



NAVIGATION TRAINING

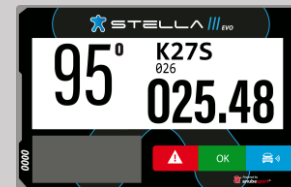
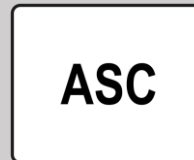
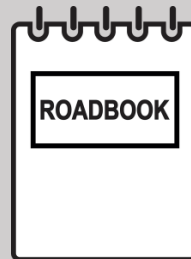
ANGEL OFFROAD TRAINING

RALLY JAMEEL

Rally Jameel is a Navigation Rally

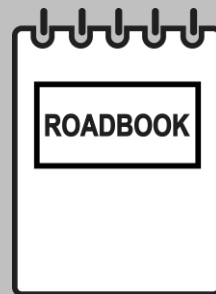
GOAL

Collect waypoints using roadbook and GPS to find the right way using :



ANGEL OFFROAD TRAINING

ROAD BOOK



ANGEL OFFROAD TRAINING

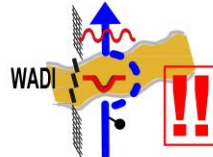
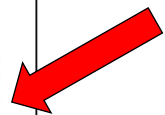




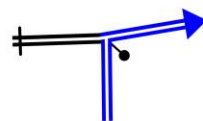

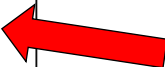
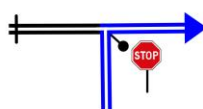

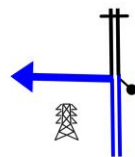

ROADBOOK

A road book is a detailed description of a route to follow in table form.

Reading direction is top to bottom

Each line describes a significant point of the stage as :

- Cross roads
- change of direction
- Dangerous points...

4	RALLY JAMEEL / DAY 2 / SS2 QASSIM	Km : 94,44
<u>18,80</u>	WADI 	
1,44		
19,94		
1,14 ↓ 		
20,03		
0,09		
22,40		
2,37		
22,63		
0,23		

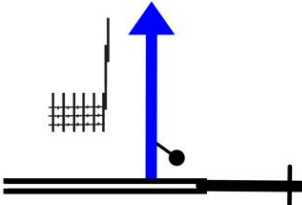


Next 1,25

Danger 2

ANGEL OFFROAD TRAINING

HOW IS IT MADE ?



The road book is made up of rows and columns. Each row contains three columns.

1	RALLY JAMEEL / DAY 2 / SS2 QASSIM	Km : 94,44
0,00 0,00		 DSS 

Partial and
total mileage

Graphical representation of
where you are and showing
the direction to follow.

Other information

1	2	3
1	RALLY JAMEEL / DAY 2 / SS2 QASSIM	Km : 94,44
4	0,00	 DSS
5	0,00 	
	6	9
	7	

1	Roadbook page number
2	Roadbook header with stage number / name
3	Total kilometers from the start to the finish
4	Total kilometer at the corresponding diagram box
5	Partial kilometer from previous diagram box

6	Placeholder for waypoint icon
7	Graphic information
8	Description box
9	Placeholder for waypoint number <i>Here : waypoint 16 (DSS)</i>

WAYPOINTS

WAYPOINTS	
M	Masked WP
C	Control WP
S	Security WP
N	Navigation WP
P	Precise WP
V	Visible WP
E	Eclipse WP
1	Waypoint number

	Waypoint	Opening Radius	Validation Radius in metres
Navigation WP	WPE	Prev (1000 m)	90
	WPN	800 m	200
	WPM	800 m	90
	WPS	1000 m	30
	WPC	None	300
	WPP	100 m	20
	CP	Prev (1000 m)	90
Start/Finish/Zone WP	WPV	Open	200
	DSS	Prev (1000 m)	200
	ASS	800 m	90
	DZ	1000 m (Prev)	90
	FZ	Prev (1000 m)	90
	DN/DT	1000 m (Prev)	90
	FN/FT	Prev (1000 m)	90
Prev (1000 m) = previous waypoint or within a radius of 1000 m if the previous waypoint was missed 1000 m (Prev) = within a radius of 1000 m or previous waypoint, whichever distance is shorter.			

