DRV, Inc – DoubleTree RV
1000 Interchange Drive
PO Box 235
Howe, IN 46746

November 22, 2010

Mr. Richard Boyd
Room W48-304
U.S. Department of Transportation
National Highway Traffic Safety Administration
Washington DC 20590

Dear Mr. Richard Boyd:

Enclosed please find documentation from DRV, Inc in response to PE10-040. Upon your review I look forward to talking with you further concerning this issue. Should you need additional information or have questions, please do not hesitate to contract me.

Thank you,

Tom Peck
Customer Service Manager

TP / deb
ENCLOSURE

PE10-048

DOUBLETREE RV

11-22-2010

Request Number Three (1) - Proc and Process in Effect as of January 2005

Request Number Three Procedures and Process in Effect as of January 2005

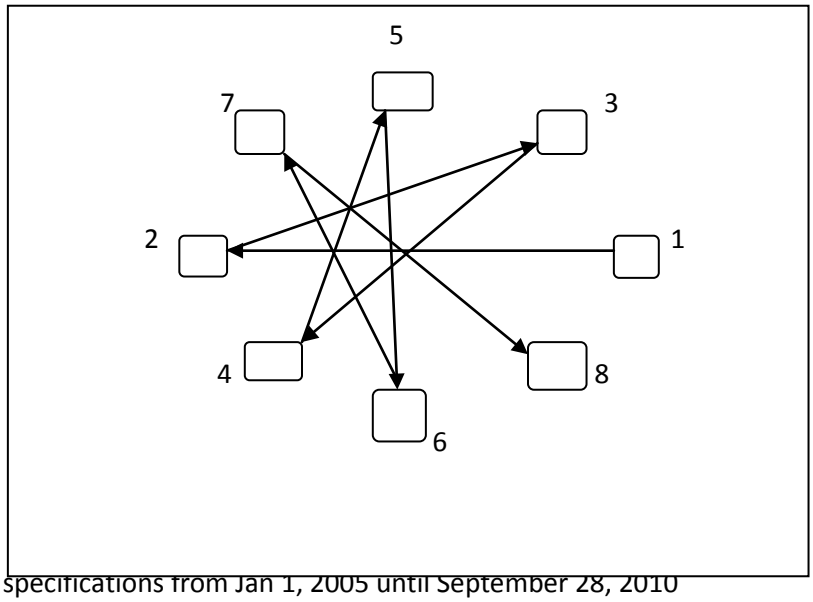
As of January 2005:

Our component guidelines were as follows:

1) Surfaces of contact on an aluminum wheel (the nut seat and the mounting surface) must be free of paint, contamination and damage. Smooth, clean surfaces provide the most uniform clamping pressure and best retain torque.
2) Surfaces of contact on a steel wheel (the nut seat and the mount surface) must be free of excessive paint, contamination and damage. Smooth, clean surfaces provide the most uniform clamping pressure and best retain torque.
3) Surfaces of contact on the axle (the flat hub surface and the threaded studs) must be free of excessive paint, oils, grease, contamination and physical damage.
4) Lug nut Geometry must match that of the wheel nut seat. The threads and nut seat must be free of paint, oils, grease and other contamination.
5) Stud length must be sufficient that, after mounting the wheel to the hub, the lug nut is engaged to a depth at least equivalent to the diameter of the stud. For example, a lug nut threaded on a ½ inch diameter stud should thread on for a depth of at least ½ inch.

Procedures:

1) Installation of brands of tires supplied by Tredit tires will be on Dexter or Lippert axles. Tredit has confirmed, as well as Dexter and Lippert, all components meet the required guidelines.
2) Torque stick is first used to snug to 80# in the star pattern, then calibrated torque wrench will be used to finish torqueing to manufactures specs



3) Tire specifications from Jan 1, 2005 until September 28, 2010

Select	Tires	Present tire	Torque

		pressure	
All except 38	235-80R16E	80	125
38	215-75R17.5H	125	150
Mobile Suite			
32& 36	235-85R16G	110	125
38	215-75R17.5H	125	150
41	215-75R17.5H	125	150
43	235-85R16G	110	125
Elite			
All except 43	215-75R17.5H	125	150
43	215-75R17.5H	125	150

4) Audits will be performed by the midline inspector (visual)
5) In station 3 the operator will again use a calibrated torque wrench to torque to manufactures specs
6) PDI- after the unit travels to and from paint, approx. 60 miles, the wheels will be torque again using a calibrated torque wrench.

