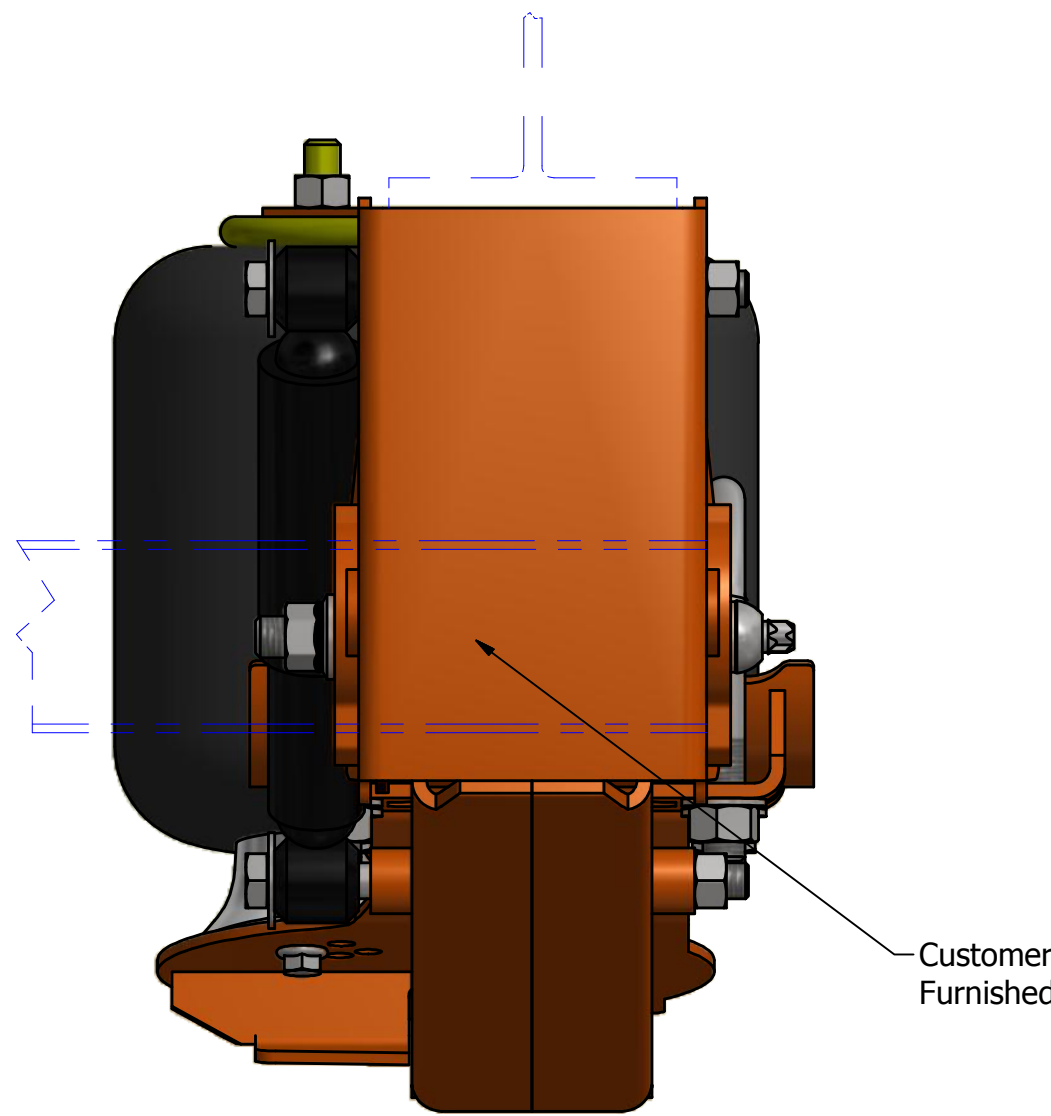