ANGEL OFFROAD TRAINING

ROADBOOK SYMBOLS

TRACKS	WAYPOINTS	ON TRACK	SYMBOLS
Tarmac road	Masked WP	Bump	Fence
Track / piste	Control WP	Dip hole	Barbed fence
Off track (HP)	Security WP	Compression	Rail road
Low visible track / traces	Navigation WP	Ditch	Hole
P Track / piste	Precise WP	Summit	Collapse, ditch, ravine, etc.
PP Principal track / piste	Visible WP	Above bridge	Ruts
RO Road	Eclipse WP	Under bridge	Twisty / sinuous
P// Parallel track/piste	Waypoint number	Step up	Bumpy / broken
HP Off track / Sight driving!	CONTROLS		Bumpy
HP Off track forbidden	DSS Start Selective Section	Step down	Lateral inclination
FPP Follow principal track/piste	ASS Arrival Selective Section	Up hill / Down hill	Post
FRO Follow road	CP Check point	Cut danger	Electric pole
SA Sandy	DN FR Start/Finish Neutralisation	Right or left over crest	Electric line
GV Gravel	DN Start neutralisation with speed limit	Fence gate	High voltage tower
SAFETY		Wall gate	Antenna
Danger Level 1	DT Start transfer with speed limit	Wading / water cross	Wall
Danger Level 2	T.25 Neut./transfer max. time allowed	Concrete pass	Tanks
Danger Level 3	Waiting for restart	CAPS	
Global danger in the note	Stop for restart	CAP Exit cap	Barrels
Start Speed limit	MQ/T3T4 Fuel zone with authorized cat.	CAP Average cap	Notable elements
Finish Speed limit	Time control	CAP Calculated cap (only HP)	Tires
Stop	Assistance Service	OBLIC Cap that turns	Sign posts
Important	Tyre marking zone	Restricted/protected area	Buildings / houses
Red line under km = danger 2 in the note	End zone	Church / mosque	

SYMBOLS	SYMBOLS	ABBREVIATIONS	ABBREVIATIONS
Ruine / abandoned	Small wadi	VG Vegetation	EFF Collapsed
Fort / castle	Large wadi	L/R Left and Right	ORN Ruts
Cemetery	Sandy wadi	R/L Right and Left	BAD Bad
Village	River (water)	onL On left	RP Rejoin
Bivouac	Lake / puddle	onR On right	BTW Between
Tunnel	Plain / chott	kpL Keep to the left	MODIF Modification from Opening Car
Pipeline	Towards / direction	kpR Keep to the right	NEW NOTE New note from Opening Car
Wall	Road works	kpS Keep straight	BIG SMALL FOLLOW Written as text (English)
Native / local camp	Reset / recal trip	-V Less visible*	
Patrol station & type of fuel	Distance	±V More/less visible	
Monument	DUNES / SAND		
Animals individual	Sandy plain	ALT Alternance	
Animals	Big bowl "cuvette"	/ During	
Cairn	Sand spit	IN In / into	
Rocks	Dune	ET And / next	
Mountain	Broken dune	A At	
Tree	Dunes	CX Stone / stony	
Palm tree	DN Dune	E3 Narrow*	
Camel grass	DNX Many dunes	Q' Quit / leave*	
Vegetation	DNT Small dune "dunette"	TJS Always	
Slope	L1 L2 L3 Dunes difficulty level	NBX Many	
		IMP Imperative	

