

KSFMO PROPANE INSPECTION CHECKLIST 58-04

KSFMO PROPANE INSPECTION CHECKLIST – 58-04

ITEM NO.	SAFETY FEATURE	REFERENCE	DESCRIPTION
APPLICABLE STATUTES AND REGULATIONS – GENERAL REQUIREMENTS			
INFO	Authority to inspect	KSA 31-133(1)	The state fire marshal shall adopt reasonable rules and regulations for the keeping, storage, use, sale, handling, and transportation of highly flammable materials.
INFO	LPG Installations	KAR 22-8-5	Plans for public LP-Gas service stations shall be submitted to the KSFM and the local authority having jurisdiction (when required) before installation is started.
INFO	Fixed installations	58-04/1.7	Plans for stationary installation utilizing storage container of over 2000 gallon wc or aggregate wc exceeding 4000 and all rooftop installations of ASME containers shall be submitted to the authority having jurisdiction by the person or company that either installs or contracts to have the containers installed before the installation is started.
INFO	Personnel qualifications	KAR 22-8-11	Persons who transfer liquid LP-Gas who are employed to transport LP-Gas, or whose primary duties fall within the scope of this code shall be trained in proper handling procedures. Refresher training shall be provided at least every three years. The training shall be documented.
INFO	Kansas Propane and Safety Act	KAR 22-8-2	The State Fire Marshal shall establish programs relating to the regulation and licensing of the LPG industry in Kansas.
STORAGE			
A-1	Containment marking	KAR 22-8-2 58-04/5.2.8.1	Containers shall be marked "FLAMMABLE" and either "LP-GAS", "LPG", "PROPANE", or "BUTANE" in at least 6-inch letters. Data plates shall be affixed to the container and readable. "NO SMOKING" signs shall be posted near the container area. A weatherproof sign shall be present at LP-Gas locations stating: (A) Owners Name, (B) Facility address (C) 24/7 Emergency number
A-2	Withdrawal openings	58-04/5.7.7.2.b	Liquid withdrawal openings in new installations shall be equipped with an internal valve equipped for remote closure and automatic shutoff using thermal (fire) actuation where the thermal element is located within 5 feet of internal valve.
A-3	Inlet openings	58-04/5.7.7.2 (F)(2)	Liquid inlet openings in new installations shall be equipped with a shutoff valve that is located as close to the container as practical in combination with a backflow check valve designed for the intended application and is installed in the container.

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ITEM NO.	SAFETY FEATURE	REFERENCE	DESCRIPTION
A-4	Gauges	58-04/5.7.8	Every container constructed after December 31, 1965 and designed to be filled on a volumetric basis shall be equipped with a fixed maximum liquid level gauge(s) to indicate the maximum filling level(s) for the service(s) in which the container is used or filled.
A-5	Underground container installation	58-04/4.6.6.6	ASME container assemblies for underground installation shall be listed for such service.
A-6	Automatic shut off valves	58-04/5.7.7.2 C&D	Internal valves installed in containers equipped for remote closure and automatic shutoff using thermal fire actuation by July 1, 2003 and on all tanks by July 1, 2011. For containers of 4000 wc.
A-7	Aboveground tank installation	58-04/6.6.3.1	Horizontal ASME containers designed for permanent installation in stationary service aboveground shall be placed on masonry or other noncombustible structural supports located on concrete or masonry foundation with container supports as listed in this section of the code.
A-8	Container position	58-04/6.6.1.5	ASME container shall be installed so that all container operating appurtenances are accessible.
A-9	Container protection	58-04/6.6.1.2	LP-Gas containers or systems of which they are a part shall be protected from damage from vehicles.
A-10	Valve protection	58-04/8.2.2.2	Cylinder valves shall be protected as required in 2.2.4.1. Screw-on type cap or collar shall be in place on all cylinders stored, regardless of whether full, partially full or empty and cylinder outlet valves shall be closed, plugged or capped.
A-11	Rain caps	58-04/6.7.2.5	Rain caps other means shall be provided to minimize the possibility of the entrance of water or other extraneous matter into the relief device or any discharge piping. The rain cap or other protection shall be designed to stay in place except during relief operations and should not restrict relief device flow and 7 feet above container.
A-12	Container painting	58-04/6.6.1.4	Aboveground containers shall be painted.
A-13	Combustible storage, weeds, grass, trash	58-04/6.6.3.7	Loose or piled combustibles, weeds, long dry grass shall not be permitted within 10 feet of any container
A-14	Container/dike	58-04/6.4.5.4	LP-Gas containers shall be located at least 10 feet from the centerline of the wall of diked containing flammable or combustible liquids
A-15	Container/fuels	58-04/6.4.5.5	Containers shall be located at least 20 feet from flammable or combustible liquid AST.

