the valve does not have to be attached directly to the Accusump™ tube. It is also possible to mount the valve somewhere along the oil line within reach of the driver while mounting the Accusump™ out of reach of the driver. You also have the option to mount out of reach of the driver when using the manual valve with cable kit.
2. The Electric Valve units can be mounted anywhere and be controlled automatically through the ignition switch or accessory switch.

## ASSEMBLY

Once the method of connecting to the engine and the mounting location are determined, the required adapters, fittings, and lengths of hose can be purchased. Parts available from us are listed at the end of this booklet. Assembly of the control valve and the pressure relief valve onto the unit may be required. Teflon tape should be used on all these N.P.T. threads. All other methods such as pipe dope, silicon, and liquid Teflon are not recommended.

## CONNECTING/ PLUMBING

The hoses used in the installation of the Accusump™ should be a minimum of AN-6 for 1 quart units and AN-10 for 2 & 3 quart units or larger depending on application. The air gauge and/or air valve may be remotely mounted; however we do not suggest it. If done it is essential all lines, fittings and connections are 100% leak free! Teflon tape should be used on N.P.T. threads. All other methods such as pipe dope, silicon, and liquid Teflon are not recommended. The Accusump™ will not function properly if there is any air leakage. Check for air leaks using soapy water and an overnight pressure test as described in the "Setting the Pre-Charge" section on page #5.

## WIRING OF ELECTRIC VALVE UNITS

1. Locate an accessory terminal in your fuse panel that is energized when the ignition is on. On applications without a fuse panel, an accessory terminal on the ignition switch can be used. This terminal should only be energized when the switch is on. If the lead is not fused, a 4 amp fuse should be installed.
2. Install the toggle switch in a convenient location. Power coming from the ignition switch or accessory terminal should run through the toggle switch. This will enable the toggle to disable the unit in a situation where the ignition is left on without the engine being started. When the toggle switch is in the on position, the electric valve will be open whenever the ignition is on with standard electric valves, and when the ignition is on and the oil pressure is low with E.P.C. valves.
- 3A. To install a **Standard Electric Valve** run 16-gauge multi-strand wire from the ignition lead to one side of the toggle switch. From the other side of the toggle switch, run a wire to where the electric valve solenoid is positioned. Attach this power lead to either of the leads on the electric valve. Run the other lead on the electric valve to a chassis ground. **SEE FIGURE 4.**

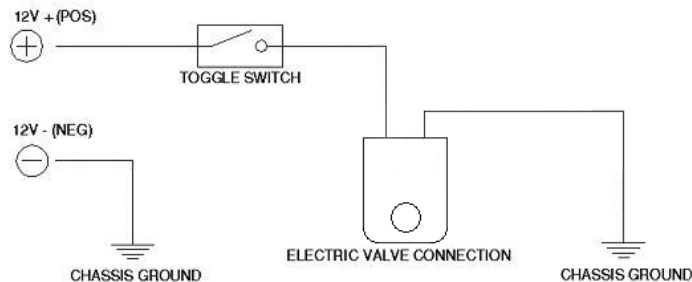


FIG. 4 - STANDARD ELECTRIC VALVE DIAGRAM

- 3B. To install an **E.P.C. Electric Valve** run a 16-gauge multi-strand wire from the ignition lead to one side of the toggle switch. From the other side of the toggle switch, run a wire to where the electric valve solenoid is positioned. Choose one of the electric valve leads to be your power wire, either of the leads can be used. Cut the chosen wire to about 6 inches so it can neatly be wired to the pressure switch. Strip back about 1/4" of insulation and install a female connector on the wire's end. Attach it to one of the pressure switch terminals. Run the other unused lead on the electric valve to a chassis ground. Finish wiring by installing a female connector on the power lead running from the toggle switch and connect it to the unused terminal on the pressure switch. **SEE FIGURE 5.**

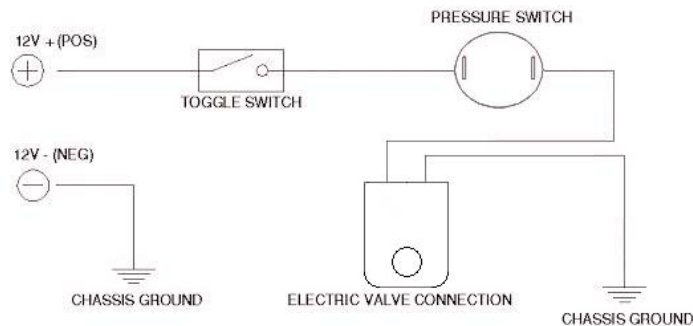


FIG. 5 - E.P.C. ELECTRIC VALVE DIAGRAM

# OPERATION & CARE / FINAL SETUP

## SETTING THE PRE-CHARGE

Once the Accusump™ is mounted and the plumbing installed take some time to set the Accusump™'s pre-charge. Improper pre-charge can result in many problems. To ensure your Accusump™ will work correctly follow the steps listed here.

