

CUSH GENERAL INSTALLATION NOTES, SEE CUSH SERVICE/INSTALLATION MANUAL

INSTALLATION DISCLAIMER NOTES:

- 1) It is important that the proper Cush suspension is chosen for the trailer application. The following criteria must be considered when selecting a suspension: required suspension capacity, loaded frame-to-ground measurement, ride height, axle travel, axle spacing, and axle GAWR.
- 2) It is the responsibility of the installer to determine the correct location of the suspension in order to provide the proper trailer load distribution. The gross axle weight rating (GAWR) of each axle must not exceed the rated capacity of any of the components involved. The suspension capacity ratings are for suspension components and axle beam only.
- 3) Required cross member locations maybe shown. Actual size and shape may vary per trailer design. It is the responsibility of the suspension installer to ensure structural adequacy of the trailer frame and related cross members. Verify that the actual trailer cross member locations correspond with those specified on the suspension drawing.
- 4) It is the responsibility of the suspension installer to read the instructions on all the drawing sheets thoroughly before proceeding with a suspension installation.

CUSTOMER TORQUE INSTRUCTIONS:

- 1) *DUAL RATE PIVOT BUSHING JOINT SNUG FROM FACTORY. CUSTOMER TO TORQUE THIS JOINT TO SPECIFICATION AFTER AXLE ALIGNMENT.
- 2) It is the customer's responsibility to check and tighten fasteners to specified torque at installation, after the suspension has been in operation for 3000 miles, and at suspension inspection cycles. Failure to do so can result in loss of warranty.
- 3) Torque values given are specified for the fasteners in the condition supplied by Cush Corporation. DO NOT APPLY ANY ADDITIONAL LUBRICANTS.
- 4) CAUTION: Fasteners should never be reused if removed or loss of clamp load occurs. For proper joint clamping contact Cush for replacement fasteners.
- 5) CAUTION: Over-torquing fasteners could result in material failure.

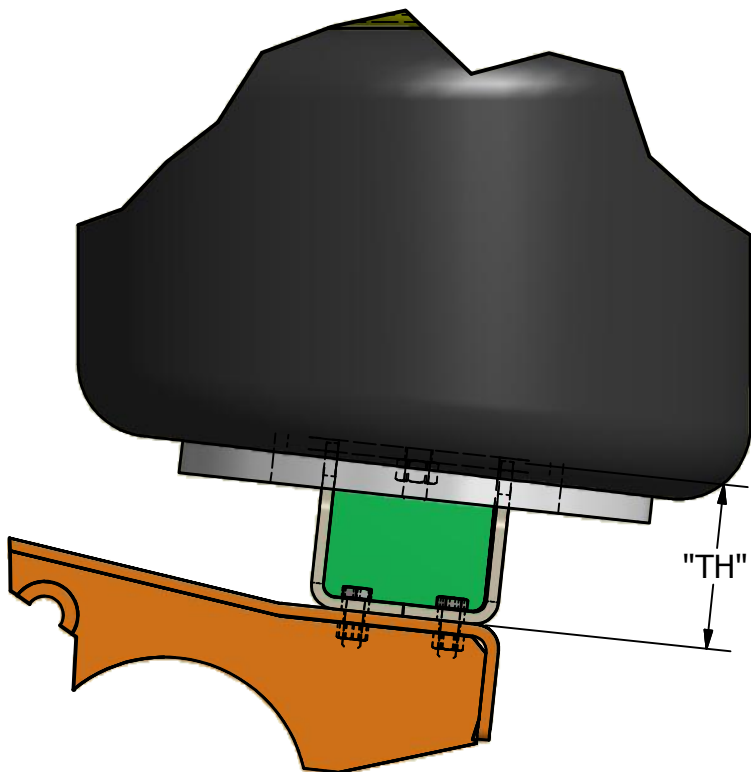
DUAL ECCENTRIC ALIGNMENT NOTES:

OVERVIEW: The DUAL ECCENTRIC pivot joint features outside eccentric cam gear washers that cover the alignment slot, Final axle alignment is required for proper bushing and tire wear.

