



## **Towpilot and Glider Pilot Communications**

**by Burt Compton, Soaring Safety Foundation Trustee.**

**The Mandatory Briefing.** By FAR 91.309(a)(5) “The pilots of the towing aircraft and the glider have agreed upon a general course of action, including takeoff and release signals, airspeeds and emergency procedures for each pilot.” Note that using only radio does not relieve the pilots from using standard signals.

A group pilot briefing may suffice but the Towpilot must always feel confident about the skills of every glider pilot. If you are not sure about a glider pilot’s proficiency interview the pilot to be confident that they know the standard and local procedures for aerotow. If your club has as published set of procedures that it uses, then both the towpilot and glider pilot must be familiar with those procedures.

**Radio or Signals or Both?** Always review and use the SSA Standard Signals even if you have radio communication. Transmissions can be blocked by other radio calls, weak batteries and push-to-talk switches will fail. Use the standard signals simultaneously with the radio call. If your soaring site has modified or created additional signals confirm that visiting pilots and new club members are briefed.

Watch a short video of the SSA Standard Signals on the SSF’s YouTube channel <https://www.youtube.com/watch?v=lok4FCKn7V4>

**Rushing to Start the Aerotow.** Some glider pilots view the towpilot like a ski lift operator: “Just get me up there!” Rushing can lead to dangerous mistakes like starting the aerotow before the checklists in both the towplane and glider are completed, canopies and airbrakes left unlocked, control locks or dollies still attached, starting the tow before the rope slack is completely out, mis-communication of tow airspeed and the direction of tow.

**Rushing the Descent.** Towpilots who feel obligated to hurry the descent after confirming that the glider has released may find themselves having a close encounter with another glider below release altitude. Aggressive diving of the towplane or a “split-S” maneuver is dangerous especially when you consider the energy vector at a steep and fast descent may make it impossible for the towpilot to maneuver to avoid an aircraft below which may be difficult to see against the terrain. Yes, towpilots may get bored with the shallow banking on tow and find that diving the towplane is exciting and perceived as providing timely service to the gliders waiting on the runway. Mid-air collisions have occurred where towplanes and towropes have collided with gliders below, so let’s stop allowing aggressive diving. It’s hard on the airplane structure and simply poor airmanship.

### **Towpilot Briefing to the Glider Pilot:**

Radio Frequencies to be used in airport area.

Density Altitude calculation.

Windsock locations.





## Towpilot and Glider Pilot Communications by Burt Compton, Soaring Safety Foundation Trustee.

Available runways and lengths, especially if using intersection takeoffs.

Abort point on the runway ahead. (Glider must release or be released.)

Towrope attached to glider only after checklist completed and canopies and airbrakes are closed and locked.

Confirm airbrakes & canopy locked by radio call and response. (If for some reason the pilot starts the launch with the spoilers open, this operational change calls for a special briefing!)

Take up slack signal (glider wings level, as used in winch launch?)

Tow position. Glider just above the towplane wake, not higher.

Losing sight of the towplane – glider must release immediately.

(Can happen if glider pilot fiddles with vent, GPS, oxygen while on tow.)

Slack Rope on tow. Does glider pilot know the 3 recovery techniques?

Cross Country Towing / Descent on Tow. Glider moves to low tow position?

Maximum height of tow (use MSL or AGL?)

Airborne Signals: Towplane Rudder Waggle means \_\_\_\_\_?

Towplane Wings Rocking means \_\_\_\_\_?

No “zooming” releases by the glider pilot to gain a little extra altitude.

Towpilots must have zero tolerance for this rude & dangerous maneuver!

Normal release should be in “normal” tow position.

What emergency procedures will both pilots use at various stages of the tow?

**Radio calls.** Consider adding the prefix “Towplane” / “Glider” rather than just the “N” number to your radio call sign to alert other aircraft. All airplanes, rotorcraft, skydivers, powered-parachutes, weight-shift aircraft, airships and drones must yield right-of-way to gliders and the towplane while it is towing a glider.

Unfortunately, some power pilots forget this rule (FAR 91.113) so the towpilot must alert local aircraft by radio. Note that a glider on the runway waiting for a tow or not clearing the runway after landing does not have the right-of-way over landing aircraft of any category.

### **Ask the Glider Pilot:**

Water Ballast onboard? (*Wise on a day with high density altitude or an intersection takeoff?*)

Max certificated weight of the glider? (*Calculate the 80% / 200%<sup>1</sup> towrope break strength and proper weak link.*)

Airbrakes / Spoilers open (*Then locked closed on takeoff roll for aileron control?*)

Tow Speed in MPH? (*Most towplane airspeed indicators are in MPH while the glider airspeed indicator is in Knots. MPH is 15% greater than Knots.*)

Direction of Tow? (*Upwind is the default direction.*)

Height of Tow? (*Airspace, density altitude, engine oil / cylinder temp limits.*)

---

<sup>1</sup> Modern European gliders have a maximum breaking strength listed in the POH that supersedes the FAR 91.309(a)(3)(ii) value of 200%. Make sure you know what is legal for the gliders you tow.



**Towpilot and Glider Pilot Communications**  
**by Burt Compton, Soaring Safety Foundation Trustee.**

This list should be modified as necessary for each individual site. It is not intended to be a complete list of all items that should be briefed before the tow. Special tows, (i.e., cross-country) should be briefed face-to-face before the tow begins.

**Towpilot Currency.** Are you current by FAR 61.69? Please read this FAR completely to understand the hidden “gotchas” in this rule. “Proficiency” in your towing skills outweighs your 24 month towpilot currency!

Burt Compton is the author of “**The Towpilot Manual**” available at [www.bobwander.com](http://www.bobwander.com)

