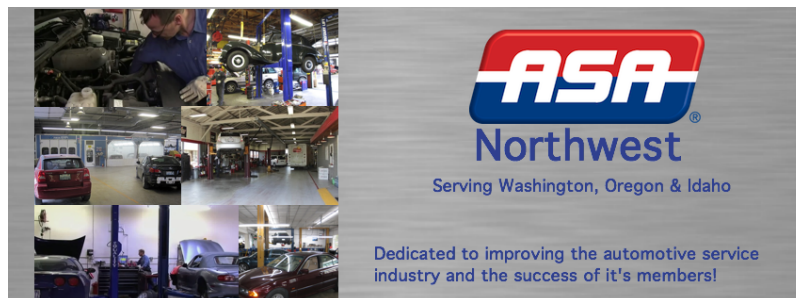




Independent Technicians
Automotive Committee

Automotive Apprenticeship Program



Employer Program Guide

Program Guide for Employers

The automotive repair industry has been a major contributor to the nation's economy and workforce for over 100 years. This trend does not seem to be diminishing and with the advancing technologies having a skilled workforce is more important than ever.

Employers have found it increasingly difficult to find trained technicians because of a shortage of skilled workers and as more workers retire this problem will grow. Employers have also expressed concern that the education system does not adequately prepare their graduates to enter the workforce.

ASA Northwest developed the ITAC Automotive Apprenticeship Program to address the growing need for trained Automotive Repair Technicians. This structured program combines Related Supplemental Instruction with On-The-Job Training (OJT).

Companies that implement a structured OJT program show their commitment by investing in both the mentor and apprentice to produce highly skilled and knowledgeable workers. Structured OJT programs result in an accelerated Return on Investment (ROI) for the employer, mentor, and apprentice with increased productivity and safety awareness.

You will find that the ITAC Automotive Apprenticeship Program along with your highly skilled mentor is the most effective way of transferring the greatest depth and breadth of knowledge to the apprentice.

This strong commitment by the employer and mentor conveys a message of investment that will foster growth and development of the next generation of technician. This also creates a sense of loyalty and increases pride in the workplace.



Programs offered

ITAC offers two different apprenticeship opportunities that offer a nationally recognized certificate of completion:

1. General Service Technician (GST). This a 1 year 2000-hour apprenticeship with an additional 150 hours of related instruction (RSI). Upon successful completion the technician will be proficient in shop safety, general tool usage, comprehensive vehicle inspections, and general maintenance procedures. Time and competencies will transfer to MST.
2. Master Service Technician (MST). This a 4 year 8000-hour apprenticeship with an additional 600 hours of related instruction (RSI). Upon successful completion the technician will be able to perform repairs in all areas of vehicle diagnosis and repair.

**See Mentorship/OJT below.*

As with anything business related you have paperwork that needs to be completed. The following is a list of forms, links to them electronically, and instructions for completing each. Hard copy forms are included in this packet. There is also information about step/wage progression and training requirements.

- Authorized/Approved Training Agent – F100-508-000
<https://www.lni.wa.gov/FormPub/Detail.asp?DocID=1472>
- Training Agent Agreement and Understanding of Equal Employment Opportunity (EEO) Requirements of the Apprenticeship Committee Alternate Selection Process – F100-523-000
<https://www.lni.wa.gov/FormPub/Detail.asp?DocID=2078>
- Apprenticeship Agreement – F100-016-000
<https://www.lni.wa.gov/FormPub/Detail.asp?DocID=1454>
- Apprentice Work Progress Record
- Apprentice Competency Evaluation Form

Youth Apprenticeship

- Minor Work Permit – 70028 <https://bls.dor.wa.gov/minorworkpermit.aspx>
- Parent/School Authorization School Year – F700-002-000
<https://www.lni.wa.gov/FormPub/Detail.asp?DocID=1454>
- Parent/School Authorization Summer –

- f700-168-000 <https://www.lni.wa.gov/FormPub/Detail.asp?DocID=2630>
- Student Learner Exemption Minor Work Variance Application – F700-166-000 <https://www.lni.wa.gov/FormPub/Detail.asp?DocID=2630>

Instructions for becoming a Training Agent T/A:

Authorized/Approved Training agent – F100-508-000

Line 1 – Effective Date = Date applied to be training agent L&I Apprenticeship Consultant = Evan Hamilton

Line 7 – Independent Technicians Automotive Committee

Line 8 – General Service Technician or Master Service Technician

Lines 9 – 12 – For the Employer = Supervisor

Equal Employment Opportunity (EEO) – F100-523-000

Blank space in first sentence = ITAC Apprenticeship

Fill out Company Name, Company Representative, Date, Sign

Instructions for hiring an apprentice:

The employer is responsible for the hiring of the apprentice. You will do this with your standard hiring procedures. If you will be hiring a Youth Apprentice affiliated with one of our approved high school programs we would encourage you to arrange with the instructor to perform your interviews at the school. This will increase awareness of the program and could be more convenient for you to interview multiple candidates quickly.

Apprenticeship Agreement – F100-016-000

2nd box, Name of registered apprenticeship program = ITAC Apprenticeship

3rd box, All information related to apprentice

4th box, Employer information and signature

5th box, *Term of apprenticeship (hours or months)* = GST 2000 hours, MST 8000 hours. *Apprenticeship occupation* = General Service Technician or Master Service Technician. *Registered at wage progression* = List wage progression step listed

below for amount of credit, i.e. step 1 for 0-1000 hours, etc. Please see Wage Step Progression and current minimum wage requirements. Note, employer may pay above the listed wage at their discretion but have apprentice progress along step requirements.

Wage progression schedule (may be affected by local minimum wage requirements.)

General Service Technician (GST)		
Current minimum journey level wage \$16.90 per hour		
Step	Hour Range/competency	% of journey wage*
1	0 – 1000 hours	80% \$13.52
2	1001 – 2000	85% \$14.37
Master Service Technician (MST)		
Current minimum journey level wage \$28.25 per hour		
1	0-1000	60% \$16.95
2	1001 -2000	65% \$18.36
3	2001 – 3000	70% \$19.78
4	3001 – 4000	75% \$21.19
5	4001 – 5000	80% \$22.60
6	5001 – 6000	85% \$24.01
7	6001 – 7000	90% \$25.43
8	7001 - 8000	98% \$27.69
*Plus applicable fringe benefits		

6th box, Apprentice to sign

Instructions for hiring a minor:

The employer needs to add a Minor Work Permit to business license using the link above or form supplied. There is a processing fee for this.

You will also need to complete the Student Learner Exemption form F700-166-000.

Line 1 check yes box, 1A put General Service Technician or Master Service Technician.

Lines 1B – 4 fill out appropriately. Be sure to list all equipment minor will be using.

Apprentice Work Progress Record

This form tracks your time in each required area and must be completed monthly and submitted to asanw.itacapprenticeship@gmail.com by the 15th of the following month. Instructions are included with the form in this packet.

Apprentice Competency Evaluation Form

This form tracks your hands-on competency and is filled out by the employer and apprentice as individual competencies are achieved. This form will be submitted at the end of the apprenticeship period.

Mentorship and on-the-job training (OJT)

<u>General Service Technician (GST)</u>	Hours
GST 1. Vehicle Inspection and Shop Safety.....	800
A. General: Vehicle Inspection B. Shop Safety Procedures	
C. Lifting and Rigging	
D. Equipment Knowledge and Usage	
E. Customer Service, Job Plans, and Logistics	
F. Materials Handling and Bench Work	
 GST 2. Engine Repair.....	 200
A. General: Engine Design and Theory	
B. Lubrication and Cooling Systems Design and Service	
 GST 3. Automatic Transmission and Transaxle.....	 60
A. General: Transmission and Transaxle Design and Service	
B. Automatic Transmission Design and Service	
 GST 4. Manual Drivetrain and Axles.....	 40
A. General: Drivetrain Design and Service	
 GST 5. Suspension and Steering.....	 200
A. General: Suspension and Steering Systems Overview	

B. Steering Systems Design and Service	
C. Suspension Systems Design and Service	
D. Wheels and Tires Design and Service	
GST 6. Brakes.....	200
A. General: Brake System Overview	
B. Hydraulic System Design and Service	
C. Drum Brakes Design and Service	
D. Disc Brake Design and Service	
GST 7. Electrical/Electronic Systems.....	300
A. General: Electrical Systems Theory	
B. Battery Diagnosis and Service	
GST 8. Heating, Ventilation, and Air Conditioning (HVAC).....	100
A. General: A/C System Diagnosis / Design and Theory	
B. Heating, Ventilation, and Engine Cooling Systems Design and Service	
GST 9. Engine Performance.....	100
A. General: Engine Diagnosis and Operation	
B. Computerized Controls Theory and Operation	

Total Hours: 2,000

<u>Master Service Technician (MST)</u>	Hours
MST 1. Vehicle Inspection and Shop Safety	400
A. General: Inspection Diagnosis	
B. Advanced: Inspection Diagnosis	
C. Shop Safety Procedures	
D. Lifting and Rigging	
E. Equipment Knowledge and Usage	
F. Customer Service	
G. Materials Handling and Bench Work	
MST 2. Engine Repair.....	1200

A. General: Engine Diagnosis; Removal and Reinstallation (R&R)	
B. Cylinder Head and Valve Train Diagnosis and Repair	
C. Engine Block Assembly Diagnosis and Repair	
D. Lubrication and Cooling Systems Diagnosis and Repair	
MST 3. Automatic Transmission and Transaxle.....	320
A. General: Transmission and Transaxle Diagnosis	
B. Automatic Transmission and Transaxle Repair	
C. Off-Vehicle Transmission and Transaxle Repair	
MST 4. Manual Drive Train and Axles.....	80
A. General: Drive Train Diagnosis	
B. Clutch Diagnosis and Repair	
C. Transmission /Transaxle Diagnosis and Repair	
D. Drive Shaft and Half Shaft, Universal and Constant-Velocity (CV) Joint Diagnosis and Repair (Front, Rear, All-Wheel, and Four-Wheel Drive).	
E. Drive Axle Diagnosis and Repair, 1 Ring and Pinion Gears and Differential Case Assembly, 2 Limited Slip Differential, 3 Drive Axles	
F. Four-Wheel Drive/ All-Wheel Drive Component Diagnosis and Repair	
MST 5. Suspension and Steering.....	800
A. General: Suspension and Steering Systems	
B. Steering Systems Diagnosis and Repair	
C. Suspension Systems Diagnosis and Repair	
D. Related Suspensions and Steering Service	
E. Wheel Alignment Diagnosis, Adjustment, and Repair	
F. Wheels and Tires Diagnosis and Repair	
MST 6. Brakes.....	800
A. General: Brake System Diagnosis	
B. Hydraulic System Diagnosis and Repair	
C. Drum Brakes Diagnosis and Repair	
D. Disc Brake Diagnosis and Repair	
E. Power-Assist Units Diagnosis and Repair	

F. Related Systems (Wheel Bearings, Parking Brakes, Electrical) Diagnosis and Repair	
G. Electronic Brake Control Systems: Antilock Brake (ABS), Traction Control (TCS), and Electronic Stability Control (ESC) Systems Diagnosis and Repair	
MST 7. Electrical/Electronic Systems.....	2400
A. General: Electrical Systems Diagnosis	
B. Battery Diagnosis and Service	
C. Starting Systems Diagnosis and Repair	
D. Charging System Diagnosis and Repair	
E. Lighting System Diagnosis and Repair	
F. Instrument Cluster and Driver Information Systems Diagnosis and Repair	
G. Body Electrical Systems Diagnosis and Repair	
MST 8. Heating, Ventilation, and Air Conditioning (HVAC).....	400
A. General: A/C System Diagnosis and Repair	
B. Refrigeration System Components Diagnosis and Repair	
C. Heating, Ventilation, and Engine Cooling Systems Diagnosis and Repair	
D. Operating System and Related Controls Diagnosis and Repair	
E. Refrigerant Recovery, Recycling, and Handling	
MST 9. Engine Performance.....	1600
A. General: Engine Diagnosis	
B. Computerized Controls Diagnosis and Repair	
C. Ignition System Diagnosis and Repair	
D. Fuel, Air Induction, and Exhaust Systems Diagnosis and Repair	
E. Emission Control Systems Diagnosis and Repair	

Total Hours: 8,000

The above schedule of practical work experience is designed as a guide. The Apprentice shall be instructed and trained in all operations and methods customarily used in their trade. Each shop will adhere to as closely as facilities will permit and as approved by the Apprenticeship Committee. Retention of the apprentice on a particular operation beyond the established time should not

occur unless there is a definite need for further training in the process. Refer to the apprentice work progress record for additional information related to specific work processes.

Related Supplemental Instruction (RSI)

1. Each apprentice must enroll in and attend classes in related instruction as prescribed by the Committee. The apprentice will be responsible for payment for their classes, subject to their employer's tuition reimbursement policy.
2. Adequate safety instruction will be provided, emphasized and reinforced in all aspects of Related Supplemental Instruction even if the syllabus does not explicitly list safety as a topic.
3. To advance to the journey level of their occupation, the apprentice must provide a copy of a valid and current Industrial First Aid and CPR card.
4. Apprentices are responsible for acquiring their own textbooks, which are required for the class.
5. All ITAC apprentices will be provided with a minimum of 144 hours of RSI per year, up to a total of:

150 hours of RSI over the course of their apprenticeship for General Service Technician.

600 hours of RSI over the course of their apprenticeship for Master Service Technician apprentices.

NOTE: General Service Technician Apprentices will take three of the four RSI courses in the RSI Plan. The Core courses provided to all apprentices are Vehicle Inspection and Shop Safety and Brakes. Apprentices will be offered either the Suspension and Steering course or the Electrical/Electronic Systems course as determined by the equipment available to the program.

Contact information:

Wayne Bridges

Training Coordinator

ASA-NW/ITAC

253-209-0731

Asanw.itacapprenticeship@gmail.com



Washington State Department of
Labor & Industries

Authorized Training Agent

Apprenticeship
PO Box 44530
Olympia WA 98504-4530

Effective Date	Termination Date	L&I Apprenticeship Consultant
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Employer Name		
Address		
City	State	Zip Code
Contact Person Name	Contact Phone Number	
Contact Email	Contact Fax Number	
Contractor ID Number (if applicable)	UBI Number	
Name of Registered Apprenticeship Program		
Occupation(s)		

The Employer understands and agrees that participation is voluntary. Failure to adhere to the requirements for apprenticeship established under RCW 49.04, Chapter 296-05 WAC, and 29 CFT Parts 29 and 30 could result in the cancellation of the employer's agreement and its ability to participate in the apprentice program.

For the Employer

Signature
Printed Name
Title
Date

For the Apprenticeship Program

Signature
Printed Name
Title
Date

For L&I Apprenticeship Use Only

ARTS Assigned Employer ID #

Date Entered in ARTS

Department of Labor and Industries
Apprenticeship Section
PO Box 44530
Olympia WA 98504-4530



**TRAINING AGENT AGREEMENT AND
UNDERSTANDING OF EQUAL EMPLOYMENT
OPPORTUNITY (EEO) REQUIREMENTS OF
THE APPRENTICESHIP COMMITTEE
ALTERNATE SELECTION PROCESS**

The following training agent subscribes and agrees to comply with the requirements in the apprenticeship program standards registered as _____ with the Washington State Apprenticeship and Training Council (WSATC), hereby agrees, in consideration of their participation in the registered program:

1. To comply with the Equal Employment Opportunity (EEO) requirements of the WSATC; the U.S. Department of Labor's Equal Opportunity regulation 29 CFR Part 30; and the pledge, EEO plan and selection method filed by the name Apprenticeship Committee and approved by the WSATC and the Office of Apprenticeship, Training, Employer and Labor Services (OATELS), as being in conformity with the requirements of the EEO Plan of the WSATC, WAC 296-05, RCW 49.04, and 29 CFR Part 30; and
2. To have their name removed as a training agent from the above named program after a WSATC and/or OATELS finding of failure to adhere to the above EEO requirements, and
3. Notification of removal of as a training agent from participation in the above named apprenticeship program to be furnished to the Apprenticeship Section, Department of Labor and Industries, by the Apprenticeship Committee.

Company Name

Company Representative Name/Title

Date

Signature

Program Representative Name/Title

Signature

Date

Department of Labor & Industries
Apprenticeship Section
PO Box 44530
Olympia WA 98504-4530

APPRENTICESHIP AGREEMENT

Washington State Apprenticeship and Training Council



Date of Agreement (mm/dd/yyyy)

/ /

Registration No.

Registration Date (mm/dd/yyyy)

Approved By

THIS AGREEMENT IS BETWEEN:

Name of Registered Apprenticeship Program

AND

Apprentice Full Name (Last, First, Middle Initial, Suffix) (please print or type)		Social Security No.	
Address			
City		State	Zip Code
Phone		Email	
Sex <input type="checkbox"/> Male <input type="checkbox"/> Female	Date of Birth (mm/dd/yyyy) / /	Military Status <input type="checkbox"/> Non-vet <input type="checkbox"/> Vietnam era vet <input type="checkbox"/> Other than Vietnam era vet	
Race: (Select one or more) (If "Not Elsewhere Classified" is marked, please write-in race)		Ethnic Group: (choose one)	
<input type="checkbox"/> Asian	<input type="checkbox"/> Black or African American	<input type="checkbox"/> Hispanic	<input type="checkbox"/> American Indian or Alaska Native
<input type="checkbox"/> White	<input type="checkbox"/> Native Hawaiian Pacific Islander	<input type="checkbox"/> Not Elsewhere Classified	<input type="checkbox"/> Hispanic Origin
Current Education Level		<input type="checkbox"/> Not of Hispanic Origin	
<input type="checkbox"/> 8th Grade or Less	<input type="checkbox"/> 9th - 12th	<input type="checkbox"/> GED	<input type="checkbox"/> High School <input type="checkbox"/> College or Greater

AND (If Applicable)

EMPLOYER (Authorized Training Agent)

Name of Employer (Training Agent)	
Signature of Employer (Training Agent)	Date Signed By Employer (Training Agent)

Term of Apprenticeship (Hours or Months)	Apprenticeship Occupation (from Registered Standards of Apprenticeship)		
Date Apprenticeship Begins (mm/dd/yyyy) / /	Credit for Previous Experience (Hours or Months)	Registered at Wage Progression Step	Direct Entry** <input type="checkbox"/> Yes <input type="checkbox"/> No

**Direct entry: Apprentices registered using exceptions to the regular selection procedure as specified in the registered standards of Apprenticeship (i.e. exceptions, exemptions, variances).

