

GMC & Chevy

Front Suspension Parts



Heading

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Comparison of GMC and Chevy lower Control Arms



In the photo above is a LH Chevy on the left and a RH GMC on the right. The top of the photo is forward. You will note that neither has the drive line in the center. In fact when compared to the control arm mounting points the GMC drive line is nearer the front mount while the Chevy is very close to the rear mount. If the Chevy were to replace the GMC then it would mount much further forward on the frame , placing the forward mount in the center of the main cross member. Of interest is the mounting point for the torque bar. The GMC is somewhat aligned with drive live while the Chevy is in the rear mounting arm. This causes the Chevy torque bar to be about four inches shorter than the GMC.



This photo shows the relative position when the drive lines are aligned. The Chevy, on the left, mountings are much more forward on the frame than the GMC. Again, see the relative length difference for the torque bar. The GMC control arm is from a 1977 Royale and the Chevy is circa 1997



This view it shows the center line of the control arm mounting points and the teal color is the location of the torque bar also on the same centerline. Also note that the torque box is nearly aligned with the drive line



This view shows that the center of the torque box is about two inches directly below the hinge line. The GMC socket is 1.5 inches



The Chevy torque bar is located about on the horizontal center line and outboard of the hinge line by 2.5 inches. The torque bar socket is 1.75 inches



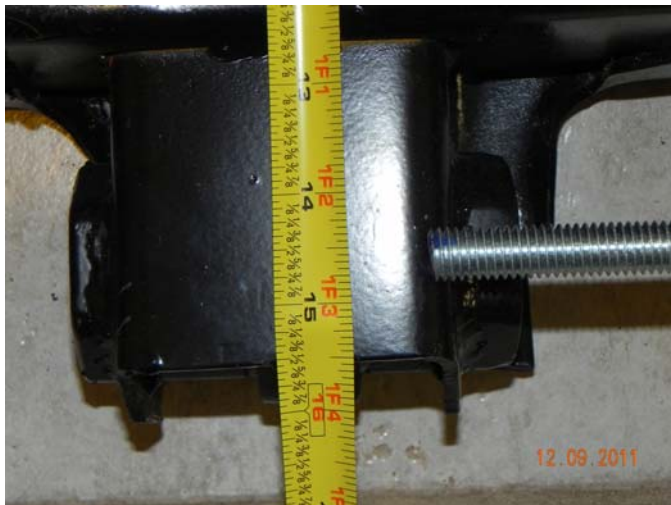
This shows the torque socket slightly above center line



The Chevy distance from the center of the top of the ball joint to the center line of the mounting hinge is approximately 15.5 inches.



On the GMC the distance from the top of the ball joint to the hinge line is about 14.5 inches





A comparison of the early design control arm from about 1988 through 2000 to the current design starting in 2001. Major difference is welded assembly to a forged steel assembly and the difference in ball joints. Early was mounted with four rivets and late model is press fit.





This is a comparison of the Chevy knuckle on the left and the GMC on the right. The Chevy is a taller unit, has the tie rod connection at a higher elevation and uses a similar 80MM brake unit. The Chevy has a bolt in bearing pack using four bolts while the GMC is a press fit. Pictures of this bearing pack are shown below The outside diameter on the GMC bearing is 3.05 inches and the Chevy bearing is 3.90 inches.





The above picture shows the GMC knuckle laying with the wheel bearing holder flat on the surface. A 1/2 inch rod is showing the king pin center line and the magic marker is centered in the bearing holder. The pictures below are showing the distance between the Lower ball joint mounting hole top surface and the upper ball joint mounting also on the upper surface. This distance is approximately 9.5 inches.





