**Automotive Servicing NCI Review Program**

**Core Competencies**

1. **Preliminary Delivery Inspection: 2hrs**

1. Required items May include:

1.1 Tire pressure gauge

1.2 Fender cover

1.3 Steering wheel cover

1.4 Seat cover

1.5 Shifting knob cover

1.6 Floor mat cover

2. Factory-loaded parts May include:

2.1 Wheel caps

2.2 Wheel covers

2.3 Spare wheel

2.4 Tow hook

2.5 Tool Kit

2.6 Early warning device

2.7 Owner’s Handbook Manual

2.8 Spare Key

2.9 Floor Mats

2.10 Jack Set

3. Restoration of vehicle May include:

3.1 Installation of factory-loaded parts

3.2 Removal of towing eyelets, labels, tags, stickers, covers, and body protective films

3.3 Adjustment of tire pressure

3.4 Removal of spring locks

4. Checking of vehicle May include:

4.1 Operation of electrical components

4.2 Checking of fluid levels

4.3 Checking for leaks

4.4 Checking of vehicle performance

4.5 Checking of minor defects

5. Minor corrective measures May include:

5.1 Correct Brake fluid

5.2 Correct Coolant level

5.3 Correct Automatic Transmission Fluid (ATF)

6. Correction of minor defects May include:

6.1 Fluid level correction

6.2 Tightening of bolts and nuts

6.3 Adjustment of tire pressure

7. Defects May include:

7.1 Mechanical

7.2 Electrical

7.3 Body Paint

7.4 Scratches

7.5 Dents

1. **Periodic Maintenance Service of Automotive Engine: 2hrs**

1. Checking of tools and equipment May include:

1.1 Tagging of faulty tools and equipment

1.2 Servicing and maintenance of tools and equipment

2. Inspection May include:

2.1 Pre- and post-service inspections for oil and fluid leaks

2.2 Analyzing abnormal engine noises

2.3 Inspecting battery

2.4 Inspecting air cleaner element

2.5 Inspecting engine oil

2.6 Inspecting engine coolant

2.7 Inspecting drive belt

2.8 Inspecting spark plug

2.9 Inspecting fuel filter

3. Safety requirements May include:

3.1 Work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for working with:

3.1.1 Rotating and hot components

3.1.2 Engine oils

3.1.3 High energy ignition and charging systems

3.1.4 Hazardous materials

4. Service May include:

4.1 Replacing engine oil

4.2 Replacing engine oil filter

4.3 Cleaning/replacing air cleaner element

4.4 Replacing engine coolant

4.5 Replacing drive belt

4.6 Cleaning/replacing spark plug

4.7 Replacing fuel filter

4.8 Adjustment of idle speed and idle mixture for carburated engine

4.9 Adjustment of idle speed (diesel with injection pump)

4.10 Removal of water from water sedimenter

4.11 Bleed fuel system (diesel)

4.12 Adjust valve clearance

5. Environmental requirements May include :

5.1 Procedures for trapping of fluids released from engines

5.2 Procedures for storing of fluids released from engines

5.3 Procedures for disposing of fluids released from engines

6. Post-service testing May include:

6.1 Starting up and running engine to operating temperature

6.2 Checking for leaks and abnormal noises

1. **Periodic Maintenance Service of Drive Train: 2hrs**

1. Inspection of fluids May include:

1.1 Visual

1.2 Smell

1.3 Texture

1.4 Age of fluid (mileage and months)

2. Fluids May include:

2.1 Manual transmission

2.1.1 Brake fluids/Clutch fluids

2.1.2 Gear oil

2.2 CVT and automatic

2.2.1 CVT fluids

2.2.2 Automatic transmission fluid (ATF)

3. Tools May include but not limited to:

3.1 Basic hand tools

3.2 Special service tools

3.3 Oil bucket

3.4 Trouble light

4. Drive train components May include but not limited to:

4.1 Clutch

4.2 Transmission

4.3 Transfer case

4.4 Propeller shaft

4.5 Differentials (Front and rear)

4.6 Constant Velocity Rubber Boots

1. **Periodic Maintenance Service of Brake System: 2hrs**

1. Tools Includes:

1.1 Basic hand tools

1.2 Special tools

2. Brake system components May include:

2.1 Fluids

2.2 Pad thickness

2.3 Rotor disc

2.4 Brake pedal free play

2.5 Parking brake

2.6 Brake pads/shoes

2.7 Brake caliper

2.8 Brake pipe

2.9 Brake drums

2.10 Disc brake

2.10.1 Rotor disc

2.10.2 Brake pads

2.10.3 Brake caliper

2.10.4 Retainer

2.10.5 Slider bolt

2.11 Drum brake

2.11.1 Brake drum

2.11.2 Brake shoe

2.11.3 Wheel cylinder

2.12 Other components

2.12.1 Fluids

2.12.2 Brake pipe

2.12.3 Brake master

2.12.4 Brake booster

2.12.5 Parking brake

3. Brake system condition May include:

3.1 Leakage

3.2 Worn out

3.3 Corrosion

3.4 Crack

3.5 Foreign object

3.6 Bending

3.7 Deformation

3.8 Cut

3.9 Fluid quality

1. **Periodic Maintenance Service of Suspension System: 2hrs**

1. Tools Includes:

1.1 Basic tools

1.2 Special tools

2. Inspection techniques May include:

2.1 Bounce test

2.2 Vehicle height

3. Suspension system components May include:

3.1 Stabilizer

3.2 Stabilizer links

3.3 Stabilizer links

3.4 Coil springs, torsion bar, bar bushing, and leaf spring

3.5 Upper and Lowers arms

3.6 Suspension bushings

3.7 Ball joints

3.8 Fasteners

3.8.1 Suspension bolts

3.8.2 Suspension nuts

3.8.3 Wheel nuts

3.9 Damper/shock absorber

3.10 Wheel bearing

3.11 Tire wheel

3.12 Shock mounting

4. Defects and damage May include:

4.1 Leaks on damper/shock absorber

4.2 Crack bushing

4.3 Loose ball joints

4.4 Worn-out tires

1. **Periodic Maintenance Service of Steering System: 2 hrs**

1. Steering system components May include but not limited to the following:

1.1 Steering column

1.2 Steering shaft

1.3 Steering shaft bearing

1.4 Steering universal joints

1.5 Steering column adjustment mechanism

1.6 Electronic power steering

1.7 Hydraulic power steering

1.8 Tie-rods and rack end

1.9 Rack and pinion gear box

1.10 Steering wheel

1.11 Fastener

1.12 Fluids

1.13 Reservoir and Vane pump

1.14 Recirculating gear box

1.15 Hydraulic hose

2. Inspection of steering system components May include:

2.1 Looseness

2.2 Wear

2.3 Damage

2.4 Free-play

2.5 Leaks

2.6 Abnormal noise

2.7 Malfunction on electric power steering

3. Defects and damages May include:

3.1 Damage on steering rack boot

3.2 Power steering fluid leaks

**Automotive Servicing NCI Review Schedule**

**February 21 – 16, 2022**

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| --- | --- | --- | --- | --- | --- | --- |
| **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Saturday** | **Total Hours** |
| Pre-delivery Inspection  **2hrs** | Periodic Maintenance of Automotive Engine  **2hr** | Periodic Maintenance of Drivetrain  **2hrs** | Periodic Maintenance of Brake System  **2hrs** | Periodic Maintenance of Suspension System  **2hrs** | Periodic Maintenance of Steering System  **2hrs** | **12 hrs** |