Performing a Post-Repair Inspection

After a vehicle has been involved in a collision and repairs have been made, a post-repair inspection may have to be performed. A simple checklist can be used during the post-repair inspection (see Figure 1). A sample checklist that can be copied is available at the end of this article. Using a checklist will provide documentation that all of the tasks have been performed.

Depending on the location and extent of the damage, some areas on the inspection checklist can be overlooked. Obviously, it may not be necessary to perform a complete post-repair inspection on a vehicle that had a minor dent in a door repaired and refinished, but it may be necessary to check the panel gaps for the proper clearance. More extensive structural repairs may require a more thorough inspection.

The first part of the checklist is the pre-test-drive inspection. This includes checking all of the fluid levels, including engine oil, engine coolant, transmission fluid, brake fluid, power steering fluid and windshield washer fluid to ensure that they are filled to the proper levels. The belts can be checked to ensure that the routing is correct and that the proper tension is applied.

The convenience accessories, including the radio presets and clock, should be reprogrammed if the battery was disconnected (see Figure 2). Operate the blower motor on all speeds to verify that it is operational and that it is free from dust and debris. Check and record the tyre air pressure.

Check the wheel nuts with a torque wrench and operate all of the exterior lamps to verify that they are working properly. If body panels were removed or any structural repairs were performed, the gaps can be measured with a gap gauge as well as visually inspected for any contact with other panels (see Figure 3).

Next, the engine run test can be performed. Start the engine to see if there are any Diagnostic Trouble Codes (DTC) (see Figure 4). While the engine is running, inspect any fluid connection points that were disconnected during repairs. These points may include coolant hoses, transmission cooler lines, engine oil cooler lines, power steering hoses and lines, and brake lines.

If no leaks are present, warm the engine to operating temperature to verify that the engine thermostat opens and that the heater control mix valves are operational. Check the air conditioning system to make sure that it cools to the recommended temperature. Check the automatic transmission fluid level while the engine is running at operating temperature (see Figure 5).

Depress the brake pedal to verify that the braking system is operational and that there is no air in the brake hydraulic system. The exhaust system can be checked while the engine is running by holding a towel over the tailpipe and listening for any leaks.

After the engine run test has been performed and all of the items are verified, the vehicle can be test-driven. When performing a test-drive, verify that the vehicle drives straight and does not pull or wander. Ensure that the transmission and transfer case shift smoothly. Listen for any noise that occurs, including clunks, rattles, squeaks or wind noise. Also check for any DTCs that may occur.

After the test-drive, recheck all of the fluid levels and test the coolant

for the correct freeze protection (see Figure 6).
Also, visually check the panel alignment again due to any settling of body mounts that may have occurred. A torque wrench can be used to recheck the wheel nut torque if the wheels were removed during repairs (see Figure 7). The vehicle can now be sent to the detailing department to be prepared for delivery to the customer.
Again, a complete post-repair inspection is not always necessary, and not all parts of the checklist will have to be performed for every repair. An example of an inspection checklist is provided here or may be downloaded from the website shown below. A collision repair business can create a checklist that may better suit its needs. The end result is that the consumer and the collision repair business are assured that a complete repair has been performed.

Sample checklist on next page

Figure 1- A checklist is used to record the information as the post-repair inspection is performed.

Figure 2-The radio station presets are reprogrammed into the radio.

Figure 3–A gap gauge as well as a visual inspection ensures that the body panels are in alignment.

Figure 4-The engine is started and the instrument panel is inspected for any diagnostic trouble codes.

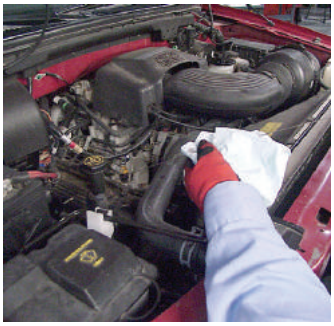

Figure 5-While the engine is running at operating temperature, the transmission fluid dipstick is read.

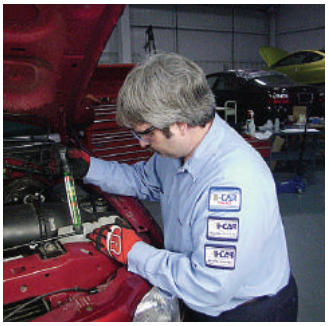

Figure 6-A hydrometer is used to check the freeze protection of the coolant after the radiator was replaced on this vehicle.

Figure 7-These wheel nuts are being re-torqued following a test drive.

This article first appeared in the I-CAR Advantage Online, which is published and distributed free of charge. I-CAR, the Inter-Industry Conference on Auto Collision Repair, is a not-for-profit international training organization that researches and develops quality technical education programs related to automotive repair. To learn more about I-CAR, and to subscribe to the free publication, visit http://www.i-car.com

POST-REPAIR INSPECTION CHECKLIST

Name _____ Work Order _____ Date _____

Address _____ License No. _____ Odometer _____

Phone _____ Make _____ Year & Model _____ VIN _____

PRE-TEST-DRIVE

_____ FLUID LEVELS
- ❑ Brake Fluid
- ❑ Power Steering Fluid
- ❑ Coolant
- ❑ Engine Oil
- ❑ Transmission Fluid
- ❑ Windshield Washer Solvent

_____ ELECTRICAL CONNECTIONS

_____ LAMPS
- ❑ Headlamps
- ❑ Turn Signals
- ❑ Stop Lamps
- ❑ Tail Lamp
- ❑ Parking Lamps
- ❑ Side Marker Lamps

_____ ACCESSORIES
- ❑ Radio
- ❑ Dome Lamps
- ❑ Blower Motor
- ❑ Windshield Wipers

_____ PANEL ALIGNMENT

_____ FASTENERS

_____ WHEEL NUT TORQUE

_____ TIRE PRESSURE
- ❑ Left Front _____
- ❑ Right Front _____
- ❑ Left Rear _____
- ❑ Right Rear _____

ADDITIONAL COMMENTS:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

ENGINE RUN TEST

_____ ENGINE STARTS

_____ DIAGNOSTIC TROUBLE CODES
- ❑ Check Engine
- ❑ Airbag
- ❑ Anti-Lock Brake

_____ FLUID CONNECTIONS
- ❑ Coolant Hoses
- ❑ Transmission Lines
- ❑ Engine Oil Lines
- ❑ Power Steering Lines
- ❑ Brake Lines

_____ AIR CONDITIONING

_____ HEATER

_____ EXHAUST

_____ BRAKES

_____ TRANSMISSION FLUID

TEST-DRIVE

_____ STEERING
- ❑ Drives Straight
- ❑ Does Not Pull Or Wander

_____ DIAGNOSTIC TROUBLE CODES

_____ TRANSMISSION SHIFTS PROPERLY

_____ TRANSFER CASE SHIFTS PROPERLY

_____ VIBRATIONS Listen for:
- ❑ Clunks
- ❑ Rattles
- ❑ Squeaks
- ❑ Wind Noise

POST-TEST-DRIVE INSPECTION

_____ FLUID LEVELS
- ❑ Antifreeze Protected To _____°

_____ FASTENERS

_____ WHEEL NUT TORQUE

_____ PANEL ALIGNMENT