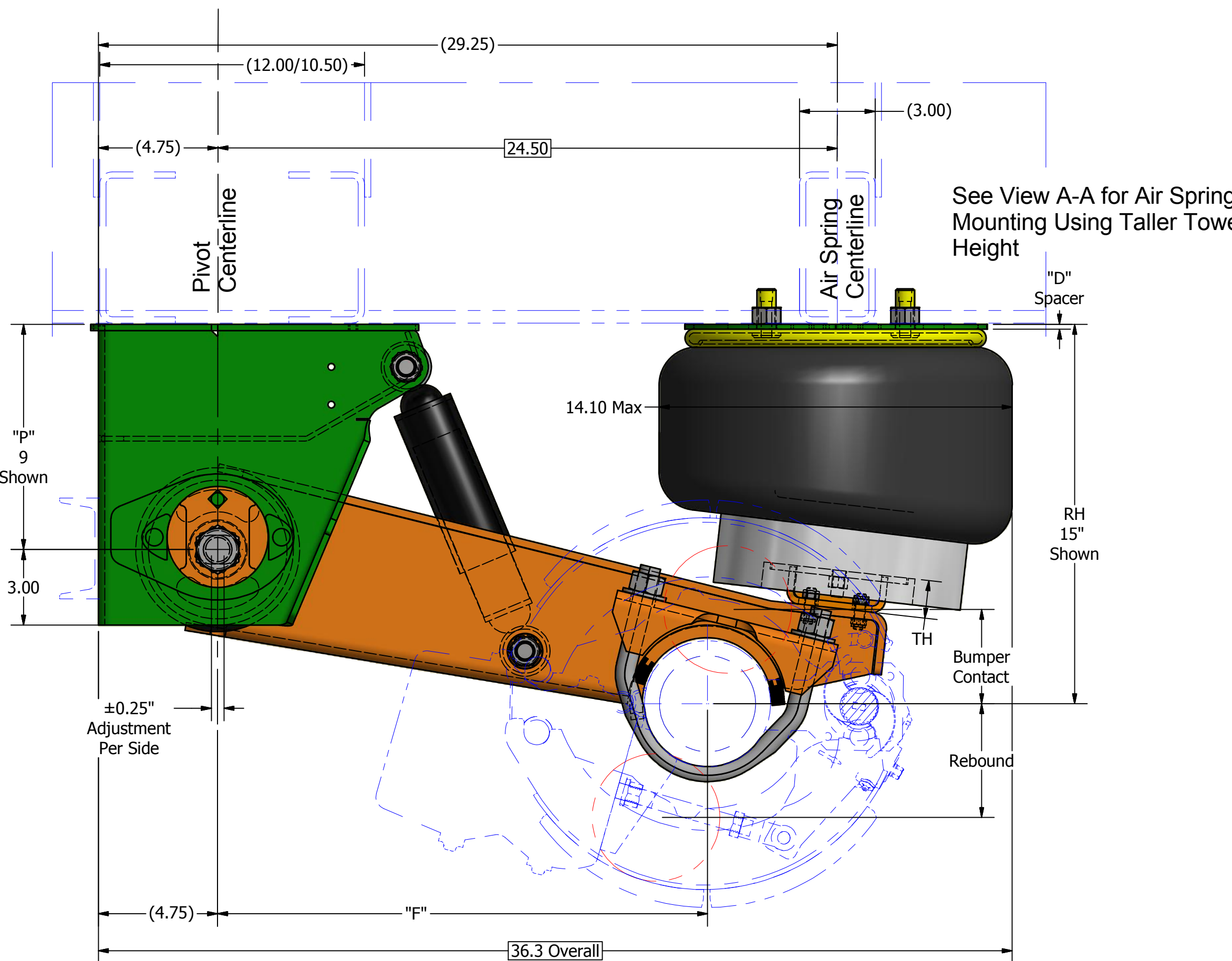
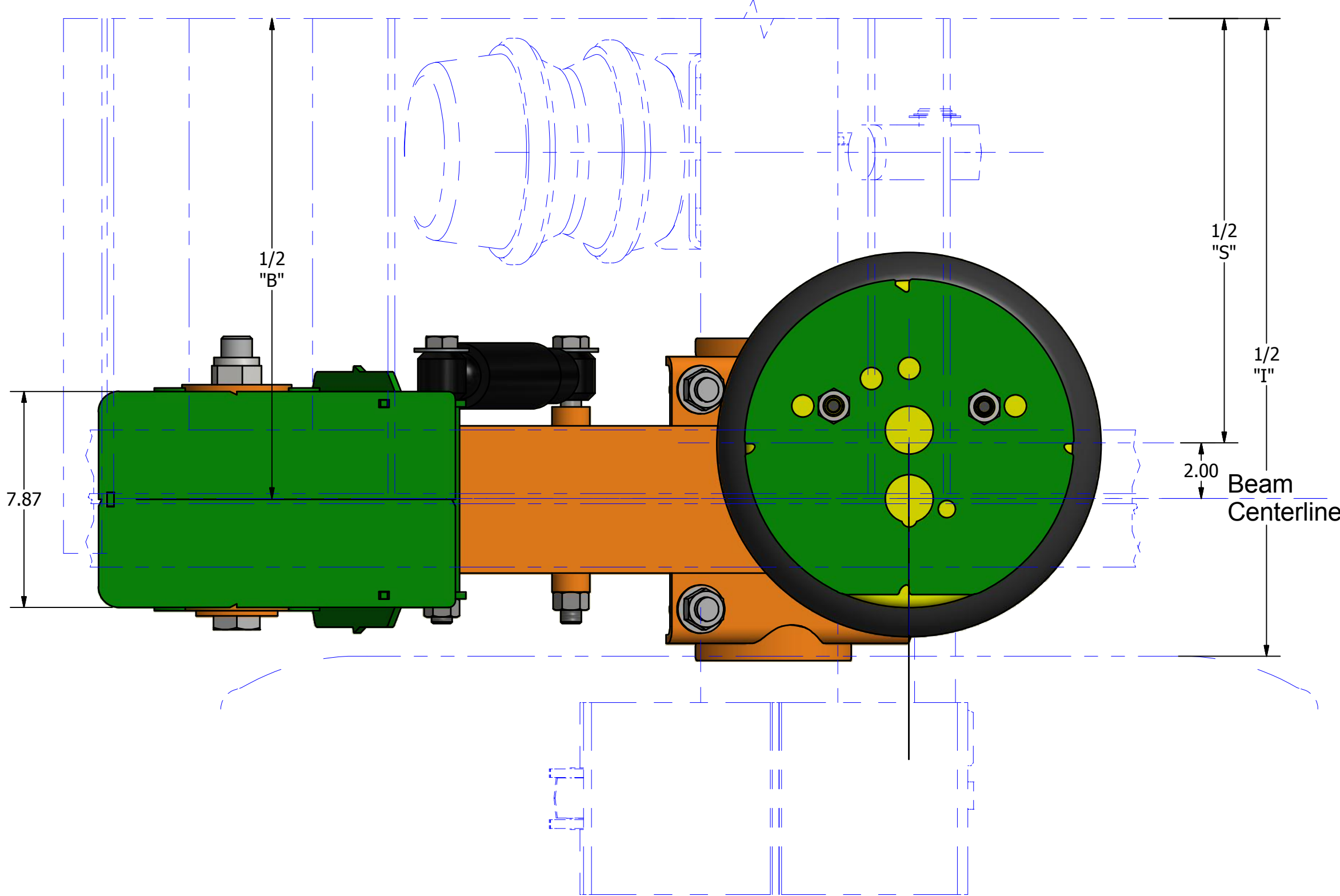
