

Preparing a Vehicle for Service

1. Identify information needed and the service requested on a repair order.

The repair order is a legal document that outlines the work to be performed on a vehicle. It serves as a communication tool between the customer, service advisor, and technician, ensuring that all parties are aligned on the services requested, the expected costs, and the timeline for the repair. Below are key elements and technical details that must be included on a repair order to ensure clarity and precision in the service process:

- **Vehicle and Customer Information**
 - The repair order must include detailed information about the vehicle and the customer to ensure the correct vehicle is serviced and to establish a point of reference for any future maintenance or repairs. This information typically includes the vehicle's make, model, year, and Vehicle Identification Number (VIN), as well as the current mileage. Accurate documentation of the VIN is especially important, as it helps technicians reference the correct service manuals and technical bulletins for the specific vehicle.
 - Additionally, customer details such as the owner's name, address, phone number, and email address are necessary for communication regarding the progress of the repair and for future service reminders. The repair order should also include the date and time the vehicle was dropped off, as this information helps establish the service timeline and ensures accountability for when the vehicle was left in the shop's care.
- **Service Requested and Detailed Description of Symptoms**
 - A clear and precise description of the service requested or the symptoms reported by the customer is essential for guiding the diagnostic and repair process. This section should capture both the customer's observations and the service advisor's notes. For example, if the customer reports a grinding noise during braking, this should be documented, along with any specifics such as when the noise occurs (e.g., during low-speed stops or after driving for extended periods). Providing detailed descriptions of symptoms helps technicians narrow down potential causes and prevents misdiagnosis.
 - The repair order should also list any additional services requested by the customer, such as an oil change, tire rotation, or scheduled maintenance. If the customer has requested a preemptive diagnostic check (e.g., checking for engine fault codes or inspecting a check engine light), this should be clearly indicated. By ensuring the service request is comprehensive and detailed, the repair order helps technicians prioritize tasks and ensures that no requested services are overlooked.
- **Estimated Costs and Authorization**
 - An estimate of the expected costs for parts, labor, and taxes must be provided on the repair order, ensuring transparency between the customer and the shop. This breakdown should include an itemized list of parts required for the repair, the cost of labor based on the shop's hourly rate, and any additional fees, such as environmental disposal charges. If the repair requires the purchase of specialty

parts or fluids, these should be noted, along with an estimate of the lead time if the parts are not immediately available.

- It is critical to obtain the customer's authorization before any work begins. The repair order should include a signature line where the customer authorizes the shop to proceed with the specified repairs at the estimated cost. This signature serves as a legal agreement, ensuring that the customer is aware of the services being performed and the associated costs. If additional work is discovered during the inspection or repair process, the repair order must be updated, and the customer must provide additional authorization before proceeding.

By clearly documenting the necessary vehicle information, the specific services requested, and the estimated costs, a repair order ensures that automotive repairs are carried out efficiently and transparently. This document serves as a critical tool for aligning expectations and maintaining clear communication between the customer, service advisor, and technician throughout the repair process.

2. Identify purpose and demonstrate proper use of vehicle protection such as: fender covers, mats, seat, and steering wheel covers.

The use of vehicle protection accessories such as fender covers, mats, seat covers, and steering wheel covers is essential to maintaining the cleanliness and condition of a customer's vehicle during service. These protective tools prevent damage and contamination to the vehicle's interior and exterior, enhancing customer satisfaction and ensuring the shop maintains professional standards. Below are key points outlining the purpose and proper use of these vehicle protection items:

