

Sadly this is the only photo of a model that didn't make it. Some time ago Peter Sharpe built a superb model of a Skymaster. This push/pull model looked superb in its blue and white trim, the finish was perfect and was justifiably Peter's pride and joy. Unfortunately its flight characteristics were not quite that good, in fact immediately after take-off on its maiden flight it lost control and was totally destroyed.

MEETINGS MEETINGS MEETINGS MEETINGS MEETINGS MEETINGS MEETINGS

The next meeting will be on Tuesday 9th March 2004 at Tennis Cove, Eastern Valley Way, starting at 7.30 pm.

DOWN ARCHIVE ALLEY

[Brian Porman]

I could only retrieve three articles by Charles Peake and as his first one dealt with taildraggers I thought that an article dealing with tricycle gear was appropriate, before proceeding. With acknowledgement to RCM&E and George Vale, whose drawings we used in the taildragger article, the following is an abridged version of George Vale's discussion on getting airborne with tricycle gear. Vol.40 Issue.5.

IT WON'T TAKE OFF!

The two most likely causes are (a) poor u/c design and/or (b) not enough power.

TRICYCLE GEAR

Wheels should be big enough for the 63 mm runway surface. (George's mower crew can't be as good as ours 'cause he finds on grass the practical minimum diameter is 65 mm) - it can comfortably handle 40 mm although he does go to say)....With 50 mm or smaller wheels, the U/C acts like an anchor on landing and may do more harm than good. Main wheel track of 1/4 to 1/5 of wing span is about right. The U/C legs ought to allow proper clearance by one wheel diameter. They should also allow the model to put its tail down far enough for the wing to reach its maximum lift angle of attack [AoA] which is also the stalling AoA. At this point the main wheels should be touching the ground just under the centre of gravity [cg]

You can decide this on the drawing board and decide whether to lengthen the leg or sweep up the rear of the fuselage. If the main wheels are too far back, the tail has to provide a lot of downward force for the nose into the take off attitude. If the model cannot get up enough speed to develop that much tail force it can't possibly take off.

With the main wheels too far forward, nothing much happens except that the model can be left sitting on its tail with the nose wheel in the air. Undignified. The main wheels should not be too close to the nose wheel in the fore and aft direction, see sketch. If the triangle becomes too flattened, the model is likely to nose over on landing. Keep the wheelbase to at least 50% of the track but preferably about 60% of the track.

