



CMS-120

Coolant Maintenance System



Operations Manual

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INTRODUCTION

Congratulations on the purchase of your CMS-120 Coolant Maintenance System.

The Flo-Dynamics CMS-120 Coolant Maintenance System, with a single 20-gallon tank allows a technician to quickly drain and refill a large capacity cooling system in minutes.

Using push/pull technology, the CMS-120 simultaneously uses pressure and vacuum, speeding up both the draining and filling processes. Refilling, without the need to spend hours bleeding air from a cooling system, is easy using push/pull technology and a vehicle's Flush-Face Quick Connect Coupler cooling system adapter.

Without the need to use a drain pan, you can safely, quickly, and completely drain a 14-gallon cooling system in approximately 10 minutes, and refill without air pockets in 13 minutes.

The CMS-120 will save repair time costs along with creating a safer shop environment by preventing coolant spills.

Please take time to read through this manual to familiarize yourself with the machine before performing your first coolant drain or exchange.

CUSTOMER SERVICE CONTACT INFORMATION

For product information and tech support please call: **800-303-5874**
or visit: **www.flodynamics.com**

IMPORTANT SAFETY NOTICE

For your safety, read this manual thoroughly before operating this machine. This machine 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 this machine, 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.*



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 hose, 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.
- This machine 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!

MACHINE SPECIFICATIONS

Dimensions: 56" H x 28" W x 24" D

Weight: 166 lbs.

