

HAL Light Combat Helicopter

The Cabinet Committee on Security (CCS) on March 30, 2022 approved the procurement of 15 HAL-made Light Combat Helicopters for Rs 3887 crore and approved the infrastructure for its creation which is worth Rs 377 Crore.

The LCH will be used to provide close-air support for infantry during combat operations. Just what are the specifications of the HAL Light Combat Helicopter? The details of this helicopter will be given in the context of the IAS exam

Overview of HAL Light Combat Helicopter

The HAL LCH is a multi-role attack helicopter designed by the Hindustan Aeronautics Limited (HAL) for use in the Indian Air Force and Indian Army. Its flight ceiling is one of the highest among the attack helicopters of the world.

The need for a development of an LCH came following the conclusion of the Kargil War in 1999. During the conflict the Indian Armed Forces realised that they lacked a suitable helicopter that could operate in high-altitude. Thus the Indian Armed Forces, as per HAL, commenced efforts to produce a helicopter that could operate in such conditions.

In 2006, HAL announced a programme to create a programme that would create the Light Combat Helicopter. The HAL estimated that it would have operational units by December 2021 but it was subject to several delays, some of which were attributed to suppliers

The Light Attack Helicopter's design was based on other indigenous helicopters earlier manufactured by HAL such as the Dhruv. On 29 March 2010, the first LCH prototype performed its maiden flight. It had the distinction of being the first attack helicopter to land at the Siachen glacier, reportedly at altitudes as high as 13,600 feet to 15,800 feet.

The LCH was cleared for limited series production on August 26, 2017. On 19 November 2021, Prime Minister Narendra Modi officially handed over the LCH to Air Chief Marshal Vivek Ram Chaudari, thus inducting it into the Indian Air Force.

Characteristics of HAL Light Combat Helicopter

The general characteristics of the HAL Light Combat Helicopter are given in the table below:

Characteristics of HAL Light Combat Helicopter	
• Crew: 2	• Maximum speed: 268 km/h (167

<ul style="list-style-type: none"> ● Length: 15.8 m (51 ft 10 in) ● Wingspan: 4.60 m (15 ft 1 in) ● Height: 4.70 m (15 ft 5 in) ● Empty weight: 2,250 kg (4,960 lb) ● Max takeoff weight: 5,800 kg (12,787 lb) ● Payload: 700 kg (1,500 lb) weapons ● Powerplant: 2 × HAL/Turbomeca Shakti-1H1 turboshaft, 1,032 kW (1,384 shp) each ● Main rotor diameter: 13.2 m (43 ft 4 in) 	<p>mph, 145 kn)</p> <ul style="list-style-type: none"> ● Never exceed speed: 330 km/h (205 mph, 178 kn) ● Range: 550 km (340 mi, 300 nmi) with weapons ● Endurance: 3 hours 10 minutes ● Service ceiling: 6,500 m (21,300 ft) ● Rate of climb: 12 m/s (2,400 ft/min)
<ul style="list-style-type: none"> ● Guns: 1 x 20 mm M621 cannon on Nexter THL-20 turret ● Hardpoints: 4 , with provisions to carry combinations of: <ul style="list-style-type: none"> ○ Rockets: <ul style="list-style-type: none"> ■ 4 × 12 FZ275 LGR ○ Missiles: <ul style="list-style-type: none"> ■ Air-to-air missiles: <ul style="list-style-type: none"> ■ 4 × 2 Mistral ■ Anti-tank guided missile <ul style="list-style-type: none"> ■ 4 × 4 Dhruvastra (planned) ○ Bombs: <ul style="list-style-type: none"> ■ Cluster munition ■ Unguided bomb ■ Grenade launcher 	<ul style="list-style-type: none"> ● Elbit CoMPASS optoelectronic suite ● Missile approach warning system ● Saab radar and laser warning system ● Chaff and flare dispensers

Apache Helicopter vs Light Combat Helicopter

The Indian Armed Forces had acquired American AH-64 Apache Attack Helicopters. In February 2020, another six helicopters for the Indian Army were ordered, including weapons, equipment, and training. The deliveries for the Indian Army Apaches are planned to begin in 2023.

The difference between the Apache Helicopter and the HAL Light Combat Helicopter is as follows:

- The Apache is a meter shorter than the LCH although it has a marginally larger wing-span and slightly taller height.
- Although the size difference between the two choppers isn't that large, when it comes to weight, the Apache is 3,148 kilos lighter than the LCH.
- Both the Boeing AH-64 Apache and the HAL Light Combat Helicopter (LCH) are two-seat multi-role attack helicopters.
- The Apache is a meter shorter than the LCH although it has a marginally larger wing-span and slightly taller height.
- Although the size difference between the two choppers isn't that large, when it comes to weight, the Apache is 3,148 kilos lighter than the LCH.
- The HAL LCH is powered by 2 Shakti turboshaft engine with 1,430 horsepower each. The Boeing Apache helicopter is powered by 2 General Electric T700 GE 701C turboshaft engine capable of delivering 1,890 horsepower each.
- Although, the LCH has an edge over the Apache in another area — range. It's capable of surveilling targets up to 700 kilometres away while flying 6,500 meters in the air. The Apache only has a range of 480 kilometres and can reach a ceiling of 6,400 meters.
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- The Apache is also equipped with 16 AGM-114 'Hellfire' Anti-Tank Guided Missiles (ATGMs) in addition to four Hydra-70 19-shot Folding-Fin Aerial Rocket (FFAR) rocket pods, and four auxiliary fuel tanks.
- Since the Apache choppers have stronger engines, they're also capable of delivering higher speeds. The LCH's top speed is 280 kph while the Apache can hit 295 kph.

Frequently Asked Questions about T90 Bhishma

How good is the HAL Light Combat Helicopter?

It is touted to be the world's only attack helicopter capable of taking off and landing at altitudes as high as 5,000-metres (16,400-feet) whilst boasting a significant payload. The LCH becomes an excellent platform for supporting troops deployed in high-altitude areas (HAA)

How many HAL LCH does India have?

By mid-2017, the AAC had placed combined orders for 114 LCHs, while the IAF had a total of 65 LCHs on order. During early 2017, it was reported that the LCH's initial operating capability (IOC) with the Indian armed forces was expected to occur by 2018.

Which is the most powerful helicopter in India?

The **Dhruv ALH (Advanced Light Helicopter)** is India's most advanced indigenous helicopter being developed and manufactured by HAL. Dhruv has been used for a variety of roles right

from SAR, Evac, and RTR operations apart from attack capabilities thanks to an attack variant called Rudra