

TVS *Racing*

TVS 



TVS
Apache
RTR **310**
RACING DNA UNLEASHED

BORN OF A RACING GENE

TVS *Racing*

40 years of racing heritage forms the essence of every Apache. In 2007 that racing DNA manifested itself into the TVS Apache RTR, the moniker standing for Racing Throttle Response. That badge and those machines set alight the tracks of not only India, but the world. The RTR name has become a mainstay on the top step of the podium and with that legacy, comes pride.



THE EVOLUTION OF PURITAN TO PLAY

The TVS Apache RR 310 is the Ultimate Track Weapon. Crafted meticulously to shatter lap records and take the chequered flag. The TVS Apache RTR 310 keeps that essence of performance but strips everything else away to give you the naked sport that's engineered for play. The power, the riding dynamics, the tech, all geared to let you truly express yourself with performance.



ENTER
THE WORLD OF
THE **FREESTYLER**

#FREESTYLER

This is more than just a performance motorcycle.
This is your gateway into the world of the freestyler.
The TVS Apache RTR 310 has been designed
to be the ultimate form of expression.
It is engineered with precision to let you perform
in your own way. It's brimming with the latest tech
to give you the freedom to freestyle.





**STREETFIGHTER
STYLING**

DESIGN PHILOSOPHY

The blueprint served as our canvas, and every line of design was conceived to let you play outside the lines. The cyborg was the design inspiration behind the TVS Apache RTR 310. The fusion of man and machine to make them one. An aggressive stance with a raked high tail and forward weight bias give it a menacing look. The flowing lines blending into sharp flared contours, is designed to make an impression while giving you free flowing performance.



DYNAMIC TWIN LED HEAD LAMP



The imposing gaze of the freestyler will have all eyes on you. The split design is inspired by the cyborg, making an imposing presence. The brightest in the segment, the head lamp is intelligent too. The smart control automatically adjusts throw and brightness based on the speed of the vehicle to provide the best visibility. The smart DRL automatically turns On/Off based on ambient light conditions. While the brightness can also be manually controlled through the cluster menu.

DYNAMIC TWIN TAIL LAMP



The twin strip tail lamp has a free-flowing design that can't be missed. The dynamic tail lamp adapts to the intensity of braking, flashing red during rapid deceleration to warn those behind.

8-SPOKE DUAL-COLOURED ALLOYS

Dual-coloured for a double take. The all-new alloys are styled to get a reaction, mirroring the dual colour scheme of the freestyle machine.



