Owner's Manual

Easy-Mount™ CXL-23

Fully Integrated Auxiliary Axle Suspension

33.5"to 35" Truck Frame Widths

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***Please note that it is important that the entire installation manual must be read thoroughly before proceeding with installation of the CXL-23 auxiliary axle.**

Suspension Identification:
All Cush suspensions are identified by a metal tag on the hanger. On this tag is a Cush serial Number that is recorded at Cush to identify suspension parts and warranty date information.

Parts:
For best performance from your suspension system, only use official Cush replacement parts, contact your dealer. Replacement parts are shown in this manual or visit Cush store for more online information at www.cushcorp.com.

Dealer Parts:
If purchased thru FleetPride/www.e-pdc.com the air spring replacement and air spring warranty should be handled thru FleetPride/www.e-pdc.com.

Sales, Service, and Warranty Information:
For any information on parts or questions with this product, please contact us and we will be glad to be of service to you.

Address :
Cush Corp.
1001 Falconcrest Ct.
Nixa, MO 65714

Phones, Fax and Email:
Phone: 417-724-1239
Toll Free: 877 R U ON AIR
Fax: 417-724-0126
Email: info@cushcorp.com
www.cushcorp.com

Pre-Installation Notes:

1. Cush suspensions are designed to operate within certain guidelines and parameters. Operating the suspension outside the given designed parameters could result in improper performance or failure of the suspension and components.
2. The total operation capacity of a suspension is given by the lowest load rating on any one component; including tires, wheels, brakes, and axles. Please refer to the manufacturers specs for these components to determine the maximum suspension system capacity.
3. If the auxiliary lift suspension is improperly located on the frame of the vehicle it could result in unloading or overloading the primary suspension systems. The auxiliary suspension installer is responsible to properly locate the position for mounting on the frame to meet proper load distribution specs.
4. The installer is responsible for meeting all local, state, and federal law requirements for proper spacing of axles on the vehicle including the auxiliary suspension.
5. The installer is responsible for meeting all air reservoir volume requirements. For more information consult the vehicle manufacturer or the Federal Motor Vehicle Safety Standards (FMVSS) 121 for more information.
6. If modifications of the vehicle chassis are required please consult with the manufacturer to ensure modifications are permitted.
7. Altering the suspension and its components in any way is not permitted by Cush Corp. unless specifically stated on an official Cush Corp. document.
8. The installer is responsible for insuring proper clearance of the auxiliary axle, tires and air springs to the vehicle and the vehicle driveline.
9. When lowering the auxiliary axle on an unloaded vehicle reduce the loading air pressure to 10 PSI or less to insure all primary suspension systems remain on the ground. Failure to do so may result in the vehicle rolling out of place if the other vehicle axles are unloaded.

Configuration

Cush suspension CXL-23 is designed for versatility. The CXL-23 can be mounted up to multiple vehicle frame widths and applications on an axle-integrated unit. With this in mind, the suspension must be configured correctly to perform properly for the application at hand. The suspension should be configured to meet the following parameters before you begin installation:

Suspension Capacity-*confirm*
Tire Size-*confirm*

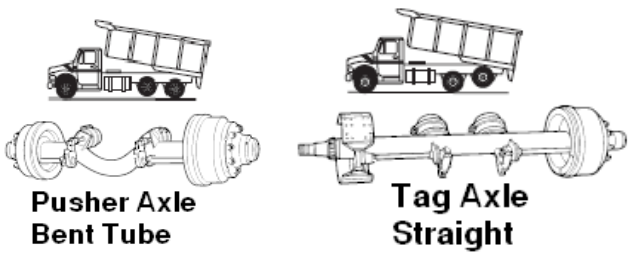
Frame to Ground Height-*measure*
Frame Width-*measure*
Frame Length-*measure*

Ride Height-*calculate*
Vertical Frame Spacers-*calculate*
Driveline Clearance-*Calculate*

Suspension Capacity

The CXL-23 has a suspension capacity of 25,000 Lbs. but the ground load capacity may be limited by your axle choice. Standard bent tube axles are de-rated because of the axle beam bend:

Axle Type	Axle Wall	Axle Capacity
Straight Beam	(5/8")	22,500 Lbs.
6" Bent Tube	(5/8")	20,000 Lbs.



Tire Size

On truck auxiliary lift axles the main variable that can affect the performance of the suspension is tire size. If the wrong tire size is selected you can push the suspension out of the ride height performance window. It is important to select your tire size up front so that the suspension ride height can be calculated for your vehicle. If you change tire size, you must recalculate your ride height to see that your suspension will perform or if you need to now add vertical frame spacers.

Chart1

Static Loaded Tire Radius

Wheel Size	Tire Size	Static Load Radius
17.5 [3]	215/75R17.5	14
	235/75R17.5	14.5
	9R17.5	15
	10R17.5	15.5
19.5 [2]	225/70R19.5	15
	245/70R19.5	15.5
	265/70R19.5	16
	285/70R19.5	16
	305/70R19.5	16.5
22.5 & 24.5 [1]	8R22.5	17
	255/70R22.5	17
	245/75R22.5	17
	235/80R22.5	17
	275/70R22.5	17.5
	9R22.5	18
	265/75R22.5	18
	255/80R22.5	18
	305/70R22.5	18.5
	10R22.5	19
	295/75R22.5	19
	275/80R22.5	19
	11R22.5	19.5
	295/80R22.5	19.5
	315/80R22.5	19.5
	285/75R24.5	19.5
	275/80R24.5	19.5
	385/65R22.5	19.5
	12R22.5	20
	365/80R20	20
	13R22.5	20.5
	11R24.5	20.5
	425/65R22.5	20.5
	12R24.5	21
	445/65R22.5	21
	13R24.5	21.5

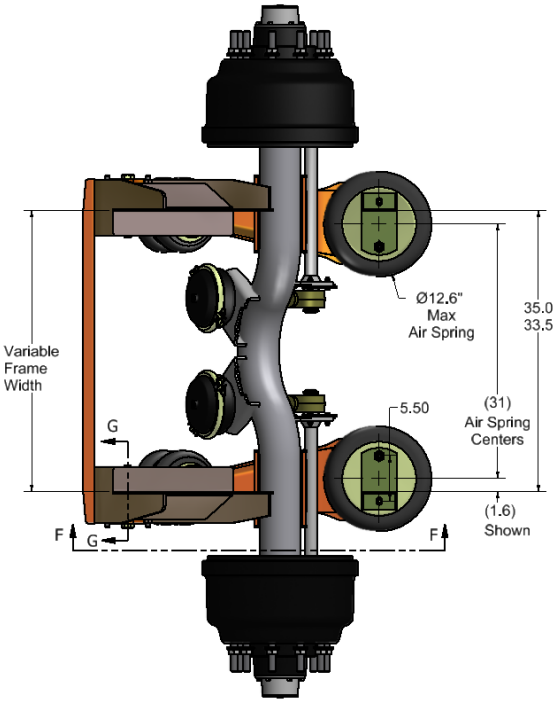
Footnotes:
1. Standard 16.5" Diameter Brake
2. Requires 15" or 12.25" Dia Brake
3. Requires 12.25" Diameter Brake