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A-16	Container welding	58-04/5.2.1.6	Repairs and alterations of containers shall comply with the code under these sections.
A-17	Corrosion protection	58-04/6.6.3.5	Containers in contact with saddles or foundations or masonry shall be coated or protected to minimize corrosion.
A-18	Vertical storage containers	58-04/6.6.4.1	Vertical containers over 125 gallon wc that are designed for permanent, stationary installation aboveground shall be installed on reinforced concrete or steel structure supports on reinforced concrete foundation designed to meet code 5.2.4.3 also applied.
A-19	Support protection	58-04/6.6.3.1	Steel supports shall be protected from fire exposure by materials with at least 2 hour fire resistance rating.
A-20	Relief devices	58-04/Chpt.5	Pressure relief devices, container shutoff valves, backflow check valves, excess flow check valves, plugs, liquid level gauges, and overfilling prevention devices that are used individually or in suitable combination shall comply with Chapter 5.
A-21	Containers awaiting use or resale/storage	58-04/Chpt.8	Cylinders in storage shall be located to minimize exposure to excessive temperature rises, physical damage, or tampering.
A-22	Emergency shutoff valve	58-04/6.9.4 6.9.5 6.10.9	Emergency shutoff valves shall be installed on liquid and vapor transfer lines of the fixed piping. Annual testing of the ESV shall be required and documented. Manually operated remote shutoff location and properly marked and not less than 25 feet and or more than 100 feet in the path of egress and shall be properly marked.
A22a	Security	58-04/6.16.5.2 6.16.5.3	Enclose in a 6 ft high chain link type fence with two means of egress or provide an approved valve locking device.
TRANSFER			
A-23	Pipe requirement	58-04/5.8.1	Pipe shall be wrought iron, steel (black or galvanized), brass, copper, or polyethylene and shall comply with ASME requirements.
A-24	Non-container valves	58-04/Chpt 6	Manual shutoff valves, emergency shutoff valves, excess-flow check valves, and backflow check valves used in piping shall be listed for such use
A-25	Hose and connectors	58-04/5.8.6.4	Hose and quick connectors shall be approved for LPG usage.

