



# ATHLETE SAT

INFORMATION  
PACKAGE

A dark, blurred photograph at the bottom of the page showing a group of young athletes in blue uniforms with various numbers on their backs (e.g., 151, 162, 148, 94, 147, 125). They appear to be standing on a grassy field, possibly during a practice or game.

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# ABOUT THE ATHLETE SAT

*"It is a shame for a man to grow old without seeing the beauty and strength of which his body is capable." - Socrates*

Every athlete deserves the opportunity to hit their potential. Unfortunately, most have limited access to proper training and instruction. Too many TikTok and Instagram workouts. Too many fad diets. We are seeing a proliferation of junk science on athletic performance.

That's why we created the Standardized Athletic Tests (SAT).

The SAT is the first athletic Combine to implement professional-grade sport science on a national level. We've partnered with the best coaches in their field who have experience at the highest levels of sport to create Combine Tests that will transfer to on-field performance. We buy the same equipment and data science platform used to measure the players from your favorite teams. We hire professionally certified coaches to ensure that all our tests are run using the same protocols. We scout locations nationally to reduce test site variability and maintain data integrity.

## Why?

So that your athlete has a clear picture of where they are and where they need to be to hit their goals. Whether that goal is to play varsity, college, or beyond, our programming is designed to get them there.

Our ultimate goal is to empower a generation of young men and women to develop confidence through physical training and sport. Sport training teaches important life skills that will set our athletes up with a strong foundation for success.

If you choose to be a part of what we're building, we promise that your athlete will have an opportunity to develop the habits they will need for the rest of their lives.



# STANDARDIZED ATHLETE TESTING

Every time a Coach turns around, there's a football combine. Football, more than any other sport, has normalized Combine testing as an event. The reason is that the nature of football is position-specific: each position plays a distinct role on the field. Therefore, when Sport Scientists perform research on Combine testing as it relates to football performance, it's easy to prove relationships because there aren't the same confounding variables found in other sports. The physical requirements are defined. It's clear what metrics are necessary for each player to perform well.

The most important need is standardization of the testing performance by ensuring the repeatability is high for the test. Otherwise, normative data for comparison is nearly impossible. Confounding variables such as motivational instruction, crowd size, and even time of day makes it hard to have a perfect testing environment. Regardless, creating a consistent testing period is key. The National Strength and Conditioning Association (NSCA) has a collection of instructions for the testing exercises. While not perfect, they are the most recognized and accepted tests domestically. Some tests, such as the medicine ball throw, are recent advancements and are useful for mass testing.

Here's how Prospects by Sports Illustrated standardizes Athletic Testing at a National Level.

## TIMING

An athlete's physical performance will fluctuate based on the time of day that they are performing. A Combine run with the same athletes at different times might return varying performance results. We schedule every Combine at the same local time, 1pm EST, to ensure

that all athletes have similar circadian rhythms during testing. This standardized time reduces performance variability that could occur from having Combines at different times.

## MOTIVATIONAL INSTRUCTION

Coaching cues can also impact athletic performance. A major issue with amateur combines, what a coach says to an athlete prior to performing a test can have a positive impact on performance. If a specific set of cues can have a positive impact, then not providing those cues could also provide a competitive disadvantage. We address this issue by having each coach utilize the same coaching cues for every athlete to ensure that they have an opportunity to be appropriately assessed. Combines that don't do this risk variable testing performances from the same athletes.

## TESTING PROTOCOLS

Obviously, each test has to be run the same way. The NSCA has guidelines on how to perform field testing for most sports. These tests require a coach who has trained in the methodologies of the NSCA. These coaches have a certification called a Certified Strength and Conditioning Specialist (CSCS). We only hire CSCS-certified coaches to run these drills. This serves two purposes. The first purpose is athlete safety. These are validated protocols written by strength and conditioning professionals. The protocols have been extensively researched and validated. So we have a higher level of confidence that athletes won't get injured. The second purpose is that we know each test is using the same testing protocol as our other locations. Our Combine in Florida uses the same protocols as Texas despite having different staff. This staffing decision ensures that our testing data is comparable across testing sites.

