

7.5.4 ACC System Limitations

- Adaptive Cruise Control cannot cover all driving situations and traffic, weather and road conditions.
- Adaptive Cruise Control is not a collision avoidance system. The driver is always responsible for applying the brakes if the system does not detect front preceding vehicle.
- ACC may not assist in close cut-in scenarios.
- Adaptive Cruise Control does not react to people or animals. It also does not react to slow moving, parked or approaching vehicles, or stationary objects.
- In case of a hit in bumper / full or partial blockage to RADAR, turn off ACC and get the vehicle serviced as early as possible.

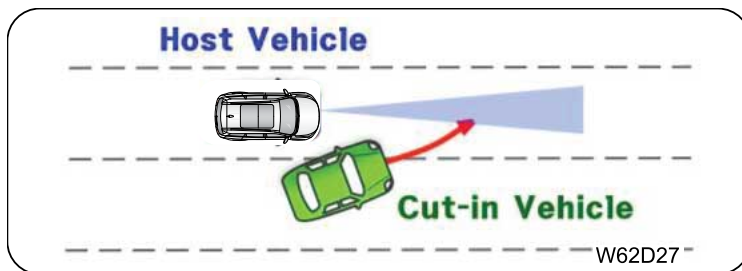
Avoid using ACC under the following conditions

- On roads where the traffic is heavy or there are sharp curves
- On slippery road surfaces
- During bad weather (rain, fog, snow, etc.) and poor visibility.
- When rain, snow or dirt adhere to the bumper around the sensor
- On steep downhill roads (the vehicle may go beyond the set speed and in trying to maintain set speed, may result in overheating the brakes)
- On repeated uphill and downhill roads
- When traffic conditions make it difficult to keep a proper distance between vehicles because of frequent acceleration or deceleration
- Interference by other radar sources installed in nearby protected areas like military, airports etc.
- Do not use Adaptive Cruise Control in demanding driving conditions, in slippery conditions, when there is a great deal of water or slush on the road, during heavy rain or snow, in poor visibility, on winding roads or on highway on or off ramps.

ACC Limitation Scenarios

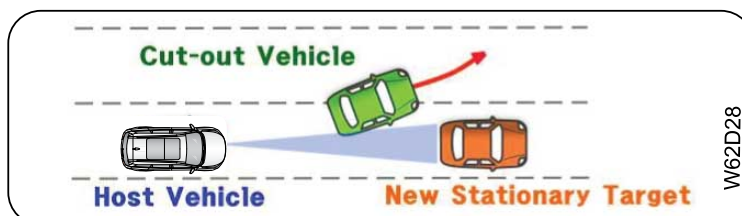
ACC may not function in below scenarios

- **Close cut-in situation**

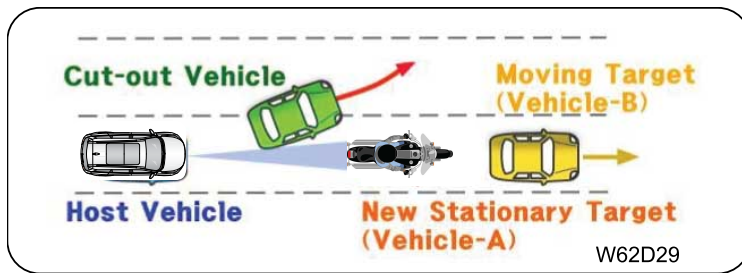


Sudden entry of other road vehicle in to host vehicle's lane may not be detected.

- **Situation of stopped vehicles**



Sudden vicinity of stationary object in host vehicle's lane may not be detected.



