| **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
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| **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
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