TABLE OF CONTENTS

INTRODUCTION to the VacFill^3 2

SAFETY INFORMATION 3

SYSTEM FEATURES & SPECIFICATIONS 9

MACHINE OVERVIEW 10

OPERATING PROCEDURES for VacFill^3 13

OPERATING PROCEDURES for VacFill^3+ 15

REPLACEMENT PARTS 17

MAINTENANCE 19

CUSTOMER SERVICE CONTACT INFO 19

WARRANTY INFORMATION 20

INTRODUCTION
to the **VacFill^3**

Congratulations on the purchase of your VacFill^3 coolant service machine!

The VacFill^3 is a device that removes and refills engine coolant quickly and efficiently. Before the coolant is refilled, a vacuum is applied to the cooling system to eliminate any air in the system.

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.

Please take time to read through this manual to familiarize yourself with the VacFill^3 before performing your first coolant exchange.

IMPORTANT SAFETY NOTICE

For your safety, read this manual thoroughly before operating this machine. Your VacFill^3 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 VacFill^3 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 waste 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.
• This machine is equipped to operate on 12-volt DC power only. A power source greater than this can result in serious injury to the user as well as damage to the machine.
• Do not smoke, place metal tools on battery or allow a spark or flame in vicinity of battery.
• Clean battery terminals before hooking the machine's battery clips to them. During cleaning, keep airborne corrosion from eyes, nose and mouth.
• Be sure both battery cables are tightly connected to the battery terminals as instructed before proceeding with a fluid exchange.
• Never remove battery cables from the battery terminals while the machine is operating.
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.
• While cleaning battery's terminals, keep airborne corrosion from eyes, nose and mouth.
• 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 unplug the machine from its power source when not in use.
• Loop the power cord loosely in its proper location when machine is not in use.
• Do not operate equipment with a damaged battery cables or 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 battery cables and service hoses so that they will not be tripped over or pulled.
• Never pull on the power cables or 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 VacFill^{3} 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.

• Connect battery cables to a 12-volt power source only (i.e. vehicle's battery).
• 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 power cables or 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 *(VacFill^3)*
23" Wide
27" Deep

Service Hose:
10’ outside of machine

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

Fluid Tanks:
(2) 28-Quart New Fluid Tanks
28-Quart Waste Fluid Tank

Weight:
160 lbs *(VacFill^3)*
170 lbs *(VacFill^3+)*

TECHNICAL SPECIFICATIONS:

Power:
115 psi Shop Air
12-Volt DC from vehicle battery *(VacFill^3+)*

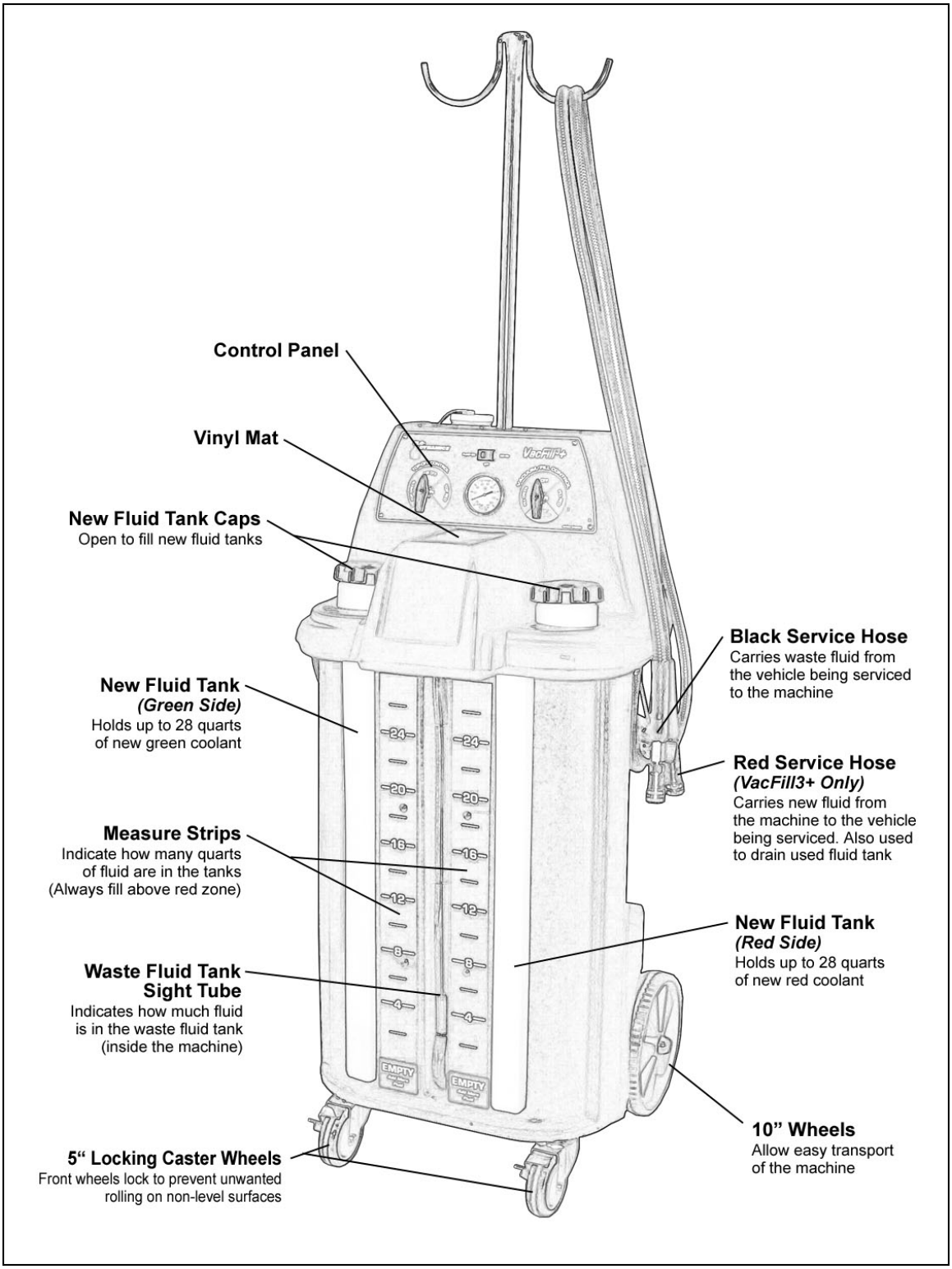
Operating Temperature:
60º to 110ºF (15º to 43ºC)