Fluid Capacity: 20 gallons

Power: 115 psi shop air

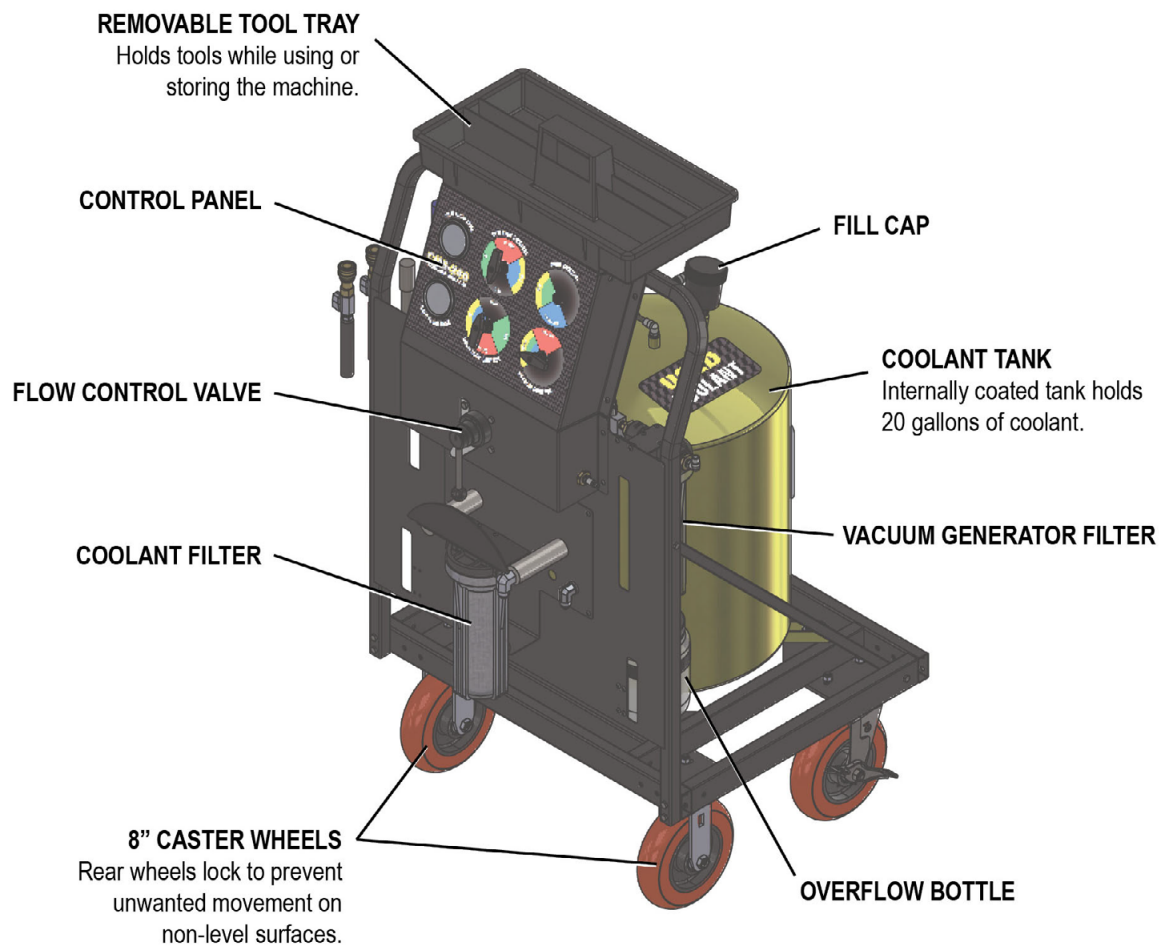
Hose Length: 13' outside of machine

FEATURES

- ✓ Single 20-gallon tank with fluid level sight tube
- ✓ Easy mobility cart with heavy duty 8" casters
- ✓ Operates on shop air – no 120V or 12V power required
- ✓ Push/pull technology enables you to:
 - » Drain a 14-gallon cooling system in approximately 10 minutes
 - » Fill a 14-gallon cooling system without air pockets in approximately 13 minutes
- ✓ Easily perform a cooling system pressure leak check
- ✓ Easy to see coolant level in tank
- ✓ Internally coated tank prevents rust contamination
- ✓ Flush-Face Quick Connect Couplers available
- ✓ Includes 3 adapters:
 - Upper Cooling System Adapter
 - Volvo / Mack Coolant Adapter
 - Peterbilt / Kenworth Coolant Adapter



MACHINE OVERVIEW



OPERATING INSTRUCTIONS

SAFETY RECOMMENDATIONS

Use extreme safety measures when working around a running engine, pressurized storage vessels, and automotive chemicals.

Always block the vehicle's drive wheels.

Ventilate the vehicle's exhaust if engine will be started.

Always wear safety glasses.

Protective gloves are recommended.

PREPARATION

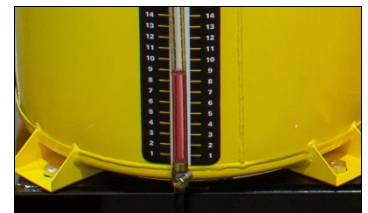
Inspect the engine and the visible coolant system components for any signs of damage or unusual wear.

Note the coolant level before beginning the service. If low, see "COOLING SYSTEM PRESSURE / LEAK CHECK" procedure to verify the system's condition.

Depending on the desired service, make appropriate connections (lowest and highest point) on the vehicle's coolant system.

Plug any open ports venting to the atmosphere (i.e. overflow hose or a system vent cap).

To prevent running out of coolant and ingesting air, ensure coolant tank level is showing at least 3 gallons on the sight tube.



PERFORM COOLANT DRAIN and CLEAN OPERATION

DRAIN COOLANT FROM VEHICLE INTO COOLANT TANK

Obtain a coolant sample if needed.

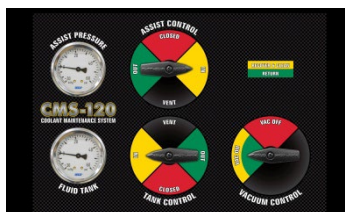
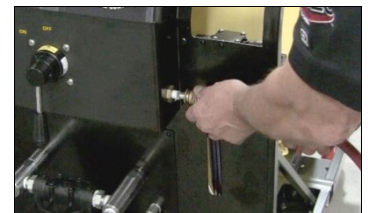
Move the **Flow Control** to "**OFF**" and connect shop air.

Connect the **red** service hose to highest point, the **black** service hose to the lowest point, and open the ball valves.

Turn **all** control panel valves to the **YELLOW** position.

Move the **Flow Control** to "**ON**".

The system will begin to drain.



When air is seen in the **black** hose, turn **Tank Control** and **Assist Control** to **VENT** and **Vacuum Control** to **OFF**.

When air pockets/coolant stop moving in the service hoses, move the **Flow Control** to **"OFF"**.

Close the ball valves and remove the service hoses.



PERFORM COOLANT FILL OPERATION

RETURN COOLANT TO VEHICLE AFTER SERVICING

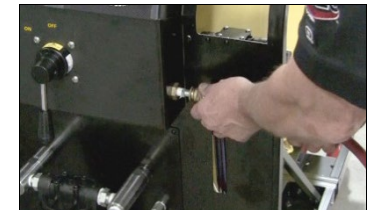
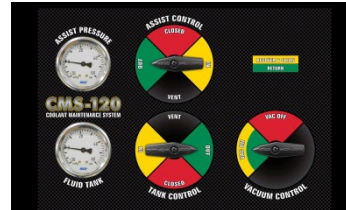
Move the **Flow Control** to **"OFF"** and connect shop air.

