



When handling a towbar or driving a tug with one attached, take care not to damage the aircraft, bar or tractor.

By Jim Fountain and AS1(AW) Juan Herrera

Towbars are inanimate objects, but they still can be hazardous. They become a risk when degraded by wear, damaged through misuse, or used in hazardous surroundings. The AIMD support equipment division can help, but they cannot make sure every maintainer uses the equipment correctly. Each user is responsible for doing pre-ops and preventing misuse or abuse of SE. If you don't take care of your equipment, it eventually will break, damaging aircraft or injuring people.

We have seen and repaired bent and broken tubes, loose bolts, cracked welds, bent or broken lock pins and springs, broken or loose tensioning chains, and bad wheel bearings. Corrosion contributes to many of these problems, and it always is a concern. But one of the greatest dangers occurs when a towbar disconnects from an aircraft. This can be disastrous and has led to several Class A mishaps in the past. Material failure and loss of parts (such as pins, springs, chain, or bearings) also create a FOD hazard.

The resettable fuse towbar, which is used on P-3 aircraft, has a safety device made up of shear pins and bolts that release when the bar

TOWBAR NEEDS TLC

becomes overloaded from compression or tension. It also has shear pins and bolts to prevent damage to the nose-landing gear from the towbar. It also quickly can be serviced and returned to a squadron. But you must turn in the towbar so the SE shop can reset the safety equipment.

Injuries to thumbs and fingers often happen when coupling or disconnecting a towbar. Sudden stops, jackknives, and bumps are the main causes of failures and inadvertent disconnects that lead to hand injuries.

New ALBAR towbars come in 8-, 15-, 20- and 24-foot lengths. The 15-foot towbar dangerously reduces the tractor-to-aircraft nose clearance for the driver—the highest object on a tractor. This hazard is greater on partly fueled aircraft where an aft center of gravity helps to rock the plane. Interim rapid-action change (IRAC No.1) to NA 19-1-137, dated Sept. 1, 1985, requires using 20-foot ALBARs at shore-based activities.

Aircraft-handling equipment becomes hazardous when people choose to misuse it, abuse it, or operate it in an unacceptable manner. The equipment is designed and built to keep the operator as safe as possible, yet accidents and injuries do occur.

Material failure accounts for less than four percent of ground accidents involving SE and aircraft. Misuse, abuse or operator error cause 96 percent of SE-related mishaps. In many cases, tow tractors are involved, but it often is just the towbar.



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Speed is dangerous whether towing equipment or not. Heavy SE, such as a NC-10C MEPP and other equipment without surge brakes, will add considerable momentum when trying to stop a tractor. The greater the speed, the greater the momentum when turning or stopping. When this happens, a towbar easily can push a tractor into a jackknife. It is hazardous at any time to use an SE tractor to tow a light aircraft or helo but is extremely dangerous at any speed above walking.

The A/S32A-30 SE tractor—known as the tug—has power steering, a light front end, and too much power, which causes a steering hazard. The possibility of turning these tractors over also is greater because they are more top heavy than other aircraft tow tractors. They have a high cab that presents an additional hazard to operators and aircraft. The tendency for any tractor to plow ahead instead of turning is another problem, and it is much greater on a slick, wet, or painted surface.

It is important to know the hazards associated with aircraft handling, and how to avoid those hazards. The most important steps are following procedures and observing precautions. I have been taught that doing a job the right way also is the safe way. If unsure about the correct procedures, tell your supervisor before you try to do a job. To minimize the risk of SE hazards, make sure you follow these seven steps:

- Always have a valid SE operator's license.
- Know your equipment and aircraft.
- Study the MIMs and technical manuals.



- Identify the hazards.
- Observe the safety precautions.
- Wear personal-protective equipment.
- Don't do the job until you are trained and qualified.

A single piece of SE doesn't cost as much as an aircraft, but it doesn't take too many mishaps to equal one. More importantly, a mistake with SE can damage an aircraft or injure a shipmate. 

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On numerous visits, I have found problems with the ALBAR towbars. These four discrepancies often are easy to fix:

1. *Wheel bolts always should be installed with the nut facing toward the outside of the towbar.*
2. *Missing nuts, and bolts that are ready to fall out. This problem is obvious, but the pre-op card (OPNAV 4790/52) shows the item was checked that day.*
3. *The towbar hook bearings are the same (either both left or right). CDIs need to look more closely.*
4. *Towbar pins are badly bent.*

Take a little time to fix these problems and to show a little pride in your work.—Senior Chief Funderburk, maintenance analyst, Naval Safety Center.



The Naval Safety Center is dedicated to reducing mishaps by 50 percent in two years.