

# Reconstruction of the Calvine photo

Andreas Zätterqvist, February 2026



The purpose of this report is to assess whether the so-called Calvine photograph, allegedly taken near the Scottish village of Calvine on 4 August 1990, could have been fabricated using analogue techniques available at the time of the incident. The conclusions are based on empirical studies as well as analyses of the official documents concerning the case that have been released by British authorities. In this context, the term *fabricated* refers to the hypothesis that the photograph does not depict a genuine aircraft and/or a large diamond-shaped flying object. This should not be confused with claims that the photograph currently available for analysis is not a black-and-white reproduction of one of the original images from 1990. That the photograph presently available for analysis is, with a very high degree of probability, a reproduction of one of the original photographs has been established by Senior Lecturer Andrew Robinson of Sheffield Hallam University in his photographic analysis.<sup>1</sup> The fact that the motif corresponds closely to the black-and-white photostat copies that were released further supports this conclusion

## Background

The case is generally regarded as one of the most intriguing UFO cases of the twentieth century, primarily due to the photograph that, through the efforts of David Clarke, eventually became publicly known in 2022.<sup>1</sup> Without this photograph, the case would have been virtually impossible to study, as the witness remains unidentified and no other corroborating evidence exists.

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<sup>1</sup> David Clarke, 'The Calvine UFO Photograph – Revealed', Dr David Clarke Folklore and Journalism (blog), 12 August 2022, <https://drdavidclarke.co.uk/2022/08/12/the-calvine-ufo-revealed/>.

The incident is surrounded by extensive mythology and a long series of claims, but few verifiable facts. Consequently, only the documents released by the British military have been used as the basis for the background narrative. Memories and assumptions formed more than thirty years after the event have therefore not played any central role in the analysis. The starting point is thus as follows:

In mid-August 1990, an individual contacted the Scottish newspaper *Daily Record* in Glasgow and submitted six photographs depicting a diamond-shaped object past which a small aircraft appears to be flying. The images were allegedly taken on Saturday, 4 August 1990, at approximately nine o'clock in the evening, near the small village of Calvine along the A9 highway in Scotland. The witness described the event as follows:

The reporting individual and an anonymous friend observed a strange object hovering in the air for approximately ten minutes. An aircraft, probably a Harrier, appeared and made several low-level passes for five to six minutes before the object disappeared vertically upwards at high speed.

Someone at the newspaper subsequently contacted the Royal Air Force in late August for comment, whereupon the civilian press officer Craig Lindsay requested a copy of one of the photographs. *Daily Record* produced a somewhat cropped black-and-white copy, which was couriered to Lindsay, who in turn faxed it onward for examination in London. Because the faxed image was of extremely poor quality, Sec(AS)2a (the British military's "UFO desk") requested that *Daily Record* send the six original negatives, which the newspaper agreed to do. The negatives arrived at the Ministry of Defence on Monday, 10 September 1990, after which some form of investigation was conducted, likely involving JARIC (Joint Air Reconnaissance Intelligence Centre). By Friday of the same week, the negatives had already been returned to *Daily Record*, and a memorandum had been prepared, suggesting that the investigation was considered concluded as far as the military was concerned. For unknown reasons, the matter never resulted in an article in *Daily Record* and remained unknown to the public until Nick Pope, a former civilian employee at the Ministry of Defence UFO desk, wrote about the incident in his book *Open Skies, Closed Minds*<sup>2</sup>. In 2009, two documents relating to the case were finally released: a handwritten note and a memorandum (*Loose Minute*) compiled after the negatives had been returned to *Daily Record*. Alongside these documents, two low-quality black-and-white photostat copies with digitally enhanced outlines were also released, depicting a detail from Lindsay's photograph. Following extensive research, David Clarke eventually succeeded in tracing the black-and-white copy to Craig Lindsay, who had preserved it over the years in a *Daily Record* envelope together with several of the photostat copies produced when the image was originally faxed to London for examination.

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<sup>2</sup> Nick Pope, *Open Skies, Closed Minds: Official Reactions to the UFO Phenomenon* (London: Simon & Schuster, 1996), p. 176-177.

## Craig Lindsay's Photograph

Before proceeding, it is relevant to clarify several points regarding Lindsay's photograph, namely the only image currently available for analysis. First and foremost, it is important to remember that this is a copy, most likely produced in *Daily Record's* photographic laboratory. According to the aforementioned handwritten note,<sup>3</sup> the original photographs were in colour, and in response to a direct question by email in December 2025, Nick Pope confirmed that the original images were colour photographs<sup>4</sup>. It is therefore reasonable to assume that Lindsay explicitly requested a black-and-white copy, since the intention was to fax it to London for assessment. In other words, the photograph available to us today is a copy more than thirty years old — a black-and-white reproduction of an original colour photograph. The wording of the released documents suggests that *Daily Record* did not have access to the negatives at the time the copy was produced<sup>5</sup>, meaning that the image quality may reasonably have deteriorated significantly compared to the original. The image is also cropped, since the original photographs almost certainly had a 3:2 aspect ratio, implying that approximately 17% of the width has been removed.

The photograph depicts a somewhat asymmetrical diamond-shaped silhouette centred in the image, beneath which something commonly interpreted as a military jet aircraft can be seen. The aircraft silhouette resembles a small military aircraft, but the left wing appears only as a diffuse blur, and no horizontal stabilisers are visible on the tail section. Tree branches are visible at the top of the image, while the upper portion of a barbed-wire fence appears at the bottom. Beyond the fence, something that may be interpreted as a distant landscape can be discerned.

It is pointless, beyond what is stated in the released documents, to speculate about the appearance of the remaining five photographs or what information they might potentially contribute. In response to a direct question by email in November 2025, Nick Pope stated: "To the best of my recollection I saw all 6 images, but - with apologies - I can't comment on this in any detail, because I can only discuss material that is unclassified, or which the MoD itself has already declassified." At the same time, however, he added: "The other 5 images didn't contain any staggering new information that wasn't in the 'first' image."<sup>6</sup> Since these statements are based on memories more than three decades old, they should nevertheless be treated with considerable caution.

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<sup>3</sup> The National Archives (TNA), DEFE 24/1940/1, 'Calvine photographs' (handwritten note by Sec(AS)2a, odatedad men ca. September 1990), p. 117

<sup>4</sup> Nick Pope, email to the author, 2 December 2025: "I joined Sec(AS) in the summer of 1991, and the enlarged, **colour**, poster-sized reproduction of one of the six Calvine UAP photos was pinned up on our office wall."

<sup>5</sup> In the handwritten note, one can read: "A number of color photographs taken by eye witness and pictures passed to RAF Pitreavie and Scottish Daily Record. Original negatives then passed to the Daily Record".

<sup>6</sup> Nick Pope, email to the author, 28 November 2025.

If we return to what is genuinely known about the remaining five photographs, we must once again rely on the wording of the previously mentioned memorandum<sup>7</sup>. The description is brief, but it contains several clues. It reads as follows:

*“They show a large stationary, diamond-shaped object past which, it appears, a small jet aircraft is flying. The negatives have been considered by the relevant staffs who have established that the jet aircraft is a Harrier (and also identified a barely visible second aircraft, again probably a Harrier) but have reached no definite conclusion regarding the large object.”*

Unfortunately, the somewhat vague wording leaves room for interpretation. It has often been understood to mean that the aircraft can be seen moving across the scene between exposures, and that it therefore appears in several of the images. Another interpretation, however, is equally reasonable: namely, that the aircraft appears in one of the photographs, while in another image a diffuse blur can also be interpreted as an aircraft. In other words, it is difficult to draw any firm conclusions from the limited information available regarding the remaining five photographs.

