



at 3935 lbs. (1785 kg) 94.5 in. (2.40 meter)  
Varying Linearly with weight in between

Rearward c/g position (aft of datum):  
At 2756 lbs. (1250 kg) 95.3 in. (2.42 meter)  
At 3527 lbs. (1600 kg) and above 98.0 in (2.49 meter)  
Varying Linearly with weight in between

<u>Empty Wt. C.G. Range</u>	None	
<u>Reference Datum</u>	86.5 in. (2.196 meter) in front of leading edge of stub-wing at the wing joint	
<u>Leveling Means</u>	Floor of front baggage compartment levelled.	
<u>Maximum Weight</u>	Takeoff (Normal Category)	3748 lbs. (1700 kgs) 3935 lbs. (1785kgs), see Note 9
	Landing	3748 lbs. (1700 kgs)
	Zero Fuel weight	3638 lbs. (1650 kg)
<u>Minimum Crew</u>	1	
<u>No. of Seats</u>	4	
<u>Maximum Baggage</u>	Front Baggage Compartment	66 lbs (30 kgs)
	Behind Rear Seats	100 lbs (45 kgs)
	Aft part of Baggage Extension	40 lbs (18 kgs)
	Whole aft baggage compartment together	100 lbs (45 kg)
<u>Fuel Capacity</u>	With Standard Fuel Tank	52 gallons (196.8 liters) total. 50 gallons (189.2 liters) usable.
	With Auxiliary Tank additional	27.4 gallons (104 liters) total 26.4 gallons (100 liters) usable
<u>Oil Capacity</u>	each engine	Maximum – 6.3 qts (6.0 liters). Minimum – 4.8 qts (4.5 liters) See Note 2 For specification of engine and gearbox oil see AFM
<u>Coolant</u>	Distilled water / Cooler Protection For more details see AFM, 7.01.05-E, Section 2	
<u>Maximum Operating Altitude</u>	18,000 feet. (5486 meters)	
<u>Control Surface Movements</u>	Aileron	trailing edge up 25°, ± 2°, trailing edge down 15°, +2/-0°
	Elevator	trailing edge up 15.5°, ± 0.5°, trailing edge down 13°, ± 1°
	Elevator Trim Tab:	+ 17°, ± 5° (nose up at elevator 10° up) - 35°, ± 5° (nose down at elevator 10° up)
	Rudder:	left 27°, ± 1° / right 29°, ± 1°
	Rudder Trim Tab:	+ 34°, ± 5° (trim RH at rudder 20° LH) + 18°, ± 5° (trim LH at rudder 20° LH)
	Flaps:	
	Cruise flap setting	0°, + 2°- 0°

Approach flap setting	20°, + 4° - 2°
Landing flap setting	42°, +3° - 1°

#### Manufacturer's Serial Numbers

- a) For aircraft produced at Diamond Aircraft Industries GmbH, N.A. Otto-Str. 5, A-2700 Wiener-Neustadt Austria, eligible serial numbers are 42.004 and subsequent
- b) For aircraft produced at Diamond Aircraft Industries Inc., 1560 Crumlin Sideroad, London Ontario N5v 1S2, Canada, eligible serial numbers are 42.AC001 and subsequent

#### Certification Basis

Type Certification under 14 CFR Section 21.29 including the following requirements:

- Joint Aviation Requirements (JAR) 23, Amdt. 1, dated February 01, 2001.
- NOTE: The DA 42 was certificated using the FAA/JAA validation certification procedures. A list of Significant Regulatory Differences were addressed. Therefore, the certification basis is equivalent to 14 CFR Part 23 effective February 1, 1965, including Amendments 23-1 through Amendment 23-55.
- 14 CFR Part 36 effective December 1, 1969, including Amendments 36-1 through Amendment 36-24.
- Special Conditions:
  - 23-167-SC applicable to the Model DA 42 for Protection of Systems for High Intensity Radiated Fields.
  - 23-169-SC applicable to the Model DA 42 for Diesel Cycle Engine Using Turbine (Jet) Fuel.

Equivalent safety Items:

Equivalent Levels of Safety findings made per the provisions of 14 CFR 21.21(b)(1) for:

- Equivalent level of safety ACE-05-05 applicable to the Model DA 42 for Ignition Switches with the Thielert TAE-125-01 or Thielert TAE 125-02-99 Diesel Engines.
- Equivalent level of safety ACE-05-06 applicable to the Model DA 42 for Cockpit Controls and Motion and Effect of Cockpit Controls with the Thielert TAE-125-01 or Thielert TAE 125-02-99 Diesel Engines.
- Equivalent level of safety ACE-05-07 applicable to the Model DA 42 for Liquid Cooling with the Thielert TAE-125-01 or Thielert TAE 125-02-99 Diesel Engines.
- The Austro Control group (ACG) originally type certificated this aircraft. Effective September 28, 2003, the European Aviation Safety Agency (EASA) began oversight of this product under their Type certificate Number A.005 on behalf of Austria.

#### Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) is listed in the Airplane Flight Manual and must be installed in the airplane for certification.

In addition, the following items of equipment are required:

Airplane Flight Manual, Document No. 7.01.05-E, dated 29-April-2004.

Maintenance Manual (including Airworthiness Limitation), Document No. 7.02.01, dated 01-Dec-2004.

#### Import requirements

- a) For aircraft produced in Austria, The FAA can issue a U.S. airworthiness certificate based on an NAA Export Certificate of Airworthiness (Export C of A) signed by a representative of the Austro Control Group (ACG) on behalf of the European Community. The Export C of A should contain the following statement "The aircraft covered by this certificate has been

examined, tested, and found to comply with Code of Federal Regulations Part 23 approved under U.S. Type Certificate No. A57CE and to be in a condition for safe operation”.

b) For aircraft produced in Canada, a United States airworthiness certificate may be issued on the basis of a Canadian Certificate of Airworthiness for Export signed by a representative of the Transport Canada Civil Aviation (TCCA), containing the following statement (in the English language): ‘The aircraft covered by this certificate has been examined, tested, and found to comply with U.S. type certificate No. A57CE and to be in a condition for safe operation.’

c) The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 and exported by the country of manufacture is FAR Sections 21.183(c) or 21.185(c).

d) The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 exported from countries other than the country of manufacture (e.g., third party country) is FAR Section 21.183(b) or 21.183(d).

#### Service Information

Each of the documents listed below must state that it is approved by the European Aviation Safety Agency (EASA) or – for approvals made before September 28, 2003- by Austro Control Group.

- Service bulletins
- Structural Repair Manuals
- Vendor Manuals
- Aircraft Flight Manuals, and
- Overhaul and Maintenance Manuals

The FAA accepts such documents and considers them FAA-approved unless one of the following condition exists:

- The documents change the limitations, performance, or procedures of the FAA approved manuals; or
- The documents make an acoustical or emissions changes to this product’s U.S.type certificate as defined in 14 CFR § 21.93.

The FAA uses the post type validation procedures to approve these documents. The FAA may delegate on case-by-case to EASA to approve on behalf of the FAA for the U.S. type certificate. If this is the case it will be noted on the document.

NOTE 1: Engine part number of TAE 125-01 approved for installation in the DA 42 is 125-01-(017)-(), engine part number of TAE 125-02-99 approved for installation in the DA 42 is 125-02-99-(0003)-(), with approved firmware and mapping according to DAI MSB 42-007/1, always latest issue.

NOTE 2: Weight and Balance:

A current weight and balance report including list of equipment included in the certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification.

The certificated empty weight and corresponding center of gravity location must include full oil, coolant and unusable fuel.

NOTE 3: The placards specified in the EASA approved Airplane Flight Manual must be displayed.

NOTE 4: "Compliance with requirements of 14 CFR § 23.1419 as amended by Amendment 23-43 effective May 10, 1993, has been established by the Exemption Number 9623 granted to Diamond Aircraft

Industries, Austria, dated February 22, 2008, provided required ice protection systems are installed and functioning properly, and the airplane and the ice protections system are operated in accordance with Airplane Flight Manual Supplement S03, "Ice Protection System," dated February 10, 2007, or later approved revision."