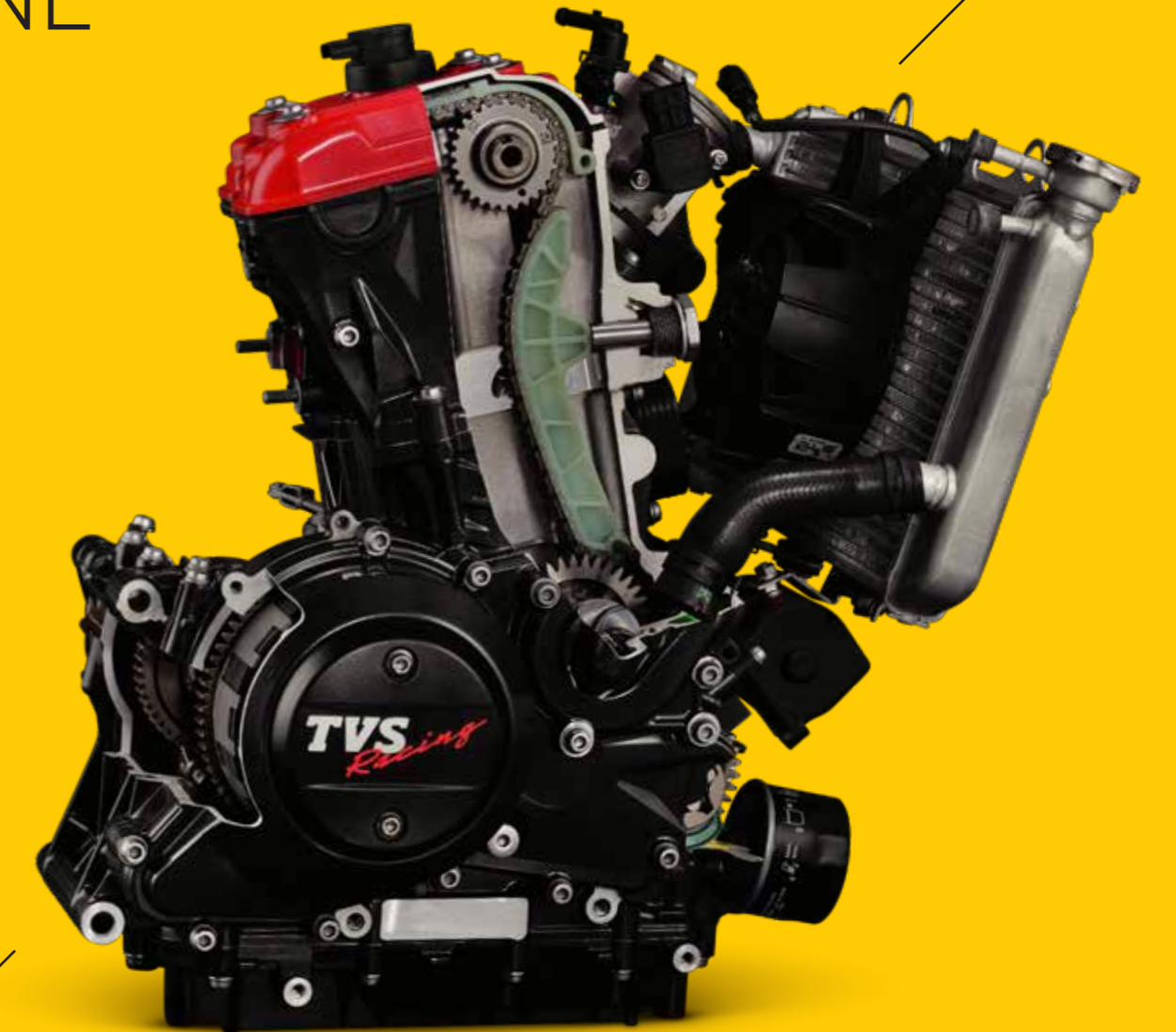


**POWER TO
THE FREESTYLER**

UNIQUE REVERSE INCLINED DOHC ENGINE

The freestyler's 312.2 cc engine has a unique design. It provides a compact engine layout resulting in mass centralization. While the forged aluminium pistons are 5% lighter.

The engine produces a maximum power of 35.6 PS @ 9,700 rpm while putting out a maximum torque of 28.7 Nm @ 6,650 rpm. The engine is tuned to deliver higher peak torque across the powerband.



ENGINE COOLANT JACKET OPTIMIZATION

The cylinder head is designed to have best-in-class heat management. This again allows for better performance and higher revving.

6-SPEED GEARBOX WITH BI-DIRECTIONAL QUICKSHIFTER

The bottom mounted shift-lever and gears with negative back rack angle machined in all the gears lug to lug. This allows ease of engagement of gear and no slippage at higher speeds for precision shifts and quick launches.

When it comes to performance, time is everything. The quickshifter saves milliseconds with every gearshift. Ignition is cut by milliseconds, this action unloads the gearbox which allows to change the gear without using the clutch nor cutting the fuel.

THROTTLE-BY-WIRE

A flick of the wrist now delivers precise performance like never before. The state-of-the-art Electronic Throttle Control (ETC) consisting of electronic throttle grip, electronic throttle body (ETB) and electronic control unit (ECU).



