



New Tri-Glide Retrofitted Pin Box



Long Style Air Ride Pin Box



Medium Style Air Ride Pin Box



45° Telescoping Air Ride Pin Box

AIR RIDE PIN BOX PRODUCT GUIDE

Trailair[®]

a division of



LIPPERT COMPONENTS, INC.

*We can't improve the
roads, but we can
improve the ride!™*

Benefits Of AIR RIDE

Trailair's New fifth-wheel component gives RV'ers the, comfort, convenience and protection of an air-enhanced ride. The coupler's simple design cushions the RV against road shock by adding an air bag at the hitch connection, providing smooth, stable towing.

How The Coupler Works

Road impact initiates the coupler's unique scissors action, transferring shock to the air bag. The air bag compresses to absorb impact. A shock absorber slowly decompresses the air bag, removing the rebound, or bounce effect.

Key Customer Benefits

Trailair's air ride pin box offers RV'ers an economical product that improves the overall ride while protecting the fifth-wheel and its cargo.

Improved Ride

Significantly dampens road shock by reducing chucking, lurching and start/stop impact. Improves handling and optimizes load distribution, enhancing towing performance.

Investment Protection

Absorbs impact before it reaches the RV. Reduces potential substructure damage. Protects built-in components and interior amenities.

Ease of Installation

Adaptable to most fifth-wheel pin box assemblies. A qualified technician can assemble in 30-90 minutes. Perfect for Retrofit applications and less expensive than air-ride hitches.

Saves Money

An economical alternative to purchasing new RV for better towing performance. Potentially cuts down on costs for replacing repairing interior amenities.

Other Trailair Products

Trailair has a two new patented air ride suspension applications for RV's and other vehicles. Trailair is marketing an air ride gooseneck vertical coupler for numerous hauling applications, including horse trailers and race cars.

FAQ Frequently Asked Questions...

Do I need an air compressor? How do I fill it with air?

An air compressor is not required but is certainly a recommended item to have if you are going to use an air ride product. If your truck does not already have air onboard, most any portable air compressor designed to fill a truck tire will work great as long as it can produce air pressure from 80psi to 120psi depending on the hitch needed and the coach your pulling. A standard tire fill valve is used on the top-side of the air spring to fill it with air so it is just like filling a tire.

How much air does it take?

A combination of things affect the amount of air needed such as; the size of the air spring in diameter and height, the pin weight of the coach, the mechanics of the individual hitch, altitude and ambient temperature. Air pressures can range from 20 psi to 120 psi depending on the aforementioned items. The air ride pin box is to be maintained at a predetermined ride height found on the system. We want you to maintain the ride height, not the air pressure. With the truck and trailer coupled, at rest and on level ground, you should have enough air in the bag to open the jaw to a point that the bottom lip of the top shroud on the shock absorber is even with the arrows on the decal that is affixed to the lower body of the shock absorber.

How much does the hitch move up and down in tow?

The air ride pin box unique scissor action is designed to travel up 1" and down 1" at the king pin for 2" of total travel. At the front of the pin box, the travel is about 1 1/2" up and down for a total of 3" travel.

What happens if air bag loses air?

If the system loses air, troubleshooting is easy because it can be only one of three things; the air spring fitting, the fill valve or the air spring itself. First thing to check is the seal of the air spring fitting to make sure it is sealed by simply pouring water on the area.

If it bubbles, pull the fitting out, re-coat it with Teflon tape or standard pipe fitters dope and reinstall (torque it to 20 ft./lbs). Next item to check is the fill valve by spraying soapy water on the area with the cap removed. If it bubbles, replace the fill valve core by simply sticking the top-side of the cap onto the valve core and spinning counter clockwise to remove it. It can be found at most auto parts stores or by contacting Trailair. If the first two are not leaking then the air spring is not holding air and a replacement should be obtained directly from Trailair, as we will want the defective unit back.

Can I pull my fifth wheel coach without air in the air spring?

Absolutely!! Every Trailair air ride pin box design comes equipped with mechanical stops that insure the air spring, shock absorber or other components will be properly maintained in the event of an air failure. In the event the coach is pulled without any air, the ride quality will revert to the quality you had with the standard pin box that you replaced. As a matter of fact, we recommend from time to time using your system without any air so that you can compare the ride between the old and the new.

How much will it extend my pin?

That depends on the pin box being replaced. Many of the advertisements and articles show our extended pin box because it was the first air ride pin box we unveiled. If you match your replacement style to a Trailair pin box, the pin should not extend more than about 5 inches and in many cases, it will be the same.

Is the air spring and shock absorber an off the shelf item?

Either Goodyear or Firestone makes the air springs and are standard air springs found in most of their industrial catalogs. Either Monroe or Sach's Automotive Co makes the shock

WHY AIR RIDE?

