# ILM Publishing Report 2022: Automotive Service Technician

## Quality Assurance (QA) Maintenance Summary

The ILM office held a total of 23 QA Meetings in the 2021/22 academic year, which included over 90 attendees from 8 different institutions across Alberta. With support and feedback from these individuals, we were able to address and resolve over 700 maintenance comments across all ILM trades! We want to acknowledge each of the Programs and instructors that dedicated their time and effort to supporting this important maintenance work and express our gratitude for your support in our continuous improvement of ILM content for students and learners.

For Automotive Service Technician, there were 25 modules updated due to QA meeting maintenance, and a total of 39 maintenance comments were addressed. As part of this year’s ILM maintenance process, there were also a number of images and graphics within the ILMs reverted to a previous version. After significant consultation/feedback with Programs and stakeholders, the quality and accuracy of images and graphics from previous ILM versions was identified as being important for student learning and success. The *Maintenance Updates* column in the Module List section below indicates modules where this has occurred.

For more information on the ILM Comments and Maintenance process, please visit our website:

* ILM Maintenance: <https://ilm.nait.ca/ilm-maintenance>
* ILM Comments: <https://ilm.nait.ca/comments>

QA Maintenance meeting dates for the 2022/23 academic year will be finalized and shared in September 2022.

## Program Notes

Based on a recommendation from the Programs at this year’s QA meeting, the following module number change occurred to support better content flow and alignment:

* **090301e: Multiplexing and Networking** has been renumbered to **090301eA: Multiplexing and Networking**
* **090305i: Vehicle Networks** has been renumbered to **090301eB: Vehicle Networks**.
* 090301eB is now a Part B module to 090301eA.

## Brand Refresh

The 2022 ILM publication includes a brand refresh for all (English) ILM files. This brand refresh only impacts the style/format of ILM products. It does not impact the content within the ILMs. Changes for each ILM product type include updates to the front and back covers of ILM files, ILM Graphics PowerPoint template, and both student and instructor Digital ILM templates.

## Module List

\*Maintenance updates include image/graphic updates, addressing of website comments, and changes identified at annual Quality Assurance meetings.

### First Period

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Module Number** | **Module Name** | **New Version[[1]](#footnote-2)** | **Maintenance Updates\*** | **Rebrand Updates**  |
| 090101a | Safety Legislation, Regulations and Industry Policy in the Trades | 24.0 | ü | ü |
| 090101b | Climbing, Lifting, Rigging and Hoisting | 24.0 | ü | ü |
| 090101c | Hazardous Materials and Fire Protection | 24.0 |  | ü |
| 090101d | Communication | 24.0 | ü | ü |
| 090101e | Measuring Tools | 24.0 | ü | ü |
| 090101f | Specialty Hand Tools | 24.0 | ü | ü |
| 090101g | Fastening Devices | 24.0 | ü | ü |
| 090101h | Electronic Service Information | 24.0 | ü | ü |
| 090101i | Oxyacetylene Heating and Cutting | 24.0 | ü | ü |
| 090102a | Frames | 24.0 | ü | ü |
| 090102b | Suspension and Steering Linkage Systems | 24.0 | ü | ü |
| 090102cA | Wheels, Hubs and Tires - Part A | 24.0 | ü | ü |
| 090102cB | Wheels, Hubs and Tires - Part B | 24.0 | ü | ü |
| 090102d | Electric Assist Steering | 24.0 | ü | ü |
| 090102e | Hydraulic Assist Steering | 24.0 | ü | ü |
| 090102f | Steering Angles | 24.0 | ü | ü |
| 090102g | Alignment Procedures | 24.0 |  | ü |
| 090102h | Steering Columns | 24.0 | ü | ü |
| 090102i | Suspension and Steering Diagnosis | 24.0 | ü | ü |
| 090102j | Drive Shafts | 24.0 |  | ü |
| 090103a | Brake System Fundamentals | 24.0 | ü | ü |
| 090103b | Hydraulic System Components | 24.0 | ü | ü |
| 090103c | Drum Brake Systems | 24.0 |  | ü |
| 090103d | Disc Brake Systems | 24.0 | ü | ü |
| 090103e | Power Brakes | 24.0 | ü | ü |
| 090103f | Brake System Diagnosis and Service | 24.0 |  | ü |
| 090104a | Electrical Fundamentals I | 24.0 | ü | ü |
| 090104b | Electrical Circuits I | 24.0 | ü | ü |
| 090104c | Fundamentals of Magnetism | 24.0 |  | ü |
| 090104d | Batteries | 24.0 | ü | ü |
| 090104e | Electrical System Diagnosis I | 24.0 | ü | ü |
| 090104f | Scan Tools | 24.0 | ü | ü |
| 090105a | Basic Maintenance | 24.0 |  | ü |
| 090105b | Light Utility Trailer Service | 24.0 | ü | ü |

