**Performance Casing Guide Shoes**

*WWT’s Performance Casing Guide Shoes are operator-focused solutions to address a variety of casing running challenges.*

**FlexShoe**
Flexible but robust casing guide shoe ideal for running past severe dog-legs, ledges, soft formation, and when running stiff casing. Can be run with any guide shoe listed below.

**JetGuide**
High velocity fail-safe jetting shoe that can help wash through cuttings, moderate cave-ins, and through salt or tar.

**ReamGuide**
Drillable reamer with jetting feature that can help when rotating through tight spots.

**ToughGuide**
Durable, drillable, general purpose guide shoe for use in all wells. Available in durable, impact resistant poly, or harder drillable cement composite.
WWT JetGuide
High Velocity Failsafe Jetting Shoe

Features and Benefits

• Effective
  – Ring of high velocity fluid jets cuttings out of the way
  – Large center bore allows unrestricted auto-fill

• Safe
  – Jets at 75% flow rate, and converts to full-open center bore at 100% flow rate for cementing or pumping LCM
  – Automatically converts to full-open center bore if jets are plugged

• Drillable
  – Easily drilled out.
  – Plastic and cement composite material used throughout. Almost no metal in drill out path.

• Modular.
  – Cost effective for use on any well
  – Increases the effectiveness of the WWT FlexShoe, or can be used as stand-alone product
  – Float installed above shoe

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>JGS-450</th>
<th>JGS-550</th>
<th>JGS-700</th>
<th>JGS-758</th>
<th>JGS-958</th>
<th>JGS-1075</th>
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<tr>
<td>Casing Size (inches)</td>
<td>4-1/2</td>
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*TFA after conversion to large bore flow.
WWT ReamGuide
Drillable Reamer & Jetting Shoe

**Features and Benefits**

- **Low cost**
  - Lowest cost reamer shoe available

- **Durable**
  - Rotate casing to ream down through trouble zones or past obstructions
  - Tough polyurethane or cement composite body with aluminum frame holding cutters.

- **Effective**
  - Cutting elements provide effective reaming and movement of cuttings
  - Available with straight and helical blades.

- **Drillable**
  - Made from aluminum and polyurethane or cement composite
  - Minimal aluminum content in drill-out path.

- **Modular.**
  - Works well with the WWT FlexShoe.
  - Can be used as a stand-alone product.
  - Also available with WWT Jetting Shoe insert.
  - Float installed separately above shoe.

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*TFA in. With optional jetting feature TFA out is reduced until opening centerline at predetermined flow rate.

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**WWT ToughGuide**

**Cost-Effective Premium Guide Shoe**

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*TFA and nozzles can be configured to meet customer requirements.

### Features and Benefits

- Rounded cone shape helps guide casing downhole.
- Shoe able to take significant load without damage, but is still very easy to drill out.
- Polyurethane is impact resistant and can deform without breaking.
- Cement composite can handle high temperatures and high set down weights.
- Nozzle and flow area able to be configured in almost any way.
- Easily drilled out, no metal in drill out path.
- Interior/exterior geometry means cement and shoe are coupled for easy drill out without spinning.
- Cost effective for use on any well
- Can be used with WWT FlexShoe, or alone.
- Float installed above shoe.