

**FLEXIRIDE<sup>®</sup>** *Smoothest Ride on the Market*

**The ultimate in  
rubber torsion axles.**



*An innovation in trailer suspension for a  
smooth, safe and practically shock free ride.*

**Universal Group<sup>®</sup>**



*To learn more about Flexiride<sup>®</sup>  
call 1.800.225.1845 / 856.488.1800  
or visit [www.theuniversalgroup.com](http://www.theuniversalgroup.com)*



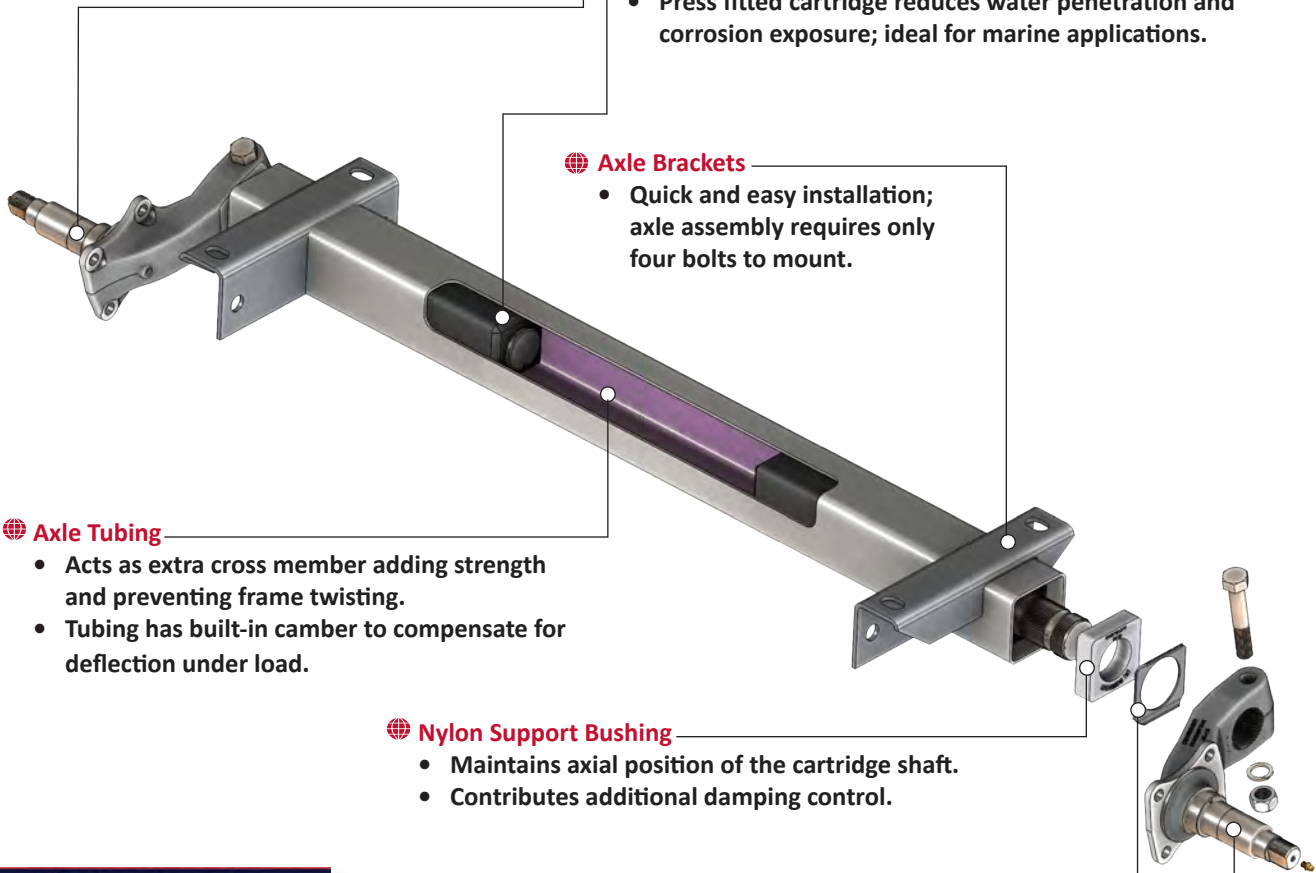
# FLEXIRIDE® Rubber Torsion Axles

## One Piece Spindle Arm

- Superior one piece forging design is safer and stronger than welded units.
- Splined spindle arm is adjustable for a range of starting angles to suit special applications.
- Easily adjust trailer height.
- Removable for repair or replacement.
- Integral flange standard on 2,000 and 3,500 lbs axles.