- **Fender Covers: Preventing Exterior Damage**
 - Fender covers are used to protect the painted surfaces of a vehicle's exterior while technicians perform under-hood services such as oil changes, engine repairs, or diagnostics. The purpose of fender covers is to prevent scratches, dents, or smudges that can occur when tools, belts, or clothing come into contact with the vehicle's paint. These covers are made of padded, non-slip materials to stay securely in place and provide a soft barrier between the technician's tools and the vehicle's fender.
 - To properly use fender covers, technicians must place them over the vehicle's fenders before beginning any work in the engine bay. The covers should extend across the entire fender surface to ensure full protection, and care must be taken to check that no dirt or debris is trapped between the cover and the paint, which could scratch the surface. Additionally, the fender cover should be removed carefully once the service is complete to avoid any residual dirt falling onto the vehicle.
- **Seat and Steering Wheel Covers: Preserving Interior Cleanliness**
 - Seat covers and steering wheel covers are used to protect the vehicle's interior from grease, oil, and dirt that may transfer from the technician's clothing or hands during service. These covers prevent stains and wear on fabric or leather seats and the steering wheel, ensuring the interior remains clean and in the same condition as when the vehicle arrived at the shop. Disposable plastic seat covers are commonly used to provide an impermeable barrier that can be easily removed and discarded after use.
 - To properly apply seat covers, the technician should stretch the cover over the driver's seat, ensuring it covers the entire seat surface and is securely in place to avoid slipping. Steering wheel covers should be wrapped around the steering wheel, ensuring full coverage to prevent oil or grease from transferring onto the wheel's surface. Once the service is complete, the covers should be carefully removed and discarded without allowing any contaminants to contact the clean surfaces.
- **Floor Mats: Preventing Floor Contamination**
 - Floor mats are used to protect the vehicle's carpeted or rubber flooring from dirt, grease, and debris that can be tracked in by technicians during service. These mats provide a protective layer that can be removed and disposed of after use, preserving the cleanliness of the vehicle's interior. Disposable paper or plastic floor mats are commonly used for this purpose, particularly in high-traffic areas like the driver's side footwell.

- The proper use of floor mats involves placing them securely over the existing floor mats or carpeting before entering the vehicle. They should be positioned to cover the entire footwell area, preventing any direct contact between the technician's shoes and the vehicle's floor. After the service is complete, the technician should carefully remove the disposable mat, ensuring no dirt or debris is left behind.

By using fender covers, seat covers, steering wheel covers, and floor mats, automotive technicians can protect a vehicle's exterior and interior surfaces from potential damage or contamination during service. These protective measures not only maintain the vehicle's condition but also demonstrate a commitment to professionalism and customer care, fostering trust between the shop and the vehicle owner.

3. Perform a vehicle walk-around inspection; identify and document existing vehicle conditions such as body damage, paint damage, windshield damage, etc.

Performing a vehicle walk-around inspection is a crucial step before any repair or service is initiated. This inspection helps document the vehicle's existing condition, including body damage, paint defects, windshield cracks, and other external issues. Documenting these details ensures clear communication between the shop and the customer, protects the shop from liability, and establishes a baseline for the vehicle's condition prior to service. Below are key guidelines for conducting a comprehensive walk-around inspection and documenting the findings:

- **Body Damage and Paint Condition**
 - During the vehicle walk-around, the technician must carefully inspect the vehicle's body for any signs of dents, scratches, or structural damage. This inspection should include all panels, including the front and rear bumpers, fenders, doors, hood, and trunk lid. Special attention should be given to areas where dents or dings are commonly found, such as door edges and bumper corners. The technician should also check for signs of rust, corrosion, or oxidation, which may indicate long-term wear.
 - Paint damage, such as scratches, chips, or fading, should be documented, particularly in high-traffic areas like the hood and doors. The condition of the clear coat, which protects the underlying paint, should also be evaluated for signs of peeling or hazing. All findings should be clearly noted on the inspection form, with the exact location and size of the damage specified. Photos may be taken to provide a visual record, particularly for areas where the damage is significant or may affect the scope of future repairs.
- **Windshield and Glass Inspection**
 - The technician should inspect the windshield and all other glass surfaces, including side windows, rear windows, and mirrors, for any cracks, chips, or scratches. Even small chips in the windshield can develop into larger cracks over time, compromising the vehicle's structural integrity and requiring replacement. Special attention should be given to the edges of the glass, where damage is more likely to spread.
 - Any damage to the glass should be thoroughly documented, including the size and location of chips or cracks. For example, a 1-inch crack located near the driver's side corner of the windshield should be precisely noted. The technician should also check for any distortion or fogging in the glass, particularly in laminated windshields, which can reduce visibility and affect safety. Documenting these conditions ensures that the shop is not held responsible for pre-existing glass damage after completing the service.
- **Inspection of Tires, Wheels, and Other Exterior Components**
 - The walk-around inspection must also include a thorough check of the tires and wheels. Technicians should inspect the tire tread depth, checking for uneven wear patterns that may indicate alignment or suspension issues. The sidewalls should be examined for bulges, cracks, or punctures, which could compromise the tire's integrity. Wheels should be inspected for curb damage, cracks, or missing lug

