

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL

MOTOR TRANSPORT BULLETIN NO. 70-5

MARCH 2, 1970

SUBJECT: COOLANT RECOVERY SYSTEM

MODEL: 1969 DODGE

DESCRIPTION:

During the past year the Motor Transport Section has been testing and evaluating the use of a coolant recovery system on 1969 Dodge Class "A" Vehicles in selected locations. This system has almost totally eliminated the need to add coolant to the vehicle cooling system under extreme temperature and operating conditions.

All 1970 model vehicles currently being assigned to the field are equipped with the coolant recovery system by the Motor Transport Section. Because of the effectiveness of this system it has been decided to install coolant recovery systems on selected 1969 Dodge vehicles.

VEHICLES AFFECTED:

Coolant recovery systems may be installed by the field on 1969 Dodge vehicles with less than 50,000 miles which are operated in locations where loss of coolant and engine overheating is a problem. The recovery system shall not be installed on Class "A" Vehicles having over 50,000 miles or on 1968 Dodges, as these vehicles will not remain in service long enough to justify the installation cost.

PARTS REQUIRED:

To complete the installation of the coolant recovery system on the 1969 Dodge the following parts are required.

<u>Description</u>	<u>Part Number</u>
1 - Reservoir	GM Part No. 1494755
1 - Cap, Reservoir	GM Part No. 1494019
1 - Seal, Radiator Cap Upper	1/16" x 2 1/4" O.D. x 1 1/8" I.D.
1 - Hose, Radiator to Reservoir	5/16" I.D. x 27"
1 - Hose, Reservoir Siphon	5/16" I.D. X 9"
1 - Clamp, Hose	1/2" O.D. Hose
2 - Cap Screw, Hexagon Head	1/4" - 20 x 2 1/2"
2 - Nut, Hexagon	1/4" - 20

<u>Description</u>	<u>Part Number</u>
2 - Washer, Split Lock	1/4" I.D.
4 - Wahser, Flat	1/4" I.D.
2 - Spacers, Pipe	3/8" or 1/4" I.D. x 1 3/4" Long
1 - Nylon Hose Loop Clamp	1/2" I.D.
1 - Screw, Sheet Metal	118 x 1/2" Long

PARTS AVAILABILITY:

The reservoir and reservoir cap are General Motors Part numbers and are available through the local Cadillac dealer. The radiator cap upper seal can be cut from a piece of 1/16" neoprene or nordel gasket stock. The Cadillac radiator cap normally used with this system shall not be used on the Dodge vehicle. Use the existing cap and install the seal as described. Other hardware items needed to complete the installation can be purchased from your local Dodge dealer or automotive parts dealer. Should difficulty be encountered or assistance required in obtaining the parts, contact the Motor Transport Section.

INSTALLATION:

To install the coolant recovery system in the 1969 Dodge proceed as follows:

1. Drain and flush the cooling system.
2. Remove battery.
3. Remove the outside radio speaker at the split clamp.
4. Remove the grille to radiator yoke panel on the left side of the grille to gain access to the space behind the left headlights.
5. Position the reservoir in the space behind the left head-Lights to determine the location for drilling holes for mounting the reservoir. The reservoir should be mounted low enough to provide sufficient clearance to remove the reservoir cap after installation. Mark the mounting hole locations on the radiator yoke.
6. Drill two 1/4" diameter holes in the radiator yoke as marked in step 5.
7. Place the reservoir in the space behind the left headlights but do not mount in place.
8. Re-install the grille to radiator yoke panel removed in step 4.

9. Using the two 1/4" x 2 1/2" bolts and the two 1 3/4" pipe spacers, mount the reservoir. Install the bolts from the battery side of the radiator yoke using one flat washer under the head of the bolt, then the pipe spacer, reservoir, another flat washer, split lock washer and nut.
10. Re-install the outside radio speaker.
11. Install the 9" length of hose on the larger inside nipple of the reservoir cap using the hose clamp to insure a good seal and to preclude the possibility of the hose becoming disconnected during operation. Install cap on reservoir.
12. Drill a minimum 3/4" diameter hole through the radiator yoke just to the left of the radiator as shown in the attached photograph.
13. Install the 27" length of hose on the larger outside nipple of the reservoir cap and route the hose through the hole drilled in the radiator yoke in step 12.
14. Remove the original radiator overflow hose and discard.
15. Install the opposite end of the 27" length hose on the radiator overflow nipple at the filler neck.
16. Remove the radiator cap and install the 2 1/4" O.D. x 1 1/8" I.D. neoprene upper radiator cap seal under the bayonet tabs of the cap.
17. Install the overflow hose retaining clamp as shown in the attached photograph.
18. Re-install the battery.
19. Completely refill the radiator with a minimum solution of 40% ethylene glycol antifreeze and 60% water. Add approximately two quarts of coolant mixture to the coolant recovery system reservoir.
20. Install the radiator pressure cap with the neoprene upper seal in place. The system will not function if the neoprene radiator cap seal is not installed.

Installation of the system is now complete. After the vehicle is returned to service a functional check of the system should be made.

As the engine heats to operating temperature and the coolant expands, air should be expelled from the radiator in the form of bubbles in the reservoir. An increase in the coolant level in the reservoir will occur as the coolant continues to heat and expand. When the engine is turned off and the coolant cools, the coolant level in the reservoir will decrease as it is drawn back to the radiator. If the

radiator cap is removed when the cooling cycle is completed, the coolant level in the radiator should be up to the filler cap (no air space should be present in the radiator). When cold the coolant level must cover the end of the reservoir siphon hose. The siphon hose must not extend to the bottom of the reservoir but must be approximately one inch from the bottom.

INSTALLATION:

When possible, installation of the recovery system should be accomplished by Departmental maintenance personnel. Installation may also be performed by the local dealer now performing your maintenance and repair work. The estimated time required to install the recovery system is approximately 0.5 hr. when all parts are available.

LABOR COST:

Labor and parts to install the system shall be paid by a Job Tag processed in the normal manner. The following notation should be made on the Job Tag:

"Install coolant recovery system.            0.5 hr."

and/or

"Coolant recovery system parts."

ADDITIONAL INFORMATION:

If additional information on the coolant recovery system or its installation is needed, contact the Motor Transport Section.

441 F15 H51 Y89 76 END  
F5 F5 M11 N9 208 19423 73  
835 D32 DK41 L9D 190032

SPECIAL ORDER

LOWER COLLAR LEVEL HERE

DO NOT OPEN GOLD

ENGINE COMPANY  
CHECK HOT

FULL



0-3-D

1/2 R 3D

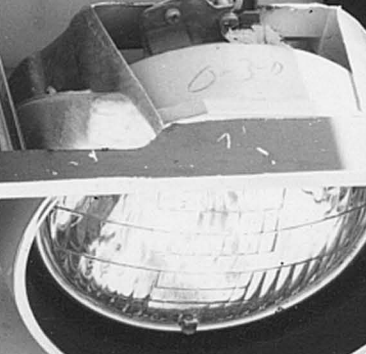


WARNING



MAGNUM

ENGINE COMPARTMENT  
CHECK OIL  
FULL



041 F15 H51 Y89 26 CAN  
F5 F5 K11 X9 208 042170  
536 D32 DK41 L9D 250030

SPECIAL ORDER

DO NOT CHECK COOL

COOLANT LEVEL HERE

ENGINE COOLANT

CHECK

FULL



0-3-0

1/2 0 20