## Unique Rubber Cartridge Design

- High quality proprietary rubber guarantees smoother and longer life.
- Strength of rubber to metal bond exceeds strength of associated steel parts.
- Superior vibration dampening.
- Progressive torque increases carrying capacity as load is applied for improved ride on unloaded trailers.
- Solid cartridge design offers superior resistance to abrasive road elements increasing life and durability of axles.
- Press fitted cartridge reduces water penetration and corrosion exposure; ideal for marine applications.



## Axle Brackets

- Quick and easy installation; axle assembly requires only four bolts to mount.

## Axle Tubing

- Acts as extra cross member adding strength and preventing frame twisting.
- Tubing has built-in camber to compensate for deflection under load.

## Nylon Support Bushing

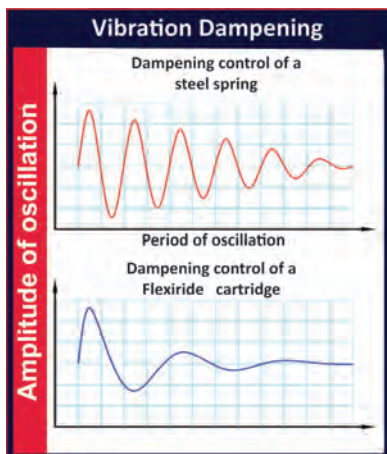
- Maintains axial position of the cartridge shaft.
- Contributes additional damping control.

## Retainer Plate

- Allows the support bushing to float freely in the tube to reduce friction.

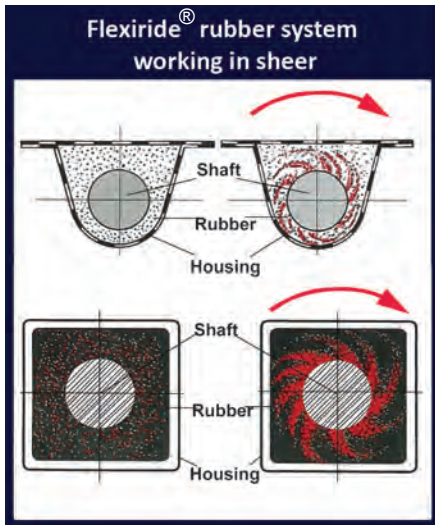
## Lubed Spindle

- Non - Lubed optional



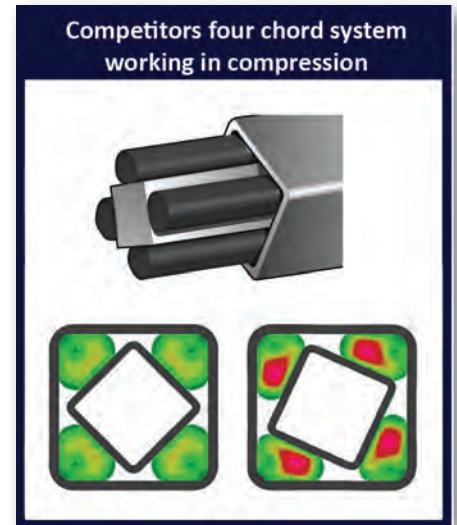
Rubber torsion axles offer a superior ride compared to leaf spring suspensions especially in unloaded trailers.

