

Despite its relatively low aspect ratio (6.45), the UP Torre—UP's first EN-C two-liner—impressed us...

UP TORRE

"TORRE" is the name of the first flawless EN-/LTF-C two-liner from UP. It is also the first glider from the Garmisch-Partenkirchen-based manufacturer to feature distinctive winglets at the wing tips. With its sporty design, the Torre positions itself between the Trango X and the Meru 2.

Test Pilot: Franz Sailer
Photos: UP



With the Torre, UP bridges the gap between the EN-D-certified Meru 2 and the sport-class Trango X. While the latter was designed as a 2.5-line glider, the Torre consistently relies on a pure two-line layout. As expected, designer František “Franta” Pavlousek drew on numerous insights gained during the development of the Meru 2.

The Torre was, in turn, aerodynamically optimized in collaboration with an institute for aerospace engineering, and its airfoil was specifically refined using modern CFD simulations to achieve low drag, high stability, and maximum performance in accelerated flight. The new winglets represent a first for UP. According to UP, they had already been tested on various prototypes but were not used as standard equipment until the Torre. UP tested the winglets repeatedly on various models, “but they didn’t go into production until the Torre, where it really made sense,” the development team comments on this innovative step. UP on the target audience: “While the Trango X is already positioned in the upper C-segment, the Torre, as a two-liner, takes it a step further. This applies above all to the performance

of the paraglider, but also, to some extent, the demands placed on the pilot. The Torre is suitable for frequent flyers with high ambitions who want to further develop their skills and fly longer distances as efficiently as possible. Thanks to its EN-C certification, it’s also suitable for experienced pilots trying a pure two-liner for the first time.”

CONSTRUCTION, MATERIALS, AND DESIGN

With 67 cells and a designed aspect ratio of 6.45, the key specifications initially appear similar to those of the Trango X. Upon closer inspection, however, numerous design differences become apparent. The Torre features two additional cells, a modified canopy curvature, and a completely newly developed profile. Together with the significantly simplified line configuration, this is intended to reduce drag and improve both speed and glide performance.

Another new feature: The moderately pronounced shark nose is shaped with exceptional precision through an elaborate four-stage 3D shaping process—three stages on the upper canopy and one on the lower canopy. Crossed plastic struts stabilize the leading edge in the usual manner. Long B-wires in the upper and lower canopies further ensure high profile stability and

prevent deformation, especially during accelerated flight. This design is complemented by the so-called AIT (Air Intake Tension Lines). These run across the air intakes and keep the leading edge optimally shaped across the entire angle-of-attack range. The result is high structural stability and a consistently clean profile—especially at high speeds.

A distinctive feature of the Torre is the winglets on the outer wings, which are being used as standard equipment on a UP glider for the first time. The manufacturer explains: “When the glider’s silhouette is curved in a crescent shape, as with the Torre, this leads to greater agility during thermal flying. In the C-segment, on the other hand, there are often flattened arcs with lowered sides, which result in slightly higher aerodynamic lift but less pleasant thermal characteristics. The final Torre design ensures a perfect balance of performance in all possible situations.”

Three continuous cross-shrink bands give the canopy a high degree of homogeneity. Together with the elaborately designed internal structure, this results in a very compact wing with high shape retention across the entire wingspan. The proven mini-ribs are used along the trailing edge.

When it comes to materials, UP also relies on a well-thought-out mix of robustness and

TECHNICAL SPECIFICATIONS (MANUFACTURER'S DATA)					
Manufacturer	Kreuzeckbahnstraße 7, D-82467 Garmisch-Patenkirchen info@up-paragliders.com, www.up-paragliders.com				
Distribution	David Jung, sold through flight schools/dealers				
Production	China				
Designer(s)	Frantisek Pavlousek				
Test Pilot(s)	Frantisek Pavlousek, Michael Sneiberg, Jirka Dlsk, Jaromir Masek				
Dimensions	S	SM	M	L	XL
Number of cells	67	67	67	67	67
Starting weight (kg)	65–85	75–95	85–105	95–115	105–130
Design area (m²)	21.6	23.2	24.9	26.5	28.0
Projected area (m²)	18.6	20.0	21.5	22.8	24.1
Design span (m)	11.8	12.3	12.7	13.1	13.4
Projected span (m)	9.6	10.0	10.3	10.6	10.9
Designed for extension	6.45	6.45	6.45	6.45	6.45
Projected stretch	4.96	4.96	4.96	4.96	4.96
Cap weight (kg)	4.7	4.9	5.1	5.3	5.6
Total line length	199	207	214	220	226
Price incl. sales tax (€)	5,090	5,090	5,090	5,090	5,090
LTF/EN Seal of Quality	C	C	C	C	C
What's Included	“Parasleeve 3” cell pack bag, “Main 3 Riser Lines” replacement set, compression strap, repair sticker, UP gift, e-manual				

