

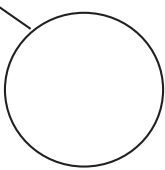
# road workers continued

## Adjusting the motor grader blade

(Based on chapter 3 of the *Local Roads Maintenance Workers' Manual*, TR-514)

When grading a granular surfaced road, adjust the angle and position of the moldboard depending on the job at hand. For most blading purposes, rotate the moldboard to a horizontal angle of about 30 to 45 degrees. See figure 3. To cut out ridges, washboards, and potholes, put the moldboard in the cut position. See figures 4 and 5. Be sure to put enough pressure on the blade to maintain your cut.

*Adjusting continued on page 4*



Date: \_\_\_\_\_

Dear Resident,

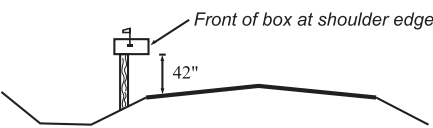
The Linn County Secondary Road Department will begin a grading project on \_\_\_\_\_. If you have a mailbox or other obstacles within the right of way, please remove them as soon as possible. You should coordinate a temporary location for the mailbox with your post-master.

When work is completed, install the mailbox so that the face of the mailbox is at the edge of the shoulder as shown below. Installation in this manner will allow the carrier to pull out of the lane of traffic to make deliveries. It will also allow the shoulder areas to be plowed more easily in the winter. Mailboxes that are within the roadway are more prone to being hit by vehicles or plowed snow.

The post office has informed us that the height of the mailbox is to be such that it can be reached from a car, approximately 3-1/2 feet above the ground.

We request that mailboxes be installed on a wood post no larger than 4"x4". This type of post is considered a "breakaway" post which may limit or reduce the possibility of serious injury if an accident should occur.

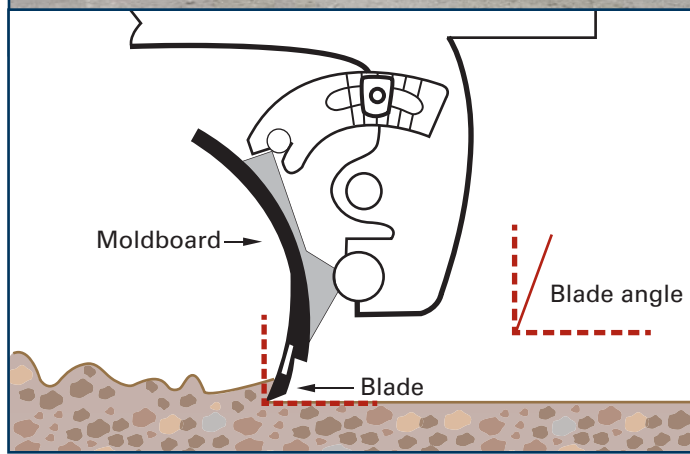
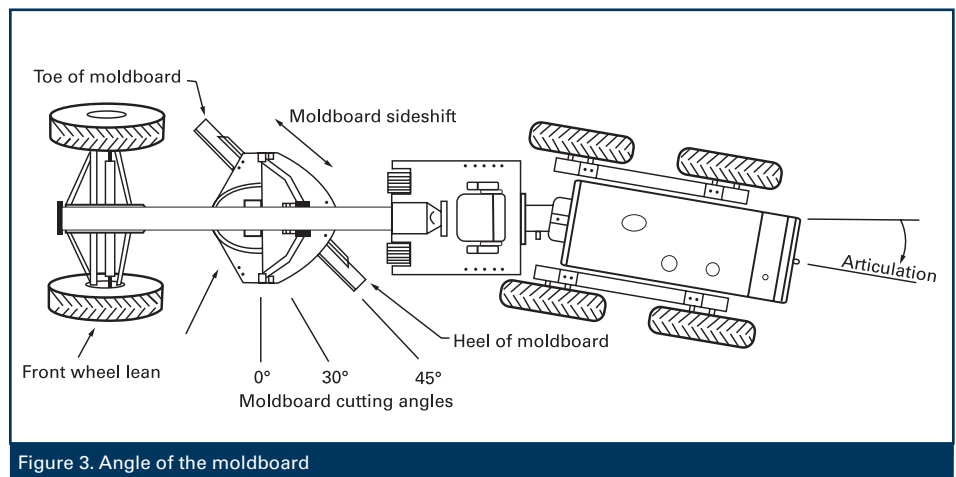
Concrete posts, milk cans and other types of mailbox holders are considered obstructions on the right of way which are prohibited by law.



**Linn County Secondary Road Department**

**1888 County Home Rd**  
**Marion IA 52302**  
**(319) 829-6400**

Figure 2. Sample door knocker (provided by Linn County)



Figures 4 and 5. Moldboard in the cut position for regular grading

## Iowa LTAP Mission

To foster a safe, efficient, and environmentally sound transportation system by improving skills and knowledge of local transportation providers through training, technical assistance, and technology transfer, thus improving the quality of life for Iowans.

