



**MAINTENANCE
INFORMATION**

MI19-05


DATE :	February 2019	SECTION :	14 STEERING
SUBJECT :	660865, 660699 DRAGLINK ADJUSTMENT		

Version initiale

2019-02-07

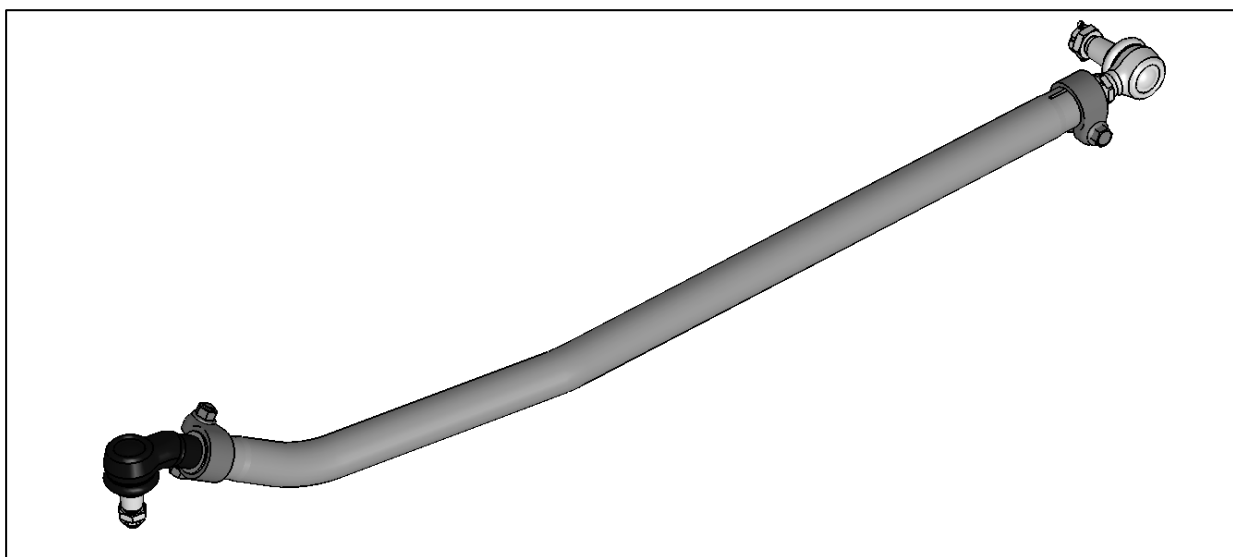
IMPORTANT NOTICE
This modification is recommended by PrevoSt to increase your vehicle's performance. Note that no reimbursement will be awarded for carrying out this modification.

APPLICATION

Model	VIN
H3-41, H3-45 coaches Model Year : 2014 -	 From 2PCH3349X EC712505 up to ...
X3-45 coaches Model Year : 2014 -	From 2PCG33497 EC735526 up to ...

DESCRIPTION

For vehicles equipped with I-beam axles, follow these instructions to adjust the length of the draglink. This applies to model year 2014 and onward.



MATERIAL

H series

Part No.	Description	Qty
660865	DRAG LINK ASSEMBLY, H SERIES	1
502104	COTTER PIN 5/32 X 2	1

X series

Part No.	Description	Qty
660699	DRAG LINK ASSEMBLY, X SERIES	1
502104	COTTER PIN 5/32 X 2	1

Other parts that may be required, depending on condition

Part No.	Description	Qty
660018	COLLAR ASSY / W/BOLT & NUT	2

NOTE

Material can be obtained through regular channels.

PROCEDURE



CAUTION

CONFORM TO THE PRESCRIBED TORQUES AND FOLLOW ASSEMBLY GUIDELINES TO ENSURE VEHICLE SAFETY.



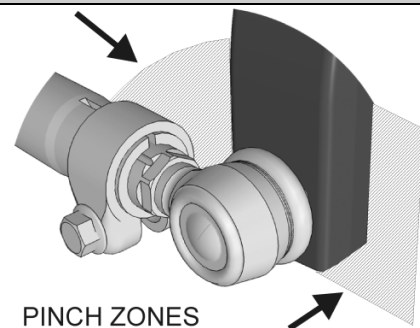
Park vehicle safely, apply parking brake, stop engine and set battery master switch(es) to the OFF position prior to working on the vehicle.



