



This instruction sheet will help you with some key points when installing your Desolate Motorsports NBC 3.5" suspension kit.

Drop Beam Pivots:

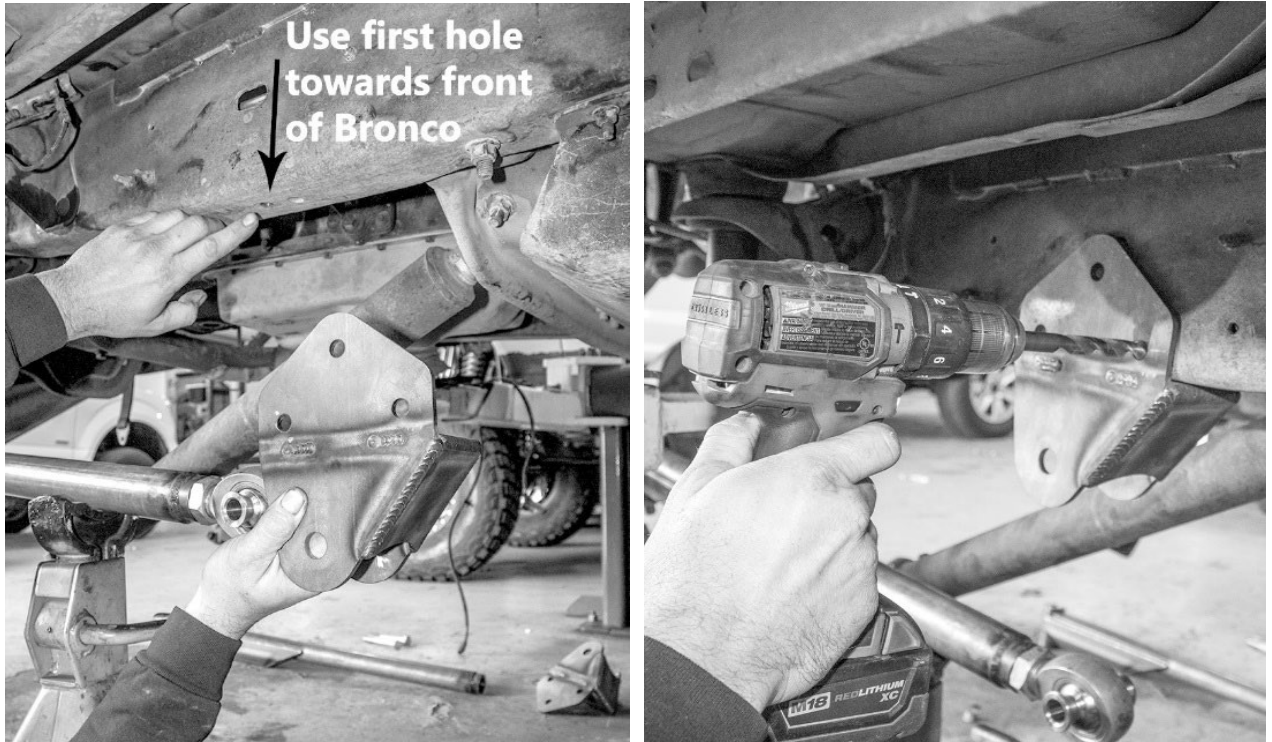
This kit will require the factory radius arms to be completely removed from the vehicle along with the brackets that mount them to the frame. It will also require the beams to be dropped down from their pivot points and the beam pivot brackets to be removed and replaced with the New Desolate Motorsports 2" Drop Beam Pivot brackets. This will require the removal of bolts and factory rivets. Once old brackets are removed, and new ones are in place you can proceed to the next step.

Tip: Cut an X into the head of the factory rivets to knock them off easier and use an air chisel to knock the rest of the rivet out.



Radius Arm Bracket Location

Use the first of the two holes towards the front on the frame as your guide hole for the frame brackets.



Once brackets are located correctly, bolt onto frame from bottom hole and drill out the mounting holes on the frame.

