Controlling runoff from unimproved roads can be a challenge. Road traffic during wet conditions can destroy waterbars and the road crown. Open top culverts can clog with sediments and require regular maintenance. Soon the road surface is rutted and impassable as the uncontrolled runoff is carrying road material downhill.

The conveyor belt diversion can control this runoff by diverting water from the road surface while still permitting vehicles to easily pass. The belt diversion gives under tire pressure then springs back to its original position. Unlike waterbars the belt diversion will remain stable during wet road conditions and will still function when the road crown is lost provided that the belt diversions are properly spaced.

### Recommended Spacing

<table>
<thead>
<tr>
<th>Road Grade</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2%</td>
<td>250 ft.</td>
</tr>
<tr>
<td>5%</td>
<td>135 ft.</td>
</tr>
<tr>
<td>10%</td>
<td>80 ft.</td>
</tr>
<tr>
<td>15%</td>
<td>60 ft.</td>
</tr>
</tbody>
</table>

### Alternative Assembly Method

Conveyor belts thicker than 1/2” are used so that the diversion will return to an upright position after being compressed. If thinner belts are used the following assembly method should be considered.

### Determining Road Grade

Grade = R/L times 100

### Acknowledgements

PC Exploration Inc. Warrendale, PA. For providing equipment and labor to install the diversions.

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Prepared by Indiana County Conservation District
**Assembling the Diversion**

**Materials**
- Conveyor Belt
  - 1/2"X15"X20"
- Rot resistant boards
  - (3) 2"X6"X10'
- Stove bolts, washers and nuts
  - (12) 5/16" dia. 4" long

**Tools**
- Utility Knife (sharp)
- Drill
- Hammer
- Wrench

**A Closer Look**

![Diagram](image)

**Installing the Diversion**

- Make sure the diversion slopes downhill, minimum of 3%.
  - Discharge the diversion to a stable area that will carry runoff away from the road.

- Use as narrow a bucket as possible.
  - Depth of the channel should be 10 –12”.
  - Stop short of the road ditch.

- Place the diversion at the down slope side of the trench and tilt the diversion uphill. Leave 4” of the belt exposed.

- Large stones placed at the end of the diversion will control erosion at the road’s edge.

- Compact the trench fill.