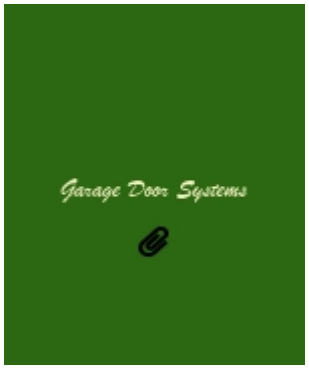
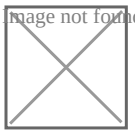


- Creating an Annual Garage Door Maintenance Calendar
  Creating an Annual Garage Door Maintenance Calendar Visual Inspection Points for Door Hardware Lubrication Guide for Rollers Hinges and Springs Testing Door Balance Without Removing Hardware Checking Safety Reverse Function for Compliance Tightening Hardware to Reduce Door Noise Cleaning Tracks for Smooth Door Travel Seasonal Adjustments for Garage Door Operation Logging Cycle Counts to Predict Part Replacement Evaluating Weather Seals During Routine Service Documenting Maintenance for Warranty Protection Preparing Your Garage Door for Winter Conditions
- Decoding UL 325 Requirements for Garage Door Systems
  Decoding UL 325 Requirements for Garage Door Systems Understanding ANSI DASMA Standards for Safe Operation Key Points of EN 13241 in Residential Door Installations Importance of Auto Reverse in Preventing Injuries Manual Release Functions Every Owner Should Know Sensor Alignment Procedures for Reliable Safety Conducting Monthly Safety Tests on Garage Doors Training Technicians on Lockout Tagout Procedures Compliance Checklist for Commercial Garage Door Projects Impact of New Regulations on Smart Door Upgrades Documenting Safety Inspections for Insurance Claims Educating Homeowners on Everyday Door Safety Practices
- About Us

Impact of New Regulations on Smart Door Upgrades

The impact of new regulations on smart door upgrades is a topic that has gained significant attention in recent years, particularly as smart home technology becomes more integrated into everyday life. As governments and regulatory bodies worldwide strive to balance innovation with consumer safety and privacy, the landscape for smart door systems is evolving rapidly.

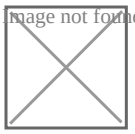
Smart doors, equipped with features like biometric scanning, remote access control, and integration with home automation systems, offer homeowners unparalleled convenience and security. However, these technological advancements also bring about concerns regarding data privacy, cybersecurity, and physical safety standards. This is where new regulations come into play, shaping how these devices are developed, sold, and used.



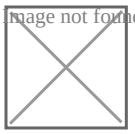
One of the primary impacts of these regulations is on the design phase of smart door upgrades. Manufacturers must now adhere to stringent standards that ensure their products meet specific security protocols. For instance, regulations might require encryption standards for data transmission or mandate that biometric data be stored securely within the device rather than in cloud systems vulnerable to hacking. These requirements push companies towards more robust design practices but can also

increase development costs and time-to-market.

From a consumer perspective, new regulations often translate into enhanced trust in smart door technologies. Knowing that their devices comply with strict guidelines gives homeowners peace of mind regarding their personal datas security. However, this compliance isnt without its trade-offs. The cost of incorporating advanced security measures can lead to higher prices for consumers. While some might view this as a necessary investment for enhanced security, others might find it prohibitive.



Installation and maintenance are other areas significantly affected by regulatory changes. New rules might dictate that installations must be performed by certified professionals who understand both the technical aspects of the devices and the legal implications of improper installation. This requirement ensures quality but could limit DIY enthusiasts or small-scale operations from engaging in this market unless they obtain proper certifications.



Moreover, ongoing maintenance under these new regulations often includes mandatory updates to firmware or software to address emerging security threats or compliance issues. This shift towards continuous improvement ensures that smart doors remain secure against evolving cyber threats but also means that consumers need to be aware of update procedures or face potential vulnerabilities if neglected.

Interestingly, regulations can also spur innovation by setting high benchmarks which encourage companies to differentiate themselves through superior technology or user experience while still meeting compliance standards. For example, a company might develop a proprietary encryption method that exceeds regulatory requirements as a selling point.

On the downside, over-regulation could stifle smaller companies or startups from entering the market due to the high barrier of entry created by compliance costs and expertise needed. This could potentially reduce competition and slow down innovation in less affluent regions where resources for R&D are limited.

In conclusion, while the impact of new regulations on smart door upgrades predominantly enhances consumer safety and privacy by enforcing higher standards across the board, it also presents challenges in terms of cost, accessibility, and market dynamics. Balancing these aspects requires ongoing dialogue between regulators, manufacturers, installers,. As technology continues to advance at a breakneck pace,.

Compliance Checklist for Commercial Garage Door Projects

About Maintenance

"Repair" and "repairman" redirect here. For home repair, see Home repair.
For the Wikipedia administrative page, see Wikipedia:Maintenance.
For other topics about maintenance, see Maintenance (disambiguation).

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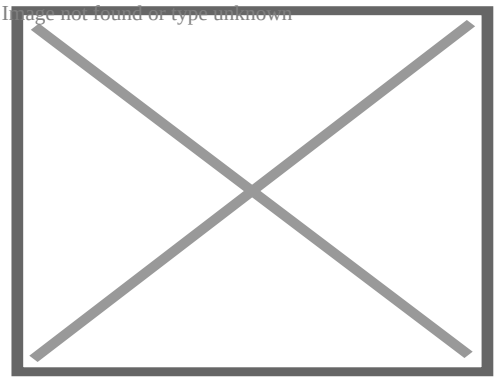

A tractor being mechanically repaired in Werneuchen, 1966

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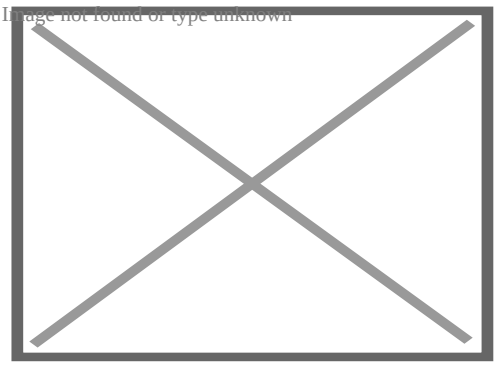


Field repair of aircraft engine (1915–1916)

The technical meaning of **maintenance** involves functional checks, servicing, repairing or replacing of necessary devices, equipment, machinery, building infrastructure and supporting utilities in industrial, business, and residential installations.[1][2] Terms such as "predictive" or "planned" maintenance describe various cost-effective practices aimed at keeping equipment operational; these activities occur either before[3] or after a potential failure.