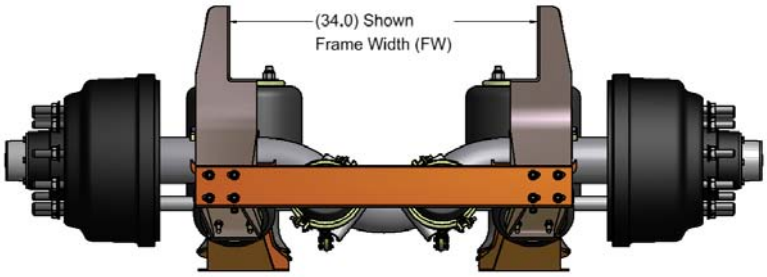
Frame to Ground Height

In order to confirm your vehicle configuration can accept a lift axle, the frame to ground height (**F2GL**) must be measured at the location of the auxiliary axle to be placed when the truck is loaded on level ground. If you need to take the measurement without loading the vehicle, the loaded frame to ground measurement must be approximated so that the lift axle suspension operates within the designed ride height range for that model.

Frame Width

The CXL-23 lift axle suspension was designed to accommodate a variety of frame widths varying from 33.5” to 35” wide. The frame width on the suspension is pre-set to 34” from the factory but can easily be modified by spacers in the hangers so that the suspension and axle can be welded together at Cush (Fully Integrated) and still fit any frame width between 33.5” and 35”. This makes the unit an Easy-Mount for dealers and installers to eliminate errors and speed installation. The CXL-23 can optionally be ordered without an axle.





Frame Length

The CXL-23 lift axle suspension was designed to be as compact as possible to allow room for other frame attachments, but you must measure that you have enough blank frame length in front of the proposed axle position to mount your model per the installation drawing.

Ride Height

Ride Height is measured from the center of the wheel to the bottom of the frame. It is easily calculated by the following formula.

Ride height (RH) = Frame to Ground Height Loaded (F2GL)-Static Loaded Tire Radius (SLR)

The Frame Height must be measured at the location where the auxiliary suspension intends to be installed, when vehicle is loaded, to insure proper height measurement. The vehicle also needs to be loaded and on level ground for proper measurement.

The typical Static Loaded Tire Radius can be found in ***Chart 1.***

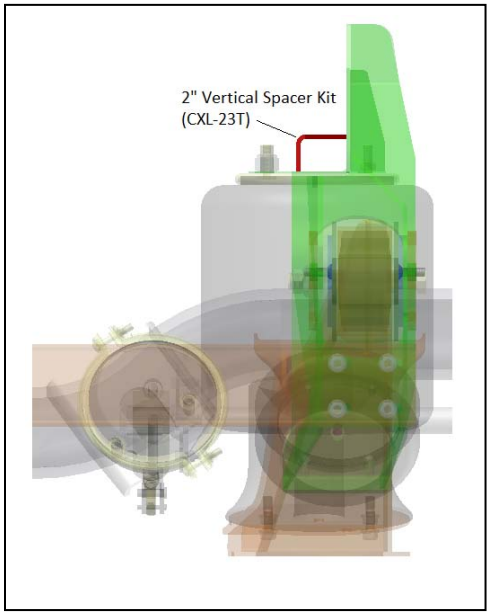
Chart 2 compares the Frame to Ground Height and your tire selection to determine if a vertical spacer kit is needed per your suspension model.

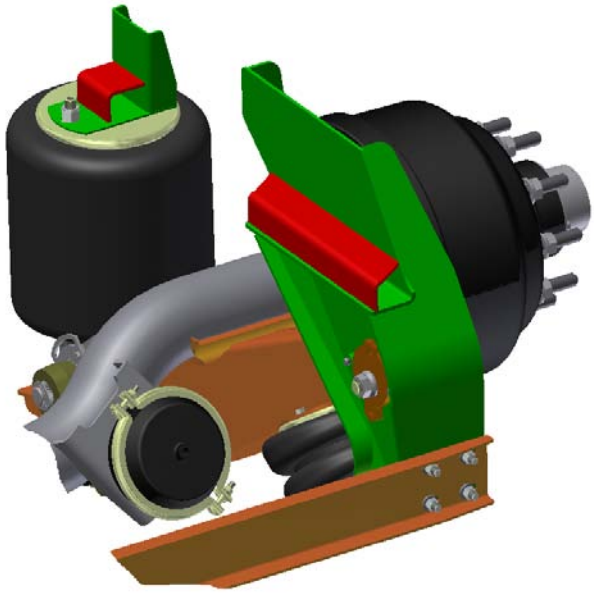
The **CXL-23** Model is designed to accommodate the following ride heights:

- **CXL-23** Fits 7.5”- 10” Ride Height (up to 12” RH with a spacer kit)
- **CXL-23T** Fits 9.5”- 12” Ride Height (up to 14” RH with a spacer kit)

Vertical Spacing

The CXL-23 suspension is built to accommodate spacers if needed. The CXL-23 can be spaced vertically down from the frame 1” to 2” to support a taller suspension ride height. These spacers need to be a Cush spacer kit or 3/16” wall min. tubing cut to full length of 34.5” per side to insure the optimum performance out of your suspension. Spacers that are not a certified Cush part or the required minimum spec tubing as stated above will void the warranty. You can use the ***Chart 2*** on the **Configuration Worksheet** to determine if spacers are required for your application.





Ride Height Spacing:

- Before placing the hangers on the frame refer back to your **Configuration Worksheet** to determine if your application requires ride height frame spacers. If so, mount and weld the spacers to the hangers before mounting the hangers to the frame. If you do not already have spacers they can be ordered from Cush Corp.
- If spacers are required, you must space down the air spring bracket equal to the spacer height of the frame hangers or failure of the suspension may occur.

Driveline Clearance to Lift Axle

The Driveline clearance is the bottom of the driveline while the suspension is fully lifted. It is recommended that the clearance between the two be maintained at all times while the vehicle is in operation. If additional clearance is needed then spacers can be installed.

Before installing suspension, check that the suspension "Up Travel" (***Chart 3***) will not let the axle get into the driveline.

