

SAIA SCAFFOLD & ACCESS
INDUSTRY ASSOCIATION

***Thank you for your contribution to
the November/December 2020
issue of the SA Magazine!***

This is a PDF of your article;
please feel free to share!

The full issue is available online at
[http://networkcommunication.com/digital/sa/
novdec2020/](http://networkcommunication.com/digital/sa/novdec2020/)

Thank you again!

VERTICAL TRANSPORTATION KEY TO EFFICIENT HIGH-RISE ACCESS

DAVITS AREN'T DAVITS

THIS ARTICLE SUBMITTED BY THE PERMANENT INSTALLATION COUNCIL PROVIDES INFORMATION ABOUT DAVITS AND RELATED SUSPENDED ACCESS EQUIPMENT.

BY BRIAN ANDREWS



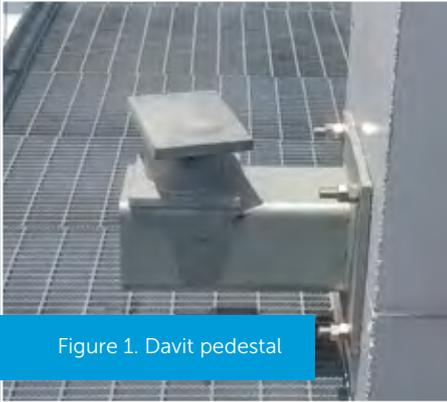


Figure 1. Davit pedestal



Figure 2. Tieback anchor



Figure 3. Flush anchor

Over the years, numerous types of suspended access equipment, such as anchors, pedestals, sockets, and outrigger beams, etc., have been referred to as davits. They are not davits, however, and this article will clarify what makes a davit, a davit. (see Figures 1-3).

A davit is a crane-like device used for supporting, raising, and lowering temporarily or permanently suspended access equipment or material. To become more familiar with the terminology, portable davits can be broken down into two categories, ground-rigged and roof-rigged. A ground-rigged davit is used when the

suspended platform is launched from the ground and does not go above the building face or parapet. A roof-rigged davit is used when the platform is launched from the roof, goes above the parapet, and rotates out to descend along the outside face of the building. Ground and roof-rigged davits have two types of sub-categories, bottom or top-rotating. This is easily identified by where they rotate. (See Figure 4.)

Unlike outrigger beam setups, a davit has a single attachment point into the structure which supports its operating moment load. This attachment point is called the pedestal. The pedestal is

a component which is attached to the building/structure and supports the davit loads.

Pedestals

There are several different types of pedestals, including flush, flat plate, channel, side plate, and pipe:

- A flush pedestal consists of a flat plate with a custom geometry (Figure 5). This allows the pedestal to be flush with the building grade so it is not exposed when not in use. When using flush pedestals, a pedestal adapter must be used to secure the davit or socket to the pedestal.