PINCH HAZARD

Keep hands and fingers clear of pinch zones around pitman arm.

Pinch zones are between pitman arm and clamp, and between front of pitman arm and vehicle structure.



PINCH ZONES

16196

REMOVAL OF EXISTING DRAG LINK



CAUTION

Heating of components to aid in disassembly is not allowed because it has a detrimental effect on axle components and steering linkages.



CAUTION

Do not drive (hammer in) pitman arm on or off pitman shaft as this can damage the steering gear.

1. Raise the vehicle by the wheels using mobile column lifts. Doing so will prevent a change in direction of the knuckles and preserve the relative positions of the steering components involved i.e. the steering arm and the pitman arm.
2. Remove cotter pin and nut from drag link ball joint stud at pitman arm.
3. Disconnect drag link from pitman arm, using jaw style pullers (pressure screw type).
4. Remove cotter pin and nut from drag link ball joint stud at the steering arm (near knuckle) and then disconnect the drag link.

ADJUSTING THE DRAG LINK TO PROPER LENGTH - ELBOW BALL JOINT (KNUCKLE SIDE)

5. Adjust the length of the draglink. To do so, try to install it between the steering arm and the pitman arm. If the length is not adequate, it must be adjusted to the required length. Use dimension "A" and steps below to adjust the length of the replacement drag link or you may use the replaced drag link for length reference.

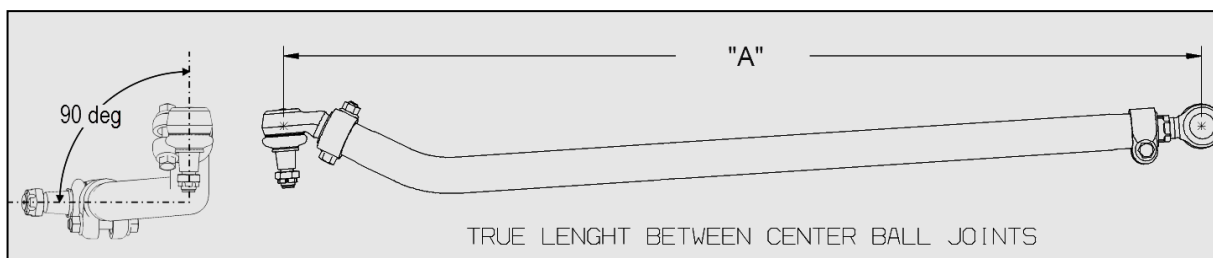


FIGURE 1: HSERIES LENGTH

H Series: Length A = 55" 7/8" ± 1/16" (1420mm ± 2mm)

X Series: Length A = 53" 3/8" ± 1/16" (1356mm ± 2mm)

6. Screw the drag link elbow ball joint (knuckle side) fully in drag link tube.



FIGURE 2

7. Unscrew the *drag link elbow* ball joint by **(not more than 1 turn)** so the tapered shank *points down* as shown on FIGURE 3. This will be the *initial / reference* position for next step.



FIGURE 3

8. Next, unscrew the *drag link elbow* ball joint back out.

H Series: **Five (5) full turn** from the *initial / reference* position.

X Series: **One (1) full turn** from the *initial / reference* position.

The tapered shank must point down as shown on (FIGURE 4).



FIGURE 4

9. To prevent interference between the ball joint clamp bolts and other components of the steering system, the clamp bolt must be positioned vertically as shown on FIGURE 6. **Tighten the clamp nut to 118-133 lbf-ft.**



CAUTION

Do not re-use clamp hardware.

Bolt and nut should be replaced every time they are unscrewed. While assembling the clamp, make sure the bolt does not touch the drag link tube.

