

Ми-8 МТВ-1 HELICOPTER

MAINTENANCE SCHEDULE

PART II. HELICOPTER EQUIPMENT AND AVIONICS

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1. GENERAL

1.1. The present Maintenance schedule (MS) is the basic document, determining the scope and schedule of Ми-8 МТВ-1 helicopters maintenance operations.

The timely and high-quality execution of maintenance operations ensures the maintaining of specified level of serviceability and readiness of the helicopter for flight.

1.2. The maintenance schedule consists of two parts:

Part I – “Helicopter frame and power unit”

Part II – “Helicopter equipment and avionics”

1.3. The maintenance schedule includes the following types of maintenance to be carried out on the helicopter:

- line maintenance;
- periodic maintenance;
- maintenance during helicopter storage;
- seasonal maintenance;
- special maintenance.

1.4. The line maintenance includes the following operations:

- Post-flight check operations – BC;
- Parking maintenance of helicopter – OC;
- Pre-flight check operations – OB;

Inspection and maintenance operations – maintenance checks OB-1, A-1, A-2, Б.

1.5. The post-flight check operations (BC) are performed after each landing of the helicopter, the engines being shutdown.

1.6. The parking maintenance of helicopter (OC) is performed:

- when the flight crew transfers the helicopter for maintenance or storage for a period of more than 2 hours;
- when the helicopter is displaced to the other parking apron.

1.7. The pre-flight check operations (OB) are performed immediately prior to each flight irrespective of performed line maintenance check.

1.8. The helicopter maintenance in accordance with “OB-1” maintenance check is performed prior to helicopter flight:

- if the helicopter parking period after line maintenance is 12 hours and more;
- if “A-1” maintenance checks were carried out after flights the day before, regardless of previous parking period;
- after periodic maintenance.

1.9. The helicopter maintenance in accordance with “A-1” maintenance check is performed:

- after helicopter landing, when the time in flight is 45 minutes and more, and if “A-2” maintenance checks are not required;
- during scheduled refueling of the helicopter, when the time interval between landings is less than 45 minutes;
- after flights, when the total flying time today is less than 7 hours.

1.10. The helicopter maintenance in accordance with “A-2” maintenance check is performed: after flights, when the total flying time today is 7 hours and more, and periodic maintenance is not required;

Note: When the total flying time today is less than 7 hours, the “A-2” maintenance checks are performed once per two days, during which at least one flight was performed.

- after any periodic maintenance checks;
- after special maintenance (in accordance with instructions of section 7 of present maintenance schedule).

1.11. The helicopter maintenance in accordance with “Б” maintenance check includes the operations, performed with intervals of (25 ± 5) flight hours, and the count is kept from numbers, divisible by 25 hours (only for helicopter frame and power unit).

1.12. The periodic maintenance consists of preliminary operations, inspection and maintenance operations, lubrication and final operations.

1.13. The periodic maintenance is assigned basing on the helicopter flying time in hours, since it was placed in service or after the last overhaul and includes the basic maintenance checks Ф-1,

to be performed every (50±10) flight hours, and additional operations Φ -2, 3 and 4 to be carried out every 100, 300 and 500 flight hours respectively, regardless of tolerance at the previous periodic maintenance.

1.14. There is a single tolerance equal to ±10 flight hours for all periodic maintenance operations. In case of step-by-step maintenance procedure it is allowed to increase the tolerance up to ±20 flight hours for operations with intervals of 100 hours and more.

1.15. The maintenance of engines, units and instruments is determined by the helicopter flying time. In case of replacement of the engine (engines) and other components due to expiration of service life or before the expiration date, carry out the maintenance checks, required by helicopter flying time, and additional operations:

- connected with replacement of the engine (engines) or components;
- inspection of helicopter frame structural components and systems points, which are accessible only with the removed engine or component.

The subsequent maintenance of engine (engines) and other components is performed according to maintenance checks, corresponding to the helicopter flying time.

1.16. When performing all periodic maintenance checks it is necessary to check the operating time of engines, oils and all units, having the limited service life, to exclude their overtime operation in the next flight and to determine the necessity of their replacement.

1.17. The helicopter maintenance during storage is performed during intervals between flights and includes the following operations:

- helicopter preparation for storage;
- helicopter maintenance every (10±2) days; (30±5) days; 3 months ± 10 days; 6 months ± 1 month;
- helicopter preparation for flight after storage.

1.18. The seasonal maintenance is performed during helicopter preparation for autumn-winter and spring-summer periods of operation.

1.19. The special maintenance is performed after:

- flight in turbulent atmosphere (when exceeding the permissible limit loads), steep turns, lightning strike, flying in icing conditions, hard landing, at increased vibration level, resonance conditions and staying on the ground in storm weather;
- replacement of engines, main, intermediate and tail gear boxes, main and tail rotors hubs.

1.20. All operations, specified in Maintenance Schedule (MS), should be performed in accordance with task cards, included in Maintenance Manual of Ми-8МТ helicopter, as well as maintenance procedures and storage instructions, included in Maintenance Manuals of vendor items.

Follow the instructions of Air Transport Department and Maintenance Manuals of Ми-8МТ helicopter, TB3-117BM engine, BP-14 gear box and another components, as well as effective civil aviation bulletins when it is required to perform operations, not specified in the above-mentioned documents.

All revisions and supplements should be introduced in MS in proper time according to directives of Air Transport Department and industry bulletins, validated by Air Transport Department.

1.21. The task card with the same number, that is in the Ми-8МТ helicopter Maintenance Manual (8MT-0007-00PЭ), third edition, or in the Vendor items Maintenance manuals – for vendor items, corresponds to each MS item.

When performing the checks of helicopter equipment and avionics in the laboratory for compliance with appended Instructions on checking instruments and sets, follow the references to the documents, indicated in the column "Remarks".

1.22. When performing any of helicopter maintenance checks, eliminate all troubles, revealed by crew in flight and detected during maintenance.

1.23. On completion of operations, connected with replacement, installation and adjustment of units in helicopter, engines control systems and another systems, make certain of serviceability of units and systems, and compliance of control position to position of controlled element.

1.24. On completion of operations, connected with hinging-up of instrument panels, perform the checkup of pressure instruments.

1.25. The helicopter maintenance is performed by technical maintenance personnel, trained for each of specialties, familiar with structure, instructions on technical maintenance and repair of aviation equipment in civil aviation (ИТЭРАТ ГА –93), Instruction on safety precautions, present maintenance schedule; authorized for Ми-8МТ helicopters maintenance in accordance with established procedure and responsible for completeness and quality of performed operations.

1.26. The technical maintenance personnel, authorized for helicopter maintenance on one's own, is responsible for organization and control of quality of performed operations in accordance with present MS.

1.27. The quality step-by-step inspection of operations, performed during periodic maintenance of the helicopter, is carried out by aircraft maintenance station maintenance personnel, assigned in accordance with Civil aviation ministry Instruction No. 29/И dated 12.10.89 "Standard statement on technical control department of airline aircraft maintenance station, production enterprise and flight institution of civil aviation".

1.28. Technical documentation should be drawn up in accordance with effective statements after each maintenance of the helicopter.

1.29. The engines fuel system should be always filled with fuel. Once the fuel system has been emptied, preserve the fuel system pipelines and units not later than 24 h after fuel has been drained.

1.30. Removal of factory lead seals of helicopter units, engines and units of helicopter equipment, whose warranty terms have not elapsed, for troubleshooting is performed only by representative of supplier factory. On completion of troubleshooting the seals of the units and equipment should be applied by representative of supplier factory, with a corresponding entry on performed operation made in the Log-Book (Certificate) of the respective unit.

1.31. In case of pre-term or unscheduled removal of any item from the helicopter, hang out a pennon in plain view in the cockpit and tag, indicating that this item has been removed.

