



# T5 SUSPENSION + STEERING AUTOMOTIVE

	IMMR	TST	MTST	HV-130
<b>B. Steering Column</b>				
1. Check steering wheel for free play, binding, and proper centering; inspect and service steering shaft U-joint(s), slip joint(s), bearings, bushings, and seals; phase steering shaft.	P-1	P-1	P-1	X
2. Identify causes of fixed and driver adjustable steering column and shaft noise, looseness, and binding problems.	P-1	P-1	P-1	X
4. Remove the steering wheel (includes steering wheels equipped with electrical/electronic controls and components); install and center the steering wheel.		P-2	P-2	X
<b>C. Steering Pump and Gear Units</b>				
3. Inspect and/or replace power steering gear(s) (single and/or dual) and mountings; adjust or set poppet valves as required.	P-3	P-2	P-2	X
4. Identify causes of power steering system noise, binding, darting/oversteer, reduced wheel cut, steering wheel kick, pulling, non-recovery, turning effort, looseness, hard steering, overheating, fluid leakage, and fluid aeration problems.		P-1	P-1	X
<b>D. Steering Linkage</b>				
1. Inspect, service, repair, and/or replace tie rod ends, ball joints, kingpins, pitman arms, idler arms, and other steering linkage components.	P-1	P-1	P-1	X
<b>E. Suspension Systems</b>				
1. Inspect, service, repair, and/or replace shock absorbers, bushings, brackets, and mounts.	P-1	P-1	P-1	X
2. Inspect, repair, and/or replace leaf springs, center bolts, clips, pins, bushings, shackles, U-bolts, insulators, brackets, and mounts.	P-1	P-1	P-1	X
3. Inspect, repair, and/or replace axle and axle aligning devices such as: radius rods, track bars, stabilizer bars, and torque arms; inspect related bushings, mounts, shims and attaching hardware; determine needed action.	P-1	P-1	P-1	X
7. Measure, record and adjust ride height; determine needed action.	P-2	P-1	P-1	X
8. Inspect and service kingpins, steering knuckle bushings, locks, bearings, seals, and covers.		P-1	P-1	X
9. Diagnose rough ride problems; determine needed action.		P-3	P-3	X
<b>F. Wheel Alignment Diagnosis and Repair</b>				
1. Demonstrate understanding of alignment angles.	P-3	P-1	P-1	X
2. Diagnose causes of vehicle wandering, pulling, shimmy, hard steering, and off-center steering wheel problems.		P-1	P-1	X
3. Check, record, and adjust camber.		P-2	P-2	X
4. Check, record, and adjust caster.		P-2	P-2	X
5. Check, record, and adjust toe settings.		P-1	P-1	X
6. Check rear axle(s) alignment (thrustline/centerline) and tracking.		P-2	P-2	X
7. Identify turning/Ackerman angle (toe-out-on-turns) problems.		P-3	P-3	X
8. Check front axle alignment (centerline).		P-2	P-2	X
<b>G. Wheels and Tires</b>				
1. Inspect tire condition; identify tire wear patterns; measure tread depth; verify tire matching (diameter and tread); inspect valve stem and cap; set tire pressure; verify tire pressure monitoring system (TPMS) operation (if applicable); determine needed action.		P-1	P-1	X
2. Diagnose wheel/tire vibration, shimmy, pounding, and hop (tramp) problems; determine needed action.		P-2	P-2	X
3. Check wheel mounting hardware; check wheel condition; remove and install wheel/tire assemblies (steering and drive axle); torque fasteners to manufacturer's specification using torque wrench.		P-1	P-1	X
4. Demonstrate knowledge of DOT tire identification numbers/markings for new and retread/recap tires; inspect tire and wheel for proper application (size, load range, position, and tread design); determine needed action.		P-2	P-2	X