PE10-048

DOUBLETREE RV

11-22-2010

Request Number Four -Proc and Process Changes Re WE Assemblies

Request Number Four - Procedures and Process / Procedure Changes Relative to Wheel End Assemblies

Modifications:

July 12, 2010- distance a unit travels changed due to paint shop change. Some units travel 10 miles round trip if going to Lagrange paint shop (Revelation), and some go 75 miles if going to Bremen (Precision)

July 26, 2010 PDI now has a metered calibrated torque wrench to verify the torque is to spec with a numeric reading.
REASON: Currently we used calibrated torque wrenches. Using a metered torque wrench allowed DRV to review, inspect, and chart actual numeric torque values. We chose PDI because this was after the unit had actual miles of travel.

August 23, 2010- after paint now uses calibrated torque wrench to torque the lugs after travel to paint.
REASON- We installed this so that the lugs were torque after the unit's actual miles traveled. The PDI would inspect each lug was to spec on the numeric metered torque wrench.

Sept 9/28/2010 New Tire Specifications

Select	Tires	Present Tire Pressure	Torque
All except 38	235-80R16E	80	125
38	215-75R17.5H	125	150
Mobile Suite			
32& 36	235-85R16G	110	125
38	215-75R17.5H	125	150
41	215-75R17.5H	125	150
43	235-85R16G	110	125
Elite			
All except 43	215-75R17.5H	125	150

43	215-75R17.5H	125	150

October 20, 2010

Starting with VIN 5621 New Tire Specifications

Select	Tires	Rim Size	Present Tire Pressure	Torque
All 36	235-80R16E	16 x 6.5	80	125
All upgrade 36 and all 38	215-75R17.5H	17.5 x 6.75	125	150
Mobile Suites				
32-38	215-75R17.5H (Hercules)	17.5 x 6.75	125	150
41	215-75R17.5H (Hercules)	17.5 x 6.75	125	150
All 43 except Denver and Dallas	215-75R17.5H (Hercules)	17.5 x 6.75	125	150
43 Denver and Dallas	215-75R17.5H (Hercules)	17.5 x 6.75	125	150
Elite				
All except 43	215-75R17.5J (Michelin)	17.5 x 6.75	120	150
All 43 except Denver and Dallas	215-75R17.5J (Michelin)	17.5 x 6.75	120	150
43 Denver & Dallas	215-75R17.5J (Michelin)	17.5 x 6.75	120	150

October 25, 2010

A calibrated numeric torque wrench was purchased for our transport driver. He is to check and record all lugs prior to leaving for paint and then recheck them at paint before it returns to afterpaint.

REASON- this will allow better documentation of lugs and torque retention directly from the assembly line during the transport process of the unit going to and from the paint shop.

Section of Driver's form pertaining to the torque issue:

Please record the torque values below: 17.5" torque 150 ft. lbs. 16" torque 125 ft lbs.

Trip	D/S FRONT	D/S CENTER	D/S REAR	O/D/S FRONT	O/D/S CENTER	O/D/S REAR
Actual off line reading						
Prior to transport						
Actual after transport						
Retorque to spec						

Comments: (please explain anything rejected above.)

_____

Signature:_____

PE10-048

DOUBLETREE RV

11-22-2010

Request Number Five - Proc and QC Plans - Changes ReWE Assemblies

Request Number Five - Procedures and Quality Control Plans / Changes Relative to Wheel End Assemblies

Our Quality Control plan was evaluated and confirmed that it conformed to the Trailer Safety Industry Coalition sent out December 20, 2004.