2. SAFETY PRECAUTIONS

2.1. Prior to carrying out the operations in the helicopter, it is necessary to make certain that the helicopter is grounded, all automatic circuit breakers and switches of electrical loads are in OFF position.

2.2. The ground power sources may be connected to the helicopter mains only if the permission of the flight engineer, engineer or chief of maintenance crew has been given. When power supply sources are connected to the helicopter, hang out a placard HELICOPTER ENERGIZED.

2.3. It is necessary to deenergize the helicopter mains when carrying out the operations on removal and installation of helicopter equipment and avionics in the helicopter, as well as inspecting the wiring of distribution devices (junction boxes) and troubleshooting in the electric circuits. Hang out placards "WORKS ARE CARRYING OUT. DO NOT ENERGIZE!" in the cockpit at the external power and emergency power-up switches, as well as at the connectors of ground power sources connection.

2.4. In all cases of helicopter standing on the ground, the PИO-3 radioisotope ice detector probe should be covered with protective casing.

It is STRICTLY PROHIBITED to open the radioactive sources like PИO-3 radioisotope ice detector and to remove the base plate with radioactive element from them in service.

The detectors together with the radioactive sources are not to be destroyed and buried at the operator.

When working with the radioisotope sources follow the "Basic sanitary regulations on operation with radioactive substances and sources of ionizing radiation" ОСП № 950-72.

2.5. When the transmission and controls (manual, pedal and collective pitch/throttle) are being tested and adjusted, it is prohibited to perform any operations in the areas of moving elements. Prior to turn the transmission and move the controls, it is necessary to give warning commands to the maintenance personnel, working in the specified areas, and to receive their reports on safety.

2.6. During engines cranking it is prohibited to stay and carry out the operations in the engine and gear box compartments, tail boom and in the area of helicopter rotors. The top engine access hatch in the cockpit should be closed.

2.7. Be careful and avoid touching the hot parts to prevent burns when inspecting the power plant and walking on the servicing platforms after engines shutdown.

2.8. When inspecting the helicopter make use of serviceable lamps with protecting grids only. Damaged cable insulation, sparking and loose plug-to-socket connection are not allowed.

2.9. Make certain that hydraulic jacks, hoisting cranes and electrically controlled movable hoists are serviceable prior to their application. It is strictly prohibited to use faulty hoisting devices or devices having the expired inspection (per specifications) time.

2.10. Inflate the landing gear wheel tyres with compressed air from high-pressure bottles and blow out the parts assemblies using a special reducer, adjusted to pressure in accordance with technical requirements.

2.11. It is not allowed to use the protruding elements and the other objects of helicopter structure instead of stepladders, except for specially designed elements (servicing platforms on the cowlings of engine and gear box compartments, steps etc.)

2.12. It is not allowed to carry out any operations standing on the tail boom.

2.13. All operations on installation and removal of engines, gear boxes, main rotor hub and blades should be performed under the direction of responsible person, having the authorization to perform slinging operations (engineer, headman), using hoisting devices and rigging arrangement, specified by technology.

2.14. The helicopter should be lifted by means of all hydraulic jacks simultaneously. Nobody should stay on or under the helicopter during lifting. Do not attempt to lift the helicopter if the wind velocity is more than 8 m/s.

2.15. It is not allowed to tighten the connections, nuts and to relocate the fastening (attachment) of pipelines of air and hydraulic systems being under pressure.

2.16. As the decay products of Б-3В synthetic oil are toxic, prevent getting of oil onto exposed areas of skin. If oil gets on the exposed areas of skin, it is necessary to wash it immediately with

warm water and soap. If Б-3В oil gets on the parts and surfaces of the helicopter, remove it immediately with cloth, wetted in gasoline for technical purpose, and wipe dry this surface.

2.17. It is not allowed to refuel the helicopter:

- with the engines running;
- when the fire-fighting means are not available;
- during storm.

2.18. Helicopter electrical system power supply and units, servicing the refueling, should be switched on before refueling and switched off on its completion.

2.19. During helicopter refueling it is not allowed to:

- perform maintenance of radio, electric and oxygen equipment;
- switch on and off the automatic circuit breakers and switches in the helicopter cockpit and cabin;
- perform any operations, connected with sparking, in the helicopter and at the distance of 25 m from the helicopter.

2.20. Engines starting and testing on completion of periodic maintenance checks or after elimination of troubles should be performed on specially assigned or mooring sites, as well as on parking sites provided that the requirements of item 7.7.4 НПП ГА-85 are fulfilled.

2.21. When the engines are being tested, nobody should stay within the main rotor blades swept area, as well as within tail rotor zone. It is not allowed to stay closer than 25 m from the helicopter, except for technician, observing the starting.

2.22. Only if the engines are operating at idle power it is allowed to approach to the helicopter, at that one should remember that the lowest left front and right rear areas are the most dangerous areas of blades rotation.

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MAINTENANCE INSTRUCTIONS

3. LINE MAINTENANCE

M.S. item	Name of equipment and description of maintenance operations	Remark
Post-flight check operations (BC)		
010.10.006	Check the helicopter grounding. Ground the helicopter.	Operation is performed by technical specialist responsible for helicopter post-flight check.
030.80.00a	Inspect the РИО-3А ice detector and put the protective casing on the detector probe.	Operation is performed by technical specialist responsible for helicopter post-flight check.
034.10.00a	Make sure that Pitot tubes' heating is turned off and inspect them. Make sure of security of attachment, absence of mechanical damages and cleanliness of inlets of pitot tubes and KB-11 altitude controller. Put covers on pitot tubes.	
033.40.00c	Inspect the landing-search lights, taxiing lights, navigation lights, formation and rotor blade tip lights, anti-collision lights, and exterior antennas of avionics. Make sure that they are free from dirt and damages.	
012.10.00в	Get familiar with entries in Log Book and obtain information from crew on operation of helicopter equipment and avionics.	
012.10.00e	Make certain that all switches are in initial positions, automatic circuit breakers and batteries are off.	
Pre-flight check operations (OB)		
024.30.00c	Check availability of batteries aboard the helicopter or install batteries (if removed). Make entry on batteries installation in Log Book, indicate the date and name, and sign.	
012.20.00д	Remove the covers from pitot tubes.	
030.80.00a	Remove the protective cover from РИО-3А ice detector probe.	
034.10.00b	Check operation of pressure instruments from pitot tubes.	Operation is performed after a rainfall of any rate, resulting in continuous water flow on the fuselage surface, as well as after dust storm, snowfall, removal of ice or snow and helicopter flushing.
024.40.00a	Connect external power source to helicopter (if airborne batteries are not used for starting) prior to engines starting. Disconnect the external power source from helicopter at the crew captain command after starting. Having tested the engines, get familiar with crew remarks on operation of engine and helicopter systems monitoring instruments. Eliminate the detected defects, if necessary.	Operation is performed by technical specialist responsible for helicopter pre-flight check.
Preparation of helicopter for storage (OC)		
024.60.006	Check the helicopter grounding. The helicopter should be reliably grounded.	
012.10.00e	Make certain that all switches are in initial positions, automatic circuit breakers and batteries are off, and protective covers and casing are placed on pitot tubes and РИО-3А ice detector.	
129.20.00д	Unload holders of signal flares and install blanks in the holder casings.	
024.30.00	Remove batteries from helicopter and forward them for indoor storage at ambient air temperature -5°C or below. Make entry in Log Book on removal of batteries, indicate the date and sign.	