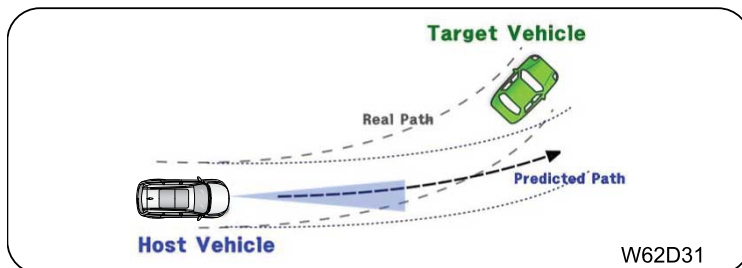
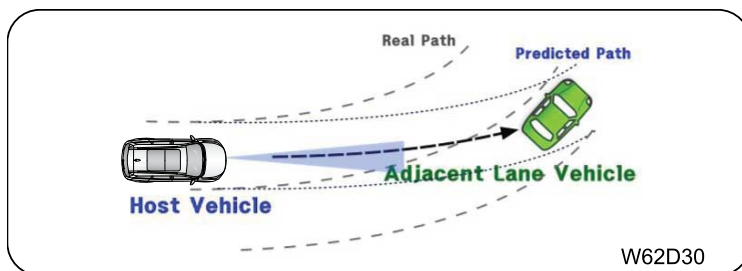
When the preceding vehicle that follows is cutting out, it detects the preceding vehicle (Vehicle-B) as a new preceding vehicle because of an irregular radar reflection are occurred in particular.

As Vehicle-B stops, the host vehicle stops on Vehicle-B.

At this time, since there is no collision with Vehicle-A, the driver may misunderstand that it is under normal control of Vehicle-A.

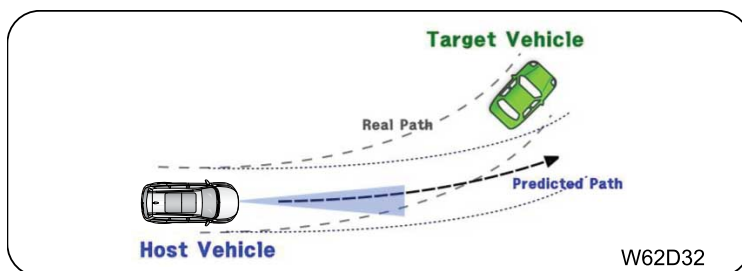
When Vehicle-B starts, host vehicle may start without considering the new stationary Vehicle-A because of irregular radar reflection.

- **Curve entry / exit situation**



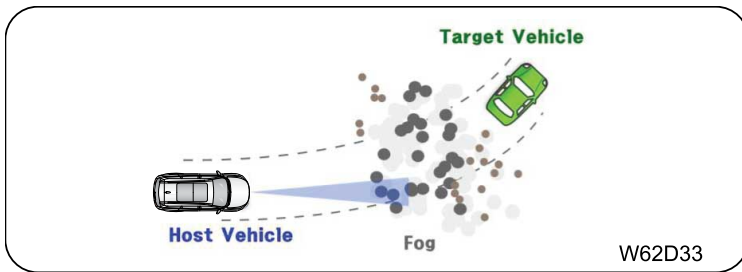
In the curve entry / exit situation, based on the curvature of road on which the host vehicle is moving differs from the curvature of the predicted road, so the adjacent lane can be selected as the control target and the preceding vehicle in the host lane may be missed

- **Curves with larger curvature**



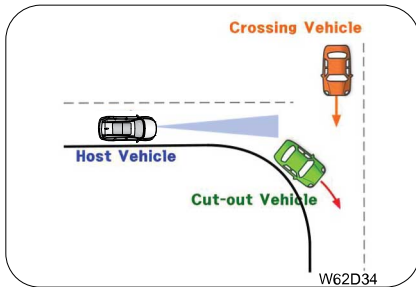
If the radius of curvature is very small, an inadequate or excessive acceleration/ deceleration may occur due to the limitation

- **Poor visibility**



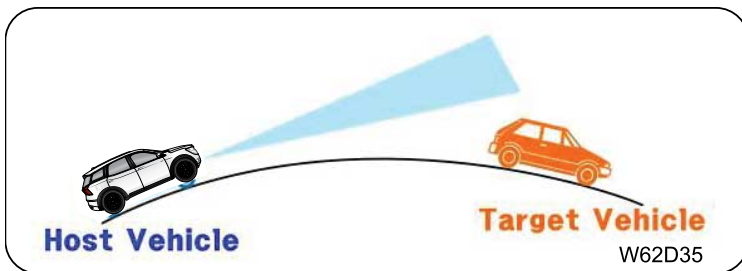
In case of poor visibility, Driver must take the control of vehicle

