Test Project

Module 5 - Steering, Braking, and Suspension Systems

Heavy Vehicle Technology

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This module includes the following document:

1. TP Skill 49 repair order form (supplied).

Tasks

Complete the following three tasks in any order. You may begin with either task.

If you complete both tasks early or can no longer progress, give your documents to your judge and return to the Competitors briefing room to await the next station rotation.

Task 1

Rental unit returned: Complaint of hydraulic pump noise shortly after engine startup with an extreme amount of effort needed to steer the machine left or right.

For marking purposes, you must show the judge what you are doing as you work (for example, measurements, fault locations torque wrench settings, adjustments, and conclusions).

Note 1: Unsuccessful attempts to repair the complaint have been made by the customer's technicians.

Complete the following:

1. Inspect the machine – diagnose and repair to OEM specifications, the cause of the customer's complaint.
2. Using the supplied repair order form, document in proper industry standard service reporting format what you diagnosed and what was required to return the system to its normal condition.

Task 2

Rental Unit returned: Complaint of poor braking performance.

For marking purposes, you must show the judge what you are doing as you work (for example, measurements, fault locations torque wrench settings, adjustments, and conclusions).

Note 1: Unsuccessful attempts to repair the complaint have been made by the customer's technicians.

Complete the following:

1. Inspect the machine – diagnose and repair to OEM specifications, the cause of the customer's complaint.
2. Using the supplied repair order form, document in proper industry standard service reporting format what you diagnosed and what was required to return the system to its normal condition.

Task 3

Rental unit returned: Repeat complaint of park brake not releasing.

For marking purposes, you must show the judge what you are doing as you work (for example, measurements, fault locations torque wrench settings, adjustments, and conclusions).

Note 2: This unit was repaired for this complaint two weeks ago.

Complete the following:

1. Inspect the machine – diagnose and repair to OEM specifications, the cause of the customer's complaint.
2. Using the supplied repair order form, document in proper industry standard service reporting format what you diagnozed and what was required to return the system to its normal condition.

Equipment, machinery, installations, and materials required.

Pressure conversion chart:

Measured pressure unit	**Converted pressure unit**								
	Bar	**cmHg**	**cmH2O**	**inHg**	**inH2O**	**kg/cm²**	**kPa**	**Mpa**	**psi**
1 - Bar =	1	75.006	1,019.72	29.53	401.463	1.02	100	0.1	14.5
1 - cmHg =	0.13	1	13.595	0.394	5.352	0.014	1.333	0.0013	0.193
1 - cmH2O =	0.00098	0.74	1	0.029	0.394	0.001	0.098	0.000098	0.014
1 - inHg =	0.34	2.54	34.532	1	13.595	0.035	3.386	0.0034	0.491
1 - inH2O =	0.0025	0.187	2.54	0.074	1	0.0025	0.249	0.00025	0.036
1 - kg/cm² =	0.981	73.556	1,000	28.959	393.701	1	98.066	0.098	14.223
1 - kPa =	0.01	0.75	10.197	0.295	4.015	0.01	1	0.001	0.145
1 - Mpa =	10	750.062	10,197.16	295.3	4,014.63	10.197	1,000	1	145.038
1 - psi =	0.069	5.171	70.307	2.036	27.68	0.07	6.895	0.0069	1

Multiply the measured pressure unit by the converted pressure unit to achieve conversion.

Example: You measured 267.4 Bar and need to convert to Mpa 267.4 X 0.1 = 26.74 Mpa

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