
MOTORVAC
TECHNOLOGIES INC.

SteerClean 1000
Power Steering Service System

Operator Manual

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Introduction

Congratulations on your selection of the MotorVac STEERCLEAN Service System. By choosing this product, you are acquiring the most technologically advanced method available for power steering service and fluid exchange.

The STEERCLEAN System is a self-contained system; designed to service virtually all power steering systems. Once the unit is connected, it can be used to exchange all the old power steering fluid with new, while flushing and conditioning the fluid at the same time.

With the engine idling, simply follow the simple instructions on the control panel. The STEERCLEAN Service System is designed to be fast, easy, and highly profitable. How profitable is up to you! Every car or truck that comes into your shop with over 30,000 miles is a potential customer. This service is also recommended every two years. But the key to profit is to sell the service, so we have included a detailed sales procedure at the end of this manual.

It is recommended that a vehicle's power steering system be serviced every 30,000 miles or every two years (Or according to the vehicle owner's manual) to obtain the highest lubricant protection, to reduce friction and wear from internal components, and thus increase the efficiency and life span of the power steering system to its maximum.

Please study this Operators Manual to become thoroughly familiar with the STEERCLEAN Power Steering Service System.

IMPORTANT

**Use of other chemicals during this process may cause operational failure of the STEERCLEAN System and voids the manufacturer's warranty.
See warranty card for details.**

Overview

This manual contains all the information you need to use the STEERCLEAN System. Please make sure all technicians using the unit read this manual and have it within easy reach whenever the unit is being used.

The following is a quick reference to the information in this manual:

System Features and Functions

This chapter describes the STEERCLEAN Service System's Switches, Lights and Connections.

Safety Information

Adhere to the safety guidelines in this chapter at all times!

Before You Begin

Follow the instructions in this chapter before using the unit for the first time.

Service Procedure

This chapter contains step-by-step setup and service procedure for using the unit to flush the vehicle's power steering system fluid completely.

Frequently Asked Questions

Helpful information to common questions.

Troubleshooting and Additional Help

Turn to this chapter in the unlikely event you have problems with your STEERCLEAN System or need additional help.

Appendices - Maintenance, Accessories, and Parts

The appendices contain routine maintenance procedures for the STEERCLEAN System, such as cleaning the filter screen, lists of available accessories, replacement parts.

System Features and Functions

The front of the MotorVac SteerClean 1000 cabinet showing the control panel, Clean fluid tank, & service hoses.