- **When a preceding vehicle enters an intersection**



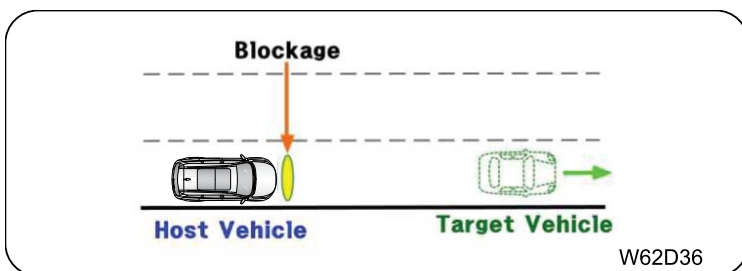
In an road intersection, target preceding vehicle may be lost and ACC may not function as intended. Driver must take the control of vehicle.

- **When the road gradient changes**



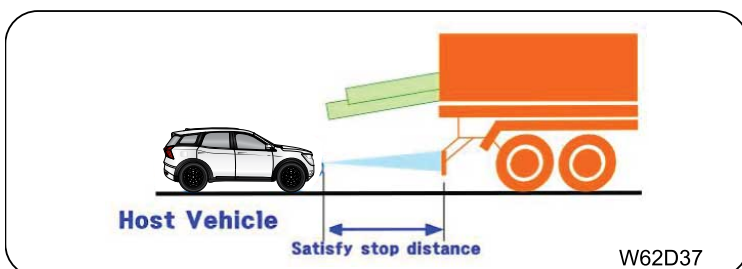
In case of road gradient variation, preceding target vehicle may be lost and ACC may not function as intended. Driver must take the control of vehicle.

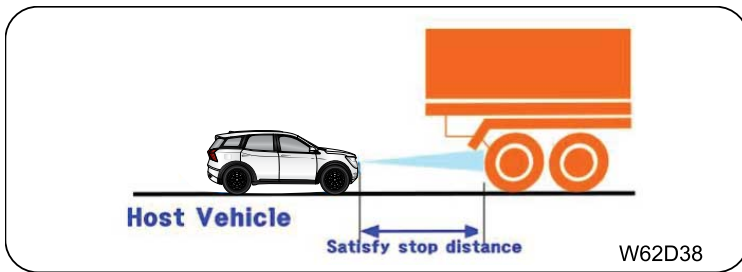
- **Sensor cover blockage**



Any blockage to sensors, detection will degrade and ADAS features may not function as intended

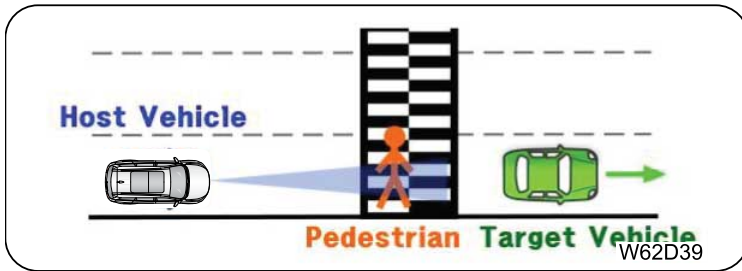
- **Long cargo loading vehicle**





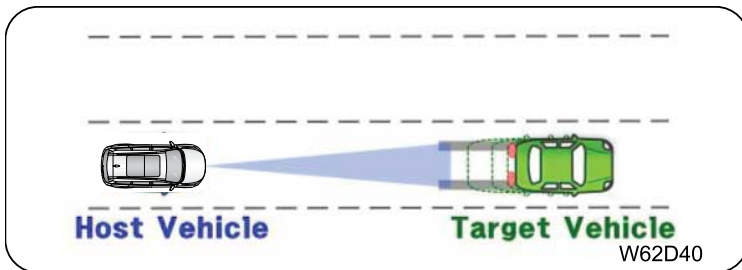
If the height of the preceding target vehicle is very high, the sensor may not detect it and ADAS functionality may vary. Driver should take control of vehicle.

