

# UTAH CTE SKILL CERTIFICATION

## AUTOMOTIVE SERVICE TECHNICIAN

### STUDENT PERFORMANCE EVALUATION

### SUSPENSION AND STEERING

Student Name: \_\_\_\_\_

The performance evaluation is a required component of the Skill Certification process. Each student **must be evaluated** on the required performance standards. Performance standards may be completed and **evaluated anytime during the course**.

- Students should be aware of their progress throughout the course, so that they can concentrate on the objectives that need improvement.
- Students should be encouraged to repeat the objectives until they have performed at a minimum of a number 1 or 2 on the rating scale (moderately to highly competent level).
  - 1= highly competent      Successfully demonstrated without supervision
  - 2= moderately competent      Successfully demonstrated with limited supervision
  - 3= limited competence      Demonstrated with close supervision
  - 4= not competent      Demonstration requires direct instruction and supervision
- When a standard has been achieved at a minimum of 80% (moderately to highly competent level). "Y" (Y=YES) is recorded on the last line of that standard, on the performance evaluation sheet. If a student does not achieve a 1 or a 2 (moderately to highly competent level), then "N" (N=NO) is recorded on the last line of that standard.
- All performance standards **MUST** be completed and evaluated prior to the written test.
- The **teacher** will bubble in "A" on the answer sheet for item #81 for students who have achieved "Y" on **ALL** performance standards.
- The **teacher** will bubble in "B" on the answer sheet for item #81 for students who have **ONE or more "N's"** on the performance standards.
- The signed performance evaluation sheet(s) **MUST** be kept in the teachers' file for two years.
- A copy is also kept on file with the school's ATE Skill Certification testing coordinator for two years.

Students who achieve a 1 or a 2 (moderately to highly competent) on **ALL** performance standards and 80% on the written test will be issued an ATE Skill Certificate.

<b>470644 Students will be able to understand general shop safety</b>	1	2	3	4
Pass the safety test with a score of 100%.				
Identify the different types and hazards of solvents used in automotive.				
Identify the different types, purposes, and hazards of automotive greases, oils, and additives.				
Identify precautions in the use, handling, and storage of various automotive solvents, cleaners, oils, greases, and additives.				
Identify the gasses encountered in the automotive field and the hazards they present.				
Identify the hazards and control of asbestos dust.				
Comply with safety rules for working with automotive chemicals (MSDS).				

<b>470644 Students will be able to understand general suspension and steering systems diagnosis.</b>	1	2	3	4
Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction. P-1				
Identify and interpret suspension and steering concerns; determine necessary action. P-1				
Research applicable vehicle and service information, such as suspension and steering system operation, vehicle service history, service precautions, and technical service bulletins. P-1				
Locate and interpret vehicle and major component identification numbers (VIN, vehicle certification labels, calibration decals). P-1				

<b>470644- Students will be able to understand steering systems diagnosis and repair</b>	1	2	3	4
Disable and enable supplemental restraint system (SRS). P-1				
Remove and install steering wheel; center/time supplemental restraint system (SRS) coil (clock spring). P-1				
Diagnose steering column noises, looseness, and binding concerns (including tilt mechanisms); determine necessary action. P-2				
Diagnose power steering gear (non-rack and pinion) binding, uneven turning effort, looseness, hard steering, noise concerns; determine necessary action. P-2				
Diagnose power steering gear (rack and pinion) binding, uneven turning effort, looseness, hard steering, noise concerns; determine necessary action. P-2				
Inspect steering shaft universal-joint(s), flexible coupling(s), collapsible column, lock cylinder mechanism, and steering wheel; perform necessary action. P-2				
Adjust non-rack and pinion worm bearing preload and sector lash. P-3				
Remove and replace rack and pinion steering gear; inspect mounting bushings and brackets. P-2				
Inspect and replace rack and pinion steering gear inner tie rod ends (sockets) and bellows boots. P-2				
Determine proper power steering fluid type; inspect fluid level and condition. P-1				
Flush, fill, and bleed power steering system. P-2				
Diagnose power steering fluid leakage; determine necessary action. P-2				
Remove, inspect, replace, and adjust power steering pump belt. P-1				
Remove and reinstall power steering pump. P-2				
Remove and reinstall press fit power steering pump pulley; check pulley and belt alignment. P-2				
Inspect and replace power steering hoses and fittings. P-2				
Inspect and replace pitman arm, relay (centerlink/intermediate) rod, idler arm and mountings, and steering linkage damper. P-2				
Inspect, replace, and adjust tie rod ends (sockets), tie rod sleeves, and clamps. P-1				
Test and diagnose components of electronically controlled steering systems using a scan tool; determine necessary action. P-3				
Inspect and test electric power assist steering. P-3				
Identify hybrid vehicle power steering system electrical circuits, service and safety precautions. P-3				

