

**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 may be 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.

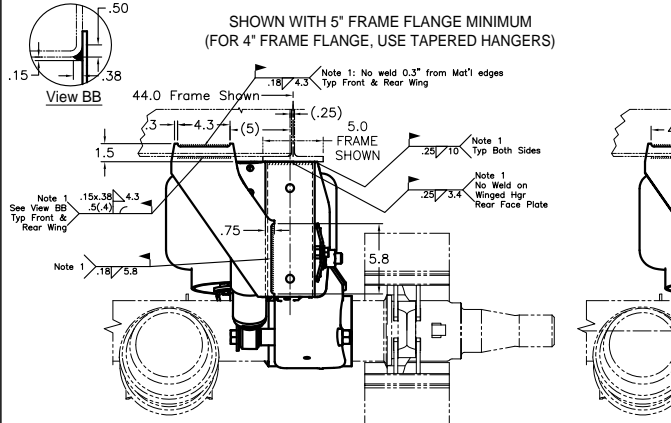
**CUSTOMER TORQUE INSTRUCTIONS:**  
 1) It is the customer's responsibility to check and tighten fasteners to specified torque at installation, after the suspension has been in operation for 3000 miles, and at suspension inspection cycles. Failure to do so can result in loss of warranty.  
 2) Torque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

Customer to torque fasteners on nut side, except Shear-off Bolt Head.

General Fastener Torque Specs	Size	Thread	Grade	Min.	Max.	Min.	Max.
Lower Tower Spacer Bolt/Nut	3/8"	16-UNC	5/B	25	35	34	47
"B-Aligned" Ring Lock Bolt	1/2"	13-UNC	5/B	25	35	34	47
Air Spring Bottom Mount TopLock Nut	1/2"	13-UNC	5/B	50	60	68	81
Frame Mounting Bolt/Nut	1/2"	13-UNC	8/C	100	120	136	163
Brake Chamber Mounting Nut	5/8"	11-UNC	5/B	100	110	136	149
Cross-brace & Frame Mounting Bolt/Nut	5/8"	11-UNC	8/C	170	210	230	285
Air Spring Top Mount Nylock 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
AudiTorx® Shear-off Bolt Head (SecureLok™ Nut)	7/8"	9-UNC	8/C	550	600	746	813

**INSTALLATION OF "B-Aligned" NOTES:**  
**OVERVIEW:** The "B-Aligned" pivot joint features outside eccentric cam gear washer that cover the alignment slot. The "B-Aligned" was designed to give our customers extra pivot integrity with the addition of the optional locking ring and a more familiar alignment means with the use of an eccentric cam adjustment.

- CAUTION: DO NOT APPLY** undercoating to the "B-Aligned" area until after alignment and torque of the pivot bolt.
- If you have the optional ring lock plate, loosen the ring lock bolts to allow eccentric cam movement.
  - The eccentric cam gear should always have the 1/2" square hole to the top.
  - Set the square hole indicator at 12 o'clock, the neutral position. Loosen the ring lock bolts and snug the pivot bolts of the "B-Aligned" 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 or any air gap due to debris.
  - For adjustment, use a breaker bar in the 1/2" square hole.
  - The "B-Aligned" gives you 3/8" pivot movement fore and aft per hanger side. (see Installation Manual)
  - To align the axle, rotate the alignment gear of one side of the suspension to get the axle aligned. If needed, go to the other side of the suspension and rotate the alignment gear in the opposite direction to fully align the axle.
  - After alignment, clamp the pivot joint per Cush torque specifications and tighten the ring lock plate fasteners.
  - After alignment, the suspension installer can tack the outside washer to the hanger side with 1/2" welds to prevent tampering & for off-road applications. The ring lock can also be used instead of welding.



**STRAIGHT FRAME HANGER W/FRONT GUSSETS (Add 8# to Unit Wt.)**  
**Option "XF":** frame hanger front gussets for Weld-on Hangers  
 If customer chooses other hanger support means, then customer must be certain the trailer frame and hangers are properly supported.  
 (Temporarily use cross-brace VH-29822 with spacer washer as installation Jig.)