- NOTE 5: For approved software versions of Garmin G1000 Integrated Avionics System, see DAI MSB 42-008, always latest version.
- NOTE 6: Instructions for Continued Airworthiness and Service Life Limited components is included in the Maintenance Manual Document No. 7.02.01. (Revisions to Airworthiness Limitations must be approved by the FAA)
- NOTE 7: Exterior color is limited to that specified in Diamond Document No. 7.02.01.
- NOTE 8: Major structural repair must be accomplished at a FAA certified repair stations rated for composite aircraft structure work, in accordance with Diamond repair methods approved by ACG and accepted by FAA.
- NOTE 9: The maximum takeoff mass of 3935 lbs.(1785 kgs) is approved if major Change MAM 42-088 is installed.
- NOTE 10: Approved major level 1 changes on Diamond DA-42 NG are (all major level 2 changes are accepted automatically):
- MÄM 42-007 AFM Revision 5, part of initial type design
  - MÄM 42-031 Increase of the initial Major Inspection Interval, part of initial type design
  - MAM 42-046 Rough field Operations, Level 2
  - MAM 42-088 Increased gross weight, Level 1
  - MAM 42-101 New engine instrument marking, Level 2
  - MÄM 42-102 Increase of the cont. major inspection interval, part of initial type design
  - MÄM 42-111/b, New ROC for Single Engine Operation, Level 2
  - MAM 42-198 Engine change to TAE 125-02-99, Level 1
  - MÄM 42-361/c DA 42 Installation NG Safety Walk Strips, Level 2
  - OÄM 42-051, Autopilot, part of initial type design
  - OÄM 42-052 IFR Operation, part of initial type design
  - OÄM 42-054 Known Icing, Level 1
  - OAM 42-056 Auxilliary tank, Level 1
  - OÄM 42-067 Adjustable back rest for front seats, Level 2
  - OAM 42-102 Installation of Garmin GFC 700 Autopilot, Level 2
  - OÄM 42-146 Garmin Synthetic Vision (SVT), Level 1
  - OÄM 42-188 Increase of Maximum Zero Fuel Weight, Level 1
  - OÄM 42-195 DA 42 NG Landing Gear for DA 42, Level 1

- NOTE 11: For Airplanes registered in the United States of America, an ECU Backup Battery must be installed. The ECU Backup Battery may be installed during production per the requirements of OAM 42-129, or in compliance with FAA Airworthiness Directive 2007-23-14 per the requirements of OSB 42-050/1.

## II. Model DA 42 NG (Normal Category), approved April 02, 2010

<u>Engine</u>	2 Austro Engine E4, see Note 1 FAA Type Certification Data Sheet No. E00081EN
<u>Fuel</u>	Jet A, Jet A-1 (ASTM 1655)
<u>Engine Limits</u>	Maximum Take-Off (5 min), 2300 rpm Maximum Continuous Operation, 2100 rpm With MÄM 42-600 installed, 2300 rpm; see Note 12 (Propeller shaft RPM)
	Max T/O Power (5min) 100% (123,5 kW) Max. Continous Power 92% (114 kW)
<u>Propeller</u>	2 MT Propeller Co. MTV-6-R-C-F/CF187-129 or

	2 MT Propeller Co. MTV-6-R-C-F/CF190-69 see Note 12	
	FAA Type Certification Data Sheet No. P19NE	
<u>Propeller Limits</u>	Diameter	74.0 in., +0.0 in., -2.0 in; (1870 mm, +0.0mm, -50mm)
	Low Pitch Setting	12°
	Feather Position	13° (MÄM 42-600) see Note 12
		81°
	Start Lock	80° (MÄM 42-600) see Note 12
		15°
<u>Airspeed Limits</u>	Maximum Never Exceed Speed $V_{NE}$	192 KCAS, 220 mph
	Maximum Structural Cruising Speed $V_{NO}$	155 KEAS, 178 mph
	Design Cruising Speed $V_C$	155 KEAS, 178 mph
	Operating Maneuvering Speed	
	$V_O$ (up to 3748 lbs / 1700 kg)	114 KEAS, 131 mph
	$V_O$ (3748 lbs / 1701 kg through 3968 lbs / 1800kg)	121 KEAS, 139 mph
	$V_O$ (above 3968 lbs / 1800 kg)	125 KEAS, 144 mph
	Maximum Flap Extending Speed $V_{FE}$ Full Flaps	110 KEAS, 127 mph
	$V_{FE}$ Approach Flaps	135 KEAS, 155 mph
	Maximum Landing Gear Operation Speed $V_{LO}$	155 KEAS, 178 mph
	Maximum Landing Gear Extended Speed $V_{LE}$	192 KCAS, 220 mph
<u>C.G. Range</u>	Forward c/g position (aft of datum):	
	at 3329 lbs. (1510 kg)	92.80 in. (2.357 meter)
	at 4189 lbs. (1900 kg)	95.20 in. (2.418 meter)
	Varying Linearly with weight in between	
	Rearward c/g position (aft of datum):	
	at 3329 lbs. (1510 kg)	96,85 in. (2.460 meter)
	at 3748 lbs. (1700 kg)	97,64 in. (2.480 meter)
	at 4189 lbs. (1900 kg)	97,64 in. (2.480 meter)
	Varying Linearly with weight in between	
<u>Empty Wt. C.G. Range</u>	None	
<u>Reference Datum</u>	86.5 in. (2.196 meter) in front of leading edge of stub-wing at the wing joint	
<u>Leveling Means</u>	Floor of front baggage compartment levelled.	
<u>Maximum Weight</u>	Takeoff (Normal Category)	4189 lbs. (1900 kg <del>s</del> )
	Landing	3979 lbs. (1805 kg <del>s</del> )
	Zero Fuel weight	3891 lbs. (1765 kg)
<u>Minimum Crew</u>	1	
<u>No. of Seats</u>	4	
<u>Maximum Baggage</u>	Front Baggage Compartment	66 lbs (30 kgs)
	Behind Rear Seats	100 lbs (45 kgs)
	Aft part of Baggage Extension	40 lbs (18 kgs)
	Whole aft baggage compartment together	100 lbs (45 kg)
<u>Fuel Capacity</u>	With Standard Fuel Tank	52 gallons (196.8 liters) total. 50 gallons (189.2 liters) usable.
	With Auxiliary Tank additional	27.4 gallons (104 liters) total 26.4 gallons (100 liters) usable

