



SERVICE BULLETIN MSB 315-64/3

I. TECHNICAL DETAILS

1.1 Category:

Mandatory

1.2 Aircraft affected:

TWIN ASTIR	S/N 3000 - 3291
TWIN ASTIR TRAINER	S/N 3088 - 3291 (with "T")

1.3 Time of Compliance:

- 1.3.1. Instructions 1.8.1. through 1.8.3 immediately after receipt of this Service Bulletin
- 1.3.2. Instruction 1.8.4. Immediately after receipt of the revised Flight / Maintenance Manual pages

1.4 Subject:

ATA-Code: N/A Revised Limits of Operation

1.5 Reason:

Alert Service Bulletin 315-64/2 reduced the maximum admissible speed V_{NE} to 230 km/h, speed in rough air V_B to 170km/h and prohibited acrobatic flight for gliders modified in accordance with Service Bulletin 315-08. This Service Bulletin raises V_{NE} to the original 250 km/h. V_B however remains at 170 km/h, acrobatic flight remains prohibited.

This Service Bulletin provides the revised pages for the Flight - and Maintenance Manual.

Simple acrobatic flight (Looping, Turn, Lazy Eight, Chandelle) may be performed in accordance with the Flight Manual.

TWIN ASTIR
TWIN ASTIR TRAINER



Acrobatic flight, as authorized after optional installation of additional equipment (SB 315-08 for aircraft serial-number 3073 TWIN ASTIR, respectively 3088-T-2 TWIN ASTIR TRAINER), and in accordance with the supplement to the flight manual "Flight Manual for Acrobatic Flight, TWIN ASTIR, TWIN ASTIR TRAINER, GROB G103A TWIN II ACRO" (Issue July 1980), remains prohibited. The additional equipment required for acrobatic flight may remain installed in the aircraft.

This MSB 315-64/3 is the terminating action for all TWIN ASTIR / TWIN ASTIR TRAINER

1.6 Concurrent Documents:

ASB 315-64/2

1.7 Approval Note:

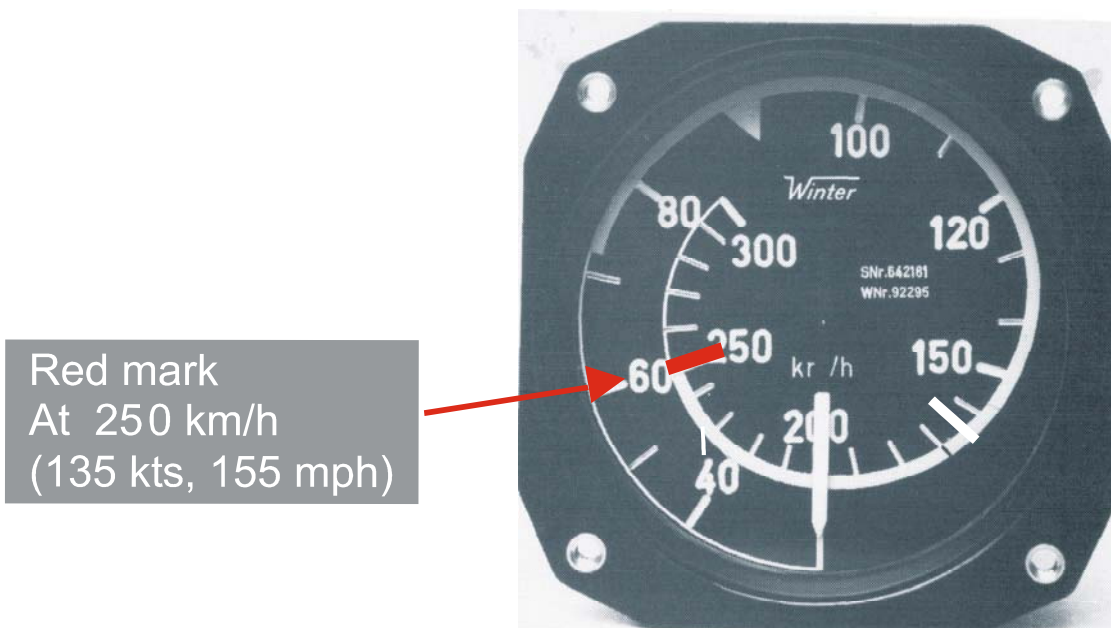
The technical information contained in this document has been approved under the authority of Design Organisation Approval No. EASA.21J.030.

