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| **Assessment 1 – Questioning – Written Assessment** | | | | | | | |
| Student Name | |  | Student ID Number | | |  | |
| Unit Start Date | |  | Unit End Date | | |  | |
| Assessment Due Date | |  | Date Submitted | | |  | |
| This cover sheet is to be completed by the student and assessor and used as a record to determine student competency in this assessment task | | | | | | | |
| The assessment process and tasks were fully explained. | | | | | | | Yes / No |
| I am aware of which evidence will be collected and how. | | | | | | | Yes / No |
| I am aware of my right to appeal an assessment decision. | | | | | | | Yes / No |
| I am aware that I can locate the *RTO*’s Complaints and Appeals Policy and Procedureon their website at (*insert website address*) | | | | | | | Yes / No |
| I have discussed any additional educational support or reasonable adjustments I require in order to undertake this assessment with the Student Support Services Officer and Trainer / Assessor, (if applicable). e.g. *Student Handbook* and *Access and Equity Policy* (*insert website address*) | | | | | | | Yes / No |
| I have access to all required resources? | | | | | | | Yes / No |
| **Cheating & Plagiarism Declaration** | | | | | | | |
| **Student Declaration:** In accordance with the *RTO*’s Plagiarism Policy, I hereby acknowledge by signing this declaration that I have not cheated or plagiarised any work regarding the assessment tasks undertaken in this unit of competency except where the work has been correctly acknowledged.  **NOTE: Student must sign this prior to submitting their assessments to the assessor** | | | | | | | |
| **Signature** |  | | | **Date:** | **\_\_\_\_\_\_ / \_\_\_\_\_\_ / 20\_\_\_\_\_\_** | | |

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| **Assessment Results** | Satisfactory | | or | Not Yet Satisfactory |
| (Please circle the assessment result for this task) | | | |
| **Feedback to Student -** Please provide general feedback on the Student’s performance | | | | |
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|  | | | | |
| **Student Declaration: -** I verify that the work completed is my own and that I was adequately informed of the assessment process prior to commencing this assessment task. | | **Assessor Declaration: -** I verify that I have adequately explained and negotiated the assessment tasks with the student prior to commencing assessment. | | |
| **Student Signature** | | **Assessor Signature** | | |
| **Date** | | **Date** | | |

