

**TROYKE MFG. CO. 4TH AXIS ROTARY TABLE
MODEL DL-20-B-180 OR 360**

THE TROYKE MODEL DL-20-B IS A 20" DIAMETER VERTICAL MOUNT ONLY 4TH AXIS ROTARY TABLE. THE UNIT IS AVAILABLE IN A LH-LEFT HAND OR A RH-RIGHT HAND CONFIGURATION. THE TABLE IS AVAILABLE WITH MANY AC OR DC SERVO MOTORS. THE SERVO MOTORS MAY BE TROYKE SUPPLIED OR CUSTOMER SUPPLIED WITH TROYKE MOUNTING THE MOTOR TO THE TABLE. THE TOTAL REDUCTION BETWEEN THE SERVO MOTOR AND THE ROTARY TABLE IS EITHER 180:1 OR 360:1. THIS IS ACCOMPLISHED BY USING A (1/2 PITCH) 90 TOOTH WORMWHEEL / WORMSHAFT DRIVE AND FOR THE 180:1 REDUCTION A 2:1 (25 AND 50 TOOTH) 8MM PITCH TIMING BELT DRIVE SYSTEM. ON THE 360:1 REDUCTION A 3:1 (12 AND 36 TOOTH) 3/8 PITCH TIMING BELT DRIVE SYSTEM IS USED. THE RAPID TRAVERSE RATE ON THIS UNIT IS 10 RPM FOR THE 180:1 REDUCTION AND 5 RPM FOR THE 360:1 REDUCTION. THE TURNTABLE IS GRADUATED IN ONE DEGREE INCREMENTS AND AN ADJUSTABLE POINTER IS PROVIDED FOR THE STARTING POSITION.

LIFTING AND MOUNTING: TWO 1/2-13 TAPPED HOLES ARE PROVIDED IN THE TOP OF THE BASE. USE A 1/2-13 EYE BOLT FOR LIFTING THE TABLE. USE THE TAPPED HOLE CLOSEST TO THE TIMING BELT DRIVE SIDE TO LIFT THE TABLE LEVEL. MOUNT THE (2) 18MM FIXTURE KEYS TO THE BOTTOM OF THE BASE USING THE (2) SOCKET HEAD CAP SCREWS AND USE 5/8-11 T-BOLTS AND 5/8-11 FLANGE HEX NUTS OR SOME OTHER SUITABLE METHOD TO MOUNT THE TABLE (AND TAILSTOCK IF SUPPLIED) TO THE MACHINE. ALWAYS MOUNT THE TABLE ON A CLEAN FLAT SURFACE.

WIRING: THE NORMAL WIRING CONFIGURATION OF THIS UNIT CONSISTS OF A 24VDC, 100VAC OR 110VAC PNEUMATIC SOLENOID VALVE (THE SOLENOID MAY BE SET UP TO BE ENERGIZED TO CLAMP OR ENERGIZED TO UNCLAMP THE ROTARY TABLE), A PNEUMATIC PRESSURE SWITCH (TO VERIFY IF THE TABLE IS CLAMPED OR UNCLAMPED), A ZERO RETURN OR DECEL SWITCH AND ACTUATOR (FOR INITIAL HOMING OR ZERO RETURNING OF THE TABLE) AND A SERVOMOTOR. THE SERVOMOTOR AND ELECTRICS ARE ENCLOSED IN A SHEETMETAL ENCLOSURE. TO GAIN ACCESS TO THE INSIDE OF THE MOTOR ENCLOSURE, REMOVE THE ACCESS COVER ON THE BACK OF THE ENCLOSURE. THE TABLE MAY HAVE PANEL MOUNT M.S. TYPE CONNECTORS MOUNTED ON THE LID OF THE MOTOR ENCLOSURE OR IT MAY HAVE OPTIONAL CABLES (VARIOUS LENGTH CABLES ARE AVAILABLE) PROVIDED TO INTERFACE THE ROTARY TABLE TO THE MACHINE. ONE CABLE NORMALLY CONTAINS THE SERVO MOTOR ARMATURE AND GROUND LEADS, THE SOLENOID LEADS, THE PRESSURE SWITCH LEADS AND THE ZERO RETURN SWITCH LEADS. THE OTHER CABLE NORMALLY CONTAINS THE MOTOR FEEDBACK LEADS. REFER TO THE PROPER WIRING DIAGRAM FOR FURTHER INFORMATION REGARDING THE WIRING OF THIS UNIT.

