



DHV-tested Equipment

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DHV TESTREPORT EN926-2:2014

PHI SONATA 20

Type designation PHI Sonata 20
Type test reference no DHV GS-01-2356-18
Holder of certification [Papesh GmbH](#)
Manufacturer [Papesh GmbH](#)
Classification A
Winch towing Yes
Number of seats min / max 1 / 1
Accelerator Yes
Trimmers No



BEHAVIOUR AT MIN WEIGHT IN FLIGHT (68KG)

Test pilots



Beni Stocker

BEHAVIOUR AT MAX WEIGHT IN FLIGHT (85KG)



Harald Buntz

Inflation/take-off

A

A

Rising behaviour Smooth, easy and constant rising
Special take off technique required No

Smooth, easy and constant rising
 No

Landing

A

A

Special landing technique required No

No

Speeds in straight flight

A

A

Trim speed more than 30 km/h Yes
Speed range using the controls larger than 10 km/h Yes
Minimum speed Less than 25 km/h

Yes
 Yes
 Less than 25 km/h

Control movement

A

A

Symmetric control pressure Increasing
Symmetric control travel Greater than 55 cm

Increasing
 Greater than 60 cm

Pitch stability exiting accelerated flight

A

A

Dive forward angle on exit Dive forward less than 30°
Collapse occurs No

Dive forward less than 30°
 No

Pitch stability operating controls during accelerated flight

A

A

Collapse occurs No

No

Roll stability and damping

A

A

Oscillations Reducing

Reducing

Stability in gentle spirals

A

A

Tendency to return to straight flight Spontaneous exit

Spontaneous exit

en : Verhalten beim Verlassen einer vollständigen Steilspirale

A

A

en : Erstes Ansprechen des Gleitschirms (die ersten 180°) en : unmittelbare Verringerung der Drehgeschwindigkeit

en : unmittelbare Verringerung der Drehgeschwindigkeit

Tendency to return to straight flight en : selbstständiges Ausleiten (G-Kraft abnehmend, Drehgeschwindigkeit abnehmend)

en : selbstständiges Ausleiten (G-Kraft abnehmend, Drehgeschwindigkeit abnehmend)