The employer (training agent) and/or sponsor, the apprentice, and his/her parent or guardian (if a minor), hereby enter into the term of apprenticeship in conformity with the apprenticeship standards for the occupation indicated. The apprenticeship standards, approved by the Washington State Apprenticeship and Training Council, are hereby made a part of this agreement with the same force and effect as though written herein.

This agreement must be approved by and registered with the Washington State Apprenticeship and Training Council and may only be annulled by the council's own motion, after giving all parties notice and opportunity to be heard.

The employer (training agent) and/or sponsor, agrees to train the apprentice, and the apprentice agrees to perform the work of the occupation diligently and faithfully during the term of apprenticeship, in accordance with the terms and conditions of the apprenticeship standards.

Sponsor has made Apprenticeship Standards available to the apprentice.

APPRENTICE

Apprentice - Legal Signature
If a Minor, Parent or Guardian Signature

SPONSOR

Registered Apprenticeship Program Authorized Signature
Printed Name of Authorized Signature

All of the information provided/collected becomes public records that may be subject to inspection and copying by members of the public, unless an exemption in law exists such as RCW 42.56.230 (2), RCW 42.56.250 (2) and (3), or other State or Federal rule/law. Exempted information includes, but is not limited to street address, telephone number, personal electronic email address, social security number, and date of birth. Information may be shared for research purposes with other government agencies.

F100-016-000 Apprenticeship Agreement 05-2013



Student Learner Exemption Minor Work Variance Application for 16 — 17 years old

Employment Standards Program
PO Box 44510
Olympia WA 98504-4510

Email: TeenSafety@Lni.wa.gov
Fax: 360-902-5300
Phone: 1-866-219-7321

Read the instruction prior to completing this form to see if you qualify.

Employer Information

Your Business Name		Corporation Name	
Type of Business & Products Manufactured or Services Rendered			
Washington Unified Business Identifier (UBI)	Location ID (Last 4 Digits)	School Year Are You Requesting This Variance (Example: 2019-2020)	
Mailing Address		City	State Zip Code
Location Address (Physical location where teen will be working)		City	State Zip Code
Contact Name		Contact Email	
Contact Phone Number		Contact Fax Number (Optional)	

Description of Variance Request

1. Is your business registered as a program or an approved employer/training agent under an apprenticeship standard approved by the Washington State Apprenticeship and Training Council? ☐ Yes ☐ No

If you answered "Yes", complete Questions 1A and 1B. If you answered "No", go to Question 2.

1A. List occupation name: _____

1B. Is the student currently enrolled in school? ☐ Yes ☐ No

2. Number of student learners you anticipate (if known): _____

3. Are you requesting this variance to:

- Extend work hours for a minor(s) in non-agricultural employment (WAC 296-125-027)? ☐ Yes ☐ No

If "Yes", please specify the hours you are requesting below.

School Week			Non-School Week		
Variance	Max Allowed	Your Request	Variance	Max Allowed	Your Request
Hours per Day	4 hours		Hours per Day	8 hours	
Fri — Sun	8 hours		Hours per Week	48 hours	
Hours per Week	20 hours		Start Time	5:00 am	
Start Time	7:00 am		Quitting Time	Midnight	
Quitting Time	10:00 pm				
Fri — Sat	Midnight				

Continue to the next page.

• Permit the minor to perform a work duty prohibited for his/her age (WAC 296-125-030)? ☐ Yes ☐ No

If "Yes", please specify prohibited work to be performed by minor(s):

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Power-driven woodworking machines | <input type="checkbox"/> Roofing operations and all work on or about a roof |
| <input type="checkbox"/> Power-driven metal-forming, punching, and shearing machines | <input type="checkbox"/> Power-driven circular saws, bandsaws, chainsaws, guillotine shears, wood chippers, and abrasive cutting discs |
| <input type="checkbox"/> Operating power-driven meat processing equipment, including meat and other food slicers in retail and service establishments, and most operations in meat and poultry slaughtering, packing, processing, or rendering. | <input type="checkbox"/> Excavation operations |
| | <input type="checkbox"/> Power-driven balers, compactors, and paper processing machines |

List any Personal Protective Equipment (PPE) required, if any.

_____	_____
_____	_____
_____	_____

4. On the following page, provide a complete list of equipment that the minor will be trained on.

Employer Signature

Print Name of Employer Representative

Signature of Employer Representative

Date

School Information

Print Name of School in which Student Enrolled

Print Name of School District

Print Name of School Program

Print Name School Contact & Position/Title

Phone Number

Email Address



Employment Standards Program
PO Box 44510
Olympia WA 98504-4510

List only the equipment name, make/model, and type of material that the teen worker will be trained on.

[illegible]



Employment Standards Program
PO Box 44510
Olympia WA 98504-4510

Phone: 866-219-7321

Fax: 360-902-5300

Email: TeenSafety@Lni.wa.gov

Web: www.Lni.wa.gov/TeenWorkers

Parent/School Authorization

For parents or legal guardians and school officials to indicate approval for a minor employee to work accordingly to the terms listed by the employer and within the limits of child labor regulations.

This is not a Minor Work Permit

Employers must have a *Minor Work Permit endorsement on their Business License for each work location where minors are employed and renew it each year. To apply, go to: <http://bls.dor.wa.gov/minorworkpermit.aspx>*

Do not mail this form to L&I. This form must be **kept on file by the employer** at the minor's workplace and be available for department audit. A copy should also be maintained by the minor's school representative. Additionally, the employer must renew this parent/school authorization **by September 30 of each year or when work schedule changes.**

Employee Information — To be completed by the employee

Employee Name		Date of Birth (mm/dd/yyyy) (Must be accompanied by proof)	
Address		Phone Number	
City	State	Zip Code	
School's Name (if home schooled/not enrolled in school/online classes please note)		School's Phone (include area code)	
School's Address	City	State	Zip Code
Are you employed at another job? <input type="checkbox"/> Yes <input type="checkbox"/> No		If "Yes", how many hours do you work per week?	

Employer Information

Before allowing a minor to begin work, you must obtain and keep on file, at the minor's workplace, a fully completed Parent/School Authorization. As the employer, it is your responsibility to ensure that this form is completed by you before collecting signatures.

Employer Business Name	Phone Number		
Washington Unified Business Identifier (UBI)	Expiration Date of Minor Work Permit		
Location Address (Physical location where minor will be working)	City	State	Zip Code
Contact Name			
Wage per Hour \$			
List of Specific Job Duties			

Employers: Please read before filling out the anticipated hours and work schedule on the following page. Per WAC 296-125-027 — Minors **cannot** work during the hours that school is in session. Employers should refer to the minor's neighborhood school's website for the hours of school to determine what hours the minor is eligible to work. This rule also applies to homeschooled students. No students should work during the hours that their neighborhood school is in session unless the employer has been granted a variance from the Department of Labor & Industries.

Hours and Work Schedule — Parents & schools may adjust hours and schedule as needed.

Minors *cannot* work during the hours that school is in session. Employers should refer to the school's website to determine what these hours are.

Hours and Schedules Minors are Permitted to Work in Non-Agricultural Jobs

Age Group	School Week	Hours/Day	Hours/Week	Days/Week	Begin	Quit
14 — 15 Years Old	School Week	3 hours (8 hrs Sat-Sun)	16 hours	6 days	7 a.m.	7 p.m.
	Non-School Week	8 hours	40 hours	6 days	7 a.m.	7 p.m. (9 p.m. June 1 to Labor Day)
16 — 17 Years Old	School Week	4 hours (8 hrs Fri — Sun)	20 hours	6 days	7 a.m.	10 p.m. (Midnight Fri — Sat)
	School Week with a special variance	6 hours (8 hrs Fri — Sun)	28 hours	6 days	7 a.m.	10 p.m. (Midnight Fri — Sat)
	Non-School Week	8 hours	48 hours	6 days	5 a.m.	Midnight

- An adult must supervise minors working after 8 p.m. in service occupations such as restaurants and retail businesses.
- Overtime rules apply for all hours worked over 40 in one week.
- Special Variance does not apply to home-schooled students.

Hours and Schedules Minors are Permitted to Work in Agricultural Jobs

Age Group	School Week	Hours/Day	Hours/Week	Days/Week	Begin	Quit
12 — 13 Years Old	School Week	8 hours	40 hours	6 days	5 a.m.	9 p.m.
	Non-School Week	3 hours (8 hrs. non-school days)	21 hours	6 days*	7 a.m. (6 a.m. in animal agriculture & irrigation)	8 p.m.
14 — 15 Years Old	School Week	8 hours	40 hours	6 days*	5 a.m.	9 p.m.
	School Week	4 hours (8 hrs non-school days)	28 hours	6 days*	5 a.m.	10 p.m. (No later than 9 p.m. on more than 2 consecutive nights before a school day)
	Non-School Week	10 hours	50 hours (60 hours per week in mechanical harvest of peas, wheat, and hay)	6 days*	5 a.m.	10 p.m.

- 12 — 13 year-olds may work only during non-school weeks hand-harvesting berries, bulbs, cucumbers, and spinach.
- Exception — 14 — 17 year-olds are allowed to work 7 days a week in dairy, livestock, hay harvest, and irrigation during school and non-school weeks.

	Days	Hours per Day			Hours per Week			Start Time Circle A.M. or P.M.			Quitting Time Circle A.M. or P.M.		
		Employer	Parent/ School Adj.		Employer	Parent/ School Adj.		Employer	Parent/ School Adj.		Employer	Parent/ School Adj.	
School Weeks	Mon — Thurs							A.M. / P.M.			A.M. / P.M.		
	Fri — Sun							A.M. / P.M.			A.M. / P.M.		
Non-School Weeks	Sun — Sat Parents adjust only							A.M. / P.M.			A.M. / P.M.		

Required Signatures

Employee's Signature		
Print Name _____	Employee's Signature _____	Date _____

Employer's Signature			
Print Name _____	Employer Representative Signature _____	Title _____	Date _____

Note: Parents and school representatives should **not** sign this form **unless** the Hours and Work Schedule for daily and weekly work schedules are completely filled out to reflect the anticipated maximum hours of work. The school or parent may limit the hours of work for a minor according to how the minor will be affected by working too many hours, e.g., homework, attendance, etc., and may reduce and approve fewer hours than the rules allow or are requested by the employer.

Parental Authorization

I consent to allow the minor listed to be employed at the occupation and under the conditions stated above.

Print Name _____	Parent or Guardian Signature _____	Phone Number _____	Date _____
------------------	------------------------------------	--------------------	------------

Comments by Parental Authority

School Authorization

The stated hours of employment meet the requirements of school attendance regulations and are hereby approved.

Print Name _____	School Representative Signature _____	Title _____
------------------	---------------------------------------	-------------

Phone Number _____	Date _____
--------------------	------------

Comments by School Representative

Optional School Week Special Variance Authorization For 16 – 17 Year Old Minors in Non-Agricultural Employment Only

A Special Variance allows a 16 – 17 year-old minor to work up to 28 hours per week with 6-hour shifts during the school week with approval of the authorized school official and the parent. All parties must agree to these additional hours. [Pursuant to WAC 296-125-0700]

School officials should not sign for any additional hours allowed by the Special Variance if a review of the student's progress indicates the additional work hours will be detrimental to the minor's educational activities.

Please note: The Special Variance is only for minors enrolled in public or private school. This does not apply to homeschooled students.

Are you planning to use the Special Variance for additional school-week work hours?

☐ Yes ☐ No If checked "Yes", both signatures below are required.

Parental Authorization _____	School Authorization _____
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Employment Standards Program
PO Box 44510
Olympia WA 98504-4510

Phone: 866-219-7321
Fax: 360-902-5300
Email: TeenSafety@Lni.wa.gov
Web: www.Lni.wa.gov/TeenWorkers

Parent Authorization for Summer Work

For parents or legal guardians to indicate approval for a minor employee to work according to the terms listed by the employer and within the limits of the child labor regulations.

This is not a Minor Work Permit

Employers must have a *Minor Work Permit endorsement on their Business License* for each work location where minors are employed and renew it each year. To apply, go to: <http://bls.dor.wa.gov/minorworkpermit.aspx>

Do not mail this form to L&I. This form must be **kept on file by the employer** at the minor's workplace and be available for department audit. If minor continues employment into the school year, the employer must complete the **Parent/School Authorization by September 30 of each year or when work schedule changes.**

Employee Information — To be completed by the employee

Employee Name		Date of Birth (mm/dd/yyyy) — (Must be accompanied by proof)	
Address		Phone Number	
City	State	Zip Code	
Are you employed at another job? <input type="checkbox"/> Yes <input type="checkbox"/> No		If "Yes", how many hours do you work per week?	

Employer Information

Before allowing a minor to begin work, you must obtain and keep on file, at the minor's workplace, a fully completed Parent Authorization for Summer Work. As the employer, it is your responsibility to ensure that this form is completed by you before collecting signatures.

Employer Business Name		Phone Number	
Washington Unified Business Identifier (UBI)		Expiration Date of Minor Work Permit	
Location Address (Physical location where minor will be working)		City	State Zip Code
Contact Name			
Wage per Hour \$			
List of Specific Job Duties			

Employers: Please fill out the anticipated hours and work schedule on the following page according to the corresponding hours chart and age group.
Parents/legal guardians may adjust these hours and schedule as needed.

Continue to Next Page

Hours and Work Schedule — Parents may adjust hours and schedule as needed.

Hours and Schedules Minors are Permitted to Work in Non-Agricultural Jobs

Summer Weeks	Age Group	Hours/Day	Hours/Week	Days/Week	Begin	Quit
	14 — 15 Years Old	8 hours	40 hours	6 days	7 a.m.	7 p.m. (9 p.m. June 1 to Labor Day)
	16 — 17 Years Old	8 hours	48 hours	6 days	5 a.m.	Midnight

- An adult must supervise minors working after 8 p.m. in service occupations such as restaurants and retail businesses.
- Overtime rules apply for all hours worked over 40 in one week.

Requested Hours of Work in Non-Agriculture Jobs

Hours per Day		Hours per Week		Start Time		Quitting Time	
Employer	Parent Adj.	Employer	Parent Adj.	Employer	Parent Adj.	Employer	Parent Adj.
				A.M. / P.M.	A.M. / P.M.	A.M. / P.M.	A.M. / P.M.

Hours and Schedules Minors are Permitted to Work in Agricultural Jobs

Summer Weeks	Age Group	Hours/Day	Hours/Week	Days/Week	Begin	Quit
	12 — 13 Years Old	8 hours	40 hours	6 days	5 a.m.	9 p.m.
	14 — 15 Years Old	8 hours	40 hours	6 days*	5 a.m.	9 p.m.
	16 — 17 Years Old	10 hours	50 hours (60 hours/week in mechanical harvest of peas, wheat, and hay)	6 days*	5 a.m.	10 p.m.

- 12 — 13 year-olds may work only during non-school weeks hand-harvesting berries, bulbs, cucumbers, and spinach.

*Exception — 14 — 17 year-olds are allowed to work 7 days a week in dairy, livestock, hay harvest, and irrigation during school and non-school weeks.

Requested Hours of Work in Agricultural Jobs

Hours per Day		Hours per Week		Start Time		Quitting Time	
Employer	Parent Adj.	Employer	Parent Adj.	Employer	Parent Adj.	Employer	Parent Adj.
				A.M. / P.M.	A.M. / P.M.	A.M. / P.M.	A.M. / P.M.

Required Signatures

Employee's Signature		
Print Name	Employee's Signature	Date

Employer's Signature			
Print Name	Employer Representative Signature	Title	Date

Parental Authorization			
I consent to allow the minor listed to be employed at the occupation and under the conditions stated above.			
Print Name	Parent or Guardian Signature	Phone Number	Date
Comments by Parental Authority			

APPRENTICE WORK PROGRESS RECORD **General Service Technician**

Name: _____ Apprenticeship Registration Number: _____
 Month: _____ Year: _____ Employer: _____

Hours Brought Forward	1		2		3		4		5		6		7		8		9		0		1		2		3		4		5		6		7		8		9		0		1		Hours This Month	Total Hours

Apprentice shall submit monthly work progress hours by the fifteenth (15th) day of the following month. Apprentices may not count more than 184 hours per month, or 2,080 hours per year, toward the required hours for completion.