Oil Capacity                      each engine                      Maximum – 7,4 qts (7.0 liters).  
    Minimum – 5,3 qts (5.0 liters)  
    See Note 2  
    For specification of engine and gearbox oil see AFM, 7.01.15, Section 2

Coolant                                      Water / Cooler Protection  
    For more details see AFM, Section 2

Maximum Operating Altitude                      18,000 feet. (5486 meters)

Control Surface Movements

Aileron		trailing edge up 25°, ± 2°, trailing edge down 15°, +2/-0°
Elevator		trailing edge up 15.5°, ± 0.5°, trailing edge down 13°, ± 1°
Elevator Trim Tab:		+ 17°, ± 5° (nose up at elevator 10° up) - 35°, ± 5° (nose down at elevator 10° up)
Rudder:		left 27°, ± 1° / right 29°, ± 1°
Rudder Trim Tab:		+ 54°, ± 5° (trim RH at rudder 20° LH) + 22°, ± 5° (trim LH at rudder 20° LH)
	MÄM 42-600	+35°, ± 5° (trim RH at rudder 20° LH) see Note 12
	MÄM 42-600	+ 36°, ± 5° (trim LH at rudder 20° LH) see Note 12
Flaps:		
	Cruise flap setting	0°, + 2°/- 0°
	Approach flap setting	20°, + 4°/ - 2°
	Landing flap setting	42°, +3° - 1°

Manufacturer's Serial Numbers

- a) For aircraft produced at Diamond Aircraft Industries GmbH, N.A. Otto-Str. 5, A-2700 Wiener-Neustadt Austria, eligible serial numbers are 42.N001 and subsequent  
See Note 10.
- b) For aircraft produced at Diamond Aircraft Industries Inc., 1560 Crumlin Sideroad, London Ontario N5v 1S2, Canada, eligible serial numbers are 42.NC001 and subsequent  
See Note 10.

Certification Basis

Type Certification under 14 CFR Section 21.29 including the following requirements:

- Joint Aviation Requirements (JAR) 23, Amdt. 1, dated February 01, 2001.  
NOTE: The DA 42 NG was certificated using the FAA/EASA interim validation certification procedures. A list of Significant Regulatory Differences were addressed. Therefore, the certification basis is equivalent to 14 CFR Part 23 effective February 1, 1965, including Amendments 23-1 through Amendment 23-55.
- 14 CFR Part 36 effective December 1, 1969, including Amendments 36-1 through Amendment 36-24.
- Special Conditions:
- 23-167-SC applicable to the Model DA 42 for Protection of Systems for High Intensity Radiated Fields.
- 23-169-SC applicable to the Model DA 42 for Diesel Cycle Engine Using Turbine (Jet) Fuel.

Equivalent safety Items:

Equivalent Levels of Safety findings made per the provisions of 14 CFR 21.21(b)(1) for:

- Equivalent level of safety ACE-05-05A: Extension of Equivalent Level of Safety (ELOS) to 14 CFR part 23, §23.1145, Motion and Effect of Cockpit Controls for the Diamond Aircraft Industries Model DA-42NG Airplane.
- Equivalent level of safety ACE-05-06A: Extension of Equivalent Level of Safety (ELOS) to 14 CFR part 23, §23.777(d), Ignition Switches, for the Diamond Aircraft Industries for the DA-42NG Airplane.
- Equivalent level of safety ACE-05-07A: Extension of Equivalent Level of Safety (ELOS) to 14 CFR part 23, §23.1061, Liquid Cooling – Installation, and §23.1063 Liquid Cooling – Coolant tan tests for the Diamond Aircraft Industries DA-42NG Airplane
- Equivalent level of safety ACE-10-07: Equivalent level of safety (ELOS) to 14 CFR part 23, § 23.991(a)(1) and §23.991(b), Fuel pumps for the Diamond Aircraft Industries DA 42 NG airplane
- The European Aviation Safety Agency (EASA) certificated this aircraft under their Type certificate Number A.005.

#### Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) is listed in the Airplane Flight Manual and must be installed in the airplane for certification.

In addition, the following items of equipment are required:

Airplane Flight Manual, Document No. 7.01.15-E, Rev. 2, dated 30-Nov-2009, or a later approved revision or if MAM 42-600 is installed, Airplane Flight Manual, Document Number 7.01.16-E, Rev. 0, dated 01-Apr-2012 or a later approved revision.

Maintenance Manual (including Airworthiness Limitation), Document No. 7.02.15, Rev. 1, dated 15-Oct-2009, or a later approved revision..

#### Import requirements

a) For aircraft produced in Austria, The FAA can issue a U.S. airworthiness certificate based on an NAA Export Certificate of Airworthiness (Export C of A) signed by a representative of the Austro Control (ACG) on behalf of the European Community. The Export C of A should contain the following statement “The aircraft covered by this certificate has been examined, tested, and found to comply with Code of Federal Regulations Part 23 approved under U.S. Type Certificate No. A57CE and to be in a condition for safe operation”.

b) For aircraft produced in Canada, a United States airworthiness certificate may be issued on the basis of a Canadian Certificate of Airworthiness for Export signed by a representative of the Transport Canada Civil Aviation (TCCA), containing the following statement (in the English language): ‘The aircraft covered by this certificate has been examined, tested, and found to comply with U.S. type certificate No. A57CE and to be in a condition for safe operation.’

c) The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 and exported by the country of manufacture is FAR Sections 21.183(c) or 21.185(c).

d) The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 exported from countries other than the country of manufacture (e.g., third party country) is FAR Section 21.183(b) or 21.183(d).

#### Service Information

Each of the documents listed below must state that it is approved by the European Aviation Safety Agency (EASA) or Diamond Aircraft DOA No. EASA.21J.052:.

- Service bulletins
- Structural Repair Manuals
- Vendor Manuals

- Aircraft Flight Manuals, and
- Overhaul and Maintenance Manuals

The FAA accepts such documents and considers them FAA-approved unless one of the following condition exists:

- The documents change the limitations, performance, or procedures of the FAA approved manuals; or
- The documents make an acoustical or emissions changes to this product's U.S.type certificate as defined in 14 CFR § 21.93.

The FAA uses the post type validation procedures to approve these documents. The FAA may delegate on case-by-case to EASA to approve on behalf of the FAA for the U.S. type certificate. If this is the case it will be noted on the document.

- NOTE 1: Approved engine configuration for installation in the DA 42 NG: E4-B  
 With MÄM 42-600: E4-C  
 With approved engine software according to DAI MSB 42NG-002/3 or later issue.
- NOTE 2: Weight and Balance:  
 A current weight and balance report including list of equipment included in the certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification.  
 The certificated empty weight and corresponding center of gravity location must include full oil, coolant and unusable fuel.
- NOTE 3: The placards specified in the EASA approved Airplane Flight Manual must be displayed.
- NOTE 4: "Compliance with requirements of 14 CFR § 23.1419 as amended by Amendment 23-43 effective May 10, 1993, has been established by the Exemption Number 10036 granted to Diamond Aircraft Industries, Austria, dated March 23 2010, provided required ice protection systems are installed and functioning properly, and the airplane and the ice protections system are operated in accordance with Airplane Flight Manual Supplement S03, "Ice Protection System," dated 28-May-2009, or later approved revision."
- NOTE 5: For approved software versions of Garmin G1000 Integrated Avionics System, see DAI MSB 42NG-003, always latest version.
- NOTE 6: Instructions for Continued Airworthiness and Service Life Limited components is included in the Maintenance Manual Document No. 7.02.15. (Revisions to Airworthiness Limitations must be approved by the FAA)
- NOTE 7: Exterior color is limited to that specified in Diamond Document No. 7.02.15.
- NOTE 8: Major structural repair must be accomplished at a FAA certified repair stations rated for composite aircraft structure work, in accordance with Diamond repair methods approved by EASA or Diamond Aircraft DOA No. EASA.21J.052 and accepted by FAA.
- NOTE 10: Aircraft Model DA-42 converted to DA42-NG via Diamond Aircraft Industries Service Bulletin OSB 42-068 are also eligible for this TCDS  
 Necessary design changes to be incorporated in the Diamond DA-42 NG (factory installed or via service bulletin) are:  
 MÄM 42-403 Modification of the electrical system  
 MÄM 42-415 DA 42 NG Sealing of center wing push-rod cutout
- NOTE 11: Approved major level 1 changes on Diamond DA-42 NG are (all major level 2 changes are accepted automatically):

