

COLD FORMING OF METALS

Measures to prevent accidental tripping of the press in addition to placing a guard over the pedal include

- 1 A safety spring on the trip rod
- 2 Aisles of ample width for trucking material to the presses.
- 3 Aisles adjacent to the press used only for necessary trucking of dies and stock.
- 4 Enough working space between adjacent machines in the same line
- 5 Unauthorized persons kept away from the area
- 6 Operators protected from interruption.
- 7 The operator, and all other persons not concerned, kept away from the press when it is being set up
- 8 A closely supervised, mandatory rule prohibiting the operator from "riding" the pedal. The operator should remove his foot from the pedal immediately each time he trips the press
- 9 Flywheel brakes. Flywheels — especially on large presses — continue to coast for some time after the power source has been turned off, and they have been known to cycle a press when the actuating control (or controls) was tripped. A flywheel brake will stop the flywheel within 10 to 20 seconds

Single-stroke attachments Through common usage the term "nonrepeat" has more or less come to mean both the nonrepeat device which is installed in the clutch mechanism by the manufacturer of the clutch and the single-stroke device which is attached to the trip rod and which disconnects the pedal after each stroke of the press (Fig 23-20)

A press with a positive clutch should have a single-stroke attachment which disconnects the pedal or operating lever after each stroke

A single-stroke spring device should depend on spring action only if it is a compression spring encased in a close-fitting tube or closely wound on a rod. The type wound on a rod is preferable because it permits easy detection of a broken spring. The space between the coils should be less than the diameter of the wire

Of necessity, a single-stroke device is made inoperative when the press is used on continuous operation. In this case the die should be completely enclosed, regardless

of the method of feeding. When the press is set up for other than continuous work, it is of the utmost importance that the single-stroke device be reconnected

If the press is controlled by means of a hand lever, the lever should have a spring latch to prevent accidental or premature tripping. If a hand operated press requires more than one operator, the hand lever should be interlocked

Feeding and ejecting devices

Primary operations, as discussed under "Definitions," are normally conducted with random length strip stock or coiled stock. Strip stock is usually manually fed. Coiled stock can be fed either manually or by means of a roll feed or hitch feed

Automatic roll feeds are often used on continuous operations of blanking from strip stock. Small gears on the roll feed should be enclosed and the run-in nip point of the feed rolls should also be guarded.

These precautions are especially important where women operators are employed, even though they wear hair nets or close-fitting caps

Automatic push or pull feeds are similar to roll feeds and are used mostly in blanking larger pieces

When coiled stock is used with a reel and roll feed or hitch feed, a feed table is generally unnecessary. Where coiled stock is used with a stock reel but not with a roll feed, a feed table helps the operator back-gauge the stock efficiently and feed it to the die with minimum effort

In manual feeding of strip stock, a feed table eliminates unnecessary motion and reduces operator fatigue. The feed table should be adjusted to the height at which the operator can work with minimum effort

Ejection mechanisms eliminate the need for the operator to place his hands in the danger zone to remove the processed piece. They also speed up the cycle of operation, and, because the processed piece must be out of the way before the next piece can be located or blanked, they are obviously necessary to make feeding possible

In the development of ejection facilities, two problems must be solved: how to strip the piece from the punch or the die, and how to eject the piece from the die and the press to a container or conveyor