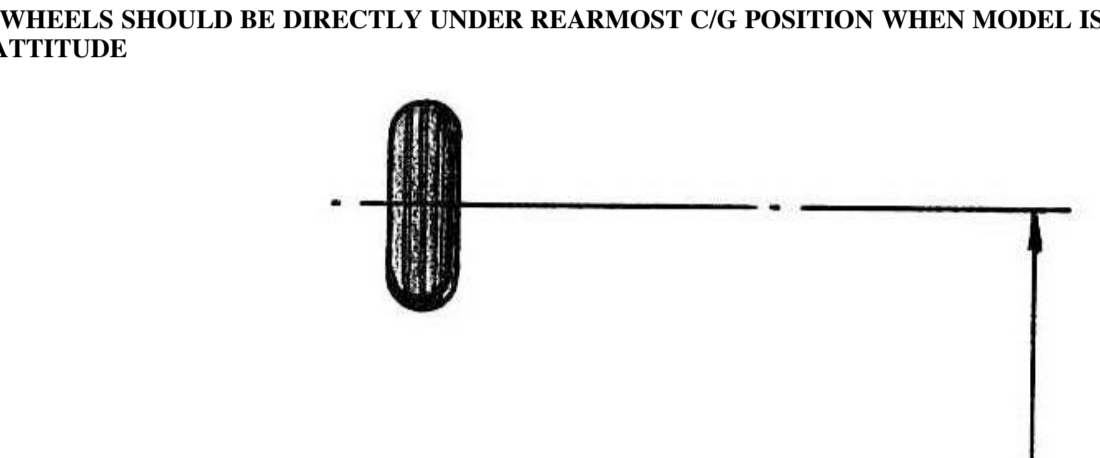


Fig.1 TRICYCLE GEAR SHOULD GIVE AT LEAST 1 WHEEL DIAMETER GROUND CLEARANCE

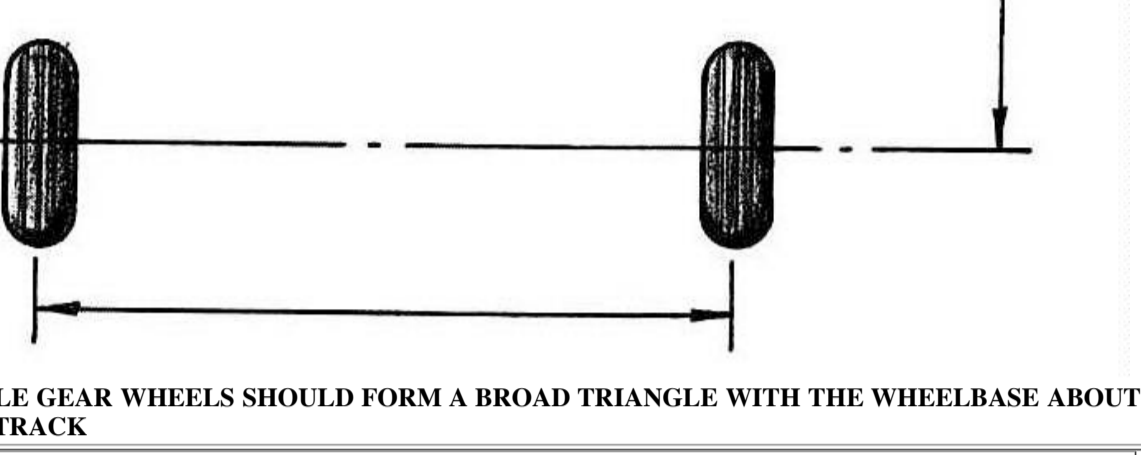


Fig.2 MAIN WHEELS SHOULD BE DIRECTLY UNDER REARMOST C/G POSITION WHEN MODEL IS IN TAKEOFF ATTITUDE

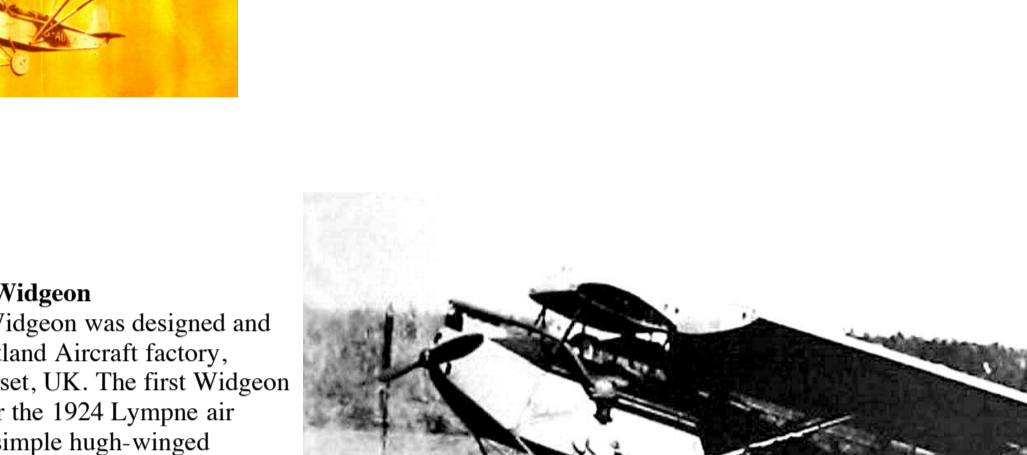
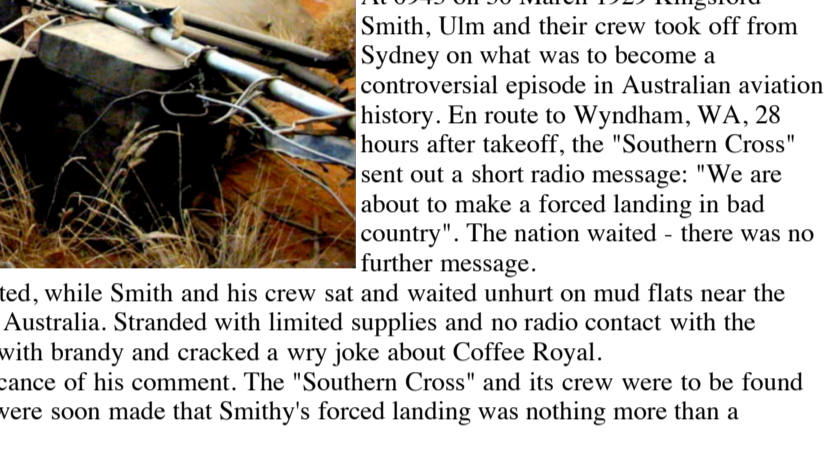