Name of Program: _____ Independent Technicians Automotive Committee (ITAC) – General Service Technician (2000 hours)
 Supervisor Signature: _____ Apprentice Signature: _____ Wage Rate: \$ _____

APPRENTICE WORK PROGRESS RECORD

Master Service Technician

Name: _____ Apprenticeship Registration Number: _____

Month: _____ Year: _____ Employer: _____

Hours Brought Forward	WORK CODES										1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	Hours This Month	Total Hours
	MST - 1 (400 hrs)																																
	MST- 2 (1200 hrs)																																
	MST - 3 (320 hrs)																																
	MST- 4 (80 hrs)																																
	MST - 5 (800 hrs)																																
	MST - 6 (800 hrs)																																
	MST - 7 (2400 hrs)																																
	MST - 8 (400 hrs)																																
	MST - 9 (1600 hrs)																																
	Totals Hours																																

Apprentice shall submit monthly work progress hours by the fifteenth (15th) day of the following month. Apprentices may not count more than 184 hours per month, or 2,080 hours per year, toward the required hours for completion.

Name of Program: _____ Independent Technicians Automotive Committee (ITAC) – Master Service Technician (8000 hours)

Supervisor Signature: _____ Apprentice Signature: _____ Wage Rate: \$ _____

MST Apprentice work progress record

INSTRUCTIONS FOR APPRENTICE WORK PROGRESS RECORD

This is the permanent record of your apprenticeship. Make the entries in ink and have your supervisor sign each month's report. **The original should be kept for your records and the monthly total hours emailed to ITAC at asanw.ITACapprenticeship@gmail.com.** We recommend that you start a binder to keep these hard copy record sheets. The worksheet is the work record for one month. Each column represents one day. Mark the number of hours worked on each day on the row that lists the skill from the apprenticeship standards. Total the hours you worked each day on each row and record that number in the column titled "Hours this month". Report the total via email to asanw.ITACapprenticeship@gmail.com.

The hours from your work progress record are due at ITAC by the 15th of the month following the month you just completed (i.e. hours worked in January are due by February 15th). Failure to report hours by the 15th of the month may result in loss of hours and other disciplinary action. **Apprentices may not count more than 184 hours per month, or 2,080 hours per year, toward the required hours for completion.**

Work Processes:

GST-1. VEHICAL INSPECTION & SHOP SAFETY: General vehicle inspection, shop safety procedures, equipment knowledge, customer service, verbal and written communications. Material handling and bench work.

GST-2. ENGINE REPAIR: General engine work and learning design theory. Lubrication and learning cooling system design and service.

GST-3. AUTOMATIC TRANSMISSION & TRANSAXLE: Learning transmissions and transaxles identification and design. General work on transmissions and transaxles. Learning automatic transmission design and service.

GST-4. MANUAL DRIVETRAIN & AXLES: General knowledge and identification of drivetrain design. Learning how to service and repair drivetrains.

GST-5. SUSPENSION & STEERING: General knowledge and design identification of suspension and steering systems. Understanding and learning suspension systems design and services. Understanding wheel and tire designs and services.

GST-6. BRAKES: General knowledge and overview of brake systems and services. Hydraulic systems design and knowledge repair and services. Drum brakes design and services. Disc brakes design and services.

GST-7. ELECTRICAL/ELECTRONIC SYSTEMS: General knowledge of electrical system theory. Learning and doing battery diagnosis and services.

GST-8. HEATING & VENTILATION & AIR CONDITIONING (HVAC): General knowledge of A/C system diagnosis, understanding design and theory. Learning and repairing ventilation and engine cooling systems and services.

GST-9. ENGINE PERFORMANCE: Understanding of how engines operate and how to diagnose engine issues. Understanding of computerized controls and operations and services to support these systems

GST Apprentice work progress record

Rev 1/2019

General Service Technician Apprentice Competency Evaluation Form

App. Name		Date	
Company Name		GST/MST	GST
Evaluator		Title	

Grading Rubric:

5 = Outstanding – The employee has exceeded all of the performance expectations for this factor and has made many significant contributions to the efficiency and economy of this organization through such performance.

4 = Exceeds Expectations – The employee regularly works beyond a majority of the performance expectations of this factor and has made many significant contributions to the efficiency and economy of this organization through such performance

3 = Meets Expectations – The employee has met the performance expectations for this factor and has contributed to the efficiency and economy of this organization.

2 = Needs Improvement – The employee has failed to meet one or more of the significant performance expectations for this factor.

1 = Unsatisfactory – The employee has failed to meet the performance expectations for this factor.

Apprentice must achieve a level 3 or higher on a minimum of 85% of GST 1 – 8 Competencies as well as meeting hour's requirements, and complete First-aid & CPR training for completion of ITAC Apprenticeship Program.

Personal Effectiveness Competencies

(To be completed by employer)

Competency	Date	Circle one
Attendance – Maintains good attendance		1 2 3 4 5

Punctuality – Arrives and leaves the workplace on time		1 2 3 4 5
Perseverance – Attends to task. Continues difficult tasks until completed		1 2 3 4 5
Listening – Receives and responds to verbal messages effectively		1 2 3 4 5
Speaking – Organizes ideas and presents them logically, Clearly, and concisely		1 2 3 4 5
Initiative – Is self-motivated		1 2 3 4 5
Reliability – Completes assigned tasks without constant supervision		1 2 3 4 5
Commitment – Demonstrates alliance to company and profession		1 2 3 4 5
Enthusiasm – Demonstrates desire to learn and please		1 2 3 4 5
Safety Conscious – Observes safety rules and regulations		1 2 3 4 5
Leadership – Gets others to cooperate toward attainment of common goals		1 2 3 4 5

GST 1. Competencies

(To be completed by employer and apprentice)

Recommended Hours	800	
Competency	Date	Circle one
Shop and Personal Safety:		
1. Identify general shop safety rules		1 2 3 4 5
2. Utilize safe procedures for handling of tools and equipment		1 2 3 4 5
3. Identify and use proper placement of floor jacks and jack stands		1 2 3 4 5
4. Identify and use proper procedures for safe lift operation		1 2 3 4 5
5. Utilize proper ventilation procedures for working within the lab/shop area		1 2 3 4 5
6. Identify marked safety areas		1 2 3 4 5
7. Identify the location and the types of fire extinguishers and other fire safety equipment; demonstrate knowledge of the procedures for using fire extinguishers and other fire safety equipment		1 2 3 4 5
8. Identify the location and use of eye wash stations		1 2 3 4 5
9. Identify the location of the posted evacuation routes		1 2 3 4 5
11. Identify and wear appropriate clothing for lab/shop activities		1 2 3 4 5
12. Secure hair and jewelry for lab/shop activities		1 2 3 4 5
13. Demonstrate awareness of the safety aspects of supplemental restraint systems (SRS), electronic brake control systems, and hybrid vehicle high voltage circuits		1 2 3 4 5
14. Demonstrate awareness of the safety aspects of high voltage circuits (such as high intensity discharge (HID) lamps, ignition systems, injection systems, etc.		1 2 3 4 5
15. Locate and demonstrate knowledge of safety data sheets (SDS)		1 2 3 4 5

16. Successfully completed SP2 Safety Course		Yes/No
Tools and Equipment:		
1. Identify tools and their usage in automotive applications		1 2 3 4 5
2. Identify standard and metric designation		1 2 3 4 5
3. Demonstrate safe handling and use of appropriate tools		1 2 3 4 5
4. Demonstrate proper cleaning, storage, and maintenance of tools and equipment		1 2 3 4 5
5. Demonstrate proper use of precision measuring tools (i.e. micrometer, dial-indicator, dial-caliper)		1 2 3 4 5
Preparing Vehicle for Service:		
1. Identify purpose and demonstrate proper use of fender covers, floor mats and steering wheel covers		1 2 3 4 5
2. Ensure vehicle is prepared per company policy (floor mats, steering wheel cover, etc.)		1 2 3 4 5
3. Identify information needed and the service requested on a repair order		1 2 3 4 5
4. Demonstrate use of the three C's (complaint/concern, cause, correction		1 2 3 4 5
5. Review vehicle service history		1 2 3 4 5
6. Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction		1 2 3 4 5
Safe Use of Lifting and Hoisting Equipment:		
1. Successfully Completed ALI Lifting It Right on-line course		Yes/No
2. Demonstrates use of ALI Lifting Points Guide		1 2 3 4 5
3. Demonstrates proper vehicle positioning and lifting procedures		1 2 3 4 5
General Vehicle Inspection:		1 2 3 4 5
1. Demonstrates ability to check vehicle fluid levels and condition		1 2 3 4 5
2. Demonstrates ability to check operation of lighting systems		1 2 3 4 5
3. Demonstrates ability to check tire condition and pressures		1 2 3 4 5
4. Demonstrates ability to check windshield wiper/washer condition and operation		1 2 3 4 5
5. Demonstrates ability to check and replace engine and cabin air filters		1 2 3 4 5

GST 2. Competencies

Recommended Hours	200	
Competency	Date	Circle one
Engine Repair		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Verify operation of the instrument panel engine warning indicators		1 2 3 4 5
3. Inspect engine assembly for fuel, oil, coolant, and other leaks; determine necessary action.		1 2 3 4 5

4. Install engine covers using gaskets, seals, and sealers as required on minor operations		1 2 3 4 5
5. Perform common fastener and thread repair, to include: remove broken bolt, restore internal and external threads, and repair internal threads with thread insert		1 2 3 4 5
6. Identify service precautions related to service of the internal combustion engine of a hybrid vehicle		1 2 3 4 5
7. Identify components of the cylinder head and valve train		1 2 3 4 5
Lubrication and Cooling Systems		
1. Identify components of the lubrication and cooling systems		1 2 3 4 5
2. Perform cooling system pressure and dye tests to identify leaks; check coolant condition and level; inspect and test radiator, pressure cap, coolant recovery tank, heater core, and galley plugs; determine necessary action		1 2 3 4 5
3. Inspect, replace, and/or adjust drive belts, tensioners, and pulleys; check pulley and belt alignment		1 2 3 4 5
4. Remove, inspect, and replace thermostat and gasket/seal on minor applications		1 2 3 4 5
5. Inspect and test coolant; drain and recover coolant; flush and refill cooling system; use proper fluid type per manufacturer specification; bleed air as required		1 2 3 4 5
6. Perform engine oil and filter change; use proper fluid type per manufacturer specification; reset maintenance reminder as required		1 2 3 4 5

GST 3. Competencies

Recommended Hours	60	
Competency	Date	Circle one
Automatic Transmission and Transaxle		
1. Identify drive train components and configuration		1 2 3 4 5
2. Research vehicle service information including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
3. Check fluid level in a transmission or a transaxle equipped with a dip-stick		1 2 3 4 5
4. Check fluid level in a transmission or a transaxle not equipped with a dip-stick		1 2 3 4 5
5. Check transmission fluid condition; check for leaks		1 2 3 4 5
6. Perform common fastener and thread repair, to include: remove broken bolt, restore internal and external threads, and repair internal threads with thread insert		1 2 3 4 5
7. Inspect, adjust, and/or replace external manual valve shift linkage, transmission range sensor/switch, and/or park/neutral position switch of a hybrid vehicle		1 2 3 4 5
8. Inspect for leakage at external seals, gaskets, and bushings		1 2 3 4 5
9. Inspect, replace and/or align power train mounts		1 2 3 4 5
10. Drain and replace fluid and filter(s); use proper fluid type per manufacturer specification		1 2 3 4 5
11. Describe the operational characteristics of a continuously variable transmission (CVT)		1 2 3 4 5

12. Describe the operational characteristics of a hybrid vehicle drive train		1 2 3 4 5
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GST 4. Competencies

Recommended Hours	40	
Competency	Date	Circle one
Manual Drivetrain and Axles		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify manual drive train and axle components and configuration		1 2 3 4 5
3. Drain and refill manual transmission/transaxle and final drive unit; use proper fluid type per manufacturer specification		1 2 3 4 5
4. Check fluid condition; check for leaks		1 2 3 4 5
5. Check and adjust clutch master cylinder fluid level; use proper fluid type per manufacturer specification		1 2 3 4 5
6. Check for hydraulic system leaks		1 2 3 4 5
7. Describe the operational characteristics of an electronically-controlled manual transmission/transaxle		1 2 3 4 5
8. Inspect, remove, and/or replace bearings, hubs, and seals.		1 2 3 4 5
9. Inspect, service, and/or replace shafts, yokes, boots, and universal/CV joints		1 2 3 4 5
10. Inspect locking hubs		1 2 3 4 5
11. Check for leaks at drive assembly and transfer case seals; check vents; check fluid level; use proper fluid type per manufacturer specification		1 2 3 4 5
12. Clean and inspect differential case; check for leaks; inspect housing vent		1 2 3 4 5
13. Check and adjust differential case fluid level; use proper fluid type per manufacturer specification		1 2 3 4 5
14. Drain and refill differential housing		1 2 3 4 5
15. Inspect and replace drive axle wheel studs		1 2 3 4 5

GST 5. Competencies

Recommended Hours	200	
Competency	Date	Circle one
Suspension and Steering		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify suspension and steering system components and configurations		1 2 3 4 5
3. Disable and enable supplemental restraint system (SRS); verify indicator lamp operation		1 2 3 4 5
4. Inspect rack and pinion steering gear inner tie rod ends (sockets) and bellows boots		1 2 3 4 5

5. Inspect power steering fluid level and condition		1 2 3 4 5
6. Flush, fill, and bleed power steering system; use proper fluid type per manufacturer specification		1 2 3 4 5
7. Inspect for power steering fluid leakage		1 2 3 4 5
8. Remove, inspect, replace, and/or adjust power steering pump drive belt		1 2 3 4 5
9. Inspect and replace power steering hoses and fittings		1 2 3 4 5
10. Inspect pitman arm, relay (centerlink/intermediate) rod, idler arm, mountings, and steering linkage damper		1 2 3 4 5
11. Inspect tie rod ends (sockets), tie rod sleeves, and clamps		1 2 3 4 5
12. Inspect upper and lower control arms, bushings, and shafts		1 2 3 4 5
13. Inspect and replace rebound bumpers		1 2 3 4 5
14. Inspect track bar, strut rods/radius arms, and related mounts and bushings		1 2 3 4 5
15. Inspect upper and lower ball joints (with or without wear indicators)		1 2 3 4 5
16. Inspect suspension system coil springs and spring insulators (silencers)		1 2 3 4 5
17. Inspect suspension system torsion bars and mounts		1 2 3 4 5
18. Inspect and/or replace front/rear stabilizer bar (sway bar) bushings, brackets, and links		1 2 3 4 5
19. Inspect, remove, and/or replace strut cartridge or assembly; inspect mounts and bushings		1 2 3 4 5
20. Inspect front strut bearing and mount		1 2 3 4 5
21. Inspect rear suspension system lateral links/arms (track bars), control (trailing) arms		1 2 3 4 5
22. Inspect rear suspension system leaf spring(s), spring insulators (silencers), shackles, brackets, bushings, center pins/bolts, and mounts		1 2 3 4 5
23. Inspect, remove, and/or replace shock absorbers; inspect mounts and bushings		1 2 3 4 5
24. Inspect electric power steering assist system		1 2 3 4 5
25. Identify hybrid vehicle power steering system electrical circuits and safety precautions		1 2 3 4 5
26. Describe the function of suspension and steering control systems and components, (i.e. active suspension, and stability control)		1 2 3 4 5
Wheel Alignment		
1. Perform prealignment inspection; measure vehicle ride height		1 2 3 4 5
2. Describe alignment angles (camber, caster and toe)		1 2 3 4 5
Wheels and Tires		
1. Inspect tire condition; identify tire wear patterns; check for correct tire size, application (load and speed ratings), and air pressure as listed on the tire information placard/label		1 2 3 4 5
2. Rotate tires according to manufacturer's recommendations including vehicles equipped with tire pressure monitoring systems (TPMS)		1 2 3 4 5
3. Dismount, inspect, and remount tire on wheel; balance wheel and tire assembly		1 2 3 4 5

4. Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor		1 2 3 4 5
5. Inspect tire and wheel assembly for air loss; determine necessary action		1 2 3 4 5
6. Repair tire following vehicle manufacturer approved procedure		1 2 3 4 5
7. Identify indirect and direct tire pressure monitoring systems (TPMS); calibrate system; verify operation of instrument panel lamps		1 2 3 4 5
8. Demonstrate knowledge of steps required to remove and replace sensors in a tire pressure monitoring system (TPMS) including relearn procedure		1 2 3 4 5

GST 6. Competencies

Recommended Hours	200	
Competency	Date	Circle one
Brakes		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify brake system components and configuration		1 2 3 4 5
3. Describe procedure for performing a road test to check brake system operation, including an anti-lock brake system (ABS)		1 2 3 4 5
4. Install wheel and torque lug nuts		1 2 3 4 5
Hydraulic System		
1. Describe proper brake pedal height, travel, and feel		1 2 3 4 5
2. Check master cylinder for external leaks and proper operation		1 2 3 4 5
3. Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust, cracks, bulging, wear, and loose fittings/supports		1 2 3 4 5
4. Select, handle, store, and fill brake fluids to proper level; use proper fluid type per manufacturer specification		1 2 3 4 5
5. Identify components of hydraulic brake warning light system		1 2 3 4 5
6. Bleed and/or flush brake system		1 2 3 4 5
7. Test brake fluid for contamination		1 2 3 4 5
Drum Brakes		
1. Remove, clean, and inspect brake drum; measure brake drum diameter; determine serviceability		1 2 3 4 5
2. Refinish brake drum and measure final drum diameter; compare with specification		1 2 3 4 5
3. Remove, clean, inspect, and/or replace brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related brake hardware, and backing support plates; lubricate and reassemble		1 2 3 4 5
4. Inspect wheel cylinders for leaks and proper operation; remove and replace as needed		1 2 3 4 5