Definitions

[edit]

Maintenance functions can be defined as **maintenance, repair and overhaul** (**MRO**), and MRO is also used for **maintenance, repair and operations**.[4] Over time, the terminology of maintenance and MRO has begun to become standardized. The United States Department of Defense uses the following definitions:[5]

- Any activity—such as tests, measurements, replacements, adjustments, and repairs—intended to retain or restore a functional unit in or to a specified state in which

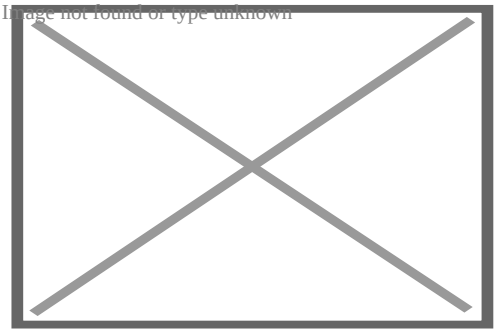
the unit can perform its required functions.[5]
- All action taken to retain material in a serviceable condition or to restore it to serviceability. It includes inspections, testing, servicing, classification as to serviceability, repair, rebuilding, and reclamation.[5]
- All supply and repair action taken to keep a force in condition to carry out its mission.[5]
- The routine recurring work required to keep a facility (plant, building, structure, ground facility, utility system, or other real property) in such condition that it may be continuously used, at its original or designed capacity and efficiency for its intended purpose.[5]

Maintenance is strictly connected to the utilization stage of the product or technical system, in which the concept of maintainability must be included. In this scenario, maintainability is considered as the ability of an item, under stated conditions of use, to be retained in or restored to a state in which it can perform its required functions, using prescribed procedures and resources.[6]

In some domains like aircraft maintenance, terms *maintenance*, *repair and overhaul*[7] also include inspection, rebuilding, alteration and the supply of spare parts, accessories, raw materials, adhesives, sealants, coatings and consumables for aircraft maintenance at the utilization stage. In international civil aviation maintenance means:

- The performance of tasks required to ensure the continuing airworthiness of an aircraft, including any one or combination of overhaul, inspection, replacement, defect rectification, and the embodiment of a modification or a repair.[8]

This definition covers all activities for which aviation regulations require issuance of a maintenance release document (aircraft certificate of return to service – CRS).



Road repair

Types

[edit]

The marine and air transportation,[9] offshore structures,[10] industrial plant and facility management industries depend on *maintenance*, *repair and overhaul* (MRO) including scheduled or preventive paint maintenance programmes to maintain and restore coatings applied to steel in environments subject to attack from erosion, corrosion and environmental pollution.[10]

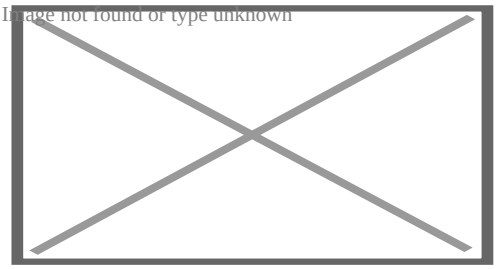
The basic types of maintenance falling under MRO include:

- Preventive maintenance, where equipment is checked and serviced in a planned manner (in a scheduled points in time or continuously)
- Corrective maintenance, where equipment is repaired or replaced after wear, malfunction or break down
- Reinforcement[11]

Architectural conservation employs MRO to preserve, rehabilitate, restore, or reconstruct historical structures with stone, brick, glass, metal, and wood which match the original constituent materials where possible, or with suitable polymer technologies when not.[12]

Preventive maintenance

[edit]



C-130J Hercules preventive cleaning at Keesler Air Force Base, Mississippi after a period of operation over the Gulf of Mexico (salt and moisture which lead to active corrosion require regular cleaning)

Preventive maintenance (**PM**) is "a routine for periodically inspecting" with the goal of "noticing small problems and fixing them before major ones develop."[13] Ideally, "nothing breaks down."[14]

The main goal behind PM is for the equipment to make it from one planned service to the next planned service without any failures caused by fatigue, extreme fluctuation in temperature(such as heat waves[15]) during seasonal changes, neglect, or normal wear (preventable items), which Planned Maintenance and Condition Based Maintenance help to achieve by replacing worn components before they actually fail. Maintenance activities include partial or complete overhauls at specified periods, oil changes, lubrication, minor adjustments, and so on. In addition, workers can record equipment deterioration so they know to replace or repair worn parts before they cause system failure.

The New York Times gave an example of "machinery that is not lubricated on schedule" that functions "until a bearing burns out." Preventive maintenance contracts are generally a fixed cost, whereas improper maintenance introduces a variable cost: replacement of major equipment.[13]

Main objective of PM are:

1. Enhance capital equipment productive life.
2. Reduce critical equipment breakdown.
3. Minimize production loss due to equipment failures.

Preventive maintenance or **preventative[16] maintenance** (**PM**) has the following meanings:

- The care and servicing by personnel for the purpose of maintaining equipment in satisfactory operating condition by providing for systematic inspection, detection, and correction of incipient failures either before they occur or before they develop into major defects.
- The work carried out on equipment in order to avoid its breakdown or malfunction. It is a regular and routine action taken on equipment in order to prevent its breakdown.[17]
- Maintenance, including tests, measurements, adjustments, parts replacement, and cleaning, performed specifically to prevent faults from occurring.

Other terms and abbreviations related to PM are:

- scheduled maintenance[18]
- planned maintenance,[19] which may include scheduled downtime for equipment replacement
- planned preventive maintenance (PPM) is another name for PM[20]
- breakdown maintenance:[20] fixing things only when they break. This is also known as "a reactive maintenance strategy"[21] and may involve "consequential damage."[22]

Planned maintenance

[edit]

"Routine maintenance" redirects here. For the album by Aaron West and the Roaring Twenties, see Routine Maintenance (album).

Planned preventive maintenance (PPM), more commonly referred to as simply **planned maintenance** (**PM**) or **scheduled maintenance**, is any variety of scheduled maintenance to an object or item of equipment. Specifically, planned maintenance is a scheduled service visit carried out by a competent and suitable agent, to ensure that an item of equipment is operating correctly and to therefore avoid any unscheduled breakdown and downtime.[23]

The key factor as to when and why this work is being done is timing, and involves a service, resource or facility being unavailable.[18][19] By contrast, condition-based maintenance is not directly based on equipment age.