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# Just for street and

*Adjusting continued from page 3*

You may have to make several passes with the grader to get to the bottom of a corrugated area (washboarding). See figure 6. For heavier grading, tilt the moldboard back. See figure 7.

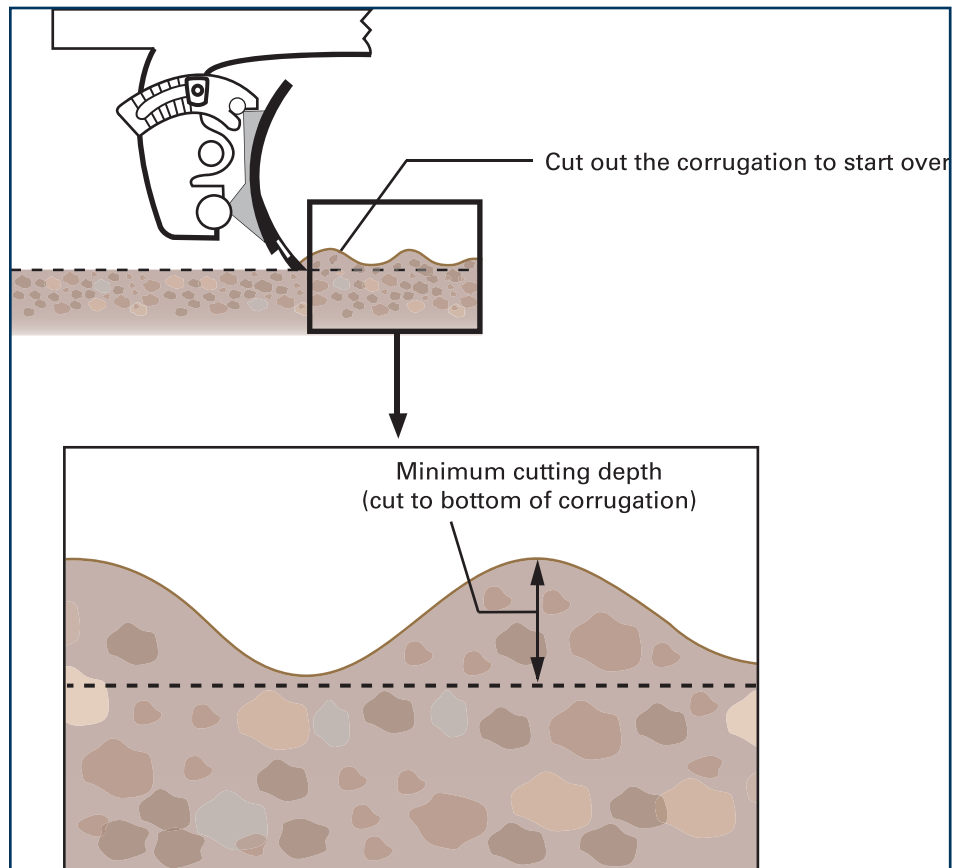


Figure 6. Cutting out a washboard

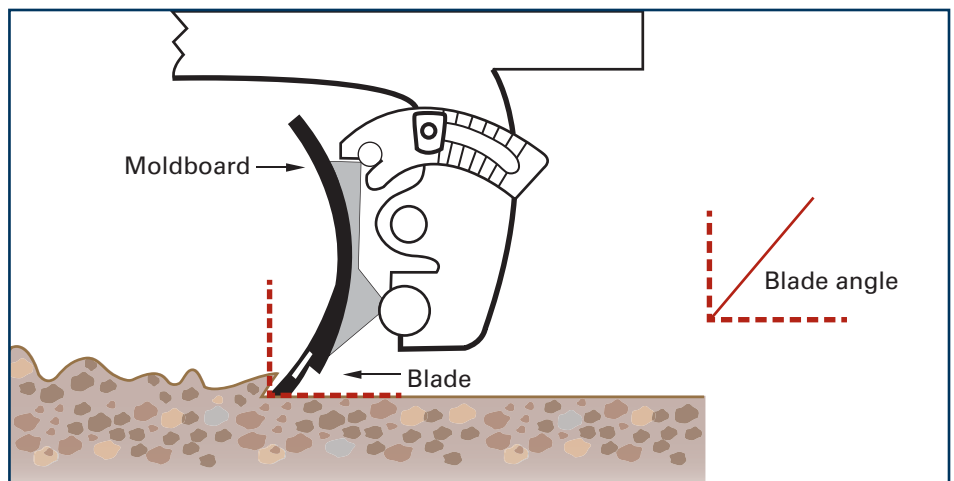


Figure 7. Moldboard tilted backward for heavier grading or more aggressive cutting



