Terminal Tractor/Yard Spotter

Used Yard Spotter Oregon - 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. 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 refers to the total amount of traction a vehicle deploys 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 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 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. 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. 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 transport loads at ground level only, rather than lifting or lowering off the ground or from shelving or other hard to reach areas. 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 tug is attached to the trolly 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 trolly's front. Trollies move in a train-like system thanks to the male-end steel coupling on the back which can connect to numerous units and allow a single tug to transport them. These machines can transport a variety of items in varying conditions. The availability of many different types of trollies also allows for greater customization in transporting items. Trollies can connect together and are compatible. 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. 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 design is excellent for locations that have a high level of safety such as manufacturing locations and airports. Towing many items at once saves time and money compared to relying on forklifts to move single things. 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. Tow tractor operators do not need licenses since they don't lift loads off of the ground. 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 compact machines are simple to use and can maneuver easily. 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. Stand-in tow tractors feature a tinier footprint compared to rider-seated editions and they offer a safe driver platform. Rider-Seated Tow Tractors Similar to stand-in tow tractors, rider-seated units have a seated operator platform. 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 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 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. There are two subtypes of pushback tow tractors: 1. Conventional; and 2. Towbarless. Conventional Pushback Tow Tractors These units use a tow bar to attach the tug to the nose landing gear on the aircraft. Laterally attached to the nose landing gear, the tow tractor can make certain slight vertical height adjustments if needed. The tow bar that attaches to the tug can pivot vertically and laterally. In this manner, the tow bar acts as a large lever to 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. 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 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. The main advantage of a towbarless tug is simplicity; there is no need to maintain multiple towbars. Greater control and responsiveness while moving the aircraft is achieved with this direct connection of the tug to the landing gear.