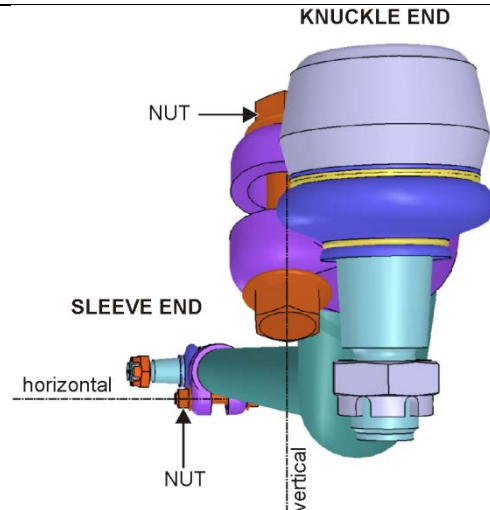
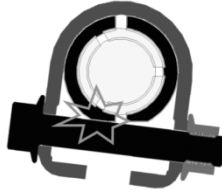


FIGURE 5: NOTE THE VERTICAL ORIENTATION OF THE CLAMP BOLT AT THE KNUCKLE END AND ON WHICH SIDE THE NUT MUST BE POSITIONED

SLEEVE ADJUSTMENT PARAMETERS

10. On the drag link front end you will find an adjustment sleeve which has internal and external left and right threads.

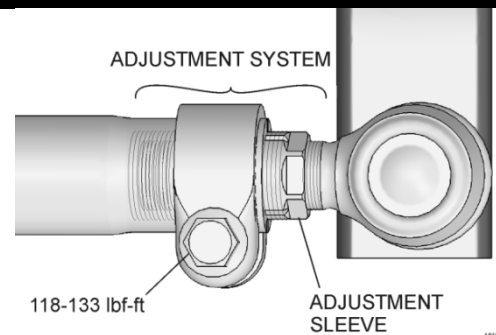


FIGURE 6

11. Fine adjustment of the drag link length if required should be performed exclusively by turning the adjustment sleeve while preventing the tube and joint from rotating.

TURN ADJUSTMENT SLEEVE COUNTER CLOCKWISE TO REDUCE LENGTH

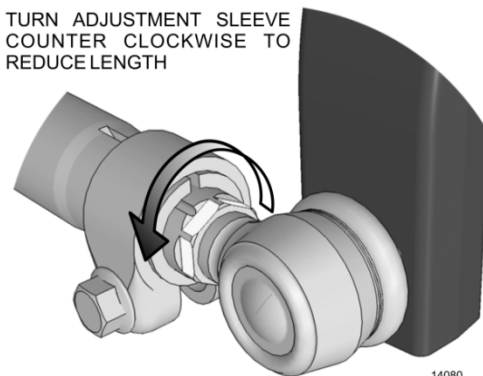


FIGURE 7

The only part rotating should be the sleeve

- To extend, turn the sleeve clockwise.
- To retract, turn counter clockwise.

GENERAL LIMITATIONS OF THE ADJUSTMENT SLEEVE

Do not exceed the following maximum thread lengths and values.

- Max dimension **V** : 5/8" (16mm) ± 1 thread pitch
- Max dimension **W** : 5/8" (16mm) ± 1 thread pitch
- Max dimension **X** : 1" (25mm)
- Dimension **V** and **W** should be equal ($V/W = 1$)

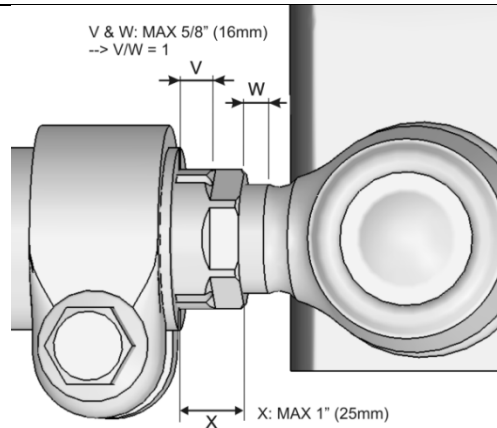


FIGURE 8

SLEEVE ADJUSTMENT

12. Adjust sleeve to the values of FIGURE 10.

$$10/32" = 8\text{mm}$$

13. Once the proper length adjustment is done, tighten the sleeve end ball joint clamp. To prevent interference between the ball joint clamp bolts with other components of the steering system, the clamp bolt must be positioned horizontally as shown on FIGURE 11. **Tighten the clamp nut to 118-133 lbf-ft.**