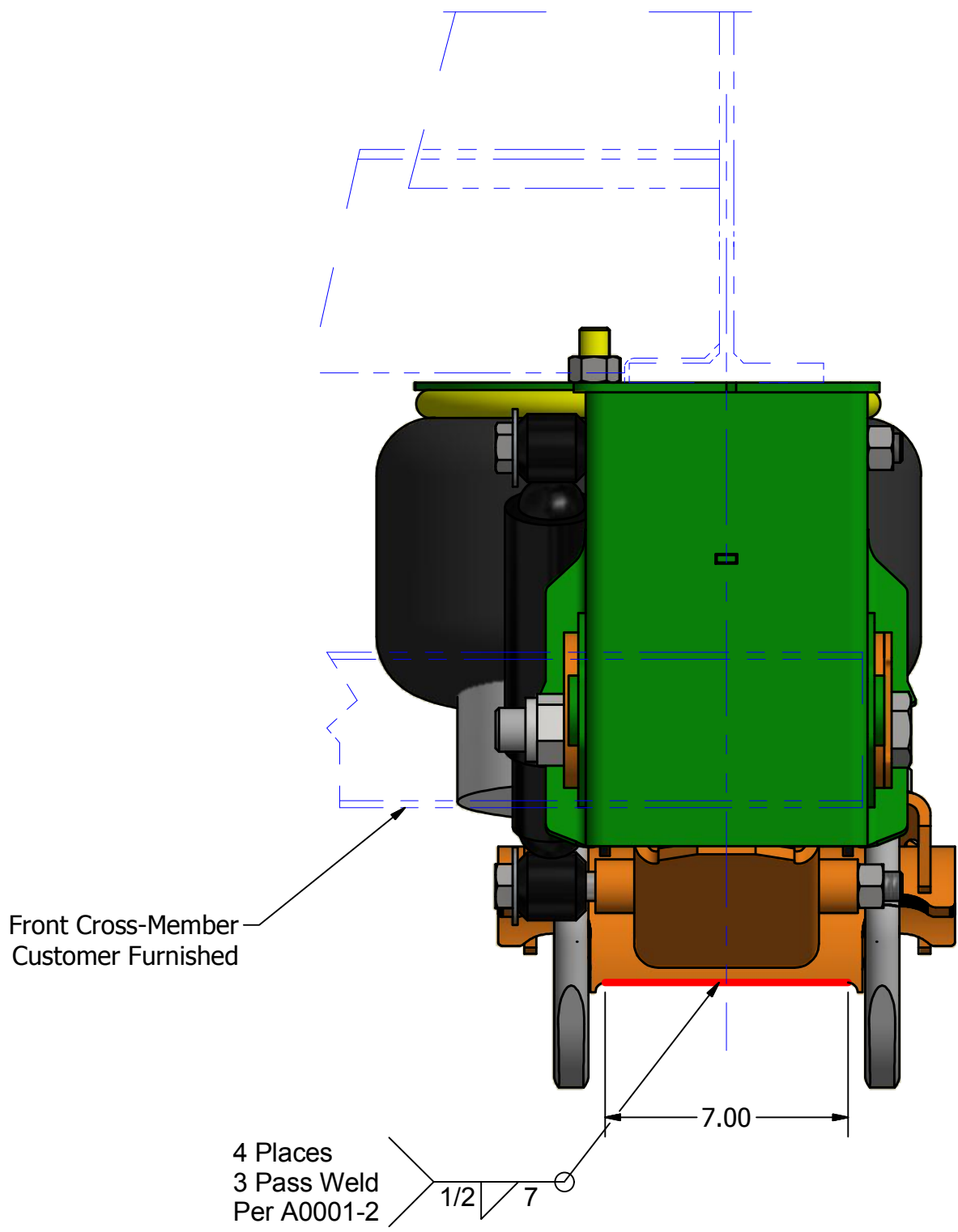
CAUTION: DO NOT APPLY undercoating to the area until after alignment and torque of the pivot bolt.