GSAW Rating <sup>2</sup>	Axle Capacity	Axle Wall	HN AXLE WEIGHT CHART (Add 4 Lbs for HP Type)	Track Width "T" (In)	71.5	77.5	73.0	83.0
25 K	24 K	0.5"	Axle Beam Weight (Lbs)	288	300	291	311	
				<sup>1</sup> Axle Capacity refers to axle beam rating at 15.2" offset. Ratings for brakes and wheel-end components vary with <sup>2</sup> Suspension and axle ground load weight rating (GSAW) is equal to axle beam rating + unsprung weight				

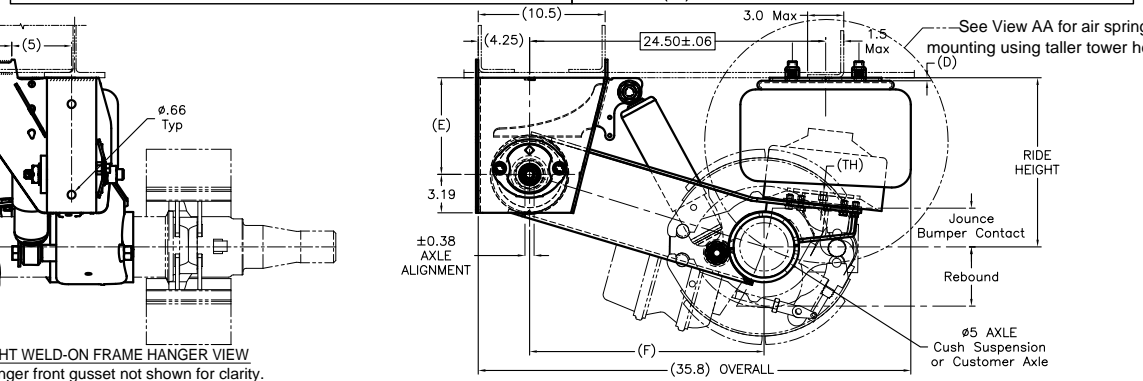
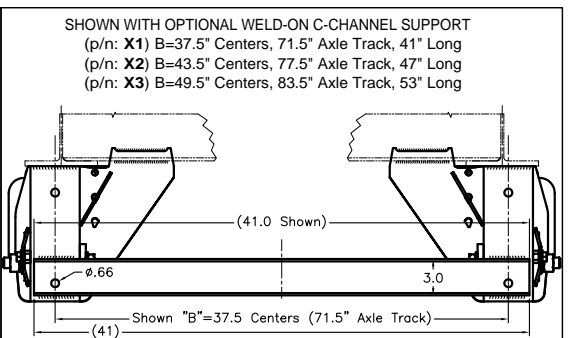
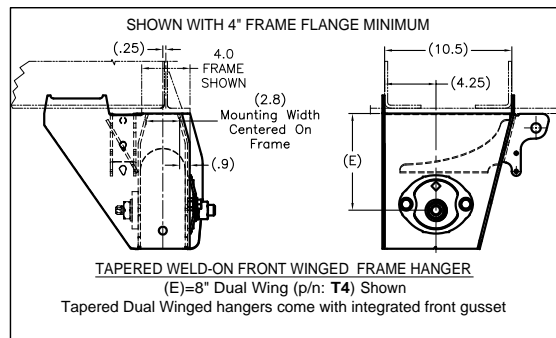
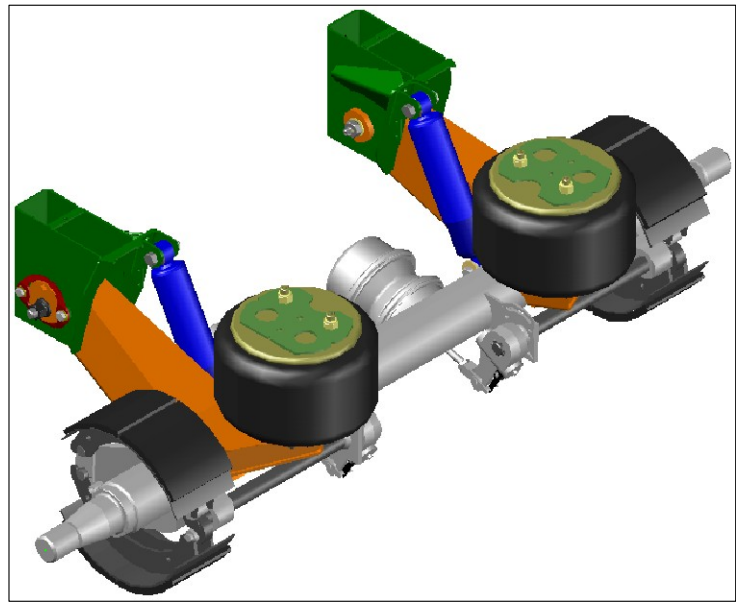
	(-0.5")				Top	Hanger	Horz	Beam	WEIGHT	Unit Weight
Weld-on	Bumper				Spacer	Pivot (P)	Pivot to	Tower	Suspension	Strt-Wing
Suspension	Deflection	(In)	BUMPER	Height	Height	Height	Axle	Height	Strt-Wing	71.5" Track
Model_RH	HT	JOUNCE	REB'D	CONTACT	"D" (In)	"E" (In)	"F" (In)	"TH" (In)	Weld-on	CLT-25
CLT25W_14	13.5	3.2	5.9	2.7	0.25	8	19.5	1	236	524
	14	3.7	4.9	3.2	0.25	8	19.4	1	236	524
	15	4.7	3.9	4.2	0.25	8	19.1	1	236	524
CLT25W_15	15	3.6	3.9	3.1	0.25	8	19.2	2.3	237	525
CLT25W_16	16	3.7	4.5	3.2	0.25	10	19.4	3	246	534
	17	4.7	3.5	4.2	0.25	10	19.1	3	246	534
CLT25W_16TS	16	3.7	4.5	3.2	2.25	10	19.4	3	262	550
CLT25W_17	17	3.6	3.5	3.1	0.25	10	19.2	4.3	247	535

