



RUSSIAN FEDERATION
MINISTRY OF TRANSPORT OF THE RUSSIAN FEDERATION
FEDERAL AIR TRANSPORT AGENCY
AIRWORTHINESS DIRECTIVE

10 of August, 2022

No. 2022-AHCAT-CK-09

Applicability – ANSAT helicopters (ANSAT-GC model)

Designer's State - RUSSIAN FEDERATION

Corrective actions stated in the present Airworthiness Directive are mandatory. None of the operators is allowed to operate the aircraft covered by present Airworthiness Directive otherwise than according to the requirements of present Directive.

During the acceptance tests of the ANSAT helicopter (ANSAT-GC model) serial No. 33153 in the course of production at JSC "Kazan Helicopters" the products of fuel tanks rubber gaskets disruption were detected in the fuel system, which led to clogging of the fuel system pipelines and PW207K engine fuel filters. Manufacturer of raw material for rubber gaskets is LLC "Uralresinotekhnika" (Yekaterinburg). Based on the Technical decision of JSC "Kazan Helicopters" No. 5/144-2022-KB3 dated 09.08.2022 in order to ensure the airworthiness of the ANSAT helicopters (ANSAT-GC model) being in operation the following is

PROPOSED:

1. Operator shall suspend the operation of the ANSAT helicopters (ANSAT-GC model) RA-20084 (serial number 33150) and RA-20085 (serial number 33152).
2. Operator of the helicopters together with the JSC "Kazan Helicopters" shall perform the works in accordance with the paragraphs 2, 4 of Technical decision No. 5/144-2022-KB3 dated 09.08.2022.
3. In case of positive results of works per p. 4 of Technical decision No.5/144-2022-KB3 dated 09.08.2022 operation of the helicopters can be resumed.
4. For ANSAT helicopters (ANSAT-GC model) RA-20084 (serial number 33150) and RA-20085 (serial number 33152) establish the intervals of inspection of PW207K engine fuel filters for absence of products of rubber gaskets disruption – every 50±5 f. h. within the next 200 f. h. Upon completion of 200 flying hours of the helicopters

without malfunctions further technical maintenance of PW207K engines shall be carried out in accordance with the manual "PW-207K. Turboshaft engine. Maintenance manual No. 3053372".

5. In case of detection of products of fuel tanks rubber gaskets disruption on the PW207K engine fuel filters in the process of carrying out the works per p. 4 of present Airworthiness directive, repeat the works per paragraphs 1, 2, 3, 4, of present Airworthiness directive.

6. Operator of the ANSAT helicopters (ANSAT-GC model) RA-20084 (serial number 33150) and RA-20085 (serial number 33152) shall inform JSC "Kazan Helicopters" and Federal Air Transport Agency (FATA) about results of completion of works per p. 2, 4 of present Airworthiness directive.

7. Airworthiness directive comes into force from the date of its issue. Operators must follow the requirements of present Airworthiness directive until complete fulfilment of the requirements of present Airworthiness directive or issue another Airworthiness directive on this aviation accident.

Appendix: Technical decision No. 5/144-2022-KB3 dated 09.08.2022, 11 sheets.

Deputy Director General of FATA

П. П.

V.V. Poteshkin

Верно:



И. В. Пономарев

И. В. Пономарев

APPROVED
Deputy managing director –
Head of Design
JSC “Kazan Helicopters”

TECHNICAL DECISION No. 5/144-2022-KB3
on continued airworthiness of the ANSAT helicopters (ANSAT-GC model)

During the acceptance tests of the ANSAT helicopter (ANSAT-GC model) No.33153 in the course of production at JSC “Kazan Helicopters” a fuel system defect has been identified (disruption of rubber gaskets installed in the fuel tanks into small pieces), which led to clogging of the fuel system pipelines and PW207K engine fuel filters by the products of disruption. Manufacturer of raw material for specified rubber gaskets is LLC “Uralresinotechnika” (Yekaterinburg). In order to ensure the airworthiness of the ANSAT helicopters (ANSAT-GC model) being in operation, the following decision was made.