5. Pre-adjust brake shoes and parking brake; install brake drums or drum/hub assemblies and wheel bearings; make final checks and adjustments		1 2 3 4 5
Disc Brakes		
1. Remove and clean caliper assembly; inspect for leaks and damage/wear; determine necessary action		1 2 3 4 5
2. Inspect caliper mounting and slides/pins for proper operation, wear, and damage; determine necessary action		1 2 3 4 5
3. Remove, inspect, and/or replace brake pads and retaining hardware; determine necessary action		1 2 3 4 5
4. Lubricate and reinstall caliper, brake pads, and related hardware; seat brake pads and inspect for leaks		1 2 3 4 5
5. Clean and inspect rotor and mounting surface, measure rotor thickness, thickness variation, and lateral runout; determine necessary action		1 2 3 4 5
6. Remove and reinstall/replace rotor		1 2 3 4 5
7. Refinish rotor on vehicle; measure final rotor thickness and compare with specification		1 2 3 4 5
8. Refinish rotor off vehicle; measure final rotor thickness and compare with specification		1 2 3 4 5
9. Retract and re-adjust caliper piston on an integral parking brake system		1 2 3 4 5
10. Check brake pad wear indicator; determine necessary action		1 2 3 4 5
11. Describe importance of operating vehicle to burnish/break-in replacement brake pads according to manufacturer's recommendation		1 2 3 4 5
Power Assist Systems		
1. Identify components of the brake power assist system (vacuum and hydraulic); check vacuum supply (manifold or auxiliary pump) to vacuum-type power booster		1 2 3 4 5
2. Check brake pedal travel with, and without, engine running to verify proper power booster operation		1 2 3 4 5
Related Systems		
1. Remove, clean, inspect, repack, and install wheel bearings; replace seals; install hub and adjust bearings		1 2 3 4 5
2. Check parking brake system components for wear, binding, and corrosion; clean, lubricate, adjust and/or replace as needed		1 2 3 4 5
3. Check parking brake operation and parking brake indicator light system operation; determine necessary action		1 2 3 4 5
4. Check operation of brake stop light system		1 2 3 4 5
5. Replace wheel bearing and race		1 2 3 4 5
6. Inspect and replace wheel studs		1 2 3 4 5
Traction and Stability Control		
1. Identify traction control/vehicle stability control system components		1 2 3 4 5
2. Describe the operation of a regenerative braking system		1 2 3 4 5

GST 7. Competencies

Recommended Hours	300	
Competency	Date	Circle one
Electrical/Electronic Systems		
1. Research vehicle service information including vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify electrical/electronic system components and configuration		1 2 3 4 5
3. Demonstrate knowledge of electrical/electronic series, parallel, and series-parallel circuits using principles of electricity (Ohm's Law)		1 2 3 4 5
4. Use wiring diagrams to trace electrical/electronic circuits		1 2 3 4 5
5. Demonstrate proper use of a digital multi-meter (DMM) when measuring source voltage, voltage drop (including grounds), current flow, and resistance.		1 2 3 4 5
6. Demonstrate knowledge of the causes and effects from shorts, grounds, opens, and resistance problems in electrical/electronic circuits		1 2 3 4 5
7. Use a test light to check operation of electrical circuits		1 2 3 4 5
8. Use fused jumper wires to check operation of electrical circuits		1 2 3 4 5
9. Measure key-off battery drain (parasitic draw)		1 2 3 4 5
10. Inspect and test fusible links, circuit breakers, and fuses; determine necessary action		1 2 3 4 5
11. Repair and/or replace connectors, terminal ends, and wiring of electrical/electronic systems (including solder repair)		1 2 3 4 5
Battery Service		
1. Perform battery state-of-charge test; determine necessary action		1 2 3 4 5
2. Confirm proper battery capacity for vehicle application; perform battery capacity and load test; determine necessary action		1 2 3 4 5
3. Maintain or restore electronic memory functions		1 2 3 4 5
4. Inspect and clean battery; fill battery cells; check battery cables, connectors, clamps, and hold-downs		1 2 3 4 5
5. Perform slow/fast battery charge according to manufacturer's recommendations		1 2 3 4 5
6. Jump-start vehicle using jumper cables and a booster battery or an auxiliary power supply		1 2 3 4 5
7. Identify safety precautions for high voltage systems on electric, hybrid-electric, and diesel vehicles		1 2 3 4 5
8. Identify electrical/electronic modules, security systems, radios, and other accessories that require re-initialization or code entry after reconnecting vehicle battery		1 2 3 4 5
9. Identify hybrid vehicle auxiliary (12v) battery service, repair, and test procedures		1 2 3 4 5
Starting Systems		
1. Perform starter current draw test; determine necessary action		1 2 3 4 5
2. Perform starter circuit voltage drop tests; determine necessary action		1 2 3 4 5

3. Inspect and test starter relays and solenoids; determine necessary action		1 2 3 4 5
4. Remove and install starter in a vehicle		1 2 3 4 5
5. Inspect and test switches, connectors, and wires of starter control circuits; determine necessary action		1 2 3 4 5
6. Demonstrate knowledge of an automatic idle-stop/start-stop system		1 2 3 4 5
Charging Systems		
1. Perform charging system output test; determine necessary action		1 2 3 4 5
2. Inspect, adjust, and/or replace generator (alternator) drive belts; check pulleys and tensioners for wear; check pulley and belt alignment		1 2 3 4 5
3. Remove, inspect, and/or replace generator (alternator)		1 2 3 4 5
4. Perform charging circuit voltage drop tests; determine necessary action		1 2 3 4 5
Body Electrical Systems		
1. Inspect interior and exterior lamps and sockets including headlights and auxiliary lights (fog lights/driving lights); replace as needed		1 2 3 4 5
2. Aim headlights		1 2 3 4 5
3. Identify system voltage and safety precautions associated with high-intensity discharge headlights		1 2 3 4 5
4. Disable and enable supplemental restraint system (SRS); verify indicator lamp operation		1 2 3 4 5
5. Remove and reinstall door panel		1 2 3 4 5
6. Describe the operation of keyless entry/remote-start systems		1 2 3 4 5
7. Verify operation of instrument panel gauges and warning/indicator lights; reset maintenance indicators		1 2 3 4 5
8. Verify windshield wiper and washer operation; replace wiper blades		1 2 3 4 5

GST 8. Competencies

Recommended Hours	100	
Competency	Date	Circle one
Heating, Ventilation, Air Conditioning Systems (HVAC)		
1. Research vehicle service information, including refrigerant/oil type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify heating, ventilation and air conditioning (HVAC) components and configuration.		1 2 3 4 5
3. Inspect and replace A/C compressor drive belts, pulleys, and tensioners; visually inspect A/C components for signs of leaks; determine necessary action		1 2 3 4 5
4. Identify hybrid vehicle A/C system electrical circuits and the service/safety precautions		1 2 3 4 5
5. Inspect A/C condenser for airflow restrictions; determine necessary action		1 2 3 4 5
6. Inspect engine cooling and heater systems hoses and pipes; determine necessary action		1 2 3 4 5

7. Inspect A/C-heater ducts, doors, hoses, cabin filters, and outlets; determine necessary action		1 2 3 4 5
8. Identify the source of A/C system odors		1 2 3 4 5

GST 9. Competencies

Recommended Hours	100	
Competency	Date	Circle one
Engine Performance		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Perform engine absolute manifold pressure tests (vacuum/boost); document results		1 2 3 4 5
3. Perform cylinder power balance test; document results		1 2 3 4 5
Perform cylinder cranking and running compression tests; document results		1 2 3 4 5
5. Perform cylinder leakage test; document results		1 2 3 4 5
6. Verify engine operating temperature		1 2 3 4 5
7. Remove and replace spark plugs; inspect secondary ignition components for wear and damage		1 2 3 4 5
8. Retrieve and record diagnostic trouble codes (DTC), OBD monitor status, and freeze frame data; clear codes when applicable		1 2 3 4 5
9. Describe the use of the OBD monitors for repair verification		1 2 3 4 5
10. Replace fuel filter(s) where applicable		1 2 3 4 5
11. Repair and/or replace connectors, terminal ends, and wiring of electrical/electronic systems (including solder repair)		1 2 3 4 5
12. Inspect, service, or replace air filters, filter housings, and intake duct work		1 2 3 4 5
13. Inspect integrity of the exhaust manifold, exhaust pipes, muffler(s), catalytic converter(s), resonator(s), tail pipe(s), and heat shields; determine necessary action		1 2 3 4 5
14. Inspect condition of exhaust system hangers, brackets, clamps, and heat shields; determine necessary action		1 2 3 4 5
15. Check and refill diesel exhaust fluid (DEF)		1 2 3 4 5
16. Inspect, test, and service positive crankcase ventilation (PCV) filter/breather, valve, tubes, orifices, and hoses; perform necessary action		1 2 3 4 5

**Master Service Technician
Apprentice Competency Evaluation Form
Year One**

App. Name		Date	
Company Name		GST/MST	GST
Evaluator		Title	

Grading Rubric:

5 = Outstanding – The employee has exceeded all of the performance expectations for this factor and has made many significant contributions to the efficiency and economy of this organization through such performance.

4 = Exceeds Expectations – The employee regularly works beyond a majority of the performance expectations of this factor and has made many significant contributions to the efficiency and economy of this organization through such performance

3 = Meets Expectations – The employee has met the performance expectations for this factor and has contributed to the efficiency and economy of this organization.

2 = Needs Improvement – The employee has failed to meet one or more of the significant performance expectations for this factor.

1 = Unsatisfactory – The employee has failed to meet the performance expectations for this factor.

Apprentice must achieve a level 3 or higher on a minimum of 85% of GST 1 – 8 Competencies as well as meeting hour's requirements for completion of ITAC Apprenticeship Program.

Personal Effectiveness Competencies

(To be completed by employer)

Competency	Date	Circle one
Attendance – Maintains good attendance		1 2 3 4 5

Punctuality – Arrives and leaves the workplace on time		1 2 3 4 5
Perseverance – Attends to task. Continues difficult tasks until completed		1 2 3 4 5
Listening – Receives and responds to verbal messages effectively		1 2 3 4 5
Speaking – Organizes ideas and presents them logically, Clearly, and concisely		1 2 3 4 5
Initiative – Is self-motivated		1 2 3 4 5
Reliability – Completes assigned tasks without constant supervision		1 2 3 4 5
Commitment – Demonstrates alliance to company and profession		1 2 3 4 5
Enthusiasm – Demonstrates desire to learn and please		1 2 3 4 5
Safety Conscious – Observes safety rules and regulations		1 2 3 4 5
Leadership – Gets others to cooperate toward attainment of common goals		1 2 3 4 5

MST 1. Competencies

(To be completed by employer and apprentice)

Recommended Hours	800	
Competency	Date	Circle one
Shop and Personal Safety:		
1. Identify general shop safety rules		1 2 3 4 5
2. Utilize safe procedures for handling of tools and equipment		1 2 3 4 5
3. Identify and use proper placement of floor jacks and jack stands		1 2 3 4 5
4. Identify and use proper procedures for safe lift operation		1 2 3 4 5
5. Utilize proper ventilation procedures for working within the lab/shop area		1 2 3 4 5
6. Identify marked safety areas		1 2 3 4 5
7. Identify the location and the types of fire extinguishers and other fire safety equipment; demonstrate knowledge of the procedures for using fire extinguishers and other fire safety equipment		1 2 3 4 5
8. Identify the location and use of eye wash stations		1 2 3 4 5
9. Identify the location of the posted evacuation routes		1 2 3 4 5
11. Identify and wear appropriate clothing for lab/shop activities		1 2 3 4 5
12. Secure hair and jewelry for lab/shop activities		1 2 3 4 5
13. Demonstrate awareness of the safety aspects of supplemental restraint systems (SRS), electronic brake control systems, and hybrid vehicle high voltage circuits		1 2 3 4 5
14. Demonstrate awareness of the safety aspects of high voltage circuits (such as high intensity discharge (HID) lamps, ignition systems, injection systems, etc.		1 2 3 4 5
15. Locate and demonstrate knowledge of safety data sheets (SDS)		1 2 3 4 5

16. Successfully completed SP2 Safety Course		Yes/No
Tools and Equipment:		
1. Identify tools and their usage in automotive applications		1 2 3 4 5
2. Identify standard and metric designation		1 2 3 4 5
3. Demonstrate safe handling and use of appropriate tools		1 2 3 4 5
4. Demonstrate proper cleaning, storage, and maintenance of tools and equipment		1 2 3 4 5
5. Demonstrate proper use of precision measuring tools (i.e. micrometer, dial-indicator, dial-caliper)		1 2 3 4 5
Preparing Vehicle for Service:		
1. Identify purpose and demonstrate proper use of fender covers, floor mats and steering wheel covers		1 2 3 4 5
2. Ensure vehicle is prepared per company policy (floor mats, steering wheel cover, etc.)		1 2 3 4 5
3. Identify information needed and the service requested on a repair order		1 2 3 4 5
4. Demonstrate use of the three C's (complaint/concern, cause, correction		1 2 3 4 5
5. Review vehicle service history		1 2 3 4 5
6. Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction		1 2 3 4 5
Safe Use of Lifting and Hoisting Equipment:		
1. Successfully Completed ALI Lifting It Right on-line course		Yes/No
2. Demonstrates use of ALI Lifting Points Guide		1 2 3 4 5
3. Demonstrates proper vehicle positioning and lifting procedures		1 2 3 4 5
General Vehicle Inspection:		1 2 3 4 5
1. Demonstrates ability to check vehicle fluid levels and condition		1 2 3 4 5
2. Demonstrates ability to check operation of lighting systems		1 2 3 4 5
3. Demonstrates ability to check tire condition and pressures		1 2 3 4 5
4. Demonstrates ability to check windshield wiper/washer condition and operation		1 2 3 4 5
5. Demonstrates ability to check and replace engine and cabin air filters		1 2 3 4 5

MST 2. Competencies

Recommended Hours	200	
Competency	Date	Circle one
Engine Repair		

1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Verify operation of the instrument panel engine warning indicators		1 2 3 4 5
3. Inspect engine assembly for fuel, oil, coolant, and other leaks; determine necessary action.		1 2 3 4 5
4. Install engine covers using gaskets, seals, and sealers as required on minor operations		1 2 3 4 5
5. Perform common fastener and thread repair, to include: remove broken bolt, restore internal and external threads, and repair internal threads with thread insert		1 2 3 4 5
6. Identify service precautions related to service of the internal combustion engine of a hybrid vehicle		1 2 3 4 5
7. Identify components of the cylinder head and valve train		1 2 3 4 5
Lubrication and Cooling Systems		
1. Identify components of the lubrication and cooling systems		1 2 3 4 5
2. Perform cooling system pressure and dye tests to identify leaks; check coolant condition and level; inspect and test radiator, pressure cap, coolant recovery tank, heater core, and galley plugs; determine necessary action		1 2 3 4 5
3. Inspect, replace, and/or adjust drive belts, tensioners, and pulleys; check pulley and belt alignment		1 2 3 4 5
4. Remove, inspect, and replace thermostat and gasket/seal on minor applications		1 2 3 4 5
5. Inspect and test coolant; drain and recover coolant; flush and refill cooling system; use proper fluid type per manufacturer specification; bleed air as required		1 2 3 4 5
6. Perform engine oil and filter change; use proper fluid type per manufacturer specification; reset maintenance reminder as required		1 2 3 4 5

MST 3. Competencies

Recommended Hours	60	
Competency	Date	Circle one
Automatic Transmission and Transaxle		
1. Identify drive train components and configuration		1 2 3 4 5
2. Research vehicle service information including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
3. Check fluid level in a transmission or a transaxle equipped with a dip-stick		1 2 3 4 5
4. Check fluid level in a transmission or a transaxle not equipped with a dip-stick		1 2 3 4 5
5. Check transmission fluid condition; check for leaks		1 2 3 4 5
6. Perform common fastener and thread repair, to include: remove broken bolt, restore internal and external threads, and repair internal threads with thread insert		1 2 3 4 5
7. Inspect, adjust, and/or replace external manual valve shift linkage, transmission range sensor/switch, and/or park/neutral position switch of a hybrid vehicle		1 2 3 4 5
8. Inspect for leakage at external seals, gaskets, and bushings		1 2 3 4 5

9. Inspect, replace and/or align power train mounts		1 2 3 4 5
10. Drain and replace fluid and filter(s); use proper fluid type per manufacturer specification		1 2 3 4 5
11. Describe the operational characteristics of a continuously variable transmission (CVT)		1 2 3 4 5
12. Describe the operational characteristics of a hybrid vehicle drive train		1 2 3 4 5

MST 4. Competencies

Recommended Hours	40	
Competency	Date	Circle one
Manual Drivetrain and Axles		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify manual drive train and axle components and configuration		1 2 3 4 5
3. Drain and refill manual transmission/transaxle and final drive unit; use proper fluid type per manufacturer specification		1 2 3 4 5
4. Check fluid condition; check for leaks		1 2 3 4 5
5. Check and adjust clutch master cylinder fluid level; use proper fluid type per manufacturer specification		1 2 3 4 5
6. Check for hydraulic system leaks		1 2 3 4 5
7. Describe the operational characteristics of an electronically-controlled manual transmission/transaxle		1 2 3 4 5
8. Inspect, remove, and/or replace bearings, hubs, and seals.		1 2 3 4 5
9. Inspect, service, and/or replace shafts, yokes, boots, and universal/CV joints		1 2 3 4 5
10. Inspect locking hubs		1 2 3 4 5
11. Check for leaks at drive assembly and transfer case seals; check vents; check fluid level; use proper fluid type per manufacturer specification		1 2 3 4 5
12. Clean and inspect differential case; check for leaks; inspect housing vent		1 2 3 4 5
13. Check and adjust differential case fluid level; use proper fluid type per manufacturer specification		1 2 3 4 5
14. Drain and refill differential housing		1 2 3 4 5
15. Inspect and replace drive axle wheel studs		1 2 3 4 5