If you're pulling an RV fifth wheel coach, ride quality has been a somewhat forgotten aspect of the towing experience. A lot of attention has been paid to the amenities of the coach your pulling like living quarters, interior electronics, exterior appeal, but the ride seems to be a back burner issue. Today, over 75% of large tractor and trailer rigs built utilize full air ride technology. This includes not only air ride suspensions for the truck and the trailer but also air ride cabs, air ride seats and even air ride trailer couplers are available. Why don't you and your equipment deserve the same comfort and care as you travel down the roads of North America? The answer is, you do, and now you can have it affordably with our air ride couplers and air ride suspension systems.

...and things to know about the Trailair Air Ride Pin Box!

absorbers for Trailair. Both companies use standard shock components but both have special internal valving suited specifically for the needs of Trailair. Suitable replacements may be obtained through authorized Trailair dealers or directly from Trailair.

To hook & unhook from your truck?

When hooking and unhooking, the main thing to keep in mind is to not over compensate for the oscillation of the lower jaw. You should hook and unhook without changing the air in the air spring. When unhooking from the trailer, avoid "high pinning" by raising your coach just enough to take most of the weight off of the truck (even though the lower jaw is pushing down, you can take most of the weight off the truck). A good indicator of when the weight is off the truck is when the king pin plate on the lower jaw of the Trailair air ride pin box is parallel to the ground. At that point, then unlock the fifth wheel hitch and pull out. Sometimes you have to "pop" the jaws of your fifth wheel loose if they are in a bind by putting your truck in forward or reverse and stepping on the brake just enough to dislodge the jaw mechanism in your fifth wheel hitch. Be careful to not damage your landing gear on your coach.

When you reconnect the truck to the fifth wheel, the lower jaw will be down approximately 1 1/2" in the front. The Trailair lower jaw is built with a front lip that will allow your fifth wheel to push against it as you back the truck under the trailer. Simply line up the pin and back under the trailer, the truck will push the lower jaw out of the way and the king pin will snap into the fifth wheel. Be sure to lock your fifth wheel and attach your safety brake cable as well as connect your electrical cable.

Can I use my tripod with this air ride pin box?

Yes, You may find, depending on the construction of your tripod, that you will have to raise your coach about 1 1/2" after you have disconnected

from the truck so that the tripod will slip under the kingpin. Once the tripod is in place, simply lower the coach down onto the tripod, thus transferring the weight to it. To remove the tripod, lift the coach up high enough to remove it. Remember to let the king pin back down that 1 1/2" for reconnecting to the truck so that you do not "high pin" when connecting to the fifth wheel hitch.

Which will benefit, truck or trailer?

In most cases, the largest benefit will be seen or felt by the fifth wheel coach. The ability of the Trailair air ride pin box to absorb road shock and stresses from the truck and trailer battling each other is unsurpassed. The dampening effect will reduce trailer frame flex, stress to the outer skin and also to the interior amenities. In most cases, a dramatic benefit in ride quality is felt in the truck as well. In a small percentage of cases, little or no benefit is felt in the truck. If that happens to be the case, many times Trailair can make the performance better with different air bags or shock absorbers. Simply call a Trailair technician for assistance if you're having this experience.

Does the size of the truck effect the performance?

It can. An undersized truck suspension or underpowered truck can have an adverse effect on the ride quality when pulling a fifth wheel coach. Always make sure you are operating within the recommended practices of the manufacturer of both the tow vehicle and the Fifth wheel coach.

Does tire inflation have an effect?

Absolutely!! First, an under inflated tire is dangerous and anyone towing should make sure that all tires meet the requirements for load and inflation as set forth by the tire manufacturer of tire used on both the truck and the trailer. Having said that, Trailair highly recommends using a tire inflation chart that can be obtained from most tire manufactures or from the Tire and Rim Association, Inc. It is clear that

an OVER-inflated tire can adversely affect the ride quality of a rig, sometimes dramatically. For example, a common tire used in light truck is the 235/85R/16 load range E tire. Most makes of tires allow for a single tire to be loaded to 3042 pounds at 80psi. Many manufactures of this size tire allow for it also to be at less air pressure when seeing less weight. In the case of this tire if the load borne by the tire is 2400 pounds, it may be acceptable to run it at 60psi. By simply knowing the weights of all axles, both loaded and empty, and using recommended practices, your tires can be operated within safe ranges that will allow you to carry the load properly and safely, but also enjoy the softest ride possible. Be sure also to make sure you have the correct air pressure for the weight when connected to your trailer. Consult your tire manufacturer or dealer for Light Truck Load & Inflation tables for the make and from the Tire and Rim Association, Inc.

Will the air ride pin box work with various rear trailer suspensions?

Yes. The simple rule is that the better quality the rear suspension, the less affect the air ride pin box will have on overall ride quality. However, the important thing to keep in mind is that even with the very best possible rear suspension (Of course we are partial to the Trailair RV-Series rear air ride suspension), the battle between the truck and the coach still remains and the air ride pin box will certainly reduce the effects of that battle.

