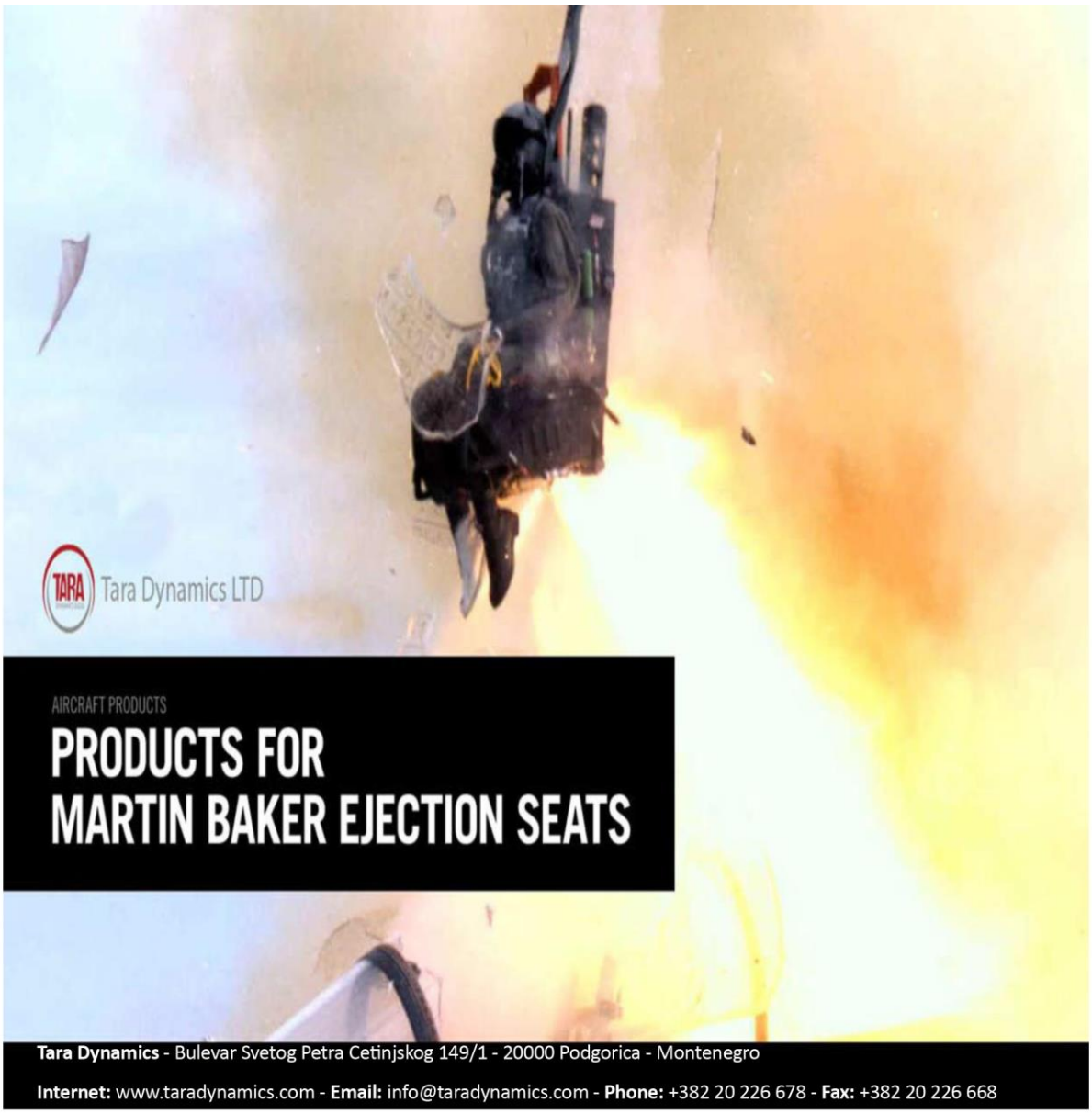

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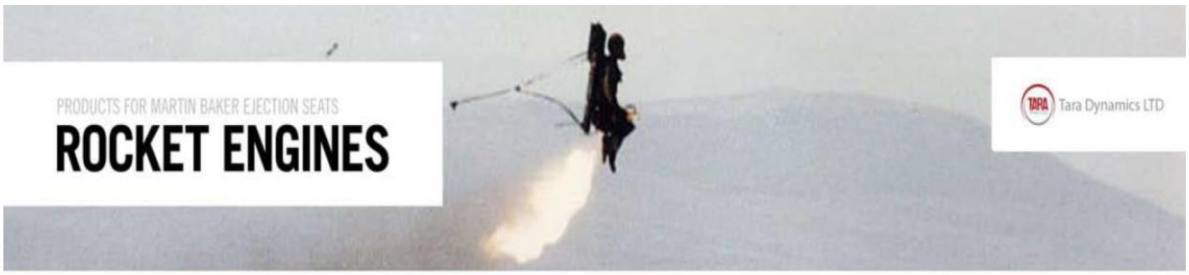
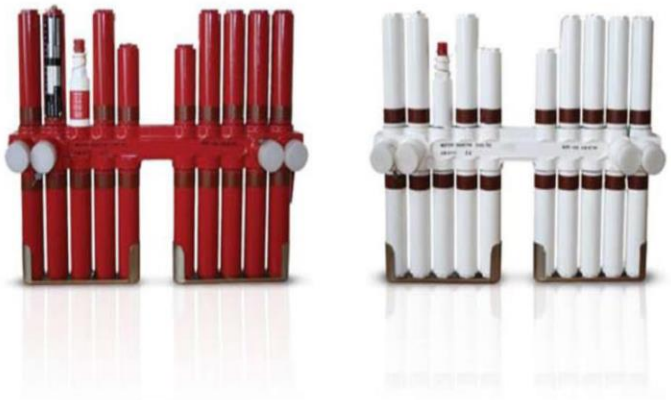


ROCKET ENGINES FOR MARTIN BAKER MK-10 EJECTION SEATS

These rocket engines for Martin Baker ejection seats are intended to provide additional acceleration to the MK-10 seat together with the pilot at a determined stage of ejection. They are used in all types of aircraft equipped with the Martin Baker MK-10 ejection seat. Within the pilot rescue system ejecting the pilot in an emergency, the rocket engine provides additional acceleration to the seat. In this way, it raises the seat together with the pilot to a height required for opening the parachute to rescue the pilot, even under the conditions of zero speed and zero altitude of the aircraft.

TECHNICAL FEATURES

- The modern technology of manufacture ensures an absolutely proper action even under the most adverse climate conditions
- Maximum reliability and minimum maintenance
- Fully automatic operation
- Safe action even in 0-0 conditions (zero speed and zero altitude)
- High safety in operation, transportation and handling
- Rocket engine weight: 11,3 kg
- Dimensions: 480 x 350 x 110 mm
- Resulting thrust: 19 KN
- Packaging: waterproof in a wooden box



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PYROCARTRIDGES FOR MARTIN BAKER MK-10 EJECTION SEATS

The set of pyrocartridges for Martin Baker ejection seats represents the actual propulsion and, therefore, the heart of the pilot emergency rescue system. The requirement for maximum pilot safety dictated full automation of the pilot rescue operation. From canopy jettisoning, pilot fastening to the seat and initial startup, jettisoning to a safe distance and disengaging of the seat harness, to timely opening of the parachute (controlled by the barostat delay mechanism), the system functions completely free from the pilot's control, such autonomy being achieved by highly accurate sequencing of actions of the components in the pyrotechnical chain. The whole system undergoes multiple hundred-percent quality controls and tests on the latest test equipment, which ensures absolute reliability and guarantees for the actual pilot rescue.