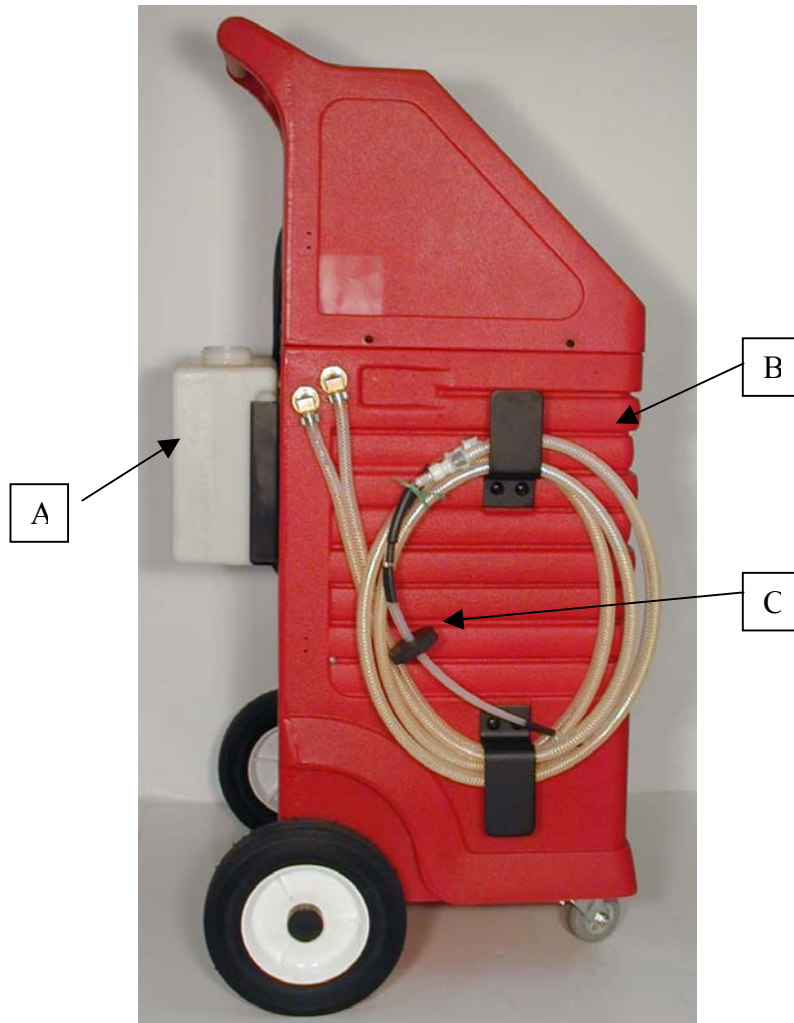


Control Panel Features and Functions



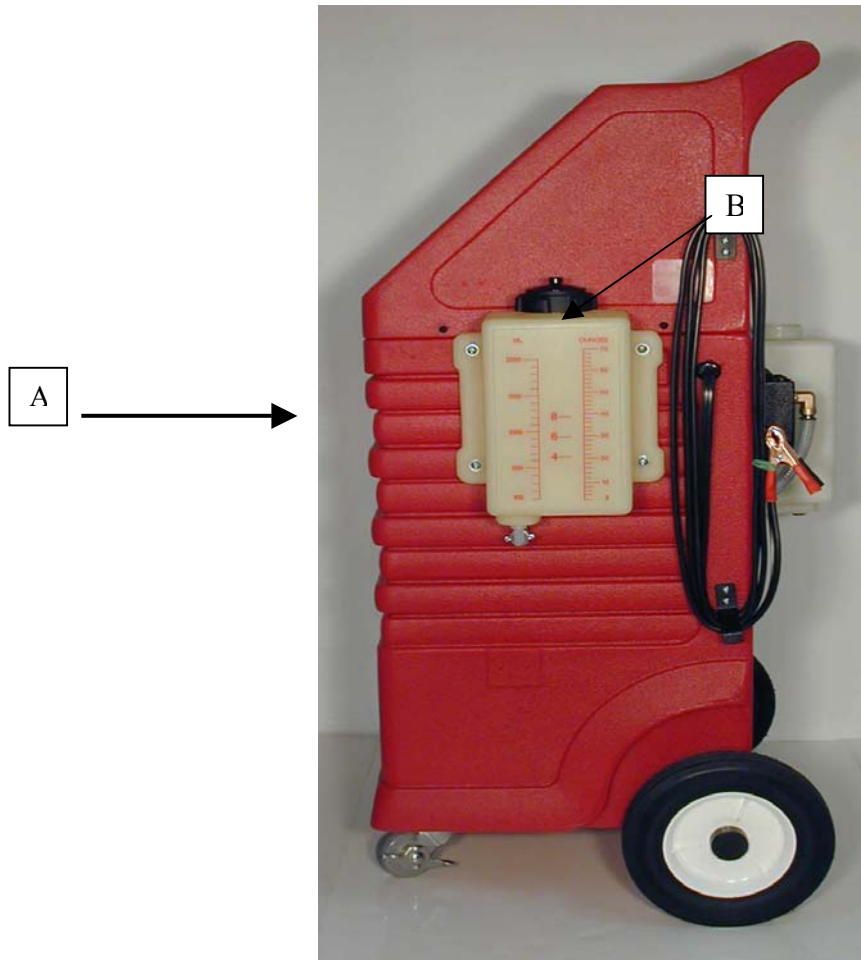
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|----------------------------------|---|
| A. Start Button | Press the Start button to begin the service, (or continue the service if paused). |
| B. POWER light | Illuminates when power cord is hooked up to 12V. source. |
| C. Service light | Illuminates when start switch is in "RUN" and pumps are on. |
| D. Circuit Breaker | 15 Amp circuit breaker. |
| E. Operating Instructions | Basic Operating Instructions. |