WARNING: BEFORE SERVICING THE TABLE DISCONNECT IT FROM THE MACHINE. THE MACHINE MUST BE OFF WHEN CONNECTING OR DISCONNECTING THE CABLE OR CABLES FROM THE ROTARY TABLE TO THE MACHINE.

LUBRICATION: THE CENTRIFUGAL CAST BRONZE WORMWHEEL AND HARDENED AND GROUND WORMSHAFT RUN IN A BATH OF OIL AND THE BASE HAS BEEN FILLED WITH LUBRICATIONS ENGINEERS 605 ALMASOL 90 WT. GEAR LUBE OIL PRIOR TO SHIPMENT. A FILL PIPE PLUG IS PROVIDED ON THE TOP OF THE BASE. UNTHREAD THE CAP OF THE OIL LEVEL GAUGE AND FILL THE UNIT UNTIL OIL STARTS TO FLOW FROM THE OIL LEVEL GAUGE. SECURELY TIGHTEN THE CAP ON THE OIL LEVEL GAUGE WHEN FILLED. TO DRAIN THE UNIT REMOVE THE OIL FILL PIPE PLUG AND INVERT THE UNIT. PERIODICALLY, DEPENDING UPON USAGE THE OIL SHOULD BE CHANGED USING 605 ALMASOL OR A GOOD GRADE OF 80 OR 90 WT. GEAR LUBE OIL. THE CENTER BEARINGS HAVE BEEN PACKED WITH GREASE AND NEED NO OIL. THE OIL LEVEL SHOULD BE CHECKED AT THE OIL LEVEL GAUGE LOCATED ON THE BACK OF THE BASE OPPOSITE THE FACEPLATE. REFER TO THE MSDS REPORT FOR FURTHER INFORMATION ON THE OIL IN THE UNIT. SOME OIL MAY SEEP OUT BETWEEN THE TURNTABLE AND THE BASE. THE OIL WILL SPLASH UP ONTO THE TURCITE BEARING SURFACE BETWEEN THE TURNTABLE AND BASE TO LUBRICATE IT. THIS OIL SEEPAGE IS NORMAL. NOTE: DO NOT OVERFILL UNIT OR THE OIL SEEPAGE MAY INCREASE.

LOCKING: THE LOCKING MECHANISM ON THIS UNIT IS A SOLENOID ACTUATED INTERNAL PNEUMATIC TABLE CLAMP. THE 4 WAY PNEUMATIC SOLENOID VALVE AND PRESSURE SWITCH ARE LOCATED IN THE MOTOR ENCLOSURE. THE CLAMP AND UNCLAMP STATE IS VERIFIED BY THE PRESSURE SWITCH. THIS LOCKING DEVICE REQUIRES 80 TO 120 P. S. I. NORMAL DRY SHOP AIR. THIS UNIT REQUIRES AIR TO CLAMP AND UNCLAMP THE TABLE. THE LOCKING MECHANISM ON THIS UNIT IS AN INTERNAL RACK AND PINION LOCKING SYSTEMS THAT UTILIZES DOUBLE ACTING PNEUMATIC CYLINDERS. WHEN AIR PRESSURE IS PRESENT AT THE PORT ON THE PNEUMATIC CYLINDER LOCATED CLOSEST TO THE CENTERLINE OF THE TABLE, THE TABLE IS IN THE CLAMPED STATE. IF AIR PRESSURE IS PRESENT AT THE PORT FARTHEST FROM THE CENTERLINE OF THE TABLE, THE TABLE IS UNCLAMPED. THIS CAN BE VERIFIED BY LOOSENING THE FLARED FITTING NUT ON THE BRAIDED AIRLINE FROM THE MOTOR ENCLOSURE LID TO THE PNEUMATIC CYLINDERS (DO NOT LOOSEN THE FLARED NUT ALL THE WAY, JUST ENOUGH TO ALLOW AIR TO ESCAPE FROM THE FITTINGS). THE ROTATIONAL TORQUE REQUIRED TO OVERCOME THIS CLAMP IS APPROXIMATELY 800 FT LBS. (AT 100 P.S.I.). ON MOST CONTROLS CLAMPING OF THE TABLE REQUIRES THE OPERATOR TO PROGRAM AN M-CODE OR MAY BE AUTOMATIC. UNCLAMPING OF THE ROTARY TABLE MAY ALSO REQUIRE AN M-CODE OR MAY BE AUTOMATIC. IN MANUAL MODES (JOG, MPG, HOMING) UNCLAMPING IS ALMOST ALWAYS AUTOMATIC. THE INPUT PNEUMATIC PORT IS A 1/4 N.P.T. FEMALE.

