


Tech Tip



From your friends at New York Bus Sales

Product Effected – 2006 Thru 2008 BBCV (Vision)

Complaint: *We needed to replace a tie rod “end” and had to replace the whole assembly and now the tie rod contacts the axle in a turn.*

Cause: *Possibly*

- *Improperly Adjusted Wheel Stops*
- *Tie Rod Clamps not properly set on the tube.*

Correction: *Attached is S07MC from Blue Bird which addresses the fact that Hendrickson obsoleted the “FIRST GENERATION” tie rod ends and if you have a unit with them that both the ends and tube should be changed as an assembly (Part #00094365).*

When you see the new tube the first thing you will notice is that it is 3-1/2” shorter than the existing – Not to worry the tie rod ends are longer to compensate.

Once you have changed and set the toe, you may notice than in extreme right and left turns the tie rod tube may contact the axle.....Please first check your steering stop settings (instructions attached)

If you do this and there is still an issue, please check that the tie rod end clamps on the tube are correctly positioned. The bolts should be below the tube and the nuts away from the axle.

PLEASE NOTE – If you still experience an issue please contact us

Thank You to Frank and John from Morris Central School for working with us through this issue!

Contact Our Service Department With Any Questions

CHITTENANGO – phone 800-962-5768 or

Daryl Wallace : dwallace@newyorkbussales.com

Brian Lamaitis : blamaitis@newyorkbussales.com

ROCHESTER – phone 800-463-3232 or

Gary Chichester: gchichester@newyorkbussales.com

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Ben Reiling: breiling@newyorkbussales.com

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Morgan Jenkins: mjenkins@newyorkbussales.com



NEW YORK BUS SALES



BLUE BIRD

August 30, 2007

Dear Blue Bird Owner,

You will find enclosed a copy of Service Bulletin S07MC regarding the tie rod ends on certain 2006-08 model year Blue Bird Vision (BBCV) buses.

The tie rod assembly (assembly includes cross tube, both tie rod ends and attaching hardware) on the Hendrickson front axle used on the Blue Bird Vision (BBCV) has undergone two changes by Hendrickson since the original implementation of the axle assembly. These changes were not reflected in the Blue Bird part numbers because the complete tie rod assemblies (cross tubes with both tie rod ends) are interchangeable.

However, the tie rod ends and cross tubes are not interchangeable between the original tie rod assembly and the second and third generation tie rod assemblies. It is possible to install an original shorter tie rod end into a second or third generation cross tube. This installation does not meet Hendrickson's requirements for tie rod end thread engagement in the cross tube.

Buses that have had the tie rod ends replaced after July 01, 2005 must have the tie rod ends inspected for correct part number and proper thread engagement in the cross tube. If a tie rod end is found with threads that do not extend inside the cross tube as indicated in the instructions for Service Bulletin S07MC, it must be replaced with a longer tie rod end.

Your bus(es) that may be affected by Service Bulletin S07MC are identified by Blue Bird body number on the enclosed cover sheet.

A qualified repair technician should perform Service Bulletin S07MC. Replacement tie rod ends, if needed, are available from your Blue Bird dealer or Bus Care/Bus Spec parts source.

Labor time required to inspect the tie rod ends for thread engagement is 0.1 hours per bus. Labor time to remove and replace an incorrect tie rod end is 0.5 hours. Time required to remove and replace both tie rod ends is 1 hour per bus.

You may request reimbursement for labor from your Blue Bird Dealer or Bus Care/Bus Spec parts source if modifications are performed within one year from the date Service Bulletin S07MC was issued.

BLUE BIRD BODY COMPANY

PO Box 937 • Fort Valley, Georgia 31030 • (478) 825-2021

Service Bulletin S07MC expires one (1) year from date of issue.

Should you have any questions concerning this bulletin, please contact your Blue Bird dealer or factory service representative.

Sincerely,

A handwritten signature in cursive script that reads "Bill Coleman".

