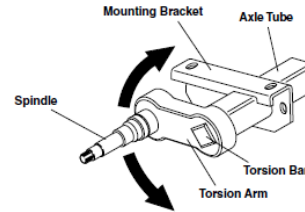


TIRES & BRAKES & WHEEL HUBS

BACKGROUND A Dexter Torflex® axle was installed instead of leaf-springs because it insulates the trailer from road vibration, allows each wheel to travel independently and its low profile allows for maximum road clearance. To make this happen, there are 4 large bands made of rubber inside the axle housing which are connected to a torsion arm. As the wheels follow the road, the torsion arm moves causing the rubber cords to provide a rolling/compressive resistance through a process called hysteresis.



A trade-off for using this system over the typical leaf spring setup is that you absolutely CAN NOT jack the trailer from the axle. The housing isn't designed to hold the weight and that would damage the torsion system requiring the entire axle to be replaced. Thus, if you MUST jack the trailer for service, ONLY do so at the locations provided and marked with red reflective tape.

The brakes are electric as opposed to the hydraulic ones you are used to in your car. This means the brake controller mounted in the tow vehicle sends a variable voltage to a pair of magnets causing them to apply the brake pads. If you stand next to the trailer while the brakes are applied without the vehicle moving, you can hear the magnets hum.

The wheels consist of 15" aluminum rims mounted with off-road special trailer ST235/75R15 tires. From a safety perspective, there are three safety checks you should be making. A pressure check should be done first thing in the morning while the tires are cold, and the Trip Card updated. A visual check will tell you if there is any sidewall damage, cuts or nails in the tread. A Hub temperature check should be made once during the day after several hours of driving.

The wheel hub is what connects the tires to the axle. The bearings allow it all to rotate. An early indicator of serious trouble is when one hub gets significantly hotter to the touch than the other after several hours of use. When this happens, it usually means the bearing is in trouble either from

lack of lubrication, the wrong lubrication, a bearing failure or too much weight on the trailer. While many people simply test the hub with the back of their hand, we've included an infrared thermometer from Home Depot. Simply aim the gun at the center portion of the wheel inside the lug nuts and press the trigger. Its the part that



says T@B shown inside the red circle in the adjacent photo. If the temperature readings between drivers & passengers side differs by more than 30-degrees, the bearing may be in trouble.

The quick test is to safely stand someplace where the trailer can be driven past you at 25-MPH. As it passes, if you hear any metal-on-metal distress noises such as grinding, scraping, clicking or screeching noises, get the trailer to a safe space and either call for help or prepare to do some additional mechanical work

ACTION DISTRESS NOISE TESTS

The 3 most likely causes of distress noises from your running gear while in motion are: bearing failure, magnetic brakes being lightly applied, or debris stuck somewhere in the assembly. This guide can't take the place of a factory repair manual but it can assist in narrowing down problems so they can be better defined and perhaps, even solved on the road. Before doing anything, safely ease the trailer to level area where it can be parked & worked-on without endangering yourself or others. This means pulling off the road into an area that provides physical safety from two and four legged critters and doesn't expose you to being rear-ended or sideswiped. If that isn't possible, call roadside assistance for help.

Use the jack to lift the trailer such that the wheel making distress noises is off the ground. Follow the procedures in the jacking section to include: (1) making sure the RV is attached to the TV, (2) that the TV is turned off, (3) applying the parking brake of the TV, and (4) chocking both sides of the wheels opposite the one you are jacking-up.

TEST ONE – Bearing Check

Hold the tire at 9:00 and 3:00 positions and rock back and forth like a see-saw where the center of the wheel is the pivot point. If there is no movement (play) or movement beyond 1/8", your bearings probably need to be serviced. This is not something you can do on the side of the road. Read the "BEARING SERVICE" section for further information.

How long has it been since the bearing was serviced? Is this the first time an elevated temperature was recorded (check Trip Sheets) and if not, keep an eye on it. This guide can't tell you what to do but understand that if the bearing fails, the wheel either won't turn or may fall off. If this happens while on the highway, it would be a catastrophic failure causing injury or death to yourself or others.

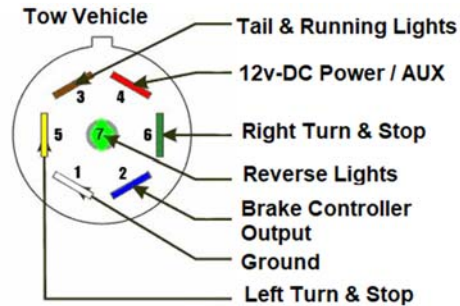
TEST TWO – Magnetic Brakes Dragging

As more fully described in the "BRAKE CONTROLLER" section, the trailer brakes are activated when the brake controller senses voltage in the tail light circuit and applies a voltage to the trailer brakes causing magnets to apply the brake pads against the wheel drums. The amount of voltage sent to the trailer brake assembly through the 7-WAY coupling depends upon how quickly an accelerometer in the brake controller decides the tow vehicle is slowing down. The TV brake system relies on a hydraulic reservoir sending fluid down stainless-steel hoses to mechanical brakes at each wheel. Your foot pressure on the brake pedal gets applied to the hydraulic fluid and the harder you press the pedal; the more pressure is sent to the brakes and the quicker you stop. Since there is no way electronically to sense how much pressure is being applied to the hydraulic brake system when the tow vehicle brakes are being applied, the brake controller must rely on electronics to approximate how hard you are pressing on the brakes. The variable pressure (gentle, firm or hard) on the brake pedal is translated into a strong or weak electrical voltage sent to the trailer brake assembly.

