OPERATOR'S MANUAL
STEERING ASSIST SYSTEM

SHEPPARD

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This booklet contains important operational and safety information that benefits you and subsequent drivers.

Important Safety Information About The Steering Assist System

Improper use of the Steering Assist System may result in a collision resulting in property damage, serious injuries, or death. Be sure to read, understand, and carefully follow the instructions in this document.

Due to the inherent limitations of image recognition technology, camera-based safety technology — on rare occasions — may not be able to detect or may misinterpret lane markings. Examples may include but are not limited to: lane marking width, lane marking color(s), lane marking location from center, and road conditions where lane markings are applied. At these times, alerts may not occur, or erroneous alerts may occur.

Sheppard safety technologies complement safe driving practices. No commercial vehicle safety technology replaces a skilled, alert driver exercising safe driving techniques and proactive, comprehensive driver training. Responsibility for the safe operation of the vehicle remains with the driver at all times.

It is the responsibility of the driver to always keep their hands on the steering wheel and to remain vigilant and change driving practices depending on traffic and road conditions.

If a problem with the Steering Assist System is detected, it should be serviced as soon as possible to restore full functionality. The Lane Keep Assist (LKA) feature may be deactivated.

All vehicle Diagnostic Trouble Codes (DTCs) related to the engine, transmission, instrument cluster, engine cruise control, and braking systems such as ABS, ATC, or EBC, must first be resolved, with no DTCs present during the vehicle operation while in cruise control, prior to running Bendix® ACom® Diagnostic Software to resolve Steering Assist system faults.

This product may expose you to chemicals including nickel, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to P65Warnings.ca.gov.

The Steering Assist Electronic Control Unit (ECU) is not designed to store data for purposes of accident reconstruction, and Bendix® ACom® Diagnostic Software is not intended to retrieve data for purposes of accident reconstruction. Sheppard makes no representations as to the accuracy of data or video retrieved and interpreted from an ECU for purposes of accident reconstruction. Sheppard does not offer accident reconstruction services or interpretation of stored data. Steering Assist ECUs are not protected from fire, loss of power, impact damage, or other conditions that may be sustained in a crash situation and may cause data to be unavailable or irretrievable.

The Steering Assist System relies on the proper operation of other components on the vehicle. If there are faults in any other system on the vehicle, the Steering Assist System may not operate properly.

Introduction

The Steering Assist System is a driver assistance system that integrates with braking and collision mitigation systems, the vehicle itself, and compatible third-party components. The Steering Assist System does not replace the driver or driving skills. **The driver is solely responsible for maintaining control of the vehicle with both hands on the steering wheel.**

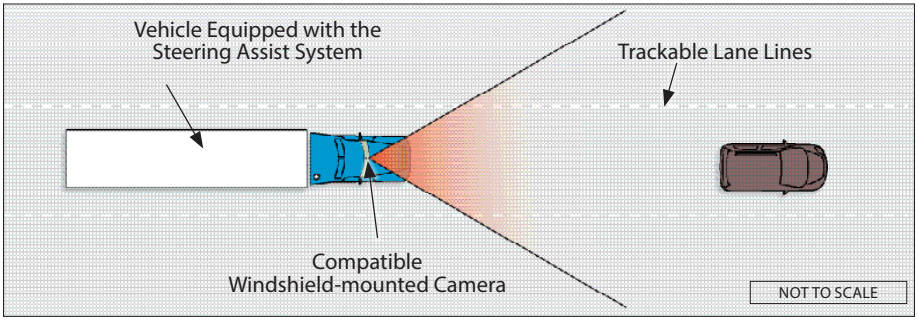
Figure 1 - The driver should keep both hands on the wheel at all times.

The Steering Assist System combines unique Steering Assist technology with a forward-facing camera for lane identification.

This system may help mitigate potential side collisions and lane-departure-related accidents, and also may increase driver convenience. Steering Assist is built on the R.H Sheppard Co., Inc. HD94™ or MD83™ steering gear, which offers a quick steering ratio for less hand wheel turns, ideal for large wheel-base vehicles.

⚠ WARNING

Sheppard safety technologies complement safe driving practices. No commercial vehicle safety technology replaces a skilled, alert driver exercising safe driving techniques and proactive, comprehensive driver training. Responsibility for the safe operation of the vehicle remains with the driver at all times.



NOTE: This graphic is for representation purposes only and may not represent all vehicle types and available features.

System Limitations

- If the system cannot detect the lane lines, the system may not warn or intervene.
- If the steering angle sensor is not calibrated as indicated by the manufacturer, the sytem may not operate as intended.
- If power supplied to the steering system, support components, or voltage supplied to the support systems are not within acceptable operating ranges, it may cause the steering system not to function as intended.
- If the support components or systems are not functioning as intended, the steering system may not operate as intended.

System Features

Lane Keep Assist (LKA): The windshield-mounted forward facing camera may detect lane markings and determine the vehicle's relative position within its lane. It also may recognize when the vehicle begins to drift toward either the right or left lane markings. When this occurs, if the driver has not activated the turn signal which overrides the Steering Assist System, the system may intervene by adding correction torque to the steering gear before the vehicle reaches the lane marking. This is intended to help keep the vehicle in its current lane of travel.

The system is designed to disengage as soon as the vehicle's position within the lane markings is reestablished. The driver is able to override the system and steer the vehicle at any time. The LKA feature is available at speeds above 37 mph/60 kph if the road conditions and image recognition from the camera allow.

