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INTRODUCTION
to the **PSI COOL**

Congratulations on the purchase of your PSI COOL coolant service machine!

The PSI COOL is a device that removes and refills engine coolant and also pressure tests the cooling system. Coolant is extracted and refilled through the upper radiator hose connection without the vehicle's engine running. Before the coolant is refilled, a vacuum is applied to the cooling system to eliminate any air in the system.

Simply put, this machine is the cleanest, safest, easiest, fastest, most thorough, and most cost-efficient method of radiator fluid exchange ever devised. Suddenly, cooling system maintenance has become a more realistic proposition. Fluid exchanges are cleaner and neater than ever!

Service neglect causes engine coolant to break down which can lead to the engine freezing or overheating. Historically, cooling system fluid service has been neglected, often due to the lack of a convenient method for providing such flush or fluid exchange services. Previous methods for flushing the cooling system or replacing the coolant were time consuming and often inefficient or incomplete. Now, it's easier than ever to replace virtually **all** of the old coolant in less than 8 minutes, to ensure your car's cooling system has a long, trouble-free life.

Please take time to read through this manual to familiarize yourself with the PSI COOL before performing your first coolant exchange.

IMPORTANT SAFETY NOTICE

For your safety, read this manual thoroughly before operating this machine. Your PSI COOL unit is intended for use by properly trained, skilled professional automotive technicians. The safety messages presented below and throughout this user's manual are reminders to the operator to exercise care when using this unit. Before using your PSI COOL unit, always refer to and follow the safety messages and applicable service procedures provided by the manufacturer of the vehicle being serviced.

• Read All Safety Instructions

Read, understand and follow all safety messages and instructions in this manual. Safety messages in this section of the manual contain a signal word with a three-part message and, in some instances, an icon.

• Signal Words

The signal word indicates the level of the hazard in a situation:

⚠ DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury to the operator or to bystanders.

⚠ WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or to bystanders.

⚠ CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in moderate or minor injury to the operator or to bystanders.

IMPORTANT

Indicates a situation which, if not avoided, may result in damage to the machine, or the vehicle being serviced.

• Safety Messages

Safety messages in this section contain three different type styles:

- Normal type states the hazard.
- **Bold type** states how to avoid the hazard.
- *Italic type* states the possible consequences of not avoiding the hazard.

• Safety Symbols

A safety symbol, when present, gives a graphical description of the potential hazard, and how to avoid the hazard:

 **Risk of Fire**

 **Read Instructions Before Use**

 **Risk of Explosion**

 **Mandatory Eye Protection**

 **Risk of Entanglement**

 **Mandatory Protective Gloves**

 **Dangerous Fumes**

 **Mandatory Protective Clothing**

 **Do Not Pull or Move**

 **Risk of Burns**

IMPORTANT SAFETY INSTRUCTIONS

⚠ DANGER

Engine exhaust contains toxic gases.
• Vent vehicle's exhaust away from work area.
• Do not breathe exhaust.
Exhaust gases will cause injury or death.

⚠ WARNING

Improper use and operation.
• Read, understand and follow all safety messages and operational procedures in this manual before operating this machine.
• This equipment should be operated only by qualified personnel.
• Use this equipment only as described in this manual.
Improper use and operation of this product can result in injury.

⚠ WARNING

Engine systems can malfunction expelling fuel, oil vapors, hot steam, hot toxic exhaust gases and other flying particles.
• Wear safety goggles and protective clothing, user and bystander. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
• Do not position head directly over or in front of carburetor or throttle body. Engine backfire can occur when air cleaner is out of normal position.
• Make sure gauge reads zero before connecting or disconnecting hose connections to adapters.
• Make sure cooling system pressure has been relieved before connecting or disconnecting hose connections and adapters.
• Keep a dry chemical (Class B) fire extinguisher rated for gasoline, chemical & electric fires in the work area.
Fire, explosion, or flying particles may cause serious injury.

⚠ WARNING

Risk of expelling pressurized fluids.
• Wear safety goggles and protective clothing, user and bystander.

