

## SERVICE ADVISORY # 11-162

### Cougar, Laredo Travel Trailer Axle

**Keystone is conducting a voluntary RECALL notification campaign in accordance with the National Highway Transportation and Safety Act. It has been decided the axles are installed backwards, causing a slight reduction in braking torque and shortened brake lining service life. Over time, diminished braking capacity leads to an increased risk of property damage and / or personal injury. This service advisory explains how to remedy the issue.**

#### Models and Serial Number Range:

*Note - Only vehicles manufactured in Plant 31 included (indicated by the V in the serial number)*

2011 Cougar Travel Trailer                      BV505862 – BV506601

2011 Laredo Travel Trailer                      BV602113 – BV602322

#### Parts Required per Unit:

- (8) Axle Shackle Bolts - KRV # 203489                      - (8) Axle Flange Locknut - KRV # 203486
- (4) Terminal - Bell Cap - Insulated - 16-10 Ga. - KRV # 101440

#### Tools Required:

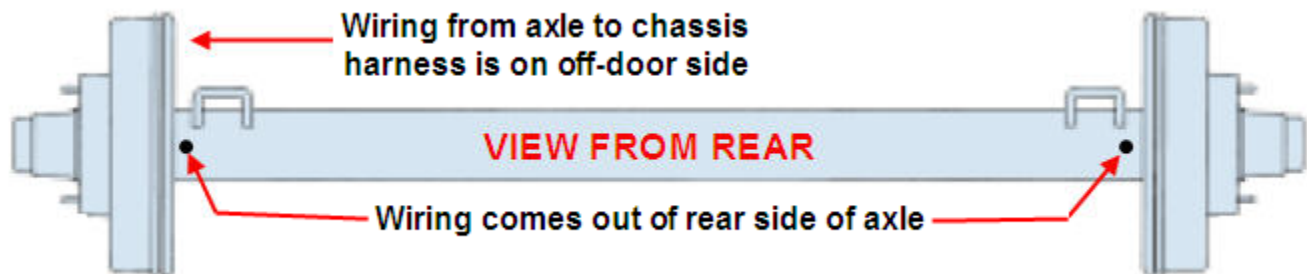
- Impact Wrench - ½” drive (removal of wheels only)
- Torque Wrench – ½” drive
- Minimum 2” long socket extension, ½” drive
- Deep Socket 13/16”x ½” drive
- Floor Jack – adequate to trailer weight
- Wire Cutters
- Wire Strippers
- Jack Stands
- Flashlight
- Wheel chocks

#### INSPECTION INSTRUCTIONS

##### ONE:                      **VERIFY THE AXLE ORIENTATION**

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

Step 2                      Inspect the axles to determine which side of the trailer the brake wires tie into the trailer wire harness. The axle brake wires should connect to the trailer brake wire harness on the off door side of the trailer, and out the rear of the axle tube. See Figure 1. If the axles are wired correctly, proceed to “Warranty Reimbursement - For Inspection only” and complete a claim for the inspection. If the axle wiring is connected to the trailer brake wire harness on the door side of the unit, proceed to the Repair Instructions.



**Fig. 1**

**REPAIR INSTRUCTIONS****ONE:        PREPARING THE TRAILER**

- Step 1        Locate the trailer on a level, flat, hard surface. Chock the wheels.
- Step 2        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 3        Loosen the lug nuts on the rear wheel about a half turn. DO NOT remove lug nuts at this time.
- Step 4        Continue elevating the frame until the rear tire just clears the shop floor.
- Step 5        Install a jack stand of sufficient capacity directly behind the rear spring hanger.
- Step 6        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. Elevate the frame just enough to take some of the weight off the wheel.
- Step 7        Loosen the lug nuts on the forward wheel about a half turn. DO NOT remove lug nuts at this time.
- Step 8        Raise the frame until the forward tire just clears the shop floor.
- Step 9        Install a jack stand of sufficient capacity just forward of the front spring hanger.
- Step 10       With the tires now slightly off the ground finish removing the lug nuts and the wheels from the trailer.
- Step 11       Repeat Steps 2 – 10 for the other side of the trailer.

