

WARNING

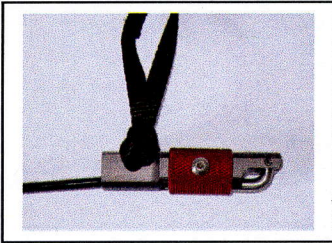
Your aerotow gear needs to be properly installed on your glider. We highly recommend that **ONLY** an aerotow instructor that is familiar with this equipment and its proper installation and use should install and test fly it. Failure to properly use this gear can result in death and or serious injury.

It is your responsibility to insure that an experienced instructor properly installs this gear and that the glider is test flown by a qualified pilot prior to your using this equipment. Furthermore, it is just as important that there is no doubt in your mind that you are capable of properly using this equipment and that you understand how to properly use this tow equipment -- your life may depend on it. GT Manufacturing Inc. (GT) and Lookout Mountain Flight Park Inc. (LMFP) make no claim of serviceability of this tow equipment. There is no product liability insurance covering this gear and we do not warrant this gear as suitable for towing anything. We make no claim of serviceability in any way and recommend that you do not use this aerotow gear if you are not absolutely sure how to use it and or if you are unwilling to assume the risk. Towing and flying hang gliders is inherently dangerous.

If properly used, there is a minimum of three ways to release from the towline. Do not depend on any of these ways by themselves and fly with a back up. The first release is the primary release which under certain situations may fail, second, is the secondary release that works most of the time, if all is set up correctly, and third, the weak link which will break under the right load. You should also fly with a hook knife that will allow you to cut the line if need be.

GT and LMFP Inc. assume no liability for the function and serviceability of this equipment. If you are uncomfortable with the risk of using this tow gear you will need to get gear that you are comfortable with or **do not** tow. There is an inherent risk in towing hang gliders that you must assume if you want to use this gear and you want to tow. Learn and understand the risk and the use of this gear. Your safety depends on it.

LMFP pilots: You will want to make an appointment to have this gear set up and installed on your glider and harness either at the top of the mountain (preferred) or down at the tow pavilion. Please do not expect the instructors to stop flying scheduled student and discovery flights to install and familiarize you with your new gear. This gear should be purchased when you take your aero tow instruction so that your instructors can teach you about it at that time. Once your gear is installed you will need to get your glider test flown to test that the gear performs as it should and is set up correctly.



The new GT aerotow release, new as of July 11th 2009, is designed to be used with a V bridle and a 130-pound green stripe Dacron tournament fishing line weak link. At this time it is not recommended to use this release with a higher value weak link. We are confident that with an ultimate load of 130 pounds at the release point, the new GT aerotow release works better than all cable releases that we have experience with.

In designing this new release we wanted strength, consistency, ease of use, and less release pull-pressure. Also, in comparison to the industry standard Wichard spinnaker release, the barrel release is designed so that the pilot can easily tell that it is connected properly. We have demonstrated that the smooth stainless steel flipper is a lot easier on weak links and has no edge to hang up. Also, the hinge area is not sharp like we find on the Wichard release. A sharp hinge can cut your weak link and cause premature releases. We feel that this design has exceeded our expectations in all regards. We hope the GT barrel release exceeds your expectations as well!

To release from the tow plane it is best to pull in so that the tow rope has a light sag in it and then give the release handle a sharp yank.

Preflight (inspect) your release and the components prior to each flight. Look for a kinked cable housing, kinked or frayed cable, and a frayed release handle. Test your release for smooth release prior to use. While using, note if your release requires more pull-pressures to actuate than past releases under similar conditions or if the release pull-pressures are increasing. If the release pull-pressures required to release are increasing, your release will need to be inspected. Basically, if you notice a trend of increasing release pull-pressures under similar load conditions then your release needs to be inspected. We are currently using one of these releases on our tandem gliders and are able to put a lot of use on the release in a short time frame. In the meantime, if you have any issues with the release, email GT Manufacturing at fly@hanglide.com. Use the subject "GT Barrel Release".

This release is a new design and has been tested to 388 pounds ultimate load connected directly to the release where the release functioned properly. With over a hundred high load releases the new release performed, as it should. With a 220 pound load at the release the release required about 16 pounds of pull to actuate the release.

Thanks!

