A detailed review of the Lockerbie bombing case by Scottish investigators has concluded that there is "not a shred of evidence" to support claims that the Libyan Abdul Baset Ali al-Megrahi was wrongly convicted.

Not only have investigators confirmed beyond doubt that he was the man responsible for the death of 270 people when Pan Am 103 crashed exactly 26 years ago, they believe that Al-Amin Khalifa Fhimah, his fellow-accused, who was acquitted at their trial, was almost certainly also involved.

The findings will come as a blow to those who maintain that Scottish prosecutors advanced a flawed case, and that the judges at the original trial and the subsequent appeal presided over a miscarriage of justice.

Ever since al-Megrahi was convicted in 2001 there have been allegations, backed by a stream of books and television programmes, that the evidence was manipulated to implicate Libya as the source of the bomb plot, steering suspicion away from Middle Eastern states such as Syria and Iran.

Scottish prosecutors have been accused of ignoring evidence that the bomb was put aboard Pan Am 103 at Heathrow rather than Malta, and that the crucial timer fragment, the principal piece of evidence against Libya, was planted or altered.

The claims have been examined in detail in the course of the investigation into the bomb plot by the Crown Office and Police Scotland, who have been working on the case with the FBI to identify others who were involved in the bombing. This has included several trips to Libya.

However, sources close to the investigation said that there was "not a shred of evidence" to suggest the prosecution case got it wrong, and that none of the conspiracy theories advanced has given them any cause for concern.

Last night Frank Mulholland, QC, the lord advocate, who will be attending the annual remembrance service at Arlington cemetery, in Virginia, said: "During the 26-year-long inquiry, not one Crown Office investigator or prosecutor has raised a concern about the evidence in this case. We remain committed to this investigation and our focus remains on the evidence, and not on speculation and supposition."

Mr Mulholland, who is in the US to mark the 26th anniversary of the atrocity, added: "Our prosecutors and police officers, working with UK government and US colleagues, will continue to pursue this investigation, with the sole aim of bringing to justice those who acted along with al-Megrahi."

Critics have argued that, because there is no direct evidence to show that the bomb was inserted at Luqa airport in Malta, the more likely theory is that it was loaded on at Heathrow. A broken padlock found on a security gate during a critical period on the night before the bombing is said to be persuasive evidence that this is when the bomb was inserted into the system.

However, sources close to the investigation are now adamant that the timetable of events is against it. The security gap was between 22.05 on December 20, 1988, and 00.30 on December 21, when Raymond Manly, a security guard, found the broken padlock. Another 13½ hours were to go by before the loading of a container with luggage for Pan Am 103 began. It would have been difficult, if not impossible, for a suspect bag to remain undetected and there is no evidence to show that it did.

On the other hand, evidence that it was inserted in Malta is far stronger. While there is no direct proof of a suspect suitcase being loaded at Luqa, computer records at Frankfurt show that the flight from Malta was carrying a bag that was unaccounted for, which was then loaded on to the connecting flight to Heathrow. That evidence has stood up to detailed scrutiny ever since.

The bags of every passenger on KLM80 from Malta that day were traced back to their owners. Just one remained unaccounted for. Documentary and computer evidence recovered by the German police at Frankfurt airport, established that the unaccompanied bag was stored at station 206 in Area V3 at Frankfurt and sent to gate B044 to be transferred on to Pan Am 103A, the feeder flight from Frankfurt to London.

It is, however, evidence on the bomb itself, and the crucial timer fragment found near Lockerbie some three weeks after Pan Am 103 exploded in mid-air, that most conclusively undermines the conspiracy theories.

The fragment was found on January
that makes the counter-theory even harder to sustain. Most critics claim that the investigation was "directed" to Libya and away from Palestinian terrorists to suit western interests in the Gulf war. For this to make sense, any corruption of the evidence would have had to take place after Iraq invaded Kuwait in August 1990.

However, all the developments that eventually led the police to Libya took place before that point — the description by Tony Gucin, the Maltese shop-owner, of the "Libyan" who purchased clothes in September 1989, the fragment linked to Mebo in June 1990, the Toshiba radio-cassette recorder identified in May 1989.

Was it really possible for those who are accused of manipulating the evidence to do so at a stage when no one could have predicted that the Gulf war was coming? As one source put it, that theory is "literally unbelievable".

Set against all that speculation are hard facts that have never been disproved: the remarkable importation by a Libyan company in the period leading up to December 1988 of 29,700 models of the RTSF16 Toshiba cassette recorder. The boss of the Electric General Company, which imported the goods, was later identified as Said Rashid, al-Megrahi's associate who was senior to him in Libyan intelligence.

Then there is the unexplained presence of al-Megrahi himself in Malta on the day the prosecution say the bomb went on board KM 180 to Frankfurt, arriving from Tripoli on December 20, the day before the bombing, carrying a false passport in the name of Ahmed Khalifa Abdussamad. Mr Fhimah, his co-accused, the former Libyan Arab Airlines station manager at Luqa, was on the same flight. The next day al-Megrahi, from his hotel room in Malta, called Mr Fhimah at his home.

The following morning "Abdussamad" was checked in on Libyan Arab Airlines flight LN147 back to Tripoli. Thus al-Megrahi was at Luqa airport just as KM 180 was checking in. By the time the bomb arrived at Frankfurt, he was back at home.

No explanation for the false passport was given, although many years later al-Megrahi was to claim that he was on a sanctions-busting trip. However, he never used the passport again.

These inconvenient truths have never been properly addressed or explained by those who claim that the Libyan bomber was wrongly convicted. They say that the Scottish judicial system has much to answer for. The fact is that their speculation must be tested against the hard logic of evidence.