NOTE: IF EXCESSIVE OIL LEAKAGE IS DETECTED BETWEEN THE TURNTABLE AND BASE SEE THE CENTER BEARING ADJUSTMENT PROCEDURE. IF THE TABLE IS OVERFILLED WITH OIL. LEAKAGE MAY OCCUR.

GENERAL: ALWAYS TRY TO PROGRAM THE TABLE TO ROTATE IN THE SAME DIRECTION IF POSSIBLE. IF IT IS NOT POSSIBLE TO ROTATE IN THE SAME DIRECTION GO BEYOND THE DESIRED POSITION BY ABOUT 2 DEGREES AND THEN APPROACH IN THE PROPER DIRECTION. THIS IS TO ELIMINATE ANY MECHANICAL BACKLASH ERROR IN THE ROTARY TABLE. IT IS BEST IF THE TABLE IS USED IN A FULL 360 DEGREES OF ROTATION. ROTATING REPEATEDLY IN A SMALL ARC MAY CAUSE EXCESSIVE WEAR TO THE WORMWHEEL ONLY IN THIS AREA, AND WHEN THE BACKLASH IS ADJUSTED, THIS MAY CAUSE HIGH CURRENT OR TIGHT SPOTS IN THE LEAST USED WORMWHEEL AREA'S. ALWAYS TRY TO KEEP THE MECHANICAL BACKLASH ADJUSTED TO THE PROPER AMOUNT OR THIS MAY CAUSE PREMATURE WEAR. THE FACEPLATE IS NOT REMOVABLE ON THIS UNIT. THE AXIS NAME IN THE PROGRAM IS NORMALLY AN (A) WORD. TO PROGRAM A CLOCKWISE 90 DEGREE MOVE ENTER (G90 OR G91 A 90.000). THE FEEDRATE IS NORMALLY PROGRAMMED IN DEGREES PER MINUTE. TO PROGRAM A FEEDRATE OF 1 RPM ENTER (G01 F360). WHEN THE ROTARY TABLE IS AT THE A 360.000 DEGREE POSITION PROGRAM A (G92 A 0.000) TO SET THE TABLE POSITION IN THE CONTROL TO ZERO INSTEAD OF MOVING BACK TO ZERO. MOST CONTROLS HAVE BACKLASH COMPENSATION AND ZERO RETURN OFFSET PARAMETERS THAT MAY BE SET.

ADJUSTMENTS

(REFER TO ASSEMBLY DRAWING NO. 4050DL)

A) CENTER BEARING ADJUSTMENT:

TABLE THRUST: (SECTION A-A, C-C AND THE TOP VIEW)

TO CHECK TO SEE IF THIS ADJUSTMENT IS NECESSARY, ATTEMPT TO PASS A .001" FEELER GAUGE BETWEEN THE TABLE AND BASE TRACK. THE FEELER GAUGE SHOULD NOT PASS BETWEEN THE TWO MEMBERS. IF IT DOES PROCEED WITH THE FOLLOWING STEPS.

1. REMOVE THE ROTARY TABLE FROM THE MACHINE.
2. REMOVE LIMIT SWITCH NO. 59 FROM THE TABLE BY REMOVING THE (2) SOCKET HEAD CAP SCREWS NO. 77. LEAVE THE SWITCH ATTACHED TO THE MOTOR ENCLOSURE LID.
3. REMOVE (3) BUTTON HEAD SCREWS NO. 74 IN PULLEY COVER NO. 9.
4. REMOVE PULLEY COVER NO. 9. (THIS MAY BE DIFFICULT DUE TO THE SILICONE SEALANT).
5. REMOVE (4) FLANGE HEX NUTS NO. 68.
6. REMOVE TIMING BELT NO. 52 BY MOVING THE MOTOR ASSEMBLY IN TOWARD THE BACK OF THE ROTARY TABLE TO ALLOW ENOUGH SLACK IN THE TIMING BELT TO REMOVE IT FROM THE PULLEYS.
7. REMOVE MOTOR AND COVER ASSEMBLY NO. 36 & 8 FROM PLATE NO. 6.
8. REMOVE (8) BUTTON HEAD CAP SCREWS NO. 79 AND REMOVE COVER NO. 13.

