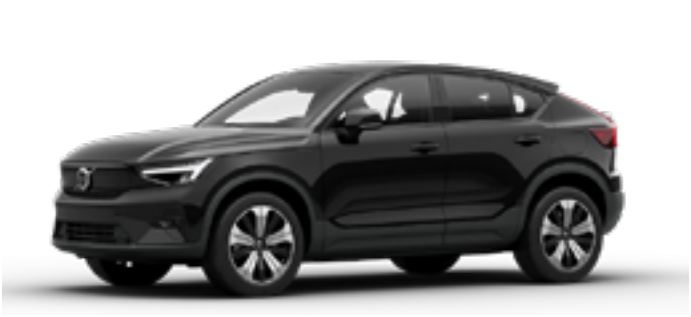
Volvo EC40

Pilot Assist

2024

GOOD



ASSISTANCE COMPETENCE	66%
SAFETY BACKUP	78%

SPECIFICATIONS

SYSTEM NAME	Pilot Assist
Intended Operation Design Domain	● Highway ● Inter-Urban ✖ Urban

● RECOMMENDED ✖ NOT RECOMMENDED

Comments

Volvo's appropriately named Pilot Assist' accurately portrays system functionality. The promotional material and the handbook correctly indicate the limitations of the system capabilities. System status information is clearly displayed but there is no head-up display in the EC40. The sensing of hands on the steering wheel was not robust, and the system lost points in this area. The system balances driver steering input with lane guidance, promoting co-operative driving.

The EC40 combines map-based speed limit information with real time camera inputs to manage fixed, variable and temporary speed limit signs but does not adapt speed for upcoming road features such as curves and junctions. The EC40 responds to avoid or mitigate a collision in many of the ACC test scenarios. The driver is supported through the S-Bend, but the car is kept fully in lane only at the lowest test speed. A lane-change assist function is not provided. In case of an unresponsive driver, the Volvo performs a controlled stop within lane. If the radar or camera is blocked the car provides a timely warning and prevents system activation.

The EC40 from Volvo provides good Vehicle Assistance with a similar level of Driver Engagement. Combined with a high level safety back-up, the system, overall, offers Good highway assistance.

Disclaimer

When using Assisted Driving Systems (also known as SAE Level 2 systems), a driver's responsibilities include monitoring the system's control of speed, braking and steering at all times, strict compliance with traffic rules, and maintaining situational awareness throughout the journey.

Certain situations might negatively influence the system's performance (e.g. poor weather, faded lane markings, construction zones, exiting a tunnel), resulting in a sudden interruption of the lateral and/or longitudinal support (system disengagement). Moreover, the system may fail to detect certain road users such as motorcyclists not directly in front of the vehicle, or stationary objects.

Appropriate fitness to drive is critical for safe travel, even when using Assisted Driving Systems. Visual distraction (e.g. eyes off the road), impairment (e.g. drowsiness, intoxication) as well as unresponsiveness, poses high risks. It is highly recommended to keep your hands on the steering wheel at all times to ensure immediate reaction when the system disengages.

Version 181024

ASSISTANCE COMPETENCE

Total 66%

DRIVER ENGAGEMENT

66.5 / 100 PTS

CONSUMER INFORMATION

23.0 / 25 PTS

System Name	Pilot Assist
Marketing Material	Pilot Assist Viewed 14 October 2024
Quick Start Guide	
Vehicle Handbook	Viewed 14 October 2024

SYSTEM STATUS

18.5 / 25 Pts

Continuous System Status Indicator	
System Status Change Indicator	

DRIVER MONITORING

0.0 / 20 PTS

Hands-on Monitoring	
Direct Driver Monitoring	

DRIVING COLLABORATION

25.0 / 25 Pts

Increase in Steering Torque	
Override response	
System continues to assist while driver steers to avoid obstacle	

GOOD ADEQUATE MARGINAL WEAK POOR

Version 181024

ASSISTANCE COMPETENCE

Total 66%

VEHICLE ASSISTANCE

70.6 / 100 PTS

SPEED ASSISTANCE

18.2 / 25 PTS

SPEED ASSIST SYSTEMS

Vehicle response to fixed Speed limits	At speed at sign
Vehicle response to variable Speed limits	Slowing down at sign

SPEED LIMIT INFORMATION FUNCTION

General requirements	Compliant
Conditional Speed Limits	
Road Features	
Local Hazards	
System Updates	None

ADAPTIVE CRUISE CONTROL PERFORMANCE

24.9 / 40 PTS

SCENARIOS		
Approaching a stationary target		
Approaching a slower moving target		
Approaching a braking target		
Target cutting-in in front		
Car cutting-out in front to expose target		

UNDERTAKE PREVENTION	
Undertake prevention at speeds over 90 km/h	

ADAPTIVE CRUISE CONTROL AUTO-RESUME	
Assistance maintained after coming to a full stop	
System assistance maintained by	Automatic resume within 5s of stop and driver input required over 5s

GOOD ADEQUATE MARGINAL WEAK POOR

Version 181024

ASSISTANCE COMPETENCE

Total 66%

STEERING ASSISTANCE 27.5 / 35 PTS

SCENARIOS	
80 km/h	Vehicle stays in lane
100 km/h	Vehicle directed in 2nd turn
120 km/h	Vehicle directed in 2nd turn

Lane Change Assist	✖

● FITTED TO THE VEHICLE ✖ NOT FITTED TO THE VEHICLE

GOOD ADEQUATE MARGINAL WEAK POOR

SAFETY BACKUP

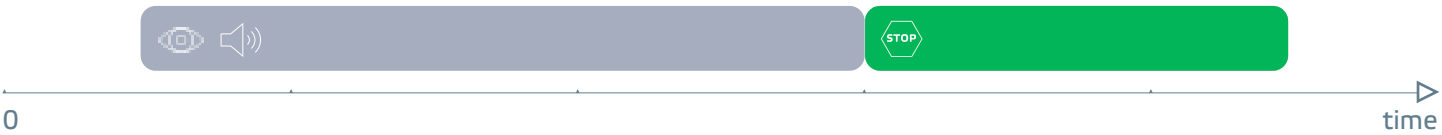
Total 78%

SYSTEM FAILURE — 20.0 / 25 PTS

	ENGAGEMENT	WARNING
SENSOR BLOCKED AT START-UP		
Camera	Full blockage after a 5 minute drive	Unknown (no OEM data) after sensor blocking
Radar	Partial blockage after a 5 minute drive	Unknown (no OEM data) after sensor blocking
SENSOR BLOCKED WITH VEHICLE IN MOTION, SYSTEM INACTIVE		
Camera	Full blockage after a 5 minute drive	Unknown (no OEM data) after sensor blocking
Radar	After a 5 minute drive	After sensor blocking
SENSOR BLOCKED WITH VEHICLE IN MOTION, SYSTEM ACTIVE		
Camera	Full blockage within 2 minutes after blocking	After sensor blocking
Radar	Partial blockage after sensor blocking	After sensor blocking

UNRESPONSIVE DRIVER INTERVENTION — 20.0 / 25 PTS

Hands Off Warning Timeline



COLLISION AVOIDANCE — 38.2 / 50 PTS

SCENARIOS			
Approaching a stationary target			—
Approaching a slower moving target			—
Approaching a braking target			—
Target cutting-in in front			—
Car cutting-out in front to expose target			—
Approaching the target along the roadside	—	—	

GOOD ADEQUATE MARGINAL WEAK POOR

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