

26 November, 2018

TO: All Lode-King Customers and Dealer Personnel

SUBJECT: Information Bulletin – Use of Small 12 ¼” Drum Brakes

For several years Lode King Industries has been manufacturing low-deck step decks that necessitate the use of 17.5” rubber to achieve the desired deck height. The normal 16 ½” diameter drum brakes will not fit inside this smaller wheel, making the smaller 12 ¼” diameter drum brakes a necessity. This bulletin is intended to provide information on how to set up and break-in these smaller brakes for better reliability and longer life.

The design of drum brake friction linings, as manufactured, is such that the face of the lining does not form a perfect radius. Rather, the lining is manufactured with a slight “crown” on the face. The intention is that once the lining has been burnished and broken in, it will wear to match the exact contour and curvature of the drum. Once the linings are broken in, they should offer the maximum possible contact area between the lining and the drum, thereby providing the most efficient braking as well as the maximum possible braking performance.

Getting through this break in period has presented problems for some operators. Competent operators perform a regular brake stroke check on their trailer. This is done with a 90 – 100 psi brake application. Before the friction lining is worn in to match the drum contour this high pressure brake application will actually deform the metal structure of the brake shoes and the drum, to force the lining up against the drum. While this does not permanently damage these items, it causes extra brake stroke at the slack adjuster. This may create the illusion that the brakes are out of adjustment. Some operators may be tempted to manually tighten up the slacks in this situation, to reduce brake stroke to within the normal 2” travel limit allowed by regulations. The net result of such an adjustment is that the new brake lining may now be dragging on the drums when the brake application is removed. Dragging brakes will cause overheating problems at the brake drums. The severity of this problem will vary depending how heavily the brakes are dragging. Some additional play is needed in the slacks and S-cams during the break-in period to avoid this dragging.

The solution to this situation is long stroke brake chambers. Long stroke chambers are permitted to have a maximum of 2 ½” of brake stroke before they are out of tolerance. This extra half inch of travel should be enough to allow the brake linings to wear into the shape of their mating drum, while remaining within legal brake stroke dimensions. Once the linings are burnished and broken in completely, the automatic slack adjusters will bring them within normal operating parameters.

So, how can you tell if your trailer has long stroke brake chambers, or not? A simple visual inspection of the chamber will reveal the answer. Standard stroke, size 3030 brake chambers have **ROUND** ports on the chamber where the brakes hoses connect. Long stroke, size 3030 chambers have **SQUARE** ports where the hoses attach. See the accompanying pictures which illustrate this point.



Resist the temptation to tighten the slacks and remove the free play during the break-in period

