

STRIKE PRODUCTS

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ABN: 79 591 274 541

13 September, 20013

Australian Karting Association Ltd
PO Box 4222
Penrith Westfields,
PENRITH
NSW 2751,

Finance Director – Mr Philip Smith
Administration Director – Ms Melissa Holzberger
Competition Director – Mr Mick Doohan
Technical Director – Mr Bradley Collins
Promotional and Marketing Director – Mr Sam Moreton
Chief Executive Officer – Mr Kelvin O'Reilly

Dear Madame and Sirs,

Just to introduce myself, I am Ken Seeber from STRIKE PRODUCTS. Our company is primarily focussed on karting products, our main product being pistons for Yamaha KT100J (National class) and KT100S (Clubman class) engines. A reasonable estimate would be that over 90% of all these engines in Australia use our pistons. These and other products can be seen on www.strikeproducts.com.au.

As you are no doubt aware, the NKC reviewed the engines for the Clubman and National classes (using Yamaha KT100S and KT100J engines respectively). This review was driven, in the main, due to reasons of performance variation between engine to engine (due to production variations between cylinders). This applied to both the Yamaha engines. In fact, the project went beyond just a review, with tenders being called for the engines from certain companies.

More recently, yourselves as the Board, announced that any such new engine project would be held off for another 6 months. This is timely as it gives us, STRIKE PRODUCTS, the opportunity to make yourselves aware of an alternative to one of the new engines.

During this review process by the AKA, our company offered an alternative proposal to the introduction of a new engine for the National class. This was to supply an alternative cylinder barrel, to be manufactured in Australia using a modern design and manufacturing techniques that could interchangeably replace the original KT100J Yamaha cylinder, the key reason of concern with the

engine. The retail price for this as a total kit including piston, would be around \$625, slightly more than two sets of tyres. This proposal would allow any karter with a sub standard engine to bolt on the cylinder and obtain a performance level very close or the same as the rare and highly valued "good " engines (good because they have a "good" cylinder). At the same time, using modern CNC production techniques, the performance variation would be minimal, no different to the only other engine (used within mainstream AKA racing) using similar design and manufacturing techniques, the Leopard X30.

We, and many others, considered this an attractive and economical alternative to the introduction of an entirely new and more complex engine at a cost of nearly \$3000. There might be around 2000 KT100J engines being used all over the country, all of which would ultimately be junked as they could not compete with the new J engine, its mandate being to have a performance advantage of 0.15 sec per lap advantage over a "good" KT100J engine.

Sadly for ourselves and to the disappointment of many AKA karters, the AKA declared such a proposal as a "bandaid fix" and have seemingly progressed with the consideration of an entirely new engine(s).

Given this, and with the introduction of the Board yourselves in a strong decision making position, we would be appreciative if the Board could reconsider our proposal. Unlike what was done to date, it would be good if such a review could be conducted with true and proper consultation with the J karters only (they are the true customer in this case, no one else) and also consultation with the many kart shops and engine builders all over the country.

I have included 3 attachments that give further information to our proposal:

1. **ATTACHMENT 1.** This is the original proposal to the AKA, this generally explains our proposal
2. **ATTACHMENT 2.** This gives some detailed technical aspects of the STRIKE cylinder barrel
3. **ATTACHMENT 3.** This shows a listing of signatures of those who supported our petition, which was circulated by many clubs, kart shops and individuals across Australia plus feedback from the Kartbook forum.

We would be appreciative if we were to be able to present our proposal to the Board at some suitable time in the near future so that they would have a full appreciation of the proposal.

Please feel free to call me on 08 9303 4915 or 0438 061 589 if you have any questions or thoughts that you might have.

Yours Faithfully.

Ken Seeber

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PROPOSAL BY STRIKE PRODUCTS FOR AN AFTERMARKET CNC LINERED BARREL FOR THE J ENGINE.

24 October, 2011

HISTORY: Early this year, Strike presented a draft proposal to the AKA re possibility of producing a CNC lined cylinder for the J. ([Link here](#)).

Then in April, the NKC conducted a planning meeting in Melbourne and from this it was suggested that the 125 classes were progressing satisfactorily, but the lower end engine classes were not. With further discussion two new engine categories were considered. One engine class could cater for the Midget (soon to be referred to as Cadets) & Rookie classes. The other would cover the National & Clubman classes. In both cases each engine would be detuned to drop the performance level to roughly match those of the lower power application, ie Midget & National respectively. Reasons cited for new engine categories being:

- Too many engines that are possibly required in a karters career
- Cost of blueprinting & fitting basic engines with clutches & starters
- Performance variation between engines with cast ports

In addition to this discussion, two alternatives to address the variation in the cast port engines were presented:

- Grind to the line. This has been talked about for many years, but it was finally bought up to the NKC level. It was decided to go ahead with some trials on Yamaha S & J cylinders to understand any gains in equalising the power levels.
- STRIKE presented the proposal of a new cylinder assembly for the J engine incorporating a CNC liner in a precision cast aluminium barrel. This would have a retail price of around 2 sets of tyres.