MÄM 42-325 DA 42 NG Exhaust shielding, part of initial type design  
 OAM 42-160 Flight into known icing conditions, part of initial type design  
 OÄM 42-179 SBAS and P-RNAV Operation, Level 1  
 OÄM 42-193 Recirculating Air Cabin Cooling, Level 1  
 OÄM 42-204 Additional Alternator, Level 1  
 OÄM 42-207 Short Baggage Compartment, Level 1  
 OÄM 42-173 On Top Exhaust System, Level 1  
 MÄM 42-600 Performance Enhancement, Level 1

NOTE 12: The installation of Propeller MTV-6-R-C-F/CF190-69 is only approved by complete installation of design change MÄM 42-600 which includes a number of different modifications.

### III. Model DA 42 M-NG (Normal Category), April 02, 2010

<u>Engine</u>	2 Austro Engine E4, see Note 1 FAA Type Certification Data Sheet No. E00081EN
<u>Fuel</u>	Jet A, Jet A-1 (ASTM 1655)
<u>Engine Limits</u>	Maximum Take-Off (5 min), 2300 rpm Maximum Continuous Operation, 2100 rpm (Propeller shaft RPM)  Max T/O Power (5min) 100% (123,5 kW) Max. Continous Power 92% (114 kW)
<u>Propeller</u>	2 MT Propeller Co. MTV-6-R-C-F/CF187-129 FAA Type Certification Data Sheet No. P19NE
<u>Propeller Limits</u>	Diameter 74.0 in., +0.0 in., -2.0 in; (1870 mm, +0.0mm, -50mm) Low Pitch Setting 12° Feather Position 81° Start Lock 15°
<u>Airspeed Limits</u>	Maximum Never Exceed Speed $V_{NE}$ 192 KCAS, 220 mph Maximum Structural Cruising Speed $V_{NO}$ 155 KEAS, 178 mph Design Cruising Speed $V_C$ 155 KEAS, 178 mph Operating Maneuvering Speed $V_O$ (up to 3748 lbs / 1700 kg) 114 KEAS, 131 mph $V_O$ (3748 lbs / 1701 kg through 3968 lbs / 1800kg) 121 KEAS, 139 mph $V_O$ (above 3968 lbs / 1800 kg) 125 KEAS, 144 mph Maximum Flap Extending Speed $V_{FE}$ Full Flaps 110 KEAS, 127 mph $V_{FE}$ Approach Flaps 135 KEAS, 155 mph Maximum Landing Gear Operation Speed $V_{LO}$ 155 KEAS, 178 mph Maximum Landing Gear Extended Speed $V_{LE}$ 192 KCAS, 220 mph
<u>C.G. Range</u>	Forward c/g position (aft of datum): at 3329 lbs. (1510 kg) 92.80 in. (2.357 meter) at 4189 lbs. (1900 kg) 95.20 in. (2.418 meter) Varying Linearly with weight in between  Rearward c/g position (aft of datum): at 3329 lbs. (1510 kg) 96,85 in. (2.460 meter) at 3748 lbs. (1700 kg) 97,64 in. (2.480 meter) at 4189 lbs. (1900 kg) 97,64 in. (2.480 meter) Varying Linearly with weight in between
<u>Empty Wt. C.G. Range</u>	None
<u>Reference Datum</u>	86.5 in. (2.196 meter) in front of leading edge of stub-wing at the wing joint