# Vibration Dampening Technology

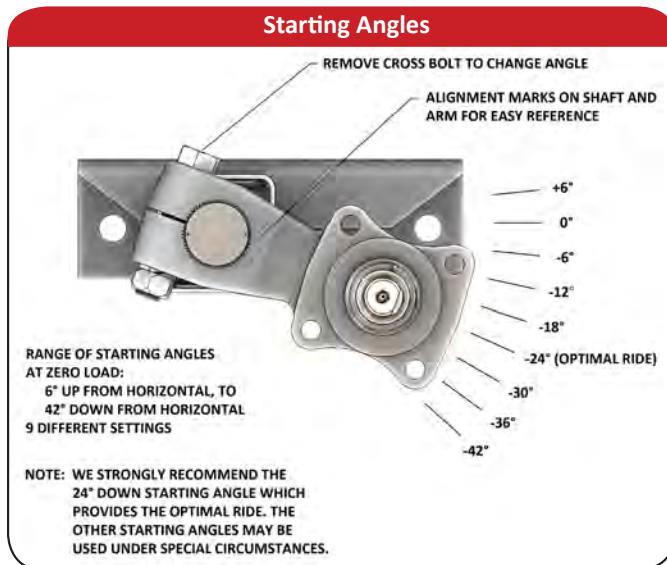


Flexiride® axles provide the smoothest ride in the market. The solid rubber cartridge works in shear as opposed to compression providing more angular compliance and superior vibration dampening compared to cord type axle systems. No shock absorbers are required due to rubber's natural vibration absorbing capabilities.

Although primarily used in trailer axles the Flexiride® rubber cartridge also works as a dampener in conveyor belt systems, mining equipment and other industrial applications.



# Adjustable Arm



The splined joint connecting the spindle arm to the cartridge is exceptionally strong. Positioned at 6° increments, the splines provide a range of starting angles to fit a wide variety of applications and allowing trailer height adjustment. Unlike welded units, the Flexiride® spindle is easily replaced by removing the pinch bolt, nut and washer.

# Independent Suspension

- Each wheel travels totally independently from the others.
- Soft, quiet and practically shock-free ride.
- No need for equalizers and other hardware.





# FLEXIRIDE® Build-To-Suit Axle System

🌐 The Flexiride® rubber torsion system is simple and easy to manufacture. Four basic components are at the core of this axle system: the rubber cartridge, spindle arm, bushing and retainer plate. Available in four sizes, these components cover capacities ranging from 1,400 lbs to 7,000 lbs. The axles are manufactured by licensed manufacturers throughout the United States and Canada.

🌐 The Flexiride® Licensee program is ideal for trailer and smaller axle manufacturers wishing to build torsion axles in-house and for manufacturers of specialty trailers requiring the durability and versatility of the cartridge system.

## 🌐 Maximum Versatility -

- Customize your Flexiride® axles by selecting different track width and starting angles.
- Build full beam axles, v-bend boat trailer axles and half axles using the same basic components.

## 🌐 No Specialized Equipment Needed -

- Unlike rubber cord axle systems, the Flexiride® cartridge system does not require freezing the rubber prior to installation.
- A general hydraulic press is required to press fit the rubber cartridge in the tubing.
- Basic welding equipment and capabilities are required.



## 🌐 Reduce Inventory and Lead Times -

- Build axles on site to different length to fit any application with minimal lead time.
- Easily adjust starting angle by positioning the splined spindle arm.
- Downrate the axle by cutting the cartridge to accommodate a wider range of axle capacities.

## 🌐 Compatibility with industry standard components -

- Flexiride® axles fit industry standard hubs, drums and brakes.
- Compatible with Kodiak disc brakes.

## 🌐 Five Year Warranty

- The Universal Group offers a five year warranty on all its components.

For a complete list of current Flexiride® Licensees, please visit [www.theuniversalgroup.com](http://www.theuniversalgroup.com).

If you are a qualified trailer or axle manufacturer and are interested in becoming a Licensee or would like more information about the program, please contact The Universal Group at (800) 225-1815.

All inquiries are welcomed.

# FLEXIRIDE® Half Axles

Perfect for light duty trailers and special applications, the Flexiride® rubber torsion system is available in half axles. The compactness of the rubber cartridge allows for the narrowest track centers in the industry.

