



ENGINE RESTORATION CHALLENGE 2023

ENGLISH

IT PAYS TO GET YOUR HANDS DIRTY.

Restore an old stationary engine* and you could win your share of R160 000!

Prizes:	Compact Engines Juniors (18 & younger)	Standard Engines Juniors (18 & younger)	Standard Engines Seniors (19 to 30)	Standard Engines Masters (Previous Participants)
1 st	R15 000	R20 000	R20 000	R30 000
2 nd	R10 000	R10 000	R10 000	R20 000
3 ^d	R 5 000	R 5 000	R 5 000	R10 000



Entries are free but hurry! SAVTEC only accepts 40 entries countrywide.

Email/contact Christo Pieterse (Central Free State) - 082 416 9020 - engenerc123@gmail.com or Johann Gouws (North West Province) - 082 417 3583 - jgouws@koshcom.co.za for entry details.

*Engine must be 30 years or older. Ts & Cs apply.

With us you are Number One | **ENGEN**

SAVTEC's brochure for participants and prospective participants in the EERC, the restoration challenge sponsored by





EERC 2023



SAVTEC has developed a youth-friendly project with the following aims:

- To attract younger people (scholars to 30-year-olds), to
- encourage family involvement (father/uncle can be mentor) into an
- affordable hobby —
 - Beginners can enter a straight forward engine.
 - The mentor will be remunerated by the organizers.
 - The engine must be transportable on a bakkie or behind a car.
- To take part in this competition also has significant educational value for the participants.

Take note that SAVTEC and ENGEN will make sure that no entrant (even if a member of a team) will go home empty-handed.

What does the competition entail?

EERC competitors may enter in two categories as individuals or in teams: Under 18 (scholars) and Under 30. Each entrant or team must have a mentor. If an entrant cannot find a mentor to assist him/her/them, SAVTEC undertakes to find one for the individual or team.

The competition consists of three parts:

- (a) The preparation and submission of a 'work book', explaining the restoration process [100];
- (b) the judging of the restored engine itself by a team of qualified judges [100] and
- (c) a 'live presentation' during which the young restorer and the judges discuss the engine and restoration process [50].

PRIZES TO BE WON:

	Junior	Junior	Senior	Master
1ste	R15 000	R20 000	R20 000	R30 000
2de	R10 000	R10 000	R10 000	R20 000
3de	R 5 000	R 5 000	R 5 000	R10 000

TIME LINE: Closing date to register: 31 January 2023

Preliminary judging takes place at SAVTEC clubs in each region (winter school holidays), during which the best two in each category are chosen to go through to the finals in Bloemfontein (September school holidays 2023).

Plain sailing is not guaranteed.

Tough times don't last; tough people do.

To enter in the correct class

Class	Junior	Senior	Definitions
Compact engine	Not permissible for a Junior who has previously partaken in the EERC.	Not permissible.	This engine is a: <ul style="list-style-type: none"> ≡ lightweight engine up to ± 40 Kg.; ≡ may have an aluminium crankcase; ≡ flywheel may be hidden; ≡ may have a pull type start action. ≡ In case of a compact engine combination, only the engine will be judged.
Standard engine	Permissible without limitations.	Permissible without limitations	These engines are typically Wolseleys and Lister D type engines or in a similar weight class.
Master engine	Only permissible If junior entrant has previously partaken in the EERC.	Permissible without limitations.	This engine class is for the larger engines which generally are 150 Kg. and above. A standard engine in combination with an implement or even a master engine in combination may be entered in this class and will be judged as a combination (150 points).**

** Write to jgouws@koshcom.co.za for an example of a judging form for combinations

The classification of your engine:

The engine weights are an indication and do NOT mean that the engines MUST be weighed.

If an entrant is planning to enter an engine but is not sure in which class it would compete in, he/she may enquire from the panel of judges by sending an email to engenerc123@gmail.com upon which the judges will assist him/her to find the correct classification for the entry.

The definition of a stationary engine:

It is a internal combustion engine which uses reciprocating (moving backwards and forwards in a straight line or otherwise) motion to convert heat energy into mechanical work, and is not mobile. The intended use would have initially been to drive agricultural or industrial equipment.

Stationary engines were typically used in factories or farmyards to generate power, pump water or drive other equipment.



Why a WORK BOOK?

Eventually the work book will be a complete, interesting, illustrated account of your restoration project.