Fig.3 TRICYCLE GEAR WHEELS SHOULD FORM A BROAD TRIANGLE WITH THE WHEELBASE ABOUT 60% OF THE TRACK

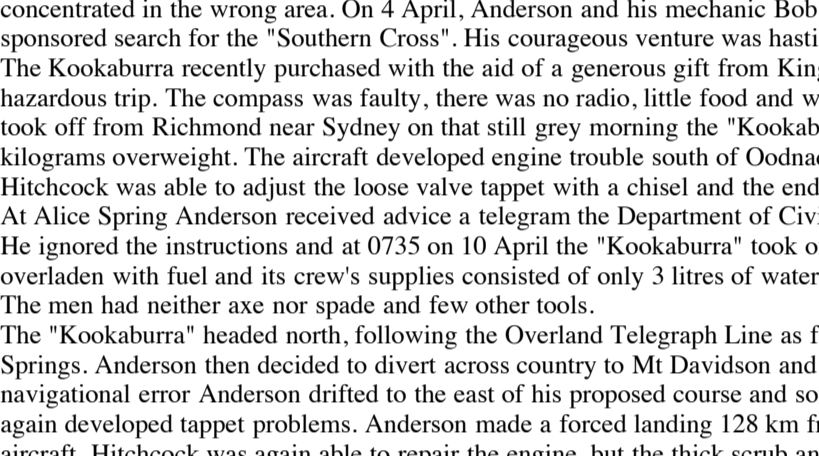


THE "KOOKABURRA"

The Westland Widgeon The Westland Widgeon was designed and built at the Westland Aircraft factory, Yeovil, Somerset, UK. The first Widgeon was designed for the 1924 Lymington air competition. A simple high-winged monoplane, the Widgeon was an advanced concept for its time. Its design incorporated the use of struts to brace the wings using in place tubular steel struts to brace the wings which were hinged to facilitate storage in the hangar.



The semi-monocoque timber fuselage was strengthened by a sheath of glued and doped fabric. In 1927 Westland produced their Mark III Widgeon, which was fitted with an 80 hp Cirrus engine. The aircraft was offered with single or dual controls, with the seats in tandem with the pilot at the rear. One of several exported to Australia, G-AUKA christened the "Kookaburra" - was purchased by Keith Anderson in Sydney on 22 February 1929 for 889 pounds.



The "Kookaburra" Story

The "Kookaburra" remains were recovered from the East Tanami Desert in 1978. They had lain there since 10 April 1929, when the aircraft was forced to make an emergency landing. It had taken off from Alice Springs earlier that day to take part in the search for the missing aviators Charles Kingsford Smith and Charles Ulm.

The Coffee Royal Affair

On 0945 on 30 March 1929 Kingsford Smith, Ulm and their crew took off from Sydney on what was to become a controversial episode in Australian aviation history. En route to Wyndham, WA, 28 hours after takeoff, the "Southern Cross" sent out a short radio message: "We are about to make a forced landing in bad country". The nation waited - there was no further message.

