DTU

DISCOUNT TIRE UNIVERSITY

TIRE BASICS

FACILITATOR GUIDE

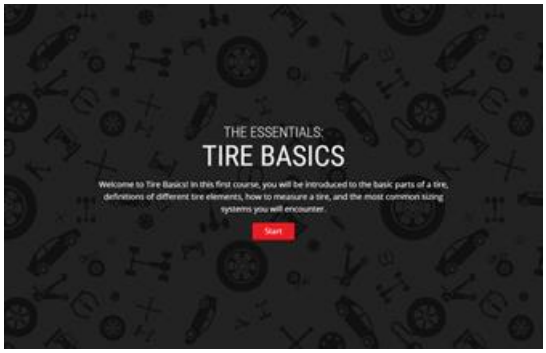
CLASS PREPARATION

Welcome to Tire Basics! In this course, you will be introducing participants to the basic sections of a tire, how to measure a tire, the most common sizing systems, and finally how to identify a tire.

MATERIALS

- Collect different types of tires:
  - Performance tire - with different service descriptions
  - Truck Tire
    - LT Metric - with different load ranges
    - P-Metric - with different service descriptions
  - Touring Tire
  - Four tires of the same size with different speed ratings, load ranges, load indexes, and applications.
- Tire tags for any or all tires listed above & fake layaway work orders
- Participant Reference Guide
- Prizes for team challenges

BEFORE CLASS



1. Log onto the KC and access the Regional Training Academy page via the DTU menu.
2. Open the Tire Basics Online Presentation.
3. Download and print the Participant Reference Guide for the number of learners enrolled in the course.
4. Download and print the Facilitator Guide.
5. Based on the number of participants, set up the appropriate number of different types of tires in the room.

CLASS PREPARATION - *continued*

TIME

There are six modules and an assessment within this course. They are:

Module Name	Duration
• 101 – Sections of a Tire	5 - 10 minutes
• 102 – Tread Anatomy	5 - 10 minutes
• 103 – Tire Measurements	5 - 10 minutes
• 104 – Sizing Systems	10 minutes
• 105 – Sidewall information	15 minutes
• 106 – Matching Tires with Work Orders	5 - 10 minutes
• Course Assessment	5 - 10 minutes

END OF COURSE

At the end of Module 106 – Matching Tires with Work Orders, send participants the assessment link so they can individually take the Tire Basics Assessment. It should take approximately 10 minutes to complete. Then go into DTU and mark the participant complete for the Tire Basics course.

NOTES

MODULE 101 - SECTIONS OF A TIRE

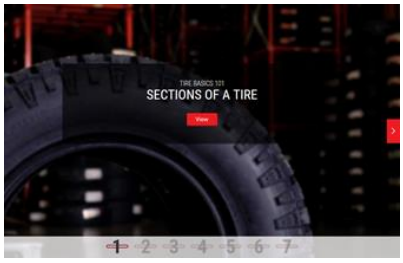
LEARNING OBJECTIVE

State the learning objective so participants know what they need to learn.

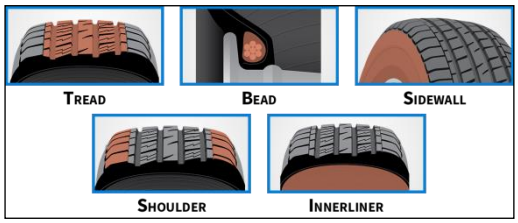
- Identify the five sections of a tire which include the tread, shoulder, sidewall, bead, and innerliner.

ONLINE MODULE — TIME: 5 MINUTES

Demonstration:



1. Start the online presentation titled Tire Basics 101- Sections of a Tire.
2. After the online presentation, call on participants to point out a section on the tire as you name it.



3. Let participants know that in their Participant Reference Guide they have review questions at the end of each module they can use in preparation for their Tire Basics Assessment.
4. Give learners a minute or two after the module to complete their participant guide questions.

Questions:	Answers:
The shoulder is located between which two sections?	The sidewall and the tread
What section of the tire is similar to an inner tube?	The innerliner
What is the name of the section that is between the bead and the tread?	The sidewall
Which section comes into contact with the wheel?	The bead
What section of the tire comes in contact with the road?	The tread

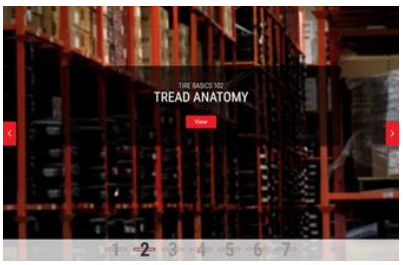
MODULE 102 - TREAD ANATOMY

LEARNING OBJECTIVE

State the learning objectives so participants know what they need to learn.

