

TVS X



USER MANUAL



CONTACT FOR SUPPORT

Toll Free Number Relationship Manager : 1800-572-1818 (Mon - Fri: 9am to 6pm)

Toll Free Number Roadside Assistance : 1800-258-7111 (Available 24 x 7)

Email: customercare@tvsmotor.com

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FOREWORD

Hello!

You are now a proud owner of the TVS X scooter from the house of TVS Motor Company.

The TVS X is an electric scooter like no other. It gives you the unmatched combination of performance, connected technology and practicality of use. So now you can ride in style and comfort, with all the savings benefits of an electric vehicle.

For getting the best out of your TVS X, please read the manual carefully and understand all features and operations of your vehicle. Follow the instructions and enjoy a smart and convenient experience that comes with your TVS X.

To ensure a worry free journey on your TVS X, we urge you to get your vehicle serviced only at TVS Motor Company Authorised Dealers.

We hope you enjoy every aspect of being a proud owner of TVS X and being a part of our community of smart, next-gen and sustainable riders.

Happy riding!

TVS MOTOR COMPANY LIMITED

CONTACTS FOR SUPPORT

TAMILNADU - 1

1. TVS Motor Company Limited

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TAMILNADU - 2

2. TVS Motor Company Limited

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3. TVS Motor Company Limited

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7. TVS Motor Company Limited

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ANDHRA PRADESH

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GUJARAT

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14.TVS Motor Company Limited

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5th floor, Plot No. 9-C-C-A,
Scheme No. 94, Ring Road,
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INTRODUCTION

TVS Motor Company Limited advises you to read this manual carefully in order to familiarise yourself with your vehicle. In case of any clarification, please contact any of our TVS Motor Company Authorised Dealers.

This manual contains important information about the controls and operation, technical features, maintenance and care to be taken to keep your vehicle reliable and safe. We recommend that you strictly follow the instructions in this manual, especially those regarding the initial riding and maintenance.

TVS Motor Company Limited declines any liability whatsoever for any mistakes incurred during the development of this manual. All the information in this manual is valid at the time of publication.

TVS Motor Company Limited reserves the right to make any modifications required due to the ongoing development of their products. In such events it is possible that the relevant part of this User Manual does not apply to your vehicle.

Prior permission of TVS Motor Company Limited is required for quoting, copying or reproducing any part of this User Manual.

This User Manual uses a set of symbols with special meanings.

They are:



Note

This message offers additional clarification to ensure a thorough comprehension of any specific details.



Caution

This message highlights specific procedures or precautions that should be adhered to in order to prevent damage to the vehicle.



Warning

Neglecting this message could lead to accidents or harm to the rider.

- * The terms 'LH' and 'RH' are referred to the vehicle viewed from the riding position.
- * Accessories shown in the picture may not be the part of standard equipment.

For your safety, as well as to preserve warranty, reliability and road worthy of your vehicle, use original TVS Motor Company Limited spare parts only. In order to ensure the reliability of your vehicle, you are strongly advised to refer our Authorised Main Dealers for any service requiring particular technical expertise.

Skilled professionals of our Dealer have the necessary tools required to perform any servicing job to the highest standards to ensure smooth running and long life of your vehicle.

SAFETY FUNDAMENTALS

- ◆ Both the rider and the pillion must consistently wear an ISI approved helmet that fits correctly, feels comfortable, and is of high quality before embarking on a ride. This precaution is paramount as head injuries pose a significant risk in accidents.
- ◆ Additionally, it's essential to equip yourself with high-quality goggles to safeguard your eyes and enhance your vision.
- ◆ To prevent or reduce the likelihood of accidents, it's crucial to abstain from consuming alcohol or drugs before or while operating your vehicle. Even small amounts of these substances can impair the rider's ability to control the vehicle effectively
- ◆ Refrain from using mobile phones while riding, as doing so could result in fatal accidents.
- ◆ Most of the accidents are the result of inexperience of rider. Always make sure you are carrying your driving license with you; you must have a valid license that enables you to ride a vehicle of this kind. Avoid lending your vehicle to the persons who are inexperienced and not holding a valid driving license.
- ◆ Ride within the law and observe national and local rules. Always respect speed limits. However, adjust your speed according to the visibility, road and traffic conditions.
- ◆ Avoid wearing loose clothes or accessories that could become tangled in the controls or limit your field of vision.
- ◆ Be sure about your visibility and do not ride with the blind spot of vehicles or obstruction ahead you. Take additional care at road junctions, exits of private land, car parks and on the service roads to highways.
- ◆ Always use turn signal lamps when you intend to change lanes or take a turn. Be sure to switch it off after changing the lane or negotiating the corner.
- ◆ Always hold the handlebars firmly with both hands in order to be ready for sudden changes of direction or in the road surface.
- ◆ While riding in wet conditions, on loose gravels, the ability to maneuver the vehicle will be reduced. Ride smoothly on this conditions. Sudden acceleration, braking or turning may cause loss of control.
- ◆ On the wet roads, rely more on the throttle to control vehicle speed and less on the front and rear brakes.
- ◆ Use the throttle judiciously to avoid skidding the rearwheel from too rapid acceleration or deceleration.
- ◆ Hold the vehicle upright as you apply the brake. Progressive application of brake is safer.

- ◆ Ensure to use the correct headlamp beam, either 'high' or 'low,' based on traffic and road conditions to enhance safety and prevent inconvenience to other riders.
- ◆ Park the vehicle on a flat, firm surface in a shaded area, away from flood, fire, and other hazardous environments. Avoid prolonged exposure to direct sunlight or waterlogged areas.
- ◆ Do not ride the vehicle on flooded roads. Never overload or carry inflammable items on your scooter.
- ◆ Refrain from touching any exposed cables or terminals for safety reasons.
- ◆ Avoid sitting on the vehicle when it is supported by stands
- ◆ Ensure no water enters the utility box, and avoid spilling liquids inside.
- ◆ Be cautious not to attach luggage that extends beyond your scooter, ensuring it does not interfere with foot movements.
- ◆ Exercise caution with the reverse park assist mode, as the vehicle will move backward when throttle is applied.
- ◆ When charging the vehicle, switch on the AC supply only after plugging in both ends of the charging cord at their respective positions.



Warning

Please go thorough this guide before your first ride on your TVS X scooter. TVS X incorporates numerous features that may be unfamiliar to you. Once you comprehend all aspects of your TVS X scooter, you can confidently navigate your scooter on the road.

Regular maintenance, routine inspections, and proper handling are essential for upholding your scooter's warranty. Avoid attempting repairs on your own, especially with the high-voltage electrical system, battery, and motor. It is strongly advised to have your scooter serviced exclusively by authorised professionals.

The steering automatically locks when the vehicle is powered 'OFF' and turned fully in either direction. To prevent loss of balance, ensure to unlock the steering by powering 'ON' the vehicle before attempting to move it.

Exceeding the recommended load on the TVS X can compromise riding stability, impact range & performance and potentially lead to loss of control. It is recommended to carry only the specified amount of load.

 **Note**

The information, illustrations, photographs, and specifications provided in this guide are reflective of the latest product details available at the time of publication. TVS Motor Company Limited reserves the right to make modifications or improvements to its vehicles without prior notice. Consequently, certain sections of this guide may not be applicable to your vehicle in the event of such changes.

Permission from TVS Motor Company Limited is necessary for quoting, copying, or reproducing any part of this guide.

Accessories shown in the images may not be included as standard equipment.






 **Caution**

The utility box can carry a maximum load of 10 kg. Do not transport perishable items, as the box is not fully sealed.

The flap is designed to prevent water entry into the charging port and is non-replaceable. No warranty for charger is applicable in case of flap damage.

Always fully retract the side stand before moving the vehicle.

CAUTION:
DC Rated voltage: 51.1V, Capacity: 28.7Ah*, 1475Wh*.
Do not expose battery to temperature above 60°C.
Do not dismantle, crush, drop, subject it to impact or abuse battery.
Failure to follow these instructions may present risk of failure, fire or high temperatures.
Read this manual for additional safety instructions

				
DO NOT DISPOSE	DO NOT MODIFY	DO NOT SHORT CIRCUIT	DO NOT EXPOSE TO HIGH TEMPERATURE	DO NOT DISPOSE IN FIRE

*usable condition

THINGS TO DO FIRST

When you purchase a TVS X, the vehicle comes with a standard six-digit passcode used to activate it. This passcode will be provided to you by your authorized TVS Motor Company dealer. We recommend to change your passcode after delivery of your TVS X. Refer page "Pin change" on page 34 for passcode changing procedure.

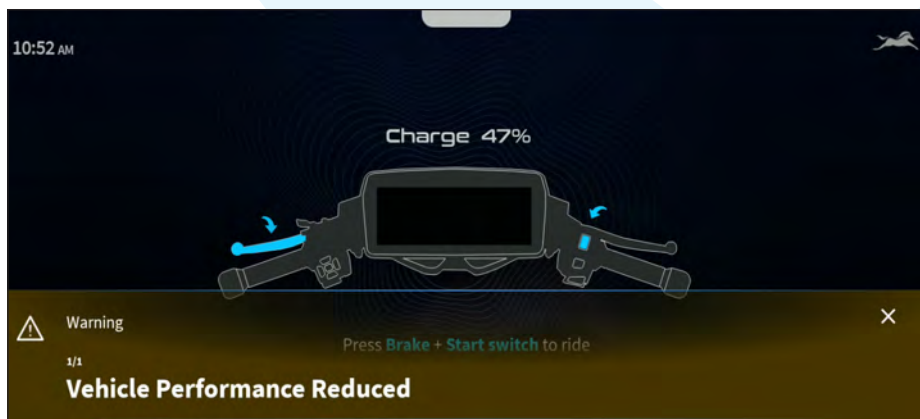
We at TVS, recommend you to charge your TVS X's battery fully before your first ride of the scooter and every ride then after. This ensures proper balancing of your batteries and maximizes range.

Refer "CHARGER" on page 44 for detailed charging procedure of your TVS X.

VEHICLE PERFORMANCE VARIATION

We at TVS, value your safety and comfort and hence have taken certain measures to ensure the best riding experience of your TVS X. In line with this, we have deployed a safety measure for critical vehicle parts like the battery, motor and the controller.

To ensue the safety of you and your TVS X, in high temperature conditions, whenever the temperature of vehicle components reaches a critical point, as a safety measure performance of some systems are deliberately reduced to optimize the temperature. This is indicated by the MIL on your dashboard glowing after sometime accompanied by a message.