The meeting concluded with:

- The formation of two teams to investigate engine possibilities for the two discussed categories
- The approval to go ahead and investigate the “grind to line” concept
- The AKA to remain open to a technical update based on test results by STRIKE with a new cylinder

- Approval for the investigation into any future emission legislation that may impact on carburetted 2 stroke engines as currently used in karting (to be undertaken by Ken Seeber)

Subsequently the NKC met in August when:

- The two teams reported on their progress in terms of setting specifications for the new engines
- The “grind to the line” testing was discussed (I believe) generally concluding that it would be a very difficult to control process with little to be gained
- Future emission legislation investigation reported on, where competition engines are seemingly free from emission constraints.
- STRIKE J cylinder proposal was discussed “in camera”. Subsequent feedback from the then president suggested that the reaction to this was mixed in the light of new engines, but stressed that the CNC cylinder concept was still an option as per the planning meeting in April.

PRESENT SITUATION: Since that time, STRIKE has continued with the completion of an initial prototype cylinder, this necessarily involved creating a range of patterns and core boxes to create the sand mould for the cylinder external shape and the cores to form the exhaust, inlet and transfer passages. To simplify the patterns to create the external features of the barrel, a J cylinder was cut in half and these halves used as the major part of the pattern to create the “finned” area of the cylinder casting. The intention here was to simplify the production of the prototype. The alternative was to create an entirely new pattern section for this function, but the time and cost would have

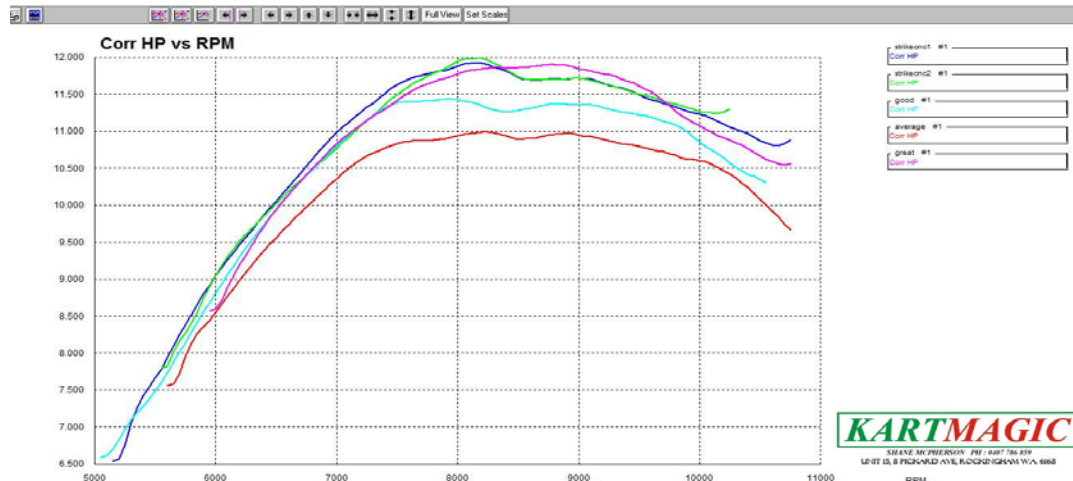


been prohibitive at this stage of the programme. Whilst we were able to make castings using this method, the external appearance was not particularly great due to the coarse sand required for the compromised



mould. However the internals (the key to the design) came out very well and therefore are closely representative of what could be achieved in production.

Two STRIKE cylinders have been dynamometer tested in conjunction with other engines:



There are 5 power curves shown in the graph:

Red: A very average engine, ie below average

Turquoise: An average engine

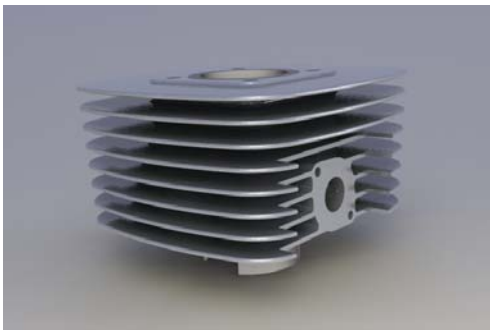
Purple: A very good engine

Green & Blue: STRIKE CNC cylinders on different engines.

From this it can be seen that the STRIKE barrels are extremely close in their performance and its characteristics and compare very well with the “very good” engine.

NOTE: All tests were conducted on the same day, same dyno and on the same fuel. Whilst the power scale is shown, it must be pointed out that the power levels are shown would not necessarily be the same on another dynamometer, they are comparative levels only.

WHAT STRIKE IS OFFERING: In summary, we are offering a new “aftermarket” cylinder assembly for the J engine, this comprising of a CNC machined cast iron liner in a new aluminium barrel with accurately cast ports and passages. This has the power level of the “a really good” Yamaha J barrel, but very importantly, excellent repeatability or parity between each cylinder, just as European lined engines. This, in a bare state, would have a retail price of around \$525. The cylinder (as other STRIKE products) would be made in Australia.



