REGULATIONS AND SPECIFICATIONS FOR THE 2019 KZN RETRO CLUB CHAMPIONSHIP (161676/144)

1. ELIGIBILITY

1.1 Retro Saloon Cars are production saloon cars marketed before 31st December 1980. Production cars are manufactured in numbers exceeding 1000 units per annum including all model variations as well as any local South African homologations which equaled or exceeded 100 units per annum. Cars must be out of production for 20 years. Pre '90 - Production type cars raced, registered or produced prior to 31 December 1989 and dated back to 1 January 1980. These cars and any derivative thereof must be out of production for at least 20 years after this cut-off date pre 1990. (See Pre 90 specifications)

1.2 Cars that have a valid HTP that has been registered with MSA shall be eligible to compete in the Retro Racing Club Championship. Retro Racing SA reserves the right to invite other cars to participate in their events as agreed.

1.3 The responsibility to prove eligibility is that of the entrant at all times.

1.4 Any aspect of a car not detailed as permitted is deemed not to be permitted.

1.5 Competitors applying for a MSA Licence who are over the age of 50, must produce a current ECG Stress Test Report.

1.6 All competitors are required to sign the Retro Racing SA Driver Code of Conduct.

TECHNICAL SPECIFICATIONS

2. BODYWORK

2.1 The exterior bodywork must remain in plan and profile, from all angles, exactly as produced by the vehicle manufacturer for the model in the period. No holes may be cut into the bodywork front and rear valances (unless homologated or provided for within the regulations and valances may not be removed. Where any aftermarket body panels and aerodynamic aids are to be used, an authentic picture of the original car and the intended modification need to be submitted to the controllers of the series before the intended modification is done. The controllers reserve the right to disallow the intended modification at their sole discretion, should it not be deemed to be of the correct period.

2.2 "Recreations" may use the period correct aerodynamic spoilers, air ducts, scoops and blisters.

2.3 Replacement of original wheel arch interiors or transmission tunnels with box structures is not permitted, unless homologated.

2.4 The wheel arch fender pressing may be flared to a maximum of 50mm or a period type Group 2 wheel spat may be fitted to the appropriate car. For Group 4 & 5 cars, the period homologated wheel arch and width is permitted. The wheel arch extension must cover the upper third of the wheel (measured horizontally above the hub centerline) when viewed from above.

2.5 Panels of a glass fibre material, if approved on application to the controllers, may be used to replace metal panels, however the panel must be panel for panel from all angles the same as the original. Panels manufactured from other composite material are specifically excluded.

2.6 Bumpers and embellishers may be removed, but headlamps and rims, tail lamps and radiator grilles must remain as standard for the model.

2.7 Paint work must be of the era and no day glow base colours, patterned paint or patterned vinyl is allowed.

2.8 Works team colours are reserved for the "recreation" of that team's car.

2.9 Headlights, tail lights, indicators and stop lights must be in full working order. Where standard headlights and additional LED type spotlights are used in a race, they must be angled so as to not interfere with view of the drivers in the cars in front. No LED type strip lighting is allowed. LED lights maybe used within the original light fitting.

2.10 Cars must be fitted with at least one internal mounted and one externally mounted rear view mirror.

2.11 Rear engine cars with front mounted radiators may modify the front lower valance to accommodate the radiator.

2.12 Front engine cars may have openings in the front lower valance directly ahead of the radiator to aid cooling providing that the air flow through the openings is directed through the water and/or oil cooler radiator and serves no other purpose.

2.13 All rear engine cars may have raised bonnets to aid engine cooling.

2.14 Front engine cars may raise the rear section of the bonnet to a maximum of 25mm above the shut line to aid cooling.

3. INTERIOR AND GLASSWORK

3.1 Windscreens and side windows may be replaced with polycarbonate (Lexan) providing the front windscreen is not less than 5mm thick.

3.2 Original dashboards or a TWG approved replica must be retained and instrumentation may have analogue or digital display.

3.3 Door panels must remain; however original material may be replaced with aluminium.

3.4 Carpets, under felt, sound deadening material, headlining, interior trim, front and rear parcel shelves, centre consoles, heaters, interior ventilation systems, front and rear passenger seats and boot compartment trim may be removed.

3.5 Driver's seat is free subject to MSA requirements and the driver must be located entirely to one side of the centre line of the car.