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| **Context and Conditions of Assessment** |
| This assessment will ensure that the elements, performance criteria, performance evidence and knowledge evidence required and conditions are adhered to demonstrate competency in this unit assessment task.   * Read the assessment carefully before commencing. * This is an open book assessment and will be conducted at *the RTO address*. * Your Assessor will use the assessment criteria in this document and will provide feedback / comment. * You must answer all the questions in the assessment tasks in your own words and own handwriting. * This assessment will be required to be completed in 4 hours * Your Trainer / Assessor will inform you of the due date for this assessment task. * Your Assessor will grade as either S – Satisfactory or NS – Not Satisfactory for the assessment. In all cases your Assessor will provide you with feedback. * Only when all assessment tasks have been graded as S – Satisfactory you will be deemed C – Competent in the final result of the unit of competency; if you do not satisfactorily complete all the assessment tasks you will be deemed NYC – Not Yet Competent. |
| **Re-Assessment Conditions** |
| * If the evidence is graded as NS – Not Satisfactory you will be required to re-submit the evidence. In this case, you will be provided with clear and constructive feedback based on the assessment decision so that they can improve your skills / knowledge prior to reassessment. * Where a ‘NS – Not Satisfactory’ judgement is made, you will be given guidance on steps to take to improve your performance and provided the opportunity to resubmit evidence to demonstrate competence. The assessor will determine and discuss the reasons for NS – Not satisfactory on any of the criteria and will assess you through a different method of assessment e.g. verbal/oral questioning, problem solving exercises. * You will be notified within 10 working days of undertaking an assessment of their result in achieving competency * If a student does not complete the assessment, they should notify their trainer as to why they did not complete the assessment and if due to illness, a medical certificate must be produced. “This process is detailed more in the “Training and Assessment Policy and Procedure” * In the above scenario, student will be given an opportunity for reassessment within 5 working days with no reassessment fee charged. * Students who are deemed to be Not Yet Competent (NYC) will be provided with information identifying the areas in which they failed to achieve competency. Students will then have the opportunity to repeat the assessment task within 5 working days of notification with no reassessment fee charged. * If a student is deemed NYC in the reassessment or if the student did not approach the *RTO*’s within five working days with a valid reason for not availing themselves of the reassessment opportunity, then those students will be given a final chance to re-sit the assessment and will be charged at $200.00. * After this no further reassessment attempt will be provided to the student and the student will be required to repeat the whole unit with full fee for the unit as per the fees policy of the *RTO*’s. The student will be made aware of the impact of repeating the unit may have on their student visa. * If a student is found to be cheating or plagiarising their assessment, a $200.00 reassessment fee will be charged for reassessing the assessment within 5 working days. * If the student is found to be plagiarising or cheating again after conclusion of the Intervention meeting with the Course Co-ordinator, the matter will be referred to the CEO / Operation Manager which may result in the suspension or cancellation of their enrolment * The *RTO* has intervention strategies, including student support services available to enable students to complete qualification in the expected time frame. Students at risk of not completing within this time frame are identified as early as possible and an intervention strategy is put in place. |
| ***The RTO* will ensure access to:** |
| * automotive repair workplace or simulated workplace * workplace instructions * manufacturer braking system specifications * two different vehicles or machinery with disc and drum braking systems requiring servicing * tools, equipment and materials appropriate for inspecting and servicing braking systems. |
| **Evidence to be submitted by the student: -** |
| * Completed written responses to the questions in the assessment task |
| **Assessment Decision Making Rules** |
| Your assessor will assess the evidence submitted for the following elements, performance criteria, performance evidence and knowledge evidence to confirm that the student evidence submitted demonstrates validity, sufficiency, authenticity and confirms current skills and knowledge relevant to the unit of competency.  Your assessor will be looking for the following in this assessment task: -   * work health and safety (WHS) and occupational health and safety (OHS) requirements relating to inspecting and servicing braking systems, including procedures for: * lifting and supporting vehicles or machinery * managing and controlling brake dust and brake fluids * environmental requirements, including procedures for trapping, storing and disposing of brake dust and brake fluid released from braking systems * identification and function of major braking components, including: * discs, pads and calipers * drums, brake linings, wheel cylinders and hydraulic components * master cylinder * hydraulic and vacuum brake booster * diesel engine vacuum brake booster pump * electric and manual park braking systems * basic operation of braking systems, including: * hydraulic braking systems * mechanical braking systems * air over hydraulic systems * air braking systems * types, applications and testing of brake hydraulic fluids * inspection procedures for braking system components, including: * component wear analysis * brake fluid testing * service and adjustment procedures for braking systems, including: * brake bleeding * brake adjustment * park brake adjustment * post-service testing procedures for braking systems, including static and dynamic testing. |

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| **Assessment 1 – Questioning** |
| **Written Assessment** |

1. Identify five (5) important items of personal safety when inspecting and servicing braking systems?
2. List three (3) precautions when jacking a vehicle on the floor.
3. Why should safety stands be placed under a raised vehicle?
4. What six (6) precautions should be observed if a vehicle is to be raised on a hoist?
5. What three (3) practical methods of reducing the spread of asbestos should be followed in the workplace?
6. When handling, trapping, storing and disposing of new or waste hydraulic fluid, which document should you use to find this information?
7. How should waste hydraulic fluid be stored and disposed?
8. When changing the hydraulic brake fluid, what should you use to catch the waste fluid?
9. Brake bleeder
10. Mop bucket
11. Storm water drain
12. Funnel
13. What are two (2) main aspects to dealing with asbestos in motor vehicle repairs?
14. All brake fluids are hygroscopic – that is, they readily absorb water.

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| True or False: |  |

1. Name the components of a disc brake assembly below.

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1. A typical fixed caliper housing is designed with one caliper piston.

