HYDRAULIC HOSE ROUTING PROCEDURE

S-017

LEVELING

Purpose

This document identifies the recommended hydraulic hose routing procedures. Please refer to the owner's manual for each Lippert Components, Inc. product incorporating hydraulic hoses for comprehensive instructions for the operation and maintenance of the product.

Slack

Hydraulic hose length can contract as much as four percent under working pressure. A hose with insufficient slack (Fig. 1) can put excessive stress on the hose assembly due to contraction, especially at the hose fittings. Adding at least five percent of slack (Fig. 2) prevents excessive stress on the hose assembly.

Fig. 1

Fig. 2

Bend Radius

Always follow the manufacturer's specifications for the correct minimum bend radius throughout the entirety of the hose route. Use gauges to verify areas that have questionably tight bends (Fig. 3). Fitting orientation can be adjusted to achieve this in some applications. The correct bend radius is shown in (Fig. 4).

Fig. 3

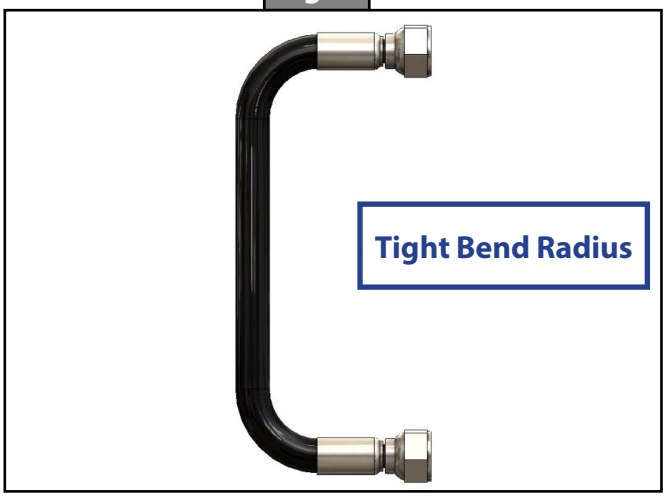
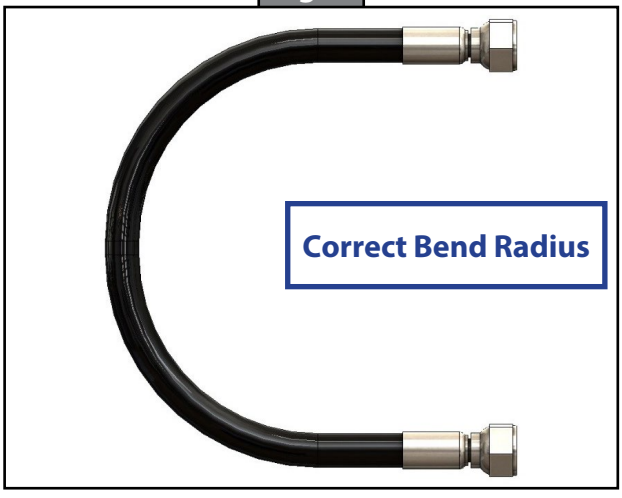


Fig. 4



Hose Twist

Excessive Hose twist (Fig. 5) can reduce the life of the hose. It is recommended to keep twist to less than 5° (Fig. 6), though twist stress can be heavily dependent on length.

Fig. 5

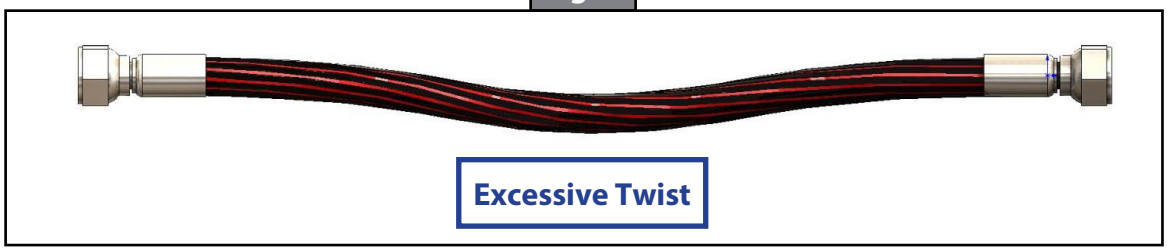


Fig. 6

Abrasive Contact

Cuts and other forms of wear can create stress risers in the hose, leading to failure. If sharp or abrasive features cannot be avoided, use high abrasion resistance hose and/or protective sleeves.

High Ambient Temperatures

Most polymers are sensitive to temperature, especially where product life is concerned. Though the hose rating may greatly exceed the application ambient temperature, the life of the hose could still be reduced.

