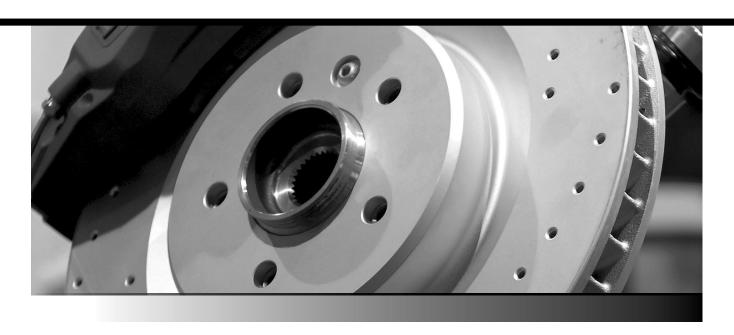
## **BRAKES**



# **Tasksheet Manual for NATEF Proficiency**

**CDX** Automotive



Sudbury, Massachusetts
BOSTON TORONTO LONDON SINGAPORE



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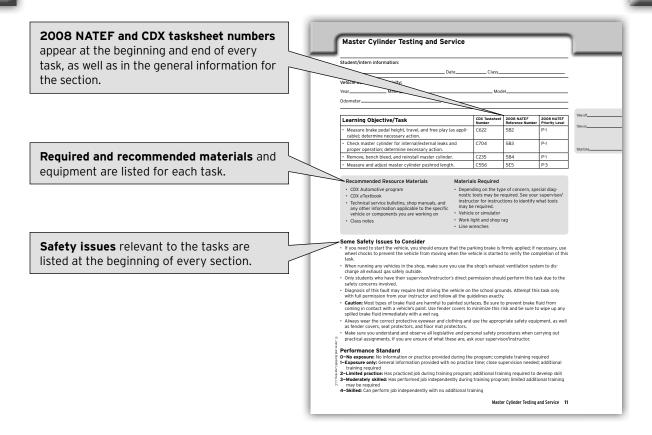
For every task in ASE 5: Brakes, the following safety requirement must be strictly followed: Comply with personal and environmental safety practices associated with clothing; eye protection; hand tools; power equipment; proper ventilation; and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and federal safety and environmental regulations.

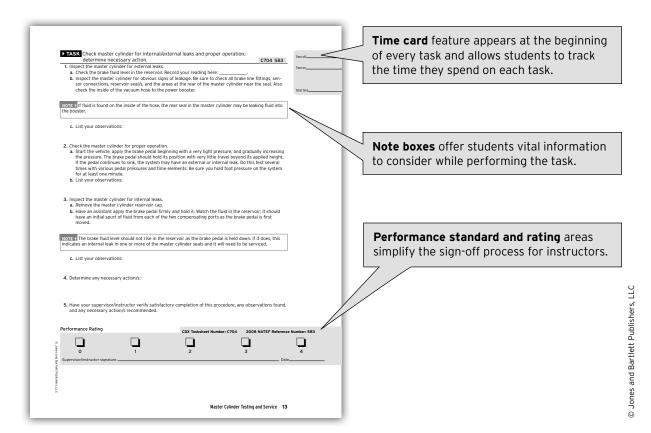
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#### **Resource Preview**





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## **CDX** Automotive

Designed to help automotive programs meet NATEF requirements, this interactive automotive training system introduces students to the fundamental principles and applications of automotive education. It also equips instructors with a complete set of easy-to-use course materials. This innovative resource will enrich your conventional course, or can be used as a primary management source to deliver an online program that accommodates increasing student enrollments.

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- Course content mapped to the 8 ASE test areas
- · Easy and intuitive navigation
- Over 850 automotive procedural and demonstration videos, including content on timely topics such as alternative fuels
- Unlimited practice tests, knowledge check exercises, and final exams that are automatically scored and recorded to save time and eliminate human error
- Support for both 2005 and 2008 NATEF standards with tasksheets and updated tasksheet reporting, making ASE recertification even easier for instructors nationwide
- CDX Automotive Access Pack option for students looking to purchase required or recommended access to CDX Automotive from their local college bookstore

**CDX Automotive** includes easy-to-use and state-of-the-art learning performance management tools to help schools manage and report student performance data that meet NATEF's ASE e-learning certification requirements. **CDX Automotive** offers a turnkey solution to high schools, vocational schools, community colleges, and skill centers wishing to join the e-learning initiative announced by NATEF that allows programs to qualify for reduced curriculum hour requirements through e-learning completed outside of regular program hours.

