



## Installation Instructions

# **B&M SuperCooler™**

with installation hardware

Part Numbers 70255, 70264 and 70268

The B&M SuperCooler is designed to cool the automatic transmission oil during sustained high speed driving, pulling heavy loads, mountain driving, racing or any other torque converter stress. The cooler will guard against excessive overheating, but will not overcool the transmission in winter weather. This cooler kit can be installed in a few hours by carefully following directions. A minimum of mechanical ability and tools are necessary for a successful installation. Read these instructions first to familiarize yourself with the parts and procedures.

When installing your B&M SuperCooler there are some other B&M products you may wish to consider:

**1. B&M Transmission Temperature Gauge.** (Part No. 80212) The B&M Temperature Gauge is accurate and dependable, and an economical safeguard against transmission overheating, the leading cause of automatic transmission failure.

**2. B&M Deep Transmission Oil Pans.** B&M offers the most complete line of deep pans available. Deep pans provide for 3 to 4 quarts of additional oil capacity which significantly increases the amount of heat the oil can remove. B&M offers pans in both stamped chrome plated steel and/or cast aluminum for most popular domestic transmissions.

**3. B&M Trick Shift Fluid.** A blend of foam inhibitors, extreme pressure agents and shift improvers give this fluid the maximum protection capability against heat and wear, while delivering the fastest possible shifts available for a fluid change. You literally "Pour in Performance." Available in plastic quart bottles.

### INTRODUCTION

Automatic transmissions operate at temperatures between 150° and 250°F. It is suggested that the vehicle be allowed to

cool for a few hours to avoid being burned by hot oil.

We recommend mounting your cooler in series with your present OEM cooler in the radiator tank. This method utilizes the existing cooling system for maximum efficiency and complies with all new car warranties. (See Fig. 1). Using the B&M SuperCooler alone should be done only if the vehicle is not equipped with an OEM cooler (as in the case of the vehicle originally having a stick shift transmission), or if the stock cooler is damaged beyond any reasonable repair.

Before you begin the installation of your B&M SuperCooler, make sure that there is adequate room on your vehicle to put your cooler in the desired position. Test fit before beginning installation.

First check the parts list to make sure you have all the parts for your cooler. If you do not have all the parts listed, contact B&M immediately. Also check the tool list to be sure that you have the required tools. Some installations may require more, depending on the intended cooler location or the type of vehicle.

### COOLER MOUNTING POSITIONS

**Location 1.** This location is in front of both the radiator and the air conditioning condenser. This is the preferred installation location, as it permits 100% rated cooling efficiency (See Fig. 2).

**Location 2.** This location is between the air conditioning condenser and the radiator. This location permits approximately 75% rated cooling efficiency (See Fig. 3).

**Location 3.** This location is behind both the air conditioning condenser and the radiator. This location permits approximately 60% rated cooling efficiency (See Fig. 4). Installing your cooler in this location may

require the use of an auxiliary electric fan or the use of a cooler that is one size larger than the size originally calculated to suit your vehicle.

### TRANSMISSION OIL LINE

#### IDENTIFICATION

Oil flow direction must be determined prior to installation. The flow through the system must be correct to ensure maximum efficiency.

**Method 1:** On Ford and Chrysler rear wheel drive transmissions the oil line running to the rear of the transmission is the oil return line. On most General Motors rear wheel drive transmissions the oil line running to the upper fitting is the oil return line. The oil flow on front wheel drive transmissions made by the above mentioned manufacturers or any transmission made by another manufacturer would be better determined by either of the following methods. (See chart 1.)

**Method 2:** Check Oil Line Temperatures: 1. Start engine when cold. 2. Place transmission in Drive to heat oil. Keep the brakes applied while doing this. 3. Stop the engine and feel the temperature of both oil lines. The warmer line contains the oil flowing from the transmission to the cooler.

**Method 3:** Check Oil Flow Direction: 1. Place container under oil line and disconnect either oil line at the radiator. When disconnecting oil lines hold the adapter fitting with another wrench to avoid damage to the radiator and fitting. 2. Place a short piece of rubber hose over or into the exposed end of the radiator cooler fitting. Put the rubber hose and the cooler line in the container. 3. Start the engine and let it run at idle. 4. Determine which line the oil is coming from. 5. Stop the engine immediately. 6. If the oil came from the radiator during the test, the line disconnected is the return line.

