Keystone RV Company

SERVICE ADVISORY # 07-085

Hub/Wheel Clamp Joint Paint Removal & Lug Nut Torque

Keystone is conducting a voluntary RECALL notification campaign in accordance with the National Highway Transportation and Safety Act. Keystone has determined that a defect exists in the models listed below. Paint applied to the hub face of certain units may not have been removed prior to wheel installation and could cause the lug nuts to loosen during the initial settling-in period or after removal for service. The following procedure describes how to perform the repairs required and how to inform the customer of their responsibilities as it relates to Lug Nut Torque and Maintenance which is outlined in the Keystone RV and Axle Manufacturer's owner's manuals.

Models Included:

2007 & 2008 Montana Fifth Wheels with Aluminum Wheels manufactured between April 27, 2007 and May 1, 2007. **Note: Some units were repaired at the factory prior to shipment. Only those listed below are involved in this recall.**

Serial Number Range:

2007 Montanas

4YDF3482274704635	4YDF3402874704649
4YDF3402X74704636	4YDF3582174704650
4YDF3482674704637	4YDF3402674704651
4YDF3402374704638	4YDF3582574704652
4YDF3582274704639	4YDF3402X74704653
4YDF3402174704640	4YDF3582974704654
4YDF3582074704641	4YDF3402374704655
4YDF3402574704642	4YDF3582274704656
4YDF3582474704643	4YDF3402774704657
4YDF3582674704644	4YDF3582674704658
4YDF3402074704645	4YDF3402074704659
4YDF3582X74704646	4YDF3582474704660
4YDF3402474704647	4YDF3582674704661
4YDF3582374704648	

2008 Montanas

4YDF3502X84700061	4YDF3292284700072
4YDF3502184700062	4YDF3502684700073
4YDF3292184700063	4YDF3292684700074
4YDF3502584700064	4YDF3502X84700075
4YDF3292584700065	4YDF3502184700076
4YDF3502984700066	4YDF3292184700077
4YDF3292984700067	4YDF3652784700078
4YDF3502284700068	4YDF3292584700079
4YDF3502484700069	4YDF3652584700080
4YDF3292984700070	4YDF3292384700081
4YDF3502284700071	4YDF3652984700082

Parts Required per Unit:

Damaged parts replacement determined upon unit inspection-Contact Keystone Customer Service

Tools Required:

– Impact Wrench - ½" drive (removal of wheels only)
– Torque Wrench – ½" drive
– Deep Socket (13/16"), ½" drive
– Minimum 2" long socket extension, ½" drive
– Floor Jack – adequate to trailer weight
– Jack Stands
– Drill
– Paint Remover
– Scouring Pads (very fine light duty)
– Cleaning Rags
– Water Hose with Spray Nozzle
– Wheel Chocks
– Wire Wheel
– Grease Pencil or Tape

INSTRUCTIONS

ONE: PREPARING THE TRAILER

Step 1 Locate the trailer on a level, flat, and hard surface. Chock the wheels.

Step 2 Using a grease pencil or tape; mark the locations of the wheel to the hub & studs for each wheel. To assure the best seat, the wheel will need to be reinstalled in the exact position from which it was removed.

Step 3 Use a floor jack of sufficient capacity to raise one side of the trailer. Place the floor jack under the main frame rail behind the rear spring hanger, leaving enough room to install a jack stand immediately behind the spring hanger. Elevate the frame just enough to take some of the weight off the wheel.

Step 4 Loosen the lug nuts on the rear wheel about a half turn. DO NOT remove lug nuts at this time.

Step 5 Continue elevating the frame until the rear tire just clears the shop floor.

Step 6 Install a jack stand of sufficient capacity directly behind the rear spring hanger.

Step 7 Relocate floor jack to an area just forward of the front spring hanger, leaving enough room to install a jack stand immediately in front of the spring hanger.

Step 8 Use a floor jack of sufficient capacity to raise one side of the trailer. Place the floor jack under the main frame rail forward of the rear spring hanger, leaving enough room to install a jack stand immediately forward of the spring hanger. Elevate the frame just enough to take some of the weight off the wheel.

Step 9 Loosen the lug nuts on the forward wheel about a half turn. DO NOT remove lug nuts at this time.

Step 10 Raise the frame until the forward tire just clears the shop floor.

Step 11 Install a jack stand of sufficient capacity just forward of the front spring hanger.

Step 12 With both tires now slightly off the ground, finish removing the lug nuts and the two wheels from the trailer.

TWO: **WHEEL & LUG INSPECTION**

Step 1 Inspect the stud holes for wear, elongation or damage. Stud holes in the wheel should be smooth and round with no deformities.

Step 2 Replacement of the wheel will be required if signs of damage are present. Contact Keystone Customer Service for authorization and to acquire parts. The damaged wheel must be returned to Keystone RV.

Step 3 Lug nuts should not exhibit wear or damage.

Step 4 If any lug nuts do show damage, replace all lug nuts on that wheel. Contact Keystone Customer Service for authorization to acquire parts. The damaged lug nuts must be returned to Keystone RV.

THREE: **WHEEL STUD INSPECTION**

Step 1 Inspect the thread area on all studs for any signs of damage. Any stud that has come into contact with the wheel will show significant damage to the threads.

Step 2 If any studs do show damage then the axle hub face will have to be replaced. **Do not press in new studs.** Contact Keystone Customer Service for authorization and to acquire parts. The damaged hub must be returned to Keystone RV.