## TESTING SURFACE

The most difficult standardization is testing surface. We conduct all our field tests on turf fields. Most of our testing is done indoors to reduce the effects of weather on the testing surface. We partner with newer facilities to decrease the risks of older flooring and equipment. The purpose of conducting our testing in similar facilities is to reduce as much variability as possible.

## EQUIPMENT

Most athletes have experience running 40 yard dashes with their coaches. Unfortunately, some athletes might post a PR, only to realize that the coach made a timing error. Hand timing athletes is just one example of how testing data can be altered due to coach interference. We use the latest sports technology to ensure that coaches are entering as little data as possible. Most of our data goes directly from our testing devices into our athlete management platform. This reduces two types of errors. The first is the standard data entry errors. These are the errors from someone typing in the wrong number. The second is from response errors. A response error comes from the differences in coaching reflexes. People don't have the same reflexes so their ability to mark the same times for an athlete with a stopwatch are similarly varied. Instead, our methods reduce risk of errors to ensure that each athlete has an accurate picture of their Combine results.

## GROUP SIZE

Timing is everything. Although we haven't seen too much research on this effect, we use the same group size for every testing station. Our reasoning is that it will reduce any variability in wait time versus testing time. We don't want athletes getting cold waiting for their chance to test while others might be testing rapidly. Ensuring that our group sizes are the same allows for proper Combine testing comparison.





# SPORTS SCIENCE

Sport Science has become a mainstream phenomenon. All athletes want to use the latest sports technology to improve their performance. Most major sports organizations now have data analytics departments. Prospects by Sports Illustrated takes the latest Sport Science, using validated devices, and provides key performance insights to athletes. Here's what we use:

## COACHME PLUS

CoachMePlus is an Athlete Management System Software used by over 220 professional and NCAA sports teams to manage and track the performance of their athletes. They work with major professional and collegiate sports franchises.

Their system helps organizations centralize all of their data into one easy to access location. CoachMePlus allows coaches to quickly uncover performance trends to evaluate game-day readiness.

## DASHR

There has been a need in the athletic training community for a reliable timing system that does not break the bank. Many high school athletes making the transition to college attend try-outs or camps to grow recognition from the next level. Athletes that do not have the opportunity to use state-of-the-art timing technology are often at a disadvantage in these situations. They were not taught the standardized tests that elite programs use because their schools could not afford the equipment. Timing systems are out there, but all of them have their drawbacks.

Born out of the needs of the University of Nebraska's athletic programs, Dashr has developed visible laser timing modules that can

be used both indoors and out. An Android based App is used to control the modules and users can setup both standard (i.e., 40-yd dash, Pro-Agility, etc.) and custom performance tests. Any number of modules can be connected to allow for any specific details desired by coaches or athletes.

Outside of our standard laser module we have developed a data automation system for managing rosters and testing data. When in use, the App will then automatically save the time to that player's profile. This addition greatly increases the speed at which testing can

## HAWKIN DYNAMICS

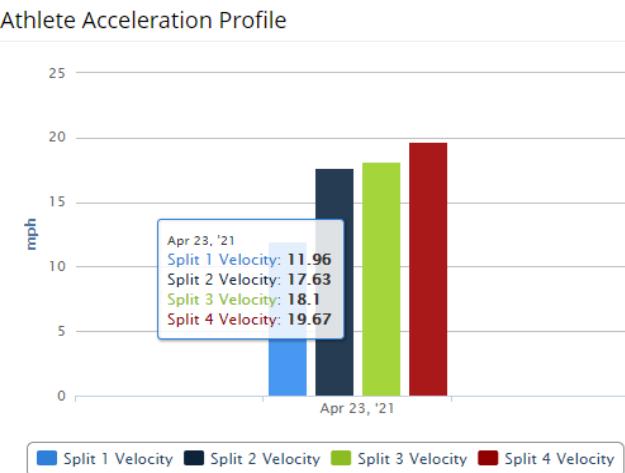
Hawkin Dynamics builds and designs hardware for testing athletes and patients, but that's only the beginning. With our industry-leading data platform you can rapidly and easily aggregate and analyze massive datasets with precision. We empower users with the latest technology under the hood to ensure we are ahead of the competition so you can be, too.