Planned maintenance is preplanned, and can be date-based, based on equipment running hours, or on distance travelled.

Parts that have scheduled maintenance at fixed intervals, usually due to wearout or a fixed shelf life, are sometimes known as time-change interval, or TCI items.

Predictive maintenance

[edit]

Main article: Predictive maintenance

Predictive maintenance techniques are designed to help determine the condition of in-service equipment in order to estimate when maintenance should be performed. This approach promises cost savings over routine or time-based preventive maintenance, because tasks are performed only when warranted. Thus, it is regarded as condition-based maintenance carried out as suggested by estimations of the degradation state of an item. The main promise of predictive maintenance is to allow convenient scheduling of corrective maintenance, and to prevent unexpected equipment failures.[3] This maintenance strategy uses sensors to monitor key parameters within a machine or system, and uses this data in conjunction with analysed historical trends to continuously evaluate the system health and predict a breakdown before it happens.[24] This strategy allows maintenance to be performed more efficiently, since more up-to-date data is obtained about how close the product is to failure.[25]

Predictive replacement is the replacement of an item that is still functioning properly.[26] Usually it is a tax-benefit based [*citation needed*] replacement policy whereby expensive equipment or batches of individually inexpensive supply items are removed and donated on a predicted/fixed shelf life schedule. These items are given to tax-exempt institutions.[27][*citation need*

Condition-based maintenance

[edit]

Condition-based maintenance (**CBM**), shortly described, is maintenance when need arises. Albeit chronologically much older, It is considered one section or practice inside the broader and newer predictive maintenance field, where new AI technologies and connectivity abilities are put to action and where the acronym CBM is more often used to describe 'condition Based Monitoring' rather than the maintenance itself. CBM maintenance is performed after one or more indicators show that equipment is going to fail or that equipment performance is deteriorating.

This concept is applicable to mission-critical systems that incorporate active redundancy and fault reporting. It is also applicable to non-mission critical systems that lack redundancy and

fault reporting.

Condition-based maintenance was introduced to try to maintain the correct equipment at the right time. CBM is based on using real-time data to prioritize and optimize maintenance resources. Observing the state of the system is known as condition monitoring. Such a system will determine the equipment's health, and act only when maintenance is actually necessary. Developments in recent years have allowed extensive instrumentation of equipment, and together with better tools for analyzing condition data, the maintenance personnel of today is more than ever able to decide what is the right time to perform maintenance on some piece of equipment. Ideally, condition-based maintenance will allow the maintenance personnel to do only the right things, minimizing spare parts cost, system downtime and time spent on maintenance.

Challenges

[edit]

Despite its usefulness of equipment, there are several challenges to the use of CBM. First and most important of all, the initial cost of CBM can be high. It requires improved instrumentation of the equipment. Often the cost of sufficient instruments can be quite large, especially on equipment that is already installed. Wireless systems have reduced the initial cost. Therefore, it is important for the installer to decide the importance of the investment before adding CBM to all equipment. A result of this cost is that the first generation of CBM in the oil and gas industry has only focused on vibration in heavy rotating equipment.

Secondly, introducing CBM will invoke a major change in how maintenance is performed, and potentially to the whole maintenance organization in a company. Organizational changes are in general difficult.

Also, the technical side of it is not always as simple. Even if some types of equipment can easily be observed by measuring simple values such as vibration (displacement, velocity or acceleration), temperature or pressure, it is not trivial to turn this measured data into actionable knowledge about the health of the equipment.

Value potential

[edit]

As systems get more costly, and instrumentation and information systems tend to become cheaper and more reliable, CBM becomes an important tool for running a plant or factory in an optimal manner. Better operations will lead to lower production cost and lower use of resources. And lower use of resources may be one of the most important differentiators in a future where environmental issues become more important by the day.

Another scenario where value can be created is by monitoring the health of a car motor. Rather than changing parts at predefined intervals, the car itself can tell you when something needs to be changed based on cheap and simple instrumentation.

It is Department of Defense policy that condition-based maintenance (CBM) be *"implemented to improve maintenance agility and responsiveness, increase operational availability, and reduce life cycle total ownership costs".[28]*

Advantages and disadvantages

[edit]

CBM has some advantages over planned maintenance:

- Improved system reliability
- Decreased maintenance costs
- Decreased number of maintenance operations causes a reduction of human error influences

Its disadvantages are:

- High installation costs, for minor equipment items often more than the value of the equipment
- Unpredictable maintenance periods cause costs to be divided unequally.

- Increased number of parts (the CBM installation itself) that need maintenance and checking.

Today, due to its costs, CBM is not used for less important parts of machinery despite obvious advantages. However it can be found everywhere where increased safety is required, and in future will be applied even more widely.[29][30]

Corrective maintenance

[edit]
Main article: Corrective maintenance

Corrective maintenance is a type of maintenance used for equipment after equipment break down or malfunction is often most expensive – not only can worn equipment damage other parts and cause multiple damage, but consequential repair and replacement costs and loss of revenues due to down time during overhaul can be significant. Rebuilding and resurfacing of equipment and infrastructure damaged by erosion and corrosion as part of corrective or preventive maintenance programmes involves conventional processes such as welding and metal flame spraying, as well as engineered solutions with thermoset polymeric materials.[31]

See also

[edit]
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Look up ***repair*** or ***revamping*** in Wiktionary, the free dictionary.