Rotate the wheel two turns and listen either for a humming, a slight squeal or try to feel if the wheel is somehow being held back like it would

be if the brakes were applied. If you have parked the truck, shut off the engine and applied the parking brake, then if everything was working correctly, the brake controller wouldn't be sending any voltage to the trailer brakes. If any of these apply, there may be some stray voltage going to the trailer brake assembly.

To debug, first do a test of the brake controller as described in that section. Failing that, you can test the vehicle side of the 7-WAY connector by using a multimeter to see if there is any voltage between from the Brake Controller blade (#2 Blue) and Ground (#1 White). This could be caused by a faulty controller or a short somewhere. As the 7-WAY assembly has a 12v-DC wire for accessories & charging the RV, it's possible you have a frayed or defective cable assembly allowing a voltage leak. It is also possible there is metal debris in the 7-WAY allowing a connection from the accessory pin to the brake pin. Unlikely but easy to rule-out.

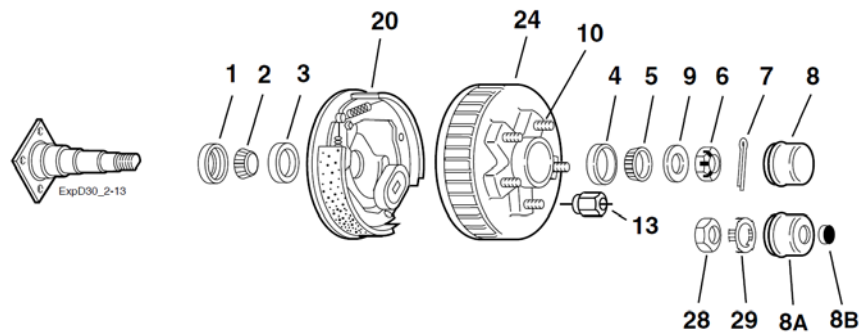


TEST THREE – Debris

The idea here is that there is something stuck inside the wheel hub assembly like a stick, rock or other debris but aside from something obviously out of place, you either need to remove the drum and perform a closer check or look on the backside of the drum while mounted. Since you CAN'T, WON'T and WILL NOT ever go under a vehicle that is jacked but not sitting on jack stands, this option ISN'T open to you. If you feel up to removing the drum, check the "BEARING SERVICE" section for instructions on how to remove the drum and perform a visual inspection. At this point it becomes a judgement call based on your experience, where you are and whether it makes more sense just to call roadside assistance. At least you can tell them what TEST 1 & 2 showed.

AXLE & BEARINGS

AXLE	BOONDOCK	STANDARD
Make / Model	Dexter #10F 4K Torflex	
Configuration#	8136692	
Brakes	D44 Electric Manual Adjust	
Down Trail	10-degrees	
Hub Diameter (H-D)	5 spokes on 4.5" diameter	
Hub Face (HF)	76	
Hub Group	#10F 545	
Hub Size	10" x 2-1/4"	
Inner Bracket	59.25	
Mounting Bracket	Norco Tall E-1425	
Rubber Capacity (RC)	3900	
Studs	1/2" - 20	
Bearing Service		
Bearing: KIT per wheel	K71-717-00	
Bearing: Inner Cone	031-033-02 (Timken L68149)	
Bearing: Outer Cone	031-031-02 (Timken L44649)	
Bearing: Seal	010-019-00	
Replacement Parts		
Brake Assembly Left	K023-462-00	
Brake Assembly Right	K023-463-00	
Shoe & Lining Kit	K71-672-00	
Magnet Kit	K71-125-00	
Washer	005-067-00	
Wire Clip (Need 2)	027-005-00	
Retractor Spring (Need	046-009-00	



AXLE & BEARINGS

Wheel bearings need to be properly maintained and these two videos will help you do that. The Dexter approved greases are listed below and nuCAMP uses the Valvoline product. It is important to follow these recommendations because it isn't the grease that provides the lubrication but the oils inside the grease. Grease is just the carrier for the oil. Most bearing failures can be attributed to either too MUCH, too LITTLE or the WRONG type of grease.

Bearing Maintenance Video: <https://youtu.be/GnH-h3W9XvI>

Hub Lubrication Video: <https://youtu.be/WzW1kK8oWkc>

Grease

Thickener Type	Lithium Complex
Dropping Point	215°C (419°F) Minimum
Consistency	NLGI No. 2
Additives	EP, Corrosion & Oxidation Inhibitors
Viscosity Index	80 Minimum

Approved Grease Sources

Chem Arrow	Arrow 2282
Chevron Texaco	Chevron Ulti-Plex Grease EP #2 Texaco Starplex Moly MPGM #2
Citgo	Lithoplex MP #2 Lithoplex CM #2 Mystik JT-6 Hi-Temp Grease #2
ConocoPhillips/ 76 Lubricants/Kendall	Multiplex RED #2 L427 Super Blu Grease
Dexter Company	Lithoplex Red MP #2
Exxon/Mobil Company	Ronex, MP Mobilith AW 2 Mobil 1 Synthetic Grease
Fuchs	Renolit Uniwl 2
Great Plains Lubricants	Lithium Complex EP #2
Oil Center Research of Oklahoma	Liquid-O-Ring No. 167L
Pennzoil-Quaker State Company	Synthetic Red Grease
Royal Mfg. Company	Royal 98 Lithium Complex EP #2
Shell	Gadus S3 V220C Gadus S5 V220 Rotella Heavy Duty Lithium Complex #2
Valvoline	Valvoline Multi-Purpose GM Valvoline DuraBlend