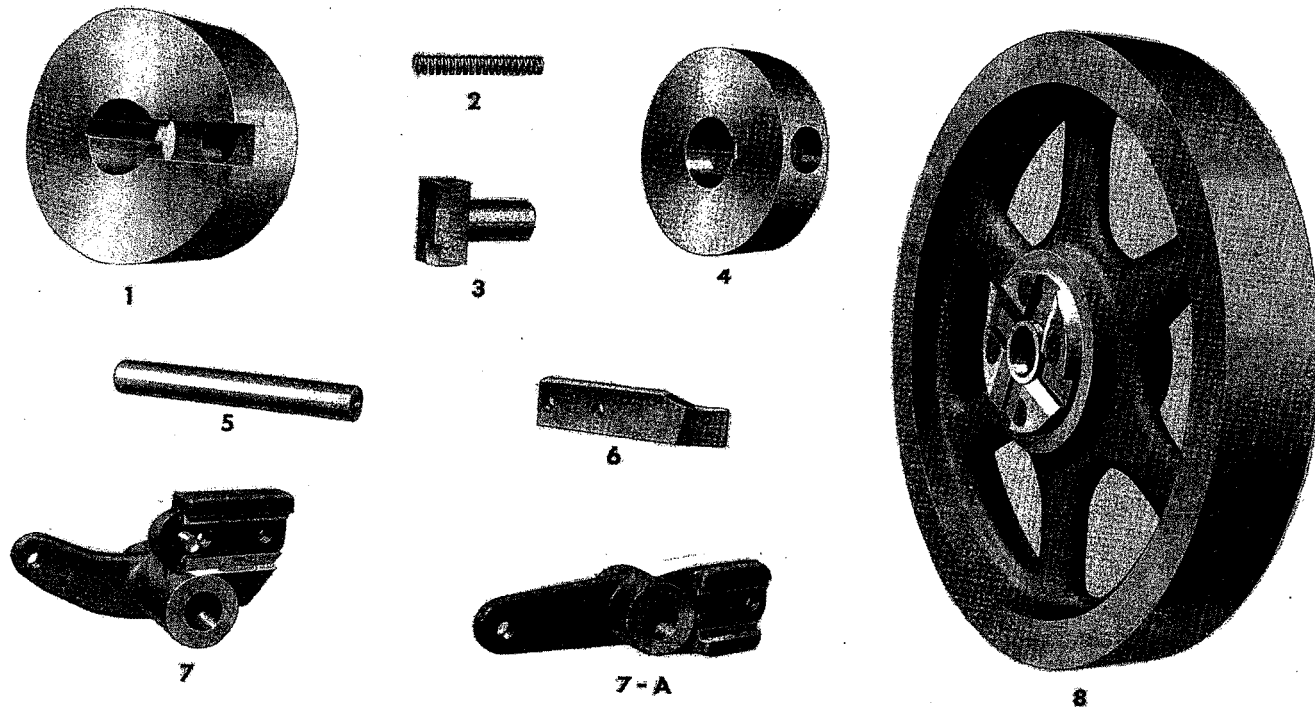


# INSTRUCTIONS

## Niagara Shear Clutch

Do Not Destroy these Instructions, give them to the Operator of the Machine to which they apply. Save for ready reference. Follow all Directions Carefully. Additional copies furnished on request.



### NIAGARA SHEAR CLUTCH PARTS

- |                      |                 |  |
|----------------------|-----------------|--|
| 1 —Clutch Block      | 4 —Shaft Collar | 7 —Throwout Lever—Offset                                   |
| 2 —Clutch Pin Spring | 5 —Throwout Pin | 7-A—Throwout Lever—Straight                                |
| 3 —Clutch Pin        | 6 —Throwout     | 8 —Clutch Wheel with Striking<br>Pins and Bushing in place |

The clutch wheel runs continuously. When the treadle is depressed, the end of the clutch pin emerges from the clutch block and enters one of the steel-faced recesses of the rotating wheel, giving motion to the shaft through the clutch block. The shaft operates as long as the treadle is depressed. When the treadle is released, the wedge-shaped throwout withdraws the clutch pin from the wheel. The shaft then stops as the crosshead reaches its highest position.

When engaging clutch, depress treadle quickly and firmly to its lowest limit. Release quickly after clutch is engaged.

(OVER)

FORM A-2

A-6-B-1

A-2

A-3

A-6-A

A-6-B

## ADJUSTMENT AND MAINTENANCE

By sliding the clutch wheel toward end of shaft, all clutch parts are accessible for examination or removal.

If clutch does not engage when the treadle is depressed:

- the clutch pin may be stuck in the clutch block by dirt, gummed oil, grit, etc.—remedy by cleaning.
- the clutch pin may need oiling.
- the clutch pin spring, may be worn or broken  
—replace with new spring.

If the clutch runs continuously with the treadle released:

- the treadle springs may be stretched, worn or broken.
- the limits of the treadle movement may not cause the throwout to move its full stroke.
- the clutchwheel may need oil or may not be running freely on the shaft.

The shaft is over-traveling if the eccentric or crank carries beyond the high dead center. Excessive over-travel causes repeated strokes. This should be remedied at once:

- the brake should be tightened until shaft stops at or slightly before dead center. Correct brake tension is vital to the operation and durability of the clutch. Use care to maintain this adjustment.
- the wheel may need oiling or may not be running freely on shaft.
- the rotation may be too fast—the recommended speed is stamped on flywheel rim, or will be furnished on request.

If the clutch clicks after being disengaged, this is usually due to worn clutch parts

- the clutch pin may be worn or damaged so that the edge is no longer square and sharp. A limited amount of dressing by grinding may be done on the striking face, but never on the end.
- the edges of steel striking pins that face the recesses in the wheel may be worn, rounded or uneven instead of square.
- the face of hub of wheel may have become gouged, roughened, or recessed.
- the ends of striking pins may not be exactly flush with smooth face of wheel hub.

Clicking caused by worn parts may be difficult or impossible to overcome by brake or other adjustments.

### REPLACE WORN OR DAMAGED CLUTCH PARTS PROMPTLY. THEY CAUSE TROUBLE.

If the clutch clicks after being disengaged from causes other than worn parts:

- the brake may be too tight.
- the gibs may be binding.
- the shaft or crosshead may need oiling.
- the speed may be too slow.
- the speed of the shear may have been temporarily reduced by exhaustion of flywheel energy due to continuous operation in which case the clicking may be stopped by depressing the treadle and making an idle stroke after the wheel has regained normal speed.

### REPAIR PARTS

When ordering repair parts, state the serial number of the shear. It is stamped at, or near the top left hand corner of the machine. Repair orders not accepted unless catalog number and serial number are specified.

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**Never place your Hands under the Crosshead or Holddown or between the Knives unless the power is off and the Crosshead is blocked up.**

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## NIAGARA MACHINE & TOOL WORKS

General Offices and Works, 637-697 Northland Avenue, Buffalo 11, N. Y., U. S. A.

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