CRUISE CONTROL



Make those long distances seem shorter. With cruise control, the rider can engage the system and the Apache RTR 310 will maintain that set speed without any throttle or clutch input.



LIQUID-COOLED TECHNOLOGY

The Apache RTR 310 has 23 rows of tubes for optimized cooling efficiency keeping the high revving engine at optimum temperature delivering maximum performance.

RACE-TUNED SLIPPER CLUTCH

The slipper clutch allows for rapid downshifts that prevent rear wheel hopping, allowing for later braking and more precise cornering. The assist function tightly binds the clutch plates during acceleration, to provide enhanced torque carrying capacity with reduced clutch operating force.



GLIDE THROUGH TECHNOLOGY

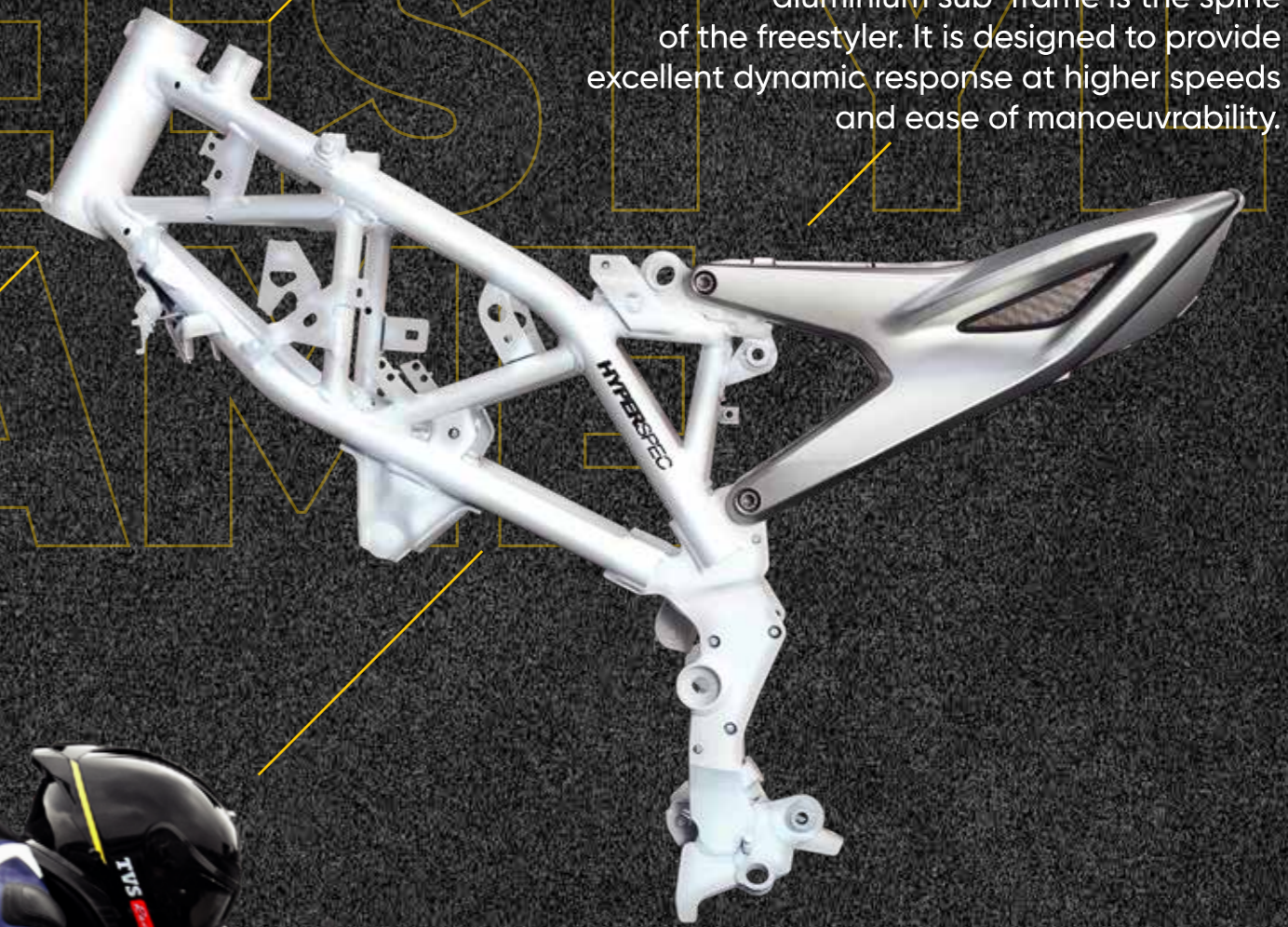
This first-in-segment feature allows for the performance machine to start moving with the slow release of the clutch and no throttle operation. Without the need to synchronise the throttle and clutch lever, engine stalling is eliminated.