4. SUSPENSION

4.1 Front suspension:

4.1.1 Suspensions may be modified providing the original type and one of the manufactures' original mounting points per wheel on the body is retained. Remote reservoir shocks are not permitted.

4.2 Rear suspension:

4.2.1 Suspensions may be modified providing the original type and the manufacture's original mounting points per wheel on the body are retained.

4.2.2 Additional mounting points for the adding of roll bars, radius arms, tramp rods and lateral control rods (Panhard Rod & Watts linkage) may be fitted.

4.2.3 Shock absorber make and type are free and coil over units are permitted. Remote reservoir shocks are not permitted.

4.2.4 Spring rates are free but the original type of spring must be retained made of the original material and remain effective. Original spring type may be supplemented by the use of coil over type shock absorbers.

4.3 Steering:

4.3.1 Steering boxes may be replaced with a steering rack.

4.3.2 Wheel base datum points must remain within 25mm of the standard specification.

5. BRAKES

5.1 Brake system modifications are free save that carbon type brake rotors and ABS systems are prohibited.

5.2 Brake lights must be operational and operated only by the brake pedal without a delay or another switching device.

6. WHEELS & TYRES

6.1 Wheels comprise the rim and tyre assembly and must fit within the bodywork as described in Regulation 2.4 Bodywork.

6.2 Any period style wheel rim that has a diameter within one inch either way of what was fitted as original equipment by the manufacturer.

6.3 Rim and tyre widths are free but must fit within the confines of the bodywork as described in Regulation 2.4 Bodywork.

6.4 Tyre make and type are free of restriction other than as specified in Clause 6.6.

6.5 No mixing of rim diameters is permitted.

6.6 Competitors wishing to run a 15" or 16" rim where it falls outside the ambit of Clause 6.2 must apply to the relevant Technical Consultant for relaxation and this must be noted in the HTP.
Where relaxation is approved, only the following locally available 16" tyres can be used:
Avon: 23.5x10x16, 23.5x11x16, 25x12.5x16, 25x13.5x16
Goodyear: 23.5x10.5x16, 25x13x16
Hoosier: 22x10x16, 23.5x11.5x16, 25x13x16
A 15" rim is permitted for cars that originally ran a 13" rim and they may use any make of any road rated semi-slick tyre. The only slick that may be used is the locally produced 18x58x15 "Continental slick" as previously used by the Polo Cup. It is permitted to use a larger disc and calliper to fit within the 15" rim.

7. ENGINES

7.1 Production cars must use an engine produced by the vehicle manufacturer that conforms to the same basic configuration as the original engine fitted to the model in the period.

7.2 Original cars and "recreations" of cars homologated for competition must use an engine that conforms in all respects to the engine fitted to the car as homologated in the period.

7.3 Engine configuration:

1. In-Line – V – Flat – Rotary
2. Number of cylinders or rotors
3. Camshaft position: Block or Over Head Camshaft / Camshafts
4. Camshaft drive: Gear Chain or Belt
5. Number of valves per cylinder

7.4 Block: The engine block must be the manufacturer's standard production block of the period. Manufacturer's blocks manufactured post period may be used providing they are identical to the period block.

1. Engine to bell housing bolt pattern.
2. Cylinder head to block bolt pattern.

3. Block material cast Iron or aluminium.

7.5 Cylinder Heads: Cylinder heads must be the manufacturer's standard production or an aftermarket direct replacement for the original of the period. Cylinder head material may be cast iron or Aluminium.

1. Cylinder head to block bolt pattern.
2. Cylinder head valve angle.
3. Number of spark plugs.

7.6 Oil system: Dry sump systems are permitted.

7.7 Ignition: Electronic systems are permitted providing that the distributor and its function are retained. No programmable electronic ignition system may be used. The 123 "Tune" or similar distributor is permitted.

7.8 Intake and exhaust manifolds are free.

7.9 Induction system: Period type carburettors and fuel injection systems only. Cars in the era that were produced with electronic fuel injection will be permitted to run the electronic fuel injection with the standard manifold or aftermarket throttle bodies if raced like that in the period. The original ECU can be replaced with a suitable aftermarket ECU similar to Domingos MFI-H and DFI-H. Only period correct functions will be permitted to be enabled and this will have to be indicated on the HTP ECU Certificate by the installer. No wires may go to the wheels and no traction control is permitted. No crankshaft position sensor is permitted.

