

Hazard Alert Messages

Read and observe all **WARNING** and **CAUTION** hazard alert messages in this publication. They provide information that can help prevent serious personal injury, damage to components, or both.

How to Obtain Additional Maintenance and Service Information

Contact Liteflex Composite Springs for technical information:
 Frank Lillie - Engineering and Sales
 Cell: (937) 750-5344
 Email: flillie@liteflex.net

Spring Selection

Table A: Springs

Part Number	GAWR	Characteristic	Application	Axle
11173	25,000 lb (11,364 kg)	Symmetrical	Hutchens	5"
11174	25,000 lb (11,364 kg)	Asymmetrical	Reyco 21B Reyco 86 & 88	5"
11175	25,000 lb (11,364 kg)	Asymmetrical	SAF Holland w/o Disc Brakes	5"
10996	25,000 lb (11,364 kg)	Asymmetrical	SAF Holland with Disc Brakes	5.75" or 6"
11220	25,000 lb (11,364 kg)	Symmetrical	Hutchens & SAF Holland Single Axle with or w/o Disc Brakes	5.75" or 6"

Torque Values

275 ft.lbs. maximum. Spring is tagged with sticker indicating torque value.

Application Restrictions

If the vehicle is operated in off-road or heavy service applications 10 percent or more of the time, or you need installation information for optional equipment, please contact your Liteflex representative.

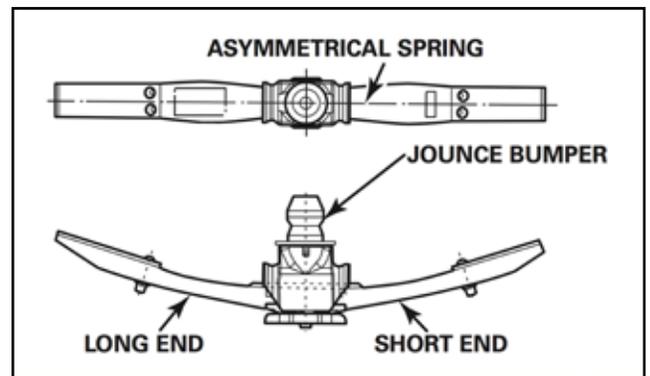
***FOLLOW ALL SUSPENSION MANUFACTURERS' INSTRUCTIONS.**

Model Information

SAF HOLLAND

SimilAir springs can be installed on SAF Holland Ultralite2, Z-Frame and Duralite mechanical suspensions.

Tandem axle suspensions require an asymmetrical spring that has one end longer than the other. The long end wear plate is stamped with "hanger end."



For tri-axle configurations, install a symmetrical spring onto the middle axle.

Only install SimilAir springs in applications where the springs are over the axle. Install standard 3-inches (76 mm) wide u-bolts, with the u-bolt nuts below the axle.

When installing the SimilAir spring, the flat steel top plate, which is usually clamped on top of a steel spring, has been replaced by a steel over-clamp and jounce bumper.

Adjust the axle seat height to maintain consistent trailer height when installing a SimilAir spring in place of a steel spring. Refer to Table B.

Do not use inverted 5-inch (127 mm) diameter u-bolts with the SimilAir spring.

Table B: SAF Holland Springs

SAF Holland Steel Spring Part Number	SRI Steel Spring Part Number (Ref. only)	Description	Axle Seat Change to Use SimilAir vs Steel	U-Bolt Change to Use SimilAir vs Steel*
SPO354	TRA2726	High arch, 3 leaf	0	1" (25.4 mm) longer
SPO324	TRA2752	High arch, 2 leaf	0	1" (25.4 mm) longer
SPO355	TRA2727	Medium arch, 3 leaf	1" (25.4 mm) shorter	0
SPO356	TRA2728	Low arch, 3 leaf	1-1/2" (38.1 mm) shorter	1/2" (12.7 mm) longer
SPO363	TRA021	Low arch, single	1-1/2" (38.1 mm) shorter	1/2" (12.7 mm) longer

HUTCHENS

Hutchens mechanical suspensions that can be fitted with the SimilAir™ by Liteflex composite spring include the 9600 and 9700 Series with fabricated or cast hangers.