Your restored engine cannot always be at hand for you to show, but the work book will enable you to explain your journey. The printed workbook in a flip file at a show will enhance your exhibit.

Before the judging of your engine you must provide the judges with your hard copy.

Planning and Judging: No.1

Your introductory remarks and descriptions should not take up more than two to three pages of your work book.

You can of course use the first part of the contents of your work book in the judging of your “live presentation”.

Planning and Judging: No. 2 & 3 — (the most important technical side)

It is Important that you give a summary of **TASK & TIME**.

It is also important to give a full description of the jobs which you couldn't do yourself and had to send out to specialists, and the cost involved.

Photos are very important, but must be reduced in size.

The work books must be mailed to jgouws@koshcom.co.za or engenerc123@gmail.com in

- (a) PDF-format, be
- (b) not longer than **15 pages**, and
- (c) not larger than **10 Mega Bytes**.

Remember that you must send a “workshop manual” or a facsimile of your engine **ten days** ahead of the date to the club secretary where judging will take place.

Read
page 4 and page 5
together.



Remember
to take
photos
regularly.

STANDARD

The judging of the work books will all be done by the same person.

TOTAL 100

This mark will be taken over to the final round. You can improve on your engine and your live presentation between the first and the second judging though.

If you want examples of work books,
write to engenerc123@gmail.com

This is how you must plan your work, work book and how it will be judged:



1. History of the project [10]

1.1 Why did you decide to take part in the competition?

1.2 What was the engine originally used for and how did you acquire it?

1.3 Give a general description of what the engine looked like when first seen.

1.4 Give a brief description of the restoration process from beginning to end.

2. Complete description in detail of the technical side of the restoration process [40]

2.1 Describe the restoration process in stages, for example work carried out

- (a) inside the engine, crankshaft, piston etc,
- (b) fuel supply and ignition,
- (c) cooling system and so on.

2.2 Continue as above with the external aspects:

- (a) rust and its treatment,
- (b) dealing with dents,
- (c) replacement of guards and covers.

2.3 Describe the finishing processes, painting and mounting on its stand or trolley.



3. Management of the project [30]

3.1 Budgeting: costs of the engine, spares, materials and outwork.

Similarly provide a costing of your own effort: task-time-cost.

3.2 Management of outwork done by specialists where you couldn't do it yourself.

3.3 Safety measures, with respect to official guidelines and common sense.

4. Self discovery and development [10]

4.1 Lessons learned

4.2 Skills acquired.

5. General impression of the workbook [10].



This is how an engine is going to be judged.

**SAVTEK
ENGINE JUDGING FORM**

NAME:		Cell:	NO:	approved: 2017-01-21
ENGINE:		HP:		
YEAR:		CLASS:		
REMEMBER: ORIGINALITY, CLEANLINESS & COMPLETENESS COUNTS				
1	IDENTIFICATION	POSSIBLE POINTS	ACTUAL POINTS	COMMENTS
1.1	Name plate, engine no. & stickers	5		
	Sub total	5		
2	ORIGINALITY and CONDITION			
2.1	Fuel Tank, filler cap, Cock and pipes	5		
2.2	Exhaust system	5		
2.3	Starting handle, Flywheel Ignition system:	5		
2.4	Petrol engine: magneto, spark plug & wire OR Diesel engine: Diesel injection system (Injectors/ pipes)	10		
2.5	Carburettor OR Diesel pump	10		
2.6	Valve gear, decompression / primer levers	5		
2.7	Greaser, and grease points Oil lines, oilers, oil filter, dipstick	5		
2.8	Cooling system & drain cock, pipes and hose clamps	5		
	Sub total	50		
3	FINISH			
3.1	Paint, correct colour, gloss, runs orange peel. "gladde castings"	5		
3.2	Nuts/ Bolts/ keyways	5		
3.3	Workmanship and overall impression	5		
	Sub total	15		
4	RUNNING CONDITION			
4.1	LEAKS: Oil, fuel and water	5		
4.2	Condition of bearing	5		
4.3	Starting	5		
4.4	Does engine run as it should?/ abnormal mechanical noise	5		
	Sub total	20		
5	PRESENTATION			
5.1	Restoration story, before and after pictures	3		
5.2	Display board: owner and engine information, history	3		
5.3	Trolley or base	4		
	Sub total	10		
	TOTAL	100		
Judge..... (comments				
Comments:				

On the next pages you will learn how to restore a vintage stationary engine.



