AIRCRAFT - ROTARY-WING - CIVIL, RUSSIAN FEDERATION

Date Posted: 22 July 1999

Jane's All the World's Aircraft 1999-00

KAMOV KOMPANIYA (Kamov Company)

KAMOV Ka-33

TYPE: Utility transport helicopter.
PROGRAMME: Civilianised version of the Ka-29TB `Helix-B' shipborne assault transport. Designation revealed at Moscow Air Show in August 1997; no further details released.

UPDATED

3 Images

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KAMOV KOMPANIYA (Kamov Company)

KAMOV Ka-29 and Ka-31

NATO reporting name: Helix-B

TYPE: Twin-turbine assault transport (Ka-29) and airborne early warning/electronic warfare helicopter (Ka-31).

PROGRAMME: Entered service with Northern and Pacific Fleets 1985; photographed on board assault ship *Ivan Rogov* in Mediterranean 1987, thought to be Ka-27B and given NATO reporting name `Helix-B'; identified as Ka-29 combat transport at Frunze (Khodinka) Air Show, Moscow, August 1989; Ka-31 radar picket version completed initial shipboard trials on aircraft carrier *Admiral of the Fleet Kuznetsov* (then *Tbilisi*) 1990; both versions expected to equip this ship. Manufactured by KAPP.

CURRENT VERSIONS: **Ka-29TB** (`Helix-B'): Armed derivative of Ka-27 for day/night, VFR and IFR, transport and close support of seaborne assault troops; in-the-field conversion from one role to the other. Non-retractable landing gear and wider flight deck. Civilianised version will be designated Ka-33 (which see).

Detailed description generally as for Ka-32 except as under.

Ka-31 (formerly Ka-29RLD: *radiolokatsyonnogo dozora*: radar picket helicopter): Development began 1980; first flown 1988; two examples (031 and 032) tested on *Admiral of the Fleet Kuznetsov*; state testing complete; production has yet to be launched.

Basic airframe of Ka-27 with broader flight deck; E-801E Oko (eye) early warning radar system by Radio Engineering Institute, Nizhny Novgorod, includes large rotating radar antenna (area 6.0 m^2; 64.5 sq ft) that stows flat against underfuselage and deploys downward, turning through 90º into vertical plane before starting to rotate at 6 rpm; landing gear retracts upward to prevent interference, nosewheels into long fairings. Once system has been switched on, antenna extended and operation mode selected, data on air targets flying below helicopter's altitude, and on water surface situation, are acquired, evaluated and transmitted automatically to command centre, requiring only two crew in helicopter. Loiter speed 54 to 65 kt (100 to 120 km/h; 62 to 75 mph) at up to 3,500 m (11,480 ft); loiter duration 2 h 30 min. Maximum surveillance radius 54 to 81 n miles (100 to 150 km; 62 to 93 miles) for fighter-size targets, 135 n miles (250 km; 155 miles) for surface vessels; up to 20 targets tracked simultaneously. Antenna can be retracted manually or explosively jettisoned in the event of a forced landing.

Two large panniers starboard side of cabin, fore and aft of main landing gear on helicopter numbered 032 (forward panniers only on 031); starboard airstair-type cabin door, aft of flight deck, divided horizontally into upward- and downward-opening sections, with box fairing in place of window; hatch window deleted above starboard rear

pannier; APU repositioned above rear of engine bay fairing, with slot-type air intake at front of housing, displacing usual ESM and IR jamming pods; tyre size 620 × 180 mm on mainwheels, 480 × 200 mm on nosewheels; tailcone extended by fairing for flight recorder; no armour, gun door, stores pylons or outriggers.

CUSTOMERS: Russian Federation Naval Aviation (about 25 Ka-29s); Ukrainian Navy (about 12 Ka-29s); unconfirmed report of three Ka-31s ordered in 1996 by Indian Navy.

POWER PLANT: Two Klimov TV3-117V turboshafts, each 1,640 kW (2,200 shp). Engines started by APU.