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A-26	Liquid transfer location	58-04/6.16.2	Containers located outdoors in stationary installation in accordance with 6.16.2.1 and with the point of transfer located at the container shall be permitted. If the point of transfer is not located at the container, it shall be in accordance with fact sheet LPG 1.																																							
A-27	Excess flow check valve	58-04/5.7.7	Container appurtenances other than pressure relief devices shall be installed and protected.																																							
A-28	Point of transfer	58-04/6.5.3	<p>If the point of transfer is not located at the container or the container is not stationary position, the distance between the point of transfer and the exposures shall be as follows:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Part</th> <th style="text-align: left;">Exposure</th> <th style="text-align: left;">Min horiz. distance</th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">A</td> <td>Building¹ with fire-resistive walls</td> <td>10 feet</td> </tr> <tr> <td style="text-align: left;">B</td> <td>Building with other than fire-resistive walls²</td> <td>25 feet</td> </tr> <tr> <td style="text-align: left;">C</td> <td>Building wall openings or pits at or below the level of the point of transfer</td> <td>25 feet</td> </tr> <tr> <td style="text-align: left;">D</td> <td>Line of adjoining property that can be built on</td> <td>25 feet</td> </tr> <tr> <td style="text-align: left;">E</td> <td>Outdoor places of public assembly-school yards, athletic fields, playgrounds</td> <td>50 feet</td> </tr> <tr> <td style="text-align: left;">F</td> <td>Public ways-streets, highways, sidewalks, thoroughfares:</td> <td></td> </tr> <tr> <td style="text-align: left;"> A</td> <td>From point of transfer in LPG dispensing stations and vehicles fuel dispensers</td> <td>10 feet</td> </tr> <tr> <td style="text-align: left;"> B</td> <td>From other points of transfer</td> <td>25 feet</td> </tr> <tr> <td style="text-align: left;">G</td> <td>Driveways⁴</td> <td>5 feet</td> </tr> <tr> <td style="text-align: left;">H</td> <td>Mainline railroad tracks centerlines</td> <td>25 feet</td> </tr> <tr> <td style="text-align: left;">I</td> <td>Flammable and Class 2 combustible liquids dispensers⁵</td> <td>10 feet</td> </tr> <tr> <td style="text-align: left;">J</td> <td>Dispensers and aboveground and underground containers</td> <td>20 feet</td> </tr> </tbody> </table> <p>Notes:</p> <ol style="list-style-type: none"> 1. Buildings, for the purpose of the table, include structures such as mobile homes, tents and box trailer at construction sites 2. Walls constructed of noncombustible materials having, as erected, a fire resistance rating of at least one hour as determined by NFPA 251. 3. Not applicable to driveways and points of transfer at vehicle fuel dispensers 4. Not applicable to filling connections at the storage container or to dispensing vehicle fuel dispenser's unit's 2000 gallon wc or less when used for filling containers not mounted upon vehicles. 5. NFPA 30 defines these as follows: Flammable liquids including those having a flash point below 100 F and having a vapor pressure not exceeding 40 lb per sq. in. (absolute) at 100 F. Class II combustible liquids include those having a flash point at or above 100 F and below 140 F. 	Part	Exposure	Min horiz. distance	A	Building ¹ with fire-resistive walls	10 feet	B	Building with other than fire-resistive walls ²	25 feet	C	Building wall openings or pits at or below the level of the point of transfer	25 feet	D	Line of adjoining property that can be built on	25 feet	E	Outdoor places of public assembly-school yards, athletic fields, playgrounds	50 feet	F	Public ways-streets, highways, sidewalks, thoroughfares:		A	From point of transfer in LPG dispensing stations and vehicles fuel dispensers	10 feet	B	From other points of transfer	25 feet	G	Driveways ⁴	5 feet	H	Mainline railroad tracks centerlines	25 feet	I	Flammable and Class 2 combustible liquids dispensers ⁵	10 feet	J	Dispensers and aboveground and underground containers	20 feet
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ITEM NO.	SAFETY FEATURE	REFERENCE	DESCRIPTION
A-29	Flex connector	58-04/5.8.6	Flex connector shall be provided between the pumps and containers and between container to compensate for expansion, contraction, jarring and vibration.
A-30	Piping support and protection	58-04/6.8.3.10 6.8.3.11	Aboveground piping shall be supported and protected against physical damage by vehicles. The portion of aboveground piping in contact with a support or a corrosion causing substance shall be protected against corrosion.
A-31	Emergency shutoff valves	58-04/6.10.1	All liquid lines 1 ½ in. or larger and vapor piping 1 ¼ in. or larger shall have a proper emergency shutoff valve (ESV). Emergency valves must incorporate a manual shutoff from remote location and be clearly identified. The owner shall demonstrate proper operation of the ESV. See fact sheet number LPG 2.
A-33	Hydrostatic relief valves	58-04/6.11	Hydrostatic relief valves shall be installed in liquid piping between shutoff valves.
A-34	Piping leak test	58-04/6.12	Piping systems (including hose) shall be tested and proven leak free.
A-35	Pumps and compressors	58-04/5.15	Pumps and compressors shall be provided with an operating control or disconnect switch located nearby.
A-36	Backflow check valve	58-04/5.7.7	Pressure relief devices, container shutoff valves, backflow check valves, internal valves, excess flow check valves, plugs, liquid level gauges, and overflow protection devices.