With the valve in the open position (electric units energized) and the engine not running; pressurize the Accusump™ to 60 psi. This will ensure all the oil is out of the unit and the piston is all the way to the oil end. While the Accusump™ is pressurized to 60 psi check all the fittings (gauges and lines) for leaks. Apply soapy water to each area and check for bubbles. If possible, wait overnight to ensure there is no loss of pressure. For the unit to operate correctly there cannot be any leaks in the air side. Temperature change will affect pressure.

Once you are sure there are no leaks, bleed down the air pre-charge to between 7 and 10 psi. Now when you start the engine and open or energize the valve, the pressure in the air side of the Accusump™ should increase to approximately that of your engine oil pressure. After you close the valve and shut your engine off, check your oil level. Add oil as required to compensate for the oil being held in the Accusump™.

Under normal conditions the pre-charge should not need resetting after the initial set up. However, if a leak occurs or if the unit's pre-charge seems to have changed you may need to reset your pre-charge to ensure your Accusump™ performs correctly. To reset your pre-charge, set the valve to the open position (electric units energized) while the engine is not running; and pressurize the Accusump™ to 60 psi. Next bleed down the air pre-charge to between 7 and 10 psi.

Under no circumstances should the safety valve be removed, as this will void the warranty. If oil leaks from the safety valve, be sure that it is sealed with Teflon tape and tightened; the safety valve is hand tight when delivered and requires final tightening after installation of the Accusump™ valve. If oil still leaks from the safety valve, there is a problem in the installation. These valves are very reliable and are set to open at 175 PSI, which is far above the pressure the unit would see if installed correctly.

## NORMAL OPERATION OF THE ACCUSUMP

### Pre-oiling

With manual valve units: immediately before starting the engine, open the oil valve on the Accusump™. This will purge air from the oil gallery and pre-oil the engine before it is started. With electric units wired into the ignition, this will happen automatically when the ignition is turned on.

### Surge Control

During operation of the engine, the Accusump™ will operate automatically to supply oil to the engine any time that the oil pump loses suction due to oil surges. Should there be a failure in the oiling system, the Accusump™ will supply 15 to 60 seconds of oil (depending on engine size and speed) to protect the engine.

### Shut Down

During shut down the Accusump™ will hold whatever pressure your engine has at the time it is shut off. On manual valve units you will need to close the valve before shutting the engine off. On electric units, the valve will close automatically when the engine is shut off. If the engine has low oil pressure at idle you may want to hold the engine at a higher speed as you close the valve to develop more oil pressure for pre-oiling. If the manual oil valve is left open when the engine is shut off, the Accusump™ will not store its oil and require refilling at start up. It may be refilled by leaving open the oil valve during start up to allow oil to enter the Accusump™.

## NORMAL CARE

There are Accusump™ units that have been in service for many years and have bores which look like new. The key to long life for the Accusump™ is proper care and oil filtration.

1. The Accusump™ should be protected by a quality oil filter that does not have a bypass. The filter should be replaced and inspected at frequent intervals. The life of your Accusump™, like the life of your engine, will depend on how clean your oil remains.
2. The Accusump™ tube has close tolerances of roundness; care must be taken that the tube is not distorted. The unit should be mounted so that it is not twisted or bent, however slightly. Do not use the Accusump™ as a step or allow anything to be dropped on it. The Accusump™ is a precision piece of equipment.
3. Keep the dust cap on the air valve to prevent the introduction of dirt into the air end of the unit.
4. When breaking in a fresh engine do not operate your Accusump™ if it is equipped with an electric valve. Passages in the valve can clog with the assembly lube that is present in the oil during engine break-in.

## ENGINE FAILURES

Should an engine failure occur or the oil become contaminated the Accusump™ should be cleaned and tested. All lines and components of the oil system must be flushed and cleaned. We recommend that if a unit needs to be cleaned, tested and/or rebuilt, it should be sent back to the factory. Improper disassembly can cause damage to the Accusump™ and may be very dangerous.

