|  |  |  |  |
| --- | --- | --- | --- |
| Station | | Task | |
| 11 | | 4 | |
| Static 1503 & 903 | | | |
|  |  |  |  |

**

# 903 Engine Leak-Down Test

## Task Objective

At the completion of this task the technician will be able to properly perform a 4-stroke engine leak-down test. The technician will be able to give a clear explanation of the results obtained, so that the mechanical condition of the engine can be determined.

#### Repair Order Information

The customer states there is a lack of engine power and the engine is running rough.

# Procedures

|  |  |  |  |
| --- | --- | --- | --- |
| 1. With an appropriate wrench rotate the engine using the drive shaft adapter. | | | |
| 1. Insert an appropriate TDC indicator tool into cylinder number 1. | | | |
| 1. Rotate the engine counterclockwise until cylinder number 1 is at Top Dead Center (TDC) of the compression stroke. | | | |
| 1. As the engine is turned over, observe the movement of intake rocker arm of the cylinder to be checked. After it completes the cycle and the intake valve closes, observe the piston. When it reaches its uppermost position that is TDC compression stroke. | | | |
| 1. Slightly move the engine crankshaft clockwise and counterclockwise a few degrees, until you find the approximate exact TDC "sweet spot" by observing the TDC indicator tool as it moves up and down. | | | |
| 1. Install gauge adapter from the leak down tester into spark plug hole. | | | |
| 1. Connect regulator to compressed air source and set gauge to zero.   **Warning: Before putting air to the cylinder being tested, remove the wrench!** | | | |
| 1. Supply combustion chamber with air from regulator. | | | |
| 1. Record the percentage of leakage of cylinder number 1. | | | |
| 1. Proceed the same way with remaining cylinders. | | | |
| CYL#1 | CYL#2 | CYL#3 |  |

### Questions

1. Do any of the above readings indicate a required engine repair? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
2. What needs to be repaired? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
3. What did you base your opinion on?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What happens if the piston isn’t precisely to TDC of compression stroke? \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Instructor sign off-- Go \_\_\_\_\_\_\_\_\_\_**