

Aero Club of India Gliding National Ladder 2018:

The four critical soaring skills that we need to imbibe are

1. Ability to stay up
2. Ability to gain height quickly
2. To explore how far we can go
3. To explore how fast we can go

We need to establish a system that encourages pilots to hone these skills on daily basis across the country. While OLC fulfils these needs for countries where gliding is well developed we need something simpler and focused to engage glider pilots which is appropriate to their levels of skill and available equipment.

What should the scoring system measure?

We therefore propose that we start a national ladder where any flight can be measured for

1. Duration
2. Distance flown during the flight
3. Average speed flown during the task
5. Gain of height

How does the scoring measure these?

Each flight under consideration would earn points according to the following formulae. They would be totalled to score the flight.

1. Total duration in minutes divided by 5
2. Distance flown in km calculated (optimised FAI triangle) in kilometres multiplied by 2
3. Average speed in kmph across this distance multiplied by 5
4. gain of height in feet divided by 50
5. Bonus for Pre-declaration and completion of Declared tasks
7. TMG factor

How do we control and observe these claims?

The flights shall be recorded and verified by one of the following means.

1. IGC approved FR (with MofP recorder in case of motor-gliders).
2. PR approved by ACI
3. Smart phone apps approved by ACI (iGlide for those who use iPhones and XCSoar for those who use Android phones).

All of these produce .igc files.

The IGC FR and PR create files which have IGC grade security built into them and therefore are tamper-proof and can be used for FAI badge and records.

The files produced by smart-phone apps are not secure. While they cannot be used for badge claims and record attempts, they are still very useful to hone soaring skills and verification appropriate to recreational soaring.

The smart phone apps would be further controlled by Official Observer who must personally download the file from the device immediately after the flight.

The files generated by approved FR and PR may be sent by email directly to the Senior Official Observer and ACI, while those from smart-phone shall be routed through local official observer or the CFI.

The Rules Governing the ACI National Ladder (Gliding) 2018:

1. The ACI National Ladder will start forthwith and end on 31 December 2018.
2. Any flight carried out by a pilot of Indian nationality may count towards a pilot's score.
3. Points will only be awarded to the P1 in a two-seater.
4. The participating pilots must follow all rules and regulations in force.
5. The ACI Trophies/Certificates will only be awarded with the support of properly controlled GPS logger evidence
 - 5.1. **Start and finish:** A valid start is made when the glider in free flight either crosses an imaginary line of length 12km drawn symmetrically through the start point at right-angles to the track of the first task leg, or leaves a 90-degree sector of infinite size positioned symmetrically towards the track of the first leg. If a valid start is not made, the task will be timed from launch.

A valid finish is made when the glider crosses an imaginary line of length 12km drawn symmetrically through the finish point at right-angles to the track of the last task leg; or enters a 90-degree sector of infinite size positioned symmetrically away from the track of the last leg; or, if the finish point is on an airfield, when the glider lands anywhere on the airfield.
 - 5.2. **Turnpoints:** In a single flight, the rounding of turnpoints will conform to the following:
 - 5.2.1. FAI 90-degree sectors, as for badge flights
 - 5.2.2. 0.5 km radius cylinders (Barrel Sectors) with the following provisos
 - 5.2.2.1. The scoring distance will be reduced by 1 km per turnpoint
 - 5.2.2.2. Turnpoints may not be claimed by pilots not carrying GPS

For the purposes of the ladder, the 0.5 km-radius cylinder may also incorporate a 20 km-radius 90-degree sector (Thistle Sector). The same provisos shown for barrel sectors will apply. Flights that use both types of turnpoints will be scored as using 0.5 km radius cylinders for each turnpoint
 - 5.3. **GPS Logger Evidence:** GPS logger files will be accepted provided that the file is either from secure logger or has been downloaded to the satisfaction of the designated senior official observer or his deputy who will record that the flight has been properly controlled. IGC approved FR, ACI approved PR or ACI approved smart phone apps shall be used to record the flights in .igc format. Presently the iGlide

app is approved for iPhone/iPad and XCSoar is approved for android phones and tablets.

5.3.1. The TMG shall carry loggers with MofP recorders.

5.3.2. The pilot shall send by email the .igc file pertaining to the claim, within 24 hours of the flight, to the Secretary General with copies to Awards Officer and Senior Official Observer. The pilot shall preserve one copy of the file locally.

6. The flights recorded by IGC FR and ACI PR would also qualify for FAI badge and national record provided they comply with the FAI Sporting Code. The files generated by Smart Phone Apps do not qualify for FAI badge or record claims.

7. Declarations must be made before launching, either electronically into a logger, or by email to the designated official observer. They must include the start point, upto four turning points and finish point.

7.1. While any task that includes 4 TP is valid for the National Ladder, it will almost certainly not be acceptable for an FAI badge or record.

7.2. AAT are to be scored as undeclared

8. **Uncompleted Tasks:** A task is deemed to be incomplete if it is:

8.1. **Abandoned:** The pilot does not reach a TP (or even start) on a declared task, but continued the remainder of the task, while remaining in soaring flight throughout.

