

# Fluid Power Training Discussion Points

2019 CFPA AGM  
June 12-15  
Banff, AB



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# British Columbia Institute of Technology (BCIT)<sup>2</sup>

BCIT is BC's largest  
polytechnic  
institution with more  
than 48,000 students  
enrolled annually  
(16,600 full-time,  
31,600 part-time)



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# British Columbia Institute of Technology (BCIT)<sup>3</sup>

BCIT offers degrees, diplomas and certificates designed for the workplace, spanning Applied and Natural Sciences, Business and Media, Computing and Information Technology, Engineering, Health Sciences and Trades.



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# BCIT Fluid Power Training Equipment<sup>4</sup>



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# BCIT Fluid Power Training Equipment<sup>5</sup>



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# BCIT Fluid Power Training Equipment<sup>6</sup>



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# BCIT Fluid Power Training Equipment



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# BCIT Fluid Power Training Equipment<sup>8</sup>



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# BCIT Fluid Power Training Equipment

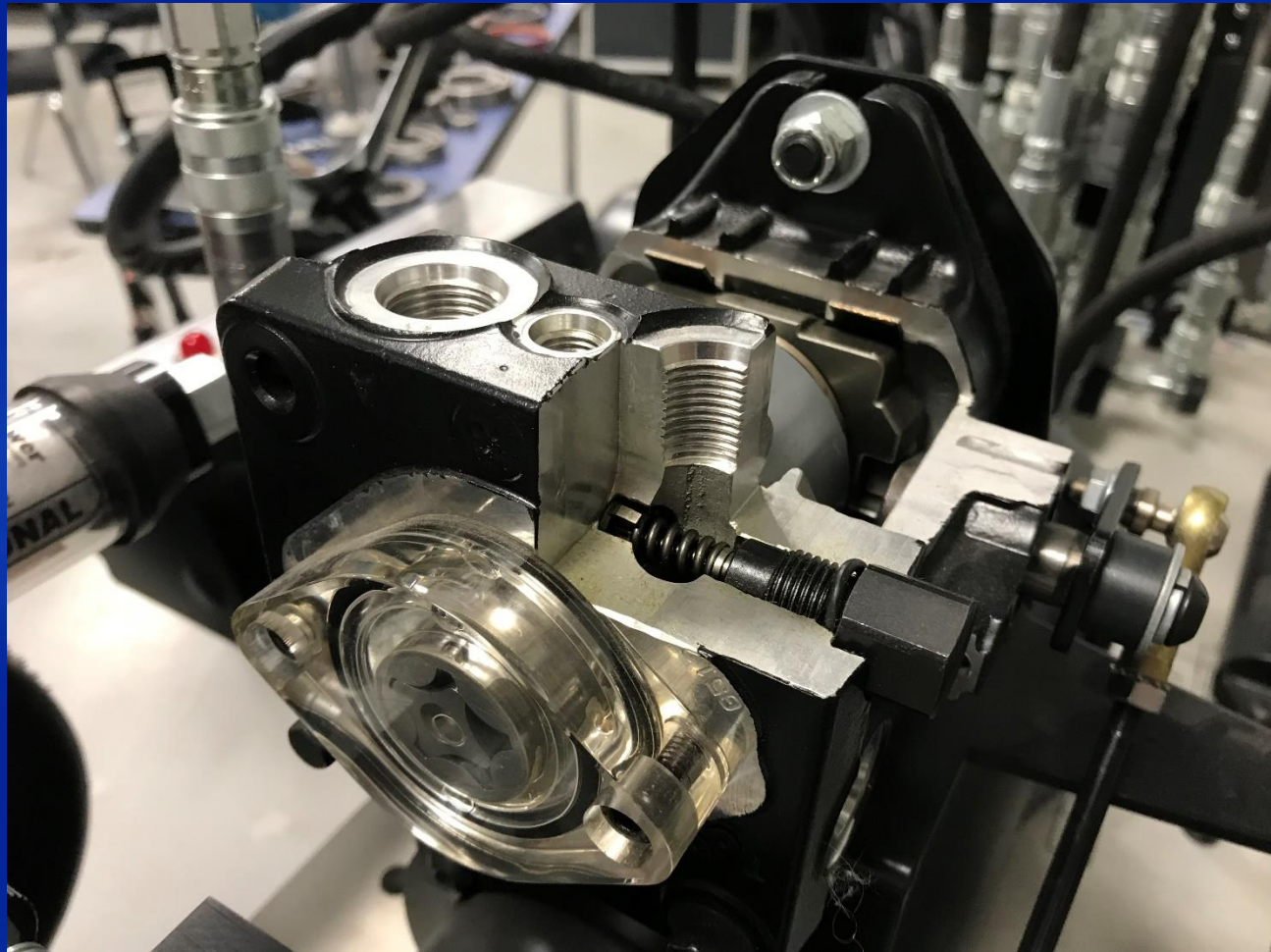


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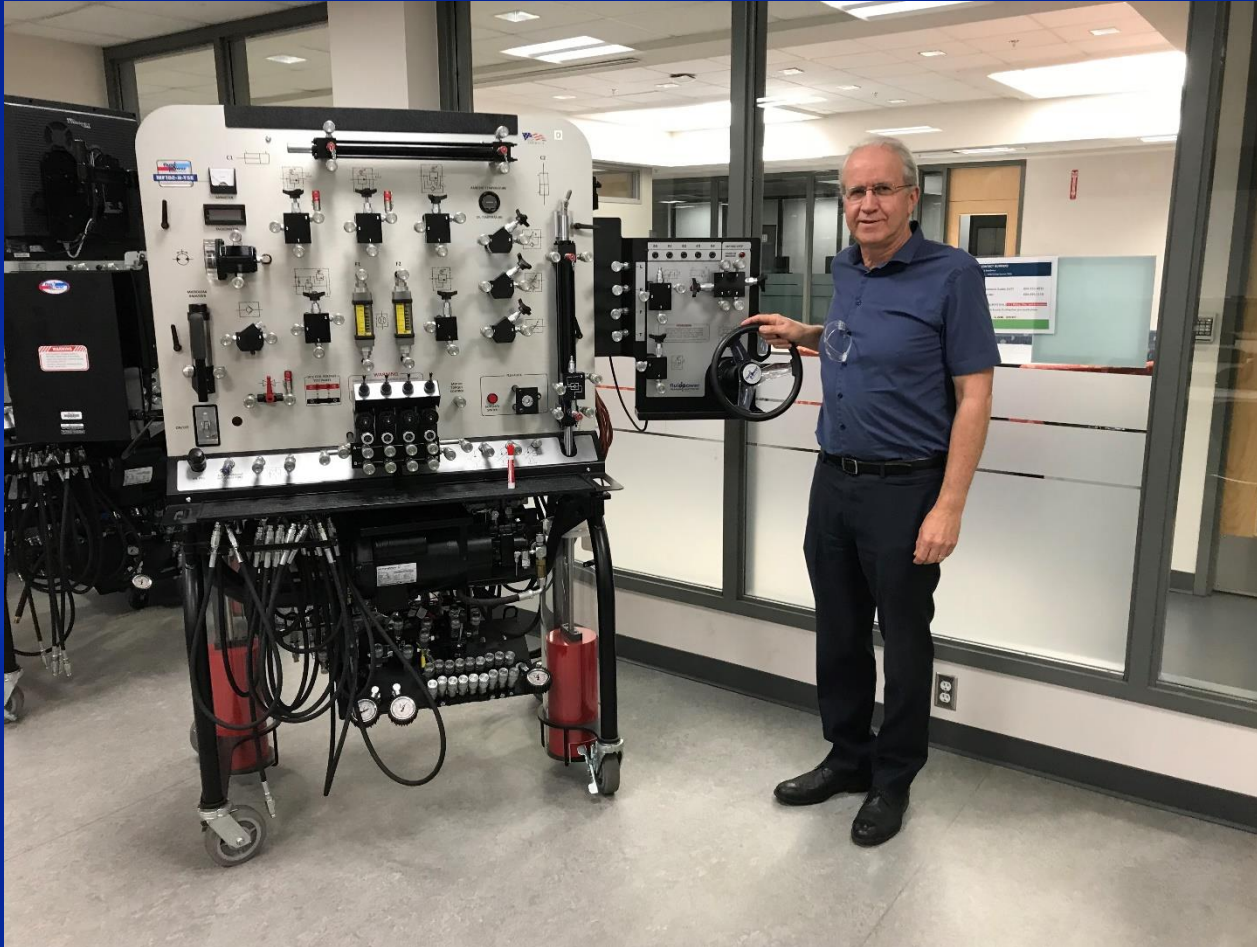