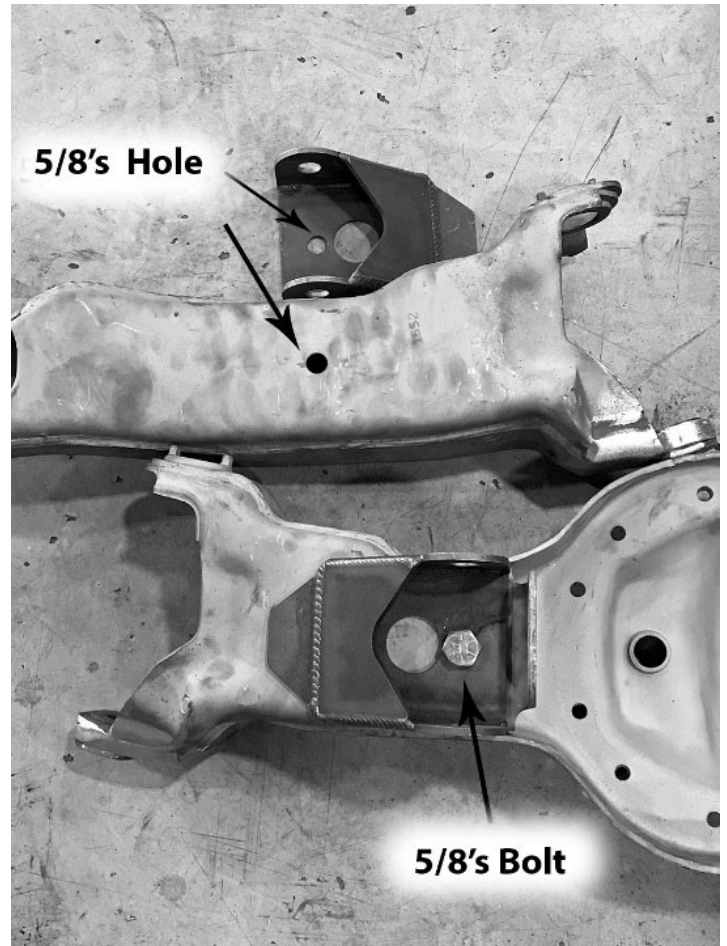
Radius Arm Heims setting:

We recommend adding anti seize to the threads of the heim and stainless misalignment spacers when installing.

If you would like to keep the wheel position (front to back) of the fender well more stock, then you will want to bottom the heim joint out. Some people like to push the wheel a little forward in the fender well to allow more tire clearance on the backside of the fender. This may require more aggressive trimming of the front bumper or looks nice on trucks running aftermarket or custom front bumpers.

Radius Arm Beam Mounts:

The two weld-on beam brackets are side specific. Locate the brackets into position using the factory 5/8's hole on the back of the beam. Temporarily place a 5/8's bolt through the hole in the bracket and beam and line the bracket up flush with the **bottom** of the beam. If it isn't flush, it's on the wrong side. Once positioned correctly, bolt down and weld into place. After its welded, remove the 5/8's bolt.



Stock Sway Bar Tabs:

STOCK SWAY BAR AND STOCK COIL SEATS WILL BE REMOVED AND DISCARDED

Billet Coil Spacer:

Your new billet coil spacers will double as the new coil seats. They are adjustable and have an optional center piece. Depending on desired lift height you can choose to run the center piece or not. The lower half of the Billet spacer will bolt to the beam with supplied 3/4" bolt. The upper half will get 5/8" captive bolts inserted and then the two halves will get mated together with (4) 1/4 x 20 Allen bolts.



Front Auxiliary Shocks:

The picture to the right will help show you how you need to modify the Stock "Aux" Shock mount to run with our kit (if you are running dual shocks). You will need to use a cut off wheel or saw to cut off the material above the top 5/16 bolt hole. Then reinstall the bracket only using the two small 5/16" bolts and the one 3/4" bolt in the bottom.



Limit Straps:

In your kit we have provided DM branded limiting straps. These serve two purposes: (1) To keep your coil springs from wanting to fall out by drooping out too far and (2) To reduce excessive pull on your shocks if the wheels ever come off the ground. Installing the limit straps should be one of the last things you do after the suspension is fully assembled. You will see that there is a tab welded perpendicular to the top of your radius arm. One side of the strap will bolt to this tab. The other side of the strap will bolt to the side of the frame. You will need to determine this location on the frame. This is done having the truck safely on a lift or jack stands with the wheels off the ground. You then want to take a measurement from the center of the hub to the ground. Place a jack under the TTB beam housing nearest the ball joint and jack it up one inch from the original reading at the center of the hub. At this point you can hold

the limit strap up to the side of the frame, please note, there are a lot of holes in the side of the frame in this general area. If the strap lines up with one of these stock holes you can use it, if not you will need to drill a 1/2" hole. Be careful of any brake lines and wiring on the backside when drilling. Once this is done you can attach the limit strap to that hole with the provided 1/2" grade 8 bolts. You will now want to let the pressure off the jack. Once the jack is clear you want to reference back to that original measurement and the reading should be roughly 1/2" further from the ground than. This will mean the strap is tight but is holding tension from yanking on the shock.