The actual cylinder would look similar to the Yamaha cylinder, but would feature slightly larger fins, with all fins of approximately the same equal overall dimensions, very similar to the KT100S cylinder in that respect.

To increase the level of control, it is proposed that the cylinder would have a fixed (or tightly controlled & hence effectively non machinable) length. As with any “CNC liner”, the ports in the liner would typically have

dimensional tolerances of ± 0.05 mm (= 0.002 inches = 1 human hair). This effectively eliminates the opportunity for cheating. No grinding would be permitted in the cast passages, however the machined edges would show a very minor factory “breaking of sharp machined edges”.

It is also proposed that the removable liners would not be sold separately (but could be fitted, if required, by STRIKE only).

PERCEIVED ISSUES: There are a couple of points here that need to be discussed:

- The obvious one is that the barrel may act as a disincentive to the introduction of a new engine, the argument for this being that the new engine would be ultimately less costly than a J when the purchase price, clutch, starter, exhaust etc are taken into account. The counter argument on this is that most have already bought their engine, clutch starter etc and, in the limit, would ultimately be faced with “dumping” these and buying a totally new engine. It must be pointed out that clutches are not compulsory, so some have not incurred that expense.

- Some refer to the J as being a “waterpump”. This is derogatory as the J is basically an engine based on the MT110 industrial engine which could have been used for a variety of applications, including driving water pumps, but it is certainly not a waterpump in itself.
- Some refer to the J engine as a polluting engine. The J is just a generic, crankcase scavenged, carburetted 2 stroke engine, just as Rotax Max, Leopard, CIK, etc engines. All are dirty polluting engines.
- The cylinder might result in some “\$5k” engines being devalued. I am sure the AKA sees as one of its goals as providing an environment where the basis of competition is as equal and fair as possible and, as such, would like to see perceived exceptional engines (in all classes) having their performance equalled by the majority of other engines. Therefore a non issue.

BENEFITS: With thousands of J engines being currently used in Australia, many karters are very content with the performance level, running costs and overall simplicity, however they recognise the varying performance levels from engine to engine. This is basically attributable to the difference



between the cylinders, particularly in the transfer ports. In the process of using the “halved” cylinder as the pattern, the cast-in cast iron liner became loose and was removed. This revealed a casting flaw (see adjacent pic) in the aluminium under the transfer port. Whilst this may have been an exception, it does show where variances may lie. It is unknown if this was a good or bad cylinder. The STRIKE cylinder provides a solution to that at a very moderate cost.

THE FUTURE: This is dependent on a positive reception at this time by the AKA. Given this, it is proposed that STRIKE would subsequently present the results of 3 or 4 production version cylinders (as tested on dynamometers by well known engine tuners) that show effectively the same level of performance (as per the prototype) on the same engine. This would only be undertaken by STRIKE on the basis that, given suitable and successful test results, then the AKA would accept and guarantee the allowance of the cylinder to be an optional, but legal AKA aftermarket component. This step would take some months as the production tooling would entail completely new patterns for the cylinder, rather than those based on the J cylinder. At some stage, the AKA Technical Committee would need to be presented with the proposal for comment & involvement. STRIKE would be willing to provide draft wording for the rulebook to cover the inclusion. The cylinder has been designed to conform to all the current J inspection gauges.

Spelling it out, we consider the cylinder would be good for karting and offer no risk to the AKA. The cylinder will have little or no impact on the introduction of the new engines when they come on stream as the Comer, J & S engines, should they (one or more) become superseded, will still be around for some time.

The final decision as to the cylinder’s progress and future is up to the AKA.

Ken Seeber

STRIKE PRODUCTS

ATTACHMENT 2

TECHNICAL One unfortunate aspect of both the Yamaha engines is that they use a cast iron cylinder liner that has cast in ports, the liner being subsequently cast into the external finned barrel. This “low cost process” introduces many dimensional and port location variations, resulting in performance variations. These facts are well known. In support of this, the AKA introduced Rule 21.06.3 which stipulates ports to be CNC machined into the iron liner for any new engines. This was also brought about by engines, such as the Rotax Max and the Comer SW80, which have cast ports, resulting in performance variations. A good current example of an engine with a CNC machined liner is the IAME Leopard. Typically the cylinder liner would have an accuracy of ± 0.05 mm compared to the ± 0.5 plus tolerance of cylinders with cast ports.

The following shows some pictorial examples of the differences of port manufacturing techniques:

1. **Cast iron cylinder liner with cast ports that is cast into cylinder barrel.** This is the technique used by Yamaha and Fireball.



From this it can be seen that the actual port edge is both rough, in addition to positional variations, and also has a mismatch between the aluminium and the cast iron liner port where the aluminium has overflowed into the liner port

2. **Cast aluminium cylinder with a coated bore surface.** This is the technique used with the Comer, Rotax and CIK KZ plus many high performance motorcycle engines.



From this it can be seen that the port passage is cast up to the cylinder bore edge, this again carrying positional variations. However, as part of the plating process, a chamfer is necessary around the port edge, which can be clearly seen. As this is done manually, there are variations in the extent of this. Rotax even recognised this, and later barrels feature a “skim” machining pass over



the roof of the exhaust port, but this does make any correction to variations in the equally important transfer port. Whereas the KZ engines are open to the extent port changes can be made, the Comer and Rotax are controlled class engines where heavy emphasis is placed on close "engine to engine" dimensional control to achieve performance parity.