**THE DYNAMICS
OF THE FREESTYLER**

**THE
FREESTYLER
FRAME**

The Hyperspec trellis frame with a light aluminium sub-frame is the spine of the freestyler. It is designed to provide excellent dynamic response at higher speeds and ease of manoeuvrability.



**FREESTYLE
ERGONOMICS**

The rider triangle is optimized for better load distribution on the shoulder to give excellent steering control and good lower back comfort, so you can keep freestyling all day long.

RESPONSIVE KAYABA SUSPENSION

Honed and tuned by the experts from Kayaba. The Monoshock with monotube floating piston technology has hydraulic stopper with check valves. Providing precise damping and smooth dynamic response to achieve best-in-class lateral acceleration and cornering speeds.



SUPERIOR MICHELIN ROAD 5 TYRES

The TVS Apache RTR 310 is equipped with Michelin Road 5 tyres. Engineered with next-gen compounds and featuring Michelin's patented ACT+ technology, these tyres provide superior grip for cornering and offer a premium ride feel.



SPORTY STEEL TAPERED HANDLEBARS

Designed with performance focused ergonomics in mind, the tapered handlebars give the rider precise control and feedback.

RACE-TUNED LINEAR STABILITY CONTROL

REAR WHEEL LIFT-OFF PROTECTION

During intense braking, the system keeps the rear wheel on the ground and significantly reduces the risk of a rollover

LINEAR TRACTION CONTROL

Prevents the rear wheel from spinning during acceleration in slippery conditions and surfaces.

DUAL-CHANNEL ABS

The ABS prevents wheel lock. The setting of the ABS changes as per ride modes.

CRUISE CONTROL

With cruise control, the Apache RTR 310 will maintain a set speed without any throttle or clutch input. It allows two levels of upshifting and downshifting when cruise control is enabled.



ADJUSTABLE HAND LEVERS

Set how you want to freestyle. The adjustable levers offer 4 levels of adjustment for increased accessibility for diverse riding styles.





FULLY ADJUSTABLE FRONT AND REAR SUSPENSION

The TVS Apache RTR 310 allows you to set-up the machine to suit your riding style. The front suspension features fully adjustable preload, compression and rebound damping. While the rear suspension has fully adjustable preload and rebound damping. This allows the Freestyler to be tuned to perform on any riding surface.

TYRE PRESSURE MONITORING SYSTEM

The sensor constantly monitors the front and rear tyre pressure and displays on the cluster and TVS Connect App. If the tyre pressure is above or below the recommended limit, it gives out a warning to the rider.

BRASS COATED CHAIN

Styled to stand out, make heads turn with the unique brass coated chain. The rustproof design also aids in performance.



RACE-TUNED DYNAMIC STABILITY CONTROL

The first-in-class technology optimises braking even while cornering. The advanced system uses a 6D inertial measurement unit to constantly calculate the position of the bike, the power to the rear wheel, the lean angle, the braking and cornering forces at play. The system adjusts braking and power input to assist riders during critical lowsiding situations and counters righting up when braking in bends.

