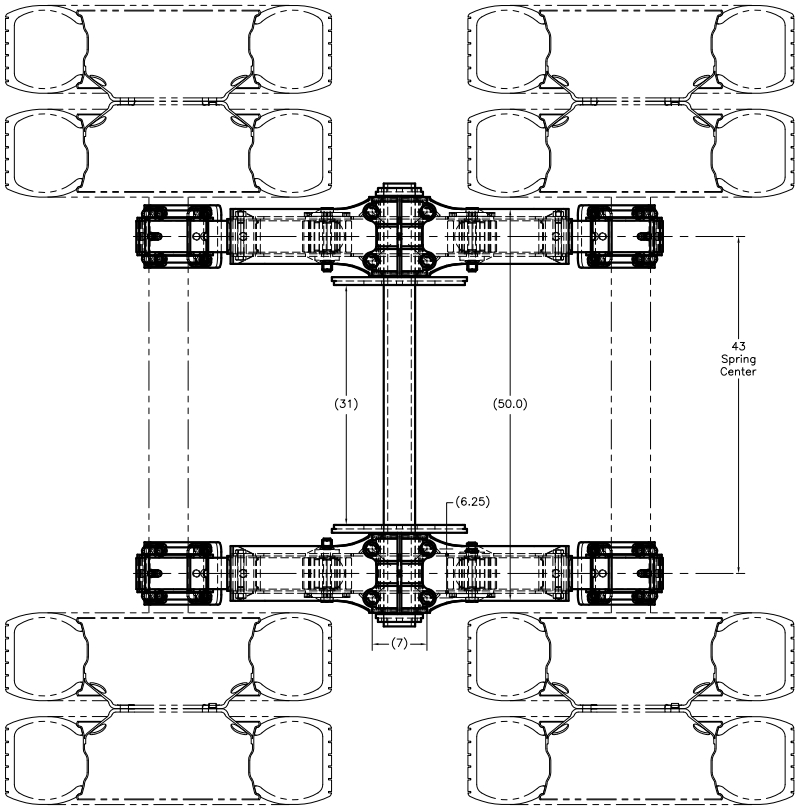
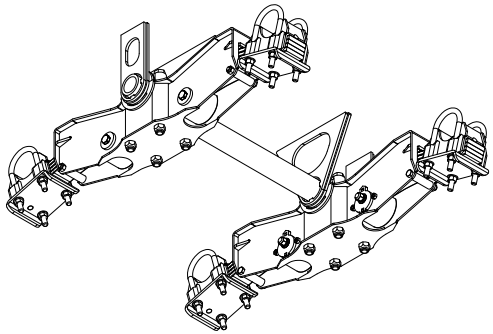




CUSH GENERAL INSTALLATION NOTES, SEE CUSH SERVICE/INSTALLATION MANUAL

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, locked 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:
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 complete loss of clamp load occurs. For proper joint clamping contact Cush for replacement fasteners.
5) CAUTION: Over-torquing fasteners could result in material failure.

CSP-CF Tandem
Customer to torque all fasteners!

General Fastener Torques Specs	Size	Thread	Grade	(ft*Lbs) Min.	(ft*Lbs) Max.	(Nm) Min	(Nm) Max
Spring Keeper Mount Nut/Bolt	3/4	10 UNC	5/D	210	235	285	319
(CSK) U-Bolt Nut	7/8	14-UNF	B/C	475	525	644	712
Pivot Nut (Secured pkt/Secures)	7/8	9-UNC	B/C	650	800	746	811
Trunnion Cap Nut/Bolt (torque Nut)	1 1/8	7-UNC	B/C	900	1000	1220	1356

INSTALLATION OF TRAC ALIGN NOTES:
OVERVIEW: The "TRAC-Align" pivot joint features outside eccentric cam gear washer that cover the alignment slot. The "Trac-Align" was designed to give our customers extra pivot integrity with the addition of the optional locking rack and a more familiar alignment means with the use of an eccentric cam adjustment. The "Trac-Align" also has bearing washer with tabs for use with a Cush axle-welding stand to have a more precise fixturing of the suspension and axle at factory or customer integration. CAUTION: DO NOT APPLY undercoating to the "Cush-Align" area until after alignment and torque of the pivot bolt.

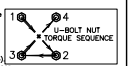
- If you have the optional rack lock plate, loosen the rack lock bolts to allow eccentric cam movement.
- The eccentric cam gear should always have the ½" square hole to the top.
- Set the alignment gear indicator tab at 6 o'clock, the neutral position. Snug the rack lock bolt s and pivot bolts of the "Trac-Align" 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 damped down flush against the hanger side and is not riding up the grounding nuts/bars.
- For adjustment use a breaker bar in the ½ " square hole or use a box wrench on the lower eccentric cam gear nut.
- The "Trac-Align" gives you .25" 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 joint per Cush torque specifications. After alignment, the suspension installer can weld the outside washer to the hanger side with 1/2" welds to prevent tampering & for off-road applications.

AXLE WELDING NOTES. See Cush Procedures:
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 axle seat. Finished axle weld should be a multi-pass 1/2" weld.