HOW DOES IT WORK?

The beauty and reliability of the Trailair air ride systems is their simplicity. The air ride pin box acts as a buffer, arresting the transfer of road impact between the tow vehicle and the coach to produce smooth, stabilized towing performance. Generally, a truck and a trailer connected by a ridged hitch system (basically any standard fifth wheel), tend to fight each other when you start putting road shock into the towing equation. Not only are you dealing with road forces from traveling down the road, but additional forces are created as the two vehicles fight each other causing a "diving board" effect. The Trailair coupler's unique scissor action allows the air spring to absorb these forces and dissipate them and for the shock absorber to handle the rebound effect. The result is improved ride for the truck, the occupants, the coach and its contents. Call Trailair or check with your local RV Dealer to obtain price and availability and add a Trailair air ride pin box to your coach. You can order it on your new coach from the factory or retrofit on your existing coach. Either way, you can begin to discover The Comfort of Air today!

LIMITED WARRANTY

Trailair® warrants for a period of three years all components it manufactures to be free from defect in material and/or workmanship. All other components used by **Trailair®** in its products are covered by their own warranties.

This limited warranty applies only with proper installation of the product and under normal use and service to the original owner and is non-transferable. This entire warranty and remedies shall be at the sole discretion of **Trailair®** and any entire written disclaimers as to the proper installation apply. Any potential claims must be reported to **Trailair®** within 20 days of the problem arising. This warranty will be limited to defective product only; labor charges and/or damages incurred during replacement installation are excluded. To the maximum extent permitted by law, **Trailair®** disclaims all other warranties of merchantability and fitness for a particular purpose. In no event shall **Trailair®** or its agents be liable for any direct or indirect incidental or consequential damages, including but not limited to loss of business profits, interruptions or any other loss arising from the inability to use a **Trailair®** product, whether **Trailair®** has been notified or not. This limited warranty gives you specific rights and you may have other rights depending on state and jurisdiction.

MONEY BACK GUARANTEE

Trailair® offers a 60-day money back guarantee for the Air Ride Pin Box product line.

Performance and results can vary. If you are not completely satisfied with the performance of our product and the **Trailair®** Air Ride Pin Box has been installed within the guidelines set forth in the installations instructions provided by **Trailair®**, you are eligible to return the product in new condition and receive a full refund of your purchase price. The purchase price may or may not include freight and/or installation costs to be determined by your retailer. You will have 60 days from receipt of the product to notify **Trailair®** of your intent to return the product. **Trailair®** may require receipt of a certified weigh scale ticket verifying the overall weight and the pin weight of the coach proving the trailer meets the load distribution requirements set forth in the installation instructions. A return of goods authorization (RGA) must be obtained from a **Trailair®** representative before the product is returned. The product shall be returned to the location it was purchased unless specified differently by **Trailair®**.

The Leader in RV Air Ride Technology

Trailair's national sales and business office in Columbia, MO is your location to place orders, order literature, follow up on orders and other inventory maintenance issues. Contact information is as follows:

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INTRODUCING THE RETROFITTED TRI GLIDE AIR RIDE PIN BOX



What is the Tri-Glide Air Ride Pin Box?

Twelve years ago, Trailair developed their air ride technology that would revolutionize the RV industry. Twelve years later, others have come and gone, but Trailair is still standing strong as the leader in air ride technology.

Trailair now introduces the next generation in air ride systems - **The Tri Glide Air Ride Pin Box**. RV'ers have long known the issues that pulling large coaches produce. These issues compound themselves when the coach outweighs the truck pulling it three to one. Unwanted fore to aft movement, known as "chucking," and the vertical push/pull tug-of-war are two issues that Trailair has tackled in the past. Trailair's Tri Glide system is the first air spring system to both reduce chucking and control vertical push/pull movement using elementary geometry used in rocking chairs for a hundred years. Simply put, when the coach is in neutral position, the lower jaw always sits at its lowest point. As the hitch encounters road vibrations, the system lifts the coach, but gravity always returns it its lowest neutral position. As of summer 2009, Trailair has deployed over 100 Tri Glide units and has received overwhelming praise for the product.

Now the best part. The new Tri Glide Air Ride Pin Box can be **RETROFITTED** to your current long or medium style Air Ride Pin Box in minutes! There is no need to go have an entirely new hitch put on your coach - just replace the lower jaw and your ride instantly improves. Satisfied customers drive into Trailair's customer service center in Goshen, Indiana from all over the country EVERY DAY for professional installation of Trailair products. Experience the Trailair difference TODAY!



Originally installed
long style Air Ride
Pin Box

Original lower jaw is
taken off and replaced
with Tri Glide Jaw.

Trail Air technician
ensures a professional
installation.