After 24 hours a full scale search was mounted, while Smith and his crew sat and waited unhurt on mud flats near the Glenelg River in the north-west of Western Australia. Stranded with limited supplies and no radio contact with the outside world, Smith brewed coffee laced with brandy and cracked a wry joke about Coffee Royal. Little was Smithy to realise the grim significance of his comment. The "Southern Cross" and its crew were to be found unharmed within the fortnight. Allegations were soon made that Smithy's forced landing was nothing more than a publicity stunt contrived with Anderson.

The tragic aftermath of the loss and subsequent rescue of the "Southern Cross" led to an official inquiry, in which Kingsford Smith and Ulm were exonerated. The incident was quickly dubbed the Coffee Royal Affair by the press of the time.

In Search of the Southern Cross

Keith Anderson - friend, colleague and sometime rival of Kingsford Smith - was convinced that the search was concentrated in the wrong area. On 4 April, Anderson and his mechanic Bob Hitchcock flew out Sydney on a privately sponsored search for the "Southern Cross". His courageous venture was hastily prepared. The Kookaburra recently purchased with the aid of a generous gift from Kingsford Smith, was barely equipped for such a hazardous trip. The compass was faulty, there was no radio, little food and water, and a limited tool kit. When Anderson took off from Richmond near Sydney on that still grey morning the "Kookaburra", laden with extra fuel tanks, was 180 kilograms overweight. The aircraft developed engine trouble south of Oodnadatta SA, and after a forced landing Hitchcock was able to adjust the loose valve tappet with a chisel and the end of a corkscrew.

At Alice Springs Anderson received advice a telegram the Department of Civil Aviation not to go ahead with his flight. He ignored the instructions and at 0735 on 10 April the "Kookaburra" took off from Alice Springs. It was still grossly overloaded with fuel and its crew's supplies consisted of only 3 litres of water, a quantity of sandwiches and some cake. The men had neither axe nor spade and few other tools.

The "Kookaburra" headed north, following the Overland Telegraph Line as far as Woodford Crossing, 160 km from Alice Springs. Anderson then decided to divert across country to Mt Davidson and follow a straight line to Wyndham. Due to navigational error Anderson drifted to the east of his proposed course and south-east of Wave Hill station the aircraft again developed tappet problems. Anderson made a forced landing 128 km from Wave Hill, causing minor damage to the aircraft. Hitchcock was again able to repair the engine, but the thick scrub and loose sand thwarted repeated attempts at take-off. Anderson and Hitchcock attempted to clear a runway in the scrub with their bare hands and a penknife before lighting a fire in an effort to clear the scrub and attract attention.

A rough diary scribbled on a section of the rudder fabric indicates that the men were still alive on 12 April but that all attempts at take-off came to nought due to increased debility from thirst heat flies and dust. It also records that the men had no water to drink except solutions of urine (mixed with oil, petrol and methylated spirits).

In Search of the "Kookaburra"

On 12 April 1929 (the same as the last date scribbled on the rudder fabric of the "Kookaburra") a de Havilland search plane, the "Canberra", sighted the "Southern Cross" and sent the Message "Found, Found, All Safe". While the nation rejoiced at Smithy's rescue the relief was tempered by the realisation that the spotlight of tragedy shifted to Anderson and Hitchcock now long overdue at Wyndham. However while the aviators struggled for survival in the Tanami Desert a bureaucratic struggle was developing over the wreck and valuable time was lost before a search was mounted.