<b>470644- Students will be able to understand, identify, and properly diagnosis and repair suspension systems.</b>				
	1	2	3	4
	Diagnose short and long arm suspension system noises, body sway, and uneven ride height concerns; determine necessary action. P-1			
	Diagnose strut suspension system noises, body sway, and uneven ride height concerns; determine necessary action. P-1			
	Remove, inspect, and install upper and lower control arms, bushings, shafts, and rebound bumpers. P-2			
	Remove, inspect, install, and adjust strut rod and bushings. P-2			
	Remove, inspect, and install upper and/or lower ball joints. P-1			
	Remove, inspect, and install steering knuckle assemblies. P-2			
	Remove, inspect, and install short and long arm suspension system coil springs and spring insulators. P-3			
	Remove, inspect, install, and adjust suspension system torsion bars; inspect mounts. P-3			
	Remove, inspect, and install stabilizer bar bushings, brackets, and links. P-2			
	Remove, inspect, and install strut cartridge or assembly, strut coil spring, insulators (silencers), and upper strut bearing mount. P-1			
	Remove, inspect, and install leaf springs, leaf spring insulators (silencers), shackles, brackets, bushings, and mounts. P-2			

<b>470644-Students will be able to understand, identify, and properly diagnosis and repair related suspension and steering service.</b>				
	1	2	3	4
	Inspect, remove, and replace shock absorbers. P-1			
	Remove, inspect, and service or replace front and rear wheel bearings. P-1			
	Test and diagnose components of electronically controlled suspension systems using a scan tool; determine necessary action. P-3			
	Diagnose, inspect, adjust, repair or replace components of electronically controlled steering systems (including sensors, switches, and actuators); initialize system as required. P-3			
	Describe the function of the idle speed compensation switch. P-3			
	Lubricate suspension and steering system. P-2			

<b>470644-09 Students will be able to understand the importance of employability and work habits.</b>				
	1	2	3	4
	Integrity			
	Punctuality			
	Staying on task			
	Productive team worker			
	Leadership			

<b>470644- Students will be able to understand, identify, and properly diagnosis, adjust, and repair wheel alignment.</b>				
	1	2	3	4
	Diagnose vehicle wander, drift, pull, hard steering, bump steer, memory steer, torque steer, and steering return concerns; determine necessary action. P-1			
	Perform pre-alignment inspection and measure vehicle ride height; perform necessary action. P-1			
	Prepare vehicle for wheel alignment on the alignment machine; perform four wheel alignment by checking and adjusting front and rear wheel caster, camber, and toe as required; center steering wheel. P-1			
	Check toe-out-on-turns (turning radius); determine necessary action. P-2			
	Check SAI (steering axis inclination) and included angle; determine necessary action. P-2			
	Check rear wheel thrust angle; determine necessary action. P-1			
	Check for front wheel setback; determine necessary action. P-2			
	Check front and/or rear cradle (subframe) alignment; determine necessary action. P-3			

<b>470644-Students will be able to understand, identify, and properly diagnosis and repair wheels and tires.</b>				
	1	2	3	4
	Inspect tire condition; identify tire wear patterns; check and adjust air pressure; determine necessary action. P-1			
	Diagnose wheel/tire vibration, shimmy and noise; determine necessary action. P-2			
	Rotate tires according to manufacturer's recommendations. P-1			
	Measure wheel, tire, axle flange, and hub runout; determine necessary action. P-2			
	Diagnose tire pull problems; determine necessary action. P-2			
	Dismount, inspect, and remount tire on wheel; balance wheel and tire assembly (static or dynamic). P-1			
	Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor. P-2			
	Reinstall wheel; torque lug nuts. P-1			
	Inspect tire and wheel assembly for air loss; perform necessary action. P-1			
	Repair tire using internal patch. P-1			
	Inspect, diagnose, and calibrate tire pressure monitoring system. P-2			

**The instructor must retain a copy of this Student Performance Evaluation for two years after the student has left the program.**

Instructor Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Student Signature: \_\_\_\_\_ Date : \_\_\_\_\_

School \_\_\_\_\_