Old pin box is now
retrofitted with the new
Tri Glide system!

APPLICATION GUIDE

Long Style Air Ride Pin Box



Part Number	Replaces OEM	Select air spring by loaded pin weight			
		Range 800-1800#	Range 1801-2500#	Range 2501-3400#	Range 3401-5400#
L02	Fabex 665, MM665	535	224C	26C	20C or 289-200
L03	Venture CJ20515..17				
L03	Steelco/Davis PB02, PB02W				
L04	Fabex 765, RBW 7028				
L05	Lippert 1621				
L06	Fabex 500,503				
L07	Lippert 1716				
L08	Leland 7920, 7921				
L09	Young's Welding				

Medium Air Ride Pin Box



Part Number	Replaces OEM	Select air spring by loaded pin weight			
		Range 800-1800#	Range 1801-2500#	Range 2501-3400#	Range 3401-5400#
M14	Fabex 730, RBW 7019	535	224C	26C	20C or 289-200
M15	Lippert 0719				
M16	Fabex 520, 530				
M17	Leland 7910				
M18	Young's Welding				
M19	Lippert 1116				
M22	Fabex 663, MM663				
M23	Venture CJ13515..17				
M23	Steelco/Davis PB01				

Telescoping Air Ride Pin Box



Part Number	Replaces OEM	Select air spring by loaded pin weight		
		Range 1000-2000#	Range 2001-3800#	Range 3801-5400#
45 Degree		535	224C	26C
10034	Fabex 300, 314, 316, Lippert 0516, RBW 7027			

Which AIR RIDE is right for you?

Many RV manufacturers buy pin box assemblies from other manufacturers that specialize in this field. If we can determine the exact make and model of your coach, we probably already have a fit-up model. Some of the names to look for on your pin box are Fabex, Leland, Lippert, Venture, RBW and Atwood, to name a few. If you have that information, *you can determine which Pin Box is right for you.*

Because the wide variety of manufacturers and the many years that fifth wheel coaches have been built, Trailair® does not have a replacement pin box already configured for every coach ever made. If an identification is not clear on the pin box stating the make and model of the pin box, then we may be able to match a Trailair® air ride pin box based on style, width, length and bolt pattern by using one of the Trailair® multi-fit designs that are drilled on site on the coach.

The RV industry utilizes 4 basic pin box styles: Long, Medium, Short, and Telescoping. Each style has various dimensions and bolt patterns, depending on the manufacturer of the pin box. If the pin box on your coach is not clearly marked, refer to the measurement guide on page 3 and measurement chart on page 4.

Trailair®
The Comfort of Air

Standard Pin Box Measurement Guide

5th Wheel Pin Box Identification...

- A. Look on the pin box for identification of the pin box manufacturer. Atwood, Fabex, Lippert, Leland, RBW, Venture, Young's Welding, etc...
- B. Locate the model number. The number will be from three to seven digits, and can be alpha-numeric. Example Fabex model 520.
- C. If a pin box manufacturer name or model number can not be located, get the last six digits of the Trailair 5th wheel serial number, call the coach manufacture and ask them what make and model pin box was installed on the coach.
- D. If you can not acquire the information using the above mentioned methods get the following measurements and a Trailair representative will help determine which pin box will fit your coach.

5th Wheel Measurement...

1. Which pin box style is on the coach (circle)?

Long Medium Telescoping Short

Degree 34 / 45 / 72

2. Measure the distance between the bolt holes. Note that bolt hole patterns vary and may have two or three rows of bolts.

a: Horizontal distance between rows of bolts, measure from center to center of bolt hole.

b: Vertical distance from center bolt hole to center of bolt.

c: If there are three rows of bolts, measure horizontally bolt hole center to bolt hole center to bolt hole center.

d: Bolt size?

e: Bolt head size?

f: How many bolts per side?

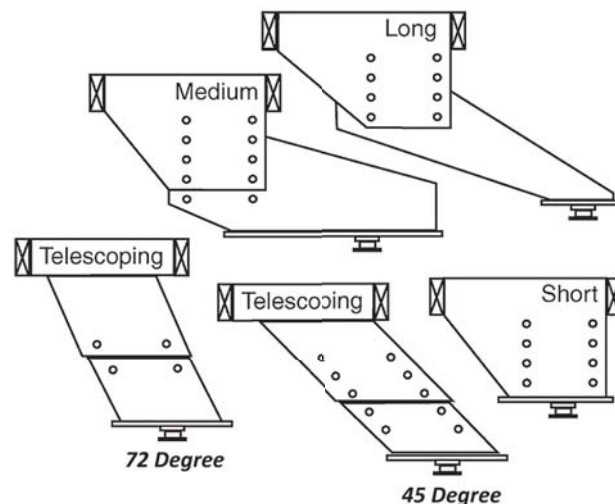
3. a: Measure from the center of the front row of bolts forward in a horizontal plane, to the center of the king pin. The telescoping and short style pin box king pins may be located behind the front row of bolts. If the rows of bolts are angled, use the center line of the lowest front bolt to measure to the center of the king pin in the retracted position.

b: Measure from the center of the back row of bolts forward in a horizontal plane, to the center of the king pin.

c: Measure the width of the pin box, (not the mounting wings or shroud).

