

Practical Exercise for Instruction Pack 4

By

Ed Abdo

Author Acknowledgment

Edward Abdo has been actively involved in the motorcycle and ATV industry for more than 25 years. He received factory training from Honda, Kawasaki, Suzuki, and Yamaha training schools. He has worked as a motorcycle technician, service manager, and Service/Parts department director.

After being a chief instructor for several years, Ed is now the Curriculum Development Manager for the Motorcycle Mechanics Institute in Phoenix, Arizona. He is also a contract instructor and administrator for American Honda's Motorcycle Service Education Department.

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INTRODUCTION

The purpose of this practical exercise is to help you apply your knowledge of motorcycle and ATV engine operation to some real-life examples. This exercise will help you become more familiar with two-stroke and four-stroke engine top-end and lower-end disassembly, inspection, and reassembly. You'll also learn some things that weren't covered in the study units.

At the beginning of this practical exercise are seven suggested activities. As in the practical exercise you completed previously, you'll have a chance to get out and have some fun while you continue to learn. Note that these activities are optional and aren't required to complete the program. However, accomplishing the activities can help you gain a better understanding of the study unit material. We strongly recommend that you attempt to complete as many of the activities as possible.

If you wish to review the material that covers the topics contained in this practical exercise, you can refer back to the following study units:

- *Two-Stroke Engine Top-End Inspection (033009)*
- *Two-Stroke Engine Lower-End Inspection (033010)*
- *Four-Stroke Engine Top-End Inspection (033011)*
- *Four-Stroke Engine Lower-End Inspection (033012)*

When you've finished the suggested activities, complete the examination at the end of the exercise. This examination is required and must be submitted to the school for grading.

Remember, even though this exercise contains an examination, we've designed it to be fun. Applying your knowledge will help you to realize just how much you've really learned about how two-stroke and four-stroke engines operate.

SUGGESTED ACTIVITIES

It's time again to have some fun! The following pages contain some activities that relate to top-end and lower-end inspection and repair in the two-stroke and four-stroke engines used in motorcycles and ATVs. Try these activities to expand your knowledge and improve your understanding of the written material contained in the study units. Remember, none of these suggested activities are required to complete the program, and none of them will be graded. These

Question: Did you notice there are certain size two-stroke engines that don't use power-valve systems? What size engines did you see that had no power-valve system?

Question: Why do you suppose manufacturers don't use power valves on all of their two-stroke engine designs?

Activity 2

Ask the service manager at your local dealership if you can see the various special tools their service department uses when they're doing engine repairs to both two-stroke and four-stroke motorcycles and ATVs. Can you identify some of these tools based on the information provided in the study units? Note the name of each tool and what it's used for (disassembly, inspection, reassembly, or a combination of the three). Record your answers in the chart.

NAME OF TOOL	HOW TOOL IS USED

Activity 3

Talk to the technicians at your local motorcycle and ATV dealership about the types of engine repairs they encounter. Answer the following questions based on those conversations and what you've learned in the study units.

Activity 5

Ask your local motorcycle dealership service manager if you can assist a technician in cleaning and preparing to work on a motorcycle or ATV engine that needs major engine repairs. You may need to sign a waiver to release the dealership from any liability in case of injury while in a service department. If possible, watch the technician diagnose the problem and perform the necessary repairs.

Activity 6

Go to a local salvage yard and purchase a two-stroke motorcycle or ATV engine that's known to have internal damage. The price of a damaged engine should be very reasonable, and many salvage yards may even be willing to give you the engine if you bring it back in pieces so they can sell the good components to a customer. Obtain a service manual for the engine after you've determined the following:

- Make of the engine
- Model from which the engine came
- Engine displacement

Remember the sample procedures in the *Two-Stroke Engine Top-End Inspection* and *Two-Stroke Engine Lower-End Inspection* study units, as you use the service manual, to completely disassemble the engine and inspect its components. Try to determine the problem that caused the engine failure. For practice, attempt to reassemble the engine without replacing any components.

Activity 7

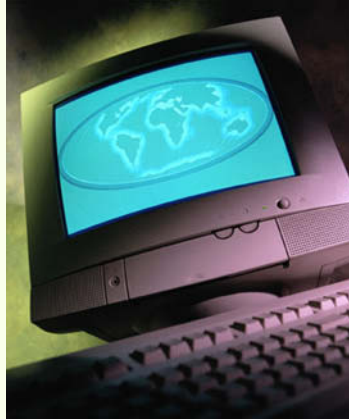
Go to a local salvage yard and purchase a four-stroke motorcycle or ATV engine that's known to have internal damage. Obtain a service manual for the four-stroke engine after you've determined the following:

- Make of the engine
- Model from which the engine came
- Engine displacement

Remember the sample procedures in the *Four-Stroke Engine Top-End Inspection* and *Four-Stroke Engine Lower-End Inspection* study units, as you use the service manual, to completely disassemble the engine and inspect its components. Try to determine the problem that caused the engine failure. For practice, attempt to reassemble the engine without replacing any components.

Conclusion

We hope you've enjoyed the suggested activities. When you're ready, proceed to the graded portion of the practical exercise. This part of the exercise is completed in the same way as the other examinations for your program. Follow the instructions provided to send your answers in to the school for grading.



ONLINE EXAMINATION

For the online exam, you must use this

EXAMINATION NUMBER:

03382500

When you're confident that you've mastered the material in your studies, you can complete your examination online. Follow these instructions:

1. Write down the eight-digit examination number shown in the box above.
2. Click the **Back** button on your browser.
3. Click the **Take an Exam** button near the top of the screen.
4. Type in the eight-digit examination number.