## IMPORTANT PRECAUTIONS

The following precautions must be taken for your Accusump™ to operate correctly. Failure to do so can result in damage to the unit.

1. Never allow your Accusump™ to become hydraulically locked, that is, having the unit totally filled with oil with the valve closed. There should always be a cushion of air in the Accusump™ when the valve is closed.
2. There should be a 7-10 psi. pre-charge of air pressure when the unit is totally empty of oil.

## CAUTION!!!

The Accusump™ tube's inside diameter has a very smooth finish. Should this finish become damaged by foreign material (from engine failure or contaminated oil), the piston seals will wear rapidly, leading to malfunctioning of the Accusump™. Use of an oil filter without a bypass is encouraged. We recommend our CM high flow non-bypassing filter. Should the bore of the Accusump™ tube become scored, the entire Accusump™ unit will become unrepairable. If possible, plumb the filter before the Accusump™.

## MAINTENANCE

1. When in operation, the reading on the air gauge of the unit should increase and decrease with engine oil pressure fluctuations.
2. Routinely check the pre-charge pressure with the unit totally empty of the oil to make sure air has not leaked out of the unit. This is extremely important when a remote air gauge is used.
3. Never bleed air from the unit while in operation or when full of oil as this will defeat the purpose of the pre-charge and make the unit ineffective.
4. These units should not be mounted in a place where they can become excessively hot, especially not in a place where they will absorb heat after the engine is shut off and the Accusump™ control valve has been closed.
5. Improper disassembly can cause damage to the Accusump™ and can be very dangerous.

## TESTING YOUR ACCUSUMP™

### Check the Accusump's ability to fill.

Make sure your Accusump™ is working correctly. After the pre-charge has been set according to the installation instructions, run the normal engine shut down procedure: with the engine oil pressure up, close the valve on the Accusump™ (cut the power to electric units) and shut the engine off. The pressure showing in the air gauge should be close to what the engine oil pressure was during shut down. The oil level in the oil pan should be at the full mark.

### Check the Discharge

Open the valve (power up the electric units) with the engine off. You should hear the oil discharge into the engine and see the pressure on the air gauge drop down to the pre-charge setting and the pressure on the engine's oil gauge go up. If not, reset the pre-charge. The engine oil level will be above full by the amount that was stored in the Accusump™.

### Check the Refill

Start the engine, establish good oil pressure and open the valve (electric valves will automatically open to fill), oil should enter the Accusump™ and the air pressure should increase to approximately that of the engine oil pressure. The time involved will be based on the valve used and the size of the unit.



# TROUBLE SHOOTING

## **Accusump™ not filling or filling too slowly**

It should be noted that the standard electric valve units fill slowly. The design of the valve is to ensure that too much oil is not diverted from the engine during refill. These units are recommended for pre-oiling and not for surge control. The EPC electric valve will fill slowly until the pressure threshold is reached at which time it will rapid fill.

Other reasons for slow or no refill:

- 1) The manual valve is not being opened completely.
- 2) The EPC is wired incorrectly. When the pressure is above the threshold, the valve should not be energized.
- 3) The wrong EPC pressure threshold was selected for your engine's pressure range. The pressure threshold should be below the engines normal operating pressure.
- 4) The EPC valve may be plumbed incorrectly. The pressure sender should be installed closer to the engine than the electric valve.
- 5) The electric valve may be installed backwards. It should be mounted so the port marked "IN" is plumbed to the Accusumps™ and the port marked "Out" is plumbed to the line running to the engine. When the valve is mounted backwards oil will not enter when it is in the off position.
- 6) The feed lines or connecting port is too small.
- 7) The pre-charge is too high and not letting oil enter.
- 8) The unit is bent, distorted or mounted incorrectly.

## **Accusump™ not discharging correctly**

- 1) The manual valve is not open fully.
- 2) The electric valve may be installed backwards. It should be mounted so the port marked "IN" is plumbed to the Accusumps™ and the port marked "Out" is plumbed to the line running to the engine.
- 3) The electric valve has become contaminated with engine assembly lube or another foreign substance and is not working correctly. The unit will need a rebuild in this case.
- 4) If a check valve is used, it could be installed incorrectly. The arrow on the check valve indicates direction of flow.
- 5) Electric power is not reaching the electric valve.
- 6) The EPC valve may be plumbed incorrectly. The pressure sender should be installed closer to the engine than the electric valve.
- 7) The hose or ports used to connect the unit are too small.
- 8) The pre-charge is set too high and no oil has entered the Accusump™.
- 9) The pre-charge was lost or is too low.