From the GT team!

Aerotow Release System

Warning: GT and LMFP Inc. assume no liability for the function and serviceability of this equipment. It is your responsibility to insure that an experienced aerotow instructor properly installs this gear and the glider is test flown by a qualified pilot prior to your using this equipment. Hang Gliding is a dangerous sport and misuse of equipment can result in injury or death.

Your aerotow release package should contain:



1. **Primary release**- this is rigged to the glider and releases the weak-link/long bridle.



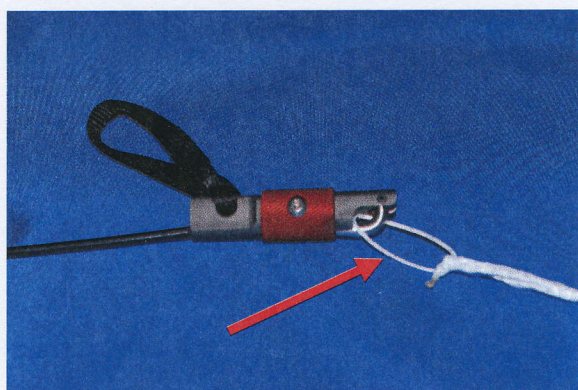
2. **Secondary release**- rigged to your harness and attached to the short bridle.



3. **Short bridle**- rigged to harness tow loop and goes through long bridle to secondary release.



4. **Long bridle**- rigged from short bridle to weak - link which is then attached to primary. The tow rope from the plane clips directly to your long bridle.



5. **Weak-link**- 130-pound test, green stripe Dacron tournament fishing line, rigged to the end of the long bridle. Use proper knotting technique!!

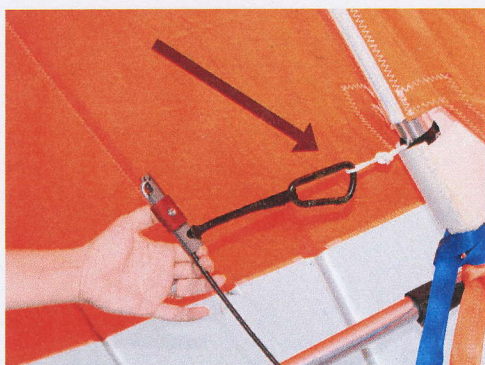
The weak link is used to protect the equipment by breaking at a set value. We recommend the green stripe 130-pound test tournament fishing line. Our tests have shown that when tied properly this line breaks consistently at 130 lbs. With a "V" bridle angled at 60 degrees or less this will give you a breaking strength of 260 lbs at the tow line. The primary release and the secondary release require more force to actuate and release the towline as tow pressure builds.

Our tests utilize a double overhand knot after the weak link line is wrapped a minimum of three times around the bridle. Pull one of the wraps free and tow from that line eliminating the knot from the weak link circle. Research shows that a knot can weaken the strength of line (rope) by 35% to 50%

depending on the knot. Avoid towing off of the weak link with a knot in the main circle that you clip your release to.

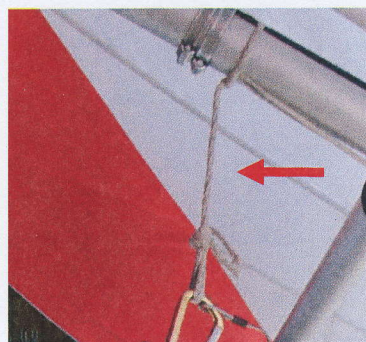
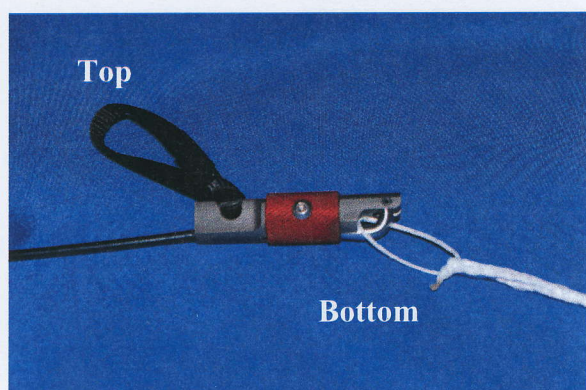


6. **Hook Knife**- secured in harness so it is readily accessible.