<u>Leveling Means</u>	Floor of front baggage compartment levelled.	
<u>Maximum Weight</u>	Takeoff (Normal Category)	4189 lbs. (1900 kg <del>s</del> )
	Landing	3979 lbs. (1805 kg <del>s</del> )
	Zero Fuel weight	3891 lbs. (1765 kg)
<u>Minimum Crew</u>	1	
<u>No. of Seats</u>	4	
<u>Maximum Baggage</u>	Front Baggage Compartment	66 lbs (30 kgs)
	Behind Rear Seats	100 lbs (45 kgs)
	Aft part of Baggage Extension	40 lbs (18 kgs)
	Whole aft baggage compartment together	100 lbs (45 kg)
<u>Fuel Capacity</u>	With Standard Fuel Tank	52 gallons (196.8 liters) total. 50 gallons (189.2 liters) usable.
	With Auxiliary Tank additional	27.4 gallons (104 liters) total 26.4 gallons (100 liters) usable
<u>Oil Capacity</u>	each engine	Maximum – 7,4 qts (7.0 liters). Minimum – 5,3 qts (5.0 liters) See Note 2 For specification of engine and gearbox oil see AFM, 7.01.15, Section 2
<u>Coolant</u>	Distilled water / Cooler Protection For more details see AFM, 7.01.15, Section 2	
<u>Maximum Operating Altitude</u>	18,000 feet. (5486 meters)	
<u>Control Surface Movements</u>	Aileron	trailing edge up 25°, ± 2°, trailing edge down 15°, +2/-0°
	Elevator	trailing edge up 15.5°, ± 0.5°, trailing edge down 13°, ± 1°
	Elevator Trim Tab:	+ 17°, ± 5° (nose up at elevator 10° up) - 35°, ± 5° (nose down at elevator 10° up)
	Rudder:	left 27°, ± 1° / right 29°, ± 1°
	Rudder Trim Tab:	+ 54°, ± 5° (trim RH at rudder 20° LH) + 22°, ± 5° (trim LH at rudder 20° LH)
	Flaps:	
	Cruise flap setting	0°, + 2°/- 0°
	Approach flap setting	20°, + 4°/- 2°
	Landing flap setting	42°, +3° - 1°

Manufacturer's Serial Numbers

- c) For aircraft produced at Diamond Aircraft Industries GmbH, N.A. Otto-Str. 5, A-2700 Wiener-Neustadt Austria, eligible serial numbers are 42.339, 42.379, 42.MN001 and subsequent  
See Note 10.

Certification Basis Type Certification under 14 CFR Section 21.29 including the following requirements:

- Joint Aviation Requirements (JAR) 23, Amdt. 1, dated February 01, 2001.  
NOTE: The DA 42 NG was certificated using the FAA/EASA interim validation certification procedures. A list of Significant Regulatory Differences were addressed. Therefore, the certification basis is equivalent to 14 CFR Part 23 effective February 1, 1965, including Amendments 23-1 through Amendment 23-55.
- 14 CFR Part 36 effective December 1, 1969, including Amendments 36-1 through Amendment 36-24.
- Special Conditions:
  - 23-167-SC applicable to the Model DA 42 for Protection of Systems for High Intensity Radiated Fields.
  - 23-169-SC applicable to the Model DA 42 for Diesel Cycle Engine Using Turbine (Jet) Fuel.

Equivalent safety Items:

Equivalent Levels of Safety findings made per the provisions of 14 CFR 21.21(b)(1) for:

- Equivalent level of safety ACE-05-05B: Extension of Equivalent Level of Safety (ELOS) to 14 CFR part 23, §23.1145, Motion and Effect of Cockpit Controls for the Diamond Aircraft Industries Model DA-42 M-NG Airplane.
- Equivalent level of safety ACE-05-06B: Extension of Equivalent Level of Safety (ELOS) to 14 CFR part 23, §23.777(d), Ignition Switches, for the Diamond Aircraft Industries for the DA-42 M-NG Airplane.
- Equivalent level of safety ACE-05-07B: Extension of Equivalent Level of Safety (ELOS) to 14 CFR part 23, §23.1061, Liquid Cooling – Installation, and §23.1063 Liquid Cooling – Coolant tan tests for the Diamond Aircraft Industries DA-42 M-NG Airplane
- Equivalent level of safety ACE-10-07: Equivalent level of safety (ELOS) to 14 CFR part 23, § 23.991(a)(1) and §23.991(b), Fuel pumps for the Diamond Aircraft Industries DA 42 NG airplane
- The European Aviation Safety Agency (EASA) certificated this aircraft under their Type certificate Number A.005.

### Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) is listed in the Airplane Flight Manual and must be installed in the airplane for certification.

In addition, the following items of equipment are required:

Airplane Flight Manual, Document No. 7.01.15-E, Rev. 2, dated 30-Nov-2009, or a later approved revision including Supplement M00, dated 01-Jun-2009 or a later approved revision.