TECHNICAL FEATURES

- Advanced incorporated technology provides for its absolutely accurate operation in most adverse weather conditions
- Maximum reliability and minimum maintenance
- Fully automated operation
- Safe operation even in 0-0 conditions (zero speed and zero altitude)
- Highly reliable in operation, transport and handling
- Set weight: 1000 gr net, 1550 gr gross
- Packaging: watertight for one set, 12 sets in a wodden box

The set includes the following component parts:
1 x pyrocartridge KV-35755-1
2 x pyrocartridge KV-35756-1
2 x pyrocartridge KV-62172-1
1 x pyrocartridge KV-3083-RU-1
1 x pyrocartridge KV-61346-2
1 x pyrocartridge KV-91428
2 x pyrocartridge KV-62486
1 x pyrocartridge KV-90650
1 x pyrocartridge KV-62122-1 (two-seater option)
1 x waterproof packaging

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PYROCARTRIDGES

ITEM	MARK	SUBSTITUTE FOR	EQUIPMENT	TYPE OF PLANE
1.1	**TM 101**	MBEU 35755-1	Martin Baker MK-10 (YU10LB, YU10J) Ejection Pilot Seat (EPS)	J-22, NJ-22, N-62, IJ-22, INJ-22, N-62T
1.2	**TM 102**	MBEU 35756-1	Martin Baker MK-10 (YU10LB, YU10J) EPS	J-22, NJ-22, N-62, IJ-22, INJ-22, N-62T
1.3	**TM 103**	MBEU 62172-1	Martin Baker MK-10 (YU10LB, YU10J) EPS	J-22, NJ-22, N-62, IJ-22, INJ-22, N-62T
1.4	**TM 104**	MBEU 3083-RU-1	Martin Baker MK-10 (YU10LB, YU10J) EPS	J-22, NJ-22, N-62, IJ-22, INJ-22
1.5	**TM 105**	MBEU 61346-2	Martin Baker MK-10 (YU10LB, YU10J) EPS	J-22, NJ-22, N-62, IJ-22, INJ-22
1.6	**TM 106**	MBEU 91428	Martin Baker MK-10 (YU10LB, YU10J) EPS	J-22, NJ-22, N-62
1.7	**TM 107**	MBEU 62486-1	Martin Baker MK-10 (YU10LB) EPS	J-22, NJ-22, N-62, IJ-22, INJ-22, N-62T
1.8	**TM 108**	MBEU 90650	Martin Baker MK-10 (YU10LB) EPS	J-22, NJ-22, N-62
1.9	**TM 109**	MBEU 67190	Martin Baker MK-10 (YU10J) EPS	IJ-22, INJ-22, N-62T, N-62T
1.10	**TM 110**	MBEU 61592-1	Martin Baker MK-10 (YU10J) EPS	IJ-22, INJ-22, N-62T, N-62T
1.11	**TM 111**	MBEU 62122-1	Martin Baker MK-10 (YU10LB, YU10J) EPS	J-22, NJ-22, N-62

ROCKET ENGINES

ITEM	MARK	SUBSTITUTE FOR	EQUIPMENT	TYPE OF PLANE
2.1	**TM 1101**	MBEU 3138 RU	Mk YU 10J EPS	J-22, ORAO
2.2	**TM 1102**	MBEU 3139 RU	Mk YU 10J EPS	J-22, ORAO
2.3	**TM 1103**	MBEU 3340 RU	Mk YU 10LB EPS	J-22, ORAO
2.4	**TM 1104**	MBEU 3341 RU	Mk YU 10LB EPS	J-22, ORAO