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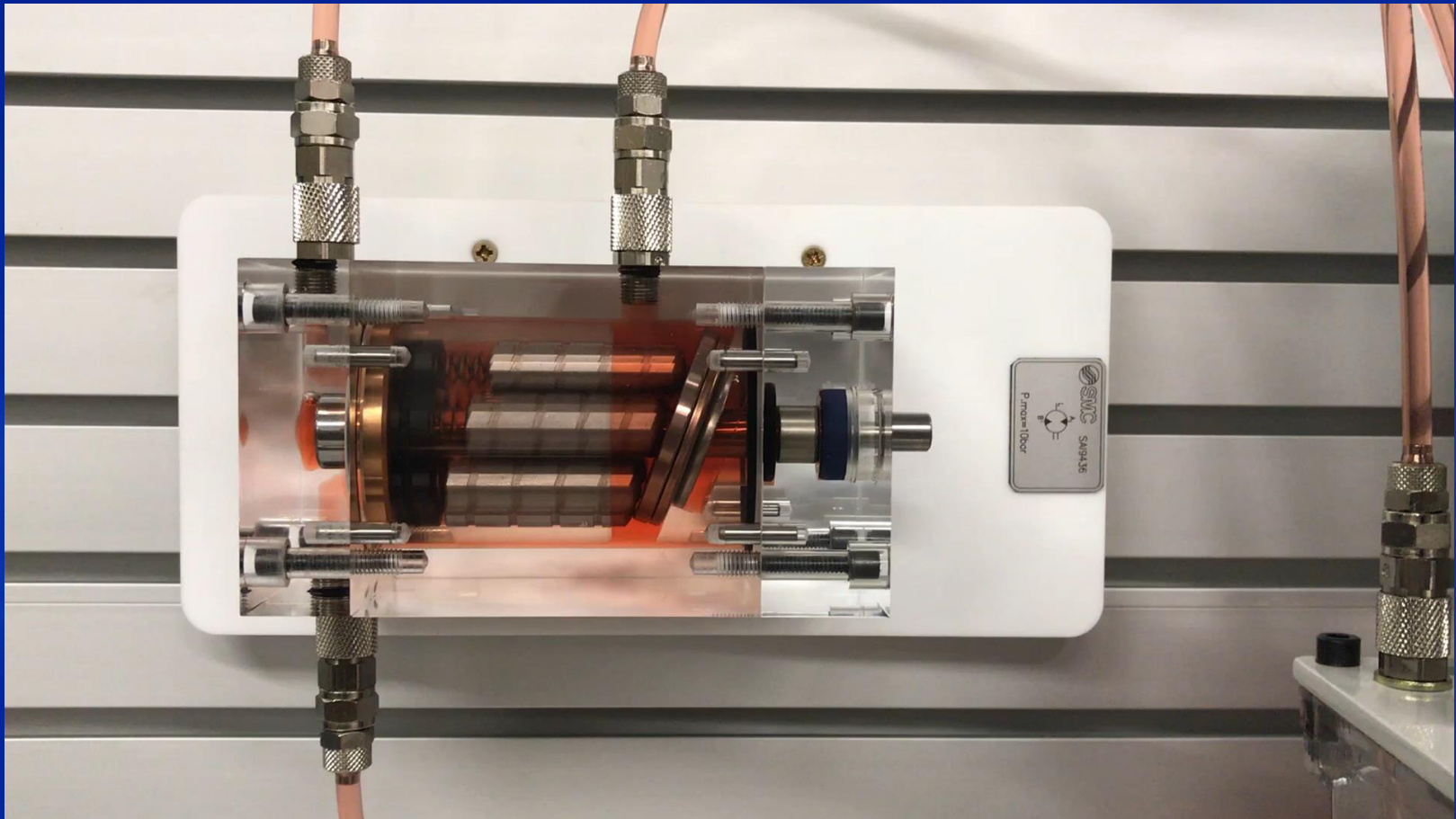
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# Fluid Power Courses at BCIT<sup>18</sup>