- Flexiride® half axles are one of the lightest suspension systems on the market.
- Capacity ranges from 425 lbs to 7,000 lbs.
- Units are bolted to the trailer and easily aligned.
- Built in camber.
- Available in various hub, drum and brake configurations.
- Fits industry standard components.
- Ideal for boat trailers.

- 425 lb. capacity/pair half axles with adjustable arm
- 550 lb. capacity/pair half axles with welded arm (not adjustable)
- 550 lb. capacity/pair half axles with adjustable arm
- 935 lb. capacity/pair half axles with welded arm (not adjustable)
- 935 lb. capacity/pair half axles with adjustable arm



- 1,400 lb. capacity/pair half axles with brake flange and adjustable arm
- 2,000 lb. capacity/pair half axles with brake flange and adjustable arm
- 3,500 lb. capacity/pair half axles with brake flange and adjustable arm

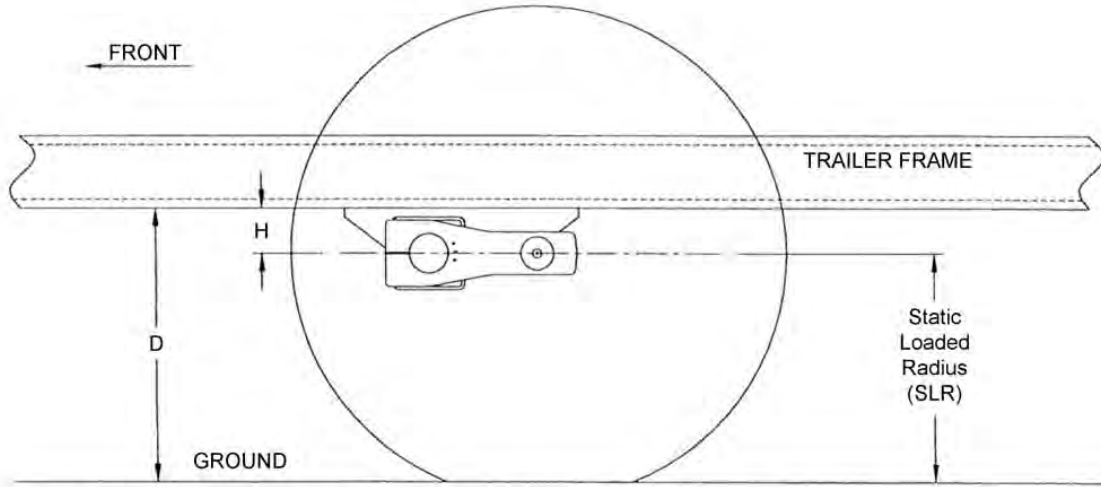


- 5,200 lb. capacity/pair half axles with brake flange and adjustable arm
- 7,000 lb. capacity/pair half axles with brake flange and adjustable arm





### Frame Height From Tire SLR



THE OPTIMUM ARM ANGLE AT LOAD IS HORIZONTAL. THE TRAILER FRAME SHOULD BE LEVEL.

425 LB CARTRIDGE AXLE					22 DEG. DOWN	10 DEG. DOWN	0 DEG.	10 DEG. UP
Distance frame to ground loaded (D) = tire SLR + H - ht								
ht = height to spindle above horizontal at load = ht					0	0.33	1.14	1.43
TIRE	LR	LOAD	SLR	H	D	D	D	D
4.80 - 8	B	590	7.6	0.80	8.40	8.07	7.26	6.97
5.70 - 8	B	715	8.2	0.80	9.00	8.67	7.86	7.57
5.30-12	B	780	9.8	0.80	10.60	10.27	9.46	9.17

550 LB CARTRIDGE AXLE					22 DEG. DOWN	10 DEG. DOWN	0 DEG.	10 DEG. UP
Distance frame to ground loaded (D) = tire SLR + H - ht								
ht = height to spindle above horizontal at load = ht					0	0.43	1.47	1.83
TIRE	LR	LOAD	SLR	H	D	D	D	D
4.80 - 8	B	590	7.6	0.88	8.48	8.05	7.01	6.65
5.70 - 8**	B	715	8.2	0.88	9.08	8.65	7.61	7.25
5.30-12	B	780	9.8	0.88	10.68	10.25	9.21	8.85

\*\* - Can be used only with 0.5" - 1.0" negative offset rims. Alternate: use 205/65-10 tires, SLR 9.8".

