| **A4 Steering and Suspension** | |
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| * Drift and pull diagnosis * Radial tire pull diagnosis * How to read tire wear * Tire issues * Tire age (6 years) * DOT numbers * TPMS * Alignment angles – adjustable (CCT) and diagnostic (IA and SAI) * Diagnosing strut/shock leakage vs. seepage, proper testing * Electric and hydraulic steering initialization procedures * 4 wheel alignment (lots of practice) * SRS (driver air bag) and cable reel /squib precautions * R&R components (using the proper tool) * Steering column repairs * Steering gear: Rack and pinion (minimal gearbox) – diagnosis and repair * Difference between gear box and Rack and pinion * Power steering fluid exchange * Wheel bearing failure – proper use of the press * Alignment (green in not always good) * Push-pull conditions how to repair * Proper test drive procedures (while at the dealership) * How to inspect for accident damage * Sub frame shifting * Understanding preloading bushings * Shocks vs. struts * Mounts | * Proper use SSTs * Electronic power steering * Center the steering wheel properly * Zero point * How to use the 9700 correctly * Proper dismount / mounting a tire with the correct dots * Mounting tires w/out breaking sensors * Understand and diagnose Radial Force Variation issues (RFV) * Suspension noise * Proper testing for NVH using chassis ears * Sway bars * Understanding of Alignment * Diagnosis bulletins (suspension issues) * Road crown/known good road * Electronic suspensions * Hydraulic suspensions * Ride height systems * Variable gear ratio steering * VSC diagnosis, issues(VGRS – understand how it effects alignment) * 4 Wheel drive engagement procedures * Identification of steering components * Worn components * Cam eccentrics * Fluid pressure checks, leaks, gauges * Suspension theory * Power controls |

| **A8 Engine Performance** | |
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| * Component location and operation * Inputs, outputs * 5-gas theory * Emission controls * Detailed OBD-II * LEV * Misfire diagnosis * Smoke hints (blue, black, white) * Catalyst * HO2S and AF sensors * I/M programs * No start * Air fuel ratios * Fuel trim diagnosis * MIL diagnosis * Save the freeze frame data!- how to use Techstream * How to find and read TSBs * Understanding of immobilizer systems * Diagnose fuel pressure issues * Understand how mechanical issues might not set a code * Ethanol blends are causing issues * Using Techstream for repair verification * Catalyst efficiency codes * DTC/Freeze frame | * Understand drive cycle monitor set for TX * Preliminary checks (base timing, vacuum leaks, ignition problems) * Ignition systems – IGT, IGF * EVAP diagnosis and operation - emphasize LEV-II EVAP * Smoke tester use * HO2S and AF sensors * Teach air injection during cold start * Know all available active tests and demonstrate their uses - know utilities * Monitors * Key Off EVAP * Direct Fuel injection * Flex fuels and components * Oscilloscope use * Permanent code erasure process * Basic common sense * Diagnosis using Vacuum gauge * Good known data * Fuel pressure * ECM terminals * Drive patterns, learned memories * Differentiating between engine and transmission issues * Importance of verifying the complaint/listen to the customer |