3. **CNC machined cast iron liner shrink fitted into aluminium cylinder.** This is the preferred AKA technique, one that it used on Leopard and CIK KF control class (and the Australian made ARC) engines and would be used with the proposed STRIKE cylinder



From this, it can be seen that the critical times edges of the exhaust ports and transfer ports are controlled by the accurate machining process, not by as cast edges.

THE PRICE. This would be around \$525 retail for a bare cylinder to around \$630 for a cylinder barrel kit which would include a matching piston to suit, including a ring and pin. These prices include a 30% margin for the dealer, far greater than the 14% for Rotax Max & 12% for IAME X30 for a new 125 engine. The cylinder would have a controlled length, so it would be a matter of gasketing to set the appropriate height, and for someone halfway mechanically inclined (but with the necessary equipment) could easily fit the cylinder. This price compares very favourably with that of other cylinders, eg Yamaha J @ \$590, Yamaha S @ \$475, Comer SW80 @ \$440, Rotax Max @ \$607 and Leopard X30 @ \$800, the latter being the only one with a CNC liner.

There are (correct) arguments that the \$1000 J engine actually costs a lot more because people have to also add to that the cost of a clutch and starter plus whatever, however the reality is that these are optional and the very vast majority have already bought these parts anyway.

A VISION On a longer term perspective, it could be that the AKA could take total control of the J engine. This might come about should Yamaha come to the conclusion at some stage in the future that it is no longer viable to manufacture the J engine in the very small volumes that it does for the Australian market only. This is not to take away anything from Yamaha as the AKA must be grateful for supplying the KT100 J & S engines in the same design format for decades, providing the sport with a high degree of stability.

This control would extend to owning the engine design, meaning a full set of engineering drawings, obviously in a CAD format. Given the above scenario with Yamaha withdrawing, the current situation is that the piston, connecting rod, bearings, piston, rings and gaskets are produced by aftermarket suppliers, with the possibly of the CNC barrel being added to this. This then essentially leaves the crankshaft, crankcase, cylinder head and ignition as items that are still Yamaha. An example of addressing these could be that the, the crankcase & cylinder heads by a range of suppliers in Australia and the ignition and crankshaft could be supplied also by a range of existing overseas manufacturers. Thus the engine could be completely reproducibly controlled and owned by the AKA. The initial supplier would be responsible for supplying the appropriate design for that component. All suppliers would necessarily be AKA approved and could manufacture “their” component to the AKA design. Importantly a royalty fee would apply to each component sold.

The KT100J engine is “cheap as chips” to run and maintain, has a robust set of rules, with a control exhaust, carburettor and air box all in place. It is very simple and easy to inspect.

We make this suggestion on the basis that it be considered as a genuine, constructive albeit long term suggestion for the future of all classes using the J engine. Obviously this would only represent the start of a fairly comprehensive programme should it go further, but everything must start somewhere.

THE FUTURE BEYOND ALL CURRENT AKA ENGINES. All the AKA engines are carburetted, crankcase scavenged engines, which are high level exhaust emitters, irrespective of its level of sophistication. When the time comes when these must disappear through emission legislation, we have only 3 real options:

1. Go direct injection 2 stroke, possibly with catalyst
2. Go four stroke, possibly with catalyst
3. Go electric

Until that time, what we are all talking about is all that we can do at present, but is certainly something we should all be aware of.

WHO COULD LOSE WITH THE STRIKE CNC CYLINDER ? The only ones we can think of are:

- those who have really good J engines and see their investment being devalued. This is unfortunate, but we are all here for fair (and limited budget) racing. Remember their investment would be worth zilch when a faster (as per the new engine specs) new engine comes out and which can run side by side with the J engines.
- the AKA might consider that the cylinder could demonstratively improve the parity of the J engines such that it could challenge the validity or justification for the new engine.

WHO COULD WIN WITH THE STRIKE CNC CYLINDER ?

- many karters have a lot to gain
- the AKA with a stable rejuvenated class
- the AKA with a royalty income stream.

IF IT DOESNT COME OFF? This would just represent another nail, albeit small, in the coffin for the design and manufacturing industry in Australia.

ATTACHMENT 3

PETITION IN SUPPORT OF THE STRIKE J CNC CYLINDER

To the AKA Board of Directors,

I/we the undersigned who either drive, have or are associated with the J engine within the AKA, are fully in support of the Strike J CNC cylinder proposal.

I/we consider this to be a very sensible proposal, namely to bring parity and a performance level to that of the best J engines. This will enable competitors (and even kart shops) to essentially keep their investment in the engines and associated components and equipment, rather than scrapping it. This cylinder would be made in Australia and available at a very economical cost.

This is a much better alternative than being forced to buy a completely new, near \$3000, engine that would be imported into our country with inevitably no useful aftermarket component (read lower costs) acceptance.