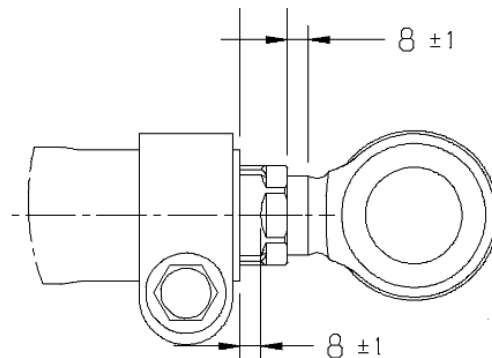


FIGURE 9

	CAUTION
Do not re-use clamp hardware.	
<p>Bolt <u>and</u> nut should be replaced every time they are unscrewed. While assembling the clamp, make sure the bolt <u>does not touch</u> the drag link tube.</p>	

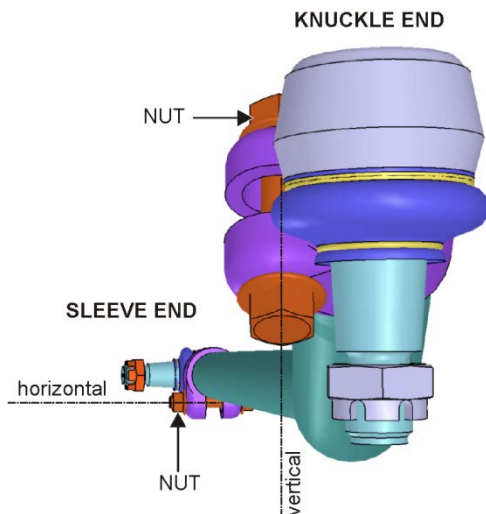


FIGURE 10: NOTE THE HORIZONTAL ORIENTATION OF THE CLAMP BOLT AT THE SLEEVE END AND ON WHICH SIDE THE NUT MUST BE POSITIONED

DRAG LINK INSTALLATION

14. Install the drag link.
15. Ball joint castellated nut on both ends should be tightened to **150-200 lbf-ft**.
16. Install cotter pin **p/n 502104** and bend to lock bolt in place (see an example of a correct installation of a cotter pin on the image below).
17. Apply a small amount of anti-seize compound on all exposed threads for corrosion protection. Be sure to avoid smearing the ball joint boot.

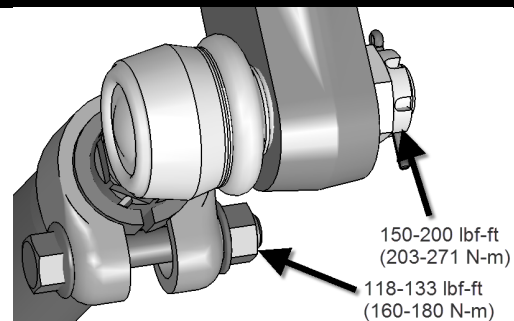
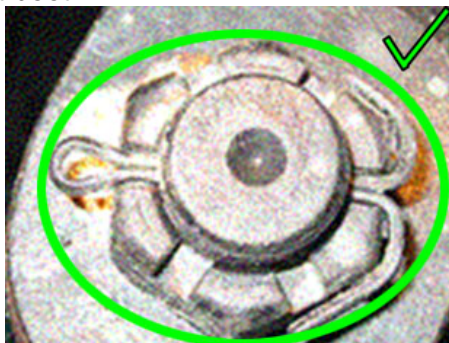


FIGURE 11



18. Make sure there is no binding or interference of the draglink with the vehicle structure by turning wheels fully in each direction. Min gap: 1/4" (6mm)
19. Inspect the gap between *tire* and *draglink* turning wheels *right*. Min gap 3/8" (9.5mm).

PARTS / WASTE DISPOSAL

Discard according to applicable environmental regulations (Municipal/State[Prov.]/ Federal)

Access all our Service Bulletins on <http://techpub.prevostcar.com/en/>
Or scan the QR-Code with your smart phone

Are you a Vehicle owner?
E-mail us at technicalpublications_prev@volvo.com and type "ADD" in the subject to receive warranty bulletins applicable to your vehicle(s) by e-mail.

