Terminal Tractor/Yard Spotter

Used Yard Spotter New Hampshire - 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. They are capable of towing several trailers in a train 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. Tractive effort is the amount of traction a unit has on the ground. The heavier the load is, the more tractive effort is needed. The tow tractor lifts a portion of the load during towing while ensuring the wheels on the load still 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. 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 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. Load carrier tow tractor models are categorized in the material handling equipment that covers cranes, forklifts and pallet jacks. 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 tug is attached to the trolly similar to train cars being attached to a locomotive. Generally, the steel coupling on the tow tug's male-end joins to the front trolly's female-end. 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. 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 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 solutions are a good alternative to traditional forklifts to handle many single items. They are safe and easy to maneuver. 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. Reducing rider fatigue, the rider-seated models deliver more efficiency. Heavy Duty Tow Tractors Aviation relies on the pushback concept for moving big passenger and cargo aircraft. Pushback refers to the process of pushing an aircraft back from an airport terminal by some means other than the aircraft's own power. Pushback is achieved by employing pushback tugs or pushback tractors. Pushback tractors are built with a low-profile to allow them to move underneath the nose of the aircraft so that it can attach. 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 Conventional units rely on a tow bar to connect the tug to the aircraft’s nose landing gear. 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 is able to pivot vertically and laterally at the end that connects to the tug. The tow bar functions as a sizeable lever to facilitate nose landing gear rotation. 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 wheels are attached to a hydraulic jacking mechanism which can lift the towbar to the correct height to mate to both the airplane and the tug, and once this is accomplished the same mechanism is used in reverse to raise the tow bar wheels from the ground during the pushback process. 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 allows better control of the aircraft and higher speeds; it may also eliminate the need to have a worker in the cockpit to apply the aircraft's 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.