### Second Period

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Module Number** | **Module Name** | **New Version**1 | **Maintenance Updates\*** | **Rebrand Updates**  |
| 090201a | Engine Fundamentals | 24.0 | ü | ü |
| 090201b | Engine Blocks | 24.0 |  | ü |
| 090201c | Crankshafts Friction Bearings and Related Components (Theory) | 24.0 | ü | ü |
| 090201d | Crankshafts, Friction Bearings and Related Components (Service) | 24.0 |  | ü |
| 090201e | Pistons Piston Rings and Connecting Rods (Theory) | 24.0 | ü | ü |
| 090201f | Pistons Piston Rings and Connecting Rods (Service) | 24.0 | ü | ü |
| 090201g | Camshafts and Valve Trains (Theory) | 24.0 | ü | ü |
| 090201h | Camshafts and Valve Trains (Service) | 24.0 | ü | ü |
| 090201i | Cylinder Head Assemblies (Theory) | 24.0 | ü | ü |
| 090201j | Cylinder Head Assemblies (Service) | 24.0 | ü | ü |
| 090201k | Engine Disassembly and Assembly Procedures | 24.0 | ü | ü |
| 090201l | Air Induction Systems | 24.0 | ü | ü |
| 090201m | Exhaust Systems | 24.0 | ü | ü |
| 090201n | Lubrication Systems | 24.0 |  | ü |
| 090201o | Cooling Systems | 24.0 | ü | ü |
| 090201p | Engine Mechanical Diagnosis | 24.0 | ü | ü |
| 090202a | Manual Transmission Fundamentals | 24.0 | ü | ü |
| 090202b | Manual Transmissions | 24.0 | ü | ü |
| 090202c | Manual Transaxles | 24.0 | ü | ü |
| 090202d | Clutches | 24.0 | ü | ü |
| 090203a | Manual Transfer Cases | 24.0 | ü | ü |
| 090203b | Electronic Transfer Cases | 24.0 | ü | ü |
| 090203c | All Wheel Drive (AWD) Transfer Cases | 24.0 | ü | ü |
| 090203d | Four Wheel Drive (4WD) Controls | 24.0 | ü | ü |
| 090204a | Axles and Bearings | 24.0 | ü | ü |
| 090204b | Differentials | 24.0 | ü | ü |
| 090204c | Final Drive Gear Sets | 24.0 | ü | ü |
| 090204d | Final Drive Gear Set Assembly | 24.0 | ü | ü |
| 090204e | Drive Axle Assembly Diagnosis and Service | 24.0 | ü | ü |
| 090205a | Electrical Fundamentals II | 24.0 | ü | ü |
| 090205b | Electrical Circuits II | 24.0 | ü | ü |
| 090205c | Electrical System Diagnosis II | 24.0 | ü | ü |
| 090205d | Charging Systems and Control Circuits | 24.0 | ü | ü |
| 090205e | Charging System Testing and Diagnosis | 24.0 |  | ü |
| 090205f | Starter Motors and Control Circuits | 24.0 | ü | ü |
| 090205g | Starting System Testing and Diagnosis | 24.0 | ü | ü |

### Third Period

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Module Number** | **Module Name** | **New Version**1 | **Maintenance Updates\*** | **Rebrand Updates**  |
| 090301a | Electrical Fundamentals III | 24.0 | ü | ü |
| 090301b | Control Module Inputs, Switches and Sensors | 24.0 | ü | ü |
| 090301c | Control Module Outputs and Output Devices | 24.0 | ü | ü |
| 090301d | Control Modules | 24.0 |  | ü |
| 090301eA (New) | Multiplexing and Networking | 24.0 | ü | ü |
| 090301eB (New) | Vehicle Networks | 24.0 | ü | ü |
| 090301f | Advanced Electrical Schematics | 24.0 | ü | ü |
| 090302a | Ignition System Fundamentals | 24.0 |  | ü |
| 090302b | Electronic Ignition Systems | 24.0 | ü | ü |
| 090302c | Ignition System Diagnosis and Service | 24.0 | ü | ü |
| 090303a | Fuel Properties | 24.0 | ü | ü |
| 090303b | Combustion and Exhaust Emissions | 24.0 | ü | ü |
| 090303c | Fuel Tanks and Supply Systems | 24.0 | ü | ü |
| 090303d | Fuel Injection System Fundamentals | 24.0 | ü | ü |
| 090303e | Fuel Injection System Diagnosis and Service | 24.0 | ü | ü |
| 090303f | Alternate Fuel Systems | 24.0 | ü | ü |
| 090304a | Exhaust Gas Recirculation Systems | 24.0 | ü | ü |
| 090304b | Air Injection Systems | 24.0 | ü | ü |
| 090304c | Catalytic Converter Systems | 24.0 | ü | ü |
| 090304d | Evaporative Emission Control Systems | 24.0 | ü | ü |
| 090305a | Gauges and Warning Systems | 24.0 | ü | ü |
| 090305b | Lighting Systems | 24.0 | ü | ü |
| 090305c | Wiper and Washer Systems | 24.0 | ü | ü |
| 090305d | Power Accessory Systems | 24.0 | ü | ü |
| 090305e | Heated Systems | 24.0 |  | ü |
| 090305f | Speed Control Systems | 24.0 | ü | ü |
| 090305g | Information and Entertainment Systems | 24.0 | ü | ü |
| 090305h | Safety and Security Systems | 24.0 | ü | ü |
| 090305i | DISCONTINUED AND RENUMBERD TO 090301eB | N/A | N/A | N/A |
| 090305j | Anti-Lock Brake Systems (ABS) | 24.0 | ü | ü |
| 090305k | Passenger Restraint Systems | 24.0 | ü | ü |