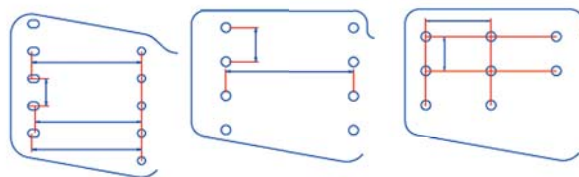
4. Use the most recent version of the Trailair Pin Box Measuring Chart to identify the Trailair Part number which replaces the OEM pin box you have now identified to be on your 5th wheel.

#1 Basic Pin Box Styles

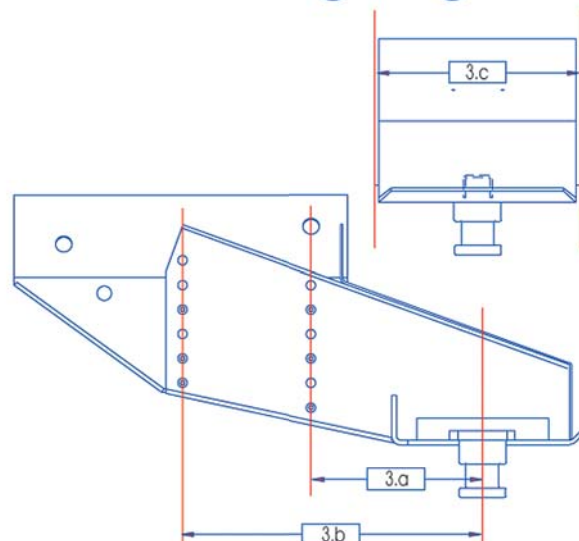


#2 Bolt Hole Patterns

← → = Horizontal ↑ ↓ = Vertical



#3 General Pin Box Measuring Diagram



Standard Pin Box Measurement Chart

All measurements in inches.

Measurement Guide Questions		1	2a	2b	2c	2d	2e	2f	3a	3b	3c
Trailair Number	Replaces OEM	Style	Horz. Dist	Vert. Dist.	Center Dist.	Bolt Size	Bolt Head Size	Bolt Qty per side	Front Row to KP	Back row to KP	Pin Box Width
L02	Fabex 665, M&M 665	Long	7 5/8, 7 7/8	2	N/A	1/2	3/4	4	18 3/4	26 3/8	12
L03	Venture CJ20515..17	Long	8	1 1/2	N/A	1/2	3/4	6	18 1/2	26 1/2	12
L03	Steelco/Davis PB02, PB02W	Long	8	1 1/2	N/A	1/2	3/4	6	18 1/2	26 1/2	12
L04	Fabex 765	Long	9 1/2	2	4 3/4	5/8	15/16	3	21 1/2	31	12 1/2
L04	Fabex 770	Long	9 1/2	2	4 3/4	5/8	15/16	3	18 1/2	25 1/2	12 1/2
L04	RBW 7028	Long	9 1/2	2 1/2	N/A	5/8	15/16	2	20	29 1/2	12 1/2
L05	Lippert 1621	Long	7 7/8	2	N/A	5/8	15/16	6	17 3/4	25 5/8	12
L06	Fabex 500	Long	9 1/2	2 1/2	N/A	5/8	15/16	2	20	29 1/2	12 1/2
L06	Fabex 503	Long	9 1/2	2 1/2	N/A	5/8	15/16	2	18	27 1/2	12 1/2
L07	Lippert 1716	Long	8 3/4	2 1/2	4 3/8	5/8	15/16	9	20 3/8	29 1/8	12 1/2
L08	Leland 7920	Long	7	1 1/2	N/A	1/2	3/4	6	18	25	14
L09	Young's Welding	Long	9	3	N/A	3/4	1 1/8	4	20	29	12
M14	Fabex 730	Medium	9 1/2	2 1/2	4 3/4	5/8	15/16	3	10 1/2	20	12 1/2
M14	RBW 7019	Medium	9 1/2	2	N/A	5/8	15/16	2	13	22 1/2	12 1/2
M15	Lippert 0719	Medium	7 7/8	2	N/A	5/8	15/16	6	9	16 7/8	12
M16	Fabex 520	Medium	9 1/2	2 1/2	N/A	5/8	15/16	2	13 1/2	23	12 1/2
M16	Fabex 530	Medium	9 1/2	2 1/2	N/A	5/8	15/16	2	11	20 1/2	12 1/2
M17	Leland 7910	Medium	7	1 1/2	N/A	1/2	3/4	6	9	16	14
M18	Young's Welding	Medium	9	3	N/A	3/4	1 1/8	4	8	17	12
M19	Lippert 1116	Medium	8 3/4	2 1/2	4 3/8	5/8	15/16	9	14 5/8	22 3/8	12 1/2
M22	Fabex 663, M&M 663	Medium	7 5/8, 7 7/8	2	N/A	1/2	3/4	6	9 1/2	17 1/8	12
M23	Venture CJ13515..17	Medium	8	1 1/2	N/A	1/2	3/4	6	9 3/4	17 3/4	12
M23	Steelco/Davis PB01	Medium	8	1 1/2	N/A	1/2	3/4	6	9 3/4	17 3/4	12
10034	Fabex 300, 314 316 Lippert 0516 RBW 7027	Tele. 45 deg.	7 1/8	2 1/8	N/A	1/2 or 5/8	3/4 or 15/16	5 Retracted	0	+10 3/4	8
M16*	Fabex 560	Short	9 1/2	2 1/2	N/A	5/8	15/16	2	+1 1/2	+11	12 1/2
M19*	Lippert 0115	Short	8 3/4	2 1/2	N/A	5/8	15/16	9	+1 1/2	+10 1/6	12 1/2
M23*	Venture	Short	8	1 1/2	N/A	1/2	3/4	6	-4	+4	12