• Engine systems can malfunction, expelling fuel, oil vapors, hot steam, hot toxic exhaust gases and other debris.
• Always unplug the machine from its power source when not in use.
• Keep the service hoses away from hot or moving engine parts. Hoses can split or burst causing fluid to be expelled.
• Avoid contact with engine coolant.
• Treatment methods are as follows:
Eyes: Flush eyes with plenty of water.
Skin: Wash with soap and water.
Inhalation: Move to uncontaminated area.
Ingestion: If large amount, get medical attention.
If any irritation persists, get medical attention.
• Dispose of used fluid according to environmental laws and regulations.
Fuel, oil vapors, hot steam, hot toxic exhaust gases, pressurized fluid, and other debris can cause serious injury.

⚠ WARNING

Risk of unexpected vehicle movement.
• Block drive wheels before starting vehicle's engine to begin an exchange.
• Unless instructed otherwise, set parking brake and put gear selector in park.
• Do not leave a running vehicle unattended.
• If vehicle has an automatic parking brake release, disconnect release mechanism for testing and reconnect when testing is completed.
A moving vehicle can cause injury.

⚠ WARNING

Risk of entanglement. Engine has moving parts.
• Do not place tools on fenders or other places in engine compartment.
• Keep yourself, clothing, battery cables and service hoses clear of moving parts such as fan blades, belts, pulleys, hood and doors.
• Barriers are recommended to help identify danger zones in test area.
• Prevent personnel from walking through immediate test area.
Contact with moving parts can cause injury.

⚠ WARNING

Risk of fire or explosion.
• Do not operate in the vicinity of open containers of flammable liquids such as gasoline.
• Keep hoses and jumper cables away from heat sources and sharp edges.
• Do not operate equipment with damaged cords or hoses until they have been examined by a qualified serviceman.
Fire or explosion can cause injury.

⚠ WARNING

Risk of fire or explosion. Gases produced by a battery are highly explosive.
• Wear safety goggles and protective clothing, user and bystander.
• Do not smoke, place metal tools on battery or allow a spark or flame in vicinity of battery.
Battery explosion can cause injury.

⚠ WARNING

Risk of burns.
• Wear gloves when handling hot engine components.
• Do not remove radiator cap unless engine is cold.
• Pressurized engine coolant may be hot.
• Do not touch hot exhaust systems, manifolds, engines, radiators, etc.
Hot fluid and engine parts may cause injury.

⚠ WARNING

Battery acid is a highly corrosive sulfuric acid.
• Wear safety goggles and protective gloves, user and bystander.
• Have plenty of fresh water and soap nearby. If battery acid contacts skin, clothing, or eyes, flush exposed area with soap and water for 10 minutes.
• Do not touch eyes while working near battery.
Battery acid can burn eyes and skin.

⚠ WARNING

Risk of burns.
• Wear gloves when working near hot engine components.
• Do not touch hot exhaust systems, manifolds, engines, radiators, etc.
• The fluid coming from the vehicle along with some of the machine's components that the fluid comes into direct contact with (i.e. hoses and fittings) may reach temperatures uncomfortable to the touch. Exercise caution in avoiding contact with these items.
Hot components can cause injury or discomfort.

⚠ CAUTION

Risk of injury.

• This equipment should be operated by qualified personnel only.
• Use this equipment only as described in this manual.
• Always disconnect the machine from air source when not in use.
• Loop the pressure hose loosely in its proper location when machine is not in use.
• Do not operate equipment with a damaged hoses, or if the equipment has been dropped or damaged, until it has been examined by a qualified service representative.
• Care should be taken to arrange the service hoses so that they will not be tripped over or pulled.
• Never pull on the service hoses to transport the machine. Damage may occur to these components, or machine may tip over.
• Keep area of operation clear of unnecessary tools and equipment. Utilize recessed tool storage areas on the top of the machine.
• Never leave the machine running unattended.
• The PSI Cool is not designed for any other purpose than the servicing of automotive cooling systems.
Operation of this machine by anyone other than qualified personnel may result in injury.

⚠ CAUTION

Misdiagnosis may lead to incorrect or improper repair and/or adjustment.
• Do not rely on erratic, questionable, or obviously erroneous test information or results. If test information or results are erratic, questionable, or obviously erroneous, make sure that all connections and data entry information are correct and that the test procedure was performed correctly. If test information or results are still suspicious, do not use them for diagnosis.
Improper repair and/or adjustment may cause vehicle or equipment damage or unsafe operation.