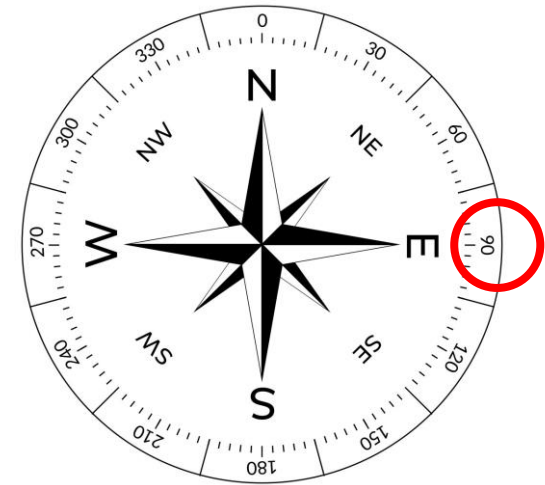
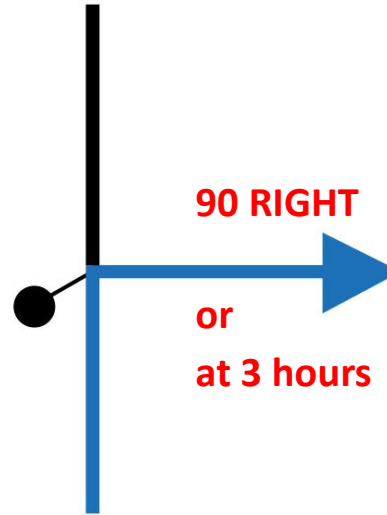
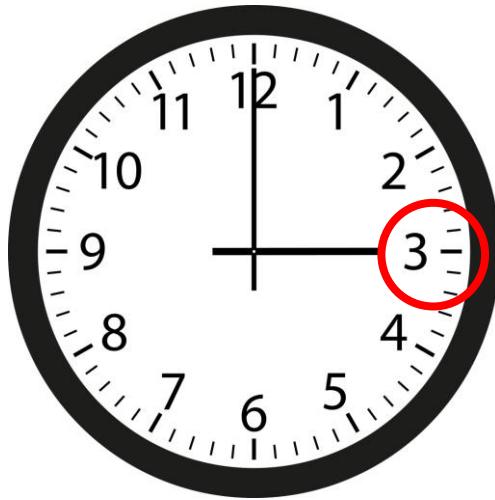
ANGEL OFFROAD TRAINING

DANGERS



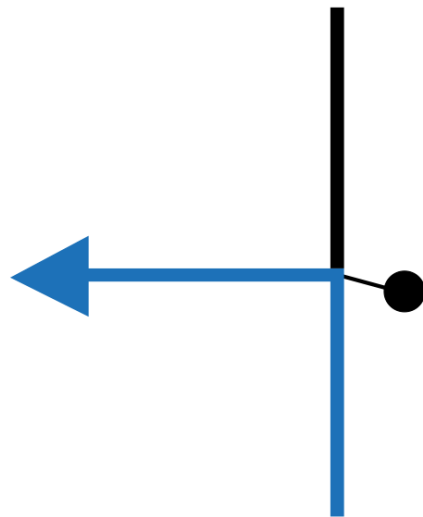
ANGEL OFFROAD TRAINING

SPEAK CLEARLY / GIVE SHORT INSTRUCTIONS



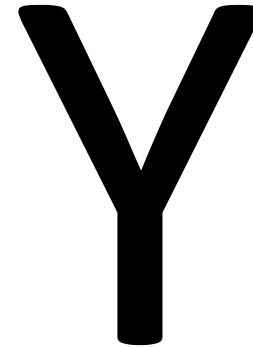
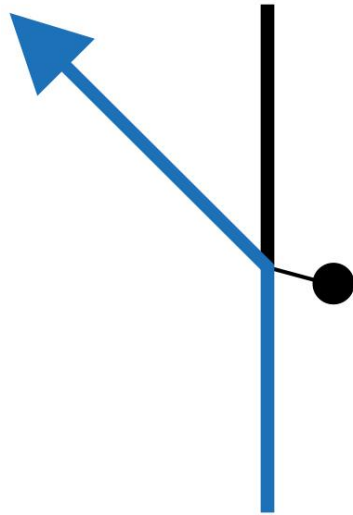
This doesn't mean you are following a 90° cap !