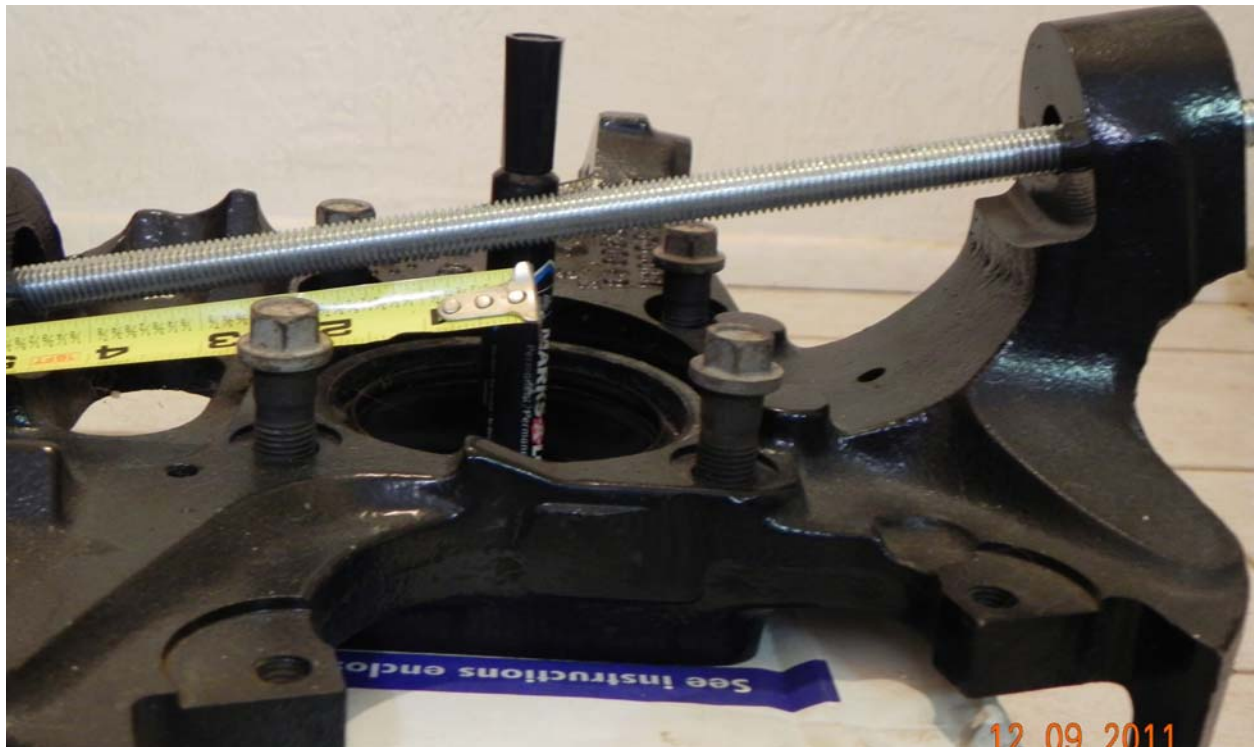
This picture shows the Chevy knuckle laying on the bearing flat surface with a rod thru the ball joint holes to show king pin angle. Also the marker is located in the center of the bearing hole. The lower picture on the left shows measuring from top to top on the ball joint mounting holes. The picture on the lower left shows a measurement of 11.5 inches. This is exactly 2.0 inches taller than the GMC knuckle.





These GMC pictures show the location of the axel relative to the top of the lower ball joint mounting lug. The lower picture show about 4.875 distance from axel center to lug measured along the king pin line



