Test Project

Module 2 - Hydraulic 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 two tasks in any order. You may begin with either task one or task two.

If you complete the 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

Customer Complaint: The hydraulic systems are not operational. When operational, the machine's hydraulic functions are very sluggish/slow, with very poor breakout and lift 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 diagnozed and what was required to return the system to its normal condition.

Task 2

Customer Complaint: When traveling, the machine tracks to one side.

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 diagnozed and what was required to return the system to its normal condition.

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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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