## The Military Investigation

Since the strange diamond-shaped object remains unidentified, the “aircraft” is in practice the most relevant detail to examine. Already in the handwritten memorandum<sup>8</sup> released in 2009, it was stated that the object visible in the photograph was probably a military aircraft of the Harrier type. This initially appears to have been based on the photographer’s testimony<sup>11</sup> and is mentioned in the brief handwritten account of the alleged sequence of events. The conclusion was repeated in the memorandum<sup>12</sup> written by an official at Sec(AS)2a in mid-September 1990, which is why it has long been treated as an established fact.

Unfortunately, nowhere is it explained how this conclusion was originally reached — whether a genuine identification was made, or whether the conclusion was instead based on a process of elimination derived from the aircraft types in active service at the time of the incident.

It is clear from the aforementioned documents that the negatives arrived at the military on Monday, 10 September 1990, and had already been returned to *Daily Record* by Friday of the same week, when the memorandum was written. We do not know at what time the mail arrived on Monday, nor precisely when the negatives were returned, but it nevertheless remains evident that the investigation was conducted within a very limited period of time — at most four working days, and likely less. Who carried out the investigation, and precisely what procedures were undertaken, remains unclear. Consequently, the identification of the aircraft type can hardly be regarded as definitive. When agencies such as AARO investigate

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<sup>7</sup> Ministry of Defence, ‘UFO Photograph – Calvine, Perthshire – 4 August 1990’, Loose Minute D/Sec(AS)/12/2, 14 September 1990, The National Archives (TNA), DEFE 24/1940/1.

<sup>8</sup> Ministry of Defence, ‘UFO Photograph – Calvine, Perthshire – 4 August 1990’, Loose Minute D/Sec(AS)/12/2, 14 September 1990, The National Archives (TNA), DEFE 24/1940/1.

films and photographs today, such analyses may take months, sometimes years, and the results are often still far from conclusive.

November 1991, an official within the British intelligence apparatus — most likely employed by the DI55 division responsible for technical analysis of unidentified aerial phenomena — submitted a request for renewed image analysis to JARIC (Joint Air Reconnaissance Intelligence Centre).<sup>9</sup> The document is dated 29 November 1991, more than a year after the original investigation. Attached to the request were only the photostat-copied transparencies, strongly suggesting that none of the developed colour photographs remained in the investigators' possession. The document also explicitly states that the negatives were no longer available. More remarkable still is the fact that the requested information was astonishingly basic: "Please provide line drawings of object with size and dimension where possible." In the previously mentioned email correspondence, Nick Pope nevertheless maintained that high-resolution photographs had still been available, but that "the November 1991 retasking used the vuoils as the start point."<sup>10</sup> He was, however, unable to provide any convincing explanation as to why extremely poor-quality copies would have been used for analysis if superior copies remained available. Furthermore, Pope initially claimed that the negatives were still held by the Ministry of Defence at the time — a statement directly contradicted by both the November 1991 request and the memorandum written shortly after the original investigation in autumn 1990.

That there are clear contradictions between Pope's claims and the information contained in the official documents quickly became evident, and in an effort to clarify the matter Pope was contacted again in January 2026.<sup>11</sup> In response to direct questioning, he acknowledged that parts of his recollections may have been inaccurate. Among other things, he stated that the negatives may indeed no longer have been available when the investigation resumed in 1991, and that several of his earlier claims — including those concerning the extent of the original analysis and the preservation of the material — were based to some extent on assumptions rather than on direct, verifiable memories from the period.

Taken together, the fact that the official handling the case in November 1991 sent low-resolution photostat copies to JARIC and requested only elementary information strongly suggests that no extensive technical analysis was conducted in autumn 1990, despite the fact that the original negatives were then in the Ministry's possession. Claims such as "Ministry of Defence experts examined the photographs and found no signs of a hoax" are therefore misleading; all available evidence instead suggests that no serious attempt was ever made to expose such a fabrication. By the time the investigation resumed a year later, the necessary material no longer appears to have been available. In light of this, even the identity of the aircraft must be regarded as open to discussion.

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<sup>9</sup> Ministry of Defence, DISPIO Imagery Tasking Form: Unidentified Flying Object (Calvine, 4 Aug 1990), 29 November 1991, The National Archives (TNA), DEFE 31/180/1

<sup>10</sup> Nick Pope, email to the author, 28 November 2025.

<sup>11</sup> Nick Pope, email to the author, 20 January 2026.

## The Identity of the Aircraft

In the *Calvine* case, there are reasons to question the military's conclusions regarding the aircraft. A Harrier is problematic for several reasons, not least because the aircraft type was designed primarily for close air support and ground attack missions. The version operated by the Royal Air Force, the GR.5 model, was not equipped with radar suitable for air combat, lacked appropriate armament for such purposes, and furthermore possessed both a short operational range and, in this context, a relatively low maximum speed.<sup>12</sup> The Royal Navy's Sea Harrier, model FRS.1, was adapted for air combat, but since no aircraft carriers were present in the waters off Scotland at the time of the incident, this model is also highly improbable in the context.<sup>12</sup> In any case, the notion that a Harrier — regardless of variant — would have been used to intercept an unidentified flying object is all but inconceivable, and there is scarcely any practical reason why the aircraft type would have been employed to escort an experimental military craft. The aircraft types that would reasonably have been used for such missions — for example a Tornado or possibly a Phantom — correspond very poorly to the silhouette visible in the *Calvine* photograph.<sup>13</sup> RAF Leuchars, located approximately 80 kilometres from *Calvine* as the crow flies, possessed aircraft of an appropriate type<sup>14</sup> ready for such assignments, yet no such aircraft appear in the image. A Tornado aircraft would have been capable of reaching *Calvine* in less than three minutes, and had the diamond-shaped object been an unknown radar contact violating British airspace, such aircraft would have had ample time to arrive while the alleged event was taking place.

But is the object we see really a blurred Harrier? A visual comparison demonstrates that the silhouette of a Harrier corresponds very poorly, regardless of viewing angle.<sup>15</sup> The Harrier is a distinctive and compact aircraft whose short wings possess a clearly pronounced anhedral configuration and are mounted relatively far aft on the fuselage. Shortly after the photograph was rediscovered in Craig Lindsay's possession, several investigators instead proposed that the aircraft resembled a Hawker Hunter, an iconic jet-powered fighter aircraft introduced in the mid-1950s. The shape is characteristic of an early jet aircraft, with swept wings mounted conventionally at the midpoint of the fuselage. Swedish aviation enthusiasts are well acquainted with the type, since Sweden was in fact the first export customer, purchasing several Hunters designated J34 primarily for the interception of hostile bombers. Unlike the Harrier, the Hunter was genuinely designed to engage aerial targets, though it is easy to understand why the military dismissed it as a possibility in the *Calvine* case. At the time of the incident, the Hunter was an obsolete aircraft that had long since been withdrawn from front-line service.<sup>16</sup> Admittedly, a limited number of Hunters remained in use as training or

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<sup>12</sup> See appendix A.

<sup>13</sup> See appendix B.1.

<sup>14</sup> RAF Leuchars had Phantoms that were gradually replaced by Tornados between 1989 and 1991, see: Peter R. March, *Royal Air Force Yearbook 1992* (Fairford: Royal Air Force Benevolent Fund, 1992)

<sup>15</sup> See appendix B.2.