IMPORTANT

Risk of equipment damage.
• Servicing, transporting, or storing this machine in an attitude other than the normal operating position can result in fluid spillage and/or component damage.
• Never pull on the service hoses to transport the unit. Damage may occur to these components, or machine may tip over. Always use the handle to move.
• Periodically clean the machine by wiping down with a clean, soft, dry cloth.
Improper operation of equipment may result in damage to machine or components.

SAVE AND FOLLOW THESE INSTRUCTIONS!

DIMENSIONS & TECHNICAL SPECIFICATIONS

DIMENSIONS:

52" Tall
23" Wide
27" Deep

Service Hoses:
10’ outside of machine

Wheels:
5” locking casters (front)
9 3/4” casters (back)

Fluid Tanks:
7-Gallon New Fluid Tank
8-Gallon Used Fluid Tank

Weight:
176 lbs

TECHNICAL SPECIFICATIONS:

Power:
115 P.S.I. Compressed Air

Operating Temperature:
60º to 110ºF (15º to 43ºC)

FEATURES

- No electricity needed; runs on compressed air.
- Labor-saving coolant flush service.
- Removes air pockets.
- Drains coolant for component change.
- Performs vacuum and fill service.
- Performs full flush service.
- Fast & efficient engine off process.
- Convenient clear service hoses allow user to monitor fluid in and out.
- Dual sight tubes allow user to quickly identify tank fluid levels.
- Simple, efficient operation.

MACHINE OVERVIEW

FLUSH SERVICE CONNECTION

NOTE: Vehicle's engine should be off.

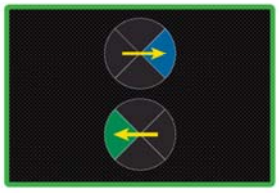
1. Connect supplied radiator hose adapter and step adapter to upper radiator hose & radiator.
2. Connect air supply hose to air fitting on PSI-COOL machine.

3. Connect black service hose to adapter attached toward radiator.
4. Connect red service hose to adapter attached toward block.

NOTE: If vehicle has lower thermostat, reverse connections.

PERFORMING A SYSTEM FLUSH

1. Open ball valve on black service hose.
2. Close ball valve on red service hose if it is open.



3. Turn top knob on control panel to "VACUUM".
4. Turn bottom knob on control panel to "FLUSH".
5. While machine is vacuuming down the cooling system, turn the regulator on the front of the machine clockwise until the pressure gauge on the control panel reads 10 – 12 PSI.

6. Allow machine to vacuum cooling system until no more fluid is flowing through the black service hose. When used coolant is no longer flowing, close ball valve on black service hose.
7. Slowly open ball valve on red service hose allowing new fluid to rush into the cooling system via the pressure in the machine and the vacuum in the vehicle's cooling system.

8. When gauge on control panel returns to 10 -12 PSI, open ball valve on black hose half way to allow fluid to be flushed through the vehicle's cooling system. Control the flow of coolant through the system using the ball valve on the black service hose.

9. When the fluid runs clean, close the black hose ball valve and turn regulator counterclockwise to relieve pressure.

NOTE: Do not allow the pressure on the gauge to reach "0" at any point during the flushing process. Doing so will quickly evacuate all new fluid from the new fluid tank and flush it through the car very quickly requiring you to refill the vehicle completely.

10. Close the red hose ball valve.
11. Remove hoses, adapters, and reconnect the vehicle's upper radiator hose.
12. Check fluid level and add if needed.

NOTE: If leftover pressure is built up in the vehicle's cooling system, the black hose ball valve can be opened in short bursts to vacuum the pressure out and return the system to normal. Pay attention to the gauge on the control panel to monitor pressure.

NOTE: Best results are achieved when vehicle is at operating temperature.

WARNING: If vehicle is hot, make certain the cap is removed carefully to avoid spraying hot fluid and causing burns.

VAC & FILL SERVICE CONNECTION

NOTE: Vehicle's engine should be off.

1. Remove radiator cap from vehicle.
2. Connect air supply hose to air fitting on PSI-COOL machine.

3. Open ball valve on black service hose and connect to supplied rubber cone adapter.
4. Insert into radiator making sure the rubber cone reaches below the surface of the coolant in the radiator.

PERFORMING A VAC & FILL SERVICE

1. Turn top knob on control panel to "VACUUM".
2. Allow machine to vacuum cooling system until no more fluid is flowing through the black service hose.
3. Remove black service hose from rubber cone adapter making certain vacuum seal between the cone and radiator is not broken.