If you have already filled out one of these petitions before, please do not do this again.

[illegible]

Version 2

To add to the level of support of the STRIKE CNC cylinder, two types of petitions were created:

One was a basic paper type that was circulated by various, individuals, clubs, etc. This is shown to the left.

In addition, it was also featured on Kartbook, the main Australian karting forum. From there, supporters responded to ourselves via an email message.

Both petition types have been scanned and reduced as shown on the following pages.

Note that these are illegible as it was our pledge to not have this

information in the public domain. However they do indicate the level of support.

In total, there are over 400 signatures and email responses.

The full size originals could be made available if necessary

SIGNED PETITIONS

PEPPER, J. L. 1990. THE STRIKE JOURNAL.

[illegible][illegible]

CELLULOSE SUPPORT OF THE STRONG A BOND

Try the following strategies to help your students understand the concept within the story, and be sure to explain the strategy to the student as you go.

Year	Rate	Rate	Rate
1970-1974	5.1	5.1	5.1
1975-1979	5.1	5.1	5.1
1980-1984	5.1	5.1	5.1
1985-1989	5.1	5.1	5.1
1990-1994	5.1	5.1	5.1
1995-1999	5.1	5.1	5.1
2000-2004	5.1	5.1	5.1
2005-2009	5.1	5.1	5.1
2010-2014	5.1	5.1	5.1
2015-2019	5.1	5.1	5.1
2020-2024	5.1	5.1	5.1
2025-2029	5.1	5.1	5.1
2030-2034	5.1	5.1	5.1
2035-2039	5.1	5.1	5.1
2040-2044	5.1	5.1	5.1
2045-2049	5.1	5.1	5.1
2050-2054	5.1	5.1	5.1
2055-2059	5.1	5.1	5.1
2060-2064	5.1	5.1	5.1
2065-2069	5.1	5.1	5.1
2070-2074	5.1	5.1	5.1
2075-2079	5.1	5.1	5.1
2080-2084	5.1	5.1	5.1
2085-2089	5.1	5.1	5.1
2090-2094	5.1	5.1	5.1
2095-2099	5.1	5.1	5.1
2100-2104	5.1	5.1	5.1
2105-2109	5.1	5.1	5.1
2110-2114	5.1	5.1	5.1
2115-2119	5.1	5.1	5.1
2120-2124	5.1	5.1	5.1
2125-2129	5.1	5.1	5.1
2130-2134	5.1	5.1	5.1
2135-2139	5.1	5.1	5.1
2140-2144	5.1	5.1	5.1
2145-2149	5.1	5.1	5.1
2150-2154	5.1	5.1	5.1
2155-2159	5.1	5.1	5.1
2160-2164	5.1	5.1	5.1
2165-2169	5.1	5.1	5.1
2170-2174	5.1	5.1	5.1
2175-2179	5.1	5.1	5.1
2180-2184	5.1	5.1	5.1
2185-2189	5.1	5.1	5.1
2190-2194	5.1	5.1	5.1
2195-2199	5.1	5.1	5.1
2200-2204	5.1	5.1	5.1
2205-2209	5.1	5.1	5.1
2210-2214	5.1	5.1	5.1
2215-2219	5.1	5.1	5.1
2220-2224	5.1	5.1	5.1
2225-2229	5.1	5.1	5.1
2230-2234	5.1	5.1	5.1
2235-2239	5.1	5.1	5.1
2240-2244	5.1	5.1	5.1
2245-2249	5.1	5.1	5.1
2250-2254	5.1	5.1	5.1
2255-2259	5.1	5.1	5.1
2260-2264	5.1	5.1	5.1
2265-2269	5.1	5.1	5.1
2270-2274	5.1	5.1	5.1
2275-2279	5.1	5.1	5.1
2280-2284	5.1	5.1	5.1
2285-2289	5.1	5.1	5.1
2290-2294	5.1	5.1	5.1
2295-2299	5.1	5.1	5.1
2300-2304	5.1	5.1	5.1
2305-2309	5.1	5.1	5.1
2310-2314	5.1	5.1	5.1
2315-2319	5.1	5.1	5.1
2320-2324	5.1	5.1	5.1
2325-2329	5.1	5.1	5.1
2330-2334	5.1	5.1	5.1
2335-2339	5.1	5.1	5.1
2340-2344	5.1	5.1	5.1
2345-2349	5.1	5.1	5.1
2350-2354	5.1	5.1	5.1
2355-2359	5.1	5.1	5.1
2360-2364	5.1	5.1	5.1
2365-2369	5.1	5.1	5.1
2370-2374	5.1	5.1	5.1
2375-2379	5.1	5.1	5.1
2380-2384	5.1		

PELTONEN IN SUPPORT OF THE STRIKE / *Ennen*

There are three additional factors that the redesigned site offers that, taken in conjunction with the changes within the site, will help to support the business and customer experience:

- **Personalization:** The new site will allow users to create a profile, which will allow them to tailor the site to their needs. This will include the ability to create a profile, which will allow them to tailor the site to their needs. This will include the ability to create a profile, which will allow them to tailor the site to their needs.
- **Integration:** The new site will be integrated with the company's other systems, such as its CRM and ERP systems. This will allow the company to provide a more seamless experience for its customers.
- **Analytics:** The new site will include analytics that will allow the company to track user behavior and make data-driven decisions about the site's design and content.