1.8 Accomplishment / Instructions:

The maximum admissible speed in calm air (never exceed speed) is limited to $V_{NE} = 250$ km (135kts, 155mph), the same limits apply to V_{DF} (Speed with airbrakes extended). The maximum speed in rough air is limited to $V_B = 170$ km/h (92 kts, 105 mph). Complete the following actions.

1.8.1 Front & rear cockpit air speed indicator: Apply a red mark at **250 km/h (135 kts, 155 mph)**

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1.8.2 Replace Limitations Placard (front & rear cockpit) R/H side by new placard as depicted below:

Maximum Flying Weight				
Without Waterballast:		650 kp	1435	lbs
With Waterballast:		650 kp	1435	lbs
Airspeed Limits				
		km/h	kts	mph
Never Exceed:	V_{NE}	250	135	155
In Rough Air:	V_B	170	92	105
On Aerotow:	V_T	170	92	105
On Winch and Auto Launch:	V_W	120	64	74
Airbrakes Open:	V_{DF}	250	135	155
Manoeuvring:	V_A	170	92	105

1.8.3. Acrobatic flight, as authorized after optional installation of additional equipment (SB 315-08 for aircraft serial-number 3073 TWIN ASTIR, respectively 3088-T-2 TWIN ASTIR TRAINER), and in accordance with the supplement to the flight manual "Flight Manual for Acrobatic Flight, TWIN ASTIR, TWIN ASTIR TRAINER, GROB G103A TWIN II ACRO" (Issue July 1980), remains prohibited in accordance with ASB 315-64/2.

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1.8.4. The following revisions must be incorporated into the Flight / Maintenance Manual

Flight Manual:

TWIN ASTIR:	German Issue:	Revision 7, 14. Sept. 2004
	English Issue:	Revision 9, 14. Sept. 2004
	Canadian Issue:	Revision 9, 14. Sept. 2004

TWIN ASTIR TRAINER:	German Issue:	Revision 8, 14. Sept. 2004
	English Issue:	Revision 9, 14. Sept. 2004
	Canadian Issue:	Revision 9, 14. Sept. 2004

Maintenance Manual:

TWIN & TWIN ASTIR TRAINER:	German Issue:	Revision 8, 14. Sept. 2004
	English & Canadian Issue:	Revision 6, 14. Sept. 2004

1.9 Repetitive Actions:

None

1.10 Mass (Weight) and CG:

N/A

II. PLANNING INFORMATION

2.1 Material & Availability:

The revised pages for Flight & Maintenance Manual are attached to the Service Bulletin

2.2 Special Tools:

N/A

2.3 Labour costs:

approximately 0,5 hrs.

TWIN ASTIR
TWIN ASTIR TRAINER



2.4 Reference documents:

N/A

2.5 Credit:

N/A

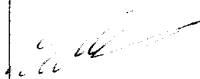

III. REMARKS

- 3.1 The correct execution of the instructions may be performed by a qualified person and has to be certified in the logbook by an authorised inspector.
- 3.2 If you have sold your aircraft in the meantime, would you kindly pass this information on to the new owner and forward his address and aircraft S/N to us.
- 3.3 For questions and assistance please contact:

Michael Reinhold, Product Support,
Tel.: +49 (08268) 998 105
Fax: +49 (08268) 998 200
e-mail: m.reinhold@grob-aerospace.de

TWIN ASTIR
TWIN ASTIR TRAINER

Updates

Current number	Page	Reference	Date	Signature	LBA - Approval
1	5a	TWIN ASTIR TRAINER	1.4.78		
2	17	New Control Levers	1.10.78		
3	18	New Control Levers	1.10.78		
4	25	Check of wing	1.10.78		
5	25a	Fittings	1.10.78		
6	1, 28	Service Bulletin 315-50	28.09.92		
7	1, 25, 25a	TM 315-58	04.11.96		
8	1, 7, 11	ASB 315-64 Envelope Limitations	30.06.2003		
9	1, 7, 11	MSB 315-64/3 Revised Limits of Operation	14.09.2004		12. OKT. 2004 

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Cloud Flying(is not approved in Canada)

For cloud flying the additional instruments listed below must be installed.

1. Variometer.
2. Electric turn and slip indicator.
3. Magnetic Compass (Compensated inside the glider).
4. VHF Communications Transceiver

II. 4 Maximum Speeds

Maximum permitted speed in calm air	$V_{NE} = 250 \text{ km/h (135 kts, 155 mph)}$
Maximum permitted speed in rough air	$V_B = 170 \text{ km/h (92 kts, 105 mph)}$
Maximum Manoeuvring speed	$V_M = 170 \text{ km/h (92 kts, 105 mph)}$
Maximum winch launch speed	$V_W = 120 \text{ km/h (65 kts, 74 mph)}$
Maximum Aerotow speed	$V_T = 170 \text{ km/h (92 kts, 105 mph)}$

Conditions in rough air are similar to those encountered in rotors, clouds, whirlwinds and when overflying mountain ranges.