MST 5. Competencies

Recommended Hours	200	
Competency	Date	Circle one
Suspension and Steering		

1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify suspension and steering system components and configurations		1 2 3 4 5
3. Disable and enable supplemental restraint system (SRS); verify indicator lamp operation		1 2 3 4 5
4. Inspect rack and pinion steering gear inner tie rod ends (sockets) and bellows boots		1 2 3 4 5
5. Inspect power steering fluid level and condition		1 2 3 4 5
6. Flush, fill, and bleed power steering system; use proper fluid type per manufacturer specification		1 2 3 4 5
7. Inspect for power steering fluid leakage		1 2 3 4 5
8. Remove, inspect, replace, and/or adjust power steering pump drive belt		1 2 3 4 5
9. Inspect and replace power steering hoses and fittings		1 2 3 4 5
10. Inspect pitman arm, relay (centerlink/intermediate) rod, idler arm, mountings, and steering linkage damper		1 2 3 4 5
11. Inspect tie rod ends (sockets), tie rod sleeves, and clamps		1 2 3 4 5
12. Inspect upper and lower control arms, bushings, and shafts		1 2 3 4 5
13. Inspect and replace rebound bumpers		1 2 3 4 5
14. Inspect track bar, strut rods/radius arms, and related mounts and bushings		1 2 3 4 5
15. Inspect upper and lower ball joints (with or without wear indicators)		1 2 3 4 5
16. Inspect suspension system coil springs and spring insulators (silencers)		1 2 3 4 5
17. Inspect suspension system torsion bars and mounts		1 2 3 4 5
18. Inspect and/or replace front/rear stabilizer bar (sway bar) bushings, brackets, and links		1 2 3 4 5
19. Inspect, remove, and/or replace strut cartridge or assembly; inspect mounts and bushings		1 2 3 4 5
20. Inspect front strut bearing and mount		1 2 3 4 5
21. Inspect rear suspension system lateral links/arms (track bars), control (trailing) arms		1 2 3 4 5
22. Inspect rear suspension system leaf spring(s), spring insulators (silencers), shackles, brackets, bushings, center pins/bolts, and mounts		1 2 3 4 5
23. Inspect, remove, and/or replace shock absorbers; inspect mounts and bushings		1 2 3 4 5
24. Inspect electric power steering assist system		1 2 3 4 5
25. Identify hybrid vehicle power steering system electrical circuits and safety precautions		1 2 3 4 5
26. Describe the function of suspension and steering control systems and components, (i.e. active suspension, and stability control)		1 2 3 4 5
Wheel Alignment		
1. Perform prealignment inspection; measure vehicle ride height		1 2 3 4 5
2. Describe alignment angles (camber, caster and toe)		1 2 3 4 5
Wheels and Tires		

1. Inspect tire condition; identify tire wear patterns; check for correct tire size, application (load and speed ratings), and air pressure as listed on the tire information placard/label		1 2 3 4 5
2. Rotate tires according to manufacturer's recommendations including vehicles equipped with tire pressure monitoring systems (TPMS)		1 2 3 4 5
3. Dismount, inspect, and remount tire on wheel; balance wheel and tire assembly		1 2 3 4 5
4. Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor		1 2 3 4 5
5. Inspect tire and wheel assembly for air loss; determine necessary action		1 2 3 4 5
6. Repair tire following vehicle manufacturer approved procedure		1 2 3 4 5
7. Identify indirect and direct tire pressure monitoring systems (TPMS); calibrate system; verify operation of instrument panel lamps		1 2 3 4 5
8. Demonstrate knowledge of steps required to remove and replace sensors in a tire pressure monitoring system (TPMS) including relearn procedure		1 2 3 4 5

MST 6. Competencies

Recommended Hours	200	
Competency	Date	Circle one
Brakes		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify brake system components and configuration		1 2 3 4 5
3. Describe procedure for performing a road test to check brake system operation, including an anti-lock brake system (ABS)		1 2 3 4 5
4. Install wheel and torque lug nuts		1 2 3 4 5
Hydraulic System		
1. Describe proper brake pedal height, travel, and feel		1 2 3 4 5
2. Check master cylinder for external leaks and proper operation		1 2 3 4 5
3. Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust, cracks, bulging, wear, and loose fittings/supports		1 2 3 4 5
4. Select, handle, store, and fill brake fluids to proper level; use proper fluid type per manufacturer specification		1 2 3 4 5
5. Identify components of hydraulic brake warning light system		1 2 3 4 5
6. Bleed and/or flush brake system		1 2 3 4 5
7. Test brake fluid for contamination		1 2 3 4 5
Drum Brakes		
1. Remove, clean, and inspect brake drum; measure brake drum diameter; determine serviceability		1 2 3 4 5

2. Refinish brake drum and measure final drum diameter; compare with specification		1 2 3 4 5
3. Remove, clean, inspect, and/or replace brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related brake hardware, and backing support plates; lubricate and reassemble		1 2 3 4 5
4. Inspect wheel cylinders for leaks and proper operation; remove and replace as needed		1 2 3 4 5
5. Pre-adjust brake shoes and parking brake; install brake drums or drum/hub assemblies and wheel bearings; make final checks and adjustments		1 2 3 4 5
Disc Brakes		
1. Remove and clean caliper assembly; inspect for leaks and damage/wear; determine necessary action		1 2 3 4 5
2. Inspect caliper mounting and slides/pins for proper operation, wear, and damage; determine necessary action		1 2 3 4 5
3. Remove, inspect, and/or replace brake pads and retaining hardware; determine necessary action		1 2 3 4 5
4. Lubricate and reinstall caliper, brake pads, and related hardware; seat brake pads and inspect for leaks		1 2 3 4 5
5. Clean and inspect rotor and mounting surface, measure rotor thickness, thickness variation, and lateral runout; determine necessary action		1 2 3 4 5
6. Remove and reinstall/replace rotor		1 2 3 4 5
7. Refinish rotor on vehicle; measure final rotor thickness and compare with specification		1 2 3 4 5
8. Refinish rotor off vehicle; measure final rotor thickness and compare with specification		1 2 3 4 5
9. Retract and re-adjust caliper piston on an integral parking brake system		1 2 3 4 5
10. Check brake pad wear indicator; determine necessary action		1 2 3 4 5
11. Describe importance of operating vehicle to burnish/break-in replacement brake pads according to manufacturer's recommendation		1 2 3 4 5
Power Assist Systems		
1. Identify components of the brake power assist system (vacuum and hydraulic); check vacuum supply (manifold or auxiliary pump) to vacuum-type power booster		1 2 3 4 5
2. Check brake pedal travel with, and without, engine running to verify proper power booster operation		1 2 3 4 5
Related Systems		
1. Remove, clean, inspect, repack, and install wheel bearings; replace seals; install hub and adjust bearings		1 2 3 4 5
2. Check parking brake system components for wear, binding, and corrosion; clean, lubricate, adjust and/or replace as needed		1 2 3 4 5
3. Check parking brake operation and parking brake indicator light system operation; determine necessary action		1 2 3 4 5

4. Check operation of brake stop light system		1 2 3 4 5
5. Replace wheel bearing and race		1 2 3 4 5
6. Inspect and replace wheel studs		1 2 3 4 5
Traction and Stability Control		
1. Identify traction control/vehicle stability control system components		1 2 3 4 5
2. Describe the operation of a regenerative braking system		1 2 3 4 5

MST 7. Competencies

Recommended Hours	300	
Competency	Date	Circle one
Electrical/Electronic Systems		
1. Research vehicle service information including vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify electrical/electronic system components and configuration		1 2 3 4 5
3. Demonstrate knowledge of electrical/electronic series, parallel, and series-parallel circuits using principles of electricity (Ohm's Law)		1 2 3 4 5
4. Use wiring diagrams to trace electrical/electronic circuits		1 2 3 4 5
5. Demonstrate proper use of a digital multi-meter (DMM) when measuring source voltage, voltage drop (including grounds), current flow, and resistance.		1 2 3 4 5
6. Demonstrate knowledge of the causes and effects from shorts, grounds, opens, and resistance problems in electrical/electronic circuits		1 2 3 4 5
7. Use a test light to check operation of electrical circuits		1 2 3 4 5
8. Use fused jumper wires to check operation of electrical circuits		1 2 3 4 5
9. Measure key-off battery drain (parasitic draw)		1 2 3 4 5
10. Inspect and test fusible links, circuit breakers, and fuses; determine necessary action		1 2 3 4 5
11. Repair and/or replace connectors, terminal ends, and wiring of electrical/electronic systems (including solder repair)		1 2 3 4 5
Battery Service		
1. Perform battery state-of-charge test; determine necessary action		1 2 3 4 5
2. Confirm proper battery capacity for vehicle application; perform battery capacity and load test; determine necessary action		1 2 3 4 5
3. Maintain or restore electronic memory functions		1 2 3 4 5
4. Inspect and clean battery; fill battery cells; check battery cables, connectors, clamps, and hold-downs		1 2 3 4 5
5. Perform slow/fast battery charge according to manufacturer's recommendations		1 2 3 4 5
6. Jump-start vehicle using jumper cables and a booster battery or an auxiliary power supply		1 2 3 4 5
7. Identify safety precautions for high voltage systems on electric, hybrid-electric, and diesel vehicles		1 2 3 4 5

8. Identify electrical/electronic modules, security systems, radios, and other accessories that require re-initialization or code entry after reconnecting vehicle battery		1 2 3 4 5
9. Identify hybrid vehicle auxiliary (12v) battery service, repair, and test procedures		1 2 3 4 5
Starting Systems		
1. Perform starter current draw test; determine necessary action		1 2 3 4 5
2. Perform starter circuit voltage drop tests; determine necessary action		1 2 3 4 5
3. Inspect and test starter relays and solenoids; determine necessary action		1 2 3 4 5
4. Remove and install starter in a vehicle		1 2 3 4 5
5. Inspect and test switches, connectors, and wires of starter control circuits; determine necessary action		1 2 3 4 5
6. Demonstrate knowledge of an automatic idle-stop/start-stop system		1 2 3 4 5
Charging Systems		
1. Perform charging system output test; determine necessary action		1 2 3 4 5
2. Inspect, adjust, and/or replace generator (alternator) drive belts; check pulleys and tensioners for wear; check pulley and belt alignment		1 2 3 4 5
3. Remove, inspect, and/or replace generator (alternator)		1 2 3 4 5
4. Perform charging circuit voltage drop tests; determine necessary action		1 2 3 4 5
Body Electrical Systems		
1. Inspect interior and exterior lamps and sockets including headlights and auxiliary lights (fog lights/driving lights); replace as needed		1 2 3 4 5
2. Aim headlights		1 2 3 4 5
3. Identify system voltage and safety precautions associated with high-intensity discharge headlights		1 2 3 4 5
4. Disable and enable supplemental restraint system (SRS); verify indicator lamp operation		1 2 3 4 5
5. Remove and reinstall door panel		1 2 3 4 5
6. Describe the operation of keyless entry/remote-start systems		1 2 3 4 5
7. Verify operation of instrument panel gauges and warning/indicator lights; reset maintenance indicators		1 2 3 4 5
8. Verify windshield wiper and washer operation; replace wiper blades		1 2 3 4 5

MST 8. Competencies

Recommended Hours	100	
Competency	Date	Circle one
Heating, Ventilation, Air Conditioning Systems (HVAC)		
1. Research vehicle service information, including refrigerant/oil type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify heating, ventilation and air conditioning (HVAC) components and configuration.		1 2 3 4 5

3. Inspect and replace A/C compressor drive belts, pulleys, and tensioners; visually inspect A/C components for signs of leaks; determine necessary action		1 2 3 4 5
4. Identify hybrid vehicle A/C system electrical circuits and the service/safety precautions		1 2 3 4 5
5. Inspect A/C condenser for airflow restrictions; determine necessary action		1 2 3 4 5
6. Inspect engine cooling and heater systems hoses and pipes; determine necessary action		1 2 3 4 5
7. Inspect A/C-heater ducts, doors, hoses, cabin filters, and outlets; determine necessary action		1 2 3 4 5
8. Identify the source of A/C system odors		1 2 3 4 5

MST 9. Competencies

Recommended Hours	100	
Competency	Date	Circle one
Engine Performance		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Perform engine absolute manifold pressure tests (vacuum/boost); document results		1 2 3 4 5
3. Perform cylinder power balance test; document results		1 2 3 4 5
Perform cylinder cranking and running compression tests; document results		1 2 3 4 5
5. Perform cylinder leakage test; document results		1 2 3 4 5
6. Verify engine operating temperature		1 2 3 4 5
7. Remove and replace spark plugs; inspect secondary ignition components for wear and damage		1 2 3 4 5
8. Retrieve and record diagnostic trouble codes (DTC), OBD monitor status, and freeze frame data; clear codes when applicable		1 2 3 4 5
9. Describe the use of the OBD monitors for repair verification		1 2 3 4 5
10. Replace fuel filter(s) where applicable		1 2 3 4 5
11. Repair and/or replace connectors, terminal ends, and wiring of electrical/electronic systems (including solder repair)		1 2 3 4 5
12. Inspect, service, or replace air filters, filter housings, and intake duct work		1 2 3 4 5
13. Inspect integrity of the exhaust manifold, exhaust pipes, muffler(s), catalytic converter(s), resonator(s), tail pipe(s), and heat shields; determine necessary action		1 2 3 4 5
14. Inspect condition of exhaust system hangers, brackets, clamps, and heat shields; determine necessary action		1 2 3 4 5
15. Check and refill diesel exhaust fluid (DEF)		1 2 3 4 5
16. Inspect, test, and service positive crankcase ventilation (PCV) filter/breather, valve, tubes, orifices, and hoses; perform necessary action		1 2 3 4 5

**Master Service Technician
Apprentice Competency Evaluation Form
Year Two**

App. Name		Date	
Company Name		GST/MST	MST
Evaluator		Title	

Grading Rubric:

5 = Outstanding – The employee has exceeded all of the performance expectations for this factor and has made many significant contributions to the efficiency and economy of this organization through such performance.

4 = Exceeds Expectations – The employee regularly works beyond a majority of the performance expectations of this factor and has made many significant contributions to the efficiency and economy of this organization through such performance

3 = Meets Expectations – The employee has met the performance expectations for this factor and has contributed to the efficiency and economy of this organization.

2 = Needs Improvement – The employee has failed to meet one or more of the significant performance expectations for this factor.

1 = Unsatisfactory – The employee has failed to meet the performance expectations for this factor.

Apprentice must achieve a level 3 or higher on a minimum of 85% of GST 1 – 8 Competencies as well as meeting hour's requirements for completion of ITAC Apprenticeship Program.

Personal Effectiveness Competencies

(To be completed by employer)

Competency	Date	Circle one
Attendance – Maintains good attendance		1 2 3 4 5
Punctuality – Arrives and leaves the workplace on time		1 2 3 4 5
Perseverance – Attends to task. Continues difficult tasks until completed		1 2 3 4 5
Listening – Receives and responds to verbal messages effectively		1 2 3 4 5
Speaking – Organizes ideas and presents them logically, Clearly, and concisely		1 2 3 4 5
Initiative – Is self-motivated		1 2 3 4 5
Reliability – Completes assigned tasks without constant supervision		1 2 3 4 5
Commitment – Demonstrates alliance to company and profession		1 2 3 4 5
Enthusiasm – Demonstrates desire to learn and please		1 2 3 4 5
Safety Conscious – Observes safety rules and regulations		1 2 3 4 5
Leadership – Gets others to cooperate toward attainment of common goals		1 2 3 4 5

MST 1. Competencies

(To be completed by employer and apprentice)

Recommended Hours	0	
Competency	Date	Circle one

MST 2. Competencies

Recommended Hours	600	
Competency	Date	Circle one
A. General: Engine Diagnosis; Removal and Reinstallation (R & R)		
1. Verify engine mechanical timing.		1 2 3 4 5
2. Inspect, remove and/or replace engine mounts.		1 2 3 4 5
3. Remove and reinstall engine on a newer vehicle equipped with OBD; reconnect all attaching components and restore the vehicle to running condition		1 2 3 4 5
Cylinder Head and Valve Train Diagnosis and Repair		
1. Remove cylinder head; inspect gasket condition; install cylinder head and gasket; tighten according to manufacturer's specification and procedure.		1 2 3 4 5
2. Clean and visually inspect a cylinder head for cracks; check gasket surface areas for warpage and surface finish; check passage condition.		1 2 3 4 5
3. Inspect pushrods, rocker arms, rocker arm pivots and shafts for wear, bending, cracks, looseness, and blocked oil passages (orifices); determine needed action.		1 2 3 4 5