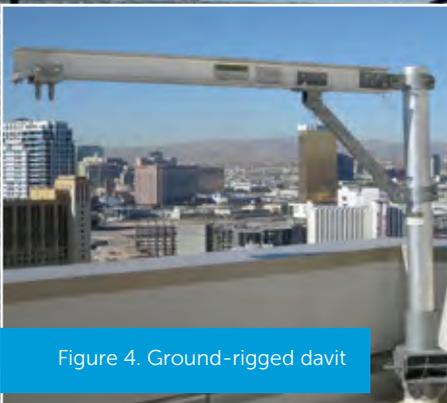


Figure 4. Ground-rigged davit



Figure 5. Flush pedestal



Figure 6. Flat-plate pedestal



Figure 7. Side-plate pedestal



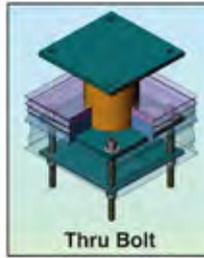
Figure 8. Pipe pedestal



Weld to Steel



Embedded Anchor



Thru Bolt

Figure 9 (left). Concrete anchor Figure 10 (right). Other connections

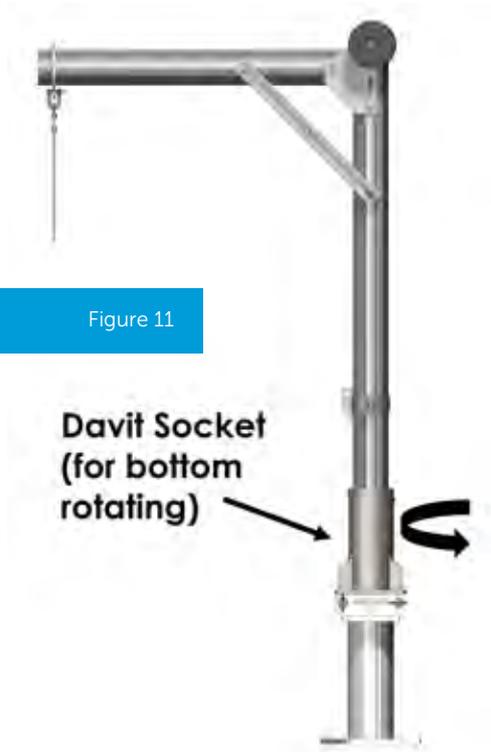


Figure 11

**Davit Socket
(for bottom
rotating)**



Figure 12.
Socket



Figure 13. Socket

- A flat plate pedestal is a pedestal with a flat plate at the top (Figure 6). When using flat plate pedestals, a pedestal adapter must slide onto the plate and lock into position with pins, bolts, etc. Once locked into position, the davit or socket can be secured to the pedestal. Some manufacturers combine the adapter and socket into one assembly.
- A channel pedestal consists of two channels vertically located on a flat plate. When using channel pedestals, a top rotating davit can be secured directly to the pedestal or a pipe socket can be secured to the pedestal for a bottom rotating davit.
- A side plate pedestal consists of two plates vertically located on a flat plate (Figure 7). When using side plate pedestals, a top rotating davit can be secured directly to the pedestal or a pipe socket can be secured to the pedestal for a bottom rotating davit.
- A pipe pedestal consists of a pipe vertically located on a flat plate or embedded into the building (Figure 8.) When using this style pedestal, a top or bottom rotating davit slides into the pipe.

Pedestals may be connected to the building structure numerous ways (Figures 9 and 10):

- Expansion or adhesive concrete anchors
- Weld to steel or structure
- Embedded or cast in place
- Thru bolt or bolt to structure.

Sockets

When used, a socket, which also supports the davit, is either permanent (fixed) or portable and is a receiver for the bottom-rotating davit mast. (See Figures 11-13.) A socket usually allows a davit to be tilted into position by being raised or lowered via a winch assembly. The socket must be secured to the pedestal before use. Depending on the pedestal type and manufacturer, there are numerous ways of securing a socket to the pedestal. Some manufacturers design the socket to pin directly to the pedestal, while others use an adapter to secure the socket to the pedestal. Other manufacturers combine the adapter with the socket into one assembly that secures to the pedestal.

Mast, Boom, and Brace

Davits can be broken into three components, mast, boom, and brace (Figure 14). Davit masts are the vertical component of a davit and are usually made from round pipe, a special extrusion, or square or rectangular tubing. Depending on the application, the davit mast may have any of the following items: turning bracket; davit lifting collar;

