Automotive Technology
Basic Worksheets

Solutions

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Illustrations:
Drawing office of Verlag Europa-Lehrmittel, Nourney Vollmer GmbH & Co. KG, Ostfildern, Germany.

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Cover design and illustration: braunwerbeagentur, 42477 Radevormwald, Germany, using a photograph provided by BMW AG, Munich, Germany.

1st English edition

Impression 5 4 3 2 1

All impressions of the same edition can be used in parallel, as they do not differ from each other except with regard to the correction of printing errors.

© 2015 by Verlag Europa-Lehrmittel, Nourney, Vollmer GmbH & Co. KG, 42781 Haan-Gruiten, Germany
http://www.europa-lehrmittel.de
Typesetting: rkt, 42799 Leichlingen, Germany – www.rktypo.com
Printing: Konrad Triltsch, Print und digitale Medien, 97197 Ochsenfurt-Hoestadt, Germany

Europa-No.: 22547
ISBN 978-3-8085-2254-7
“Automotive Technology – Basic Worksheets” contains worksheets for the following subject areas:

**Service, Repairs, Diagnosis, Conversions and Retrofits.**

The worksheets are designed to form a foundation for operational situations.

- In each subject area, practical situations serve as an introduction to the topical contents. Comprehensive assignments provide the necessary basic technical knowledge. The learning situations found at the beginning of each topic can then be solved with this basic knowledge.

- Clearly outlined assignments can be solved independently in groups or with an instructor with the help of the "Modern Automotive Technology" textbook as well as the reference table.

- Circuit diagrams, maintenance schedules and work plans as well as functional descriptions are chosen such that they can be processed similarly to comparable job-related workflows.

- With the help of the accompanying ESI-Tronic CD, the student can obtain information and work on customised exercises.

- Content on operational organisation, operational communication and quality management can be found in the Service worksheets in the form of practical tasks.

- An example of a vehicle registration certificate, Part I, for registered vehicles in Europe, can be found on the inside back cover. Such documents are required to identify the vehicle during repair work and in locating spare parts in dealerships and auto parts stores.

The following tasks are given in the four subject areas:

1. **Service**
   Maintaining and inspecting vehicles and systems according to specifications.

2. **Repairs**
   Checking, disassembling, exchanging and assembling simple components and systems.

3. **Diagnosis**
   Identify and eliminate malfunctions

4. **Conversions and retrofits**
   Performing customer-driven conversions

The worksheets, along with other vehicle technology textbooks such as "Modern Automotive Technology", Verlag Europa-Lehrmittel (ISBN 978-3-8085-23025), form a complete unit.

They are intended to help in carrying out practice-orientated lessons.

The Authors

Fall 2015
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The use of technical terms is required in on- and off-the-job communication.

1. Identify the parts and component groups.

2. Fill in the table with the correct part and its function.

<table>
<thead>
<tr>
<th>Component-group</th>
<th>Part</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheel</td>
<td>Tyre</td>
<td>Good road adhesion</td>
</tr>
<tr>
<td></td>
<td>Alloy rim</td>
<td>Connects tyre to wheel suspension</td>
</tr>
<tr>
<td>Springs, dampers</td>
<td>Coil spring</td>
<td>Enables wheel to go up and down;</td>
</tr>
<tr>
<td></td>
<td>Shock absorber</td>
<td>dampens oscillations</td>
</tr>
<tr>
<td>Steering</td>
<td>Steering column</td>
<td>Transfers rotational movement; converts</td>
</tr>
<tr>
<td></td>
<td>Steering gearbox</td>
<td>rotational movement to swivel movement</td>
</tr>
<tr>
<td>Lighting-equipment</td>
<td>Headlights</td>
<td>Illuminate road</td>
</tr>
<tr>
<td></td>
<td>Taillights</td>
<td>Signal functionality</td>
</tr>
<tr>
<td>Brakes</td>
<td>Brake master cylinder</td>
<td>Produces brake pressure</td>
</tr>
<tr>
<td></td>
<td>Disc brake</td>
<td>Produces brake force</td>
</tr>
</tbody>
</table>