4. Adjust valves (mechanical or hydraulic lifters).		1 2 3 4 5
5. Inspect and replace camshaft and drive belt/chain; includes checking drive gear wear and backlash, end play, sprocket and chain wear, overhead cam drive sprocket(s), drive belt(s), belt tension, tensioners, camshaft reluctor ring/tone-wheel, and valve timing components; verify correct camshaft timing.		1 2 3 4 5
6. Establish camshaft position sensor indexing.		1 2 3 4 5
7. Inspect valve springs for squareness and free height comparison; determine needed action.		1 2 3 4 5
8. Replace valve stem seals on an assembled engine; inspect valve spring retainers, locks/keepers, and valve lock/keeper grooves; determine needed action.		1 2 3 4 5
9. Inspect valve guides for wear; check valve stem-to-guide clearance; determine needed action.		1 2 3 4 5
10. Inspect valves and valve seats; determine needed action.		1 2 3 4 5
11. Check valve spring assembled height and valve stem height; determine needed action.		1 2 3 4 5
12. Inspect valve lifters; determine needed action.		1 2 3 4 5
13. Inspect and/or measure camshaft for runout, journal wear and lobe wear.		1 2 3 4 5
14. Inspect camshaft bearing surface for wear, damage, out-of-round, and alignment; determine needed action.		1 2 3 4 5
Lubrication and Cooling Systems		
1. Identify causes of engine overheating		1 2 3 4 5
2. Inspect, remove, and replace water pump.		1 2 3 4 5
3. Remove and replace radiator.		1 2 3 4 5
4. Inspect and test fan(s), fan clutch (electrical or mechanical), fan shroud, and air dams; determine needed action.		1 2 3 4 5
5. Perform oil pressure tests; determine needed action.		1 2 3 4 5
6. Inspect auxiliary coolers; determine needed action.		1 2 3 4 5
7. Inspect, test, and replace oil temperature and pressure switches and sensors.		1 2 3 4 5
8. Inspect oil pump gears or rotors, housing, pressure relief devices, and pump drive; perform needed action		1 2 3 4 5

MST 3. Competencies

Recommended Hours	80	
Competency	Date	Circle one
A. General: Transmission and Transaxle Diagnosis		
1. Identify and interpret transmission/transaxle concerns, differentiate between engine performance and transmission/transaxle concerns; determine needed action.		1 2 3 4 5

3. Diagnose fluid loss and condition concerns; determine needed action.		1 2 3 4 5
6. Perform pressure tests (including transmissions/transaxles equipped with electronic pressure control); determine needed action.		1 2 3 4 5
12. Diagnose pressure concerns in a transmission using hydraulic principles (Pascal's Law).		1 2 3 4 5
B. In-Vehicle Transmission/Transaxle Maintenance and Repair		1 2 3 4 5
1. Inspect, adjust, and/or replace external manual valve shift linkage, transmission range sensor/switch, and/or park/neutral position switch.		1 2 3 4 5
2. Inspect for leakage; replace external seals, gaskets, and bushings.		1 2 3 4 5
3. Inspect, replace and align powertrain mounts.		1 2 3 4 5

MST 4. Competencies

Recommended Hours	60	
Competency	Date	Circle one
Manual Drivetrain and Axles		
1. Identify and interpret drive train concerns; determine needed action.		1 2 3 4 5
1. Diagnose clutch noise, binding, slippage, pulsation, and chatter; determine needed action.		1 2 3 4 5
2. Inspect clutch pedal linkage, cables, automatic adjuster mechanisms, brackets, bushings, pivots, and springs; perform needed action.		1 2 3 4 5
3. Inspect and/or replace clutch pressure plate assembly, clutch disc, release (throw-out) bearing, linkage, and pilot bearing/bushing (as applicable).		1 2 3 4 5
4. Bleed clutch hydraulic system.		1 2 3 4 5
6. Inspect flywheel and ring gear for wear, cracks, and discoloration; determine needed action.		1 2 3 4 5
7. Measure flywheel runout and crankshaft end play; determine needed action.		1 2 3 4 5
8. Describe the operation and service of a system that uses a dual mass flywheel.		1 2 3 4 5
1. Inspect, adjust, lubricate, and/or replace shift linkages, brackets, bushings, cables, pivots, and levers.		1 2 3 4 5
4. Diagnose hard shifting and jumping out of gear concerns; determine needed action.		1 2 3 4 5
5. Diagnose transaxle final drive assembly noise and vibration concerns; determine needed action.		1 2 3 4 5
1. Diagnose constant-velocity (CV) joint noise and vibration concerns; determine needed action.		1 2 3 4 5
2. Diagnose universal joint noise and vibration concerns; perform needed action.		1 2 3 4 5
4. Inspect, service, and/or replace shafts, yokes, boots, and universal/CV joints.		1 2 3 4 5
15. Inspect and replace drive axle wheel studs		1 2 3 4 5

2. Check and adjust differential case fluid level; use proper fluid type per manufacturer specification.		
3. Drain and refill differential case; use proper fluid type per manufacturer specification		
4. Diagnose noise and vibration concerns; determine needed action.		
4. Identify concerns related to variations in tire circumference and/or final drive ratios.		

MST 5. Competencies

Recommended Hours	200	
Competency	Date	Circle one
Suspension and Steering		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify suspension and steering system components and configurations		1 2 3 4 5
3. Disable and enable supplemental restraint system (SRS); verify indicator lamp operation		1 2 3 4 5
4. Inspect rack and pinion steering gear inner tie rod ends (sockets) and bellows boots		1 2 3 4 5
5. Inspect power steering fluid level and condition		1 2 3 4 5
6. Flush, fill, and bleed power steering system; use proper fluid type per manufacturer specification		1 2 3 4 5
7. Inspect for power steering fluid leakage		1 2 3 4 5
8. Remove, inspect, replace, and/or adjust power steering pump drive belt		1 2 3 4 5
9. Inspect and replace power steering hoses and fittings		1 2 3 4 5
10. Inspect pitman arm, relay (centerlink/intermediate) rod, idler arm, mountings, and steering linkage damper		1 2 3 4 5
11. Inspect tie rod ends (sockets), tie rod sleeves, and clamps		1 2 3 4 5
12. Inspect upper and lower control arms, bushings, and shafts		1 2 3 4 5
13. Inspect and replace rebound bumpers		1 2 3 4 5
14. Inspect track bar, strut rods/radius arms, and related mounts and bushings		1 2 3 4 5
15. Inspect upper and lower ball joints (with or without wear indicators)		1 2 3 4 5
16. Inspect suspension system coil springs and spring insulators (silencers)		1 2 3 4 5
17. Inspect suspension system torsion bars and mounts		1 2 3 4 5
18. Inspect and/or replace front/rear stabilizer bar (sway bar) bushings, brackets, and links		1 2 3 4 5
19. Inspect, remove, and/or replace strut cartridge or assembly; inspect mounts and bushings		1 2 3 4 5
20. Inspect front strut bearing and mount		1 2 3 4 5
21. Inspect rear suspension system lateral links/arms (track bars), control (trailing) arms		1 2 3 4 5

22. Inspect rear suspension system leaf spring(s), spring insulators (silencers), shackles, brackets, bushings, center pins/bolts, and mounts		1 2 3 4 5
23. Inspect, remove, and/or replace shock absorbers; inspect mounts and bushings		1 2 3 4 5
24. Inspect electric power steering assist system		1 2 3 4 5
25. Identify hybrid vehicle power steering system electrical circuits and safety precautions		1 2 3 4 5
26. Describe the function of suspension and steering control systems and components, (i.e. active suspension, and stability control)		1 2 3 4 5
Wheel Alignment		
1. Perform prealignment inspection; measure vehicle ride height		1 2 3 4 5
2. Describe alignment angles (camber, caster and toe)		1 2 3 4 5
Wheels and Tires		
1. Inspect tire condition; identify tire wear patterns; check for correct tire size, application (load and speed ratings), and air pressure as listed on the tire information placard/label		1 2 3 4 5
2. Rotate tires according to manufacturer's recommendations including vehicles equipped with tire pressure monitoring systems (TPMS)		1 2 3 4 5
3. Dismount, inspect, and remount tire on wheel; balance wheel and tire assembly		1 2 3 4 5
4. Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor		1 2 3 4 5
5. Inspect tire and wheel assembly for air loss; determine necessary action		1 2 3 4 5
6. Repair tire following vehicle manufacturer approved procedure		1 2 3 4 5
7. Identify indirect and direct tire pressure monitoring systems (TPMS); calibrate system; verify operation of instrument panel lamps		1 2 3 4 5
8. Demonstrate knowledge of steps required to remove and replace sensors in a tire pressure monitoring system (TPMS) including relearn procedure		1 2 3 4 5

MST 6. Competencies

Recommended Hours	200	
Competency	Date	Circle one
Brakes		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify brake system components and configuration		1 2 3 4 5
3. Describe procedure for performing a road test to check brake system operation, including an anti-lock brake system (ABS)		1 2 3 4 5
4. Install wheel and torque lug nuts		1 2 3 4 5
Hydraulic System		
1. Describe proper brake pedal height, travel, and feel		1 2 3 4 5

2. Check master cylinder for external leaks and proper operation		1 2 3 4 5
3. Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust, cracks, bulging, wear, and loose fittings/supports		1 2 3 4 5
4. Select, handle, store, and fill brake fluids to proper level; use proper fluid type per manufacturer specification		1 2 3 4 5
5. Identify components of hydraulic brake warning light system		1 2 3 4 5
6. Bleed and/or flush brake system		1 2 3 4 5
7. Test brake fluid for contamination		1 2 3 4 5
Drum Brakes		
1. Remove, clean, and inspect brake drum; measure brake drum diameter; determine serviceability		1 2 3 4 5
2. Refinish brake drum and measure final drum diameter; compare with specification		1 2 3 4 5
3. Remove, clean, inspect, and/or replace brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related brake hardware, and backing support plates; lubricate and reassemble		1 2 3 4 5
4. Inspect wheel cylinders for leaks and proper operation; remove and replace as needed		1 2 3 4 5
5. Pre-adjust brake shoes and parking brake; install brake drums or drum/hub assemblies and wheel bearings; make final checks and adjustments		1 2 3 4 5
Disc Brakes		
1. Remove and clean caliper assembly; inspect for leaks and damage/wear; determine necessary action		1 2 3 4 5
2. Inspect caliper mounting and slides/pins for proper operation, wear, and damage; determine necessary action		1 2 3 4 5
3. Remove, inspect, and/or replace brake pads and retaining hardware; determine necessary action		1 2 3 4 5
4. Lubricate and reinstall caliper, brake pads, and related hardware; seat brake pads and inspect for leaks		1 2 3 4 5
5. Clean and inspect rotor and mounting surface, measure rotor thickness, thickness variation, and lateral runout; determine necessary action		1 2 3 4 5
6. Remove and reinstall/replace rotor		1 2 3 4 5
7. Refinish rotor on vehicle; measure final rotor thickness and compare with specification		1 2 3 4 5
8. Refinish rotor off vehicle; measure final rotor thickness and compare with specification		1 2 3 4 5
9. Retract and re-adjust caliper piston on an integral parking brake system		1 2 3 4 5
10. Check brake pad wear indicator; determine necessary action		1 2 3 4 5
11. Describe importance of operating vehicle to burnish/break-in replacement brake pads according to manufacturer's recommendation		1 2 3 4 5
Power Assist Systems		

1. Identify components of the brake power assist system (vacuum and hydraulic); check vacuum supply (manifold or auxiliary pump) to vacuum-type power booster		1 2 3 4 5
2. Check brake pedal travel with, and without, engine running to verify proper power booster operation		1 2 3 4 5
Related Systems		
1. Remove, clean, inspect, repack, and install wheel bearings; replace seals; install hub and adjust bearings		1 2 3 4 5
2. Check parking brake system components for wear, binding, and corrosion; clean, lubricate, adjust and/or replace as needed		1 2 3 4 5
3. Check parking brake operation and parking brake indicator light system operation; determine necessary action		1 2 3 4 5
4. Check operation of brake stop light system		1 2 3 4 5
5. Replace wheel bearing and race		1 2 3 4 5
6. Inspect and replace wheel studs		1 2 3 4 5
Traction and Stability Control		
1. Identify traction control/vehicle stability control system components		1 2 3 4 5
2. Describe the operation of a regenerative braking system		1 2 3 4 5

MST 7. Competencies

Recommended Hours	600	
Competency	Date	Circle one
Electrical/Electronic Systems		
1. Research vehicle service information including vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify electrical/electronic system components and configuration		1 2 3 4 5
3. Demonstrate knowledge of electrical/electronic series, parallel, and series-parallel circuits using principles of electricity (Ohm's Law)		1 2 3 4 5
4. Use wiring diagrams to trace electrical/electronic circuits		1 2 3 4 5
5. Demonstrate proper use of a digital multi-meter (DMM) when measuring source voltage, voltage drop (including grounds), current flow, and resistance.		1 2 3 4 5
6. Demonstrate knowledge of the causes and effects from shorts, grounds, opens, and resistance problems in electrical/electronic circuits		1 2 3 4 5
7. Use a test light to check operation of electrical circuits		1 2 3 4 5
8. Use fused jumper wires to check operation of electrical circuits		1 2 3 4 5
9. Measure key-off battery drain (parasitic draw)		1 2 3 4 5
10. Inspect and test fusible links, circuit breakers, and fuses; determine necessary action		1 2 3 4 5
11. Repair and/or replace connectors, terminal ends, and wiring of electrical/electronic systems (including solder repair)		1 2 3 4 5
Battery Service		
1. Perform battery state-of-charge test; determine necessary action		1 2 3 4 5

2. Confirm proper battery capacity for vehicle application; perform battery capacity and load test; determine necessary action		1 2 3 4 5
3. Maintain or restore electronic memory functions		1 2 3 4 5
4. Inspect and clean battery; fill battery cells; check battery cables, connectors, clamps, and hold-downs		1 2 3 4 5
5. Perform slow/fast battery charge according to manufacturer's recommendations		1 2 3 4 5
6. Jump-start vehicle using jumper cables and a booster battery or an auxiliary power supply		1 2 3 4 5
7. Identify safety precautions for high voltage systems on electric, hybrid-electric, and diesel vehicles		1 2 3 4 5
8. Identify electrical/electronic modules, security systems, radios, and other accessories that require re-initialization or code entry after reconnecting vehicle battery		1 2 3 4 5
9. Identify hybrid vehicle auxiliary (12v) battery service, repair, and test procedures		1 2 3 4 5
Starting Systems		
1. Perform starter current draw test; determine necessary action		1 2 3 4 5
2. Perform starter circuit voltage drop tests; determine necessary action		1 2 3 4 5
3. Inspect and test starter relays and solenoids; determine necessary action		1 2 3 4 5
4. Remove and install starter in a vehicle		1 2 3 4 5
5. Inspect and test switches, connectors, and wires of starter control circuits; determine necessary action		1 2 3 4 5
6. Demonstrate knowledge of an automatic idle-stop/start-stop system		1 2 3 4 5
Charging Systems		
1. Perform charging system output test; determine necessary action		1 2 3 4 5
2. Inspect, adjust, and/or replace generator (alternator) drive belts; check pulleys and tensioners for wear; check pulley and belt alignment		1 2 3 4 5
3. Remove, inspect, and/or replace generator (alternator)		1 2 3 4 5
4. Perform charging circuit voltage drop tests; determine necessary action		1 2 3 4 5
Body Electrical Systems		
1. Inspect interior and exterior lamps and sockets including headlights and auxiliary lights (fog lights/driving lights); replace as needed		1 2 3 4 5
2. Aim headlights		1 2 3 4 5
3. Identify system voltage and safety precautions associated with high-intensity discharge headlights		1 2 3 4 5
4. Disable and enable supplemental restraint system (SRS); verify indicator lamp operation		1 2 3 4 5
5. Remove and reinstall door panel		1 2 3 4 5
6. Describe the operation of keyless entry/remote-start systems		1 2 3 4 5
7. Verify operation of instrument panel gauges and warning/indicator lights; reset maintenance indicators		1 2 3 4 5
8. Verify windshield wiper and washer operation; replace wiper blades		1 2 3 4 5

MST 8. Competencies

Recommended Hours	100	
Competency	Date	Circle one
Heating, Ventilation, Air Conditioning Systems (HVAC)		
1. Research vehicle service information, including refrigerant/oil type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify heating, ventilation and air conditioning (HVAC) components and configuration.		1 2 3 4 5
3. Inspect and replace A/C compressor drive belts, pulleys, and tensioners; visually inspect A/C components for signs of leaks; determine necessary action		1 2 3 4 5
4. Identify hybrid vehicle A/C system electrical circuits and the service/safety precautions		1 2 3 4 5
5. Inspect A/C condenser for airflow restrictions; determine necessary action		1 2 3 4 5
6. Inspect engine cooling and heater systems hoses and pipes; determine necessary action		1 2 3 4 5
7. Inspect A/C-heater ducts, doors, hoses, cabin filters, and outlets; determine necessary action		1 2 3 4 5
8. Identify the source of A/C system odors		1 2 3 4 5

MST 9. Competencies

Recommended Hours	160	
Competency	Date	Circle one
Engine Performance		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Perform engine absolute manifold pressure tests (vacuum/boost); document results		1 2 3 4 5
3. Perform cylinder power balance test; document results		1 2 3 4 5
Perform cylinder cranking and running compression tests; document results		1 2 3 4 5
5. Perform cylinder leakage test; document results		1 2 3 4 5
6. Verify engine operating temperature		1 2 3 4 5
7. Remove and replace spark plugs; inspect secondary ignition components for wear and damage		1 2 3 4 5
8. Retrieve and record diagnostic trouble codes (DTC), OBD monitor status, and freeze frame data; clear codes when applicable		1 2 3 4 5
9. Describe the use of the OBD monitors for repair verification		1 2 3 4 5

10. Replace fuel filter(s) where applicable		1 2 3 4 5
11. Repair and/or replace connectors, terminal ends, and wiring of electrical/electronic systems (including solder repair)		1 2 3 4 5
12. Inspect, service, or replace air filters, filter housings, and intake duct work		1 2 3 4 5
13. Inspect integrity of the exhaust manifold, exhaust pipes, muffler(s), catalytic converter(s), resonator(s), tail pipe(s), and heat shields; determine necessary action		1 2 3 4 5
14. Inspect condition of exhaust system hangers, brackets, clamps, and heat shields; determine necessary action		1 2 3 4 5
15. Check and refill diesel exhaust fluid (DEF)		1 2 3 4 5
16. Inspect, test, and service positive crankcase ventilation (PCV) filter/breather, valve, tubes, orifices, and hoses; perform necessary action		1 2 3 4 5

**Master Service Technician
Apprentice Competency Evaluation Form
Year Three**

App. Name		Date	
Company Name		GST/MST	MST
Evaluator		Title	

Grading Rubric:

5 = Outstanding – The employee has exceeded all of the performance expectations for this factor and has made many significant contributions to the efficiency and economy of this organization through such performance.