SPEAK CLEARLY / GIVE SHORT INSTRUCTIONS



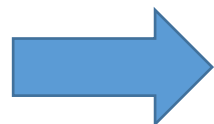
What would you say for this one ?

SPEAK CLEARLY / GIVE SHORT INSTRUCTIONS



Y left

SPEAK CLEARLY / GIVE SHORT INSTRUCTIONS



65,68 0,78 (M)		(16)
73,25 7,57 (M)		NBX CROSS ROADS STONES! (17)



Strike out
the note
when you
pass it



Strike out
The note
when you
pass it

Next note in 7 km

In 1 km waypoint, 90 left at waypoint, twisty, cap 79

In 500 m waypoint, 90 left at waypoint, cap 79, cross many roads, stones, twisty

Repeat every 100 m

Check that WPM is validated + cap is 79° after turn

SPEAK CLEARLY / GIVE SHORT INSTRUCTIONS

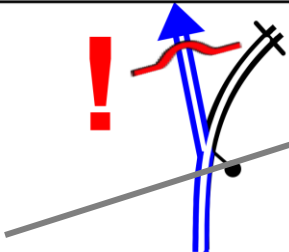
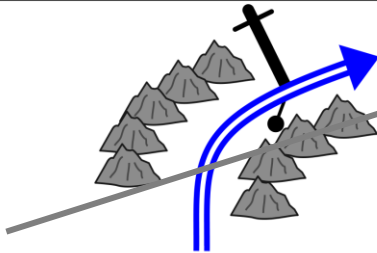
<p>3,61</p> <p>0,66</p>		<p>PP</p>
<p>4,27</p> <p>0,66 DZ</p>		<p>60</p> <p>16</p>

Strike out
the note
when you
pass it

Strike out
the note
when you
pass it

In 600 meters, speed zone 60, Y left at speed zone
Dip hole
and rejoin tarmac road on right

SPEAK CLEARLY / GIVE SHORT INSTRUCTIONS

<p>4,98</p> <p>0,71</p>		
<p>7,18</p> <p>2,20</p>		

Strike out
the note
when you
pass it

Strike out
the note
when you
pass it

Next note in 2 km

In 1 km, oblique right between mountains and Y right
stay on tarmac road

SPEAK CLEARLY / GIVE SHORT INSTRUCTIONS



14,94		
1,31↓		
15,22		PP
0,28		



Strike out
the note
when you
pass it



Strike out
the note
when you
pass it

At fence : danger level 2

Y left between soil slopes, and 90 right, twisty

In 300 m : at fence, Y right and Y left on main track

PREPARE YOUR ROADBOOK

You will receive the roadbook for the next day's stage the day before.

You have time to make some checks :

- Check that no page is missing
- and that they are in the right order
- Even if the roadbook is already in color, I suggest you highlight directions
- Make corrections if they are some

COMMUNICATION IN THE TEAM

CO-DRIVER

- Don't announce a note too early
Driver won't remember it
- Announce a note 1 km before
 - repeats it 500 m before
 - then every 100 m
- Be clear : use words that both of you understand clearly

DRIVER

- Train your eyes with distances
Download an odometer app
- Confirm that you saw the note announced by the co-driver

Communication is part of the success

AVERAGE SPEED CHALLENGES

- ASC -

ANGEL OFFROAD TRAINING

AVERAGE SPEED : WHAT IS IT ?

How it works ?

- Drive at an average speed between 2 virtual control points marked in the roadbook
- Pay attention to regularity and navigation
- Be at the average imposed at the timed place
- 1 or more average speed challenges in the same day
- Stella device calculates the average speed maintained

Important to know

- Car odometers are not accurate
- Setting the cruise control is not going to work !

Tools

- Roadbook
- Stabilos
- Stopwatch
- Calculator
- Stella device

PREPARE YOUR ROADBOOK

1	RALLY JAMEEL / DAY 1 / SS 1	Km : 123
0,00		Average Speed Stage START
0,00		Average speed 50 km/h ①
1,26		PP
1,26		
1,87		PP
0,61		FOLLOW FENCE
2,63		
0,76		
4,03		
1,40 Ⓜ		②

50 km	→	1 hour 60 minutes 3600 seconds
1,26 km	→	t = ?