Bill Coleman
Blue Bird Corporation
478-822-2242
wpcolema@blue-bird.com



Hendrickson Tie Rod Ends

MODELS AFFECTED: All Blue Bird Visions (BBCV)

BULLETIN

ISSUE

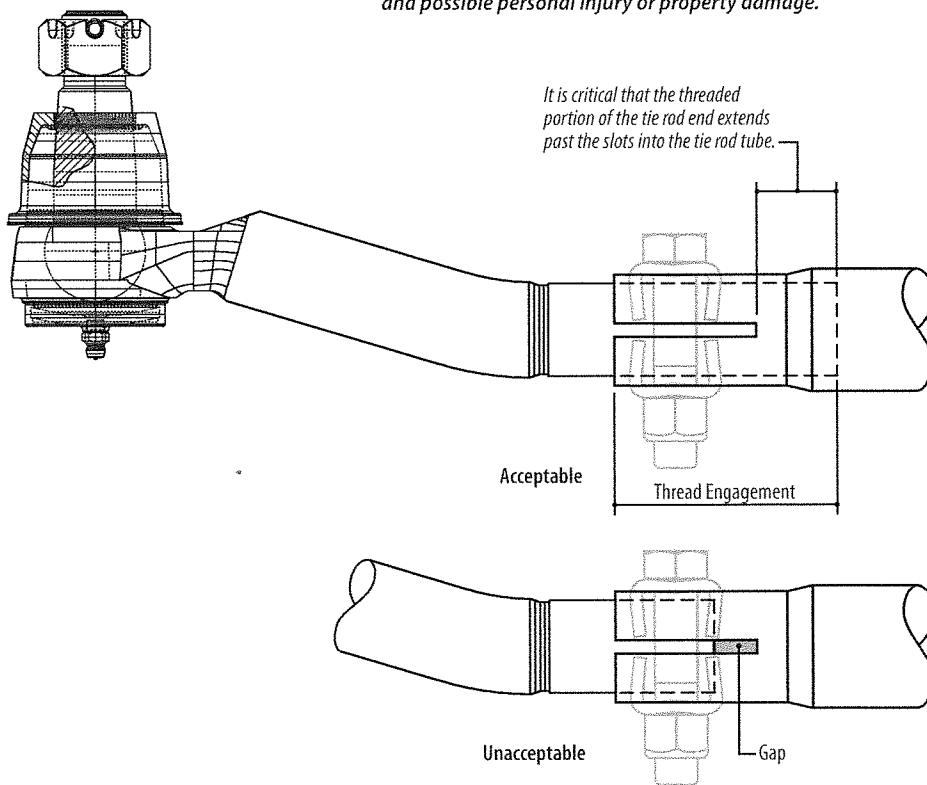
The tie rod assembly on Hendrickson front axles used on all Blue Bird Visions has undergone two changes since the introduction of the Vision. The changes were not reflected in Blue Bird part numbers because the tie rod assemblies are interchangeable. However, the First Generation tie rod ends are not interchangeable with the Second or Third Generation tie rod ends, resulting in different Hendrickson assemblies for individual subparts and assemblies. Blue Bird published S0705 Hendrickson Tie Rod Ends on May 14, 2007 to identify these changes and provide part numbers for our customers. It is possible, however, that a First Generation tie rod end (which had a long cross tube) may have been installed into a Second or Third Generation (which has a short cross tube) on chassis built after July 2005.

CORRECTIVE ACTION

Inspect all Tie Rod Ends and/or Tie Rod End/Cross Tube assemblies, installed or purchased since July 2005. Inspect tie rod end thread engagement into cross tube. If threads do not extend past the end of the slot in the cross tube or if any gap exist between the tie rod end and the end of the cross tube slot, contact your Blue Bird Service Parts Representative for replacement parts.

WARNING: Always follow all Federal, State, Local, and Shop safety standards and use proper safety equipment when performing repair, replacement and service procedures.

WARNING: The threaded portion of the tie rod end must extend past the slots in the tie rod cross tube, failure to do so can cause component to fail causing loss of vehicle control and possible personal injury or property damage.