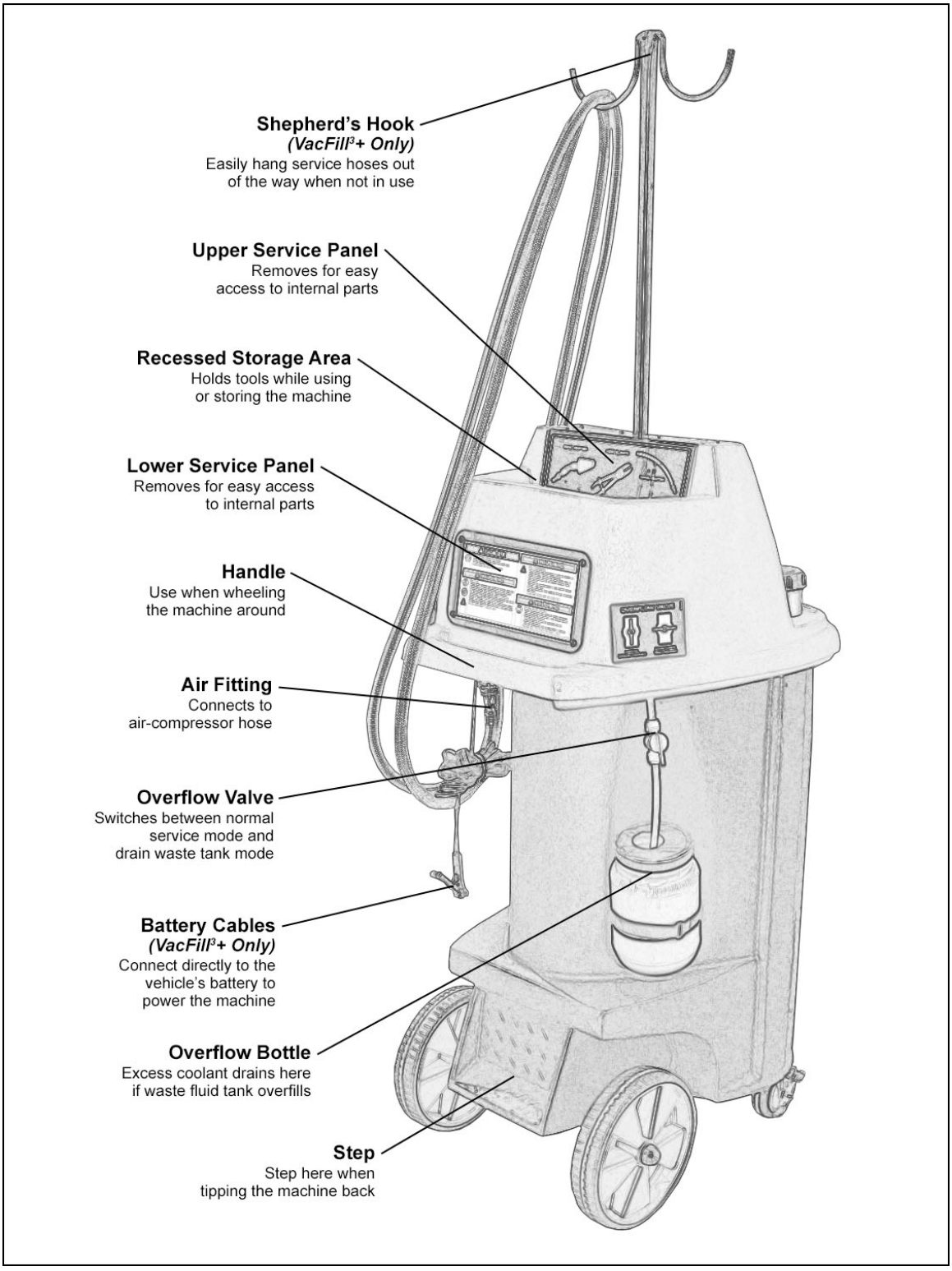
FEATURES

- Durable roto-cast polyethylene body and tanks prevent vehicle damage
- Ergonomically correct working height
- 5” locking front caster wheels & 10” rear wheels allow easy maneuverability
- Clear service hose allows visual confirmation of new and waste fluid movement
- Easy access service panel

MACHINE OVERVIEW

(VacFill^3+ Shown)

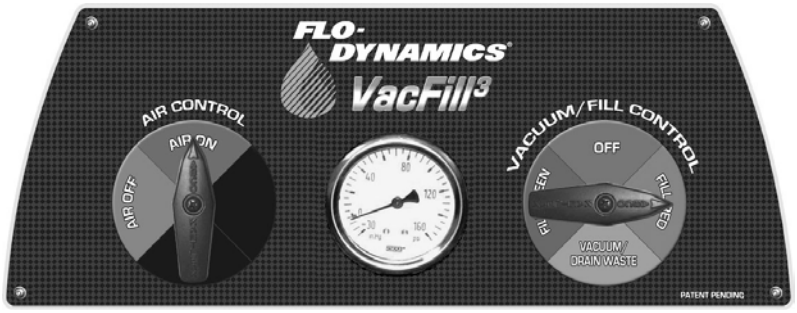



Shepherd's Hook
(VacFill³+ Only)
Easily hang service hoses out of the way when not in use
Upper Service Panel
Removes for easy access to internal parts
Recessed Storage Area
Holds tools while using or storing the machine
Lower Service Panel
Removes for easy access to internal parts
Handle
Use when wheeling the machine around
Air Fitting
Connects to air-compressor hose
Overflow Valve
Switches between normal service mode and drain waste tank mode
Battery Cables
(VacFill³+ Only)
Connect directly to the vehicle's battery to power the machine
Overflow Bottle
Excess coolant drains here if waste fluid tank overfills
Step
Step here when tipping the machine back