Engine judging – information for exhibitors and judges

This information brochure is aimed at judges and exhibitors. The goal is to set a high standard of restoration and judging and to keep to it.

The judge: Firstly, it is a great privilege to be appointed or invited to act as judge and therefore you should act accordingly and do your job to the best of your ability. Remember, as a judge you are not better than other members and it doesn't give you the right to make demands. Work with the organisers and if you need something, ask for it and leave the organisation to the organisers. You should judge and not condemn – that is the attitude of a good judge. Remember that you are judging something that is very precious to its owner, which he is very proud of and which he has spent a lot of time, effort and money on. It is good to have the owner close by while you judge. If you are not sure of something you can discuss the issue with him. Here it is very important to be objective (impartial) and tactful and if you cannot get clarity on something, give the exhibitor the benefit of the doubt.

Old stationary engines have many variations, and no one knows everything about everything. There is no harm in asking. Eager restorers are happy to share their knowledge; use the specific knowledge and learn from it. To expand your knowledge, it is important to study books and magazines. Talk to other enthusiasts and ask questions.

Train yourself to look at an engine as a judge. Remember judging is not about finding fault, rather helping the exhibitor to restore his stationary engine as correctly as possible and promoting the Old Engine movement. The emphasis here is on ORIGINALITY. It does not matter how beautiful something looks on an engine or how much effort it cost, originality is ALWAYS given more points. Take time to discuss the engine with the owner afterwards but do not let him intimidate you. Remember, as the Scripture says: "tact and discretion is worth more than gold and rubies". Finally, judging is hard work and if you get tired and lose concentration, go and rest for a while, the exhibitor has made a huge effort and deserves your full attention.

The Exhibitor Prepare your engine well and make sure that it is clean and tidy, and everything is in working order. As exhibitor you also have to remember that originality always gets the most points, as long as what is original is in a good condition. Any good dictionary describes the word RESTORE as follows: "repair, renovation, improvement, return to its original state."

You can make your engine as "beautiful" as you like, the important thing is that you should enjoy it, but be prepared to sacrifice points for something not originally on the engine. Also remember that your beautiful is not necessarily beautiful for everyone. Hoses, spark plug leads, high tension cap, etc: for most people it does not look nice and they prefer to leave the parts unpainted / left black, but it's not like it originally was. SAVTEK prefers that wiring, spark plug leads and manifold are not painted.

The engine must be clearly marked with the following information:

- | | |
|--|-----------------------------------|
| 1. Participant: name and surname; | 4. Engine: make and model; |
| 2. Contact details: phone number & e-mail address; | 5. Year of manufacture; |
| 3. Your club or the one through which you entered; | 6. Competition: Junior or Senior. |

Stay nearby when your engine is being judged; the judges may have questions. Please do not interfere with the judging or comment, it could influence the judge's objectivity, usually negatively. Please be thoughtful towards the judges. It's hard work and they do their best to be impartial, but unfortunately there can only be one winner. If, however, a problem has been detected in the marks on your engine, discuss it with the judges. To hold a grudge against other competitors or club members, will spoil your reputation and the hobby that we enjoy so much, will suffer.



JUDGING FORM –

how points are awarded

1. Identification - 5 points

Name plate and engine number. The stickers and badges must be the right type and be in the right place. Stickers that are painted from individual cut-out letters also earn more points than the more common "mylar" stickers where the letters or badges are on transparent plastic, depending of course which type is more original. If there were stickers then these should be in the right places. Dented, rusted or painted-over plates and badges will lose you points. Make sure that the colours on metal badges are correct. The plates on the magneto are also judged at this stage. Condition of Nameplates. Are all nameplates present? Are they fitted correctly, rivets, etc? Mounted in the right place? Clearly visible and legible? No dents, scratches or abrasion marks? If a copy plate has been made, are the letters correctly engraved/stamped? Does the plate look original?

2. Originality - 50 points

2.1 Fuel tank, taps, pipes and caps. - 5 points

The first point to remember painting and badges are not judged at this stage. Here we look at the condition of the tank. The way leaks have been repaired and if any dents are visible. Castings that were originally rough, may not be smoothed. Wrong fuel valves will lose points. The fuel cap must also be the right type and in good condition. Originality of items: if items are damaged, points will be deducted. Correct pipes/hoses. Points will be lost for dents. Correct taps will help to earn points.