- Courses are offered as part of trades programs and as part of two-year full-time technology programs.
- Courses offered as part-time studies (evenings and weekends).
- Courses cover pneumatics, industrial hydraulics, mobile hydraulics, and electronic control



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# Course Level

- Technician level: Troubleshooting, repair, maintenance, basic problem solving.
- Engineering: Design, analysis, advanced problem solving.
- Industry-tailored: Industry specific, topic specific, level-specific.



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# Challenges with PTS courses

- Limited opportunity to research industry expectations of the range of topics and level of offering.
- Wide variety of students in terms of experience, former education, and competency.
- Difficult to match the level of offering to the level of students and to industry expectation.
- Difficulty reaching industry to market our courses.
- Limited access to feedback from industry.



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# Potential Solution

- Defined hierarchy of topics.
- Defined levels: Introductory, intermediate, expert.
- Defined assessment of student capability.
- Defined spectrum of theory (engineering) vs. practice (troubleshooting, repair, maintenance).



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# Proposal

## CFPA to:

- establish a national educational structure for fluid power training.
- establish or endorse an established form of certification.
- promote education, training and certification amongst its members.
- create partnerships with establish educational institutions to provide regional training.
- collect and process feedback from its members and disseminate information to its partners.



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# Educational Institutions

- Develop and offer fluid power courses as partners with CFPA.
- Certify instructor to a level specified by CFPA.



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# Justification

- Prescribed topics and level of offering.
- Identify student experience, former education, and competency.
- Match the level of offering to the level of students and to industry expectation.
- Leave marketing activities to the industry.
- Obtain feedback from industry.



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# Justification

- As opposed to a localised initiative, a national certified program endorsed by a national governing body , e.g. CFPA gives more incentive to the senior management if educational institutions to provide funding for program development