- Active redundancy – Design concept
- Aircraft maintenance – Performance of tasks which maintain an aircraft's airworthiness
- Aircraft maintenance checks – Periodic scheduled inspection performed on aircraft to keep it airworthy
- Auto maintenance – Periodic maintenance of motor vehicles
- Bicycle maintenance – tools specifically for working on bicycles
- Bus garage – Storage and maintenance facility

- Darning – Sewing technique for repairing holes or worn areas in fabric or knitting using needle and thread
- Department of Defense Dictionary of Military and Associated Terms
- Design for repair – Procedure and discipline in various fields
- Fault reporting – Maintenance concept
- Intelligent maintenance system – System that uses collected data from machinerys
- Kludge – Unmaintainable solution
- Logistics center – hub for logistics
- Maintainability – Ease of maintaining a functioning product or service
- Motive power depot – Rail yard for cleaning, repairing and maintaining locomotives
- Operational availability – Measurement of the actual versus predicted uptime of a system
- Operational maintenance – Basic maintenance done by operators of the equipment
- Predictive maintenance – Method to predict when equipment should be maintained
- Product lifecycle – Duration of processing of products from inception, to engineering, design & manufacture
- Prognostics – prediction of the time at which a system or a component will malfunction
- RAMS – Engineering characterization of a product or system
- Reliability centered maintenance – Concept of maintenance planning
- Reliability engineering – Sub-discipline of systems engineering that emphasizes dependability
- Repair shop
- Remanufacturing – Rebuilding of product to original manufactured product using combo of reused and new parts
- Right to repair – Legal right and movement
- Total productive maintenance – Maintenance management methodology
- Value-driven maintenance

References

[edit]

1. ^ *"Defense Logistics Agency". DLA.mil. Retrieved 5 August 2016.*

2. **^** *"European Federation of National Maintenance Societies". EFNMS.org. Retrieved 5 August 2016. "All actions which have the objective of retaining or restoring an item in or to a state in which it can perform its required function. These include the combination of all technical and corresponding administrative, managerial, and supervision actions."*
3. ^ ***a b*** *Ken Staller. "Defining Preventive & Predictive Maintenance".*
4. **^** *"MRO – Definition". RF System Lab.*
5. ^ ***a b c d e*** Federal Standard 1037C and from MIL-STD-188 and from the Department of Defense Dictionary of Military and Associated Terms
6. **^** *"AAP-6 – Glossary of terms and definitions". NATO Standardization Agency. North Atlantic Treaty Organization: 158.*
7. **^** United States Code of Federal Regulations Title 14, Part 43 – Maintenance, Preventive Maintenance, Rebuilding, and Alteration
8. **^** *Airworthiness Manual, Doc 9760 (3 ed.). Montreal (Canada): International Civil Aviation Organization. 2014. p. 375. ISBN 978-92-9249-454-4. Archived from the original on 2018-09-01. Retrieved 2018-02-18. "The Airworthiness Manual (Doc 9760) contains a consolidation of airworthiness-related information previously found in other ICAO documents ... provides guidance to States on how to meet their airworthiness responsibilities under the Convention on International Civil Aviation. This third edition is presented based on States' roles and responsibilities, thus as State of Registry, State of the Operator, State of Design and State of Manufacture. It also describes the interface between different States and their related responsibilities. It has been updated to incorporate changes to Annex 8 to the Chicago Convention — Airworthiness of Aircraft, and to Annex 6 — Operation of Aircraft"*
9. **^** *Berendsen, A. M.; Springer (2013). Marine Painting Manual (1st ed.). ISBN 978-90-481-8244-2.*
10. ^ ***a b*** *ISO 12944-9:2018 – Paints and Varnishes – Corrosion Protection of Steel Structures by Protective Paint Systems – Part 9: Protective Paint Systems and Laboratory Performance Test Methods for Offshore and Related Structures.*
11. **^** *Singhvi, Anjali; Gröndahl, Mika (January 1, 2019). "What's Different in the M.T.A.'s New Plan for Repairing the L Train Tunnel". The New York Times.*
12. **^** *Charles Velson Horie (2010). Materials for Conservation: Organic Consolidants, Adhesives and Coatings (2nd ed.). Butterworth-Heinemann. ISBN 978-0-75-066905-4.*
13. ^ ***a b*** *Micharl Decourcy Hinds (February 17, 1985). "Preventive Maintenance: A Checklist". The New York Times.*
14. **^** *Erik Sandberg-Diment (August 14, 1984). "Personal computers preventive maintenance for an aging computer". The New York Times.*
15. **^** *"6 Tips to Keep Your Machine Cool in Summer | Al Marwan". Al Marwan Heavy Machinery. Retrieved 2024-06-20.*

16. **^** *Ben Zimmer (April 18, 2010). "Wellness". The New York Times. "Complaints about preventative go back to the late 18th century ... ("Oxford English Dictionary dates preventive to 1626 and preventative to 1655) ..preventive has won""*
17. **^** *O. A. Bamiro; D. Nzediegwu; K. A. Oladejo; A. Rahaman; A. Adebayo (2011). Mastery of Technology for Junior School Certificate Examination. Ibadan: Evans Brothers (Nigeria Publishers) Limited.*
18. ^ ***a b*** *"CPOL: System Maintenance and Downtime Announcements". Archived from the original on October 2, 2008. Retrieved March 21, 2019. "... out of service from 6:00–7:00am Eastern for regularly scheduled maintenance."*
19. ^ ***a b*** *"Dodge City Radar Planned Maintenance". weather.gov (National Weather Service). "... will be down for approximately five days"*
20. ^ ***a b*** *"The development of a cost benefit analysis method for monitoring the condition of batch" (PDF). Archived (PDF) from the original on March 22, 2019.*
21. **^** *"What is PPM Maintenance?".*
22. **^** e.g. from leaks that could have been prevented
23. **^** *Wood, Brian (2003). Building care. Wiley-Blackwell. ISBN 978-0-632-06049-8. Retrieved 2011-04-22.*
24. **^** *Garcia, Mari Cruz; Sanz-Bobi, Miguel A.; Del Pico, Javier (August 2006), "SIMAP: Intelligent System for Predictive Maintenance: Application to the health condition monitoring of a windturbine gearbox", Computers in Industry, **57** (6): 552–568, doi:10.1016/j.compind.2006.02.011*
25. **^** *Kaiser, Kevin A.; Gebraeel, Nagi Z. (12 May 2009), "Predictive Maintenance Management Using Sensor-Based Degradation Models", IEEE Transactions on Systems, Man, and Cybernetics - Part A: Systems and Humans, **39** (4): 840–849, doi:10.1109/TSMCA.2009.2016429, hdl:1853/56106, S2CID 5975976*
26. **^** *"Spacewalking Astronauts Swap Out Space Station's Batteries". The New York Times. March 22, 2019. Retrieved March 22, 2019.*
27. **^** such as universities and local schools, which write government-acceptable receipts
28. **^** CBM Policy Memorandum.
29. **^** *Liu, Jie; Wang, Golnaraghi (2010). "An enhanced diagnostic scheme for bearing condition monitoring". IEEE Transactions on Instrumentation and Measurement. **59** (2): 309–321. Bibcode:2010ITIM...59..309L. doi:10.1109/tim.2009.2023814. S2CID 1892843.*
30. **^** *Jardine, A.K.S.; Lin, Banjevic (2006). "A review on machinery diagnostics and prognostics implementing condition-based maintenance". Mechanical Systems and Signal Processing. **20** (7): 1483–1510. Bibcode:2006MSSP...20.1483J. doi:10.1016/j.ymssp.2005.09.012.*
31. **^** *Industrial Polymer Applications: Essential Chemistry and Technology (1st ed.). United Kingdom: Royal Society of Chemistry. 2016. ISBN 978-1782628149.*

- This article incorporates public domain material from *Federal Standard 1037C. General Services Administration. Archived from the original on 2022-01-22.* (in support of MIL-STD-188).