Use the symmetrical spring 11173 in all Hutchens single, tandem and multi-axle suspensions. Each end of a symmetrical spring is the same length; and since the composite spring is symmetrical, you can install either end of the spring into the hangers and equalizer.

⚠ CAUTION

Hutchens suspensions with extra removable wear pads, or hangers with limited spring free play (LSF), cannot be packaged with a SimilAir spring. Damage to components may result.

Adjust the axle seat height to maintain consistent trailer height when installing a SimilAir spring in place of a steel spring. Refer to Table C.

Table C: Hutchens Industries Springs

Hutchens Steel Spring Part Number	SRI Steel Spring Part Number (Ref. only)	Description	Axle Seat Change to Use SimilAir vs Steel	U-Bolt Change to Use SimilAir vs Steel*
354-00	TRA2726	High arch, 3 leaf	1" (25.4 mm) taller	2" (50.8 mm) longer
16710-01	TRA2757	WIN-1, (2 stage, 2 leaf)	0	1" (25.4 mm) longer
355-00	TRA2727	Medium arch, 3 leaf	1/2" (12.7 mm) shorter	1/2" (12.7 mm) longer
356-00	TRA2728	Low arch, 3 leaf	1-1/2" (38.1 mm) shorter	1/2" (12.7 mm) shorter
363-00	TRA021	Low arch, single	1-1/2" (38.1 mm) shorter	1/2" (12.7 mm) longer

REYCO GRANNING

SimilAir springs can be installed on Reyco Granning model 86, model 88 and model 21B mechanical suspensions.

Tandem axle suspensions model 86 and model 88 require an asymmetrical spring that has one end longer than the other. The long end wear plate is stamped with "hanger end."

Adjust the axle seat height to maintain consistent trailer height when installing a SimilAir spring in place of a steel spring. Refer to Table D.

For tri-axle configurations, install a symmetrical spring onto the middle axle.

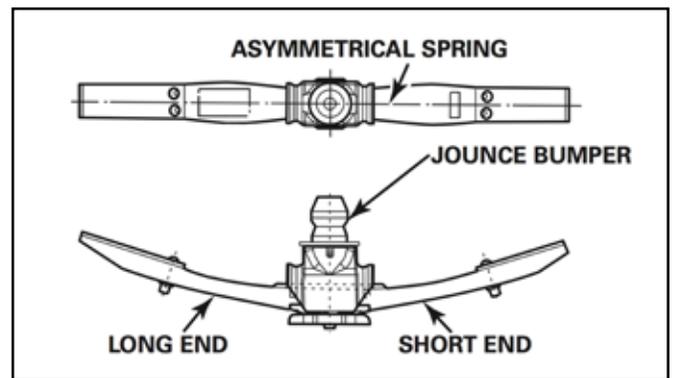


Table D: Reyco Granning Springs

Reyco Granning Steel Spring Part Number	SRI Steel Spring Part Number (Ref. only)	Description	Axle Seat Change to Use SimilAir vs Steel	U-Bolt Change to Use SimilAir vs Steel*
0079-01	TRA3340	High arch, 3 leaf	0	1" (25.4 mm) longer
0179-01	TRA072	High arch, single	1/2" (12.7 mm) taller	1-1/2" (38.1 mm) longer
0693-00	TRA3349	Medium arch, 3 leaf	1" (25.4 mm) shorter	0
0079-02	TRA3341	Low arch, 3 leaf	1-1/2" (38.1 mm) shorter	1/2" (12.7 mm) shorter
0179-02	TRA073	Low arch, single	1-1/2" (38.1 mm) shorter	1/2" (12.7 mm) longer

Field Retrofit Installation Procedure for Converting to SimilAir™ by Liteflex Composite Springs

This section covers the installation and conversion of a trailer mechanical suspension with steel springs to SimilAir composite springs.

⚠ WARNING

To prevent serious eye injury, always wear safety eye protection when you perform vehicle maintenance or service.

Park the vehicle on a level surface. Chock the wheels to prevent the vehicle from moving. Support the vehicle with safety stands. Do not work under a vehicle supported only by jacks. Jacks can slip and fall over. Serious personal injury and damage to components can result.

