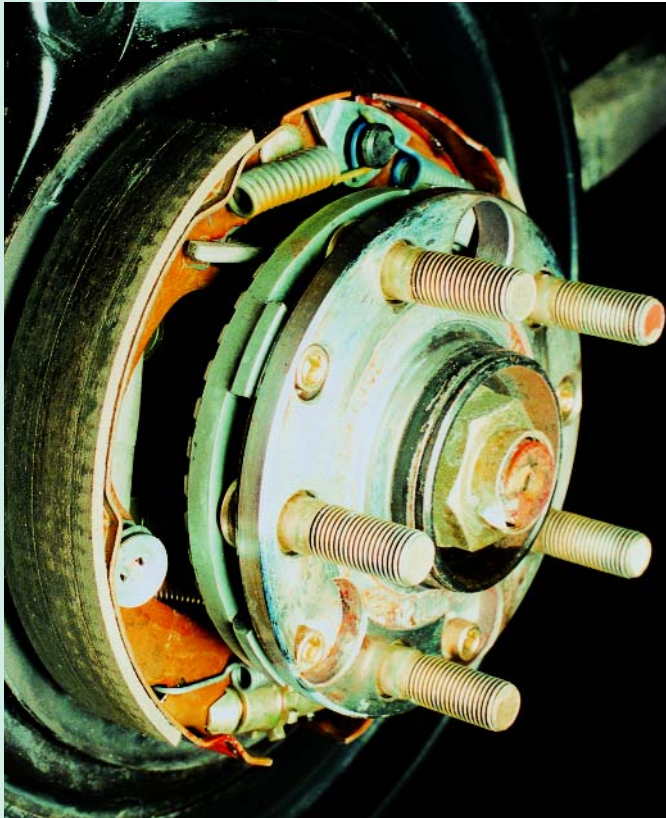


Subaru Maintenance Inspections



Safety Inspections

Subaru vehicles are more reliable than ever before. To assure their continued reliability, a schedule of inspection and maintenance (I & M) services is prescribed by Subaru of America for every Subaru vehicle sold. A copy of this schedule can be found in the Warranty and Maintenance Booklet located in the vehicle glove compartment.

Your Subaru service customers may choose to have these manufacturer-recommended inspection and maintenance services performed by a Subaru dealership service department, or they may wish to have the work carried out by an independent vehicle repair shop. No matter which option the customer decides on, the most important thing your shop can do is to provide a consistently high level of service. This will assure each Subaru owner of many miles of trouble-free service and long vehicle life.

Subaru vehicle inspection and maintenance services are divided into recommended intervals beginning with three months or 3000 miles (whichever comes first). Each additional level in the maintenance schedule (7,500/15,000/30,000 miles) adds more maintenance and inspection steps to the process. The 15,000 (15 month) and 30,000 mile (30 month) services are 'major' services, and include the most comprehensive range of component checks, part replacements and adjustments.

In this issue of *The End Wrench*, we'll highlight several typical Subaru inspection and maintenance services. This Subaru vehicle tour won't be a step-by-step replication of a 7500/15,000/30,000 mile service. Instead we'll summarize the full range of services that should be performed during scheduled I & M work. If a service should be performed only during a specific maintenance service, we'll point it out in the text. If you have any questions about the I & M requirements for a specific Subaru model, your best bet is to refer to the Warranty and Maintenance Booklet mentioned above, or consult the appropriate Subaru Service Manual.

First Things First

Suppose an owner has brought his Subaru vehicle to your business for the first time. The best place to start on an unfamiliar vehicle is with a comprehensive Safety Inspection. This will provide you (and the owner) with a wealth of much-needed information about the vehicle. This information will reveal the present condition of the vehicle, and will also serve as 'baseline information' that can be consulted during subsequent service visits.

If you are already familiar with Subaru vehicles, you may have developed a routine when performing a vehicle safety inspection. Following a set routine allows you to start at one end of the vehicle and end up at the other end, having performed all of the necessary safety inspection steps along the way. Repetition of the safety inspection may also allow you to commit the steps to memory, but a checklist can be a helpful addition that leaves nothing to chance (or memory). Checking items off the checklist provides a written record that can be shared with the customer and retained for your service records as well.

Recommended steps in a Subaru Safety Inspection are also spelled out in the owner's Warranty and Maintenance Booklet. Some of the steps overlap services performed during the scheduled maintenance program. It could be argued that any scheduled maintenance should always include a Safety Inspection. Most of the Safety Inspection steps are based on common sense, but it's surprising how frequently these simple suggestions are ignored. We'll take you through a Safety Inspection in the following photos and text.

Brake System

Take the vehicle for a road test to see how the brakes perform. Does the vehicle brake straight and even, with no signs of pedal pulsation or brake squeal? Does the ABS light go off after the vehicle is started? Check the adjustment and pedal travel. Does the pedal seem low or spongy?

Check the brake fluid reservoir. Is the fluid low? A low fluid level may indicate a brake system leak or brake pads or shoes that have worn excessively.

Does the brake fluid look discolored or dirty? Dirty, contaminated or water-saturated brake fluid may cause premature failure of expensive brake system components, like the ABS actuator.

Remove the wheels to inspect the condition of the brake linings and shoes. A quick inspection of the brake pads can be performed by looking through the inspection hole in the caliper. For a more comprehensive check, remove the caliper to gain access to the pads. Catching worn brake pads before they have a chance to damage the rotors will save the customer from unnecessary parts replacement expenses. Minimum pad thickness specifications can be found the Subaru Service Manual.