A rock in the storm: One of the Torre’s greatest strengths is its high pitch stability, which ensures maximum calm in the turbulence even in turbulent air.





Safety Reserve Trim Speed: With a good trim speed, you can fly stably even in turbulent air masses. It allows you to extricate yourself from difficult situations when using the accelerator would be too risky due to strong turbulence.

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Weight savings. The durable Dominico D30 is used on the leading edge of the upper canopy, while the lighter Dominico D20 is used in the rear upper canopy and throughout the lower canopy. The Torre is a two-liner, rigged with two classic risers on each side. The outer A-lines and the stabilizer line do not have their own risers but are suspended by a short connecting cord between the A and B risers. Compared to the Trango X, the total line length has been reduced by about 15 meters. All lines are uncoated to further minimize drag, yet they are clearly color-coded to distinguish them from one another, making them easy to sort.

The risers give a high-quality impression. Features include a sophisticated acceleration system, ergonomically shaped B-handles, metal carabiners, swivels, and soft grips with magnetic locks that feel comfortable in the hand.

In the test size M, the Torre weighs 5.15 kilograms. Given the robust choice of materials and the complex internal construction, the weight falls within the typical range for this class, as does the pack size. The new UP two-line glider is available in five sizes (three standard colors) and covers a takeoff weight range from 65 to 130 kilograms.

START

Forward Launch

During my test flights, I had to perform numerous launches in near-zero wind conditions. In “zero wind” or with a light tailwind, the Torre requires a significant pull to climb cleanly and continuously over the pilot. If the canopy is pulled back too timidly, it reacts somewhat hesitantly under these conditions. Once it reaches its zenith, one of its great strengths becomes immediately apparent: thanks to its pronounced pitch damping, the wing shows almost no tendency to overshoot. Even in crosswinds, the canopy climbs true to its path and reliably stays on course.

Reverse Launch

Similarly, when launching backward in calm conditions, the Torre initially requires a stronger pull, followed by constant tension on the inner A-straps until it reaches about half its maximum height. Afterward, the wing climbs very steadily to the apex and remains pleasantly “composed” there. Instead of stressing the pilot (as many C-class wings do) with a tendency to overshoot, there is plenty of time to turn out and begin a controlled run.

Strong and Crosswinds

Even strong winds or challenging crosswind launches barely faze the Torre

Stability. The canopy can be cleanly pulled up even from banked positions, responds precisely to directional corrections, and impresses above all with its pronounced pitch damping. Overshooting or unpleasant levering out are practically nonexistent—a real plus in challenging strong-wind situations.

Flight Behavior

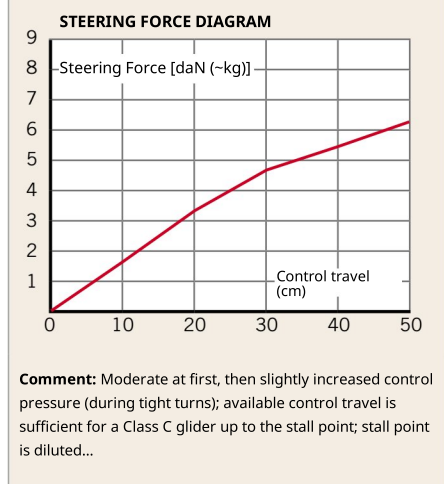
On my very first flight with the Torre, I competed in the club championships, where the goal is to fly around up to five buoys and then execute a precision landing. Thanks to the pilot ahead of me, I quickly centered the saving updraft in the weak thermals and was able to gain altitude rapidly.