Trailair Long Style Air Ride Pin Box



Bushing

Two bronze bushings reside on each end of the pivot tube. They also serve as the pivot spacer and are oil impregnated for long life.



Pivot Pin

The 1 1/2" diameter pin is made of 1018 cold roll material. It runs the width of the pin box for strength and rotates on the bronze bushings.



Retrofitted Tri Glide Air Ride pin box



Trailair pin boxes can be towed with standard or junior sized fifth wheels as well as sliding fifth wheels.

Upper Body

The upper body of the pin box is available in Long, Medium and Telescoping styles. Bolt patterns and widths are crucial in design, as it must replicate the bolt pattern and bracket of the previous pin box for which you're replacing.

Air Spring

Trailair uses both Goodyear® and Firestone® air springs. Air springs isolate vibration and reduce noise, both of which reduce long term damage and work to provide a better ride for your vehicle.



Shock Absorber

Sachs Automotive® has worked closely with Trailair to design a shock that will accommodate the unique damping required with the air ride pin box system. Models are either single or dual shock.

King Pin

The king pin is an industry standard size made for Trailair by TRP Fabex®, the largest standard pin box manufacturer.

Tri Glide Lower Jaw

Three steel shafts are on either side of the lower jaw and swing inside a pivot. There are six zerks to grease every 1,000 to 1,500 miles. There are no rubber parts in the lower gliding jaw.

AIR RIDE PIN BOX by
Trailair®

a division of



LIPPERT COMPONENTS, INC.

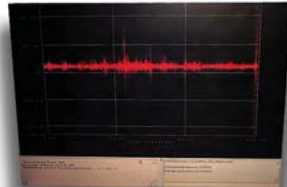
Product Test Results

Before you spend money on products that make claims like "80% smoother ride" or "75% less vibration", ask for the NVH testing to back up those claims. You might be very surprised what you find.

Trailair utilizes NVH (noise, vibration and harshness) testing to measure the reductions in force felt by the use of our air ride pin box products. We contract with firms like Sachs automotive that specialize in this type of testing to conduct independent studies. Sachs use highly sensitive computerized equipment, in a real time environment, to show differences in the amount of G-force (or amplitude) in a trailer with standard equipment versus the same trailer when equipped with the Trailair product. G-force data is collected across a range of frequencies. Within those ranges we can indicate what you would feel as a rider, the vibration and harshness that items like a computer or dishes might receive inside the coach and the vibration and harshness the



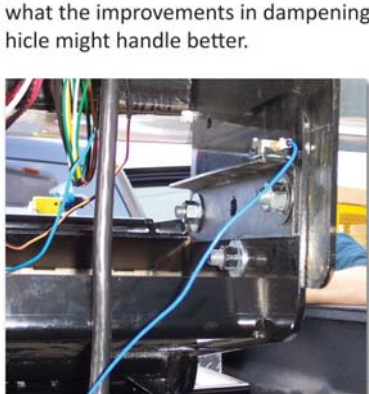
NVH Computer



G-Force Data Being Collected



Sachs Shock with String Pot Collector



Accelerometers on Pin Box



Accelerometers on 5th Wheel



Accelerometers on Rear Window

The Air Ride pin box ride tests were conducted north of Troy, Michigan by the NVH department at Sachs Automotive. Thomas Frank, senior engineer and Brian Saylor, NVH specialists, conducted and oversaw the testing. Sachs Automotive is one of the largest shock and damper manufacturers in the world. Headquartered in Germany with 40 locations in 18 different countries, Sachs has been a leader in the international automobile industry since 1895. In the US, Sachs Automotive of America produces a wide range of dampening products for Toyota, Ford and Freightliner among others. Sachs worked very closely with Trailair to develop a shock absorber specifically for the air ride pin box.