<sup>16</sup> David Hobbs, *British Aircraft Carriers: Design, Development and Service Histories* (Barnsley: Seaforth Publishing, 2013), p. 456–460.

target aircraft, but the era in which a Hunter would have been used for escort or interception duties had long passed. Yet another possibility remains: namely, that the object visible in the photograph is not a real aircraft at all, but rather a small-scale model of some kind. As previously noted, the Hunter was a legendary Cold War aircraft and consequently popular both as a toy and as a collector's model. If the object is a toy, it is naturally irrelevant whether the aircraft type remained in active service in 1990.

if the object is indeed a small model aircraft suspended close to the camera, what specific model might it be? Can this even be determined? Probably not with certainty, but some qualified conjectures may nevertheless be made based on what is actually visible in the image. First and foremost, one must consider what size would be plausible in the context. A model kit frequently proposed is an Airfix Hawker Hunter in 1/72 scale.<sup>17</sup> Once assembled, the purchaser obtained a plastic model approximately 20 centimetres in length, ready to be painted and decorated with decals. This may not sound particularly large, but the size nevertheless becomes problematic in context. Assuming that the photographer used a camera equipped with a 50 mm lens, the aircraft would need to be positioned at a substantial distance of approximately 10.4 metres in order to appear the same size as the aircraft in the Calvine image. To stage the scene, this would additionally require a fishing line exceeding seven metres in length. Such a long line combined with an extremely lightweight plastic model would likely encounter significant problems even under moderate wind conditions. Another issue is that the fence also appears to be located at approximately 10 metres distance, which would place the model at roughly the same focal distance as the barbed-wire fence — something that does not appear to be the case in the image.

Other toy aircraft available on the market, however, were both smaller and heavier. Dinky Toys was a British toy manufacturer known for its small die-cast models of trains, cars, and aircraft. In 1955, the company launched a 7 cm Hawker Hunter, designated model number 736, supplied in a small cardboard box.<sup>18</sup> The model proved popular and remained in production until 1963, when it disappeared from the catalogues. It also appears to have been produced for a period during the 1970s as part of a retro-themed series of aircraft models. Material-wise, like most Dinky Toys products, it was manufactured from a zinc-aluminium alloy and painted in a camouflage pattern bearing Royal Air Force roundels on the upper surfaces of the wings. Dinky Toys products were immensely popular among British children, and annual sales during the company's peak in the 1960s amounted to millions of units. It is scarcely an exaggeration to state that Dinky Toys aircraft and cars could be found in almost every British child's bedroom, and they can still frequently be encountered today in second-hand shops.

Unlike the long fishing line required for the Airfix model, the Dinky Toys miniature would require only a 2.65 metre line positioned at a modest distance of 3.7 metres from the camera. Moreover, the model is both small and relatively heavy, eliminating many of the

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<sup>17</sup>Scalemates, 'Hawker Hunter FGA.9, Airfix 02073 (1986)', Scalemates.com, <https://www.scalemates.com/kits/airfix-02073-hawker-hunter-fga9-1429519> (accessed 25 November 2025).

<sup>18</sup> See appendix C.

problems associated with wind. Several additional details also make the Dinky Toys version a plausible candidate in the Calvine case. First, it represents a simplified and stripped-down version of the Hunter, lacking external fuel tanks or underwing armament. Consequently, its silhouette corresponds remarkably well to what is visible in the photograph. Furthermore, the mystery of the “missing” left wing may potentially be explained. Due to its metallic material and glossy paint, the Dinky Toys model is reflective, even under relatively modest lighting conditions. The placement of the wings means that, under certain specific lighting angles, light is reflected by only one wing at a time. Experiments demonstrate that the left wing may indeed reflect light even when the remainder of the aircraft appears dark, when photographed at an angle similar to that seen in the Calvine image.<sup>19</sup> The suggestion that blur, overexposure, and graininess might obscure the remains of the illuminated wing is therefore not particularly far-fetched.

## The Diamond

And so we arrive at the diamond-shaped object itself — what conclusions can be drawn regarding it? In truth, not very many. Its size can, however, be estimated based on the assumption that the aircraft is a 7 cm model. If the aircraft is suspended on a horizontal fishing line stretched between two trees, it is also a qualified assumption that the UFO itself is suspended from one or two horizontal lines mounted between the same tree trunks. Horizontal lines create stability, which would be necessary for the UFO to appear reasonably similar across all photographs. Assuming these conditions, the diamond-shaped object would be positioned at approximately the same distance as the aircraft — 3.7 metres from the camera. An analysis of the relative sizes of the aircraft and the diamond-shaped object in the photograph suggests that the UFO model likely possesses a width of approximately 28 centimetres, a convenient size for an object intended to be suspended outdoors without attracting attention or risking discovery. It may be noted that the same model would, under the same conditions, have needed to measure nearly 80 centimetres across if the aircraft had instead been the larger Airfix model.

Precisely what kind of object we are observing naturally cannot be determined with certainty — not even its true shape. It could, of course, be a model constructed from scratch, but it might equally well be an ordinary everyday object viewed from an unusual angle, or perhaps even a discarded piece of scrap found lying in the countryside and subsequently suspended from a line. A kite — or an object constructed from kite components — has sometimes been proposed. In this context, it is therefore interesting to note that a major kite festival took place in Glasgow, the home city of *Daily Record*, during the very weekend in question.<sup>20</sup> The event at Glasgow High Rugby Club in Anniesland Cross attracted international stunt flyers, offered combat kite duels, and included several world-record attempts. Advertisements in the magazine *Kiteflier* emphasised “bring your own kite” and promoted stunt kites in a variety of

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<sup>19</sup> See appendix D.

<sup>20</sup> The Kite Society of Great Britain, *The Kiteflier*, no. 44 (July 1990), <https://thekitesociety.org.uk/Magazines/K44.pdf>

forms.<sup>21</sup> It is not inconceivable that a participant or enthusiast from the local kite-flying community experimented with suspended models in the countryside further north, perhaps inspired by the festival's activities. Although such rumours are difficult to verify, a stable diamond- or pyramid-shaped kite corresponds well with the stationary appearance of the object in the photograph, and a size of approximately 30 centimetres is entirely realistic for a small stunt or combat kite from the early 1990s. The proximity of the festival therefore constitutes a plausible connection to an amateur attempting to create a "UFO" illusion using simple means. Ultimately, however, this remains speculation. Further details concerning the kite festival and the possibility that the diamond-shaped object was in fact a kite are discussed in Appendix E.