7.10 Induction system: Fuel Pump: Any fuel pump/s may be used.

7.11 The engine must be mounted in the original position.

7.12 All other engine modifications are free of restriction.

8. TRANSMISSION

8.1 The gearbox or transaxle must be the original make and type or a substitute derived from a standard production car unit with a maximum of five forward speeds.

8.2 Gearboxes and transaxle units must be mounted in the original position.

8.3 Rear axle casings are free but the original type may not be substituted for another and must remain in the original position.

8.4 Sequential type gearboxes, sequential shift mechanisms and traction control devices are prohibited.

8.5 The clutch and the method of operation are unrestricted.

8.6 Gear ratios and final drive ratios are free and any type of limited slip differential unit may be used.

8.7 Cars with V8 engines are permitted to use JERICO, RICHMOND T10 and G-FORCE transmissions.

9. GENERAL TECHNICAL SPECIFICATIONS

9.1 Minimum weight for original and "recreation" cars may not be less than the homologated weight of the period race car. Minimum weight for cars which conform to the current regulations may not be less than 10% below the manufacturer's stated kerb weight for the model raced. The weight of all cars must be recorded in the HTP document.

9.2 Cars must be fitted with a roll cage in compliance with MSA GCR 239 requirements.

9.3 Cars must be fitted with seatbelts that comply with MSA GCR 239 specifications. There must be a minimum of 4 separate mounting points excluding the use of any additional crotch belt and shoulder belts must not cross over.

9.4 Cars must carry a 1.5 kg fire extinguisher as approved for use by MSA this can be supplemented by a Fire Stryker.

9.5 Cars must have an electrical cut-off switch that can be operated from inside and outside the vehicle.

9.6 Tow hooks must be fitted to the front and rear of the car and clearly marked. (Tow)

9.7 The exhaust system is free subject to MSA GCR 245 Silencing of Vehicles.

9.8 Fuel must conform to the specifications as described in GCR240.

9.9 In car timing devices other than the official transponder type are not permitted.

9.10 Cars must comply with General Competition Rules and Regulations (GCR's) as specified in the MSA Handbook 2017.

9.11 Data logging may not be functional on a Race weekend, which includes Friday practice.

9.12 No computers/laptops are allowed to interface with cars on Race weekend, which includes Friday practice.

10 SAFETY

10.1 All safety belt harness hooks/latches must be lock wired at each point.

10.2 A bracket approximately halfway down the length of your prop shaft must be fitted in order to prevent the prop shaft dropping onto the road surface should it becomes dislodged at either end.

10.3 An exhaust hanger bracket must be fitted just after the first exhaust joint after the manifold.

10.4 You must be able to reach and extract the fire extinguisher while you are fully strapped into your safety harness.

10.5 Every competitor has to wear a full face helmet with a DD type fastner.

10.6 The oil sump plug, differential filler plug, gearbox filler plug, oil filter and oil filler cap must be lock wired to prevent it coming loose and or being dislodged

PRE 90 SPECIFICATIONS

1. **Category Specifications**:

1.1 The Retro Racing SA Pre-1990 Club Championship is an Invitational Series open to cars that fit the general category Touring Cars (2-door and 4-door).

1.2 Historic Touring Cars Pre-1990 are production cars marketed before 31st December 1989.

1.3 Vehicles may be brought up to any series production specifications for that model prior to 31st December 1990.

1.4 Only period (pre 31 December 1989) type modifications will be permitted unless otherwise stated. Any modifications must be proven to be in this period as stated. Where applicable, mechanical parts may not be replaced with electronic parts.

1.5 Production cars fitted with OEM forced induction will be limited to a maximum of 1 turbo charger. Only models and or derivatives thereof that were available locally from South African dealerships will be permitted. Cars that were only available as special imports are specifically excluded from participation.

1.6 Competitors registering in this Championship do so in the full knowledge and acceptance of these regulations. Refer to SSR 2.

1.7 The responsibility to prove eligibility is that of the entrant at all times.

Technical Specifications:

2. Chassis:

2.1 Chassis and chassis members must remain as originally manufactured and lightening or reducing of chassis or chassis members strength is prohibited.