00 : 01 : 30.72

$$t = \frac{3600 \times \text{distance to travel}}{\text{official average speed}}$$

$$t = \frac{3600 \times 1,26 \text{ km}}{50 \text{ kph}} = 90.72 \text{ seconds}$$

Conversion in hh:mm:ss

$$60 \text{ s} = 1 \text{ min} \\ + 90.72 \text{ s} - 60 \text{ s} = 30.72 \text{ s}$$

ANGEL OFFROAD TRAINING

TSD EQUATIONS

$$T (\text{time}) = D / S$$

$$S (\text{speed}) = D / T$$

$$D (\text{distance}) = S \times T$$

COMMUNICATION IN THE TEAM

CO-DRIVER

- Constantly juggles between the roadbook, the Stella and the stopwatch
- Announce the average speed to maintain
- Announce next note 1 km before
 - repeats it 500 m before
 - then every 100 m
- Inform the pilot of the advance or delay.

DRIVER



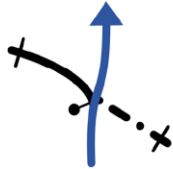

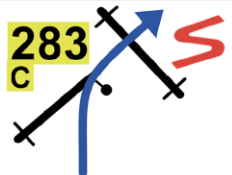

- Monitors average speed
- Report all visible intersections as soon as possible.

Communication is part of the success

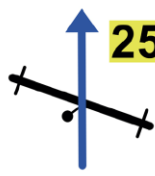
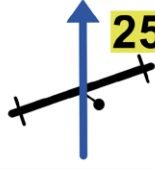

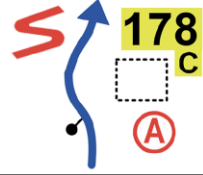

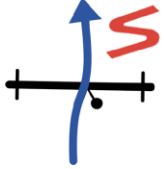

AVERAGE SPEED CHALLENGE

EXERCICE

ANGEL OFFROAD TRAINING

11	RALLY JAMEEL TRAINING / ASC	Km : 94,44
53,13 1,03 (M)		Average Speed Stage START  Average speed 50 km/h (16)
53,90 0,77		P//
54,17 0,27		PP
54,86 0,69 (M)		PP Average speed 38 km/h (17)
56,11 1,25		P//

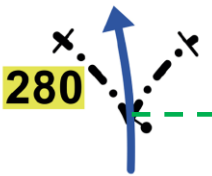

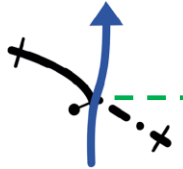
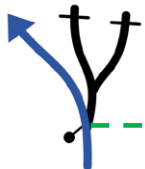

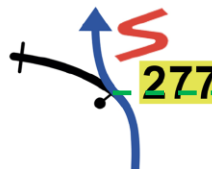
Next 0,48

12	RALLY JAMEEL TRAINING / ASC	Km : 94,44
56,59 0,48		P// PP
56,91 0,32		
57,33 0,42 (M)		Average speed 45 km/h (18)
57,81 0,48		
58,75 0,94 (M)		Average Speed Stage FINISH  (19)

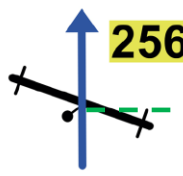
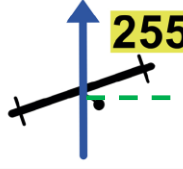

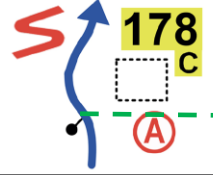

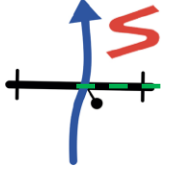
Next 0,68

SOLUTION

ANGEL OFFROAD TRAINING

11	RALLY JAMEEL TRAINING / ASC	Km : 94,44
53,13 1,03 (M)		Average Speed Stage START  Average speed 50 km/h (16)
53,90 0,77		P//
54,17 0,27		PP
54,86 0,69 (M)		PP Average speed 38 km/h
56,11 1,25		P//