<sup>1</sup> Suspension weights: 16.5" x 7" brakes, do not include any front hanger support structure, or customer added frame bracket front gusset.

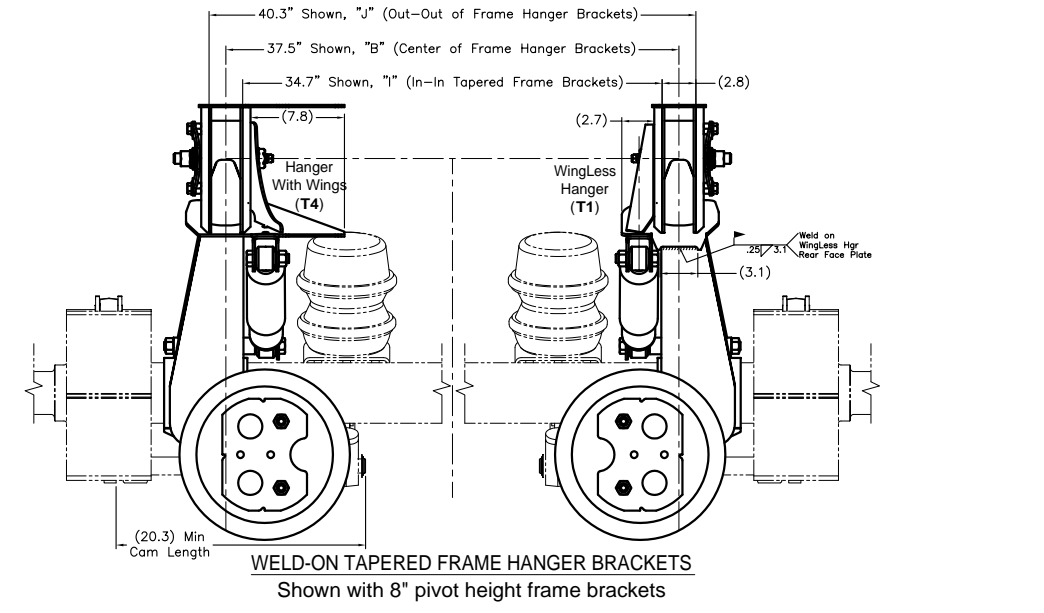
**ORIGINAL-INSTALLATION INSPECTION NOTES,** verify that:  
 1) The installation clearance requirements have been met.  
 2) The axles have been aligned properly.  
 3) The suspension frame bracketry and air spring plate welds have been properly completed per specifications.  
 4) All suspension bolt 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.