Left View



- | | | |
|-----------|---------------------|--|
| A. | Waste Tank | Captures waste fluid. |
| B. | Service Hose | Fluid hose for clean and dirty fluid transfer. |
| C. | Mini-Wand | Inserts into Power Steering Fluid Reservoir. |

Right View



- A. **Clean Fluid tank** Holds the cleaner and new fluid.
- B. **Power Cord** Power cord for hooking up to 12 V. Battery

Safety Information and Precautions

!! DANGER

Vehicle exhaust gases contain Carbon Monoxide, which is a colorless and odorless lethal gas.

Only run engines in well-ventilated areas and avoid breathing exhaust gases.

Extended breathing of exhaust gases will cause serious injury or death.

!! WARNING

Exhaust gases, moving parts, hot surfaces are present during and after the vehicle's engine is running. This list is by no means complete. Always pay close attention to the job at hand and obey all safety procedures.

Read and understand the operator's manual before using the STEERCLEAN Service system.

When using petroleum products always refer to the MSDS sheets and manufacturer's instructions for the proper procedure to handle emergency medical treatment, cleanup, handling, and storage requirements.

Improper use of the STEERCLEAN Service System can cause injury.

Spilled service fluid on an engine can ignite.

Avoid exposure to flames, sparks, hot engine parts, and other ignition sources.

Always keep fully charge fire extinguisher nearby. The extinguisher should have a class B rating and be suitable for gasoline, chemical, and electrical fires.

Cleanup any oil spills immediately.

Dispose of contaminated cleanup material according to governing environmental laws.

Never look directly into the air induction plenum or carburetor throat when the engine is operating.

Explosion or flame or exposure to flammable liquid and vapors can cause injury.

Flammable liquid (service fluid) can splash out of reservoir when filling. Steering Fluid temperatures can reach in excess of 350°F, which can cause serious injury to the human body.

Always keep Reservoir Cap secure except when filling reservoir.

Explosion or flame can cause injury.

Power steering systems may maintain residual pressure in connection lines to and from pump even after the engine has been turned off.

Wear safety goggles.

Wear chemical resistant gloves when connecting or disconnecting fitting and adapters.

Do not swallow or ingest any chemicals.

Use with adequate ventilation. Avoid breathing vapors.

Improper use of service fluid can cause injury.

Over exposure can have harmful effect on eyes, skin, respiratory system and possible unconsciousness and asphyxiation.

Improperly blocked vehicles can move.

Set the parking brake and chock the wheels.

Moving vehicles can cause injury.

Moving engine parts.

The engine cooling fan will cycle on and off depending on the coolant temperature and could operate without the engine running.

Wear safety goggles.

Always keep objects, clothing, and hands away from the cooling fans and engine parts.

Moving engine parts can cause injury.

Hot surfaces are present during and after running the engine.

Do not contact hot surfaces such as, manifolds, pipes, mufflers, catalytic converters, or radiators and hoses.

Hot surfaces can cause injury.

Catalytic converters become extremely hot.

Do not park a converter-equipped vehicle over dry grass, leaves, paper, or any other flammable material.

Do not touch a catalytic converter until the engine has been off for at least 45 minutes.

Catalytic converters can cause burns.

Cracked fan blade can become airborne.

Examine fan blades for cracks. If found, do not service the vehicle.

Flying objects can cause injury.

Batteries produce explosive gases and can explode, resulting in injury.

Wear safety goggles when working on or near batteries.

Use in a well-ventilated area.

Keep sparks and flames away from the battery and never lay tools, equipment, or other conductive objects on the battery.

When is connecting to the battery, make sure the unit's power switch is off. Connect the positive lead of the unit to the positive lead battery first; connect the negative lead of the unit to a solid ground point as far from the battery as possible.

Keep battery acid away from skin or eyes. In case of eye contact, flush with clean water for 15 minutes and get medical attention.

Always use a fender cover when working under the hood, to protect vehicles finish.

Rinse any spills with water immediately.

Before You Begin

First Time Operation

NOTE

This unit has been tested with *Power Steering Fluid*, and is ready for service after receiving inspection of the unit. Operate in above 50 degrees Fahrenheit area. Remember to send in your warranty card.