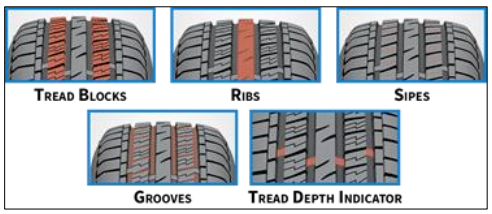
1. Identify the four parts of the tread anatomy and their purpose to include:
   - Tread blocks
   - Ribs
   - Sipes
   - Grooves (lateral vs circumferential)
2. Identify a tread depth indicator and its function.

ONLINE MODULE — TIME: 2 -5 MINUTES



Demonstration:

1. Continue the online presentation titled Tire Basics 102 - Tread Anatomy.
2. When the online presentation identifies each component, pause and point out the four parts of the tread anatomy on a tire.
3. During the online presentation, ask a few of the questions provided on the next page.



4. Have participants compare & contrast the tread design on the various types of tires. (Touring, Performance, Truck, etc.)
5. Ask how they are the same and how they are different.

WHOLE CLASS ACTIVITY: MODULE 102 – TREAD ANATOMY — TIME: 3 - 5 MINUTES

1. Ask learners to point out all four parts of a tread and the tread depth indicator while calling out its name and purpose.
2. Reinforce their answers, whether correct or incorrect, with the accurate information.
3. Ask a few of the questions provided on the next page if you find the learners need more reinforcement.
4. Give learners a few minutes after the module to complete their participant guide questions.

Questions:	Answers:
Point out the lateral grooves.	All grooves that run across the tire from side to side.
What purpose do the lateral grooves serve?	They add traction, and help the vehicle start and stop.
Where are the circumferential grooves located?	They run the entire circumference of the tire.
What purpose do the circumferential grooves serve?	They move water away from the tire and reduce the chance of hydroplaning.
Point out the tread blocks.	They are the patches of the tire that come in contact with the road.
What purpose do the tread blocks serve?	They determine based on their size and pattern, how the tire performs on the road in different weather and terrain.
Point out the sipes.	They are the lines within the tread blocks.
Why are the sipes important?	They are designed to add traction in wet weather, and allow the tire to better grip the road.
Point out the tread depth indicators.	They are little horizontal rubber bars within the circumferential grooves.
What purpose do they serve?	They are visual indicators that the tire has reached 2/32” of tread and need to be replaced.
Where are the ribs?	They are part of the tread that runs continuously all the way around the circumference of the tire.

NOTES

MODULE 103 - TIRE MEASUREMENTS

LEARNING OBJECTIVE

State the learning objectives so participants know what they need to learn.

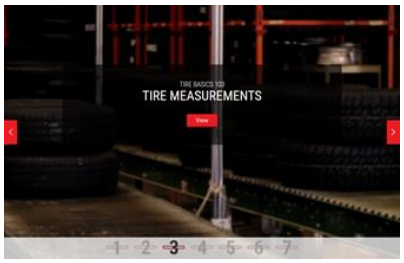
1. Identify the components of tire measurements to include:
   - Section width, section height, aspect ratio, rim diameter, overall diameter, and sizing system

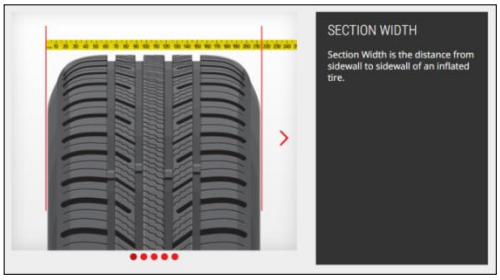
2. **Safety**: Explain why tire size is important to ensure a safe fitment.

ONLINE MODULE — TIME: 2 - 5 MINUTES

Demonstration:

1. Continue the online presentation and access Tire Basics 103 - Tire Measurements.
2. Pause the online presentation and point out each component of the tire, its measurement and purpose until the module finishes.
3. During the online presentation, ask a few of the questions provided on the next page.





WHOLE CLASS ACTIVITY: MODULE 103 - TIRE MEASUREMENTS — TIME: 3 -5 MINUTES

1. Ask learners to come up and illustrate how a variety of measurements are taken.
2. Reinforce their answers, whether correct or incorrect, with the accurate information.
3. Ask a few of the questions provided on the next page if you find the learners need more reinforcement.
4. Give learners a few minutes after each module to complete their participant guide questions.