OPERATIONS

A-43	Lighting	58-04/6.16.6	If operations are normally conducted during other than daylight hours, lighting shall be provided to illuminate storage containers, containers being loaded, control valves, and other equipment.
A-44	Electrical equipment	58-04/6.20.2	Electrical equipment and wiring shall be the type and specified by and installed in accordance with NFPA 70 National Electric Code.
A-45	Ignition source control	58-04/6.20	Minimization of ignition of flammable LPG-air mixtures resulting from the normal or accidental release of nominal quantities of the liquid or vapors from the LPG system.
A-46	Other ignition sources	58-04/6.20.3	Pump house, container filling rooms, other similar locations shall be free of open flames or other sources of ignition including direct and indirect fired vaporizers.
A-47	Fire extinguishers	58-04/6.23.4.2	Each industrial plant, bulk plant, and dispensing point shall be provided with at least one approved portable fire extinguisher having a minimum capacity of 18 lb BC rating.

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ITEM NO.	SAFETY FEATURE	REFERENCE	DESCRIPTION
A-48	Fire extinguisher annual servicing	58-04/8.5	Fire extinguishers shall be subjected to maintenance intervals of not more than one year, or at time of hydrostatic test.

BOBTAIL VEHICLES

B-1	Gauges	58-04/9.4	All containers filled by volume shall be equipped with fixed level or variable gauges of the slip tube, rotary tube or float type. Every container constructed after December 31, 1065 shall be equipped with a fixed level gauge to indicate maximum filling level for service in which container is used. Every container over 2000 gallons wc shall have a temperature and pressure gauge.
B-2	Relief device installation	58-04/9.4.3.4	Cylinders shall be equipped with pressure relief valves as required by DOT regulations.
B-3	Liquid and vapor	58-04/9.4.1.3	Both liquid and vapor piping must be properly marked.
B-4	Emergency shutoff valves	58-04/9.4.3.4	Valves including shutoff valves, excess flow valves, backflow check valves, and remotely controlled valves used in the piping shall comply with DOT cargo vehicle specifications.
B-5	Piping, fittings, valves	58-04/9.4.3	Pipe, tubing, pipe and tubing fittings, valves, hose, and flex connectors shall comply with provisions of DOT cargo tank vehicle specifications.
B-6	Hydrostatic relief valve	58-04/9.4.3	Hydrostatic relief valves shall be installed in liquid piping between the shutoff valves.
B-7	Piping leak test	58-04/9.4.3.5	Piping systems including hoses shall be tested and proven leak free.
B-8	Pumps and compressor	58-04/9.4.4.4	Pumps and compressors shall be provided with an operating control or disconnect switch located near by.
B-9	Container testing	58-04/9.4.1.3 DOT	Pressure testing every five years (P). Visual and leak test every year (VK). Must display legibly on truck month/year when test was conducted.
B-10	Piping support	58-04/9.4.3	Piping shall be well supported and protected against physical damage and corrosion.

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ITEM NO.	SAFETY FEATURE	REFERENCE	DESCRIPTION
B-11	Bobtail markings	58-04/9.3.7.3	All bobtails shall be placarded on all four sides with a DOT current placard along with PROPANE or LIQUEFIED PETROLEUM GAS also located on all four sides. All piping must be marked. All lettering and placards must be securely attached and shall be maintained legibility visible.
B-12	Fire extinguisher	58-04/9.4.7	Each bobtail shall have at least one 18 lb BC rated approved portable fire extinguisher. Fire extinguishers must be inspected and tagged on a yearly basis.
B-13	Chock block	58-04/9.4.8	Each bobtail shall carry chock blocks which shall be used to prevent the rolling of the vehicle whenever the vehicle is loading, unloading, or parked.
B-14	Smoking prohibition	58-04/9.4.10	No person shall smoke or carry lighted smoking material on or within 25 ft. of the bobtail. This shall apply at points of transfer and while delivering or connecting to containers.
B-15	Flex connectors	58-04/9.4.3.6	Flex connectors shall be permanently marked to indicate the date of assembly. The flexible part of the connector must be replaced every six years.
B-16	Remote shutoff	DOT	Every bobtail must be equipped with a remote shutoff by 7/2006.
B-17	Delivery hoses	58-04/5.8.6.3	All delivery hoses are marked for LPG use with ID number and working pressure.
B-18	Fusible link	DOT	Fusible elements installed close to internal valve. Required on all MC330 and NC331.
B-19	Written emergency procedures and bill of lading	DOT	Must have in cab both a written emergency procedure for both a leak or fire and a Bill of Lading.
PUBLIC EXCHANGE CABINETS			
C-1	Cabinet location	58-04/8.4.1.1 KAR 22-8-17	All outside storage cabinets for 20-pound LP Gas public exchange must be located at least 10 ft. from any doorway or opening in a building or sections of a building with one means of egress and 5 ft with two means of egress and 20 ft from any automotive fueling dispenser.
C-2	Cabinet security	58-04/8.4.2.1	Cylinders at a location open to the public protected by a lockable ventilated metal locker or cabinet that prevents tampering with valves or pilferage of the cylinders

