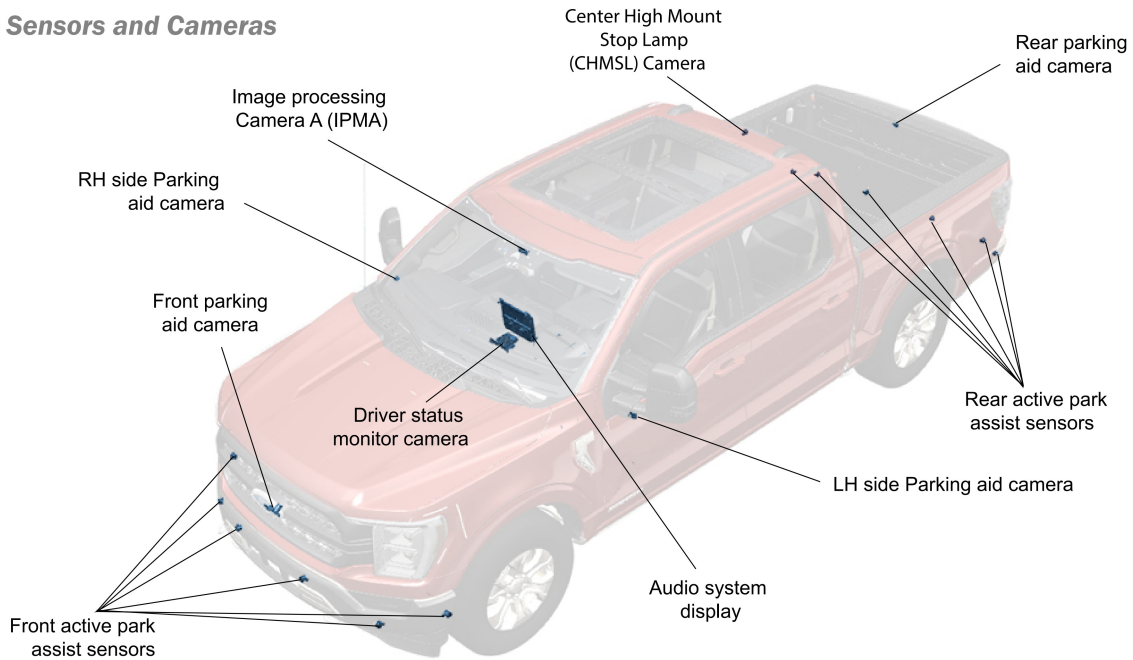




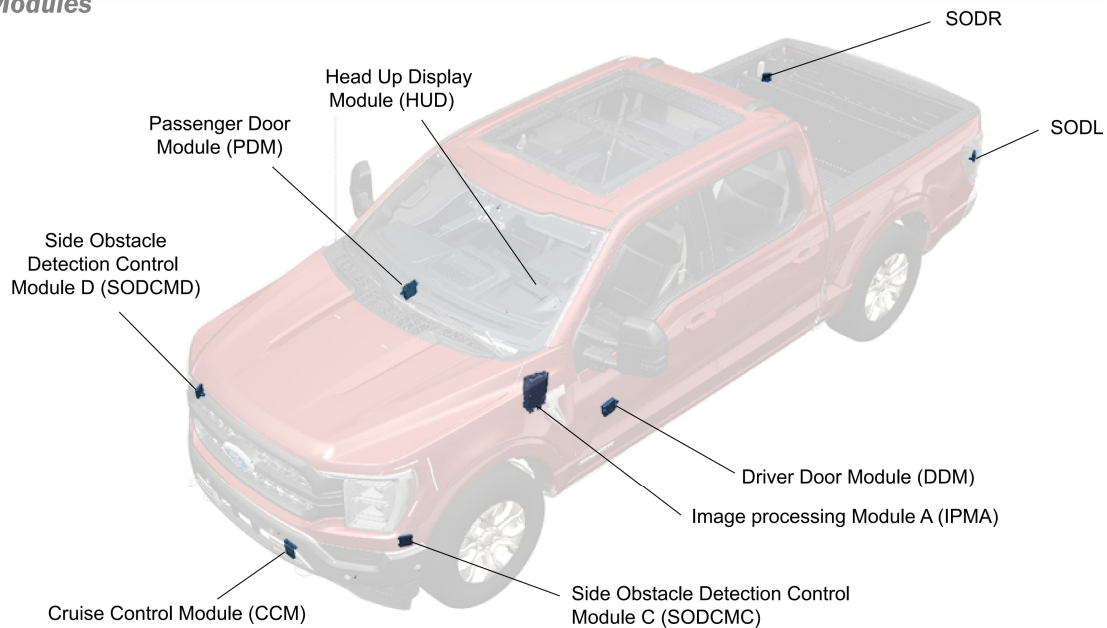
## 2021 F150 ADAS Location Views



### Sensors and Cameras



### Modules



## ADAS Component Calibration

**NOTE:** It is important to note that the driver assist systems are intended to work on the vehicle as it is designed. Any aftermarket alteration could cause a system to malfunction or not accept a correct calibration.