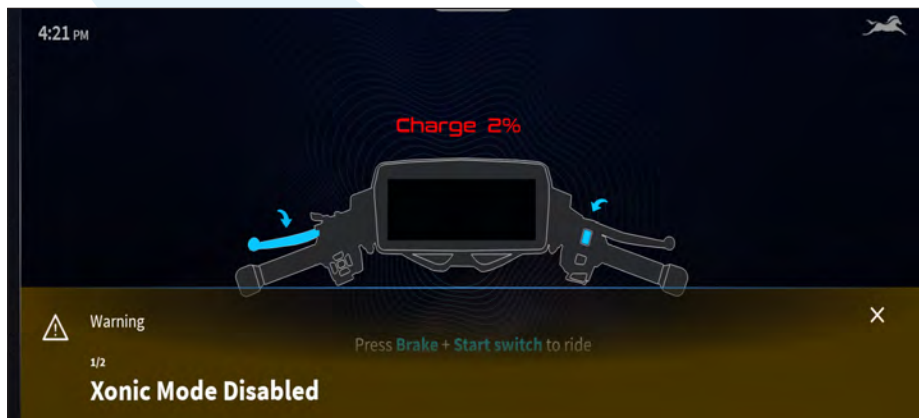


For example, if you have accelerated the scooter with brakes applied, the temperature of the motor and the iVCU starts increasing. Once it reaches a critical point, the Integrated Vehicle Controller Unit starts “derating” the vehicle to control the increase in temperature beyond critical point, thus slowing the vehicle down a little. This may result in loss of vehicle performance to a certain extent, and you may experience some drop in performance.

In extreme conditions, for example; when ambient temperature is extremely high and vehicle is being driven continuously in overloaded condition, even after the MIL indication on your cluster is on, it may result in the vehicle coming to a complete stop. In any such situation that you may face, it is recommend to allow the vehicle to cool down by riding it in slow speed or stop the vehicle for some time till the MIL indicator on your instrument cluster goes away. Usually this should only take a few minutes. This will ensure the safety of you as well as life of electric components in the scooter.

Incase if the MIL indicator is glowing continuously even when vehicle is in cold condition, take your vehicle to TVS Motor Company Authorised Main Dealer for rectification.

When the vehicle's SOC falls below 10%, Xonic mode will be disabled to conserve battery energy for reaching the destination. Xonic mode will automatically re-enable once the vehicle's SOC exceeds 10% after charging.



KNOW YOUR TVS X

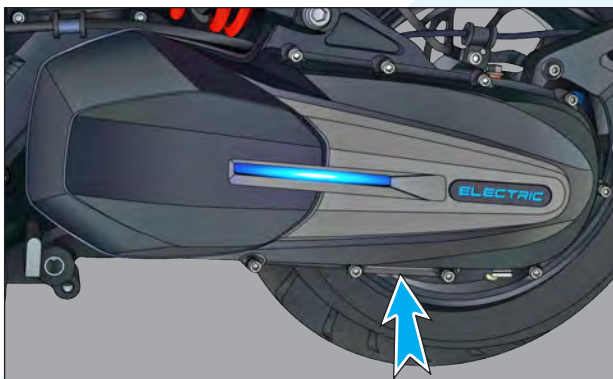
VEHICLE IDENTIFICATION NUMBER

The frame and traction motor serial numbers are the only means of identifying your vehicle from others of the same type. They are also required to assist your Dealer for ordering parts or referring to special information.

The frame serial number is stamped on the frame as shown, at the front end below the seat assembly. Open the seat assembly and remove the VIN cover to read the frame number.



The traction motor serial number is stamped on powertrain assembly as well as on the transmission casing at the bottom side as shown.



LOCATION OF PARTS

VEHICLE LEFT SIDE

1. Brake disc front
2. Front wheel axle nut
3. Calliper assembly front
4. Side stand
5. Rear shock absorber
6. Pillion foot rest L
7. Illuminating light
8. Saree guard
9. Rear mudguard



VEHICLE RIGHT SIDE

1. Front wheel axle
2. Motor assembly
3. Pillion foot rest R
4. Rear wheel axle nut
5. Pillion seat assembly
6. Rider seat assembly
7. Charging port



VEHICLE FRONT SIDE

1. Rear view mirror R
2. Headlamp assembly
3. Turn signal lamp front R
4. Bend lamp assembly R
5. Rear view mirror L
6. Turn signal lamp front L
7. Bend lamp assembly L

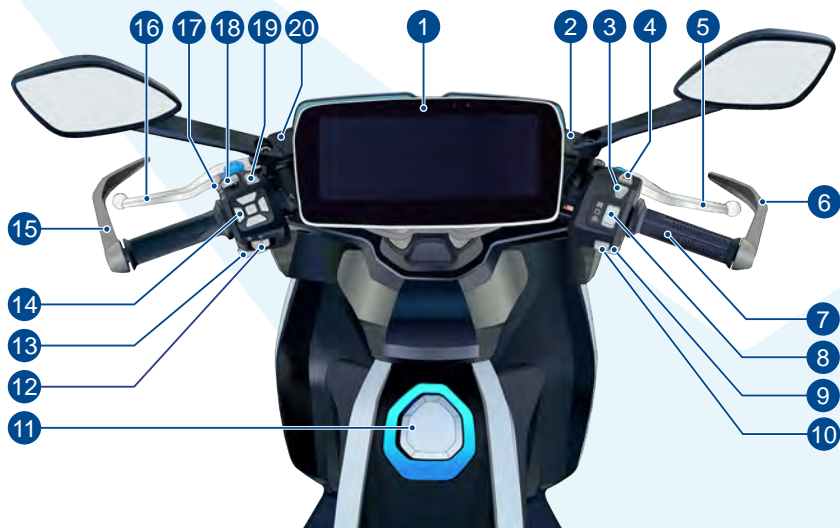


VEHICLE REAR SIDE

1. Tail / brake lamp
2. Turn signal lamp rear L
3. License plate lamp
4. Turn signal lamp rear R
5. Reflex reflector



VEHICLE TOP SIDE



- | | |
|-----------------------|--------------------------------------------|
| 1. Instrument cluster | 11. Lid charging port |
| 2. Master cylinder R | 12. Switch turn signal lamp |
| 3. Park assist switch | 13. Horn switch |
| 4. Hazard switch | 14. Navigation switches |
| 5. Front brake lever | 15. Guard lever L |
| 6. Guard lever R | 16. Rear brake lever |
| 7. Throttle grip | 17. Headlamp beam control / Pass-by Switch |
| 8. Ride / kill switch | 18. Cruise control switch |
| 9. Mode switch | 19. Seat unlock switch |
| 10. Power ON switch | 20. Master cylinder L |

ANTI-LOCK BRAKE SYSTEM (ABS)

Your TVS X is fitted with an Anti-lock braking system (ABS) is designed to prevent skidding & help riders to maintain steering control during emergency-stopping situation if dry or wet roads, loose gravels etc.

How does ABS work?

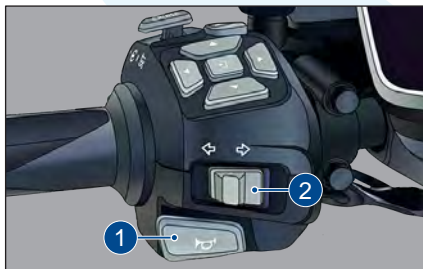
When a rider applies excessive brake force while riding whether on a dry, wet, or loose surfaces like gravel, the wheels may stop spinning and lose traction. This loss of grip leads to instability, making the scooter prone to skidding and crashing.

When a wheel locks and slips, it can cause a loss of control almost instantly. Regaining control under such conditions is often a matter of luck or requires advanced skill, like that of professional stunt riders.

ABS (Anti-lock Braking System) prevents wheel lock by continuously monitoring wheel speed and modulating brake pressure. When the system detects that a wheel is about to lock up, it reduces brake pressure momentarily to keep the wheel rotating. Once the risk of locking is gone, it reapplies braking force. ABS allows riders to brake as hard as possible without locking the wheels, maximizing stopping power while maintaining traction and control, helping to avoid accidents.

SWITCH ASSEMBLY LH

The LH side switch assembly is situated in the handlebar on the left side and encompasses the following switches.



1. Horn switch

Press the switch '📢' to operate the horn.

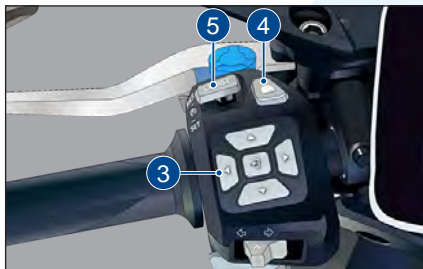
2. Switch turn signal lamp

Slide the turn signal lamp switch to left '←' or right side '→' to operate respective turn signal lamps (LH / RH). Push the switch 'IN' to cancel.

When the 'left' or 'right' side turn signal lamps are activated, respective turn signal indicator '← →' of the instrument cluster flashes along with it.

3. Navigation switches

The navigation switches are used to operate the menu screens on the cluster.



4. Seat unlock switch

Press the switch to open the rider seat thereby accessing the utility box while the vehicle is powered 'ON'.

Press back the seat to its original position to lock it.

i Note:

The rider seat can be opened using the menu setting or from drop down menu of the instrument cluster. Refer [page 32](#) for details.

5. Cruise control switch

Cruise control switch has three options in it.

Cruise control main switch operation:

Momentary vertical press of cruise control switch knob turns 'ON / OFF' the cruise control.

- When the cruise control is activated, the cruise control indicator of the instrument cluster '🕒' glows along with it.

Cruise control 'Set/-' & 'Res/+ ' switch operation:

Gentle push of cruise control switch knob towards 'Set/-' position activates the 'Set/-' switch.

While the cruise control is turned 'ON' (cruise state), you can decrease already set cruise speed in the following manner:

- Gently push the Cruise control switch knob towards 'Set/-' position to decrease the cruise speed by 1km/h

While the cruise control is turned 'ON' (cruise state), you can increase already set cruise speed in the following manner:

- Gently push the Cruise control switch knob towards 'Res/+' position to increase the cruise speed by 1km/h.

Conditions to turn 'ON' cruise control:

Cruise control can be switched 'ON' only when the following speed limit conditions are met:

Minimum speed	Maximum speed
15 kmph	80 kmph

To turn 'ON' the cruise control

Press the cruise control switch when the vehicle speed is more than the minimum allowable speed limit. This will turn 'ON' cruise control and set speed setting at the current riding speed will happen simultaneously.

Conditions for cruise control suspend / cancel

According to the accelerator grip position of the vehicle, override operation will be detected by the system and cruise control will be suspended.

If the accelerator grip position is overclosed to the negative direction (accelerator blip function), cruise control will be cancelled.