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PETROLEUM SUPPORT OF THE STRONG FARMER

There are two types of benefits:

- **Direct** benefits of value other than those that are associated with the program and the MTA's role in support of the *in the customer account*
- **Indirect** benefits that are not directly associated, namely, the opportunity and performance level that the *in the customer account* is able to achieve by participating in the program and the MTA's role in support of the *in the customer account*

[illegible]

FETTERMAN IS SUPPORTED BY THE JAMES J. HARRIS FOUNDATION.

For the second test, we used 1000 samples generated with the same seed as the first test. The results are shown in Table 2. The results are similar to the first test, with the same seed used for the first test.

DATE	TIME	PLACE
May 10th	10:00	St. Mary's
May 11th	10:00	St. Mary's
May 12th	10:00	St. Mary's
May 13th	10:00	St. Mary's
May 14th	10:00	St. Mary's
May 15th	10:00	St. Mary's
May 16th	10:00	St. Mary's
May 17th	10:00	St. Mary's
May 18th	10:00	St. Mary's
May 19th	10:00	St. Mary's
May 20th	10:00	St. Mary's
May 21st	10:00	St. Mary's
May 22nd	10:00	St. Mary's
May 23rd	10:00	St. Mary's
May 24th	10:00	St. Mary's
May 25th	10:00	St. Mary's
May 26th	10:00	St. Mary's
May 27th	10:00	St. Mary's
May 28th	10:00	St. Mary's
May 29th	10:00	St. Mary's
May 30th	10:00	St. Mary's
May 31st	10:00	St. Mary's

RECEIVED IN SUPPORT OF THE STRONG 2004 CAMPAIGN

Use the **undo** and **redo** buttons to return to the previous state of the document.

[illegible]

FINANCIAL SUPPORT OF THE STUDY / FUNDING

For the first aspect of the project, the two undergraduate students often discuss, first in person and then with the teacher within the field, a list of aspects of the field to explore in greater detail.

NAME	GRADE	TEACHER
Yoshi Nakamura	GRADE 5	Mr. Nakamura
Greg. Hughes	GRADE 6	Mr. Hughes
John Smith	GRADE 7	Mr. Smith
Michael Brown	GRADE 8	Mr. Brown
David Johnson	GRADE 9	Mr. Johnson
Robert Davis	GRADE 10	Mr. Davis
James Wilson	GRADE 11	Mr. Wilson
Thomas Moore	GRADE 12	Mr. Moore
Christopher Lee	GRADE 13	Mr. Lee
Matthew Hall	GRADE 14	Mr. Hall
Anthony Adams	GRADE 15	Mr. Adams
Joseph Baker	GRADE 16	Mr. Baker
Thomas Green	GRADE 17	Mr. Green
Richard White	GRADE 18	Mr. White
William Black	GRADE 19	Mr. Black
Robert Gray	GRADE 20	Mr. Gray
James Brown	GRADE 21	Mr. Brown
John Smith	GRADE 22	Mr. Smith
Michael Brown	GRADE 23	Mr. Brown
David Johnson	GRADE 24	Mr. Johnson
Robert Davis	GRADE 25	Mr. Davis
James Wilson	GRADE 26	Mr. Wilson
Thomas Moore	GRADE 27	Mr. Moore
Christopher Lee	GRADE 28	Mr. Lee
Matthew Hall	GRADE 29	Mr. Hall
Anthony Adams	GRADE 30	Mr. Adams
Joseph Baker	GRADE 31	Mr. Baker
Thomas Green	GRADE 32	Mr. Green
Richard White	GRADE 33	Mr. White
William Black	GRADE 34	Mr. Black
Robert Gray	GRADE 35	Mr. Gray
James Brown	GRADE 36	Mr. Brown
John Smith	GRADE 37	Mr. Smith
Michael Brown	GRADE 38	Mr. Brown
David Johnson	GRADE 39	Mr. Johnson
Robert Davis	GRADE 40	Mr. Davis
James Wilson	GRADE 41	Mr. Wilson
Thomas Moore	GRADE 42	Mr. Moore
Christopher Lee	GRADE 43	Mr. Lee
Matthew Hall	GRADE 44	Mr. Hall
Anthony Adams	GRADE 45	Mr. Adams
Joseph Baker	GRADE 46	Mr. Baker
Thomas Green	GRADE 47	Mr. Green
Richard White	GRADE 48	Mr. White
William Black	GRADE 49	Mr. Black
Robert Gray	GRADE 50	Mr. Gray
James Brown	GRADE 51	Mr. Brown
John Smith	GRADE 52	Mr. Smith
Michael Brown	GRADE 53	Mr. Brown
David Johnson	GRADE 54	Mr. Johnson
Robert Davis	GRADE 55	Mr. Davis
James Wilson	GRADE 56	Mr. Wilson
Thomas Moore	GRADE 57	Mr. Moore
Christopher Lee	GRADE 58	Mr. Lee
Matthew Hall	GRADE 59	Mr. Hall
Anthony Adams	GRADE 60	Mr. Adams
Joseph Baker	GRADE 61	Mr. Baker
Thomas Green	GRADE 62	Mr. Green
Richard White	GRADE 63	Mr. White
William Black	GRADE 64	Mr. Black
Robert Gray	GRADE 65	Mr. Gray
James Brown	GRADE 66	Mr. Brown
John Smith	GRADE 67	Mr. Smith
Michael Brown	GRADE 68	Mr. Brown
David Johnson	GRADE 69	Mr. Johnson
Robert Davis	GRADE 70	Mr. Davis
James Wilson	GRADE 71	Mr. Wilson
Thomas Moore	GRADE 72	Mr. Moore
Christopher Lee	GRADE 73	Mr. Lee
Matthew Hall	GRADE 74	Mr. Hall
Anthony Adams	GRADE 75	Mr. Adams
Joseph Baker	GRADE 76	Mr. Baker
Thomas Green	GRADE 77	Mr. Green
Richard White	GRADE 78	Mr. White
William Black	GRADE 79	Mr. Black
Robert Gray	GRADE 80	Mr. Gray
James Brown	GRADE 81	Mr. Brown
John Smith	GRADE 82	Mr. Smith
Michael Brown	GRADE 83	Mr. Brown
David Johnson	GRADE 84	Mr. Johnson
Robert Davis	GRADE 85	Mr. Davis
James Wilson	GRADE 86	Mr. Wilson
Thomas Moore	GRADE 87	Mr. Moore
Christopher Lee	GRADE 88	Mr. Lee
Matthew Hall	GRADE 89	Mr. Hall
Anthony Adams	GRADE 90	Mr. Adams
Joseph Baker	GRADE 91	Mr. Baker
Thomas Green	GRADE 92	Mr. Green
Richard White	GRADE 93	Mr. White
William Black	GRADE 94	Mr. Black
Robert Gray	GRADE 95	Mr. Gray
James Brown	GRADE 96	Mr. Brown
John Smith	GRADE 97	Mr. Smith
Michael Brown	GRADE 98	Mr. Brown
David Johnson	GRADE 99	Mr. Johnson
Robert Davis	GRADE 100	Mr. Davis