Next 0,48

12	RALLY JAMEEL TRAINING / ASC	Km : 94,44
56,59 0,48		P// PP
56,91 0,32		
57,33 0,42 (M)		Average speed 45 km/h (18)
57,81 0,48		
58,75 0,94 (M)		Average Speed Stage FINISH (19)

Next 0,68

P^{te} Princ^e n° 21
de Meknès à Rissani

MANAGE YOUR TIME

ANGEL OFFROAD TRAINING

TIME CARD

- Carried by the co-driver
- The time card is a record of stage times and time control arrival times
- Stamped by officials
- Provides proof in case of a dispute
- Use it to manage your timing

DO NOT LOOSE IT !

		Section 2	Leg 2 From TC1B HAIL Service OUT - Start Leg 2 To TC2A QASSIM, Service Park Service IN *	#CarNo.
--	--	---	---	---------

TC1B HAIL Service OUT - Start Leg 2

RS3 238.39 KM

TC2 Start S.S. Qassim

Finish SS2 Qassim

SS2" Qassim "

SS2 A 91.20 KM

Max Time 3:00

A SS2
Finish SS2

D SS2
Start SS2

Actual Time

Target Time

02

38

Competitor Use

+5 Minutes

hh mm sec

Provisional Time

Net Time

Target Time


01

30

RS4 119.23 KM

TC2A QASSIM, Service Park
Service IN *

ANGEL OFFROAD TRAINING

	Section <div style="background-color: red; color: white; text-align: center; padding: 5px; font-weight: bold;">2</div>	Leg 2 From TC1B HAIL Service OUT - Start Leg 2 To TC2A QASSIM, Service Park Service IN *	#CarNo. <div style="border: 1px solid black; height: 20px; width: 100%;"></div>
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TC1B HAIL Service OUT - Start Leg 2

RS3 238.39 KM

TC2 Start S.S. Qassim

Actual Time

09 00 00

Target Time

02 38

11 38 00

Competitor Use

+5 Minutes

11 38 00

Finish SS2 Qassim

SS2" Qassim "

SS2 A 91.20 KM

Max Time 3:00

A SS2
Finish SS2

hhmmsec

14
05
00

D SS2
Start SS2

hhmmsec

11
43
00

Provisional Time

Net Time

hhmmsec

2
22
00

RS4 119.23 KM

TC2A QASSIM, Service Park
Service IN *

Target Time

01 30

14 05 00

+ 01:30

15 35 00

Competitor Use

15 25 00

TO BE FILL BY
THE COMPETITORS
(OPTIONAL)