## SHORT SPRINTS 10 & 40 YARD DASH

The 40-Yard Dash is a legacy test in football. The test comes from an era of football where players played all 3 sides of the football: offensive, defensive, and special teams. The average punt distance at the time was 40-yards. Coaches would run tests to see how fast their players could cover the punt. We know that players and coaches still love the 40-Yard dash so we've modified it a bit. We still run the 40 but we've added timing gates every ten yards. This change allows us to measure the 10, 20, 30, and 40 yard speeds of an athlete. We report on the traditional 10-Yard and 40-Yard times for coaches and scouts to use. For the athletes, we provide additional information.

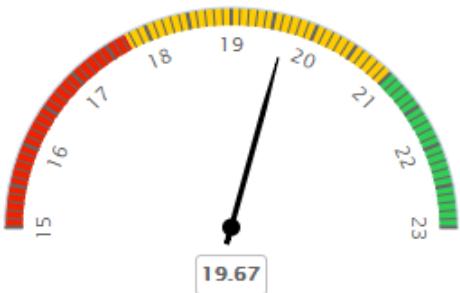


An acceleration profile provides us with the distance it takes an athlete to reach top speed. In the above image, it took the athlete 40 yards to hit their top speed. That athlete can take this information to a speed coach and tell them that they need to work on their acceleration.

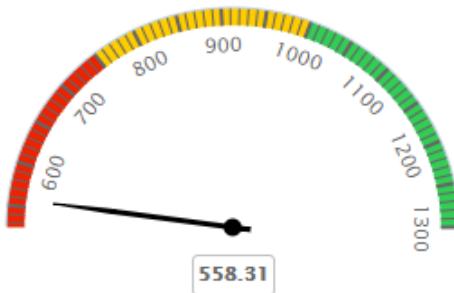
Why is this valuable? Because every athlete should be optimizing for three metrics: the shortest distance to peak speed (acceleration)

and peak speed. Most plays aren't 40 Yards, therefore the final 40 time might not be as valuable. The best career Yards-per-Attempt was 9.0. Athletes need to know their speed breakdowns so that they can identify where they can improve.

40yd Dash – Peak Velocity



Momentum ( $\text{kg} \cdot \text{m/s}$ )



Peak Velocity and Hitting Power (Momentum) are extracted from simple intervals. Peak velocity has clear value: how fast is the athlete? The above athlete has a peak speed of 19.67 MPH. We include this metric for athletes so that they can compare themselves against other objects (School Zone speed limits for one). Peak Velocity is used to calculate Hitting Power.

Hitting Power is exactly what it sounds like: how hard an athlete can hit another athlete. Technically referred to as momentum. Momentum from a linear sprint is an artificial construct, as the assumption is that the acceleration and speed is nearly a constant. With acceleration, the assumption is the athlete is increasing velocity as the distance increases, but the step by step and even torso change from collisions makes true impact force in tackling a technical interpretation requirement (skills). Thus mean interval velocity from first ten meters/yards and last ten meters/yards (peak velocity).

**Hitting Power Calculation:** Convert the yards to meters, and multiply the weight in kilograms and this is Newtons. Both the first ten and last ten can be reported. This is a mean interval calculation and not an instantaneous peak acceleration.

Why does hitting power matter? Linemen are unfairly represented at Combines. The weight that their position requires comes at the

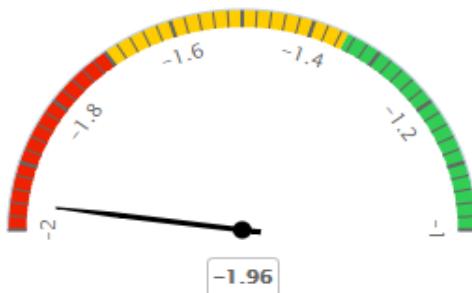
expense of speed in many cases. These athletes shouldn't be ranked on top speed. Instead, they should be ranked on their hitting power. Especially offensive linemen as they are blocking downfield.

## 5-10-5 AGILITY

If you think about the movement demands of football, the sport demands linear speed. Every player has to be capable of quickly moving in any direction. The 5-10-5 test provides the horizontal speed metrics of the athlete: how quickly they can cut and change direction.