CAUTION: With dual eccentric alignment both gears at the pivot must be moved/adjusted together at the same time and in the same direction. If not adjusted together on the same hanger this may lead to an improper pivot joint clamp and cause failure.

- With both pivot bolts snug and suspension at ride height.
- For adjustment, use (2) 1/2" square-drive breakover bars or ratchet to move the axle forward/rearward on one hanger at a time. Must move inside and outside gears together for adjustment. The square Adjustment Holes must line up side to side on each hanger.
- The Slot gives you 1/4" pivot movement fore and aft per hanger side.
- Start with the eccentric gears in the neutral position with the 1/2" adjustmnt square at 12 o'clock and lined up with the inset 1/4" plug hole, you can use a 1/4" round bar to check.
- To align the axle, move both sides of the suspension gears to get the axle aligned. If needed, go to the other side of the suspension and move in the gears in the opposite direction to fully align the axle to within 1/16".
- After alignment, clamp the joint per Cush torque specifications.
- After alignment, the suspension installer can weld the gears to the hanger side with 1/2" welds at 12 & 6 o'clock to prevent tampering & for off-road applications.



View A-A
Air Spring Lower Tower Height
"TH" = 3.5" Shown
For T17_16"/18" Ride Heights



INSTALLATION NOTES:

- 1) Measure trailing arm centers and track to verify your requirements.
- 2) DO NOT APPLY undercoating to the suspension until after completing the alignment. Undercoating will effect clamp load of the pivot connection fastener and can damage the hardware.
- 3) Mount hangers onto trailer frame per suspension drawing sheets.
- 4) Place plastic washers on both sides of bush inner metal and insert spacer collars into bush inner sleeve.
- 5) Measure for fitup then mount Cushride trailing arm/axle assembly into suspension hangers.
- NOTE: If the assembly fits tightly, it may be necessary to spread the mounting. DO NOT GRIND material from suspension components.
- 6) Place "-Align" gear washer, with indicator in neutral position, and insert pivot bolt/washer
- 7) Mount pivot washer/nut and torque joint for a snug fit.
- 8) Adjust "-Align" for proper axle track alignment.
- 9) Torque bushing pivot bolts per Cush torque instructions.

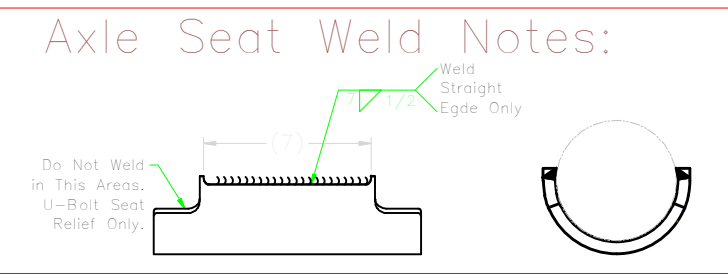
NOTE: Failure to follow the procedures in the Cush Service and Installation manual and/or properly torque the pivot fasteners at this time can result in a failed pivot connection and a loss of warranty coverage!

General Application Dimension Variables - Installation Clearance Notes Supersede all Common Variables Shown						
"B" Ref. Suspension Beam(Hanger) Centers	34	35	40	41	40	39
"S" Ref. Air Spring Centers (2" inset/side)	30	31	36	37	36	35
"T" Ref. Axle Track	71.5"	71.5"	76.5"	77.5"	77.5"	77.5"
"C" Approx. Chamber Centers for 16.5" x 7" Brake	9.75	9.75	14.75	15.75	15.75	15.75
"T" Ref. Inside of Tires Min (Hanger Style)	46.5	46.5	51.5	52.5	52.5	52.5
Installation Clearance Notes						
1	0.75" minimum clearance must be maintained around air spring when it is at maximum diameter.					
2	It is the responsibility of the installer to ensure that proper clearances exist at the tires: 1" minimum clearance required between top of tire and bottom of trailer structure when axle is at full jounce, 2" minimum clearance required between inside of tire and trailer frame structure for lateral movement, and there should be ample fore and aft clearances. 0.25" clearance is recommended between suspension beam and brake s-cam shaft.					

