



**RUSSIAN FEDERATION  
MINISTRY OF TRANSPORT OF THE RUSSIAN FEDERATION  
FEDERAL AIR TRANSPORT AGENCY**

**AIRWORTHINESS DIRECTIVE**

14 January 2020

№ 2020-MI-8,171,172-01

Applicability – Mi-8, Mi-8MTV-1, Mi-8AMT, Mi-171, Mi-171A2, Mi-172 type  
helicopters and their modifications

State of Design – Russian Federation

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**The corrective actions set out in this airworthiness Directive are mandatory. No operator may operate an aircraft covered by this airworthiness Directive except in accordance with the requirements of this Directive.**

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In connection with the damage detection on 23.09.2019 of to the fan 8A-6311-00, series 4, serial No. OV44704090 on the Mi-8AMT helicopter registration No. RA-22840 in SKOL Airlines LLC and as per developed by Mil Moscow Helicopter Plant, JSC in connection with this incident Technical Decision KB-2.1-8A-2019 dated 17.12.2019 (outgoing reference No. M. 10. 01-28622 dated 17.12.2019)

**WE RECOMMEND:**

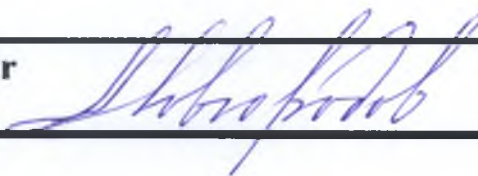
1. Operating organizations of Mi-8, Mi-8MTV-1, Mi-8AMT, Mi-171, Mi-171A2, Mi-172 helicopters and their modifications, regardless of their operating time and date of manufacture, perform one-time work on dismantling and lubricating the propeller shaft of the fan drive 8A-6314-00 or 8AT.6314.000 at the nearest form time of periodic maintenance according to the Task Card No. 208R, inspection of the fan 8A-6311-00 series 4 in the volume of the Task Card No. 201R.
2. In case of absence of the fan wheel smooth rotation, detection of jams and (or) knocks when performing work in accordance with paragraph 1 of this airworthiness Directive (hereinafter - the Directive), replace the fan, guided by the Task Card No. 205R.
3. In case of no fault detected as a result of paragraph 1 of this Directive implementation, continue operation of helicopters, followed by a single inspection within periodic maintenance after  $300 \pm 20$  hours of operation.

4. The results of the provisions of paragraphs 1 to 2 of this Directive implementation should be sent to JSC «National helicopter center Mil&Kamov».

- Attachments:**
1. Technical Decision № KB-2.1-8A-2019 dated 17.12.2019, two pages;
  2. Task Card № 201R «Inspection of air cooling system units», one page;
  3. Task Card № 205R «Installation of an air cooling fan», one page;
  4. Task Card № 208R «Serviceability check of the fan drive propeller shaft needle bearings joints», one page.

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**Deputy Head of the Federal Air  
Transport Agency**



**A. A. Novgorodov**

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**APPROVED BY:**

Mil. Moscow Helicopter Plant, JSC  
Mi-8, Mi-17 Helicopters and their  
Modifications Program  
Chief Designer

A.D. Yablonsky

« 18 » 12 2019

**TECHNICAL DECISION KB-2.1-8A-2019**

Mi-8, Mi-8MTV-1, Mi-8AMT, Mi-171, Mi-171A2, Mi-172 helicopters and their modifications airworthiness maintenance

In connection with the damage detection in the fan 8A-6311-00 series 4, serial No. OV44704090 on the Mi-8AMT helicopter registration number No. RA-22840 in SKOL Airlines LLC, accepted the following

**TECHNICAL DECISION:**

1. Operating organizations of Mi-8, Mi-8MTV-1, Mi-8AMT, Mi-171, Mi-171A2, Mi-172 helicopters and their modifications, regardless of their operating time and date of manufacture, perform one-time work on dismantling and lubricating the propeller shaft of the fan drive 8A-6314-00 or 8AT.6314.000 at the nearest form time of periodic maintenance according to the Task Card No. 208R, inspection of the fan 8A-6311-00 series 4 in the volume of the Task Card No. 201R.
2. In case of absence of the fan wheel smooth rotation, detection of jams and (or) knocks when performing work in accordance with paragraph 1 of this Technical Decision, replace the fan, guided by the Task Card No. 205R.
3. In case of no fault detected as a result of paragraph 1 of this Directive implementation, continue operation of helicopters,

followed by a single inspection within periodic maintenance after 300±20 hours of operation.

