



**“Outside Experts with a Fresh Perspective and a Creative Approach.”**

## Why Didn't We Do That?

Almost every time a new product is designed there is a demand for more power, more motion, greater capacity, and of course the need to reduce the weight by 20%.

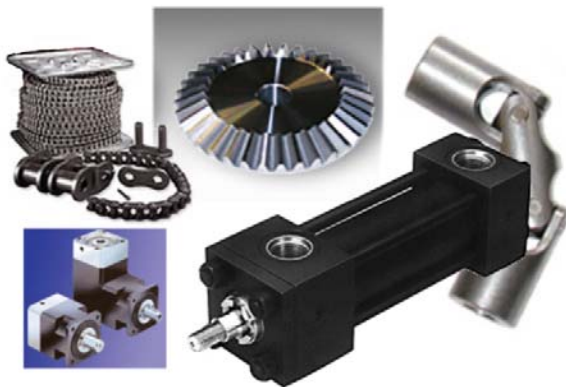
Every industry has a set of products that have evolved over the years into an industry standard. Different brands with improved features come to market, but the standard remains essentially unchanged. Once in a while,

however, someone challenges the conventional wisdom and comes up with something better and unique. It isn't long before their competitors find themselves asking: **Why didn't we do that?**

The engineers at Alpine Engineering & Design recently found themselves challenging an industry standard with a determination to offer a better alternative.

## Is there an alternative?

Some state laws require that open top loads be covered with a tarp as they are transported to a dumpsite. Many dumptrucks



**Which alternative do I use?**

have tarping systems customized to the dump body, but roll-off trucks don't have that luxury. Roll-off containers vary from 16 x 3-1/2 to 24

x 8-1/2 feet. The industry has wrestled with providing a tarp with the flexibility to cover every container in that range.

Tarpers are typically powered by hydraulic cylinders. Naturally, the first question became: Is there an alternative to the hydraulic cylinder in this application? Question two was: How far can we stretch a hydraulic cylinder to make it work?



**Roll-off Container**

Our engineers have created unique and patented ways to stretch a cylinder in the past, but every application is unique. The solution here would be yet another patented method of getting a cylinder to do more than anyone else in the industry.

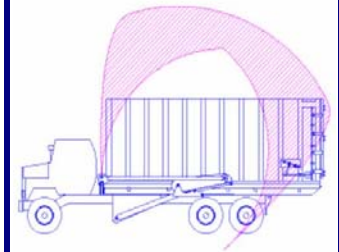
## After the Great Idea, Its All Downhill

The details are important, but they are only as good as the concept. Anyone who has developed a new product knows that concept generation can be the most difficult phase of the process with nothing more than sketches and rough models to show for it. Add to that the challenge of navigating through extensive patented prior art, and the task is a challenging one.

One of the most important skills

of the engineers at AE&D is their innovation. Creative design is a learned skill that our engineers have been developing for almost 25 years.

As a team, the engineers at AE&D produced a concept for a tarping mechanism using traditional hydraulic cylinders with a little help from some chains and sprockets. The result exceeded the demands of the product specification.



**Unique cylinder arrangement provides more universal coverage than any single tarper in the industry.**

## Stretching the Cylinder



A unique combination of cylinders, sprockets, and chains proved to be the key for the tarping mechanism. The end

result is an amazing 355° of rotation of the tarp. By operating the cylinders in combination or separately an unprecedented level of motion was achieved. Just the right sprocket ratio allows the tarp to move vertically in between the cab and the roll-off container automatically for faster, safer deployment and storage. The dual cylinders and pivoted arm allow for length and height adjustment as the roll of tarp is placed at just the right spot. The tarp doesn't hang over the back of the container nor does it come shy of complete coverage.

- Low profile storage
- Nearly 360° of rotation
- No tarp overhang
- Covers 16' to 24' containers
- 100" inside width
- Vertical motion behind the cab

**Let's get working on your next great product.**

## Alpine Engineering & Design, Inc.

Ph: 801-763-8484

Fax: 801-763-5755

email: [mail@alpineeng.com](mailto:mail@alpineeng.com)

website: [www.alpineeng.com](http://www.alpineeng.com)