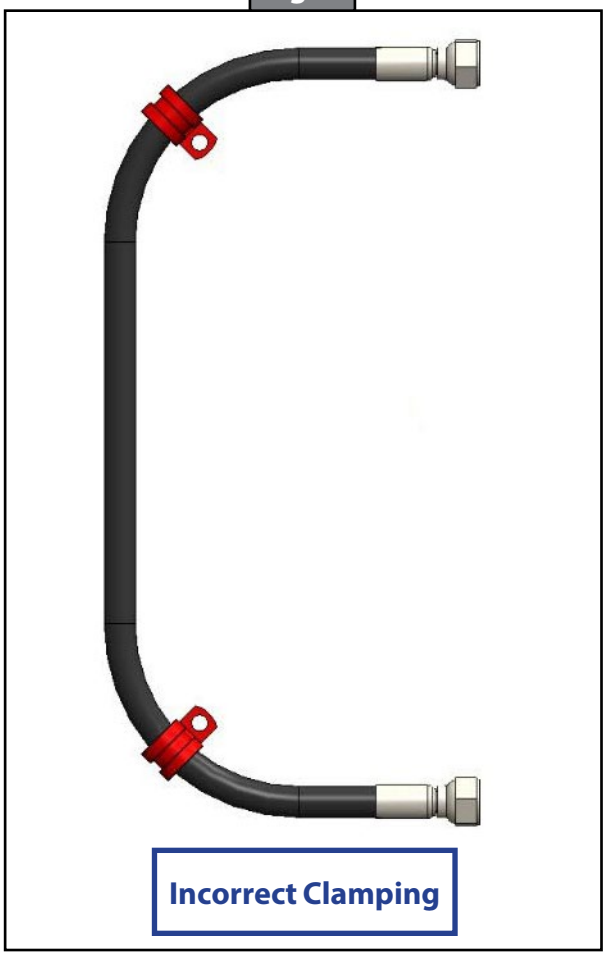
Routing Near Other High Temperature Components

The recommended Dexron III ATF has a flash point of 400 °F. In failures that produce atomized spray, components exceeding this temperature could pose a flammability risk. It is recommended to avoid routing near components exceeding flash temperature or use protective sleeves to prevent atomized spray.

Clamping Straight Runs

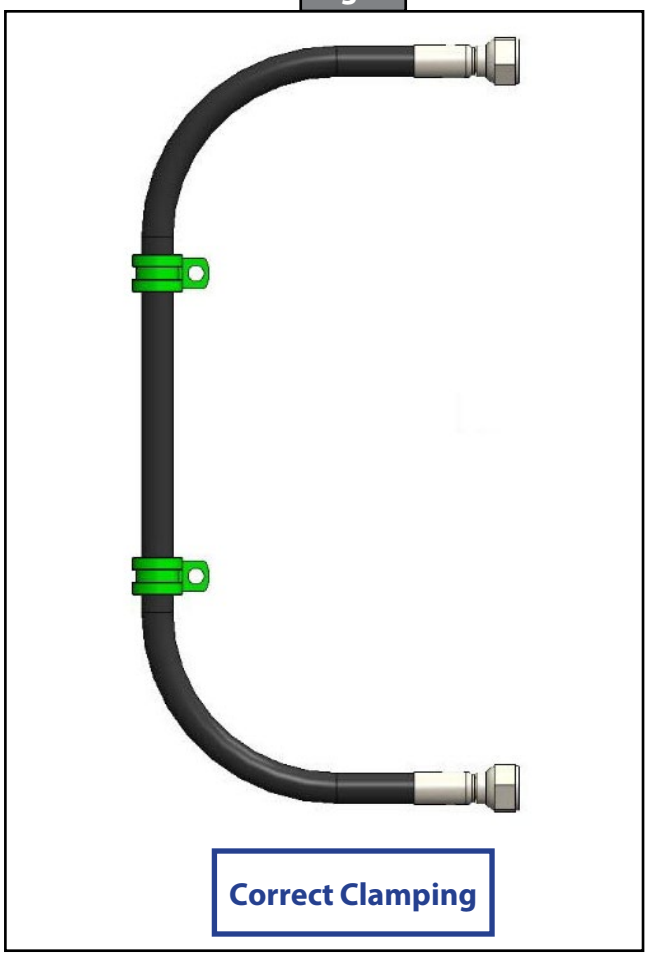
Clamping on or too close to a bend (Fig. 7) can also increase stress on the hose. Exact distance from a bend can vary based on route scenario and hose specifications. It is recommended to maintain at least a 6" distance from the nearest hose bend (Fig. 8).

Fig. 7



Incorrect Clamping

Fig. 8



Correct Clamping

NOTE: Clamps should fit snugly to limit movement, but not tight enough to cause damage to the hose. Ensure that there is sufficient slack on each side of the clamp to allow for contraction and expansion of the hose.