CENTER BEARING ADJUSTMENT CONTINUED: (SECTION A-A, C-C AND TOP VIEW)

9. LOOSEN (2) SOCKET SET SCREWS NO. 71, IN NUT NO. 11. SNUG UP NUT NO. 11 BY TURNING IT SLIGHTLY CLOCKWISE. (THERE SHOULD BE NO CLEARANCE BETWEEN THE TURNTABLE AND THE BASE. THIS CAN BE CHECKED BY ATTEMPTING TO PUT A .001" FEELER GAUGE BETWEEN THE TURNTABLE NO. 1 AND TURCITE BEARING NO. 47. THE FEELER GAUGE SHOULD NOT PENETRATE BETWEEN THE TWO MEMBERS). ROTATE PULLEY NO. 49 TO MAKE SURE THAT THE TABLE CAN BE ROTATED WITHOUT A LOT OF FORCE.
10. AFTER NUT NO. 11 HAS BEEN ADJUSTED, SECURELY TIGHTEN THE (2) SOCKET SET SCREWS NO. 71.
11. REPLACE COVER NO. 13 AND BUTOON HEAD SCREWS NO. 79.
12. REPLACE MOTOR AND COVER ASSEMBLY NO'S. 8 AND 36.
13. REPLACE TIMING BELT NO. 52 AND (4) FLANGE HEX NUTS NO. 68. THE TIMING BELT SHOULD HAVE A SLIGHT AMOUNT OF FLEXIBILITY. (IN GENERAL YOU SHOULD BE ABLE TO ROTATE THE BELT 90 DEG. FROM THE STANDARD MOUNTING POSITION WITHOUT A LOT OF PRESSURE).
14. REPLACE COVER NO. 9 AND (3) BUTTON HEAD CAP SCREWS NO. 74. A LIGHT COATING OF SILICONE SEALANT ON THE EDGE OF THE PULLEY PLATE NO. 6 AND COVER NO. 9 WILL HELP TO EXCLUDE COOLANT.
15. REPLACE LIMIT SWITCH NO. 59 AND (2) SOCKET HEAD CAP SCREWS NO. 77.

B) WORM TO WORMWHEEL (BACKLASH):

THESE INSTRUCTIONS SHOULD BE FOLLOWED CAREFULLY AS IMPROPER MESHING BETWEEN THE WORMSHAFT AND WORMWHEEL MAY CAUSE DAMAGE. THE DUAL LEAD BACKLASH ADJUSTMENT IS A LINEAR ADJUSTMENT OF THE BRACKET CARTRIDGE AND WORMSHAFT ASSEMBLY RESULTING IN MORE OR LESS BACKLASH. THE BRACKET CARTRIDGES AND WORMSHAFT ASSEMBLY ARE ON FIXED BORES IN THE BASE. THE WORMSHAFT HAS A TRUE LEAD FLANK AND A FALSE LEAD FLANK RESULTING IN THE DISTANCE BETWEEN THE TEETH TO DECREASE IN WIDTH ALLOWING THE WORMSHAFT TO MESH TIGHTER TO THE WORMWHEEL TEETH WHEN THE LINEAR ADJUSTMENT IS MADE IN THE PROPER DIRECTION.

REDUCE BACKLASH: (REFER TO SECTION B-B AND SECTION C-C)

TO DETERMINE IF THIS ADJUSTMENT IS NEEDED POSITION THE STYLUS OF AN INDICATOR ON THE SIDE OF ONE OF THE T-SLOTS NEAR THE TURNTABLE O.D. PLACE A ROD IN ANOTHER OF THE T-SLOTS AND PUSH AND PULL THE ROD ROTATING THE TABLE C.W. AND C.C.W. RELAX THE PRESSURE ON THE ROD IN EACH DIRECTION TO CHECK TABLE MOVEMENT. THE TOTAL INDICATED READING SHOULD BE NO MORE THAN .001" TO .002" OF MOVEMENT. IF THE BACKLASH EXCEEDS .001" TO .002" AT TURNTABLE O.D. PERFORM THE FOLLOWING STEPS. (RECOMMENDED BACKLASH ADJUSTMENTS INTERVALS - NEW- AFTER 3 MONTHS OF OPERATION - THEN EVERY 6 MONTH OF OPERATION).