2.2 Exhaust System - 5 points

It is important that the engine should have the right silencer with the right colour, and if clamps were originally fitted, points will be deducted points if they are missing. A stainless steel or chrome silencer looks very nice but very few engines were so equipped, so be prepared to sacrifice points if such items are not original. Points are deducted for a dented or rusty silencer and also unfinished welds on the exhaust system. There must be no cracks. Originality will count points. A damaged system should be restored as close as possible to original condition. There must be no leaks. The manifold must be as original as possible; welds must be neatly ground off.

2.3 Starting Handle and Flywheel - 5 points

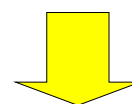
Originality of the starting handle is worth a lot. If it is damaged it will cost points. The condition of the handle is also important for safety. The condition of the flywheel is also important. Cracks and general damage to the flywheel will cost points. There must also not be any play or backlash.

2.4 Sparkplug, wires and Magneto - 10 points (If petrol)

It is important that the engine must have the right magneto with the right colour, it was mostly a silver unit and if brackets were fitted to the hightension lead, points will be deducted if they are missing. Points will be deducted for a broken spark distributor cap or rusty cover for the points portion of the magneto. The spark plug should be the right size, high-tension leads must not be of the modern carbon-types. In-line suppressors did not exist in those days.

2.4 Injector - 10 points (if diesel)

The injector must be the right type and be in good condition and also painted the right colour. Damage to injector(s) will lose points. Original injectors must be used. Pipes must be bent as originally and not be damaged.



2.5 Carburettor - 10 points (if petrol)

Is it the original carburettor for a model which would have been fitted? Is the carburettor in good condition, not damaged, with its original float chamber cover where applicable? Are there any leaks from the carburettor, eg. flooding?

2.5 Fuel Injection Pump – 10 points (if diesel)

The diesel pump must be the correct type, complete and in good condition and the right colour.

2.6 Valve gear, levers, air cleaner and breather- 5 points.

Here we look at engines with open followers, pushrods, rockers and valves; levers such as de-compression, priming and excess fuel. Are they the right type, damaged, adjusted correctly? Are parts bent, is there excessive wear? The breather must be the right type and in good condition. If the engine is equipped with an air cleaner, check if it is original and complete.

2.7 Grease Points, oil lines, oilers, oil filler, dipstick - 5 points.

Wipe off excess grease on pins or bushes and oozing out of grease nipples. Make sure that all points are lubricated properly. Condition of oilers, oil pipes, drain plug, dipstick and filler cap are on their levels They must be the right size. Originality: Where oil is needed, oil must be there!

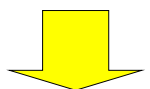
2.8 Cooling system, taps, pipes and clamps - 5 points

The old type of double-wire-and-screw type clamps are preferable and seal better. Modern clamps can cause you to lose points. Is the cooling system in correct proportion to the engine? It is understood that it will impossible to mount a huge water tank and to mount and fill it at a show. Does the system leak, and does it have old style hoses? Vintage hoses of vulcanized cloth type look better than newer smoother rubber type, although no marks are deducted for newer hoses. Points will be deducted for dents and solder patches on a radiator and if fins and tubes are missing, or pinched closed. The radiator cap must be the right type and in good condition. A shiny new radiator cap with Japanese script or a "Silverton Radiators" sticker will lose points. Originality, correct drain tap (if a brass tap was fitted, please do not use a modern ball valve). Surface treatment inside the hopper was never done originally, but no points will be deducted if the competitor chooses to do so.

3 Finish - 15 points

3.1 Paintwork - 5 points

The engine must be painted all over, including behind the flywheels, under / behind the fuel tank, and in most cases also the nuts and bolts. The important thing about painting is that the correct colour is used. Restorers often use faded or discoloured parts as a a sample when they have colours mixed and land up with the wrong colour. To find the right colour, look for places where two parts were bolted together and where no sun, oil or fuel could reach to tarnish or fade the paint. The quality of the painting should be good. It must have a good gloss and no orange peel, runs or fish eyes. Dull, rough paint and scratches or chips will lose points; also discoloured paint, rust spots or blisters under the paint. Points won't be deducted for paint burned off the exhaust system, but will be where it is peeling off bolt heads and clamps. Smoothed-off castings are not allowed. The engine never came out of the factory like that! Chrome parts are only admissible if they were fitted originally.



