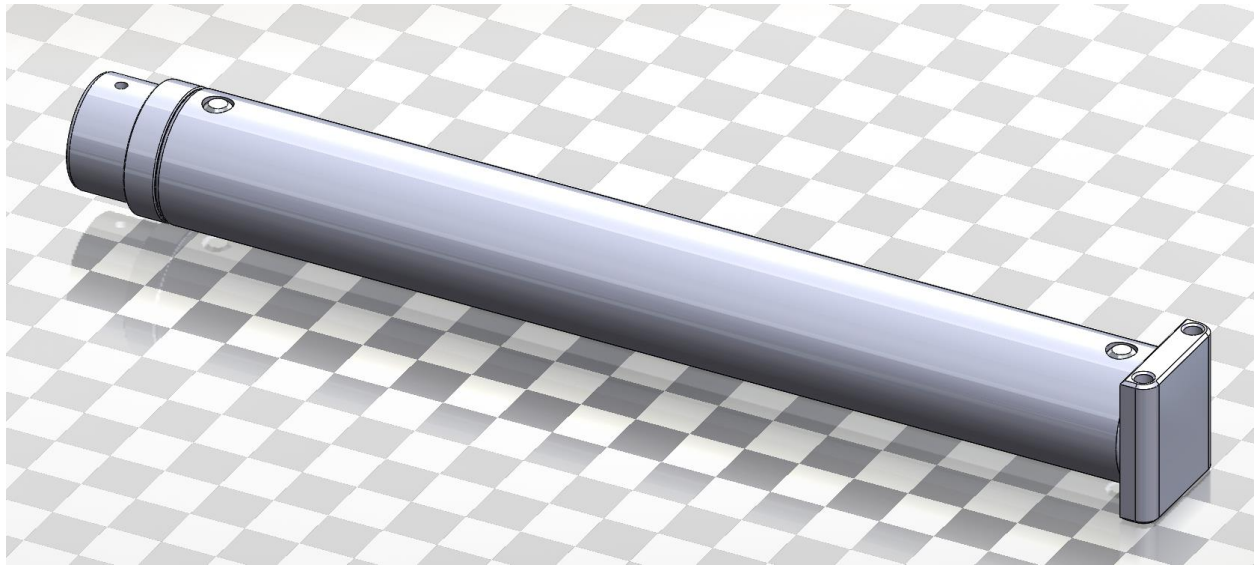


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## EXTENSIONS FOR 2 INCH CYLINDERS

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## **Description**

Extensions are used to extend the range of a cylinder. They are available in both a full-length oversleeve design and a quick-swap single piece design. This data sheet is meant to be used in conjunction with Vertical Hydraulic Shoring tabulated data.

Full-length extensions utilize a 3" x 3/16" round oversleeve that extends the full closed length of the cylinder plus the extension length. At the end of the original cylinder, a load plug pinned to the oversleeve connects the cylinder rod to an extension inner sleeve which transfers load to the socket pad. If necessary as stipulated by tabulated data, full-length extensions may be constructed from 3" x 3" x 3/16" tube steel.

Single-Piece Extensions are used when extensions need to be quickly and easily swapped on and off of cylinders in the field. They are easier to assemble than standard full-length oversleeve cylinders. They are welded together as one unit and constructed from 3" x 3" x 3/16" aluminum tube.

Full-length extensions are available in aluminum up to 88-56 (56 inch extension for a model 52-88 cylinder) and steel up to 88-92. Single-piece extensions are available in lengths from 1 to 4ft. and can be ordered with custom intermediate spacing if necessary.

## **Usage**

For Full-Length Extensions:

1. Standard aluminum oversleeve may be used when the extended length of the shore does not exceed 12ft.
2. When trench width exceeds 12ft, extensions with 3" x 3" x 3/16" tube steel oversleeves must be used.

For Single-Piece Extensions:

1. Single-Piece extensions are available in lengths up to 4ft.
2. Single-Piece extensions can only be used when a fully extended shore does not exceed 8ft.

## Engineering Data

The following data may be used with site-specific or custom plans to calculate bending or buckling loads on the extension.

Table 1: Standard Extension Properties

Single-Piece Extension	
Material	6061-T6 Aluminum
Cross Section	3" x 3/16" Wall Tube
Compression Area	1.657 in <sup>2</sup>
Section Modulus	1.095 in <sup>3</sup>
Area Moment of Inertia	1.642 in <sup>4</sup>
Length	3/4" under Nominal Extension Length

Table 2: Single-Piece Extension Properties

Full-Length Oversleeve Extension	
Material	6061-T6 Aluminum
Cross Section	3" x 3/16" Wall Tube
Compression Area	1.027 in <sup>2</sup>
Section Modulus	1.095 in <sup>3</sup>
Area Moment of Inertia	1.642 in <sup>4</sup>
Length	Entire Collapsed Length of Cylinder + Extension Length