NOTE

Check the output/return hoses, battery connections, and all external components for damage.

Beginning the Service.....

The MotorVac SteerClean Power Steering Fluid Exchange machine is designed to flush all of the old fluid along with any contaminants out of the entire power steering system, and replace with clean power steering fluid.

Performing a Standard Fluid Exchange:

Here is the step-by-step procedure for a complete fluid exchange using the MotorVac SteerClean system.

1. Connect the power cord to 12 V. battery.(red+ black-).
2. Pour the power steering “flush” fluid into the clean fluid tank.
3. Verify that the cap is installed on the waste fluid tank.
4. Start the vehicles engine.
5. Insert the service hose “wand” into the vehicles power steering fluid reservoir. (fill level is controlled by the position of the short hose of the wand).
6. Turn the service switch to “run” position.
7. When the clean tank is empty, turn the service switch to “off”.
8. Turn the vehicles steering wheel fully right and left 3 times.
9. Turn off vehicle.
10. Pour Conditioner into “new” fluid tank and fill the tank with steering fluid recommended for vehicle. (Do not exceed 2000 ml level on tank).
11. Check level in waste tank to verify that there is enough ‘empty’ space to receive the amount of fluid in clean tank. If necessary, empty waste tank and replace cap before continuing.
12. Repeat steps 4 thru 9.
13. Check fluid level in vehicles reservoir, top off if necessary.
14. Empty waste fluid tank

The Sale: Since the MotorVac SteerClean Power Steering Fluid Exchange Service System is new, virtually every car or truck with at least 30,000 miles is a potential candidate for this service. You can sell the service based on fluid condition or mileage. To sell based on fluid condition, place a drop of the customer's power steering fluid on a clean rag or piece of paper, and then place a drop of new fluid next to it. Show this to the customer. Explain that the old fluid is burnt, dirty, and contaminated. It is no longer able to provide the lubrication and protection needed. Over time, the fluid will damage power steering components, leading to failure. To sell based on mileage, you're on solid ground by recommending the service as regular maintenance. Some auto manufactures are recommending the power steering fluid be replaced every 30,000 miles. Just as automatic transmissions require regular fluid replacement, so do power steering fluids.

The Six Most Common Objections:

1 – “I’ve never heard of servicing the power steering system.” **Your reply:** Until recently, there was never a practical cost effective way to replace power steering fluid. With the MotorVac SteerClean System, you actually introduce a cleaning agent first (p.n.400-0160 flush), and then flush the system completely with MotorVac's(p.n. 400-0154 conditioner) and Power Steering Fluid. In under ten minutes, your power steering system protected with the necessary conditioners and lubricants.

2 – “I can’t afford it.” **Your reply:** With the high cost of labor and parts especially for a power steering rack or power steering pump, how can you not afford it? We can offer you a special price today to close the deal.

3 – “The cars not worth it.”

4 – “It’s a lease car, why spend the money?” **Your reply:** (Treat both 3 & 4 the same) Servicing your car's power steering system isn't about the car; it's about your safety, and the safety of your family. Consider how a power steering failure could impact your life.

5 – “I’m getting rid of the car soon.” **Your reply:** To get the most out of your sale, show the buyer that you have done everything possible to keep the car in good running condition, including servicing the power steering system.

6 – “Why doesn’t my owners manual say anything about it?” **Your reply:** Some major auto manufacturers are recommending servicing the power steering. Others will probably follow soon. We recommend the MotorVac SteerClean Service to keep your cars power steering system like new!

Follow up: Always answer any questions as truthfully as possible, and then always come back to the sales question: ***Can we take care of that for you now?***

Once his objectives have been satisfied, you have good chance of selling the service.

Troubleshooting and Additional Help

Refer to the list below in the unlikely event that you have problems with your **SteerClean Power Steering Service System**.

Problem:

1. Unit does not power-up.

2. vacuum or fill pump inop.

3. Slow flow

Solution:

-Inspect power cord for breaks
-Reset Circuit Breaker

-check wiring or switch.

