

LESSON PLAN

For

EDGE RUT MAINTENANCE AND REPAIR FOR DOT MAINTENANCE CREWS

LESSON 1: "Introduction to Edge Rut Repair" p. 2

LESSON 2: "Edge Rut Repair Procedures" p. 17

COURSE: Edge Rut Maintenance and Repair for DOT Maintenance Crews

LESSON: *Introduction to Edge Rut Repair*

METHODS: Audiovisual and Classroom Discussion

ESTIMATED TIME: 1 hour

OBJECTIVES: The purpose of this lesson is to provide a basic introduction to edge rut repair and what is needed to perform the work. When students finish this module, They should:

- Identify the personnel and how many are needed for a routine edge rut repair operation.
- Determine from available resources which equipment is needed for edge rut repair.
- Extrapolate from Maintenance Standards the materials needed for edge rut repair.

TRAINING AIDS:

- Videotape: Edge Rut Repair for DOT Maintenance Crews
- TV and VCR
- Handouts:
 - Maintenance Standard 320
 - Maint. Workzone Traffic Control excerpt
 - Environmental Compliance Manual For Ga. DOT Maintenance excerpt
 - Metric Designations for asphalt mix
- Pen or Pencil
- Activity Exercises (optional)
- Test

LESSON 1: INTRODUCTION TO EDGE RUT REPAIR

Time	Content	Instructor Notes
	Lesson Introduction	1) Welcome the students and inform them that this training program is an introduction to edge rut repair and will allow them to better under-stand their roles and what is needed to in edge-rut repair. 2) Get the student's attention by asking them how many, by a show of hands, have worked on a edge rut repair operation. 3) Ask those who respond what they did and describe how that activity was performed. 4) Point out that the purpose of this training is to provide a general overview of this routine maintenance activity and is not intended to replace on-the-job training.
	Purpose	

(continued)

LESSON 1: INTRODUCTION TO EDGE RUT REPAIR

Time	Content	Instructor Notes
	Lesson Introduction (continued)	5) Acknowledge that those students whose previous learning or work experience can also benefit from the training.
	Benefits	6) Emphasize that this training will allow the foreman to devote less time training workers out on the job site, and more time for accomplishing the work. In addition, also point out that unlike on-the-job training, this training is done in a safe environment.
	Importance	7) Point out that training in edge rut repair is important because it equips maintenance crews around the state with consistent methods and procedures for edge rut repair.

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LESSON 1: INTRODUCTION TO EDGE RUT REPAIR

Time	Content	Instructor Notes
5 MIN	Lesson Introduction (continued) Context Objectives	8) Also point out that because newer and less experienced workers are joining the ranks, training in edge rut repair enhances efficiency by bringing workers in the fold quickly. 9) Inform the class that this training program is video-driven, meaning that most of the content will be delivered by information in the video you are about to present. 10) Stress that after completing this lesson, the students will be able to: • Identify from Maintenance Standards the job titles of personnel and the number needed to correctly perform edge rut repair activity. (more)

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LESSON 1: INTRODUCTION TO EDGE RUT REPAIR

Time	Content	Instructor Notes
	Lesson Introduction (continued) Outline	• Ascertain from Maintenance Standards the correct heavy equipment needed in a productive edge-rut repair operation. • Identify from Maintenance Standards, the proper materials and correct quantities used in efficient edge rut repair. 11) Handout copies of Maintenance Activity 320 and emphasize that students should refer to it during the course. 12) Point out that the lesson has two parts. The first part will cover personnel, equipment and materials needed for this maintenance activity. 13) Emphasize they should pay close attention to the video and refer to the handout as items are discussed.