4. Turn top knob on control panel to "OFF".

   WARNING: There must be no pressure in the new fluid tank to perform the next step. This can be achieved by either turning the regulator fully counterclockwise, disconnecting the air supply from the machine, or removing the aluminum cap on the new fluid tank.
5. Attach red service hose to rubber cone adapter making certain vacuum seal between the cone and radiator is not broken.

6. Turn bottom knob on the control panel to "FLUSH".
7. Open ball valve on red service hose.

8. Once fluid stops moving into vehicle through red service hose, close ball valve and remove rubber cone adapter from radiator.
9. Replace radiator cap.
10. Check fluid level and add if needed.

ADDING COOLANT TO VEHICLE

1. Connect air supply hose to air fitting on PSI-COOL machine.
2. Close ball valve on red service hose and connect to open ended hose.

3. Turn bottom knob on the control panel to "FLUSH".
4. Turn the regulator on the front of the machine clockwise until the pressure gauge on the control panel reads 10 – 12 PSI.

5. Insert open ended hose into reservoir to be filled.
6. Open ball valve slightly to control flow of new fluid into reservoir.

7. Close ball valve when fill is completed.
8. Turn regulator knob counterclockwise to relieve pressure.
9. Return bottom knob to "OFF" position.

REMOVING COOLANT FROM VEHICLE

1. Connect air supply hose to air fitting on PSI-COOL machine.
2. Make sure there are no adapters connected to either the grey or red service hoses.
3. Connect open ended hose to black service hose.

4. Turn top knob on control panel to "VACUUM."
5. Open ball valve on black service hose and insert into reservoir to be drained.

6. Close ball valve when drain is completed.
7. Return top knob to "OFF" position.

PERFORMING A RADIATOR CAP PRESSURE TEST

1. Connect adapters and air supply hose as outlined in "Performing a System Flush" section.
2. Open ball valve on red service hose.
3. Turn bottom knob on the control panel to "PRESSURE TEST".

4. SLOWLY turn regulator clockwise until gauge pressure is a few lbs higher than the cooling system's rated pressure.
5. Inspect all visible hoses, fittings, and the radiator cap for leaks.
6. When finished, follow instructions to begin System Flush or turn regulator counterclockwise to relieve pressure.

DRAINING USED FLUID TANK

1. Connect air supply hose to air fitting on PSI-COOL machine.
2. Attach open ended hose to gray service hose.

3. Open ball valve on gray service hose and place in waste fluid container.
4. Turn top knob on the control panel to "DRAIN WASTE TANK".

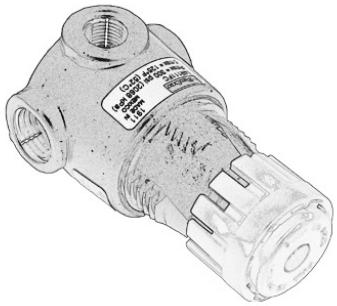
5. Slowly turn regulator clockwise until fluid starts flowing out of gray service hose.
6. Close ball valve on gray service hose when air begins to rush through hose in place of used coolant.
7. Turn regulator counterclockwise to relieve pressure.

REPLACEMENT PARTS LIST

Part #	Description
947003W	Control Panel w/ Label
941278	Pressure Gauge
R941304	Upper Service Panel Label
R941305	Lower Service Panel Label
947005	New Fluid Tank Label
947006	Measure Strip Label – New Fluid
947007	Measure Strip Label – Waste Fluid
941343	Vinyl Mat
941277	4-Way Ball Valve
941275	Vacuum Generator
941396W	Battery Cable Assembly
947012	Internal Hose Kit
941346	Red Service Hose
941467	Black Service Hose
947015	Grey Service Hose
941283	Black Plastic Body
941282	Red Plastic Top
941314	Used Fluid / Air Tank *(Steel)*
947000	New Fluid Tank
947002W	Tank Cap
R942118	Locking Caster Wheel
941300	10” Wheel
P941321	Shepherd’s Hook
947017	Operations Manual

To order replacement parts for the PSI COOL, call:

1-800-303-5874

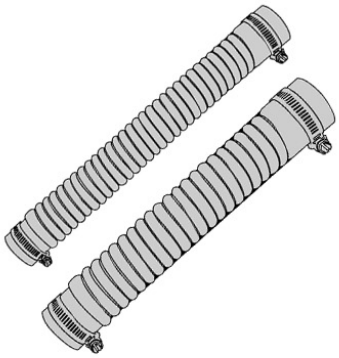


941275
Vacuum Generator

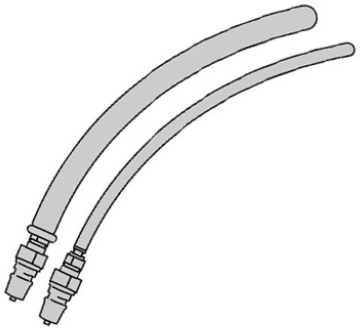
941343
Vinyl Mat

941300
10" Wheel
R942118
Locking Caster Wheel

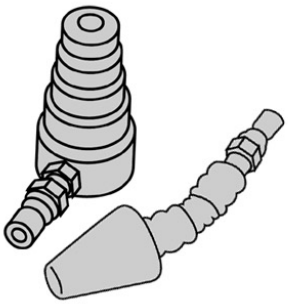
941298
Gloves



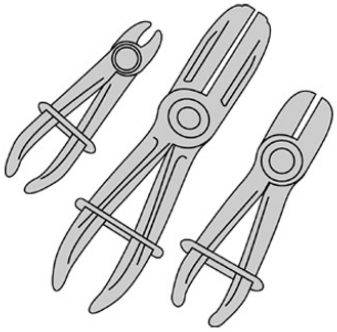
942230
Small Adapter Hose
942231
Large Adapter Hose



941289
Small Wand Adapter
941288
Large Wand Adapter



941293
Step Adapter Assembly
941295
Cone Adapter Assembly



941290 - *Sm. Hose Clamp Pliers*
941291 - *Med. Hose Clamp Pliers*
941292 - *Lg. Hose Clamp Pliers*

MAINTENANCE PROCEDURES

To keep your machine working properly…

- **Keep debris out of new fluid tanks.**
- **Avoid spilling fluid on the control panel.**
- **Periodically wipe down exterior using a soft, damp cloth.**

CUSTOMER SERVICE CONTACT INFORMATION

If you are experiencing problems with this machine,
call technical support at:

1-800-303-5874

LIMITED ONE (1) YEAR WARRANTY

Flo-Dynamics warrants only to the original Purchaser that under normal use, care and service, the Equipment (except as otherwise provided herein) shall be free from defects in material and workmanship for one year from the date of original invoice. External hoses, remote control modules, adapters and all other attachments, supplies and consumables (except as otherwise provided herein) are warranted for 90 calendar days from the date of original invoice. Filter elements are not warranted. Printed circuit boards purchased from, but not installed by Seller are not warranted.

SELLER'S OBLIGATIONS UNDER THIS WARRANTY ARE LIMITED SOLELY TO THE REPAIR OR, AT SELLER'S OPTION, REPLACEMENT OF EQUIPMENT OR PARTS WHICH TO SELLER'S SATISFACTION ARE DETERMINED TO BE DEFECTIVE AND WHICH ARE NECESSARY, IN SELLER'S JUDGEMENT, TO RETURN THE EQUIPMENT TO GOOD OPERATING CONDITION. NO OTHER WARRANTIES EXPRESS OR IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL APPLY AND ALL SUCH WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED.

This warranty does not cover (and separate charges for parts, labor and related expenses shall apply to) any damage to, malfunctioning, inoperability or improper operation of the Equipment caused by, resulting from or attributable to (A) abuse, misuse or tampering; (B) alteration, modification or adjustment of the Equipment by anyone other than Seller's authorized representatives; (D) improper or negligent use, application, operation, care, cleaning, storage or handling; (E) fire, water, wind, lightning or other natural causes; (F) adverse environmental conditions, including, without limitation, excessive heat, moisture, corrosive elements, or dust or other air contaminants, radio frequency interference, electric power failure, power line voltages beyond those specified for the equipment, unusual physical, electrical or electromagnetic stress, and/or any other condition outside of Seller's environmental specifications; (G) use of the Equipment in combination or connection with other equipment, attachments, supplies or consumables not manufactured or supplied by Seller; or (H) failure to comply with any applicable federal, state or local regulation.

Repairs or replacements qualifying under this Warranty will be performed on regular business days during Seller's normal working hours within a reasonable time following Purchaser's request. **All requests for Warranty service must be made during the stated Warranty period.** This warranty is non-transferable.