Current research with change of direction is limited due to the lack of accessible technology. Thus, using simple timing gates as well as comparison of the short sprint test splits can extract more information beyond total time. Based on NFL testing, they are not listing publicly the Change of Direction Deficit (CDDD) or even splits. We report on the traditional 5-10-5 score and the Change of Direction Deficit (CDDD).

Change of Direction Deficit (sec)



What is the Change of Direction Deficit (CDDD) and why does it matter? The 5-10-5 final time is not really agility, just another measure of speed. A fast athlete could have a faster Pro-Agility time because they're running faster between directional changes. We also calculate an athlete's CDDD to supplement their final score. The CDDD measures the time it takes for an athlete to make a directional change.

Why do you call it the Agility Index? We use CDDD to rank athletes based on their agility levels. Our team believes that this is a better measure of an athlete's agility. An athlete will still receive their final 5-10-5 score but will also receive their agility score.

## BROAD JUMP

The Broad Jump is one of the simplest drills of all time. Stand still and jump as far as you can. However, research shows that it might be

one of the best ways to quickly assess athlete explosiveness. We didn't reinvent the wheel on the Broad Jump. We report on distance and a new metric called Relative Explosiveness.

Relative Explosiveness is a simple calculation that adjusts for height differences among athletes. Addressing body height, or leg length, can turn the Broad Jump into a more useful measurement. Due to the landing component, we do recognize that takeoff velocity and force will be more accurate, but the use of an embedded force plate in a facility is unlikely to occur. Thus, body height or leg length divided by the distance covered is a great metric. Since it's a ratio or percentage, it is reported after the distance covered as an added value metric.

Athlete leg or height divided by the length of the jump is a fair way to see how much relative ability they have to express their power. While not exciting, it's fair to compare athlete height, not just weight. The limitation of the added metric is that the testing scores are skill related and landing technique can punish or reward an athlete unfairly.

## VERTICAL JUMP

The Countermovement Jump (CMJ) is one of the most popular sports performance tests. It doesn't necessarily translate to football directly; meaning there isn't a clear statistical relationship between CMJ and NFL performance. Other tests have those relationships and that explains their inclusion. The reason that the CMJ is valuable is that it provides a clear assessment of lower limb power. Like the Medicine Ball Throw, the CMJ is a safe way to measure athlete power output.

We use Force Plates to assess athlete jump height. The issue with Vertec and similar jump testing is that they are poor scientific measurements of jumping performance. The accuracy of the test does pose a problem, but the addition of force plates do make the test more useful. Another way to see value from the jump is to add a camera and get body length information, provided they land properly, but that is also a challenge when the goal of the athlete is to get a better score, rather than a more accurate depiction of their abilities. Thus, keeping the jump test standard is going to be a compromise that may not change ever. If it does, the scores need to be fairly compared so that athletes of

the future are not seen as less talented. While convenient, vertical jump calculations from vertecs are inaccurate. Using a correction formula for contact mats and additional calculations from athlete weight can estimate power. Ethically, the data is indeed artificial and too indirect to be considered gold standard.

## L-DRILL

The 40-Yard Dash and 5-10-5 both measure linear speed in multiple directions. Most NFL plays require some non-linear movements. The L-Drill measures non-linear speed to supplement those other speed metrics. The L-Drill also translates well to football performance because it measures speed that is similar to the playing environment.

One of the poorest assessments for data collection is the L Drill. While it may be a good test, the ability to collect data conventionally from it is very poor. Thus adding a camera instead of another set of timing gates is intriguing as the small space makes tripods of the timing gates sometimes visually crowded and could make the athlete run more cautious. Adding an additional split(s) is a possibility with camera based technology, and using either a foot fall or hand touch could create additional splits or breakdowns of the event for further insight. The current problem for this is that no formal or accepted standard for such analysis is available, but the exit and entrance splits can be used for now. While not included in the standard assessment, video analysis is available at an additional fee.

## MEDICINE BALL THROW

The most unique of all the tests on this protocol is the Medicine Ball Throw. The Bench Press is popular at the NFL Combine because of the strength of the athletes. These athletes have at least 3 years of collegiate strength and conditioning experience prior to this event. Since our Combines deal with athletes as young as 10 years' old, we need a protocol that reduces the risk of injury for our athletes. The shoulder is the most complex joint in the body, there's no reason to risk injury with a relatively complex exercise when the Medicine Ball Throw is an accurate assessment of arm power.