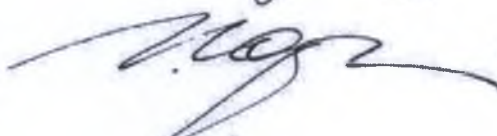
4. The results of the provisions of paragraphs 1 to 2 of this Directive implementation should be sent to JSC «National helicopter center Mil&Kamov».
5. Changes to the maintenance documentation for the Mi-8, Mi-8MTV-1, Mi-8AMT, Mi-171, Mi-171A2, Mi-172 helicopters and their modifications fan wheel smooth rotation checks to be introduced in the next annual Bulletin issue.  
Term: 29.12.2020

Engines and Engine Systems  
Chief Designer



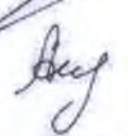
M.A. Storozhev

Deputy Chief Designer



G.A. Yurchenko

Technical Lead КБ-2.1.



A.V. Andreev

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Y.I. Aboimov

/ Head of the group КБ-2.1



T.R. Safarov

To MS _____	TASK CARD № 201P		Page
Maintenance Schedule (MS) Paragraph	Name of work: Inspection of air cooling system units		
Operation contents & Technical Requirements (TR)		Works performed with deviations from TR	Inspection
<p>1. Open cowl flaps of the engine, fan and gear compartments and remove the plug from the fan input channel.</p> <p>2. Check the fastening of the fan to the access tunnel, flange of the outer casing of the diffuser and to the assembly of the longitudinal firewall. Loosening is not allowed</p> <p>If foreign objects are found, carefully remove them, eliminating the possibility of getting behind the fan guide vanes.</p> <p>3. Open the access door in the outer casing of the fan diffuser. Make sure that there are no foreign objects in the space between the outer and inner casings, and that there is no destruction or contamination of the protective meshes.</p> <p>4. Perform visual inspection of the condition and fastening security of the fan cardan shaft casing, as well as shaking by hand. Loosening is not allowed.</p> <p>5. Disassemble and check the condition of the needle bearings of the joints of the cardan shaft of the fan drive in accordance with TK № 208P.</p> <p>6. Fill the OKB-122-7 grease (grease analogue provided for in the operating documentation) into the fan bearing assembly using a grease cap until fresh grease appears from the control hole on the flange on the cardan shaft side and out of the slot in the fan wheel.</p> <p>7. Turn the fan shaft by hand and make sure that the fan wheel rotates smoothly without jamming or knocking. If jamming, knocking, uneven rotation of the fan wheel is detected, replace the fan in accordance with TC No. 205R.</p> <p>8. Install the fan drive cardan shaft in accordance with TC No. 208R.</p> <p>9. Close the hatches of the fan covers, close the flaps of the hood of the fan, gear and engine compartments. Install a plug in the fan inlet.</p>			
Control and verification equipment	Tools and accessories	Consumable materials	
	<p>Screwdriver for cowl fastener 8AT.9100.030 Screwdriver L = 200 mm GOST17199-88 Combination pliers GOST R-53925-2010 Socket wrenches S = 10, S = 12, S = 14 GOST2839-80</p>	<p>Cotton napkin GOST29298-2005 OKB-122-7 greasing GOST 18179-72</p>	