INSPECTION AND MAINTENANCE OPERATIONS

M.S. item	Name of equipment and description of maintenance operations	Maintenance check			Remark
		OB-1	A-1	A-2	
24.00.00	POWER SUPPLY SYSTEM				
24.20.00a, b	Inspect the СГС-40ПУ generators in the main gear box compartment and branches and flexible hoses leading to them.	-	-	+	
24.20.00h	Inspect the ФГ-5 filters in the main gear box compartment.	-	-	+	
24.20.00n	Having tested the engines, obtain the information from crew on operation of AC power sources.	+	-	-	
24.30.00c	Install the storage batteries in the helicopter. Make an entry in the Log Book.	+	-	-	
24.30.00a	Check the degree of charge of storage batteries (separately and under load).	+	-	-	
24.30.00f	Inspect the АЗП-8М automatic circuit breaker and PH-120У voltage regulator, tightening and locking of socket connectors in the radio compartment and tail boom.	-	-	+	
24.30.00j, l	Check the operation of DC electrical system and storage batteries heating system	+	-	-	
24.30.00k	Having tested the engines, get familiar with crew remarks on operation of СТГ-3 starter-generator of АИ-9В engine in the standby power source operating mode.	+	-	-	
24.40.00a	Check the external power mains for serviceability.	+	-	-	
24.40.00b	Inspect the plugs of socket connectors ШРАП-500К and ШРАП-400-3Ф.	+	-	-	
24.50.00a	Inspect the wire harnesses and cables of distribution circuit along the starboard of fuselage center section, in the radio compartment and tail boom, in the RH and LH engine compartments, in the main gear box compartment.	-	-	+	
24.50.00b	Inspect the fuses of ПМ type, mounted in the АИ-9В engine starting junction box, in the cargo cabin, in the radio compartment and tail boom.	-	-	+	
132.20.00a	Inspect the electric winch units and wire harnesses leading to them. Make sure of security of attachment of wire harnesses, connection of socket connectors and absence of mechanical damages on them.	+	-	-	
132.50.00a	Inspect the external load sling system wire harness (when mounted). Make sure of wire harness security of attachment, connection of socket connector, absence of wire harness insulation damages. Inspect the portable control panel of load release from external load sling system, check the ДГ-64М shackle and buttons on the portable control panel.	+	-	-	
	Perform functional test of the electric equipment:	+	-	-	
24.20.00m	- ПО-500А and ПТ-200Л inverters;				
26.10.00d	- fire warning system;				
26.20.00c	- fire extinguishing system;				
28.20.00c	- fuel pumps;				
28.20.00d	- fuel emergency shut-off valves				
132.50.00b	- energized external load sling system.				
26.00.00	FIRE-FIGHTING EQUIPMENT				
26.20.00b	Inspect the helicopter portable fire extinguishers ОУ-2. Make sure of intactness of locking devices and availability of bottle valve seal.	+	-	-	
26.21.01	Check pressure in the УБШ-4-4 fire extinguishers using pressure gauges. The pressure in the fire extinguishers depends on ambient air temperature as follows: t°C -60 -50 -40 -30 -20 -10 0 kg/cm 69 72 76 80 84 88 92 t°C +10 +20 +30 +40 +50 +60 +70 +80 kg/cm 96 100 106 112 118 125 133 142	+	-	-	

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M.S. item	Name of equipment and description of maintenance operations	Maintenance check			Remark
		OB-1	A-1	A-2	
33.00.00	LIGHTING EQUIPMENT				
33.10.00a, b	Inspect and check the dome lights, lights and sockets in the cockpit. Check the cockpit lighting equipment for serviceability.	+	-	+	
33.30.00a, b, c	Inspect and check the cargo cabin lighting, the КЛРСК-45 cabin lamp, ФР-100 light and sockets; the radio compartment and tail boom lighting. Check the lighting of cargo and technical compartments for serviceability.	+	-	+	
33.40.00a	Inspect and check the landing-search lights, taxiing lights, navigation and rotor blade tip lights, anti-collision light for serviceability. Make sure of absence of dirt and damages.	+	+	+	
31.00.00	INSTRUMENTATION				
31.10.00a	Inspect the instrument panels and control panels. Make sure that the panels of electric control panel are securely locked; the instruments, annunciators and light conductors are securely fastened.	+	-	-	
31.20.00a	Wind up the АЧС-1 clock and make sure of its functioning. Set precise Greenwich time and move the second hand to zero.	+	-	-	
34.00.00	FLIGHT-NAVIGATION EQUIPMENT				
34.10.00	Check the altimeters' barometric pressure scale readings for compliance with atmospheric pressure value, reduced for helicopter parking site.	+	+	-	It is not allowed to bring the altimeters' scales to conformity immediately in the helicopter.
34.10.00a	Inspect the KB-11 altitude controller static pressure receivers, pitot tubes and moisture sumps, drain the condensed moisture. Make sure of serviceability of the above-mentioned items and pitot static system changeover valve.	+	-	-	
34.10.00b	Check the operation of pressure instruments from pitot tubes and air-tightness of pitot system.	+	-	-	
22.20.00d 34.12.02a	Perform functional test of the instrumentation: - АП-34Б autopilot; - ВЭМ-72Ф altimeter in the "Autocheck" mode; CAUTION. Do not change the static pressure in the indicator casing and do not rotate the P ₀ entry handle when the altimeter power is switched off.	+	-	-	When the AC power source is not available, obtain information from crew on operation of instrumentation after engines testing.
34.20.00f	- АГБ-3К gyro horizon;				
34.20.00	- ВК-53PB erecting cut-out switch;				
34.20.00	- ЭУП-53 turn indicator;				
34.10.00d	- pitot tubes heating system (indicated by annunciator lighting up)				Checking time of the pitot tubes heating system under current should not exceed one minute.
34.41.00r	- ГМК-1А compass system				
142.00.00	AIRBORNE AUTOMATIC TEST AND FLIGHT DATA RECORDING SYSTEM				
142.10.00	Check the availability of film in the K12-51DM recorder unit cassette and make sure that its length is enough for flight.	+	+	-	
142.10.00	Warm up the recorder unit.	+	-	-	
142.10.00	Record the de-energized vibrator lines of recorder unit.	+	+	-	This operation should be performed with newly installed cassette.
142.10.00d	Disconnect the cassette from recorder unit, put the removed cassette into the sack and send it for developing.	-	+	+	Operation per Ф-А1 should be performed only at the end of the flight day, if operations per Ф-А2 are not performed.
23.00.00	AVIONICS				

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M.S. item	Name of equipment and description of maintenance operations	Maintenance check			Remark
		OB-1	A-1	A-2	
23.00.00	Inspect the exterior antennas, fairings of suppressed fuselage antennas and finger and bushing insulators, beam antenna lead-in. Make sure of their cleanliness, security of attachment, absence of damages on them and cleanliness of drain holes.	+	-	+	
23.70.00ц (23.70.00а)	Perform the П-503 (MC-61) voice recorder maintenance in the helicopter. Check the operation of voice recorder in "MIKE" and "ICS" modes, pronounce the words legibly and record date, type and serial number of helicopter, name of airport and operator's name on sound recording medium. Make "Recorder OK" entry in Log Book and in the work order card. If MC-61 voice recorder cassette has been replaced make an entry: "Cassette has been replaced. Sound recording medium volume is for ... hours of cockpit voice recorder continuous operation"; enter date, operator's name and sign it.	+	+	-	Operation per Ф-А1 should be performed in case of insufficient length of sound recording medium for flight.
113.10.01	Check the intactness of locking devices of items "020M" and "81".	-	-	+	
	Perform functional test of the following equipment:	+	-	-	
113.01.02	- "020M" item (indicated by neon lamp illumination on the unit No. 8 when switching the channels);				Listen to the fan operation prior to check. In case of unwanted sounds remove the unit and send it in the laboratory.
23.20.00р	- VHF radio stations No. 1 and No. 2;				When the AC power source is not available, obtain information from crew on operation of avionics after engines testing.
32.10.00р	- Short-wave radio station;				
110.40.00а	A-037 (PB-3), PB-УМ Radio altimeter;				
23.40.00а	- СПУ-7 interphone system;				
23.12.00а	- РИ-65Б voice warning system;				
110.30.00а	- ДИСС Doppler navigational system				
110.10.00в	- АРК-9 and АРК-УД automatic direction finders;				
110.21.00д, г	- "Квиток" А-723 item;				
110.72.00г	- 8А-813 weather radar;				
113.32.02а	- СО-72 item.				