CORNERING ABS

The 6D sensor calculates the lean angle of the bike and modulates braking force between the front and rear brake.

CORNERING TRACTION CONTROL

While throttling out of a corner, the system regulates the torque from the engine to prevent wheel spin.

CORNERING CRUISE CONTROL

When cornering, speed is automatically reduced by the system to ensure a comfortable lean angle, and the most stable possible ride. After exiting the corner the speed climbs back up to the initial speed set by the cruise control.

WHEELIE CONTROL

Keep the front wheel firmly on the track. The wheelie control calculates the torque request depending on pitch rate, pitch angle, and wheel acceleration to prevent wheel lift.

SLOPE DEPENDENT CONTROL

The system estimates the slope angle and consideration of the axle weight change to enable a proper brake force distribution for two-wheelers.

REAR WHEEL LIFT-OFF CONTROL

During intense braking, the system keeps the rear wheel on the ground and significantly reduces the risk of a rollover.



THE **TECHNOLOGY** BEHIND THE **FREESTYLER**

5 RIDE MODES

The TVS Apache RTR 310 is equipped with 5 ride modes to help the freestyler adapt and perform in any condition.



SPORT MODE

The engine on sport mode is calibrated to deliver maximum acceleration across all operating conditions, while the race mapped fuel injection provides a consistent delivery of power. The engine also enables smooth deceleration for optimized engine braking.



TRACK MODE

The complete power of the Apache RTR 310 is at the disposal of the rider's wrist. The ride-by-wire throttle provides an instant delivery of power on the straights. With minimal ABS interference the freestyler can truly test the limits of performance.



URBAN MODE

Tame the streets with the freestyler. The power delivery is tuned to provide quick bursts of acceleration. The dual-channel ABS is primed for a quick response with a mild pulsation feel.



RAIN MODE

Let rain, never interfere with play. The engine in rain mode limits the speed to 135km/h in treacherous conditions but provides linear acceleration for plenty of grunt. The ABS comes into its own in rain mode, with strong lever pulsation and rear lift protection to prevent aquaplaning.



SUPERMOTO MODE

Flair to the freestyler, the all-new Supermoto mode disengages the rear ABS while maximising the power. The perfect recipe to keep you drifting with style.



MULTI-INFORMATION RACE COMPUTER

The digital face of the freestyler. The horizontal 5" TFT race computer enhances the riding experience. With unique themes for every ride mode, day and night mode and adaptive brightness. The cluster is also the control hub of the performance machine. Enabling you to change and tune settings like the traction control, cruise control, headlamp brightness and even music for your Bluetooth device.

SMART XCONNECT

The TVS Connect App links your smartphone to the TVS Apache RTR 310. The cutting-edge Bluetooth connected app offers up a range of telemetry data. The app displays a detailed race analysis which includes statistics like distance covered, gear shifting points, best lap record, G- Force, interactive tour map plot, ride pattern analysis, and much more.



VOICE ASSIST

Powered by voice control, this function provides handsfree control over a variety of features. Allowing riders to control cluster functions, and base vehicle controls.

NAVIGATION

Precise navigation with what3words. Now find, share and navigate to precise locations using precise grids with just three words.

RACE TELEMETRY

Through the course of the race, the SmartXconnect app records a number of race parameters, and the racer can easily scroll through the telemetry and pick out specific data. The app also summarizes essential data at the end of every track session.

TELEPHONY

Accept or reject calls on the go with the control cubes, set DND for incoming calls, SMS notification and auto-reply SMS.

DIGI DOCS

An intelligent feature on the Apache RTR 310 to store/ transfer images and documents from the TVS Connect App to the cluster. You can now store and view up to 3 documents like RC card, driving license etc. on your cluster.

CRASH ALERT

This unique safety feature is triggered when the machine senses a fall. The system enters crash alert mode and notifies the rider's emergency contacts with the crash location within 180 seconds.