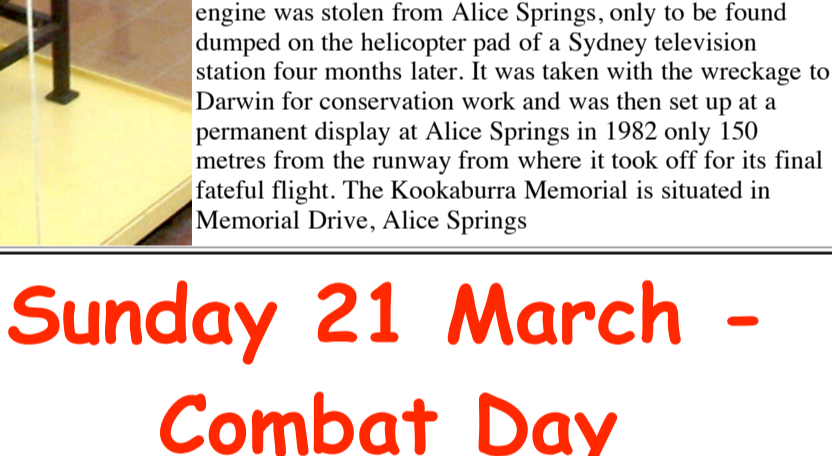
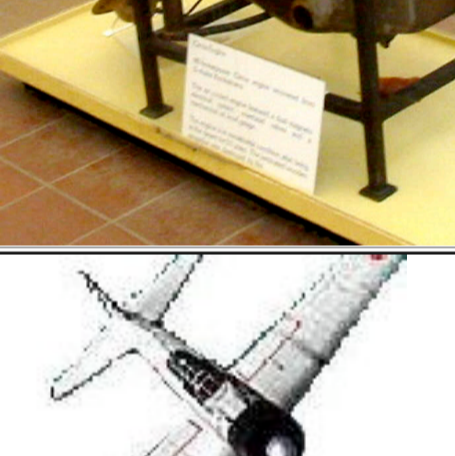
An RAAF contingent of five planes, in addition to the "Canberra" and a Qantas aircraft was dispatched to search the Tanami Desert. On 21 April, Captain Lester Brain, the pilot of the Qantas aircraft spotted a column of smoke south of Wave Hill. On close observation he observed the "Kookaburra" and saw a prostate figure under the starboard wing. He dropped water and radioed the location to the RAAF searchers.

The Thornycroft Expedition

Under instructions from the Air Board a ground party led by Flight Lieutenant Charles Eaton left Wave Hill for the "Kookaburra" site on 24 April. Guided by three RAAF aircraft the ground party reached the site on 29 April. There they found the bodies of the two aviators. Both had died of thirst and exposure. Hitchcock's body was found under the wing and that of Anderson several hundred metres from the aircraft. The bodies were buried where they lay and the RAAF planes dropped wreaths at the site.

Although Eaton planned to fly the "Kookaburra" back to Wave Hill, the ground party were running short of water and it was decided that they did not have time to extend the runway. The party then returned to Wave Hill. The tragedy of Anderson and Hitchcock dismayed Australia, and under public pressure, the Government ordered that the bodies be brought back.

A new ground expedition equipped with an A3 Thornycroft four wheel drive truck set off on its grim task. On 14 June the bodies were exhumed and placed in special lead lined coffins. Although the party were unable to retrieve the "Kookaburra" they cleared a runway so that it might be flown out at a later date. The party were running short of fuel, and as a safety precaution they drained the fuel tanks of the "Kookaburra" and returned to civilisation. Keith Anderson was accorded a state funeral in Sydney and Bob Hitchcock, at his wife's request, was buried at a quiet service in Perth.



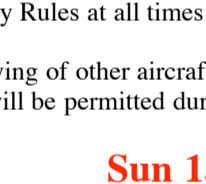
The remains of the "Kookaburra" were eventually found by Sydney aviation enthusiasts Dick Smith. His first search in 1977 involving a search party equipped with four wheel drive vehicles and a helicopter failed to locate the site. Not deterred, he returned in 1978 and on 31 August 1978 after six day's searching he located the wreck from his helicopter. He returned to Wave Hill and reported the find to Dr Hinton of the Northern Territory Museum before signalling Sydney of his find with the words: "The Night Parrot has been found"

The Last Journey Within the week Dr Hinton led a ground party to retrieve the wreckage. On recovery the remains were transported to Alice Springs while a decision was made as to its display. The Kookaburra hit the headlines again when the Sevversky bomber, the P-47 was to play a major role in World War II and built in greater numbers than any other U.S. fighter, including the North American P-51. Two versions of the ubiquitous P-47D were manufactured. One, referred to as the "razorback", had a faired-in cockpit and canopy, and the other, known as the "bubble", had no canopy fairing and a bubble-type canopy offering a greatly improved field of view. All-told, an amazing 12,962 P-47Ds of both types eventually rolled from Republic's production lines on Long Island, New York.

