

PRIMARY DEVELOPER: Glenn Wisniewski – Henry Ford College

Integrated Manufacturing Systems Troubleshooting (IMST) Level 1

- Attachment 1-6: Fluid Power
 - STUDENT RESOURCE LINKS
- 1) Introduction to Pneumatics <u>http://www.clippard.com/downloads/PDF_Documents/Application_and_Training/Intro_to_Pneumatics.pdf</u>
- 2) Fluid Power eBook from Hydraulics & Pneumatics (Trade Publication) <u>http://hydraulicspneumatics.com/ebooks/fluid-power-ebook-fluid-power-basics</u>
- Also from Hydraulics and Pneumatics
 <u>http://hydraulicspneumatics.com/200/TechZone/HydraulicValves/Article/False/6408/TechZone-HydraulicValves</u>

 Select the Fluid Power Basics tab and choose area of interest: pumps, valve, and etc.

 4) On-line learning objects from the Wisconsin Technical College System <u>https://www.wisc-online.com/search?searchType=3&q=Hydraulics</u> Use the search function to select Hydraulics, Pneumatics, electrical, etc. Note: Under Hydraulics there are topics like:

- Comparing Hydraulics and Pneumatics
- Normally open and Closed Pressure control valves
- Functions of Hydraulic Fluid
- Then search for Pneumatics
- Etc. The options are quite extensive

5) Reference on directional control valves. <u>http://www.thomasnet.com/articles/pumps-valves-accessories/pneumatic-valves</u>

Symbol and additional reference material links:

Parker fluid power symbols:

https://www.parker.com/literature/Literature%20Files/pneumatic/Literature/PDN1000US_Pro_ducts/PDN1000-2_Products/PDN1000-2US_Technical-Data.pdf

Airline Schematic Symbols Chart: http://www.airlinehyd.com/WebPages/Information/Knowledge_Center/Symbols.aspx

Applied Pneumatic symbols – Download: https://www.applied.com/site.cfm/Pneumaticsymbol.cfm

Instructor Note: The majority of the material referenced here is Pneumatic due to the trainers used being primarily pneumatically operated.



Multi-State	
Advanced Manufacturing	
Consortium	

RELEASE 09/30/16 DATE 09/30/16 VERSION v 001 PAGE 2 of 2

US DOL SPONSORED TAACCCT GRANT: TC23767 PAG PRIMARY DEVELOPER: Glenn Wisniewski – Henry Ford College

Integrated Manufacturing Systems Troubleshooting (IMST) Level 1 Attachment 1-6: Fluid Power STUDENT RESOURCE LINKS

SAFETY DISCLAIMER:

M-SAMC educational resources are in no way meant to be a substitute for occupational safety and health standards. No guarantee is made to resource thoroughness, statutory or regulatory compliance, and related media may depict situations that are not in compliance with OSHA and other safety requirements. It is the responsibility of educators/employers and their students/employees, or anybody using our resources, to comply fully with all pertinent OSHA, and any other, rules and regulations in any jurisdiction in which they learn/work. M-SAMC will not be liable for any damages or other claims and demands arising out of the use of these educational resources. By using these resources, the user releases the Multi-State Advanced Manufacturing Consortium and participating educational institutions and their respective Boards, individual trustees, employees, contractors, and sub-contractors from any liability for injuries resulting from the use of the educational resources.

DOL DISCLAIMER:

This product was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.

RELEVANCY REMINDER:

M-SAMC resources reflect a shared understanding of grant partners at the time of development. In keeping with our industry and college partner requirements, our products are continuously improved. Updated versions of our work can be found here: <u>http://www.msamc.org/resources.html</u>.