In order to recreate the image, however, it is necessary to settle upon some specific object, and in this context the tetrahedron presents itself as an appealing geometric form. If the Calvine incident is placed within its historical context, it is worth noting that it occurred just as the so-called Belgian "UFO wave" had subsided.<sup>22</sup> For more than half a year, beginning in late 1989, reports of mysterious triangular craft in Belgian airspace had circulated widely. Stories concerning F-16 aircraft being scrambled to intercept the objects — and not least the fraudulent<sup>23</sup> so-called Petit-Rechain photograph depicting a triangular craft — had received extensive media coverage. It is entirely plausible that such narratives may have inspired a potential hoaxer in the Calvine case. To this must also be added the extensive speculation surrounding a secret American reconnaissance aircraft allegedly operating under the codename *Aurora*, which was said to have conducted test flights around the world. No concrete evidence that such an aircraft ever existed has been presented, and given that more than thirty years have now passed, many of the claims made at the time must probably be regarded as little more than myth. Nevertheless, the *Aurora* legend is relevant in this context because it described an angular triangular aircraft possessing extraordinary flight capabilities. For the reconstruction, the chosen form therefore became a pyramid with a triangular base — a shape that may, with a certain degree of imagination, be interpreted as a three-dimensional version of a triangular UFO. The form possesses another major advantage: it can easily be constructed by cutting and folding a piece of sturdy cardboard. With the aid of adhesive tape and a small amount of grey spray paint, the model can then be assembled in a matter of minutes.<sup>23</sup>

## The Reconstruction

Camera settings are of comparatively minor importance if we proceed from the assumption that the image is a fabrication. In such a case, the photographer would have had ample time to experiment, take numerous photographs, and simply work through different approaches by trial and error. In this context, the accompanying narrative may likewise be disregarded with a clear conscience, since it would possess no credibility in the event of a hoax. We

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<sup>21</sup> Ibid

<sup>22</sup> Wim van Utrecht, 'The Belgian 1989-1990 UFO Wave', in Leslie Kean (ed.), *UFOs: Generals, Pilots, and Government Officials Go on the Record* (New York: Harmony Books, 2010), s. 198–210.

<sup>23</sup> See appendix F.

therefore do not know where or when the photograph was actually taken, with all the implications this carries regarding lighting conditions and other environmental factors. If we nevertheless assume that the photographer used a 50 mm lens and that the aircraft was a 7 cm model, certain conditions become fixed. Under those assumptions, the aircraft would be positioned 3.7 metres from the camera, the fence at a distance of 10.6 metres, and the tree branches somewhere between the camera and the fence.

The primary objective of the reconstruction was to demonstrate that, using means readily available to an amateur in 1990, it would be possible to create six chronological photographs depicting a small aircraft moving between exposures while a diamond-shaped object hovered motionless in the air nearby. The goal was not to reproduce the exact composition of the original photograph as closely as possible, but rather to confirm the hypothesis that such an image could be created entirely through analogue means, without substantial effort, even by an individual lacking advanced photographic expertise.

With regard to the method most capable of recreating what is visible in the Calvine photograph, horizontal fishing lines were chosen, as already noted. Suspending the models from vertical lines attached to the tree branches above is naturally also conceivable, but in this context such a method appears less likely. First and foremost, the composition is rigid and orderly, since both the aircraft and the diamond-shaped object are viewed in profile. Both objects also appear almost perfectly horizontal. Models dangling from vertical lines tend to rotate in the wind, which would create a significantly different appearance. The first step therefore consisted of determining whether a small model mounted on a horizontal fishing line could convincingly imitate the appearance of an aircraft moving naturally between exposures. In an initial experiment, reproduced in Appendix F, a 14 cm die-cast Boeing 747 was attached with tape to a 0.2 mm fishing line. The results proved sufficiently convincing that the same method was subsequently employed for the reconstruction itself.<sup>24</sup>

The scene was arranged using horizontal 0.2 mm fishing lines: two supporting the 28 cm paper pyramid and one supporting the 7 cm Hawker Hunter model. A simple piece of transparent tape was sufficient to mount the aircraft on the line, allowing it to be easily slid forward between exposures in order to simulate motion. In this way, the angle of the aircraft's fuselage could also be freely adjusted so as to recreate a plausible and realistic flight path.<sup>25</sup>

The photographs were taken using a 50 mm lens at f/5.6 and ISO 400, with the focal point placed near the small models. No tripod was used, and the camera was moved slightly between exposures, precisely as one would expect during a sudden "UFO observation." The original image format was 3:2, but like Lindsay's photograph, the reconstruction images were subsequently cropped by approximately 17% of their width.

**The six photographs produced during the reconstruction are reproduced in Appendix H.** It is important to note that the background visible in the reconstruction differs from that of the Calvine photograph. This difference somewhat weakens the illusion and may provide a

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<sup>24</sup> See appendix G.

<sup>25</sup> See appendix H.

possible explanation for why no clear distant landscape is visible in the original image. The bright overcast sky forms a simple backdrop that effectively conceals any fishing lines, while simultaneously lacking recognisable landmarks that might otherwise assist in identifying the location. Whether by coincidence or not, these conditions are ideal for staging a hoax involving small suspended models.

## Conclusion

The available evidence suggests that the military investigation of the case was so limited in scope that a hoax would not necessarily have been detected. For the same reason, the identification of the aircraft as a Harrier cannot be regarded as certain. By the time the investigation was resumed one year after the incident, neither the negatives nor high-quality photographic material appear to have remained available, and these later examinations must therefore also be considered limited in scope.

The scene visible in the Calvine photograph could have been created using small models suspended from transparent fishing lines positioned close to the camera. The same applies even if six original photographs once existed showing an aircraft moving across the scene between exposures. Such a scenario presupposes a horizontal fishing line along which the aircraft model could be moved between exposures. The method is simple to execute, requires no advanced photographic knowledge, and involves no extensive preparation.

The aircraft visible in the image is most likely a Hawker Hunter. If the aircraft is indeed a model, it is reasonably positioned somewhere between the camera and the fence, which in turn implies that the model aircraft must have been relatively small. One suitable example, corresponding closely both in size and appearance to what is visible in the image, is the 7 cm Dinky Toys Hawker Hunter, model 736.

Since the photograph could have been fabricated using methods available to an amateur at the time of the incident, and because the case lacks corroborating evidence, the photograph itself cannot be regarded as proof that anything extraordinary occurred at Calvine on 4 August 1990.

# Appendix A:

## Absence of British Aircraft Carriers off the Scottish Coast in August 1990

The claim that no Royal Navy aircraft carrier of the *Invincible* class was present off the Scottish coast on or around 4 August 1990 is supported by the following primary and authoritative sources:

1. **HMS Invincible (R05)** — the only vessel at the time capable of operating Sea Harrier aircraft — was deployed in the Mediterranean and Persian Gulf from July to October 1990 in support of Operation Granby/Southern Watch. The vessel's logbook for August 1990 consistently places it between 32°N and 35°N (*The National Archives*, ADM 53/272000).
2. **HMS Illustrious (R06)** was undergoing a prolonged refit at HMNB Portsmouth from June 1990 until early 1991 and did not put to sea during this period (Buxton, 2016, pp. 45–46; Hobbs, 2013, pp. 456–458).
3. **HMS Ark Royal (R07)** was engaged in extended maintenance and sea trials at HMNB Devonport throughout the summer and autumn of 1990 and was not operational (Hobbs, 2013, pp. 459–460; TNA DEFE 69/432, *Fleet Deployment Summary Q3 1990*).
4. No temporary deployments of Sea Harrier aircraft from any carrier to Scottish waters are recorded in Royal Air Force or Royal Navy flight movement logs for the relevant period (*Ministry of Defence Naval Staff Division*, 1990).

