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#05-00-89-029B: General Motors Dealership Critical Equipment Requirements and Recommendations - (Oct 13, 2010)

Subject: General Motors Dealership Critical Equipment Requirements and Recommendations

Models: 2011 and Prior GM Passenger Cars and Trucks
2010 and Prior HUMMER H2, H3
2010 and Prior Saturn (Canada Only)
2009 Saab 9-7X

This bulletin is being revised to add model years and update the Service Department Computers information. Please discard Corporate Bulletin Number 05-00-89-029A (Section 00 – General Information).

Critical Equipment

As established in the Dealer Sales and Service Agreement, in addition to required essential service tools, the dealer agrees to provide such other tools and equipment as reasonably necessary to fulfill its responsibilities to properly diagnose and service General Motors vehicles. This bulletin is intended to provide General Motors dealerships with requirements and recommendations for service equipment that has been identified as critical equipment necessary to properly repair and maintain General Motors vehicles. The proper maintenance and/or replacement of existing equipment with General Motors approved equipment (available through GM Dealer Equipment) will ensure proper serviceability and contribute to improved customer satisfaction and dealer profitability.

Equipment Maintenance

Regular maintenance and calibration is essential to assure the use of equipment results in high quality and satisfactory repairs. Most manufacturers recommend weekly or monthly cleaning and inspection of equipment with repair or replacement of worn or damaged parts as needed. Annual or semi-annual calibration of equipment is also recommended, depending on frequency of use. The manufacturer of your equipment will have specific recommendations and, in many cases, can provide inspection and calibration services.

Brake Equipment

GM Equipment Requirements*

- Capable of producing rotor surfaces with less than 0.051 mm (0.002 in) assembled runout.
- Capable of producing rotor surfaces with less than 0.025 mm (0.001 in) lateral runout (as measured on the lathe arbor – bench lathe)
- Capable of producing flat surfaces (no dishing).
- Capable of producing rotor surfaces with less than 0.0076 mm (0.0003 in) thickness variation.
- Use secondary non-directional surface finishing tools.
- Capable of producing surface finish of 40 Ra (Roughness Average) or less (after secondary finish operation).
- All adapters, vibration dampeners, hardware and cutting inserts in good condition.

- Measure and document brake rotor original and refinished thickness.
- Use Essential Cleaning tools J 42450A and J 41013 to clean rotor hat and hub surfaces before rotor machining.
- Measure all brake drums prior to installation to ensure drum is not beyond maximum dimensions.
- Measure all brake rotors with a dial indicator and index that rotor on the hub to correct excessive lateral runout.
- Use the proper Brake-Align shims to correct lateral runout when necessary.
- Use “Torque Sticks” torque limiting sockets or torque wrenches on all wheel nuts.
- Operators properly trained and ASE certified (U.S. only) in brake service.

*Equipment meeting the requirements above supports procedures specified in Service Bulletin Number 00-05-22-002L or newer – Brake Service and Procedures. Essential tool CH-47661 – Pro-Cut PFM 9.2 Auto-Compensating On-Car brake lathe meets the requirements above and supports Service Bulletin Numbers 00-05-22-002L or newer – Brake Service and Procedures and 03-05-23-005 – On-Car Brake Lathe for Colorado and Canyon trucks.

GM Equipment Recommendations

- Positive Rake tool holders and bits
- One pass finishing
- Single spindle speed, single feed rate

Tire Changers

GM Requirements

- Current design with operator protection features.
- Side-mounted bead breaking to reduce stress on wheel and tire.
- Protective devices which prevent damage during mounting and dismounting operations.
- Regulated air pressure to protect user and wheel assembly.
- Approved lubricant to avoid wheel slip and damage to tire and wheel.
- Run Flat capable (desired) without damage to wheel or tire.
- Operators properly trained and ASE certified (U.S. only) in wheel service.

GM Recommendations

- No metal contact at any point to the wheel including clamping jaws.
- Operators properly trained (desired) and certified on current low aspect ratio tires and EMT designs (Run Flat).

Wheel Balancers

GM Requirements*

- Unit must be a computerized model.
- Capable of static and dynamic wheel balance modes.
- User calibration functions.
- Cones and adapters in good working order to ensure wheel protection.
- Two-plane dynamic with accuracy to 0.1 ounce (2.83 g).
- Capable of balancing flangeless wheels, with adhesive weights.
- Operators properly trained and ASE certified (U.S. only) in wheel service.

*Equipment meeting the requirements above supports procedures specified in Service Bulletin Number 00-03-10-007G or newer – Shake/Vibration in Steering Wheel, Floor, Seat at Highway Speeds on Smooth Roads (Diagnose/Balance Tires/Wheels).