nuts. Any existing damage should be documented, and the technician should note whether the tires are due for replacement based on tread wear or age.

- Exterior components such as headlights, taillights, mirrors, and trim pieces should be checked for damage or misalignment. For example, a misaligned headlight could indicate prior impact damage. All lights should be tested for proper operation, including turn signals and brake lights. Any malfunctioning lights or damaged components should be noted on the inspection form, with recommendations for repair if necessary.
- **Documenting Findings and Communicating with the Customer**
 - After completing the walk-around inspection, all findings must be carefully documented in detail on the inspection form. This form serves as an official record of the vehicle's condition prior to service, protecting both the shop and the customer. Any significant findings, such as body damage, windshield cracks, or tire wear, should be communicated to the customer before the work begins. This helps manage customer expectations and provides an opportunity for the customer to authorize additional repairs, if necessary.
 - In cases where the customer is present during the walk-around, the technician can point out areas of concern and explain the potential impact of any pre-existing damage on future repairs. If the customer is not present, photos of the damaged areas can be provided along with a detailed written report. This clear communication helps ensure transparency and fosters trust between the shop and the customer, reducing the likelihood of disputes after the service is completed.

By performing a thorough vehicle walk-around inspection and documenting all existing conditions, automotive technicians can protect themselves and the shop from liability, provide accurate assessments to customers, and ensure that any pre-existing damage is accounted for before repairs are made. This process is essential for maintaining professionalism and transparency throughout the service experience.

4. Perform a vehicle multi-point inspection and complete a vehicle inspection report (written and/or electronic).

Performing a multi-point inspection is a critical process to ensure the overall health and safety of a vehicle. A multi-point inspection provides a comprehensive assessment of various systems and components, helping technicians identify potential issues that may require immediate attention or future service. This inspection covers areas such as the engine, brakes, suspension, fluids, and electrical systems, providing a holistic view of the vehicle's condition. Below are key considerations for conducting a multi-point inspection and completing a detailed inspection report.

- **Conducting the Multi-Point Inspection**
 - The multi-point inspection begins with a systematic check of the vehicle's essential systems and components, often starting with the engine compartment. Technicians inspect engine oil levels, coolant condition, and the state of other fluids such as brake fluid, transmission fluid, and power steering fluid. Any signs of fluid leaks, contamination, or low fluid levels must be documented, as these can indicate deeper issues such as gasket failure or worn seals.
 - The inspection also includes a detailed examination of the brake system, checking brake pad thickness, rotor condition, and brake fluid levels. Suspension components, including shocks, struts, and bushings, are inspected for wear or damage. Tires are checked for tread depth, pressure, and uneven wear patterns, while the exhaust system is examined for leaks or damage. Electrical components, such as the battery, lights, and wipers, are tested for proper operation. Each item on the multi-point checklist is marked as "pass," "attention needed," or "immediate repair required," giving both the technician and customer a clear understanding of the vehicle's condition.
- **Completing a Vehicle Inspection Report**
 - Upon completing the multi-point inspection, the technician must document the findings in a vehicle inspection report. This report can be written or completed electronically, depending on the shop's system. Each section of the report corresponds to a specific area of the vehicle, such as the engine, brakes, or suspension, and includes a detailed list of the components inspected. Technicians provide notes for any components that require attention, along with a recommendation for further diagnostics or repairs if necessary.
 - In modern automotive shops, electronic inspection reports are often preferred for their efficiency and ease of communication. Using tablets or diagnostic software, technicians can quickly input their findings, upload photos, and generate detailed reports that are easily shared with customers via email or text. Electronic reports may also include color-coded indicators—green for components in good condition, yellow for items that need monitoring or service soon, and red for parts that require immediate repair. This visual system helps customers easily understand the urgency of each repair recommendation.
- **Communicating the Results to the Customer**
 - Once the inspection report is completed, the technician or service advisor should review the findings with the customer. This communication is essential for explaining the vehicle's current condition and discussing any recommended