Compared to the Trango X, the Torre feels a touch more dynamic—as if it had a few more horsepower under the hood. Even at trim speed (40 km/h when fully loaded), the wing develops a latent forward thrust while remaining remarkably pitch-stable. The wing rarely exhibits abrupt pitch movements, even in turbulent air. Around the roll axis, however, the Torre is noticeably more agile. Even in the first few turns, it becomes clear that all bank angles can be flown efficiently and precisely with the Torre.

However, below a takeoff weight of about 98 kilograms (test size M), the wing responds to control inputs with a slight delay. Changes in turn radius or bank angle

CONSTRUCTION/MATERIALS
Canopy: moderate shark nose, rigid foil nylon threads on the leading edge, long B-wires in the upper and lower canopies, triple 3D shaping on the upper canopy, single 3D shaping on the lower canopy, various tension straps, mini-ribs, upper canopy: Dominico D30/Dominico D20, lower sail: Dominico D20
Lines: Main lines and middle galley: Liros DC/Edelrid 8001 Top galley: Liros DC
Harness: Two-line harness with a differentiated acceleration system, ergonomic B-handles system, metal carabiners, swivels, soft grips, magnetic mount with snap-in function on the control handles

TEST REPORT	
Test Pilot's Takeoff Weight (kg)	95–102
Wing loading (kg/m ²)	4.43–4.74
Harness(es)	WV GTO Light 2, Niviuk Arrow
Measuring instrument(s)	Flymaster Live SD, Skytraxx 2.1
Acceleration travel (cm)	40
Glider weight (kg)	5.15 (weighed)
V-trim (km/h)	39–40 (takeoff weight , 102 kg; at 1,850 MSL)
Vmax (km/h)	56 (, 102 kg takeoff weight; at 1,850 MSL)



SUITABILITY			
Beginners		XC	
Recreational pilot		Competition	
Experienced pilot	...	Hike & Fly	

• (not very suitable) to ••••• (highly suitable)

PILOT COMMENT
Ambitious XC pilots, those moving up from Class B, those moving down from Class D
What we liked: climbs well, easy to control, resistant to collapses
What's different: homogeneous construction with winglets on the outer wing
What we're missing: —

PILOT REQUIREMENTS								
(REQUIREMENTS FOR THE PILOT)								
E1	E2	i1	i2	S1	S2	H1	H2	CC
S2: XC gliders that place high demands on the pilot.								
Required Skills/Experience: For pilots who fly a great deal, are extremely performance-oriented, and also possess above-average talent.								
Required Airtime: at least 100 hours/year								

SHORT REVIEW
Rating: ★ poor, ★★ satisfactory, ★★★ good, ★★★★ very good, ★★★★★ excellent
SUITABILITY
Ambitious XC pilots, competition & H&F pilots
LAUNCH
Forward launch: ★★★★★
Takes a little time to fill and climb, stays on course, doesn't overshoot
Reverse takeoff: ★★★★★
Requires a strong initial push in calm conditions; does not break out; hardly any stopping is necessary at the zenith
Handling Strong Winds: ★★★★★
Stays on the ground, easy to pull up from any bank angle, easy to correct, hardly shoots forward

BRIEF REVIEW
FLIGHT BEHAVIOR
Agility/Maneuverability: ★★★★★
Agile around the roll axis, damped around the pitch axis
Control characteristics: ★★★★★
Pleasant control pressure, extended stall point under 98 kg takeoff weight
Packing behavior:
No empirical data available, as the glider is very stable; cannot be simulated without folding lines
High-speed flight: ★★★★★
Good top speed, pitch-stable, comfortable effort, excellent headwind penetration
Damping: ★★★★★
Well-damped in pitch, lower roll damping, the canopy effectively dampens air movements, canopy feedback is not very pronounced
Stability: ★★★★★
High internal canopy pressure, very stable across the entire wingspan, handles turbulence well
Landing: ★★★★★
Can be effectively flared; stall point slightly broadened depending on load
DESCENT
Folding the wings: ★★★★★
Easy and very convenient to perform
Steep spiral: ★★★★★
Delayed initiation, rapid rotation possible, turns in
B-stall:
Two-line, not practical





