

Pentagon & Boeing 757 Wheel Investigation

I've read that the wheel photographed at the Pentagon doesn't match a Boeing 757. It has eight holes in it but the wheel on a 757 has ten holes. Is this right?

- *question from Jack Wilson*

Look at these pictures of landing gear from the crash at the Pentagon and a 757. They PROVE a 757 didn't hit the Pentagon!

- *question from Rhonda M.*

This question shares many similarities with a previous analysis of [engine wreckage](#) photographed at the Pentagon following the September 11 attack. In the case of the landing gear wheel, most of the confusion is due to mistakes in comparing the Pentagon wreckage to the wrong parts from a [Boeing 757](#) or to parts that don't come from a 757 at all. When the wreckage does not match its supposed 757 counterpart, critics of the government go on to claim that a 757 did not hit the Pentagon and the official story of terrorist hijackings is untrue.

The purpose of this article is to clarify any misconceptions about the photos in question and determine whether the Pentagon wreckage is indeed a match for the 757. The design of landing gear components tends to be unique to any given aircraft since the gear needs to meet the specific weight requirements and storage constraints of that plane. If we can match the wheel photographed at the Pentagon to a known aircraft, it should uniquely identify the type of plane that struck the building on September 11.

To begin this discussion, it is useful to understand the basic types of [landing gear](#) used aboard planes. The 757 and all other aircraft described here use a tricycle landing gear arrangement, the most popular configuration today because of its inherent steering stability. The tricycle configuration consists of two types of gear. The vast majority of the plane's weight is supported by two main gear near the center of the plane. A smaller nose gear near the front of the aircraft is primarily used for steering. The wheels on the main gear struts are typically much larger than those on the nose gear because they have to support much larger weights and experience greater forces during landing.