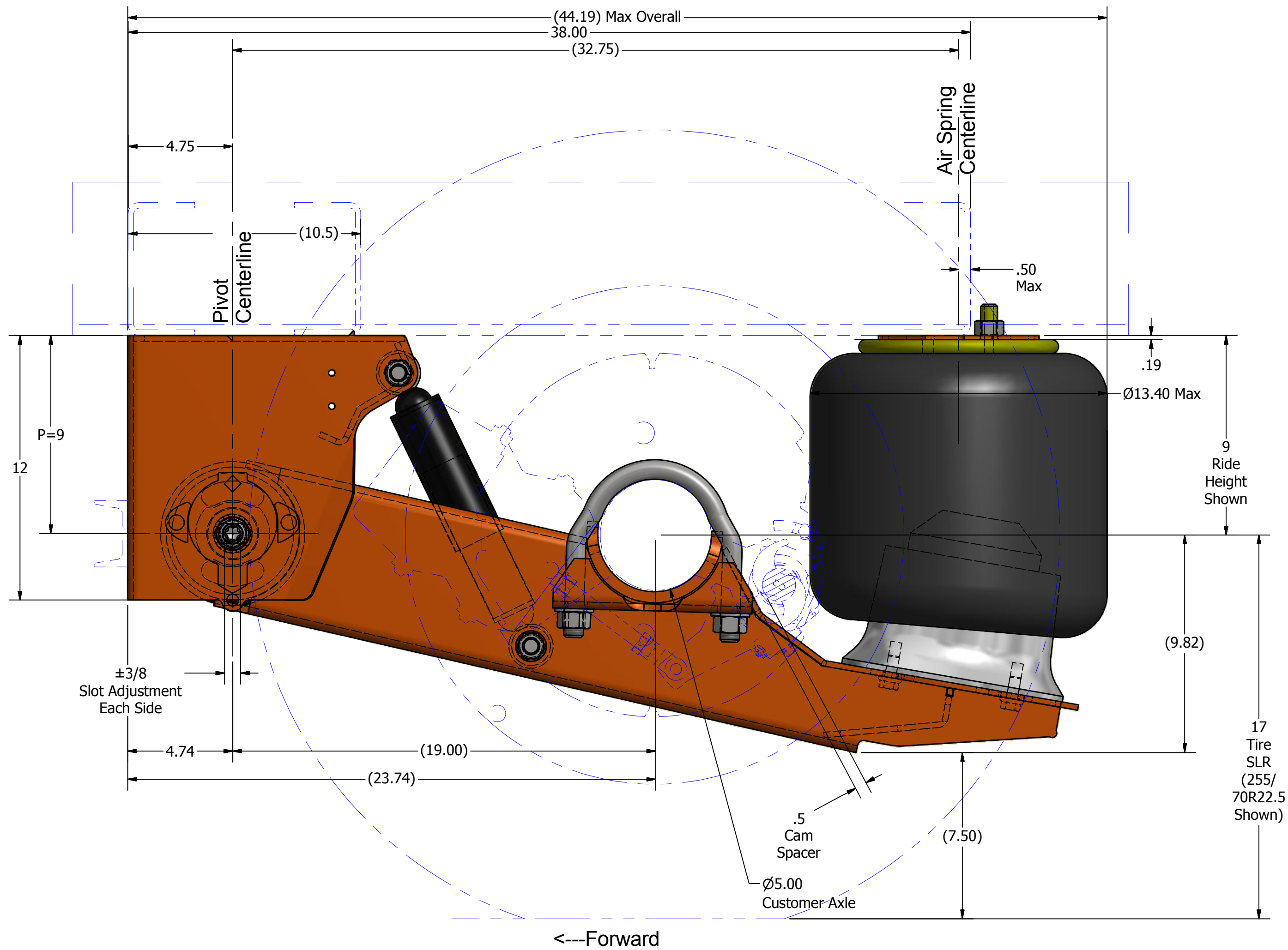