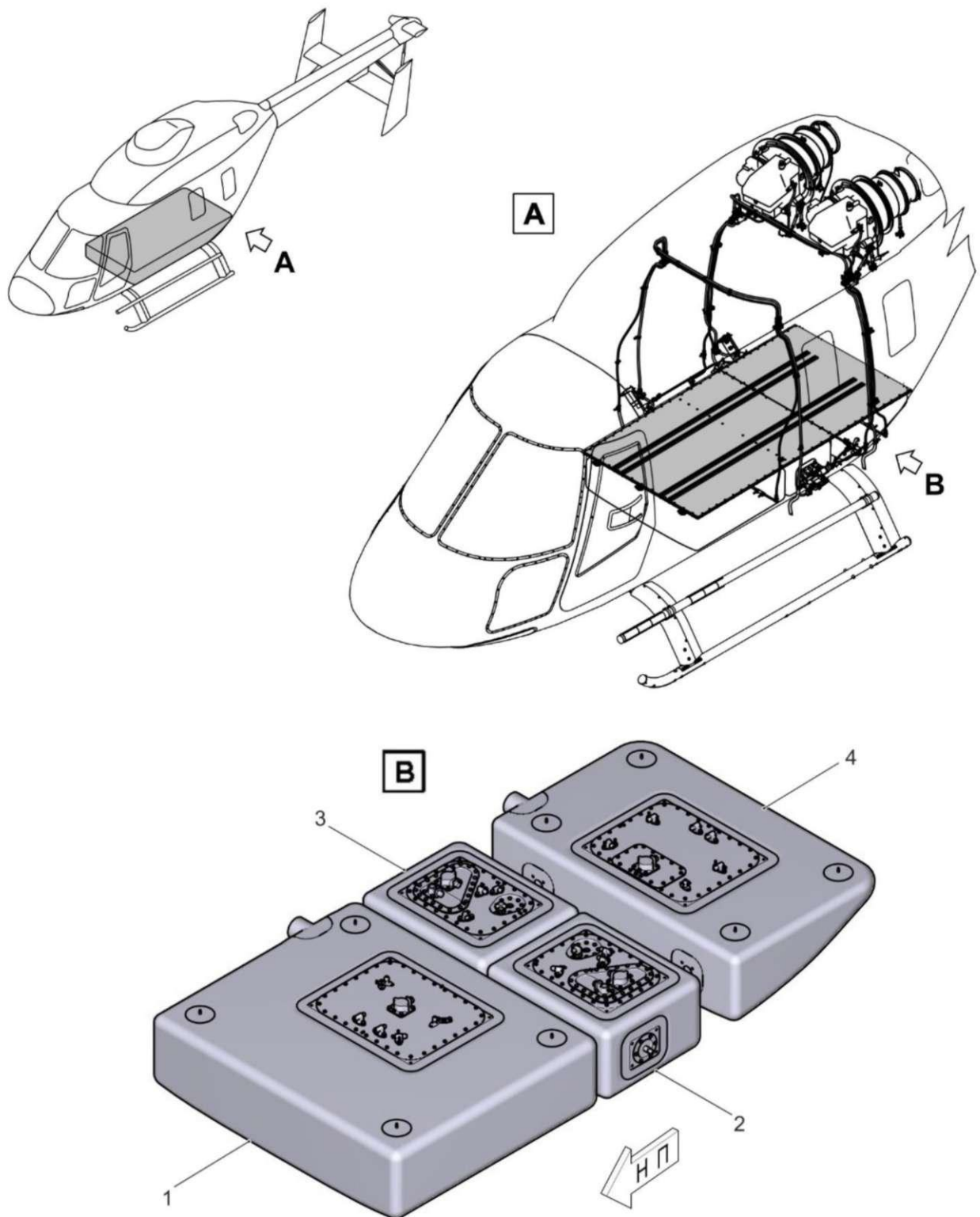
DECISION:

Since the issue of present technical decision:

- 1 Suspend the operation of the ANSAT helicopters (ANSAT-GC model) Nos. 33150, 33152.
- 2 Perform the following works on the ANSAT helicopters (ANSAT-GC model) Nos. 33150, 33152:
 - 2.1 Inspect the fuel filters of helicopter engines for presence of rubber particles – products of rubber gaskets disruption (in accordance with “PW-207K. Turboshaft engine. Maintenance manual No. 3053372”);
 - 2.2 Remove the following components in accordance with p. 1-5, 7-11, 13-15, 19-21, 26, 28 of task card No. 028.10.00c of the helicopter Maintenance manual 343.0000.00 PЭ:
 - pipelines connecting fuel tanks No. 1, No. 2 and service fuel tanks;
 - plates of fuel tanks No. 1, No. 2;
 - plates of service fuel tanks;
 - sleeves with valves for remaining fuel drain;
 - drain fittings;In addition, remove angle pieces (see Appendix 1, pos. 24-26) of pipelines connection to the plates of fuel tanks, having unscrewed the attaching screws;
 - 2.3 Inspect the rubber gaskets installed in fuel tanks (see Appendix 1) for presence of delamination, cracks, chipping;
 - 2.4 Inspect the inner cavities of all fuel tanks for presence of rubber particles (products of rubber gaskets disruption);
 - 2.5 In case of detection of rubber gasket delamination, cracks, chipping, rubber particles, products of rubber gaskets disruption inside the inner cavities of fuel tanks and on the helicopter engine fuel filters during the inspections per p. 2.1,

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- 2.3, 2.4 – perform operations on fuel system cleaning in accordance with the temporary task card 028.10.00e (Appendix 2).
- 2.6 Replace the rubber gaskets (see pos. 5-16 of Appendix 1) with new ones. Replaceable rubber gaskets will be provided by JSC “Kazan Helicopters” at its own expense;
- 2.7 Perform installation of fuel system components earlier removed in accordance with p. 2.2 according to task card 028.10.00d. Install in place the angle pieces of pipelines connection to the plates of fuel tanks, having screwed the attaching screws with the torque $M=4.4+0.5Nm$ ($0.45+0.05$ kgf m), lock the screws in accordance with standard 4.5 OCT 1 39502-77;
- 3 Works per p. 2 could be done by the operator or by JSC “Kazan Helicopters”. Ground maintenance means and tools shall be provided by the operator.
- 4 Upon completion of works per paragraph 2 of present technical decision, perform ground running and subsequent test flight with additional check of fuel system and PW207K engines parameters in accordance with the helicopter Flight manual 343.0000.00 ПЛЭ.
- 5 Resume operation of the ANSAT helicopters (ANSAT-GC model) Nos. 33150, 33152 in case of positive results of test flight.
- 6 For ANSAT helicopters (ANSAT-GC model) Nos. 33150, 33152 establish the intervals of inspection of PW207K engine fuel filters for absence of rubber particles (products of rubber gaskets disruption) – every 50 ± 5 f. h. within the next 200 f. h.
- 7 In case of detection of products of rubber gaskets disruption on the engine fuel filters – repeat the operations per paragraphs 1, 2.2-2.5, 2.7, 3, 4, 5, 6 of present technical decision.
- 8 Operator of the ANSAT helicopters (ANSAT-GC model) Nos. 33150, 33152 shall inform JSC “Kazan Helicopters” and Federal Air Transport Agency (FATA) about results of works carried out in accordance with paragraphs 2, 6 of present technical decision.
- 9 Operators shall follow the requirements of present technical decision until full completion of p. 6 of present technical decision.