Using a simple throw for distance is recommended until a better

Using a simple throw for distance is recommended until a better solution is in agreement. The use of the medicine ball throw is due to the risk of injury to athletes who don't know or are not skilled in the bench press test. Adding bench press testing increases the time for testing drastically, and the throw is considered a good alternative to upper body strength testing. It is recommended to stand with both feet at the line with no stagger. This is the protocol that is researched to show value provided it's strict (see blog that copies the protocol). Also the future hardware products will be able to get ball speed and iterations to the tests are expected.

Research Supporting these Tests - <https://pubmed.ncbi.nlm.nih.gov/29140912/>

A photograph of two young football players in blue and red uniforms performing a lateral drill on a grassy field. One player is in the foreground, leaning forward with his right foot on the ground and his left leg bent. Another player is partially visible behind him.

# WHAT TO DO WITH RESULTS

If you've attended a Combine and received your results, what's next? This section details the various advantages of competing in a Prospects by Sports Illustrated Combine.

## CAMPS

Top performers at one of these Combines will receive invitations to attend All-Star camps. These camps will have top performers from other regional combines.

## ATHLETIC PERFORMANCE

The insights from these Combines are highly accurate and can be used to inform training decisions. Primarily, you can show these results to your strength and conditioning coach who can use the testing to make training interventions. Additionally, our staff has training programs that are designed to improve your athletic performance by targeting areas of weakness. These programs are personalized depending on your Combine results. They are available for an additional fee.

## SCOUTING

Older camp participants will have the option to have their scores entered into our database. Our Combine database is accessible by collegiate scouts across the United States. Coaches can be confident in these Combine results due to our focus on testing uniformity and accuracy. Older athletes can maximize their exposure to scouts and coaches by sharing their scores.

## RANKINGS

Older athletes also will receive rankings that provide comparisons between them and their peers. They will be able to see how they stack up against other football players their age. The purpose of these results is to foster a spirit of competition and improve each athlete's understanding of their performance.



# COVID-19 RESPONSE

# COVID-19 POLICY



## Health & Hygiene

Our event facilities have updated their spaces with hand sanitizing stations. Additionally gloves, hand gel, and masks will be used by staff and are available to participants at check-in.

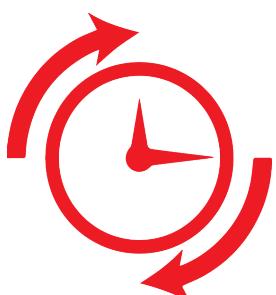
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## Government Sanctioned

Every event we host will be 100% compliant with government mandated health and safety regulations to ensure the safety of the athletes.

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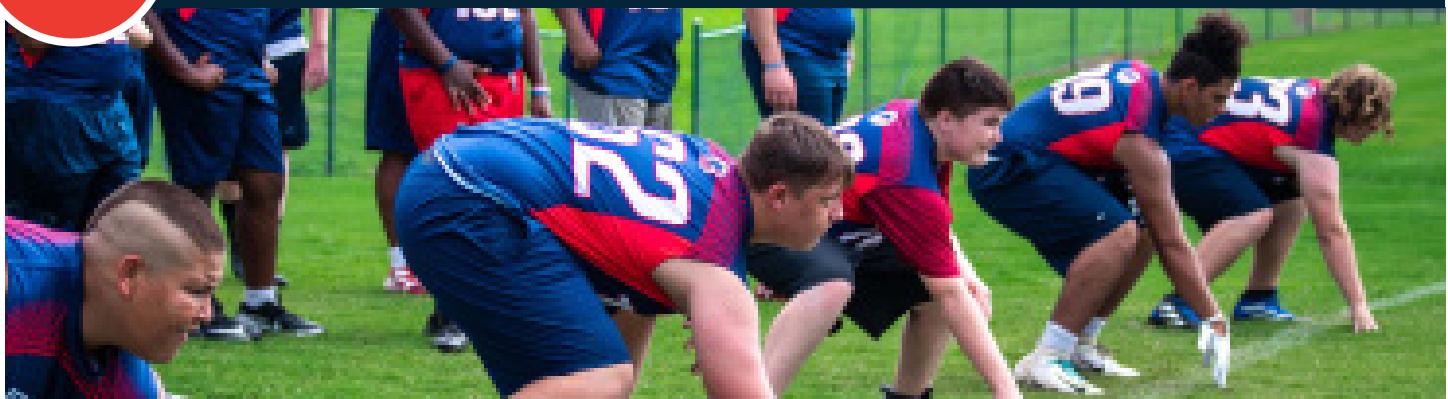


## Segmented Schedule

The event schedule will be overhauled to prevent crowds during football fields changeovers.