GM Recommendations

- Additional weight storage trays
- Printout capable
- Match mounting capability
- Capable of measuring free run out of assembly and optimizing results
- Capable of measuring force variation and optimizing results

Alignment Equipment

GM Requirements

- Computerized four wheel alignment system.
- Computer capable of printing before and after alignment reports.
- Racking system must have jacking capability.
- Racking system must be capable of level to 1/16” (1.59 mm).
- Appropriate wheel stops and safety certification.
- Wheel clamps capable of attaching to 20” or larger wheels.
- Racking capable of accepting any GM Passenger car or Light Duty Truck.
- Computer capable of time and date stamp printout.
- Operator properly trained and ASE Certified (U.S. only) in alignment.

GM Recommendations

- Racking should have front and rear jacking capability.
- Build in turn plates and slip plates

Coolant Exchangers

GM Requirements*

- All GM Dealers in areas which state/local ordinance prohibit unlawful discharge of used coolant must have a coolant exchanger.
- Must be “exchange/transfusion” style, where new coolant displaces (pushes) the old coolant out of the system, resulting in higher exchanger efficiency over vacuum style machines.
- Vacuum feature to allow easy “burping” of cooling system and less messy engine/cooling system R&R.
- If unit is a coolant exchanger/recycler combo, it must be a GM approved recycler if the recycled coolant is to be used in a vehicle under warranty.

*Coolant exchange equipment meeting the requirements above supports equipment requirement specified in Service Bulletin Number 00-06-02-006D or newer – DEX-COOL® Engine Coolant Information.

GM Recommendations

- Service complete alarm/light
- Back-flush feature

A/C Service Equipment

GM Requirements*

- Meets current SAE specifications.
- Single Gas (R-134a only)
- Automatic air purge system
- Charge accuracy +/- 1 oz (28.3 g).
- Recovery accuracy +/- 2 oz (56.7 g).
- Automatic oil purge
- Integrated gas identifier
- Maintenance-free vacuum pump
- Meets government regulations for refrigerant handling
- Operator properly trained and ASE Certified (U.S. only) in Air Conditioning

*Essential Tool J 43600 - ACR 2000 and GE-4800 CoolTech meet the requirements above and supports Service Bulletin Number 99-01-38-006B and 08-01-38-001 or newer – Essential Refrigerant Recovery/Recharge Equipment.

GM Recommendations

- Integrated flushing capabilities
- Modular design
- Enhanced diagnostic capabilities

Fluorescent Leak Dye Injector

GM Requirements:

- Ability to inject a charged system.
- Meet current SAE specs.
- Does not change oil charge amount over 2 oz (59.1 ml).

GM Recommendations:

- Limits amount of dye in a charge
- J 41459 - R-134a Tracer Dye Injector

Leak Dye

GM Requirements:

- Meet current SAE specs
- Meet OEM manufacturing requirements
- Fluorescence rate 3+ years
- Compatible with lubricant

GM Recommendations:

J 41447 - R-134a Tracer Dye

UV Lamp

GM Requirements:

- Meet current SAE specs
- UV wavelength range of 407-455 nanometers for A/C dyes
- UV wavelength compatible with other system dyes (engine oil, coolant, etc.)
- Luminance sufficient for outside use

GM Recommendations:

- Impact/shock-resistant design
- 12V DC
- Instantaneous on
- J42220 - Leak Detection Lamp

Leak Detection Equipment Electronic

GM Requirements:

- R12 and R134a detection
- 0.454 kg (1 lb) / 40 yrs. sensitivity
- Meet current SAE specs
- On-site reference accuracy validation

GM Recommendations:

- Heated anode
- Both audio and visual feed
- Variable scan rate
- User maintainable
- J46054 - Refrigerant Leak Detector

Emission Packages

GM Requirements:

- Meet state/provincial certification requirements
- Properly maintained

GM Recommendations:

- Wide wheelbase and weight limit to facilitate most vehicles
- Upgradeable to handle other grades of emissions tests (ASM, RG240, IG240, BAR1, etc.)
- High-speed, inertia and horsepower capabilities
- Maximum safety features such as locking wheel chocks, roll covers, and vehicle restraining systems
- Operator properly trained and ASE Certified (U.S. only) in emission service

Service Department Computers

GM Requirements:

- Techline requires 1 computer for every 2 technicians
- Business grade PCs, Laptops, or Tablets
- Business grade network components including wireless access points (when used)

To view a current United States (US) specification, go to www.gmdesolutions.com . Select the tab titled: Techline IT Solutions. In Canada, refer to the GM Canada Dealer Infrastructure Guidelines in the Service Library of GlobalConnect.

Business Grade PC Specifications

PCs that are not business grade are considered "non-supported hardware". Unlike a home grade PC, a business or commercial PC is specifically configured for use in a business network

environment. PCs in this class have components designed and supported for use in a network environment. Additionally, they have greater life cycle stability due to "designed-in" serviceability. Techline applications will not function properly on typical non-business grade hardware.

Important: Non Pentium processors such as Celeron®, Cyrix and AMD are NOT compatible with Techline software.