

WHEN ORDERING REPLACEMENTS: STATE SERIAL NUMBER AND SIZE STAMPED ON NAMEPLATE OF MACHINE AND DESIGNATE PART BY BOTH NAME AND NUMBER

- |     |                                   |    |                                     |
|-----|-----------------------------------|----|-------------------------------------|
| 1   | MAIN GEAR                         | 13 | CLUTCH FRICTION PLATE               |
| 2   | INNER CLUTCH FLANGE               | 14 | CLUTCH FRICTION SEGMENT & RIVETS    |
| 3   | OUTER CLUTCH FLANGE               | 19 | CLUTCH ADJUSTMENT WASHER            |
| 4   | AIR DISTRIBUTOR CAP               | 21 | CLUTCH INNER BEARING                |
| 5   | CLUTCH PISTON                     | 22 | CLUTCH PINION                       |
| 6   | CLUTCH PISTON PACKING - OUTER     | 23 | CLUTCH OUTER BEARING                |
| 6A  | CLUTCH PISTON PACKING - INNER     | 24 | CLUTCH SHAFT END PLATE              |
| 8   | CLUTCH DRIVING RING               | 25 | CLUTCH INNER BEARING CARRIER        |
| 9   | CLUTCH TIE BOLT                   | 26 | CLUTCH INNER BEARING RETAINER RING  |
| 10  | CLUTCH INNER DRIVING PLATE        | 27 | CLUTCH PINION RETAINER RING         |
| 11  | CLUTCH INNER CENTER DRIVING PLATE | 28 | CLUTCH OUTER BEARING CARRIER        |
| 11A | CLUTCH OUTER CENTER DRIVING PLATE | 29 | CLUTCH OUTER BEARING RETAINER RING  |
| 12  | CLUTCH OUTER DRIVING PLATE        | 47 | CLUTCH RELEASE SPRING               |
|     |                                   | 48 | CLUTCH RELEASE SPRING STUD          |
|     |                                   | 49 | CLUTCH RELEASE SPRING ADJUSTING NUT |
|     |                                   | 50 | CLUTCH RELEASE SPRING GUIDE CUP     |
|     |                                   | 52 | CLUTCH INNER PLATE RETAINER SCREW   |

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**ADJUSTMENT**

THE CLUTCH MUST RELEASE PROMPTLY A MINIMUM OF 3/8" AS MEASURED AT THE SPRING STUDS (48), WHEN AIR IS EXHAUSTED. IF QUICK MOVEMENT DOES NOT RESULT FROM ADJUSTMENT OF RELEASE SPRINGS (47), **INVESTIGATE.**

WHEN CLUTCH TRAVEL EXCEEDS 5/8", IT SHOULD BE REDUCED TO 3/8" AS FOLLOWS:

- 1) RELEASE NUTS ON TIE BOLTS (9).
- 2) REMOVE SUFFICIENT ADJUSTMENT WASHERS (19) FROM UNDER HEAD OF SOCKET HEAD CAP SCREWS TO REDUCE TRAVEL OF CLUTCH PISTON (5) TO 3/8". USE SET SCREWS IN OUTER CLUTCH FLANGE (3) AS JACK SCREWS TO LOOSEN OUTER CLUTCH FLANGE (3) TO FACILITATE REMOVAL OF ADJUSTMENT WASHERS (19).
- 3) REMOVE JACK SCREWS FROM OUTER CLUTCH FLANGE (3) TO ALLOW NUTS ON CLUTCH TIE BOLTS (9) TO BE DRAWN UP TIGHT, SEATING OUTER CLUTCH FLANGE (3) AGAINST ADJUSTMENT WASHERS (19).
- 4) RECHECK SPACE BETWEEN OUTER CLUTCH FLANGE (3) AND MAIN GEAR RIM (1) FOR UNIFORMITY.