Trailair considered several design criteria improvements at the same time the shock absorbers were being tested so that all improvements could be tested. A major part of the development project was to do ride testing to measure the forces under the worst of conditions. The truck, trailer and road conditions used in the testing were chosen specifically



Test Track Traveled at 55 MPH



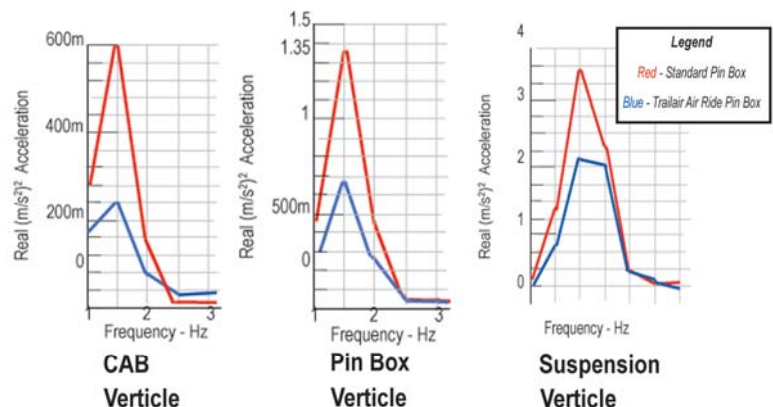
Chevy 2500 HD Duramax & 2003 Carriage 36' Carri-Lite

The truck was equipped with a Reese 20K fifth wheel with 4-way head. We began our testing on some of the roughest roads in the Detroit metro area as you can see from the photos with the standard pin box that came on the Carriage trailer to give us some baseline data to compare to. We accumulated data on 6 different portions of road traveling 55 MPH on each section. We then took another set of trips with a 2002 Ford F550 with a Reese 20K fifth wheel with 4-way head and a 2002 36' Holiday Rambler Presidential.

by Trailair as the combinations that were found to give the consumer the greatest ride quality challenges. We started with a 2002 Chevy Duramax 2500 HD with Quad-Cab and long bed pulling a 2002 36' Carriage Carri-Lite. Both the truck and the trailer were brand new. The truck was equipped with a Reese 20K fifth wheel with 4-way head.

After nearly 40 testing runs and 10 data collection tests, in a frequency range where human beings are most sensitive (0-8 hertz), the coach with a standard pin box had significantly more G-force in the verticle axis than did those tests with the Trailair air ride pin box. The results; 162% more at the suspension of the trailer, 225% at the pin box mounts and 260% in the cab of the truck. The fore and aft (push-pull) oscillations indicated as much as 160% more G-force with the standard pin box in some test runs while in others, there was little or no reduction because there was very little fore and aft oscillations in the baseline conditions.

These kinds of improvements are considered significant in the transportation industry. This kind of testing not only helps Trailair to develop and refine our product to make it better and better but it demonstrates to the customer just how well the product can work!!



Customer Testimonials

See what satisfied Trailair customers have to say about their experiences with the Trailair air ride system. If you own a Trailair air ride component, let us know how much you like it and we will put your testimonial on our web site!

Bob Butler - Fort Myers, FL

My wife left a cup of coffee sitting on the table in the bedroom and we rode for 150 miles and it didn't spill. Before the Trailair coupler, coffee would have been on everything in the bedroom. Rides like it's on a cushion. During our test we drove 350 miles, you just don't feel the road bumps like you used to. It feels like the trailer is just floating back there. I recommend it based on the ride in the truck and how easy it is on the coach.

Danny Copas - Bowling Green, KY

The smooth ride you achieve with the Trailair coupler makes long rides much more comfortable and easier to drive. It made a huge difference; I noticed the smooth ride immediately. It greatly reduced the amount of rattling and shaking around of everything in my trailer. I was very impressed, much easier to handle. A must have for any full-timer with a 5th wheel trailer and worth every penny. I'm sure that the ride is much easier on my trailer.

Donald Small - Nashville, TN

Best thing to come along since we started camping in '55, this has changed the whole concept of towing! The roughness of the trailer, disappeared, we don't even feel it back there. You don't even notice railroad tracks, bridges or uneven pavement. When stopping, you don't feel the surge of the trailer as bad. With our rear kitchen, we now don't have to be careful opening our cabinets. I filled an ice tray, put it in the freezer, after towing it was exactly where I left it. Overall handling is excellent.

Henry and Kay Hauße - Intl. Events Mgr's Travel Supreme Owners Association.