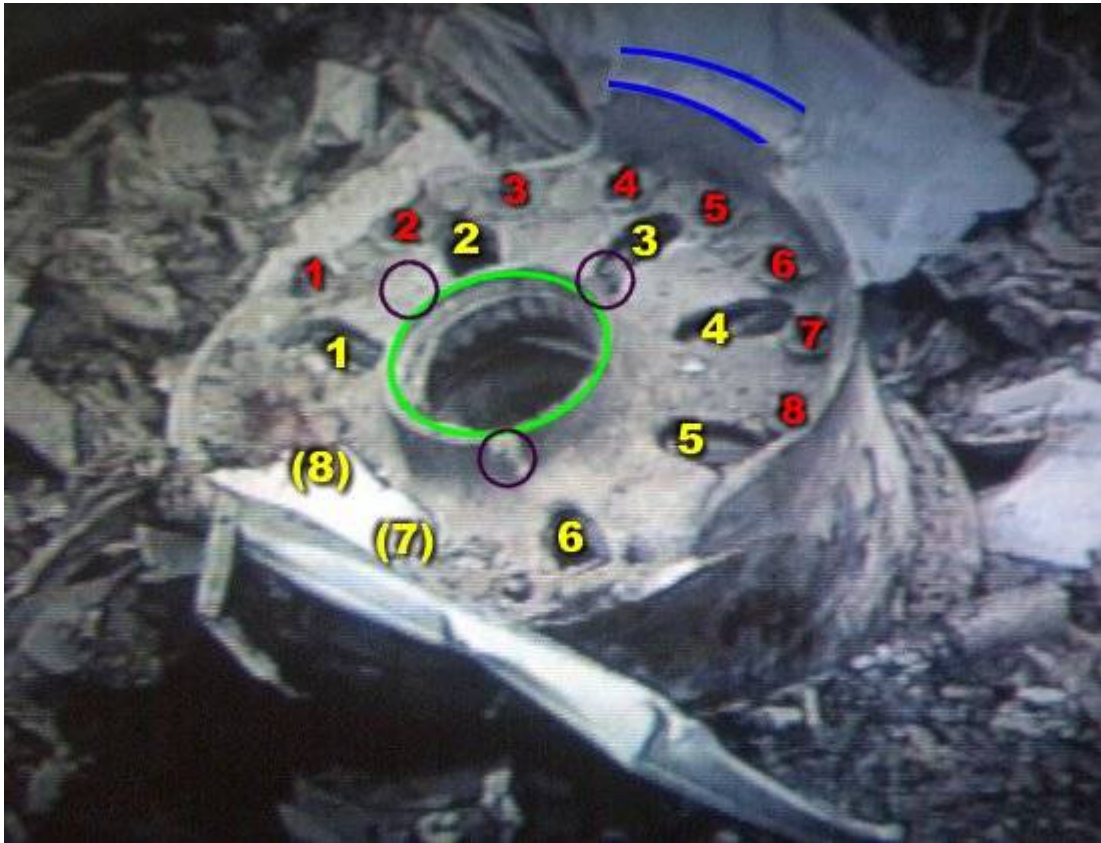


Landing gear wheel visible at the Pentagon

The above photo was taken at the Pentagon after the September 11 attack and contains a clearly identifiable piece of landing gear wreckage from the aircraft that impacted the building. A closer view of the item, shown below, reveals additional detail in the shape of this landing gear component.



Close-up view of the Pentagon landing gear wheel



Key features of the wheel wreckage

The key features that help to identify the wreckage are further highlighted above. These include:

1. The shape of the rim around the edge, most of which has been destroyed by the violent impact (highlighted in blue)
2. A central hole through which a shaft, or hub, attaches the wheel to the rest of the gear (highlighted in green)
3. Three screw hole projections equally spaced around center hole used to attach a cover over the central hub (highlighted in purple)
4. A series of 16 bolt holes along the edge of the wheel, note that eight holes are visible over half of the wheel while those on the symmetrical half are obscured (numbered in red)
5. Eight oval cutouts, six of which are visible while the final two have been covered by surrounding debris (numbered in yellow)

That brings us to the specific comparisons brought up by these questions. Jack Wilson sent a link to the following picture that also included text stating:

"... Government apologists claim the shape of the spokes is the same as that on the 757, and therefore presumably couldn't have come from any other aircraft. Evidently, however, they neglected to notice the fact that the wheel found at the pentagon has only 8 spoke holes, while the wheels used on the pictured 757 have 10. ..."



Boeing 757 main landing gear wheels

This photo was originally posted on an aviation photography site that has since gone defunct, so we have been unable to determine whom the photographer was or the specific aircraft model it comes from. However, it does appear to be a photo of a Boeing 757. Nevertheless, it is not clear why the author claims this wheel has ten cutouts instead of the eight on the Pentagon debris. Parts of eight equally-spaced cutouts are visible on the closest wheel and it seems unlikely that any additional cutouts are hidden behind the protrusion from the center hub. Perhaps the perception of additional cutouts may be due to the angle at which the photo was taken since the lower corner of the wheel is obscured. A better comparison can be found in the following two pictures that provide a clearer view of the main landing gear wheels on the Boeing 757-200.



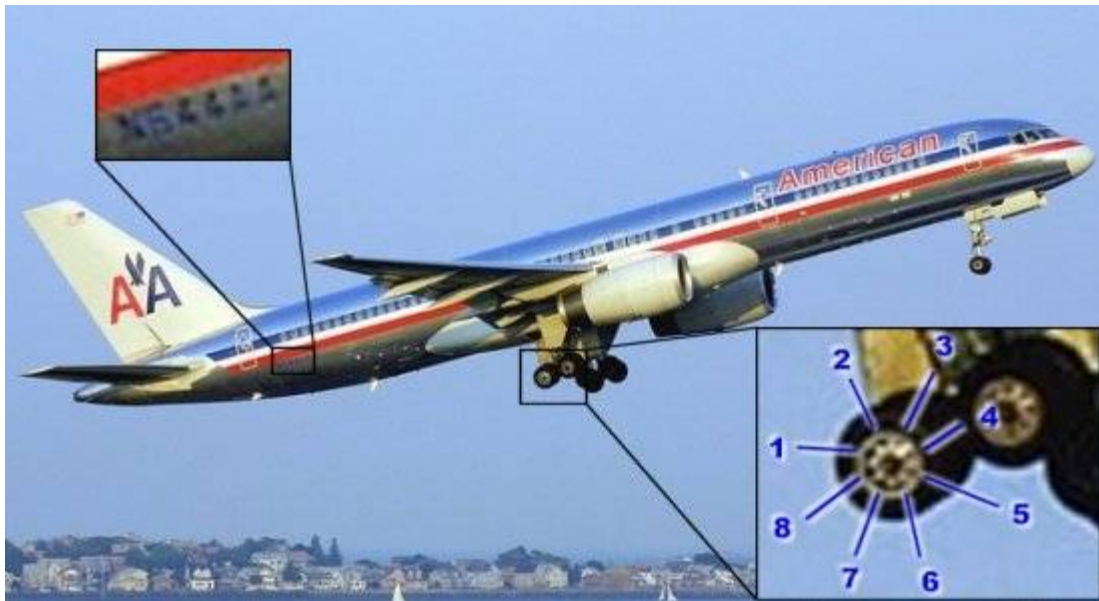
Boeing 757-200 main landing gear wheels with 8 cutouts