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| --- | --- |
| True or False: |  |

1. A typical floating caliper housing is designed with one caliper piston.

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| --- | --- |
| True or False: |  |

1. Complete the following statement about disc brake caliper function using the following words.

Words: Bleeder, Bottom, Caliper, Compression, Construction, Cylinder, Dust. Hole, Housing, Inspection, Mechanical, Pressure, Seal

A brake \_\_\_\_\_\_\_\_\_\_ converts hydraulic pressure into \_\_\_\_\_\_\_\_\_\_ force. The caliper housing is usually a one-piece \_\_\_\_\_\_\_\_\_\_ of cast iron or aluminium and has an \_\_\_\_\_\_\_\_\_\_ hole in the top to allow for lining wear inspection. The \_\_\_\_\_\_\_\_\_\_ contains the cylinder bore(s). In the \_\_\_\_\_\_\_\_\_\_ bore is a groove that seats a square-cut \_\_\_\_\_\_\_\_\_\_. This groove is tapered toward the \_\_\_\_\_\_\_\_\_\_ of the bore to increase the \_\_\_\_\_\_\_\_\_\_ on the edge of the seal that is nearest hydraulic \_\_\_\_\_\_\_\_\_\_. The top of the cylinder bore is also grooved as a seat for the \_\_\_\_\_\_\_\_\_\_ boot. A fluid inlet \_\_\_\_\_\_\_\_\_\_ is machined into the cylinder bore and a \_\_\_\_\_\_\_\_\_\_ valve is located near the top of the casting.

1. Disc rotors are typically made from?
2. Aluminium
3. Cast iron
4. Both “Aluminium” and “Cast iron”
5. Neither “Aluminium” and “Cast iron”
6. Composite rotors are made of cast iron and?
7. Steel
8. Aluminium
9. Carbon fibre
10. All answers are correct
11. Solid disc rotors are usually found on?
12. The front brakes of small, compact vehicles
13. The rear brakes of vehicles with rear disc brakes
14. The front brakes of large pickup trucks and SUVs
15. Both “the front brakes of small, compact vehicles” and “the rear brakes of vehicles with rear disc brakes”
16. Caliper housings are made up from?
17. Aluminium
18. Cast iron
19. Both “Aluminium” and “Cast iron”
20. Neither “Aluminium” and “Cast iron
21. Linings are \_\_\_\_\_\_\_\_\_\_ to disc brake pads?
22. Riveted
23. Bonded
24. Both “Riveted” and “Bonded”
25. Neither “Riveted” and “Bonded
26. The function of the wheel cylinder is to \_\_\_\_\_\_.
27. Convert hydraulic pressure to a mechanical force at the drum brakes
28. Maintain correct shoe position and clearance
29. Prohibit the shoe from following the movement of the rotating drum
30. Provide the rubbing surface area for the linings
31. Brake linings are riveted to the brake shoes?

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| --- | --- |
| True or False: |  |

1. Brake linings are bonded to the brake shoes?

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| --- | --- |
| True or False: |  |

1. Name the components of a drum brake assembly below.

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|  |  |

1. The brake shoe lining provides friction against the drum to stop the vehicle?

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| --- | --- |
| True or False: |  |

1. Complete the following statement about drum brake operation using the following words.

Words: Action, Applied, Brake, Direction, Drum, Effectiveness, Force, Important, Multiplies, Pin, Pressing, Rotating, Shoe, Stop, Vehicle

Drum \_\_\_\_\_\_\_\_\_\_ operation is fairly simple. The most \_\_\_\_\_\_\_\_\_\_ feature contributing to the \_\_\_\_\_\_\_\_\_\_ of the braking \_\_\_\_\_\_\_\_\_\_ supplied by the \_\_\_\_\_\_\_\_\_\_ brake is the brake shoe pressure or force directed against the drum. With the \_\_\_\_\_\_\_\_\_\_ moving in either the forward or reverse \_\_\_\_\_\_\_\_\_\_ with the brakes on, the \_\_\_\_\_\_\_\_\_\_ force of the brake shoe \_\_\_\_\_\_\_\_\_\_ against the brake drum increasingly \_\_\_\_\_\_\_\_\_\_ itself (called self-energizing) because the brake’s anchor \_\_\_\_\_\_\_\_\_\_ acts as a brake shoe \_\_\_\_\_\_\_\_\_\_ and prohibits the brake \_\_\_\_\_\_\_\_\_\_ from its tendency to follow the movement of the \_\_\_\_\_\_\_\_\_\_ drum. The result is a wedging \_\_\_\_\_\_\_\_\_\_ between the brake shoe and brake drum. The wedging action combined with the applied brake force creates a self-multiplied brake force.