4. PERIODIC MAINTENANCE

M.S. item	Name of equipment and description of maintenance operations	Intervals (flight hours)	Remark
21.00.00	AIR CONDITIONING SYSTEM		
21.40.00h	Check the condition of commutator and brushes of fan motor of KO-50 kerosene heater. Measure and put down the length of brushes.	300	
21.40.00c	Check the KO-50 kerosene heater for serviceability.	50	
24.00.00	POWER SUPPLY SYSTEM		
24.20.00	AC POWER SYSTEM		
24.20.00b	Check the СГС-40ПУ generators for external condition and security of attachment.	50	
24.20.00c	Check the security of contact connections of СГС-40ПУ generators.	50	
24.20.00d	Check the brush-gears and slip rings of СГС-40ПУ generators. Measure and put down the length of brushes.	100	
24.20.00e	Add grease to bearings of СГС-40ПУ generator units.	300	
24.20.00f	Check the КВР-3-2, АЗП1-3Д, АПП-1А, КОЧ-1А, ФКР-1 units for external condition and security of attachment.	50	
24.20.00g	Check the external condition and security of attachment of ТС310СОЧБ, ТС/1-2, Тр115/36 transformers, РН-600 voltage regulators and ДВ-302Т fans.	50	
24.20.00i	Check the ПО-500А inverter for external condition, security of attachment and connection of cables.	50	
24.20.00j	Remove the ПО-500А inverter from the helicopter to perform maintenance and checkup of main parameters. Install the inverter into place on completion of maintenance and checkup of main parameters.	500	
24.20.00k	Check the ПТ-200Ц inverter for external condition and security of attachment.	50	
24.20.00l	Remove the ПТ-200Ц inverter from the helicopter to perform maintenance and checkup of main parameters. Install the inverter into place on completion of maintenance and checkup of main parameters.	500	
24.20.00m	Check the automatic switching over of ПО-500А and ПТ-200Ц inverters.	50	
24.20.00o	Check the АПП-1А switching unit for serviceability.	50	
24.21.62	Check the БЧФ-208 phase-sequence unit for external condition.	300	
24.22.01	Remove the ДВ-302Т electric fan of РН-600 air-cooling. Blow out the fan motor, check the brush-gears. Measure and put down the length of brushes of fan electric motor.	500	
24.22.01	Install the ДВ-302Т electric fan in the helicopter.	500	
24.30.00	DC POWER SYSTEM		
24.30.00	Remove the storage batteries to send them for maintenance at a battery-charging facility.	Once a month	The maintenance of storage batteries should be performed in accordance with Technical specification and Maintenance instruction of 12-CAM-28 type batteries.
24.30.00b	Check condition of storage batteries containers.	Once a month	
24.30.00d, e	Inspect the attachment fittings of containers of storage batteries and vent pipes.	Once a month	
24.30.00c	Install the storage batteries in the helicopter on completion of maintenance operations.	Once a month	
24.30.00f	Check the АЗП-8М automatic circuit breaker and РН-120У voltage regulator for external condition and security of attachment.	50	
24.30.00g	Check the ВУ-6А rectifiers for external condition and security of attachment.	50	

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M.S. item	Name of equipment and description of maintenance operations	Intervals (flight hours)	Remark
24.30.00i	Check the batteries heating for serviceability.	50	Perform this operation when the ambient air temperature is below zero.
24.30.00j	Check the operation of DC electrical system.	50	
24.50.00	DISTRIBUTION CIRCUITS		
24.40.00a	Check the external power mains for serviceability.	50	
24.50.00b	Inspect the distribution devices and equipment mounted inside them.	50	
24.50.00c	Inspect the negative polarity wires.	50	
24.60.00a	Inspect the bonding of helicopter equipment.	50	
26.00.00	FIRE-FIGHTING EQUIPMENT		
26.10.00a, b, c	Inspect the fire warning pickups, their electrical wiring, sockets, actuating units and shock absorbers. Make sure that the units are and securely attached free from damages; socket connectors are connected and locking devices are intact.	100	
26.10.00d	Check the fire warning system for serviceability.	100	
26.10.00	Check the ССП-ФК system actuating units using ПП-ССП control panel.	500	
26.20.00c, e	Check the fire extinguishing system for serviceability, as well as operable condition of manual-controlled push buttons and circuits of fire extinguishing means.	100	
28.00.00	FUEL SYSTEM		
28.20.00a (item 4), e	Check the security of tightening and locking of plug-and-socket connector union nuts of 463Б fuel pump, 610200 solenoid valve, and 768600MA fuel emergency shut-off valve. Make sure that the protective covers are serviceable.	100	
28.20.00c, d	Check the fuel pumps and 768600MA fuel emergency shut-off valves for serviceability.	50	
28.40.00c	Check the "БАК ПОЛОН" (TANK FULL) annunciator lamps for serviceability.	50	
29.00.00	HYDRAULIC SYSTEM		
29.30.00a	Inspect the ИД-100 transmitters of ДИМ-100 pressure gauges and pressure indicators МСТ-35А and МСТ-25А.	100	
30.00.00	ANTI-ICING SYSTEM		
30.20.00a	Inspect the ТЭР-1М temperature regulators of dust-protection devices.	50	
30.40.00a	Inspect the electric units of glass anti-icing system; make certain of absence of mechanical damages, security of attachment, tightening and locking of socket connectors.	50	
30.40.00d	Inspect and check the security of connection of wires to the temperature transmitters of glasses.	50	
30.60.00a	Inspect and check the fairings of main rotor current collector and electric wire harnesses leading to heating elements of blades. Make sure of their reliable beading, intactness of protecting rubber pipes and covers, and secure tightening and locking of socket connectors.	50	
30.60.00f	Inspect and check condition of slip rings and brushes of current collectors of main and tail rotors.	500	
30.80.00a	Inspect the РИО-3А ice detector transmitter; make certain that it is free from dirt and mechanical damages.	50	
30.80.00b	Check the РИО-3А ice detector for serviceability.	50	
30.80.03, i.7	Inspect and check the integrity of transmitter heating element and condition of rubber sealing ring in the cable part of Ш1 and Ш2 connectors of РИО-3А ice detector.	500	
30.80.03, i.8	Check the insulation resistance of cable line "transmitter – electronic unit".	500	
33.00.00	LIGHTING EQUIPMENT		

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MAINTENANCE INSTRUCTIONS

M.S. item	Name of equipment and description of maintenance operations	Intervals (flight hours)	Remark
33.40.03в	Remove the МСЛ-3 anti-collision light and reinstall it in the helicopter after completing the maintenance.	500	The maintenance of anti-collision light should be performed in accordance with Anti-collision light Maintenance Manual 004.0016-РЭ, 1991.
49.40.00	AIRBORNE AUXILIARY POWER UNIT		
49.40.01в	Inspect the commutator in assembly with brushes of СТГ-3 starter-generator. Measure and put down the length of brushes.	300	
49.40.02в	Inspect the contacts of ignition coil.	500	
73.10.00	ENGINE FUEL FEED SYSTEM		
73.10.00a, b, c	Check the impedance of thermocouples circuit at terminals of PT-12-6 temperature regulator and adjustment of PT-12-6 temperature regulator using test desk. Make certain of security of attachment and absence of external damages.	500	
	POWER UNIT		
73.15.04 (73.16.04)	Inspect and check the ЭРД (РПР) Engine electronic regulator adjustment using ПНК control panel.	300	
132.20.00	AIRBORNE HOIST BOOM AND ELECTRIC WINCH		
132.20.00a	Inspect the units of ЛПГ-150М electric winch in the helicopter made in cargo version. Make sure of security of attachment of electric wire harnesses, connection of socket connectors and absence of insulation damage.	300	
132.50.00	EXTERNAL LOAD SLING SYSTEM		
132.50.00a	Inspect the external load sling system electric wire harness (if mounted). Make sure of security of attachment of electric wire harness, connection of socket connector, absence of wire harness insulation damages. Inspect the portable control panel of load release from external load sling system. Check the ДГ-64М shackle and buttons on the portable control panel.	100	
	Maintenance and operational status check of the removed equipment in laboratory		
24.20.001	Perform maintenance and checkup of main parameters of ПТ-200Ц inverters in the laboratory:	500	Technical specifications of ПТ and ПАГ М type inverters. "Air transport", 1985.
	a) check the external condition;		
	b) perform maintenance of commutator in assembly with brushes;		
	c) check the following parameters:		
	- position of moving part of magnetic conductor of ДК-13 and ДК-14 loop chokes;		
	- AC phases sequence;		
	- frequency and value of output voltage at the change of supply voltage and load current;		
	- stability of frequency control system at the load of 3.2 A;		
	- value of output voltage and input current at the load of 3.2 A;		
	- degree of sparking under brushes.		