Maintenance Manual (including Airworthiness Limitation), Document No. 7.02.15, Rev. 1, dated 15-Oct-2009, or a later approved revision and Supplemental AMM Doc. No. 7.02.15-M00, date 01-Jun-2009 or a later approved revision.

### Import requirements

a) For aircraft produced in Austria, The FAA can issue a U.S. airworthiness certificate based on an NAA Export Certificate of Airworthiness (Export C of A) signed by a representative of the Austro Control (ACG) on behalf of the European Community. The Export C of A should contain the following statement “The aircraft covered by this certificate has been examined, tested, and found to comply with Code of Federal Regulations Part 23 approved under U.S. Type Certificate No. A57CE and to be in a condition for safe operation”.

b) For aircraft produced in Canada, a United States airworthiness certificate may be issued on the basis of a Canadian Certificate of Airworthiness for Export signed by a representative of the Transport Canada Civil Aviation (TCCA), containing the following statement (in the English language): ‘The aircraft covered by this certificate has been examined, tested, and

found to comply with U.S. type certificate No. A57CE and to be in a condition for safe operation.'

c) The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 and exported by the country of manufacture is FAR Sections 21.183(c) or 21.185(c).

d) The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 exported from countries other than the country of manufacture (e.g., third party country) is FAR Section 21.183(b) or 21.183(d).

#### Service Information

Each of the documents listed below must state that it is approved by the European Aviation Safety Agency (EASA) or Diamond Aircraft DOA No. EASA.21J.052:.

- Service bulletins
- Structural Repair Manuals
- Vendor Manuals
- Aircraft Flight Manuals, and
- Overhaul and Maintenance Manuals

The FAA accepts such documents and considers them FAA-approved unless one of the following condition exists:

- The documents change the limitations, performance, or procedures of the FAA approved manuals; or
- The documents make an acoustical or emissions changes to this product's U.S.type certificate as defined in 14 CFR § 21.93.

The FAA uses the post type validation procedures to approve these documents. The FAA may delegate on case-by-case to EASA to approve on behalf of the FAA for the U.S. type certificate. If this is the case it will be noted on the document.

NOTE 1: Approved engine configuration for installation in the DA 42 NG: E4-B  
With approved engine software according to DAI MSB 42NG-002/3 or later issue.

NOTE 2: Weight and Balance:

A current weight and balance report including list of equipment included in the certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification.

The certificated empty weight and corresponding center of gravity location must include full oil, coolant and unusable fuel.

NOTE 3: The placards specified in the EASA approved Airplane Flight Manual must be displayed.

NOTE 4: "Compliance with requirements of 14 CFR § 23.1419 as amended by Amendment 23-43 effective May 10, 1993, has been established by the Exemption Number 10037 granted to Diamond Aircraft Industries, Austria, dated March 29, 2010 provided required ice protection systems are installed and functioning properly, and the airplane and the ice protections system are operated in accordance with Airplane Flight Manual Supplement S03, "Ice Protection System," dated 28-May-2009, or later approved revision."

NOTE 5: For approved software versions of Garmin G1000 Integrated Avionics System, see DAI MSB 42NG-003, always latest version.

NOTE 6: Instructions for Continued Airworthiness and Service Life Limited components is included in the Maintenance

Manual Document No. 7.02.15. (Revisions to Airworthiness Limitations must be approved by the FAA)

- NOTE 7: Exterior color is limited to that specified in Diamond Document No. 7.02.15.
- NOTE 8: Major structural repair must be accomplished at a FAA certified repair stations rated for composite aircraft structure work, in accordance with Diamond repair methods approved by EASA or Diamond Aircraft DOA No. EASA.21J.052 and accepted by FAA.
- NOTE 10: Aircraft Model DA-42 M converted to DA42 M-NG via Diamond Aircraft Industries Service Bulletin OSB 42-081 are also eligible for this TCDS.  
Necessary design changes to be incorporated in the Diamond DA-42 NG (factory installed or via service bulletin) are:  
MÄM 42-403 Modification of the electrical system  
MÄM 42-415 DA 42 NG Sealing of center wing push-rod cutout
- NOTE 11: Approved major level 1 changes on Diamond DA-42M- NG are (all major level 2 changes are accepted automatically):  
MÄM 42-325 DA 42 NG Exhaust shielding, part of initial type design  
OAM 42-160 Flight into known icing conditions, part of initial type design  
OÄM 42-179 SBAS and P-RNAV Operation, Level 1  
OÄM 42-173 On Top Exhaust System, Level 1

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