**Fig. 1 Installation of fuel tanks
in the ANSAT helicopter (ANSAT-GC model)**

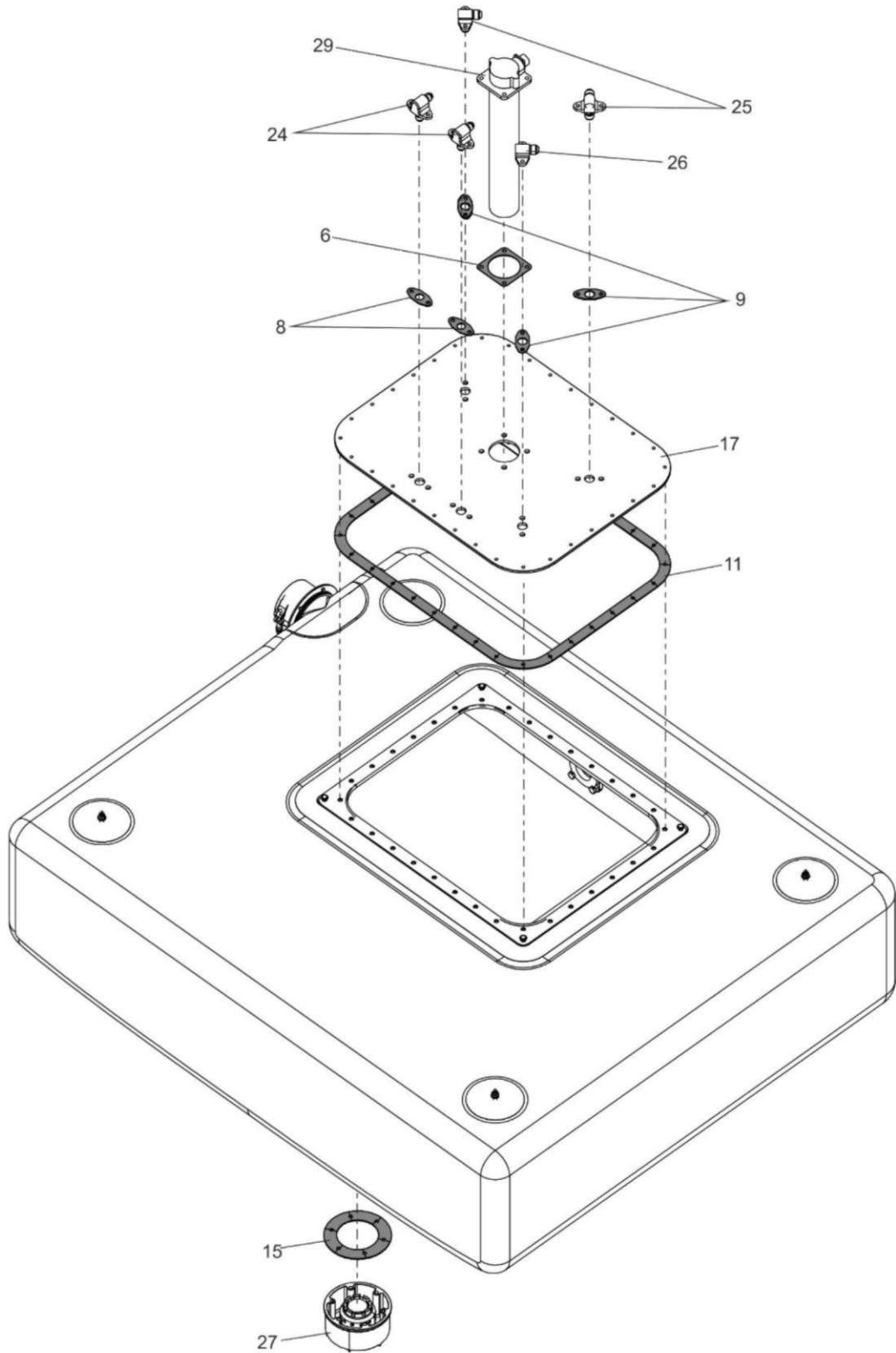