According to the brake lever or pedal operation by the rider, the braking intention is detected and cruise control will be cancelled.

The cruise control will not be allowed to activate till the brake input is present.

Cruise control will be cancelled if the kill switch is activated.

Do's and Dont's while cruise mode is engaged

Avoid keeping hand on the brake levers while riding. Any input from the brake levers will opt out the vehicle from cruise mode.

Note

Cruise control will not work when there is an active error in the vehicle.




Any input for ride mode change will exit cruise control.

6. Switch beam control / pass-by

Headlamp 'high / low' beam glows automatically depending on the switch position when the power is turned 'ON'.

On selecting the 'high / low' beam switch position, headlamp will operate in corresponding beam.



- Press the switch towards '  ' to illuminate low beam.
- Open the switch towards '  ' to illuminate high beam.
- When the headlamp is illuminated in high beam, the high beam indicator of the instrument cluster '  ', glows along with it.

Press the switch intermittently towards you to flash the headlamp (pass-by).

- Flashing the headlamp high beam provides signal to the vehicles coming from opposite direction during overtakes.
- If the high beam is flashed, the high beam indicator also flashes along with it.

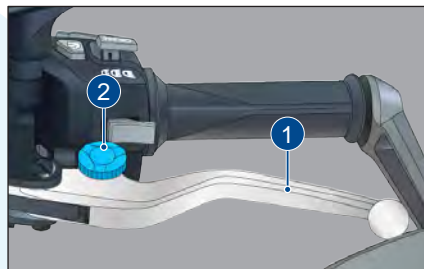
Note

Use appropriate headlamp beam 'high / low' as per the traffic and road conditions for your safety and avoid inconvenience to other riders.

BRAKE LEVER LH

1. Rear brake lever

The left hand side brake lever controls a hydraulic circuit. While squeezing the lever, hydraulic circuit operates the rear brake system. The brake lamp glows on application of rear brake.

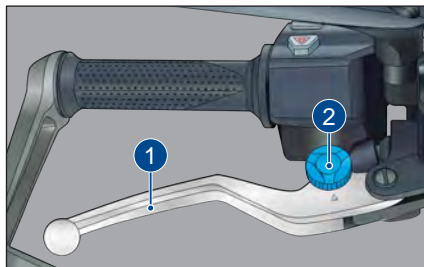


2. LH brake lever position adjuster

TVS X comes with adjustable brake levers. There are three positions provided for you to adjust the lever to suit your palm size.

To adjust the lever position, rotate the position adjuster to any of the three position by aligning the 'arrow mark (A)' on the lever to the number provided on the adjuster.

BRAKE LEVER RH



1. Front brake lever

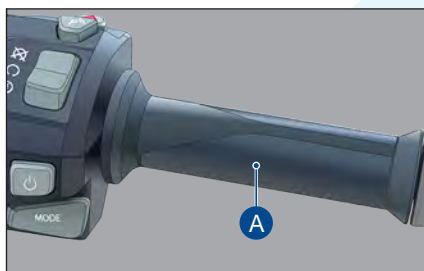
The right hand side brake lever controls a hydraulic circuit. While squeezing the lever, hydraulic circuit operates the front brake system. The brake lamp glows on application of front brake.

2. LH brake lever position adjuster

TVS X comes with adjustable brake levers. There are three positions provided for you to adjust the lever to suit your palm size.

To adjust the lever position, rotate the position adjuster to any of the three position by aligning the 'arrow mark (A)' on the lever to the number provided on the adjuster.

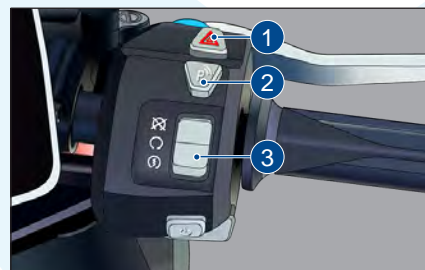
THROTTLE GRIP



The vehicle speed is regulated by manipulating the throttle grip's (A) rotation. Twist the grip towards you to accelerate and increase the vehicle speed; conversely, twist it away from you or release it to decelerate and reduce the vehicle speed.

SWITCH ASSEMBLY RH

The RH side switch assembly is situated in the handlebar on the right side and encompasses the following switches.



1. Hazard Switch

Whenever it is necessary to park TVS X in a hazardous location, press the hazard switch with power 'ON' condition to start simultaneously flashing of all turn signal lamps.

This makes others aware of your vehicle presence. Press the switch again to turn-off the lamps.

2. Park assist switch

Park assist switch activates park assist mode and allows vehicle to roll forward or backward in restricted speed thereby to reduce the effort of parking by yourself. Refer "PARKING MODE" on page 40 for detailed parking assist function.

3. Ride / kill switch

The TVS X comes equipped with an integrated ride cum kill switch, where the kill switch is utilized to deactivate the motor while keeping the other DC systems operational. To engage the kill switch, push it towards the '⊗' position. In this mode, the motor circuit is disabled, preventing the motor from starting.

To activate the motor circuit and start the motor, return the switch to the '⊙' position. To initiate motor operation, press the switch to the '⚡' position while holding the left hand side brake lever.



4. Power switch

The Power switch is responsible for both activating and deactivating the vehicle power. When the vehicle is powered 'ON,' all electrical circuits engage, and the steering is unlocked. Upon powering 'ON,' a self-check is performed on the lighting system, and the instrument cluster awaits password input. Additionally, the headlamp, illuminating logo, number plate lamp, and tail lamp are illuminated.

Note

Instrument cluster, headlamp, illuminating logo, number plate lamp and tail lamp will be activated automatically once the vehicle is powered 'ON' without activating any other switches.

Caution

Leaving the vehicle in powered 'ON' condition for a prolonged time when the vehicle is not in use will drain the battery. Turn 'OFF' the vehicle power when the vehicle is not in use to save the battery charge.

Warning

The steering automatically locks when the vehicle is powered 'OFF' and turned fully in either direction. To prevent loss of balance, ensure to unlock the steering by powering 'ON' the vehicle before attempting to move it.

5. Mode switch

Mode switch allows to switch between following modes:


- Xtealth** - is for everyday ride where the vehicle speed can go up to 55 kmph.
- Xtride** - is used if more speed is required with the max speed of 75 kmph.
- Xonic** - is the fastest mode, and can go up to 105 kmph.

SIDE STAND

While seated on the vehicle, use your left foot to push the side stand away from the vehicle until it comes to a complete stop.



Note

The side stand indicator '' of instrument cluster will illuminate when the side stand is engaged.

Caution

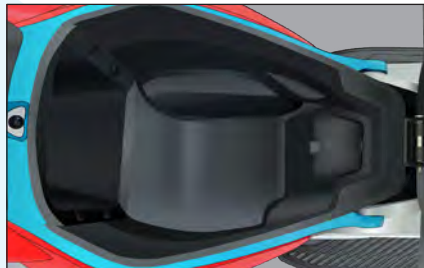
Do not sit on the vehicle when it is supported by side stand. Always ensure to park the vehicle on a flat and firm surface.

Warning

Ensure that you fully retract the side stand before attempting to start the vehicle, as failure to do so will prevent the vehicle from starting.

UTILITY BOX

The utility box is positioned beneath the rider seat. To access the utility box, lift the seat by unlocking the seat lock either by using seat lock switch (refer page 19) or by using the utility box unlock menu of the instrument cluster (refer page 32).



Caution

Utility box can be used to carry a load of 10 kg maximum.

Do not carry perishable items inside the utility box. It is not fully sealed. Do not allow / spray water inside the utility box.

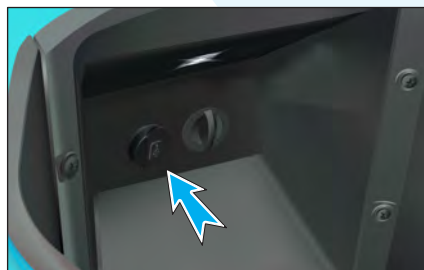
Do not keep valuable items inside the utility box when leaving the vehicle unattended.

Warning

Operating the TVS X in an overloaded condition will hamper riding stability and may lead to loss of control. Hence, it is advisable to carry the recommended amount of load only.

SMART PHONE CHARGER

Smart phone charger is positioned inside the utility box beneath the rider seat. To access the smart phone charger, lift the seat by unlocking the seat lock either by using seat lock switch (refer page 19) or by using the seat unlock menu of the instrument cluster (refer page 32).



Do's and Dont's of smart phone charger

Do's

Ensure that no water enters into the unit, by closing the USB flap properly.

Use approved, standard USB cable for charging mobile phones.

Do make sure the flap is not damaged while opening / inserting the USB cable.

Dont's

Do not leave the USB charging flap open / partially closed.

Do not attempt to use / charge any other device, other than mobile phones. Only one mobile phone should be charged at a given time.

Do not try to force the USB connector in, check whether it is inserted in the appropriate direction, to prevent the damage to the charger.

Note

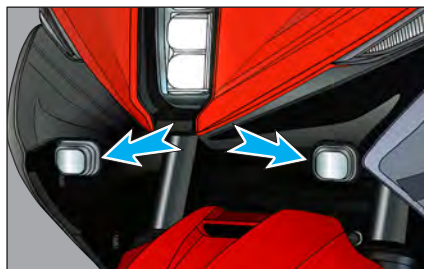
The charging time of the mobile may vary, depending on the mobile battery's state of charge.

Caution

The rubber flap in the unit has been designed to prevent water / dust entry and is not replaceable. No warranty will be applicable for charger in case of rubber flap damage.

HEADLAMP & BEND LAMPS

The TVS X comes equipped with a sleek and potent headlamp, complemented by left and right bend lights. This setup enhances visibility on curved roads and while cornering, making it easier to identify the road course and obstacles in the dark.



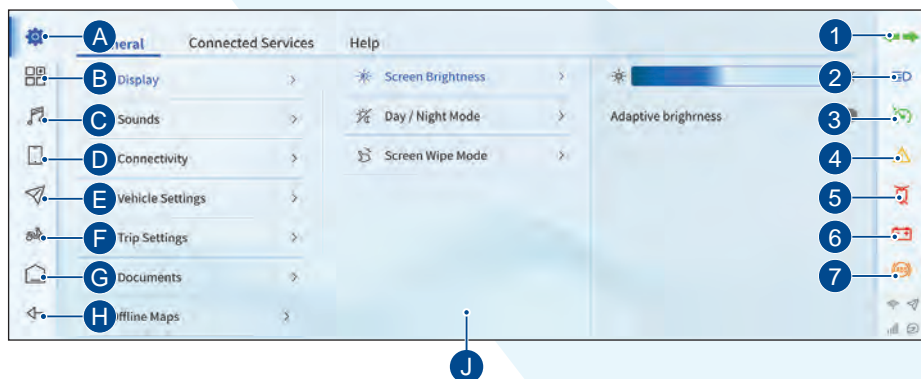
ILLUMINATING LIGHT

A blue coloured LED illuminating light will glow once the vehicle is powered 'ON' during the vehicle in zero speed conditions. During charging of the vehicle this illuminating light will blink.