Shown w/ Brake Cams to the Front



Customer
Furnished



DCN#	B	Updated to Color Layout and Tabbed Hanger	3/12/15	DJW	CHK	APP
DCN#	A	Rotated Cam Location for Better Shock Bolt Clearance	6/15/2012	jmk	CHK	APP
DRAFTSMAN: DWalker	3/12/2015	TITLE: Layout				
CHECKED: CHK		Cush Performance 30,000LBs. UnderMount				
RELEASED: APP		5" Round Axle U-Bolted and Weld Seat				
WEIGHT: 352lbs. w/o Axle		7"-10.5" Ride Height (9" STD)				
MATERIAL:						
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		XX = +/- .002 FRACTIONS = +/- 1/16				
		XXX = +/- .031 ANGLES = +/- .1°				
PROJECT NO:	14208	SHEET: 1 OF 3	SCALE: A-SIZE: NTS B-SIZE: 1/X D-SIZE: 1/4	REV: B	PART/DRAWING NO: CP30US9	



Nixa, MO, USA
PHONE: 417-724-1239
www.cushcorp.com

Customer to torque all fasteners!				(Ft*Lbs)		(Nm)	
General Fastener Torque Specs	Size	Thread	Grade	Min.	Max.	Min	Max.
Air Spring Bottom Mount Nut	1/2	13-UNC	5/B	25	35	34	47
Air Spring Bottom Mount Bolt	1/2	13-UNC	5/B	40	50	54	68
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
(25K) U-Bolt Nut	7/8	14-UNF	8/C	475	525	644	712
Auditorx™ ShearBolt (SecureLok™)	7/8	9-UNC	8/C	550	600	746	813

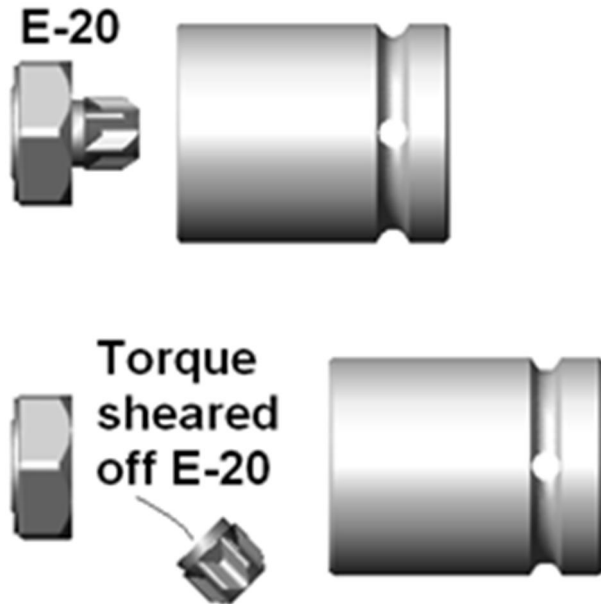
Features

- 30,000 lbs Capacity
- Non-Captured axle
- Performance Shear pivot bolt and SecureLok nut
- Integrated HCV & flush shock mounting
- Industry standard dual rate bushing
- Slot-Align axle adjustment of +/- .38" at hangers
- Mounting heights from 7" to 10.5"
- Available as Customer or Cush integrated axle
- Available with bolt-on hangers
- Available with other Add-on Suspension Options

Item	Performance Model Descriptions: CP30US9 Parts	Cush P/N:	Qty
1	Beam Assembly		
1a	Roadside (LH) 30K Beam for U-Bolt & Weld-on axle mount	W0901-5	1
1b	Curbside (RH) 30K Beam for U-Bolt & Weld-on axle mount	W0901-6	1
2	Frame Bracket, Wingless, Weld-on P=9" Tall Hanger	W1226T	2
3	Pivot Bushing Kit (Per Hanger Side L/R)	K0674	2
3a	Dual Rate Bushing, 6.75" Long 1.25"ID	C0052	1
3b	Wear Washer, 0.25" thk	C0061	1
3c	Washer 0.875" SAE Thru-Hard	H2101	1
3d	AudiTorx HHCS 0.875" 9 UNC x 10"lg grd8	H0124	1
3e	Nut, SecureLok Nut 0.875" 9 UNC	H1106	1
3f	Bushing Insert, Reducer from 1.25" OD to 0.9"ID	T0063	2
3g	Eccentric Alignment Gear	F0552	2