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MAINTENANCE INSTRUCTIONS

M.S. item	Name of equipment and description of maintenance operations	Intervals (flight hours)	Remark
24.20.00j	Perform maintenance and checkup of main parameters of ПО-500А inverters in the laboratory:	500	Technical specifications of ПО type inverters. "Air transport", Moscow, 1985.
	a) check the external condition;		
	b) perform maintenance of commutator in assembly with brushes;		
	c) check the following parameters:		
	- frequency and value of output voltage at the change of supply voltage and load current;		
	- input current in the no-load operation mode and at the rated load;		
	- degree of sparking under brushes.		
33.40.03д	Perform maintenance and checkup of main parameters of МСЛ-3 anti-collision light in the laboratory:	500	МСЛ-3 anti-collision light Maintenance manual 004.0016-РЭ, 1991.
	- clean the internal surface of light filter and inner cavity of anti-collision light;		
	- replace the brushes;		
	- check the frequency of anti-collision light;		
	- renew the grease in the cylindrical gearing, which transmits rotation to the platform with lamps, with the grease ЦИАТИМ-221.		
	INSTRUMENTATION		
	Maintenance of equipment in the helicopter		
	Perform functional test of the Instrumentation:	100	
28.40.00d	- fuel level indicator;		
3 1.20.00	- helicopter clock;		
34.10.00d	- pitot tubes heating system (indicated by annunciator lighting up)		
3 4.20.00	- ЭУП-53 turn indicator;		
3 4.20.00	- ВК-53РВ erecting cut-out switch;		
3 4.20.00f	- АГБ-3К gyro horizon (separately from the main source and standby inverter ПТ-200Л);		
3 4.41.00r	- ГМК-1А compass system.		
3 4.10.00a	Inspect the Pitot static system units. Make sure of absence of damages, security of pipelines connection, intactness of locking. Drain the condensed moisture from moisture sumps. Clean the holes of autopilot KB-11 altitude controller static pressure receiver.	100	
3 1.10.00b	Open the panel of instrument panels. Inspect the electric wiring and socket connectors.	100	
3 4.10.00c	Blow through the pipelines of pitot systems of total and static pressure and KB-11 altitude controller static pressure system with compressed air.	500	

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MAINTENANCE INSTRUCTIONS

M.S. item	Name of equipment and description of maintenance operations	Intervals (flight hours)	Remark
34.10.00	Inspect the altimeters, make certain of absence of damages and presence of paint (on caps) on locking rack-and-pinion mechanism. Check the altimeters' barometric pressure scale readings for compliance with atmospheric pressure value, reduced for helicopter parking site.	100	In case of un conformity of readings, check the altimeters for compliance with appended Instructions on checking instruments and sets. It is NOT allowed to bring the altimeters' scales to conformity immediately in the helicopter.
34.20.00b i. 5	Inspect the КИ-13 compass. Make sure of security of its attachment, presence of locking of compensator screws and presence of correction chart in the helicopter.	100	
34.20.00c	Make certain of availability of tables of correction of altimeters and speed indicator readings, as well as КИ-13 compass and ГМК-1 compass system correction charts. Make sure that the numbers of equipment correspond to the numbers in the tables.	100	
34.41.00	Check the ГМК-1А compass system using the УПП-ГМК-1 set.	500	
22.10.00d	Perform the autopilot checkup and adjustment with the hydraulic system being switched on.	500	
	Remove from helicopter and install after maintenance and after main parameters check:	500	
34.10.00	- УС-450К speed indicator;		
34.10.00	- ВД-10ВК altimeter;		
34.10.00	- ВАР-30МК vertical-speed indicator;		
34.12.02	- ВЭМ-72Ф altimeter;		
34.20.00	- ВК-53 erecting cut-out switch;		
34.20.00e	- ЭУП-53 turn indicator;		
34.20.00g items 1, 9	- АГБ-3К gyro horizon.		Prior to gyro horizons removal make sure of installation marks availability on the instrument panel and bracket of АГБ-3К attachment.
34.00.00	After removal of equipment inspect the places of equipment installation, socket semi-connectors, shielding of cables. Make certain of absence of damages. Install the plugs in the semi-connectors. After equipment installation in the helicopter make sure that all equipment is mounted properly and connector coupling nuts are tighten.	500	
34.10.00h items 9, 14	Replace the onboard tables of correction of altimeters and speed indicator readings with the tables, containing the data, obtained during the last checkup in the laboratory.	500	
	Maintenance and operational status check of the removed equipment in laboratory:		
34.10.00	Check the parameters of speed indicators:	500	34.10.00i
	- air-tightness of static system;		
	- air-tightness of dynamic system;		
	- instrument error of readings;		
	- variations of readings;		
	- non-smooth travel of pointers.		
34.10.00	Check the parameters of ВД-10ВК altimeter:	500	34.10.00h "Instruction on checkout of
	- instrument errors of readings;		

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MAINTENANCE INSTRUCTIONS

M.S. item	Name of equipment and description of maintenance operations	Intervals (flight hours)	Remark
	- air-tightness of casing; - variations of readings; - non-smooth travel of pointers. - mismatching of barometric pressure scale readings with the value of pressure in the altimeter casing; - draw up the table of readings.		barometric altimeters (interdepartmental)", Moscow, "Air Transport, 1984.
34.12.00	Check the parameters of БЭМ-72Ф altimeter:	500	"Instruction on checkout of barometric altimeters (interdepartmental)", Moscow, "Air Transport, 1984. "Standard procedure of introduction of corrections in altimetry".
a) 3.2.1	- check the external condition;		
б) 3.2.2	- check the failure signal output in the form of 27 V DC voltage when switching on the altimeter power supply with 115V AC, 400 Hz;		
3.2.3	- closing of contacts of barometric pressure counter P ₀ when setting the barometric pressure of 1013.25±3 hPa (760±2 mm Hg);		
3.2.4	- air-tightness of casing		
3.2.5	- value of mismatching of barometric pressure counter P ₀ readings with the value of pressure in the altimeter casing;		
3.2.7	- altitude visual output of the altimeter;		
3.2.8	- non-smooth travel of pointers;		
3.2.9	- variation of readings;		
3.2.11	- serviceability on the "Autocheck" mode of operation;		
3.2.12	- difference in information between relative altitude and true barometric altitude, reduced to set value of pressure counter P ₀ .		
в) 1.9	Draw up the table of readings taking into account the summary corrections.		
34.10.00	Check the parameters of vertical-speed indicator:	500	
	- air-tightness of static system;		
	- instrument errors of readings;		
	- non-smooth travel of pointer;		
	- value of pointer deflection from the first scale mark.		
34.20.00	Check the parameters of gyro horizon:	500	34.20.00g items 2-8
	- value of current, consumed by gyro horizon at settled duty;		
	- readiness time;		
	- gyroscope precession velocity along roll and pitch axes;		
	- error of readings in roll and pitch;		
	- deflection of gyroscope along the roll and pitch for five minutes.		
34.20.00 TC No. 1	Check the parameters of BK-53PB erecting cut-out switch:	500	BK-53PB Maintenance instruction
	- readiness time;		
	- value of input current in phases;		
	- delay time of correction disconnection and unsymmetry of delay time;		
34.20.00e	Check the parameters of ЭУП-53 electric turn indicator	500	34.20.00e
	- value of input current;		
	- time of pointer returning from extreme position to zero mark;		
	- instrument error at angular velocities;		
	- instrument reading error at inclinations from nominal position.		
28.40.00	FUEL SYSTEM CHECK-UP INSTRUMENTS		