repairs. If critical issues are found during the inspection, the technician should prioritize these items and provide a detailed explanation of the potential risks if repairs are delayed. For example, worn brake pads or low coolant levels should be addressed promptly to avoid more serious mechanical failures.

- The inspection report serves as a reference for both the customer and the shop, allowing the customer to make informed decisions about necessary repairs. Technicians should offer repair estimates alongside the inspection findings to help customers plan for upcoming maintenance. By providing a thorough, well-documented inspection report, the shop demonstrates transparency and professionalism, enhancing customer trust and satisfaction.

Performing a multi-point inspection and completing a detailed vehicle inspection report ensures that automotive technicians can identify potential issues before they become major problems. It also provides customers with a clear understanding of their vehicle's condition, allowing them to make informed decisions about repairs and maintenance, ultimately promoting safety and vehicle longevity.

5. Demonstrate use of the three C's (concern, cause, and correction).

The "three C's"—concern, cause, and correction—are essential components of the diagnostic and repair process. These steps ensure clear communication between the customer, service advisor, and technician, leading to accurate diagnoses and effective repairs. The three C's structure also helps technicians systematically approach vehicle issues and document the process for future reference. Below are technical guidelines for applying the three C's in automotive diagnostics and repair.

- **Concern: Identifying the Customer's Complaint**
 - The first step, *concern*, involves identifying and documenting the customer's reported issue with the vehicle. This information typically comes from the customer's description of the symptoms they have experienced. For example, a customer may report that the vehicle makes a grinding noise when braking or that the engine hesitates when accelerating. It is critical for the service advisor to ask follow-up questions to gather more specific details, such as when the issue occurs, how often it happens, and under what conditions (e.g., cold start, highway driving, etc.).
 - The technician must also confirm the concern by performing a preliminary road test or system check to verify the issue. This step ensures that the problem is accurately identified and documented in the repair order before further diagnostics are performed. A thorough understanding of the customer's concern provides a clear starting point for the next step, which involves diagnosing the root cause of the issue.
- **Cause: Diagnosing the Underlying Problem**
 - Once the concern has been confirmed, the technician moves on to the *cause*, which involves diagnosing the underlying problem responsible for the symptoms. Using a combination of diagnostic tools, service manuals, and technical expertise, the technician isolates the root cause of the issue. For example, if the concern is a grinding noise during braking, the technician might inspect the brake pads, rotors, and calipers for wear or damage. In some cases, further testing may be required, such as using a scan tool to retrieve diagnostic trouble codes (DTCs) from the vehicle's onboard computer or performing a pressure test to check for fluid leaks.
 - Proper diagnosis requires a systematic approach, including the use of flowcharts, manufacturer's guidelines, and vehicle history. The technician must document the cause clearly in the repair order, explaining the specific part or system failure responsible for the issue. Accurate diagnosis is crucial to avoid unnecessary repairs and ensure that the correct solution is implemented.
- **Correction: Performing the Necessary Repairs**
 - After diagnosing the cause, the final step is the *correction*, which involves performing the appropriate repairs to resolve the issue. The technician must follow manufacturer specifications and use the correct tools and replacement parts to ensure the repair is effective and long-lasting. For example, if the cause of the grinding noise is worn brake pads, the correction would involve replacing the pads and possibly resurfacing or replacing the rotors. Technicians may also need to perform additional tasks, such as bleeding the brake system or recalibrating sensors, depending on the complexity of the repair.