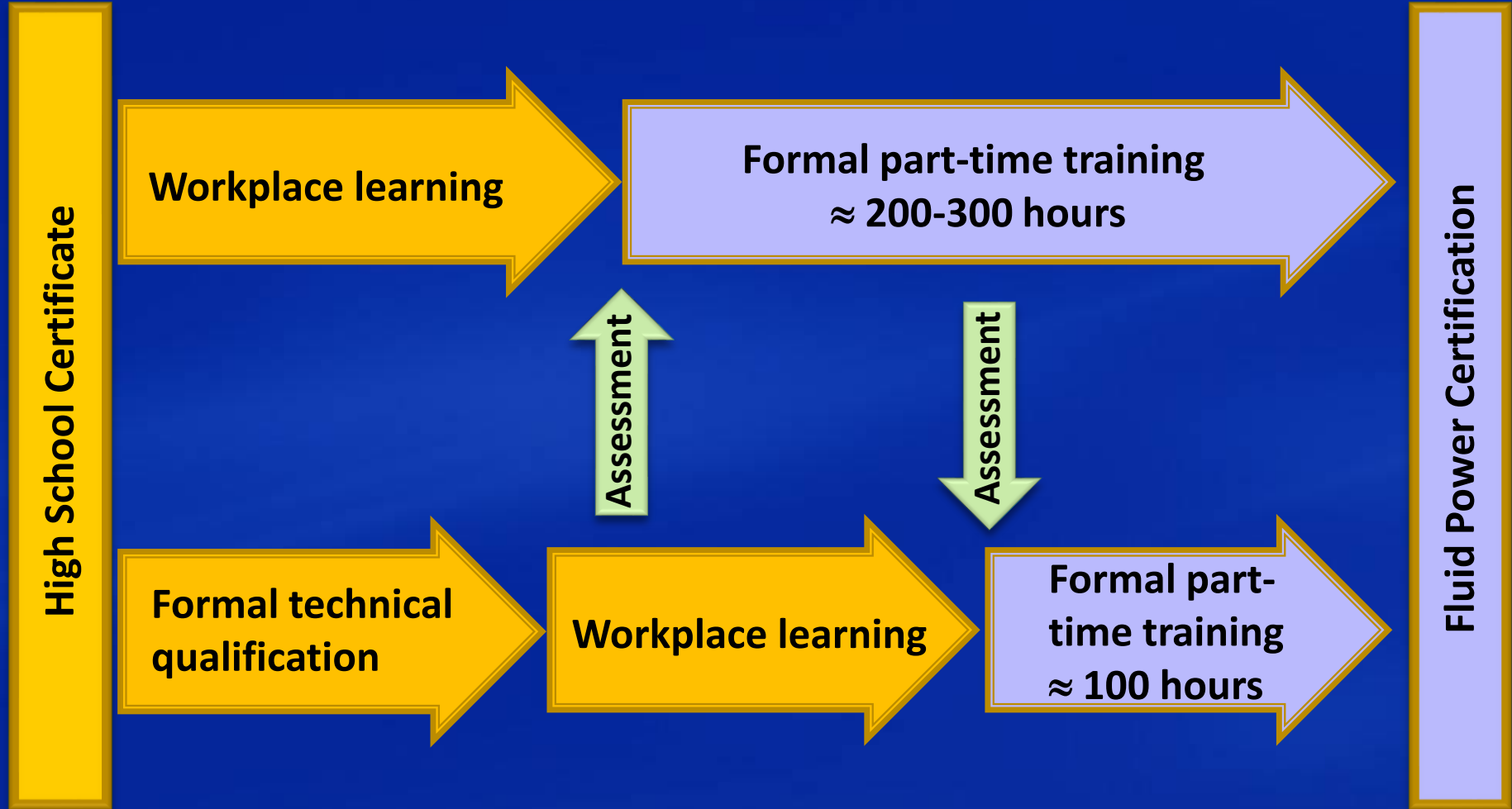


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# Time to Certification



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# Discussion Points Summary

- Fluid Power National Training Curriculum
- Fluid Power National Testing and Certification
- Marketing and Promotion
- CFPA member commitment



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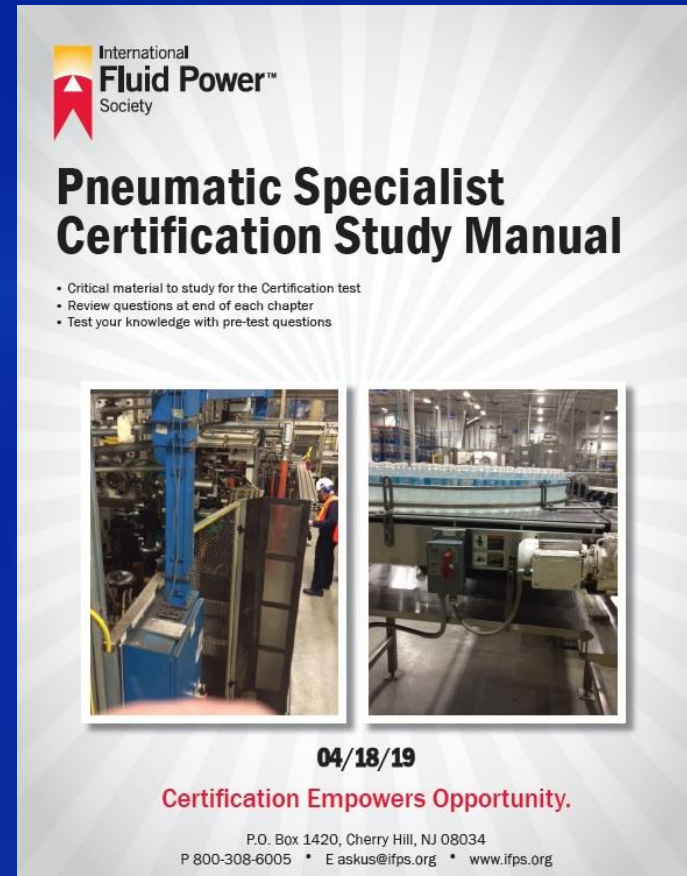
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# Certification Study Manual 1

## Pneumatics Specialist

- 1.0 Understand the function of pneumatic components in circuits.
- 2.0 Analyze loads and motion.
- 3.0 Selecting components for pneumatic systems.
- 4.0 Electro-pneumatic control systems.