MACHINE CONTROLS OVERVIEW

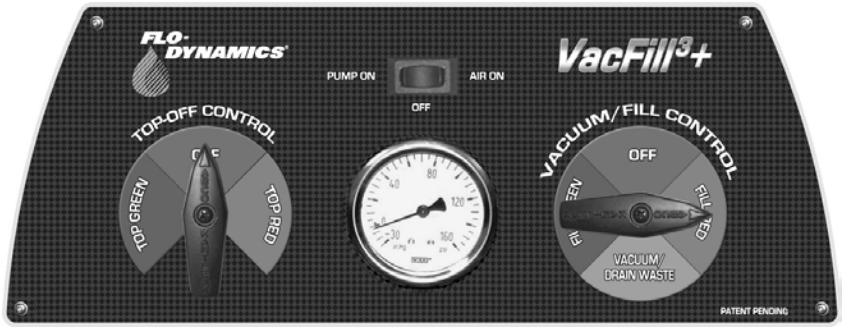
Please take time to familiarize yourself with the VacFill^3 controls before performing your first coolant exchange. The Main Control Panel is located on the front of the machine.

VacFill3



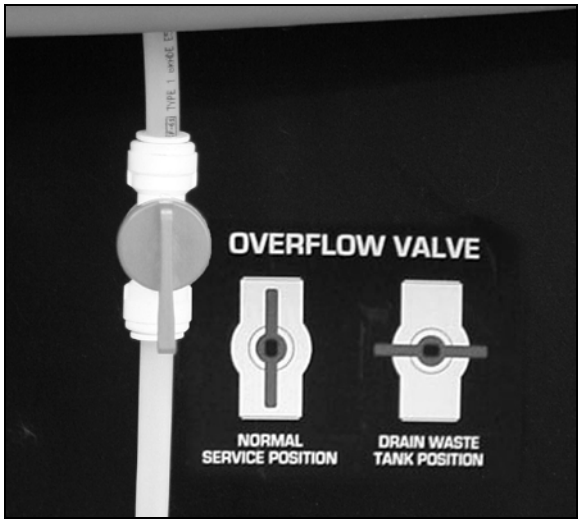
Coolant Service Machine

VacFill3+



Coolant Service Machine w/ Top-Off Feature

Overflow Valve



Located on the left rear of the machine

OPERATING PROCEDURES for VacFill^3

IMPORTANT: Machine needs at least 115psi of air to operate.

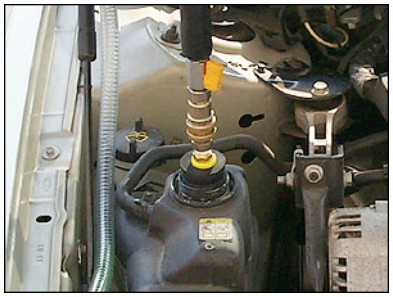
SUCTION WAND PROCEDURE:

1. Connect Wand Adapter to service line & open Ball Valve.
2. Turn Overflow Valve on back of machine to “Normal Service Position”.

3. Turn Right Dial to “Vacuum/Drain Waste” position.
4. Turn Left Dial to “Air On” position to start.
5. Turn Left Dial to “Air Off” position when finished.

REMOVE & FILL PROCEDURE:

1. Make sure vehicle is turned off, but at operating temperature.
2. Turn Overflow Valve on back of machine to “Normal Service Position”.
3. Connect Wand Adapter to service hose, open Ball Valve, turn Left Dial to “Air On” position and Right Dial to “Vacuum/Drain Waste” position to remove waste fluid from overflow bottle.
4. When overflow bottle is empty, turn Left Dial to “Air Off” position.
5. Remove radiator cap.
6. Connect Cone Adapter to service line.



