

Radiator Hose - Continued

components are cured together in the proper shape to fit specific needs. The curing process involves the application of high temperature to the hose. Proper cure is important in holding desired shape, bonding all parts in place, and determining long-term aging of the rubber parts.

CAUSES AND EFFECT OF RADIATOR HOSE DETERIORATION

AIR, HEAT, COOLANT, and OIL contribute to hose deterioration. These four agents may work against radiator hose in two ways: by **HARDENING** and **CRACKING**, which destroys flexibility and causes leakage; and by **SOFTENING** and **SWELLING**, which causes lining failure, rupturing and clogging.

Radiator hose must remain flexible throughout the complete temperature range of its application and during its service life. Hardening of radiator hose increases the difficulty of keeping connections leak-proof. Rotted hose may crack open without warning and cause sudden large coolant losses.

Hose failures not only result in leakage, but may also cause restriction of coolant circulation through clogging or collapsing. Rubber particles from rotted hose linings will clog the radiator coolant tube and are very difficult to remove. Weakened radiator hose may collapse causing partial or complete blockage of cooling system circulation, with resulting engine overheating and possible damage.

Coolant and air leaks are also very common at radiator hose clamps. Engine vibration has a tendency to loosen radiator hose clamps causing coolant loss.

HOW TO EXAMINE RADIATOR HOSE FOR DETERIORATION

Radiator hose should be examined on both the outside and inside for signs of deterioration.

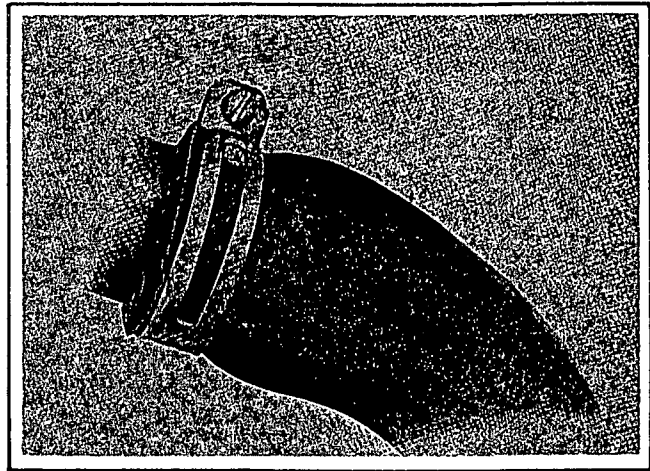
The usual procedure to check the condition of radiator hose by outside examination is to squeeze it firmly. If it feels soggy or hardening has begun you can usually assume that it has begun to deteriorate inside, and should be replaced.

One technique that is very useful as a double-check on the condition of lower radiator hose is to have someone speed up the engine while the hose is watched. If it collapses or pinches in visibly, it should

be replaced immediately, so it won't restrict the coolant flow and possibly cause overheating damage.

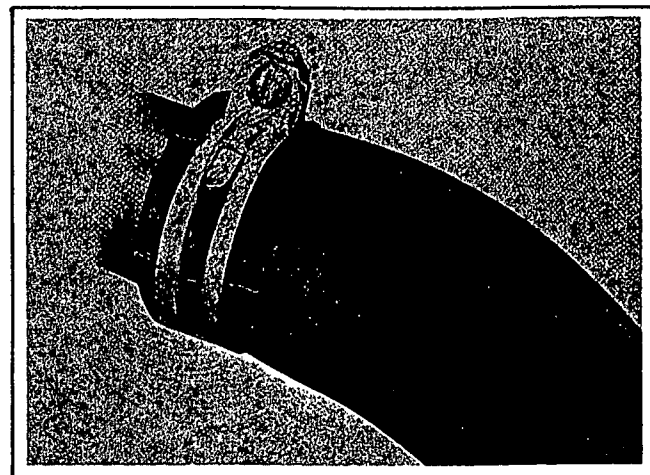
However, deterioration of radiator hose usually takes place more rapidly from the inside, so outside inspection is not always dependable. Radiator hose can look and feel good even when it has reached the advanced stages of inside deterioration. Examination of the inside of radiator hose whenever connections are open is a good practice to follow. Frequent outside examination of radiator hose and hose clamps and careful inside inspection whenever connections are opened require little time and can save trouble.

Conditions To Look For



OIL SOAKED OR SWELLING

Spongy ends or swollen hose indicates that it has been ruined by oil or grease.



CRACKS AND BREAKS

Cause leaks that can't be stopped by tightening clamps. Squeeze. If cracks go to cords, replace hose.