Image not found or type unknown Public Domain

Bibliography

[edit]

- *Maintenance Planning, Coordination & Scheduling,* by Don Nyman & Joel Levitt Maintenance ISBN 978-0831134181
- *The Care of Things. Ethics and Politics of maintenance,* by Jérôme Denis & David Pontille, Polity Press ISBN 978-1509562381

Sources

[edit]

- *Smith, Maj. Ricky. "Walter Reed Building 18 – It Could Happen Anywhere – So Don't Let It Happen To You". Archived from the original on March 9, 2012.*

Further reading

[edit]

- *Wu, S.; Zuo, M.J. (2010). "Linear and nonlinear preventive maintenance" (PDF). IEEE Transactions on Reliability. **59** (1): 242–249. doi:10.1109/TR.2010.2041972. S2CID 34832834. Archived (PDF) from the original on 2016-08-18.*

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About Garage (residential)

"Garage (house)" redirects here. For the music style, see Garage house.

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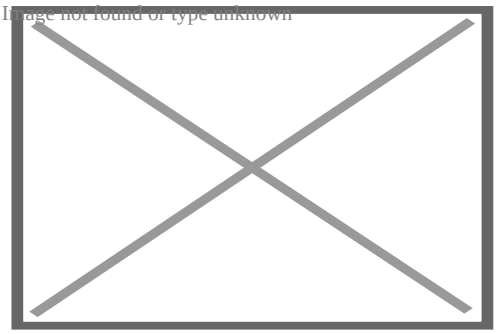

The Hermitage garage by Nicholas II in The State Hermitage, Saint Petersburg, Russia

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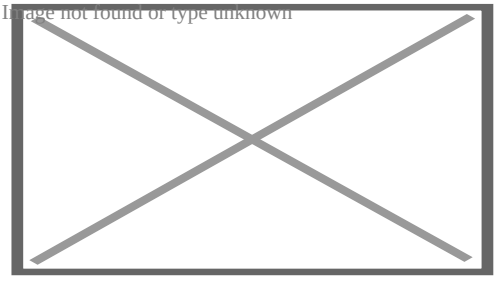

Garage - in the style of the new objectivity - Frankfurt am Main

A 1901 newspaper article discussing a name for a private collection of automobiles

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A 1901 newspaper article discussing a name for a private collection of automobiles, which mentions the word "garage" as being a possible choice except that that word was already in use in the broader sense of a place to store and repair them. Today the word *garage* has both senses; for example, *Jay Leno's Garage* is a series about his collection and other interesting collections, not merely the buildings that contain them.

A residential **garage** (UK: /Ëˆɛ¡ærɛ‘ËÊ’, -rɛ‘ËdÊ’, -rɛªdÊ’/ *GARR-ahzh*, *-â• ahj*, *-â•,ij*

US: /É¡É™Ëˆrɛ‘ËÊ’, -rɛ‘ËdÊ’/ *gɛ™-RAHZH*, *-â•RAHJ*) is a walled, roofed structure with a door for storing a vehicle or vehicles that may be part of or attached to a home ("attached garage"), or a separate outbuilding or shed ("detached garage"). Residential garages typically have space for one or two cars, although three-car garages are used. When a garage is attached to a house, the garage typically has an entry door into the house, called the *person door* or *man door*, in contrast with the wider and taller door for vehicles, called the garage door, which can be opened to permit the entry and exit of a vehicle and then closed to secure the vehicle. A garage protects a vehicle from precipitation, and, if it is equipped with a locking garage door, it also protects the vehicle(s) from theft and vandalism. Most garages also serve multifunction duty as workshops for a variety of projects, including painting, woodworking, and assembly. Garages also may be used for other purposes as well, such as storage or entertainment.

Some garages have an electrical mechanism to automatically open or close the garage door when the homeowner presses a button on a small remote control, along with a detector that stops the movement of the garage if something is in the way of closing. Some garages have enough space, even with cars inside, for the storage of items such as bicycles or a lawnmower; in some cases, there may even be enough space for a workshop or a man cave. Garages that are attached to a house may be built with the same external materials and roofing as the house. Garages that are not connected to the home may use a different style of construction from the house. Often in the Southern and rural United States garages not attached to the home and made from a timber frame with sheet metal coverings are known as "pole barns", but usually serve the same purpose as what is called a garage elsewhere. In some places, the term is used synonymously with "carport", though that term normally describes a structure that, while roofed, is not completely enclosed. A carport protects the vehicle to some degree from inclement weather, but it does not protect the vehicle from theft or vandalism.

The word *garage*, introduced to English in 1902, originates from the French word *garer*, meaning shelter.[1] By 1908 the architect Charles Harrison Townsend was commenting in *The Builder* magazine that "for the home of the car, we very largely use the French word 'garage', alternatively with what I think the more desirable English equivalent of 'motor house'".[2] Today the word is polysemic because it can refer to a collection of vehicles as well as the building

that contains them.

Residential garage insulation

[edit]

In northern climates, temperatures inside an uninsulated attached residential garage can decrease to freezing levels during the winter. Temperatures inside an uninsulated attached garage in temperate climates can reach uncomfortable levels during summer months. Extreme temperatures can be a source of energy waste and discomfort in adjoining living areas, due to heat transfer between the garage and those areas. Homes with an attached garage often experience this "interface" problem. Insulating the outside of the building against the elements without extending the insulation to the wall separating the garage from the house, and/or the other garage walls and roof, can be a costly mistake.[3]

In Australia

[edit]

Australian homes typically have a two, one and a half or double car garage, with some newer houses having a triple garage, with one double door and one single door. Prior to the 1970s most of them were detached from the house, usually set further back with the driveway leading up past the side of the house, common with old fibreboard houses, but not uncommon with earlier brick houses. The most common doors on these garages were either two wooden barn style doors with a standard sized access door on the side of the garage or the B&D Rolla Door, which is described below.