1. All master cylinders are made of cast iron?

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| --- | --- |
| True or False: |  |

1. The purpose of the master cylinder is to \_\_\_\_\_\_.
2. Generate the hydraulic pressure needed to apply the brake mechanisms
3. Automatically pump the brakes during panic stops
4. Supply mechanical force to the brake mechanisms
5. All answers are correct
6. If the master cylinder has a large rear chamber and a smaller front chamber.
7. The large chamber supplies fluid for the rear drum brake
8. The large chamber supplies fluid for the front disc brakes
9. The vehicle has a dual diagonal split brake system
10. The vehicle has four-wheel disc brakes
11. An aluminium master cylinder?
12. Has a plastic fluid reservoir
13. Has an anodised bore
14. Is often called a composite master cylinder
15. All answers are correct
16. What is a tandem master cylinder?
17. Name the components of a master cylinder assembly below.

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1. Complete the following statement about master cylinder function using the following words.

Words: Brakes, Cylinder, Fluids, Force, Hydraulic, Master, Mechanical, Movement, Pressure

The master \_\_\_\_\_\_\_\_\_\_ transmits the \_\_\_\_\_\_\_\_\_\_ on the brake pedal to each of the four-wheel \_\_\_\_\_\_\_\_\_\_ to stop the vehicle. It changes the driver’s \_\_\_\_\_\_\_\_\_\_ pressure on the pedal to \_\_\_\_\_\_\_\_\_\_ force, which is changed back to mechanical \_\_\_\_\_\_\_\_\_\_ at the wheel brake units. The \_\_\_\_\_\_\_\_\_\_ cylinder uses the fact that \_\_\_\_\_\_\_\_\_\_ are not compressible to transmit the pedal \_\_\_\_\_\_\_\_\_\_ to the wheel brake units.

1. Identify the two (2) basic types of power-assist unit designs?
2. Power assisted brakes are designed with vacuum-assisted units that use engine vacuum?

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| True or False: |  |

1. Power assisted brakes are designed with vacuum-assisted units that use vacuum developed by an external pump?

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| --- | --- |
| True or False: |  |

1. The function of the nitrogen-charged pneumatic accumulator on a hydraulic brake booster is to \_\_\_\_\_.
2. Prevent power steering fluid from mixing with brake fluid
3. Provide reserve power assist pressure if the engine stalls
4. Reduce boost pressure when pedal effort is less than 10 psi
5. Hold return pressure until the brake pedal is released
6. Complete the following statement about booster function using the following words.

Words: Activate, Apply, Assist, Brakes, Developed, Driver, Engine, External, Hydraulic, Mechanisms, Multiply, Pedal, Pistons, Pump, System, Vacuum, Wheel

Power \_\_\_\_\_\_\_\_\_\_ are nothing more than a standard \_\_\_\_\_\_\_\_\_\_ brake system with a booster unit located between the brake \_\_\_\_\_\_\_\_\_\_ and the master cylinder to help \_\_\_\_\_\_\_\_\_\_ the brakes. Two basic types of power-assist \_\_\_\_\_\_\_\_\_\_ are used. The first is \_\_\_\_\_\_\_\_\_\_ assist. These systems use \_\_\_\_\_\_\_\_\_\_ vacuum, or sometimes vacuum pressure developed by an \_\_\_\_\_\_\_\_\_\_ vacuum pump, to help \_\_\_\_\_\_\_\_\_\_ the brakes. The second type of power assist is hydraulic \_\_\_\_\_\_\_\_\_\_. It is normally found on larger vehicles. This \_\_\_\_\_\_\_\_\_\_ uses hydraulic pressure \_\_\_\_\_\_\_\_\_\_ by the power steering \_\_\_\_\_\_\_\_\_\_ or other external pump to help apply the brakes. Both vacuum and hydraulic assist act to \_\_\_\_\_\_\_\_\_\_ the force exerted on the master cylinder \_\_\_\_\_\_\_\_\_\_ by the driver. This increases the hydraulic pressure delivered to the \_\_\_\_\_\_\_\_\_\_ cylinders or calipers while decreasing \_\_\_\_\_\_\_\_\_\_ foot pressure.