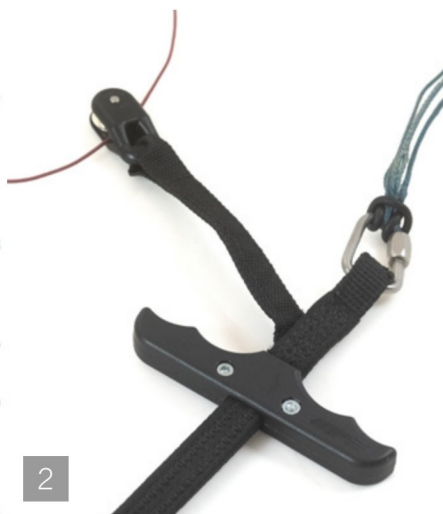
then proceed a tad more leisurely. In weak thermals, the compact two-liner provides slightly less canopy feedback than some of its “livelier” competitors. So if you want to make the most of mild thermals, you’ll need to “listen to the wing” a bit more closely. In return, the Torre offers exceptionally high stability all the way to the wingtips and rarely causes any stress, even in turbulent air. Its high shape stability is also noteworthy.

Even during dynamic wingovers, tight turns, or in turbulent air, the canopy barely twists and maintains its profile very cleanly. To clarify: The canopy doesn’t actually feel “stiff”; while it feels “well-tensioned,” it’s still quite “flexible” when things get rough in turbulent air. The control forces remain at a comfortably

average level within the operating range of 10 to 25 cm. Even with the brakes fully engaged, the pull forces do not increase disproportionately. The available braking distance is sufficient overall, as the measurement data also show. However, below a takeoff weight of approximately 98 kilograms, the Torre lacks a clearly defined pressure point in the stall range. The stall warning is somewhat vague, which means that abrupt control inputs without the necessary bank angle or speed—and/or excessively long “braking sprees” (prolonged overbraking)—should be performed with some caution to avoid unintentionally maneuvering the wing into a one-sided stall. Above 100 kilograms takeoff weight, however, the stall point becomes more precise and easier to feel.



Smooth edge on the southern excursion: Flying over the vast plains of northern Italy, the new Torre demonstrates what modern design should look like. A closer look at the trailing edge reveals the internally sewn mini-ribs in the leech area. They ensure an extremely smooth upper surface, minimize harmful turbulence, and extract maximum efficiency from the wing—whether thermal flying in Bassano or soaring along the vast ridges of Friuli.



1. Classic two-line harness with B-steering handle and the outer A-line on a through-line
2. The ergonomic handle for controlling the two-line glider while gliding and racing
3. The outer B-line and the inner B-lines: harness vs. continuous line, which is practically a single line
4. Mylar reinforcement on the leading edge...
UP designer Frantisek Pavloušek has opted not to use a shark nose
5. The inner workings of the profile nose



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Thermal Flying

The Torre truly shines during thermal flying. For a high-performance EN-C two-liner, it's surprisingly easy to fly. Even in strong or choppy thermals, the canopy doesn't require constant "wing taming." More pronounced pitch movements or sudden surges of the outer wing are rare; even abrupt transitions from strong climb to sink are pleasantly dampened. The often challenging weather conditions in May and June, in particular, demonstrated just how much confidence the Torre instills. While other high-performance gliders constantly need to be reassured with input, the Torre remains remarkably composed. Although the effort required is slightly higher than that of the Trango X, it remains at a pleasingly low level for a high-performance C-class two-liner. Pilots making the switch to the EN-C class for the first time will particularly appreciate this. In very turbulent air, the wing occasionally rolls more noticeably to the side.

If the thermals are heavily fragmented, the canopy may occasionally lurch more violently or be pushed roughly off course. For expe-

C-class pilots, however, such unexpected wing reactions do not pose a major challenge. In addition, the Torre's obvious strengths include its high resistance to flutter and its forgiving nature—it doesn't immediately stress the pilot if they happen to "doze off" and fail to make steering corrections in time. During approximately 20 test hours—mostly in challenging conditions—there were no instances of either front or side flutter.

