

Auto Service

TECHNICAL SKILLS

- Raise car using hoist
- Raise car using jack & safety stands
- Change and balance tires
- Rotate tires
- Engine cleaning
- Basic Oxyacetylene torch use
- Operate bench grinder
- Measure with micrometer
- Operate pressure washer
- Operate arbor press
- Perform basic welding skills
- Perform basic tune-up
- R & R transmission

HYDRAULIC BRAKES

- Diagnose and repair hydraulic system
- Inspect the master cylinder for leaks and proper operation
- Remove, bench bleed and replace the master cylinder
- Rebuild the master cylinder
- Inspect and replace brake lines and fittings
- Inspect flexible brake hoses, brake lines and fittings
- Install brake fluids
- Inspect, test and replace brake warning light system
- Bleed brake system

DRUM BRAKES

- Diagnose and repair drum brake
- Service and replace brake drums
- Mount brake drum
- Remove, inspect, clean and reassemble brake shoes
- Install wheel

DISC BRAKES

- Diagnose and repair disc brake
- Remove, inspect, clean caliper assembly
- Reassemble, lubricate, install caliper, pads, hardware
- Clean, inspect and measure rotor
- Refinish rotor
- Remove and replace rotor
- Clean, inspect and replace the wheel bearing and race
- Check and adjust parking brake

ANTI-LOCK BRAKE SYSTEM (ABS)

- Inspect and test anti-lock system
- Diagnose and repair ABS electronic control/components
- Bleed ABS system
- Service, test, adjust ABS

STEERING SYSTEMS

- Diagnose and repair steering systems
- Disable and enable SRS
- Remove and replace steering wheel
- Remove and replace power rack and pinion steering gear

Inspect power steering fluid
Flush, fill and bleed power steering system
Inspect, R & R, and adjust power steering belt, hoses and fittings
Inspect and replace a Pitman Arm

FRONT SUSPENSION SYSTEM

Diagnose and repair front suspension system
Diagnose short/long arm suspension problems
Inspect and install control arms, bushings, shafts and rebound bumpers
Inspect and install MacPherson strut suspension system
Lubricate suspension and steering systems

REAR SUSPENSION

Diagnose and repair rear suspension
Remove and replace coil springs and insulators
Inspect and install transverse links, control arms, bushings and mounts
Inspect and replace shock absorbers
Inspect, service and replace front and rear wheel bearings
Inspect and replace a center link (relay rod)
Inspect and replace an Idler Arm and mountings
Inspect and replace a steering damper
Diagnose and repair suspension system torsion bars
Inspect and replace stabilizer bar bushings, bracket and links

WHEEL ALIGNMENT

Diagnose and repair wheel alignment
Perform wheel alignment
Measure vehicle riding height
Check and adjust front/rear wheel camber
Check and adjust caster
Check and adjust front/rear wheel toe
Center steering wheel
Check rear wheel thrust

WHEEL AND TIRES

Diagnose and repair wheel and tires
Inspect tires and adjust tire pressure
Rotate tires
Balance tire and wheel assembly
Reinstall wheel, torque lug nuts

GENERAL ELECTRICAL SYSTEM

Diagnose and repair general electrical system
Use wiring diagrams
Check with test light
Check voltage with DMM
Check current flow using an ammeter
Check continuity and resistance using an ohmmeter
Check electrical circuits using jumper wires
Locate shorts, grounds, opens and resistance problems
Measure and diagnose abnormal key-off battery drains
Inspect, test fusible links, circuit breakers, fuses
Diagnose and repair electric circuit problems
Repair wiring harnesses and connectors

BATTERY

Diagnose and service battery

Perform battery charge test
Perform battery capacity test
Inspect and replace battery
Perform battery charge
Inspect, clean & replace battery cables, connectors, clamps & hold downs
Start vehicle with jumper cables

STARTING SYSTEM

Diagnose and repair starting system
Perform starter current draw test
Perform starter circuit voltage test
Inspect and test the starting system
Remove and install starter
Inspect, test, repair or replace the starter switches
Inspect, test and replace starter components

CHARGING SYSTEM

Diagnose and repair charging system
Perform charging system output test
Diagnose charging system
Inspect and adjust generator (alternator)
Inspect and replace alternator
Perform charging circuit voltage test

LIGHTING SYSTEM

Diagnose and repair lighting systems
Inspect, replace and repair headlights
Inspect and correct turn signal problems

ENGINE PERFORMANCE

Diagnose engine performance
Inspect engine assembly for leaks
Diagnose engine noise and vibration
Perform a cylinder power balance test
Perform engine absolute manifold test
Perform cylinder compression test
Perform cylinder leakage test
Diagnose engine using oscilloscope and engine diagnostic equipment
Perform 4 or 5 gas analyzer tests

COMPUTERIZED ENGINE CONTROLS

Diagnose and repair computerized engine controls
Retrieve and record OBD diagnostic codes
Diagnose problems related to failure of computerized controls
Obtain and interpret DMM readings
Interpret VIN and other certification labels
Test and repair power and ground circuits
Diagnose and repair driveability problems related to controls
Diagnose problems related to electronic ignition
Diagnose and repair problems related to distributor ignition systems
Inspect, test and replace ignition primary circuit wiring and components
Inspect, test, replace ignition system secondary circuit wiring &
Inspect, test and replace ignition coils
Inspect, test, and replace ignition system pick-up sensors & triggering devices
Inspect, test & replace ignition

FUEL, AIR INDUCTION, EXHAUST SYSTEMS

Diagnose & repair fuel, air induction and exhaust systems

Inspect fuel system

Inspect and replace fuel filters

Inspect and repair fuel pressure regulation systems

Inspect and test a cold enrichment system

Check and adjust the idle speed and fuel mixture

Adjust an automatic choke

Set the idle speed

Inspect and clean fuel injectors

Perform exhaust system back pressure test

Test exhaust emissions with a four gas analyzer

Test, service and replace a turbo charger system

Test, service and replace a supercharger system

EMISSIONS CONTROL SYSTEMS

Diagnose and repair emissions control systems

Diagnose problems with the PCV system

Examine carburetor

Test the operation of a PCV system

Inspect, service and replace PCV system parts

Inspect, test, repair and replace an ECR system's vacuum/pressure

Inspect, test, repair and replace an ECR system's electrical/electronic

Inspect, replace electrical/electronically operated components & circuits

Perform an exhaust system back pressure test