Measure "D" on your truck bottom of frame to bottom of driveline with truck unloaded. Verify the equation below is greater than ("D"+1") to check that the axle will clear the driveline for a 6" bent tube axle.

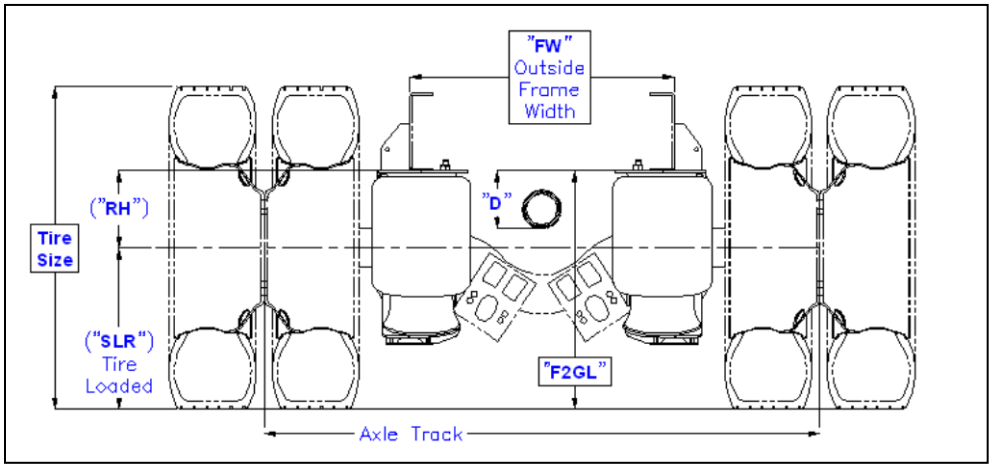
Pusher Axle Only, Driveline Lift Axle Calculations:

For 6" drop axle, suspension UP Travel:

("**RH**" + 3.5" – **UP Travel** (**Chart 3**)) > "**D**"+1"

If _____ > _____ Then

Proceed, if not contact Cush for review



Configuration Worksheet

CXL-23 Liftable Auxiliary

Chart 2 **Ride Height Calculation Chart** ***Model CXL-23T***

Truck Frame to Ground Height Loaded

Ride Height >	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.5	13.5	14.0	Wheel Size
25.0	17.5	17.0	16.5	16.0	15.5	15.0	14.5	14.0							17.5
25.5	18.0	17.5	17.0	16.5	16.0	15.5	15.0	14.5	14.0						
26.0	18.5	18.0	17.5	17.0	16.5	16.0	15.5	15.0	14.5	14.0					
26.5	19.0	18.5	18.0	17.5	17.0	16.5	16.0	15.5	15.0	14.5	14.0				
27.0	19.5	19.0	18.5	18.0	17.5	17.0	16.5	16.0	15.5	15.0	14.5	14.0			
27.5	20.0	19.5	19.0	18.5	18.0	17.5	17.0	16.5	16.0	15.5	15.0	14.5	14.0		
28.0	20.5	20.0	19.5	19.0	18.5	18.0	17.5	17.0	16.5	16.0	15.5	15.0	14.5	14.0	
28.5	21.0	20.5	20.0	19.5	19.0	18.5	18.0	17.5	17.0	16.5	16.0	15.5	15.0	14.5	
29.0		21.0	20.5	20.0	19.5	19.0	18.5	18.0	17.5	17.0	16.5	16.0	15.5	15.0	19.5
29.5			21.0	20.5	20.0	19.5	19.0	18.5	18.0	17.5	17.0	16.5	16.0	15.5	
30.0				21.0	20.5	20.0	19.5	19.0	18.5	18.0	17.5	17.0	16.5	16.0	
30.5					21.0	20.5	20.0	19.5	19.0	18.5	18.0	17.5	17.0	16.5	
31.0						21.0	20.5	20.0	19.5	19.0	18.5	18.0	17.5	17.0	22.5 & 24.5
31.5							21.0	20.5	20.0	19.5	19.0	18.5	18.0	17.5	
32.0								21.0	20.5	20.0	19.5	19.0	18.5	18.0	
32.5									21.0	20.5	20.0	19.5	19.0	18.5	
33.0										21.0	20.5	20.0	19.5	19.0	
33.5											21.0	20.5	20.0	19.5	
34.0												21.0	20.5	20.0	
34.5													21.0	20.5	
35.0														21.0	
Ride Height >	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	Wheel Size

Static Loaded Tire Radius

To graph **Ride Height** first locate **Frame to Ground Height** in gray column then move across to the right and find the **Static Loaded Tire Radius** found in ***Chart 1*** that matches your tire size then go up or down to locate **Ride Height.**

Chart 3 **Ride Height vs. Up Travel (Lift) Chart** ***Model CXL-23T***

	Ride Height >	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0
CXL-23	Up Travel	4.8	5.3	5.8	6.3	6.8	7.3	6.8 a	7.3 a	6.8 a	7.3 b				
	Down	*5.5*	*5*	*4.5*	*4*	*3.5*	*3*	3.5 a	3.0 a	3.5 b	3.0 b				
CXL-23T	Up Travel					4.8	5.3	5.8	6.3	6.8	7.3	6.8 a	7.3 a	6.8 a	7.3 b
	Down					*5.5*	*5*	*4.5*	*4*	*3.5*	*3*	3.5 a	3.0 a	3.5 b	3.0 b

a Requires 1" tall vertical frame spacers (Cush P/N B1336)
b Requires 2" tall vertical frame spacers (Cush P/N B1335)

AIR CONTROL KITS(Check One):

- ❑ None
- ❑ Electric over Air (Key off - Axle UP)
- ❑ Electric over Air (Key off - Axle DOWN)
- ❑ Air over Air (Push/Pull)

Installer to check and verify these items:

_____ **Suspension Capacity**-*confirm*
_____ **Tire Size**-*confirm*

_____ **Frame to Ground Height**-*measure*
_____ **Frame Width**-*measure*
_____ **Frame Length**-*measure*

_____ **Ride Height**-*calculate*
_____ **Vertical Frame Spacers**-*calculate*
_____ **Driveline Clearance**-*Calculate*

Installation Procedures

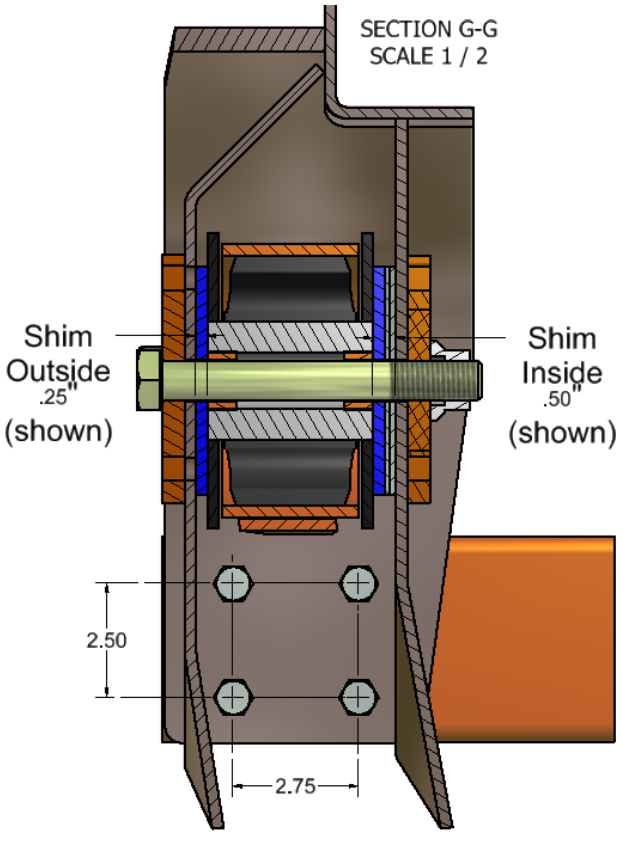
For proper installation please follow the steps below thoroughly.

Safety: For your safety, the first procedure is to make sure the vehicle is safe and secure by chocking your tires and making sure the parking brakes are set on level & stable ground.

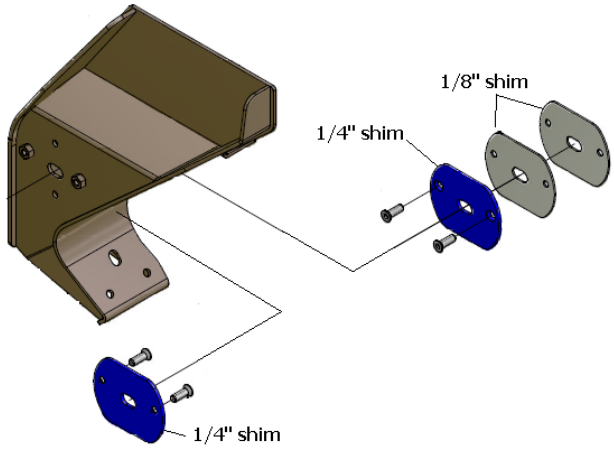
Integration: If your axle is not pre-welded to the suspension beams from Cush, then integration of the suspension and axle is required. In this case, please skip to instructions on Axle Integration. Otherwise go to the next step.

Frame Width:

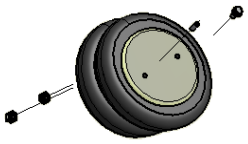
- For this step please have your **Configuration Worksheet** ready. Now reference your worksheet to see the exact width of your frame. (The Hangers come preset to fit a 34" wide frame). If your frame is not 34" outside width then start by disassembling the hangers from the beams.
- After they have been disassembled remove the inner shim packs from the hangers by removing the fasteners and follow the chart and hanger section view to set the correct spacing of your shim packs in the hangers for proper installation. Make shim packs the same spacing in both left and right hangers.
- Once proper shim spacing is set on the hangers remount them back to the beams for mounting to the frame.



Truck Frame Width	Hgr Shim Inside Thickness	Hgr Shim Outside Thickness
33.5	0.75	0
33.75	0.63	0.13
34	0.5	0.25
34.25	0.38	0.38
34.5	0.25	0.5
34.75	0.13	0.63
35	0	0.75



Lift Air Spring:



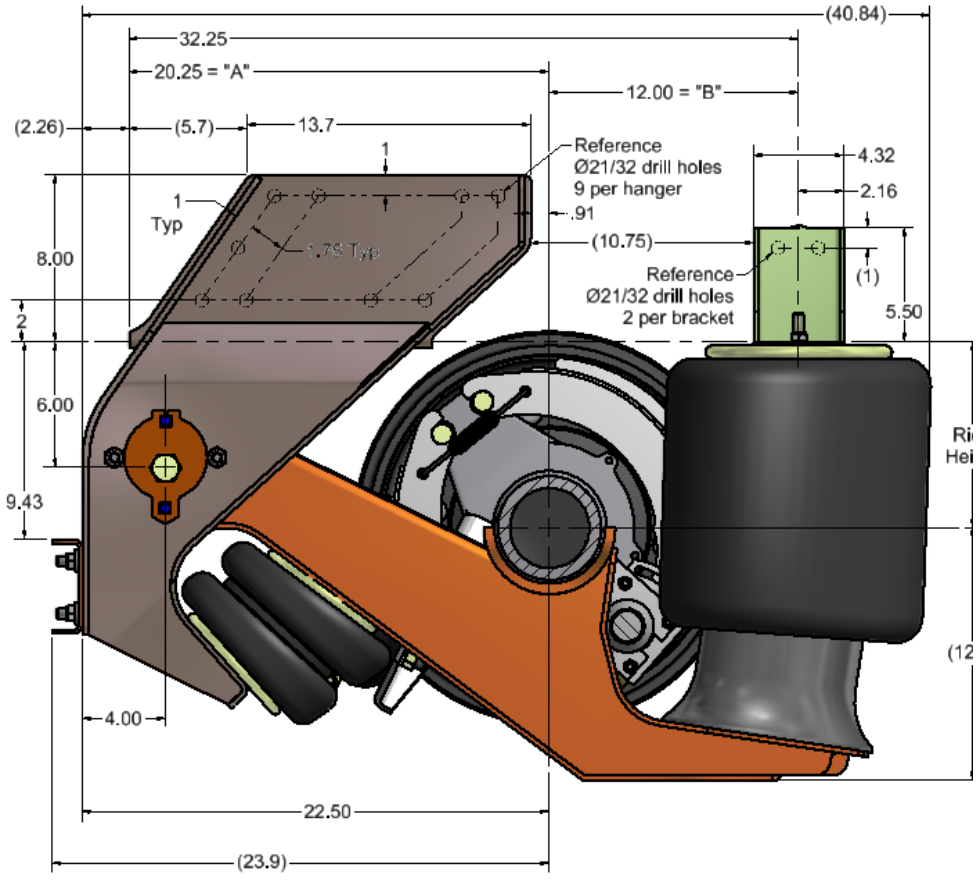
- While the suspension is still on the ground, and before the pivot bolt is snug, mount the lift spring to both the beam and hanger.