Likewise, the glide performance is impressive across the board. The Torre makes excellent use of even the weakest pockets of updraft. With a takeoff weight between 95 and 102 kilograms, it was possible to gain altitude quickly in weakening morning and evening thermals, with the result that fellow pilots usually were left behind. For the Torre, a takeoff weight of around 100 kilograms (= sweet spot) offers the optimal balance of handling, climb rate, and glide performance.

Accelerated Flight

The Torre was equally impressive across the board in accelerated flight. At a maximum speed of 55–56 km/h, the

two-liner glides confidently through turbulent air while remaining remarkably calm. Pitch movements remain moderate even when entering strong thermals. And its glide performance is also impressive: During the club championship, I was able to compare the Torre quite meaningfully with current C- and D-class gliders during several glide passages. In fast flight, the Torre's performance was absolutely convincing.

The wing occasionally responds to lateral thermal influences with slightly stronger rolling, without losing load or appearing nervous. This collapse-resistant two-liner is surprisingly forgiving of slow reactions or "control fatigue" on the pilot's part, without immediately losing load or collapsing completely.

The accelerator travel is 40 centimeters and can be used without any problems with all standard harnesses—a kick-down ball like the one on the Trango X is not required.

The effort required to press the foot accelerator and the holding forces are noticeably lower on the Torre than on the Trango X. They remain constant up to maximum speed



In this photo, also taken from above, you can also see the branching cross-bracing straps inside the wing



An X-ray view above the ice: Peter Bossert flies the Torre in front of the Swiss Aletsch Glacier. Nice to see: the inner workings from below.

at around 56 km/h, which is pleasantly moderate, allowing even longer full-throttle stretches to be completed with minimal effort and without “calf strain.” The feedback through the B-handles is somewhat more subdued than with some competitors. After a few hours of flight, this isn’t really a problem, as the Torre absorbs turbulence extremely effectively and remains stable for a long time, even during accelerated flight. The effort required to operate the B-handles is moderate.

Fun Factor & Extreme Flight

Throughout the entire test phase, there was no front or side flapping in either thermal or accelerated flight. It is therefore not possible to comment on the wing’s flapping and opening behavior. Its pronounced pitch damping makes the Torre somewhat reserved at first when initiating dynamic maneuvers. However, with well-timed weight shifts and precise brake inputs, the wing generates sufficient energy for high wingovers. For those who have this in their repertoire and want to give it a try: Even cleanly flown SATs are executed without a hitch...

DESCENT AIDS

Steep Spiral

Due to its pronounced pitch damping, the initiation is slightly delayed. However, after just two rotations, the Torre builds up high rotational speed and significant g-forces. In the spiral, the canopy remains compact, twists very little, and does not collapse inward. Upon exiting, the wing rotates noticeably and then climbs, as is typical for this class.

B-stall

A B-stall is not possible.

Setting the ears

The ears can be easily folded using the outer A-lines. In combination with about 50 percent accelerator input, this results in pleasantly low pull forces for a two-liner, both when initiating and maintaining the maneuver. The glider does not always reopen on its own and often needs to be assisted with one or two pump strokes. Overall, the maneuver presents itself as

a two-liner that’s safe, effective, and surprisingly straightforward.

CONCLUSION

The UP Torre is a high-performance EN-C two-liner with an exceptionally well-balanced overall character. In other words: numerous strengths, hardly any weaknesses! Compared to the Trango X, it offers even better glide performance, especially in accelerated flight. The Torre particularly impresses on long headwind sections with its high penetration and, thanks to its high stability, allows for intuitive steering through turbulent air. In challenging thermals, the wing requires slightly more attention than the Trango X, yet remains surprisingly accessible thanks to its excellent pitch damping and its generally good-natured flight characteristics. This makes it well-suited for ambitious pilots looking to make the leap into the EN-C class. Finally, its climb rate remains consistently strong: in weak thermals, the Torre ranks among the best in its class and is in no way inferior to the Trango X in this discipline. ■