

TEMPORARY REVISION**TR-OÄM 42-200/a****supersedes TR-OÄM 42-200****Short Field Take - Off**

This Temporary Revision TR-OÄM 42-200/a is approved in conjunction with the Optional Design Change Advisory OÄM 42-200/a and is valid in conjunction with the latest revision of the DA 42 NG Airplane Flight Manual until this Temporary Revision has been incorporated into the Airplane Flight Manual.

The limitations and information contained herein either supplement or, in the case of conflict, override those in the Airplane Flight Manual or its previous Temporary Revisions.

The technical information contained in this document has been approved with EASA approval No. 10038484.

Doc. No.	Chapter	Affected Pages
7.01.15-E	2	2-4a
	3	3-5a, 3-35a, 3-43a
	4A	4A-4a, 4A-33a, 4A-33b
	5	5-10c, 5-13a, 5-13b, 5-13c, 5-14b

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Instruction

- Print this document on yellow paper (single-sided).
- Insert this cover page as the first page of the AFM.
- Insert the other page of this TR in front of the corresponding AFM page.

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Affected Chapters:
2. OPERATING LIMITATIONS
2.2 AIRSPEED

The row ' v_{MCA} ' is amended to read:

	Airspeed		KIAS	Remarks
v_{MCA}	Minimum control speed airborne	Flaps UP	76 KIAS	With one engine inoperative, keep airspeed above this limit.
		Flaps APP	73 KIAS	

3. EMERGENCY PROCEDURES

3.1.2 CERTAIN AIRSPEEDS IN EMERGENCIES

The table is amended to read:

Event		
One engine inoperative minimum control speed (air) v_{MCA}	FLAPS UP	76 KIAS
	FLAPS APP	73 KIAS
One engine inoperative speed for best rate of climb v_{YSE}	85 KIAS	

3.7.6 ENGINE FAILURES IN FLIGHT

(a) Engine Failure During Initial Climb

The WARNING is amended to read:

WARNING

As the climb is a flight condition which is associated with high power settings, airspeeds lower than $v_{MCA} = 76$ KIAS (Flaps UP) or 73 KIAS (Flaps APP) should be avoided as a sudden engine failure can lead to loss of control. In this case it is very important to reduce the asymmetry in thrust to regain directional control.

Item 2 of the checklist is amended to read:

2. Airspeed $v_{YSE} = 85$ KIAS/
 above $v_{MCA} = 76$ KIAS (Flaps UP)
 or 73 KIAS (Flaps APP) as
 required

(b) Engine Failure During Flight

Item 2 of the checklist is amended to read:

2. Airspeed as required /
 above $v_{MCA} = 76$ KIAS (Flaps UP)
 or 73 KIAS (Flaps APP)

3.7.9 FLIGHT WITH ONE ENGINE INOPERATIVE

Item 1 of the checklist is amended to read:

1. Airspeed above $v_{MCA} = 76$ KIAS (Flaps UP)
or 73 KIAS (Flaps APP) to maintain directional control

4.A NORMAL OPERATING PROCEDURES

4A.2 AIRSPEEDS FOR NORMAL OPERATING PROCEDURES

The Table is amended to read:

	FLAPS	Speed
Airspeed for rotation (take-off run, v_R)	UP	min. 80 KIAS
	APP	min. 76 KIAS
Airspeed for take-off climb (best rate-of-climb speed v_Y)	UP	min. 90 KIAS
Airspeed for take-off climb (best angle-of-climb speed v_X)	APP	min. 82 KIAS
Airspeed for best rate of climb (v_Y)	UP	90 KIAS
Airspeed for best rate of climb (v_Y)	APP	85 KIAS
Airspeed for cruise climb	UP	min. 90 KIAS
Reference landing approach speed	UP	86 KIAS
	APP	min. 84 KIAS
Final approach speed	LDG	min. 84 KIAS
Minimum speed during go around	UP	min. 90 KIAS
Max. structural cruising speed Do not exceed this speed except in smooth air, and then only with caution.	UP	151 KIAS

4A.6 CHECKLISTS FOR NORMAL OPERATING PROCEDURES

4A.6.7 TAKE OFF

The following Headline is added:

Standard Procedure (Take-Off with Flaps UP)

The Paragraph is added after the existing checklist:

Short Field Procedure (Take Off with Flaps APP)

1. FLAPS set APP
2. Transponder as required
3. POWER lever MAX

NOTE

The proper and symmetric performance of the engines at MAX should be checked early during the take-off run, so that the take-off can be aborted if necessary.