Steering stop adjuster bolts:

Adjusting these is something you want to do last even after the alignment is set.

There is a factory steering stop adjusting bolt on each steering knuckle. Due to modifications done to the beams and aftermarket tires/wheels you may need to adjust these bolts out further or replace them with longer bolts. Ford used 5/16" x 24 and 3/8" x 24 bolts on these during then different years. We recommend if needed to get a 1" long bolt of the proper thread and a non-locking hex nut to be used as a jam.

Alignment info:

For all 2" kits, install the alignment cams as marked on the package. (We pre-set them for these kits) I beam suspension is unique and alignment shops sometimes hate it. To minimize the possibility of an alignment shop messing things up, we recommend you do some rough toe adjustments before ever going to an alignment shop. After the vehicle is set on the ground for the first time it is going to have a crazy amount of positive camber. This is normal, don't freak out! Pull the vehicle forward about 20 feet and park it on level ground. At this point stand in front of the vehicle and look at the wheels. If there is still a massive positive camber, then the vehicle likely has a toe in situation that needs to be addressed. If the vehicle has a negative camber, then there is likely a toe out situation that needs to be addressed. If the tires look generally square and everything else for the installation is finished, then you can take the vehicle to your local alignment shop. If you are not familiar with toe settings, there are some great Youtube videos that will help explain how you can do a rough toe setting with just a tape measure.

Specs for Alignment shop:

1/8" toe in (toe setting should be done first because it will affect the camber drastically if in correct)

Caster roughly 5 degrees positive. Extra caster is fine do not turn the cams to reduce caster only adjust caster if there is a cross caster pull. Camber close to 0 as possible (the new coils are only going to settle so a slight positive camber will relax after some miles)



Negative Camber



Toe-In



Negative Caster



Positive Camber



Toe-Out



Positive Caster

ADJUSTABLE CAMBER/CASTER SLEEVE FOR FORD/DODGE - INSTRUCTION SHEET**CHEMISE DE CYLINDRE DE CARROSSAGE/CHASSE AJUSTABLE POUR FORD ET DODGE - INSTRUCTIONS D'INSTALLATION****CAMISA DE GRADUACIÓN AJUSTABLE DE LA COMBA O DEL ÁNGULO DE CAÍDA (CAMBER) /ÁNGULO DE AVANCE DEL PIVOTE (CASTER) PARA UN FORD Y DODGE - INSTRUCCIONES DE INSTALACIÓN.**

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.

Cette pièce doit être installée uniquement par du personnel possédant la compétence, la formation et les outils appropriés pour effectuer le travail correctement et de façon sécuritaire. Une installation incorrecte peut occasionner des blessures corporelles, des dommages au véhicule et/ou la perte de contrôle du véhicule.

Esta pieza sólo debe instalarse con personal que posea la experticia, entrenamiento y herramientas adecuadas para ejecutar el trabajo de manera correcta y segura. Una instalación errónea podría ocasionar lesiones personales, daños al vehículo / o pérdida de control sobre el vehículo.

INSTRUCTIONS

1. Remove cotter pin and nut on the upper ball joint and remove the existing bushing. Install a #23109 zero degree bushing and make a caster sweep to determine amount of change needed.

Note: The use of a zero degree sleeve will make it much easier to determine the correct caster/camber change needed.

- Find desired caster change needed noting passenger and driver side and whether positive or negative change.
- Find desired camber change needed noting positive and negative change.
- The intersection of these two readings will give the letter code needed to give the desired change.

- The upper letter(s) are for inner sleeve adjustment and the lower letter(s) are for the installation reference point.
- Adjust the inner sleeve using **SPC #74500** wrench so the selected upper letter(s) code from the chart is lined up with the slot in the outer sleeve.
- Remove the zero degree bushing. Install the new bushing so the selected lower letter(s) code from the chart is installed next to the locator notch on the knuckle that is closest to the wheel.
- Make sure the new bushing is firmly seated, reinstall ball joint castle nut, torque to 85-95 lb ft, and install new cotter pin.
Always check for proper clearance between suspension components and other components of the vehicle.
- Adjust toe and recheck alignment.