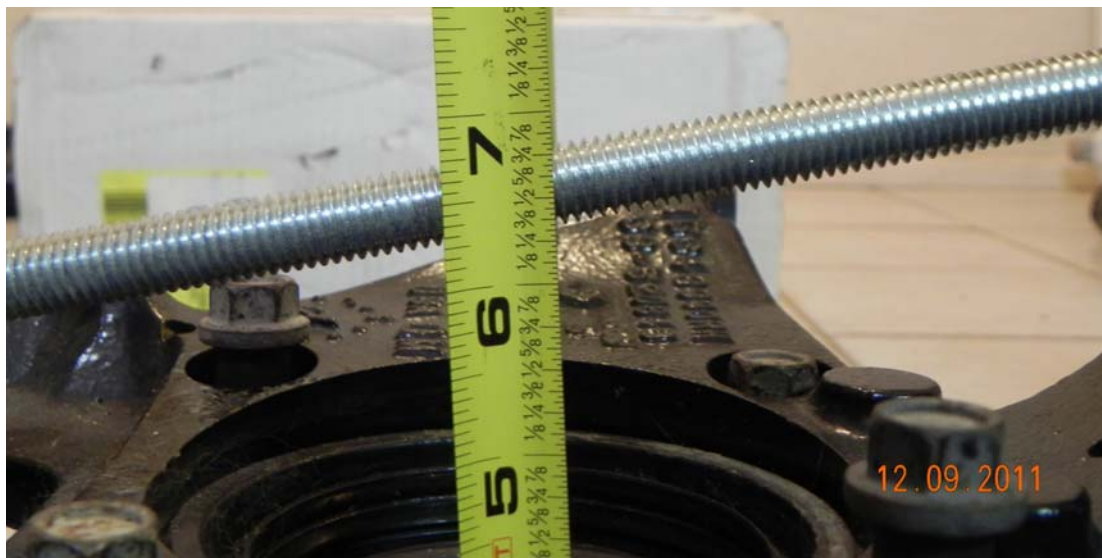


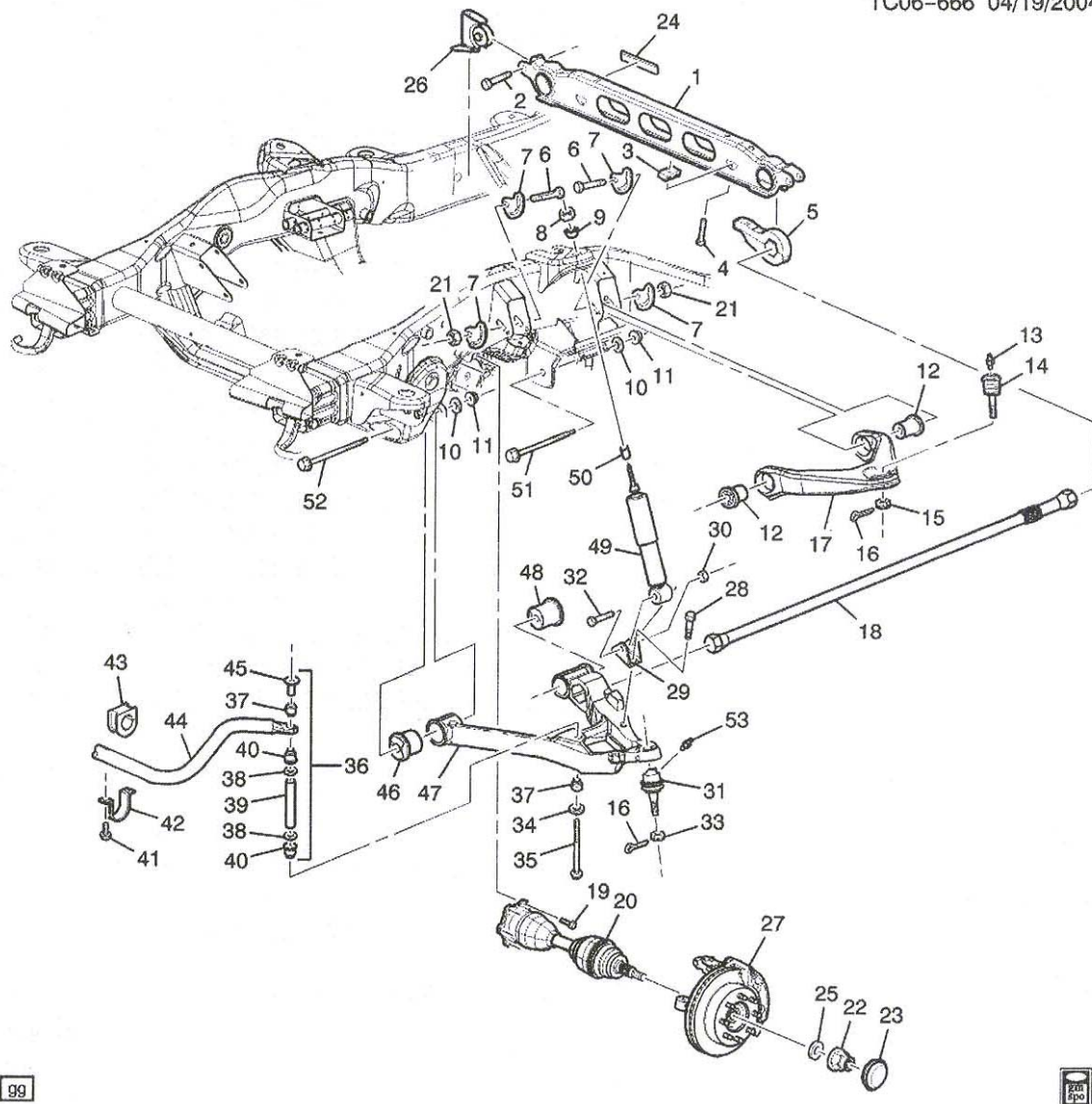
These pictures are of the Chevy axel location as measured along the king pin line. Again the distance is approximately 4.875 indicating that the axels are in the same location relative to the top of the lower ball joint lug on both knuckles.