If you are using our EPC electric valve you should note that it operates in a unique way from our other valves. The EPC valve is designed to only discharge at the threshold pressure of the EPC valve, regardless of the Accusump's total held pressure. The EPC unit will only discharge when the engine pressure is at or below the threshold pressure.

## **Accusump™ not holding a pre-charge**

Accusumps™ not holding a pre-charge can be an indication of a leak in the air side of the unit, most common when remote gauges are used. Review recommendations under the leak section that follows.



## **Accusump™ leaking**

To locate the source of the leak check all lines, fittings, and gauges. Leaks on the oil side of the unit are likely to produce an oil drip. Leaks on the air side of the unit can be found by pressurizing the unit to 60 psi then applying soapy water to each area and checking for bubbles. Inspect and tighten any leaking fittings or gauges. To verify your unit is leak free we recommend pressurizing the unit to 60 psi then waiting overnight to confirm the unit has retained the pressure. Note: A temperature change will affect pressure.

### Pipe Threads

We recommend using Teflon Tape on the pipe thread to help seal and allow for easy removal. All other methods such as pipe dope, silicon, and liquid Teflon are not recommended. All fittings that directly thread into the Accusump™ are pipe threads.

### AN Style Fittings

The AN style fittings and hose ends seal on an angled seat. If there is a leak in one of these connections check for a nick in the sealing seat.

### Pressure Relief Valve

If the pressure relief valve is allowing oil to escape, it is an indication that the unit has been set-up incorrectly. The relief valve is rated at 175 psi. and it is rare that they fail. Check your installation instructions and reset your pre-charge. Under no circumstances should you replace the pressure relief valve with a plug.

### Reasons For a Leaky Pressure Relief Valve

- 1) Pre-charge set incorrectly, instructions not followed, review the "Setting the Pre-Charge" section of this manual on page #5.
- 2) An air leak is causing the unit to lose it's pre-charge and become hydraulically locked.
- 3) Pressure relief valve needs tightening or teflon tape to seal.
- 4) The Accusump™ tube is dented or bent in a way to keep the piston from moving.
- 5) Contamination is caught in the relief valve from previous purging causing a small drip leak.
- 6) The unit is mounted in a way that twists or distorts the tube that would keep the piston from moving.
- 7) The unit is mounted next to a high heat source, causing the oil to expand greatly while the valve is closed.
- 8) The engine system pressure exceeds 175 psi.
- 9) Defective safety valve, send to the factory to be checked. (very rare)

### End Cap

Leaks around the threaded end cap are very rare, unless the unit has been severely damaged. If oil is leaking around the threaded end cap, the unit should be sent back to the factory to be checked out and have the o-rings seals replaced, if that is the problem.

## **Air gauge not reading correctly**

Your Accusump™ air gauge is a commercial gauge to be used as a relative reference and not as a precise measure of pressure. Over the years we have seen a variation in readings between the different types and different manufacturers of gauges. Your gauge should be able to give a good indication of the pressure in the airside of the unit. The gauge can be checked by reading the pressure in the air fill valve with a good tire gauge. A replacement gauge or more precise gauges are available.

## **Rebuild Service**

If you have encountered a problem that requires your Accusump™ to be sent in for a rebuild ship it to: Canton Racing Products, 232 Branford Road, North Branford, CT 06471. Please include the air gauge and valve for your Accusump so it may be tested as a unit. Also include your name, address, contact information, and a note as to why it requires a rebuild. Important: Empty all oil from unit before shipping. Oil filled Accusumps™ can cause problems during shipping. An oil disposal fee may apply to Accusumps™ filled with oil.

## ACCESSORIES

The following accessories are available. They may be ordered through CM / Canton Racing Products or your Canton Racing Products dealer. For more information, refer to the Canton Racing Products catalog or visit us on the web at [www.cantonracingproducts.com](http://www.cantonracingproducts.com).

### **Mounting Clamps**

We highly recommend these clamps as they support the tube without distortion.

Our stainless steel mounting brackets come with a quick release bolt latched band.

Our billet aluminum mounting brackets are heavy duty and offer an attractive presentation.