INSTRUCTIONS

1. Retirer la goupille fendue et l'écrou du joint à rotule supérieur, puis retirer la garniture d'étanchéité existante. Installer une garniture d'étanchéité de zéro degré #23109 et effectuer un balayage de chasse pour déterminer quels sont les changements nécessaires.

Remarque : L'utilisation d'une garniture d'étanchéité de zéro degré permettra de déterminer plus facilement les changements corrects de carrossage/chasse nécessaires.

- Trouver le changement de carrossage nécessaire souhaité en tenant compte des côtés passager et chauffeur et s'il s'agit d'un changement positif ou négatif.
- Trouver les changements de carrossage nécessaires souhaités en tenant compte des changements positifs et négatifs.
- L'intersection de ces deux lectures fournira le code à lettre nécessaire pour apporter les changements souhaités.
- La (les) lettre(s) supérieure(s) est (sont) pour l'ajustement de la

chemise de cylindre intérieure et la(les) lettre(s) inférieure(s) est (sont) pour le point de référence de l'installation. (Voir le graphique)

- Ajuster la chemise de cylindre intérieure avec la clé **SPC #74500** de façon à ce que le code à lettre(s) supérieur sélectionné du tableau soit aligné avec la gorge dans la chemise de cylindre extérieure.
- Retirer la garniture d'étanchéité de zéro degré. Installer la nouvelle garniture d'étanchéité de façon à ce que le code à lettre(s) inférieur sélectionné du tableau soit installé à côté de l'encoche du pied de positionnement sur le joint d'articulation situé le plus près de la roue.
Vous assurer que la nouvelle garniture d'étanchéité est fermement logée, réinstaller l'écrou dégagé à créneaux du joint à rotule, coupler à 75-85 pieds-livres, puis installer la nouvelle goupille fendue (non comprise).
- Toujours vérifier qu'il y a un dégagement approprié entre les composantes de suspension et les autres composantes du véhicule.
- Ajuster le pincement et revérifier l'alignement.

INSTRUCCIONES

1. Retire el pasador de retención y la tuerca de la unión superior del muñón y extraiga el buje. Instale un buje #23109 de cero grados y proceda a ejecutar un barrido del ángulo de avance del pivote (caster) para así determinar la magnitud del cambio necesario.

Nota: el empleo de una camisa de cero grados facilitará bastante la determinación del cambio en la comba o en el ángulo de caída/ángulo de avance del pivote que fuere necesario.

- Proceda a encontrar el cambio deseado en el ángulo de avance del pivote (caster) fijándose en el lado del conductor y en el del pasajero, tomando nota de los cambios, bien sean estos positivos o negativos.
- Proceda a encontrar el cambio requerido en la comba o ángulo de caída, tomando nota de los cambios, bien sean estos cambios positivos o negativos.
- La intersección de estas dos lecturas genera el código de la letra para producir el cambio deseado.
- La letra o letras superiores son para el ajuste de la camisa interna, la

letra o letras inferiores son para el punto de referencia para la instalación. (Vea el diagrama)

- Ajuste la camisa interna con una llave **SPC #74500** de manera que el código de la letra superior seleccionada en la tabla se encuentre alineado con la ranura de la camisa externa.
- Retire el buje de cero grados. Instale el nuevo buje de manera que el código con la letra inferior seleccionada en la tabla se encuentre instalado junto a la muesca de localización en el nudillo que se halle más cercano a la rueda.
Asegúrese de que el nuevo buje esté asentado firmemente, vuelva a colocar la tuerca acanalada del muñón, proceda a ajustar con un torque de 75 a 80 libras-pie (lb-ft), e instale el nuevo pasador de retención (no incluido)
- Verifique que siempre exista la tolerancia adecuada entre los componentes de la suspensión y los otros componentes o partes del vehículo.
- Proceda a ajustar las divergencias y verifique nuevamente la alineación.