Questions:	Answers:
What measurement is the distance from sidewall to sidewall of an inflated tire?	Point to the section width.
What measurement is the distance from the bottom of the bead to the top of the tire's tread?	Section Height.
Is the section height measurement used to determine the aspect ratio of the tire?	Yes.
Which two measurements make up the aspect ratio?	The section height which is a percentage of the section width.
What is the distance from bead seat to bead seat on the same side of the wheel?	Rim diameter.
How is overall diameter measured?	By determining the distance from the top of the tread to the bottom of the tread of an inflated tire.

NOTES

MODULE 104 - COMMON SIZING SYSTEMS

LEARNING OBJECTIVE

State the learning objectives so participants know what they need to learn.

1. Distinguish between the two common sizing systems of Metric and High Flotation by comparing the following:
   - Overall diameter, tire width, tire construction letter, and load range.

ONLINE MODULE — TIME: 5 MINUTES

Demonstration:

1. Continue the online presentation and access Tire Basics 104 - Common Sizing Systems.
2. Pause the online presentation as needed to point out the components of each sizing system on the appropriate tire type until the module is finished.
3. Ask some of the questions provided on the next page during the online presentation.

TEAM ACTIVITY: MODULE 104 - COMMON SIZING SYSTEMS — TIME: 5 MINUTES

1. Create two, three, or four teams (depending on class size).
2. Provide each team a High Flotation and a Metric tire.
3. Ask each team to identify the various sizing system components on each tire.
4. Ask participants to access the activity for this module in their Participant Reference Guide to write down the tire application, sizing system, construction and rim diameter for each of their tires.
5. The first team to finish is the winner! The team that wins the most gets a prize!
6. Have a winning team member point out each component for the whole class as you review their answers.

7. Reinforce their answers as needed.
8. Ask some of the questions provided below if you find the learners need more reinforcement.
9. Give learners a few minutes after the module to complete their participant guide questions.

Questions:	Answers:
What type of vehicles are High Flotation tires built for?	Trucks and off road vehicles.
Can a 17-inch tire be mounted on 16-inch rim / wheel? Yes or No?	No they must be the same size to ensure proper fitment.
Does a P- Metric tire have a load range at the end of their sizing code?	No.
What are the two most common sizing systems?	Metric & High Flotation.
What do the letters LT represent at the beginning of a Metric sizing system?	The tire application which is Light Truck tire.
How are the two tire classes different?	The passenger class tire is for small vehicles, half ton trucks, and SUVs. The light truck tire is built for heavier pickups and is designed to resist the abuse caused by off-road conditions.
What does the first number represent in the P-Metric sizing system?	The section width in millimeters.
Which of the two common sizing systems measurements are taken in inches?	The High Flotation sizing system.
What is a sizing system?	All of these numbers and measurements put together. To ensure a safe fitment of the same size tire onto the same sized wheel.

MODULE 105 - CRITICAL SIDEWALL INFORMATION

LEARNING OBJECTIVE

State the learning objectives so participants know what they need to learn.

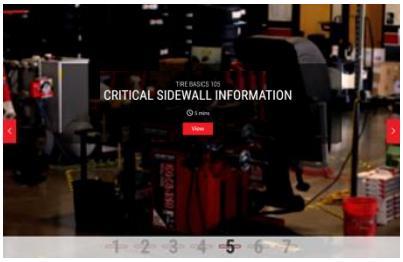
1. Identify the components of sidewall markings to include:
   - DOT & safety markings, manufacturer and model, air pressure & max load capacity, manufactured date, size, service description, the rotation arrow, and UTQG markings.

2. **Safety**: Explain why not to inflate more than max air pressure label.

ONLINE MODULE — TIME: 5 MINUTES

Demonstration:

1. Continue the online presentation and access Tire Basics 105 - Critical Sidewall Information.
2. Pause the online presentation and point out each component of the sidewall, and its purpose until the module is finished.
3. Ask some of the questions provided on the next page during the online presentation.



TEAM ACTIVITY: MODULE 105 – CRITICAL SIDEWALL INFORMATION — TIME: 10 MINUTES

1. Provide each team two tires.
2. Ask each team to identify the various sidewall markings on each tire provided.
3. Have participants access the activity for this module in their Participant Reference Guide to write down the manufacturer and model, max load capacity and air pressure, manufactured date, size, DOT, and service description for their two tires.
4. The team to finish first is the winner!
5. Have a winning team member point out each marking for the whole class as you review their answers.