PETITION IN SUPPORT OF THE STONE / BARNES

Then the student will write a story, based on the paragraph with the complete outline the student follows to support the topic sentence paragraph.

NAME	DOB	
James G. ...	1955	...
James ...	1952	...
Rob ...	1954	...
...	1953	...
...	1954	...
...	1955	...
...	1956	...
...	1957	...
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...	1997	...
...	1998	...
...	1999	...
...	2000	...

PETITION IN SUPPORT OF THE STINGLINGS

over the entire group was either odd, none or an even number (the number within the 0-99, and 100-199 ranges of the 0-199 scale was even).

[illegible]

EXPERIMENTAL SUPPORT OF THE STRIKE-A-BARRIER

For the integrated circuit (IC) test, there are connections off the engine within the cylinder, and IC is mounted on the intake manifold.

[illegible]

PETITION IN SUPPORT OF THE STRIKE / 399

Use the underlined word after *often*, but not an association with the company within the field, as follows in support of the leader's outside proposal.

[illegible]

EMAIL PETITIONS

[illegible]

Name	<div style="text-align: right;">1 6</div> ...
Vorname	...
Geburtsdatum	...
Geburtsort	...
Matrikelnummer	...
Studiengang	...
Semester	...
Matrikelnummer	...
Geburtsdatum	...
Geburtsort	...
Matrikelnummer	...
Studiengang	...
Semester	...
Matrikelnummer	...
Geburtsdatum	...
Geburtsort	...
Matrikelnummer	...
Studiengang	...
Semester	...
Matrikelnummer	...
Geburtsdatum	...
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Studiengang	...
Semester	...
Matrikelnummer	...
Geburtsdatum	...
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Matrikelnummer	...
Studiengang	...
Semester	...
Matrikelnummer	...
Geburtsdatum	...
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Studiengang	...
Semester	...
Matrikelnummer	...
Geburtsdatum	...
Geburtsort	...
Matrikelnummer	...
Studiengang	...
Semester	...
Matrikelnummer	...
Geburtsdatum	...
Geburtsort	...
Matrikelnummer	...
Studiengang	...
Semester	...
Matrikelnummer	...
Geburtsdatum	...
Geburtsort	...