7. **Carabineer**- used to connect primary release to towpoint.

The barrel release mechanism must be oriented as shown in photo 7. The hole on the release body that holds the black webbing connecting the release mechanism to the carabineer and tow point must be on the top. The flipper that holds the weak link must face down. This is to reduce the remote possibility of the weak link getting wedged into the flipper joint.



8. **Towpoint Line**- rigged to glider by qualified aerotow instructor only!!

Towpoint must be set by a qualified aerotow instructor!! Arrange this at our pro-shop or with your experienced aerotow instructor!!

Some gliders will require or benefit from mounting the release to the keel. Gliders like the WW Falcon, Eagle and Sport 2, as well as other makes and models, require much less work load on the pilot when the release is mounted on the keel in between the hang loop and the nose plate. Precisely where the release is mounted depends on the type of aircraft used as a tow plane, how fast the tow pilot flies the plane, and the site where the flying is taking place. Have your aerotow instructor mount the release then test fly and tune to get the best location.

The place where the tow release is mounted effects your in-flight bar pressure, or where the glider trims, only while on tow. This value in miles per hour is approximately 30 to 32 mph at Lookout Mountain Flight Park. Keep in mind that when you go to another location your tow pressures are likely to be different than at your home site. Be aware of the different tow pressures and adjust as needed with your inputs or have your tow point moved by a qualified individual.

Additional Release Information

The primary release must be routed correctly with sufficient slack in order to function properly. The cable should be secured along the front of the downtube with the Velcro ties and clipped to the tow point via carabineer with no tight bends in the cable. There must be enough cable slack between the top downtube tie and full forward pull of release when rigged to tow point. Also, cable must be in front of hang straps!!

The primary release is actuated by pulling on the strap that is securely fastened to the basetube. The Velcro should retain the pull strap, but for backup there is a length of line that must be tied off to the downtube. **Test the primary before each use!!**

It is best to pull in prior to pulling the release strap. Look for a slight sag in the line. Pulling in is not always practical prior to actuating the release, however it is desirable for minimizing stress on the gear – specifically, the release, the bridle, and weak link.

The primary release may fail at any time; this is why a secondary release must be used on all tows. Remember, you were trained to tug your primary only once before going straight to the secondary! Be prepared for a release at all times.... **Pull in, give your release strap a sharp pull and then go to secondary if the primary release failed.**

Aerotow refreshers

- Only get in the takeoff line when you are 100% ready for takeoff with ticket accessible!!!
- Make sure conditions are suitable for you by asking beforehand.
- Help others when there is no groundcrew, you will get yourself in the air quicker!
- Never pull in while on the dolly cart or try to steer it with weight shift!!!
- Did you pre-flight that dolly cart?
- A proper weak link must be used and a hook knife must be rigged on harness or tow will be denied.
- Expect an early release every moment of tow up to 600 feet; only then may you relax a little.
- If released early, pull in, pull your release to get rid of the rope, and land where you've planned for in just this situation!!!
- If you start oscillating or get into trouble of any sort, Release!! There is no need for a lockout – especially a low level lockout -- we do not want to have lockouts! Release before a problem develops!!
- If you are outside the cone of safety and unable to immediately correct your position – release immediately. If you are uncomfortable – release immediately.
- Be prepared to release at any time. The towline does break, the bridle breaks, the tow plane release may release you, and any one of the several weak links in the tow system can fail. Keep your energy (airspeed) and if released realize that the first thing to do is keep your aircraft flying – this usually requires you to get your nose down enough to avoid a stalled angle of incidence.

- Preflight your launch dolly and all tow gear. Insure that it is properly operating, hooked up and that your weak link is properly tied and in good condition. If in doubt replace it.
- Have your emergency landing procedure organized in your mind prior to launching.
- If you are uncomfortable while towing – release immediately, if you are oscillating – release immediately.
- If you are unable to stay in the cone of safety while towing, release immediately.
- Practice using your secondary release and be able to immediately go to the secondary release while maintaining control of the glider.
- Exit runway immediately after landing, there are others trying to land or takeoff.
- **If practical always pull in prior to release – this is much easier on your gear and the release pressure is much less.**

7/12/09