4 = Exceeds Expectations – The employee regularly works beyond a majority of the performance expectations of this factor and has made many significant contributions to the efficiency and economy of this organization through such performance

3 = Meets Expectations – The employee has met the performance expectations for this factor and has contributed to the efficiency and economy of this organization.

2 = Needs Improvement – The employee has failed to meet one or more of the significant performance expectations for this factor.

1 = Unsatisfactory – The employee has failed to meet the performance expectations for this factor.

Apprentice must achieve a level 3 or higher on a minimum of 85% of GST 1 – 8 Competencies as well as meeting hour's requirements for completion of ITAC Apprenticeship Program.

Personal Effectiveness Competencies

(To be completed by employer)

Competency	Date	Circle one
Attendance – Maintains good attendance		1 2 3 4 5
Punctuality – Arrives and leaves the workplace on time		1 2 3 4 5
Perseverance – Attends to task. Continues difficult tasks until completed		1 2 3 4 5
Listening – Receives and responds to verbal messages effectively		1 2 3 4 5
Speaking – Organizes ideas and presents them logically, Clearly, and concisely		1 2 3 4 5
Initiative – Is self-motivated		1 2 3 4 5
Reliability – Completes assigned tasks without constant supervision		1 2 3 4 5
Commitment – Demonstrates alliance to company and profession		1 2 3 4 5
Enthusiasm – Demonstrates desire to learn and please		1 2 3 4 5
Safety Conscious – Observes safety rules and regulations		1 2 3 4 5
Leadership – Gets others to cooperate toward attainment of common goals		1 2 3 4 5

MST 1. Competencies

(To be completed by employer and apprentice)

Recommended Hours	0	
Competency	Date	Circle one

MST 2. Competencies

Recommended Hours	300	
Competency	Date	Circle one
Engine Repair		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Verify operation of the instrument panel engine warning indicators		1 2 3 4 5
3. Inspect engine assembly for fuel, oil, coolant, and other leaks; determine necessary action.		1 2 3 4 5
4. Install engine covers using gaskets, seals, and sealers as required on minor operations		1 2 3 4 5

5. Perform common fastener and thread repair, to include: remove broken bolt, restore internal and external threads, and repair internal threads with thread insert		1 2 3 4 5
6. Identify service precautions related to service of the internal combustion engine of a hybrid vehicle		1 2 3 4 5
7. Identify components of the cylinder head and valve train		1 2 3 4 5
Lubrication and Cooling Systems		
1. Identify components of the lubrication and cooling systems		1 2 3 4 5
2. Perform cooling system pressure and dye tests to identify leaks; check coolant condition and level; inspect and test radiator, pressure cap, coolant recovery tank, heater core, and galley plugs; determine necessary action		1 2 3 4 5
3. Inspect, replace, and/or adjust drive belts, tensioners, and pulleys; check pulley and belt alignment		1 2 3 4 5
4. Remove, inspect, and replace thermostat and gasket/seal on minor applications		1 2 3 4 5
5. Inspect and test coolant; drain and recover coolant; flush and refill cooling system; use proper fluid type per manufacturer specification; bleed air as required		1 2 3 4 5
6. Perform engine oil and filter change; use proper fluid type per manufacturer specification; reset maintenance reminder as required		1 2 3 4 5

MST 3. Competencies

Recommended Hours	80	
Competency	Date	Circle one
Automatic Transmission and Transaxle		
1. Identify drive train components and configuration		1 2 3 4 5
2. Research vehicle service information including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
3. Check fluid level in a transmission or a transaxle equipped with a dip-stick		1 2 3 4 5
4. Check fluid level in a transmission or a transaxle not equipped with a dip-stick		1 2 3 4 5
5. Check transmission fluid condition; check for leaks		1 2 3 4 5
6. Perform common fastener and thread repair, to include: remove broken bolt, restore internal and external threads, and repair internal threads with thread insert		1 2 3 4 5
7. Inspect, adjust, and/or replace external manual valve shift linkage, transmission range sensor/switch, and/or park/neutral position switch of a hybrid vehicle		1 2 3 4 5
8. Inspect for leakage at external seals, gaskets, and bushings		1 2 3 4 5
9. Inspect, replace and/or align power train mounts		1 2 3 4 5
10. Drain and replace fluid and filter(s); use proper fluid type per manufacturer specification		1 2 3 4 5
11. Describe the operational characteristics of a continuously variable transmission (CVT)		1 2 3 4 5
12. Describe the operational characteristics of a hybrid vehicle drive train		1 2 3 4 5

MST 4. Competencies

Recommended Hours	0	
Competency	Date	Circle one

MST 5. Competencies

Recommended Hours	200	
Competency	Date	Circle one
Suspension and Steering		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify suspension and steering system components and configurations		1 2 3 4 5
3. Disable and enable supplemental restraint system (SRS); verify indicator lamp operation		1 2 3 4 5
4. Inspect rack and pinion steering gear inner tie rod ends (sockets) and bellows boots		1 2 3 4 5
5. Inspect power steering fluid level and condition		1 2 3 4 5
6. Flush, fill, and bleed power steering system; use proper fluid type per manufacturer specification		1 2 3 4 5
7. Inspect for power steering fluid leakage		1 2 3 4 5
8. Remove, inspect, replace, and/or adjust power steering pump drive belt		1 2 3 4 5
9. Inspect and replace power steering hoses and fittings		1 2 3 4 5
10. Inspect pitman arm, relay (centerlink/intermediate) rod, idler arm, mountings, and steering linkage damper		1 2 3 4 5
11. Inspect tie rod ends (sockets), tie rod sleeves, and clamps		1 2 3 4 5
12. Inspect upper and lower control arms, bushings, and shafts		1 2 3 4 5
13. Inspect and replace rebound bumpers		1 2 3 4 5
14. Inspect track bar, strut rods/radius arms, and related mounts and bushings		1 2 3 4 5
15. Inspect upper and lower ball joints (with or without wear indicators)		1 2 3 4 5
16. Inspect suspension system coil springs and spring insulators (silencers)		1 2 3 4 5
17. Inspect suspension system torsion bars and mounts		1 2 3 4 5
18. Inspect and/or replace front/rear stabilizer bar (sway bar) bushings, brackets, and links		1 2 3 4 5
19. Inspect, remove, and/or replace strut cartridge or assembly; inspect mounts and bushings		1 2 3 4 5
20. Inspect front strut bearing and mount		1 2 3 4 5
21. Inspect rear suspension system lateral links/arms (track bars), control (trailing) arms		1 2 3 4 5
22. Inspect rear suspension system leaf spring(s), spring insulators (silencers), shackles, brackets, bushings, center pins/bolts, and mounts		1 2 3 4 5
23. Inspect, remove, and/or replace shock absorbers; inspect mounts and bushings		1 2 3 4 5

24. Inspect electric power steering assist system		1 2 3 4 5
25. Identify hybrid vehicle power steering system electrical circuits and safety precautions		1 2 3 4 5
26. Describe the function of suspension and steering control systems and components, (i.e. active suspension, and stability control)		1 2 3 4 5
Wheel Alignment		
1. Perform prealignment inspection; measure vehicle ride height		1 2 3 4 5
2. Describe alignment angles (camber, caster and toe)		1 2 3 4 5
Wheels and Tires		
1. Inspect tire condition; identify tire wear patterns; check for correct tire size, application (load and speed ratings), and air pressure as listed on the tire information placard/label		1 2 3 4 5
2. Rotate tires according to manufacturer's recommendations including vehicles equipped with tire pressure monitoring systems (TPMS)		1 2 3 4 5
3. Dismount, inspect, and remount tire on wheel; balance wheel and tire assembly		1 2 3 4 5
4. Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor		1 2 3 4 5
5. Inspect tire and wheel assembly for air loss; determine necessary action		1 2 3 4 5
6. Repair tire following vehicle manufacturer approved procedure		1 2 3 4 5
7. Identify indirect and direct tire pressure monitoring systems (TPMS); calibrate system; verify operation of instrument panel lamps		1 2 3 4 5
8. Demonstrate knowledge of steps required to remove and replace sensors in a tire pressure monitoring system (TPMS) including relearn procedure		1 2 3 4 5

MST 6. Competencies

Recommended Hours	200	
Competency	Date	Circle one
Brakes		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify brake system components and configuration		1 2 3 4 5
3. Describe procedure for performing a road test to check brake system operation, including an anti-lock brake system (ABS)		1 2 3 4 5
4. Install wheel and torque lug nuts		1 2 3 4 5
Hydraulic System		
1. Describe proper brake pedal height, travel, and feel		1 2 3 4 5
2. Check master cylinder for external leaks and proper operation		1 2 3 4 5

3. Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust, cracks, bulging, wear, and loose fittings/supports		1 2 3 4 5
4. Select, handle, store, and fill brake fluids to proper level; use proper fluid type per manufacturer specification		1 2 3 4 5
5. Identify components of hydraulic brake warning light system		1 2 3 4 5
6. Bleed and/or flush brake system		1 2 3 4 5
7. Test brake fluid for contamination		1 2 3 4 5
Drum Brakes		
1. Remove, clean, and inspect brake drum; measure brake drum diameter; determine serviceability		1 2 3 4 5
2. Refinish brake drum and measure final drum diameter; compare with specification		1 2 3 4 5
3. Remove, clean, inspect, and/or replace brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related brake hardware, and backing support plates; lubricate and reassemble		1 2 3 4 5
4. Inspect wheel cylinders for leaks and proper operation; remove and replace as needed		1 2 3 4 5
5. Pre-adjust brake shoes and parking brake; install brake drums or drum/hub assemblies and wheel bearings; make final checks and adjustments		1 2 3 4 5
Disc Brakes		
1. Remove and clean caliper assembly; inspect for leaks and damage/wear; determine necessary action		1 2 3 4 5
2. Inspect caliper mounting and slides/pins for proper operation, wear, and damage; determine necessary action		1 2 3 4 5
3. Remove, inspect, and/or replace brake pads and retaining hardware; determine necessary action		1 2 3 4 5
4. Lubricate and reinstall caliper, brake pads, and related hardware; seat brake pads and inspect for leaks		1 2 3 4 5
5. Clean and inspect rotor and mounting surface, measure rotor thickness, thickness variation, and lateral runout; determine necessary action		1 2 3 4 5
6. Remove and reinstall/replace rotor		1 2 3 4 5
7. Refinish rotor on vehicle; measure final rotor thickness and compare with specification		1 2 3 4 5
8. Refinish rotor off vehicle; measure final rotor thickness and compare with specification		1 2 3 4 5
9. Retract and re-adjust caliper piston on an integral parking brake system		1 2 3 4 5
10. Check brake pad wear indicator; determine necessary action		1 2 3 4 5
11. Describe importance of operating vehicle to burnish/break-in replacement brake pads according to manufacturer's recommendation		1 2 3 4 5
Power Assist Systems		

1. Identify components of the brake power assist system (vacuum and hydraulic); check vacuum supply (manifold or auxiliary pump) to vacuum-type power booster		1 2 3 4 5
2. Check brake pedal travel with, and without, engine running to verify proper power booster operation		1 2 3 4 5
Related Systems		
1. Remove, clean, inspect, repack, and install wheel bearings; replace seals; install hub and adjust bearings		1 2 3 4 5
2. Check parking brake system components for wear, binding, and corrosion; clean, lubricate, adjust and/or replace as needed		1 2 3 4 5
3. Check parking brake operation and parking brake indicator light system operation; determine necessary action		1 2 3 4 5
4. Check operation of brake stop light system		1 2 3 4 5
5. Replace wheel bearing and race		1 2 3 4 5
6. Inspect and replace wheel studs		1 2 3 4 5
Traction and Stability Control		
1. Identify traction control/vehicle stability control system components		1 2 3 4 5
2. Describe the operation of a regenerative braking system		1 2 3 4 5

MST 7. Competencies

Recommended Hours	600	
Competency	Date	Circle one
Electrical/Electronic Systems		
1. Research vehicle service information including vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify electrical/electronic system components and configuration		1 2 3 4 5
3. Demonstrate knowledge of electrical/electronic series, parallel, and series-parallel circuits using principles of electricity (Ohm's Law)		1 2 3 4 5
4. Use wiring diagrams to trace electrical/electronic circuits		1 2 3 4 5
5. Demonstrate proper use of a digital multi-meter (DMM) when measuring source voltage, voltage drop (including grounds), current flow, and resistance.		1 2 3 4 5
6. Demonstrate knowledge of the causes and effects from shorts, grounds, opens, and resistance problems in electrical/electronic circuits		1 2 3 4 5
7. Use a test light to check operation of electrical circuits		1 2 3 4 5
8. Use fused jumper wires to check operation of electrical circuits		1 2 3 4 5
9. Measure key-off battery drain (parasitic draw)		1 2 3 4 5
10. Inspect and test fusible links, circuit breakers, and fuses; determine necessary action		1 2 3 4 5
11. Repair and/or replace connectors, terminal ends, and wiring of electrical/electronic systems (including solder repair)		1 2 3 4 5
Battery Service		

1. Perform battery state-of-charge test; determine necessary action		1 2 3 4 5
2. Confirm proper battery capacity for vehicle application; perform battery capacity and load test; determine necessary action		1 2 3 4 5
3. Maintain or restore electronic memory functions		1 2 3 4 5
4. Inspect and clean battery; fill battery cells; check battery cables, connectors, clamps, and hold-downs		1 2 3 4 5
5. Perform slow/fast battery charge according to manufacturer's recommendations		1 2 3 4 5
6. Jump-start vehicle using jumper cables and a booster battery or an auxiliary power supply		1 2 3 4 5
7. Identify safety precautions for high voltage systems on electric, hybrid-electric, and diesel vehicles		1 2 3 4 5
8. Identify electrical/electronic modules, security systems, radios, and other accessories that require re-initialization or code entry after reconnecting vehicle battery		1 2 3 4 5
9. Identify hybrid vehicle auxiliary (12v) battery service, repair, and test procedures		1 2 3 4 5
Starting Systems		
1. Perform starter current draw test; determine necessary action		1 2 3 4 5
2. Perform starter circuit voltage drop tests; determine necessary action		1 2 3 4 5
3. Inspect and test starter relays and solenoids; determine necessary action		1 2 3 4 5
4. Remove and install starter in a vehicle		1 2 3 4 5
5. Inspect and test switches, connectors, and wires of starter control circuits; determine necessary action		1 2 3 4 5
6. Demonstrate knowledge of an automatic idle-stop/start-stop system		1 2 3 4 5
Charging Systems		
1. Perform charging system output test; determine necessary action		1 2 3 4 5
2. Inspect, adjust, and/or replace generator (alternator) drive belts; check pulleys and tensioners for wear; check pulley and belt alignment		1 2 3 4 5
3. Remove, inspect, and/or replace generator (alternator)		1 2 3 4 5
4. Perform charging circuit voltage drop tests; determine necessary action		1 2 3 4 5
Body Electrical Systems		
1. Inspect interior and exterior lamps and sockets including headlights and auxiliary lights (fog lights/driving lights); replace as needed		1 2 3 4 5
2. Aim headlights		1 2 3 4 5
3. Identify system voltage and safety precautions associated with high-intensity discharge headlights		1 2 3 4 5
4. Disable and enable supplemental restraint system (SRS); verify indicator lamp operation		1 2 3 4 5
5. Remove and reinstall door panel		1 2 3 4 5
6. Describe the operation of keyless entry/remote-start systems		1 2 3 4 5
7. Verify operation of instrument panel gauges and warning/indicator lights; reset maintenance indicators		1 2 3 4 5
8. Verify windshield wiper and washer operation; replace wiper blades		1 2 3 4 5

MST 8. Competencies

Recommended Hours	200	
Competency	Date	Circle one
Heating, Ventilation, Air Conditioning Systems (HVAC)		
1. Research vehicle service information, including refrigerant/oil type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify heating, ventilation and air conditioning (HVAC) components and configuration.		1 2 3 4 5
3. Inspect and replace A/C compressor drive belts, pulleys, and tensioners; visually inspect A/C components for signs of leaks; determine necessary action		1 2 3 4 5
4. Identify hybrid vehicle A/C system electrical circuits and the service/safety precautions		1 2 3 4 5
5. Inspect A/C condenser for airflow restrictions; determine necessary action		1 2 3 4 5
6. Inspect engine cooling and heater systems hoses and pipes; determine necessary action		1 2 3 4 5
7. Inspect A/C-heater ducts, doors, hoses, cabin filters, and outlets; determine necessary action		1 2 3 4 5
8. Identify the source of A/C system odors		1 2 3 4 5

MST 9. Competencies

Recommended Hours	420	
Competency	Date	Circle one
Engine Performance		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Perform engine absolute manifold pressure tests (vacuum/boost); document results		1 2 3 4 5
3. Perform cylinder power balance test; document results		1 2 3 4 5
Perform cylinder cranking and running compression tests; document results		1 2 3 4 5
5. Perform cylinder leakage test; document results		1 2 3 4 5
6. Verify engine operating temperature		1 2 3 4 5
7. Remove and replace spark plugs; inspect secondary ignition components for wear and damage		1 2 3 4 5
8. Retrieve and record diagnostic trouble codes (DTC), OBD monitor status, and freeze frame data; clear codes when applicable		1 2 3 4 5
9. Describe the use of the OBD monitors for repair verification		1 2 3 4 5
10. Replace fuel filter(s) where applicable		1 2 3 4 5

11. Repair and/or replace connectors, terminal ends, and wiring of electrical/electronic systems (including solder repair)		1 2 3 4 5
12. Inspect, service, or replace air filters, filter housings, and intake duct work		1 2 3 4 5
13. Inspect integrity of the exhaust manifold, exhaust pipes, muffler(s), catalytic converter(s), resonator(s), tail pipe(s), and heat shields; determine necessary action		1 2 3 4 5
14. Inspect condition of exhaust system hangers, brackets, clamps, and heat shields; determine necessary action		1 2 3 4 5
15. Check and refill diesel exhaust fluid (DEF)		1 2 3 4 5
16. Inspect, test, and service positive crankcase ventilation (PCV) filter/breather, valve, tubes, orifices, and hoses; perform necessary action		1 2 3 4 5

Master Service Technician
Apprentice Competency Evaluation Form
Year Four

App. Name		Date	
Company Name		GST/MST	MST
Evaluator		Title	

Grading Rubric:

5 = Outstanding – The employee has exceeded all of the performance expectations for this factor and has made many significant contributions to the efficiency and economy of this organization through such performance.