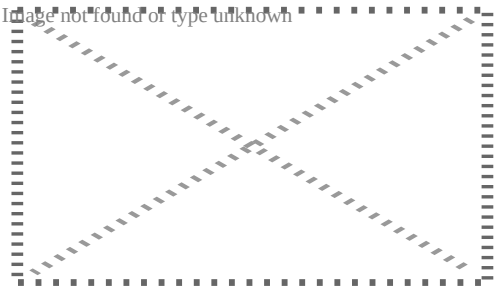
The most common garage door to date in Australia is the B&D Rolla Door, having been around since 1956 and still in heavy use today. They are a corrugated flexible but strong sheet steel door, sliding up tracks and rolling around a drum mounted above the door opening on the inside of the garage. These come in manual and remote controlled electric (known as the Control-a-Door), with conversion kits available. Locking is provided by a key lock in the centre of the door moving two square sliding lock bars in and out of holes in the door tracks, locking and unlocking it, or by the solenoid lock in the automatic motor.

Newer homes feature more American styled tilting panel lift doors which slide up onto a track on the ceiling via a motor and chain drive. Since the late 1970s most if not all garages are attached, and throughout the 80's it became more common to have an access door into the home from the garage where design permitted, whereas it is commonplace now. Most older unit (apartment) blocks in Australia have garages on the ground floor accessible through a common hallway and access doors, all leading into a common driveway. Newer ones now have underground parking.

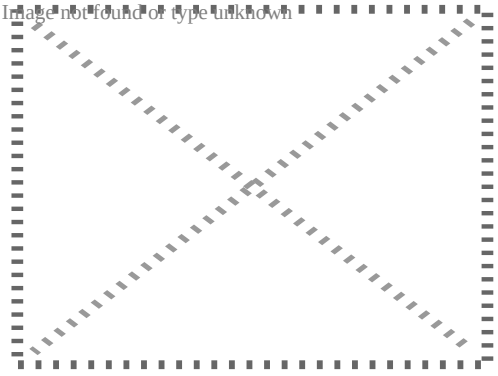
Australia has strict guidelines in place when building a home and the garage size must conform to the Australian Standards. The minimum size for a single garage is 3.0 m × 5.4 m (9.8 ft × 17.7 ft) and a double is 5.4 m × 5.4 m (17.7 ft × 17.7 ft). However, to comfortably fit two cars in a double garage it is typical to have a size of 6.0 m × 6.0 m (19.7 ft × 19.7 ft).[4]

In the United Kingdom

[edit]



Up-and-over garage door



Insulation of sectional garage door

British homes featuring a garage typically have a single or double garage either built into the main building, detached within the grounds (often in the back garden), or in a communal area.

Traditionally, garage doors were wooden, opening either as two leaves or sliding horizontally. Newer garages are fitted with metal up-and-over doors. Increasingly, in new homes, such doors are electrically operated.

Typically, a small British single garage is 8 by 16 feet (2.4 m × 4.9 m), a medium single garage is 9 by 18 feet (2.7 m × 5.5 m), and a large single garage is 10 by 20 feet (3.0 m × 6.1 m). Family sedans have become bigger than they were in the past, so the larger size has become a preferred option. A typical large family car like the Ford Mondeo is about 15 by 6 feet (4.6 m × 1.8 m), meaning that even with the larger size garage, it is necessary to park to one side to be able to open the driver's door wide enough to enter or exit the vehicle.

In the early days of the motor car, a garage played an important role in protecting the vehicle from the weather (particularly so as to reduce rust). It was also the case that early motor cars started more easily when they were warm,[5] so that keeping them in a garage rather than outside made it easier to get the engine going in the morning. Modern motor cars, however, are very well protected against rust, and modern engines start with no difficulty even in very cold conditions.

Early history

[edit]

The common term for these structures in the first decades of the 20th century was motor house. Many garages from before 1914 were pre-fabricated, typically by companies such as Norwich manufacturer Boulton & Paul Ltd. The style was usually in keeping with that of the house and its locale, however, they were mainly of timber construction and few have survived.[6]

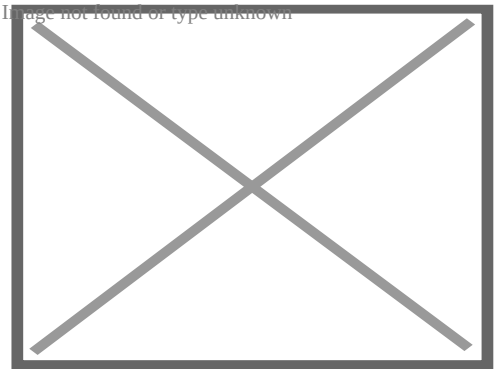
E. Keynes Purchase, "honorary architect" to what was to become the Royal Automobile Club, did a lot of work on them and recommended in *The Car Illustrated* in 1902, that they be of brick construction with cement floor, an inspection pit, good electric lighting and a pulley system for removing parts of the car (in the early days of motoring many car owners were mechanical and engineering enthusiasts).[7]

The architecture of garages was ignored in the architectural journals despite famous architects such as Edwin Lutyens, Richard Barry Parker and Edgar Wood all designing garages for their wealthy clients. Charles Harrison Townsend was one of the few architects who put pen to paper (in *The Builder* in 1908) on the subject and recommended that the walls be glazed brick for ease of washing, air gratings to be low (petrol fumes are heavier than air), and drains half open to avoid build-up of gases.[8]

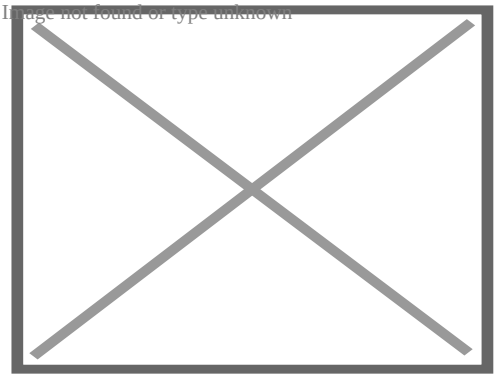
By 1910 corrugated iron and asbestos were being used instead of wood and garages became less imposing. From 1912 speculatively built houses in London were being built with motor houses.[9]

In North America

[edit]



Mobile homes with detached single car garages



Circa 1955 detached residential garage seen in Toledo, Ohio

Many garage doors open upward using an electric chain drive, which can often be automatically controlled from inside the resident's vehicle with a small radio transmitter.[10]

Garages are connected to the nearest road with a driveway. Interior space for one or two cars is normal, and garages built after 1950 usually have a door that connects the garage directly to the interior of the house (an "attached garage"). Earlier garages were often detached and located in the back yard of the house, accessed either via a long driveway or from an alley.