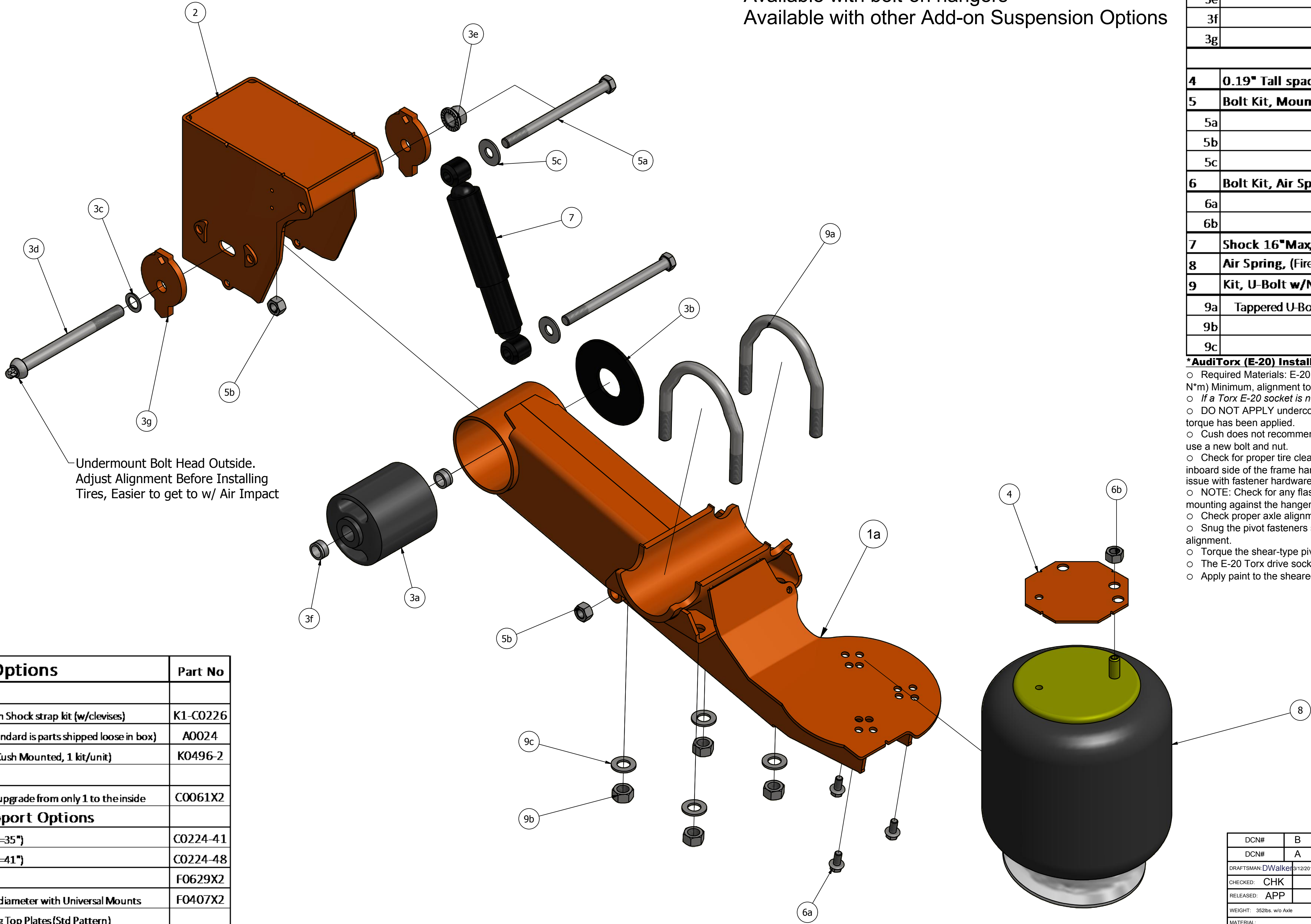
Box of Parts:			
4	0.19" Tall spacer Weld-on Plate, Octagon	F0790	2
5	Bolt Kit, Mounting for Shock Pair	K0025	1
5a	HHCS, 0.75-10unc x 10"lg, Grd 5	H0225	4
5b	Nut, Top-lock, 0.75-10unc, grd C	H1201	4
5c	Washer 3/4" ID, USS	H2203	4
6	Bolt Kit, Air Spring Mounting (Top/Bottom)	K0054	1
6a	HHCS, Flangelock 0.5-13UNC x 1"	H0304	6
6b	L'Nut, Nylock 0.75-16UNF	H1202	2
7	Shock 16"Max/10.7"Min (Gabriel #85064)	C0226	2
8	Air Spring, (Firestone#9580)	C0060-F	2
9	Kit, U-Bolt w/Nuts & Washers (Hend: S-21140/4)	K0338	4
9a	Tappered U-Bolt, 7/8"-14UNF x 5" Round-6"Inside x 7.75" lg Gr 8	HU107	1
9b	Nut, 7/8"-14 UNF	H1108	2
9c	Washer 0.875" SAE Thru-Hard	H2101	2