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LESSON 1: INTRODUCTION TO EDGE RUT REPAIR

Time	Content	Instructor Notes
	Lesson Introduction (continued)	14) Inform students that after watching the first part of the video, there will be a discussion and a review of information from the video. 15) Point out that following the review, there will be a short test on the material. After the test there will be a 10-minute break. 16) Explain that after the break, the second lesson will cover the methods and procedures for edge rut repair.
20MIN	VIDEO PRESENTATION	17) Play Part 1 of the video titled: <i>"Edge rut repair for DOT Maintenance Crews"</i>

(continued)

LESSON 1: INTRODUCTION TO EDGE RUT REPAIR

Time	Content	Instructor Notes
5 MIN	VIDEO DISCUSSION	18) After the video, open the floor to discussion. 19) Ask what were some of the issues they saw in the video. 20) Ask what are some of the problems they encounter with personnel, equipment and materials in their work. 21) Discuss how those problems could have been avoided. Ask how an edge rut repair operation could benefit from proper training.
10 MIN	REVIEW HMMS	22) Point out that in the beginning of the video, the Highway Maintenance Management System, or HMMS, was briefly discussed.

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LESSON 1: INTRODUCTION TO EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED)	23) Ask if anyone in class knows about or has worked with HMMS. If they have worked on the HMMS system, ask what it was they did. 24) Emphasize that the HMMS is a computerized management and reporting system that provides: • Performance standards for each type of work. • A system for the foreman to allocate labor, equipment and materials for the work. • A method to schedule work. 25) Review the key areas of the video. Point out that the video discussed. • personnel • equipment • materials

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LESSON 1: INTRODUCTION TO EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED)  PERSONNEL EQUIPMENT	26) Ask the students to look at the handout, Maintenance Performance Standard, and find the section on personnel. 27) Point out that the standard reflects that --for edge rut repair-- the personnel required includes: • 1 Highway Maint. Foreman • 1 Equipment Operator 3 • 5 Equipment Operator 2s 28) Point out that the standard also indicates the equipment needed for edge rut repair, and includes: 1) Motorgrader with cutout blade 2) Asphalt kettle 3) Steel wheel roller 4) Pick up 5) 2 Dump trucks 6) Road widener/tailgate spreader

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LESSON 1: INTRODUCTION TO EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED)	29) Inquire how many of the students have ever operated all these pieces of equipment at one time or another. 30) Point out that while there are other types of equipment and different types of methods to repair edge ruts, the standard is only a guide. 31) Emphasize that long, continuous sections of roadway with edge rutting should be considered for road widening or shoulder paving. 32) Ask the students how many of them have worked on a shoulder paving operation and what they did.

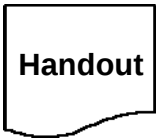
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LESSON 1: INTRODUCTION TO EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED) MATERIALS	33) Point out that the video mentioned that there are basically three materials needed for edge rut repair. ◆ Asphalt Concrete E mix, or ◆ Asphalt Concrete Base ◆ CRS -2H liquid asphalt ◆ Aggregates #5s, #6s, #7s. 34) Emphasize that the foreman should only use recommended materials for permanent edge rut repair. 35) Explain that the recommended and preferred mixes for permanent edge rut repair are either E mix or Base mix. 36) Emphasis that at times other type mixes will need to be used for edge rut repair.

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LESSON 1: INTRODUCTION TO EDGE RUT REPAIR

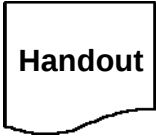
Time	Content	Instructor Notes
	REVIEW (CONTINUED)  Handout	37) Explain that this is acceptable ONLY in situations where either E mix or Base mix is NOT available. 38) Ask the students if they remember seeing the metric designations in the video and what they were. 39) Point out the metric designations for E mix and Base mix from the handout. 40) Point out that the foreman should check with the asphalt plant to assure the availability of hot mix. Also point out that if it is more economical to do so, mix should be obtained from DOT plants. 41) Mention that if the plant is not running, stone and liquid asphalt may have to be used.

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LESSON 1: INTRODUCTION TO EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED)	42) Point out that for emergency situations involving edge rut repair, other materials such as rotomill clippings should only be used until a permanent repair can be made. 43) Ask the class if they can identify any special performance conditions in the handout Maint. Standard Activity 320. 44) Explain that the special performance conditions state that this activity should only be used if activity 305 for Shoulder /Slope Repair will not eliminate ruts and drop offs.
20 MIN	ACTIVITY (OPTIONAL)	45) Instructor may want to develop an activity or game to help reinforce learning of key elements and points of the video in Lesson 1.