1. Name the components of a vacuum booster assembly below.

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1. Name the components of a hydraulic booster assembly below.

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1. Complete the following statement about manual park brake function on vehicles fitted with disc brakes using the following words.

Words: Accessible, Apply, Assembly, Brakes, Cables, Carrier, Drum, Manually, Operate, Parking, Plate, Rear, Self-adjuster, Serviced, Shoes, Smaller, Vehicles, Wheel

The rear disc/drum or auxiliary \_\_\_\_\_\_\_\_\_\_ parking brake arrangement is found on some \_\_\_\_\_\_\_\_\_\_ with fixed or sliding calipers. On these \_\_\_\_\_\_\_\_\_\_, the inside of each rear wheel hub and rotor \_\_\_\_\_\_\_\_\_\_ is used as the \_\_\_\_\_\_\_\_\_\_ brake drum. A pair of small brake \_\_\_\_\_\_\_\_\_\_ is mounted on a backing \_\_\_\_\_\_\_\_\_\_ that is bolted to the axle housing or the hub \_\_\_\_\_\_\_\_\_\_. These parking brake shoes \_\_\_\_\_\_\_\_\_\_ independently of the service brakes. They are applied by linkage and \_\_\_\_\_\_\_\_\_\_ from the control pedal or lever. The cable at each \_\_\_\_\_\_\_\_\_\_ operates a lever and strut that \_\_\_\_\_\_\_\_\_\_ the shoes in the same way that \_\_\_\_\_\_\_\_\_\_ drum parking brakes work. The assembly (often called the drum-in-hat system) is a \_\_\_\_\_\_\_\_\_\_ version of a drum brake and is \_\_\_\_\_\_\_\_\_\_ much like any other drum brake. However, they do not have \_\_\_\_\_\_\_\_\_\_. The parking brakes must be adjusted \_\_\_\_\_\_\_\_\_\_ with star wheels that are \_\_\_\_\_\_\_\_\_\_ through the backing plate or through the outboard surface of the drum.

1. A rear disc/drum parking brake uses the inside of each rear wheel hub and rotor assembly as a parking brake drum?

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| True or False: |  |

1. Rear disc parking brake have a mechanism that forces the pads against to rotor hydraulically.

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| True or False: |  |

1. The parking brake keeps a vehicle from rolling while it is parked.

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| True or False: |  |

1. The park brake works mechanically, using a lever assembly connected through a cable system to the rear drum service brake.

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| True or False: |  |

1. Electric park brakes, are fitted with a motor solenoid, so there is no need for parking brake cables and linkages.

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| True or False: |  |

1. Complete the following statement about hydraulic brake operation on vehicles fitted with disc brakes using the following words.

Words: Compressible, Decreases, Force, Increased, Lines, Liquid, Master, Measure, Operate, Output, Piston, Pressure, Reliable, Shoes, Size, System, Transmitted

A hydraulic \_\_\_\_\_\_\_\_\_\_ uses brake fluid to transfer \_\_\_\_\_\_\_\_\_\_ from the brake pedal to the pads or \_\_\_\_\_\_\_\_\_\_. This transfer of pressure is \_\_\_\_\_\_\_\_\_\_ and consistent because liquids are not \_\_\_\_\_\_\_\_\_\_. That is, pressure applied to a \_\_\_\_\_\_\_\_\_\_ in a closed system is \_\_\_\_\_\_\_\_\_\_ by that liquid equally to every other part of that system. Apply a \_\_\_\_\_\_\_\_\_\_ of 100 pounds per square inch (psi) (690 kPa) through the \_\_\_\_\_\_\_\_\_\_ cylinder and you can \_\_\_\_\_\_\_\_\_\_ 100 psi (690 kPa) anywhere in the \_\_\_\_\_\_\_\_\_\_ and at each wheel where the brakes \_\_\_\_\_\_\_\_\_\_.

The force can be \_\_\_\_\_\_\_\_\_\_ at the output (i.e., at the wheel) by increasing the \_\_\_\_\_\_\_\_\_\_ of the piston, though piston travel \_\_\_\_\_\_\_\_\_\_. The force at the \_\_\_\_\_\_\_\_\_\_ can be decreased by decreasing the size of the \_\_\_\_\_\_\_\_\_\_, but the piston travel increases.