Verify that all personnel are clear of the trailer before you raise and lower the trailer. The trailer suspension system has various pinch-points that can cause serious personal injury.

1. Wear safety eye protection.
2. Park the vehicle on a level surface. Chock the wheels to prevent the vehicle from moving.
3. Support the vehicle with safety stands.
4. Remove the existing springs. It may be necessary to remove the retainer bolts from the rear hangers and equalizer rocker.
5. If it is necessary to change the spring seat heights, based on the previous tables, disconnect the radius rods and remove the axle from under the trailer. Use care when you remove the original axle seats from the axles. Refer to the axle manufacturer's instructions. Refer to the suspension manufacturer's instructions for correct welding procedures to install the new axle seats. Always use new fasteners when you reattach the radius rods to the axles.

6. Determine if the suspension requires a modification of the retainer bolt location in the hangers and equalizers to accommodate the SimilAir composite springs, which are thicker than steel springs. Refer to the following recommendations for each manufacturer.
7. Inspect the bolts for wear and damage. Replace worn or damaged retainer bolts.
8. Install new u-bolts. Lightly oil the threads and hand-tighten the u-bolt nuts. Do not fully tighten the nuts at this time.

SAF HOLLAND

- A. Suspensions must have an extra hole located directly behind the center retainer bolt hole in the rear hanger. If there is not a hole in this location, drill a 5/8-inch (15.875 mm) diameter hole 1-1/2-inches (38.1 mm) directly behind the center hole. Use this hole for SimilAir spring retainer bolts.
- B. The front hangers can be packaged with the SimilAir springs without modification. The front hanger does not require a retainer bolt.
- C. If SAF Holland has provided two retainer bolt mounting holes in the equalizer, use the bottom hole with SimilAir springs.

REYCO GRANNING

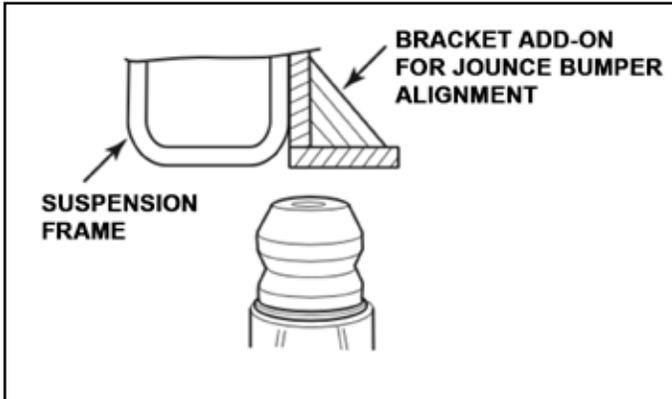
- A. The model 21B suspension does not require a hanger modification. However, the model 86 and model 88 series suspensions may require a rear hanger retainer bolt modification.
- B. The front hangers can be packaged with the SimilAir springs without modification. The front hanger does not require a retainer bolt.
- C. If Reyco Granning has not provided two holes in the rear hanger, drill a 5/8-inch (15.87 mm) diameter hole 7/8-inch (22.225 mm) directly behind the existing center retainer bolt hole. Use this hole for SimilAir spring retainer bolts.

HUTCHENS

The Hutchens 9600 and 9700 suspensions with fabricated and cast hangers can be packaged with SimilAir by Liteflex composite springs without modifications.

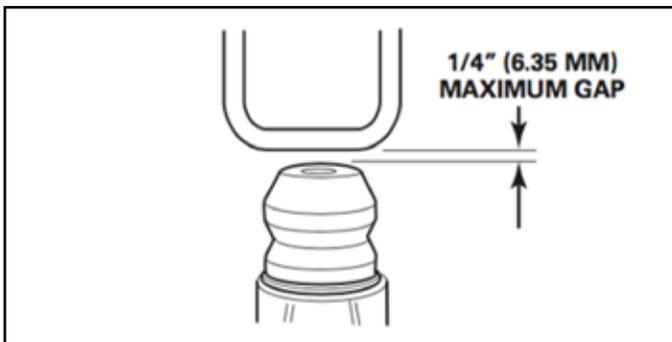
9. Insert the jounce bumper onto the post. Ensure that the bumper is fully seated. Verify that the contact position between the jounce bumper and the suspension frame is centered.