Steering System

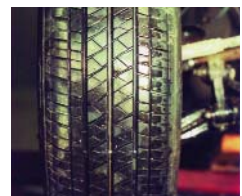
Did your road test reveal any steering or handling problems? Does the vehicle pull to one side or the other? Look for irregular tire wear that may indicate a wheel alignment problem. Excessive looseness in the steering wheel may signal worn steering system components, such as outer tie rod ends. With the vehicle on a lift, have an assistant turn the steering wheel from side to side while you watch the steering linkage for signs of worn components.



Brake Pad Inspection



Steering Inspection



Tire Tread Depth

Subaru Maintenance Inspections

Check the ball joints, as well as all other suspension bushings and components, for wear. Torn ball joint grease boots will let the grease out and will let dirt and moisture in. The same goes for the front and rear drive axle CV boots. Check these for tears or other signs of leakage or damage.

Tires and Wheels

Check the tire tread depth. If the tires have uneven wear, it's an indication of an alignment problem (see above) or over/under inflation pressure. The tires must be free of cuts, sidewall damage or abrasions on sidewalls and tread areas. Bulges in the tire sidewalls may indicate belt damage caused by contact with potholes or other obstacles. If the customer has really walloped a pothole, one or more of the wheels may be damaged. If the tires and wheels have passed all of these tests, make sure the tires are inflated to the recommended tire pressure. Don't forget to check the condition of the spare tire. Its tire pressure must be up to specs too.



Check for Bent Wheels

Exhaust System

Winter weather driving conditions can make even a late model Subaru exhaust system look pretty crusty in short order. Check the complete exhaust system for tightness, leaks and damaged or missing parts. Attach an exhaust hose to the vehicle, then have an assistant run the vehicle while you check the exhaust system for any noise or leaks.

Check the operation of the rest of the emission control system. All hoses must be properly connected and undamaged by crankcase vapors.



Exhaust System

Glass and Mirrors

Some states require mandatory vehicle safety inspections before license plate renewal. These inspections usually require the replacement of damaged windshields, window glass or mirrors. You'd be surprised how many motorists are unaware of the safety risks associated with driving around with a cracked windshield. Discolored, cracked, broken or missing inside rearview or outside sideview mirrors also impede outward vision. Door windows must open and close properly. Treat the window gaskets with silicone spray to prevent squeaks. The windshield and windows should also be kept clean during winter driving.



Outside Mirrors

Windshield Wiper and Washer

Check the operation of the windshield wiper system and the condition of the windshield wiper blades. Winter weather has a way of reducing the effectiveness of the wiper blades. A complete listing of Subaru replacement winter and regular wiper blades and inserts can be found on page 30.

Check the operation and aim of the windshield washer jets and make sure the washer fluid reservoir contains an adequate quantity of windshield washer solvent. The windshield washer jets can be aimed by carefully inserting a needle into the nozzle, then adjusting the nozzle for the proper aim.



Windshield Wipers

Doors

All door handles and door locks must operate properly. Lubricate the door hinges with a Subaru-approved spray lubricant.

Seat Belts

Check the seat belts for proper operation. The seat belt webbing must not be cut or frayed, as this will affect its ability to perform properly in an accident.

Subaru vehicles feature ELR/ALR seat belts. These combination lap and shoulder belts, called three-point seat belts, feature an Emergency Locking Retractor (ELR).

This retractor allows for normal body movement, but locks automatically to protect you during a sudden stop or impact. In some models, this feature will engage if you quickly pull the belt out of the retractor.

Some customers may not be familiar with the proper operation of the ELR/ALR seat belts. To secure a child restraint system using a three-point seat belt, switch to the Automatic Locking Retractor (ALR) mode:

- Place the child restraint system on the seat.
- Fasten the lap and shoulder belts to the child restraint system following the manufacturer's instructions.
- Take up any slack in the lap portion of the belt.
- Put the shoulder portion of the belt between the rear seatback and the child restraint system.
- Pull out the seat belt fully from the retractor to change from ELR to ALR. Then allow the belt to rewind into the retractor. You'll hear clicks as the belt rewinds to indicate the retractor now functions as ALR.
- Before putting a child in the restraint system, move it back and forth to check if it's firmly secured. If not, try pushing the child restraint system down into the seat cushion, then tightening the belt.
- Pull at the shoulder portion of the belt to make sure it can't be pulled out (ALR functioning properly).

To convert from ALR to ELR mode, simply allow the belt to rewind fully into the retractor. Remember: Children under 12 should always ride in the rear seat, properly restrained at all times. Review the operation of ELR/ALR seat belts with your customers.

Horn

It's not usually necessary to check the operation of the horn. If it doesn't work, the chances are pretty good the customer will have already told you about it. If the vehicle is equipped with dual horns, make sure both horns are working properly.

Lights and Switches

Turn the headlights, running lights and emergency flashers on, then take a walk around the vehicle to check their operation. For most people, winter includes more than the usual amount of night driving, so proper lighting operation is especially important. From inside the vehicle, check the operation of the turn signals, as well as the high and low beam headlight switch. The adjustment and aiming of Subaru aerodynamic headlights was detailed in the Fall 1998 issue of *The End Wrench*.

Additional Services

While they won't necessarily make the car run better or last longer, the following steps in your safety inspection are sure to win points with your customer—especially during winter:

- Clean and lubricate the power antenna mast with a lubricant like CRS 536 or WD-40 (not silicone),
- Remove any snow or ice that may be packed in the front and rear wheel-wells,
- Clean salt and dirt from the headlights, parking lights and reverse lights,
- Clean the windshield, side windows and mirrors,
- Make sure the windshield washer fluid reservoir is filled with washer solvent.



Seat Belt Operation



Horn



Lighting Operation