1. Explain the operation of the mechanical braking system?
2. Complete the following statement about air over hydraulic braking system operation using the following words.

Words: Axle, Brake, Compressor, Cylinder, Fault, Fluid, Foot, Front, Hydraulic, Lines, Master, Output, Passages, Pressure, Proportions, Protection, Pushes, Reservoirs, Service, Supply, Tank

Compressed air from the \_\_\_\_\_\_\_\_\_\_ is stored in a wet \_\_\_\_\_\_\_\_\_\_ in a semi-dried condition. It then flows to the multi-circuit \_\_\_\_\_\_\_\_\_\_ valve, which divides the feed to serve the two \_\_\_\_\_\_\_\_\_\_ reservoirs. Simultaneously, pressurised air from the \_\_\_\_\_\_\_\_\_\_ combines through internal \_\_\_\_\_\_\_\_\_\_ in the multi-circuit protection valve to operate the remote spring \_\_\_\_\_\_\_\_\_\_ actuator through the hand control valve. Two service \_\_\_\_\_\_\_\_\_\_ are connected to a tandem power \_\_\_\_\_\_\_\_\_\_ controlled by a dual \_\_\_\_\_\_\_\_\_\_ valve. This arrangement maintains air \_\_\_\_\_\_\_\_\_\_ to the other circuit in case of a \_\_\_\_\_\_\_\_\_\_ develops in one service line. The power piston push rod \_\_\_\_\_\_\_\_\_\_ the tandem master cylinder \_\_\_\_\_\_\_\_\_\_ piston forward so that the air \_\_\_\_\_\_\_\_\_\_ is converted to hydraulic pressure. The hydraulic \_\_\_\_\_\_\_\_\_\_ supply is divided into two circuits to serve the \_\_\_\_\_\_\_\_\_\_ and rear brake expander cylinders. A hydraulic load sensing valve is installed in the \_\_\_\_\_\_\_\_\_\_ circuit of rear axle of the tandem \_\_\_\_\_\_\_\_\_\_ cylinder. This valve appropriately \_\_\_\_\_\_\_\_\_\_ the braking effort provided by the rear \_\_\_\_\_\_\_\_\_\_ based on the load carried. This is achieved by modifying the fluid pressure reaching the rear brake cylinders.

1. Complete the following statement about air braking system operation using the following words.

Words: Brakes, Compressor, Dependent, Engine, Limits, Operate, Pressure, PSI, Reservoirs, Tubing

Air Brakes require at least 100 psi to \_\_\_\_\_\_\_\_\_\_ correctly. This \_\_\_\_\_\_\_\_\_\_ is provided by a belt-driven air \_\_\_\_\_\_\_\_\_\_, and the compressed air is held in one or two air \_\_\_\_\_\_\_\_\_\_ (tanks). A governor mounted on the compressor \_\_\_\_\_\_\_\_\_\_ the amount of pressure to about 125 \_\_\_\_\_\_\_\_\_\_. The reservoirs and the \_\_\_\_\_\_\_\_\_\_ are connected via steel \_\_\_\_\_\_\_\_\_\_ to a manifold valve (foot valve) usually mounted on the \_\_\_\_\_\_\_\_\_\_ side of the bulkhead. A three-way valve directs the air \_\_\_\_\_\_\_\_\_\_ on the action of the driver.

1. Hygroscopic brake fluid absorbs moisture from the air.

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| --- | --- |
| True or False: |  |

1. DOT 3 brake fluid has a higher boiling point than DOT 4 fluid.

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| --- | --- |
| True or False: |  |

1. From the image below, explain what the technician is checking for?

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| --- | --- |
|  |  |

1. From the image below, explain what the technician is checking for?

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1. Brake rotors should be checked for?
2. Thickness
3. Parallelism
4. Runout
5. All answers are correct
6. A dial indicator is used to measure runout on a disc rotor.

