

## Terminal Tractor/Yard Spotter

Used Yard Spotter Burbank - 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. Tow tractors are responsible for moving multiple trailers in a train. 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. The complete amount of traction a vehicle utilizes on the ground. Heavier loads require more tractive effort compared to lighter loads. 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 tow tractor is capable of transporting very heavy and large loads thanks to the traction it provides. Types of Tow Tractors Heavy-duty tow tractors and load carriers are two types of tow tractors. Load Carriers Many industries including airport baggage divisions, manufacturing, parcel transportation and e-commerce rely on moving items of various sizes to and from different locations. Tow tugs and load carriers easily transport single items that have been deposited on wheeled platforms and move them with ease. These load carrier tow tractors fall under the material handling equipment industry which includes other machines such as pallet jacks, forklifts and cranes. 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. 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 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. These machines can transport a variety of items in varying 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. This means several different types of trollies can be used in a single train allowing greater flexibility for operations. 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. 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. This is vital for safety-sensitive places including airports and manufacturing facilities. Towing many items at once saves time and money compared to relying on forklifts to move single things. They are safe and easy to maneuver. A key benefit of these units is that typically, the operator doesn't need 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 subtypes of load carrier tow tractors: 1. Pedestrian; 2. Stand-in; and 3. Rider-seated. 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 machines are simple to use, extremely maneuverable and very compact. Stand-in Tow Tractors The most common design for businesses that rely on horizontal manufacturing transport and order picking are stand-in tow tractors. 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 Similar to stand-in tow tractors, rider-seated units have a seated operator platform. These types of load carrier tow tractors are popular where loads are transported over longer distances, such as airport baggage systems where checked baggage is transported from the check-in counter at the front of an airport to the aircraft at the terminal, often a great distance from one another. 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 tractors are built with a low-profile to allow them to move underneath the nose of the aircraft so that it can attach. Enough ground friction is required to move the weighted aircraft, so these models need to be heavy themselves. A typical tractor for large aircraft weighs up to 54 tons. They usually have a driver's cab that can be raised and lowered to increase visibility when 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 Conventional tugs use a tow bar to connect the tug to the nose landing gear of the aircraft. Laterally attached to the nose landing gear, the tow tractor can make certain slight vertical height adjustments if needed. 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 are 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. On heavy towbars for large aircrafts, the towbar rides on its own wheels when not connected to an aircraft. 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, 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 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.