- *AudiTorx (E-20) Installation & Inspection Notes:**
- Required Materials: E-20 Torx socket, 1-5/16" nut wrench, Air Impact wrench capable of 600 ft*lbs (813 N*m) Minimum, alignment tools.
 - If a Torx E-20 socket is not available, torque bolt nut per 7/8" Grade 8 spec (550-600ft*lbs)
 - DO NOT APPLY undercoating to the suspension hanger area until after axle alignment and pivot bolt torque has been applied.
 - Cush does not recommend reuse of pivot fastener hardware once the pivot connection is disassembled, use a new bolt and nut.
 - Check for proper tire clearance with fastener hardware. The AudiTorx bolt should be installed from the inboard side of the frame hanger to allow access with an air impact when tires are on, if tire clearance is an issue with fastener hardware, then the shear-type bolt head should be installed from the outboard side.
 - NOTE: Check for any flashing or obstructions to cause the bearing washers to be raised and not allow flush mounting against the hanger sides (gear or eccentric type).
 - Check proper axle alignment, see installation manual for instructions on alignment.
 - Snug the pivot fasteners so that the alignment washers do not move while applying initial torque, recheck alignment.
 - Torque the shear-type pivot bolt with the E-20 Torx drive socket tool until the bolt's Torx head shears off.
 - The E-20 Torx drive socket should fully engage the Torx shear head before and while applying torque.
 - Apply paint to the sheared away Torx area as a rust preventative.




Suffix	Add-On Suspensions Options	Part No
Shock Options		
"-N1"	Shock Rebound Limiters for C0226, Nylon Shock strap kit (w/clevises)	K1-C0226
"-S1"	Cush mounted shocks, w/bolts loose (Standard is parts shipped loose in box)	A0024
"-C"	Shock Chain Restraint under hanger kit (Cush Mounted, 1 kit/unit)	K0496-2
Hanger Pivot Options		
"-DW"	Dual wear washers inside of each hanger upgrade from only 1 to the inside	C0061X2
Hanger & Air Spring Support Options		
"-X1"	Cross-Member 41" Long C4 x 5.4#/ft ("B"=35")	C0224-41
"-X2"	Cross-Member 47" Long C4 x 5.4#/ft ("B"=41")	C0224-48
"-XF"	Pair of Front Flat Wing Hanger Gussets	F0629X2
"-T12"	Large Diameter Air spring top plates, 12" diameter with Universal Mounts	F0407X2
"-BC"	Bolt-on Hanger Connection and Air Spring Top Plates (Std Pattern)	
Discounts		
"-DPH"	Discounted for Un-Painted Hangers/Unit	
"-DA"	Discounted for Customer supplied Air Springs	
"-DAS"	Discounted for Customer supplied Air Springs & Shocks	

On "Cush Performance" Suspensions, Cush reserves the right to provide suspension option upgrades at no additional charge to Customer without notice.



Undermount Bolt Head Outside.
Adjust Alignment Before Installing
Tires, Easier to get to w/ Air Impact

DCN#	B	Updated to Color Layout and Tabbed Hanger		3/12/15	DJW	CHK	APP
DCN#	A	Rotated Cam Location for Better Shock Bolt Clearance		6/15/2012	jmk	CHK	APP
DRAFTSMAN: DWalk		DATE: 3/12/2015					
TITLE:							
Parts List Installation							
Cush Performance 30,000Lbs. UnderMount							
5" Round Axle U-Bolted and Weld Seat							
7"-10.5" Ride Height (9" STD)							
CHECKED: CHK							
RELEASED: APP							
WEIGHT: 352lbs. w/o Axle							
MATERIAL:							
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		XX = +/- .062 FRACTIONS = +/- 1/16					
		XXX = +/- .031 ANGLES = +/- 1°					
PROJECT NO:		SHEET:		SCALE:		REV:	
14208		2 OF 3		A-SIZE: NTS		B	
		3		B-SIZE: 1/X			
				D-SIZE: 1/4			
						CP30US9	

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.

Customer to torque all fasteners:				(Ft*Lbs)		(Nm)	
General Fastener Torque Specs	Size	Thread	Grade	Min.	Max.	Min	Max.
Air Spring Bottom Mount Nut	1/2	13-UNC	5/B	25	35	34	47
Air Spring Bottom Mount Bolt	1/2	13-UNC	5/B	40	50	54	68
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(25K) U-Bolt Nut	7/8	14-UNF	8/C	475	525	644	712
Auditorx™ ShearBolt (SecureLok™)	7/8	9-UNC	8/C	550	600	746	813

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" adjustment square at 12 o'clock and lined up with the inset 1/2" plug hole, you can use a 1/2" 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.

