

Terminal Tractor/Yard Spotter

Used Yard Spotter Colorado - Tow tractors, sometimes call towing tractors or tow tugs, are vehicles used in transporting loads horizontally in warehouses, manufacturing plants, airports, arenas and other large facilities. These machines can tow numerous trailers in a train or snake-like formation. Certain tow tractors can transport helicopters and giant airplanes for the purpose of positioning inside and outside airport hangars and terminals. All tow tractors use the concept of tractive effort to move loads. Tractive effort is the amount of traction a unit has on the ground. Heavier loads require more tractive effort compared to lighter loads. The unit works by lifting a part of the load while it is towing; however, the load's wheels stay 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. The tow tractor is capable of transporting very heavy and large loads thanks to the traction it provides. Types of Tow Tractors Two types of towing tractors include heavy-duty tow tractors and load carriers. Load Carriers Numerous businesses need to transport items of different sizes on a regular basis including manufacturing, parcel delivery services and airport baggage. 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. Load carrier tow tractor models are categorized in the material handling equipment that covers cranes, forklifts and pallet jacks. Load carrier tow tugs do not transport items from high places such as shelves or platforms. They only move cargo at ground level. In order to be ready for transport, items must be secured on a wheeled platform or already on wheels to use the tow tractor. Bogies, skates and trollies are other names for wheeled platforms. The tow tractor joins to the trolley and functions similarly to a train locomotive. Typically, the tow tug features a steel coupling male-end that attaches to a female-end on the trolley's front. The trolley's back portion has a male-end steel coupling that can be used to connect a variety of trollies to a single tug. Tow tractors with a train of trollies 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. Many trollies can be connected since they are compatible with one another. Different kinds of trollies can be maneuvered in a single train, creating flexible transport options. Load carrier tow tractors deliver a clear view for the operator which can be better than relying on forklifts. 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. This is vital for safety-sensitive places including airports and manufacturing facilities. Towing solutions are a good alternative to traditional forklifts to handle many single items. Tugs are easy to move and safe to use. 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 pedestrian tow tractor, also referred to as an electric tug, electric tugger, electric hand tug or tow tractor, is a walk-behind machine designed for easy movement of wheeled loads. These compact machines are simple to use and can maneuver easily. Stand-in Tow Tractors Stand-in tow tractors are the most popular design for industries that involve order picking and horizontal transport in manufacturing. They provide a secure platform for the driver to operate while still having a smaller footprint than that of the rider-seated tow tractors. 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. 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 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. Large aircraft tractors can weigh as much as fifty-four tons. These models have a driver's cab that has the option of being raised or lowered during reverse for better visibility. 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 These units use a tow bar to attach the tug to the nose landing gear on 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. Acting like a giant lever, the tow bar can rotate the nose landing gear. Every aircraft has a special tow fitting and the towbar functions as an adapter between the fitting on the landing gear and the standard-sized tow pin. Heavy-duty towbars required for sizeable aircraft ride on their own wheels when they are disconnected from the machine. Attached to the wheels, the hydraulic jacking mechanism allows the towbar to lift to the proper height to mate with the aircraft and tug. The same mechanism is employed in reverse to raise the towbar wheels off the ground for pushback. 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 design facilitates higher speeds greater aircraft control and can eliminate the necessity of having a worker inside of the cockpit to apply the brakes. The main advantage of a towbarless tug is simplicity; there is no need to maintain multiple towbars. Directly connecting the tug to the landing gear allows operators to have better responsiveness and control while moving the aircraft.