- **Inability to recognize pedestrians**



In case of Stop & Go situation, the host vehicle may not detect pedestrian. Driver should take control of vehicle.

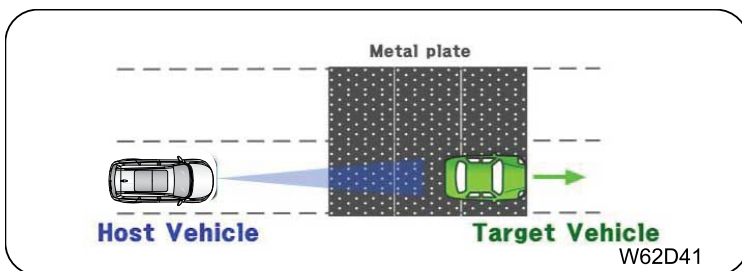
- **Excessive braking of the preceding vehicle**



ACC might not slow down your XUV700 sufficiently if target starts to decelerate too fast as ACC only has only 30% of total brake force available in vehicle

If the preceding vehicle brakes beyond the ACC maximum deceleration limit, AEB may engage. However, driver shall be alert and take control vehicle.

- **Detection performance deterioration due to road side structures**



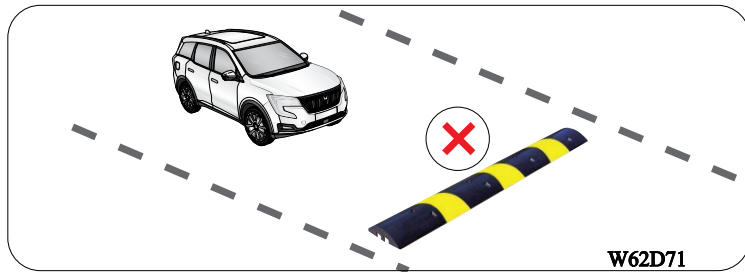
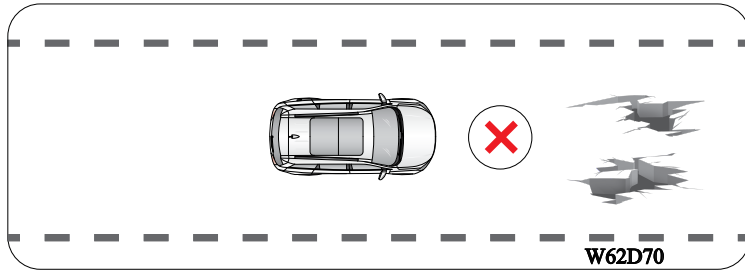
If the front radar is exposed to the surrounding road structures (steel laminates, tunnels, construction sections, etc.) that may affect the detection performance, the front preceding vehicle may not be detected normally.

Any metal road structures / bridges, tunnels or toll plazas may vary the system functionality, Driver shall be alert and take control of the vehicle.

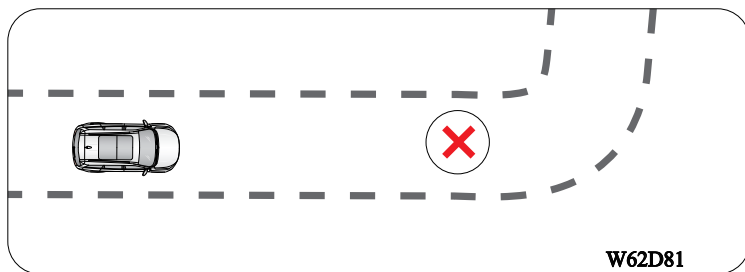
- **False deceleration or no deceleration**

If radar misaligned vertically or horizontally, ACC may produce frequent false deceleration or no deceleration for front preceding vehicle. **Visit nearest service center for radar alignment**

