

Designation	Revision	Date
Type Certificate No.90-171 Data Sheet	1	September 22, 2016

**Type Certificate Holder
(Designer)**

Mil Moscow Helicopter Plant, SC

26/1, Garshina str., Tomilino twm, Lyubertsy district, Moscow region, Russia, 140070

Manufacturer

Ulan-Ude Aviation Plant, SC
Ulan-Ude, Russia

Aircraft Type

Mi-171

Aircraft Description

A single-rotor helicopter with tail rotor, two turbo shaft engines and non-retractable wheel landing gear.

Category

Transport category A and B

Certification Basis

CB 17.29, Revision 2

Initial Certification Data

- Type Certificate Restricted Category Aircraft No. 90-171, 29.12.1995;
- Supplement to Type Certificate No. 90-171/Д1, 05.12.1997;
- Supplement to Type Certificate No. 90-171/Д02, 27.08.2007;
- Supplement to Type Certificate No. 90-171/Д03, 24.10.2011.

Type Design

- Master Drawing List 171-0000ППЧ;
- Rotorcraft Flight Manual
- 171.0000.00 РЛЭ;
- Maintenance Manual 171.0000.00РЭ-01. Section 004;
- Maintenance Schedule 171.0000.000PO-01;
- Technical Specifications 171.0000.00ТУ, Revision 2.

Designation	Revision	Date
Type Certificate No.90-171 Data Sheet	1	September 22, 2016

Maximum Take-off Weight

Category A: 12000 kg

Category B: 13000 kg

Noise levels Characteristics

Helicopter Type	Maximum Take-off Weight, kg	Engine Power, hp	Noise Levels EPNdB AR-36		
			Takeoff	Flyover	Approach
Mi-171	13 000	TB3-117BM 2000	94,7	94,7	96,9
90% confidence limit			±0,8	±0,6	±1,4
Prescribed Limit AR-36			101,1	100,1	102,1

Maximum load weight transported onboard

4 000 kg

Maximum Weight of Under-slung Load

4 000 kg

Total Weight of Onboard Load and Under-slung load

4 000 kg

Minimum crew

3 persons (pilot, co-pilot, flight engineer)
for cargo transportation

4 persons (pilot, co-pilot, flight engineer,
flight attendant)
for passenger transportation

Maximum Number of Passenger Seats

26

Centre of Gravity Range

Forward and aft CG limits (relative to the
main rotor axis)

	Take-off weight	
	up to 12,500 кг	over 12,500 kg
Forward, mm	+300	+257
Aft, mm	-95	+20

Designation	Revision	Date
Type Certificate No.90-171 Data Sheet	1	September 22, 2016

Ambient Air Temperatures -50 °C...+50 °C

Altitude Limits with oxygen equipment installed

Take-off weight, kg	Operating ceiling, m	
	With anti-icing system OFF	With anti-icing system ON
Up to 12 000	5 000 m	5 000 m
from 12 000 to 13 000	4 800 m	4 500 m

Indicated Speed Limits

At flight altitude 0-1000 m	Never-exceed speed V_{NE}
At flight weight less 11 100 kg	250 km/h
At flight weight over 11 100 kg	230 km/h
At flight altitude more than 1000 m	Refer to the approved RFM

Engines

- Two TB3-117BM turbo shaft engines, Type Certificate No.34-Д dated June 24, 1993;
- Two TB3-117BM turbo shaft engines ser. 02, Type Certificate No.34-Д dated June 24, 1993.

Auxiliary power unit

- АИ-9В, Type Certificate No. CT 143-ВД dated June 27, 1997;
- Safir 5K/G MI, Type Certificate No. CT 221-ВД dated July 09, 2003.

Engine operating limits

Maximum permissible RPM of turbo compressor at take-off mode, 2,5-minute and 30-minute power ratings with OEI 101,0% (19 732,7 r.p.m.)

Designation	Revision	Date
Type Certificate No.90-171 Data Sheet	1	September 22, 2016

Engine:

Two engines operative (AEO) for TB3-117BM and TB3-117BM cep. 02

Minimum take-off power	2x2 000 h.p. – maximum continuous operation– 6 min.
Maximum continuous power	2x1 700 h.p.

One Engine Inoperative (OEI) for TB3-117BM and TB3-117BM cep. 02

2,5-minute power rating	1x2 200 h.p. – maximum continuous operation – 2,5 min.
30-minute power rating	1x2 000 h.p. – maximum continuous operation – 30 min

Turbine Inlet Temperature Limits

At take off two engines operative (AEO)	990 °C
2,5 - minute (OEI)	
30 - minute (OEI)	

At maximum continuous power rating (AEO)	955 °C
At maximum continuous power rating (OEI)	

Main Rotor RPM Limits

Maximum permissible main rotor r.p.m.

- in engine flight mode, for no more than 20 seconds 103% (208,2 r.p.m.)
- in autorotation mode 105% (212,2 r.p.m.)

Designation	Revision	Date
Type Certificate No.90-171 Data Sheet	1	September 22, 2016

Minimum permissible main rotor r.p.m. 75% (151,6 r.p.m.)

- in transient modes with operative engines for not more than 30 seconds 88% (177,9 r.p.m.)
- in autorotation mode 88% (177,9 r.p.m.)

Fuel capacity 2 615 l (main tanks)
3 530 l (main tanks and one auxiliary tank)

Fuel Grades

PT and TC-1 GOCT 10227-86 and their mixtures with anti-icing additive "И" fluid

Foreign equivalents:

Anti-icing additive	A1-31 MIL-J-27686F
Jet A-1	DERD 2494
Fuel No.3	GB 6537-94
T-1, TC-1	БДC5075-82
Jet A-1	AFQRJOS
ATF K-50	IS: 1571-76
TFC-1	Д-2-3
JP-1	Mil-F-5616C
Turbo A-1	DERD 2494
T-1 STAS	5639-77
Jet A-1	Stac 3754-77
PL-69 PND	25-005-81
CM-1 JUS	B.H2.333

Oil grade allowed for use in gear boxes

Б-3В Russia TY38-101295-75
ЛІЗ-240 TY301-04-010-92

Designation	Revision	Date
Type Certificate No.90-171 Data Sheet	1	September 22, 2016

Engine oil

Castrol 98 DERD 2487 (Castrol)
 Mobil Jet Oil 11 Mil-L-23699 (Mobil Oil)
 Mobil Jet 254 Oil Mil-L-23699 (Mobil Oil)
 Castrol 5000 Mil-1-23699 (Castrol)
 Castrol 599 DERD 2497 (Castrol)
 Turbonycoil 525-2A Mil-L-23699 (Nyco)
 Exxon Turbo Oil 25 DOD-L-85734 (Exxon)
 Aeroshell Turbine Oil 560 DERD 2499 (Shell)

For other limitations and recommendations refer to the approved operation documentation of the Mi-171 helicopter.

Record of Data Sheet Revisions

Revision	Date	Alteration description
01	22.09.2016	First revision

* * *

Original in Russian is signed by

Mikhail Bulanov

Deputy Director General