3.2 Bolts, nuts and keyways - 5 points

It is important that nuts and bolts should not be worn or bent. More importantly, bolts of the correct length should be used. Points will be lost for bolts that are too long or if they have metric threads, If they have hexagonal heads where they should be square. If you do use metric bolts, the markings on the heads must at least be filed off so they do not look like metric bolts. Bolts with square heads can be made by cutting off hexagon heads and welding on a piece flat bar and smoothing the weld. Make sure your nuts and bolts are all of the same size. Bolt heads must be the same size. Metric bolts may not be used in place of of imperial sizes. Bolt heads that have been damaged by the use of inappropriate tools must at least be filed smooth. Here the condition of keys and keyways will be examined. There should not be any burrs in the key-ways, and should not be damaged so that the key fits well for safety. The right type of key should be used.

3.3 Craftsmanship and overall impression - 5 points

This is not always a strictly objective point to judge, but it is about the overall impression created by the engine to the judges. After the judges have reviewed all the above aspects, they usually have a good idea how much effort, time and dedication has been spent by the restorer.

Something which is important is the attention to detail by the restorer!

Note: the more sweat, the more POINTS!

4. Condition of engine in operation - 20 points

4.1 Oil and Fuel Leaks – 5 points

Look especially at the petrol taps, pipe clamps and where gaskets should be, whether they are in place and the joints are dry. Are there leaks at the crankshaft and flywheels?

Here the cooling and exhaust system will be checked for leaks.

4.2 Condition of bearings - 5 points

Is there play on the main **bearings of the crankshaft**, also side-shafts?

Is there any noise from the bearings?

4.3 Starting of engine - 5 points

Does the engine start fairly easily or is it a struggle?

Does the engine smoke excessively?

4.4 Abnormal mechanical noise / Does it run as it should? - 5 points

Is there noise from inside the engine?

Does the engine run slowly, can it accelerate and return to idle?

5 Presentation of engine - 10 points

5.1 Restoration history: before and after photos - 3 points

The exhibitor must display a "photo story" of the engine's restoration process.

5.2 Exhibitor's information board:

history of engine; and information about the owner

(see page 6) - 3 points.

5.3 Trolley or frame - 4 points

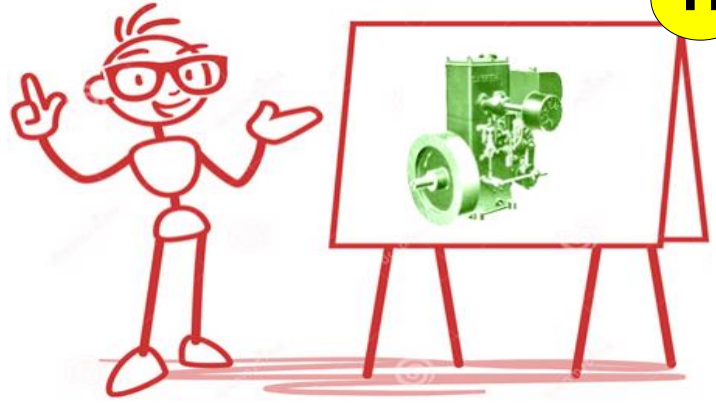
Here the overall craftsmanship of the frame or trolley is examined.

Is the trolley or frame in proportion to the engine?

To build a large frame for a small engine, or vice versa, does not look good. 

It also makes a good impression if the information is presented in such a way that a visitor can easily look at it.





LIVE PRESENTATION

[total: 50]

A. ORAL PRESENTATION BY THE TEAM LEADER OR MEMBER. [20]

Give a full summary of the history of the restoration project and the team's involvement, and describe how each member contribute with his/her abilities/skills. Explain what you have learned by taking on this challenge.

You must start the engine and explain the procedure.

The judges will determine

- (a) whether the presentation has merely been memorised or well prepared and
- (b) if content of the presentation is in an orderly and chronological order.