ORIGINAL-INSTALLATION INSPECTION NOTES, verify that:

- The installation clearance requirements have been met.
 - The axles have been aligned properly.
 - The suspension frame bracketry and air spring plate welds have been properly completed per specifications.
 - All suspension bolt torques are to Cush specifications.
 - The suspension ride height is set properly.
 - 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 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!
- 10) Install air springs and shocks per suspension installation manual and drawing sheets.

AXLE WELDING NOTES, See Cush Procedure A0001-3:

WARNING: Review Cush Recommended Steel Welding Procedures

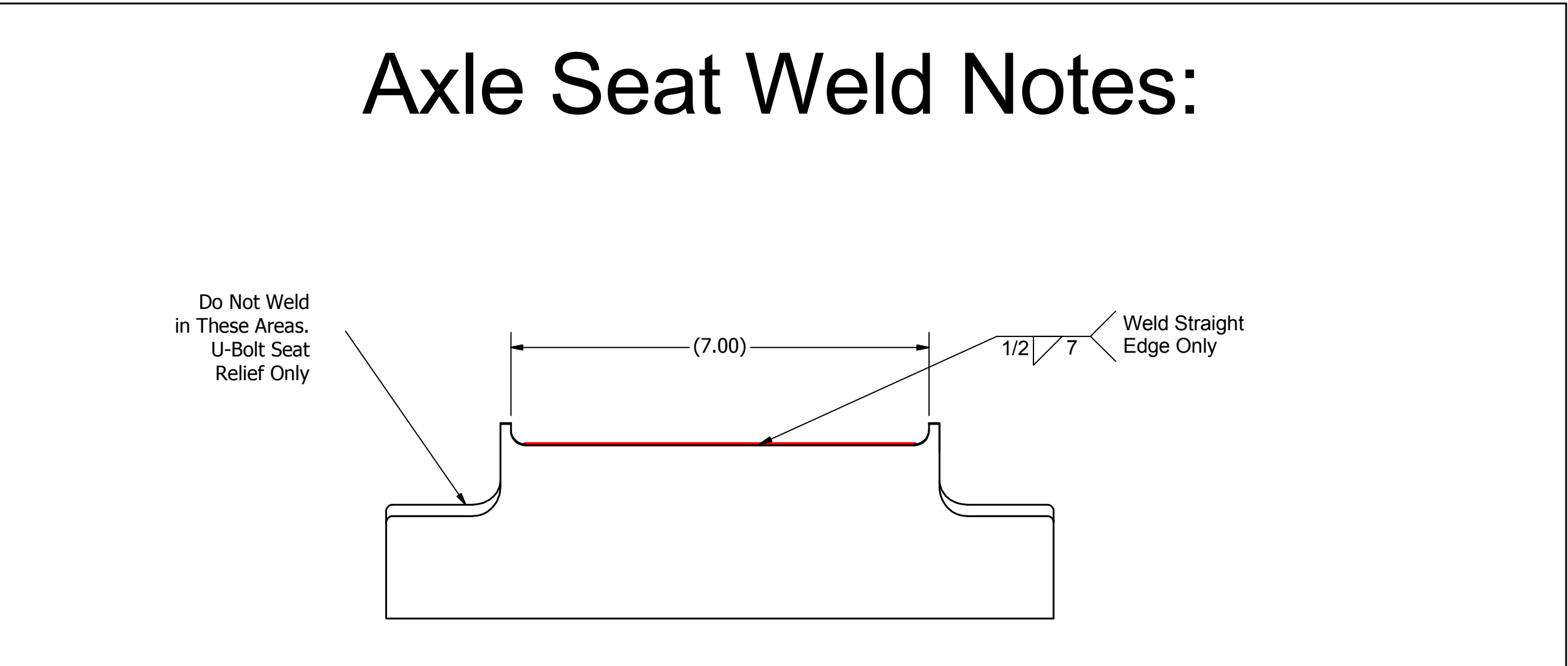
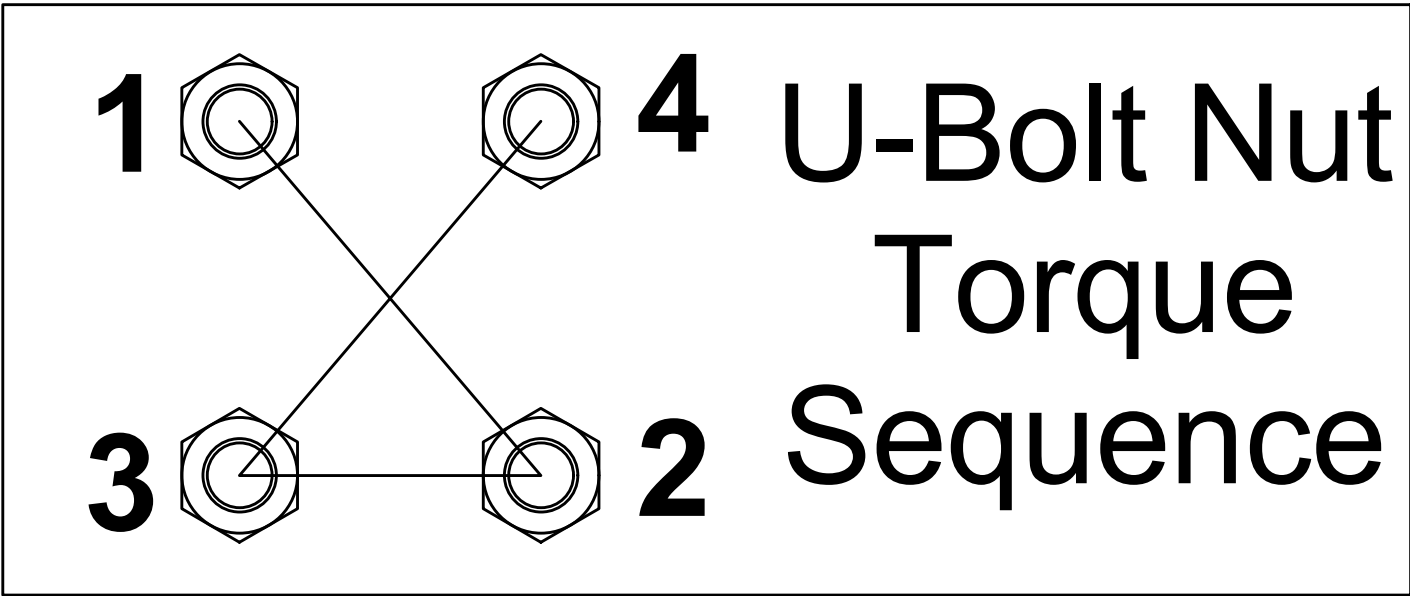
- 1) Suspension components and their mating parts must be at a minimum temperature of 60°F(15.5°C) and free from moisture, dirt, scale, paint, grease, and other contaminates.
- 2) For the best axle to beam weld joint use the following wire.
Axle Weld Wire: AWS ER70S-6
- 3) Create the root pass to connect 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. Finished 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 strech/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