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Steer your course in the direction you want with CDX Automotive.

Request a free trial at www.cdxauto.com.

### Vehicle, Customer, and Service Information

Student/intern	tudent/intern information:			
Name		Date	Class	
Vehicle used fo	or this activity:			
Year	Make		Model	
Odometer		VIN		

Learning Objective/Task	CDX Tasksheet Number	2008 NATEF Reference Number	2008 NATEF Priority Level
Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction.	C797	5A1	P-1
Locate and interpret vehicle and major component identification numbers.	C798	5A4	P-1
Research applicable vehicle and service information, such as brake system operation, vehicle service history, service precautions, and technical service bulletins.	C230	5A3	P-1
Identify and interpret brake system concern; determine necessary action.	C229	5A2	P-1

Time off
Time on

Total time.

#### **Recommended Resource Materials**

- CDX Automotive program
- CDX eTextbook
- Technical service bulletins, shop manuals, and any other information applicable to the specific vehicle or components you are working on
- Class notes

#### Materials Required

- Blank work order
- Vehicle with available service history records
- · Depending on the type of concern, special diagnostic tools may be required. See your supervisor/ instructor for instructions to identify what tools may be required.

#### Some Safety Issues to Consider

- · If you need to start the vehicle, you should ensure that the parking brake is firmly applied; if necessary, use wheel chocks to prevent the vehicle from moving when the vehicle is started to verify the completion of this
- · Diagnosis of this fault may require test driving the vehicle on the school grounds. Attempt this task only with full permission from your instructor and follow all the guidelines exactly.
- Lifting equipment such as vehicle jacks and stands, vehicle hoists, and engine hoists are important tools that increase productivity and make the job easier. However, they can also cause severe injury or death if used improperly. Make sure you follow the manufacturer's operation procedures. Also make sure you have your supervisor/instructor's permission to use any particular type of lifting equipment.
- Caution: Most types of brake fluid are harmful to painted surfaces. Be sure to prevent brake fluid from coming in contact with a vehicle's paint. Use fender covers to minimize this risk and be sure to wipe up any spilled brake fluid immediately with a wet rag.
- Caution: Brake dust may contain asbestos, which has been determined to cause cancer when inhaled or ingested. Treat all brake dust as if it contains asbestos and use OSHA-approved asbestos removal equipment. Do not allow brake dust to become airborne by using anything that would disturb the dust. Also, wear protective gloves during this procedure and dispose of or clean them in an approved manner.
- Always wear the correct protective eyewear and clothing and use the appropriate safety equipment, as well as fender covers, seat protectors, and floor mat protectors.
- Make sure you understand and observe all legislative and personal safety procedures when carrying out practical assignments. If you are unsure of what these are, ask your supervisor/instructor.

#### **Performance Standard**

- **O-No exposure:** No information or practice provided during the program; complete training required
- **1-Exposure only:** General information provided with no practice time; close supervision needed; additional training required
- **2-Limited practice:** Has practiced job during training program; additional training required to develop skill
- **3-Moderately skilled:** Has performed job independently during training program; limited additional training may be required
- 4-Skilled: Can perform job independently with no additional training



➤ TASK Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction.

C797 5A1

- 1. Complete the work order, specifying the following:
  - a. Customer information
  - **b.** Customer concern
  - **c.** Vehicle identifying information
  - **d.** Any related service history, etc.

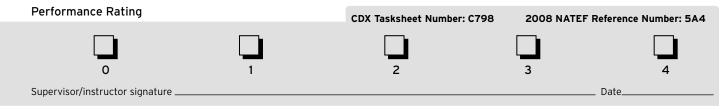
The rest of this task is completed by performing the remainder of the tasks in this section, and can be signed off at the end of this tasksheet (page 4).

Tine omiT \_\_\_\_\_\_no əmiT \_\_\_\_\_\_\_

▶ TASK Locate and interpret vehicle and major component identification numbers.