Hanger Mounting:

- Locate the position you want to mount your axle. On both sides of the truck frame, mark the location directly above the axle center on the frame. Once the location is found use dimension **"A"** on the figure below to locate hanger position and mark, mark position "**B**" on frame to locate air spring mounts. A frame cross member must be located within 6" of the leading or trailing edge of the hanger. It is also recommended that a cross member be located directly above the air spring frame mounting bracket. Then securely clamp the hangers to frame making sure side and top are tight against frame rail side and bottom to insure no movement can occur while drilling holes or after mounting.

- Use the figure below to locate 9 holes per hanger and center punch for drilling. The reference hole pattern will be different if spacers are used. If spacers used, move pattern up by height of spacer. Drill all holes Ø21/32. Install Hangers using 5/8 SAE grade 8 bolts, washers, and lock nuts then torque per spec

<u>Note:</u> Recommended mounting hardware (fasteners) not supplied by Cush Corp.



Caution! It is important that before drilling any holes you inspect the truck frame rail for any obstructions (fuel tanks, wiring harness, air lines, etc…) and move away from area.

It is also important that you do not weld on, drill, or bolt thru the bottom flange of the suspension frame rail. Check with the chassis manufacturer for details on warranty information.

- After mounting the hangers to frame, install the Cross Support Bar to both hangers. Insert the bolts into the inside of hangers, then attach cross bar and apply nuts. Torque per Spec.

CAUTION: Cross member must be installed for proper and safe suspension operation.

Air Spring Frame Mounting Bracket:

- CAUTION! Check if spacers are needed for hangers and air spring frame mounting bracket, the same height spacer must be used on both if required.
- To install the air spring frame bracket you first use dimension "**B**" from the figure to locate the proper position and mark.
- Now clamp the bracket securely in place making sure side and top are tight against frame rail to insure no movement can occur when drilling holes.
- Use figure to locate and center punch 2 holes per bracket. Drill holes at Ø21/32. After holes are drilled: install bracket using 5/8 SAE grade 8 bolts, washers, and locking nuts then torque per spec.

Note: Recommended mounting hardware (fasteners) not supplied by Cush Corp.

NOTE: The top air spring bracket is set for 31" air spring centers on a frame width of 34". These top mounts can move in and out with the truck frame of 33.5" to 35" variable. The air spring can operate with a misalignment of +/- 0.5" from top to bottom mounting.

Load Air Spring:

- Mount the load air spring to the beam and bracket using the hardware provided. Caution! Do not over-torque the fasteners to mount the air springs.

Pivot Bolt: The standard unit comes with a 7/8"-9 UNC x 7" long Grade 8 bolt. Optionally you can order the unit with a 7/8"-9 UNC Auditorx Shear Head Bolt that you torque the head torx nub with a special E-20 socket. This nub breaks off at the proper torque when you use a 1" square drive impact.

CAUTION! Customer is to torque all fasteners to Spec, no fasteners come torqued from factory.

Torque Fasteners:

- Use the chart below to torque all fasteners to spec.

Customer to torque all fasteners!				**(Ft*Lbs)**		*(Nm)*	
CXL-23 Fastener Torque Specs	**Size**	**Thread**	**Grade**	**Min.**	**Max.**	*Min*	*Max.*
Air Spring Mount Bolt	3/8	16-UNC	5/B	**25**	**35**	*34*	*47*
Air Spring Mount Nut	1/2	13-UNC	5/B	**25**	**35**	*34*	*47*
Air Spring Mount Bolt	1/2	13-UNC	5/B	**40**	**50**	*54*	*68*
Hanger Shim Pack Mount Bolts	1/2	13-UNC	5/B	**40**	**50**	*54*	*68*
Brake Chamber Mounting Nut	5/8	11-UNC	5/B	**100**	**110**	*136*	*149*
Air Spring Top Mount Nut	3/4	16-UNF	5/B	**40**	**50**	*54*	*68*
Pivot Nut (SecureLok)	7/8	9-UNC	8/C	**550**	**600**	*746*	*813*

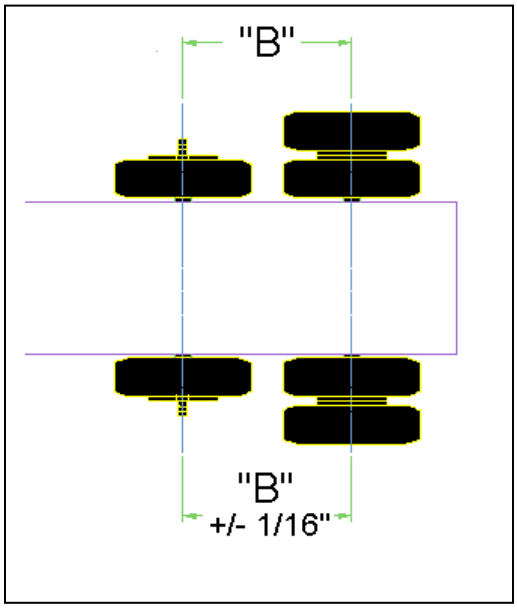
Alignment:

- The eccentric cam gear should always have the ½" square hole to the top.
- Set the alignment gear indicator tab at 6 o'clock, the neutral position. Snug the pivot bolts to be tight enough to hold the joint together but loose enough to permit use of the eccentric cam adjustment. Be sure that the eccentric cam plate is clamped down flush against the hanger side and is not riding up the grounding nuts/bars.
- For adjustment use breaker bars in the ½" square hole of both gears on one hanger.
- The hanger pivot bolt alignment gives you 1/4" pivot movement fore and aft per hanger side.
- To align the axle, rotate both alignment gears of one hanger of the suspension to get the axle aligned. If needed, go to the other side suspension hanger and rotate the alignment gears in the opposite direction to fine tune the alignment of the axle.

Axle Alignment on Truck

CAUTION: DO NOT APPLY undercoating to the hanger pivot area until after alignment and torque of the suspension pivot bolts.

- Check that the tire inflation pressure is correct on all tires.
- Alignment should be performed with the vehicle empty and the brakes released.
- On a level floor move the vehicle forward and back to straighten, make sure last movement is forward.
- Remove the outer tires and any other parts from under the chassis that obstruct the measuring distances between the axle ends. If you use a commercially available axle spindle extenders or the edge of the wheel rim, you will not need to remove this equipment.
- Measuring from the nearest vehicle drive axle, determine the alignment of the auxiliary axle.
- After achieving proper alignment of the forward axle, torque the Cush Pivot fasteners per Cush torque specifications on the Cush installation drawing.
- Align, to within 0.063" tolerance, any additional axles to the drive axle. Use a commercially available alignment gauge or trammel bar if available.



Installation Check

Prior to using your newly installed Cush CXL-23 go through a thorough check for safety.

Reduce the air pressure to the load springs to below 10 psi. Cycle the suspension up and down to ensure proper operation and suspension clearance to other components. For Truck pusher application, check that the driveline has adequate clearance when the suspension is lifted and the vehicle is unloaded.