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| --- | --- |
| True or False: |  |

1. Complete the following statement about brake pad inspection using the following words.

Words: Calipers, Friction, Inspected, Manual, Minimum, Pads, Plate, Replacement, Thinnest

Disc brake \_\_\_\_\_\_\_\_\_\_ should be checked periodically. Some \_\_\_\_\_\_\_\_\_\_ have inspection holes in the caliper body. If they do not, the pads can be \_\_\_\_\_\_\_\_\_\_ from the outer ends of the caliper. If you are not sure the pads are worn enough to warrant \_\_\_\_\_\_\_\_\_\_, measure them at the \_\_\_\_\_\_\_\_\_\_ part of the pad. Compare this measurement to the \_\_\_\_\_\_\_\_\_\_ brake pad lining thickness listed in the service \_\_\_\_\_\_\_\_\_\_, and replace the pads if needed. Typically, if the \_\_\_\_\_\_\_\_\_\_ material remaining on the backing \_\_\_\_\_\_\_\_\_\_ is less than 1/8 inch (3.175 mm), the pads should be replaced.

1. From the image below, explain what the technician is checking for?

|  |  |
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1. Drum brake linings should be replaced when linings are?
2. Worn to within 1/32 inch (.8mm) of the rivet head
3. Contaminated with oil or grease
4. Contaminated with brake fluid
5. All answers are correct
6. List five (5) types of wear to look for when inspecting brake drums?
7. When must a wheel cylinder be replaced?
8. Most automotive manufacturers recommend charging the brake fluid periodically.

|  |  |
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| True or False: |  |

1. When bleeding a dual diagonal split brake system, the bleeding sequence is usually \_\_\_\_\_.
2. LR-RR-RF-LF
3. RF-LF-LR-RR
4. RR-LF-LR-RF
5. LR-RF-RR-LF
6. While manually bleeding a brake system, loosens all the brake bleeder screws at the same time.

|  |  |
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| True or False: |  |

1. Explain why bleeding air out of a hydraulic system is important.
2. Complete the following statement about drum brake adjustment using the following words.

Words: Adjustment, Brake, Centre, Designs, Drum, Expanding, Installed, Specified, Supported, Wheels

Perform manual \_\_\_\_\_\_\_\_\_\_ adjustments with the vehicle \_\_\_\_\_\_\_\_\_\_ on a hoist or stands and off the ground so that the \_\_\_\_\_\_\_\_\_\_ can rotate during adjustment. Exact \_\_\_\_\_\_\_\_\_\_ procedures are different for different brake \_\_\_\_\_\_\_\_\_\_ but all are based on the principle of \_\_\_\_\_\_\_\_\_\_ the shoes until they contact the \_\_\_\_\_\_\_\_\_\_ and then backing off the adjustment a \_\_\_\_\_\_\_\_\_\_ amount. With the brakes adjusted and the drum \_\_\_\_\_\_\_\_\_\_, pump the pedal once or twice to \_\_\_\_\_\_\_\_\_\_ the shoes. Recheck the brake adjustment.

1. Complete the following statement about park brake adjustment using the following words.

Words: Adjustment, Brake, Clearance, Holds, Make, Manufacturer, Parking, Release, Spin, Vehicle

Parking brake testing and \_\_\_\_\_\_\_\_\_\_ procedures vary with the vehicle \_\_\_\_\_\_\_\_\_\_. A common test is to raise the \_\_\_\_\_\_\_\_\_\_ off the ground and apply the \_\_\_\_\_\_\_\_\_\_ a specific number of “clicks.” Once the brake is set, attempt to \_\_\_\_\_\_\_\_\_\_ the rear wheels. If the wheels spin, \_\_\_\_\_\_\_\_\_\_ the parking brake and check the rear shoe-to-drum \_\_\_\_\_\_\_\_\_\_ and adjust if necessary. Recheck the \_\_\_\_\_\_\_\_\_\_ brake. If the wheels still spin, adjust the parking brake until the brake \_\_\_\_\_\_\_\_\_\_. Release the brake and \_\_\_\_\_\_\_\_\_\_ sure the wheels spin and the brakes are not dragging.

1. After brake pad replacement, what is the first thing the technician should do when the vehicle is lowered?
2. Consider the various checks that you would make after servicing brakes?
3. Which source of information will give you the most detail about inspecting and servicing brakes on the vehicle you are working on?
4. Workshop manual
5. Owner’s manual
6. Google
7. Textbooks
8. Why is it very important that the Job Card is completed correctly?