ACCOMMODATION: Wider flight deck than Ka-27 for two crew; three flat-plate windscreen glazings instead of two-piece curved transparency; main cabin port-side door, aft of landing gear, divided horizontally into upward- and downward-opening sections, to facilitate rapid exit of up to 16 assault troops; four stretcher patients, seven seated casualties and medical attendant in ambulance role; internal or slung cargo provisions; flight deck and engine bay heavily armoured.

AVIONICS: *Comms:* Two UHF and HF radios.

Radar: Primary radar in port side of nose.

Flight: INS; Doppler box under tailboom; IFF (`Slap Shot').

Mission: Undernose pods for missile guidance/terrain-following radar and electro-optics; ESM `flower pot' above rear of engine bay fairing.

Self-defence: IR jammer (`Hot Brick'); chaff/flare dispensers.

EQUIPMENT: Station-keeping light between ESM and jammer.

ARMAMENT: Four-barrel Gatling-type 7.62 mm machine gun, with 1,800 rounds, flexibly mounted behind downward-articulated door on starboard side of nose; four pylons on outriggers, for two four-round clusters of 9M114 Shturm (AT-6 `Spiral') ASMs and two 57 or 80 mm rocket packs. Alternative loads include four rocket packs, two pods each containing a 23 mm gun and 250 rounds, or two ZAB-500 incendiary bombs. Internal weapons bay for torpedo or bombs. Provision for 30 mm Type 2A42 gun above port outrigger, with 250-round ammunition feed from cabin.

DIMENSIONS, EXTERNAL:

Rotor diameter (each)	15.90 m (52 ft 2 in)
Blade length, aerofoil section (each)	5.45 m (17 ft 10½ in)
Blade chord	0.48 m (1 ft 7 in)
Vertical separation of rotors	1.40 m (4 ft 7 in)
Length overall, excl noseprobe and rotors	11.30 m (37 ft 1 in)
Height overall	5.40 m (17 ft 8½ in)
Width: between centrelines of outboard pylons	5.65 m (18 ft 6½ in)
over tailfins and centred rudders	3.65 m (12 ft 0 in)
flight deck	2.20 m (7 ft 2 in)
Mainwheel track	3.50 m (11 ft 6 in)
Nosewheel track	1.40 m (4 ft 7 in)

Wheelbase	3.00 m (9 ft 10 in)

AREAS:

Rotor disc (each)	198.50 m^2 (2,136.6 sq ft)

WEIGHTS AND LOADINGS (A: Ka-29, B: Ka-31):

Weight empty: A	5,520 kg (12,170 lb)
Max load: A, internal	2,000 kg (4,409 lb)
A, external	4,000 kg (8,818 lb)
Max combat load: A	1,800 kg (3,968 lb)
Normal T-O weight: A	11,000 kg (24,250 lb)
B	12,500 kg (27,557 lb)
Max T-O weight: A, internal load	11,500 kg (25,353 lb)
Max airborne weight:	
A, external slung load	12,600 kg (27,775 lb)

PERFORMANCE:

Max level speed at S/L: A	151 kt (280 km/h; 174 mph)
B	135 kt (250 km/h; 155 mph)
Nominal cruising speed: A	130 kt (240 km/h; 149 mph)
B	119 kt (220 km/h; 137 mph)
Max rate of climb at S/L: A	888 m (2,910 ft)/min
Service ceiling: A	4,300 m (14,100 ft)
Hovering ceiling OGE: A	3,000 m (9,840 ft)
Combat radius, with six to eight attack runs over target:	
A	54 n miles (100 km; 62 miles)
Range:	
A, max standard fuel	248 n miles (460 km; 285 miles)
B	324 n miles (600 km; 372 miles)
A, ferry	400 n miles (740 km; 460 miles)

UPDATED

Ka-29TB (`Helix-B') combat transport helicopter (1997)

Kamov Ka-29TB combat transport helicopter (Mike Keep/Jane's) (1992)

Kamov Ka-31 radar picket helicopter with antenna deployed and landing gear retracted (Paul Jackson/Jane's) (1998)

Height (m):	5.40
Hovering Ceiling (m):	3000
Length (m):	11.30
Max Level Speed (kts):	151
Max Range (nm):	248
Max Rate Climb (m/min):	888
Max T-O Weight (kg):	11500
Service Ceiling (m):	4300