INSTRUMENT CLUSTER

The TVS X comes equipped with a state-of-the-art fully digital, touch-sensitive, connected instrument cluster boasting a plethora of features and modes. It offers navigation assistance, seamless Bluetooth connectivity with a dedicated app for mobile devices, and the ability to customize color themes and personalize wallpapers. Additionally, the vehicle's instrument cluster is equipped with various tell-tales and alerts, providing real-time information about the current condition of the vehicle. Let's take a closer look at these informative indicators.



- A. Settings
- B. All Apps
- C. Wellness
- D. Contacts
- E. Navigation
- F. Vehicle History
- G. Widgets
- H. Back button
- J. Multi-function display

- 1. Turn signal indicators
- 2. Headlamp high beam indicator
- 3. Cruise control indicator
- 4. Mall function indicator
- 5. Side stand indicator
- 6. Low battery indicator
- 7. ABS warning indicator

MENU DETAILS

A. Settings Menu

General Menu

The following sub-menus are present under the settings menu

- | | | |
|-----------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Display | Screen brightness | <ul style="list-style-type: none"> - to adjust screen brightness manually to turn enable / disable adaptive brightness adjustment option |
| | Day / Night mode | <ul style="list-style-type: none"> - to set day view / night view / auto / custom night mode <p>(In auto mode, the day / night view changes in accordance to the ambient light.
In custom night mode, the schedule for night mode (PM to AM) can be set)</p> |
| | Screen wipe mode | <ul style="list-style-type: none"> - To lock the screen for the selected period of time to wipe the screen clean with soft cloth |
| | Themes | <ul style="list-style-type: none"> - To set the desired theme <p>(If the wall paper theme is selected the default selected wallpaper will be displayed in the instrument cluster)</p> |
| | Wall paper | <ul style="list-style-type: none"> - To select desired wall for display <p>(There are four default wall papers are available to select. Additional wall papers can be loaded through app.)</p> |
| 2. Sound | Audio settings | <ul style="list-style-type: none"> - To adjust the speaker volume manually <p>To turn OFF / ON park assist, turn indicator, alert and mode sound</p> |
| | DND | <ul style="list-style-type: none"> - To enable / disable Do not Disturb option |
| 3. Connectivity | Bluetooth® | <ul style="list-style-type: none"> - To turn OFF / ON Bluetooth option - To list down already paired devices, to search and pair a new Bluetooth devices. <p>(The Bluetooth ID of instrument cluster and editing of already paired devices option is also available under this menu)</p> |

Wifi

- To turn OFF / ON Wifi option
- To list down available Wifi networks, to connect with them and to search a new Wifi networks.

4. Vehicle settings Overspeed limit setting

- To enable / disable overspeed limit alert option

Selective regen

- To select and set the regen limit during throttle closure

(Regen refers to regenerative braking. The electric motor connected to the wheel generates power during braking / throttle releasing which charges the battery of the vehicle.

There are 5 levels (1 to 5) of regen limit is available for you to select. The minimum level generates less charging power where as the maximum level generates more.

The regen force assists in braking and vehicle slows down quickly. The more regen level provides more braking effect and the vehicle stops quicker than normal)

 **Note**

The regenerative braking system may give different feel to the riders who are used to traditional braking system. The brake levers are often feels softer which is normal.

Light sequence

- To alter the vehicle light flashing sequence scheme while turning ON the vehicle.

(Presently only one option is available)

Utility box

- To unlock the utility box.

Charging port

- To unlock the charging port cap.

Hill hold

- To enable / disable the hill hold function refer page no. 35

Change pin

- To change the vehicle unlocking pin

Manage cards

- -NA-

Service Center profile

- A dedicated profile is activated when the vehicle is handed over to a service center for maintenance or servicing

5. Trip settings

- To enable / disable trip summary display

(Trip summary displays the total distance covered, total energy gained, average speed and total energy used details)

6. Software update

- To enable / disable automatic software update option

(This menu also displays last update software, app version, OS version, firmware version, IMEI and ICCID details)

7. Documents

- Displays the documents stored through the app.

(Documents like license, registration certificate of the vehicle and insurance will be displayed)

8. Additional settings Time

- To enable / disable 24 hour time format

Weather

- To change the weather indication to Celsius / Fahrenheit

Connected services

1. Incognito mode

- To enable / disable incognito mode

2. Offline maps

- To search and down load preloaded maps.

- To enable / disable auto update of preloaded maps

B. All Apps Menu

- To access default browser, videos, wellness music and default games

(Browser and videos works only when the instrument cluster is connected to the wifi network)

C. Wellness Menu

- Lists down the default wellness music tracks along with the music control menus

D. Contacts Menu

- Lists down the favourites and recents contact details only when the instrument cluster is connected with the smart phone via connected app.

E. Navigation Menu

- To assist in navigation by searching the desired location by search option or by selecting favourite location, shared location and default location etc.

(Once the desired location is selected by any of the above means the route map will be displayed and turn by turn navigation assist starts)

F. Vehicle Statistic Menu

Over view

- Displays all time driving score, distance travelled details, fuel saving details, top speed details, mode preference details, vehicle service due, vehicle health, battery SOC etc.

Ride summary

- Displays the trip / ride details for the selected date along with top speed, energy used, driving score etc.

Battery info

- Displays the day wise charging summary, battery charge percentage, battery usage pattern, expected range at various modes etc.

G. Widgets Menu

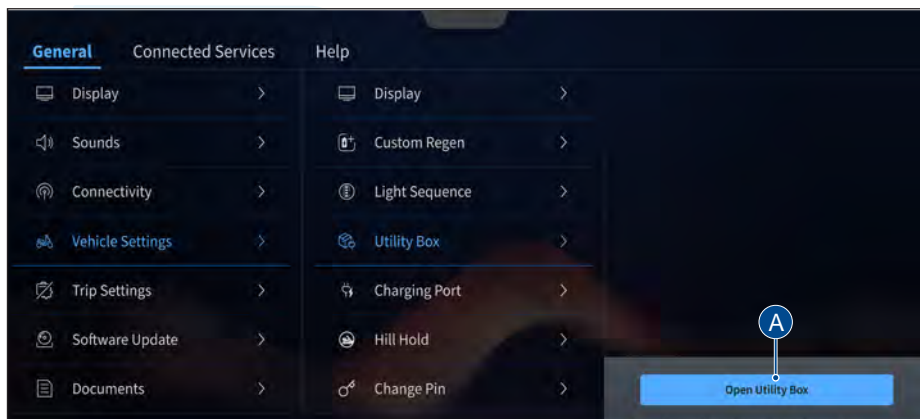
- Displays the widgets selected by you. You can remove / add any default display widgets and arrange them as you like.

H. Back Menu

- Changes the display to default ride mode screen

IMPORTANT FUNCTIONS VIA CLUSTER

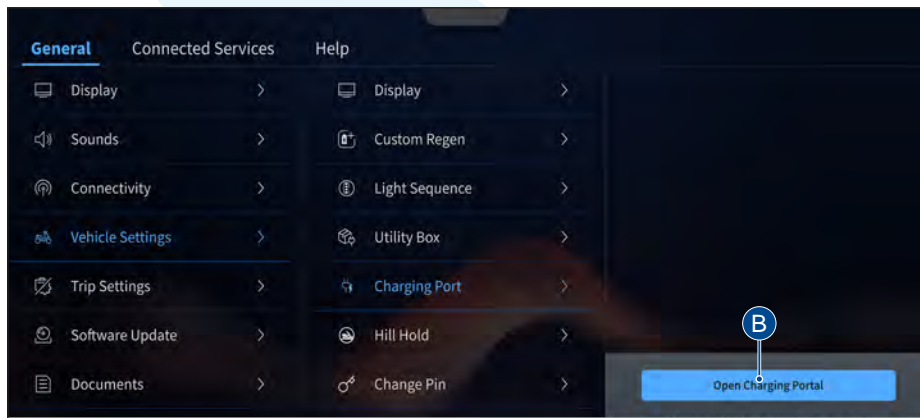
Rider Seat Opening



- Power on the vehicle.
- Enter into the settings menu of the instrument cluster and navigate to vehicle settings.
- Under vehicle setting menu navigate to the **utility box** menu.
- Now, press the **Open Utility Box tab (A)** to open the rider seat assembly and to access the utility box.

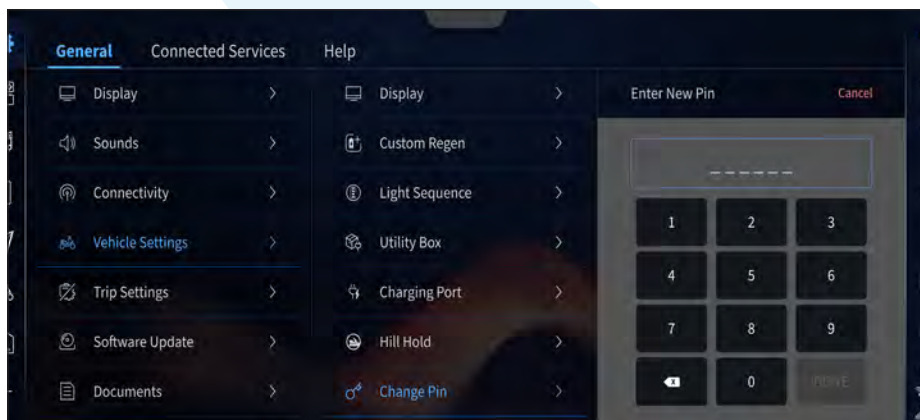
Charging Port Opening

- Enter into the settings menu of the instrument cluster and navigate to vehicle settings.
- Under vehicle setting menu navigate to the **charging port** menu.
- Now, press the **Open charging portal tab (A)** to open the charging port cap and to access the charging port.



