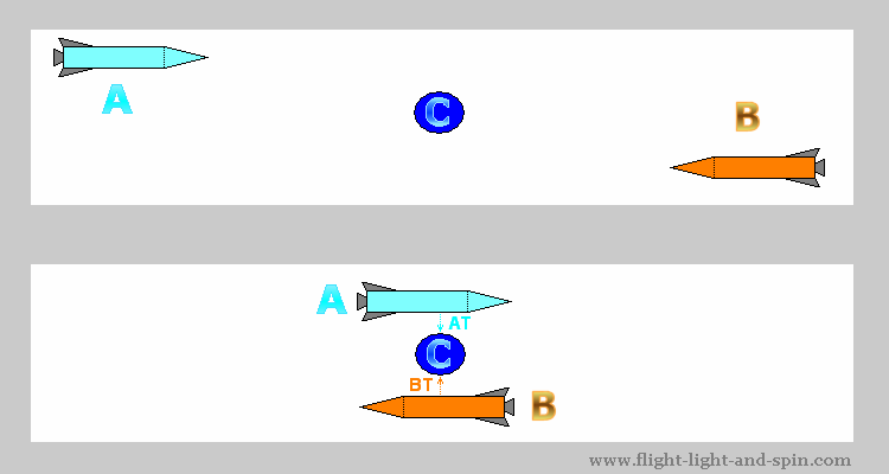
THE DILATION OF TIME CONUNDRUM
8/8/2015 – Jonathan Ainsley Bain – South Africa

Two unmoving spaceships: A & B are the same distance from an observation point C.

The observer at point C sends a signal in both directions which will reach A & B after the same amount of time. This signal thus starts both spaceships moving simultaneously.

Both spaceships accelerate identically and reach the same high velocity on their way to point C. This velocity is close enough to the velocity of light so that they should apparently be significantly affected by time dilation according to the principles of Special Relativity.



At the precise point that they pass by C, both spaceships send a signal which is the measurement of the time on their own clocks to reach point C. These signals are marked AT & BT in the second diagram.

Both spaceships are in a state of perfect symmetry from the perspective of C.

It is therefore clear regardless of the exact value of AT & BT, that these measurements of their respective times (including any time dilation) will be equal to one another at the point of passing C, from the observation point of C.

Thus AT = BT when perceived from the observer at C.

However the signals sent out are also both received by the other ship!

So A receives the signal BT, and B receives AT. There will be a very small delay in the time that it takes the signals to pass between the ships. Seeing as the measurement is taken before the signal is sent (as they both symmetrically pass by point C) this will not affect the actual measurement, and thus the signals sent will be identical.

Both ships themselves will therefore be able to see that the times of their flight are such that: BT = AT when they arrive at point C.

We do not need to specify any values to see that despite a large effective velocity between A & B, that there can be absolutely no effective time dilation between A & B!

This proves that time dilation due to relative velocity as specified in the Special Theory of Relativity can only be a logical and empirical impossibility!!