2.ThA

Mechanical Engineering Information types

Type	Why?	Where to find?
Scholarly articles in mechanical engineering	Get in depth research as reported by the scientists and engineers who are doing the work. Can see how research is done, get a sense for different methodologies, and of course, see results. References at the end of research articles can lead you to more high-quality information. Many scholarly articles are reviewed by a group of peers before publishing, and so are often seen as very authoritative.	Article databases like Compendex (http://libraries.mit.edu/get/compendex), Web of Science (http://libraries.mit.edu/get/webofsci), Google Scholar (http://scholar.google.com). More article databases for Mechanical Engineering can be found in Vera: http://libraries.mit.edu/vera. While article databases don't usually have full text within them, they usually have a link to online full text, if it's available.
Review articles in mechanical engineering	This is a special class of research article where the author summarizes and comments on all the significant research on a topic. Review articles are great for getting a sense of a topic, or getting up to speed on the research environment for specific subjects	You can easily limit to review articles with a database like Compendex (http://libraries.mit.edu/get/compendex). Some journals and databases specialize in review article publishing. For instance, the Synthesis Digital Library (find in Vera) and Foundations and Trends journals are examples.

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Conference articles in mechanical engineering	Similar to scholarly articles, conference articles provide access to in depth research. Often researchers can publish/present results in a conference before a journal article appears due to the lead time necessary to put out a journal. In Mechanical Engineering conference articles are often not peer-reviewed.	Article databases like Compendex (http://libraries.mit.edu/get/compendex), and Google Scholar (http://scholar.google.com). More article databases for Mechanical Engineering can be found in Vera: http://libraries.mit.edu/vera. While article databases don't usually have full text within them, they usually have a link to online full text, if it's available.
Design specifications/ parts information	Instrumental in design of systems to get data about parts to be used	Global Spec: http://www.globalspec.com/ Thomas Register: http://www.thomasnet.com/index.html Free Trade Zone: http://libraries.mit.edu/get/ftz Web sites of specific parts manufacturers
Patents	It's estimated that 85% of the information contained in patents is not published anywhere else. Great source of diagrams and descriptions of how things work. The downside is that searching for useful patents is sometimes a difficult process	http://libraries.mit.edu/guides/types/patents/

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Standards	Do you need to make a product work safely? Do you need to know how to test some aspect of your design? What if your design needs to work with other products – is the interface built properly for interaction? Industry standards provide detailed specifications for how products need to work with each other, or how to be safe.	http://libraries.mit.edu/guides/types/standards/
Market research	To size a market for a product, to choose a target market, pricing/costs, etc. You might be trying to show that your product fills an unmet need in the market which could justify investment in it.	Use the Dewey Library Business Database Advisor to find the right database for your product area: http://libraries.mit.edu/guides/subjects/business-databases/index.html
Manufacturing process/logistics design	What are the best practices in manufacturing design? What costs are involved in the process? This category covers a myriad of questions related to business aspects of getting stuff manufactured and delivered to appropriate places	Research articles by manufacturing design and logistics researchers can often be found in business article databases such as: ABI/Inform (http://libraries.mit.edu/get/abi) Business Source Premier (http://libraries.mit.edu/get/buspremier) Compendex and Web of Science can also be good sources here. There are also many books and handbooks about manufacturing processes and logistics. Don't forget to check the MIT Catalog, Barton (http://libraries.mit.edu/barton) and our suite of online handbooks in knovel (http://libraries.mit.edu/get/knovel), and Books24x7 (http://libraries.mit.edu/get/books24x7).

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Technical reports	Technical reports are often written by research organizations to satisfy the requirements of a funding agency or to document progress on a research project. Sometimes they have more in-depth information than the average journal article because space limitations aren't as strict.	Database for finding information about technical reports: NTIS (http://libraries.mit.edu/get/ntis). Also, information for finding online technical reports: http://libraries.mit.edu/guides/types/techreports/
Government information	Governments produce an enormous amount of information. It's possible to get highly reliable data about any number of topics from the government, such as data about countries around the world (CIA factbook), statistics on social and economic phenomena, etc. If you are designing a better exhaust system for a car, you might need to know about particulate emissions standards. If you are doing an environmental impact analysis of a manufacturing process, you will want to know about hazardous materials handling procedures.	http://libraries.mit.edu/guides/subjects/govdocs/index.html

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Statistics	When you'd like to make a case for pursuing the solution you propose to a problem, well-considered statistics can be very convincing.	Trade Statistics guide: http://libraries.mit.edu/guides/subjects/data/access/subject/trade/index.html Database of statistics: Lexis-Nexis Statistical Universe: http://libraries.mit.edu/get/stat-univ More databases: Look in Vera (http://libraries.mit.edu/vera) under the Statistics subject for many more resources.
Data – biological, sociological, technical, geographical etc.	Use data when you need research-generated information. Data sets tend to be the direct, unanalyzed, raw information created by an experiment or research study. Using data frequently means going straight to the source.	It's impossible to provide a comprehensive set of resources here. Here are a few leads: Biological Sequencing sources: http://libraries.mit.edu/guides/subjects/biology/sequence.html Social Science Data: http://libraries.mit.edu/guides/subjects/data/ Some technical data in handbooks: Knovel: http://libraries.mit.edu/get/knovel Geographical (GIS) data: http://libraries.mit.edu/gis/index.html
Theses	Other students may have worked on a topic similar to your. Sometimes it's useful to see thesis written by students who were previously supervised by your advisor.	All MIT theses are listed within the MIT Libraries catalog, Barton: http://libraries.mit.edu/barton. In the thesis search screen, you can search for your advisor's name find theses previously supervised by him/her. Many MIT theses are available online at: https://dspace.mit.edu/handle/1721.1/7582

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News, trade news	News articles can provide justification for your course of action, or can provide up-to-the-minute information about what's happening in your area of interest.	Big databases: Factiva: http://libraries.mit.edu/get/factiva Lexis-Nexis Academic Universe: http://libraries.mit.edu/get/lexis-nexis Proquest Research Library: http://libraries.mit.edu/get/proquest Look in Vera (http://libraries.mit.edu/vera) under the News subject for many more resources.
Popular literature	Sometimes having a reference to the latest article in Popular Mechanics is just what you need to make a point.	Good databases for accessing the popular literature: Applied Science Index: http://libraries.mit.edu/get/applied-sci Lexis-Nexis Academic Universe: http://libraries.mit.edu/get/lexis-nexis Proquest Research Library: http://libraries.mit.edu/get/proquest Readers Guide Abstracts: http://libraries.mit.edu/get/readers-gd
Handbooks/technical encyclopedias	Handbooks often summarize vast amounts of useful information within a topical area. Technical encyclopedias can give a great jumping off point for learning about a topic. For questions like what battery to use in a design, to what is the strength of a particular composite, handbooks are a great resource.	Engineering Handbooks: Knovel: http://libraries.mit.edu/get/knovel ASM Handbooks Online: http://libraries.mit.edu/get/asmhand Books24x7: http://libraries.mit.edu/get/books24x7 CINDAS: http://libraries.mit.edu/get/cindastpmp Technical Encyclopedias: Access Science @ McGraw Hill: The Online Encyclopedia of Science and Technology: http://libraries.mit.edu/get/accesssci
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