2.2 Addition of material to strengthen the chassis and seam welding is permitted.

2.3 Steering wheels and steering columns are free.

2.4 Foot controls and their linkages are free except that the foot-operated surface of the brake pedal must be located no more than 100 mm forward or rearward of the original production position**.**

3. Bodywork:

3.1 Bodywork must be complete and standard in shape and silhouette, material and thickness on all exterior surfaces. Plan and profile to remain. Where original materials are unobtainable, local repairs of adequate strength may be made using non-original material. Replacement of panels with non-original material is limited to the bonnet and boot lid. The removal of exterior decorative strips and bumpers is permitted. Reworking or modification to exterior bodywork is prohibited but any part of the arch/wing pressing folded into the wheel arch may be deformed, to give clearance to the tyres.

3.2 Strengthening is permitted.

3.3 Interior: These regulations require the retention of the dashboard, all interior door and rear quarter trim. Door panels may be replaced by aluminium. In the cabin, floor carpets, under felt, sound deadening, headlining, front and rear parcel shelves, center consoles, the front passenger and rear seats and trim in the boot/luggage compartment may be removed.

a) Instrumentation is free although the original dashboard must remain.

b) Windscreens and side windows may be replaced with polycarbonate (Lexan) providing the front windscreen is not less than 5mm thick.

c) Driver's seat is free subject to MSA requirements and the driver must be located entirely to the one side of the centre line of the car.

d) Heaters and interior ventilation systems may be removed.

3.4 The original boot and bonnet fasteners may be removed. The bonnet and boot shut lines must be as in production.

3.5 No holes may be cut into front and rear valances, and no valances may be removed.

3.6 No holes or air scoops may be cut into bonnets, or into any other part of the bodywork.

3.7 Bumpers and embellishers may be removed, but headlamps and headlamp rims, tail lamps and radiator grilles must remain as standard for the model.

4. Engine:

4.1 The engine must be located in the original position.

4.2 The original standard production cylinder block for the model must be used.

4.3 Although they may be modified, the cylinder head(s) must be the standard production component or a replacement alternative manufactured by the same manufacturer as the original production component of that era. The number of valves as well as the number of spark plugs must remain the same as the original replaced head for the model / type.

4.4 The crankshaft is free.

4.5 Camshafts, camshaft bearings and drive systems are free, provided that they remain in their original positions and remain the sole means of operating the valves.

4.6 Induction: Fuel injection systems may be replaced with carburetors. Where fuel injection is being retained only the original type of induction must be used and the number of throttle bodies may not exceed the standard production number of throttle bodies.

4.6.1 Carburetors are free.

4.7 Radiators are free but must remain in their original location.

4.8 Oil coolers and additional water radiators are permitted provided they are located within the periphery of the bodywork.

4.9 The exhaust system is free provided it is not routed within the cockpit area and is also subject to MSA requirements as regards decibel levels.

4.10 The distributor may be fitted with an after-market spark triggering device but the distributor must remain in its original position and must maintain its original function. Any additional system which processes information acquired from the ambient conditions and / or the engine is not permitted. The distributor must be the only means of determining ignition advance and retard and must continue to distribute the high-tension spark. The firing order must not be changed. The remainder of the ignition system is free.

4.11 Forced induction is not permitted unless either fitted in production or homologated. Boost pressure may not be adjustable from within the cabin. Only period components may be used. Boost Pressure is limited to a maximum of 100 kPa or 1 Bar above atmospheric pressure.

4.12 Inlet and exhaust manifolds are free.

4.13 It is permissible to remove metal from original cylinder blocks and heads.

4.14 Fuel pumps and fuel tanks are free subject to MSA requirements.

4.15 All other engine components are free. Engine capacity may be increased within the confines of the manufacturers original production engine block.

4.16 Water coolant to be circulated via a pulley driven pump.

5. Suspension:

5.1 Front suspension:

5.1.1 Suspensions may be modified providing the original type and one of the manufactures' original mounting points per wheel on the body is retained. Remote reservoir shocks are not permitted.

5.2 Rear suspension:

5.2.1 Suspensions may be modified providing the original type and the manufacture's original mounting points per wheel on the body are retained.

5.2.2 Additional mounting points for the adding of roll bars, radius arms, tramp rods and lateral control rods (Panhard Rod & Watts linkage) may be fitted.

5.2.3 Shock absorber make and type are free and coil over units are permitted. Remote reservoir shocks are not permitted.

5.2.4 Spring rates are free but the original type of spring must be retained made of the original material and remain effective. Original spring type may be supplemented by the use of coil over type shock absorbers.