Fig. 2 Fuel tank No. 1

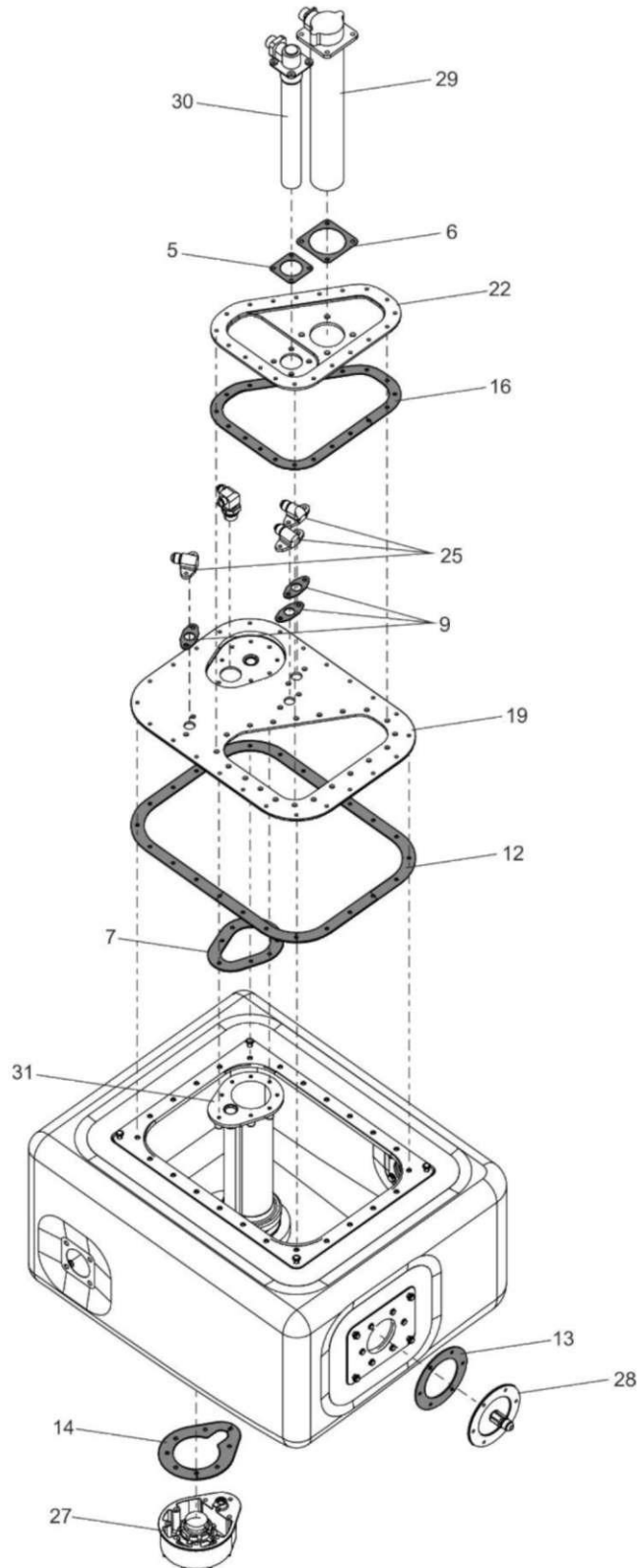


Fig. 3 Service fuel tank (left)