7. Turn Right Dial to “Vacuum/Drain Waste” position.
8. Turn Left Dial to “Air On” position.
9. Open Ball Valve on service hose.
10. Insert Cone Adapter into radiator, making sure the tip of the cone is submerged. **HINT: If servicing from bottle, insert a hose into the cone long enough to reach near the bottom of the bottle (hose not supplied).**

11. Wait until no more waste fluid is being removed.
12. Turn Right Dial to desired fluid type to fill the radiator making sure you don't break the vacuum seal between the rubber cone & the radiator.
13. Turn Left Dial to "Air Off" position after fluid is removed.
14. Wait until new fluid stops entering radiator & remove Cone Adapter.
15. Top off radiator if needed.
16. Refill overflow bottle & replace radiator cap.

DRAIN TANKS PROCEDURE:

DRAIN WASTE TANK

1. Turn Right Dial to "Vacuum/Drain Waste" position.
2. Attach Wand Adapter to service hose.
3. Turn Overflow Valve on back of machine to "Drain Waste Tank Position".
4. Open Ball Valve on service hose and place into waste container.
5. Turn Left Dial to "Air On" position to drain waste tank.
6. When finished draining, remove service hose from waste container, and close Ball Valve.
7. Turn Left Dial to "Air Off" position.
8. Turn Overflow Valve on back of machine to "Normal Service Position" to release air pressure from waste fluid tank.

NOTE: Coolant may splash out while air pressure is being released. Keep hands and face away from the overflow bottle.

OPERATING PROCEDURES for VacFill^3+

IMPORTANT: Machine needs at least 115psi of air to operate.

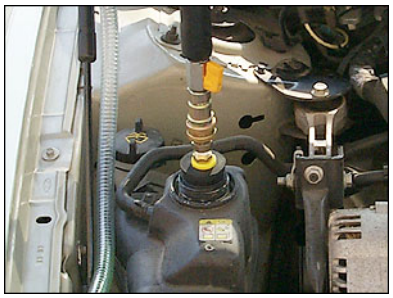
SUCTION WAND PROCEDURE:

1. Connect Wand Adapter to Black Service Hose & open Ball Valve.
2. Turn Overflow Valve on back of machine to “Normal Service Position”.

3. Turn Right Dial to “Vacuum/Drain Waste” position.
4. Flip Switch to “Air On” position to start.
5. Flip Switch to “Off” position when finished.

REMOVE & FILL PROCEDURE:

1. Make sure vehicle is turned off, but at operating temperature.
2. Turn Overflow Valve on back of machine to “Normal Service Position”.
3. Connect Wand Adapter to Black Service Hose, open Ball Valve, flip Switch to “Air On” position and Right Dial to “Vacuum/Drain Waste” position to remove waste fluid from overflow bottle.
4. When overflow bottle is empty, flip Switch to “Off” position.
5. Remove radiator cap.
6. Connect Cone Adapter to Black Service Hose.

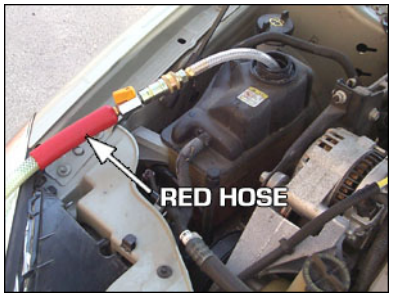


7. Turn Right Dial to “Vacuum/Drain Waste” position.
8. Flip switch to “Air On” position.
9. Open Ball Valve on Black Service Hose.

10. Insert Cone Adapter into radiator, making sure the tip of the cone is submerged. **HINT: If servicing from bottle, insert a hose into the cone long enough to reach near the bottom of the bottle (hose not supplied).**
11. Wait until no more waste fluid is being removed.
12. Turn Right Dial to desired fluid type to fill the radiator making sure you don't break the vacuum seal between the rubber cone & the radiator.
13. Flip switch to "Off" position after fluid is removed.
14. Wait until new fluid stops entering radiator & remove Cone Adapter.
15. Top off radiator if needed (see "Top-off Procedure").
16. Refill overflow bottle & replace radiator cap.