Check that all fasteners, including wheel nuts, are tightened to the proper torque values.

Check that brakes and slack adjusters are properly adjusted and that wheels rotate freely.

Check hubs for proper oil levels.

Suspension Operation

Our CXL-23 suspension may include a switch or push/pull knob type air control kit to raise and lower the suspension. The kit may also include a pressure regulator and gauge to control the load. The operator is required to know the proper air pressure to support a given load. The chart below is an approximate guide of air pressure shown on the gauge and the estimated supported load. To obtain a more accurate correlation for your specific setup you may place scales under the loaded auxiliary axle, while adjusting the gauge read and make note of the load on the scales.

Load at Ground vs. Air Pressure on Gauge

Air Pressure (PSI)	~Air Spring Capacity Each	~Ground Load Estimate (LBS) *
20	1440	6000
30	2180	8400
40	2920	10800
50	3670	13300
60	4420	15800
70	5210	18400
80	6000	21000
90**	6775	23500
100**	7550	26100

* The chart above shows only estimated values. Ground load capacity varies with ride height, axle selection, & wheel/tire selection.

*To form accurate load values you must use a scale to calibrate and record for your records.

**Load Values shaded gray may exceed axle or suspension ratings. Do not operate at these pressures and loads.

CAUTION! Always lift axle when vehicle is unloaded, otherwise damage may occur.

Cush Suspension to Axle Welding Procedures

RECOMMENDED STEEL WELDING PROCEDURES:

WARNING: If these procedures and specifications are not followed, damage to the axle or suspension could result. The resulting axle or suspension damage could cause an accident, property damage, and/or serious injury.

NOTE: A welder qualified in 2G position per ANSI/AWS D1.1-94 Section 5 Part C "Welder Qualification" must perform the welding.

NOTE: The specification shown below is for horizontal (2F) positioning.

1) Suspension components and their mating parts must be at a minimum temperature of 60°F(15.5°C) and free from moisture, dirt, scale, paint, grease, and other contaminates. (Pre-heat per axle manufacturer)
2) All welds must be performed in a flat, or horizontal, position. Clean welds between each pass.

Standard Wire: AWS ER-70S-6, 0.045"DIA

Volts: 26-30 DCRP

Current: 275-325 AMPS

Gas: 90%AR 10%CO2 at 30 to 35 CFH

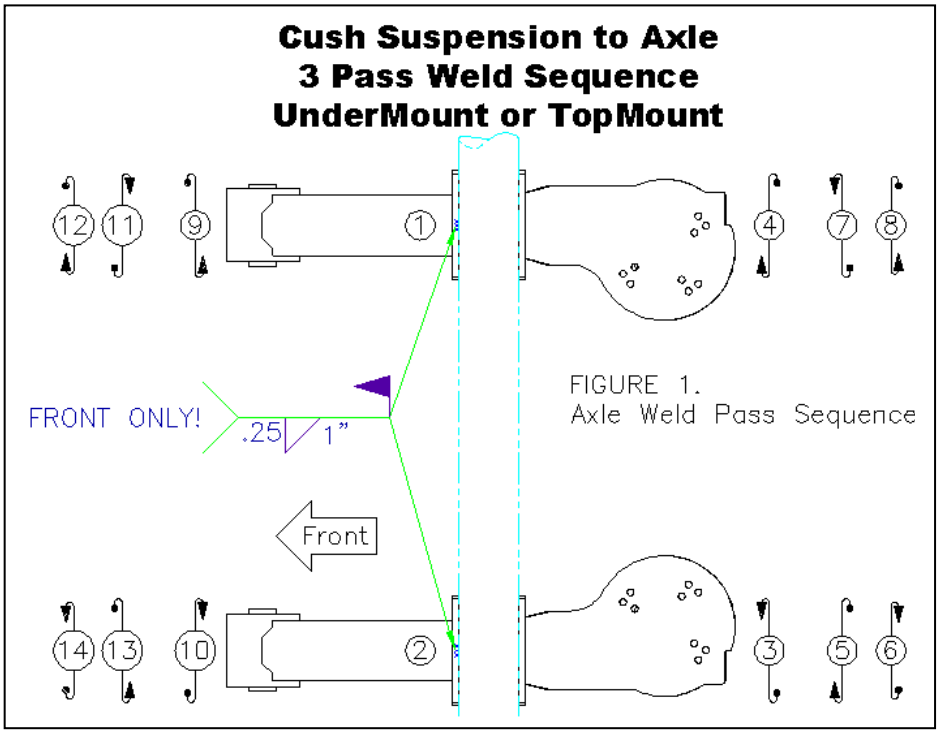
Note: Brake camshaft to be located according to axle manufacturer specifications & suspension/trailer model.