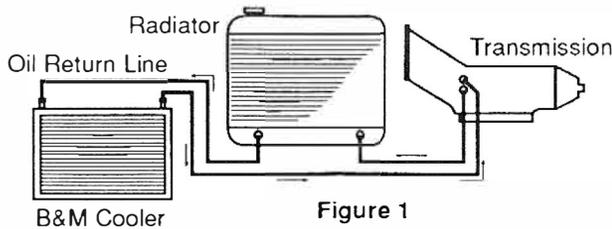


Figure 1

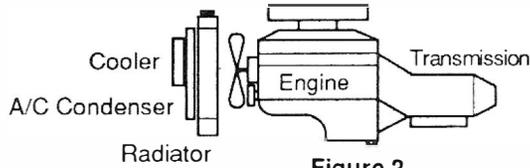


Figure 2

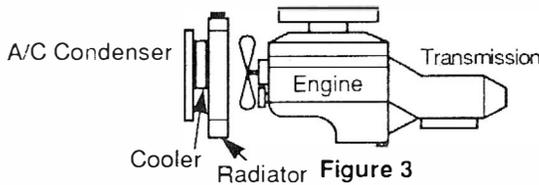


Figure 3

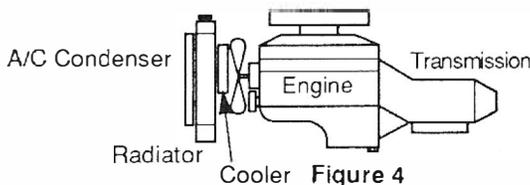


Figure 4

**INSTALLING B&M SUPERCOOLER**

**Caution:** The SuperCooler must be installed so that it is at least 1 inch away from the fan, 1/8 inch from the radiator,

2 inches from the hood, wheel well or firewall and 6 inches from any exhaust manifold, pipe or header pipe.

1. Decide on the best mounting position for your cooler. Remove the shipping covers from the fittings on the cooler.

2. Attach adhesive cushion pads to the cooler mounting flanges. Hold the cooler in position with the pads between the cooler and the radiator or condenser.

3. Insert the mounting rods through the radiator or condenser and through the mounting holes in the flange of the cooler. Install the locking tabs onto the mounting rod. Push the locking tab up to the cooler flange and cut off excess mounting rod. Repeat for the remaining mounting rods.

4. Determine the return line from the radiator cooler (See "Transmission Oil Line Identification"). Remove the fitting from the oil return line of the radiator. Install the radiator connector fitting into the radiator. The radiator connector fitting fits into a radiator cooler fitting

designed for a 5/16" flare compression fitting. Use a wrench to support the radiator fitting. Do not overtighten the fitting.

4. Place a hose clamp over the supplied rubber hose. Place the hose over the barbed end of the radiator connector fitting. Put the hose clamp on the hose approximately 1/4 from the end of the hose towards the radiator. Tighten the hose clamp until the rubber hose just pushes through the slots in the clamp.

5. Route hose from the radiator connector to the B&M SuperCooler. Cut to length. Install a hose clamp over the cut end of the hose. Install it on the cooler as in Step 5. Route the remaining hose from the other fitting on the cooler to the cooler line disconnected in Step 4. Slide the flare nut back on the cooler line and slip the hose over the flare on the tube. The hose should have some slack between the clamped ends but should not be hanging down exposed to road debris or near moving parts.

6. After installation, start the engine and place the shifter in Neutral position. Check the transmission oil level and make sure it is between the Add and Full marks. Add fluid as required. Fluid level must be checked with the engine running and the fluid hot. Do not over fill as this will cause foaming and overheating. Check all of the hoses for leaks. Secure hoses so that they won't be damaged by road debris or other hazards. Retighten clamps if necessary. Recheck periodically.

Rear Wheel Drive Transmissions		
Cooler line locations		
Trans. type	Oil out of trans.	Oil return to trans
<b>General Motors</b>		
TH-400	Lower	Upper
Powerglide	Lower	Upper
TH-200	Lower	Upper
TH-200-4R	Upper	Lower
TH-350	Upper	Lower
TH-700-R4	Lower	Upper
4L80E	Upper	Lower
<b>Chrysler</b>		
A-904	Front	Rear
A-727	Front	Rear
A-500	Front	Rear
<b>Ford</b>		
C4	Front	Rear
C-6	Front	Rear
AOD	Upper	Lower
E4OD	Front	Rear
A4LD	Lower	Upper

Chart 1

TOOL LIST	
Thin blade screwdriver	
Sharp knife or single edge razor blade	
Set of tubing or open end wrenches:	
1/2", 9/16", 5/8"	

PARTS LIST	
SuperCooler	1
Hose clamps	4
Cooler hose	4 ft.
Radiator fitting	1
Foam insulator pads	4
Mounting rods - 70255	2
Mounting rods - 70264 & 70268	4