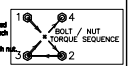
ORIGINAL INSTALLATION INSPECTION NOTES: verify that:
1) The installation clearance requirements have been met.
2) The notes have been aligned properly.
3) The suspension frame bracketry and air spring plate welds have been properly completed per specifications.
4) All suspension bolt torques are to Cush 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.

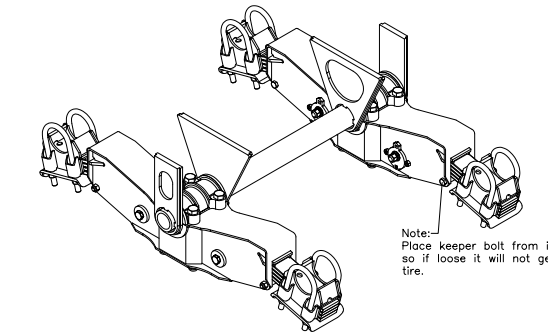
INSPECTION: 30-DAY, 90-DAY, & at every brake lining change.
1) Check installation clearance requirements.
2) Check for any signs of wear or component interferences.
3) Check suspension attachment welds for signs of problems.
4) Check that all bolts are in place and securely torqued.
5) Check pivot bushings & clamping connections for problems.
6) Check that the trailer is level.
7) Check tire wear that might indicate an alignment problem.

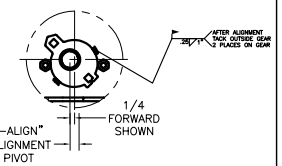
U-BOLT INSTALLATION NOTES:
WARNING: Do not apply any lubricants to the u-bolts
1) U-Bolts should only be installed and torqued after completion of axle welding. Allow sufficient axle cooling time before applying torque to u-bolts.
2) Snug u-bolts evenly before applying torque. Check that u-bolts are 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

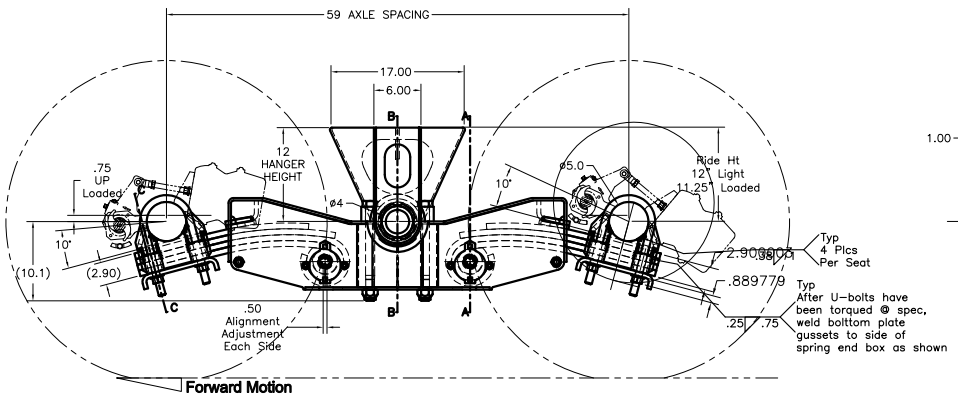


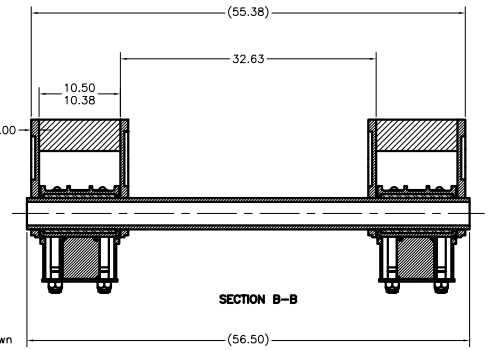
Trunnion Cap Bolt INSTALLATION NOTES:
WARNING: Do not apply any lubricants to the bolts
1) Snug bolts evenly before applying torque. Check that bolts have snugged down trunnion cap evenly.
2) Torque bolts in a three step process to avoid an improperly clamped cap and resulting damage. Torque the bolts in an "X" pattern with each torque step (1-2-3-4). This allows the bolts 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



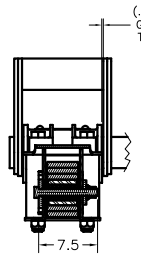




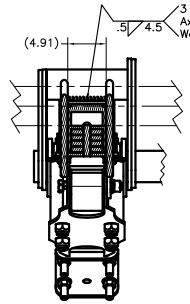




SECTION B–B



SECTION A–A



SECTION C–C

DRAFTSMAN: JMK	5/10/10		
CHECKED: .	.		
RELEASED: .	.		
WEIGHT: lbs.			
MATERIAL: SEE PART DWGS.			

APPLICATION INSTALLATION SHEET
Cush Single Point 50,000# CushFlex
Straddle Mount Hanger Style
Eccentric Axle Alignment
12" Ride Height UnLoaded

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

ECN | DATE | REV

CUSH CORP
NIXA, MO. USA
www.cushcorp.com

PROJECT NO: 10034
SCALE: A–SIZE 1:8 B–SIZE 1:4 D–SIZE 1:4
THIS REV: D
PART/DRAWING NO: CSP-50CF-S12-43-NS

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