PART NO. 24220

ADJUSTABLE CAMBER/CASTER SLEEVE FOR FORD - INSTRUCTION SHEET

This part should only be installed by personnel who have the necessary skill, training and tools to do the job correctly and safely. Incorrect installation can result in personal injury, vehicle damage and / or loss of vehicle control.

INSTRUCTIONS

1. Take initial alignment reading to determine the vehicle is out of OEM specification.
2. Remove tire and wheel assembly for easy access. This also reduces the weight being supported by the upper ball joint stud.
3. If clearance allows for proper retorquing, loosen the **LOWER** ball joint stud nut.
4. Remove cotter key from the upper ball joint stud and remove nut.
5. Using a hammer, strike the knuckle assembly sharply a few times to break the interference taper between the ball joint and bushing. (Supporting the axle hub will aid greatly in the removal and installation of bushings. Take care not to damage brake or vacuum lines.)
6. Remove currently installed bushing from the upper ball joint.
7. Install the ADJUSTABLE SLEEVE in the Neutral or 0 Degree position by dialing the "N" of the INNER BUSHING to the SLOT of the OUTER BUSHING (See ***Illustration #1***).It does not matter at this point in what position the Dual-Axis bushing is installed in the knuckle.
8. Take a new alignment reading to determine the amount of positive (+) or negative (-) Camber & Caster changes necessary.
9. Refer to the chart on the other side of this page.
10. Follow both measurements (camber & caster changes required) to their intersection on the chart. In this box you will find letters. The UPPER letters represents the code for positioning the INNER adjuster. The LOWER letters are the reference for positioning the OUTER adjuster (See ***Illustration #2***).
    Note: If there are two upper letters or lower letters in a box, position the bushing between the two letters.
11. It is not necessary to remove the ADJUSTABLE SLEEVE to index to the proper position.
12. Simply adjust the INNER bushing so the UPPER letter recorded earlier lines up with the slot of the OUTER bushing. Dial the OUTER bushing so that the Slot lines up in the appropriate location of the knuckle according to the LOWER number of the chart (See ***Illustration #3***).
    Note: Using a thin wall socket or channel type pliers will make adjustments easy.
13. If clearance allows, referencing step #3, tighten lower ball joint nut to interim torque 44 lb-ft.(59nm).
14. Install upper ball stud nut and torque to manufacturer's specifications. Advance nut to next castellation and install cotter pin.
15. If clearance allows, referencing step #3, tighten lower ball joint nut to final torque of 150 lb-ft.(204nm).
16. Proceed with alignment and road test the vehicle.

Part No. 24220 • Applications
Adjustable Camber/ Caster Sleeve for Ford

Ford Super Duty 4x4
Ford F250/350 2005–up

Illustration #1 - ***Neutral Position***

Illustration #1 - ***Position neutre***

Ilustración #1 - ***Posición Neutral***

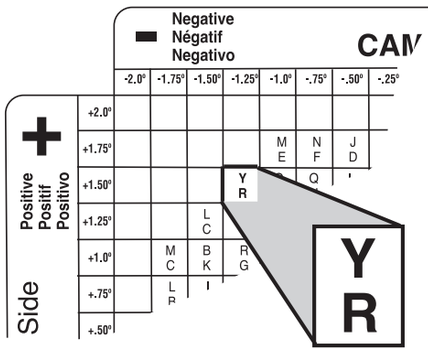

Illustration #2 - Example Only!!!
'**Y**' Upper Letter
'**R**' Lower Letter

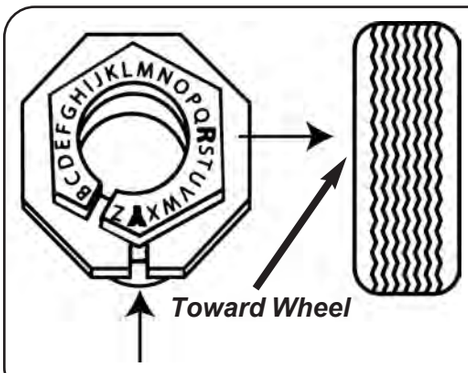

Illustration #3
'**Y**' is lined up with slot of outer bushing.
'**R**' is lined up toward wheel.

