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TECH SHEET

Technical Tips To Help You And Your Customers

STRUCTURAL

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UNDERSTANDING MANUAL TURNTABLES

Southworth manual turntables are designed to be mounted to a lift but they can be mounted to any suitable rigid surface (floor, stand, etc.). Turntables are available from 24" x 24" to 60" x 60" and they all have ½" thick solid steel platforms. They are available in load ratings up to 6,000 lbs. They have a height of 2 ¾" as measured from the top of the turntable to the bottom of the base plate.

For the best operation, loads should be evenly distributed on the turntable platform. Loads applied to the turntable that are not evenly distributed, should be no more than 50% of the load on 50% of the platform.

When turntables are point loaded (like a wire basket with (4) four feet), some reinforcing under the ½" thick platform may be required to minimize deflection. The same is true for skids or runners (i.e. 2 x 4 spacers under a stack of sheets). These load conditions are <u>not</u> "evenly distributed" loads and may require some special considerations.

The rotating platform is ½" thick steel with radiused corners. It has an extra heavy center shaft with lubricated-for-life bushing. The platform is supported by ball bearing roller assemblies which are sealed for life and, therefore, require no maintenance. The platform is held in place by a snap ring on the center shaft.

<u>Every</u> turntable is now fitted, as standard, with a spring-loaded detent to help locate the platform at 90° intervals. If the spring-loaded detent is not required, it can be adjusted back, out of the way so the platform can be freely rotated through the full 360°. There is (1) one spring-loaded detent and (4) four fixed pins at 90° intervals. If the detent is adjusted "in", it will provide (4) four detent positions. If less than four 90° positions were required, like (2) two at 180°, then the unneeded welded pins would be removed. Ideally, this should be determined at time of order. Note, detents on competitive models are usually an extra cost option; they are standard on Southworth.

When a turntable is mounted to a lift, the lift's rated capacity should be de-rated by the weight of the turntable.

Manual turntables should be limited to about 6,000 lbs. capacity. For weights much beyond that, the force required to rotate them will become prohibitive. As a "rule-of-thumb" the manual force required to maintain the rotation of a turntable will be about 1 to 2% of the load.

Example: A 2,000 lb. load on a 48" x 48" platform would take approximately 20 to 40 lbs. of lateral force to rotate (2,000 lbs. X .01 = 20 lbs. – X .02 = 40 lbs.)

Turntables can also be fitted to lifts which will be pit mounted. These turntables are provided with a perimeter steel skirt to minimize the gap between the underside of the turntable platform and the top of the lift platform. They also require an electrical interlock to ensure the turntable platform is aligned with the lift platform before it can be lowered into the pit.

Round, rectangular or special shaped platforms are available. Powered turntables are also available. They are designed to the application and can be quoted in sizes up to 60" x 60".

* For information on the turning diameters, see Tech Sheet No. S-20.