4. Elevator neutral
5. Rudder maintain direction

NOTE

In strong crosswinds steering can be augmented by use of the toe brakes. It should be noted, however, that this method increases the take-off roll, and should not generally be used.

6. Nose wheel lift-off: 76 KIAS
7. Airspeed for initial climb: 82 KIAS (v_x)

When safe climb is established:

8. LANDING GEAR apply brakes; UP,
check unsafe light off

NOTE

To avoid damage and excessive wear of the main landing
gear wheels, firmly apply brakes before selecting gear up.

9. Fuel pumps LH/RH OFF
10. ALTERNATE AIR OPEN in rain, snow or visible
moisture

END OF CHECKLIST

5.3 PERFORMANCE TABLES AND DIAGRAMS

5.3.5 WIND COMPONENTS

The following is added at the end of the Section:

- Max. demonstrated crosswind component (Take-Off with Flaps APP) : 20 kts

5.3.6 TAKE-OFF DISTANCE

The following Headline is added:

- Standard Procedure (Take-Off with Flaps UP)

The Paragraph is added after the Take-Off Distances diagram:

Short Field Procedure (Take-Off with Flaps APP)

Conditions:

- Power lever both MAX @ 2300 RPM
- Flaps APP
- Nose wheel lift-off 76 KIAS
- Airspeed for initial climb 82 KIAS
- Runway level, hard paved surface
(concrete, asphalt, etc.)

values for ISA and MSL, at 1900 kg (4189 lb)

Take-off distance to 50 ft (15 m) above take-off surface	660 m (2165 ft)
Take-off ground roll	458 m (1503 ft)

NOTE

The rate of climb with a power setting of 100% is 1150 ft/min
(5.84 m/s) at MSL and ISA standard conditions.

Reduce Take-Off distance given in the Take-Off diagram by the following percentage:

T/O Weight	1510 kg			1700 kg			1900 kg		
Altitude OAT	ISA -20°C	ISA	ISA +20°C	ISA -20°C	ISA	ISA +20°C	ISA -20°C	ISA	ISA +20°C
MSL	7%	8%	7%	8%	9%	8%	9%	10%	10%
5000 ft	8%	9%	8%	8%	9%	10%	10%	11%	12%
10000 ft	8%	10%	8%	8%	10%	12%	11%	14%	17%

WARNING

For a safe take-off the available runway length must be at least equal to the take-off distance over a 50 ft (15 m) obstacle.

WARNING

Poor maintenance condition of the airplane, deviation from the given procedures, uneven runway, as well as unfavorable external factors (rain, unfavorable wind conditions, including cross-wind) will increase the take-off distance.

CAUTION

The figures in the following NOTE are typical values. On wet ground or wet soft grass covered runways the take-off roll may become significantly longer than stated below. In any case the pilot must allow for the condition of the runway to ensure a safe take-off.

NOTE

For take-off from dry, short-cut grass covered runways, the following corrections must be taken into account, compared to paved runways (typical values, see CAUTION above):

- grass up to 5 cm (2 in) long: 10 % increase in take-off roll.
- grass 5 to 10 cm (2 to 4 in) long: 15 % increase in take-off roll.
- grass longer than 10 cm (4 in): at least 25 % increase in take-off roll.
- on grass longer than 25 cm (10 in), a take-off should not be attempted.

NOTE

For wet grass, an additional 10 % increase in take-off roll must be expected.

NOTE

For soft ground, an additional 45 % increase in take-off roll must be expected.

NOTE

An uphill slope of 2 % (2 m per 100 m or 2 ft per 100 ft) results in an increase in the take-off distance of approximately 10 %. The effect on the take-off roll can be greater.

5.3.7 CLIMB PERFORMANCE

The following Headline is added:

Climb with Flaps UP

The Paragraph is added after the existing Paragraph:

Climb with Flaps APP

Conditions:

- Power lever both 92% load @ 2100 RPM
- Flaps APP
- Landing gear retracted
- Airspeed 85 KIAS

NOTE

Reduce the climb performance by 30 ft/min (0.152 m/s).

NOTE

The charts on the following pages show the *rate* of climb. The *gradient* of climb cannot easily be determined with a chart, but it can be calculated using the following formulae:

$$\text{Gradient [\%]} = \frac{\text{ROC [fpm]}}{\text{TAS [KTAS]}} \cdot 0.95$$

$$\text{Gradient [\%]} = \frac{\text{ROC [m/s]}}{\text{TAS [KTAS]}} \cdot 190$$