Boeing 757-200 main landing gear wheels with 8 cutouts

Both of these aircraft not only have eight cutout holes but also 16 bolt attachment holes, three center screw holes, and an outer rim matching the Pentagon debris in every detail. According to the official story of what happened on September 11, [American Airlines Flight 77](#) was hijacked by five terrorists and crashed into the Pentagon. The aircraft flown on Flight 77 was a Boeing [model number](#) 757-200 with the [registration number](#) N644AA.

Numerous photos of N644AA were taken while the plane was in service, including the following shot taken just one month before its loss. This picture captures the aircraft shortly after takeoff with its landing gear deployed. Zooming in on the gear, we can see that the main gear wheels of N644AA do indeed have eight cutouts just like the debris found at the Pentagon.



Boeing 757-200 with tail number N644AA flown on American 77 showing 8 cutouts in its main landing gear wheels

These photos suggest that the eight cutout wheel design is commonplace on the same 757-200 model that was flown as American Airlines Flight 77. The other primary variant of the 757 family is the 757-300. It is possible that the wheel used on that version of the aircraft may be different, though we have so far been unable to obtain close-up pictures of a 757-300 main gear for comparison.

The second question comes from Rhonda M. who sends two different pictures for comparison. The photos she provides are shown below.



Landing gear wheels of a Boeing 757

If we had no other information to go by and compared these photos to the Pentagon debris, it is easy to see how someone could draw the conclusion that the wreckage is not from a 757. However, this is not an accurate comparison. The previous analysis was based on the 757 main gear while the photos Rhonda provides are obviously nose wheels. Rhonda is correct that these photos do indeed appear to come from a Boeing 757 since they look identical to the following photos taken of 757 nose gear.



Boeing 757-200 nose gear wheel

The similarity ends there, however, since the nose wheels are much smaller than their main gear counterparts. The nose wheels also have only ten bolt holes along the perimeter and lack any cutouts like those present on the main wheels. Drawing a conclusion about whether a 757 actually struck the Pentagon based on the wrong 757 wheel is clearly a false comparison and does nothing to detract from the official government investigation or to support the various conspiracy opinions.

Even so, a number of other theories allege that the landing gear wreckage is in fact from some other type of plane proving that a Boeing 757 did not hit the Pentagon. To determine whether it is possible that this wheel debris could have come from a different aircraft, we will also explore these alternate claims. One of the most popular theories states that the Pentagon was instead hit by an unmanned aerial vehicle (UAV) called Global Hawk. The RQ-4 Global Hawk is a reconnaissance UAV built by Northrop Grumman for the US Air Force and first flew in 1998.



**Global Hawk
Nose Gear Wheel**



**Global Hawk
Main Gear Wheels**



Main and nose gear wheels of Global Hawk

Numerous photos of the vehicle are available in print and on-line sources including views of its landing gear. The above pictures show close-ups of the Global Hawk's main and nose gear wheels. These images confirm that the Global Hawk wheels look considerably different than those of the 757 and do not match any of the key details of the Pentagon debris. Most noticeable is the fact that the Global Hawk's main gear wheels have twelve cutouts rather than the eight present on a 757. The shape of the cutouts is also considerably narrower and more elongated than those visible in the Pentagon wreckage.

Another popular theory states that an A-3 Skywarrior was the type of aircraft used to attack the Pentagon. Built by Douglas Aircraft during the 1950s, the Skywarrior was a US Navy aircraft used for heavy attack and airborne jamming missions. The A-3 is obsolete, has been retired for decades, and very few remain in a flyable condition. The following is a collection of pictures of the Skywarrior's nose and main landing gear wheels for comparison

to the wheel photographed at the Pentagon.