* MEANS THAT YOU
CAN ARRIVE EARLIER
AT SERVICE PARK

START FROM BIVOUAC
HH:MM:SS

FILL BY SAME
MARSHAL

ACTUAL FINISH TIME
FILL BY STOP MARSHAL
AT ASS

ACTUAL START TIME
FILL BY START
MARSHAL AT DSS

14 05 00 Finish time
- 11 43 00 Start time
= 2 22 00

ACTUAL ARRIVAL
TIME AT BIVOUAC
FILL BY SERVICE
PARK MARSHAL

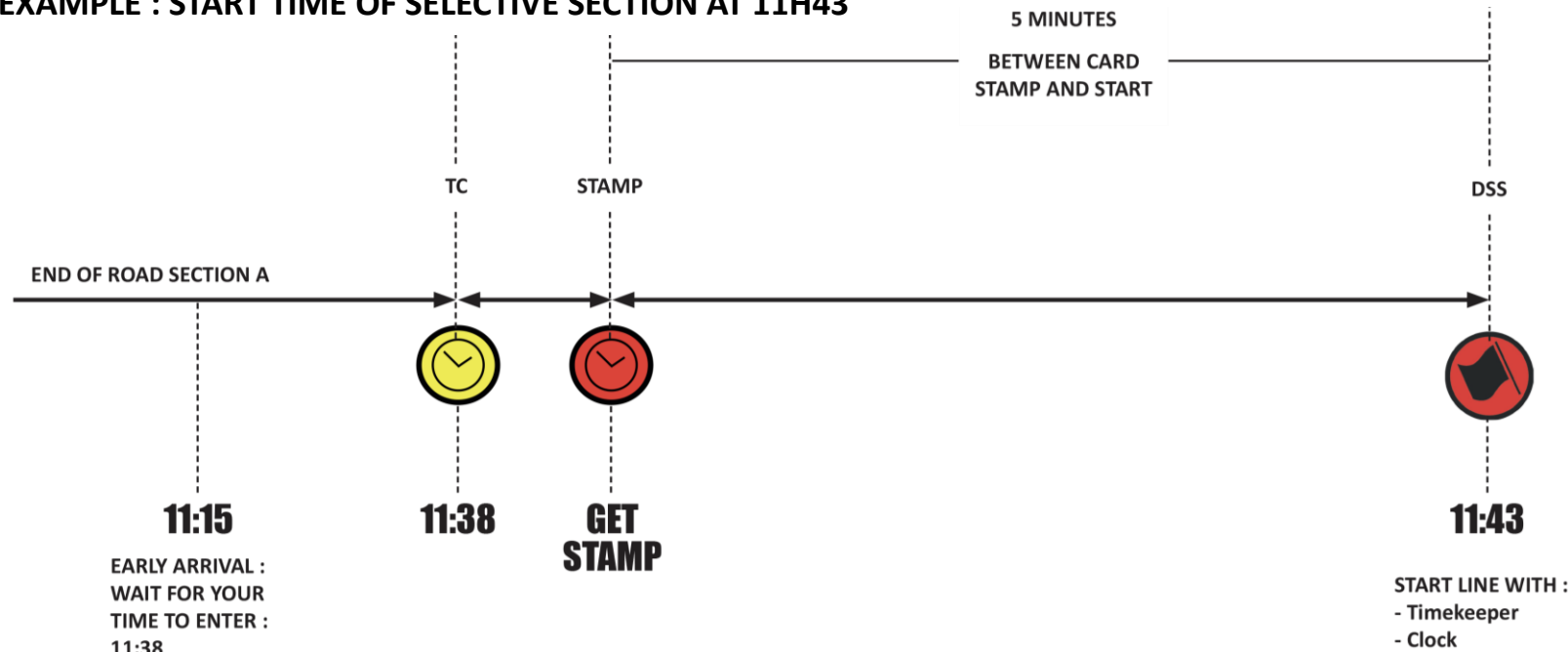
ROAD SECTION A

SELECTIVE SECTION

ROAD SECTION B

START PROCEDURE

EXAMPLE : START TIME OF SELECTIVE SECTION AT 11H43



In case you arrive just on time and you can not reach the Time Control (yellow panel) because of any road blocking in front of you, walk to the Marsall with your Time Card to get your stamp, and ask him to open the road for you and get your card stamp.

NAVIGATOR BAG

Essential tools for the co-driver :

- Notebook
- Calculator
- Highlighters
- Pens & pencils
- Permanent maker
- White labels
- Stopwatch



ANGEL OFFROAD TRAINING

SPORTITY

ANGEL OFFROAD TRAINING

P^{te} Princ^{te} n° 21
de Meknès à Rissani

OFFICIAL NOTICE BOARD



Sportity

For direct event information please download
the Sportity app and insert this password:

JAMEEL23

www.sportity.com

Sportity app is available in



ANGEL OFFROAD TRAINING

HOMEWORK FOR DAY 2

ANGEL OFFROAD TRAINING

ROAD BOOK READER APP



Download on the
App Store



Rally Roadbook Reader (4+)