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		Camber · Carrossage · Comba o ángulo de caída																													
		Negative Positif Positivo																													
		Negatif Négatif Negativo																													
		-2.75°	-2.50°	-2.25°	-2.0°	-1.75°	-1.50°	-1.25°	-1.0°	-0.75°	-0.50°	-0.25°	0	+0.25°	+0.50°	+0.75°	+1.0°	+1.25°	+1.50°	+1.75°	+2.0°	+2.25°	+2.50°	+2.75°							
+ Positive Positif Positivo	+ Angulo de avance del pivote (caster) del Lado Izquierdo del Conductor	+2.75°								L-M F	M F-G	M-N G	N G-H	N-O H	O H-I	O-P I									-2.75°	- Negative Negatif Negativo	- Angulo de avance del pivote (caster) del Lado Derecho del Pasajero				
		+2.50°						O-P F	K-L E	L E-F	Q-R H	R H-I	I-J F	J F-G	J-K G	K G-H	P-Q J	L-M I							-2.50°						
		+2.25°				N-O E	O E-F	K D-E			H-I E	I E-F			S I-J	S-T J			Q J-K	M I-J	M-N J				-2.25°						
		+2.0°			M-N D	J C-D				G-H D	H D-E					T J-K	T-U K			R K-L		N-O K						-2.0°			
		+1.75°			M C-D	I B-C	I-J C	T G	T-U G-H	U H	U-V H-I	V I			F F	F-G G	G G	G-H G-H	H H	R-S L	S L-M		O K-L					-1.75°			
		+1.50°			L-M C	R E	R-S E-F			F-G C			V-W I-J	E E	E-E F	E-F E-F			U-V L	I-J I-J	J J	O-P L						-1.50°			
		+1.25°			K-L B	Q D	Q-R D-E			H A-B			F B-C	D D	D-E D-E	W-X J-K	X K		V L-M		T M-N	J-K K	K K	P-Q M					-1.25°		
		+1.0°			P-Q C-D			G-H A	V E-F	V-W F	E A-B	X G-H	C-D C-D	Y H-I	Y-Z I	C A-B	X-Y K-L	D G-H	W M-N	E-F I	F I-J	T-U N			K-L K-L					-1.0°	
		+0.75°			O-P B-C	J-K A		U D-E	U-V E		D-E A	Y-Z F	C Z-A	A G-H			A-B H	Y L	B-C I	W-X N		U N-O	G J-K		L L			L-M L-M			-0.75°
		+0.50°			O B	J Z-A	T C-D	T-U D	F-G Z		X D-E	X-Y E	B B	Z-A D				Z M	C-D J	D J-K		U V-O	G-H K	H K-L	R N-O			M M			-0.50°
		+0.25°			N-O A-B	I-J Z	S-T C			F Y-Z	E-F Y	W-X D	C-D Z	A-B A-B				Z-A M-N	X-Y O	D-E K	V-W P	V O-P		H-I L	R-S O			M-N M-N			-0.25°
		0°			N A	I Y-Z	H-I Y			E X-Y		C Y-Z	A A					A N	Y O-P	W P-Q				H-I L	I L-M			N N			0°
		-0.25°			M-N Z-A	R-S B	H-I Y	I V B-C	V-W C	D-E X	X-Y B	Z-A Z-A					Z-A Q	B O	X-Y R	W-X Q	E-F L	F L-M	S-T P	I-J M	N-O N-O						+0.25°
		-0.50°			M Z	R A-B	H X-Y	G-H X	U-V B	D W-X	C-D W	Z Z	A-B X				Z-A Q	B O	X-Y R	X Q-R	F-G M	T-U Q	T P-Q	J M-N	O O						+0.50°
		-0.75°			L-M Y-Z	Q-R A		G W-X	F-G W		W-X A	B-C V	Y Y	Z-A W	A T-U	Z-A T	C P	Y-Z S	D-E N		G M-N	U Q-R		P P	O-P O-P						+0.75°
		-1.0°			Q Z-A			T-U A	F V-W	E-F V	W Z-A	D T-U	X Y	W-X Y	C S-T	Y-Z V	U Y	P-Q T-U	X N-O	E V-W	V R-S	G-H N			K N-O						+1.0°
		-1.25°			P-Q Z	K X	J-K W-X	T Z-A			V Y-Z		X X	W-X W-X	D-E Q-R	D Q	F O-P				H N-O	Q-R Q	Q Q	K-L O							+1.25°
		-1.50°				O-P Y	J W	I-J V-W			U-V Y			E-F R-S	W W	V-W V-W				F-G P	R-S R-S	R R	L-M P								+1.50°
		-1.75°				O X-Y		S Y-Z	R-S Y	H U	G-H T-U	G T	F-G S-T	F S		V V	U-V U-V	U U	T-U T-U	T T	I-J P	I O-P		M P-Q							+1.75°
		-2.0°					N-O X		R X-Y		T-U X	T W-X				H Q-R	G-H Q				J P-Q		M-N Q								+2.0°
		-2.25°						M-N W	M V-W	Q W-X			S-T W	S V-W	I R-S	I R-S	H-I R				K Q-R	O R-S	N-O R								+2.25°
		-2.50°							L-M V	P-Q W	P V-W	J-K T	J S-T	I J-S	R U-V	Q-R U-V	L R-S	K-L R			O-P S										+2.50°
		-2.75°									O-P V	O U-V	N-O U	N T-U	M-N T	M S-T	L-M S														+2.75°