-check service filter

ADDITIONAL HELP

Please verify that items above have been reviewed before calling for additional assistance.

In the unlikely event that problems persist with the unit call Technical Support, have your model and serial numbers available before you call. Remember to send in your warranty card.

In the U.S.
(800) 841-8810
(714) 558-4822

Canada:
Contact your local
MotorVac distributor

Appendix A - Maintenance

Maintenance Procedures

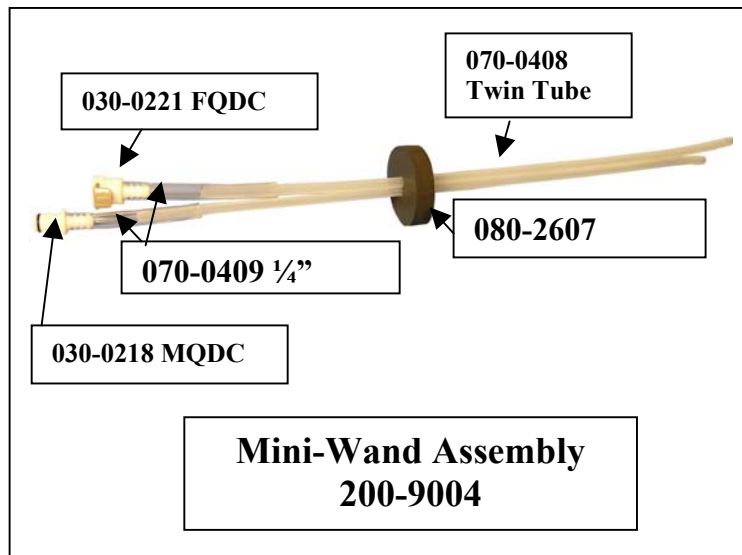
The following maintenance procedures should be performed on a routine basis:

1. Carefully clean the exterior with a soft cloth to keep the cabinet looking new.
2. Check all hoses and wires for cuts or frays.
3. Clean the unit's filter screen after every 100 services or 6 months, whichever ever comes first. See the next section for procedure.

Cleaning The Unit's Filter

1. Remove the back panel.
2. Place suitable catch tray under filter assembly.
3. Filter is the Plastic 'dome' located in the hose from the tank.
4. Hold the bottom half of the filter while rotating the other half of the filter *counter-clockwise* until the four lock tabs clear. (Press & turn like a radiator cap) Then separate the two pieces by lifting by pulling apart.
5. Use a fine pick or bent pin to pull screen away from the filter housing. Clean screen.
6. Assemble in reverse order. **NOTE: Use caution not to pinch o'ring on reassembly**
7. Enter initials, date, and a check mark in the appropriate boxes of the Maintenance Record at the end of the chapter.

Standard Adapters



Appendix C – Parts

Service Parts for the SteerClean Power Steering Service System.
Please refer to the part numbers below when ordering parts for this unit.

| <u>Part #</u> | <u>Description</u> |
|----------------------|---|
| 010-0027 | Wheel (8 x 1.75) |
| 010-0026 | Hub cap (Black Plastic) |
| 040-0604 | Cap Nut (1/2" ID – Push On) |
| 040-0507 | Axle Bushing (Black Nylon) |
| 010-5500 | Axle, Rear Wheels (1/2" x 20.875 lg.) |
| 010-5004 | Hose bracket |
| 020-8043 | Harness, External Power |
| 050-1000 | Screen filter- inline, 1/2 MPT. Pp. |
| 050-3013 | Check valve (1psi), (disposal hose) |
| 200-4063 | Output/Return Service hose assembly / Clear Braided |
| 080-6009 | Hose Clamp, 3/8"(Crimp Style, Steel) |
| 080-6016 | Hose Clamp, 1/4"(Crimp Style, Steel) |
| 200-4064 | Disposal hose assembly |
| 200-8917 | Operators Manual |
| 010-5627 | Mini-Wand (Standard) |

ORDERING PARTS

Parts for the unit may be ordered by calling Customer Service, have your model and serial numbers available:

inside U.S.A.

(800) 841-8810

(714) 558-4822

Canada:

Contact your local

MotorVac distributor