Connect the **red** service hose to highest point, the **black** service hose to the lowest point, and open the ball valves.

Turn **all** control panel dials to the **GREEN** position.

Move the **Flow Control** to **"ON"**.

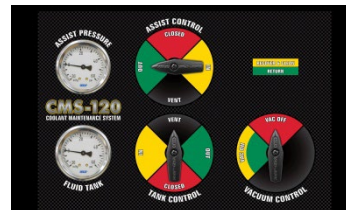
The system will begin to fill.



When the coolant level is at the "cold" level of the expansion tank or seen in the **red** hose, the system is full.

Turn **Tank Control** to **VENT** and **Vacuum Control** to **OFF**.

The coolant level will adjust.



When the coolant returns to the "cold" level on the expansion tank, turn **Assist Control** to **VENT**.

When the cooling system stabilizes and both gauges show zero, move the **Flow Control** to **"OFF"**.



TO ADJUST COOLANT LEVEL IF IT'S TOO HIGH

Turn **Tank Control** and **Vacuum Control** to **YELLOW** and **Assist Control** to **VENT**.

Move the **Flow Control** to "**ON**" until the desired coolant level is reached.

Move the **Flow Control** to "**OFF**" and turn **Vacuum Control** and **Assist Control** to **VENT**.

Close the ball valves and remove the service hoses.

NOTE: If cooling system overfills and coolant is seen in the top service hose going into the vacuum generator overflow filter, stop flow immediately by moving **Flow Control** to "**OFF**". See "VACUUM GENERATOR OVERFLOW FILTER REPLACEMENT" procedure to empty overflow filter assembly.



TOP-OFF PROCEDURE / COOLANT LEVEL TOO LOW

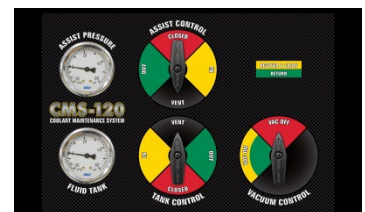
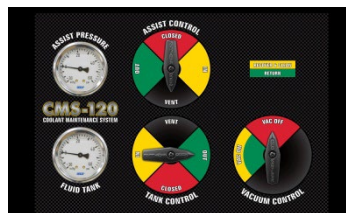
NOTE: The following procedure is performed with the red and black service hoses still connected from filling the cooling system in the above procedure.

Turn **Tank Control** to **Green**, **Assist Control** to **VENT** and **Vacuum Control** to **OFF**.

Move the **Flow Control** to "**ON**".

When coolant is at the correct level, move the **Flow Control** to "**OFF**", **Tank Control** to **VENT**.

When the cooling system stabilizes and both gauges show zero, close the ball valves and remove the service hoses.

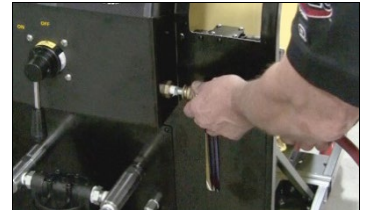


ADDITIONAL FUNCTIONS

COOLING SYSTEM PRESSURE / LEAK CHECK

Move the **Flow Control** to “OFF” and connect shop air to the machine.

Close the ball valve on the **red** service hose. Connect the **red** service hose to the top of the radiator using the appropriate adapter and open the ball valve.

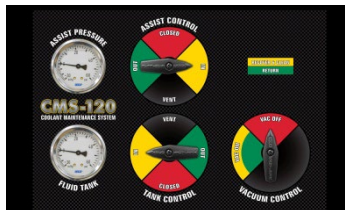


Turn **Tank Control** and **Assist Control** to **YELLOW** position.

Move the **Flow Control** to “ON”.

The system will pressurize to 10-15psi.

Turn **Tank Control** to **RED** and observe the **Fluid Tank** pressure gauge. If there is a loss of pressure, then there is a leak in the cooling system.



When enough time has elapsed to properly perform a pressure check, move the **Flow Control** to “OFF” and **Tank Control** and **Asist Control** to **VENT**.