24-200 Stainless steel band mounting brackets for 2 or 3 quart units (pack of 2)

24-210 Billet aluminum mounting brackets for 2 or 3 quart units (pack of 2)

24-240 Stainless steel band mounting brackets for 1 quart units. (pack of 2)

### **Valves**

Manual valve #24-260

Manual valve w/ cable kit #24-506

Standard electric valve #24-270

E.P.C. electric valves

#24-271 (20-25 PSI setting)

#24-273 (35-40 PSI setting)

#24-275 (55-60 PSI setting)

E.P.C. refit kits

#24-271k to convert a standard 24-270 to 24-271 specifications

#24-273k to convert a standard 24-270 to 24-273 specifications

#24-275k to convert a standard 24-270 to 24-275 specifications

Check Valve #24-280 Can be used in systems with external oil lines to ensure that oil can only flow in one direction; has 1/2" N.P.T. female threads. While the check valve is helpful, it is not absolutely necessary as in most cases the oil will not back feed through the oil pump.

### **Upgrade Gauge**

#24-500 Liquid filled gauge.

### **Billet Aluminum Adapters**

Our adapters are available in several different variations providing easy and effective ways to connect an Accusump™. These adapters are CNC machined from 6061-T6 billet aluminum and black anodized for corrosion resistance and come complete with all hardware and o-ring gaskets. Available for most engine applications, please contact your Accusump™ dealer or us directly for application and purchasing information. These adapters are available in the following styles:

A. Oil Cooler Sandwich Adapters: Retains the stock oil filter and has two 1/2" N.P.T. ports designed for plumbing an oil cooler. Ideal for adding an oil cooler and an Accusump™.

B. Oil Input Sandwich Adapters: Retains the stock oil filter and provides one 1/2" N.P.T. oil input port. Chevy styles, part #'s 22-550 and 22-560, have two oil input ports. Provides an easy and effective way to connect an Accusump™.

C. 90 Degree Rotating Remote Oil Filter Adapter: Designed to offer the necessary ports to plumb the filter remotely. Comes with two 1/2" N.P.T. ports and features a center attachment nut which allows the unit to be rotated. This simplifies hose and fitting connections for all applications. Ideal for plumbing the Accusump™ into the oiling system after the remote oil filter and oil cooler.

## **Hose and Fittings**

Hose, Hose Ends, N.P.T. to AN adapter fittings, Bulkhead fittings, and more are available for the installation of your Accusump™. Listed below are some of the more popular part numbers. Call or visit [www.cantonracingproducts.com](http://www.cantonracingproducts.com) for a complete list of available fittings.

### Hose

- 6 Stainless Steel Braided Hose (per foot) #23-603
- 8 Stainless Steel Braided Hose (per foot) #23-604
- 10 Stainless Steel Braided Hose (per foot) #23-605
- 12 Stainless Steel Braided Hose (per foot) #23-606
- 10 Blue C.PE Racing Hose (per foot) #23-705

### Hose Ends

- Straight end for -6 braided hose #23-623
- Straight end for -8 braided hose #23-624
- Straight end for -10 braided hose #23-625
- Straight end for -12 braided hose #23-626
- 45° end for -6 braided hose #23-643
- 45° end for -8 braided hose #23-644
- 45° end for -10 braided hose #23-645
- 45° end for -12 braided hose #23-646
- 90° end for -6 braided hose #23-663
- 90° end for -8 braided hose #23-664
- 90° end for -10 braided hose #23-665
- 90° end for -12 braided hose #23-666
- 10 Brass Hose End for C.PE Racing Hose #23-725 (2 pack)

### "T" Adapter Fittings

- Brass "T" adapter 1/2" N.P.T to -10AN #23-245T
- Alum "T" adapter 1/2" N.P.T to -10AN #23-245TA

### N.P.T to AN adapter fittings

- 1/2 " N.P.T to -10 AN Steel fitting #23-245
- 1/2 " N.P.T to -10 AN Alum. fitting #23-245A
- 1/2 " N.P.T to -12 AN Steel fitting #23-246
- 1/2 " N.P.T to -12 AN Alum. fitting #23-246A

## **CM Filters**

CM filters offer a superior alternative to conventional automotive filters. They are non-bypass style filters that use depth filtration to offer both high flow and fine filtration. Like the Accusump they have been proving themselves for over 25 years in all types of high performance applications. For more information about the many styles of CM fuel and oil filters visit [www.cmfilters.com](http://www.cmfilters.com) or contact us directly at Canton Racing Products.

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