Part No.	(in)	Bumper			Top Spacer	Hanger Pivot	Horz Pivot to Axle	Beam Tower
Suspension Model & RH	HT	Deflection	Down REB'D	up BUMPER CONTACT	Height "D" (in)	Height "P" (in)	"F" (in)	Height "TH" (in)
CP25TB15	14.0"	3.0"	5.5	2.75	0.18	9	19.7"	1.5
	14.5"	3.5"	5	3.25	0.18	9	19.5"	1.5
Shown	*15.0"	4.0"	4.5	3.75	0.18	9	19.4"	1.5
	15.5"	4.5"	4	4.25	0.18	9	19.2"	1.5
	16.0"	5.0"	3.5	4.75	0.18	9	19.0"	1.5
	16.5"	5.5"	3	5.25	0.18	9	18.8"	1.5
CP25TB16	15.0"	3.0"	5.5	2.75	0.18	10	19.7"	2.5
	15.5"	3.5"	5	3.25	0.18	10	19.5"	2.5
	16.0"	4.0"	4.5	3.75	0.18	10	19.4"	2.5
	16.5"	4.5"	4	4.25	0.18	10	19.2"	2.5
	17.0"	5.0"	3.5	4.75	0.18	10	19.0"	2.5
	17.5"	5.5"	3	5.25	0.18	10	18.8"	2.5
CP25TB17	16.0"	3.0"	5.5	2.75	0.18	11	19.7"	3.5
	16.5"	3.5"	5	3.25	0.18	11	19.5"	3.5
	17.0"	4.0"	4.5	3.75	0.18	11	19.4"	3.5
	17.5"	4.5"	4	4.25	0.18	11	19.2"	3.5
	18.0"	5.0"	3.5	4.75	0.18	11	19.0"	3.5
	18.5"	5.5"	3	5.25	0.18	10	18.8"	3.5

AXLE WELDING NOTES: See Cush Procedure A0001-3:

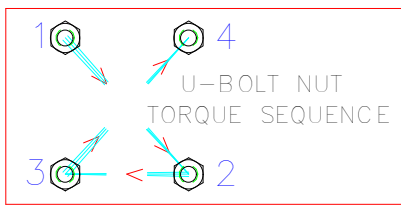
- WARNING: Review Cush Recommended Steel Welding Procedures
- 1) Suspension components and their mating parts must be at a minimum temperature of 60°F(15.5°C) and free from moisture, dirt, scale, paint, grease, and other contaminants.
- 2) For the best axle to beam weld joint use the following wire.
- Axle Weld Wire: AWS ER70S-6
- 3) Create the root pass to connect the axle to the trailing arm beam on the straight edge weld. Hit the axle seat tabs down to the axle to give you parent metal for pass 2 and 3. Finnished axle weld should be a multi-pass 1/2" weld.



U-BOLT INSTALLATION NOTES:

- WARNING: Do not apply any lubricants to the u-bolts
- 1) U-Bolts should only be installed and torqued after completion of axle welding. Allow sufficient axle cooling time before applying torque to u-bolts.
- 2) Snug u-bolts evenly before applying torque. Check that u-bolts are parallel and square to axle.
- 3) Torque u-bolts in a three step process to avoid an improperly clamped axle and resulting damage. Torque the u-bolts in an "X" pattern with each torque step (1-2-3-4). This allows the u-bolt to stretch/relax and hold torque. Proper tightening will allow equal amount of tread above each nut.

First Step-1/3 of Final torque
Second Step-2/3 of Final torque
Third Step-Final torque



ORIGINAL-INSTALLATION INSPECTION NOTES, verify that:

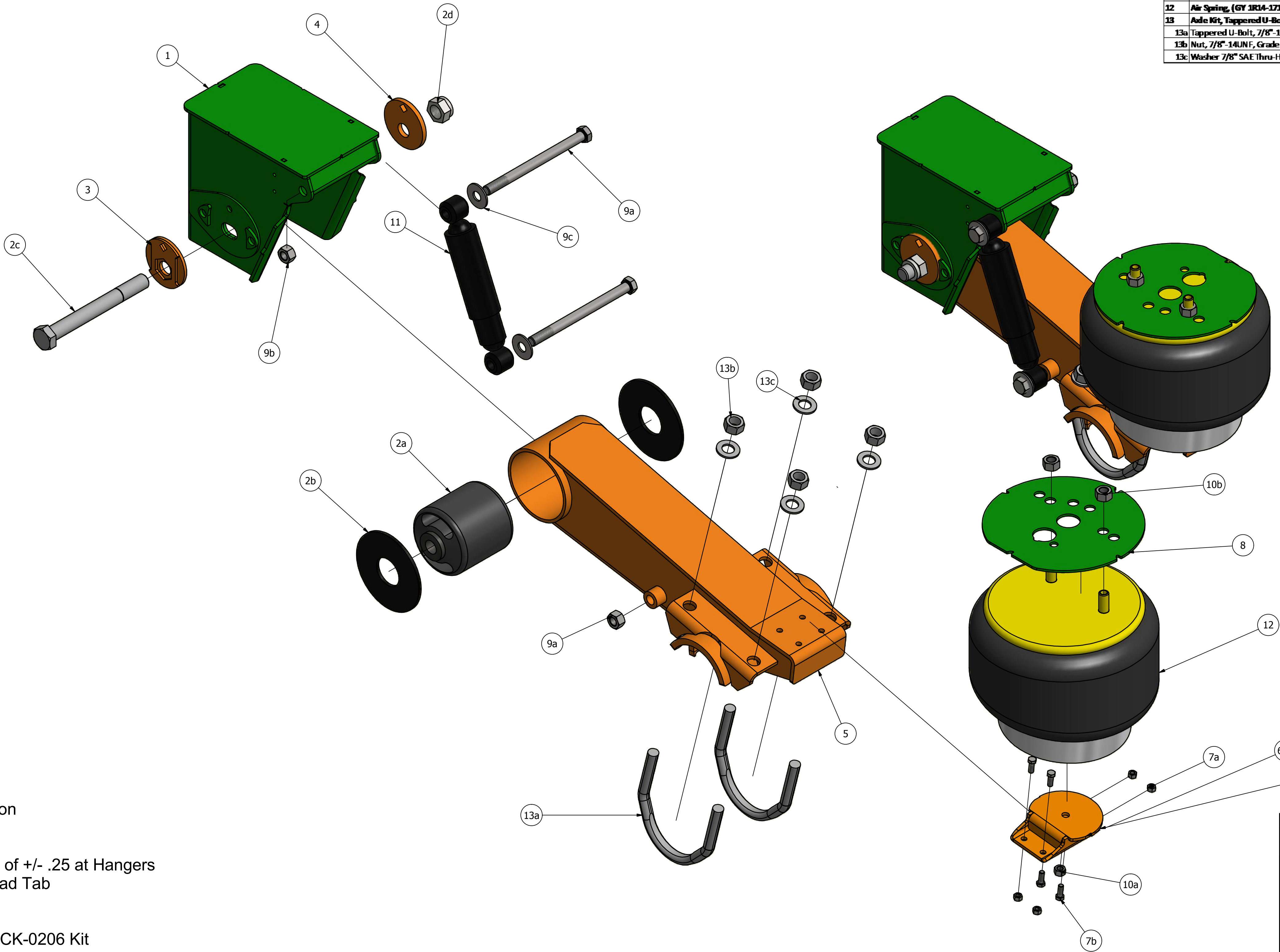
- 1) The installation clearance requirements have been met.
- 2) The axles have been aligned properly.
- 3) The suspension frame bracketry and air spring plate welds have been properly completed per specifications.
- 4) All suspension bolt torques are to Cush specifications.
- 5) The suspension ride height is set properly.
- 6) The suspension can articulate freely through its entire travel and adequate component clearances have been provided.

INSPECTION: 30-DAY, 90-DAY, & at every brake lining change.

- 1) Check installation clearance requirements.
- 2) Check for any signs of wear or component interferences.
- 3) Check suspension attachment welds for signs of problems.
- 4) Check that all bolts are in place and securely torqued.
- 5) Check pivot bushings & clamping connections for problems.
- 6) Check that the trailer is level.
- 7) Check tire wear that might indicate an alignment problem.


MODEL: CR25TB				(Ft*Lbs)		(Nm)	
Fastener Torque Specs	Size	Thread	Grade	Min.	Max.	Min	Max.
Air Spring Tower Mount Nut	3/8	16-UNC	5/B	30	45	41	61
Air Spring Bottom Mount TopLock Nut	1/2	13-UNC	5/B	25	35	34	47
Air Spring Top Mount Nut	3/4	16-UNF	5/B	40	50	54	68
Shock Mount Nut/Bolt	3/4	10-UNC	5/B	210	235	285	319
U-Bolt Nut	7/8	14-UNF	8/C	475	525	644	712
Roughneck Pivot Bolt & Nut	1 1/8	7-UNC	8/C	800	1100	1085	1491