### Fourth Period

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Module Number** | **Module Name** | **New Version**1 | **Maintenance Updates\*** | **Rebrand Updates**  |
| 090401a | Automatic Transmission Fundamentals | 24.0 |  | ü |
| 090401b | Planetary Gear Sets | 24.0 | ü | ü |
| 090401c | Torque Converters | 24.0 | ü | ü |
| 090401d | Oil Pumps | 24.0 | ü | ü |
| 090401e | Clutches and Bands | 24.0 | ü | ü |
| 090401f | Hydraulic Valve Fundamentals | 24.0 | ü | ü |
| 090401g | Shift Valves | 24.0 | ü | ü |
| 090401h | Electronically-Controlled Automatic Transmissions (Operation) | 24.0 | ü | ü |
| 090401i | Electronically-Controlled Automatic Transmissions (Circuits) | 24.0 |  | ü |
| 090401j | Electronically-Controlled Automatic Transmissions (Diagnosis) | 24.0 | ü | ü |
| 090401k | Continuously Variable Transmissions (CVTs) | 24.0 | ü | ü |
| 090401l | Automatic Transmission Testing and Adjustments | 24.0 | ü | ü |
| 090401m | Automatic Transmission Service and Repair | 24.0 | ü | ü |
| 090402a | Electronic Diesel Fuel Injection Systems | 24.0 | ü | ü |
| 090402b | Diesel Engine Emission Controls | 24.0 | ü | ü |
| 090403a | HVAC Systems | 24.0 | ü | ü |
| 090403b | HVAC Controls | 24.0 | ü | ü |
| 090403c | HVAC Repair | 24.0 | ü | ü |
| 090404a | HEV Safety Protocols | 24.0 | ü | ü |
| 090404b | Hybrid Electric Vehicles | 24.0 | ü | ü |
| 090405a | Vehicle System Integration | 24.0 | ü | ü |
| 090406a | Workplace Coaching Skills | 24.0 | ü | ü |
| 090406b | Alberta’s Industry Network | 24.0 | ü | ü |
| 090406c | Interprovincial Standards Red Seal Program | 24.0 | ü | ü |

### Additional Modules

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Module Number** | **Module Name** | **New Version**1 | **Maintenance Updates\*** | **Rebrand Updates**  |
| A090101aB | Communication - Part B | 24.0 | ü | ü |
| A090102b | Gas Metal Arc Welding (GMAW) (MIG Welding) | 24.0 | ü | ü |
| A090201k | Cylinder Head Assemblies (Service) | 24.0 | ü | ü |
| A090201p | Emission Control Systems | 24.0 | ü | ü |
| A090201q | Starting Aids | 24.0 | ü | ü |
| A090205h | Generator Service Procedures | 24.0 |  | ü |
| A090301f | Electronic Testing Equipment | 24.0 | ü | ü |
| A090302c | Generator Service Procedures | 24.0 | ü | ü |
| A090303b | Distributor Ignition Systems | 24.0 | ü | ü |
| A090303d | Starter Motor Service | 24.0 | ü | ü |
| A090304e | Exhaust Gas Analysis | 24.0 |  | ü |
| A090305a | Ignition System Fundamentals | 24.0 | ü | ü |
| A090305aA | Diesel Fuel Injection Systems (Mechanical) - Part A | 24.0 | ü | ü |
| A090305aB | Diesel Fuel Injection Systems (Mechanical) - Part B | 24.0 | ü | ü |
| A090306b | Carburetors | 24.0 | ü | ü |
| A090308a | Liquefied Petroleum Gas/Compressed Natural Gas Fuel Systems | 24.0 | ü | ü |
| A090309a | Heated Air Intake Systems | 24.0 | ü | ü |
| A090405a | After Market Accessories | 24.0 | ü | ü |

1. ILMs are updated on a module-by-module basis; not all modules in a Period are updated within the same cycle, and a combination of different version numbers within a Period is normal. **However, every module has received a new version number for the 2022 publishing cycle to reflect their rebranding.** The most current, published version of each module will always be the version that is posted on the [Order Modules](https://ilm.nait.ca/order-modules) page of the ILM website. [↑](#footnote-ref-2)