**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. 0.13" clearance is recommended between suspension beam and brake s-cam shaft.

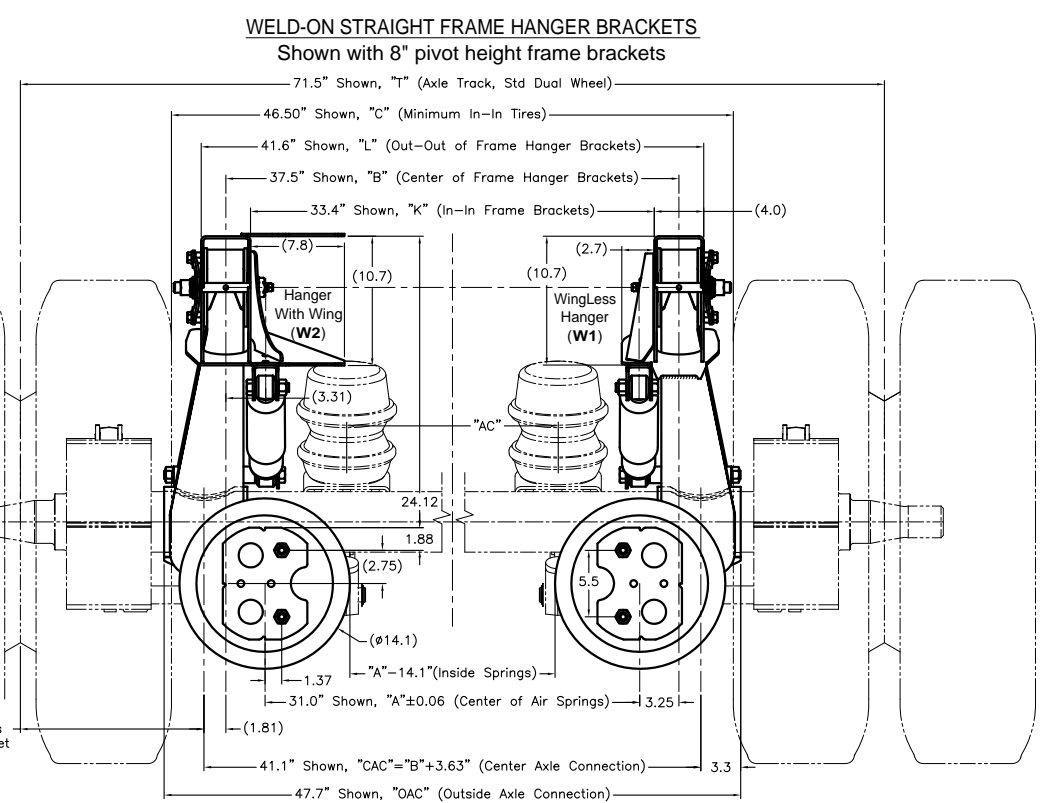
Model ID	Hanger (E)=8"	Hanger (E)=10"
Weld-on, Wingless, Straight, No Front Gusset	W1	W5
Weld-on, Wingless, Straight, With Front Gusset	W2	W6
Weld-on, Winged, Straight, No Front Gusset	W3	W7
Weld-on, Winged, Straight, With Front Gusset	W4	W8
Weld-on, Tapered, Wingless, No Front Gusset	T1	T5
Weld-on, Tapered, Wingless, With Front Gusset	T2	T6
Weld-on, Tapered, Winged, No Front Gusset	T3	T7
Weld-on, Tapered, Winged, With Front Gusset	T4	T8



