

Stainless Braided Hoses

This technical article describes benefits of installing performance hydraulic lines on your car.

What are they?

The brake lines on your car are used to move hydraulic fluid from the brake master cylinder to the brake calipers and/or wheel cylinders. The section to be upgraded is the flexible section that moves with suspension travel.



Stock Rubber Brake Line

The clutch line is used to move hydraulic fluid to allow the clutch to disengage when you depress the clutch pedal. The flexible section that allows engine-transmission movement relative to the car chassis can be upgraded.

Why should I upgrade?

The stock hydraulic lines on your car are reinforced rubber. This works well for day to day use but they do have some drawbacks. The rubber hoses expand under pressure from the fluid when the brake or clutch pedal is depressed. The hydraulic fluid loses some of its effectiveness by expanding the line instead of applying full force to the brake pads or clutch slave cylinder.

Alternatively, consider a Teflon hose covered with a stainless steel braided exterior covering. This provides a flexible line which has minimal expansion under pressure and transmits more of the force where it is intended.



Stainless Steel Braided Line

Advantages

Upgrading brake lines results in a very noticeable direct feel to the brake pedal when depressed. The pedal will require less travel to result in the same amount of brake force in comparison to the stock rubber brake lines. The resistance of the braided line to expanding gives an advantage by allowing you to get the most from your brake system in all situations from track events, auto cross, day to day driving, and emergency stops.

Upgrading the clutch line will also result in a noticeable pedal feel change. With the stock rubber line expansion removed the clutch dis-engagement point will be higher on the pedal. This is especially beneficial when used with performance clutches since they usually require more force to operate. An example would be with the installation of an ACT clutch kit in a Mazda Protégé. Installation of the upgraded clutch would not allow the clutch to fully release. This is from the stock rubber line expanding when the

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clutch pedal is depressed instead of operating the clutch slave piston. Installation of a CorkSport clutch line corrected the problem. The clutch functioned as intended without having to adjust the clutch pedal rod.

Construction

There are several things to look for in regards to steel braided lines. The first is a Department of Transportation (DOT) approval. To get a brake line that is DOT approved it has to pass the whip test in accordance with the DOT MVSS-106 requirements. The steel braided brake line uses a collar to meet the requirements.



The collar gives the line support while going through the "whip" test. The larger stress area keeps the line from fraying due to the extreme abuse.

Quality fittings are important for your hydraulic lines. Having fittings that are properly machined to provide correct sealing surfaces and the correct tolerances for secure crimping when the lines are assembled.



Make sure the lines you purchase come with zinc or cadmium plated fittings to resist corrosion.

One other thing to look for is a coating for the steel braided line. By putting a protective coating over the line it gives a finished look. This also keeps dirt and debris out of the steel braid outer layer which increases the longevity of the part.



Summary

Remember when purchasing lines check to see if they have quality fittings and solid construction. The hydraulic lines are one of the most important parts of your car and quality is a must.