Note: **If no damage to the studs, lug nuts or wheels is present, proceed to Wheel and Hub Paint Removal, below.**

FOUR: **WHEEL & LUG REPLACEMENT**

Step 1 If any of the wheels have damage, replacement wheels will be shipped to you by contacting Keystone Customer Service. Damaged parts must be returned to Keystone to obtain replacement parts. Remove and store the tires from any damaged wheels prior to returning a wheel. Remount the tire to the replacement wheel. Verify the air pressure in the tire meets requirements embossed on the tire sidewall.

Step 2 Replacement lug nuts should match the original configuration of the damaged nuts.

FIVE: **AXLE HUB FACE REPLACEMENT**

Step 1 If any hubs have damage, verify the data from the label shown below and place your parts order on Key Express as an unlisted Part Order. See Figure 1.

Figure 1

Step 2 Remember to return all damaged parts to Keystone. Once the hub has been replaced proceed to **Wheel & Hub Paint Removal**.

SIX: WHEEL & HUB PAINT REMOVAL

Step 1 The black paint that has transferred from the hub face to the mounting surface of the wheel must be fully removed.

Step 2 For the wheel, apply lacquer thinner to the back side (hub-mating surface) side of the wheel with a shop rag to soften the black paint. Rub the area with a type "A" very fine Scotch-Brite® pad until clean. Dry the surface completely. See Figures 2 & 3.

Warning: Do not allow solvent or equivalent to make contact with the tire. Do not use liquid paint remover as this will pit and damage the aluminum wheel. Do not use a wire wheel (brush) or grinder to remove the paint from the wheel as this will also damage the wheel.

Figure 2 Before Cleaning

Figure 3 After Cleaning

Step 3 For the hub face, apply liquid paint remover or equivalent to the wheel-mating surface of the hub. Use a wire wheel (brush) to clean all black paint form the wheel-mating surface, that is, all areas of the hub face that come in direct contact with the wheel. Avoid damaging the hub face with this process! After the paint is removed, wash off the area with water to remove any remaining residue. Dry the surface completely. See Figures 4 & 5.

Step 4 Make a final inspection of these surfaces before mounting the wheels. If any grease is present, use a brake cleaner or degreaser. Rinse any cleaned areas with water to remove residue. Dry the surface completely. See Figure 5.

Warning: When using chemicals (paint remover, brake cleaner/degreaser) be sure to utilize the "Personal Protective Equipment" (PPE) recommended by the manufacturer through the Material Safety Data Sheet (MSDS) and dispose in accordance with all Federal, State and Local Laws.

Warning: When cleaning the hub face with the wire wheel, avoid excessive pressure on the studs. Applying too much force here could damage the threads on the studs.

Figure 4 Before Cleaning

Figure 5 After Cleaning

SEVEN: **WHEEL ASSEMBLY INSTALLATION**

Step 1 Using a clean rag, wipe down all lug nuts and tapered nut seats on wheel to remove any remaining residues.

Step 2 Mount each wheel to the axle it was removed from. Position the wheel using the marks made earlier so that the wheel is installed with the same orientation to the studs as before (this helps in reseating the wheel to the hub).

Step 3 Start the lug nuts on each stud by hand.

Step 4 You must use the star pattern and torque wrench when tightening the lug nuts to the wheel. This sequencing pattern shows how to progressively tighten the lug nuts to best achieve the proper torques and clamp load. See Figure 6.

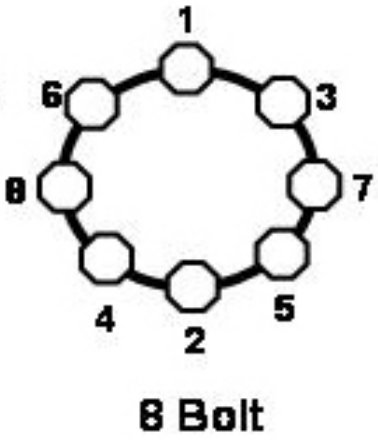

Figure 6

Step 5 Using the star pattern outlined in Figure 6, tighten the lug nuts until the 1st stage torque (20-25 ft/lbs) outlined in Figure 7 is achieved. Verify the lug nuts are properly positioned in the tapered seats of the wheel.

Wheel Torque Requirements			
Wheel Size	**1st Stage**	**2nd Stage**	**3rd Stage**
15"	20-25 ft/lbs	50-60 ft/lbs	110-120 ft/lbs
16"	20-25 ft/lbs	50-60 ft/lbs	110-120 ft/lbs

Figure 7

Step 6 Using the star pattern outlined in Figure 6, tighten the lug nuts until the 2nd stage torque (50-60 ft/lbs) outlined in Figure 7 is achieved.

Step 7 Lower the trailer to the ground.

Step 8 Using the star pattern outlined in Figure 6, tighten the lug nuts until the 3rd and final stage (110-120 ft/lbs) is achieved. See Figure 7.

Step 9 Use a dial or digital torque wrench to verify that the proper amount of torque has been applied.

Step 10 Repeat Steps **ONE:** through **SEVEN:** for the other side of the trailer.

Submit all paperwork on a Key Express Warranty claim form with **Service Advisory # 07-085** and **Flat Rate Code # 7108542B** noted in the customer complaint section of the form. The amount of time authorized for this repair is 2.5 hours.

If you have any questions, please call Keystone RV Customer Service at **(866) 273-1450**.