In the past, garages were often separate buildings from the house ("detached garage"). On occasion, a garage would be built with an apartment above it, which could be rented out. As automobiles became more popular, the concept of attaching the garage directly to the home grew into a common practice. While a person with a separate garage must walk outdoors in every type of weather, a person with an attached garage has a much shorter walk inside a building.

Around the start of the 21st century, companies began offering "portable garages" in the United States. Typically, these garages are made of metal, wood or vinyl and do not connect to the house or other structure, much like the garage built before 1950. This portable garages usually have a strongly reinforced floor to hold a heavy vehicle. Garages are also produced as composite fabric garages with metal frames that are lightweight and portable garage compared to traditional brick-and-mortar or metal garage structures.[11]

Over the past fifteen years, the portable garage has further evolved into a modular garage or a partially prefabricated structure. The modular garage comes from a factory that assembles the garage in two sections and combines the two sections on location. Partially prefabricated garages are often larger and might even include an attic space or a second floor. Sections of the garage are preassembled and then setup on site over a few days time.[12] The Amish have become popular builders of portable, modular and partially prefabricated garages.

Common Garage Sizes in the United States

[edit]

Garage sizes in the United States vary depending on the number of vehicles they are designed to accommodate. While dimensions can differ based on specific needs and local building codes, typical sizes are as follows:

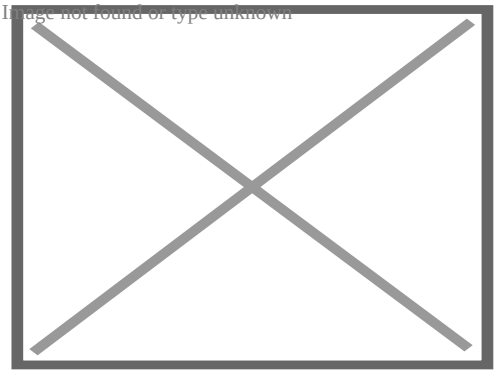
- One-car garage: Usually 12 to 18 feet wide and 20 to 30 feet deep, with a total area of 240 to 540 square feet.
- Two-car garage: Commonly 20 to 24 feet wide, maintaining the same depth, and covering 360 to 660 square feet.
- Three-car garage: Typically 30 to 36 feet wide, providing 600 to 1,260 square feet of space.
- Four-car garage: The largest standard size, ranging from 40 to 48 feet wide, with a total area of 800 to 1,600 square feet.

These dimensions offer enough space not only for vehicles but also for storage and accessibility. Garage sizes may vary depending on design preferences, vehicle types, and additional space requirements.[13]

Post frame garages

[edit]

See also: Barndominium



Post frame garage attached to traditional frame house

Often in more rural settings, detached post-frame garages are used to store farm and workshop equipment and can either be cold storage[14] or insulated for warm storage.[15][16]

Notable garages

[edit]

The first planned private garages appeared long before 1900. Early examples of planned public garages appeared at the same time. The first recorded public parking garage in the US (*Electric Vehicle Company Garage*,[17] Chicago) was built in 1898, in the UK (*Christal Palace Garage*,[18] London) in 1900 and in Germany (*Großgarage der Automüller G.m.b.H.*,[19] Berlin-Wilmersdorf) in 1901.

Possibly the oldest existing garage in the United Kingdom is in Southport Lancashire. It was the first motor house or garage to be depicted in an English motoring journal and was in The Autocar of 7 October 1899. It was owned by Dr W.W. Barratt, a local doctor and motoring pioneer and specially designed for his house at 29 Park Crescent Hesketh Park. A two-storey building that matched the style of the house; the ground floor garage having a concrete floor, heating, electric lighting, an engine pit and was fully equipped. The motor house is now in residential use.[20]

One of the oldest surviving private garages in Germany today is the 1903 finished *Automobil-Remise* (automobile carriage house) of Villa Esche by Henry van de Velde in Chemnitz. Carl Benz, the inventor of the automobile, had a tower built for himself in 1910, on the first floor a room for studying, on the ground floor car parking space. It still exists in Ladenburg, Germany.

Gallery of notable garages

[edit]

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1919

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1919

1938

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1938

Garage of HÃ´tel Brion (1904)

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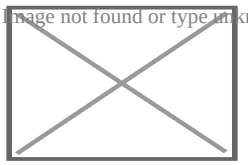
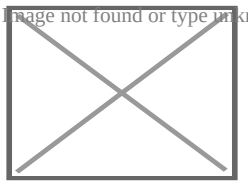
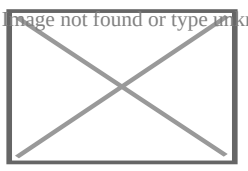
Garage of Hôtel Brion (1904)

- Image not found or type unknown 

- Image not found or type unknown 

- Image not found or type unknown 

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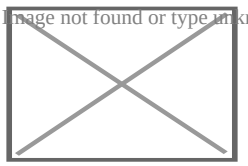
- 

Garages in Nizhny Novgorod

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Garages in Nizhny
Novgorod
Old garages in Mannheim

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Old garages in
Mannheim

Carhouses

[edit]

Garages in the United States and Canada used to store streetcars and buses are often referred to as carhouses or car barns. These storage facilities are either metal or brick structures used to store streetcars or buses away from the elements. In Britain they are referred to as bus depots or depots.