S07MC
SERVICE BULLETIN



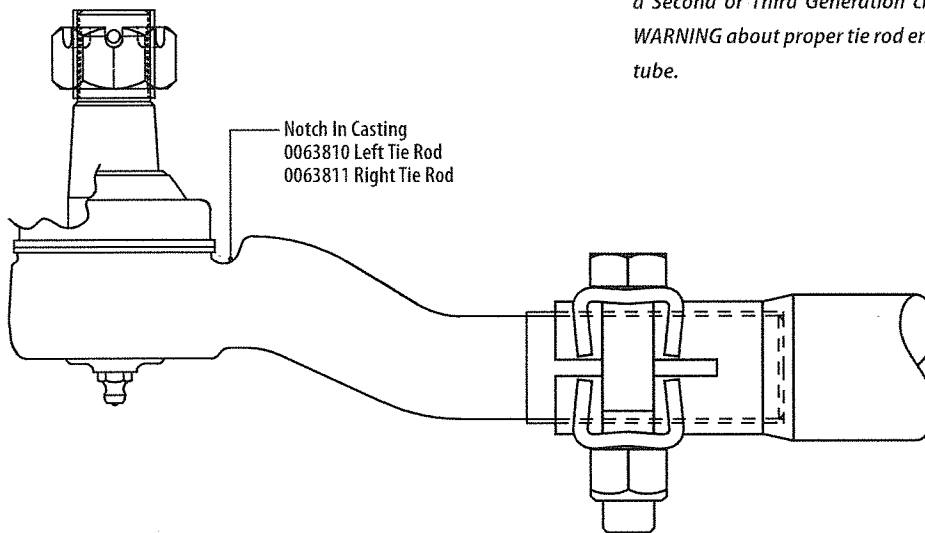
REFERENCE

First Generation Tie Rod Ends

First generation tie rod ends were used on Blue Bird Visions from its launch date to mid July, 2005. This tie rod end can be identified by a "notch" in the casting very near the rubber bushing. The replacement part numbers for this style tie rod end are 0063810 (Left) and 0063811 (Right).

Per Hendrickson Technical Bulletin SEU-0223 Tie Rod End Replacement Kits Revision B dated May 2007, the tie rod assembly and tie rod ends for these parts are obsolete and are no longer available. The entire tie rod assembly must be replaced. Per Hendrickson Technical Bulletin, Hendrickson Tie Rod End part number 66699-001 (Blue Bird 0094365) replaces Hendrickson Tie Rod End part number 59948-001, 59948-002 or 59948-006. Per Hendrickson Technical Bulletin, Hendrickson Tie Rod End part number 66699-003 (Blue Bird 0118467) replaces Hendrickson Tie Rod End part number 59948-004 or 59948-005. Note: The tie rod part number is located on the tie rod cross tube. Select the correct replacement for your vehicle.

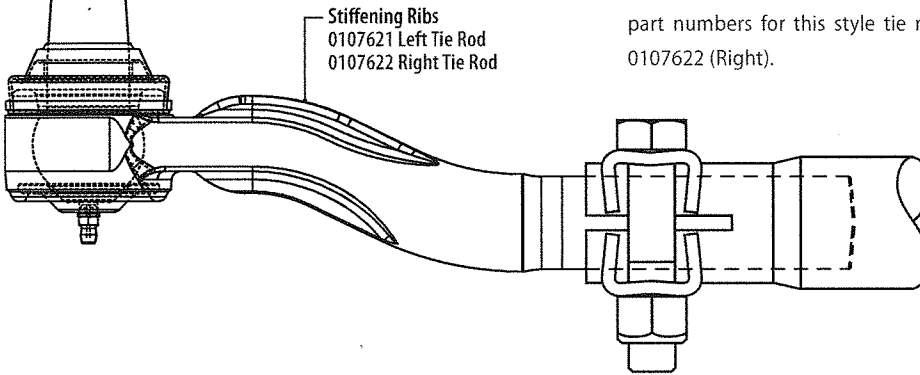
WARNING DO NOT use a First Generation tie rod end with a Second or Third Generation cross tube. Refer to Hendrickson WARNING about proper tie rod end thread engagement into cross tube.