Turn angle to recover normal flight Less than 720°, spontaneous recovery

Less than 720°, spontaneous recovery

Symmetric front collapse

A

A

Entry Rocking back less than 45°	A	Rocking back less than 45°
Recovery Spontaneous in less than 3 s		Spontaneous in less than 3 s
Dive forward angle on exit Dive forward 0° to 30°		Dive forward 0° to 30°
Change of course Keeping course		Keeping course
Cascade occurs No		No
en : Faltleinen wurden benutzt no		no
en : Symmetrischer Frontklapper mindestens 50% Flügeltiefe		
Entry Rocking back less than 45°	A	Rocking back less than 45°
Recovery Spontaneous in less than 3 s		Spontaneous in less than 3 s
Dive forward angle on exit Dive forward 0° to 30°		Dive forward 0° to 30°
Change of course Entering a turn of less than 90°		Keeping course
Cascade occurs No		No
en : Faltleinen wurden benutzt no		no
en : Symmetrischer Frontklapper im beschleunigten Flug mindestens 50% Flügeltiefe		
Entry Rocking back less than 45°	A	Rocking back less than 45°
Recovery Spontaneous in less than 3 s		Spontaneous in less than 3 s
Dive forward angle on exit Dive forward 0° to 30°		Dive forward 0° to 30°
Change of course Entering a turn of less than 90°		Entering a turn of less than 90°
Cascade occurs No		No
en : Faltleinen wurden benutzt no		no
Exiting deep stall (parachutal stall)		
Deep stall achieved Yes	A	Yes
Recovery Spontaneous in less than 3 s		Spontaneous in less than 3 s
Dive forward angle on exit Dive forward 0° to 30°		Dive forward 0° to 30°
Change of course Changing course less than 45°		Changing course less than 45°
Cascade occurs No		No
High angle of attack recovery		
Recovery Spontaneous in less than 3 s	A	Spontaneous in less than 3 s
Cascade occurs No		No
Recovery from a developed full stall		
Dive forward angle on exit Dive forward 0° to 30°	A	Dive forward 0° to 30°
Collapse No collapse		No collapse
Cascade occurs (other than collapses) No		No
Rocking back Less than 45°		Less than 45°
Line tension Most lines tight		Most lines tight
en : Kleiner einseitiger Klapper		
Change of course until re-inflation Less than 90°	A	Less than 90°
Maximum dive forward or roll angle Dive or roll angle 0° to 15°		Dive or roll angle 0° to 15°
Re-inflation behaviour Spontaneous re-inflation		Spontaneous re-inflation
Total change of course Less than 360°		Less than 360°
Collapse on the opposite side occurs en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)		en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)
Twist occurs No		No
Cascade occurs No		No
en : Faltleinen wurden benutzt no		no
en : Großer einseitiger Klapper		
Change of course until re-inflation Less than 90°	A	Less than 90°
Maximum dive forward or roll angle Dive or roll angle 15° to 45°		Dive or roll angle 15° to 45°
Re-inflation behaviour Spontaneous re-inflation		Spontaneous re-inflation
Total change of course Less than 360°		Less than 360°
Collapse on the opposite side occurs en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)		en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)
Twist occurs No		No
Cascade occurs No		No
en : Faltleinen wurden benutzt no		no
en : Kleiner einseitiger Klapper im beschleunigten Flug		
Change of course until re-inflation Less than 90°	A	Less than 90°
Maximum dive forward or roll angle Dive or roll angle 15° to 45°		Dive or roll angle 15° to 45°
Re-inflation behaviour Spontaneous re-inflation		Spontaneous re-inflation
Total change of course Less than 360°		Less than 360°
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Twist occurs No		No
Cascade occurs No		No
en : Faltleinen wurden benutzt no		no
en : Großer einseitiger Klapper im beschleunigten Flug		
Change of course until re-inflation Less than 90°	A	Less than 90°
Maximum dive forward or roll angle Dive or roll angle 15° to 45°		Dive or roll angle 15° to 45°
Re-inflation behaviour Spontaneous re-inflation		Spontaneous re-inflation

Total change of course	Less than 360°	Less than 360°
Collapse on the opposite side occurs	en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)	en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)
Twist occurs	No	No
Cascade occurs	No	No
en : Faltleinen wurden benutzt	no	no
Directional control with a maintained asymmetric collapse	A	A
Able to keep course	Yes	Yes
180° turn away from the collapsed side possible in 10 s	Yes	Yes
Amount of control range between turn and stall or spin	More than 50 % of the symmetric control travel	More than 50 % of the symmetric control travel
Trim speed spin tendency	A	A
Spin occurs	No	No
Low speed spin tendency	A	A
Spin occurs	No	No
Recovery from a developed spin	A	A
Spin rotation angle after release	Stops spinning in less than 90°	Stops spinning in less than 90°
Cascade occurs	No	No
B-line stall	A	A
Change of course before release	Changing course less than 45°	Changing course less than 45°
Behaviour before release	Remains stable with straight span	Remains stable with straight span
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 0° to 30°
Cascade occurs	No	No
Big ears	A	A
Entry procedure	Dedicated controls	Dedicated controls
Behaviour during big ears	Stable flight	Stable flight
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 0° to 30°
Big ears in accelerated flight	A	A
Entry procedure	Dedicated controls	Dedicated controls
Behaviour during big ears	Stable flight	Stable flight
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 0° to 30°
Behaviour immediately after releasing the accelerator while maintaining big ears	Stable flight	Stable flight
Alternative means of directional control	A	A
180° turn achievable in 20 s	Yes	Yes
Stall or spin occurs	No	No
Any other flight procedure and/or configuration described in the user's manual		
No other flight procedure or configuration described in the user's manual		