Manoeuvring speed is the maximum speed at which full control deflections may be used. At maximum speed (V_{NE}) the control deflections should be restricted to 1/3 of the full range.

True airspeed is higher than indicated airspeed at altitude. V_{NE} decreases according to following table:

Altitude (ft)	0 - 6500	10000	13000	16500	19000
V_{NE} (indicated knots)	134	127	121	115	109
(indicated km/h)	250	237	225	213	202

Air speed indicator markings

- 51–105 mph = 44 — 92 kts = 82 — 170 km/h — Green arc
- 105–155 mph = 92 — 135 kts = 170 — 250 km/h — Yellow arc
- at 155 mph = 135 kts = 250 km/h(MSB315-64/3)— Red line
- at 65 mph = 55 kts = 102 km/h — Yellow triangle
(recommended minimum appr. speed)

Position Errors

The airspeed indicator must be connected to the following sources: Pitot head in the tail fin, static vents side of the fuselage between the two seats.

Using a calibrated ASI the position error is not greater than $\pm 2 \text{ km/h}$ or 1 kt or 1.2 mph. A calibration curve is therefore not necessary.

II. 5 Flight envelope.

The sailplane design limit load factors are as follows:

- At manoeuvring speed + 5.3 — 2.65
- At V_{NE} + 4.0 — 1.5
- (Brakes closed and calm air)

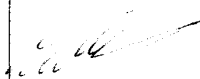

II. 13 Required placards front and rear cockpit

Maximum flying weight				
Without Waterballast		650 kp	1435 lbs	
With Waterballast		650 kp	1435 lbs	
Airspeed limits				
		km/hr	knots	mph
Never exceed	V_{NE}	250	135	155
In Rough Air	V_B	170	92	105
On Airtow	V_T	170	92	105
On Winch or Auto Launch	V_W	120	64	74
Airbrakes Open	V_{DF}	250	135	155
Manoeuvring	V_A	170	92	105

Payload (Pilot and Parachute)		
Minimum in Front cockpit for all flight	70 kg	154 lb
Less must be compensated with ballast secured in the seat		
Maximum load front	110 kg	242 lb
Maximum load back	110 kg	242 lb

Simple aerobatics air speeds			
Recommended entry speed	km/hr	knots	mph
Loop	180	97	111
Stall turn	180	97	111
Spin	80	43	50
Chandelle	170	92	105
aerobatics with waterballast is not allowed			

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Air speed indicator markings

51–105 mph =	44 — 92 kts =	82 — 170 km/h	— Green arc
105–155 mph =	92 — 135 kts =	170 — 250 km/h	— Yellow arc
at 155 mph =	135 kts =	250 km/h	(MSB315-64/3) Red line
at 65 mph =	55 kts =	102 km/h	— Yellow triangle
(recommended minimum appr. speed)			

Position Errors

The airspeed indicator must be connected to the following sources: Pitot head in the tail fin, static vents side of the fuselage between the two seats.

Using a calibrated ASI the position error is not greater than $\pm 2 \text{ km/h}$ or 1 kt or 1.2 mph. A calibration curve is therefore not necessary.

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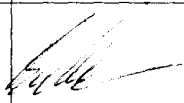

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1	19a	TRAINER undercarriage	01.10.78		
2	2, 19	Maintenance of Hotellier-quick-connectors	04.05.81		
3	1, 2, 23	Inspection procedure for increase of service time	30.09.81		
4	2, 16, 22, 23	Extension of service life	11.10.91		
5	2, 21	Envelope limitations ASB315-64	30.06.2003		
6	2, 21	MSB 315-64/3 Revised Limits of Operation	14.09.2004		2. OKT. 2004 

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4	2, 16, 22, 23	Extension of service life	11.10.91		
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6	2, 21	MSB 315-64/3 Revised Limits of Operation	14.09.2004		

ASI markings

Mph	Speed kts	km/h	Markierung	Bedeutung
51 - 105	44 - 92	82 – 170	Green Arc	Normal range of flying speed
105 - 155	92 - 135	170 – 250	Yellow Arc	Range of flying speeds to be used with care
155	135	250	Radial red line	Maximum speed (restored with MSB315-64/3)
64	55	102	Yellow triangle	Minimum recommended landing speed at full load

Red mark
At 250 km/h
155 mph /135 kts