(INSTRUCTIONS ON THE FOLLOWING PAGE)

REDUCE BACKLASH: CONTINUED FROM PREVIOUS PAGE

1. LOOSEN SOCKET SET SCREW NO. 70. LOOSEN ONLY THE SET SCREW ON THE SIDE OF THE BASE AS THE EXPOSED NUT NO. 14. (IMPORTANT: LOOSEN THAT SET SCREW ONLY)
2. TURN BRACKET CARTRIDGE NO. 5 C.W. 1/4 OF A TURN.
3. TIGHTEN SOCKET SET SCREW NO. 70 AND TEST FOR BACKLASH PER THE INSTRUCTIONS ON THE PREVIOUS PAGE.
4. IF THE BACKLASH IS LESS THAN THE RECOMMENDED AMOUNT THEN YOU ARE FINISHED. IF THE BACKLASH IS MORE THAN THE RECOMMENDED AMOUNT REPEAT STEPS 1 THRU 3. DO NOT ROTATE BRACKET CARTRIDGE NO. 5 MORE THAN 1 TURN.
5. REMOVE (3) BUTTON HEAD SCREWS NO. 74 IN PULLEY COVER NO. 9.
6. REMOVE PULLEY COVER NO. 9 (THIS MAY BE DIFFICULT DUE TO SEALANT).
7. IF THE TIMING BELT NO. 52 IS AT THE EXTREME OUTER FLANGE OF THE MOTOR PULLEY NO. 51 THEN PERFORM STEPS 8-15 ELSE GO TO STEP 16.
8. LOOSEN (4) FLANGE NUTS NO. 68.
9. SLIDE MOTOR AND MOTOR ENCLOSURE NOS. 36 AND 8 TOWARD THE TABLE TO ALLOW ENOUGH SLACK TO REMOVE TIMING BELT NO. 52 FROM THE PULLEYS.
10. REMOVE (3) HEX HEAD BOLTS NO. 69 IN PULLEY BUSHING NO. 48.
11. USING THE TAPPED HOLES IN PULLEY BUSHING NO. 48 THREAD THE (3) HEX HEAD BOLTS NO. 69 EVENLY INTO PULLEY NO. 49. DRIVE PULLEY NO. 49 OFF OF PULLEY BUSHING NO. 48.
12. REPOSITION PULLEY NO. 49 APPROXIMATELY 1/4" IN TOWARD THE TABLE FROM THE PREVIOUS POSITION TO ALLOW TIMING BELT NO. 52 TO TRACK IN TOWARD THE MOTOR ON PULLEY NO. 51.
13. USING THE (3) HEX HEAD BOLTS NO. 69 SECURELY TIGHTEN PULLEY BUSHING NO. 48 INTO PULLEY NO. 49.
14. PULL MOTOR AND MOTOR ENCLOSURE NO. 36 AND 8 AWAY FROM THE TABLE TO SET THE TENSION ON TIMING BELT NO. 52. (THE TIMING BELT SHOULD BE ABLE TO BE ROTATED 90 DEGREES FROM THE NORMAL POSITION WITHOUT A LOT OF PRESSURE)
15. TIGHTEN (4) FLANGE NUTS NO. 68.
16. REPLACE PULLEY COVER NO. 9 AND (3) BUTTON HEAD SCREWS NO. 74. (A LIGHT COATING OF SILICONE SEALANT ON PLATE NO. 6 AND PULLEY COVER NO. 9 WILL HELP EXCLUDE COOLANT)

NOTE 1: DO NOT ADJUST THE BACKLASH TO TIGHT AS THE TORQUE REQUIRED TO ROTATE THE TABLE WILL GREATLY INCREASE AND IT MAY DAMAGE THE WORMWHEEL.

C) END PLAY IN THE WORMSHAFT ASSEMBLY:
(REFER TO SECTION B-B AND SECTION C-C)

THIS IS NOT AN ADJUSTMENT THAT SHOULD BE PERFORMED OFTEN. ONCE EVERY 500 HOURS OF OPERATION IS RECOMMENDED OR IF THE BACKLASH ADJUSTMENTS DO NOT ELIMINATE THE BACKLASH.

