

OPERATION

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

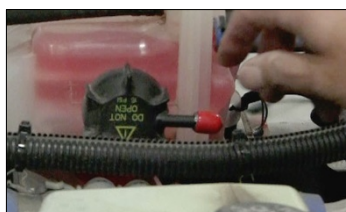
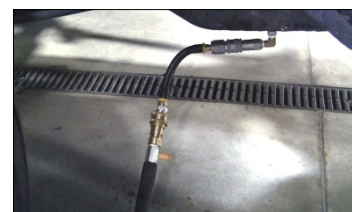
Inspect the engine and the visible coolant system components for any signs of damage or unusual wear.

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.

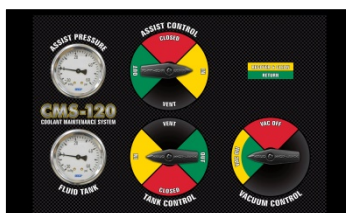
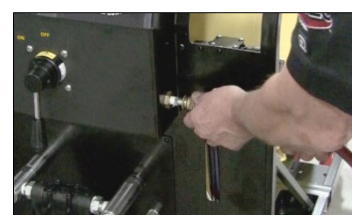
Move the **Flow Control** to "OFF" and connect shop air.

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.



CMS-120 Coolant Management System

QUICK START INSTRUCTIONS

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

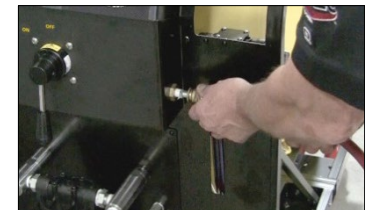
Move the **Flow Control** to **"OFF"** and connect shop air.

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"**.

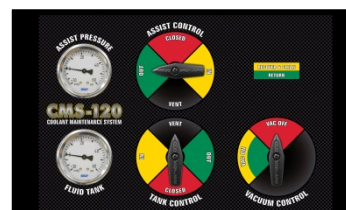
The system will begin to fill.



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.



CMS-120 Coolant Management System

QUICK START INSTRUCTIONS

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

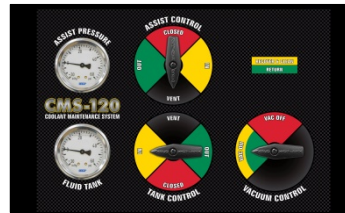
Turn **Tank Control** and **Vacuum Control** to **YELLOW** and **Assist Control** to **VENT**.

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.

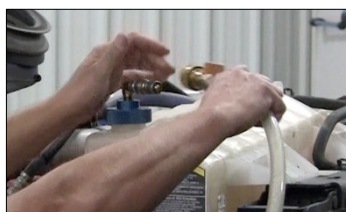
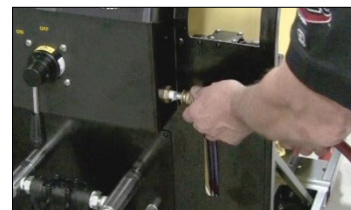


ADDITIONAL FUNCTIONS

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".

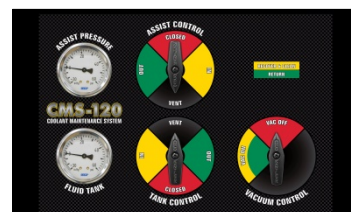
The system will pressurize to 10-15psi.

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 **Assist 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.



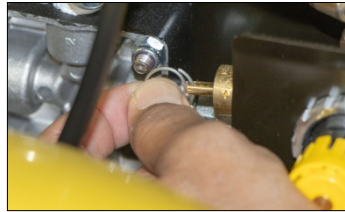
CMS-120 Coolant Management System

QUICK START INSTRUCTIONS

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

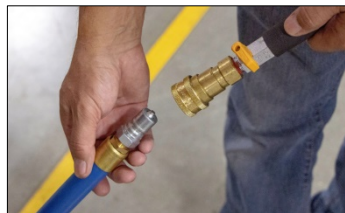
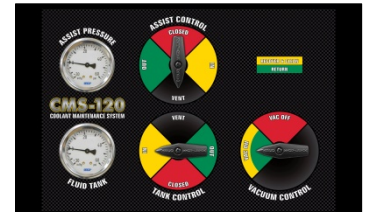
If the **Fluid Tank** gauge indicates pressure or a vacuum, turn **Tank Control** to **VENT** to equalize tank to zero.

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

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

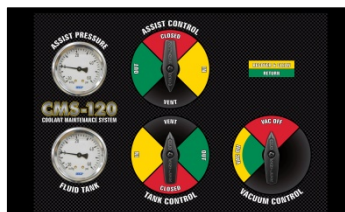
Move the **Flow Control** to **“ON”**.

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**.



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QUICK START INSTRUCTIONS

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**.

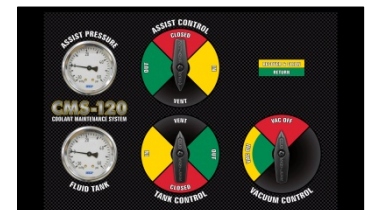
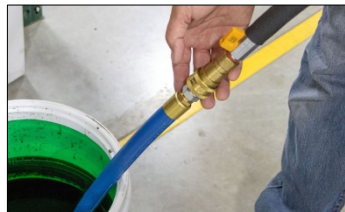
Move the **Flow Control** to "ON"



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.



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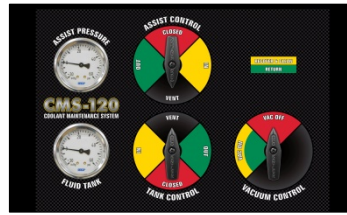
QUICK START INSTRUCTIONS

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.

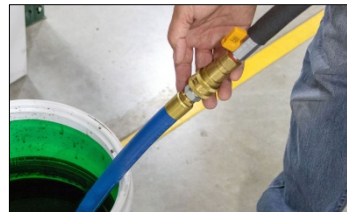
Turn **Tank Control** and **Vacuum Control** to **GREEN** and move the **Flow Control** to "**ON**".



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.



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Coolant Management System

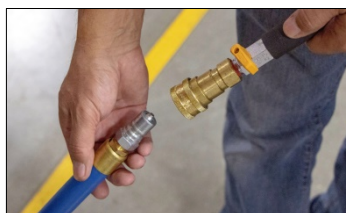
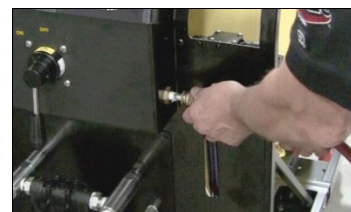
QUICK START

INSTRUCTIONS

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.