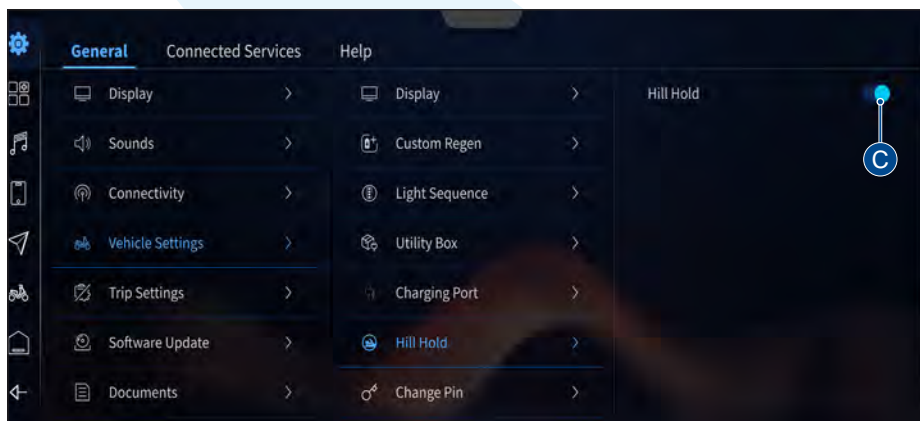
Pin change

- Power on the vehicle.
- Enter into the settings menu of the instrument cluster and navigate to vehicle settings.
- Under vehicle setting menu navigate to the **change pin** menu.
- Enter the new pin using dial pad.
- Press the **Done** tab after entering and ensuring the pin else press the **Cancel** tab
- Next Power ON the vehicle using the new pin.



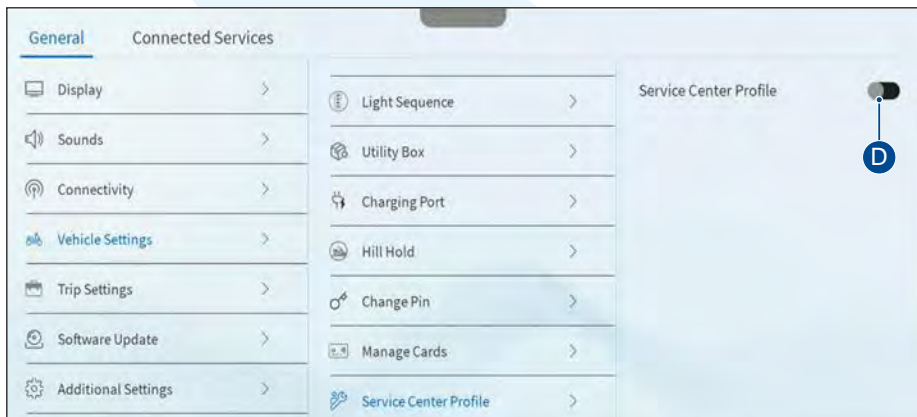
Hill hold Assist

- Power on the vehicle.
- Enter into the settings menu of the instrument cluster and navigate to vehicle settings.
- Under vehicle setting menu navigate to the **hill hold** menu.
- Turn ON / OFF the hill hold assist using **toggle switch (C)** based on your requirement.

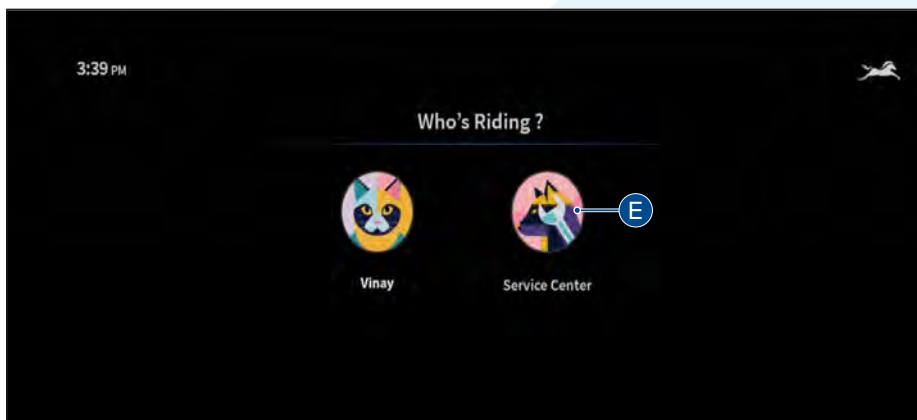


Service Center profile

- Power on the vehicle.
- Enter into the settings menu of the instrument cluster and navigate to vehicle settings.
- Under vehicle setting menu navigate to the **Service Center Profile** menu.
- Turn ON / OFF the service center profile using **toggle switch (D)** based on your requirement.

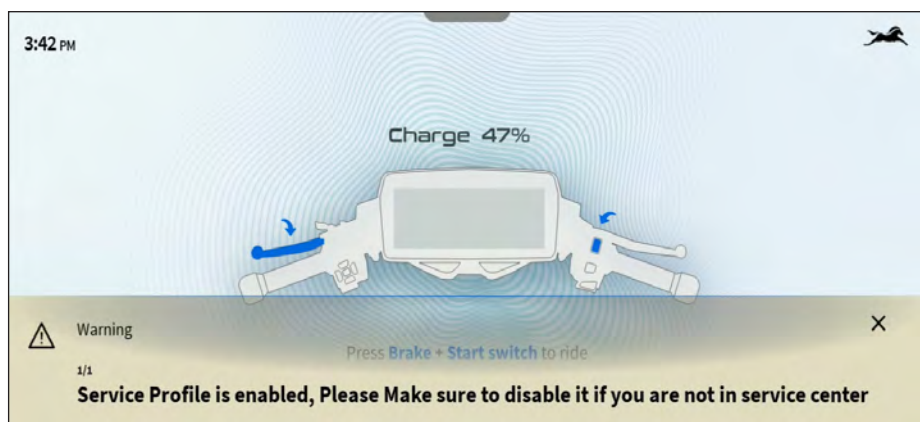


- Once activated a dedicated profile (E) for service is visible initial login, service technician will operate the vehicle with this profile only*



* Do not share the user profile passcode with service center.

- After completion of service, the service center profile should be deactivated after logging in through the user profile before riding.



i Note


TVSM has developed internet / mobile application (TVS Connect) in order to provide navigation services. TVSM may use the personal driving data details to provide assistance to locate and track the vehicle on good effort basis.

By purchasing TVS X, Customer acknowledges and consent to the collection and utilization of vehicle telematics data, including but not limited to battery performance, number of kilometers the vehicle has run, for the use of connected features for TVS Connect app by the Customer.

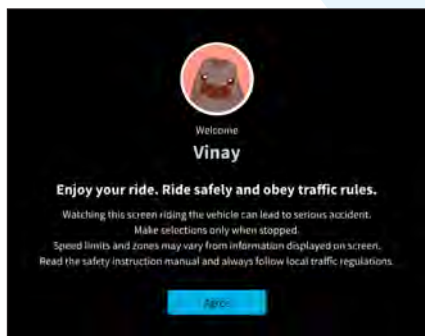
The information relating to the vehicle collected by TVSM does not include any personal information provided by you, shall be deemed to be TVSM proprietary information and shall be solely owned by TVSM. TVSM may use such information in the manner deems fit and necessary.

RIDING YOUR TVS X

UNLOCKING AND LOCKING USING INSTRUMENT CLUSTER

To unlock the scooter, press the power switch ON '  ' (refer page 23).

Once the vehicle is powered 'ON,' the instrument cluster will showcase a welcome screen. Simply tap on the rider profile image to choose the desired rider profile and enter the appropriate passcode.



Upon powering 'ON', a self-check is performed on the lighting system, and the instrument cluster awaits password input. Additionally, the headlamp, illuminating light, number plate lamp, and tail lamp are illuminated.

Once you've chosen the preferred rider, input the correct passcode. When the passcode is successfully entered, the scooter automatically unlocks, allowing the steering to move freely.

For locking the scooter, park it on a level and stable surface, turn the handlebar completely to the right or left, and then press the power switch.



Note:

When the vehicle is powered 'ON', all electrical circuits engage, and the steering is unlocked.

The vehicle can be unlocked using the connected app and the smart watch app once it is paired with your mobile phone.

RIDING YOUR TVS X



- Begin by retracting the side stand.
- Switch on the vehicle using the power button.
- Ensure enough charge is available for the desired distance of riding.
- Engage the motor circuit by turning the 'ride/kill switch' to the '🔄' position.
- Grip any one of the brake lever and press the 'ride/kill switch' to '🔌' and enter the ride mode. Vehicle enters Xtealth mode by default.

i Note:

Make sure your TVS X is fully charged before beginning your ride to ensure availability of charge. It is advisable to charge it to 100% before starting your journey.

*There are several ride modes available for you to select during your ride. Refer **page 23** for details.*

⚠ Warning

The TVS X scooter features a powerful motor, ensuring quick and responsive throttle response. It's advised to gradually open the throttle until you become accustomed to the scooter's operation.

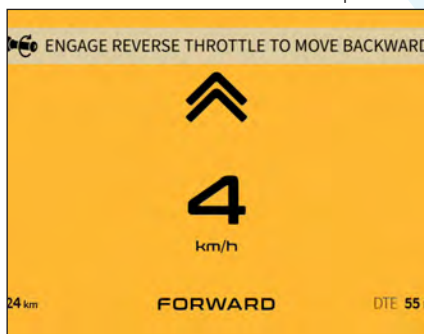
Given the silent operation of the TVS X, it might not be immediately apparent whether the vehicle is in the 'OFF' or 'ON' state. Pay close attention to the instrument cluster to confirm that the motor is turned off until you commence riding the scooter.

PARKING MODE

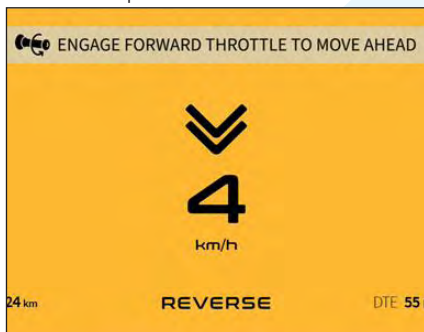
To activate parking mode, simply press the park assist switch 'P' located on the handlebar (refer page 22).



Twist the throttle grip to move the vehicle forward at a restricted speed.



Alternatively, Twist the throttle grip away from you (reverse direction) to move the vehicle in reverse at a restricted speed.



Warning

Ensure there are no obstacles behind you when reversing, despite the restricted speed, to prevent collisions.

ABS BRAKING SYSTEM

The TVS X is equipped with a single channel Anti-lock Braking System (ABS) designed to prevent skidding and assist in maintaining steering control during emergency stops, whether on dry, wet, or loose gravel roads.

Brake lever pulsation is normal:

When performing a hard stop, you may notice a rapid pulsation in the front brake lever. This sensation is completely normal and occurs due to the modulation of pressure in the brake circuit by the Hydraulic Electronic Control Unit (HECU).

Warning

The ABS can apply and release pressure in the brake circuit much faster than a rider can with the brake lever, preventing wheel locking. Therefore, there's no need to pump the brake; continuous application is sufficient.