**FOR DISASSEMBLY OF CLUTCH FROM SHAFT**

- 1) DISCONNECT MAIN AIR SUPPLY AND REMOVE ROTARY AIR DISTRIBUTOR.
- 2) REMOVE INNER DRIVING PLATE RETAINING SCREWS (52).
- 3) BLOCK UP MAIN GEAR RIM (1), WITH STENCIL "TOP" UPPERMOST BY USE OF JACK SCREWS IN MAIN GEAR SHIELD SUPPORT BRACKET AND WEDGES.
- 4) REMOVE CLUTCH TIE BOLTS (9), LEAVING TOP TWO BOLTS HALFWAY IN HOLES. SLIDE OUTER CLUTCH FLANGE (3) WITH PISTON (5), OUTER DRIVING PLATE (12), CLUTCH OUTER BEARING (23), CARRIER (28) AND RETAINER RING (29), AS A UNIT HORIZONTALLY UNTIL IT CAN BE LIFTED.
- 5) SLIDE THE REMAINING CLUTCH PLATES (10), (11), (11A), AND (13) OUT FROM THE DRIVING RING (8).
- 6) REMOVE CLUTCH SHAFT END PLATE (24). USE SET SCREWS IN TAPPED HOLES IN CLUTCH PINION RETAINER RING (27) TO MOVE IT AWAY FROM CLUTCH PINION (22). THEN WEDGE OR PRY BETWEEN RETAINER RING (27) AND PINION (22) TO REMOVE INNER RACE OF CLUTCH OUTER BEARING (23), AND PINION RETAINER RING (27).
- 7) PULL CLUTCH PINION (22) FROM SHAFT WITH STUDS AND A CLAMP ACROSS THE END OF THE SHAFT, AFTER REMOVING THE TWO TAPERED KEYS.
- 8) REMOVE GEAR RIM (1) BY REMOVING SCREWS THRU CLUTCH INNER FLANGE (2).
- 9) REMOVE SCREWS FROM INNER BEARING RETAINER RING (26). REMOVE RING (26), AND CLUTCH INNER FLANGE (2).
- 10) SLIDE CLUTCH INNER BEARING (21) AND CLUTCH INNER BEARING CARRIER FROM SHAFT.
- 11) TO REMOVE ANNULAR PISTON (5) FROM CLUTCH OUTER FLANGE (3), BACK OFF THE RELEASE SPRING ADJUSTING NUTS (49) - FIRST NOTING WHERE THEY WERE SET. REMOVE OUTER DRIVING PLATE (12) FROM CLUTCH OUTER FLANGE (3). PISTON PULL OUT FROM CYLINDER.

**NOTE:** TO AVOID DAMAGE TO LIPS OF THE PISTON PACKINGS (6) (6A), REASSEMBLY WITH PARTS UNCLAMPED. WITH CLUTCH OUTER FLANGE (3) LYING HORIZONTALLY, SLOWLY LOWER PISTON (5) WITH PACKINGS (6) (6A) INSTALLED, BEING CAREFUL TO GUIDE THE PACKINGS INTO THE CYLINDER.

- 12) WHEN RE-ASSEMBLING THE CLUTCH, BE CERTAIN TO DRIVE CLUTCH PINION (22) TIGHT HOME. ALL SCREW HEADS INSIDE OF THE CLUTCH MUST BE WIRED AND TACK WELDED.

**LUBRICATION**

THE CLUTCH INNER BEARING (21) AND THE CLUTCH OUTER BEARING (23) SHOULD BE LUBRICATED WITH A MODERATE AMOUNT OF GREASE AT TWO WEEK INTERVALS. EXCESS GREASE WILL ONLY FORCE PAST THE RETAINING CAPILLARIES AND THROW TO THE OUTSIDE OF THE CLUTCH.

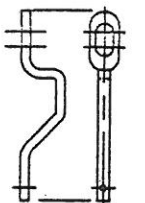
**AIR PRESSURE REGULATION**

A REGULATING VALVE TO MAINTAIN PRESSURE AS INDICATED ON GAUGE IS PROVIDED WITH THE MACHINE. THIS REGULATES THE TORQUE OF THE CLUTCH TO SAFE CAPACITY OF THE MACHINE. THE CLUTCH WILL SLIP AND MACHINE WILL STALL ONLY FROM OVERLOAD, IF AIR IS KEPT AT PROPER PRESSURE (75 PSI) AND VALVES ARE OPERATING PROPERLY.

**TO CLEAN CLUTCH CYLINDER**

REMOVE PIPE PLUGS PROVIDED IN CLUTCH OUTER FLANGE (3) AND, WITH MAIN GEAR SLOWLY REVOLVING (USE INCH MODE), BRIEFLY ACTUATE THE CLUTCH TO ALLOW AIR TO BLOW THROUGH THE CYLINDER TO BLOW ANY ACCUMULATION TO OUTSIDE.

\* A HOOK AS SHOWN IN SKETCH, IS FURNISHED FOR DISASSEMBLY OF CLUTCH CLUTCH PLATES (11), (12) AND (13). OUTER CLUTCH FLANGE (3) IS REMOVED BY USING TWO (2) SHACKLES PROVIDED BY AJAX.



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