

Terminal Tractor/Yard Spotter

Used Yard Spotter Wyoming - Tow tractors, also called tow tugs or towing tractors are popular for moving loads horizontally in airports, arenas, warehouses, manufacturing plants and other large buildings. They are capable of towing several trailers in a train formation. Certain tow tractors can transport helicopters and giant airplanes for the purpose of positioning inside and outside airport hangars and terminals. Tractive effort is how these machines transport loads. Tractive effort refers to the total amount of traction a vehicle deploys on the ground. The heavier the load is, the more tractive effort is needed. Based on this principle, the tow tractor works by lifting a part of the load it is towing while making sure the load's wheels remain on the ground. The load is partially lifted by use of the tow tractor's hydraulic mast which is specifically designed to produce downforce on the drive wheel immediately beneath it, increasing the tractive effort. The traction created by this process enables the tow tractor to pull very large and heavy loads. Types of Tow Tractors Heavy-duty tow tractors and load carriers are two types of tow tractors. Load Carriers Industries such as e-commerce, manufacturing, and airport baggage and parcel systems must regularly move many individual and varying sized items to or from a single location. Tow tugs or load carrier tow tractors are excellent for these jobs as they can maneuver single items stacked on wheeled platforms for streamlined transport. The category that load carrier tow tractor models fall into includes forklift trucks, cranes and pallet jacks. These units only transport loads at ground level and do not lift or lower items from shelving or off the ground. This means that the load has already been on wheels or placed on a wheeled platform before transport. Wheeled platforms are called skates, trolleys and bogies. The tow tug is attached to the trolley similar to train cars being attached to a locomotive. Generally, the steel coupling on the tow tug's male-end joins to the front trolley's female-end. The back of the trolley has a male-end steel coupling that can then be used to attach multiple trolleys onto a single tow tug, transporting all the trolleys in a train-like formation. Tow tractors with a train of trolleys enable a wider range in the type of items that can be transported and in the types of conditions they can be transported. Trolley types differ to provide customization options. Trolleys can connect together and are compatible. Different kinds of trolleys can be maneuvered in a single train, creating flexible transport options. A key benefit of using a load carrier tow tractor is that operators can enjoy a clear view instead of relying on forklifts. Additionally, load carrier tow tractors move their units in a forward-only way and this drastically decreases safety concerns associated with forklifts traveling in reverse. These safety considerations are of special importance in busy areas such as manufacturing floors and airports. Towing solutions are a good alternative to traditional forklifts to handle many single items. They are safe and easy to maneuver. One benefit of these tow tugs is that an operator usually does not require a license. This is because the load is not lifted from the ground so it does not fall under the usual restrictions and licensing required of standard forklifts, cranes and other load lifting equipment. There are three kinds of load carrier tow tractor units to choose from; pedestrian, stand-in and rider-seated. Pedestrian Tow Tractors A walk-behind model that can transport wheeled loads is called a pedestrian tow tractor. These machines may go by the names of electric hand tug, electric tugger, electric tug or tow tractor. These machines are simple to use, extremely maneuverable and very compact. Stand-in Tow Tractors Popular for industries that conduct order picking and horizontal transport for manufacturing, the stand-in tow tractors are the best design. Stand-in tow tractors feature a tinier footprint compared to rider-seated editions and they offer a safe driver platform. Rider-Seated Tow Tractors The rider-seated tow tractors are similar to the stand-in tow tractors with the exception they provide a seated platform for the driver. These models are commonly used for transporting loads over farther distances such as moving checked baggage from the airport check-in to the aircraft at the terminal. These rider-seated options help to decrease driver fatigue allowing for greater efficiency. Heavy Duty Tow Tractors In the aviation industry, large passenger and cargo planes usually employ the concept of pushback. Pushback is the process of pushing an aircraft back from the terminal by means not originating

from the aircraft's personal power. Heavy-duty tow tractors are known as pushback tugs or pushback tractors complete this task. Pushback tugs feature a low-profile enabling them to travel under the aircraft's nose for easy attachment. Since the aircraft weight is heavy, these units need to be heavy in order to retain adequate ground friction to move the aircraft. A common tractor for moving large aircraft can weigh in up to fifty-four tons. Their driver's cab has the ability to be lowered and raised for increased visibility during reversing. The pushback tow tractor and pushback tug are also employed when taxiing the aircraft is not an option. They are commonly used to move the machine into and outside of aircraft maintenance hangars. The two subtypes of pushback tow tractors include conventional tow tractors and towbarless tow tractors.

Conventional Pushback Tow Tractors These units use a tow bar to attach the tug to the nose landing gear on the aircraft. The tow bar is fixed laterally at the nose landing gear, but may move slightly vertically for height adjustment. The tow bar is able to pivot vertically and laterally at the end that connects to the tug.

Acting like a giant lever, the tow bar can rotate the nose landing gear. There is a towbar and precise tow fitting that acts as an adapter between the standard-sized tow pin and on the landing gear of the aircraft.

Heavy-duty towbars required for sizeable aircraft ride on their own wheels when they are disconnected from the machine. The hydraulic jacking mechanism is attached to the wheels, allowing the towbar to lift to the correct height in order to mate with the tug and the aircraft. The same means are used in reverse during the pushback process to raise the towbar wheels from the ground. The towbar can be connected at the front or the rear of the tractor, depending on whether the aircraft will be pushed or pulled. **Towbarless Pushback Tow Tractors** Towbarless tractors do not use a towbar; they scoop up the nose landing gear and lift it off the ground, allowing the tug to maneuver the aircraft. This offers better control and higher speeds while eliminating the requirement of having a worker stationed in the cockpit to put the brakes on. Simplicity is the main advantage of the towbarless tugs since it is not necessary to maintain a variety of towbars. By connecting the tug directly to the aircraft's landing gear tug operators have better control and responsiveness when maneuvering.