

WHEN ORDERING REPLACEMENTS, STATE SERIAL NUMBER AND SIZE STAMPED ON NAME PLATE OF MACHINE, AND DESIGNATE PART BY BOTH NAME AND NUMBER.

- 1 MAIN GEAR.
- 2 INNER CLUTCH FLANGE.
- 3 OUTER CLUTCH FLANGE.
- 4 AIR DISTRIBUTOR CAP.
- 5 CLUTCH PISTON.
- 6+6<sup>A</sup> CLUTCH PISTON PACKING, INNER & OUTER.
- 7 CLUTCH PISTON FOLLOWER RING.
- 9 CLUTCH TIE BOLTS.
- 10 CLUTCH INNER DRIVING PLATE.
- 10<sup>A</sup> CL. INNER DR. PLATE TILLER PLATE.
- 11 CLUTCH CENTER DRIVING PLATE.
- 12 CLUTCH OUTER DRIVING PLATE.
- 13 CLUTCH FRICTION PLATES.

- 14 CLUTCH FRICTION SEGMENTS AND RIVETS.
- 15 CLUTCH RELEASE SPRINGS.
- 16 CLUTCH RELEASE SPRING STUDS.
- 17 CLUTCH RELEASE SPRING ADJUSTING NUTS WITH LOCK NUTS.
- 19 CLUTCH ADJ. WASHERS.
- 20 CLUTCH BEARING SPACER RING.
- 21 CLUTCH INNER BEARING.
- 22 CLUTCH PINION.
- 23 CLUTCH OUTER BEARING.
- 24 CLUTCH SHAFT END PLATE.
- 26 INNER CLUTCH BRG. RETAINER RING.
- 27 CLUTCH PINION RETAINER RING.
- 29 CLUTCH OUTER BRG. RETAINER RING.
- 57 INNER CLUTCH FLANGE INSERT.
- 58 OUTER CLUTCH FLANGE INSERT.
- 59 INNER DRIVING PLATE RETAINER BOLTS.
- 60 CLUTCH RELEASE SPRING WASHERS.

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THE CLUTCH MUST RELEASE PROMPTLY A MINIMUM OF  $\frac{1}{4}$ " AS MEASURED ON SPRING STUDS (16) WHEN AIR IS EXHAUSTED. IF QUICK OPENING DOES NOT RESULT FROM ADJUSTMENT OF RELEASE SPRINGS (5) INVESTIGATE WHEN TRAVEL OF PISTON EXCEEDS  $\frac{3}{8}$ "; IT SHOULD BE REDUCED TO  $\frac{1}{4}$ " AS FOLLOWS:

- ① - RELEASE NUTS ON TIE BOLTS (9)
- ② - REMOVE SUFFICIENT ADJUSTING WASHERS (19) FROM UNDER HEAD OF SOCKET SCREWS TO REDUCE TRAVEL OF CLUTCH PISTON (5) TO  $\frac{1}{4}$ ", USING SET SCREWS IN OUTER CLUTCH FLANGE (3) AS JACK SCREWS TO LOOSEN OUTER CLUTCH FLANGE (3) TO FACILITATE REMOVAL OF ADJUSTING WASHERS (19).
- ③ - REMOVE JACK SCREWS TO ALLOW NUTS ON CLUTCH TIE BOLTS (9) TO BE DRAWN UP TIGHT WITH OUTER CLUTCH FLANGE (3) SEATING AGAINST ADJUSTING WASHERS (19).
- ④ - RECHECK SPACE BETWEEN OUTER 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 - BLOCK UP GEAR RIM WITH STENCIL "TOP" UPPERMOST BY USE OF JACK SCREWS IN GEAR SHIELD SUPPORT BRACKET.
- ③ - REMOVE CLUTCH TIE BOLTS (9), LEAVING TOP TWO HALFWAY IN HOLES. SLIDE OUTER FLANGE (3), WITH PISTON (5), AND OUTER DRIVING PLATE (2) AS A UNIT OUT HORIZONTALLY TILL THEY CAN BE LIFTED. THEN SLIDE REMAINING CLUTCH PLATES (11) AND (13) OUT OF GEAR RIM (1). \*
- ④ - REMOVE SHAFT END PLATE (24), INNER RACE OF BEARING (23) AND PINION RETAINER RING (27).
- ⑤ - PULL CLUTCH PINION (22) WITH STUDS AND CLAMP ACROSS SHAFT END, AFTER FIRST PULLING KEYS.
- ⑥ - REMOVE GEAR RIM (1) WITH INNER FLANGE (2), INNER CLUTCH BEARING (20), AND CLUTCH BEARING RETAINER RING (26), AS A UNIT.
- ⑦ - TO REMOVE INNER CLUTCH BEARING (21) FROM INNER FLANGE (2), DISASSEMBLE BEARING RETAINER RING (26), THEN DRIVE AGAINST INNER FLANGE INSERT (57), TAKING CARE NOT TO DAMAGE CAPILLARY GROOVES.
- ⑧ - TO REMOVE OUTER CLUTCH BEARING (23), REMOVE AIR DISTRIBUTOR CAP (4), ALSO CLUTCH OUTER BEARING RETAINER RING (29), THEN DRIVE AGAINST OUTER FLANGE INSERT (58), TAKING CARE NOT TO DAMAGE CAPILLARY GROOVES.
- ⑨ - TO REMOVE ANNULAR PISTON (5) FROM OUTER FLANGE (3), UNSCREW RELEASE SPRING ADJUSTING NUTS (17), FIRST NOTING WHERE THEY WERE SET. REMOVE SPRINGS (5) AND DRIVING PLATE (2). THE PISTON ASSEMBLY PULLS OUT FROM CYLINDER, BUT TO AVOID DAMAGE TO LIPS OF PISTON P.K.G. (6 + 6<sup>A</sup>), REASSEMBLE WITH PARTS UNCLAMPED. WITH OUTER FLANGE (3) LYING HORIZONTALLY, PLACE FOLLOWER RING (7) IN CYLINDER, INSERT PISTON PACKING (6 + 6<sup>A</sup>) WITH EXPANDERS, INSTALL PISTON (5) AND BOLT ASSEMBLY TOGETHER INSIDE CYLINDER, THEN WIRE TOGETHER ALL CAP SCREW HEADS.
- ⑩ - WHEN REASSEMBLING CLUTCH BE CERTAIN TO DRIVE CLUTCH PINION (22) TIGHT HOME. WIRE TOGETHER ALL CAP SCREW HEADS INSIDE OF CLUTCH, AND SPOT WELD SCREWS.

### LUBRICATION.

THE CLUTCH INNER BEARING (21), AND 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 OUTSIDE OF CLUTCH. LUBRICATE PISTON (6 + 6<sup>A</sup>) WEEKLY WITH "HOUGHTON" MIH-30 OIL, OR EQUIVALENT, THROUGH PETCOCK IN CLUTCH AIR VALVE.

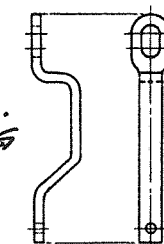
### AIR PRESSURE REGULATION.

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

### TO CLEAN CLUTCH CYLINDER.

REMOVE PIPE PLUGS (C) IN OUTER CLUTCH FLANGE (3) AND, WITH MAIN GEAR RIM REVOLVING, OPEN CLUTCH VALVE WITH FOOT TREADLE, ALLOWING AIR TO BLOW ANY ACCUMULATION IN CYLINDER TO OUTSIDE.

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



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