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C-3	Cabinet protection	58-04/8.4.2.2	Vehicle impact protection shall be provided in accordance with good engineering practices where normal vehicle traffic is expected for the facility.
C-4	Security caps	58-04/8.2.2.2	Caps or collars shall be placed on all stored cylinders regardless of being full or empty. All cylinders valves must be closed and capped.
C-5	Cabinet signage	KAR 22-8-17	All lockers or cabinets will be marked properly with product name and all warning material posted and maintained legibility. All company information including a 24/7 emergency number must be posted on each cabinet.
C-6	Cylinder signage	58-04/5.2.8.4	All warning labels and information potential hazards must be affixed to each cylinder.
C-7	Cylinder condition	58-04/5.2	All cylinders awaiting resale or exchange must meet ASTM specifications, painted, no rust on cylinders, all information stamped on collar, hydro test, OPD valve, etc.

VEHICLE AND DISPENSING STATIONS

D-1	Dispensing stations/ locations	58-04/6.22	Shall be in accordance with 6.22.4.3
D-2	Dispenser installation	58-04/6.22.3.4	Installation is only allowed outside or under a canopy or weather shelter provides adequately vented and less than 50% of the perimeter is enclosed.
D-3	Dispenser anchored installation	58-04/6.22.3.9	Vehicle fuel dispensers shall be installed on a concrete foundation and securely bolted in place. Protection from physical damage, including collision, shall be required.
D-4	Location	58-04/6.22	Vehicle dispensers shall not be located on the same island as a gasoline dispenser.
D-5	Dispenser hoses	58-04/6.22.4.1	Dispensing hose shall have an excess flow check valve or an emergency shut off valve installed at the end of the liquid pipe at the point of attachment of the dispensing hoses. Hose length is no longer than 18 ft and shall be listed for LP use.
D-6	Hydrostatic valve	58-04/6.22.3.6	ESV shall be installed in the liquid piping between shutoff valves.
D-7	Valves	58-04/6.22.3.5	Manual shutoff valve and an excess flow valve shall be located in the liquid line between the pump and the dispenser inlet.
D-8	Transfer hose	58-04/6.22.3.10	A listed quick acting shutoff valve shall be installed at the

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	and safety		discharge end of the transfer hose.
D-9	Emergency breakaways	58-04/6.22.4.2	A listed LP Gas emergency breakaway device shall be installed on the transfer hose.
D-10	Security	58-04/6.22.3.7	Provide fencing for the storage tanks or approved locking of valve devices.
D-11	Emergency shut off switches	58-04/6.22.3.11	Clearly identified and accessible switches shall be provided at a remote location from the vehicle fueling dispenser to shut off power. Distances are no closer than 20 ft and no further than 100 ft.

D-12	Signage	KSA 31-133	Warning signs shall be conspicuously posted in the dispensing area with the following: FLAMMABLE and either PROPANE or LP-GAS or BUTANE. NO SMOKING and STOP MOTOR at the storage tanks, Company Name, 24/7 emergency number, address of the facility and all warning signs on the tanks.
D-13	Dispenser wiring	58-04/6.20.2.1	All wiring of the dispenser area must conform to NFPA 70.

STATE PROPANE AND SAFETY ACT

E-1	Licensing requirements	KAR 22-8-10	Proper licensing of facility for current year posted and for each classification
E-2	Educational requirements	KAR 22-8-11	Proper training for each employee involved in handling LPG. Each employee must be trained to the level or duties performing.
E-3	Dispenser wiring	KAR 22-8-10	One million dollars general liability insurance policy is currently in effect.