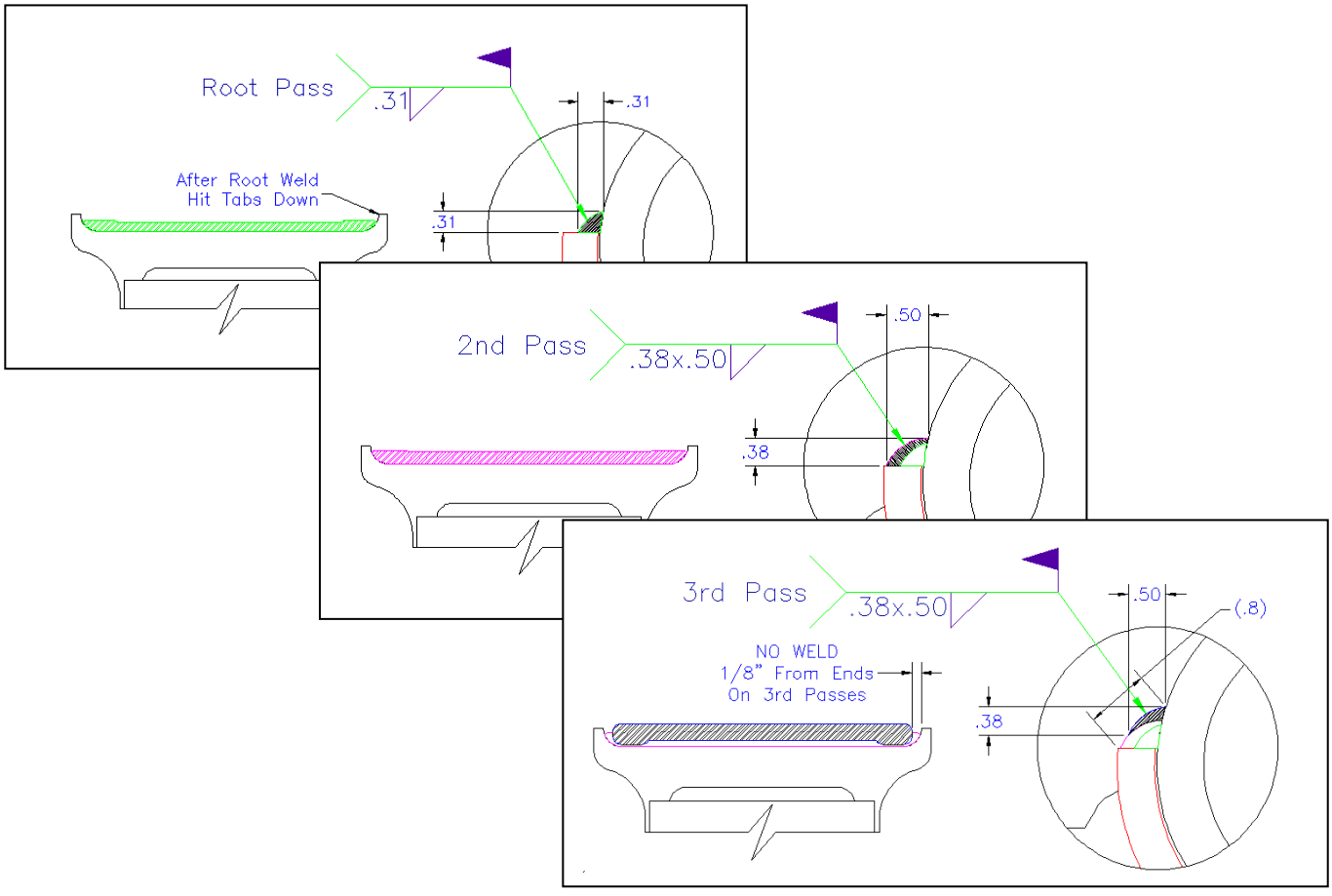
Use locating fixture or flat surface to space suspension beams and center axle. Check that suspension beams are: parallel, square to axle, and perpendicular to axle.

- The suspension axle seat must be tight against the axle with no more than .063" gap at bottom. Best if the axle is in contact with the bottom of the axle seat.
- Weld sequence, size, and weld direction should be followed for proper installation.
- Back-weld .75" over the start/ends of all welds
- Fill all craters, avoid cold laps, and undercuts.
- Place 1" tack welds in the center forward of both suspension beams (1-2).
- Position and weld rear root pass (3-4)
- After root weld, hit tabs down for better 2nd pass
- Do not wrap welds over axle seat tabs, no weld .13" from ends on 3rd passes
- Weld rear 2nd & 3rd cover pass (5/6-7/8)

CXL-23 Liftable Auxiliary

- Position & weld front root pass (9-10)
- Weld front 2nd & 3rd cover pass (11/12-13/14)
- Optional, extra durability can be achieved by Hammer Penning after welding, use a 1/8" hardened ball end on weld and area.





CXL-23 Liftable Auxiliary

Dealer/Installer: Please remove this section, fax to Cush Corp. at 417-724-0126 then give to customer for records.

Date of Install:_____ Serial No:_____

Dealer Name:_____ VIN#:_____

Warranty

Cush Corp. warrants their suspension's fabricated structural components against failure under normal use for a period of 3 years from date of install by the original purchaser if registered with Cush at time of install, otherwise from the dated of manufacture. Under this warranty Cush Corp. will replace or repair any part that by its inspection if determined to be defective. In addition, for a period not to exceed 1 year*, Cush will provide a labor allowance, using guidelines, which it determines to be adequate to properly replace or repair defective structural parts and/or components within constraints as noted below.

All Parts and components thought to be defective must be returned with company authorization to Cush Corp, with the freight prepaid. These returns must be accompanied by a complete written explanation of claimed defects and circumstances of failure, the serial number, and date of installation. Labor allowance must be authorized by Cush Corp prior to initiation of repairs. Without preapproval from Cush Corp, all parts must be purchased for repairs.

*Purchased components and/or accessories other than the fabricated structure (axle and axle assemblies, air springs, wheel end equipment, brake and brake components, and air control parts) are warranted in accordance with warranty coverage provisions from date of installation.

Limitations

Cush corp. accepts no warranty responsibility for:

- Incidental or consequential damages or loss of time or profits resulting from product failure.
- Damage resulting from owner or operator abuse, misuse or neglect.
- Failure due to improper installation.
- Component parts manufactured by others for Cush Corp., beyond those companies' implied or expressed warranty.

Item	Months	Milage	Coverage
Major Structural Components	Up to 12m	Up to 100,000	Parts & Labor Allowance
	12m-36m	100,000-300,000	Parts Only
Pivot Bushing	Up to 12m	Up to 100,000	Parts & Labor Allowance
	12m-36m	100,000-300,000	Parts Only
Air controls	Up to 12m	Up to 100,000	Parts & Labor Allowance
Air Springs	Up to 12m	100,000-300,000	Parts Only
	12m-36m	Up to 100,000	Parts & Labor Allowance
Cush Manufactured Axle components	Up to 12m	Up to 100,000	Parts & Labor Allowance
	12m-36m	100,000-300,000	Parts Only
Other Suspension and Brake Components	Warranty as Provided by the Original Equipment Manufacturer		

Cush Corp. Preventitive Maintenance Intervals	Every 1,000mi	First 6,000mi	Every 12,000mi	Every 36,000mi	Every 50,000mi	Every 100,000mi
Inspectection Required						
Wheel Lubricant	*inspect*					
Wheel Endplay				*inspect*		
Brake Lining				*inspect*		
Brake Drum				*inspect*		
Brake Function				*inspect*		
Bushings				*inspect*		
Air Springs	*inspect*					
Structure	*inspect*					
Lubrication Required						
Brake Cam			*lube*			
Slack Adjuster			*lube*			
Re-Torque Required						
Wheel Nuts				*torque*		
All Fasteners on Suspension		*torque*			*torque*	
Replacement Required						
Wheel Lubricant						*replace*