5.2.5 Suspension bushes are free.

6. Transmission:

6.1 The gearbox must remain in the original position. Vehicles must use an original production type of gearbox with the same number of forward and reverse gears as the original standard production gearbox fitted for that model.

6.2 Gear ratios and type are free but gearboxes and transaxles with rapidly interchangeable ratios or proprietary racing gearboxes are prohibited.

6.3 The rear axle must remain in the original position.

6.4 The rear axle casing is free.

6.5 The final drive ratio is free.

6.6 Mechanical limited slip or torque biasing differentials are permitted.

6.7 Sequential gearboxes and/or traction control devices are prohibited.

7. Brakes:

7.1 Brake system modifications are free save that carbon type brake rotors and ABS systems are prohibited.

7.2 Brake lights must be operational and operated only by the brake pedal without a delay or another switching device

8. Electrical:

8.1 Electrical equipment is free provided that a battery and starter are fitted and in full working order at all times.

8.2 Headlights, tail lights, indicators and stop lights must be in full working order. Where standard headlights and additional LED type spotlights are used in a race, they must be angled so as to not interfere with view of the drivers in the cars in front. No LED type strip lighting is allowed. LED lights may be used within the original light fitting.

9. Wheels and Tires:

9.1 Wheels must fit inside the bodywork as per Section 3.

9.2 Any period style wheel rim that has a diameter within one inch either side of what was fitted as original equipment may be used. (Soft line wheel rims are specifically excluded).

9.3 Tyres: DOT approved semi slicks or locally manufactured production car tyres. DOT rated semi-slicks must have a treaded/grooved pattern throughout the entire surface of the tyre. Full Slicks and Cut-slicks are prohibited.

10. GENERAL SPECIFICATIONS

10.1 Minimum weight for cars which conform to the current regulations may not be less than 10% below the manufacturer's stated kerb weight for the model raced. The weight of all cars must be recorded in the HTP document.

10.2 Cars must be fitted with a roll cage in compliance with MSA GCR 239 requirements. The roll cage must remain within f ront and rear suspension mounts.

10.3 Cars must be fitted with seatbelts that comply with MSA GCR 239 specifications. There must be a minimum of 4 separate mounting points excluding the use of any additional crotch belt and shoulder belts must not cross over.

10.4 Cars must carry a 1.5 kg fire extinguisher as approved for use by MSA this can be supplemented by a Fire Stryker.

10.5 Cars must have an electrical cut-off switch that can be operated from inside and outside the vehicle.

10.6 Tow hooks must be fitted to the front and rear of the car and clearly marked. (Tow)

10.7 Fuel must conform to the specifications as described in GCR240.

10.8 In car timing devices other than the official transponder type are not permitted.

10.9 Cars must comply with General Competition Rules and Regulations (GCR's) as specified in the MSA Handbook 2017.

10.10 Data logging may not be functional on a Race weekend, which includes Friday practice.

10.11 No computers/laptops are allowed to interface with cars on race weekend, which includes Friday practice.

11. CLASS STRUCTURE

11.1 All competitors will race in time classes as published by Retro Racing SA from time to time for each circuit. Time classes will be issued as an Appendix A to these regulations. These time classes shall also include immediate break times. The class times are based on the performance of the cars at a temperature norm of 25 degrees centigrade. Temperature compensation will be applied if the temperature just prior to a qualification or a race falls below this norm. The compensation is calculated as a deviation of the norm and the class times will be adjusted by a factor of 0.10% per degree in steps of 5 degrees. The lap scorers of the day will set the race temperature and this will be considered as final.

11.2. The relevant Club committee shall determine the class in which a new car / driver or a revised car / driver combination shall compete. This includes Vehicles which have changed ownership. The initial class allocation for qualifying shall be in Class "X". The competitor shall remain in that class until the competitor has set a timed lap in qualifying thereafter they will be placed in the relevant class.

11.3. A competitor shall not be allowed to change a car/driver combination from one class to another without prior written permission of the relevant club committee.

11.4. A Competitor shall not be allowed to change his vehicle on a race day without permission from the relevant club committee in writing. The relevant Club committee has the right to determine if such a change warrants a class change under rule 11.2 above. A new Car/Driver combination shall be scored as a new competitor. Scoring is done as per car/driver combination. No two cars may have the same number in one category.