6. Reinforce their answers as needed.
7. Ask some of the questions provided below if you find the learners need more reinforcement.
8. Give learners a few minutes after each module to complete their participant guide questions.

Questions:	Answers:
What do the DOT markings provide information about?	A tire's creation and its compatibility with federal regulations.
What information is represented by the last three or four numbers of the DOT?	The date the tire was manufactured by week and year.
At what age do we recommend replacing a tire?	6 years or more.
At what age do we stop any service and immediately notify the Service Coordinator?	10 years or more.
Define maximum load capacity	It is the tire's load carrying capacity when inflated to its maximum air pressure.
Define load index	A number explicitly indicating how much weight the tire can carry at different inflation pressures.
Define speed rating	A letter indicating the maximum speed that a tire can safely reach and maintain, as determined by laboratory testing.

NOTES

MODULE 106 - MATCHING TIRES WITH WORK ORDERS

LEARNING OBJECTIVE

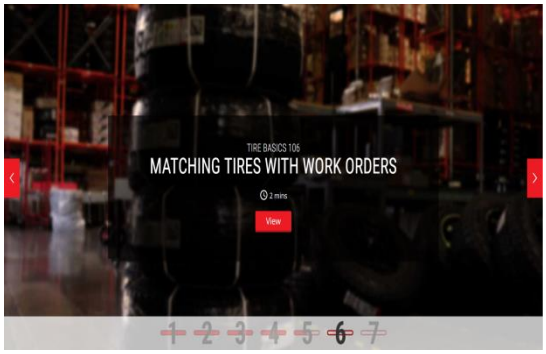
State the learning objectives so participants know what they need to learn.

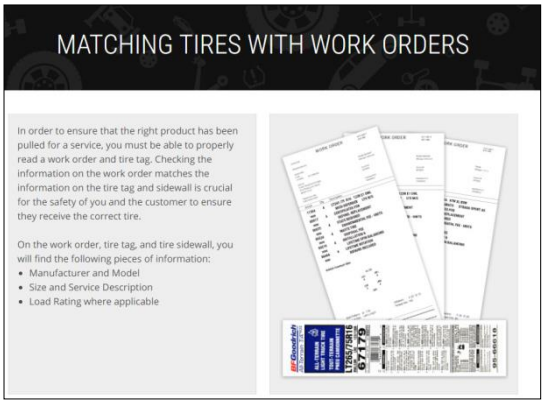
1. Match information from the tire tag, sidewall, and work order.

ONLINE MODULE — TIME: 2 - 5 MINUTES

Demonstration:

1. Continue the online presentation and access Tire Basics 106 - Matching Tires with Work Orders.
2. Pause the online presentation and point out the sidewall of a given tire, its tire tag and where on the work order the information is located.





WHOLE CLASS ACTIVITY: MODULE 106 - MATCHING TIRES WITH WORK ORDERS TIME: 3 -5 MINUTES

1. Complete the matching activity in the Online Presentation as a group.
2. Have learners complete the activity in their participant reference guide of matching the tire tags to the tire sidewalls to the work order.

WHOLE CLASS ACTIVITY: MODULE 106 - MATCHING TIRES WITH WORK ORDERS TIME: 3 -5 MINUTES

ADDITIONAL CLASSROOM IDEAS:

1. On the board write out the size, model, and service description of tires within the classroom.
    - Have participants work together to match sidewall information of the tires available in class.
    - Next, have class put the matching tires in the order they are written on the board.
2. For a review, grab tires close at hand and ask participants to find the following:
    - Sections of a tire
    - Parts of the tread
    - Tire Measurements
    - Tire's sizing system
    - Sidewall markings
3. Course Review - cover the course content, especially if you witness anyone is weak in a particular topic. Focus on areas within the course to set participants up for success on the final assessment. Review using the questions throughout their participant reference guides.

Questions:	Answers:
Why is it important to review the Load Range?	Because there are times where you may have the same manufacturer, model, size, and speed rating but the Load Rating and Load Index can be different.
Why is it important to review a work order?	To make sure the same information is on the tire tag as well as the work order. To ensure the right product has been pulled for a service as it is crucial for the safety of you and the customer.
What do you do if a tire does not have a tire tag?	Read the tire's sidewall information to match size, manufacturer, model, load range, and service description.