Ride Height	Max Jounce "UP"	Bumper Contact "UP"	Rebound "DOWN"	Min Jounce Height	Full Rebound Height
7.0	2.8	2.5	6.5	4.2	13.5
7.5	3.3	3.0	6.0	4.2	13.5
8.0	3.8	3.5	5.5	4.2	13.5
8.5	4.3	4.0	5.0	4.2	13.5
9.0	4.8	4.5	4.5	4.2	13.5
9.5	5.3	5.0	4.0	4.2	13.5
10.0	5.8	5.5	3.5	4.2	13.5
10.5	6.3	6.0	3.0	4.2	13.5

DCN#	B	Updated to Color Layout and Tabbed Hanger				3/12/15	DJW	CHK	APP
DCN#	A	Rotated Cam Location for Better Shock Bolt Clearance				6/15/2012	jmk	CHK	APP
DRAFTSMAN: DWalker		<div>TITLE:</div> <div>Installation Notes</div> <div>Cush Performance 30,000Lbs. UnderMount</div> <div>5" Round Axle U-Bolted and Weld Seat</div> <div>7"-10.5" Ride Height (9" STD)</div> <div></div>				<div>Nixa, MO. USA</div> <div>PHONE: 417-724-1239</div> <div>www.cushcorp.com</div>			
3/12/2015									
CHECKED: CHK									
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		14208	3 OF 3	A-SIZE: NTS B-SIZE: 1/X D-SIZE: 1/4	B	CP30US9			