MUSIC PLAYBACK

Cycle through your favourite freestyle playlist using the toggle switches with the track name being displayed on the TFT screen.

GOPRO CONTROL

Record your freestyle ride experience on the Apache RTR 310 with ease. Pair your GoPro with the freestyler and control the camera from the toggle switches.



Every Apachean can register and be a part of the Apache Owners Group, a motorcycling community consisting of over 3,00,000 members. With chapters across the globe, the group embarks on motorcycling adventures of all kinds. From breakfast rides that satisfy your desire to hit the road to weekend rides that build the bond of biking brotherhood and marquee rides that take you to the remotest corners of the world.



To be a part of this brotherhood scan the QR Code.



Wheelies pop and jaws drop. The Apache Pro Performance is a series of stunt shows like no other. Featuring the most skilled riders in the country, known for breaking records as well as the laws of physics.



The Apache Racing Experience brings you closer to the racetrack than ever before. With mentorship from championship winning riders from TVS Racing, this includes classroom sessions as well as training on the racetrack. This is the best arena to hone and perfect your racing skills. It is also the gateway to the prestigious TVS One Make Championship.



**SEPANG BLUE****FURY YELLOW****ARSENAL BLACK**

SPECIFICATIONS

Engine

Type	Single Cylinder, 4 Stroke, Fuel Injected, Liquid Cooled, Spark Ignited Engine
Engine capacity	312.12 cc
Maximum Power	Sport, Track and Supermoto mode 35.6 PS @9700 engine rpm Urban and Rain mode 27.1 PS @7600 engine rpm
Maximum Torque	Sport, Track and Supermoto mode 28.7 Nm @6650 rpm Urban and Rain mode 27.3 Nm @6600 rpm
Bore	80 mm
Stroke	62.1 mm
Fuel injection	Closed Loop EFI System
Throttle control	Electronic throttle control (ETC)
Bore to stroke ratio	1.29
Starting	Electric Start
Idle speed	1600 ± 200rpm
Ignition	Dynamically controlled - high energy integrated ignition system
Power to weight Ratio	0.15 kW/kg
Compression ratio	12.17 ± 0.35:1
Air filter	Dry Paper Type
Cooling system	Liquid Cooled
Muffler	Single pipe and single body design
Clutch	Wet multi plate - 7 plate design, RT slipper clutch
Gear box	6 speed with Bi-Directional Quickshifter

Chassis and Suspension

Frame	Hybrid with Trellis frame and Aluminium cast subframes, split chassis
Front Suspension	USD fork 41 mm diameter
Rear Suspension	Die-cast Aluminium swing arm directly hinged monoshox, pre-load adjustable

Fuel Tank Capacity

Full	11 ± 0.5 L
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Dimension

Height	1154 ± 10 mm
Length	1991 ± 20 mm
Width	831 ± 5 mm
Wheelbase	1358 ± 12 mm
Ground Clearance	180 ± 5 mm (Unladen)
Saddle Height	800 ± 10 mm

Electrical

Battery	12V, 8AH MF Lead Acid
Head Lamp	12V, LED Head Lamp
Tail Lamp	LED 4W
Instrumental Cluster	5" TFT screen connected cluster

Wheel and Tyre

Rim Size (front)	MT 3.0x17
Rim Size (rear)	MT 4.0x17
Tyre Size (front)	110/70-R17 Tubeless - Michelin Road 5
Tyre Size (rear)	150/60-R17

Brake

Front	300mm
Rear	240mm
ABS	Dual Channel
Brake Fluid	DOT 4

Weights

Kerb Weight	169 Kg
Max Payload	130 Kg

Performance

Max Speed	150 Km/h
Acceleration 0-2sec (Speed in Km/h)	45.6 Km/h
0-60 km/h (time in sec)	2.81 s
0-100 km/h (time in sec)	7.19 s

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