Positive Camber (+) **Negative Camber** (−)

	+2.50°	+2.25°	+2.0°	+1.75°	+1.50°	+1.25°	+1.0°	+.75°	+.50°	+.25°	0	-.25°	-.50°	-.75°	-1.0°	-1.25°	-1.50°	-1.75°	-2.0°	-2.25°	-2.50°	
-2.50°								A OP	A O	A NO	A N	A MN	A M	A LM								+2.50°
-2.25°						A P	Z O	XY N	X MN	X M	WX LM	DE O	D NO	CD N	B LM	A L						+2.25°
-2.0°					AB Q	XY O	W N	VW M	V LM	V L	V KL	F P	F OP	E NO	DE N	CD M	A KL					+2.0°
-1.75°				A QR	X OP	VW NO	V MN	U LM	U L	TU KL	TU JK	GH PQ	G P	FG O	F NO	E MN	D ML	A KL				+1.75°
-1.50°			A R	X P	VW O	UV N	TU M	T LM	ST KL	ST K	ST J	HI Q	H P	H OP	GH NO	FG N	EF M	D L	A J			+1.50°
-1.25°		A RS	X Q	VW OP	UV O	TU N	T M	ST LM	RS KL	RS JK	RS IJ	IJ QR	I PQ	I P	H O	GH N	FG M	E L	CD K	A IJ		+1.25°
-1.0°	Z R	WX PQ	V OP	TU O	ST N	S M	RS LM	R KL	QR JK	QR I	JK QR	J PQ	IJ OP	I NO	H MN	G M	F L	DE KL	B IJ			+1.0°
-.75°	A S	XY R	VW Q	U OP	T O	S NO	RS MN	QR LM	Q KL	PQ J	PQ HI	KL DE	K CD	JK OP	IJ NO	I MN	H M	FG L	EF KL	CD J	A I	+.75°
-.50°	ZA ST	WX R	V Q	TU P	ST OP	RS NO	R N	Q M	PQ L	P JK	OP H	L QR	LM P	K O	J N	I M	H LM	G KL	F K	D J	A HI	+.50°
-.25°	A T	WX RS	UV Q	TU PQ	ST P	RS OP	QR NO	PQ N	P M	O K	O GH	M Q	L O	KL NO	JK MN	IJ LM	HI L	GH KL	F JK	DE IJ	A H	+.25°
0°	A TU	X S	V R	TU Q	ST PQ	RS PQ	QR OP	PQ O	OP NO	O NO	N N	M MN	LM MN	KL LM	JK LM	IJ L	HI KL	GH K	F J	DE I	A GH	0°
+.25°	B UV	DE VW	F WX	GH XY	HI Y	IJ YZ	JK ZA	KL A	L B	LM CD	M G	OP XY	P Z	PQ A	QR B	RS BC	ST C	TU CD	V DE	WX EF	A G	-.25°
+.50°	A UV	D W	F X	G XY	HI YZ	IJ ZA	J A	K B	LM C	L DE	LM G	P WX	PQ Y	Q Z	R A	S B	T BC	U CD	V D	X E	AB G	-.50°
+.75°	A V	CD W	EF XY	G Y	H Z	I A	IJ AB	JK BC	K CD	KL E	KL FG	PQ J	Q XY	QR YZ	RS ZA	S AB	T B	U C	VW D	XY E	A FG	-.75°
+1.0°		B VW	E XY	F Y	GH ZA	H ZA	I B	IJ BC	J CD	JK DE	JK EF	QR WX	R XY	RS YZ	S Z	T A	U B	V C	WX D	ZA EF		-1.0°
+1.25°		A VW	CD X	EF YZ	FG ZA	GH A	H B	I C	I CD	IJ DE	IJ EF	RS WX	S XY	S Y	T ZA	TU A	UV B	W C	XY D	A EF		-1.25°
+1.50°			A W	D Y	EF Z	FG A	GH B	H BC	HI CD	HI D	HI E	ST X	T Y	T YZ	U ZA	UV A	VW B	X C	A E			-1.50°
+1.75°				A WX	D YZ	E ZA	F AB	G BC	GH C	GH CD	GH DE	TU XY	U Y	UV Z	V ZA	W AB	X BC	A D				-1.75°
+2.0°					A XY	X WX	W W	VW WX	V WX	V X	V XY	V Y	V YZ	VW Z	WX A	XY B	A CD					-2.0°
+2.25°						A Y	B Z	CD A	D AB	DE BC	E C	WX YZ	X ZA	XY A	Z BC	A C						-2.25°
+2.50°								A YZ	A Z	A ZA	A A	A AB	A B	A BC								-2.50°
	+2.50°	+2.25°	+2.0°	+1.75°	+1.50°	+1.25°	+1.0°	+.75°	+.50°	+.25°	0	-.25°	-.50°	-.75°	-1.0°	-1.25°	-1.50°	-1.75°	-2.0°	-2.25°	-2.50°	

Positive Camber (+) **Negative Camber** (−)

Negative (−) — Positive (+) Driver Side Left Caster

Positive (+) — Negative (−) Passenger Side Right Caster