



**RAMJACK**

# CASE STUDY

MO201701

## Grain Bin

# Recovery

Ram Jack Stabilizes Converted Steel Grain Bin



### INSTALLATION OVERVIEW

Get more info on the ins-and-outs of Ram Jack products used.

### ENGINEER RESOURCES

Find the back page of this case study for more information on engineer resources.

**RAM JACK MID MISSOURI**

[www.ramjackofmidmissouri.com](http://www.ramjackofmidmissouri.com) | 573-442-7523  
Columbia, Missouri

**19**  
HELICAL  
PILES  
INSTALLED!



## Ram Jack Mid Missouri

### Grain Bin Foundation Failure and Recovery

Over 15 years ago, primary manufacturers of livestock feed and suppliers of plant food and crop protection products, MFA Incorporated ran into problems with the placement of a large grain bin on soil not sufficiently compacted to withstand the weight of the steel bin.

#### PROBLEM

The soil beneath a 50-ft. diameter steel grain bin began settling on one side as a result of the soil not being sufficiently compacted to properly support the steel bin. The quarter-inch steel was settling on the grade and needed stabilization.

#### PROPOSED SOLUTION

The major concern for MFA was the strength and integrity of the steel grain bin with pilings beneath it. Ram Jack Mid Missouri recently

attended a geo-tech seminar about the effects of the shear line of soil on the lifting of a structure: Unexcavated dirt would shear at a 45-degree angle up and away from the structure. Ram Jack worked with the MFA engineer and designed a plan that would strengthen the bin with the installation of pilings. Vertical wide-flange beams would be attached to the bin every six feet, attaching the pilings on a plated bottom. (19) 2 3/8 in. helical piles with side-load brackets would be used in conjunction with Ram Jack's calculated placement for maximum practical recovery.

**DON'T DO IT TWICE.™**  
**DO IT RIGHT.**

#### OUTCOME

The project was completely successful. Ram Jack installed piles to an average depth of 36 ft. and locked at 3,300 ft.-lbs. No stress was caused to the bin, and it has stood with no problems for the past 15 years. Thinking outside of the box, one can often find solutions for customers. MFA Incorporated has remained a faithful customer of Ram Jack since the completion of this successful project.



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#### INSTALLATION OVERVIEW

**Commercial Installation**  
 Ram Jack Mid Missouri

**Products Used**  
 2 3/8" Helical Piles

**Product Type**  
 Remedial - Helical

**Typical Applications**  
 Ram Jack's helical lead sections can be used in either tension or compression



# Custom Engineered Solutions Rooted in Quality.



CCMC RECOGNIZED

ISO  
9001:2015  
CERTIFIED



ICC-ES RECOGNIZED

At Ram Jack®, we are focused on providing custom-engineered solutions that meet the unique needs of our commercial clients. You can move forward with confidence knowing we maintain code compliance, providing piles and brackets that reach the highest rating among competitors' products recognized by ESR-1854. Our company has the most products recognized by the ICC and boast an ISO 9001:2015 certified manufacturing facility.

We have the facility to design and fabricate custom products—we are the one-stop solution for engineers and even offer our own in-house engineers for assistance with your project. If you need assistance with foundation designs, we also provide engineer tools and resources and our engineers can work with the project's EOR to develop a custom-designed solution.

## Everything an Engineer Needs

The Ram Jack Technical Manual provides engineers with the information that you will need to understand, design, and specify Ram Jack's helical and driven piles. It also provides information verifying compliance with current building codes and ICC-approved acceptance criteria.

Everything an engineer could ever want and need to know about Ram Jack Helicals and Driven Piles in one book. If you or your firm would be interested in a Ram Jack Technical Manual, please contact your local Ram Jack dealer by emailing [info@ramjack.com](mailto:info@ramjack.com).

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