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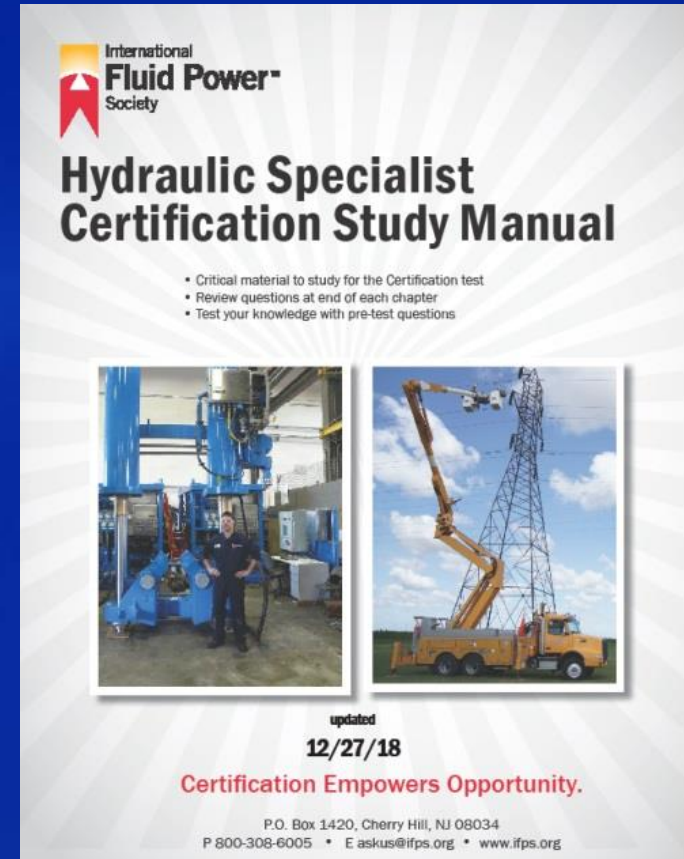
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# Certification Study Manual 2

## Hydraulics Specialist

- 1.0 Understand the function of hydraulic components in circuits.
- 2.0 Analyze loads and motion.
- 3.0 Selecting components for hydraulic systems.
- 4.0 Analyze and troubleshoot hydraulic systems.
- 5.0 Electrohydraulic control systems.



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# Certification Study Manual 3

## Electronic Control Specialist

- 1.0 Fluid power systems
- 2.0 Electronic and electrical principles
- 3.0 Input/output devices
- 4.0 Applying control theory
- 5.0 Interacting with controllers
- 6.0 Utilize industrial networks



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# National Testing and Certification

- Hydraulic and Pneumatic Specialist will depend on a company's product line focus but Electronic Controls Specialist mandatory for all companies based on Industry 4.0 and IoT

# National Testing and Certification

- IFPS certification provides Canadian employers with highly skilled Fluid Power employees, instills pride in those who have IFPS certification, provides a “Red Seal” equivalent certification and facilitates labour mobility across Canada.



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# Key Target Market

- Fluid Power Distributor and Manufacturer Senior Management
- OEM and End Users with large exposure to Fluid Power in their Manufacturing process.
- Post Secondary Students
- High School Students



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# Marketing

- Fluid Power Distributor and Manufacturer marketing \$ spend commitment to promote enrollment and ensure classes are filled.
- Marketing to be facilitated by CFPA



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# CFPA Member Commitment

- Every CFPA member needs to commit to promoting the National Curriculum to their employees and customers.
- New employee contracts should include requirement to attend the Fluid Power courses and write/pass the IFPS certification exams.



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# Thank You



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