

CHAPTER XXIV

KNIFE WIPER, SLUG LEVER DAMAGED OR IMPERFECT SLUGS

Knife Wipers

HARDING and LOOMIS: There are many kinds of knife wiper, so we shall content ourselves with general suggestions.

The familiar "downstroke" wiper with its brass lever can always be made to work: usually its trouble comes in a badly worn hole and stud. It may need bending to enable it to clear the clutch bracket. Be sure the roller on the first elevator slide goes into it smoothly and without bumping. The long rod inside should be straight, but if the knives are low from grinding, you may have to bend the top end forward a little. Also you may have to grind a little off the bump at the top of the long rod, to enable the brass wiper to get down to the knives. You may have to twist the brass wiper; if so, twist the top into the knives. The stud that restricts the downward stroke of the rod should be there; otherwise the wiper will drop under the knives occasionally. The wiper must have clearance above a 30-pica slug at ejection.

If an Intertype wiper fails to rise high enough, look for a broken spring. If the first elevator fails to seat, the nuts on the lower end of the rod may be set too high.

After you open the vise on a Linotype, sometimes you leave the knife wiper out of position, and the first elevator comes down on top of it. It will stop.

Keep the screws tight in the knife wiper bracket and the stud. Now you can get narrow lock washers (E-1654) to put under the screw heads. Put a little shellac or stiff job ink on the threads, tighten up on the screws (you got new screws too, didn't you?) and leave overnight.

The screws that hold the Linotype wiper are 4x48. If the holes are stripped, tap them for 6x48.

If you can't make a screw stay in the joint between the short link and the long bar, get the screw E-1466 and the nut to match. They will hold.

The lower mold banking block, which also guides the wiper rod, often is very difficult to keep tight. Re-drill the two screw holes and tap for $\frac{1}{4}$ x24 screws. They will hold. (LOOMIS: I have tapped a $\frac{3}{8}$ "x24 bolt right in the middle, and that never comes loose — but it is rather hard work, and I have had good luck with the $\frac{1}{4}$ " screws.)

Gets a Tinfoil Shaving that Sticks to the Slugs

QUESTION: No matter what we do to the knife wiper, we cannot get rid of this tinfoil stuff. It sticks like glue. — T.K., Hawthorne, Utah.

HARDING in the *Graphic Arts Monthly*: Your trouble is in the left-hand knife, which is trimming too much. It should just remove the overhang at the top of the slug. Fix this and your tinfoil will disappear.

Slug Lever

A slug lever is relatively simple. It should go in far enough to push the last slug out of the way of the next, and it should back out far enough to allow the new slug to fall into place. On the old style Linotype slug lever, keep a little hard oil on the head of the adjusting screw, and oil the dog.

If the first justification cam and roll get badly worn, the roll on the justification rod will not descend far enough to push the slug lever out of the way of the new slug.

On the new Intertype slug lever, actuated by a lever attached to the pot leg, the extreme right position of the slug lever can be adjusted by moving the screw that holds the roller up and down in its slotted hole. The roller requires oiling. So does the slug lever. If you have 24-point slugs, set the lever so it will come out far enough to clear, then on smaller slugs use the filling blocks to keep the slug lever from going in too far; otherwise the smaller slug may fall over.

DAMAGED OR IMPERFECT SLUGS**Caps Are Trimmed off on Top**

This is one of the most frequent complaints about slugs, and there are many causes:

First elevator jaws out of alignment, up and down, with the mold.

This defect will show up first on the full-face sizes of aligning Gothic, such as the largest size of 6-point.

The mold may not be level with the jaws from end to end. See *Misalignment of Mats*, etc., page 109.

Faulty setting of the adjusting plate on the mold (which never should be touched).

We assume that the left-hand knife is not set so grotesquely as to gouge off the tops.

Wear in the first elevator connecting link, including eyebolts and nuts, eyebolt pins; loss of strength in the spring in this link.

Butted Slugs Do Not Align

QUESTION: We are setting 50 picas for an insurance form, and as you can see, the type does not align in the middle, although the slugs come out perfectly even. It is a new mold and we have installed new locking studs and blocks. All molds are the same. — S.D.O., Maryville, Mo.

HARDING: It seems rather obvious here that the matter is one of misalignment of the elevator jaws. See above. You might try moving the bottom first elevator gibs a little first.

LOOMIS: This sort of thing often shows up more on bold face when the flipper is used. In that case it generally indicates worn parts in the connecting link, but I have run into old machines where it seemed to me the cast iron of the first elevator lever had lost its original strength, to put it very unscientifically—or the molecular arrangement had undergone degeneration, if you want it said that way—and we could not get the bold face to cast properly without putting a shoe on the first elevator cam. This is a piece of 6-point brass about 6" long, and is fastened to the cam with flat-head screws. The ends of course are beveled. It is started at the exact point on the cam where the first elevator rises for justification, so that the rise in that cam is 6 points more than it was. I do not care for this type of thing, but it seems to be necessary sometimes, and it seems to work. This can now be bought (in steel) from either Company.