These pictures show the Chevy knuckle assembly on the floor resting on the centering flange. Measurement is taken to the king pin line for consistency from GMC to Chevy. This distance is approximately 6.5 inches and is the same for the GMC.





Chevy parts catalog for post 2001. Changes over 2000 and before are pressed in upper and lower ball joint, cast or forged lower control arm, upper shock mount is stack bolt and a different knuckle using a dual cylinder caliper. Please note item 18 torque bar and item 5 pork chop. Look these up in the detail listing

MAKE=L			YEAR=01	MODEL=K	ALL PRICES		
Sup 06 2001-2005 CK2,3(03-43-53) SUSPENSION/FRONT (HVY)							
Plus 15 of 44 (TC06-666)							
Add Notes using (Ctrl+F5)							
CALL	PART #	GROUP	DESCRIPTION	USAGE	YEAR	QTY	H
001	15036452	07.105	SUPPORT,TORS BAR(INCLS 24) (CROSSMEMBER)	K2,3(MT1,MW3,HVY)	01-02	01	-
002	11516871	08.900	BOLT/SCREW - FRT S/ABS, M14X2X66(TORS BAR SUPT)		01-05	02	
003	15737373	07.428	NUT,TORS BAR ADJ	CK1,2,3	01-03	02	
004	15530026	07.428	BOLT,TORS BAR ADJ(M12X1.75X56,47.8 GRIP, FULL THD)	CK1,2,3	01-03	02	
005	15045171	07.105	ARM,TORS BAR ADJ(COLOR CODE: PURPLE)	CK1,2,3(FT2,FT3)	01-05	02	
005	15592573	07.105	ARM,TORS BAR ADJ(COLOR CODE: GREEN)	CK1,2,3(FK2,FK3)	01-05	02	
005	15592574	07.105	ARM,TORS BAR ADJ(COLOR CODE: WHITE)	CK1,2,3(FF4,FF5)	01-05	02	
005	15603963	07.105	ARM,TORS BAR ADJ(COLOR CODE: ORANGE)	CK1,2,3(FF6,FF7)	01-05	02	
006		NS	BOLT,FRT UPR CONT ARM(*KIT1)		-		
007		NS	CAM,FRT UPR CONT ARM ADJ(*KIT1)		-		
008	11517996	08.917	NUT-HFH,M10X1.5,11.2THK,21.5 O.D.,7111M (FRT S/ABS)		01-05	02	
009	15042048	07.395	INSULATOR,FRT S/ABS	CK1,2,3	01-05	02	
010	15567836	06.174	WASHER,FRT LWR CONT ARM (16.38IDX23.87ODX3.27) (6.168)	CK1,2,3	01-05	04	
011	11516133	08.917	NUT,M16X2,15THK,24.5 O.D.,10,PZOR(FRT LWR CONT ARM)		01-05	04	
012	15711270	06.164	BUSHING,FRT UPR CONT ARM(PART OF 17)	CK2,3	01-05	02	
013		NS	FITTING,FRT SUSP LUB(PART OF 17)		-		
014		NS	STUD,FRT UPR CONT ARM BALL(PART OF 17)		-		

There are four choices on # 5 pork chop

On the following page item # 18 are 11 different torque bars sets.

