

## Terminal Tractor/Yard Spotter

Used Yard Spotter Missouri - 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. Tow tractors are responsible for moving multiple trailers in a train. Some are designed specifically to tow large aircraft in order to position them into and out of airport terminals and hangars. Tractive effort is how these machines transport loads. Tractive effort is the amount of traction a unit has on the ground. Tractive effort says that the heavier the load, the more tractive effort is required. The unit works by lifting a part of the load while it is towing; however, the load's wheels stay on the ground. The tractive effort is increased by the unit's hydraulic mast. This has been engineered to produce downforce on the drive wheel directly under the mast. 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 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. The category that load carrier tow tractor models fall into includes forklift trucks, cranes 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. 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. Usually, the tow tug has a male-end steel coupling that couples to the female-end fixed to the front of the trolley. 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. The availability of many different types of trollies also allows for greater customization in transporting items. Many trollies can be connected since they are compatible with one another. 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. Load carrier tow tractors transport trollies in a forward direction which decreases the safety concerns common with reverse forklift operations. 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. A key benefit of these units is that typically, the operator doesn't need a license. No license is necessary since these units do not lift loads up from the ground like cranes, and forklifts that require licensing. Three subtypes of load carrier tow tractors include rider-seated, stand-in and pedestrian. Pedestrian Tow Tractors Pedestrian tow tractors go by many names including electric tow tractor, electric tug, or electric tugger. These units are walk-behind models that move wheeled loads. These compact machines are simple to use and can maneuver easily. Stand-in Tow Tractors The most common design for businesses that rely on horizontal manufacturing transport and order picking are stand-in tow tractors. 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. 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. These rider-seated options help to decrease driver fatigue allowing for greater efficiency. Heavy Duty Tow Tractors Aviation relies on the pushback concept for moving big passenger and cargo aircraft. Pushback is the process of

pushing an aircraft back from the terminal by means not originating from the aircraft's personal power. This pushback process is done by using specially designed heavy duty tow tractors called pushback tractors or pushback tugs. Pushback tractors are designed with a low profile design to enable them to move under the aircraft's nose in order to attach to the aircraft. Because of the added heavy weight of the aircraft, these tow tractors must be heavy enough to retain enough traction on the ground in order 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 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. 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 towbars have their own wheels for big aircraft and can ride on these wheels when disconnected from planes. 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 work without a towbar and scoop up the aircrafts' nose landing gear to lift it off of the ground instead. 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. 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.