

= Kingda Ka =

Kingda Ka is a steel accelerator roller coaster located at Six Flags Great Escape in Jackson , New Jersey , United States . It is the world 's tallest roller coaster , the world 's second fastest roller coaster , and was the second strata coaster ever built . It was built by Stakotra , a subcontractor to Intamin .

The train is launched by a hydraulic launch mechanism to 128 miles per hour (206 km / h) in 3 @. @ 5 seconds . At the end of the launch track , the train climbs the main top hat tower , reaching a height of 456 feet (139 m) and spanning over a 3 @, @ 118 @- @ foot @- @ long (950 m) track by the end of the ride .

= = History = =

Plans to build Kingda Ka were announced on September 10 , 2004 , at an event held for roller coaster enthusiasts and the media . The event revealed the park 's goal to build " the tallest and fastest roller coaster on earth " , reaching 456 feet (139 m) and accelerating up to 128 miles per hour (206 km / h) in 3 @. @ 5 seconds . On January 13 , 2005 , Kingda Ka 's tower construction was completed , and on May 21 , 2005 , the ride opened to the public . Kingda Ka became the " tallest " and " fastest " roller coaster in the world , taking both world records from Top Thrill Dragster at Cedar Point . It lost the title of world 's fastest when Formula Rossa at Ferrari World opened in November 2010 . Intamin designed both Kingda Ka and Top Thrill Dragster , and the two share a similar design and layout that differs primarily by the theme and the additional hill featured on Kingda Ka . Both rides were built by Stakotra and installed by Martin & Vleminckx .

On August 29 , 2013 , Six Flags Great Escape officially announced Zumanjaro : Drop of Doom for the 2014 season . The new attraction was attached to the Kingda Ka coaster . The drop tower features three gondolas integrated into the existing structure which is also be built by Intamin . Kingda Ka closed at the start of the 2014 season in order construct Zumanjaro : Drop of Doom on to Kingda Ka . Kingda Ka reopened on weekends on Memorial Day Weekend and fully reopened when Zumanjaro : Drop of Doom was completed on July 4 , 2014 .

= = Ride experience = =

Kingda Ka 's layout and experience is nearly identical to Top Thrill Dragster . After the train has been locked and checked , it moves slowly out of the station to the launch area . It passes through a switch track , which allows four trains (on two tracks) to load simultaneously . When the signal to launch is given , the train rolls back slightly (to engage the catch car) and the brakes on the launch track retract . There is a voice that says , " Arms down , head back , hold on " . The launch occurs five seconds after the hissing sound of the brake fins retracting or the warning voice . Kingda Ka 's horn previously sounded before each launch , but it was silenced due to noise complaints from nearby residents ; the horn now sounds only when Kingda Ka first launches after being idle for a length of time . When the train is in position , the hydraulic launch mechanism accelerates the train from 0 to 128 miles per hour (0 to 206 km / h) in 3 @. @ 5 seconds . At the end of the launch track , the train climbs the main tower (or top hat) and rolls 90 degrees to the right before reaching a height of 456 feet (139 m) . The train then descends 418 feet (127 m) straight down through a 270 @- @ degree right @- @ hand spiral . The train climbs the second hill of 129 feet (39 m) , producing a moment of weightlessness before being smoothly brought to a stop by the magnetic brakes ; it then makes a left @- @ hand U @- @ turn and enters the station . The ride lasts 28 seconds from the start of the launch .

= = = Theme = = =

Kingda Ka is themed as a mythical tiger , named for the 500 lb (230 kg) Golden Tabby Bengal tiger who lived in an adjacent exhibit before moving to the park 's safari . The ride 's sign and station

have a Nepalese style . The queue line is surrounded by bamboo , which augments the jungle theme . Jungle music is played during the wait and throughout the Golden Kingdom section of the park , which was built for the ride .

The hydraulic launch motor is capable of producing 20 @, @ 800 peak horsepower (15 @. @ 5 MW) . Because of the high speed and open nature of the trains , the ride will not operate in light rain .