B. THE CONTENT AND ARRANGEMENT OF THE INFORMATION BOARD [10]

The information board must

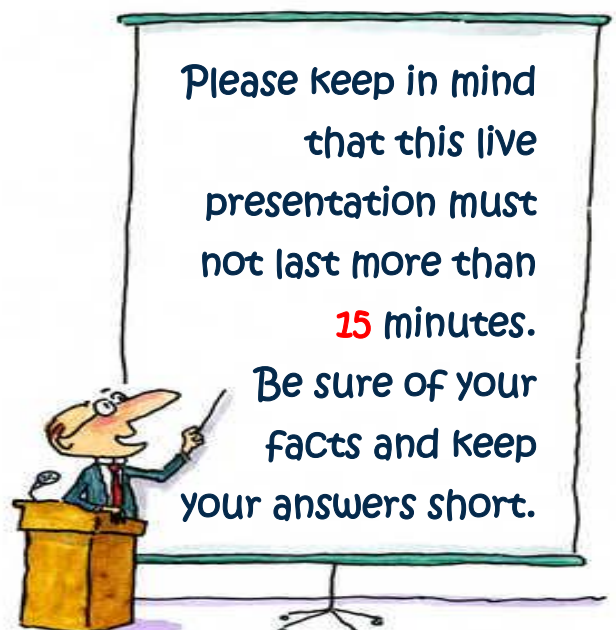
- (a) cover all aspects of the subject in a
- (b) tidy and structured way.

C. QUESTIONS AND ANSWERS. [20]

Contestants will also be tested in connection with an important product of the sponsor, which is oil. Therefore explain (in two minutes) the role which oil plays in any engine and elaborate on its role in your particular engine.

Does the entrant fully understand the content of what he has presented?

In this section, the judges have the opportunity to ask questions about aspects they are aware of (maybe out of the workbook) which have not been brought up in A above. If so, why not?



PETTER M1 (1923)

RESTORED BY MAC MAGNIFICENT



13 July 2022

15 June 2023



Example of a sensible and neat poster.

Advertisement (printed in 1918) used by the Co-op in Cathcart. My grand-father most probably bought the engine after receiving the ad by post. In 1923 Granddad bought the Petter for £11.

My grand parents using the engine to drive a chipper (1940). The Petter was used for 27 years on the farm, but afterwards it fell into disrepair. I saved the engine from the scrap yard to partake in the EERC.



This is but one possibility of a striking poster.

A poster must contain information of the restored engine itself, or the history of the particular engine. Or it could be a combination of both.

SAVTEC's aim with this (or any) poster is to furnish a visitor to a show with information about an exhibit in the absence of the owner/restorer. The "first prize", however, is for the exhibitor to be able to chat with the visitor. In this way he/she pays respect to the visitors.

You will, of course, use the poster during the "live presentation".



EERC 2023



13

ENGEN ENGINE RESTORATION CHALLENGE

Baie dankie dat jy/jul span vir die EERC gaan inskryf.

Thank you very much for enrolling in the EERC.

Ons benodig die volgende inligting. **We request the following info about yourself:**

1. Name & Surname:
2. Age by end of September 2023:
3. Preferred language:
4. Phone number:
5. e-mail:
6. Are you a member of SAVTEC [Yes of No]:
7. Dorp en provinsie waar jy vir hierdie kompetisie inskakel:
Town and province where you will receive guidance:
8. Mentor*:naam & kontakbesonderhede/**name & contact details:**
9. Enjinfabrikaat en model/**make and model of engine:**

Jy moet by 'n SAVTEK-klub inskakel as jy deelneem. Ons wil jou help.

You must collaborate with a SAVTEC club. We will help you if necessary.

* Elke deelnemer/span moet 'n mentor aanwys, iemand met ervaring wat jou/julle kan leiding gee; by wie jy/julle baie van restoureerwerk kan leer.
Each participant/team must appoint a mentor; a skilled and experienced person who can guide and teach you about the restoring of your engine.

IF YOU WANT TO TAKE PART:
Copy & complete this questionnaire
and e-mail to christo.oriobi@gmail.com
or take a photo and send as a WhatsApp message
to 082 416 9020.

Enjoy
the
journey!

SAVTEC chairman:
Christo Pieterse
Bloemfontein
082 416 9020
engenerc123@gmail.com

If you need more information, send your query to the chairman or secretary.

The local SAVTEC club organizes the preliminary judging.

SAVTEK secretary:
Johann Gouws
Klerksdorp
082 417 3583
jgouws@koshcom.co.za



- **Closing date to register: 31 January 2023**
- **By Saturday 18 June 2023 work books must reach the secretary: jgouws@koshcom.co.za or engenerc123@gmail.com**
If work books can be sent earlier, it will be appreciated.
Participants whose work books are late, will be disqualified.
- **Preliminary judging takes place at SAVTEC clubs in each region in the winter 2023 school holidays. Each club's best two participants in each category will go through to the finals in Bloemfontein in the September 2023 school holidays.**
- **A WhatsApp group will be created where any question can be asked and hints can be shared.**
- **Should it be necessary to change any information or regulations it will be announced on the WhatsApp group or by means of e-mail.**

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