LESSON 1: INTRODUCTION TO EDGE RUT REPAIR

Time	Content	Instructor Notes
		46) After the Activity session, pass out tests. 47) Advise students that when finished, they are to turn in the tests and take a break before the beginning of Part 2 of this course.
15 MIN	TEST: PART 1 	48) After the Activity session, pass out the tests.
		49) Advise students that when finished, they are to turn in the tests. Go over the correct answers and advise students to take a 10-minute break before beginning Part 2.
END OF LESSON 1		

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LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

COURSE: Edge Rut Repair for DOT Maintenance Crews

LESSON: *Methods and Procedures for Edge Rut Repair*

METHODS: Audiovisual and Classroom Discussion

ESTIMATED TIME: 1 hour

OBJECTIVES: The purpose of this lesson is to provide an overview of the methods and procedures used in a routine edge-rut repair activity. When students finish this module, they should:

- Understand the methods and procedures needed to perform a routine edge rut repair.
 - Identify the correct order and necessary steps required for edge rut repair.
 - Understand important key points to keep in mind when performing edge rut repair activity.
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TRAINING AIDS:

- Videotape: Edge Rut Repair for DOT Maintenance Crews
 - TV and VCR
 - Handouts:
 - Maintenance Standard 320
 - Maint. Workzone Traffic Control excerpt
 - Environmental Compliance Manual For Ga. DOT Maintenance excerpt
 - Metric Designations for Asphalt mix
 - Pen or Pencil
 - Test
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LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	Lesson Introduction	1) Inform the students that this portion of the training represents Part 2 of the course in Edge Rut Maintenance. 2) Point out that the information they learned in Part 1, <i>Introduction to Edge Rut Repair</i>, provides a basis for understanding the procedures used in a successful routine edge-rut repair operation. 3) Get the student's attention by asking how many different ways they have seen the department perform edge rut repair and maintenance.

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LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	Lesson Introduction (continued) Purpose NOTE: Instructor may want to skip paragraphs 5 through 10 and go directly to paragraph 11. Benefits	4) Point out the purpose of this training is to provide the proper methods and the most acceptable procedures used in shoulder building, and it is not intended to replace on-th-job-training. 5) Acknowledge that those students who have previous learning or work experience can also benefit from the training. 6) Emphasize that this training will allow the foreman to devote less time training workers out on the job site, and more time for accomplishing the work. 7) In addition, also point out that unlike on-the-job-training, this training is done in a safe environment.

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LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	Lesson Introduction (continued) Importance Context	8) Point out that training in edge rut repair is important because it gives maintenance crews around the state consistent methods and procedures for this activity. 9) Also point out that because less experienced workers are joining the ranks, training in edge rut repair enhances efficiency by bringing workers into the fold quickly. 10) Inform the class that this training program is video-driven, meaning that most of the content will be delivered by information in the video. 11) Stress that after completing this lesson, the students will be able to: (more)

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LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	Lesson Introduction (continued) Objectives	• Understand the methods and procedures needed to perform a routine edge rut repair. • Identify the correct order and necessary steps required for edge rut repair. • Understand important key points to keep in mind when performing edge rut repair activity. 12) Assure that all students have the Maintenance Standard handout from Lesson 1, and emphasize that students will again use the handout for this part of the course. 13) Emphasize that while there are several methods used in edge rut repair, this lesson discusses the most acceptable methods and will cover edge rut repair procedures including preparing the area, making the repair and the cleanup operation.

