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**DRIVETRAIN  
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Dynatrac Free-Spin Hub  
Dana Gear Set



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# TOUGH HUBS

## The Dynatrac Free-Spin Hub Upgrade, What the Factory Should Have Done

by Trent Riddle

photos by Trent Riddle and Courtesy of the Manufacturer

Owners of Ford Super Duty trucks know that they are super tough and built to last. As such, Super Duty trucks are used as workhorses for the construction industry, as tow rigs for a wide range of family toys and trailers, and much more. Unfortunately, these trucks have a well known weak link, the front wheel unit bearings.

Unit bearings are an inexpensive and quick way for manufacturers to put together the front end on a 4x4 and have become the industry standard for more applications than we have space to list. On light duty vehicles, they usually last a long time, but no part lasts forever. The severe use many Super Duty owners routinely subject their trucks to accelerate the eventual failure of this weak, factory component. Unfortunately, when unit bearings fail, it means the truck they are attached to is dead until they are replaced. Driving on a bad unit bearing usually causes total failure resulting in the wheel and tire falling off if the truck is driven for any distance or even for short distances at speed.

The solution to worn and wobbly unit bearings replacement

and upgrades is the Free-Spin hub conversion kit from Dynatrac. The Free-Spin kit replaces the unit bearings with a new spindle and hub setup. This conversion results in several advantages over the stock unit bearing setup. First, the Free-Spin kit utilizes forged chromoly spindles and nodular iron wheel hubs. This setup allows the use of standard tapered roller bearings that are spaced farther apart than those on a unit bearing, and the 1.5-inch diameter spindle means that massive tapered bearings can be used. This means the new assembly is able to handle greater loads and larger tires than the stock design. Super strong 35-spline forged outer axle shafts and Warn premium locking hubs are also part of the package.

Unlike the factory unit bearing setup, the Free-Spin hub setup is serviceable. They can be re-lubed and rebuilt for the life of the truck. Better still, the replacement bearings and seals are much cheaper to replace than the unit bearings, when the eventual wear and tear of time and miles require it. The kit also upgrades Fords from a plastic locking hubs to super strong Warn locking hubs.



The Free-Spin kit contains new spindles, wheel hubs, and all the required bearings, seals, etc to upgrade your Ford (or Dodge) to the way it should have been from the factory.

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1. The stock unit bearing and spindle setup has a plastic locking hub. This means the entire setup is weaker than the Dynatrac Free-spin. To remove the stock plastic hub, you simply remove the snap ring and pull the hubs off. Then remove the axle snap ring.



2. The brake caliper is removed and then the brake rotor. Sometimes, road grime and rust will make the rotor stick, but a few taps with a soft hammer should loosen it up.



3. Just four studs hold the unit bearing assembly onto the spindle. Simply remove the nuts and pull the old setup off. Next, remove the axles from the housing.



4. The new outer axle shafts are stronger and longer than stock. If you have a high mileage truck, now is the time to replace the axle U-joints.



5. The axles are reinstalled into the front end, after the new stub axles have been swapped for the old ones.



6. The new Dynatrac Free-Spin spindles are the first part installed in place of the stock unit bearing setup. The stock studs must be reused, however in the rust belt these can be hard to remove. New studs can be ordered from Dynatrac or your local dealer. We recommend just getting the studs. We'd rather be driving the truck than fighting to get rusted studs out of the old parts.

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7. The stock ABS sensors are installed in the mounting pad on the new spindles. Then the new Free-Spin wheel hubs are installed over the spindles. The bearings and seals are installed in the spindle first and then the assembly is slid over the spindle and stub axle. The spindle nuts are tightened to spec using a special spindle nut wrench. Be sure to buy one as it is not included in the Free-Spin kit.



8. The body of the Warn Premium locking hubs is installed in the wheel hub bore and secured with a spiral snap ring.



9. With the hub body installed in the wheel hub, the locking hub cap is installed.



10. The stock rotors are installed over the wheel hubs, just as they were in the stock setup. Note, now is a good time to check your brakes and replace worn pads and rotors.



## EDITORS NOTE:

Dynatrac makes the Free-Spin conversion kits for 1999-2008 Ford F-250 through F550 Super Duty 4x4 trucks. They also offer kits for the 1999-2007 Dodge Ram 2500. Dodge trucks get the added bonus of adding a locking hub where none was provided by the factory. This means less front driveline vibration at highway speeds and less drag that should result in improved mileage too.



11. When installing the brake calipers, it is very important to use the new caliper spacers supplied in the kit. The longer spindle makes these spacers a must for proper caliper fitment. The final step is to install the tires and wheels, pump the brakes a few times and then take a test drive. Now you are ready for the most demanding tasks and toughest trails. ▲

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