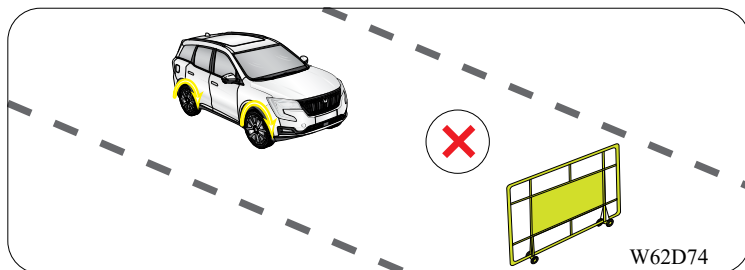
- ACC does not slowdown for pot-holes and Speed breakers



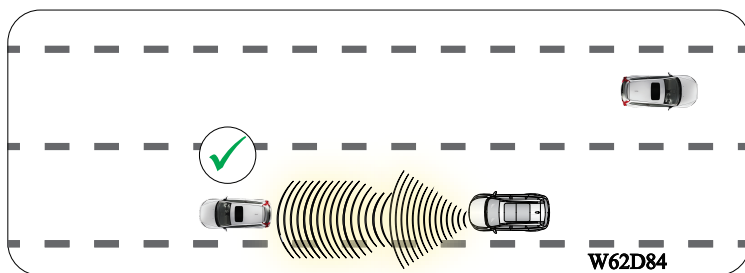
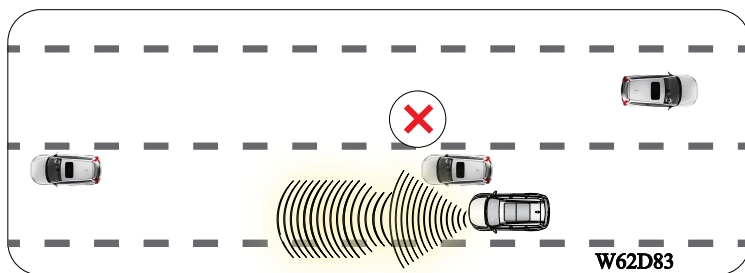
- ACC may not slowdown for road curves



- ACC may not slowdown for barriers/blockades

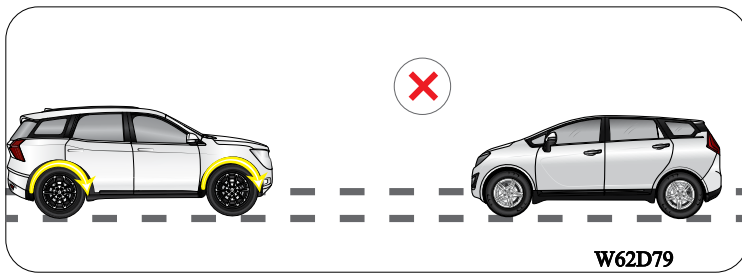


- ACC does not slowdown for crossing or merging vehicles at angles more than 30 degree

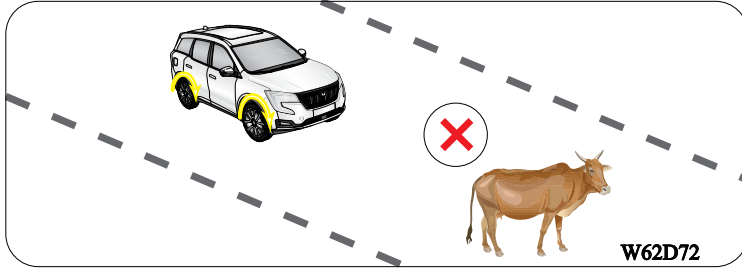


ACC might not slow down your XUV700 sufficiently if target starts to decelerate too fast as ACC only has only 30% of total brakeforce available in vehicle