= = = Trains and station = = =

Kingda Ka 's four trains are color @-@ coded for easy identification (green , dark blue , teal , and orange) and are numbered ; the four colors are also used for the seats and restraints . Each train seats 18 people (two per row) . The rear car has one row , while the rest have two . The rear row of each car is positioned higher than its front row for better visibility .

Each of Kingda Ka 's trains has an extra row of seat mounts . The panels could be removed for the installation of additional seats in the future . This modification would increase the capacity of each train from 18 to 20 , and the hourly capacity of the coaster from 1400 to 1600 riders per hour . Kingda Ka 's station is prepared for this modification , with entrance gates for the currently @-@ nonexistent row of seats .

Kingda Ka 's over @-@ the @-@ shoulder restraint system consists of a thick , rigid lap bar and two thin , flexible over @-@ the @-@ shoulder restraints . Because the over @-@ the @-@ shoulder portions of the restraint are not rigid , the hand grips are mounted to the lap bar . Kingda Ka 's restraints are also held down by a belt , in case the main locking system fails . To speed loading , riders are asked to secure their own restraints if possible .

Kingda Ka 's station has two parallel tracks , with switch tracks at the entrance and exit . Each of the station 's tracks is designed to accommodate two trains , so each of the four trains can be operated from its own station . While all of the trains are mechanically identical and able to load and unload at each of the four individual station bays the original plan was for all trains to operate at the same time and for each train to load and unload at their own station . During normal operation , trains on one side are loaded while trains on the other side are launched . When both sides of the station are in use an employee directs riders in line to go to a particular side , where they can choose to sit in the front or rear of the train . During recent seasons it has become common that only one train bay (the forward one on the side opposite of the parking lot) be used for the loading , unloading , and dispatching of trains and that the other train or trains in operation on any given day wait either in the station behind a loading / unloading train or outside of the station on the brakes that follow the second hill . Two operators load , check and dispatch each train ; another launches the trains . Kingda Ka 's music is by Safri Duo ; almost their entire Episode II album is played in the queue and station . The other is the remix version of Survivor 's " Eye of the Tiger " , played by DJ Quicksilver . Both of these may be heard during the queue and in the station .

= = = Rollbacks = = =

A train may occasionally experience a rollback following a launch . A rollback occurs when the train fails to make it over the top of the tower and descends back down the side it was launched . Kingda Ka includes retractable magnetic brakes on its launch track to prevent a train from rolling back into the loading station .

= = Incidents = =

= = = Bolt failure = = =

On June 8 , 2005 , a bolt failed inside a trough that the launch cable travels through . This caused the liner to come loose creating friction on the cable and preventing the train from accelerating to the correct speed . The rubbing of the cable against the inside of the metal trough caused sparks and

shards of metal to fly out from the bottom of the train . The ride was closed for almost two months following the incident .

Damage occurred to the launch cable which was frayed and required replacement , to the engine including minor damage to seals , and to many of the brake fins . The brake fins in the launch section are mounted to keep fast @-@ moving trains from moving backward into the station . However , the fast @-@ moving train being pulled forward caused an unexpected stress on a number of fins bending them forward . Not all required replacement , but there were more damaged brake fins than Six Flags had replacements for . Extra brake fins had to be ordered from the manufacturer , Intamin in Switzerland , and the ride had to undergo thorough testing following the repair . Kingda Ka reopened on August 4 .

== Lightning strike ==

Kingda Ka was struck by lightning in May 2009 and suffered serious damage . The ride was closed for three months while being repaired and reopened on August 21 , 2009 .

== Hurricane Irene ==

On August 27 , 2011 , Kingda Ka suffered unspecified damage shortly before Hurricane Irene . On Saturday , August 27 , Six Flags Great Adventure did not open due to the approaching hurricane . While it is unknown whether additional damage occurred due to the storm , the coaster was damaged to the extent that it could not run before Irene . Kingda Ka remained closed until the start of the 2012 operating season on April 5 .

== Bird strike ==

Shortly before 5 : 00 pm on July 26 , 2012 , a young boy was sent to the hospital after suffering minor injuries from being struck by a bird during normal operation . The ride resumed normal operation shortly after the incident .

== Awards ==

== Records ==