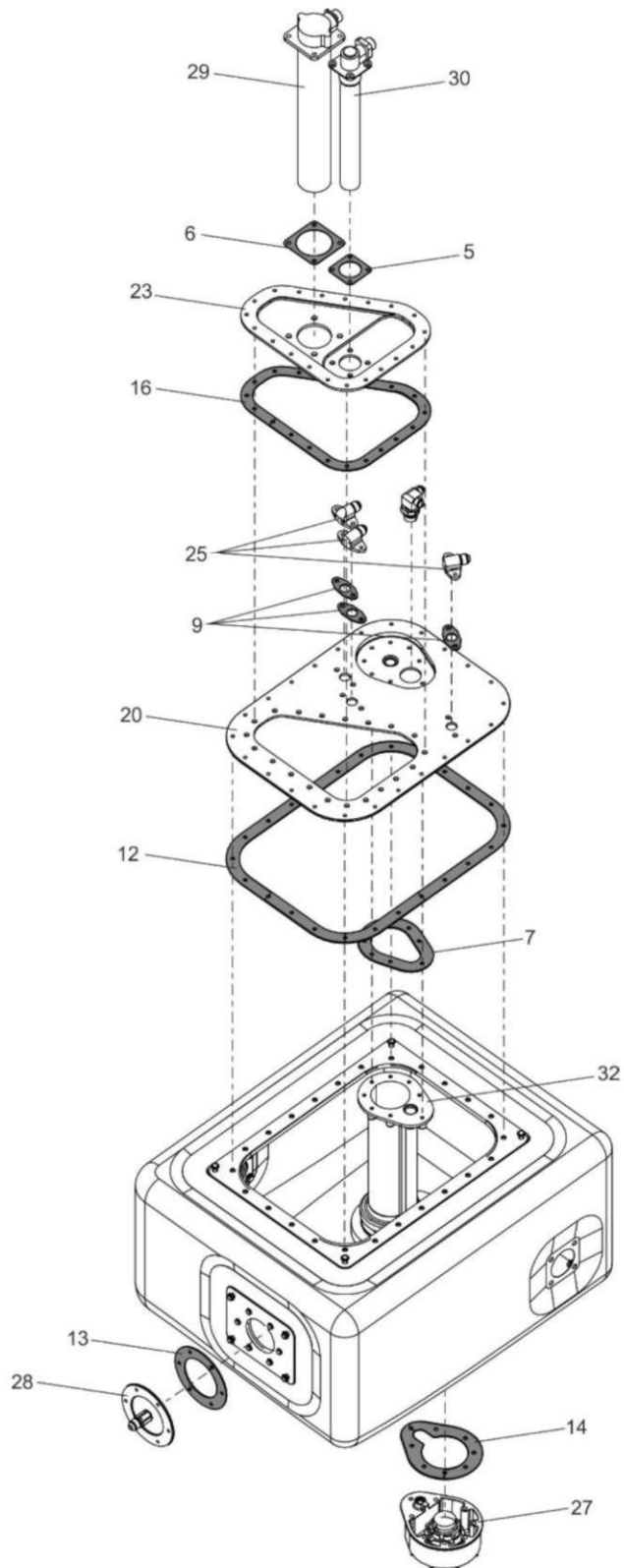


Fig. 4 Service fuel tank (right)

