Rear Discharge Concrete Mixing Transport Trucks

Standard “Rear Discharge” Truck vs. New “Front Discharge” Truck

Excerpt from Wikipedia entry on Concrete mixer: [http://en.wikipedia.org/wiki/Concrete_mixer]

"Rear discharge" trucks require both a driver and a "chuteman" to guide the truck and chute back and forth to place concrete in the manner suitable to the contractor. Newer "front discharge" trucks have controls inside the cab of the truck to allow the driver to move the chute in all directions. The first front discharge mixer was designed and built by Royal W. Sims of Holladay, Utah. (His 1974 Patent is shown below).


Time is money, and that’s the essence of a front-discharge mixer. It drives right up to where concrete’s needed and, after the driver adds chute extensions, starts offloading. The driver controls the chute, hydraulically pointing it exactly where it’s needed and at a flow rate the crew can handle. In fact, the “chute man” can be eliminated from the crew, saving the contractor money. For ready mix fleets, the fast operation sometimes enables a truck to do one extra load a day, which adds to revenue and profit. But rear-discharge mixers cost less to buy and, some say, to maintain.

Terex/Advance Mixer in Fort Wayne, Ind., makes rear-discharge drums for mounting on conventional truck chassis, but its heart is in the front-discharge version that it builds all-new and as glider kits. Like other mixer makers, Terex went through a wrenching time during the Great Recession. Parts and service people stayed busy as concrete producers kept their old trucks running. But the truck business about died, related Dave Rinas, the director of sales and marketing,
during HDT’s visit earlier this year. So Terex shut down its factory for a year. Managers took advantage of the downtime to rearrange the plant for greater efficiency and to redesign their FD series of mixers. The multi-axle truck you see here is one result.

Front-discharge mixer trucks have traditionally cost more than rear-discharge mixers on conventional chassis, Rinas acknowledged. “But in an apples-to-apples comparison, the difference is 15% to 18%.” The truck’s current price is just over $200,000. “Customers comment on the cost until they get the trucks.”

The “apples” include an Allison automatic transmission, standard with Terex but not on the other truck type. And an FD’s life-cycle cost is less, he said, because it lasts several years longer and can be glider-kitted to extend its life even more. Glider kits are 40% of Terex’s production and it’s common at competitors, but kitting is seldom if ever done with conventional mixer trucks.

So there’s the case for the front-discharge mixer in general, and the Terex/Advance FD series in particular. I’ve driven them before and always found them surprisingly quick and even fun to run. This latest model improves on that, and represents time well spent during the plant shutdown.

Ernst Concrete uses front-discharge mixers because of its focus on customer service, says Vice President of operations Mark Vandegrift. Ernst, headquartered in Dayton, Ohio, has about 250 of the specialized trucks that run in Ohio, Indiana, Kentucky and Georgia.

Vandegrift says Ernst's was one of the first companies to use front-discharge mixers in the 1970s, not long after the rear-engine trucks began being built in Fort Wayne by the predecessor to today’s Terex/Advance Inc. Ernst runs that brand as well as some from Kimble and Oshkosh. It aims to keep a truck for 60 months then sell it, although in the recent downturn some trucks are running longer than that.

“It caters to the everyday residential customer,” Vandergrift says of the front-discharge truck. “They eliminate a man to run a chute. It’s a tremendous advantage for the customer, and now with the technology of the electronic joystick, with a good crew, you can unload more quickly than with a rear-discharge.”

However, much depends on the individual construction job. Rear-discharge trucks are better for high-volume pours, such as building and roadway construction in big cities, and delivering thick, “low-slump” concrete.

Front-discharge mixer trucks are safer because drivers can better feel what the chassis is doing on job sites and in turns on paved streets, he says. Historically, we ran both, and historically, if we had a rollover, it was a rear-discharge,” he recalls.

Possible Topics/Questions for Discussion:
How does this fit into the model presented by Christensen in The Innovator’s Dilemma?
- cost, size, speed, safety... not good for big pours, specialized market
- new company, not existing major one that pioneers it
- which niche market best for this?