Adjustable Camber/Caster Sleeve for Ford & Dodge Applications

Ford 4WD (Illust. 1)
80-96 F150, Bronco, F250, F350
80-02 E250, E350, E450 (w/ball joints)
97-98 F250 (H/D)
Ford 4WD (Illust. 2)
92-98 F350 Crew Cab 4WD
Ford 2WD (Illust. 2)
99-02 F450, F550 Super Duty 2WD
Dodge (Illust. 2)
(Note: 2° Maximum Camber Change)
94-99 BR2500 4WD, BR3500 4WD
94-02 BR3500 2WD w/ Mono Beam

Chemise de cylindre de carrossage/chasse ajustable pour Ford et Dodge Applications

Ford 4RM (Illust. 1)
80-96 F150, Bronco, F250, F350
80-02 E250, E350, E450 (avec joints à rotule)
97-98 F250 (robuste)
Ford 4RM (Illust. 2)
92-98 F350 4RM cabine double
Ford 2RM (Illust. 2)
99-02 F450, F550 2RM super robuste
Dodge (Illust. 2) (Remarque : Maximum 2° changement de chasse)
94-99 BR2500 4RM, BR3500 4RM
94-02 BR3500 2RM avec monopoutre

Camisa ajustable de la comba o del ángulo de caída (camber) /ángulo de avance del pivote (caster) para Ford y Dodge Aplicaciones

Ford 4WD (Illust. 1)
80-96 F150, Bronco, F250, F350
80-02 E250, E350, E450 (con/muñones)
97-98 F250 (H/D)
Ford 4WD (Illust. 2)
92-98 F350 Crew Cab 4WD
Ford 2WD (Illust. 2)
99-02 F450, F550 Super Duty 2WD
Dodge (Illust. 2) (Nota: 2° Máximo Cambio para el Ángulo de caída o comba)
94-99 BR2500 4WD, BR3500 4WD
94-02 BR3500 2WD con/ Mono Viga (Beam)

		CAM					
		Negative Positif Positivo					
		Negatif Négatif Negativo					
		-2.0°	-1.75°	-1.50°	-1.25°	-1.0°	-0.75°
+ Positive Positif Positivo	+ Side	+2.0°					
		+1.75°					
+1.50°							
+1.25°							
+1.0°							
+0.75°							
+0.50°							

Example Only!!!
‘R’ Upper Letter
‘E’ Lower Letter

Exemple seulement!
« R » Lettre supérieure
« E » Lettre inférieure

¡Únicamente a manera de Ejemplo!
‘R’ Letra Superior
‘E’ Letra Inferior

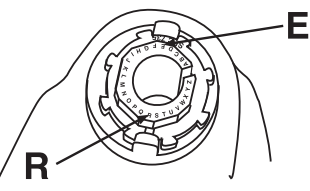


Illustration 1
‘R’ Lined-up with slot in the outer bushing
Upper Letter
‘E’ Lined-up with the dogear located nearest the wheel
Lower Letter

Illustration 1
« R » est aligné avec la gorge dans la garniture d’étanchéité extérieure (lettre supérieure)
« E » est aligné avec l’échancrure située le plus près de la roue (lettre inférieure)

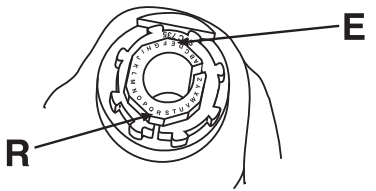


Ilustración 1
‘R’ Alineado con la ranura del buje externo (Letra Superior)
‘E’ Alineado con la orejera en forma de orejas de perro ubicada más cerca de la rueda (Letra Inferior)

Ilustración 2
‘R’ Lined-up with slot in the outer bushing
Upper Letter
‘E’ Lined-up with the raised flat ear located nearest the wheel
Lower Letter

Ilustración 2
« R » est aligné avec la gorge dans la garniture d’étanchéité extérieure (lettre supérieure)
« E » est aligné avec l’échancrure surélevée située le plus près de la roue (lettre inférieure)

Ilustración 2
‘R’ Alineado con la ranura del buje externo (Letra Superior)
‘E’ Alineado con la orejera plana en relieve ubicada más cerca de la rueda (Letra Inferior)