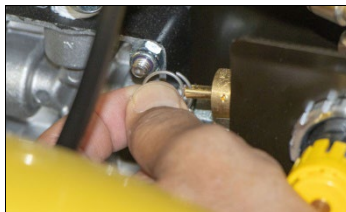
Close the ball valve on the **red** service hose and remove the **red** service hose. Remove the adapter from the radiator and replace the cap.



FILL TANK – METHOD 1 POUR IN

Ensure there is no pressure or vacuum in the **new** coolant tank by pulling up on the relief valve ring on top of the tank.

Remove the fill cap. Add the required amount of new coolant and replace the fill cap.



FILL TANK - METHOD 2 VACUUM MODE

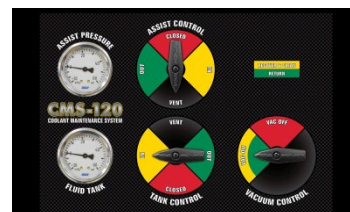
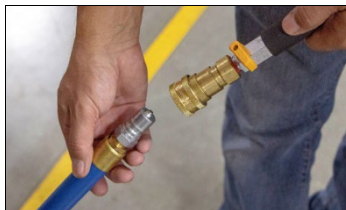
If the **Fluid Tank** gauge indicates pressure or a vacuum, turn **Tank Control** to **VENT** to equalize tank to zero.

Close the ball valve on the **BLACK** service hose and connect the open-end adapter.

Turn **Tank Control** and **Vacuum Control** to **Yellow**.

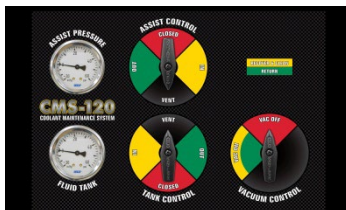
Move the **Flow Control** to “**ON**”.

Place the open-end adapter into a new coolant container and open the ball valve on **BLACK** hose.



When the coolant level in coolant tank reaches the desired level, move the **Flow Control** to “**OFF**” and close the ball valve on the **BLACK** service hose.

Move **Vacuum Control** to **OFF** and move **Tank Control** to **VENT**.



DRAINING THE TANK

Close the ball valve on the **black** service hose and connect the open-end adapter.

Turn **Tank Control** and **Assist Control** to **GREEN**.

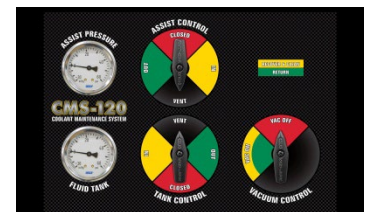
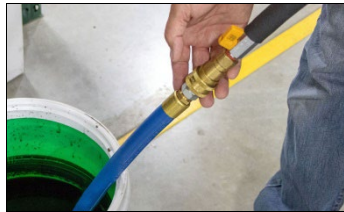
Move the **Flow Control** to "ON"



Place the open-end adapter into an approved coolant waste container and open the ball valve. Drain until the tank is empty.

Move the **Flow Control** to "OFF" and **Tank Control** and **Assist Control** to **VENT** to release pressure in the tank.

Dispose of used coolant in accordance with local and state requirements.



EMPTY OVERFLOW BOTTLE

Release the Velcro strap and remove the overflow bottle.

Empty contents into an approved coolant waste container.

Rinse out and replace using Velcro strap.



VACUUM GENERATOR OVERFLOW FILTER REPLACEMENT

The vacuum generator overflow filter should be emptied when it is more than 1/3 full.

Remove the reservoir by turning it counterclockwise. Empty the reservoir contents into an approved coolant waste container, rinse out the reservoir, and replace the filter if necessary.

After ensuring the rubber O-ring is in place, reinstall the reservoir by turning clockwise until seated.

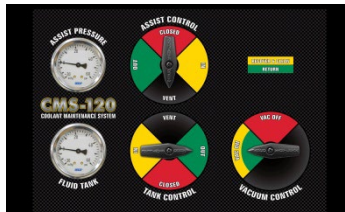


COOLANT FILTER REPLACEMENT

If pressure or a vacuum is shown on either tank gauge, depressurize the tanks by turning **Tank Control** and **Assist Control** to **VENT**.

Close the ball valve on the **black** service hose and connect the open-end adapter.