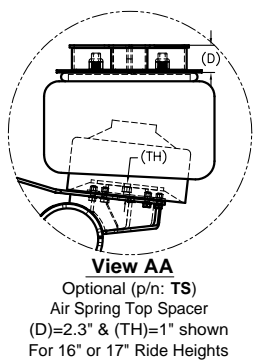
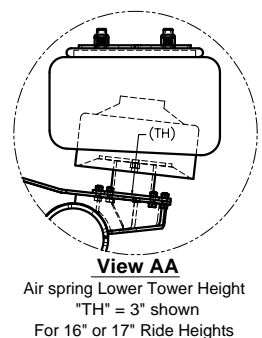
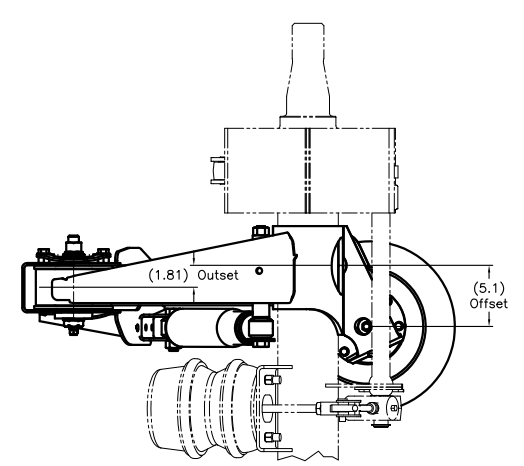
**WELD-ON STRAIGHT WINGED FRAME HANGER BRACKET (E)=8" Dual Wing (p/n: W4) Shown**  
 See Chart for Tabulated Dimensions Shown Above



**WELD-ON TAPERED FRAME HANGER BRACKETS**  
 Shown with 8" pivot height frame brackets



Track Width "T" (In)	Axle Track, Dual Wheel, Std Offset	71.5	77.5	83.5
Dimension "A" (In)	Center of Air Springs	31.0	37.0	43.0
Dimension "B" (In)	Center of Frame Hanger Brackets	37.5	43.5	49.5
Dimension "C" (In)	Minimum In-In Tires	46.5	52.5	58.5
Dimension "I" (In)	In-In Inside Tapered Frame Brackets	34.7	40.7	46.7
Dimension "J" (In)	Out-Out of Tapered Frame Brackets	40.3	46.3	52.3
Dimension "L" (In)	Out-Out of Frame Hanger Brackets	41.6	47.6	53.6
Dimension "AC" (In)	Air Chamber Centers Max	17.8	23.8	29.8
Dimension "CAC" (In)	Center Axle Connection	41.1	47.1	53.1
Dimension "OAC" (In)	Outside Axle Connection	47.7	53.7	59.7



DRAFTSMAN: jmk 5/1/10  
 CHECKED: [ ]  
 RELEASED: [ ]  
 APPROX. WEIGHT: See Chart  
 MATERIAL: SEE PART DWGS.  
 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. This design protected by Cush patents or patents pending.

APPLICATION INSTALLATION SHEET  
 Cush AngledBeam NarrowBush TopMount  
 25,000# Gross Suspension Weight Rating  
 25K 5" Rd Axle Beam, 20.4" Lg Cams  
 Weld-on Hanger Straight or Tapered

TOLERANCE UNLESS OTHERWISE STATED:  
 .X = +/- .12  
 .XX = +/- .062  
 .XXX = +/- .031  
 ANGLES = +/- .1°

SCALE:  
 A-SIZE  
 B-SIZE 1:8  
 D-SIZE 1:4

REV: [ ]  
 BY: [ ]  
 DATE: [ ]  
 PART/DRAWING NO: [ ]

**A CLT25W-RH\_SPEC**