MAKE=L			YEAR=01	MODEL=K	ALL PRICES		
Group 06 2001-2005 CK2,3(03-43-53) SUSPENSION/FRONT (HVY)							
Illus 15 of 44 (TC06-666)							
Add Notes using (Ctrl+F5)							
CALL	PART #	GROUP	DESCRIPTION	USAGE	YEAR	QTY	H
015	03537772	06.009	NUT,S/KNU(PART OF 17) (NUT,M12X1.75, 10.6THK,28 O.D.,10,7111M) (8.917) (ACDelco #3537772)	CK1,2,3	01-05	02	-
016	12337997	08.938	PIN,COTTER,2.8X30MM(S/KNU COT)		01-05	04	-
017	a15110013	06.168	ARM,FRT UPR CONT(INCLS 12-15) (INCLS STUD,BUSHINGS & NUTS) (USE T/W NUT 03537772)	CK2,3 <i>#135.65</i>	01-05	02	-
018	15048307	07.412	BAR,FRT TORS(CODE XK) (MAX TORQUE 4553)	CK1,2,3(6XK)	01-05	01	L
018	15048308	07.412	BAR,FRT TORS(CODE XK) (MAX TORQUE 4553)	CK1,2,3(7XK)	01-05	01	R
018	15048309	07.412	BAR,FRT TORS(CODE XL) (MAX TORQUE 4626)	CK1,2,3(6XL)	01-05	01	L
018	15048310	07.412	BAR,FRT TORS(CODE XL) (MAX TORQUE 4626)	CK1,2,3(7XL)	01-05	01	R
018	15048311	07.412	BAR,FRT TORS(CODE XM) (MAX TORQUE 5638)	CK1,2,3(6XM)	01-05	01	L
018	15048312	07.412	BAR,FRT TORS(CODE XM) (MAX TORQUE 5638)	CK1,2,3(7XM)	01-05	01	R
018	15058265	07.412	BAR,FRT TORS(CODE YF) (MAX TORQUE 4863)	CK1,2,3(6YF)	01-01	01	L
018	15058266	07.412	BAR,FRT TORS(CODE YF) (MAX TORQUE 4863)	CK1,2,3(7YF)	01-01	01	R
018	15058267	07.412	BAR,FRT TORS(CODE YH) (MAX TORQUE 5913)	CK1,2,3(6WY,6YH)	01-01	01	L
018	15058268	07.412	BAR,FRT TORS(CODE YH) (MAX TORQUE 5913)	CK1,2,3(7WY,7YH)	01-04	01	R
018	15058270	07.412	BAR,FRT TORS(CODE YF) (MAX TORQUE 7267)	CK1,2,3(7WZ)	01-01	01	R
018	15072933	07.412	BAR,FRT TORS(CODE YT) (MAX TORQUE 7267)	CK1,2,3(6WZ)	01-01	01	L
018	15072933	07.412	BAR,FRT TORS(CODE YT) (MAX TORQUE 7267)	CK1,2,3(6YK)	01-02	01	L
018	15072934	07.412	BAR,FRT TORS(CODE YT) (MAX TORQUE 7267)	CK1,2,3(7YK)	01-02	01	R
018	15528957	07.412	BAR,FRT TORS(CODE GG) (MAX TORQUE 6790)	CK1,2,3(6GG)	01-05	01	L
018	15528958	07.412	BAR,FRT TORS(CODE GG) (MAX TORQUE 6790)	CK1,2,3(7GG)	01-05	01	R
018	15528963	07.412	BAR,FRT TORS(CODE GK) (MAX TORQUE 8615)	CK1,2,3(6GK)	01-05	01	L

