

## Terminal Tractor/Yard Spotter

Used Yard Spotter Pasadena - Tow tractors are a common piece of industrial equipment used in large buildings, arenas, warehouses, airports and manufacturing plants for moving loads horizontally. They go by different names including tow tugs and towing tractors. They are capable of towing several trailers in a train formation. Tow tractors can move aircraft into and outside of airport locations such as terminals and hangars. Tractive effort is how these machines transport loads. The complete amount of traction a vehicle utilizes on the ground. Heavier loads require more tractive effort compared to lighter loads. The tow tractor lifts a portion of the load during towing while ensuring the wheels on the load still remain on the ground. The hydraulic mast on the tow tractor is responsible for lifting the load. It produces downforce on the drive wheel underneath to increase the tractive effort. Traction allows the machine to deliver very large and heavy loads. Types of Tow Tractors Two types of towing tractors include heavy-duty tow tractors and load carriers. 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. Load carrier tow tractors or tow tugs are especially useful for these types of applications because they allow the single items to be gathered and stacked on the wheeled platforms, ready to be attached for tow and transport by the tow tractor. Load carrier tow tractor models are categorized in the material handling equipment that covers cranes, forklifts and pallet jacks. Load carrier tow tugs transport loads at ground level only, rather than lifting or lowering off the ground or from shelving or other hard to reach areas. Therefore, the load must already be on wheels or on a wheeled platform, ready to be transported. Bogies, skates and trollies are other names for wheeled platforms. The tow tractor joins to the trolley and functions similarly to a train 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 trollies onto a single tow tug, transporting all the trollies in a train-like formation. Tow tractors are capable of moving many machines in a variety of conditions. Different trolley types are on the market to facilitate better transportation customization. Most trollies types are compatible with each other, meaning they can be connected together. Since multiple trolley types can be utilized in a single train, there is flexibility. An additional benefit of operating with load carrier tow tractors as opposed to forklifts is the unobstructed view offered by a tow tractor, increasing the safety of work areas. Further, load carrier tow tractors tow their trollies behind them in a forward-only direction which decreases the safety concerns created by forklifts operating 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. Tugs are simple to move and provide a safe transport option. One benefit of these tow tugs is that an operator usually does not require a license. Tow tractor operators do not need licenses since they don't lift loads off of the ground. Three subtypes of load carrier tow tractors include rider-seated, stand-in and pedestrian. 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. It is compact, maneuverable and easy to use. 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. These units deliver a secure driver platform and deliver a smaller footprint compared to the rider-seated models. 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. Rider-seated models are used for moving loads longer distances. They are popular for airport luggage transport to move checked baggage from the check-in counter to the aircraft parked at the terminal. Rider fatigue is decreased with sit-down units for more efficiency and productivity. Heavy Duty Tow Tractors The pushback concept is commonly used in aviation for cargo and large passenger planes. Pushback refers to the process of pushing an aircraft

back from an airport terminal by some means other than the aircraft's own power. Pushback is achieved by employing pushback tugs or pushback tractors. 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 pushback tow tractors come in two subtypes, the towbarless and the conventional. Conventional Pushback Tow Tractors Conventional tugs use a tow bar to connect the tug to the nose landing gear of the aircraft. The tow bar is laterally fixed at the nose landing gear; however, it is possible to make height adjustments with slight vertical movements. At the end that attaches to the tug, the tow bar may pivot freely laterally and vertically. The tow bar functions as a sizeable lever to facilitate nose landing gear rotation. Each aircraft type has a unique tow fitting so the towbar also acts as an adapter between the standard-sized tow pin on the tug and the type-specific fitting on the aircraft's landing gear. 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 is capable of being connected at the tractor's rear or front, depending on if the machine needs to be pulled or pushed. Depending on whether the aircraft needs to be pushed or pulled, the towbar can be attached to the front or rear of the tractor. Towbarless Pushback Tow Tractors Towbarless tractors, as their name suggests, don't rely on a towbar. Instead, these machines scoop up the nose landing gear to lift it off of the ground so the tug can move the plane. This allows better control of the aircraft and higher speeds; it may also eliminate the need to have a worker in the cockpit to apply the aircraft's brakes. As there is no need to maintain numerous towbars, simplicity is the main advantage of this unit. Greater control and responsiveness while moving the aircraft is achieved with this direct connection of the tug to the landing gear.