REICHEL & DREWS INC.

Measuring Drum Shingle Cutter Maintenance Tips

A series of practical tips from Reichel & Drews

#5 ANVIL ROLL

The condition of the anvil roll is very important to shingle cutting and knife life. Grooves and wear spots in the anvil roll will cause uneven pressure on the knives, resulting in breakage and excessive wear. Inspect anvil rolls frequently and replace as needed.

The anvil roll provides a moving surface opposite the knives of the cutting cylinder. The surface speed of the anvil roll is nominally 5% to 7% faster than the sheet speed, which ensures that the longitudinal knives do not wear the anvil roll in the same location on each revolution. The anvil roll is constructed of a solid core on which carbide and hardened steel anvil rings are installed. The total length of the anvil rings is slightly greater than the face length of the anvil core. On each end of the anvil roll are clamp plates, which prevent the rings from moving. The clamp plates are bolted into the end faces of the anvil core and by loosening the bolts on one end and tightening them on the other end, the anvil rings can be moved axially along the face of the anvil core. This provides a method of moving anvil roll wear points in relation to the slitter knives in the cutting cylinder. Carbide anvil rings provide a high wear-resistant surface that is typically located opposite slitter knives and sometimes opposite all the knives in the cutting cylinder.

An anvil roll in good condition will contribute to optimum shingle cutting performance. Attention must be given to anvil roll journals, anvil core face and anvil rings.

Anvil roll journals should be checked often for wear. Journals are typically 3.9365" +000/-.001" diameter. Minus tolerance should not exceed .005" when worn. When new, a light press fit of the bearings is recommended due to the severe operating conditions. The anvil core face should be thoroughly cleaned and checked after each removal of anvil rings with special attention on the anvil ring seat areas. Check for out-of-round

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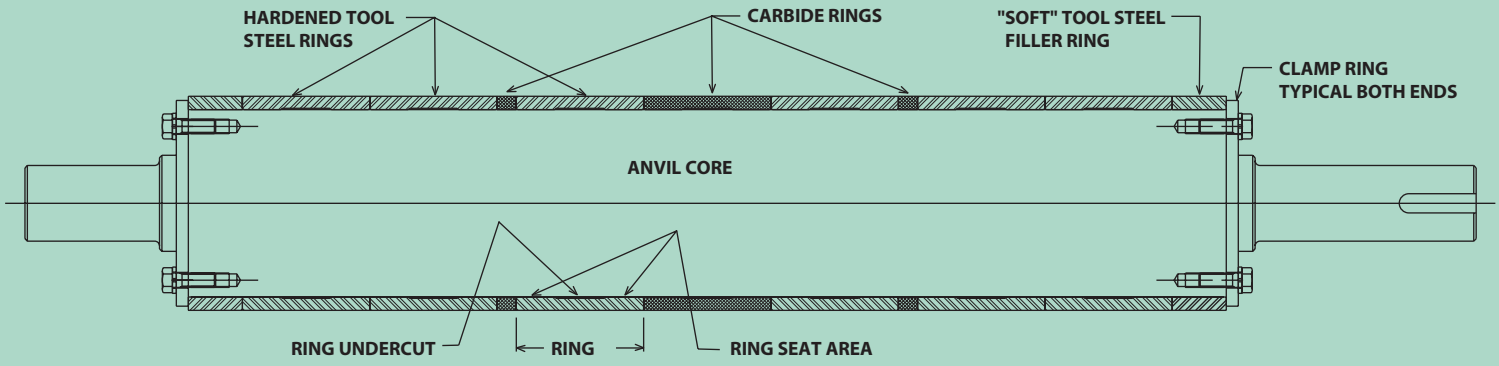

(shows carbide ring location for 2-wide laminated shingle production)

condition at each area. Out of round tolerance is +.000/.002. The seat area should show no signs of ring sliding (slipping) on roll face.

While running the cutting cylinder, a consistent drumming noise may be an indication of a loose anvil ring or a worn, out-of-round anvil roll. This condition will ruin knives immediately. Re-grinding anvil rings to remove grooves and ensure roundness will help prolong knife life and improve the cutting operation.

Maintenance Check List:

- Weekly, check anvil roll for wear, checking for low spots with a straight edge. Approximately .006" deep grooves will warrant an anvil roll re-grinding (approximately three to six cutting cylinder changes). After re-grinding, check anvil roll surface speed to sheet speed and adjust if necessary. For a new anvil roll measuring 11.14" diameter, the minimum recommended reground diameter is 10.7". For a new 10.18" diameter roll, the minimum recommend reground diameter is 9.8".
- Anvil roll taper should also be checked. Although the cutting cylinder is level to the anvil roll, sheet taper can deform the anvil roll.
- Check anvil roll speed. The anvil roll runs 5% to 7% faster than sheet speed to distribute knife wear and avoid sheet buckling

Reichel & Drews Upgrade

- Clamp plate anvil core to facilitate ring shifting and ring removal.

Stay sharp.

Contact us for questions on maintenance, check lists and tips on making your shingle cutting equipment last longer.

REICHEL & DREWS INC.

International Headquarters
1025 West Thorndale Avenue
Itasca, Illinois, USA 60143
Telephone: (630) 773-2500
Fax: (630) 773-3414
www.reicheldrews.com
Email: reicheldrews@therdigroup.com

Europe
Neckarstr.37
D-64711 Erbach, Germany
Telephone: +49-(0) 6062-913244
Fax: +49-(0) 6062-913255
Email: rdi.wkrug@t-online.de

Jin Du Mansion
3#, 1st District, Fangcheng Garden
Fang Zhuang
Beijing 100078, China
Telephone: 86-10-67644613
Fax: 86-10-67620684
Email: rdijqyao@public3.bta.net.cn