Rally Navigator Mobile App

Rally Navigator, LLC

Designed for iPad

★★★★★ 4.0 • 3 Ratings

Free

[View in Mac App Store ↗](#)



Rally Blitz Navigator Pro (4+)

PepeRico, LLC

Designed for iPad

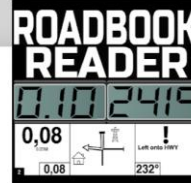
Free - Offers In-App Purchases

[View in Mac App Store ↗](#)



GET IT ON

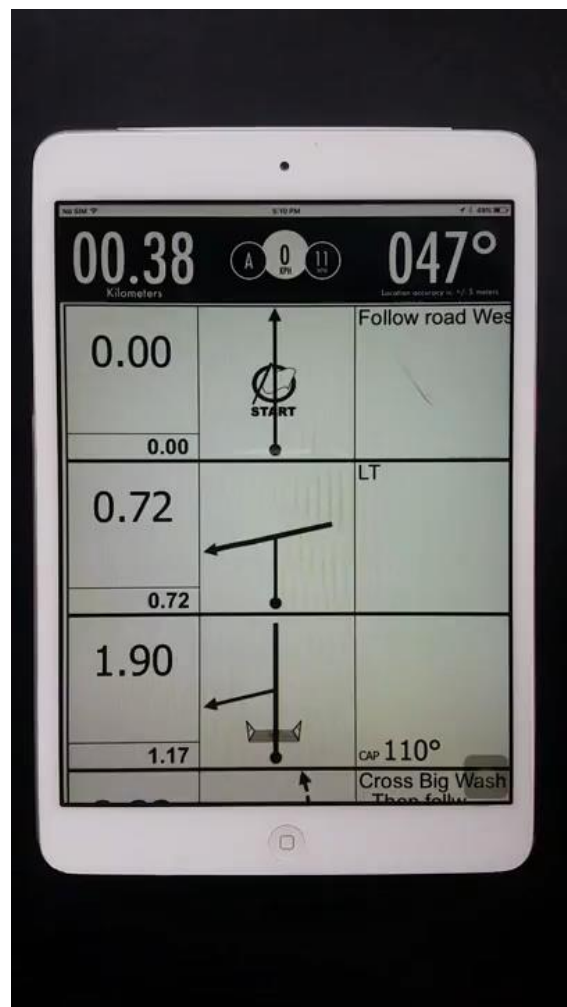
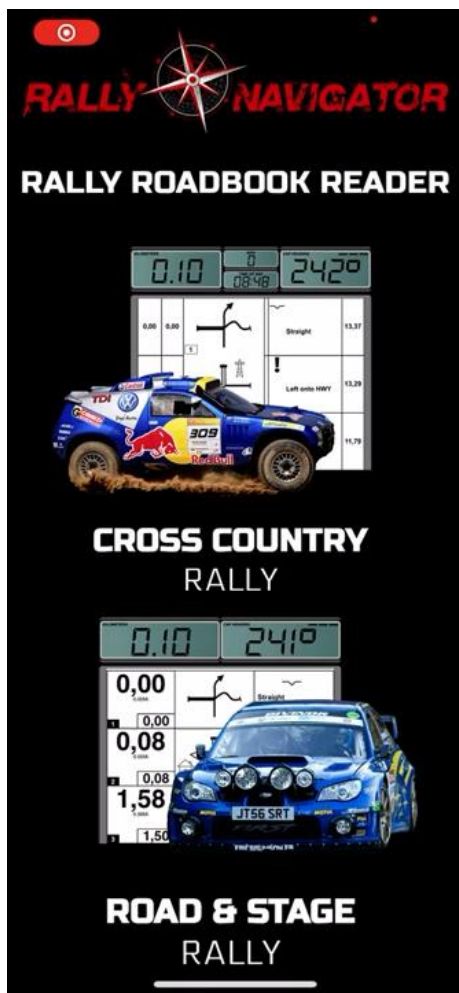
Google Play



Rally Roadbook Reader Rally Navigator

Choisir un appareil

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