In combat, the P-47 was an effective air-to-air fighter—but it was an even more effective air-to-ground weapon. It had great diving speed and a tremendous payload capacity. Some 5,222 P-47s were lost during the war, but only 3,499 of the losses were directly attributable to enemy action. Some 1,350,000 combat sorties were flown with a combat loss rate per sortie of just 0.07 percent.

Those who look down their noses at the blunt form of the Jug and smirk at ignoring the facts: most references credit the rotund Jug with having knocked 3,752 enemy aircraft out of the air, many of which were supposedly much more agile. More important, only 0.7 percent of the Jugs that left on a combat mission didn't return. The most heavily armed fighter in the American arsenal, the Thunderbolt came into its own as a ground-pounder and, because of this, it flew more than twice as many sorties as the Mustang.

When its eight .50-caliber Brownings were combined with rockets and bombs, the Jug was a ferocious ground-attack machine. In the European Theatre of Operations, alone between D-Day and VE day, it is credited with the destruction of 9,000 locomotives and 86,000 rail cars.



Republic P-47D Thunderbolt - "The Jug"

Wingspan: 40 ft., 9 in. Length: 36 ft., 2 in. Height: 14 ft., 2 in. Empty Weight: 10,000 lb. Maximum Weight: 17,500 lb.

Powerplant: 1 Pratt & Whitney R-2800-21 rated at 2,000hp Max. Speed: 429mph @ 20,000 ft. Range (with maximum external fuel): 1,800 miles Service ceiling: 40,000 ft.

Armament: 8, .50-caliber machine guns; 4 per wing \*\*\*\*\*

Republic's immense and powerful P-47 Thunderbolt was one of the truly great fighters of World War II. Designed by Alexander Kartveli, who earlier had acquired a stellar reputation for designing great aircraft under the Seversky banner, the P-47 was to play a major role in World War II and built in greater numbers than any other U.S. fighter, including the North American P-51. Two versions of the ubiquitous P-47D were manufactured. One, referred to as the "razorback", had a faired-in cockpit and canopy, and the other, known as the "bubble", had no canopy fairing and a bubble-type canopy offering a greatly improved field of view. All-told, an amazing 12,962 P-47Ds of both types eventually rolled from Republic's production lines on Long Island, New York.

In combat, the P-47 was an effective air-to-air fighter—but it was an even more effective air-to-ground weapon. It had great diving speed and a tremendous payload capacity. Some 5,222 P-47s were lost during the war, but only 3,499 of the losses were directly attributable to enemy action. Some 1,350,000 combat sorties were flown with a combat loss rate per sortie of just 0.07 percent.

Those who look down their noses at the blunt form of the Jug and smirk at ignoring the facts: most references credit the rotund Jug with having knocked 3,752 enemy aircraft out of the air, many of which were supposedly much more agile. More important, only 0.7 percent of the Jugs that left on a combat mission didn't return. The most heavily armed fighter in the American arsenal, the Thunderbolt came into its own as a ground-pounder and, because of this, it flew more than twice as many sorties as the Mustang.

When its eight .50-caliber Brownings were combined with rockets and bombs, the Jug was a ferocious ground-attack machine. In the European Theatre of Operations, alone between D-Day and VE day, it is credited with the destruction of 9,000 locomotives and 86,000 rail cars.



Republic P-47D Thunderbolt Drawing by Lloyd B. Jones

GRAVITY?? (OR WHAT YOU CAN'T BEAT AT THE FIELD)

(from BP)

After a crash, some time back, I asked all and sundry, What is gravity anyway? All could tell me what it did. Geez I had just seen that! No one could tell me what it was, what it looked like. Gary Welsh realised I was a sick puppy and down loaded a sackload of stuff but none of it told us what gravity was.