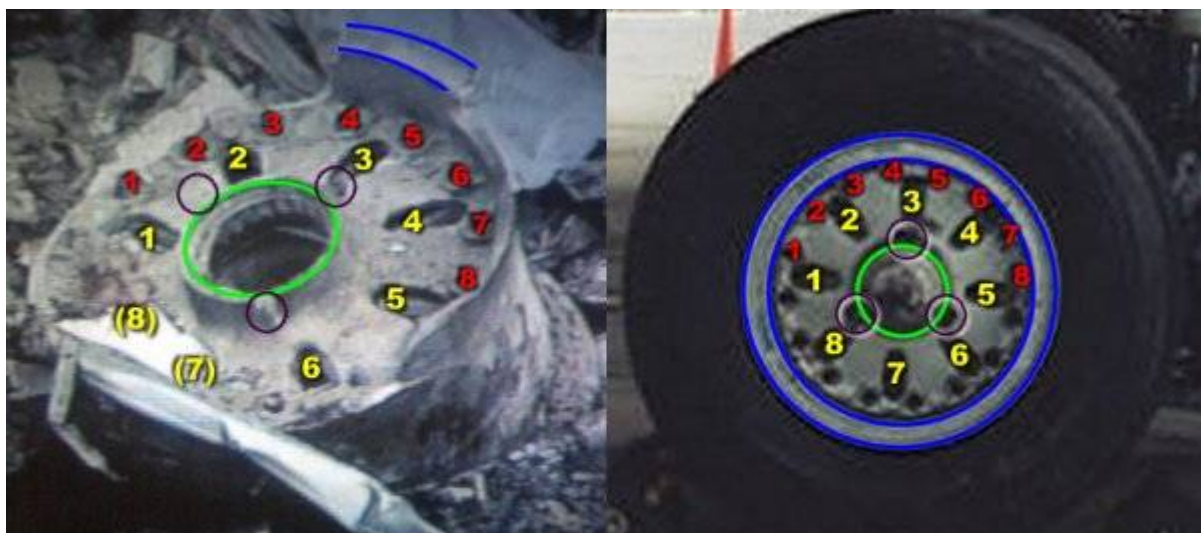
Clearly, these wheels are of a considerably different design than those of the 757. Of particular interest is the shape of the main wheel which has a smaller rim, twelve cutouts that are of a rectangular shape and far smaller than those on the 757, and an inner rim around the center of the wheel unlike anything seen on the Pentagon wreckage. Several of the A-3 photos also show a hubcap that again does not match anything on a 757 wheel or the Pentagon debris.

Still more have speculated that the Pentagon was indeed struck by an airliner but one smaller than the 757. The candidate most often mentioned is the [Boeing 737](#). The 737 is an extremely successful commercial airline model that has been built in several different versions. A review of 737 landing gear photos has revealed a variety of different wheel designs dictated by the varying sizes and weights of each model. Several of these wheel configurations are shown below.



Main and nose gear wheels of the Boeing 737

Although the investigation is complicated by the presence of a hubcap used on the outboard main gear, it is apparent that none of these designs matches that found on the Pentagon wheel. The closest match is the 737-200 main gear wheel shown in the lower right corner. This wheel appears to share eight cutouts and 16 bolt holes along the circumference like that found in the wreckage. However, the shape of the cutouts is much more circular and the region around the central hub is completely different. None of the 737 wheels are a good match for the Pentagon wheel.



Pentagon Wheel Wreckage

**Boeing 757-200
Main Landing Gear Wheel**

Comparison of the Pentagon wreckage to a Boeing 757-200 main gear wheel

This investigation indicates that the only wheel matching that found at the Pentagon is the main gear wheel of a Boeing 757-200, the same model as American Airlines Flight 77. The

key features of the wreckage--including the number, size, and shape of the cutouts and bolt attachments--perfectly match those found in a main landing gear wheel of a Boeing 757-200, as illustrated in the above comparison. None of the wheels of the Global Hawk, A-3, or 737 match the debris, which is not surprising since all of these aircraft weigh considerably less than the 757 and use correspondingly smaller wheels of differing design.

- answer by [Jeff Scott](#)

- answer by [Joe Yoon](#), 21 January 2007