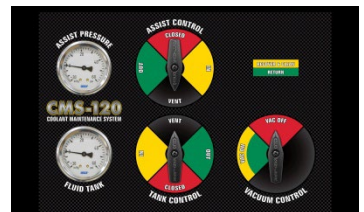
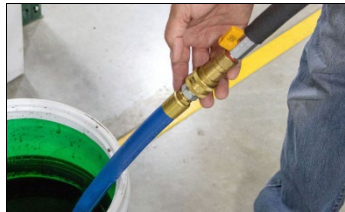
Turn **Tank Control** and **Vacuum Control** to **GREEN** and move the **Flow Control** to **"ON"**.



Place the open-end adapter into an approved coolant waste container and open the ball valve.

NOTE: The reservoir will not completely empty and will only empty past the threads, so the reservoir may be removed without spillage.

Once at this level, move the **Flow Control** to **"OFF"**, turn **Tank Control** to **VENT**, and **Vacuum Control** to **OFF**.



Remove the reservoir by turning it counterclockwise. Empty the reservoir contents into an approved coolant waste container, rinse out the reservoir, and replace the filter if necessary.

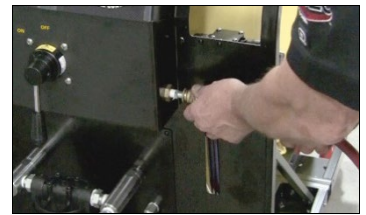
After ensuring the rubber O-ring is in place, reinstall the reservoir by turning clockwise until seated.



REMOVE COOLANT FROM A VEHICLE'S EXPANSION / DE-GAS BOTTLE

Move the **Flow Control** to “OFF” and connect shop air to the machine.

Close the ball valve on the **black** service hose and connect the open-end adapter.

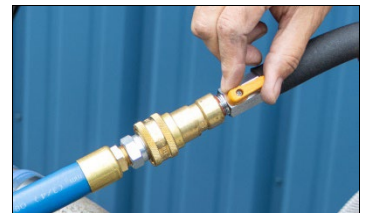
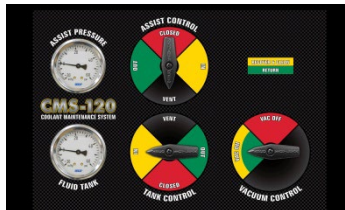


Turn **Tank Control** and **Vacuum Control** to **YELLOW** and **Assist Control** to **VENT**.

Move the **Flow Control** to “ON” until the desired coolant level is reached.

Move the **Flow Control** to “OFF” and turn **Tank Control** and **Vacuum Control** to **VENT**.

Close the ball valves and remove the service hoses.