Lubricant Recommendations

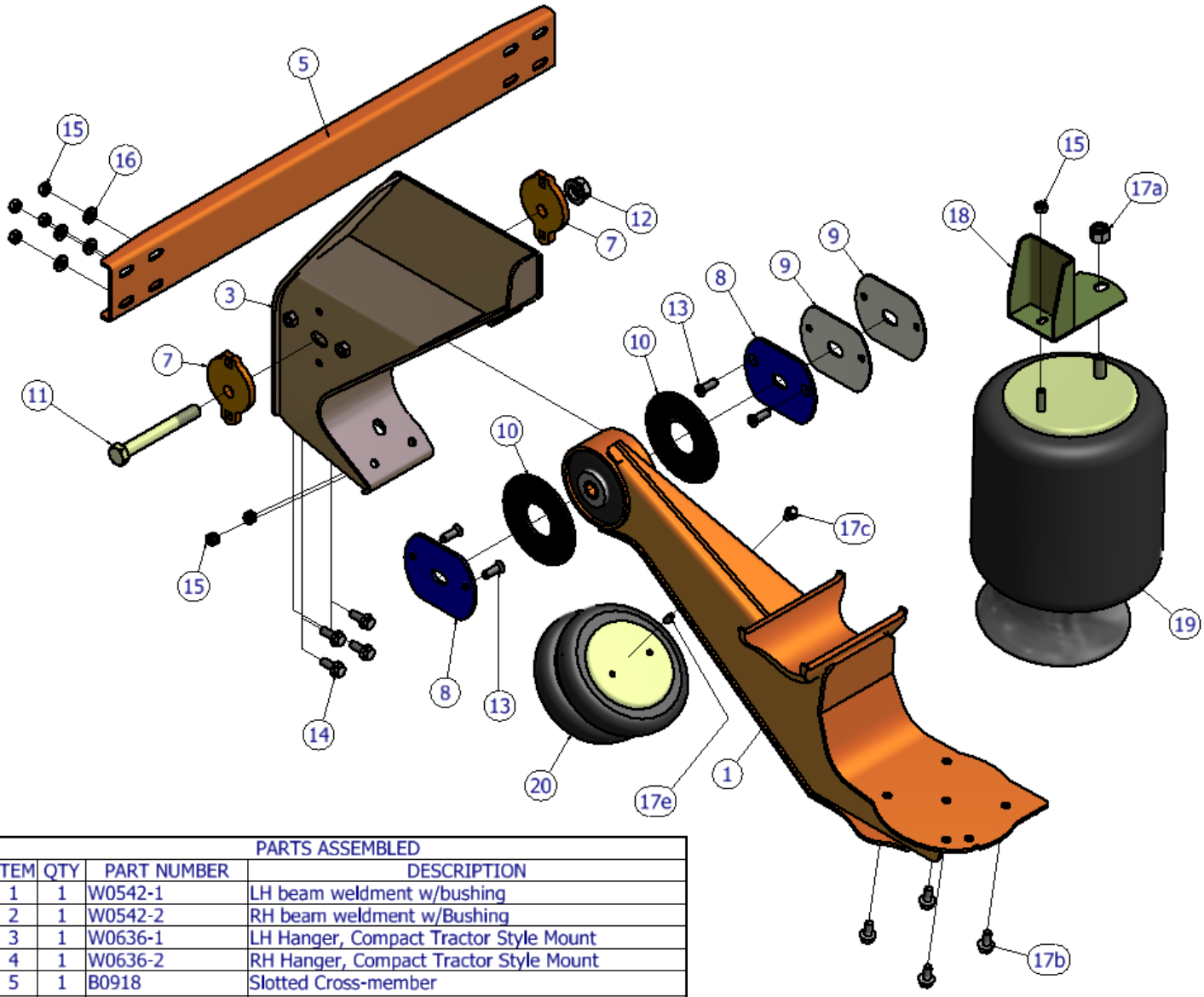
Wheel Lubricant-(API-GL-5 or SAE 80W-90 Mineral Based)

Brake Cam and Slack Adjuster- (NLGI 1 or 2)

Trouble Shooting Guide

Problem	Possible Cause	Remedy
Axle Will Not Stay Up	Loose Air Fittings	Check and Retighten
	Damaged Air Lines	Check for Escessive Wear. Replace if Worn or Damaged.
	Damaged or Worn Air Spring	
Punctured Load Air Springs	Other Components Too Close to Air Spring	Check for Clearance all Around Air Spring Move Anything Coming in Contact
Axle Not Tracking Properly	Front Alignment Collars Not Tight	Align Unit and Retorque Pivot Bolt.
	Arm Bushings Worn Out	Install New Arm Bushings
	Axle Seats Not Properly Installed to Axle	Check Axle Seat Location, If Improperly Installed Remove and Install Properly
Unit Not Getting the Correct Lift	Lift Air Bags Not Getting Proper Air Pressure	Check Systems Pressure and Check Air System Piping Drawing Refer to Control Schematic
	Interference With Chassis Drive Line Other Chassis and components	Inspect for Interference
	Unit Not Installed Properly	Check Installation With factory Installation Drawing

Parts Explosion CXL-23-A09



PARTS ASSEMBLED			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	W0542-1	LH beam weldment w/bushing
2	1	W0542-2	RH beam weldment w/Bushing
3	1	W0636-1	LH Hanger, Compact Tractor Style Mount
4	1	W0636-2	RH Hanger, Compact Tractor Style Mount
5	1	B0918	Slotted Cross-member
6	2	F0626	Pivot Bolt Mounting Boss
7	4	F0552	Pivot Bolt Boss & Alignment Gear
8	4	F0708	Shim Plate 1/4" Thick, inside hanger
9	4	F0709	Shim Plate 1/8" Thick, inside hanger
10	4	C0314	UHMW Narrow Bush Washer
11	2	H0135	HCS 7/8"-9 UNC x 7.5" long, Grd 8
12	2	H1101	7/8"-9 UNC SecureLok Flanged Nut (550 ft*lbs)
13	8	H0308	SFCHC Screw 1/2-13 UNC x 1.5"lg (50 ft*lbs)
14	8	H0309	HFS 1/2-13 UNC x 1.25"LG (50 ft*lbs)
15	8	H1302	Nut 1/2"-13unc Toplock (50 ft*lbs)
16	8	H2204	1/2" Washer, SAE Zinc
		Box of Packaged	Parts Below (Air Springs Seperate)
17	1	K0450	Bolt Kit (Bagged Seperatley)
17a	2	H1202	L'NUT 3/4"-10UNC_Nylock (50 ft*lbs)
17b	8	H0304	HFS 1/2-13 UNC x 1"LG (50 ft*lbs)
17c	2	H0401	HCS 3/8"-16 UNC x 0.75"LG (35 ft*lbs)
17d	6	H1302	Nut 1/2"-13unc Toplock (50 ft*lbs)
17e	2	H0400	Set Screw 3/8" - 16 x 1"lg
18	2	W0543-U	Upper air spring mounting bracket
		Air Springs Below	Provided by PDC or CUSH
19	2	C0312	Air Spring(GY1R12-363 or Conti 910D-21A363)
20	2	C0080	Lift Spring (GY 2B9-251/Cont FD20025429)

Bushing Kit per W0542 Beam: VS-26321-1