- If the contact position is offset: Install additional brackets to the frame directly above the jounce bumper (see below).



CAUTION

When you install a SimilAir™ spring, verify that the jounce bumper either contacts the trailer frame, or the gap between the jounce bumper and the frame is not more than 1/4-inch (6.35 mm) in the unladen condition. If the gap is more than 1/4-inch (6.35 mm), add spacers to the trailer frame to eliminate the gap or reduce it to the 1/4-inch (6.35 mm) or less to prevent damage to components.



Verify that the jounce bumper is fully-seated on the post and does not interfere with an air tank or any suspension bracket to prevent damage to components.

10. Correctly position and install the retainer bolts.

WARNING

After you install a SimilAir composite leaf spring onto a trailer suspension, verify that fasteners are tightened to the correct torque specification. Inspect suspension components for wear and damage. Replace worn or damaged components. Loose fasteners and worn or damaged components can cause serious personal injury and damage to other components when the vehicle is returned to service.

11. Tighten all fasteners to the suspension manufacturer's torque specifications.
12. Align the axles according to the suspension manufacturer's recommendations.
13. Check fastener torque at regular preventive maintenance intervals. Refer to the suspension manufacturer's recommendations.

Original Equipment Installation Procedure for SimilAir Springs

This section covers the installation of SimilAir composite springs on original equipment for trailer mechanical suspensions. Refer to Table A at the beginning of this bulletin for Liteflex part numbers, GAWR, characteristics, and applications for each spring.

WARNING

To prevent serious eye injury, always wear safety eye protection when you perform vehicle maintenance or service.

Verify that all personnel are clear of the trailer before you raise and lower the trailer. The trailer suspension system has various pinch-points that can cause serious personal injury.

Verify that all personnel:

1. Wear safety eye protection.
2. Determine if the suspension requires a modification of the retainer bolt location in the hangers and equalizers to accommodate the SimilAir composite springs, which are thicker than steel springs. Refer to the following recommendations for each manufacturer.

SAF HOLLAND

- A. Suspensions must have an extra hole located directly behind the center retainer bolt hole in the rear hanger. If there is not a hole in this location, drill a 5/8-inch (15.875 mm) diameter hole 1-1/2-inches (38.1 mm) directly behind the center hole. Use this hole for SimilAir™ spring retainer bolts.

- B. The front hangers can be packaged with the SimilAir springs without modification. The front hanger does not require a retainer bolt.
- C. If SAF Holland has provided two retainer bolt mounting holes in the equalizer, use the bottom hole with SimilAir springs.

REYCO GRANNING

- A. The model 21B suspension does not require a hanger modification. However, the model 86 and model 88 series suspensions may require a rear hanger retainer bolt modification.
- B. The front hangers can be packaged with the SimilAir springs without modification. The front hanger does not require a retainer bolt.
- C. If Reyco Granning has not provided two holes in the rear hanger, drill a 5/8-inch (15.87 mm) diameter hole 7/8-inch (22.225 mm) directly behind the existing center retainer bolt hole. Use this hole for SimilAir spring retainer bolts.

HUTCHENS

The Hutchens 9600 and 9700 suspensions with fabricated and cast hangers can be packaged with SimilAir™ by Liteflex composite springs without modifications.

- 3. Insert the Liteflex spring into the hanger and equalizer.
- 4. Install correct u-bolts. Lightly oil the threads and hand-tighten the u-bolt nuts. Do not fully tighten the nuts at this time.
- 5. Insert the jounce bumper onto the post.

CAUTION

Verify that the jounce bumper is fully-seated in the saddle and does not interfere with an air tank or any suspension bracket to prevent damage to components.

- 6. Correctly position and install the retainer bolts.

WARNING

After you install a Liteflex composite leaf spring onto a trailer suspension, verify that fasteners are tightened to the correct torque specification. Loose fasteners can cause serious personal injury and damage to components when the vehicle is put into service.

- 7. Tighten all fasteners to the suspension manufacturer's torque recommendations.
- 8. Align the axles according to the suspension manufacturer's recommendations.
- 9. Check fastener torque at regular preventative maintenance intervals. Refer to the suspension manufacturer's recommendations.

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