We were introduced to the Trailair, air ride pin box at the Travel Supreme International Rally in August of 2001. Ours was installed after the rally at the facility in Indiana. We have towed our 36' unit approximately 6000 miles with the Trailair installed. There has been substantial improvement in the trailer ride and handling with the Trailair.

Things that moved about while traveling stayed put now. Tow vehicle comfort is substantially improved also. Trailair has been proven to be cost effective, easily installed, reliable, alternative to an air ride hitch.

Michael & Norma Bell Jeffersonville, IN

After having extensive surgery on my neck in the spring of 2000, my wife and I thought we were going to have to make a major life style change. We were rapidly approaching retirement and enjoying RVing pulling a 5th wheel trailer. After surgery, riding in the truck became extremely painful after 3 or 4 hours on the road due to the vibration from the suspension

...you just don't
feel the road
bumps like you

We tried several after market enhancements, some helping

a minor bit. After seeing an article in Trailer Life Magazine about Trailair, we contacted you for additional technical information, which was sent immediately. After having the Trailair pin box installed on our 32' Presidential 5th wheel trailer we are still amazed at the performance of your product. Having logged approximately 2000 miles on the unit, the absorption of road vibration and road impacts is still nearly unbelievable. We have been RVing for a number of years, and never have experienced a comfort level on the road such as we are enjoying. Another benefit of the Trailair product we never expected is the ride of the trailer. (We were concerned about my neck, not the trailer) The above-mentioned trailer is a rear kitchen model, which are the worlds worst at breaking and spilling the contents of the cabinets while on the road. Since the Trailair has been installed we have not had one incidence of broken dishes nor have we had a cabinet door open while traveling. THANK YOU FOR A GREAT PRODUCT! (We will never leave home without it)

Virgil Heston - Freeman, MO

The Trailair 5th wheel pin box coupler is a great improvement over

the standard pin box. Driving on slab concrete highway the trailer does not shake the truck as before. Pulling out of a parking lot onto the roadway there was a dip that bounced the trailer hard. I waited for the trailer to shake the truck when it hit the dip but couldn't even tell when I crossed. My wife can even take a nap with her head back against the seat, now that the trailer does not shake the truck. Driving is much more comfortable with your air ride pin box. This air ride pin box will reduce the stress on both the truck and trailer.

Joe Pellegrini - Fresno, CA

Just a note to let you know how pleased we are with our Trailair 5th wheel pin box. We have a 31ft 5th wheel toy hauler, which we pull with our Ford F350 Power Stroke crew cab flat bed truck. Before your system we had not only a rough ride but also numerous structural problems at the hitch end of our trailer. The aluminum siding was separating, 5th wheel framework was cracking and the walls were actually moving up and down in the bedroom. On three separate occasions warranted rebuilds were performed by the manufacture. During the third round of repairs the trailer manufacture installed your product with the hopes that it would help considerably. Since your pin box was installed, our ride is much

smoother and we haven't had the problems we were experiencing with our trailer coming apart and we sincerely believe that the

air ride pin box has made the difference. You can actually see the pin box work as your traveling. We are very pleased with the performance of your product and plan to purchase a new unit for every trailer we own. Thank You!

Roy Jernigan - Livingston, TX

I am pleased to inform you I have had the Trailair Pin Box installed that I purchased at the Holiday Rambler Rally in Tampa My wife and I departed FL March 22, towing our 35', triple slide Cardinal Fifth

wheel Coach on our way to OK. We traveled I-75 and I-10 in Florida then US 98 in Alabama to US 49 at Hattiesburg, MS then to I-20 at Jackson MS. We traveled I-20 through MS to US 259 at Longview TX, then US 259 to Broken Bow OK. Anyone traveling this route can tell you these are some of the worst roads in the country to pull a trailer over. I had traveled this same route going to Florida. I am delighted to inform you there are no comparison to the return trip from the one going. The Trailair Pin Box Coupler made all the difference in the world. It was a pleasure to just drive, and watch in my rearview mirror and see the smoothness as the air cushion worked. The ride was vastly improved; the trailer rode so much better, making the driving a pleasure. I told my wife as we were traveling that I wouldn't take anything for this hitch if I could not get another. The ride and handling was well worth the cost. I will certainly recommend this TRAILAIR hitch to anyone I see. My statements here are not exaggerated, simply as it is. Again, thank you guys for coming up with a controller like this.

Ray & Lucy Patin, The Cajuns

We thought Trailair would be good, but what we didn't know was that it was great! We've been camping for 40 years. We've been towing a

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along since we started
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fifth wheel for over twelve. We thought getting a larger vehicle would solve our bouncing problems, however, that was not the

solution. As the passenger, Lucy likes to read and work puzzles. That was never possible until Trailair came into our lives. Even the driver (Ray), although we have air ride was bouncing all over. Thanks again for a fine product that has definitely given us a fine ride.

thanks!