I posed the question. What would happen if you drilled a hole right through the earth, one side to the other and then dropped a bowling ball into the hole, ignoring practical details like Temperature and the fact that we have only ever penetrated to a depth of about 0.2%. Without exception everyone I asked said that the ball would fall past the centre then fall back and eventually end up at the centre of the earth.

Yep, my answer too. But why? What would be holding it there? I know we are told Gravity is related to mass but just what is the force? Well a lot of theoretical physicists are not sure either.

The magazine Discover reports that Pioneer 10 launched in 1972, is now 8 billion miles from earth and in January this year, tracking stations picked up the last feeble transmission. But a mystery has developed, because the spacecraft seems to be defying the earth based laws of gravity. Pioneer 10 has been slowing down, as if the gravitational pull on it from the sun is growing stronger the farther away it gets! Also Pioneer 11 and probes, Ulysses & Galileo showed similar behaviour. There now a school of theoretical physicists who think that there might be something wrong with our understanding of gravity, the most pervasive force in the Universe.

Michael Nieto from Los Alamos National Laboratory is reported as saying "We don't know anything. Everything about gravity is mysterious." (Especially at the southern hemisphere's own area 51, at Bayreose).

Question: If you could spin the Earth five times faster than its present one at a day rotation, would gravity increase significantly?

The answer is NO. Gravity would not change as it is related to mass not rotation but it would be good to run with the fast rate Monday to Friday and adjust the wheel ends to make the week the correct length.

So the physicists find that the usual Newtonian rules work OK on earth but on scales of a stellar magnitude they get the wrong answers. So what do they do? What any good politician does. Make things fit by making up a fudge factor. That fudge factor was dark matter. They had to assume that immense amounts of dark matter surrounded all galaxies. But now some heretics are questioning the wisdom of believing in something that no one has seen or can prove exists.

An assault is now being mounted on Newton's Laws. Meet Moti Milgrom who asked "What if the laws of gravity that we understand do not apply on a galactic scale? If we have the perfect theory why do we have to assume there is unseen matter to make it work? Maybe there is something wrong with our understanding of gravity. (Note we haven't seen gravity either!)

Milgrom has hit on an approach that seems to reproduce the peculiar movements of galaxies WITHOUT the need to invoke dark matter. The key was acceleration. Gravity accelerates things at the rate of 32ft/sec/sec (9.8m/sec/sec). Likewise the sun and every star in the sky accelerates toward the centre of the Milky way galaxy at the rate that works out at the width of an atom per second every second. This is about 100-billionth as strong as the gravity on earth.

Milgrom proposed that Newton's laws might change at these very low accelerations. Milgrom proposed that at a transition acceleration, he calls 'ao', of one 10 billionth of a metre per second every second the force of gravity might no longer be directly proportional to acceleration but proportional to the square of acceleration. That is slightly stronger at and below the transition acceleration. The Pioneer mysteries whereby for decades something has been decelerating the spacecraft-or accelerating it toward the sun- can be answered by the MOND prediction. Yeah, but my question is: what causes this 'ao' effect? In my opinion, dark matter!

So how does this impact on the field at Belrose? Well the field is the opposite side of the planet to area 51, in Nevada and it is reliably reported by several WRCAS members who were last seen near area 51 that the dark matter on the frequency in the 36 MHz range has polarised and lies in a slit between the dam and the western ridge.

It survives on deficits of any kind. It has been known to rip engines out of models. Ask Mr Morris and Mr Furzer! It has an insatiable appetite and we betside any one who ignores and does not pay homage to the effects of MOND which will accelerate/decelerate your model in direct proportion to the number of things not checked!

\* Index \* Map \* Membership \* Committee \* Events \* Results \* Newsletters \*

\* Beginners \* Photos \* Articles \* Hints \* Classifieds \* Links \*