NAME _____ DATE _____	TOPIC The Role of the Teacher in the Classroom
Write your answer to the question below in the space provided.	
QUESTION How do you think the teacher should be evaluated?	_____
Write your answer to the question below in the space provided.	
ANSWER The teacher should be evaluated by the students, parents, and the school administration.	_____
Write your answer to the question below in the space provided.	
QUESTION What are the most important qualities of a good teacher?	_____
Write your answer to the question below in the space provided.	
ANSWER A good teacher should be patient, understanding, and fair.	_____
Write your answer to the question below in the space provided.	
QUESTION How do you think the teacher should be evaluated?	_____
Write your answer to the question below in the space provided.	
ANSWER The teacher should be evaluated by the students, parents, and the school administration.	_____
Write your answer to the question below in the space provided.	
QUESTION What are the most important qualities of a good teacher?	_____
Write your answer to the question below in the space provided.	
ANSWER A good teacher should be patient, understanding, and fair.	_____
Write your answer to the question below in the space provided.	
QUESTION How do you think the teacher should be evaluated?	_____
Write your answer to the question below in the space provided.	
ANSWER The teacher should be evaluated by the students, parents, and the school administration.	_____
Write your answer to the question below in the space provided.	
QUESTION What are the most important qualities of a good teacher?	_____
Write your answer to the question below in the space provided.	
ANSWER A good teacher should be patient, understanding, and fair.	_____
Write your answer to the question below in the space provided.	

[illegible]

1.  6
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 3.  6
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 9.  6
 10.  6

[illegible]

6

1990 **1991** **1992** **1993** **1994** **1995** **1996** **1997** **1998** **1999** **2000** **2001** **2002** **2003** **2004** **2005** **2006** **2007** **2008** **2009** **2010** **2011** **2012** **2013** **2014** **2015** **2016** **2017** **2018** **2019** **2020** **2021** **2022** **2023** **2024** **2025** **2026** **2027** **2028** **2029** **2030** **2031** **2032** **2033** **2034** **2035** **2036** **2037** **2038** **2039** **2040** **2041** **2042** **2043** **2044** **2045** **2046** **2047** **2048** **2049** **2050** **2051** **2052** **2053** **2054** **2055** **2056** **2057** **2058** **2059** **2060** **2061** **2062** **2063** **2064** **2065** **2066** **2067** **2068** **2069** **2070** **2071** **2072** **2073** **2074** **2075** **2076** **2077** **2078** **2079** **2080** **2081** **2082** **2083** **2084** **2085** **2086** **2087** **2088** **2089** **2090** **2091** **2092** **2093** **2094** **2095** **2096** **2097** **2098** **2099** **2100** **2101** **2102** **2103** **2104** **2105** **2106** **2107** **2108** **2109** **2110** **2111** **2112** **2113** **2114** **2115** **2116** **2117** **2118** **2119** **2120** **2121** **2122** **2123** **2124** **2125** **2126** **2127** **2128** **2129** **2130** **2131** **2132** **2133** **2134** **2135** **2136** **2137** **2138** **2139** **2140** **2141** **2142** **2143** **2144** **2145** **2146** **2147** **2148** **2149** **2150** **2151** **2152** **2153** **2154** **2155** **2156** **2157** **2158** **2159** **2160** **2161** **2162** **2163** **2164** **2165** **2166** **2167** **2168** **2169** **2170** **2171** **2172** **2173** **2174** **2175** **2176** **2177** **2178** **2179** **2180** **2181** **2182** **2183** **2184** **2185** **2186** **2187** **2188** **2189** **2190** **2191** **2192** **2193** **2194** **2195** **2196** **2197** **2198** **2199** **2200** **2201** **2202** **2203** **2204** **2205** **2206** **2207** **2208** **2209** **2210** **2211** **2212** **2213** **2214** **2215** **2216** **2217** **2218** **2219** **2220** **2221** **2222** **2223** **2224** **2225** **2226** **2227** **2228** **2229** **2230** **2231** **2232** **2233** **2234** **2235** **2236** **2237** **2238** **2239** **2240** **2241** **2242** **2243** **2244** **2245** **2246** **2247** **2248** **2249** **2250** **2251** **2252** **2253** **2254** **2255** **2256** **2257** **2258** **2259** **2260** **2261** **2262** **2263** **2264** **2265** **2266** **2267** **2268** **2269** **2270** **2271** **2272** **2273** **2274** **2275** **2276** **2277** **2278** **2279** **2280** **2281** **2282** **2283** **2284** **2285** **2286** **2287** **2288** **2289** **2290** **2291** **2292** **2293** **2294** **2295** **2296** **2297** **2298** **2299** **2300** **2301** **2302** **2303** **2304** **2305** **2306** **2307** **2308** **2309** **2310** **2311** **2312** **2313** **2314** **2315** **2316** **2317** **2318** **2319** **2320** **2321** **2322** **2323** **2324** **2325** **2326** **2327** **2328** **2329** **2330** **2331** **2332** **2333** **2334** **2335** **2336** **2337** **2338** **2339** **2340** **2341** **2342** **2343** **2344** **2345** **2346** **2347** **2348** **2349** **2350** **2351** **2352** **2353** **2354** **2355** **2356** **2357** **2358** **2359** **2360** **2361** **2362** **2363** **2364** **2365** **2366** **2367** **2368** **2369** **2370** **2371** **2372** **2373** **2374** **2375** **2376** **2377** **2378** **2379** **2380** **2381** **2382** **2383** **2384** **2385** **2386** **2387** **2388** **2389** **2390** **2391** **2392** **2393** **2394** **2395** **2396** **2397** **2398**

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