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LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	Lesson Introduction (continued) Outline	14) Point out that students should pay close attention to the video and refer to the handout as items are discussed. 15)(Optional) Inform students that after watching Part 2 of the video, there may be a learning exercise for the information from the video. 16)Also inform the students that following the exercise, there will be a short test on the material. After the test there will be a short 10-minute break and they are to return to wrap up the course.
20 MIN	VIDEO PRESENTATION	17) Play Part 2 of the video titled: <i>“Edge Rut Maintenance and Repair for Georgia DOT Maintenance Crews”</i>

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LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	Discussion (continued)	18)After the video, open the floor to discussion, and ask what were some of the issues they saw in the video regarding the methods used to repair edge ruts. 19)Ask what are some of the problems they see with using these methods to repair edge ruts. 20)Discuss how and whether those problems could be avoided in edge rut repair using the methods described in the video. 21)Ask how edge rut repair activities could benefit from proper training. 22)Point out that the video indicates that the department has approved two methods for making permanent edge rut repairs.

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LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW	23) Ask the students what those two methods were. 24) Explain that the department has approved two methods for permanent edge rut repair, one method used plant mix asphalt and the other method used liquid asphalt emulsion and stone. 25) Point out that which method to use depends on: ▪ the extent of the work and ▪ the availability of hot mix whether from a contractor's or state owned plant. 26) Ask the students if they can name the nine (or any one) step(s) of the preferred method of edge-rut repair using plant-mix asphalt.

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LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED) Plant mix Method	27) Go over the nine steps for the preferred method of edge rut repair using plant mix asphalt: (1) Placing traffic control signs/safety devices (2) Cutting out a squared trench along the pavement edge (3) Cleaning the face of the pavement edge (4) Applying asphalt emulsion tack (5) Placing plant mix into the edge rut trench (6) Working the in-place hot mix to assure that when rolled, the finished grade will not be higher than the pavement edge (7) Rolling the mix (8) Removing the windrows and dressing the shoulders (9) Cleaning up the work area 28) Briefly discuss each of these nine steps explaining why each is important.

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LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED) <u>Placing Traffic Control</u>  <u>Cutting out the trench</u>	29) Mention that for the first step, placing traffic control, it is the foreman's responsibility to assure traffic control signs and safety devices are in place before beginning any work. 30) Also mention that the traffic control is required to comply with the Maintenance Workzone Traffic Control Manual. 31) Explain that only until proper traffic control is in place can the second step, cutting out a consistent squared trench, be done. 32) Point out that cutting a trench alongside the pavement edge that is of uniform depth and width is best achieved with a modified cutout blade attached to the motorgrader.

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LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED)	33) Ask the students if they remember seeing the recommended depth and width of the trench. 34) Point out that the minimum trench size should be four inches deep at the edge of pavement and a minimum width of one foot. 35) Ask the students what are some of the things the foreman should watch when the trench is cut out. 36) Explain that the foreman should assure: ◆ that the trench is cut to a uniform depth and width ◆ that no damage is done to the existing pavement or pavement striping with the blade and attachment ◆ that crews observe proper safety precautions

(continued)

LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED)	
	<u>Cleaning the pavement face</u>	37) Point out that the third step, cleaning the face of the pavement edge, is done usually with a stiff broom. 38) Explain that cleaning the face of the pavement edge assures that when the tack is applied a good bond and seal is made when new material is placed and compacted.
	<u>Applying the heated tack</u>	39) Discuss the fourth step, applying the heated liquid-asphalt-emulsion tack, and explain that this is the only step in which liquid asphalt emulsion is used. 40) Point out that CRS-2H is the preferred asphalt emulsion for most maintenance activities.

LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED)	41) Emphasize that CRS-2H should be preheated to between 150 and 175 degrees Fahrenheit before going to the worksite. 42) Stress that it is extremely important not to overheat the CRS-2H liquid asphalt emulsion as it could boil out or flash. 43) Ask the students what are some of the key points the foreman should be aware in applying the tack. 44) Explain that the foreman should assure that: ◆ Heated tack should be applied evenly to the vertical wall of the pavement edge. ◆ Care must be applied not to apply too much tack. ◆ Care must be exercised not to spray the pavement markings or allow it to get into the travel lane.

LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED) <u>Placing the plant mix</u>	45) Mention that placing plant mix is the fifth step and ask the class if they remember the recommended and preferred mixes to use in edge rut repair from Lesson 1. 46) Explain that E mix or Base mix are the recommended and preferred mixes for edge rut repair. Again, ask them what the metric designations for these are. 47) Emphasize that it is not acceptable to dump plant mix onto the roadway surface and then blade it into the trench. 48) Explain that dumping mix onto the roadway will obliterate the edge line and will also seal off open-graded mix courses adversely affecting their drainage characteristics.

LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED)	49) Ask the students what methods and equipment are used to place mix into the trench. 50) Explain that placing plant mix can be done: ▪ with a tailgate spreader, ▪ with a road widener, or ▪ by hand 51) Ask the class if they remember what the next step is.
	<u>Working the in-place hot mix</u>	52) Explain that following the placement of the mix, the sixth step is to work the in-place hot mix. 53) Ask the class if they remember how the mix is to be worked.

LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED)	54) Explain that a lute and shovel are used to work the material and bring it to a grade that when compacted, is even with—but not higher than—the pavement edge. 55) Also explain the repair should provide a smooth transition from pavement to shoulder, and allow for proper roadway drainage. 56) Ask the class if they can remember the “rule of thumb” for placing and working the mix. 57) Explain that a good rule of thumb for placing the mix is to allow one-quarter-inch roll down for each one-inch of loose material.

LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED) <u>Rolling the in-place hot mix</u> <u>Removing the windrows</u>	58) Emphasize that soon after the in-place hot mix is placed and worked, the seventh step is to roll the repair to achieve proper compaction and create a smooth finish—one that is level with the pavement surface. 59) Point out that the preferred method to roll and compact the in-place hot mix is to use a steel-wheel roller or vibratory tamp. 60) Mention that the eighth step in edge rut repair is the knock down the windrows and dress the shoulders. 61) Emphasize that excavated material should be handled according to the <i>Environmental Compliance Manual for Georgia DOT Maintenance Activities and Operations</i>.

LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED)	62) Ask the students if they can remember what the ninth and final step is.
	<u>Cleaning up the work area</u>	63) Explain that the final, and ninth, step in edge rut repair is to clean up the work area by sweeping and removing any leftover debris from the roadway before turning it back over to traffic. 64) Ask the students to discuss any other steps—such as initial spreading of the mix once it is placed into the trench—that might be included in this list. 65) Emphasize that it is very important to maintain the hand tools in these type operations.

LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED)	66) Point out that cleaning the asphalt from lutes and shovels should be done with an approved asphalt-releasing agent. 67) Stress that the use of diesel fuel is strictly prohibited for use as a cleaning agent. 68) Ask the students if there are any questions about this method of edge rut repair.
	Asphalt and Stone Method	69) Mention that a second method of edge rut repair involves the use of asphalt and stone. 70) Emphasize that this method should only be used when hot mix is not available and where it is the predominant method used in the area.

LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED) Handout	71) Ask the students how preparing for edge rut activity using liquid asphalt and stone differs from preparing for this activity using plant mix. 72) Ask the students to look at the handout, Maintenance Activity 320, and ask them to discuss what labor, materials and equipment are used for this method that is not used for the method using plant mix. 73) Ask the students if they can remember how many steps were discussed in the method of edge-rut repair using liquid asphalt emulsion and stone, and what those steps were.

LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED)	74) Explain that edge rut repair using liquid asphalt emulsion and stone also involves nine steps, and these include: (1) Pre-heating the liquid asphalt emulsion (2) Placing traffic control signs (3) Cutting out a squared trench (4) Placing the aggregate (5) Compacting the aggregate layer (6) Applying the liquid asphalt emulsion to penetrate the stone (7) Sealing with next smaller-sized stone (8) Rolling to achieve compaction, and (9) Cleaning up the work area 75) Briefly go over each of the steps used for edge rut repair activity using liquid asphalt emulsion and stone.

LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED) <u>Preheating the asphalt emulsion</u>	76) Point out that on the day edge rut activity is to begin, the first step the foreman should make is to assure the asphalt kettle is fired and the CRS-2H is pre-heated to minimum temperature before going to the worksite. 77) Ask the students if they can remember what temperature the emulsion should be heated. 78) Emphasize that CRS-2H liquid asphalt emulsion should only be heated to between 150 and 175 degrees Fahrenheit. 79) Stress that overheating the emulsion can cause it to boil out or flash.