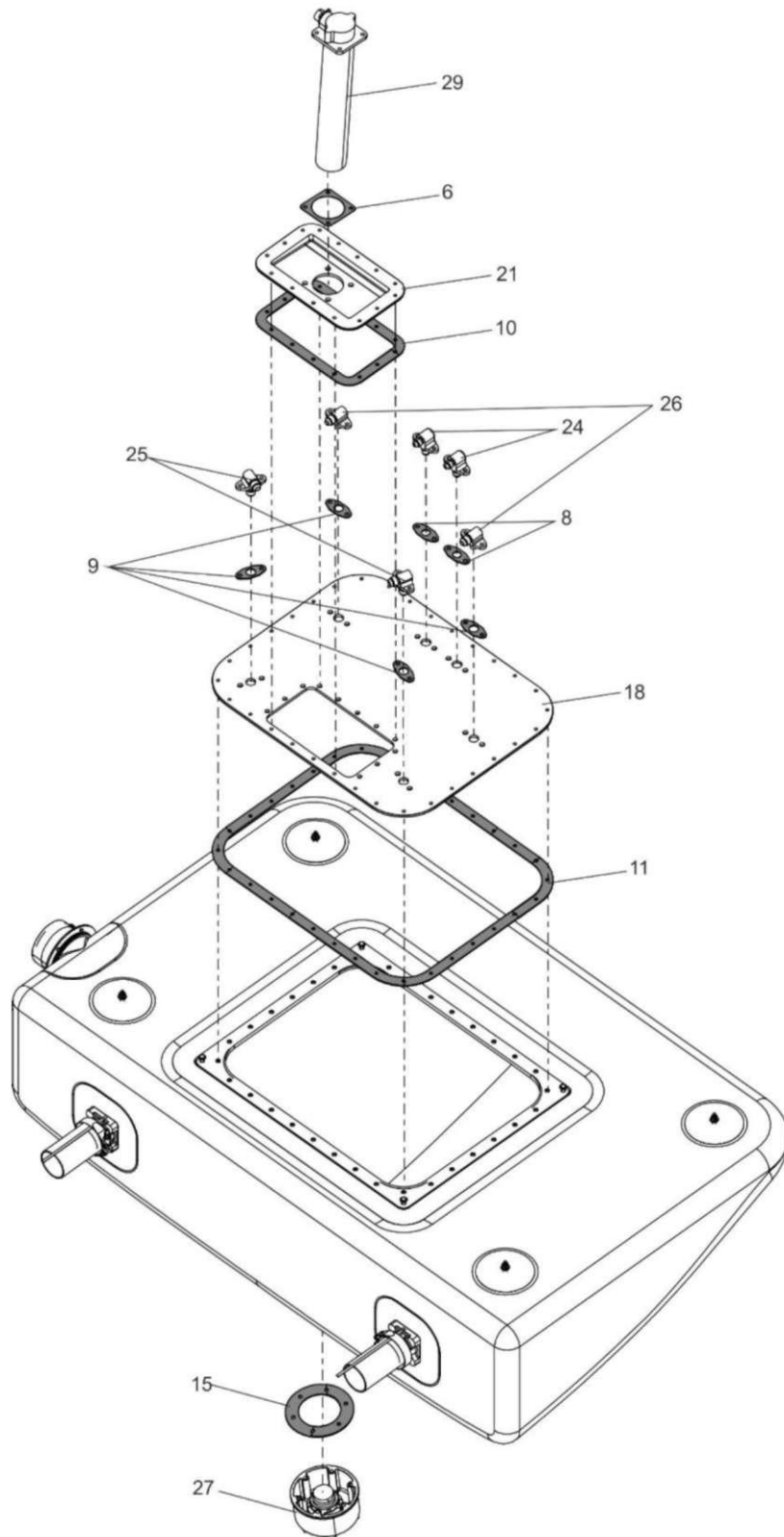


Fig. 5 Fuel tank No. 2

Table 1

Pos.	Qty	Designation	Description
1	1	334.6110.210-05	Tank No. 1 assembly
2	1	334.6110.110-04	Service tank assembly (LH)
3	1	334.6110.110-03	Service tank assembly (RH)
4	1	334.6110.310-09	Tank No. 2 assembly
5	2	333.6101.008	Gasket
6	4	333.6101.009	Gasket
7	2	334.6110.027	Gasket
8	4	334.6110.029	Gasket
9	13	334.6110.051	Gasket
10	1	334.6110.311	Gasket
11	2	334.6110.572	Gasket
12	2	334.6110.573	Gasket
13	2	334.6110.575	Gasket
14	2	334.6110.576	Gasket
15	2	334.6110.578	Gasket
16	2	334.6110.822	Gasket
17	1	334.6110.271	Plate of tank 1
18	1	334.6110.351	Plate of tank 2
19	1	334.6110.811-03	Plate of service tank
20	1	334.6110.811-04	Plate of service tank
21	1	334.6110.371	Cover
22	1	334.6110.821-02	Cover of service tank plate
23	1	334.6110.821-01	Cover of service tank plate
24	4	334.6110.016	Angle piece
25	10	334.6110.009-05	Angle piece
26	3	334.6110.015	Angle piece
27	4	-	Tank sump
28	2	334.6110.007	Flange
29	4	-	Level sensor
30	2	-	Alarm sensor
31	1	334.6110.030-07	Mounting device with pump
32	1	334.6110.030-05	Mounting device with pump