HARDING: Yes, this has to be done. To check, cast a line in bold face on the rail, recast it in light face, then recast it with the flipper. If it suffers cut-off letters only when the flipper is used, check first the connecting link, then put a shoe on the cam. See that the eyebolts on the link are properly adjusted.

Sometimes it is only necessary to install a new adjusting bar in the first elevator front jaw to correct this. If the adjusting bar shows a worn groove on the short measure, replace it.

Sides of Characters Chafed

HARDING: When they appear to be damaged by a spaceband, the trouble may be traced to badly worn studs and stud blocks, misadjusted mold disk support screw.

This may result from sloppy cam rolls and eccentric pin in the mold cam lever. (See *Too Much Forward-and-Back Play in the Mold Slide*, page 126.)

Descenders Nicked Off

HARDING: When lower part of *g*, *p*, *q*, and *y* is damaged, check downstroke of the first elevator, forward thrust of the mold disk, mold disk support screw, and locking stud blocks. Reduce downstroke adjustment as much as possible.

If it happens only with the flipper, check the connecting link for wear and adjustment. Here again a shoe may be necessary on the first elevator cam.

It is no secret that certain fonts of mats have been much worse than others in this offense, and almost impossible to correct.

Top End of Slug Damaged or Broken off

LOOMIS: Usually indicates that the knife wiper flag is not being raised high enough.

Last Letter of Various Words Is Hit

QUESTION: I am sending you a sample slug. This does not occur every time, but about once in twelve lines. — T.S.C., Fredericton, New Brunswick.

LOOMIS: This is an interesting slug. A magnifying glass shows that about half of the last letter of certain words is somehow pressed down several thousandths of an inch, obviously too low to print.

This suggests that the mold disk is breaking away from the mouthpiece pretty hard and actually rebounding against the line, which by this time has spread a little, so that the last letters now hit against the spacebands, causing the damage.

This can be rather difficult. On old machines, be sure the lower mold slide gib is up as far as it should be. Check for excessive play in the mold cam lever, as suggested in the paragraph above. Of course anything that will soften the breakaway will help, but this is hitting in the dark. An oversize pot return cam shoe sometimes will help. See that the justification block goes down far enough to clear the spacebands.

You can get E-2321, Mold Slide Spring Buffer Bracket, Assembled, which will help sometimes, for it cushions the rebound of the disk.

Letter on Right End of Line Is Nicked

HARDING: May be from too deep a downstroke of the first elevator, which delays its rise and allows the mold disk to scrape the slug on the jaw.

This can also be caused by an overly stiff pump stop spring.

Liner Tits Damaged by Universal Ejector

LOOMIS: This usually happens on old style ejectors with solid blades, but can happen on universals. It implies that the right-hand mold disk locking stud is set too high, pulling the mold disk up all it can against the play in various worn parts. See *Replacing the Mold Disk Locking Studs and Blocks*, page 136.

Slug Shows Chilled Face at One End

HARDING: This happens rather often. See that the mouthpiece burner has a double row of holes at each end, that the metal level in the pot is not too low. Particularly refer to *Frosty Face on One End of Small Slug*, page 187.

Check the mouthpiece burner by looking at the flame.

The mouthpiece holes should lie close to the back of the slug, with neither end hole partly plugged. An extra hole drilled between the first and second holes, in the vent, usually helps.

Trouble on Casting Border

HARDING: When recasting border, sometimes there is a little chill in the middle. Likely this happens because the border slide is solid and does not allow any air to escape, as does a line of mats. Turn up mouthpiece heat a little.

Why Do Characters Vary in Height?

QUESTION: I am catching the dickens from the pressman because certain letters on a given slug will be low or high. They are not the same letters and not in the same place, and not always the same slug. — F.E.H., Port Huron, Mich.

HARRY G. POTTLE in *Who's Who in the Composing Room*: I have heard that sometimes this is the fault of defective mats, but I have not seen any of them. There are other causes more frequent.

You can easily see the difference in height of such characters by laying a straight-edge across the face of the type and observing it from the side.

Accumulation of metal on the face of the mold will cause this. The cap and body of the mold should be even in front. On rare occasions a warped mold will cause it.

HARDING: Check also for weak or broken pot lever spring; lack of pot's retreat between justifications; loose vise locking stud; forward thrust of mold disk improperly set; a screw sticking out from the mold.

If on bold face only, check clearance in the first elevator jaws with mats on the duplex rail. A bind here will cause trouble.

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