**TWO:        AXLE REPOSITION**

- Step 1        Support one of the axle tubes with a hydraulic jack. See Fig 2.
- Step 2        Disconnect the brake wires for the axle from the trailer wiring harness that runs along the inside of the frame on the door side of the vehicle. See Fig 3. Note: Do not disconnect the wires at the back of the brake assembly.



Fig 2



Fig 3

- Step 3        Remove the shackle bolts and nuts attaching the axle spring to the spring hangers and shackles. Lower the axle assembly and remove from unit.

- Step 4 Turn the axle around while on the jack. Install the axle under the trailer positioned so the free end of the brake wires on the axle can be connected to the trailer brake wiring harness on the off door side.
- Step 5 Reattach the axles to the shackles and spring hangers with new shackle bolts and nuts. Torque the nuts on the shackle bolts to 30-50 ft/lbs. Do not allow the shackle bolt to turn in the spring hanger when tightening the nut.
- Step 6 Relocate the trailer brake wire harness from the door side to the off door side of the trailer. Reattach the brake wiring disconnected in Step 2 from the axle to the trailer wire harness using new wire connectors.
- Step 7 Repeat steps 1 – 6 for the other axle.

**THREE: WHEEL ASSEMBLY INSTALLATION**

- Step 1 Using a clean rag, wipe down hub faces, all lug nuts and tapered nut seats on wheels to remove any residues.
- Step 2 Start the lug nuts on each stud by hand.
- Step 3 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 Fig 6.

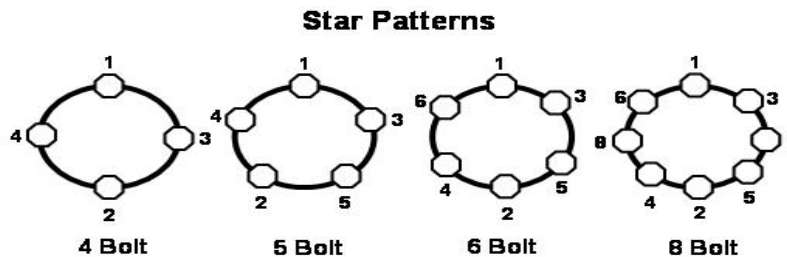


Fig 6

- Step 4 Using the star pattern outlined in Fig 6, tighten the lug nuts until the 1<sup>st</sup> stage torque (20-25 ft-lbs ) outlined in Fig 7 is achieved. Verify the lug nuts are properly positioned in the tapered seats of the wheel.

Wheel Torque Requirements		
1st Stage	2nd Stage	3rd Stage
20-25 ft-lbs	50-60 ft-lbs	110-120 ft-lbs

Fig 7

- Step 5 Using the star pattern outlined in Figure 6, tighten the lug nuts until the 2<sup>nd</sup> stage torque (50-60 ft-lbs) outlined in Fig 7 is achieved.
- Step 6 Using the reverse method in section one, lower the trailer to the ground.

- Step 7 Using the star pattern outlined in Figure 6, tighten the lug nuts until the 3<sup>rd</sup> and final stage (110-120 ft-lbs) is achieved. See Fig 7.
- Step 8 Use a dial or digital torque wrench to verify that the proper amount of torque has been applied.

**FOUR : WARRANTY REIMBURSEMENT**

*May claim either Inspection or Reposition, not both.*

For Inspection Only

Submit the claim on Key Express or on a Keystone Warranty claim form with **Service Advisory # 11-162** noted in the customer complaint section of the form using **Flat Rate Code # 7116242F**. The amount of time authorized for this repair is 0.3 hours.

For Axle Reposition

Submit the claim on Key Express or on a Keystone Warranty claim form with **Service Advisory # 11-162** and **Flat Rate Code # 7116242A** 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:

Cougar      **(866) 273-1454**

Laredo      **(866) 273-1456**