Using only the front or rear brake is dangerous and can cause skidding and loss of control. Apply both the brakes together and with great care on a wet road or other slippery surfaces.

Any abrupt braking on slippery or irregular roads can cause loss of rider control.

REGENERATIVE BRAKING

The regenerative braking system of the TVS X enables the motor to convert the free rotation of the wheel during deceleration into electrical energy. In other words, the motor functions as a generator during deceleration, capturing kinetic energy and converting it into electrical power. It also helps in slowing down the vehicle. This reduces wear on traditional brake components and improves energy efficiency.

STOPPING AND PARKING

Fully close the throttle and engage both brakes simultaneously.

Park the vehicle on a stable, level surface.

Turn the handlebar completely to the right or left.

Press the power switch to deactivate the vehicle's power. Once the vehicle's power is turned off, both the vehicle and the steering will automatically lock.

WARNING INDICATORS

Malfunction indicator: Alerts to errors in the vehicle's electrical system. The vehicle may enter 'Derating' mode or halt altogether.

ABS warning indicator: Signals issues with the ABS system. ABS functionality may be compromised, affecting vehicle operation.

Low battery indicator: Warns of a depleted main battery. The vehicle may stall if this indicator remains illuminated.

Side stand warning indicator:

Activates when the vehicle's side stand is deployed. Retract the side stand to deactivate this indicator.



Note

If any of these indicators remain illuminated continuously, it is advisable to visit any TVS Motor Company Authorised Main Dealer for assistance with your vehicle.

MAINTAINING YOUR TVS X

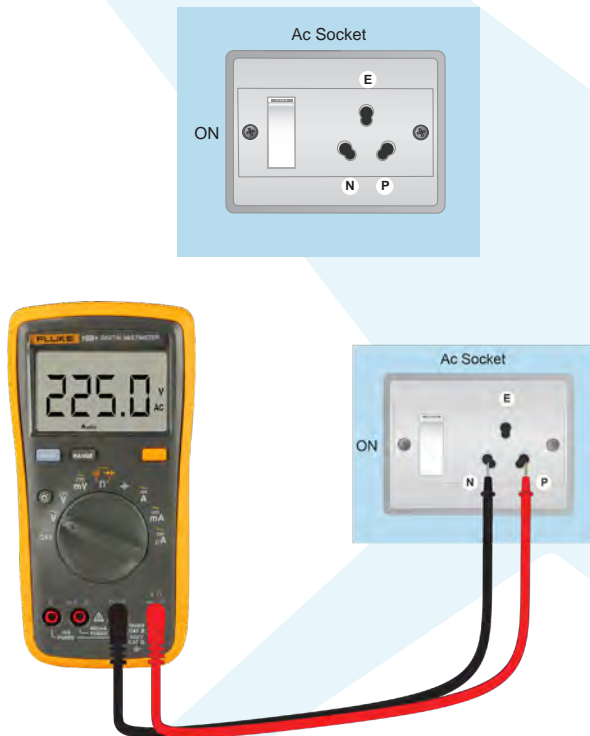
- Clean the vehicle thoroughly to protect it from paint damaging elements.
- To avoid corrosion of the body parts remove the substances like oil, grease, brake fluid or bird droppings.
- Do not use high pressure water or steam to clean or wash your vehicle to avoid damage to the vehicle.
- Do not use strong chemicals or detergents to clean your vehicle.
- Do not allow your scooter's battery charge to go too low.
- Never sit on vehicle when it is supported by stands.
- Always ensure steering is locked while parking for safety.
- Always park the vehicle on a flat, firm surface, in shaded area and away from flood, fire and other unsafe environments.
- Do not park the vehicle under direct sunlight, rain and dusty areas.
- Do not leave your vehicle without charging for a long period of time (Vehicles should be charged to 50% SOC atleast once in 15 days).

CHARGING THE VEHICLE

- The Phase, Neutral & Earth terminals should be placed as per the image.
- Use the Tester to find out the Phase line.

Caution

Any electrical work should be performed by authorized electrician only. Failure to do so might result in severe injury or risk to life.



- As shown in this picture, you can check the input voltage of the available socket.
- Normally the reading would be $230 \pm 5V$.

 **Note**

Multimeter selector should be as shown in the picture for measuring AC voltage of domestic power socket.

The selector position will vary in each multimeter brand.

Red & Black couplers need to be connected as shown in the picture with Multimeter as well as the domestic 5A power socket.

 **Warning**

- You should adhere to the electric tester usage guidelines before checking the power supply.*
- Input AC voltage should be within the range of 220 to 240V.*
- Need to ensure proper earth connection in the AC domestic power socket.*
- Plug the charger in Single phase AC domestic socket only.*
- Do not use extension box to charge the vehicle for safety purpose.*
- The charger should be stored in a clean, dry and ventilated place.*
- The charger fan should be in upward direction while charging.*
- Never spray water or any liquid directly on the charger.*
- Plug the charger in Single phase AC domestic socket only.*
- Proper installation of power socket /board along with separate MCB and fuse should be ensured.*
- Cables utilized for socket connection, should be free of tapping and cuts.*
- Power socket cables should be properly routed without any hanging cables and must be enclosed in a conduit.*
- Vehicle and charger positioning should be in such a way that, during charging the cables are not overly stretched and connectors are properly locked in sockets.*
- The charging location should be separate and away from other vehicles or combustible materials and in well-ventilated areas.*

 **Note**

Unattended charging of the vehicles should be avoided. Charger should be placed away from the vehicle above the ground level while charging. The charger fan and side vents should not be obstructed, and fan should be upward facing while charging.

CHARGER



- AC 3 Pin 5A plug with Residual Current Device (RCD).

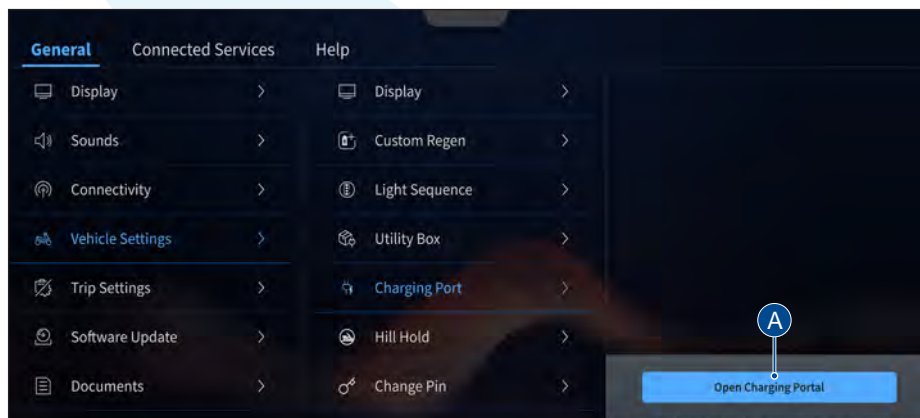
CONNECTING THE CHARGER

Opening the charger lid

- Power on the vehicle
- Open drop down menu by pressing the pull down tab on the screen.
- Press the charging port icon (A) to unlock the charging port.

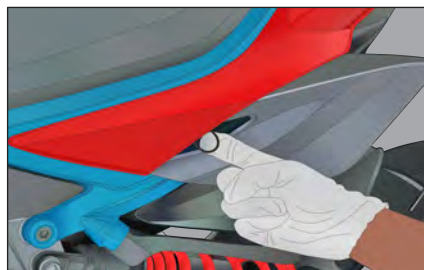


- In addition to the above option, Enter into the settings menu of the instrument cluster and navigate to vehicle settings.
- Under vehicle setting menu navigate to the **charging port** menu.
- Now, press the **Unlock tab (B)** to Open charging port.

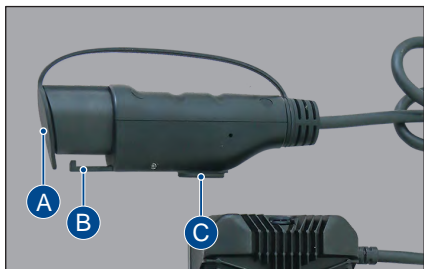


Else

- Carefully pull the cable provided at the left side of the vehicle below the rider seat as shown.



CHARGING



- Open the cap (A) of the charger's charging cable.
- Carefully fix the charger cable into the charging port of the vehicle as shown and ensure the proper locking of the cable with the vehicle.
- Plug the charger's cable plug to AC socket only.
- RCD power indicator glows once the switch of the AC socket is turned 'ON'.
- After completing the charging process, turn 'OFF' AC socket switch and pull out the plug. Remove the charger's cable from the vehicle by pressing the button (C). **Care should be taken not to damage the lock (B) while removing the cable from the vehicle.**
- Finally close the cap (A) of the charging cable and keep the charger in a safe and secure place.

 **Note**

If RCD LED indication is not observed while power is available in the domestic AC socket, please press 'Reset' button and the LED would glow.

CHARGER DO'S AND DONT'S

- Never use the charger with damaged housing or cable.
- Never modify a charger or open its housing.
- Connect the charger to a regular outlet only.
- Never carry the charger by its electrical cable or pull at the cable.
- For charging always connect the charger input plug into the power socket and charger connected to the vehicle before switching on the power supply.
- For disconnection of the charger, remove it through the plug and not by pulling the cable.
- Cables for socket must be installed and dressed neatly to avoid tripping over.
- Use original TVSM recommended spares & accessories only.
- Don't use the charger in the rooms and areas with high intensity of electromagnetic disturbances (Eg: Surgical equipment room, RF shielded room etc.)
- Never spray or immerse in water or any other liquids.
- Don't use chemical cleaning agents.
- Use dry cloth only to clean the surface.
- Disconnect the charger before cleaning the charger.
- Do not leave the connector on the ground to avoid damage through dust and water ingress.
- The charger is maintenance free. In case of any faults, kindly contact the nearest dealer.
- The charger should be stored in clean, dry environment only. It should not be stored in corrosive, or with other fluids which might be harmful to it.

Caution

Sole responsibility of adhering to safe charging guidelines lies with the user. Any consequences due to non-adherence to guidelines or external factors have to be borne by user.

Mobile phones can be connected with vehicle instrument cluster using Bluetooth, which helps you to know about your ride data and many other functions. Once Bluetooth connection is established between instrument cluster and mobile phone, Bluetooth symbol will glow.