MAKE=L			YEAR=01	MODEL=K	ALL PRICES		
Group 06 2001-2005 CK2,3(03-43-53) SUSPENSION/FRONT (HVY)							
Illus 15 of 44 (TC06-666)							
Add Notes using (Ctrl+F5)							
CALL	PART #	GROUP	DESCRIPTION	USAGE	YEAR	QTY	H
018	15528964	07.412	BAR,FRT TORS(CODE GK) (MAX TORQUE 8615)	CK1,2,3(7GK)	01-05	01	R
018	15528965	07.412	BAR,FRT TORS(CODE GL) (MAX TORQUE 8782)	CK1,2,3(6GL)	01-05	01	L
018	15528966	07.412	BAR,FRT TORS(CODE GL) (MAX TORQUE 8782)	CK1,2,3(7GL)	01-05	01	R
018	15732338	07.412	BAR,FRT TORS(CODE XG) (MAX TORQUE 9054)	CK1,2,3(6XG)	01-05	01	L
018	15732339	07.412	BAR,FRT TORS(CODE XG) (MAX TORQUE 9054)	CK1,2,3(7XG)	01-05	01	R
019	11504596	08.900	BOLT,HEX-HD,M10X1.5X25,15.0 O.D.,10.9, GM6174M(FRT WHL DRV SHF)		01-05	12	
020	a26069242	06.055	SHAFT KIT,FRT WHL DRV	K2,3	01-03	02	
021		NS	NUT,FRT UPR CONT ARM(*KIT1)		-		
022	a11519903	06.056	NUT,FRT WHL DRV SHF(M24X2X21.5) (HEX,W /SHAFT,PREV TORQUE)	K1,2,3	01-03	02	
023	15719002	06.330	CAP,F/AXL HUB	K2,3(JH6,JH7)	01-03	02	
024	15772975	08.808	LABEL,FRT TORS BAR ADJ CAUTION(PART OF 1)	CK1,2,3	01-03	01	
025	15522089	06.056	WASHER,FRT WHL DRV SHF(6.063)	K1,2,3	01-05	02	
026	15044557	07.105	SUPPORT,TORS BAR(MOUNTED TO FRAME) (BRACKET)	CK2,3(HVY)	01-05	02	
027		NS	KNUCKLE,STRG(W/HUB) (SEE GROUP 04.000 "BRAKE CALIPER MOUNTING & KNUCKLE" FOR DETAILED ILLUSTRATED VIEW)		-		
028	11516918	08.900	BOLT ASM-M10X1.5X30,25 THD, 20 OD,10.9, 7114M(PART OF 47)		01-05	04	
029	15037379	07.380	BRACKET,FRT S/ABS(PART OF 47)	CK2,3	01-05	02	



When you are considering the use of the Chevy torque bars you will need to have a bigger socket since the Chevy is 1.75 inches hex. The men's mall is an excellent source of a solution. All Chevy pickup trucks 1988 through 2000 utilize a welded sheet metal lower control arm. In this arm is the proper socket for your modification. The Chevy socket is made from a round bar of 2. 5/8 diameter that has the 1.75 broached hex socket. This socket is welded at the end only in to the flat metal arm of .190 thickness. The arm material can be cut away and then grind the tube to it's original diameter. No other attachment welding is present.





The formed sheet metal socket in the GMC control arm should be carefully removed and a hole of about 2.75 should be cut thru the side frames. Care should be taken to maintain the angularity of the old socket. The Chevy socket can now be welded into the GMC control arm. Note that the GMC material thickness is less than the Chevy. Chevy material is .19 thick but the GMC is only .16. Additional doublers should be added for extra strength.. Please note the hex is approximately 90 degrees rotation between the GMC and The Chevy.





The Chevy socket is a square cut on the outboard side but is a slant cut on the in-board, The length is $3 \frac{5}{8}$ on the short side and $4 \frac{1}{2}$ on the long side. The GMC socket is square cut at $4 \frac{1}{4}$ inches.





This should be fun. My Chevy bars are installed in the stretch coach. Est. $1 \frac{3}{8}$ length of hex by measuring in from each end. Bar diameter 1.43 in.

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12.20.2011



Upper LH; front control arm attachment in middle of front cross member. Upper RH; rear view of upper and lower mount. LH center; rear cross member with torque bar. Lower LH; modified cross member using both GMC & Chevy sections GMC in center & Chevy outboard.



A one inch spacer was machined to match to the mating surfaces. Longer and higher strength bolts were used



Because the torque bars are located about 2 in. out-board, clearance must be cut in frame. The header pipe also liked this additional clearance.



The lower rear mount and the two upper mounts and the shock mount were obtained directly from the Chevy frame intact and mounted as a unit to preserve location relation. Std Alcoa with no extender just clears.