4 = Exceeds Expectations – The employee regularly works beyond a majority of the performance expectations of this factor and has made many significant contributions to the efficiency and economy of this organization through such performance

3 = Meets Expectations – The employee has met the performance expectations for this factor and has contributed to the efficiency and economy of this organization.

2 = Needs Improvement – The employee has failed to meet one or more of the significant performance expectations for this factor.

1 = Unsatisfactory – The employee has failed to meet the performance expectations for this factor.

Apprentice must achieve a level 3 or higher on a minimum of 85% of GST 1 – 8 Competencies as well as meeting hour's requirements for completion of ITAC Apprenticeship Program.

Personal Effectiveness Competencies

(To be completed by employer)

Competency	Date	Circle one
Attendance – Maintains good attendance		1 2 3 4 5
Punctuality – Arrives and leaves the workplace on time		1 2 3 4 5
Perseverance – Attends to task. Continues difficult tasks until completed		1 2 3 4 5
Listening – Receives and responds to verbal messages effectively		1 2 3 4 5
Speaking – Organizes ideas and presents them logically, Clearly, and concisely		1 2 3 4 5
Initiative – Is self-motivated		1 2 3 4 5
Reliability – Completes assigned tasks without constant supervision		1 2 3 4 5
Commitment – Demonstrates alliance to company and profession		1 2 3 4 5
Enthusiasm – Demonstrates desire to learn and please		1 2 3 4 5
Safety Conscious – Observes safety rules and regulations		1 2 3 4 5
Leadership – Gets others to cooperate toward attainment of common goals		1 2 3 4 5

MST 1. Competencies

(To be completed by employer and apprentice)

Recommended Hours	0	
Competency	Date	Circle one

MST 2. Competencies

Recommended Hours	0	
Competency	Date	Circle one

MST 3. Competencies

Recommended Hours	80	
Competency	Date	Circle one
Automatic Transmission and Transaxle		
1. Identify drive train components and configuration		1 2 3 4 5
2. Research vehicle service information including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
3. Check fluid level in a transmission or a transaxle equipped with a dip-stick		1 2 3 4 5
4. Check fluid level in a transmission or a transaxle not equipped with a dip-stick		1 2 3 4 5
5. Check transmission fluid condition; check for leaks		1 2 3 4 5
6. Perform common fastener and thread repair, to include: remove broken bolt, restore internal and external threads, and repair internal threads with thread insert		1 2 3 4 5
7. Inspect, adjust, and/or replace external manual valve shift linkage, transmission range sensor/switch, and/or park/neutral position switch of a hybrid vehicle		1 2 3 4 5
8. Inspect for leakage at external seals, gaskets, and bushings		1 2 3 4 5
9. Inspect, replace and/or align power train mounts		1 2 3 4 5
10. Drain and replace fluid and filter(s); use proper fluid type per manufacturer specification		1 2 3 4 5
11. Describe the operational characteristics of a continuously variable transmission (CVT)		1 2 3 4 5
12. Describe the operational characteristics of a hybrid vehicle drive train		1 2 3 4 5

MST 4. Competencies

Recommended Hours	0	
Competency	Date	Circle one

MST 5. Competencies

Recommended Hours	200	
Competency	Date	Circle one
Suspension and Steering		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify suspension and steering system components and configurations		1 2 3 4 5
3. Disable and enable supplemental restraint system (SRS); verify indicator lamp operation		1 2 3 4 5

4. Inspect rack and pinion steering gear inner tie rod ends (sockets) and bellows boots		1 2 3 4 5
5. Inspect power steering fluid level and condition		1 2 3 4 5
6. Flush, fill, and bleed power steering system; use proper fluid type per manufacturer specification		1 2 3 4 5
7. Inspect for power steering fluid leakage		1 2 3 4 5
8. Remove, inspect, replace, and/or adjust power steering pump drive belt		1 2 3 4 5
9. Inspect and replace power steering hoses and fittings		1 2 3 4 5
10. Inspect pitman arm, relay (centerlink/intermediate) rod, idler arm, mountings, and steering linkage damper		1 2 3 4 5
11. Inspect tie rod ends (sockets), tie rod sleeves, and clamps		1 2 3 4 5
12. Inspect upper and lower control arms, bushings, and shafts		1 2 3 4 5
13. Inspect and replace rebound bumpers		1 2 3 4 5
14. Inspect track bar, strut rods/radius arms, and related mounts and bushings		1 2 3 4 5
15. Inspect upper and lower ball joints (with or without wear indicators)		1 2 3 4 5
16. Inspect suspension system coil springs and spring insulators (silencers)		1 2 3 4 5
17. Inspect suspension system torsion bars and mounts		1 2 3 4 5
18. Inspect and/or replace front/rear stabilizer bar (sway bar) bushings, brackets, and links		1 2 3 4 5
19. Inspect, remove, and/or replace strut cartridge or assembly; inspect mounts and bushings		1 2 3 4 5
20. Inspect front strut bearing and mount		1 2 3 4 5
21. Inspect rear suspension system lateral links/arms (track bars), control (trailing) arms		1 2 3 4 5
22. Inspect rear suspension system leaf spring(s), spring insulators (silencers), shackles, brackets, bushings, center pins/bolts, and mounts		1 2 3 4 5
23. Inspect, remove, and/or replace shock absorbers; inspect mounts and bushings		1 2 3 4 5
24. Inspect electric power steering assist system		1 2 3 4 5
25. Identify hybrid vehicle power steering system electrical circuits and safety precautions		1 2 3 4 5
26. Describe the function of suspension and steering control systems and components, (i.e. active suspension, and stability control)		1 2 3 4 5
Wheel Alignment		
1. Perform prealignment inspection; measure vehicle ride height		1 2 3 4 5
2. Describe alignment angles (camber, caster and toe)		1 2 3 4 5
Wheels and Tires		
1. Inspect tire condition; identify tire wear patterns; check for correct tire size, application (load and speed ratings), and air pressure as listed on the tire information placard/label		1 2 3 4 5
2. Rotate tires according to manufacturer's recommendations including vehicles equipped with tire pressure monitoring systems (TPMS)		1 2 3 4 5
3. Dismount, inspect, and remount tire on wheel; balance wheel and tire assembly		1 2 3 4 5

4. Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor		1 2 3 4 5
5. Inspect tire and wheel assembly for air loss; determine necessary action		1 2 3 4 5
6. Repair tire following vehicle manufacturer approved procedure		1 2 3 4 5
7. Identify indirect and direct tire pressure monitoring systems (TPMS); calibrate system; verify operation of instrument panel lamps		1 2 3 4 5
8. Demonstrate knowledge of steps required to remove and replace sensors in a tire pressure monitoring system (TPMS) including relearn procedure		1 2 3 4 5

MST 6. Competencies

Recommended Hours	200	
Competency	Date	Circle one
Brakes		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify brake system components and configuration		1 2 3 4 5
3. Describe procedure for performing a road test to check brake system operation, including an anti-lock brake system (ABS)		1 2 3 4 5
4. Install wheel and torque lug nuts		1 2 3 4 5
Hydraulic System		
1. Describe proper brake pedal height, travel, and feel		1 2 3 4 5
2. Check master cylinder for external leaks and proper operation		1 2 3 4 5
3. Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust, cracks, bulging, wear, and loose fittings/supports		1 2 3 4 5
4. Select, handle, store, and fill brake fluids to proper level; use proper fluid type per manufacturer specification		1 2 3 4 5
5. Identify components of hydraulic brake warning light system		1 2 3 4 5
6. Bleed and/or flush brake system		1 2 3 4 5
7. Test brake fluid for contamination		1 2 3 4 5
Drum Brakes		
1. Remove, clean, and inspect brake drum; measure brake drum diameter; determine serviceability		1 2 3 4 5
2. Refinish brake drum and measure final drum diameter; compare with specification		1 2 3 4 5
3. Remove, clean, inspect, and/or replace brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related brake hardware, and backing support plates; lubricate and reassemble		1 2 3 4 5
4. Inspect wheel cylinders for leaks and proper operation; remove and replace as needed		1 2 3 4 5

5. Pre-adjust brake shoes and parking brake; install brake drums or drum/hub assemblies and wheel bearings; make final checks and adjustments		1 2 3 4 5
Disc Brakes		
1. Remove and clean caliper assembly; inspect for leaks and damage/wear; determine necessary action		1 2 3 4 5
2. Inspect caliper mounting and slides/pins for proper operation, wear, and damage; determine necessary action		1 2 3 4 5
3. Remove, inspect, and/or replace brake pads and retaining hardware; determine necessary action		1 2 3 4 5
4. Lubricate and reinstall caliper, brake pads, and related hardware; seat brake pads and inspect for leaks		1 2 3 4 5
5. Clean and inspect rotor and mounting surface, measure rotor thickness, thickness variation, and lateral runout; determine necessary action		1 2 3 4 5
6. Remove and reinstall/replace rotor		1 2 3 4 5
7. Refinish rotor on vehicle; measure final rotor thickness and compare with specification		1 2 3 4 5
8. Refinish rotor off vehicle; measure final rotor thickness and compare with specification		1 2 3 4 5
9. Retract and re-adjust caliper piston on an integral parking brake system		1 2 3 4 5
10. Check brake pad wear indicator; determine necessary action		1 2 3 4 5
11. Describe importance of operating vehicle to burnish/break-in replacement brake pads according to manufacturer's recommendation		1 2 3 4 5
Power Assist Systems		
1. Identify components of the brake power assist system (vacuum and hydraulic); check vacuum supply (manifold or auxiliary pump) to vacuum-type power booster		1 2 3 4 5
2. Check brake pedal travel with, and without, engine running to verify proper power booster operation		1 2 3 4 5
Related Systems		
1. Remove, clean, inspect, repack, and install wheel bearings; replace seals; install hub and adjust bearings		1 2 3 4 5
2. Check parking brake system components for wear, binding, and corrosion; clean, lubricate, adjust and/or replace as needed		1 2 3 4 5
3. Check parking brake operation and parking brake indicator light system operation; determine necessary action		1 2 3 4 5
4. Check operation of brake stop light system		1 2 3 4 5
5. Replace wheel bearing and race		1 2 3 4 5
6. Inspect and replace wheel studs		1 2 3 4 5
Traction and Stability Control		
1. Identify traction control/vehicle stability control system components		1 2 3 4 5
2. Describe the operation of a regenerative braking system		1 2 3 4 5

MST 7. Competencies

Recommended Hours	600	
Competency	Date	Circle one
Electrical/Electronic Systems		
1. Research vehicle service information including vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Identify electrical/electronic system components and configuration		1 2 3 4 5
3. Demonstrate knowledge of electrical/electronic series, parallel, and series-parallel circuits using principles of electricity (Ohm's Law)		1 2 3 4 5
4. Use wiring diagrams to trace electrical/electronic circuits		1 2 3 4 5
5. Demonstrate proper use of a digital multi-meter (DMM) when measuring source voltage, voltage drop (including grounds), current flow, and resistance.		1 2 3 4 5
6. Demonstrate knowledge of the causes and effects from shorts, grounds, opens, and resistance problems in electrical/electronic circuits		1 2 3 4 5
7. Use a test light to check operation of electrical circuits		1 2 3 4 5
8. Use fused jumper wires to check operation of electrical circuits		1 2 3 4 5
9. Measure key-off battery drain (parasitic draw)		1 2 3 4 5
10. Inspect and test fusible links, circuit breakers, and fuses; determine necessary action		1 2 3 4 5
11. Repair and/or replace connectors, terminal ends, and wiring of electrical/electronic systems (including solder repair)		1 2 3 4 5
Battery Service		
1. Perform battery state-of-charge test; determine necessary action		1 2 3 4 5
2. Confirm proper battery capacity for vehicle application; perform battery capacity and load test; determine necessary action		1 2 3 4 5
3. Maintain or restore electronic memory functions		1 2 3 4 5
4. Inspect and clean battery; fill battery cells; check battery cables, connectors, clamps, and hold-downs		1 2 3 4 5
5. Perform slow/fast battery charge according to manufacturer's recommendations		1 2 3 4 5
6. Jump-start vehicle using jumper cables and a booster battery or an auxiliary power supply		1 2 3 4 5
7. Identify safety precautions for high voltage systems on electric, hybrid-electric, and diesel vehicles		1 2 3 4 5
8. Identify electrical/electronic modules, security systems, radios, and other accessories that require re-initialization or code entry after reconnecting vehicle battery		1 2 3 4 5
9. Identify hybrid vehicle auxiliary (12v) battery service, repair, and test procedures		1 2 3 4 5
Starting Systems		
1. Perform starter current draw test; determine necessary action		1 2 3 4 5
2. Perform starter circuit voltage drop tests; determine necessary action		1 2 3 4 5
3. Inspect and test starter relays and solenoids; determine necessary action		1 2 3 4 5

4. Remove and install starter in a vehicle		1 2 3 4 5
5. Inspect and test switches, connectors, and wires of starter control circuits; determine necessary action		1 2 3 4 5
6. Demonstrate knowledge of an automatic idle-stop/start-stop system		1 2 3 4 5
Charging Systems		
1. Perform charging system output test; determine necessary action		1 2 3 4 5
2. Inspect, adjust, and/or replace generator (alternator) drive belts; check pulleys and tensioners for wear; check pulley and belt alignment		1 2 3 4 5
3. Remove, inspect, and/or replace generator (alternator)		1 2 3 4 5
4. Perform charging circuit voltage drop tests; determine necessary action		1 2 3 4 5
Body Electrical Systems		
1. Inspect interior and exterior lamps and sockets including headlights and auxiliary lights (fog lights/driving lights); replace as needed		1 2 3 4 5
2. Aim headlights		1 2 3 4 5
3. Identify system voltage and safety precautions associated with high-intensity discharge headlights		1 2 3 4 5
4. Disable and enable supplemental restraint system (SRS); verify indicator lamp operation		1 2 3 4 5
5. Remove and reinstall door panel		1 2 3 4 5
6. Describe the operation of keyless entry/remote-start systems		1 2 3 4 5
7. Verify operation of instrument panel gauges and warning/indicator lights; reset maintenance indicators		1 2 3 4 5
8. Verify windshield wiper and washer operation; replace wiper blades		1 2 3 4 5

MST 8. Competencies

Recommended Hours	0	
Competency	Date	Circle one

MST 9. Competencies

Recommended Hours	920	
Competency	Date	Circle one
Engine Performance		
1. Research vehicle service information, including fluid type, vehicle service history, service precautions, and technical service bulletins		1 2 3 4 5
2. Perform engine absolute manifold pressure tests (vacuum/boost); document results		1 2 3 4 5
3. Perform cylinder power balance test; document results		1 2 3 4 5
Perform cylinder cranking and running compression tests; document results		1 2 3 4 5

5. Perform cylinder leakage test; document results		1 2 3 4 5
6. Verify engine operating temperature		1 2 3 4 5
7. Remove and replace spark plugs; inspect secondary ignition components for wear and damage		1 2 3 4 5
8. Retrieve and record diagnostic trouble codes (DTC), OBD monitor status, and freeze frame data; clear codes when applicable		1 2 3 4 5
9. Describe the use of the OBD monitors for repair verification		1 2 3 4 5
10. Replace fuel filter(s) where applicable		1 2 3 4 5
11. Repair and/or replace connectors, terminal ends, and wiring of electrical/electronic systems (including solder repair)		1 2 3 4 5
12. Inspect, service, or replace air filters, filter housings, and intake duct work		1 2 3 4 5
13. Inspect integrity of the exhaust manifold, exhaust pipes, muffler(s), catalytic converter(s), resonator(s), tail pipe(s), and heat shields; determine necessary action		1 2 3 4 5
14. Inspect condition of exhaust system hangers, brackets, clamps, and heat shields; determine necessary action		1 2 3 4 5
15. Check and refill diesel exhaust fluid (DEF)		1 2 3 4 5
16. Inspect, test, and service positive crankcase ventilation (PCV) filter/breather, valve, tubes, orifices, and hoses; perform necessary action		1 2 3 4 5