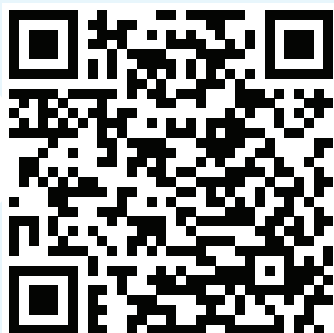
Your vehicle also comes with a inbuilt Telematic unit. This Telematic unit is under the concept of TVS **SMARTCONNECT** and it is equipped with electronics to monitor and transmit various vehicle data such as battery, motor and other electrical systems. The vehicle data allows for various remote function services, some them are following.

- + Remote monitoring of charging status
- + Live tracking
- + Geo-fencing
- + Theft notifications
- + Voice assist etc.

Scan QR codes for downloading the mobile app and then follow on screen instructions.



Android



iOS

Note

"TVS Motor Company Ltd. does not recommend usage of any type of Mobile Hand Held Devices, and applications / features whether installed or associated with the vehicle which deprives the rider's attention and focus while riding the Two Wheeler. The customers and riders are strictly advised to understand the applicable laws, road safety Rules and the local laws on usage of electronic devices while operating the vehicle. Usage of any Mobile or hand held devices, and /or applications / features while riding the vehicle is on move is totally at customer's / rider's risk. The product and features have technical limitations and are for general overview only."

Bluetooth pairing

First time Bluetooth pairing

To pair your Android smart phone or iPhone with your TVS X connected instrument cluster, via Bluetooth, for the first time, follow the procedure as described below :

1. Switch 'ON' the vehicle.
2. Open the app and press the '**CONNECT**' tab, ensure the smart phone is near to the vehicle.
3. The app searches for all Bluetooth devices near by and displays the list of devices available.
4. The connected instrument cluster's Bluetooth name is prefixed by TVS X.
5. Now, select the 'TVS X' in app to initiate the pairing process.
6. For initiating first time pairing, logout from the app, login again using your login credentials and then press 'CONNECT'.

Note

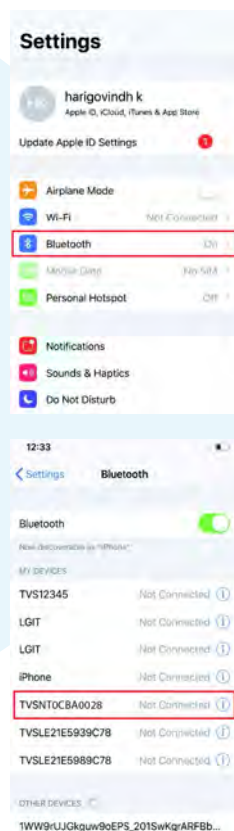
During the course of pairing process, if there is any occurrence of error, the connected instrument cluster should be turned 'OFF' and 'ON', and the application also need to be restarted.

Please remember that all the smart phones are not compatible for pairing with the TVS X connected instrument cluster.

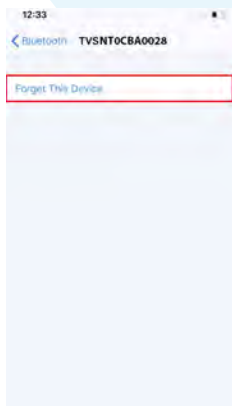
During the search of Bluetooth devices in app, if the vehicle connected instrument cluster's Bluetooth device ID is not visible, try for one or two more iterations.

Steps to "Forget This Device" in iPhone:

If the user needs to connect multiple iPhones with the single instrument cluster, the previous iPhone has to be forgotten using "Forget This Device" from Bluetooth settings in the following manner:



1. In the previous connected iPhone, open the SETTINGS -> BLUETOOTH.
2. Select the instrument cluster, which was connected previously.
3. Click on the "Forget this device".



Auto pairing

Once the first time pairing is done between vehicle's instrument cluster and your smart phone, the phone will automatically connect with the vehicle when the following conditions are met:

1. Vehicle is switched 'ON' and vehicle is near to the smart phone.
2. Smart phone's Bluetooth is turned 'ON'
3. First time pairing is ensured.
4. In case of iPhone, the 'TVS connect' app should be open or be open in background for auto-pairing to happen.

Every time auto-pairing happens, app will open automatically and connect with the Instrument cluster.

Note

If the phone enters battery saver mode, auto-pairing might not happen. It takes maximum of five minutes for auto-pairing and it can happen in vehicle running or in idle condition.

Auto-pairing happens only if the application is locked in the RAM in multitasking screen of the phone which has customized OS (Ex : MI, Vivo etc.)

In case of Android phones with Android OS version above 8.0, for App to work seamlessly, any battery optimization setting to be removed in the TVS Connect App and GPS shall be allowed to run in background in high accuracy mode.

Even if your phone's Bluetooth is already paired to other gadgets like smart watch, health band or helmet, the auto-pairing works with your TVS X's connected instrument cluster.

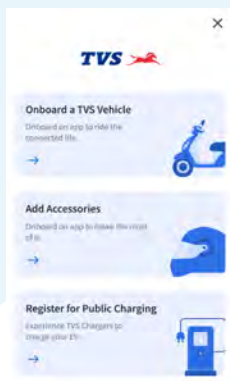
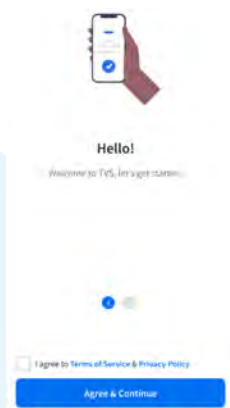
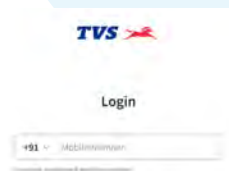
If the application unfortunately stops due to unforeseen circumstances, close and reopen the application and do the manual pairing for the first time, then auto pairing will happen subsequently.

For first time pairing, logout from the app, login again with your login credential and press 'CONNECT' tab.

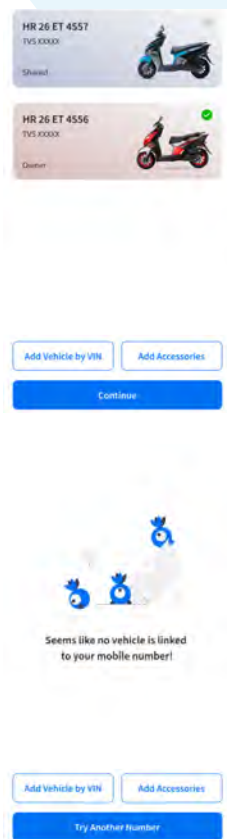
Onboard a TVS Vehicle

On opening the **TVS Connect** app for the first time you have to login using your mobile number. Then enter the OTP which is received from TVS Motor Company Limited.

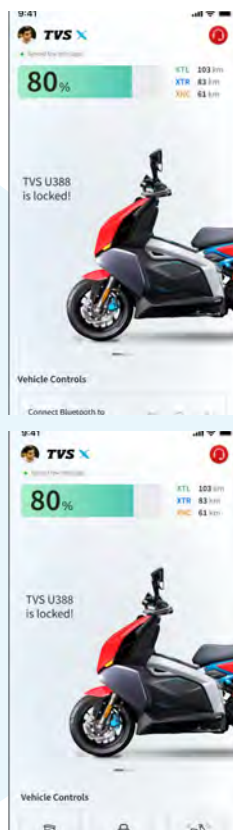
On submitting the OTP. You need to agree to terms of service and privacy policy and click agree and continue. Now click onboard a TVS Vehicle.



Select your vehicle that need to be linked to your App. If no vehicle linked with your mobile number. A vehicle can be added using VIN / chassis number, of the vehicle.



After successful verification of your chassis number, the Home screen of the app opens.



i Note

Please remember that the Navigation License has to be renewed after 5 years of vehicle purchase and renewal can be done by contacting near by Dealer end.

MAINTENANCE SCHEDULE

The maintenance schedule indicates the intervals between periodic services. At the end of each interval, be sure to inspect, check, replace, adjust, lubricate and service as instructed. If the maintenance is not done periodically, it will result in rapid wear and severe damage to the vehicle. If the vehicle is used under high stress conditions such as continuous full throttle operation or is operated in dusty area, certain jobs should be performed more often to ensure reliability of the vehicle. Steering components, suspension and wheel components etc., are key items and require very special and careful servicing.

TVS Motor Company Limited strongly recommends that the jobs as per the maintenance schedule be performed by your TVS Motor Company Authorised Main Dealer.

Periodic inspections may reveal one or more parts that may need replacement. Whenever replacing parts of TVS X, it is recommended that you use only the TVS Motor Company Genuine parts.

Caution

Proper maintenance is mandatory for making certain that your vehicle is reliable and gives optimum performance at all times. Make sure that the periodic maintenance is performed thoroughly in accordance with the instructions given in this User Manual.

PERIODIC MAINTENANCE SCHEDULE (months or km whichever occurs earlier)

Check Items	Every 5000 kms 12 months	Every 20000 kms 24 months	Job Description
Steering operation	I & A	L & R	Inspect and adjust Balls reseal and lubricate Replace steering balls
Head lamp beam focus	I & A	-	Inspect and adjust
All critical fasteners	I & TI	-	Inspect and tighten to the torque
Side stand pivot	C, L & A	-	Clean, inspect and lubricate
All electrical indication and cluster functions	I	-	Inspect
Battery MF 12V	I	-	Health check
Tyre pressure front & rear at cold condition	I & S	-	Inspect and set
Brake pad wear	I	-	Inspect and replace if necessary
Brake fluid	I & T	R	Inspect and top up, replace
Brake hose	I	-	Inspect and replace every three years
Master cylinder cups	-	R	Replace
Charger and charging operation	I	-	Inspect and replace incase of cable wear
Fork oil	-	R	Replace
All terminals and couplers	I & C	-	Inspect and check
Drivetrain assembly	I & R	-	Check for abnormal noise and replace transmission oil
Vehicle parameters check and service reminder reset	RE & CH	-	Reset service reminder and check for DTC's using Diagnostic tool. Check and verify network connectivity of the cluster
Software update and application check	RE & CH	-	Check for Software version and update thorough OTA or Diagnostic tool if required. Check customer mobile application / watch application and update if necessary

SELF MAINTENANCE

REAR SHOCK ABSORBER

TVS X is provided with 7 step adjustable rear shock absorbers to meet different road and load.

If the spring is adjusted to the minimum notch, then the shock absorber will be softer which is good for light loads. If the spring is adjusted to maximum notch, then it will be stiffer which is good for heavy loads.



 **Caution**

Adjust step by step. Do not go at a stretch as it will damage the cam.

 **Note**

During the time of delivery of your TVS X, the rear suspension is adjusted to the standard configuration.

Rear shock absorber spring stiffness can be set to your convenience. Contact your TVS Motor Company Authorised Main Dealer / Authorised Dealer for setting the rear shock absorber load.