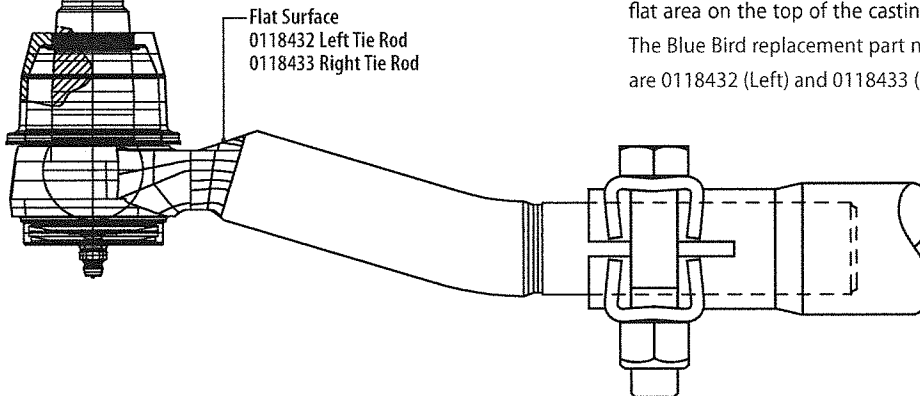
Second Generation Tie Rod Ends

Second generation tie rod ends were used on Blue Bird Visions from mid July, 2005 to July, 2006. This tie rod end can be identified by stiffening ribs on the top and bottom of the casting between the threads and the rubber bushing. The Blue Bird replacement part numbers for this style tie rod end are 0107621 (Left) and 0107622 (Right).



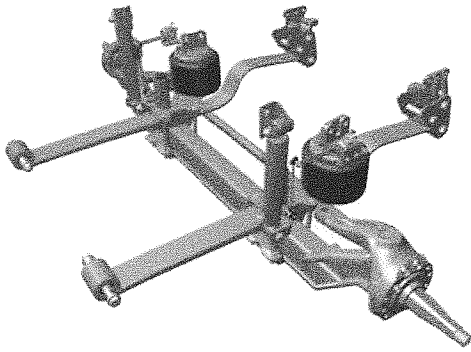
Third Generation Tie Rod Ends

Third generation tie rod ends were used on Blue Bird Visions from July, 2006 to present date. This tie rod end can be identified by a flat area on the top of the casting very near the rubber bushing. The Blue Bird replacement part numbers for this style tie rod end are 0118432 (Left) and 0118433 (Right).



The tie rod ends for the Second and Third Generations are interchangeable even though visually they are different shapes and are from different manufacturers.

WARNING Always install the correct Hendrickson parts and follow Hendrickson instructions for replacing the tie rod ends and/or tie rod assembly.



H TECHNICAL BULLETIN

AIRTEK®/SOFTEK® Tie Rod Assembly

SUBJECT: Tie Rod End Replacement Kits

LIT NO: SEU-0223

DATE: June 2007

REVISION: C

IMPORTANT NOTICE

Hendrickson supplies different **Tie Rod Assemblies** on the STEERTEK Axle for use with the AIRTEK®/SOFTEK® suspension systems, and each type may require a different replacement tie rod end kit or a complete tie rod assembly to service the tie rod assemblies. This publication will explain the correct replacement for your Tie Rod Assembly.

The best way to determine the proper tie rod end kit(s) is to find the tie rod assembly part number that is stamped on the original tie rod tube. With this number you can locate the corresponding kit(s) using the following chart. If the number on the tie rod tube is worn or cannot be found, contact the Hendrickson Sales Engineering department at 630-910-2800 or email: truckparts@hendrickson-intl.com.