- Once the repair is complete, the technician should test the vehicle to ensure that the concern has been resolved and that no new issues have arisen. The correction must be thoroughly documented in the repair order, including details of the parts replaced, labor performed, and any additional observations made during the repair. This documentation provides a record for both the customer and the shop, ensuring transparency and accountability throughout the repair process.

By adhering to the three C's—concern, cause, and correction—automotive technicians can efficiently diagnose and repair vehicle issues while maintaining clear communication with the customer. This structured approach ensures that the root cause of the problem is addressed, leading to accurate, effective repairs and higher customer satisfaction.

6. Create a plan of action for each specific service or diagnostic situation, including placing vehicle in service mode as required.

Creating a detailed plan of action for each specific service or diagnostic situation is essential to ensure efficient workflow, accurate diagnostics, and adherence to safety protocols. A well-structured plan of action outlines the necessary steps for diagnosing and repairing the vehicle while ensuring all manufacturer procedures are followed. This often includes placing the vehicle into service mode, especially for modern vehicles equipped with advanced electronic systems that require deactivation or special handling. Below are technical guidelines for creating an effective plan of action in automotive service situations.

- **Initial Assessment and Preparation**

- The first step in creating a plan of action involves reviewing the customer's concern and gathering all relevant information about the vehicle's history, service records, and any previously noted issues. This initial assessment helps the technician identify potential problem areas and determine the diagnostic tools or equipment needed for the job. If the vehicle is equipped with advanced driver assistance systems (ADAS), electronic parking brakes, or other modern technologies, the technician must consult the vehicle's service manual to determine if any special procedures, such as placing the vehicle in service mode, are required before beginning work.
- Service mode is often necessary to deactivate specific systems and prevent unintended activation during diagnostics or repairs. For example, placing an electric vehicle (EV) in service mode ensures that high-voltage systems are safely de-energized before working on electrical components. Similarly, activating service mode on vehicles with electronic parking brakes allows technicians to perform brake service without the risk of the brake being engaged accidentally. Ensuring the vehicle is correctly prepared before starting diagnostics helps prevent errors, enhances technician safety, and protects vehicle components from damage.

- **Diagnostic Procedure and Systematic Troubleshooting**

- Once the vehicle is prepared, the next step in the plan of action is developing a systematic approach to diagnostics. This often involves using a flowchart or diagnostic tree based on the vehicle's symptoms, starting with the most likely causes and progressing to more complex possibilities. For example, if the customer reports an issue with the vehicle's fuel system, the technician may begin by checking for fuel pressure, inspecting the fuel pump, and scanning for diagnostic trouble codes (DTCs) using an OBD-II scanner. If necessary, more advanced diagnostic tools, such as oscilloscopes or fuel injector testers, can be employed to gather further data.
- Throughout the diagnostic process, the technician must follow the manufacturer's guidelines to avoid misdiagnosis or unnecessary repairs. This may involve periodically placing the vehicle back into service mode as required for testing or component access. Detailed documentation of each step, including test results and observations, is critical to ensuring that all potential causes are thoroughly investigated. A well-organized diagnostic procedure allows the technician to

isolate the root cause of the issue efficiently, reducing repair time and avoiding costly errors.

- **Implementation of Corrective Actions and Final Testing**

- After diagnosing the issue, the plan of action must include the specific corrective steps needed to resolve the problem. The technician should outline the necessary parts, tools, and labor involved, and verify that all procedures align with manufacturer service guidelines. For instance, if the diagnosis reveals a faulty electronic control module (ECM), the plan should include the steps for replacing and reprogramming the ECM, which may require specialized software and re-calibration of related systems. Ensuring the vehicle is in the appropriate service mode during these operations is critical to avoiding system malfunctions or damage.
- Once the repairs are completed, the technician must perform final tests to verify that the issue has been resolved and that no new problems have arisen. This may involve road testing the vehicle, checking for DTCs, and ensuring that all electronic systems are functioning properly after the repair. The final stage of the plan should also include resetting the vehicle from service mode to its normal operational state. Clear documentation of all repairs, test results, and final observations provides the customer with transparency and serves as a record for future reference.

