With 'tilt bed on wheels,' only the precast piece is askew

Sometimes the best answer really is the simplest answer. Of course, that simple answer may come from looking at the problem from a distance. For example, how does a trucker haul a wide but relatively low-profile load through a narrow passage such as a tunnel? To the trucker standing alongside a truck stopped outside the entrance to a tunnel, it's obvious the load will not pass the entrance. Of course, to the driver seething with anger six cars back in traffic, it is clearly obvious that just tipping the load at an angle would allow the truck to pass through the opening.

Unfortunately, wrestling a large structural concrete piece up on one side while stopped in traffic is not an option. So why hasn't a trailer designer anticipated this before?

High Concrete Structures of Denver, Pa., has now developed just the answer to those wide-load blues. Inventors Kenneth C. Baur of Mohnton, Pa., Kathleen M. Scholz of Shillington, Pa., William L. Whary of Mohnton, Pa., and Rand Henry of Nottingham, Pa., have developed the answer in a new "Loading Fixture." The group has actually received three patents over the past 3 years for development of this new hauling technique.

Transporting oversize loads involves speed and weight restrictions, frequent escorting by warning vehicles and high permit fees. Vehicles carrying extra-wide loads may be completely barred from entering narrow roadways, bridges, or tunnels during certain hours of the day. Such additional detours and delays can increase the cost of transportation of such items significantly and can postpone the timing of delivery to the construction site. Since construction has become such a fast-track business, a delivery delay of even an hour can affect a contractor's profitability.

In essence, the invention allows the shipper to position wide concrete structures on a truck in such a way as to minimize the reach envelope, or what the inventors call the effective width of the product. Making the width of the product the hypotenuse of a triangle when tilted at the preferred angle of 46 degrees (see drawing) reduces the effective width by just over 13%. The invention also provides tilts of 30 to 50 degrees from horizontal to accommodate most load parameters.

The invention is designed to brace the product with a series of locators referred to by the inventors as "boots" that support the product during transport. The fixture also includes a novel rotating mechanism that further provides rotating boots, which help to adjust the weight of large cargo, avoid binding, and help to focus the center of gravity of the cargo over the central pin so that it can be rotated manually without heavy equipment. It would seem that the ideal scenario would be where the width and height restrictions of the intended route are known in advance, and a few quick calculations allow for setting the fixture at the optimum angle when loading.

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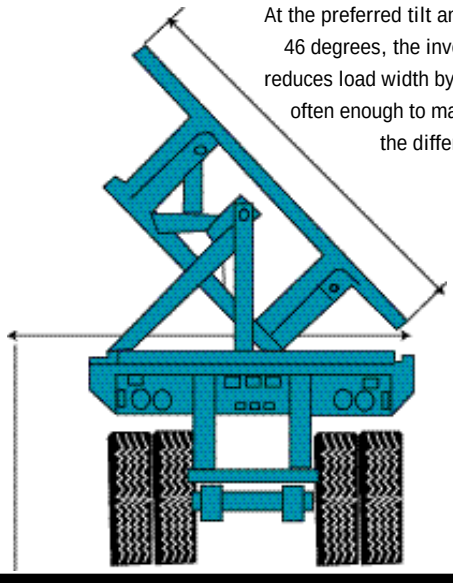
If you've ever carried a couch through a doorway, you know how High Concrete Structures' new invention for tilting large structural concrete pieces works. The "Loading Fixture" reduces load width by tilting pieces at an angle.



At the preferred tilt angle of 46 degrees, the invention reduces load width by 13%, often enough to make all the difference.