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MAINTENANCE INSTRUCTIONS

M.S. item	Name of equipment and description of maintenance operations	Intervals (flight hours)	Remark
28.40.00d	Check the fuel level indicator for serviceability.	50	
28.40.00e	Inspect and check condition and attachment of СД-29А pressure indicators.	50	
28.40.00t	Check the external condition and attachment of pickups of СКЭС-2027Б fuel level indicator.	50	
28.40.00	Remove the ПВУ switch of СКЭС-2027Б fuel level indicator from the helicopter; lubricate the inner contact surfaces of switch with ОКБ-122-7 grease.	500	
28.40.00	Remove the СКЭС-2027Б fuel level indicator set. Install the fuel level indicator set in the helicopter on completion of maintenance.	1000	
29.30.00	HYDRAULIC SYSTEM CHECK-UP INSTRUMENTS		
29.30.00a	Inspect the ИД-100 transmitters of ДИМ-100 pressure gauges and pressure indicators МСТ-35А and МСТ-25А. Make certain of absence of damages, security of attachment, intactness of locking of socket connector coupling nuts.	50	
65.00.00	MAIN ROTOR CHECKUP INSTRUMENTS		
65.40.00i	Inspect the П-1 receiver, ДОС feedback transmitters, ИКД-27Да instrument complex of СПУУ-52 pitch limit system, МП-100М electromechanism and АМ-800К microswitch. Make certain of absence of external damages, security of attachment, intactness of socket connectors locking.	50	
65.40.00b	Check the СПУУ-52 pitch limit system for serviceability with the hydraulic system being under pressure.	500	Perform this operation together with power plant specialist.
65.60.00f	Check the УП21-15 rotor pitch indicator for serviceability.	500	
65.60.00	Remove the УП21-15 rotor pitch indicator set. Install the rotor pitch indicator set in the helicopter on completion of maintenance.	1000	
65.60.00	Remove the set of ИТЭ-1Т and ИТЭ-2Т tachometers. Install the tachometers in the helicopter on completion of maintenance.	1000	
77.00.00	ENGINE CHECK-UP INSTRUMENTS		
77.20.00a	Inspect the 2УЭ-6Б twin amplifier of 2ИА-6 measuring equipment. Make sure of security of attachment and connection of socket connector.	50	
77.30.01a	Inspect the units included in the ИВ-500Е vibration control equipment set. Make sure of absence of mechanical damages.	50	
77.30.01в	Check the ИВ-500Е vibration control equipment for serviceability using built-in testing.	50	
	Check the ИВ-500Е vibration control equipment for serviceability using УПИВ-У test set:	500	
77.30.01б	- preparation for checkup;		
77.30.01д	- calibration of equipment;		
77.30.01е	- operation of warning;		
77.30.01ж	- steady signal for computerized testing system;		
77.30.01г	- availability of МВ-03-1 transmitter capacity;		
77.30.02б, е	Remove the ИР-117М current duty meter. Install the current duty meter in the helicopter on completion of maintenance.	500	
77.20.00	Remove the 2УЭ-6Б amplifier, 2УТ-6К temperature indicator and ПК-6 intermediate blocks of 2ИА-6 twin measuring equipment. Install the measuring equipment in the helicopter on completion of maintenance.	500	
142.00.00	AIBORNE AUTOMATIC TEST AND FLIGHT DATA RECORDING SYSTEM		

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M.S. item	Name of equipment and description of maintenance operations	Intervals (flight hours)	Remark
142.10.00a, b, c, g	Check the external condition and security of attachment of ДВ-15ВМ altitude transmitter, ДАС indicated speed sensor, МУ-615А transmitter and МСТВ-2,5С pressure indicator from САРПП-12ДМ system.	50	
142.11.00f	Check the indication of film moving.	100	
142.11.00	Perform the calibration of САРПП-12ДМ system.	500	
	Maintenance and operational status check of the removed equipment in laboratory:		
28.40.00g	Perform maintenance and checkup of main parameters of СКЭС-2027Б fuel level indicator in the laboratory:	1000	Technical specifications electric fuel level indicators КЭС-2097А and СКЭС-2027А. "Air transport", Moscow, 1972.
	a) check the external condition;		
	b) clean, perform detailed inspection and maintenance of fuel level indicator and its units;		
	c) check for compliance with appended Instructions on checking instruments and sets:		
	- calibration error of electric fuel level indicator set;		
	- serviceability of warning device.		
65.60.00	Perform maintenance and checkup of main parameters of УП21-15 rotor pitch indicator in the laboratory:	1000	65.60.00g
	- check the error of indicator using a special testing unit УПУ-У;		
	- measure the insulation resistance of electric circuits.		
65.60.00	Perform maintenance and checkup of main parameters of ИТЭ-1Т and ИТЭ-2Т tachometers in the laboratory:	1000	65.60.00h
	- check the error in readings of meters of tachometers combined with transmitter using КТУ-1М reference tachometric unit.		
77.30.02б, е	Perform maintenance and checkup of main parameters of ИР-117М current duty meter in the laboratory:	500	ИР-117М current duty meter Maintenance manual
	- check the external condition;		
	- check the error in readings of meter;		
	- check the insulation resistance of meter electric circuits.		
77.20.00	Perform maintenance and checkup of main parameters of 2ИА-6 twin measuring equipment in the laboratory:	500	77.20.00c
	- check the error of measuring equipment;		
	- measure the block temperature using thermometer;		
	- check the error of ПК-6 block;		
	- determine the error of the equipment readings.		
	AVIONICS		
	Equipment operational status check on helicopter		
23.10.00ф	Check the condition, attachment and tension of antennas, as well as antenna components.	100	
23.20.00п			
110.10.00е			
110.11.00е			
110.40.00д			
113.00.00			
TC 208, items 1,3-10			
23.10.00у	Inspect the external condition, check the attachment and shock-absorption of units, tightening and locking of coupling nuts of connectors, condition and attachment of cables (in the accessible areas), condition of bonding links of cables and units.	100	
23.12.00д			
23.12.00ф			
23.20.00т			
23.20.00е			
23.40.00г			
23.50.00е			
23.70.00г			
110.10.00м			
110.10.00о			

