

## Terminal Tractor/Yard Spotter

Used Yard Spotter Long Beach - 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. 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. Tractive effort is how these machines transport loads. Tractive effort is the amount of traction a unit has 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 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. Traction allows the machine to deliver 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. These load carrier tow tractors fall under the material handling equipment industry which includes other machines such as pallet jacks, forklifts and cranes. 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 trolleys are other names for wheeled platforms. The tow tug is attached to the trolley similar to train cars being attached to a 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 trolleys to a single tug. Tow tractors are capable of moving many machines in a variety of conditions. Trolley types differ to provide customization options. Trolleys can connect together and are compatible. Since multiple trolley types can be utilized in a single train, there is flexibility. A key benefit of using a load carrier tow tractor is that operators can enjoy a clear view instead of relying on forklifts. Further, load carrier tow tractors tow their trolleys 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. It is more economical to tow multiple items when possible with a tug than using a forklift truck to transport 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. Tow tractor operators do not need licenses since they don't lift loads off of the ground. 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. It is compact, maneuverable and easy to use. Stand-in Tow Tractors The most common design for businesses that rely on horizontal manufacturing transport and order picking are stand-in tow tractors. 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. 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. 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 refers to the process of pushing an aircraft back from an airport terminal by some means other than the aircraft's own power. This pushback process is done by using specially designed heavy duty

tow tractors called pushback tractors or pushback tugs. Pushback tugs feature a low-profile enabling them to travel under the aircraft's nose for easy attachment. Enough ground friction is required to move the weighted aircraft, so these models need to be heavy themselves. 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 unit is called a pushback tow tractor or pushback tug but it is additionally used to move aircraft in situations where taxiing is not safe or practical including into and outside of aircraft maintenance. 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. The tow bar is fixed laterally at the nose landing gear, but may move slightly vertically for height adjustment. 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. 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 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. Simplicity is the main advantage of the towbarless tugs since it is not necessary to maintain a variety of towbars. Greater control and responsiveness while moving the aircraft is achieved with this direct connection of the tug to the landing gear.