NOTE: This feature is NOT lane centering. It will not attempt to keep your vehicle in the center of the lane of travel.

The driver may use the disable switch to override or suppress LKA-applied steering wheel toque; this feature may be useful when driving on roads with inconsistent lane markings that can cause excessive false warnings. Examples would include construction zones, poorly marked lanes, or missing lane markings. The system alerts will automatically become available again after 15 minutes or if the disable switch is pressed a second time.

NOTE: This disablement feature may vary per vehicle. Check with the vehicle manufacturer for availability.

System Features (cont.)

Speed-Dependent Steering Assist: This feature provides variable steering assist based on the vehicle speed to help the driver experience easier steering response at low speeds and a firmer steering response at higher speeds. It may also aid the driver by helping to reduce fatigue related to steering.

The driver may notice:

- The steering wheel may be easier to turn at low vehicle speeds.
- The steering wheel may be firmer at higher vehicle speeds.
- When applicable, the vehicle is equipped with steering profiles that the driver can adjust for their preference. Available when vehicle travels in both forward or reverse directions. Contact your OEM for more information.

⚠ IMPORTANT

There is no activation on/off switch for the Speed-Dependent Steering Assist feature. The driver should always drive normally and safely, and is responsible for the safe operation of the vehicle.

Active Return: At low vehicle speeds, this feature may help to reduce driver fatigue through easier maneuvering by returning the steering wheel and the steer wheels to the center position.

The driver will notice:

- The steering wheel may return to its center position after low-speed turning events, which is especially noticeable after a backing event that requires turning left or right.

⚠ IMPORTANT

There is no activation on/off switch for the Active Return feature. The driver may override this feature by applying additional steering input force. The driver should always drive normally and safely, and is responsible for the safe operation of the vehicle.

System Features (cont.)

Road Disturbance Compensation: This feature may help improve the driveability of the vehicle by reducing steering wheel vibration typically caused by road disturbances like potholes, railroad tracks, road debris, or other bumps in the road.

The driver will notice:

- When running over potholes or other bumps in the road, the driver may notice a steadier steering wheel. Road Disturbance Compensation is designed to isolate the bumps and not let all the vibrations be felt at the steering wheel, which may help reduce driver fatigue. This feature may also help the driver maintain their desired direction of travel.
- Depending on the severity of the bump, suspension of the vehicle and cab will still absorb and transmit vibration. This feature only impacts vibration through the steering wheel.

IMPORTANT

There is no activation on/off switch for the Road Disturbance Compensation feature. The driver should always drive normally and safely, and is responsible for the safe operation of the vehicle.

System Components

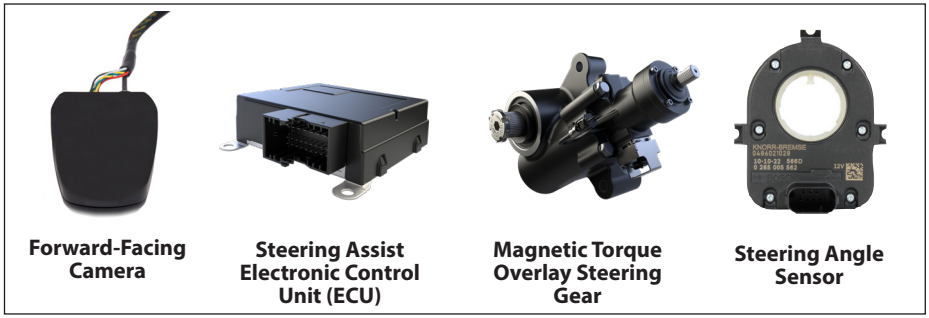


Figure 2 - Main System Components Example*

**Components may vary depending on the system installed on the vehicle. Check with the vehicle manufacturer for more information.*

IMPORTANT

Before operating a vehicle, perform a precheck sequence as recommended by the vehicle manufacturer. Perform a visual inspection to ensure proper installation and functionality. The power steering gear with torque overlay should be clean and free of fluid. All connectors around the gear should be connected and secured.

Forward-Facing Camera: A forward-facing camera tracks the lane markers and provides the lane characteristics to the Steering Assist System. To ensure proper system operation, the camera must be mounted per OEM specifications. For additional information, refer to the vehicle manufacturer's instructions or the forward-facing camera manufacturer for support.

Steering Assist Electronic Control Unit (ECU): The Steering Assist System ECU is a standalone unit designed to work with J1939 Vehicle CAN and applicable system components. For additional information, *refer to RHS0043, Steering Assist System Service Data Sheet on RHSheppard.com.*

Magnetic Torque Overlay Power Steering Gear: The Magnetic Torque Overlay power steering gear enables hydraulic steering. For additional information, *refer to RHSheppard.com for product and diagnostic support.* **NOTE:** When replacing the steering gear, the ECU must be replaced also.

Steering Angle Sensor (SAS): The SAS reports the steering wheel position through a serial communication link or CAN network. For additional information, *refer to the vehicle manufacturer's instructions or the Steering Angle Sensor's manufacturer for support.*

Technical Support

Contact technical support by email at serviceweb@rh-sheppard.com or by phone at 1-800-274-7437. Follow the instructions in the recorded message. Representatives are available Monday through Thursday, 8 a.m. to 6 p.m. ET, and Friday, 8 a.m. to 5 p.m. ET.

For the latest information and to download the Bendix® ACom® Diagnostic Software, visit B2Bendix.com.

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