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MAINTENANCE INSTRUCTIONS

M.S. item	Name of equipment and description of maintenance operations	Intervals (flight hours)	Remark
110.11.00h			
110.11.00j			
110.30.00t			
110.40.00d			
110.40.00g			
113.00.00			
TC 208, items 1, 3-10	Perform functional test of the following equipment:	100	
23.10.00p	- short-wave radio station;		
23.12.00в	- РИ-65Б voice warning system;		
23.20.00p	- VHF radio station No. 1 and No.2;		
23.40.00а	- СПУ-7 interphone system;		
23.70.00ц	- П-503Б voice recorder;		
110.10.00в	- АРК-9 and АРК-УД automatic direction finders;		
110.21.00д, г	- "Квиток" А-723 item;		
110.30.00а	- ДИСС Doppler navigational system;		
110.40.00а	- А-037 (РВ-3) radio altimeter;		
110.72.00г	- 8А-813 weather radar;		
113.01.02	- "020М" item;		
113.32.02а	- СО-72 item.		
113.32.02д	Check the СО-72 item for serviceability using built-in testing and test equipment. Check the operation of СО-72 air-cooling fan aurally.	500	
	Maintenance with equipment removal from helicopter.	500	
	Remove from helicopter and install after maintenance and after main parameters check:		
23.10.00	- short-wave radio station;		
23.20.00 д, м	- VHF radio station;		
23.10.00с, е	- РИ-65Б voice warning system;		
23.70.00b, f	- recorder unit of П-503Б voice recorder;		
110.10.00д, n	- antenna unit and receiver of АРК-9 automatic direction finder;		
110.11.00с, l	- antenna unit of АРК-УД automatic direction finder;		
110.30.00b, s	- ДИСС-15 Doppler navigational system;		
110.40.00b, f	- А-037 (РВ-3) radio altimeter;		
113.00.00	- unit No. 5-ОМ of "020" item;	500	
TC 201, 202			
	After removal of equipment inspect the places of units installation, supports, shock-absorbers, racks, bonding links, disconnected connectors, cables. Make certain of absence of dirt, mechanical damages, corrosion and damaged paint coating.		
	Maintenance and operational status check of the removed equipment in laboratory:		
110.10.00b	Perform maintenance and checkup of parameters of receiver unit and antenna unit of АРК-9 automatic direction finder:	500	АРК-9 automatic direction finder Maintenance manual
	- graduation accuracy;		
	- receiver sensitivity;		
	- bearing error;		
	- limiting homing sensitivity;		
	- speed of frame automatic rotation;		
	- flush the commutator and frame brushes;		
	- replace the grease on the gears of reduction gear;		
	- lubricate the frame bearing.		
110.11.00е	Perform maintenance of АРК-УД automatic direction finder antenna unit:	500	АРК-УД automatic direction finder Maintenance manual
	- clean the mechanism;		
	- lubricate the trunnions of axles, reduction gear bearings and components of mechanism toothing.		
113.00.00	Check the parameters of "5-ОМ" unit of "020" item:	500	СРО-2 Mainte-

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M.S. item	Name of equipment and description of maintenance operations	Intervals (flight hours)	Remark
	- correct setting of optimum coupling of RF generator with III range antenna; - transmitter carrier frequency; - impulse power; - duration of pulses and modulation depth of reply; - correct coding of transmitter modulator; - mixing unit current and frequency of III range receiver heterodyne oscillator; - correct setting of gain of III range receiver and I range video amplifier; - serviceability of III range receiver three-pulse warning indicator decoder; - parameters of output pulses of 5-1M unit.		aintenance manual, TC 204, 205.
23.10.00	Check the parameters of short-wave radio stations: - transmitter output power; - voltage of sidetone monitoring; - modulation depth; - accuracy of frequencies setting; - receiver sensitivity.	500	Radio station Maintenance manual.
23.20.00	Check the parameters of VHF radio stations: - supply voltage of measuring unit; - current of transmitter artificial antenna; - transmitter modulation factor; - voltage of sidetone monitoring; - receiver sensitivity; - operation of squelch device; - transmitter frequency stability; - operation of AGC (automatic gain control).	500	VHF Radio station Maintenance manual.
110.40.00	Check the parameters of A-037 radio altimeter: - input current; - calibration; - total sensitivity; - dangerous altitude warning; - event signal output.	500	PB-3 radio altimeter Maintenance manual.
110.40.00c	Check the parameters of PB-3 (PB-УМ): - input current; - total sensitivity; - dangerous altitude warning; - event signal output (except for PB-УМ).	500	
23.70.00	Check the parameters of П-503 (MC-61) voice recorder: - clean the limit switches and working slots of magnetic heads; - clean and lubricate the guides and bearings of handler. - check the clearance between brake disks and brake levers; - check the braking system; - check the magnetic wire tension; - check the condition of magnetic wire; - check the magnetic wire lay; - check the magnetic wire rupture detector and limit switches for operation; - check the engine governor; - check the automatic switch-on and switch-off of tape drive mechanism.	500	П-503 (MC-61) Maintenance manual.
23.12.00	Check the parameters of ПИ-65Б voice warning system: - installation of voice warning system unit; - replace the magnetic carrier and wash the magnetic heads; - test the output voltages of the voice warning system and record the voice messages.	500	ПИ-65Б Maintenance manual.
	Check the parameters of ДИСС-15 Doppler navigational system:	500	ДИСС Maintenance manual.
110.30.00c	- secondary source supply voltages;		
110.30.00d	- voltage and currents of the generator tube check power, crystal mixers currents;		
110.30.00e	- noise voltage and signal level across the LFA outputs;		

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MAINTENANCE INSTRUCTIONS

M.S. item	Name of equipment and description of maintenance operations	Intervals (flight hours)	Remark
110.30.00f	- frequency of generator tube;		
110.30.00g	- power of generator tube;		
110.30.00h	- response of receiving circuits;		
110.30.00i	- zero values of speed components;		
110.30.00k	- error of computation and indication of drift angle;		
110.30.00h	- error of computation and indication of ground speed;		
110.30.00m	- error of computation and indication of the run and lateral deflection;		
110.30.00n	- calibration of the equipment in conditions SEA;		
110.30.00o	- connection of the ДИСС-15 equipment at angles;		
110.30.00p	- ДИСС-15 equipment operation in the MEMORY mode;		
110.30.00g	- accuracy of characteristics of output parameters from check panel;		
110.30.00r	- bias voltage across modulation diodes.		
	Electric equipment maintenance operations performed when replacing engines and main gear box		
24.00.01	Disconnect the electric wiring from electric units to be removed together with engine and secure the wiring so as it will not obstruct the removal.		
24.00.02	Having removed the engine, clean the electric wires, wire harnesses, heat-insulating coating, wire lugs and connectors of dirt. Make certain of absence of damages and reliability of soldering of wire lugs, cleanliness of pins, sockets, and insulating blocks of connectors. Install blanks in all disconnected connectors to protect them from dirtying.		
24.00.03	After engine installation on the helicopter connect the electric wiring of removed electric units and wire harnesses to mating semi-connectors. Lock the connectors. Make sure of absence of electric wiring and electric wire harnesses insulation damages.		
24.00.04	Disconnect the electric wiring from electric units to be removed together with gearbox. Inspect the wire harnesses, wire lugs and connectors. Make certain of cleanliness of wiring and connectors, absence of overheating traces, corrosion and damages. Install the blanks in the disconnected connectors. After gearbox installation on the helicopter connect the electric wiring of removed electric units and wire harnesses to mating semi-connectors. Lock the connectors.		
24.00.05	Prior to СГС-40ПУ generator installation on the BP-14 gearbox remove the protecting band, inspect the generator and its brush assembly. Make certain of absence of damages of brush assembly. Measure the length of brushes. Fit the protecting band. When the length of brushes is 18 mm or less, perform maintenance of СГС-40ПУ generator.		
24.00.06	When testing the engines check the operation of electric units of engines and gearbox.		
	Instrumentation maintenance operations performed when replacing engines and main gear box		
34.00.01	Disconnect the electric wiring of instrumentation and anti-icing equipment and secure it on the structure so that it will not obstruct the removal of engine and gearbox.		
34.00.02	After removal of engine and main gear box inspect the electric wiring and connectors of instrumentation. Make certain of cleanliness, absence of damages of electric cables insulation, pins, sockets and insulating blocks of connectors, as well as absence of traces of corrosion and overheating. Install the blanks in the disconnected connectors.		
34.00.03	Inspect the transmitters of tachometers and make sure of absence of their damages. Install the removed transmitters of tachometers and inductance transmitters on the newly mounted engine and main gear box.		

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M.S. item	Name of equipment and description of maintenance operations	Intervals (flight hours)	Remark
34.00.04	After installation of engines and main gear box on the helicopter fasten and connect the electric wiring to the units and secure the connectors.		
34.00.05	When starting and testing the engines check the operation of engine, transmission, hydraulic system and main gear box checkup instruments.		
34.00.06	Having tested the engines, inspect the instrumentation, electric wiring and connectors of instrumentation and fire-fighting equipment on the engines and in the engine compartments.		

