

**TIMKEN**  
Where You Turn

Timken® RacePac® Wheel End Assemblies



# professional race teams turn to timken for *increased horsepower*

- *Performs equally well on all tracks*
- *Increases usable horsepower*
- *Improves handling*

Whether it's for a short track like Bristol, longer runs at Talladega or the challenging turns of Watkins Glen, improved safety and increased speed is what Timken® RacePac® wheel end assemblies bring to your team. Designed with specially engineered Timken® tapered roller bearings and Timken designed seals, RacePac wheel hubs are pre-assembled and ready for installation on front and rear wheel ends.

## **THE RACEPAC DIFFERENCE**

RacePac wheel end assemblies feature bearings that are pre-lubed, pre-assembled and pre-adjusted to Timken specifications. This takes the guesswork out of bearing adjustment. Precisely ground spacers in the RacePac wheel hub optimizes bearing setting.

## **RACEPAC-PLUS: A HIGHER PERFORMING FRONT HUB ALTERNATIVE**

For improved performance on today's race cars, Timken offers a more robust front wheel hub assembly than the standard Timken RacePac front hub design. The RacePac-Plus features larger bore bearings and an integrated raceway hub to deliver optimum load carrying characteristics, increase durability and a stiffer front wheel assembly. On the track, that translates into more consistent performance with less variability in the suspension setup.



*Timken offers two front wheel hub designs, the RacePac (components shown here) and RacePac-Plus, a more robust package that helps to minimize suspension changes on the racetrack.*

## **REDUCE INSTALLATION AND MAINTENANCE TIME**

RacePac wheel end assemblies are shipped to your team race-ready. That means you can install them for qualifying and run the same equipment during the race. Timken makes this possible by providing the correct amount of grease in the bearing and adjusting that bearing properly in the hub. Because RacePac bearings are pre-lubed, pre-assembled and pre-adjusted, your team will not have to work on wheel bearings during the weekend, allowing more time to concentrate on race day results.

## **TIMKEN SEAL DESIGN REDUCES TORQUE, INCREASES PERFORMANCE**

The Timken seal design used in RacePac wheel hubs is a zero-torque seal. The seal works off positive air pressure, putting grease back into the seal and keeping contaminants out. With less seal drag, more horsepower is available at the tires.

The components of the wheel hubs are:

### **A. Timken® tapered roller bearings**

*These bearings feature reduced sliding contact stress and consistent rolling torque that help provide more reliable performance and reduced bearing temperatures. In testing,*



*These highly engineered components, shown here for a rear RacePac wheel end assembly, become integrated with the hub to help increase performance on the track.*

*RacePac wheel bearings have run up to 30 percent cooler on the front wheels and up to 30 percent cooler on the rear wheels, compared to standard package bearings.*

**B. Timken designed seal**

*Timken zero-torque seals keep contaminants out while preserving grease in the bearing envelope.*

**C. Precisely ground spacers**

*This pre-ground spacer design reduces setting and system stiffness variability due to bearing setup.*

**D. Grease Containment Dam (front RacePac hub only)**

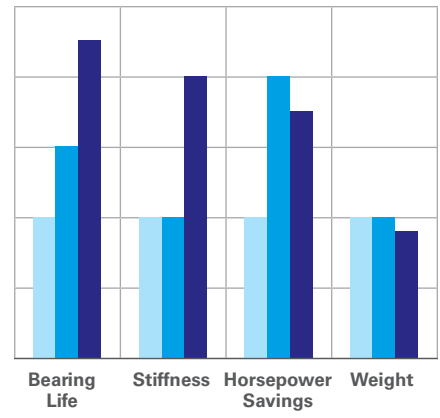
*Timken grease dams work to keep*

*the grease in critical areas helping to deliver proper lubrication throughout the race weekend.*

**E. Hub**

*Timken offers two design configurations for front wheel hubs to complement its rear wheel hub package. The standard RacePac front wheel hub (shown on previous page) has provided race teams reliable performance for years. The RacePac-Plus front wheel hub alternative features a more robust design and more consistent suspension characteristics.*

**Front Wheel Hub Performance Characteristics**



■ Standard Hub Design  
■ Timken RacePac Front Hub Design  
■ Timken RacePac-Plus Front Hub Design

