

“SKYFALL”

Chris Corbould, Special Effects Supervisor and Steve Begg, Visual Effects Supervisor

Opening Chase

The most difficult part of the chase for the SFX team involved a twenty-five ton caterpillar digger transported on the back of a train. It was essential to have complete control of all the movements of the digger so the manual digger controls were bypassed and replaced by interfaces to a computer control system. The action involved knocking two cars from the carriage with the bucket, driving up on top of the three remaining cars before finally ramming the bucket into the roof of the next carriage. The sequence was filmed on a real train moving at 40 mph through the suburbs of Adana.

The opening pre-title chase sequence while overall is real in-camera work, it also features a plethora of VFX rig removal, head replacement on stunt doubles, CG train tunnels for the train top fight and matte environmental work, culminating in a blend from real stunt to CG double for the shots where Bond is shot and falls off the train and into the fast flowing river below.



M16 Explosion

This is a two cut sequence where M witnesses the fiery destruction of the top deck of M16 headquarters from Vauxhall Bridge. While this could have been achieved with a completely CG effect we decided with the Special Effects department to shoot a 4th scale miniature pyro of the buildings top deck at 60fps. This explosive element was then aligned and overlaid with separate glass and debris elements over the location plate shot on Vauxhall bridge months before resulting in a much more realistic effect than pure CG.



The Macau Harbour

The Macau aerial approach is a 2 1/2 D matte painting followed by a 13 cut blue-screen sequence involving matte paintings of the canal and nearby buildings in the scene where Bond seduces Eve. Bond's approach to the Golden Dragon floating casino was filming on the paddock tank at Pinewood Studios with elaborate 3D CG matte for the opening shot, then 2D environmental backgrounds of the distant Macau coast rotoscoped behind him.

Inside the Casino we see the second ever CG creature featured in a Bond movie, the Komodo dragons. These were carefully lit and animated to interact with Bond and the villain in the fight sequence.



The Dead City

For the deserted island, a completely CG island was created on the horizon for the yachts approach with matte painted top ups for both the city courtyard set piece and the interior computer room. CG helicopters were used for Bonds rescue at the end.



Underground train crash

Bond corners Silva in an underground catacomb but is thwarted when Silva blows a hole in the ceiling using explosives, allowing a full size subway train to crash into the set. The scene was filmed with 12 locked off cameras due to the one off nature of the shot.

The subway train entering the set was by way of an overhead monorail with two full size carriages hanging underneath like a giant roller coaster engineered by the SFX team and built on the 007 stage.

The forward motion of the train was achieved using a cable system connected to a heavy-duty tractor unit. Cable de-accelerators and a thirty ton wall of sand helped to slow down the crashing train before it hit the wall of the stage tank.



Silva's reveals his dark secret

The gruesome moment when Silva removes his dental/skull appliance was partial prosthetic mouthpiece for Javier with CG jagged dental work and caving of his cheeks with eye droop being added in post. The prosthetic was also enlarged considerably beyond what the actor could get in his mouth.



Skyfall Manor Attack, VFX POV

The Hankley Common location in England turned into the Scottish Highlands via extensive mountain and Loch matte paintings culled from actual stills of Scottish countryside. The Dusk/Nighttime helicopter attack is an intermix of mostly real then CG copter before its final miniature demise. The DB5 shootup was achieved by shooting location plates of the car with minimal pyrotechnic effects, then weeks later shooting via motion-control identical camera angles and moves with multiple passes of real destruction on a green painted scrap DB5 front, windscreen and headlights. This footage was then aligned and matted onto the Hankley Common pristine DB5.

The helicopter crash is once again something that could have been approached using an entirely CG helicopter but we decided on real again, albeit 3rd scale real. These were then shot on an elevated outdoor set at night using 7 Arri Alexa's running at 30-48fps for the destruction sequence with CG enhancements for the rotor blade impacts and flying rig removal. This sequence is seamlessly intercut with full scale destruction shot at Hankley Common.

The final VFX sequence follows Bond fighting one of Silva's henchmen underwater after using the latter's machine gun to shoot a hole in the surface of the frozen Lake. Shots of the distant surface of the lake were rotoscoped and added above the performers. Distant shadowy mountain outlines and breath were also added to simulate a Scottish winter environment.

Skyfall Manor Attack, SFX POV

Pyrotechnics were rigged to blow out a large section of Skyfall Manor sending debris up towards camera. This was intercut with a 1/3 scale miniature shot of the helicopter being hit by the fireball and debris before smashing into the miniature

house. The helicopter was mounted on a raised motion base connected to a steel track system. The track movement was achieved using a hydraulic ram and compounded cable system. Again, all the movements were interfaced with a computer control system. The complete destruction of the house was shot both full scale on the location and also on the 1/3 rd scale miniature with segments of both events being used in the finished film. A tunnel set was built to achieve shots of Daniel Craig running away from the chasing fireball achieved by igniting a running sequence of smaller fireballs behind him.