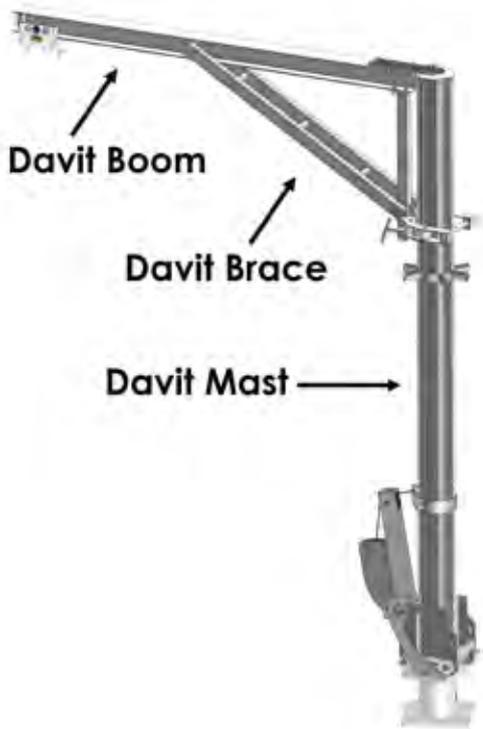


Figure 14

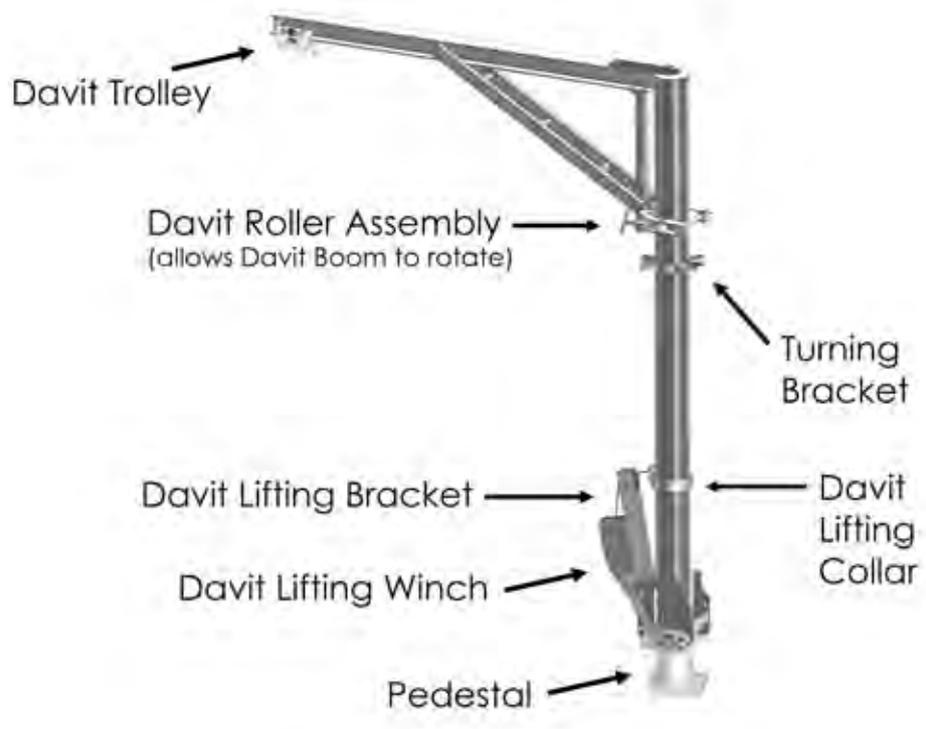


Figure 15

davit lifting winch; davit lifting bracket; or davit transport wheel (Figure 15).

Davit booms are the horizontal component of a davit. Booms are generally made from the same material as the mast or from other extruded shapes, such as I-beams, channels, or special profiles. Some of these profiles allow a suspension trolley (Figure 15) or suspension collar/plate to move along the length of the boom.

Davit braces connect the mast to the boom and support the davit boom. Each brace is usually made from channel, plates, or square/rectangular tubing. For top rotating davits, the brace connects to a roller assembly (Figure 15) that allows the boom to rotate. For bottom rotating davits, the brace connects directly to the davit mast.

**Now You Know
What a Davit Is**

In summary, davit assemblies are made up of two or three items; pedestal, socket or

adapter, depending on manufacturer, and the ground or roof-rigged davit. Davits are a wonderful asset to any building where they can be used with temporary or permanently suspended access equipment. When properly maintained and inspected, the pedestal and davit will provide safe and dependable access to the building facade.

Please note that even though this article covers a lot about davits, it is not all encompassing, and each building has different requirements. Therefore, please contact a suspended access equipment provider or a davit manufacturer for more information – and be sure to call davits, davits!

About the Author

Brian Andrews is the Engineering Manager at Bee Access Products and co-chair of the Scaffold & Access Industry Association (SAIA) Permanent Installation Council. Contact him at brian@beeaccess.com.

BE READY FOR
WINTER

Stock Up Special
Going On Now!

DES LAURIERS
**SCAFFOLD
POLY CLIP**

CAT#: CLIP-L

Be sure to protect your employees and equipment from plummeting temperatures and increasing winds. Secure your poly sheeting to scaffolding with the **Deslauriers Scaffold Poly Clip**.

800-743-4106 • deslinc.com