C798 5A4

- 1. Using the VIN for identification, access the appropriate technical information source to identify the following details.
  - a. VIN: \_\_\_\_\_
- 2. Look up the VIN in the appropriate service manual and identify the following information:
  - a. Country of origin:
  - b. Plant:
  - c. Type of restraint system:
  - d. Engine:
  - e. Model year:
- 3. List the location of any certification and calibration decals:
- 4. Describe the main information on each decal:
- 5. Have your supervisor/instructor verify satisfactory completion of this procedure, any observations found, and any necessary action/s recommended.



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	-				
<b>▶</b> TASK	Research applicable vehicle and	d service information, such as tory, service precautions, and tec		Time off	
	bulletins.	if y, sel vice precautions, and tec		. 542	
tion to	the VIN for identification, use the prior braking system work or cu t any related repairs/concerns, ar	stomer concerns.		y in rela-	
				Total time	
	the VIN for identification, access				
you ai	re working on in relation to brakin	ig system updates or other servic	e issues. List TSB descri	ption/s:	
<b>3.</b> Have	your supervisor/instructor verify	satisfactory completion of this pr	ocedure, any observatio	ons found,	
and a	ny necessary action/s recommend	ded.			
Dorformar	nce Rating				
renionina	ice Rating	CDX Tasksheet Num	nber: C230 2008 NATE	EF Reference Number: 5A3	
0		2	3	4	
	·	L	3	Data	
Super visor,	/instructor signature			Date	
	Identify and interpret brake sys	stem concern; determine neces	sary action. C229	7 5A2 Time off	
1. List th	ne customer concern:			Time on	
				Time on	
2 Resea	rch the particular concern in the	annronriate service manual			
	t the possible causes:	appropriate service manual.		Total time	
	ct the braking system to determin	a black actions of black accuration			
a. Lis					
	t the steps you took to determine				

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necessary action/s to corr	ect this fault:		
		of this procedure	e, any observations found
	CDX Tasksheet Number: C229	2008 NATE	EF Reference Number: 5A2
1	2	3	4
			Date
		asksheet and ca	n also be signed off
our supervisor/instructor ve v necessary action/s recom	erify satisfactory completion on mended.	of this procedure	e, any observations found
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	CDX Tasksheet Number: C797	2008 NATI	
necessary action/s recom	CDX Tasksheet Number: C797	2008 NATI	EF Reference Number: 5A1  4  Date
	necessary action/s recom  1  797/5A1 Continued Condentifying information, of	CDX Tasksheet Number: C229  1 2  C797/5A1 Continued Complete work order to include dentifying information, customer concern, related sections.	CDX Tasksheet Number: C229 2008 NATE  1 2 3  C797/5A1 Continued Complete work order to include customer includentifying information, customer concern, related service history, as following sign off goes along with the first task on this tasksheet and calculated services.

- Some Safety Issues to Consider

   Always wear the correct protective eyewear and clothing and use the appropriate safety equipment, as well as fender covers, seat protectors, and floor mat protectors.

   Make sure you understand and observe all legislative and personal safety procedures when carrying out practical assignments. If you are unsure of what these are, ask your supervisor/instructor.

4 Vehicle, Customer, and Service Information

- 1. Using the following scenario, write up the 3 Cs as listed on most repair orders. Assume that the customer authorized the recommended repairs.
  - A vehicle is brought to your shop with a brake concern. The customer tells you that the brakes make a grinding noise from the front wheels when the brakes are applied. The vehicle has been doing this for about two weeks, but the customer was too busy to bring the car in for repairs. You remove the wheels, inspect all of the brakes, and find the following:
  - a. The brake pads on the left front are worn down to metal and have scored the rotor badly. The rotor is worn down to the point that it is .043 of an inch under the minimum specified thickness.
  - b. The right side brake pads are worn well below minimum specifications but have not worn down to metal. The rotor is about .040 of an inch thicker than the minimum thickness specified.
  - c. Both front calipers appear to be original and the pistons do not move as freely as they should; the brake fluid is very dark and dirty.
  - d. The rear brake shoes are in like-new condition, but wet with brake fluid. Both wheel cylinders are leaking. The rear brake drums are within specifications.

NOTE > Ask your instructor whether you should use a copy of the shop repair order or the 3 Cs below to record this information.
2. Concern/complaint:
3. Cause:
4. Correction:
5. Other recommended service:
<b>6.</b> Have your supervisor/instructor verify satisfactory completion of this procedure, any observations found, and any necessary action/s recommended.

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Performance Rating

Supervisor/instructor signature.

Date.