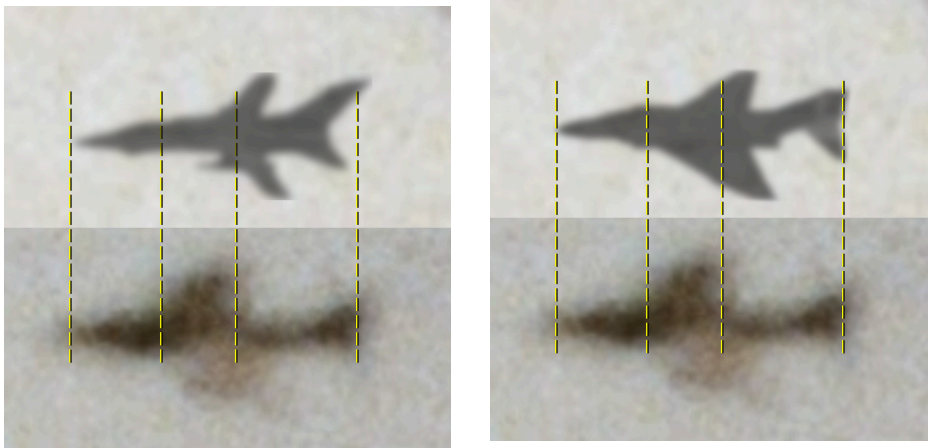
Consequently, no British carrier-based fixed-wing air capability was available within several thousand kilometres of Calvine at the time of the alleged incident.

# Appendix B:

## Analysis of the Aircraft Silhouette

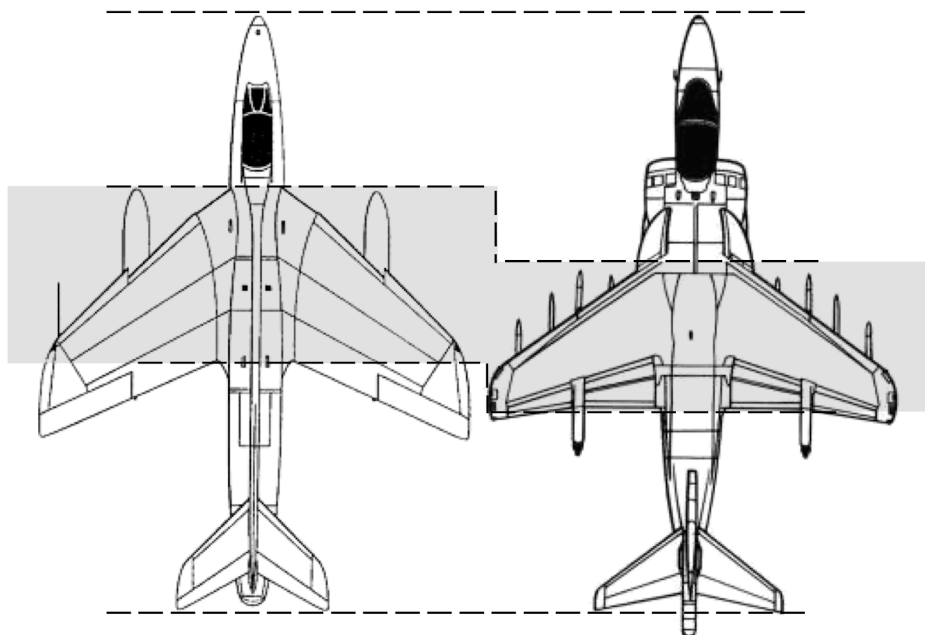
### B.1: Tornado or Phantom?

The silhouette visible in the image corresponds poorly to both a Tornado (left) and a Phantom (right).

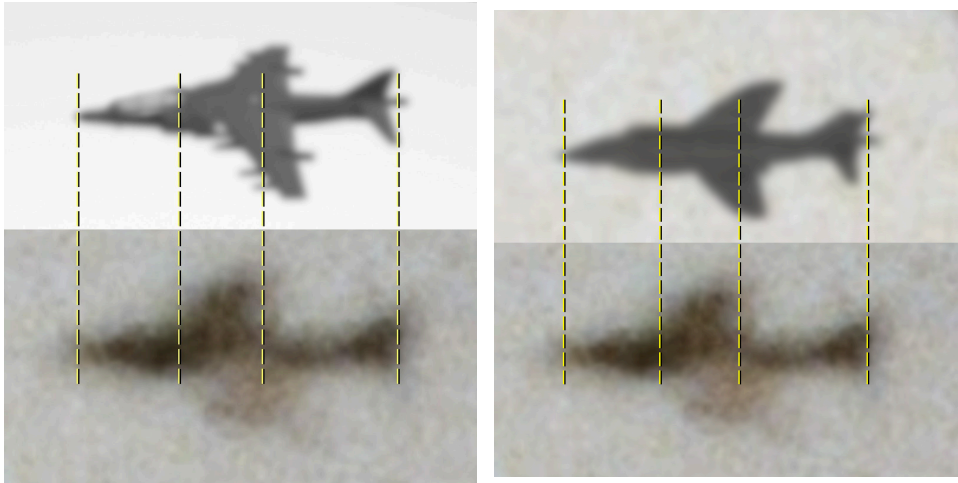


### B.2: Harrier or Hunter?

A comparison between the proportions of a Harrier (right) and a Hunter (left) makes it immediately apparent that the two aircraft types differ significantly, particularly with regard to the placement and shape of the wings.

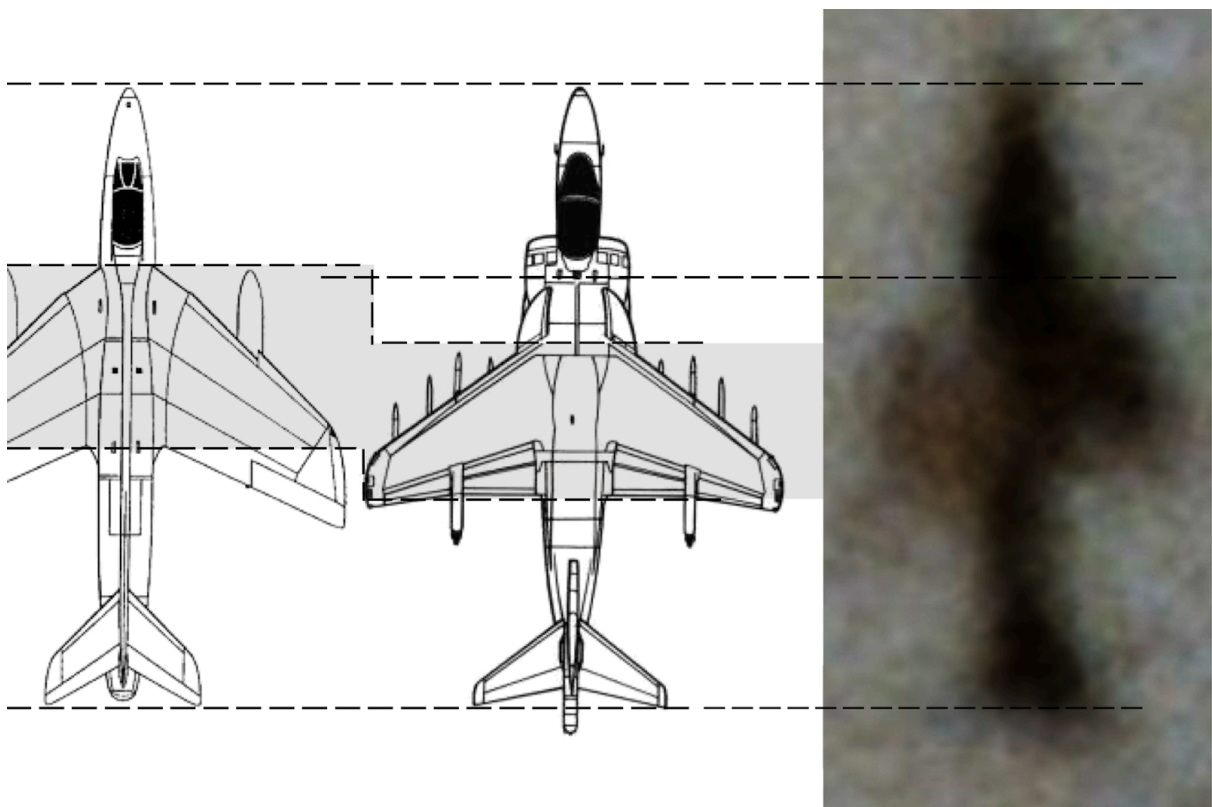


A Harrier corresponds strikingly poorly to the silhouette visible in the Calvin photograph.