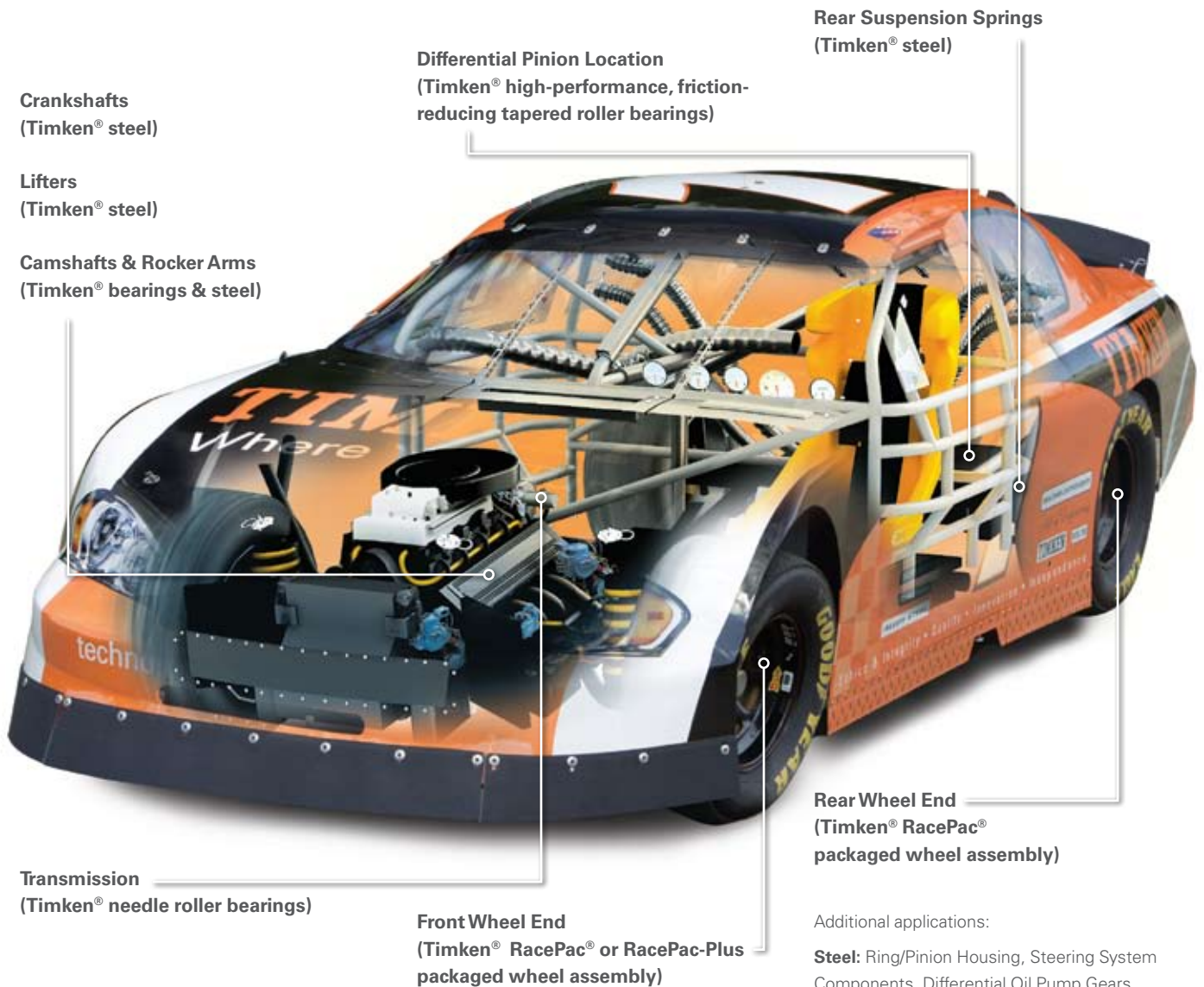
*When compared to the Timken RacePac hub design in a laboratory test environment, the RacePac-Plus offers improved bearing life for greater durability and 2 times more wheel stiffness resulting in a more consistent suspension set up. The difference is even greater when you compare the RacePac-Plus to a standard hub design.*

**REFURBISHMENT PROGRAM SAVES YOU TIME AND MONEY**

To protect your investment and ensure that RacePac hubs are race-ready each and every week, Timken offers refurbishment services. Timken's dedicated RacePac refurbishment program inspects, cleans, replaces necessary components, and returns RacePac units to you regreased and repackaged. We even conduct magnetic particle inspection on the hub. Our program allows you to refurbish RacePac hubs easily and efficiently while you focus on other aspects of your operation.

**HOWTO ORDER**

You can order a set (two fronts and two rears) of RacePac wheel hubs by logging onto [www.timkenstore.com](http://www.timkenstore.com). For more product information, contact your Timken sales representative.



**Crankshafts**  
(Timken® steel)

**Lifters**  
(Timken® steel)

**Camshafts & Rocker Arms**  
(Timken® bearings & steel)

**Differential Pinion Location**  
(Timken® high-performance, friction-reducing tapered roller bearings)

**Rear Suspension Springs**  
(Timken® steel)

**Transmission**  
(Timken® needle roller bearings)

**Front Wheel End**  
(Timken® RacePac® or RacePac-Plus packaged wheel assembly)

**Rear Wheel End**  
(Timken® RacePac® packaged wheel assembly)

Additional applications:

**Steel:** Ring/Pinion Housing, Steering System Components, Differential Oil Pump Gears

**Bearings:** Differential Oil Pump, Steering System Components, Transmission Test Stand (in the race shop)

## ABOUT TIMKEN'S INVOLVEMENT IN MOTORSPORTS

For innovative, high-performance racing components and industry-leading technical support, the world of motorsports turns to Timken. Our superior engineering and innovative products make Timken® bearings and steel a trusted choice of the most popular touring series, racing professionals and enthusiasts at all levels. Championships are won with Timken products.

To learn more, visit [www.timken.com/motorsports](http://www.timken.com/motorsports).

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Bearings • Steel •  
Precision Components • Lubrication •  
Seals • Remanufacture and Repair •  
Sensors and Electronics

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