Terminal Tractor/Yard Spotter

Used Yard Spotter Elk Grove - 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. These machines can tow numerous trailers in a train or snake-like formation. Tow tractors can move aircraft into and outside of airport locations such as terminals and hangars. 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. The tow tractor lifts a portion of the load during towing while ensuring the wheels on the load still 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. The traction created by this process enables the tow tractor to pull very large and heavy loads. Types of Tow Tractors There are two basic types of tow tractors: 1. Load carriers; and 2. Heavy-duty 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. Therefore, the load must already be on wheels or on a wheeled platform, ready to be transported. Wheeled platforms are called skates, trollies and bogies. The tow tractor joins to the trolly and functions similarly to a train locomotive. Generally, the steel coupling on the tow tug's male-end joins to the front trolly's female-end. The back of the trolly 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. 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. Different trolly types are on the market to facilitate better transportation customization. Many trollies can be connected since they are compatible with one another. 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 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 simple to move and provide a safe transport option. The operator doesn't require a license, which is another benefit compared to forklifts. 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. 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 Stand-in tow tractors are the most popular design for industries that involve order picking and horizontal transport in manufacturing. These units deliver a secure driver platform and deliver a smaller footprint compared to the rider-seated models. 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. 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 built with a low-profile to allow them to move underneath the nose of the aircraft so that it can attach. 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. While the vehicle is referred to as a pushback tug or pushback tow tractor, it is also used to tow aircraft in areas where taxiing the aircraft is not practical or safe, such as moving large aircraft in and out of 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. The tow bar is laterally fixed at the nose landing gear; however, it is possible to make height adjustments with slight vertical movements. 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. 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, 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. Simplicity is the main advantage of the towbarless tugs since it is not necessary to maintain a variety of towbars. By connecting the tug directly to the aircraft's landing gear tug operators have better control and responsiveness when maneuvering.