TYRES

TYRE PRESSURE

Check tyre pressure atleast once in a week if not more frequently. Insufficient air pressure in the tyres not only hasten tyre wear, but also seriously affects the stability of the vehicle.

Under inflated tyres make smooth cornering difficult and over inflated tyres decrease the tyre contact with the ground which can lead to skidding and loss of control. Be sure that tyre pressure is within specified limits at all times.

Front	1.69 kg/cm ² (24 psi)
Rear	2.25 kg/cm ² (32 psi)

TYRE TREAD CONDITION

Operating the vehicle with excessively worn tyres will decrease riding stability and can lead to loss of control. It is recommended to replace the tyre when the tyre wears off to the tyre wear indicator level (indicated by TWI (A) on the tyre).

TYRE ROTATION DIRECTION



While reassembling the tyres, after removing from the wheel rim, ensure that the arrow mark facing the direction of wheel rotation while fixing the tyre on the wheel rim.

TYRE PUNCTURE

Your scooter is fitted with a tubeless tyre on both front and rear wheel. In case of any puncture / tyre damage, it is advised to visit the nearest tyre manufacturer Dealer or the tyre repair shops who knows the repairing method of tubeless tyre.

It is not necessary to remove the tyre from wheel rim always to attend a puncture.

Even though, if there is need of tyre removal, it is strongly recommended to use a tyre removal / fitment machine.

If at all, tyre levers need to be used, the levers should be free from sharp edges. Care should be taken not to damage the tyres and rims.



Warning

The tyre inflation pressure in cold condition and the tyre tread condition are extremely important for the performance and safety of the rider. Check the tyres frequently for inflation pressure as well as the wear pattern on it.

Use of a tyre other than the standard may cause instability.



Caution

The side walls of the tubeless tyre which in contact with the wheel rim are only seals the air inside the wheel assembly. Hence care should be taken not to damage the side walls of the tyres during removal / reassembly.



Note

Tyre pressure is a very important parameter in the daily operation of the vehicle. In order to extract the best possible range and performance.

PLANNED SERVICE SCHEDULE
(kms or month whichever of the two occurs early)*

Sl.No.	Service	Kms	Months
1	1st Service	5000	6
2	2nd Service	10000	12
3	3rd Service	15000	18
4	4th Service	20000	24
5	5th Service	30000	36
6	6th Service	40000	48
7	7th Service	50000	50

TECHNICAL SPECIFICATIONS

MANUFACTURER : **TVS MOTOR COMPANY LIMITED**
PB. NO. 4, Harita, Hosur - 635109
India

POWER TRAIN

Type	: Plug in EV
Battery type	: Li-ion
No. of batteries	: 2 Pack
Rated voltage	: 52V
Charger specifications*	: 950W Off Board charger
Charging time **	: 0 - 80% SOC - 3 hrs 30 mins. (Approx)
Motor type	: PMSM
Motor output power	: 7.5 kW (Rated) / 11.7 kW (Peak)
Motor output torque	: 14 Nm (Rated) / 40 Nm (Peak)
Top Speed [#]	: 105 km/h
Range (Xtealth) ^{##}	: 118 ± 5 km (Against payload: 75 kg)

CHASSIS

Overall length	: 1798 mm
Overall width	: 809 mm
Overall height	: 1147 mm
Ground clearance	: 170 mm
Wheel base	: 1285 mm
Kerb weight	: 139 ± 2 kg
Rated Pay load	: 130 kg
Maximum laden weight	: 269 ± 2 kg
Frame	: Aluminium alloy
Front suspension	: Telescopic hydraulic type
Rear suspension	: Mono shock absorber

* Included charger specification/rating might vary. This is indicative of a typical offering.

** Rated time is with 950W charger when used with a 220V 50Hz sinusoidal AC input without interference. The charging duration might be higher or lower depending on the power rating, input voltage and battery capacity of the vehicle.

[#] The top speed in different modes depends on factors such as gradient, road conditions and vehicle ageing.

^{##} Real world range may vary with road, load, driving patterns and ageing of battery packs. The true range for the TVS X is 118 km under standard riding conditions, which consists of a solo rider of average weight (between 70 - 80kg, riding on city roads without any extra payload). The standard conditions also involve the vehicle being used without brake and accelerator being applied together and the recommended tyre pressure being filled up. (cold tyre air pressure of 24 PSI for Front and 32 PSI for Rear tyre).

TYRE

Tyre size	
Front	: 100/80-12 (Tubeless)
Rear	: 110/80-12 (Tubeless)
Tyre pressure :	
Front	: 1.69 kg/cm ² (24 psi)
Rear	: 2.25 kg/cm ² (32 psi)

BRAKES

Front Disc	: 220 mm dia disc
Rear Disc	: 195 mm dia disc

INSTRUMENT CLUSTER

Power rating	: 13.5V, 10W TFT
Display	: 1920 x 720
Display type	: TFT
Luminous emittance	: 1000 Lux

FUSES

ABS fuse	: 32V, 5A
ABS fuse	: 32V, 5A
Load fuse before Ignition lock	: 32V, 10A
Load fuse after Ignition lock	: 32V, 10A

CAPACITIES

Front fork oil grade	: Showa oil (SS-47G)
Front fork oil capacity	: 115 ± 2.5 cc
Brake fluid	: TVS (DOT 3 / DOT 4)
Transmission oil grade	: 10W30
Transmission oil quantity	: 550 ml

i Note

Specifications are subject to change without notice.

WARRANTY INFORMATION

TVS Motor Company Limited ('the Company') give this warranty with respect to the TVS X manufactured by the Company.

While the Company has taken every care to maintain quality in the manufacture of the TVS X, the above said warranty is subject to other terms of warranty :

Warranty is applicable during 3 years from the date of purchase or during the first 50,000 km of run for the vehicle, battery, motor, controller and charger, whichever is earlier, the parts of the vehicle covered under warranty which prove to the satisfaction of the Company to have a manufacturing defect will be repaired or replaced free of cost. In the event of a change in the vehicle ownership, the remaining warranty period is effective for the new owner.

The Company's obligation under this warranty is limited to repairing or replacing, with new or equivalent of the affected parts at no cost to customer for part or labour. The affected parts must be proven to Company's satisfaction to have manufacturing defect due to faulty material or workmanship and in such cases the Company's decision either to repair or replace the affected parts will be final. In the event of replacement of parts, the Company also reserves the right to use parts of the same brand as the affected parts or any other brand which is used by the Company in the course of manufacture. All parts replaced under this warranty will become the property of the Company and must be returned to the company.

Limitations of Warranty:

The warranty does not cover damage or defects arising from the following conditions:

1. Misuse, abuse, or neglect of the Vehicle or the Battery, such as but not limited to:
 - The original serial number on the frame, motor or Battery being removed, distorted or altered.
 - The Battery cover is damaged or broken.
 - Battery cover is opened or attempted to open by force.
 - Short circuit due to misuse or wrongful testing.
 - Uneven charging of all the Batteries in a Vehicle.
 - Leaving battery under fully discharged condition for a long time. (Vehicles should be charged to 50% SOC atleast once in 15 days).
 - Replacing/swapping of the Battery associated with a given Vehicle, with that from another vehicle.
 - Not using Manufacturer recommended charger for charging of the Battery along with or in exclusion of the Vehicle.
 - The Vehicle not being at rest for at least 3 hours in a day
 - Exposure of Battery to direct sunlight or radiation of heat (above 25°C). Any natural wear and tear, including without limitation, aging.

2. Warranty claims on proprietary items such as tyres, Auxiliary battery (12V, MF type) etc., should be preferred by the user directly on the respective manufacturer, as per their warranty terms and the Company shall not be liable in any manner in respect to the same.
 - Battery warranty for “MF type (Maintenance Free)” is applicable for a period of 21 months from the date of charging or 18 months from the date of sale or 20,000 kms, whichever is earlier.
3. Parts repaired or replaced under this warranty are warranted only throughout the remainder of the original warranty period.
4. The Company is not liable for any delay in servicing due to reasons beyond the control of the Company or any of its Authorised Main Dealers.
5. In any event, the Company is not liable for indirect, remote, incidental or consequential damages.
6. The Company may make any modification or improvement to vehicles in future production at any time without prior notice and without any obligation to install the same on vehicles previously dispatched for sale.
7. Any claim under this warranty will be valid only when the customer:
8. Takes his vehicle to an Authorised Main Dealer of the Company and reports the problem he / she felt in the vehicle to enable the Authorised Main Dealer to inspect the same and assess the cause for the reported problems.
9. This is the only warranty given by the Company for the TVS X. No employee, Dealer or other persons authorised to extend or enlarge this warranty.

Warning

Modifications to this vehicle not approved by the TVS Motor Company may cause loss of performance and render it unsafe for use and disqualifies for warranty coverage also.

Following Toll Free numbers can be contacted for battery related queries if any.

Incase of EXIDE battery, call :- 1800 103 5454

Incase of TATA GREEN battery, call :- 1800 419 8888

Incase of AMCO battery, call :- 1800 425 0096

Incase of AMARON battery, call :- 1800 425 5858

LIST OF PARTS NOT COVERED UNDER WARRANTY

ITEM

Normal Maintenance operations

Wear and tear items

Electrical

Service Maintenance Parts

Rubber, rexine & plastic items

Proprietary Items

WHAT TO CHECK FOR

Fastener re-tightening, brakes as well as other normal adjustments.

Brake pads, fasteners, shims, washers, etc.

Lamps and fuses.

Brake fluid, fork oil etc.

All hoses, pipes and plastic aesthetics

Tires and tubes (the warranty terms are subject to our agreement with proprietary OEM).

- Parts of the vehicle getting affected due to atmospheric effect / environmental factors (rusting, paint peel off etc.). However, depending on the vehicle usage condition, warranty would be accepted up to 2 years from the date of purchase.
- Parts of the vehicle which have been tampered with, altered, repaired or replaced by persons not authorised by the Company and which in the sole judgement of the Company affect the performance of the vehicle.
- Parts which are used in conjunction with parts not made or recommended by the Company.
- Parts suffering damage or resultant damage by accident, misuse, negligent treatment, use of bad quality lubricants or impure fuel or by omission to follow the guidance and instructions contained in this User Manual.
- Vehicles on which motor number or chassis number is deleted, defaced or altered.
- Vehicles on which any warranty service including scheduled paid service is not availed when it falls due (at TVS Motor Company Authorised Main Dealer / Authorised Dealer).
- Vehicles used for racing or any competition or used otherwise than for ordinary personal transportation.
- Vehicles attached with side cars etc.
- Vehicles which have been taken out of India.
- Vehicles affected by natural calamities like flood, earthquake, tsunami, storm etc.

Other Factors



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