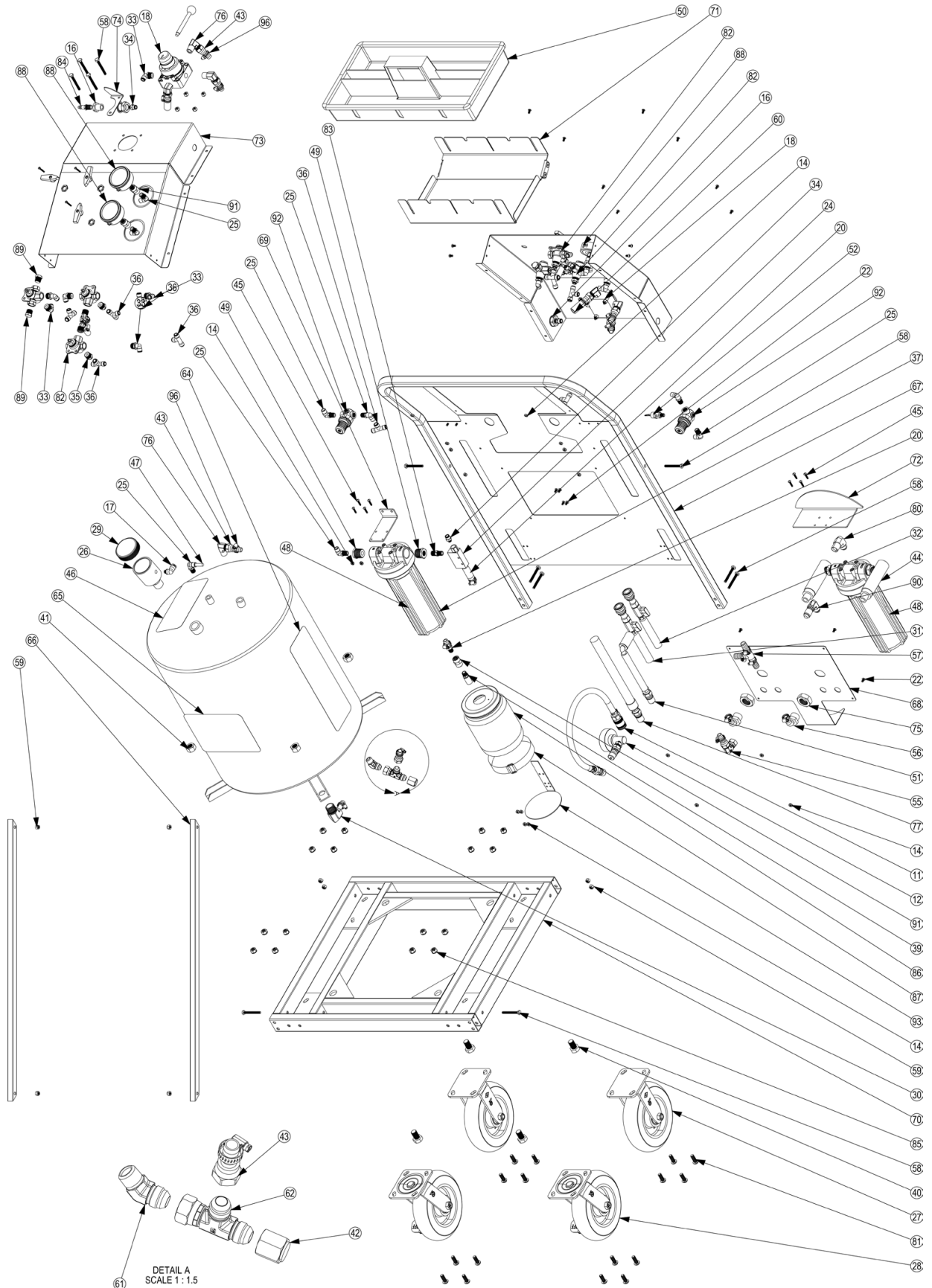


MAINTENANCE

To keep your machine working properly:

- Keep debris out of fluid tanks.
- Inspect and if needed clean filter before each use.
- Inspect air catch container and clean before each use.
- Avoid spilling fluid on control panel.