By developing a detailed plan of action that includes preparation, diagnostics, corrective actions, and final testing, automotive technicians can ensure that vehicle repairs are carried out efficiently and according to best practices. Placing the vehicle in service mode as needed throughout the process not only protects the technician and the vehicle but also ensures the integrity of the repair.

7. Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction.

The work order serves as a comprehensive document that records the details of the service or repair process, from the initial customer concern to the final correction. A properly completed work order ensures accurate communication between the customer, service advisor, and technician, while also providing a legal record of the work performed. The work order must include specific sections for customer information, vehicle identification, the customer's reported concern, related service history, diagnostic findings, and the corrective actions taken. Below are technical guidelines for completing a detailed and accurate work order.

- **Customer Information and Vehicle Identifying Details**
 - The work order begins with the inclusion of all necessary customer information, such as the customer's full name, address, phone number, and email. This ensures that the customer can be contacted easily for updates or additional authorizations. Accurate documentation of the customer's information also helps with future service reminders and records.
 - The vehicle's identifying information is equally critical. The work order should include the vehicle's make, model, year, and Vehicle Identification Number (VIN). The VIN, in particular, is essential for verifying the specific configuration of the vehicle, ensuring that the correct parts and procedures are used. Additionally, the vehicle's current mileage and license plate number should be recorded. These details help track the vehicle's service history and ensure that any warranty or maintenance schedules are properly followed.
- **Customer Concern and Related Service History**
 - The next section of the work order captures the customer's reported concern or complaint, which forms the basis of the diagnostic and repair process. The service advisor must document the customer's description of the issue in detail, including any symptoms such as unusual noises, performance problems, or warning lights. For example, if a customer reports a grinding noise during braking, the description should include details like when the noise occurs (e.g., when the vehicle is slowing down or after extended driving). Accurate documentation of the concern ensures that the technician can focus on diagnosing the correct issue.
 - Related service history is also important to include on the work order, as past repairs or maintenance can provide context for the current problem. The work order should note if the vehicle has recently undergone similar repairs or if there are any outstanding recalls or service bulletins. This information helps prevent redundant repairs and ensures that the technician is aware of any ongoing or recurring issues with the vehicle. Access to a comprehensive service history also allows the technician to make informed recommendations for preventive maintenance.
- **Cause and Correction**
 - Once the technician has diagnosed the vehicle, the work order must clearly document the *cause* of the issue. This section explains the underlying problem responsible for the customer's concern, providing a technical explanation of the fault. For example, if the customer reported a grinding noise during braking, the technician might determine that the brake pads are worn down to the metal,

causing damage to the rotors. The work order should provide a concise but thorough explanation of the diagnostic findings, supported by any test results or observations from the technician.

- The *correction* section of the work order outlines the specific actions taken to resolve the problem. This includes a detailed list of parts replaced, labor performed, and any additional procedures required, such as fluid flushes or calibrations. The correction must be documented in accordance with manufacturer guidelines to ensure that warranty claims or future service needs are properly supported. For example, if the brake pads and rotors were replaced, the technician should note the part numbers used, the torque specifications followed, and any additional work performed, such as bleeding the brake system or test driving the vehicle to confirm the repair. A well-documented correction ensures transparency with the customer and provides a reference for future service.

By thoroughly completing each section of the work order, from customer information to the final correction, automotive technicians and service advisors can ensure that all aspects of the repair are accurately recorded and communicated. This documentation not only builds trust with the customer but also serves as a legal record that protects the shop in case of future disputes. Clear and detailed work orders contribute to an efficient, professional, and customer-focused automotive service experience.