# CONTACT INFORMATION



Young athletes need clear, expert instruction on how to prepare themselves to hit their goals in sports performance. These are clear life skills that will help them for the rest of their lives. If athletes follow the training programs that correspond with their Combine results, they will be able to progress significantly in their athletic development. Training is not all about practices, games, and working out. Equally important are factors such as hours of sleep, nutrition, water, and mental preparedness. If an athlete wants to play professionally, then they need to act like a professional athlete on the field and off. Whatever your athlete's goals are, we will continue to work with you and connect them to the best coaches in the sport. Thank you for choosing Prospects by Sports Illustrated for your Athletic Testing.

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# SPORTS THREAD

Sports Thread is the official virtual home for all **Prospects by Sports Illustrated™** athletes. Sports Thread is the first FREE social network to connect the youth athletic community. Get discovered by creating a Sports Profile with all your stats, film and more that coaches can easily find and evaluate.



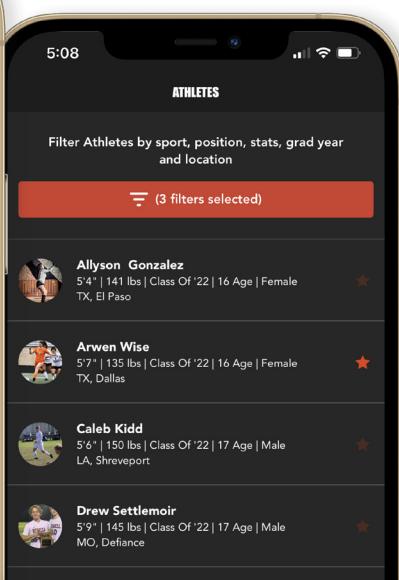
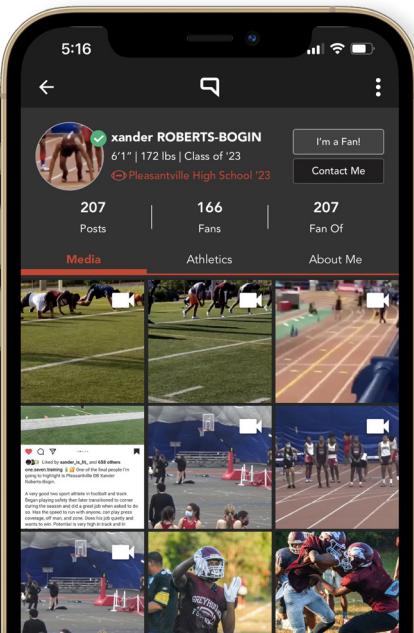
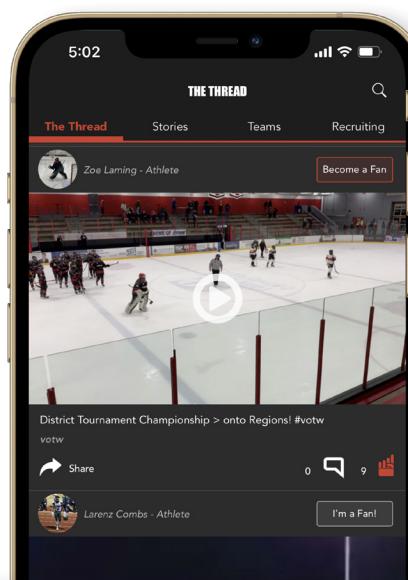
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& SHOWCASE YOUR  
TALENT GLOBALLY**



**CUSTOMIZE YOUR PROFILE &  
EXPAND YOUR NETWORK**



**UPLOAD YOUR STATS  
+ FILTERING TOOLS FOR  
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