

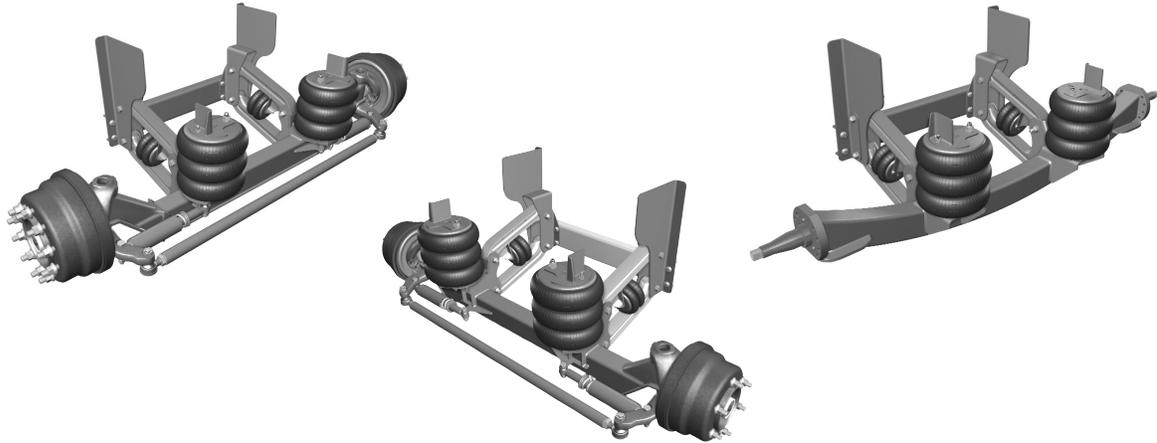
TECHNICAL BULLETIN

COMPOSILITE™ FAMILY

SUBJECT: Limiting Up Travel

LIT NO: H673

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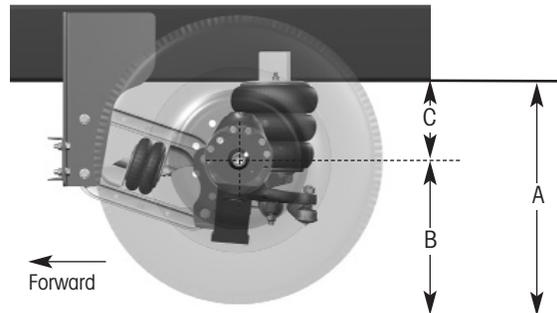
This publication applies to the following Hendrickson Auxiliary Axle Systems' models: COMPOSILITE ST, COMPOSILITE FBC and COMPOSILITE FX

Hendrickson Auxiliary Axle suspensions are designed and manufactured for use in heavy truck (Class 8) applications. The suspension travel is engineered to minimize "high-centering" of the auxiliary axle. The axle and suspension system are for auxiliary use and are not intended to carry overloads. While the suspension's ride height can be altered by plus or minus 1.5 inches, a reduction in up travel more than 2 inches can subject the axle to overload conditions causing component damage.

RESTRICTING UP TRAVEL

To restrict up travel by 2 inches or less, two options are available. The first and recommended method requires exact specifications at the time of ordering. COMPOSILITE is designed with a nominal ride height and axle travel. The axle travel is 8 inches up and 5 inches down at the designed nominal ride height. Ride heights are available in 1-inch increments from 10.5 through 18.5 inches. Therefore, up travel can be restricted in 1-inch increments.

CALCULATING RIDE HEIGHT



- A.) Loaded frame-to-ground measurement
- B.) Loaded tire radius
- C.) Ride height

To calculate ride height, subtract B from A
 $A - B = C$

UP TRAVEL RESTRICTION EXAMPLE

A 30.0-inch loaded frame-to-ground dimension and a 17.5-inch loaded radius on the auxiliary axle tire would yield a 12.5-inch, or nominal, ride height requirement. With these measurements, the suspension system would have 8 inches of up travel.

If the driveline, or underframe, only allows for 6 inches of up travel, then a suspension ride height of 14.5 inches should be ordered.

This is calculated as follows:

$$\begin{array}{r} 8.0 \text{ Nominal Up Travel} \\ - 6.0 \text{ Desired Up Travel} \\ \hline 2.0 \text{ Up Travel Restriction} \end{array}$$

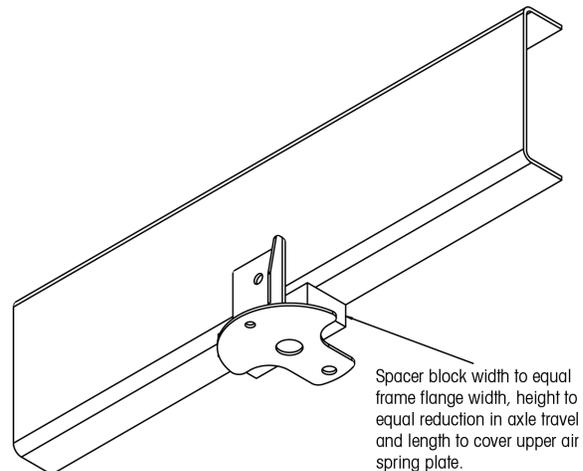
$$\begin{array}{r} 12.5 \text{ Normal Ride Height} \\ + 2.0 \text{ Up Travel Restriction} \\ \hline 14.5 \text{ Adjusted Ride Height} \end{array}$$

The 14.5-inch ride height installed on a 30.5-inch frame-to-ground with a 17.5-inch loaded radius would yield 6 inches of up travel.

This method can be applied in 1-inch increments to restrict up travel.

ALTERNATIVE UP TRAVEL RESTRICTION

An alternative approved option for restricting up travel to a maximum of 1.5 inches would be the addition of a spacer between the top of the upper air spring mounting plate and the bottom of the truck frame rail. The spacer should be the thickness of the desired up travel restriction with a width equal to the width of the truck frame rail flange. Please refer to the illustration below.



Note: Placing any form of an axle stop between the frame rail and the top surface of the suspension trailing arm can cause component failure. Do not place an axle stop in this position without prior written approval from Hendrickson.

Note: Any alterations to the air spring location on the suspension causes a change in the load versus pressure settings. Remeasure the setting to avoid improper load versus pressure.

If the up travel needs to be restricted by more than 2 inches, please contact your Hendrickson Customer Service Representative.

For further information regarding lift axles, please call Hendrickson Customer Service at 800-660-2829 in the United States or 800-668-5360 in Canada.

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