935 LB CARTRIDGE AXLE					22 DEG. DOWN	10 DEG. DOWN	0 DEG.	10 DEG. UP
Distance frame to ground loaded (D) = tire SLR + H - ht								
ht = height to spindle above horizontal at load = ht					0	0.33	1.14	1.43
TIRE	LR	LOAD	SLR	H	D	D	D	D
4.80 - 8	B	590	7.6	0.88	8.48	8.15	7.34	7.05
5.70 - 8	B	715	8.2	0.88	9.08	8.75	7.94	7.65
5.30-12	B	780	9.8	0.88	10.68	10.35	9.54	9.25



**FLEXIRIDE®**

**Cartridge Axles Data Sheet**

**Frame Height From Tire SLR**

<b>2,000 LB CARTRIDGE AXLE</b>					<b>22 DEG. DOWN</b>	<b>10 DEG. DOWN</b>	<b>0 DEG.</b>	<b>10 DEG. UP</b>
Distance frame to ground loaded (D) = tire SLR + H - ht								
ht = height to spindle above horizontal at load = ht					0	0.97	1.91	2.33
<b>TIRE</b>	<b>LR</b>	<b>LOAD</b>	<b>SLR</b>	<b>H</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>
4.80 - 8	C	745	7.6	1.56	9.16	8.19	7.25	6.83
4.80 - 12	C	990	9.5	1.56	11.06	10.09	9.15	8.73





<b>3,500 LB CARTRIDGE AXLE</b>					<b>22 DEG. DOWN</b>	<b>10 DEG. DOWN</b>	<b>0 DEG.</b>	<b>10 DEG. UP</b>
Distance frame to ground loaded (D) = tire SLR + H - ht								
ht = height to spindle above horizontal at load = ht					0	0.97	1.91	2.33
<b>TIRE</b>	<b>LR</b>	<b>LOAD</b>	<b>SLR</b>	<b>H</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>
F78-14ST	C	1,710	12.2	1.88	14.08	13.11	12.17	11.75
7.00 - 15	C	1,720	13.7	1.88	15.58	14.61	13.67	13.25





<b>5,200 LB CARTRIDGE AXLE</b>					<b>22 DEG. DOWN</b>	<b>10 DEG. DOWN</b>	<b>0 DEG.</b>	<b>10 DEG. UP</b>
Distance frame to ground loaded (D) = tire SLR + H - ht								
ht = height to spindle above horizontal at load = ht					0	0.97	1.91	2.33
<b>TIRE</b>	<b>LR</b>	<b>LOAD</b>	<b>SLR</b>	<b>H</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>
225/75R16	D	2,335	12.5	2.50	15.00	14.03	13.09	12.67
7.50 - 16	D	2,440	14.6	2.50	17.10	16.13	15.19	14.77
235/85R16	D	2,623	14.6	2.50	17.10	16.13	15.19	14.77




<b>7,000 LB CARTRIDGE AXLE</b>					<b>22 DEG. DOWN</b>	<b>10 DEG. DOWN</b>	<b>0 DEG.</b>	<b>10 DEG. UP</b>
Distance frame to ground loaded (D) = tire SLR + H - ht								
ht = height to spindle above horizontal at load = ht					0	0.97	1.91	2.33
<b>TIRE</b>	<b>LR</b>	<b>LOAD</b>	<b>SLR</b>	<b>H</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>
225/75R16 (tandem)	E	2,490	13.6	2.50	16.10	15.13	14.19	13.77
235/85R16	G	3,750	14.3	2.50	16.80	15.83	14.89	14.47

The Flexiride® suspension is suitable for a large array of applications including, but not limited to:



-  recreational trailers
-  boat trailers
-  utility trailers
-  horse trailers

-  motorcycle trailers
-  industrial trailers
-  equipment trailers
-  conveyor belt systems

-  food vending trailers
-  on and off road trailers
-  mining equipment

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