8.2. **Terminated:** It is not possible to continue with soaring flight. Due to

8.2.1. Landing out

8.2.2. Engine start

8.2.3. Failure to reach a TP having already used a point of abandonment

8.2.4. Pilot-selected termination point

8.3. For declared tasks the distance achieved is the declared distance less the portion of the task that was not completed

8.4. For undeclared flights the full distance counts

8.5. For the purpose of calculating achieved distance, the termination point or abandonment point of a pre-declared task may be taken as (a) the furthest recorded GPS position on track or (b) a pilot-selected termination point from the GPS track.

9. Only flights exceeding 30 minutes duration would qualify

10. Calculations Points

10.1. Each flight shall be scored on four parameters using the following formulae:

T = Total time in minutes

Tt = Task time in hours

D = Claimed distance (FAI) in km

V = Average speed in kmph across the distance flown

H = Gain of height in feet

10.2. Declaration Factor (DF)

10.2.1. DF = 1.25 for declared flights

10.2.2. DF = 1.00 for undeclared flights

10.2.3. DF = 1.00 for AAT flights

10.3. Completion Factor (CF)

10.3.1. CF = 1.10 for completed flights

10.3.2. CF = 1.00 for uncompleted flights

10.4. TMG Factor (TF)

10.4.1. TF = 1.5 for engine off

10.4.2. TF = 0.5 for ENL < 500

10.5. Duration Points

10.5.1. Tpoints = DF * T/5

10.6. Height points

10.6.1. Hpoints = DF * H/50

10.7. Distance Points (Dpoints) are awarded for achieved distance and are factored by declaration factor

10.7.1. Dpoints = 5 * D * DF

10.8. Speed Points

10.8.1. V = D/Tt

10.8.2. Vpoints = 5 * V * DF

10.9. Completion Bonus Points: For completed task a bonus of 10% is awarded

10.9.1. Bonus = (Dpoints + Vpoints + Tpoints + Hpoints)*(CF-1)

10.10. Full Formula

10.10.1. Total = (Tpoints + Hpoints + Dpoints + Vpoints + Bonus) * TF

11. All flights carried out in TMG shall carry flight recorders with MofP recorders. Flights carried out in TMG with engine shut down would get 50% additional points.

12. Flights carried out in TMG with engine, MofP recorder trace of less than 500 ENL on MofP recorder will qualify, subject to handicap penalty of 50%. The penalty as well as threshold for ENL is subject to revision, in either direction, as more data is collected and analysed.
13. Details of each flight must be submitted, either online by the pilot or via designated official observer, within 7 days of the flight taking place. Full details of flights, including GPS Logger evidence, must be submitted to Senior Official Observer within 14 days of being requested.
14. Scores for all flights submitted by the pilot would be added.
15. The month wise Pilot Rank on the National Ladder would be displayed on ACI website.
16. The yearly Ladder would also be displayed at the end of the year
17. The National Ladder scoring rules may be modified with an advance notice of not less than 7 days.
18. The rules for 2019 Ladder will be displayed on ACI website by 30 November 2018
19. The following fee shall apply
 - 19.1. Registration Fee: Rs 2,500
 - 19.2. Claim Processing Fee (paid in advance): Rs 500 for each month the applicant desires to participate
20. The applicant shall submit duly completed application in hard copy. The scanned copy of the application may be send through e-mail to sec.gen@aeroclubofindia.in for provisional processing and approval of the registration and flight claims.

The Secretary General
Aero Club of India
Safdarjung Airport
Aurobindo Marg
New Delhi 110 003

I desire to participate in the ACI National Ladder (Gliding) 2018.

I would like to participate in the ladder during the following months*:

April		July		October	
May		August		November	
June		September		December	

No. of Months where the participation is desired: _____

I have read the rules of contest. I understand that the rules may be modified with a notice of not less than seven days, which shall be communicated on the ACI website.

The decision of the Designated Senior Observer or the Ladder Steward shall be final and binding.

I shall at all times exercise good airmanship to protect the good name of gliding as sport and follow all DGCA rules and regulations in force.

Registration fee: Rs 2,500

Claims Processing Fee: Rs 500 for each month.

I have transferred the Registration fee of Rs 2,5000 and Claims Processing Fee (Rs 500 for each month) for _____ months, totalling Rs _____ to Aero Club of India on ____/____/____ vide transaction no. _____.

Signature of the applicant

Date: _____

(Name of the Applicant)

Place: _____

Application for Registration towards participation in ACI National Ladder (Gliding) – 2018

Surname:	First Name:
Address:	Date of Birth:
	Nationality:
Phone:	ACI Number:
Email:	Gliding Club:

Pilot Qualifications:

DGCA Licences/Authorisations:

S. No.	Licence/Certificate	Number	Validity
1	PL(G) No:		
2	GIA No:		
3	GIE No:		
4	DGCA File No:		
5			

Foreign Licences/Certificates:

S.No.	Country	Licence/Certificate	Number	Validity

Summary of Flying Carried out in Gliders and Motor-Gliders:

	Duration			No. of Landings		
	Dual	PIC	Total	Dual	PIC	Total
Winch						
Aero-tow						
SLMG/TMG						
Grand Total						

I certify that the above is a true summary of my experience on gliders and motor gliders.

Name: _____ Signature: _____ Date: ___/___/_____

Having examined the licences and personal flying log-book, I am satisfied that the above is the true summary of applicant's gliding experience.

Name of O/O: _____ No. _____ Signature: _____ Date: ___/___/_____