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LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED) <u>Placing traffic control</u>	80) Mention that the second step is for the foreman to assure all the traffic control and safety devices are in place and the workzone is safe. 81) Ask the students what where some of the traffic control devices and features they saw in the video. 82) Point out that traffic control for all Maintenance Activities is required to comply with the standards outlined in the Maint. Workzone Traffic Control Manual. 83) Ask the students when they think traffic control should be scheduled. 84) Explain the planning and scheduling for proper traffic control should be done BEFORE the day maintenance activity is to begin.

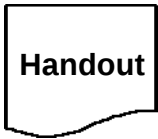
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LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED) <u>Cutting out the trench</u> <u>Cleaning the pavement edge</u> <u>Placing the aggregate</u>	85) Mention that the third step is to cut out a consistent squared trench. 86) Point out that cutting out the trench for this method is the same as cutting out the trench for edge rut repair using plant mix. 87) Ask what the next step is. 88) Explain that the fourth step is clean out and remove loose dirt and debris that may affect the integrity of the repair from the trench and along the pavement edge. 89) Mention that once the trench is clean, we can move to the fifth step, placing the aggregate.

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LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED) A rectangular icon with a wavy bottom edge, containing the word "Handout" in bold text.	90) Ask the students to look at the handout <i>Maintenance Activity 320</i> and find the aggregate sizes used in Edge Rut repair. 91) Ask the students how these aggregates are used to fill the trench in edge rut repair. 92) Point out that normally one-sized stone is used to fill the trench—either fives or sixes, and sevens are used last to seal the surface of the repair. 93) Also point out that combinations of fives and sevens or sixes and sevens can be used.

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LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED) <u>Compacting the aggregate</u>	94) Explain that the foreman should be certain that sufficient quantities of each type aggregate are stockpiled at the maintenance headquarters. 95) Ask the students if they remember how the aggregate should be placed. 96) Explain that the first course of aggregate should be placed in the trench to a depth that is level with the pavement surface. 97) Mention that the sixth step is compacting the aggregate course with a steel-wheel roller. 98) Ask the students what the foreman should look for when compacting the aggregate.

(continued)

LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED) <u>Applying the heated tack</u>	99) Explain that for proper compaction the foreman should assure: ▪ that the stone tightens up and doesn't crawl around while being compacted ▪ that the compacted stone is level, not higher than the adjacent pavement 100) Mention that the seventh step is to apply the heated liquid asphalt emulsion. 101) Ask the students what the foreman should look for when applying the liquid asphalt. 102) Explain that to properly apply the liquid asphalt, the foreman should assure: ▪ That liquid asphalt is applied so as to penetrate the stone and permeate down through the layer. ▪ That care is taken not to spray the pavement markings or allow emulsion to get in the travel lane.

(continued)

LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED) <u>Sealing with next small stone</u>	103) Mention that the eighth step is to seal the repair. 104) Emphasize the sealing the repair is essential to make a permanent repair. 105) Ask the students what is involved in sealing the repair. 106) Explain that sealing the repair involves handwork with a shovel to spread a second, thin layer of smaller-sized stone, usually sevens, on top of the asphalt coated stone layer. <u>Cleaning up the work area</u> 107) Point out that the final step in edge rut repair using liquid asphalt emulsion and stone is to clean up the work area.

(continued)

LESSON 2: METHODS AND PROCEDURES FOR EDGE RUT REPAIR

Time	Content	Instructor Notes
	REVIEW (CONTINUED)	108) Advise students that this lesson completes the video and lecture portion of this training. Ask if there are any questions, before moving on.
20 MIN	ACTIVITY (OPTIONAL)	Instructor may want to develop an activity or game to help reinforce learning of the key elements and points of the lesson.
15 MIN	TEST: PART 2	After the Activity session, pass out tests. Advise students that when finished, they are to turn in the tests. After the test, go over the answers to complete the course.
END OF LESSON 2		

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