5. MAINTENANCE DURING STORAGE

M.S. item	Name of equipment and description of maintenance operations	Intervals			Remark
		30±5 days	3 months ±10 days	6 months ±1 month	
	Inspect the helicopter equipment and avionics in the volume of OB-1 maintenance check.	+	+	+	
24.30.00	Remove the storage batteries and send them for storage at a battery-charging facility when placing the helicopter for storage.	+	+	+	
24.50.00b	Inspect the distribution devices and equipment mounted inside them.	-	-	+	
	Check the condition of silica gel dehydrator in the PB-3 receiver-transmitter.	-	+	+	

6. SEASONAL MAINTENANCE

M.S. item	Name of equipment and description of maintenance operations	Maintenance check		Remark
		ОЗП*	ВЛП*	
	Combine these operations with the regularly scheduled maintenance check.	+	+	
30.60.00e	Measure the values of resistance of heating elements and insulation of heating elements of main and tail rotor blades. Check the presence of sealing rings in the connectors of main rotor blades and slip ring.	+	+	
30.40.00f	Check the adjustment of glass anti-icing system temperature regulator.	+	+	
	Check the adjustment of РИО-3 ice detector using ТПС-3 instrument.	+	+	
26.20.00f	Check the mass of charge of ОУ-2 fire extinguisher.	+	+	
26.20.00e	Check the integrity of electric circuits up to the squib. Replace the squibs in the УБШ-4-4 fire extinguishers.	+	-	
24.40.00	Inspect the following units of КО-50 kerosene heater:	+	-	
	- electric motor of 748A fuel pump;			
	- starting coil КП-4716 or KB-112;			
	- thermostiches 2416-17,5; 1374A and 2416-4;			
	- electric filters Ф-70 and Ф-100.			
33.40.00	Clean the internal surface of light filter of МСЛ-3 anti-collision light. Blow through the inner cavity of the anti-collision light with compressed air, renew the grease ЦИАТИМ-221 on the gear, which transmits rotation to the platform with lamps.	+	-	
	Send the P-855УМ radio station for maintenance and check for compliance with appended Instructions on checking instruments and sets.	+	+	

**ОЗП - autumn/winter check

ВЛП - spring/summer check

7. SPECIAL MAINTENANCE

M.S. item	Name of equipment and description of maintenance operations	Remark
	Maintenance operations performed after helicopter flying in turbulent atmosphere or after hard landing	The volume of operations may be changed by authorization of commission, responsible for helicopter technical condition determination, depending on particularities of specific case.
	Inspect and make sure of:	
	- absence of mechanical damages of units, assemblies and antennas;	
	- serviceability of shock-mounted frames and intactness of shock absorbers;	
	- intactness of electric wires, security of connection of connectors to the units and assemblies and intactness of their locking;	
	- good connection of rubberized-fabric hoses of pipelines to the appropriate barometric instruments and units.	
	- air-tightness of total and static pressure systems;	
	- good connection of pipelines and units of fire extinguishing system.	
	Maintenance after flying in the area of thunderstorm activity	
	- check the operation of magnetic compass and inductance transmitter of compass system;	
	- in case of discrepancy in readings of magnetic compass and compass system with tolerances, given in correction diagrams, check the degree of helicopter parts magnetization near the compass and compass system transmitter;	
	- in case of necessity determine and eliminate the deviation of magnetic compass and compass system under direction of flight navigator;	
	- inspect the antennas, antenna leads and HF cables in the areas of connection to antennas, bushing insulators and equipment;	
	- remove the 5-OM unit of "020" item. Check the condition of SHF discs 2A509. Install the unit in the helicopter.	

SUPPLEMENT 1

LIST OF ITEMS TO BE SEALED:

1. Switch "БЕДСТВИЕ" (Emergency) on the unit No. 8 of "020" item.
2. Screws of compensator of КИ-13, КМ-8 compass.
3. ОУ-2 and УБШ-4-4 fire extinguishers.
4. Pressure screws of 1-4-4 fire extinguishers valves.
5. Switch "ОБОГРЕВ" (Heating) of РИО-3 ice detector in "АВТОМАТ" (AUTO) position.
6. Switch of "81" item.
7. Unit Д-62 from ДАК-ДБ-5ВК set.
8. Change-over valve of Pitot static system in position "ОБЪЕД." (COLLECTIVE)
9. Switch "Сеть на ВУ" (ССТ TO RECT) in "ОТКЛ" (OFF) position.
10. Switch "ДУБЛИР. ГИДРОСИСТЕМА" (HYD SYS AUX) in "ВКЛ" (ON) position.
11. КС-0,5 cassette of САРПП-12 system.
12. П-503Б (МС-61) voice recorder.

SUPPLEMENT 2

LIST OF ENTRIES IN THE WORK ORDER AND LOGBOOKS (CERTIFICATES) WHEN PERFORMING SCHEDULED MAINTENANCE OF HELICOPTER EQUIPMENT AND AVIONICS:

No.	Contents of entry	Entry to be made in	
		Work order or laboratory (workshop) registry	Logbook
1.	Replacement of helicopter equipment and avionics units, specifying the cause of replacement as well as serial numbers of removed and installed units.	+	+
2.	The length of generator brushes:		
	- on measuring the length of brushes	+	-
	- on brushes replacement	+	+
3.	The length of MB-1200 electric motor brushes:		
	- on measuring the length of brushes	+	-
	- on brushes replacement	+	+
4.	The length of inverters brushes:		
	- on measuring the length of brushes	+	-
	- on brushes replacement	+	+
5.	Checkup of units and systems with unsealing (according to List of helicopter equipment and avionics units to be sealed).	+	-
6.	Removal and checkup of fire extinguishers ОУ-2, УБШ-4-4.	+	+
7.	The operation performed in accordance with directives of Air Transport Department (specifying their number and date of validation) and industrial bulletins (specifying their number).	+	+
8.	Nature and causes of troubles, revealed during flight and maintenance.	+	-
9.	Replenishment of СГС-40ПУ generator bearings grease, specifying the amount of grease	+	+
10.	Checkup of operation of П-503 in the helicopter on replacement of sound recording medium	+	-
11.	The length of brushes of ДВ-302Т electric fan of PH-600 air-cooling.		
	- on measuring the length of brushes	+	-
	- on brushes replacement	+	+

SUPPLEMENT 3

**LIST OF THE SINGLE-TYPE INSTRUMENTS AND UNITS, THE LOCATION OF WHICH IS SPECIFIED
 IN THE ITEM CERTIFICATE AND HELICOPTER LOG BOOK**

No.	Designation	Type	Qty	Form of entry on equipment location
1	Gyro horizon	АГБ-3К	2	Pilot, co-pilot
2	Altimeter	ВД-10ВК	3	Pilot, co-pilot, cargo cabin
3	Vertical-speed indicator	ВАР-30МК	2	Pilot, co-pilot
4	Pitot tube	ПВД-6М	2	Port side, starboard
5	Speed indicator	УС-450К	2	Pilot, co-pilot
6	Indicator	УГР-4УК	2	Pilot, co-pilot
7	Electromagnetic brake	ЭМТ-2М	3	Longitudinal, lateral and tail rotor control
8	Hydraulic actuator	КАУ-30Б	3	Longitudinal, lateral control, Main rotor collective pitch
9	Generator	СГС-40ПУ	2	First generator, second generator
10	External tank pump	ЭЦН-91Б	2	LH external tank, RH external tank
11	Air selector valve	1919Т	2	LH engine, RH engine (LH dust-protection device, RH dust-protection device)
12	Fire extinguishers	УБШ-4-4	4	Automatic and manual discharge

NOTE: The entry on item location should be made in the section "Historical record" of item certificate at each installation of the item at the factory and in course of operation.