ITEM	DESCRIPTION	QTY	CR25TB-015	CR25TB-016	CR25TB-017
1	Weld on Hanger, Roughneck Style with 1/2" adjustment and 1-1/8" pivot bolt	2	W1251	W1251-10	W1251-11
2	Pivot Bushing Kit (Per Hanger Side L/R)	2	K0640		
2a	Bushing, 6.75" long, 1.125" ID	1	C0635		
2b	Wear Washer, 1/4" Thick	2	C0061		
2c	HHCS 1 1/8"-7 UNC x 10" Long, Grade 8	1	H0150		
2d	Nut, Unitorque, Hex, 1 1/8"-7 UNC, Factory Wax, Grade C	1	H1109		
3	Alignment Gear Welded for captured Hex	2	W1266		
4	Alignment Gear 4" OD	2	F1294-38		
5	Universal Beam Assembly for Bolt on Tower 5" Round U-Bolted	2	W0774-3		
6	Urrv Bolt-On Air Spring Tower/ Beam Spacer	2	W0776-1.5	W0776-2.5	W0776-3.5
7	Kit, Air Spring Tower Mounting	1	K0419		
7a	L'Nut, Top Lock 3/8"-16UNC	8	H1404		
7b	HHCS Bolt 3/8"-16UNC x 1" Long	8	H0701		
Box of Parts					
8	.19" Tall Space, Weld-On Plate, Large	2	F0407		
9	Hardware Kit, Mounting for Shocks	1	K0025		
9a	HHCS, 3/4"-10UNC x 10" Long, Grade 5	4	H0225		
9b	Nut, Top Lock, 3/4"-10UNC, Grade C	4	H1201		
9c	Washer 3/4" ID, USS	4	H2203		
10	AS Hardware Kit, Bagged Together	1	K0030		
10a	Top Lock Nut 1/2"-13UNC	2	H1301		
10b	L'Nut, Nylock 3/4"-16UNF	4	H1202		
11	Shock 14.5" Max/10.1" Min (Dana# SR1V1100/Gabriel H85045)	2	C4045		
12	Air Spring, (GY 1R04-171/Conti 11_10.5A-16 P523/FS W01-358-8281)	2	C0064		
13	Ade Kit, Tapered U-Bolt w/ Nuts and Washers	4	K0338		
13a	Tapered U-Bolt, 7/8"-14UNF x 5" Round x 7 3/4" Long, Grade 8	1	HU107		
13b	Nut, 7/8"-14UNF, Grade 8 Plain	2	H1108		
13c	Washer 7/8" SAE Thru-Hard	2	H2101		



Roughneck Features
U-Bolted & Weld Axle Connection
HD Pivot Bolt & Nut
HD Boxed Hanger
Dual Eccentric Axle Adjustment of +/- .25 at Hangers
Outside Gear Captured Bolt Head Tab
Dual Bushing Wear Washers
Integrated Shock Mounting
Integrated HCV Mounting, for ACK-0206 Kit

Assy. Note:
Mount Tower
after U-Bolt Torqued

DCN#	A	Updated to Color Layout				2/3/15	DJW	CHK	APP
DRAFTSMAN: DJW	12/1/2014	TITLE: Part List Installation Sheet Cush Roughneck Top Mount 25K U-Bolted Seat With Acc Adjustment Weld-On, Wingless Hanger Mount							
CHECKED: CHK									
RELEASED: APP									
WEIGHT: N/A									
MATERIAL:									
All of the Information shown herein is the intellectual property of Cush Corp and is submitted only on a confidential basis. The recipient agrees that no disclosure of this information will be made to a third party without written consent of Cush Corp.		TOLERANCE UNLESS OTHERWISE STATED: XX = +/- .062 FRACTIONS = +/- 1/16 XXX = +/- .031 ANGLES = +/- 1°				Nixa, MO, USA PHONE: 417-724-1239 www.cushcorp.com			
		PROJECT NO: 14200	SHEET: 2 OF 2	SCALE: A-SIZE: NTS B-SIZE: 1/X D-SIZE: 1/4	REV: A	PART/DRAWING NO: CR25TB(15/16/17)			