Q What should a service professional know about Mitchell 1 labor times?

A The Mitchell1 “Estimated Labor Times” are given in hours and tenths of an hour (six minutes). The times apply only to standard equipment and production options provided by the vehicle manufacturer. The times generally reflect the needs of an average, trained auto technician using factory recommended tools and repair procedures. Mitchell 1 “Estimated Labor Times” are to be used as a guide only. The actual time taken can be expected to vary to meet individual repair shop and vehicle conditions, equipment used, etc.

Our labor times are for estimating only. We can’t anticipate every situation a technician will encounter. We create labor times that reflect how long it should take an average technician, with average experience, equipment, and motivation to complete a repair on an average vehicle, in an average shop, working in average conditions.

Q What procedures are included in the Mitchell 1 labor times?

A The following outlines the operations which are included in the labor times. You are encouraged to become familiar with these to be sure you have a thorough understanding of the Mitchell 1 approach to mechanical estimating.

- Vehicle repair preparation
- Drain & refill necessary fluids
- Tighten bolts, fasteners, etc., to manufacturer’s recommended torque specifications
- Normal cleaning of parts associated with the repair operation
- Personal needs of the technician while performing a repair operation
- Preventive measures
- Position, set-up, return tools and equipment
- Verification of repair
Q What operations are not included?
A The following operations are not considered when establishing Mitchell 1 labor times.
• Writing estimate, booking the job, billing or any special courtesy services
• Training
• Reference time on unfamiliar operations
• Adverse weather conditions
• Disposal of hazardous materials (unless indicated)
• Diagnosis (unless indicated)
• Machine operations
• Resetting of any electrical components due to battery disconnection
• Resetting, reprogramming or initialization of Tire Pressure Warning System (unless indicated)
• Removal of locking lug nuts or wheel covers
• Time necessary to free up parts frozen by rust or corrosion
• Broken bolts, studs, etc.
• Rework parts to fit a particular year or model
• Excessive grease, tar and undercoating removal or any other materials that could interfere with operation
• Cleaning areas of the vehicle which may have been contaminated by failure of the component on which the operation is being performed
• Deactivating and reactivating of any electronic systems (unless indicated)

Q How do Mitchell 1 labor times compare to the OEM warranty times?
A OEM warranty times are simply what the manufacturer is willing to pay an OEM dealership for a repair. The cost of vehicle warranty repair is factored in to the lifecycle costs of that new vehicle and are part of the cost-of-goods equation.

OEM warranty information is valuable to Mitchell1 because it provides us with a list of components and repairs that we need to cover on new vehicles. Additionally, fluctuations in OEM warranty time (up or down over time) provide hints to us about what operations we need to pay special attention to. Radically falling warranty times can mean that there is a problem with a specific repair or component. Remember, the OEM has to maintain the initial repair costs originally applied to the lifecycle of the vehicle. When OEM warranty times go up, it usually means that the dealership technicians are complaining about the time allowed for a repair.
**Example:** Warranty time for replacing the Heater Core on a 2007 FJ Cruiser is 3.6 hours. What procedures neglect to say, is that you have to remove the dashboard to get at the Heater Core. This is about another half day of work. We create our labor times based on actual repair procedures. See following example:

<table>
<thead>
<tr>
<th>2007 FJ Cruiser</th>
<th>Heater Core – R&amp;R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toyota Warranty</td>
<td>3.6 hours</td>
</tr>
<tr>
<td>Mitchell1 (Includes: R&amp;I Instrument panel.)</td>
<td>5.9 hours</td>
</tr>
<tr>
<td>Competitor</td>
<td>5.2 hours</td>
</tr>
</tbody>
</table>

Q **Does Mitchell 1 perform every operation for every labor time it publishes?**
A We cover approximately 1,000 operations for each model in our database. We cover hundreds of models every year. So we don’t have the resources to do this for all labor operations. Instead, our experienced technicians carefully examine the procedures needed to perform an operation when they estimate the time it will take to complete that job.

We have performed some on-site time studies where we videotape repair operations in our customer’s shops. Most recently, we disassembled and reassembled a 2009 Toyota Land Cruiser in our repair shop. We recorded the procedures and labor times during this process.

Q **Is it true that Mitchell 1’s labor times are always less than its competitors?**
A If you reference the example above you will see that we routinely compare our labor times to our competitors and find that our times are just as likely to be higher as they are to be lower. Our goal is to publish the most accurate labor times we can.

For example, warranty time to replace the Windshield Washer Pump on a 2006 Honda Element is .6 hours. What procedures neglect to say, is that you have to remove the front bumper assembly to get at the Washer Pump. This requires additional work. We create our labor times based on actual repair procedures.

<table>
<thead>
<tr>
<th>2006 Element LX</th>
<th>Windshield Washer Pump – R&amp;R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honda Warranty</td>
<td>.6 hours</td>
</tr>
<tr>
<td>Mitchell1 (Includes: R&amp;I Front Bumper.)</td>
<td>1.8 hours</td>
</tr>
<tr>
<td>Competitor</td>
<td>.8 hours</td>
</tr>
</tbody>
</table>
**Labor Times**

When customers tell us that competitive labor times are higher than ours, we ask them for specific examples. We research the procedures, and other available information. Frequently we call other customers for their input. In eight out of ten cases, we find the competitive information is incorrect, as in examples referenced on previous page.

Q **What do you do when customers tell you that specific Mitchell 1 labor times seem incorrect?**
A When a customer tells us that they cannot do a repair job within the time we allow, we always review the time and procedures, with the customer input, and make warranted adjustments as necessary.

Q **What makes Mitchell 1 labor editors the authority on how much time is needed for a repair operation?**
A Historically, we hire our customers. They have the experience we need, and a genuine commitment to the automotive repair industry. Highly skilled Mitchell 1 labor editors have extensive automotive repair experience. The minimum requirement is eight years of experience, with most having much more. Mitchell1 labor editors are required to study new automotive technology and to maintain current ASE certifications.

Our labor times are developed at Mitchell 1. We create them by following a long established methodology, using procedures we can verify and support. Our methods evolve over time, but our goals have not changed in 65 years. We strive for accuracy, and completeness of coverage.

Q **So how exactly are Mitchell 1 labor times created?**
A Our labor times are based on actual repair procedures.

Automobiles are made of components and systems assembled in a specific sequence. This sequence is very important to us. Our individual labor times must reflect the sequential steps of a repair procedure.

If you have to remove part “A” and part “B” to replace part “C” then part “C” requires more labor time than part “A” or part “B”. Working from the outside in, or the inside out, our labor times must reflect the correct sequence of assembly.
Labor Times

Labor editors have to know exactly how to disassemble and reassemble every system on the vehicle. Here is a simple example:

You have to Remove and Install (R&I) the Transmission in order to replace the Clutch Assembly or the Flywheel. We have individual labor operations for the Clutch, the Flywheel, and the Transmission. In our product the Transmission may be in a separate group from the other components. Our labor times must reflect the correct sequence of repair:

- TRANSMISSION ASSEMBLY – R&I  5.0 hours
- CLUTCH DISC & PRESSURE PLATE – R&R  5.3 hours
- FLYWHEEL – R&R  5.5 hours

As you can imagine, assigning sequentially correct labor times to individual components can be very complicated on modern automotive systems.

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