Test Project

Module 4 - Drivetrain Systems

Heavy Vehicle Technology

Submitted by:
Thomas Wozniak - Madison Area Technical College, Independent Test Project Designer
Tim Allan - Centennial College, Independent Test Project Designer
Gerry Brymer - Toromont CAT, Independent Test Project Validator

Contents

Tasks **3**

Task 1 3
Task 2 3
Task 3 4

Equipment, machinery, installations, and materials required. **4**

© WorldSkills International

Contents

This module includes the following document:

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

Tasks

Complete the following three tasks. Complete the following tasks in the order presented.

If you complete all 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 machine was towed/hauled to your location. The machine lost all drive functions.

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: Customer report did not specify whether forward or reverse, or both directions were lost.

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

Confirm the machine's drive-function is operating at full capability and speed.

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).

Complete the following:

1. Test machine to confirm the machine is operating to specifications.
2. If necessary, adjust or repair to bring machine within operating specifications.
3. 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 3

Customer Complaint: In slippery conditions the machine loses traction.

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).

Complete the following:

1. Test machine to confirm the machine is operating to specifications.
2. If necessary, adjust or repair to bring machine within operating specifications.
3. 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.

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).

Complete the following:

1. Test machine to confirm the machine is operating to specifications.
2. If necessary, adjust or repair to bring machine within operating specifications.
3. 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.

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

© WorldSkills International