- ACC does not slowdown for oncoming/reversing front vehicles

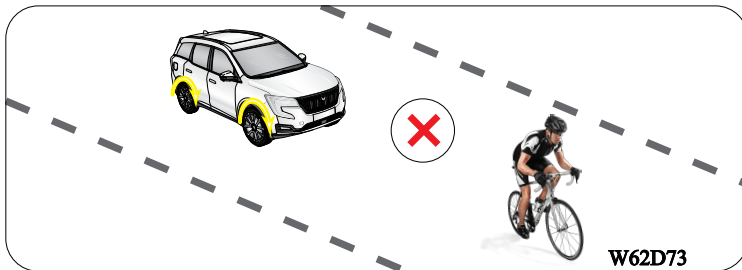


- **ACC does not slowdown for animals**

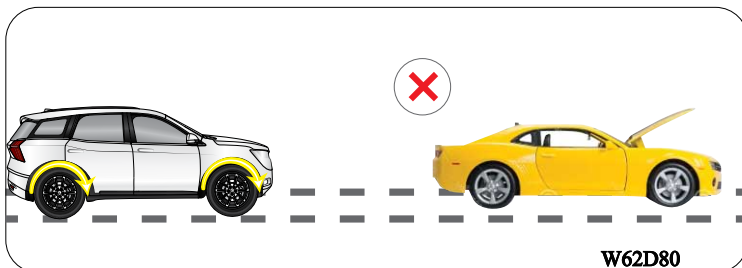


Adaptive Cruise Control does not react to special/modified vehicles such as Harvester, Tractor Tractor, Motorized Ice Cream Cart, construction vehicle, animals etc.

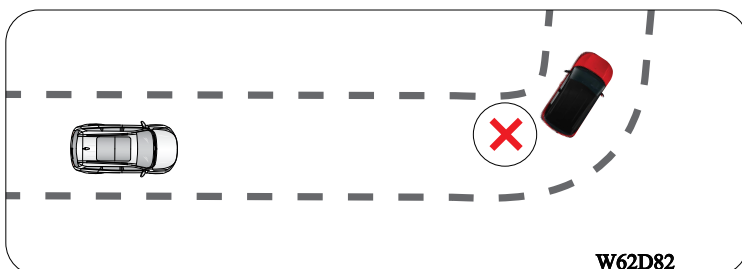
- **ACC may not reliably follow bicycle**



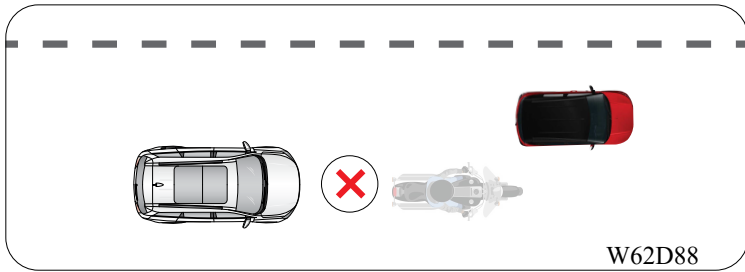
- **ACC cannot react to stationary target**



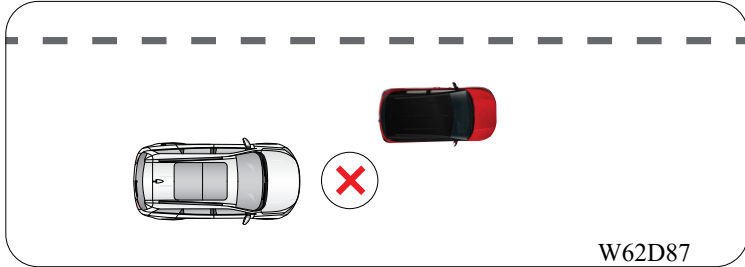
- If a very slow moving target cutting in between your XUV700 and stationary target then there is a chance that ACC system does not pick-up the slow moving target since ACC is not able to discriminate between slow moving target and stationary target.
- If a target in front takes a sharp turn and goes out of Field of view, then your XUV700 can start to accelerate fast.
- ACC might not pick-up target at sharp curve



- When XUV700 follows two wheeler and two wheeler overtakes stationary target ahead, XUV700 may not slow down due to stationary target detection limitation.



- ACC cannot follow a motorized two-wheeler if two-wheeler speed is less than around 10kmph.
- Do not use ACC with an offset to the target vehicle.



- Do not use ACC to follow motorbikes where there is no space for XUV700 to navigate.