Our component guidelines were as follows:

1) Surfaces of contact on an aluminum wheel (the nut seat and the mounting surface) must be free of paint, contamination and damage. Smooth, clean surfaces provide the most uniform clamping pressure and best retain torque.
2) Surfaces of contact on a steel wheel (the nut seat and the mount surface) must be free of excessive paint, contamination and damage. Smooth, clean surfaces provide the most uniform clamping pressure and best retain torque.
3) Surfaces of contact on the axle (the flat hub surface and the threaded studs) must be free of excessive paint, oils, grease, contamination and physical damage.
4) Lug nut Geometry must match that of the wheel nut seat. The threads and nut seat must be free of paint, oils, grease and other contamination.
5) Stud length must be sufficient that, after mounting the wheel to the hub, the lug nut is engaged to a depth at least equivalent to the diameter of the stud. For example, a lug nut threaded on a ½ inch diameter stud should thread on for a depth of at least ½ inch.

Procedures:

6) Installation of brands of tires supplied by Tredit tires will be on Dexter or Lippert axles. Tredit has confirmed, as well as Dexter and Lippert, all components meet the required guidelines.
7) Torque stick is first used to snug to 80# in the star pattern, then calibrated torque wrench will be used to finish torquing to manufactures specs

Frequency:

Every unit constructed in installed and torque in the above listed procedures. Inspection also occurs on every tire/lug on every unit.

Inspection Points:

1) The mid line inspection is a visual inspection of the tire and rim mounted to the hub face. At this point there is no actual lug torque inspection.
2) Production stop station 3- operator uses a calibrated torque wrench to torque to manufacture's specs
3) Upon completion of the unit on the assembly line, our transport driver uses a metered calibrated torque wrench to audit every lug torque prior to transporting to our paint shop.
4) Before returning to our facility, our transport driver again uses the metered calibrated torque wrench to audit every lug to assure no lug retention was lost. All information pertaining to his findings is recorded on his Driver Log Sheet.

5) When the unit returns to DRV from the paint shop, our After Paint station uses a calibrated torque wrench to torque to manufactures specs again.
6) Once production has finished the unit and it is cleared for shipment, we move the unit to our Pre Delivery Inspection bay for a complete audit. The PDI technician inspects all rim to hub assemblies verifying they are to the above listed standards. He then uses his metered calibrated torque wrench to get a numeric reading on every lug prior to shipment.

PE10-048

DOUBLETREE RV

11-22-2010

Request Number Six - Proc and Process Changes Relative to WE Assemblies

Request Number Six - Procedures and Process / Procedure Changes Relative to Wheel End Assemblies

Modifications:

July 12, 2010- distance a unit travels changed from 60 miles to 10 miles due to paint shop change. Some units travel 10 miles round trip if going to Lagrange paint shop (Revelation), and some go 75 miles if going to Bremen (Precision)

July 26, 2010 PDI now has a metered calibrated torque wrench to verify the torque is to spec with a numeric reading. Previously we used a calibrated non-metered torque wrench.

REASON: Currently we used calibrated torque wrenches. Using a metered torque wrench allowed DRV to review, inspect, and chart actual numeric torque values. We chose PDI because this was after the unit had actual miles of travel.

August 23, 2010- after paint now uses calibrated torque wrench to torque the lugs after travel to paint. REASON- We installed this so that the lugs were torque after the unit's actual miles traveled. The PDI would inspect each lug was to spec on the numeric metered torque wrench.

Sept 9/28/2010 New Tire Specifications

Select	Tires	Present Tire Pressure	Torque
All except 38	235-80R16E	80	125
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Mobile Suite			
32& 36	235-85R16G	110	125
38	215-75R17.5H	125	150
41	215-75R17.5H	125	150
43	235-85R16G	110	125
Elite			
All except 43	215-75R17.5H	125	150

43	215-75R17.5H	125	150

October 20, 2010

Starting with VIN 5621 New Tire Specifications

Select	Tires	Rim Size	Present Tire Pressure	Torque
All 36	235-80R16E	16 x 6.5	80	125
All upgrade 36 and all 38	215-75R17.5H	17.5 x 6.75	125	150
Mobile Suites				
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Actual off line reading						
Prior to transport						
Actual after transport						
Retorque to spec						

Comments: (please explain anything rejected above.)