To MS _____	TASK CARD №205P		Page
Maintenance Schedule (MS) Paragraph	Name of work: Installation of air cooling fan		
Operation contents & Technical Requirements (TR)		Works performed with deviations from TR	Inspection
<p>1. Carry out depreservation of the fan.</p> <p><b>Warning.</b> Do not wash the fan shaft bearings when preserving them with Nephras or kerosene.</p> <p>2. Turn the fan shaft by hand and make sure that the fan wheel rotates smoothly, without jamming or knocking.</p> <p>3. Connect the fan inlet tunnel to the guide vanes casing. Install new 3456a-6 lock washers under the nuts of the mounting bolts.</p> <p>4. Lubricate the fan shaft splines with NK-50 grease (grease analogue provided for in the operating documentation).</p> <p>5. Put a rubber o-ring on the circular recess of the guide vanes.</p> <p>6. Insert the spline end of the fan shaft into the fork tip of the fan drive cardan shaft, supporting the fan with a crane, and connect the fan to the flange of the outer diffuser housing.</p> <p>After tightening the nuts, lock them with 2x20-002 splints.</p> <p>7. Connect with the fan bolt to the longitudinal fire partition assembly, tighten the nut and lock it with a 2x20-002 splint.</p> <p>8. Attach the sheet of the longitudinal fire partition with screws to the frame № 1K, the longitudinal fire partition and the fan inlet tunnel.</p> <p>9. Refit the upper flaps of the hood and close the flaps of the hood of the power plant.</p>			
Test and control equipment	Tool and equipment	C&E materials	
	Socket wrenches S = 10, S = 12, S = 14 Screwdriver for cowl fastener 8AT.9100.030 Screwdriver L = 200 mm GOST17199-88 Combination pliers GOST R-53925-2010	Cotton napkin GOST29298-2005 Lubricant NK-50 TU38. 1011219-89 Cotter pins 2x20 GOST 397-79 Washers 3456A-6	

To MS _____	<b>TASK CARD № 208P</b>		Page
MS Paragraph	Work description: Fan drive cardan shaft needle bearings serviceability check		
Operation contents & Technical Requirements (TR)		Works performed with deviations from TR	Inspection
<ol style="list-style-type: none"> <li>1. Open the doors of the engine and fan compartments.</li> <li>2. Remove the upper bonnet covers of the gear compartment.</li> <li>3. Open the left cover of the fan compartment and the hatch covers on the outer and inner diffuser housings.</li> <li>4. Unlock and unscrew the nuts of the 4 mounting bolts to the output flange from the main gearbox, remove the bolts.</li> <li>5. Lift the rear part of the driveshaft, and hold the front portion through the opening in the fan casing, take the shaft spline connection with the shaft of the fan out and remove from helicopter.</li> <li>6. Remove dirt and old grease from the driveshaft parts by wiping it with a napkin dipped in gasoline or Nefras and wipe it with a dry cloth.</li> <li>7. Check for smooth rotation of each joint of the propeller shaft. The presence of seizing jamming, "crump" felt when swaying the movable elements of the shaft around any of the axes is unacceptable.</li> <li>8. Put the driveshaft in a vertical position and apply TShypo grease (grease analogue provided for in the operating documentation) to the joints until it comes out from under the safety valves. At t=10°C, use lubrication-gun grease preheated to 30-50°C. Leakage of oil through the sealing cuffs of the hinges is not allowed.</li> <li>9. Lubricate the details of the splined connection of the driveshaft and fan with NK-50 grease (grease analogue provided for in the operating documentation).</li> <li>10. Install the driveshaft in its place. To do this, place the shaft on the side of the main gearbox under the shaft casing and connect it in the slot connection to the fan shaft. Then align the holes in the flanges of the driveshaft and the main gear drive, install the bolts, torque the nuts and tighten them with a tightening torque of 12-14 N•m (1,2-1,4 kgm•m).</li> <li>11. Lock-splint the nuts.</li> <li>12. Close the fan cover hatches, install the upper gear compartment covers, and close the left fan compartment cover and the engine, fan, and gear compartment flaps.</li> </ol>		Defective fan drive shaft must be replaced with a well-conditioned one	
Control and verification equipment	Tools and accessories	Consumable materials	
	Universal pliers GOST R-53925-2010 Screwdriver L=200 mm GOST 17199-88 Wrench 14x17 GOST 2839-80 Torque wrench 8AT.9102.130 with 8AT.9102.130 capping S=14 Pressure gun Ш-1 with a nose-piece Hair brush	Splint pins 2x20 Cotton napkins GOST 29298-2005 Lubricant for hypoid gear TShypo TU 38.101.1332-90 NEFRAS-S 50/170 GOST 8505-80	