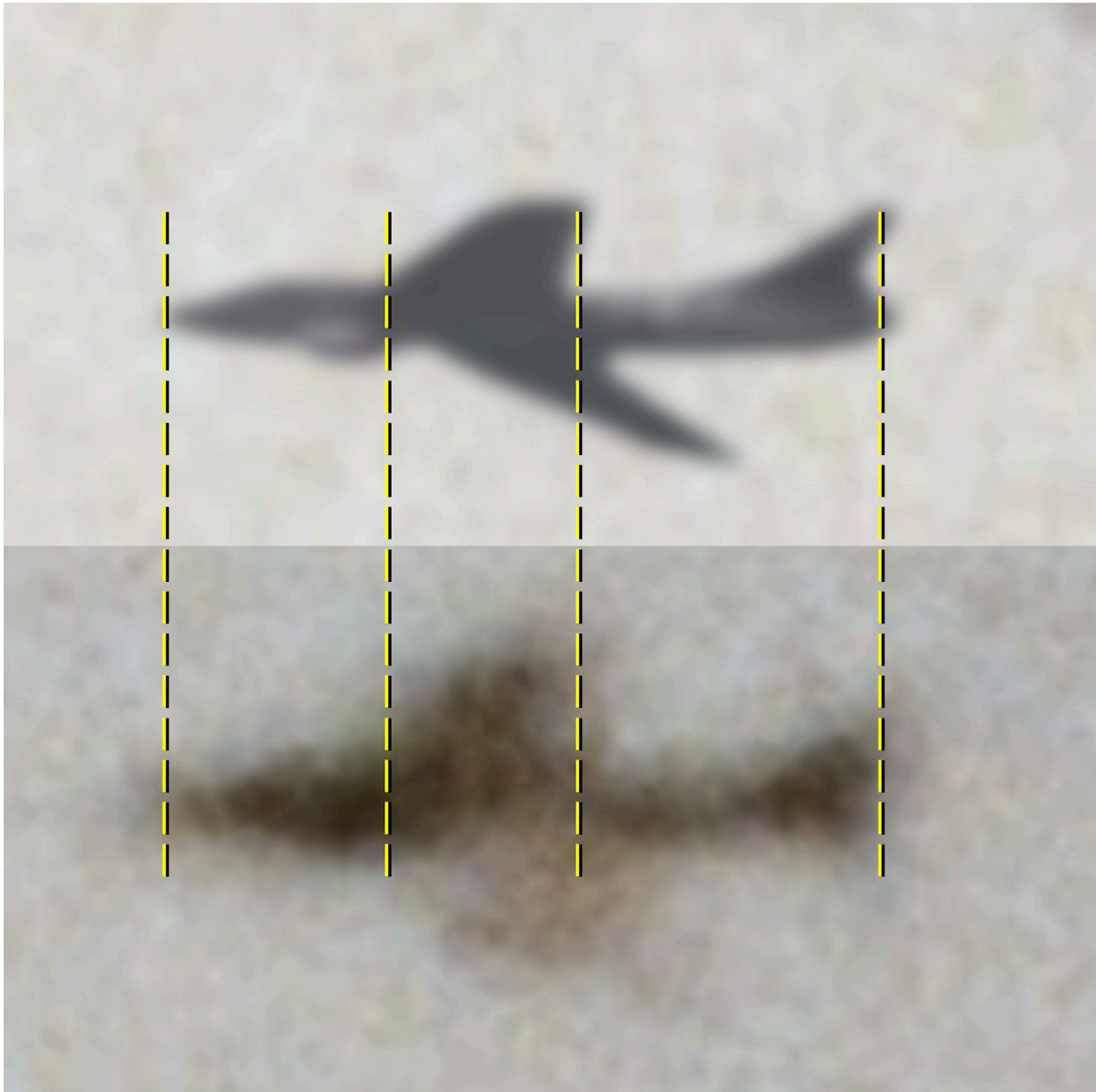


The image on the left shows a Harrier banking to the left (revealing the upper surfaces of the wings), while the image on the right shows one banking to the right (revealing the undersides). In both cases, the placement of the wings corresponds poorly to the silhouette visible in the Calvin image. The tail section appears too short and the nose section too long. It should also be noted that the horizontal stabilisers (elevators) are highly prominent on a Harrier viewed from this angle.

Compared to the Harrier, the Hunter corresponds well with the silhouette visible in the Calvin photograph.



The image below depicts the silhouette of a flying Hawker Hunter belonging to the Royal Air Force aerobatic team *Black Arrows*, photographed during the 1950s and digitally blurred, compared with the silhouette visible in the Calvine photograph.



# Appendix C:

## Dinky Toys Hawker Hunter, Model Number 736

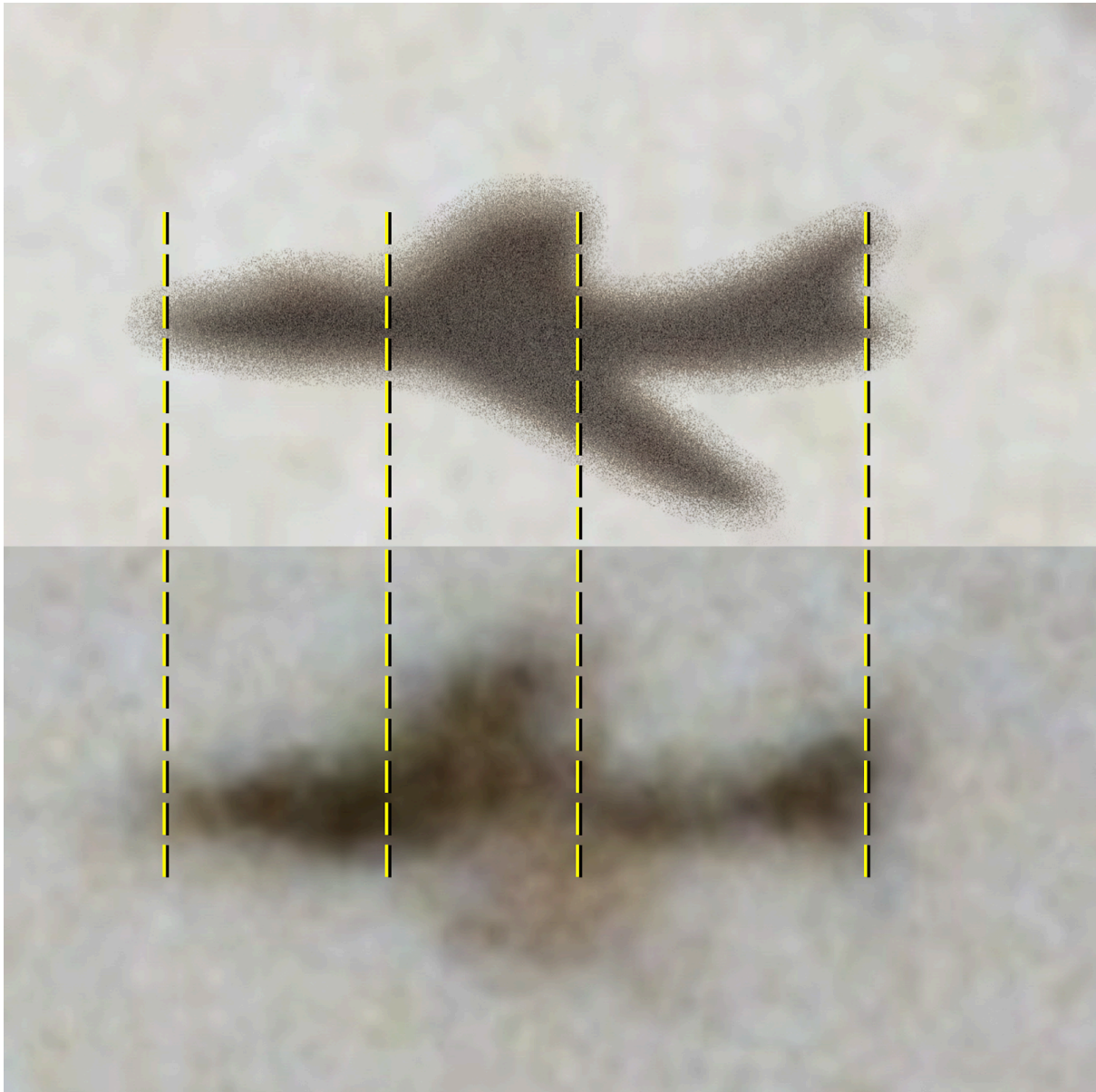
Photograph of Packaging and Aircraft:



One somewhat distracting feature of the model is its relatively large landing gear. During the reconstruction, these were removed in order to achieve a more convincing silhouette of an aircraft in flight. The landing gear is cast as part of the same piece as the remainder of the aircraft and can easily be broken or sawn off, since the metal consists of a relatively soft alloy.



When compared directly, the silhouette visible in the Calvin photograph corresponds closely to that of the Dinky Toys Hawker Hunter. A photograph of the model with digitally added blur (top) is compared with a detail from the Calvin image (bottom).



## Appendix D:

### The Disappearing Left Wing

A Dinky Toys Hawker Hunter photographed from an angle similar to that of the aircraft visible in the Calvin photograph.



Artificial blur and grain have been digitally added in order to simulate how the image might appear under less than ideal conditions.



## Appendix E:

### Was the Diamond a Kite?

During the weekend of 4–5 August 1990, a major kite festival was held in Glasgow, the home city of *Daily Record*. The festival took place at Glasgow High Rugby Club in Anniesland Cross and featured everything from international guest flyers to combat-kite duels and world-record attempts involving the largest number of kites simultaneously airborne. Camping facilities were also provided at the venue, allowing long-distance visitors to stay overnight without paying for hotel accommodation. Both admission and parking were free of charge. An advertisement for the festival appeared in the July 1990 issue of the magazine *Kiteflier*. Although this may naturally be nothing more than coincidence, it is nevertheless interesting to note that the festival took place during the same weekend the Calvine photographs were allegedly taken.



**TSB BANK**

# Glasgow Kite Festival

**Weekend of 4th & 5th August 1990  
10am till 4pm**

INTERNATIONAL GUEST FLYERS ● SPECIALLY COMMISSIONED SKY BALLET  
STUNT KITES ● WORLD KITE RECORD ATTEMPT — BRING YOUR OWN KITE  
1990 ROKKAKU CHALLENGE FIGHTING KITES COMPETITION

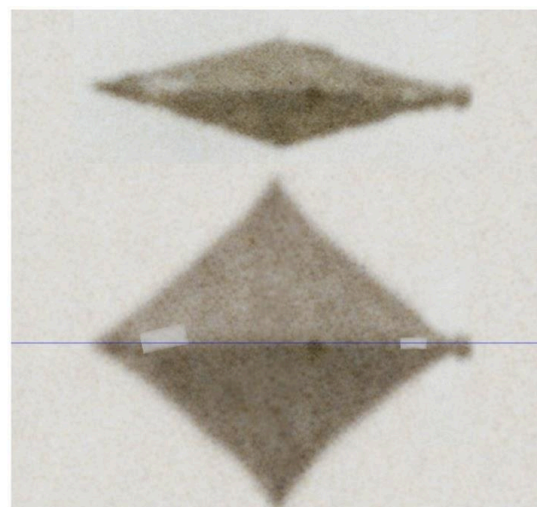
**GLASGOW HIGH RUGBY CLUB  
ANNIESLAND CROSS**

**ADMISSION & PARKING FREE**

There are a limited number of free camping spaces on the site which must be pre booked for details contact Sandy Maxwell (Festival Co-ordinator) c/o The Dolphin Arts Centre, 7 James St., Bridgeton, Glasgow G40 1BZ.

Strathclyde Regional Council

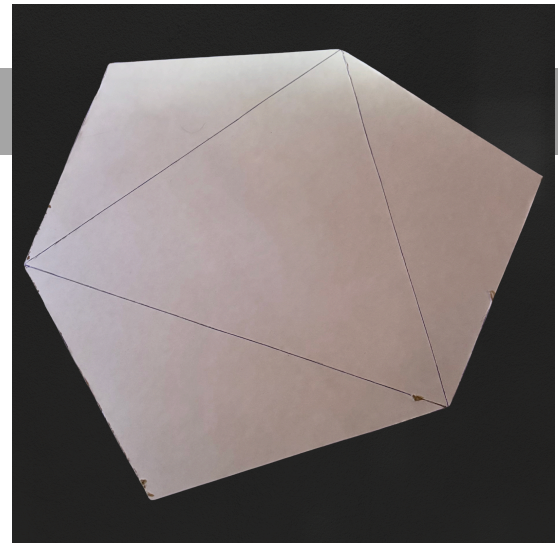
One type of kite that may be relevant in the context of the Calvine case is the Indian *Patang* fighting kite. Viewed obliquely from the side, this type of kite presents a diamond-shaped silhouette similar to that visible in the Calvine photograph. The white sections could potentially be interpreted as tape used to attach the kite to a horizontal fishing line.



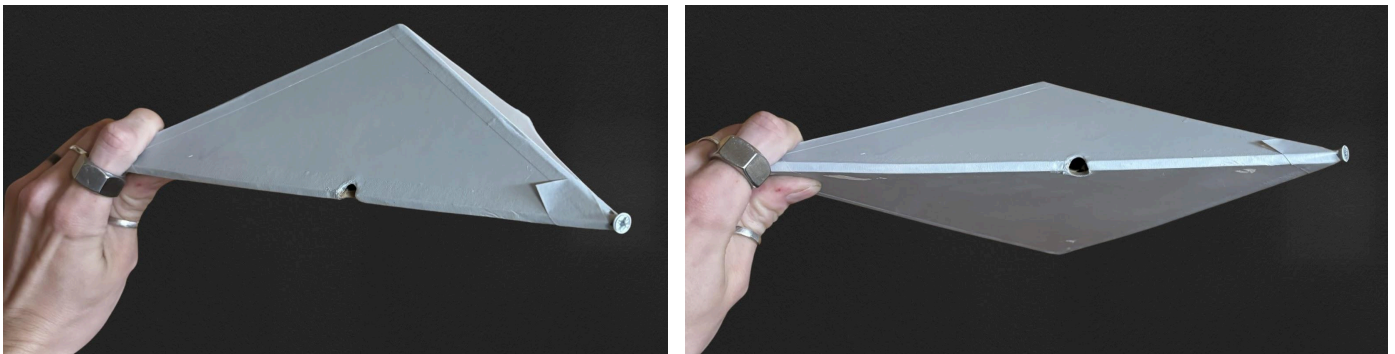
# Appendix F:

## A Cardboard Tetrahedron

A tetrahedron (triangular pyramid) can easily be constructed by cutting and folding a piece of sturdy cardboard.