	TIE ROD ASSEMBLY PART NUMBER	TIE ROD END PART NUMBER	TIE ROD END KIT NUMBER
■ Straight Tie Rods – 4.25" Drop – 1.125" Thread			
	58908-001 through -006 60239-001 through -008 64801-001 through -006 65706-001 through -002	64000-001 (LH) 64000-002 (RH)	60961-025 (LH) 60961-026 (RH) 60961-010 (AXLE SET)
	64442-001 through -006	65034-001 (LH) 65034-002 (RH)	60961-085 (LH) 60961-086 (RH) 60961-082 (AXLE SET)
■ Straight Tie Rods – 4.25" Drop – 1.25" Thread			
	64006-001 through -006	64002-001 (LH) 64002-002 (RH)	60961-027 (LH) 60961-028 (RH) 60961-011 (AXLE SET)

Continued on back page



	TIE ROD ASSEMBLY PART NUMBER	TIE ROD END PART NUMBER	TIE ROD END KIT NUMBER
■ Drop Tie Rods – 5.36" Drop – 1.25" Thread			
<p>Shown: 66699-xxx</p>	65690-001 through -003 66699-001 through -003	66645-001 (LH) 66645-002 (RH)	60961-137 (LH) 60961-138 (RH) 60961-139 (AXLE SET)
	*TIE ROD ASSEMBLY PART NUMBER	REPLACEMENT TIE ROD ASSEMBLY PART NUMBER	
<p>NOTE: * The tie rod ends for these tie rod assemblies are no longer available and will require complete tie rod assembly replacement. Shown are the compatible replacement tie rod assemblies.</p>	59948-001	66699-001	
	59948-002		
	59948-003	66699-002	
	59948-004	66699-003	
	59948-005		
	59948-006		

Contact Hendrickson Sales Engineering at 630.910.2800 (email: truckparts@hendrickson-intl.com) for any questions regarding this publication. For more information on Hendrickson products visit us at www.hendrickson-intl.com.

www.hendrickson-intl.com



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STEERING STOP

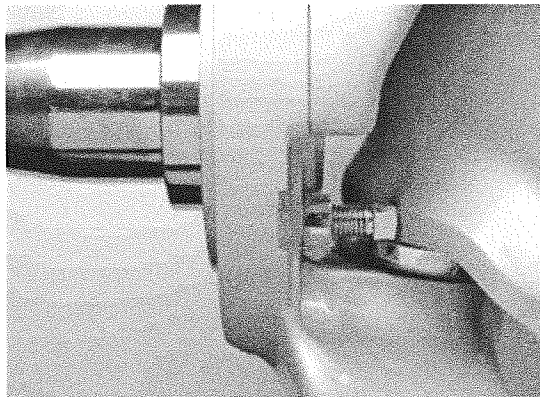
ADJUSTMENT PROCEDURE

When the axle or lower steering knuckle is replaced, the steering stop adjustment must be checked.

The steering stop adjustment procedure is as follows:


1. Drive truck onto turntables and chock the rear wheels.
2. Measure the wheel cut. The wheel cut is determined by steering the tires. Wheel cut is measured at the inside wheel only, therefore the tires must be turned to the full lock position for each right hand and left hand direction. Refer to the vehicle manufacturer for exact specifications.
3. Increase the wheel cut by loosening the jam nuts and screw the axle stops in clockwise.
4. Tighten the jam nuts.

FIGURE 8-18



NOTE

It is very important that the sides of the square head axle stops are set parallel to the axle beam to ensure a good contact point on the axle, see Figure 8-18.

5. Decrease the wheel cut by loosening the jam nuts and screw the axle stops out counter-clockwise.
6. Tighten the jam nuts to  40-60 foot pounds torque.
7. Measure the wheel cut and check for any interference with related steering components.

WARNING

ALWAYS CHECK/RESET THE STEERING GEAR BOX POPPET WHEN THE WHEEL CUT IS DECREASED. FOLLOW MANUFACTURER'S GUIDELINES FOR THE GEAR BOX POPPET RESETTING PROCEDURE. FAILURE TO DO SO CAN RESULT IN PREMATURE FAILURE OF THE AXLE OR STEERING KNUCKLE. THIS CONDITION CAN CAUSE LOSS OF VEHICLE CONTROL, PERSONAL INJURY OR PROPERTY DAMAGE AND VOID WARRANTY.