Airflex® Air Ride Suspension System
Installation Instructions
Frame Styles

Tube Frame

Outside Frame Dimension

Outside Bracket Dimension

Channel Frame

Outside Frame Dimension

Outside Bracket Dimension

"C" Channel frames should be reinforced in the area over the axle/suspension mounting brackets. It is recommended that the vertical leg of the suspension bracket be positioned directly under the vertical segment or reinforcement of the frame member.
Axle Alignment

Tandem Axle Adjustment:
1. Adjust the second axle to assure distances “C” and “D” are within tolerance.
2. Measure the distance “C” and “D” between the front and rear tandem axles. These distances must be within \( \frac{1}{8} \) of each other.
3. After alignment is completed, make sure all nuts and bolts are tightened to their respective torque values.
4. The limits of \( \frac{1}{16} \) and \( \frac{1}{8} \) appear very small in comparison to the overall dimensions of the vehicle but they are recognized as the maximum permissible limit of misalignment. Also, the relatively small size of those limits makes accurate measurements important.
5. Align axles to Torflex® specifications. Wheel spindles must be supported at the same height when aligning.
Frame Weld

Air Suspension Frame Bracket and Trailer Frame

Weld to Trailer Frame

Air Suspension Frame Bracket

Weld to Trailer Frame

Air Suspension Front Pivot

Tube Crossmember

Weld to Trailer Frame

Trailer Frame

Outside Bracket Dimension

All Welds 1/4" Fillets
Axle Alignment Adjustment

Suspension front pivot connection is torqued to 270 Ft. Lbs. when the suspension is shipped. The axle should be aligned on the trailer in this condition.

After attachment to the trailer, the axle may be realigned by backing off the ¾" pivot bolt, moving the axle and then torque the pivot bolt to 270 Ft. Lbs. All movement is forward.

CAUTION

Failure to torque the ¾" pivot bolt to 270 Ft. Lbs. will cause premature front bushing wear or damage to the suspension frame bracket and pivot bracket.
Height Control Valve Adjustment

Trailer Design Height Adjustment:
1. Check all around and under vehicle to be sure the area is clear of people and obstacles.
2. Set landing gear so that the trailer is level and place wheel chocks at tires.
3. “LOWER” the trailer by exhausting air from the air suspension.
4. Measure the frame to ground dimension and record.
5. “RAISE” the trailer by adding air to the system.
6. Measure the frame to ground dimension at the same location as step 5.
7. Subtract the “LOWER” dimension from the “RAISED” dimension. The difference should be 2” to 2.5”.
8. If the result dimension is more or less than 2” to 2.5”, adjust the height control valve setting.

CAUTION
Keep clear of trailer, tires, and fenders when adjusting the height control valve. DO NOT GET UNDER THE TRAILER. Failure to do so could cause crushing injury or death.

9. With air in the system, loosen the adjustment clamp nut.
10. If the trailer is too low, rotate the height control valve arm counter clockwise to LOWER to the height required.
11. If the trailer is too high, rotate the height control valve arm clockwise to LOWER to the height required.
12. There is a three to five second delay before air flows when adjusting.
13. When the trailer has moved the desired height, tighten the adjustment clamp nut to 24-48 In. Lbs.
14. Using the RAISE/LOWER feature on the Air System Panel, check the design height setting by lowering the trailer again and then raising it back to design height, recheck the dimension. Re-adjust if required.
Air Supply and Control Enclosure

K71-692-02

- .28” Holes (6) Places
- Compressor “On-Off” Switch
- Air Gauge Reservoir “PSI”
- Manual Fill Valve
- Raise and Lower Valve Rotate 180˚ to Raise or Lower
- From Height Control Valve Delivery Port (Center Port)
- 13.1”
- 5.3”
- 5.3”
- To Air Springs
- Reservoir Drain Valve Pull String to Drain
- From Height Control Valve Delivery Port (Center Port)
- K71-692-01

- Height Control Valve
- Supply Port (Top Port)
- Exhaust
- Height Control Valve
- Delivery Port (Center Port)
- Height Control Valve Assembly
Air Supply from Tow Vehicle

K71-692-03

Air Supply from Tow Vehicle

From Height Control Valve
Delivery Port (Center Port)

Pressure Protection Valve

To Air Springs

To Height Control Valve
Supply Port (Top Port)

Exhaust

Height Control Valve Assembly

Height Control Valve
Delivery Port (Center Port)

Height Control Valve
Supply Port (Top Port)
Air System Diagram with 12 VDC Compressor

Compressor
Rocker Switch
Metal Charge Line with Check Valve
Pressure Switch
Air Reservoir
Drain Valve, Reservoir
Manual Fill Valve
Height Control Valve
Air Spring

Ground
12 VDC Battery
Circuit Breaker
Relay Switch
Air Gauge (Reservoir Pressure)
Raise-Lower Valve
Air System Diagram with Tractor Supplied Air

- Air Gauge
- Raise-Lower Valve
- Reservoir
- Drain Valve
- Air Supply From Tow Vehicle Furnished by Installer
- Pressure Protection Valve
- Height Control Valve
- Manual Fill Valve
- Air Spring
- Plug
General Assembly

Rubber/Air Suspension Crossmember Mounted Under the Trailer Frame

BOLT TORQUE CHART

<table>
<thead>
<tr>
<th>SIZE</th>
<th>FT-LBS</th>
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<tbody>
<tr>
<td>3/8-16</td>
<td>25</td>
</tr>
<tr>
<td>3/4-10</td>
<td>270</td>
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BILL OF MATERIAL

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<tr>
<th>ITEM</th>
<th>QTY</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>TORSION AXLE W/SUSPENSION BRACKETS</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>FRAME BRACKET, RH</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>FRAME BRACKET, LH</td>
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<tr>
<td>4</td>
<td>2</td>
<td>CHANNEL, AIR SPRING SUPPORT</td>
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<tr>
<td>5</td>
<td>2</td>
<td>AIR SPRING</td>
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<tr>
<td>6</td>
<td>2</td>
<td>BUSHING, FRONT PIVOT</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>BUSHING, LINER</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>3/4-10 UNC x 4.5” LG HHCS</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>3/4-10 UNC STOVER LOCK NUT</td>
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<tr>
<td>10</td>
<td>8</td>
<td>3/8-16 UNC x 4.5” LG HHCS</td>
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<tr>
<td>11</td>
<td>8</td>
<td>3/8-16 UNC x 1” HHCS</td>
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<tr>
<td>12</td>
<td>8</td>
<td>3/8-16 UNC X 1” HHCS</td>
</tr>
<tr>
<td>13</td>
<td>2</td>
<td>1/4NPTM x 1/4T 90 DEG ELBOW, SWIVEL</td>
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<tr>
<td>14</td>
<td>2</td>
<td>1/4 x 6.25” LG NYLON TUBE</td>
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<td>15</td>
<td>2</td>
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<tr>
<td>16</td>
<td>2</td>
<td>1/4T UNION TEE</td>
</tr>
<tr>
<td>17</td>
<td>2</td>
<td>1/4T PLUG</td>
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NOTE:

ALL DIMENSIONS ARE SHOWN AT THE DESIGN HEIGHT POSITION