Once folded, taped together, and spray-painted grey, the result appears as follows.



It is important to emphasise that this “UFO model” represents only one among many possible candidates. In practice, the “UFO” could have been any one of a wide variety of objects measuring approximately 30 centimetres across, such as a star-shaped Christmas decoration, as proposed by Wim van Utrecht.<sup>26</sup> Another intriguing possibility, as already discussed, is that the diamond-shaped object was a kite — perhaps a diamond-shaped stunt kite of a type readily available in toy and hobby shops at the time. If this were the case, it would almost certainly not have been a flying kite, but rather a kite suspended from horizontal fishing lines.

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<sup>26</sup> Wim van Utrecht, ‘A UFO with a High X(-mas) Factor’, 18 August 2022 (adapted 29 August 2022), [https://drdavidclarke.co.uk/wp-content/uploads/2022/11/the-calvine-uap-photo-a-christmas-star\\_.pdf](https://drdavidclarke.co.uk/wp-content/uploads/2022/11/the-calvine-uap-photo-a-christmas-star_.pdf)

# Appendix G:

## An Aircraft Suspended from a Fishing Line

In an initial experiment involving an aircraft attached to a horizontal 0.2 mm fishing line, a 14 cm die-cast Boeing 747 model was used. The purpose was to investigate whether the method could be employed to stage a series of photographs appearing to depict an aircraft flying across the sky.

The conclusions drawn from the experiment were that a metal model remains stable in the air even under moderate wind conditions, that the model can easily be attached to the line using a piece of adhesive tape, and that the fishing line becomes effectively invisible against an overcast sky. Furthermore, both the position and angle of the aircraft can easily be adjusted in order to create the illusion of a natural flight path.



# Appendix H:

## The Reconstruction

The 7 cm Dinky Toys model was attached to a horizontal fishing line using an ordinary piece of transparent office tape.



In an initial experiment using 0.2 mm fishing line, it quickly became evident that the line effectively disappears against an overcast sky when photographed from a distance of 3.7 metres. It also became apparent how easily a small object positioned close to the camera may be perceived as a large distant object when photographed against a sky backdrop. The aircraft visible in the image is suspended from a horizontal fishing line attached to the upper hinge of the garage door visible on the right-hand side.



The experiment resulted in six photographs depicting the Dinky Toys model “flying past” the 28 cm cardboard pyramid described in Appendix F. The pyramid was suspended from two horizontal 0.2 mm fishing lines, while the aircraft was attached with tape to a third horizontal line. Both models were positioned at a distance of 3.7 metres from the camera, and the lines measured approximately three metres in length.

At the bottom of the image, bright fence posts can be faintly discerned at a distance of 10.6 metres. Unfortunately, these become relatively indistinct against the more detailed background.

The photographs were taken on an overcast day with rain in the air and light to moderate wind conditions. Despite this, the wind presented no major difficulties. The aircraft remained stable in the air due to its weight, and the pyramid also remained sufficiently steady despite its low mass, largely thanks to the use of double support lines.

Larger versions of the six photographs are reproduced later in this appendix.



The background visible in the reconstruction differs significantly from that of the Calvin image, owing to the absence of an open location without surrounding landscape features. The fact that the house and trees are slightly out of focus weakens the illusion, but such formations are absent from the Calvin image, whose background consists almost entirely of a diffuse overcast sky.

To demonstrate that a 7 cm aircraft model photographed from a distance of 3.7 metres through a 50 mm lens corresponds closely in scale to the aircraft visible in the Calvin image, the following collage was created. The models from one of the reconstruction photographs were inserted into the Calvin image while preserving the original proportions. (Original image above; photomontage below.)

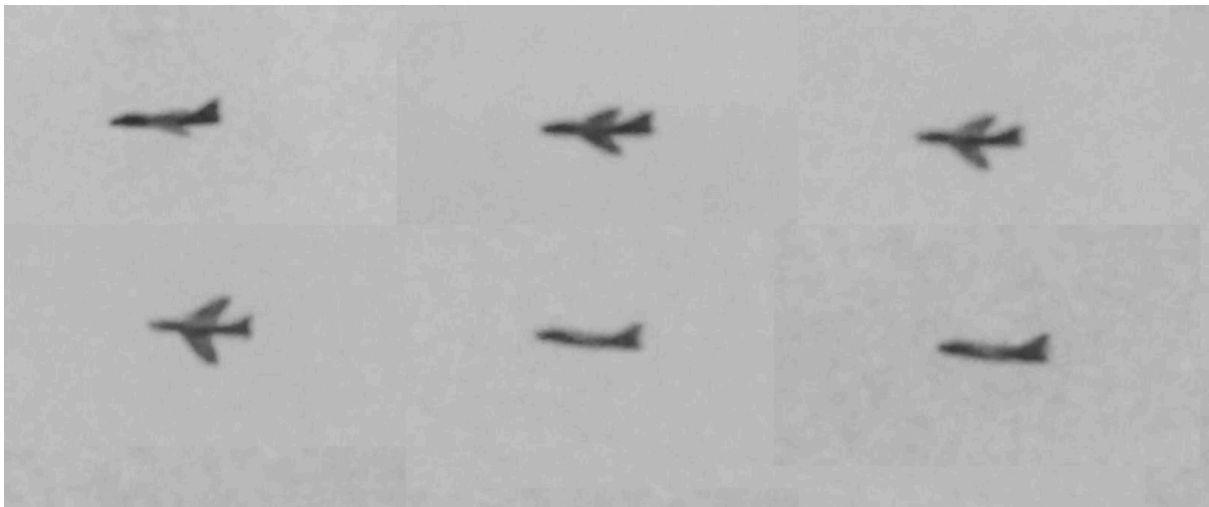


Comparison between the aircraft visible in the Calvine photograph and the aircraft as it appears in one of the reconstruction photographs.



It is important to note that the angle is naturally not identical in the two images. In terms of size and proportions, however, the silhouettes correspond closely. The original image is grainier and more blurred, but it must be remembered that Lindsay's photograph is a reproduction more than thirty years old. Moreover, we do not know what equipment was used either when the original image was taken or when the reproduction photograph was produced.

The "movement" of the aircraft between the different images is illustrated here.



The purpose of arranging the aircraft model in this manner was primarily to demonstrate how, through very simple means (a piece of adhesive tape), the angle of the aircraft can easily be altered and its position shifted between exposures. We do not know whether the aircraft was visible in all six of the original Calvine photographs, but regardless, a hoaxer could easily have recreated the effect. That the aircraft most likely "flew past" rather than circled the object is suggested by the wording of the handwritten note, which describes the movement as "a number of low level passes." This corresponds closely to the motion of a small model mounted on a horizontal fishing line.

Larger versions of the six reconstruction photographs are presented below.







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