_____

Signature:_____

PE10-048

DOUBLETREE RV

11-22-2010

Request Number Eight - Vehicle Design - Wheel Retention Clamp Jointin Effect as of January 2005

Request Number Eight Vehicle Design – Wheel Retention Clamp Joint Components and Design / Changes Relative to Wheel End Assemblies

8. Describe all modifications or changes made by, or on behalf of, DoubleTree RV in the design, material composition, manufacture, quality control, supply, or installation of the subject components (wheel, axle hub, wheel mounting studs, wheel mounting nuts), from January 2005 to date, which relate to, the alleged defect in the subject vehicles. For each such modification or change, provide the following information:

(a) The date or approximate date on which the modification or change was incorporated into vehicle production;
(b) A detailed description of the modification or change;
(c) The reason(s) for the modification or change;
(d) The part number(s) (service and engineering) of the original component;
(e) The part number(s) (service and engineering) of the modified component;
(f) Whether the original unmodified component was withdrawn from production and/or sale, and if so, when.
(g) When the modified component was made available as a service component; and,
(h) Whether the modified component can be interchanged with earlier production components.

Note: All changes intended to improve the integrity and durability of the wheel mounting system that were implemented in response to wheel separation and wheel loosening should be clearly identified as such.

Answer:

A. Axles:

a. Modification/Change in Component:

DoubleTree RV used Dexter axles exclusively from January 2005 to the 2007 model year. With the 2007 model year change DoubleTree RV introduced Lippert axles in some applications and retained Dexter in others. See matrix below.

b. Date of Change:

Type of Axle / **Model Year**

DoubleTree Select Model	**'07**	**'08**	**'09**	**'10'**	**'11**
Dexter 8000 lb (Part # D70 50344)	→	→	→	→	→
Dexter 7000 lb (Part # D70 49376)	→				
Lippert 7000 lb w/ $^{9}/_{16}$" stud (Part # 14173)		→	→	→	
Lippert 7000 lb w/ ½" stud					→
DoubleTree Mobile & Elite Models	**'07**	**'08**	**'09**	**'10'**	**'11**
Dexter 8000 lb (Part # D70 50344)	→				
Lippert 8000 lb w/ $^{9}/_{16}$" stud (Part #'s 148646 F & 165199 R)		→	→	→	Discontinued during '11
Lippert 8000 lb w/ $^{5}/_{8}$" stud (Part #'s 148654 F & 165201 R)	→	→	→	→	→

c. Description of Change:

Axle changed from one supplier to another. Axle specifications remained the same.

d. Reason for Change:

Management decision to change vendor

e. Part number of Original Components:
See matrix above.

f. Part number of Modified Components:
See matrix above

g. Whether original unmodified component was withdrawn from production and/or sale and if so when:
The Original components were phased out of production and not reordered.

h. Whether the modified component can be interchanged with earlier production components:

The new components can be used on previously built product.

B. Wheels

a. Modification/Change in Component:
DoubleTree RV used the 16 x 6.5J and the 17.5 x 6.75HC aluminum wheel from January 2005 to present. We are in the process of changing to a different rim and wheel nuts in an effort to improve lug nut retention and clamp force.

b. Date of Change:
Date of change to 17.5 x 6.758H HI spec wheel with flange nut is to be determined.
Date of change to 16 x 6J type T02 7 spoke wheel with Torq-N-Go wheel nuts is to be determined.

c. Description of Change:
Change from 17.5 x 6.75 HC Vision aluminum wheel to 17.5 x 6.75 HC HI spec wheel with flange nut.
Change from 16 x 16.5J aluminum MOD wheel to 16 x 6J type T02 7 spoke wheel with Torq-N-Go wheel nut.

d. Reason for Change:
DoubleTree RV investigated, in consultation with suppliers, what components were available that might have better torque retention/clamp force. The change is a result of recommendations that improved retention/clamp could be achieved with these components.

e. Part Number of Original components:
16" (16 x 6.5J) part number = Y184682
17.5" (16 x 6.55 G Tire) part number = Y330630

f. Part Number of Modified Components:
16" (16 x 6J) part number = Y1802682
17.5" (17.5 x 6.75 HC) part number = Y380490

g. Whether original unmodified component was withdrawn from production and/or sale and if so when:
The original components were phased out in production and not reordered.

h. Whether the modified component can be interchanged with earlier production components:
The new components cannot be interchanged with earlier production components due to the rim & wheel nut changes.