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MK-8J-YU

ITEM	TYPE	QUANTITY (UNITS/SEAT)	FUNCTIONAL DESCRIPTION
1	MBEU 35755-1	1	The cartridge is intended to provide initial acceleration and uniformly motion of the seat in the groove. In addition to provide an appropriate pressure and temperature of ignition of the first secondary cartridge of the ballistic catapult (MBEU 35756-1).
2	MBEU 35756-1	2	The cartridge is intended to continue the movement of the seat and to keep the speed and acceleration of the seat to the final ejection of the seat with pilot from the plane.
3	MBEU 62172-1	2	The cartridge is designed to eject a part that pulls the first and second stabilizing parachute.
4	MBEU 67190	1	The cartridge is intended to release the trigger to activate the primary cartridge of the ballistic catapult (KV 35755-1) on the single-seat, and triggered by the gas trigger inertial locks of the pilot connection (KV 61592-1). For two-seater plane, triggers the primary cartridge of the second seat and the device for initiating of the cartridge of the time device cap.
5	MBEU 62486-1	2	The cartridge is designed to open lock of the parachute, to open connection of the pilot, separate belt links of the parachute, foot cover, open anti "g" lock and activate by the gas trigger cartridge of the stabilizing parachute device.
6	MBEU 61592-1	1	The cartridge is intended to initiate a mechanism for binding the pilot in a safe position on seat.

NOTE:
The table lists the cartridges used in the MK-8J-YU seats. Cartridges specification may vary for other seats from generation MK-8.
The cartridges items 1, 2, 3 and 5, are used in the pilot seat MK-10YU too.

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PRODUCTS FOR MARTIN BAKER EJECTION SEATS

HISTORY

Tara Dynamics LTD

DEVELOPMENT FOR MARTIN BAKER EJECTION SEATS

The pyrocartridges for seats MK YU-8J, MK YU-10J and MK YU-10LB and rocket engines for seats MK YU-10J and MK YU-10LB have been developed for the Military of Yugoslavia during the international embargo.

The Military institutions in that time have set the following tactical and technical requirements:

- All of the functional characteristics of developed pyrocartridges must match with the characteristics of the original;
- To use materials in the highest possible level from domestic producers.

The experts of military institutions, experts of some companies of Yugoslav military industry as so as the experts of our company have conducted the pyrocartridges and rocket engines development. Prototype set of pyrocartridges for the pilot seat MK YU-10LB was accepted and adopted as the armament and equipment on 10th July, 1992.
The zero series of this sets of pyrocartridges has been tested, among the others, in the seat of MK YU-10LB with a doll and accepted into the armament and military equipment on 24th November, 1997. Parallel with this the two more pyrocartridges which are the part of the set for the pilot seats MK YU-8J and MK YU-10J, as well as the pyrocartridge of sequencing system for two-seater aircrafts have been conquered.

During the development of the above mentioned pyrocartridges the test methodology has been used and the same was conquered due the pyrocartridges development for the seats of Russian producers and the headquarter of FOLAND Company. The factory has already been equipped with a system for recording the internal ballistics (diagram p - t). The testing devices for each of pyrocartridges are designed with which the realistic conditions were simulated. Based on testing of original pyrocartridges in these devices the following limits are defined: maximum pressure, the maximum pressure reaching time and the integral on the extreme and normal temperature. The Institute of the Yugoslavian Military, in that time, had the significant experiences in the development and manufacturing of double-based propellant charges, pyrotechnical mixtures and nitro- cellulose powders. The domestic manufacturers of these materials existed too, which contributed to the successful conquest of pyrocartridges.

The test series of propellant charge for the rocket engines of ejectable pilot seat MK YU-10LB have been conquered on 13th June, 1997. , and the prototype series of rocket motors for the seats MK YU-10J and MK YU-10LB was accepted on 23rd January, 1998.

The components of pressure and rotating moments as well as the pressure inside the chamber of rocket engine in time function of the original rocket engines were recorded on three-component table upon which the limits of these parameters are defined. The characteristics of rocket engines that we produced didn't have deviations more than 1% compared to the rocket engines of MARTIN BAKER. Zero series of rocket engines MK YU-10LB and MK YU-10J have been tested and accepted as the armament and military equipment on 06th July and 18th August, 1998.