11.5. In the event that a competitor outperforms the class, to which the driver/car has been allocated, by lapping at least 0.10 seconds faster than the class break out lap time, on any single official lap at an event, whether in qualifying or in a race, (inclusive of and not limited to sprint races, endurance and any other race) the competitor will be penalized by the amount of time by which the competitor outperformed the lap time limit, times the number of laps in the race, rounded up in steps of 0.5 seconds with a maximum of 10 seconds.

11.6. If a competitor laps at least 0.10 seconds faster than the immediate break out time for his class, on any official lap at an event, whether in qualifying or in a race, the competitor will be moved up a class immediately. If the breakout occurred during qualifying or in the first race, the competitor will be moved to a suitable higher class and points scored for the day will be in the higher class. If the breakout occurred in the last race of the day the penalty as in rule 8.6 will apply and the competitor will be moved up to a suitable class for the next event he/she competes in. This move may be advised verbally by the committee member appointed by the club for the duty.

11.7 All class changes shall be notified to the competitor in writing except where covered by clause 11.6 above. Such notification must be issued a minimum of two weeks before the event at which the class change is to become effective. Class changes shall be carried over from one season to the next.

11.8 Any competitor who has had his/her vehicle re-classified shall have the right, within 72 hours of being notified, to address the relevant club committee in writing objecting to the re-classification. After considering the views of the competitor, the relevant club committee shall have the right to change or abide by their decision.

Class will be made up as follows:

Class D
Class E

Class F
Class G
Class X

The Championships will be run over a minimum of 6 rounds (events) per annum. Should more than 6 rounds be held, each competitor's lowest scoring round (event) will be disregarded when calculating the final championship standings.

6.4 The minimum sprint race distance shall be 24 kilometres.

6.5 Each round shall consist of either (2) two-sprint races or (1) one race the minimum equivalent distance of (2) two sprint races. For the latter, double points will be awarded.

6.6 The grid for race one of a round will be determined by qualifying times in official practice.

6.7 The grid for race two of a round will be determined by the finishing order from race one. Should a driver not finish the first race they, with the approval of the CoC, may start behind the last car of their relevant class. Should a car not attend qualifying it will be placed on the grid in the next position behind the slowest qualifier in its class, even if cars of a slower class may be ahead of it.

6.8 The start of each race will be by way of a rolling start. Competitors must ensure that the gap between the cars coming onto the start straight is no greater than one car length.

6.9 No on board timing devices or radio communication is allowed in competitors' cars. Pit Lane signaling is permitted.

6.10 In order to score points in an event the competitor, will have to cross the start/finish line and take the chequered flag. Points will be scored in classes on the following basis for each race:

1st : 10 points
2nd : 9 points
3rd : 8 points
4th : 7 points
5th : 6 points
6th : 5 points
7th : 4 points
8th : 3 points
9th : 2 points
10th : 1 point

6.11 Where an event is held with more than one race, each race will be scored as a separate race. Where an event is run with only one race of longer duration, double points will be scored.

6.12 Subject to clause 6.13, a competitor may accumulate points from more than one class during the season, towards the Championships. All class points shall be scored in the relevant class in which the car raced.

6.13 Should four or fewer cars in a particular class start official practice at an event, the championship points for that class will be awarded as follows for each race:

Three cars Two cars One car
1st: 9 points 1st: 8 points 1st: 7 points
2nd: 8 points 2nd: 7 points
3rd: 7 points

6.14 In the case of a tie, the competitor with the greater number of 1st place points will be declared the Champion. If this does not resolve the tie, then the greater number of 2nds failing this, 3rds and so on until the tie is resolved. If a tie still remains, MSA shall declare a winner on such basis as it deems fitting.

6.14 In conjunction with the class sprint races the championship will include an Index of Performance for the series. Index of performance is calculated as follows :
Fastest lap x number of laps ÷total race time.

APPENDIX A: DEZZI RACEWAY CLASS BREAK OUT TIMES

CLASS	TARGET/ BREAK TIMES	IMMEDIATE BREAK TIMES
A	1:17.3	
B	1:17.4	1:15.6
TO	1:19.2	

C	1:19.3	1:18.5
TO	1:21.8	
D	1:21.9	1:21.0
TO	1:24.8	
E	1:24.9	1:24.00
TO	1:28.3	
F	1:28.4	1:27.5
TO	1:32.00	
G	1:32.1	1:31.1
TO	1:35.8	
CLASS X	TO DETERMINE CLASS	