See also

[edit]

- Carport
- Carriage house
- Parking
- Proof-of-parking

References

[edit]

1. **^** *The Shorter Oxford Dictionary* (1973)
2. **^** Minnis 2010, p. 74.
3. **^** "How to make your home energy efficient"; Howstuffworks.com
4. **^** *Berenice O. (17 August 2018). "Single & Double Garage Size (How Much Do You Need?)". BuildSearch. Retrieved 2018-12-13.*
5. **^** *"Starting Old Cars". Archived from the original on 2023-02-20. Retrieved 2013-05-24. "This whole operation takes a certain amount of time. On a 50-degree day, for instance, the car won't operate normally for at least 5 minutes of driving. On colder days you might spend 10-15 minutes "nursing" the car until it warms up to normal operating temperature."*
6. **^** Minnis 2010, pp. 77–78.
7. **^** Minnis 2010, p. 80.
8. **^** Minnis 2010, pp. 81–83.
9. **^** Minnis 2010, p. 86.
10. **^** *"How Do Garage Door Remotes Work". garage-door.com. 2019. Archived from the original on 2021-09-22. Retrieved 2019-10-16.*
11. **^** *"Portable Garage - WeatherPort". WeatherPort.*
12. **^** *"Only 17 Hours to Build a Three Car Garage in Raymond, ME!". Sheds Unlimited. 2019-05-07. Retrieved 2020-01-20.*
13. **^** *"Standard Garage Size: Dimensions + Diagrams". alansfactoryoutlet.com. 2022-09-14. Retrieved 2025-03-18.*
14. **^** *"Post Frame Cold Storage Building | Hoopeston, Illinois | FBi Buildings".*
15. **^** *"Post-Frame Buildings".*
16. **^** *"Post Frame Building Basics :: Sutherlands".*
17. **^** Shannon Sanders McDonald: The parking garage. Design and evolution of a modern urban form, Washington 2007, p. 16

18. **^** Kathryn A. Morrison, John Minnis: *Carscapes: The Motor Car, Architecture and Landscape in England*, New Haven/London 2012, p. 167
19. **^** René Hartmann: *Die Hochgarage als neue Bauaufgabe – Bauten und Projekte in Berlin bis 1933* (Magisterarbeit), Technische Universität Berlin 2009
20. **^** Minnis 2010, pp. 75–76.

- *Minnis, John (2010). "Practical yet Artistic: The Motor House 1895–1914". In Brandwood, Geoffrey K. (ed.). Living Leisure and Law: Eight Building Types in England 1800–1914. Reading: Spire Books in association with the Victorian Society. ISBN 9781904965-27-5. OCLC 835667261.*

External links

[edit]

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- v
- t
- e

Rooms and spaces of a house

Shared rooms

- Bonus room
- Common room
- Den
- Dining room
- Family room
- Garret
- Great room
- Home cinema
- Keeping room
- Kitchen
    - dirty kitchen
    - kitchenette
- Living room
- Gynaeceum
    - harem
- Andron
    - man cave
- Recreation room
    - billiard room
- Shrine
- Study
- Sunroom

Private rooms

- Bathroom
    - toilet
- Bedroom / Guest room
    - closet
- Bedsit / Miniflat
- Boudoir
- Cabinet
- Nursery

Spaces

- Atrium
- Balcony
- Breezeway
- Conversation pit
- Cubby-hole
- Deck
- Elevator
    - dumbwaiter
- Entryway/Genkan
- Fireplace
    - hearth
- Foyer
- Hall
- Hallway
- Inglenook
- Lanai
- Loft
- Loggia
- Overhang
- Patio
- Porch
    - screened
    - sleeping
- Ramp
- Secret passage
- Stairs/Staircase
- Terrace
- Veranda
- Vestibule

Technical, utility and storage	○ Attic ○ Basement ○ Carport ○ Cloakroom ○ Closet ○ Crawl space ○ Electrical room ○ Equipment room ○ Furnace room / Boiler room ○ Garage ○ Janitorial closet ○ Larder ○ Laundry room / Utility room / Storage room ○ Mechanical room / floor ○ Pantry ○ Root cellar ○ Semi-basement ○ Storm cellar / Safe room ○ Studio ○ Wardrobe ○ Wine cellar ○ Wiring closet ○ Workshop

Great house areas

- Antechamber
- Ballroom
- Kitchen-related
  - butler's pantry
  - buttery
  - saucery
  - scullery
  - spicery
  - still room
- Conservatory / Orangery
- Courtyard
- Drawing room
- Great chamber
- Great hall
- Library
- Long gallery
- Lumber room
- Parlour
- Sauna
- Servants' hall
- Servants' quarters
- Smoking room
- Solar
- State room
- Swimming pool
- Turret
- Undercroft

Other	○ Furniture
	○ Hidden room
	○ House
	  ○ house plan
	  ○ styles
	  ○ types
	○ Multi-family residential
	○ Secondary suite
	○ Duplex
	○ Terraced
	○ Detached
	○ Semi-detached
	○ Townhouse
	○ Studio apartment

Architectural elements	○ Arch
	○ Balconet
	○ Baluster
	○ Belt course
	○ Bressummer
	○ Ceiling
	○ Chimney
	○ Colonnade / Portico
	○ Column
	○ Cornice / Eaves
	○ Dome
	○ Door
	○ Ell
	○ Floor
	○ Foundation
	○ Gable
	○ Gate
	  ○ Portal
	○ Lighting
	○ Molding
	○ Ornament
	○ Plumbing
	○ Quoins
	○ Roof
	  ○ shingles
	○ Roof lantern
	○ Sill plate
	○ Style
	  ○ list
	○ Skylight
	○ Threshold
	○ Transom
	○ Vault
	○ Wall
	○ Window

- Backyard
- Driveway
- Front yard
- Garden
  - roof garden
- Home
- Home improvement
- Home repair
- Shed
- Tree house

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About Torsion spring

A torsion springtime is a springtime that functions by turning its end along its axis; that is, a versatile elastic things that stores mechanical energy when it is twisted. When it is turned, it exerts a torque in the opposite instructions, symmetrical to the amount (angle) it is twisted. There are numerous types: A torsion bar is a straight bar of metal or rubber that undergoes twisting (shear anxiety) concerning its axis by torque used at its ends. An even more fragile form utilized in delicate instruments, called a torsion fiber includes a fiber of silk, glass, or quartz under stress, that is turned about its axis. A helical torsion spring, is a metal rod or wire in the form of a helix (coil) that undergoes turning regarding the axis of the coil by sideways forces (bending moments) applied to its ends, turning the coil tighter. Clocks utilize a spiral wound torsion spring (a form of helical torsion spring where the coils are around each various other instead of piled up) occasionally called a "clock spring" or colloquially called a mainspring. Those types of torsion springtimes are likewise used for attic staircases, clutches, typewriters and other gadgets that require near constant torque for huge angles or perhaps multiple changes.

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Driving Directions From 41.366510327857, -87.3408646 to

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