

Tough choices

WHEN SPEC'ING A VOCATIONAL TRUCK, YOU NEED CHOICES AS SOLID AS THE WORK YOU'LL HANDLE.

Vocational trucks take more abuse than their on-highway brethren, so spec'ing the exact truck for the exact job in this market is even more vital. You should know how the vehicle will be used – range of speeds, grades and off-road surfaces it will be driven on, such as logging roads or quarry ramps – before making a purchase. Other questions abound: How much stop-and-go driving will there be? Will you be maneuvering around tight urban corners? Be sure to take plenty of time to tell the sales rep everything you know about the stresses the truck will be exposed to.

Several new or improved vocational models have hit the market for the 2008 cycle.

Among the notable changes, **Kenworth**, based in Kirkland, Wash., has added an extended day cab option to its vocational W900S that provides an additional 6 inches of length and 5 inches of



Peterbilt's Model 367 Vocational Truck

height to the traditional day cab. Kenworth also will offer the Cummins ISM and Caterpillar C9 engines for its T800 and W900S vocational models. Its Paccar sister company, **Peterbilt**, based in Denton, Texas, is offering Models 365 and 367 for heavy-duty vocational purposes: Model 365 has a 115-inch BBC, while Model 367 has 127 inches. **Mack Trucks**, based in Lehigh Valley, Pa., says its TerraPro Series easily handles the harsh nature of the refuse application, plus it has an improved driver environment to improve comfort and boost productivity. The series includes the TerraPro Low Entry and the TerraPro Cabover. There are no major changes to the Granite and Granite Axle Back voca-

tional models this year.

Sterling Truck, based in Redford, Mich., has unveiled a heavy-duty truck developed for the construction and government markets. The Set-Forward Sterling, which debuted at the 2007 World of Concrete show in Las Vegas, features an updated look, improved functionality, increased visibility and easier maintenance, the company says. The truck boasts a sturdy chrome grille, chromed headlight bezels and a hood that gives 12 percent better sight range than comparable products, the company says.

Vocational applications generally demand an engine with a wider operating range, so you should base your transmis-

sion ratio spreads on the engine's torque rise and range. A 2,100-rpm engine with peak torque that hangs in down to 1,100 rpm may be a good choice because it requires fewer ratios and will require less shifting. Gradeability and startability also must be accounted for. High rpm is common, and fuel economy is less of a concern than with highway trucks, since you'll likely travel far less. It's wise to work closely with your dealer to spec the most efficient gear set ratio.

Be realistic about maximum cruise speed. If you plan on plenty of highway hours at 65 mph or more, you'll need the right axle ratio and overdrive transmission top gear to put rpm in the sweet spot. Getting that correct rpm at cruising speed is crucial for fuel economy. (Fuel-conscious owner-operators ought to keep in mind that every 1 mph past 60 cuts your fuel economy by a tenth of a gallon per mile.)

A dealer can use software to verify that the engine rpm matches the expected cruising speed. If it doesn't, adjust the axle ratio, transmission or tire size. Check important parameters such as startability, top gear gradeability and speed on a 1.5 percent grade.

For good startability, spec an 18-speed or 8-speed low-low or similar transmission with a high enough overall ratio. If getting the right range from the transmission is problematic, choose a two-speed auxiliary transmission or drive axle arrangement. The dealer can recommend a number, based on the grades you'll really see.

Or a specialty transmission could fit your job. If running a dump, consider an Allison transmission designed for hauling over rough terrain with frequent starts. Allison's generally perform well under such stress, even if they are not spec'd for the exact conditions. This is because Allison's torque converter can handle extra-tough starts much better than a clutch, which is sensitive to abuse. Still, having the right transmission and axle ratios for steep-hill starts will mean less stress for your truck – and for you.

In the most strenuous applications, a two-speed auxiliary transmission or two-

speed rear axle is a good alternative to the typical 18-speed manual. You may want an 18-speed Fuller or an 8-speed with a low-low provided by a deep reduction button. Keep in mind the importance of range: You'll want an overall ratio high enough to get started with a full load on the steepest grade.

Mack recommends heavy haulers use the 13- and 18-speed transmissions in its Maxitorque T300 Series because their triple countershafts handle the high torque especially well. Double reduction rear axles, such as Mack's, split gear reduction into two parts, reducing stress and prolonging life. Kenworth suggests the 18-speed Fuller RTLO20918B, with oil cooler and pump, for loads greater than 110,000 pounds. Its low 14.40:1 first gear is necessary for starting heavy loads, and its .73 overdrive top gear ensures efficient highway operation. The narrow splits enable you to shift up while losing less speed on hills, yet keep the engine in the sweet spot.

Frame rails also have to be spec'd, given the extra twisting the truck's backbone will endure off road. Most manufacturers offer rails made of thicker metals or with strengthening inserts for greater resistance to bending. Stronger rails also will help the truck ride more smoothly.

The wheelbase is a major spec'ing consideration. Local length and weight regulations generally dictate the ideal length. But be careful not to spec a wheelbase any longer than necessary because it reduces maneuverability. Another consideration to keep in mind: a dual-steering gear and a power steering cooler for low-speed maneuvering. Properly positioning the fifth wheel is critical for optimum use of the axles' carrying capacity. This helps even more on the front axle than the others. Heavy haulers typically spec front axles with ratings of 18,000, 20,000 and 23,000 pounds. The heavier ratings require wide-aspect tires.

Heavy hauls exact a toll on the best of trucks. Regular exposure to a harsh application can seriously tear up a truck in three or four years, but it doesn't have to

OWNER-OPERATOR VIEW

WAYNE DE LONG Whitesville, Ga.



Before becoming an owner-operator, Wayne De Long worked as a mechanic on every type of truck under the sun, including vocationals.

Unlike the over-the-road trucks he drives now, vocational trucks

need specs that are "geared for getting out of holes," De Long says. "You don't have to worry so much about aerodynamics. It's more about power."

De Long also suggests steering away from super single tires in muddy applications. Although super singles have good rolling resistance and traction, they are not as wide as two dual tires placed together. A driver will want as wide a tire footprint as possible to maneuver in challenging off-road environments.

Vocational trucks require repairs, so De Long suggests that you consider where you live and haul before making a purchase decision. Don't buy from a manufacturer that doesn't have a dealership nearby to handle repairs. You'll likely suffer more downtime as you transport your truck to another city or, in some cases, another state. "That can put a hurt on you when you need it."

be that way. Spec a vocational truck with the appropriate strength and power, and its lifespan can be much longer.

Strike the right balance: Over-spec'ing costs more and likely will reduce the weight you can haul, while under-spec'ing will increase downtime and reduce the truck's life. So spec your truck to be tough enough for any job or environment you'll encounter.

VOCATIONAL TRUCK

SPECS. The vocational trucks included in the spec listings represent the products from each manufacturer that are most popular with owner-operators. Consult a dealer for information on other models; contact information begins on Page 6. ■