REPLACEMENT PARTS



#	PART NO.	DESCRIPTION	QTY.	#	PART NO.	DESCRIPTION	QTY.
10	10700007	TIE 8 INCH BLACK PLASTIC	1	54	40201194	JOB AID SHEET CMS-120	1
11	40100163	COOLANT ADAPTER - VOLVO / MACK	1	55	40201201	90 ELBOW - ½ MALE JIC x ½ FEM JIC SWIVEL	1
12	40201189	COOLANT ADAPTER - INTERNATIONAL / FREIGHTLINER	1	56	40201258	ELBOW ADAPTER 1/2" BARB X 1/2 NPT FEMALE PVDF	2
13	40200012	SERIAL LABEL BLANK 2.5 x 7.5	1	57	40201263	PLASTIC TEE CONNECTOR 1/2 HOSE BARB	1
14	40200171	NUT-HEX 10-32 TOOTHED WASHER	18	58	40201288	SCREW - HEX SS-316, FT 1/4-20 X 2-1/4	12
15	40200328	BOX FOR AIRVAC HANDLE ASSEMBLY	1	59	40201289	NUT - SS-316 NYLON, 1/4-20	12
16	40200339	1/4 BRASS BULKHEAD FTTG	1	60	40201296	TUBING CLEAR BRAIDED PVC - 1/2 ID X 3/4 OD	1
17	40200356	5/16 TUBE X 1/8 NPT ELBOW W169PLP3 5-2	1	61	40201298	ELBOW 45 DEG	1
18	40200463	REVERSER - G TEC 7AR	1	62	40201299	TEE FITTING	1
19	40200534	ELBOW 6-6 - G TEC	2	63	40201301	OVERLAY - UPPER CONTROL PANEL - CMS-120	1
20	40200565	HOSE BARB 1/2 - G TEC ADAPTERS	2	64	40201302	OVERLAY - MEASURING STRIP - CMS-120	1
21	40200577	3/8 ID BLACK HOSE	0.17	65	40201303	PRODUCT LABEL - CMS-120	1
22	40200821	10-32 X 3/8 BUTTON HEAD SCREW STAINLESS	22	66	40300361	GUSSET BAR	2
23	40200837	LABEL - FLO PROP 65 WARNING	1	67	40300370	PUSH CART HANDLE ASSEMBLY	1
24	40200875	VACUUM GENERATOR CV15H	1	68	40300373	CART FILTER PANEL	1
25	40201025	MALE ELBOW 5/16" TUBE 1/4NPT	8	69	40300396	FILTER HOUSING MNT BRKT	1
26	40201040	NEW FLUID FUNNEL FITTING	1	70	40300398	ASSEMBLY-COMMFLUSH CART MODULE	1
27	40201056	CASTER 8IN DIA NO BRAKE	2	71	40300410	ADAPTER TRAY BRACKET	1
28	40201057	CASTER 8IN DIA WITH BRAKE	2	72	40300422	HOSE RACK HD CMS	1
29	40201075	COOLANT TANK CAP W/ SEAL ONLY	1	73	40300423	FRONT COWL, HD CMS	1
30	40201099	ELBOW 90 DEG. 1/2 BARB HOSE ID X 3/4 NPT MALE	1	74	40300427	REVERSER STOP	1
31	40201122	RED SERVICE HOSE	1	75	40201264	HEX NUT THIN 1"-14 ZINC	2
32	40201123	BLACK SERVICE HOSE	1	76	940114	90 JIC ELBOW	4
33	40201124	ELBOW, 5/16" TUBE OD x 3/8" NPT MALE	6	77	940144	HOSE,ATF2000,ADAPTER 4	1
34	40201127	STUD N2 - 5/16 TUBE X 1/4 NPT	2	78	940616	LABEL/QUALITY ASSURANCE ATF2000	1
35	40201128	STUD 5/16 TUBE 3/8NPT	2	79	940630	LABEL/2 7/8 x 2.5 BAR CODE SIL	1
36	40201129	UNION TEE 5/16 TUBE	6	80	941109	ELBOW 1/2 NPT X 1/2 JIC	1
37	40201140	10" FILTER HOUSING CMS	1	81	941271	BOLT 3/8-16 x 1 BUTTON SOCKET	16
38	40201145	STEEL TANK 20 GAL	1	82	941277	4WAY VALVE ANDERSON B 200CN-12	3
39	40201147	HIGH-NOISE REDUCING MUFFLER	1	83	941328	CONNECTOR 1,4NPT 1,4NPT 216P-4	1
40	40201152	HEX SCREW 5/8-18 X 1"	4	84	941335	AIR NIPPLE 1/4NPT H2C	1
41	40201154	HEX NUT 5/8-18, 5	4	85	941390	NUT 3,8-16 STAR LOCK	16
42	40201156	CAP - CMS-40	1	86	941424	BOTTLE-PLASTIC OVRFLO	1
43	40201159	BRASS BARB	6	87	941425	STRAP-VELCRO BOTTLE HOLDER	1
44	40201161	FILTER CHECK VALVE ASSEMBLY	1	88	941438	2.5 PANEL GAUGE AND U-CLAMP	2
45	40201170	SCREW NO 8, 3/4" LENGTH	8	89	941451	PLUG-3,8MPT	2
46	40201176	USED FLUID TANK ID LABEL - CMS-240	1	90	944009	BULKHEAD ELBOW W,NUT 1/2 JIC	1
47	40201179	BLACK POLY TUBING 5/16 OD	1	91	945011	FITTING-1/4FPT X 1/4FPT STRAIT	3
48	40201180	FILTER ELEMENT - CMS-40	2	92	947001	4 WAY REGULATOR-PSICOOL	2
49	40201182	BUSHING ADAPTER, 3/4" MNPT x 1/4" FNPT	2	93	P941437	BOTTLE HOLD PLATE-BLK VACFILL3	1
50	40201186	TOOL TRAY	1	94	R941305	SAFETY WARNING STICKER C-VAC	1
51	40100164	COOLANT ADAPTER - PETERBILT / KENWORTH	1	95	R942131	JACKNUT 10-24	4
52	40201192	PRESSURE RELIEF VALVE 1/8 NPT - 30 PSI	1	96	R942142	HOSE CLAMP 3/8 SCREW TYPE	16
53	40201193	OPS MANUAL CMS-120	1				

LIMITED ONE (1) YEAR WARRANTY

Flo-Dynamics CMS-120

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.