| Component                       |                        | When is Calibration Required                                                                                                                                                                                                        | Notes                                                                                                                                                                                                                                          |
|---------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 360 Degree Cameras              | Front Camera           | - When any camera is replaced or removed from the vehicle, the parking aid camera alignment must be performed.                                                                                                                      | - Elevation System Check and Azimuth System Check must be performed                                                                                                                                                                            |
|                                 | Rear Camera            | - When a camera or any body component that a camera is attached to is removed or adjusted, the 360 degree view camera alignment must be performed.                                                                                  | - Elevation System Check and Azimuth System Check must be performed                                                                                                                                                                            |
|                                 | LH and RH Side Cameras |                                                                                                                                                                                                                                     | - Azimuth System Check must be performed                                                                                                                                                                                                       |
| ADAS Module                     |                        | - New ADAS module is installed                                                                                                                                                                                                      | - Programmable Module Installation                                                                                                                                                                                                             |
| Anti-Lock Brake System Module   |                        | - New ABS module is installed                                                                                                                                                                                                       | - Programmable Module Installation<br>- ABS Calibration<br>- EPB Initialization<br>- PCM PATS Programming Application<br>- Module Initialization                                                                                               |
| Head Up Display Module          |                        | - A new HUD is installed                                                                                                                                                                                                            | - Programmable Module Installation                                                                                                                                                                                                             |
|                                 |                        | - The HUD is removed and reinstalled or replaced<br>- The instrument panel is removed and installed or replaced<br>- A new windshield is installed                                                                                  | - HUD Calibration<br>• If the system is not calibrated, the images may be distorted or display improperly.                                                                                                                                     |
| Image Processing Module A       |                        | - New IPMA is installed                                                                                                                                                                                                             | - Programmable Module Installation<br>- IPMA Camera Alignment                                                                                                                                                                                  |
| Image Processing Module B       |                        | - New IPMB is installed                                                                                                                                                                                                             | - Programmable Module Installation<br>- Parking Aid Camera Initialization<br>- 360 Degree View Camera Alignment                                                                                                                                |
| Lane Keeping Camera             |                        | - When a windshield, camera or IPMA is replaced<br>- If the windshield is removed for structural repairs that affect windshield position<br>- Change in tire size<br>- Suspension repair or alignment<br>- Front air bag deployment | - IPMA Camera Alignment<br>- Lane keeping systems are developed and calibrated based on the manufacturer's specified ride height and wheel/tire combinations. If the ride height or wheels have been altered this will affect system accuracy. |
| Side Obstacle Detection Modules |                        | - New SODL or SODR module is installed                                                                                                                                                                                              | - Programmable Module Installation                                                                                                                                                                                                             |



**ADAS Component Calibration (cont'd)**

| Component                              | When is Calibration Required                                                                                      | Notes                                                                                                                                                                                                                                               |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cruise Control Module and Radar Sensor | - New CCM is installed                                                                                            | - Programmable Module Installation<br>- Cruise Control Radar Alignment                                                                                                                                                                              |
|                                        | - When a vehicle has been in an accident                                                                          | - The radar sensor requires a vertical check and adjustment.<br>- After the vertical check and adjustment, a horizontal alignment procedure must be performed during the road test using the calibration routine found in the diagnostic scan tool. |
|                                        | - Whenever the sensor itself or the bracket support in which it is mounted is removed from the vehicle for access | - The radar sensor requires calibration, consisting of a vertical mechanical adjustment followed by a horizontal alignment.                                                                                                                         |
| Parking Assist Control Module (PAM)    | - New PAM is installed                                                                                            | - Programmable Module Installation                                                                                                                                                                                                                  |
| Parking Aid Sensors                    | - Whenever a sensor is removed and reinstalled or replaced                                                        | - Azimuth System Check must be performed                                                                                                                                                                                                            |
| Active Park Assist Sensors             | - Whenever a sensor is removed and reinstalled or replaced                                                        | - Azimuth System Check must be performed                                                                                                                                                                                                            |

