



Product

Custom Sheave and Shaft Assemblies

Application

One World Trade Center Express Elevators

Highlights

TB Wood's Custom Sheaves

Constructed of fine grain, high tensile cast iron

Nuttall Gear Custom Shafts

Special alloy, high carbon 1045 steel, machined and balanced

TB Wood's Custom Bearing Covers

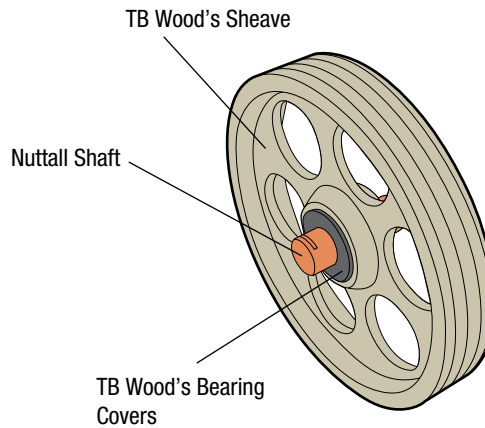
Fabricated to fit OEM supplied bearings

The world's leading elevator OEM ordered sheave/shaft assemblies from TB Wood's for use on a large quantity of express and service elevators at the new One World Trade Center (1 WTC) building currently under construction in New York City. When completed, the 105 story tower will be the tallest building in the western hemisphere, rising to 1,776 feet (including its radio antenna). The express elevators will reach speeds up to 29.5 ft./sec.

The TB Wood's counterbalance cable flywheel sheave assemblies were installed 50 ft. below the elevator shafts. A large number of custom sheaves were supplied in six sizes (from 46" to 62" ODs). Sheaves feature up to 16 grooves sized to accommodate 1" cables. The heaviest fully-machined sheave castings (with center shaft bores), weighed approximately 7,000 lbs. The TB Wood's sheaves are designed to enable the 40-year, maintenance-free OEM performance requirement.

Nuttall Gear provided the 7" D x 23.25" L custom shafts for the sheave assemblies. Special alloy, high-carbon 1045 steel was used to meet OEM specifications. Finish machining included dual grease channels and intersecting holes. Along with very precise machining tolerances, shafts were individually balanced prior to assembly with sheaves.

TB Wood's also provided bearing covers which, together with OEM supplied bearings and seals, completed the assembly components. When finished, each assembly was balanced prior to shipping. To ensure proper performance, individual assemblies were balanced again after installation in the 1 WTC building.



TB Wood's Belted Drives

TB Wood's combines the widest range of belted drives, V-belt or synchronous, with unmatched, made-to-order capabilities in the mechanical power transmission industry.



Nuttall Gear Shafts

Nuttall Gear has earned a reputation for the design and manufacture of unique, custom engineered gear drives for parallel, right angle or vertical input shaft arrangements. Their extensive experience with complex precision machined gearing and shafts was crucial to meet the close tolerance requirements for the 1 WTC elevator custom sheave/shaft assemblies.

Contact TB Wood's

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