Temporary task card 028.10.00 e	
Procedure: Fuel system cleaning	
Operations and technical requirements	Corrective actions
<p>1 Clean the fuel tanks No. 1, No. 2 and service tanks of foreign objects using cotton cloth.</p> <p>2 After removal of fuel tanks mounting parts and components wash the pipelines and ejector pumps with HEФPAC solvent, then, blow out using compressed air. Wash the level sensors, alarm sensors and valves with HEФPAC solvent.</p> <p>3 Remove the level alarm sensors ДСУ5-3А, ДСУ5-3Б, ДСМК-10-15 (according to TC 028.40.00a 343.0000.00 PЭ).</p> <p>4 Check the fuel level sensors ДСУ5-3А and ДСУ5-3Б. For this purpose hold the sensor vertically and, then, turn it over by 180°. At that, the magnet inside the cylinder shall displace without any jamming. Check the sensors for serviceability in accordance with task card 028.40.00h 343.0000.00PЭ.</p> <p>5 Check the alarm sensors ДСМК-10-15. For this purpose hold the sensor vertically and, then, turn it over by 180°. At that, the magnet inside the cylinder shall displace without any jamming. Check the sensors visually in accordance with TC 028.40.00g 343.0000.00 PЭ.</p> <p>6 Remove the electrical centrifugal pumps ЭЦН-73 from mounting device in accordance with TC 028.20.00a 343.0000.00 PЭ and blow out the inner cavities with compressed air. Install the electrical centrifugal pumps ЭЦН-73 into mounting device in accordance with task card 028.20.00б 343.0000.00 PЭ. Check the electrical centrifugal pumps ЭЦН-73 for serviceability after assembly at JSC "Kazan Helicopters".</p> <p>7 Remove the following components from portside, having disconnected electrical connectors beforehand:</p> <ul style="list-style-type: none"> - T-piece 334.6100.010-05; - pressure switch MCTB-0,3C (pos. 8 figure 1 section 028.00.00 343.0000.00 PЭ); - solenoid valve MKT-16 (pos. 21 figure 1 section 028.00.00 343.0000.00 PЭ); - non-return valve 334.6100.020, having removed at that the valve 989AT-1-12; - cross-feed pipeline, having disconnected at that the solenoid valves 601200A, thermovalve 334.6100.200. <p>8 Remove the following components from starboard, having disconnected electrical connectors beforehand:</p> <ul style="list-style-type: none"> - T-piece 334.6100.310; - pressure switch MCTB-0,3C (pos. 8 figure 1 section 028.00.00 343.0000.00 PЭ); - solenoid valve MKT-16 (pos. 21 figure 1 section 028.00.00 343.0000.00 PЭ); - non-return valve 333.6100.020, having removed at that the valve 989AT-1-12; <p>9 Remove the T-pieces 334.6100.170 (pos. 17 figure 1 section 028.00.00 343.0000.00 PЭ), having disconnected at that the pressure switches 3АБ-526-00 (pos. 16 figure 1 section 028.00.00 343.0000.00 PЭ).</p> <p>10 After removal of fuel system components in accordance with paragraphs 7 - 9 wash the pipelines with HEФPAC solvent, then, blow out using compressed air. Wash the T-pieces 333.6100.020, 334.6100.020, 334.6100.170, thermovalve, non-return valves, cross-feed valves and solenoid valves with HEФPAC solvent.</p>	<p>Replace sensor</p> <p>Replace sensor</p>

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<p>CAUTION. FILL UP HEΦPAC SOLVENT THROUGH THE INLET FITTING TO WASH SOLENOID VALVE MKT-16.</p> <p>11 Blow out the fuel supply pipelines with compressed air from solenoid valves to T-pieces 334.6100.170, at that the air shall be supplied through the fluoroplastic hoses (pos. 18 figure 1 section 028.00.00 343.0000.00 PЭ).</p> <p>12 Check the pressure switches MCTB-0,3C at JSC “Kazan Helicopters” to confirm the point of pressure switch signal output.</p> <p>13 Install the following components: pressure sensor 3AB-526-00 according to TC 028.40.00f 343.0000.00 PЭ, pressure switch MCTB-0,3C according to TC 028.40.00d, level alarm sensors ДСУ5-3А, ДСУ5-3Б, ДСМК-10-15 according to TC 028.40.00 b 343.0000.00 PЭ.</p>			<p>Replace pressure switch</p>
Test equipment	Tools and appliances	Expendable materials	
	<p>Combination pliers L=160 mm Screwdriver 1.0x6.5x190 Portable lamp Wrenches S=10x12, 17x19 Fuel drain hose 333.9901.000 Stepladder H=1400 mm (Stepladder 333.9917.100 (НАЛФ.333.9917.100)) High pressure compressor</p>	<p>Cotton cloth HEΦPAC solvent</p>	