TOP-OFF PROCEDURE:

1. Connect Wand Adapter to Red Service Hose.



2. Make sure Ball Valve is closed.
3. Turn Left Dial to desired fluid type.
4. Flip Switch to "Pump On" position.
5. Open Ball Valve at the end of the Red Service Hose to regulate fluid flow.
6. Flip Left Dial and Switch to "Off" position when finished.

DRAIN TANKS PROCEDURE:

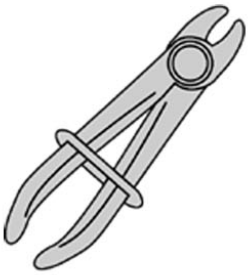
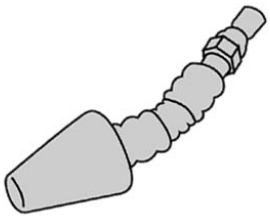
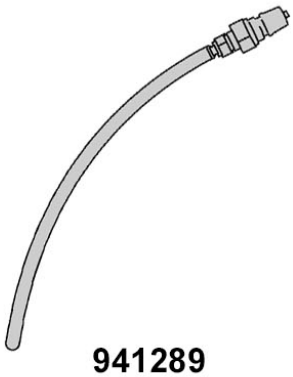
DRAIN WASTE TANK

1. Turn Right Dial to "Vacuum/Drain Waste" position.
2. Attach Wand Adapter to Black Service Hose.
3. Turn Overflow Valve on back of machine to "Drain Waste Tank Position".
4. Open Ball Valve on Black Service Hose and place into waste container.
5. Flip Switch to "Air On" position to drain waste tank.
6. When finished draining, remove Service Hose from waste container, and close Ball Valve.
7. Flip Switch to "Off" position.
8. Turn Overflow Valve on back of machine to "Normal Service Position" to release air pressure from waste fluid tank.

NOTE: Coolant may splash out while air pressure is being released. Keep hands and face away from the overflow bottle.

REPLACEMENT PARTS LIST

Part #	Description
941444W	Control Panel w/ Label *(VacFill3)*
941458	Control Panel w/ Label *(VacFill3+)*
941448	Wire Harness *(VacFill3+)*
941285	Fluid Pump *(VacFill3+)*
941438	Vacuum Gauge
941422	Upper Service Panel w/ Equipment List Label
R941305	Lower Service Panel w/ Warning Sticker
R941306	Measure Strip Label
941439	Vinyl Mat (Small Front)
941440	Vinyl Mat (Large Rear)
941277	4-Way Ball Valve
941430	2-Way Ball Valve
40200355	Vacuum Generator
941429	Internal Hose Kit *(VacFill3)*
941450	Internal Hose Kit *(VacFill3+)*
941441	Black Service Hose
941346	Red Service Hose *(VacFill3+)*
941283	Black Plastic Body
941431	Red Plastic Top
941434	Waste Fluid / Air Tank *(Steel)*
941432	White Plastic Tank *(L)*
941433	White Plastic Tank *(R)*
941424	Overflow Bottle
40200354	Overflow Valve
941425	Velcro Strap for Overflow Bottle
942113	Tank Cap
R942118	Locking Caster Wheel
941300	10” Wheel
P941321	Shepherd's Hook
941289	Wand Adapter
941295	Cone Adapter Assembly
941290	Small Hose Clamp Pliers
941291	Medium Hose Clamp Pliers
941292	Large Hose Clamp Pliers
940988	Green Fluid Tank Label
940989	Red Fluid Tank Label
941396W	Battery Cable Assembly
941442	Operations Manual

 40200354 *Overflow Valve*	 **40200355** *Vacuum Generator*	 **941300** *10" Wheel* **R942118** *Locking Caster Wheel*
 941439 *Small Vinyl Mat (Front)* **941440** *Large Vinyl Mat (Back)*	 **P941321** *Shepherd's Hook (VacFill³+ Only)*	 **941424** *Overflow Bottle*
 **941290** *Hose Clamp Pliers*	 **941295** *Cone Adapter*	 **941289** *Wand Adapter*

To order replacement parts for the VacFill^3, call:

1-800-303-5874

MAINTENANCE

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.