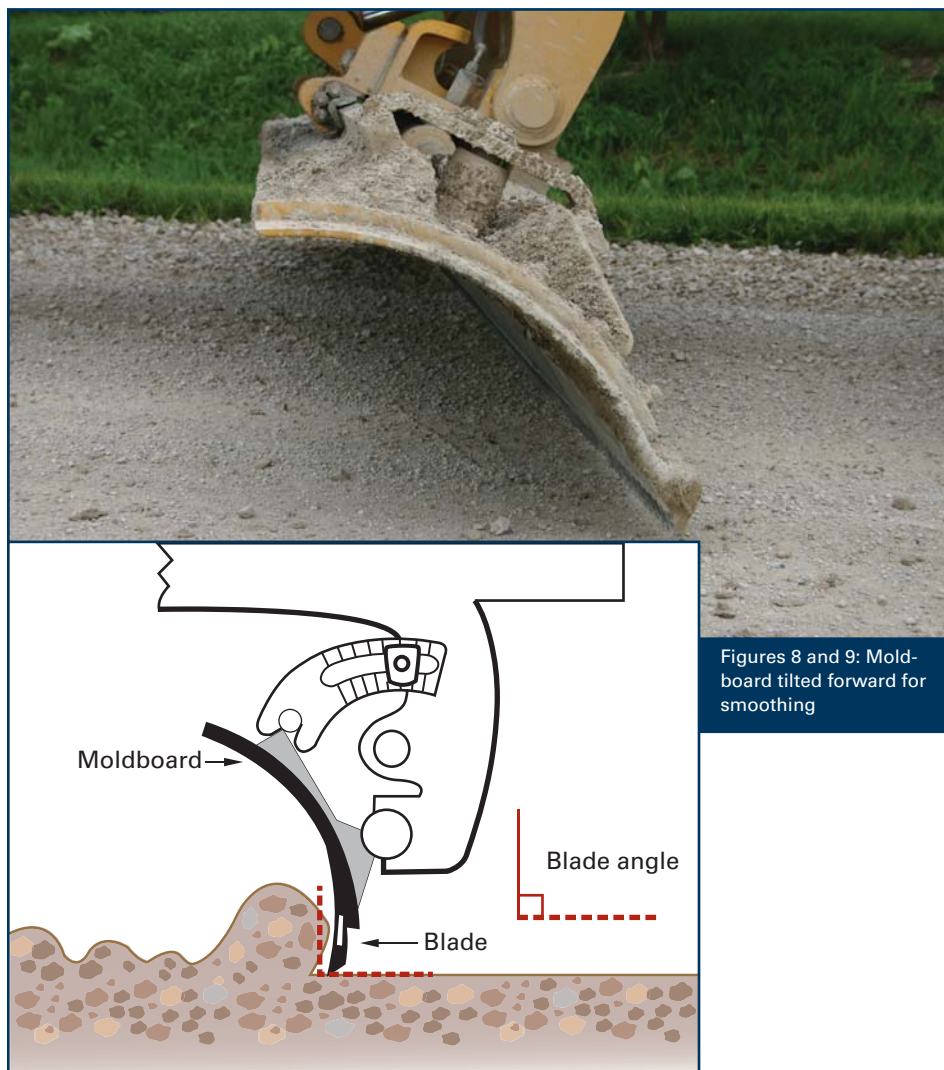
# road workers continued

*Adjusting continued from page 4*

To create a compaction roll that smooths the road and helps shape the crown, tilt the moldboard forward until the blade is perpendicular to the road. See figures 8 and 9. Move and roll the aggregate in a mixing action away from the shoulder and toward the center of the road.

To bring fine materials back across the road, the blade should be in the “float” position (if that feature exists on your grader). That is, there should be no down pressure except the weight of the blade. To do this, simply turn off the pressure to the blade.

Note: Figures 3, 5, 6, 7, and 9 were adapted from illustrations in *Gravel Roads Maintenance and Design Manual*. FHWA and SD LTAP. 2000. ■



## Maintaining shoulders on granular surfaced roads

(Based on chapters 3 and 4 of the *Local Roads Maintenance Workers' Manual*, TR-514)

The following deficiencies may be found on shoulders of granular surfaced roads:

- **High shoulders.** Vegetation in the shoulder collects sediment and gradually breaks down, raising the level of the earth. Earth shoulders that were originally flush with the adjacent roadway may, over time, become too high. High shoulders create a safety hazard to drivers and restrict drainage away from the roadway.
- **Erosion.** Shoulder erosion can cause (and may be caused by) poor drainage. Earth or gravel shoulders with steep slopes may be particularly prone to erosion.
- **Secondary ditches.** See figure 10 on the following page. Secondary ditches can form in shoulders from excessive throw-off of material from gravel roads or when there is a lack of proper shoulder maintenance. Secondary ditches can cause many roadway problems that may result in the need to rebuild the roadway.
- **Vegetation.** When vegetation is allowed to grow on earth shoulders, it can inhibit drainage, create secondary ditches, cause snow to drift, and create unsafe conditions for vehicles that leave the roadway.
- **Fixed-object improvements within the clear zone.** Such objects (like fences, utility poles, or culvert headwalls) can be safety hazards.

*Shoulders continued on page 6*