1. TO DETERMINE IF THIS ADJUSTMENT IS NEEDED PLACE THE STYLUS OF AN INDICATOR ON THE END OF NUT NO. 14, PLACE A ROD IN ONE OF THE T-SLOTS AND PUSH AND PULL THE ROD MOVING THE TABLE C.W. AND C.C.W. AND ALSO FORCING THE WORMSHAFT IN AN OUT. THERE SHOULD BE NO MORE THAN .0002" END PLAY IN THE WORMSHAFT ASSEMBLY. IF THE END PLAY OF WORMSHAFT NO. 3 EXCEEDS .0002" THEN CONTINUE. (BE SURE THAT THE MOVEMENT IS NOT DUE TO MOVEMENT IN BRACKET CARTRIDGE NO. 5. TIGHTEN SOCKET SET SCREW NO. 70)
2. REMOVE (3) BUTTON HEAD SCREWS NO. 74 FROM PULLEY COVER NO. 9.
3. REMOVE PULLEY COVER NO. 9.
4. LOOSEN (2) SOCKET SET SCREWS NO. 71 IN NUT NO. 14.
5. SNUG UP NUT NO. 14 BY TURNING IT SLIGHTLY CLOCKWISE FOR TAKE UP. PREVENT WORMSHAFT NO. 3 FROM ROTATING WHILE ADJUSTING NUT NO. 14 BY PLACING A ROD IN THE HOLE IN THE O.D. OF PULLEY BUSHING NO. 48.
6. SECURELY TIGHTEN (2) SOCKET SET SCREWS NO. 71 IN NUT NO. 14.
7. RECHECK THE END PLAY PER THE ABOVE INSTRUCTIONS STEP 1.
8. REPLACE PULLEY COVER NO. 9 AND BUTTON HEAD SCREWS NO. 74. A LIGHT COATING OF SILICONE SEALANT ON THE EDGE OF PULLEY PLATE NO. 6 AND PULLEY COVER NO. 9 WILL HELP TO EXCLUDE COOLANT.

NOTE: DUE TO CONDENSATION IN THE AIR THE PULLEYS MAY BE RUSTY. IF EXCESSIVE RUST IS PRESENT THE PULLEYS CAN BE REMOVED AND SANDBLASTED, CLEANED OR REPLACED. THE PULLEYS HAVE BEEN ELECTROLESS NICKEL PLATED TO HELP PREVENT THIS PROBLEM. BE SURE THE DRAIN AND VENT HOLE IN PULLEY COVER NO. 9.

D) PNEUMATIC LOCK ADJUSTMENT:

(REFER TO SECTION D-D AND E-E)

THIS ADJUSTMENT SHOULD ONLY BE PERFORMED IF THE LOCKS DO NOT HOLD THE TABLE IN POSITION WHEN IN THE CLAMPED STATE.

1. BE SURE THE TABLE IS IN THE UNCLAMPED STATE.
2. REMOVE (8) BUTTON HEAD CAP SCREWS NO. 79 AND COVERS NO. 19 LOCATED ON THE BACK OF THE BASE AND TABLE ASSEMBLY.
3. THE LOCKS MAY BE OBSERVED ACTUATING WITH THE COVERS REMOVED. WHEN THE (2) LOCKING RACKS NO. 20 RETRACT INTO THE PNEUMATIC CYLINDERS THEY ROTATE (2) LOCK GEARS NO. 17 AND (2) LOCK GEAR HUBS NO. 18 C.W. PULLING (2) LOCKS NO. 16 DOWN AGAINST THE INTERNAL LOCK RING OF THE TABLE. THE (2) LOCKING RACKS NO. 20 EXTEND TO UNCLAMP THE TABLE.
4. REMOVE (8) SOCKET HEAD CAP SCREWS NO. 81 IN (2) LOCK GEARS NO. 17.

5. WITH THE TABLE IN THE UNCLAMP STATE (LOCKING RACKS NO. 20 ARE FULLY EXTENDED) ROTATE (2) LOCKING GEAR HUBS NO. 15 C.W. UNTIL THEY ARE SNUG.
6. REPLACE (2) LOCKING GEARS NO. 18. ROTATE (2) LOCKING GEAR HUBS NO. 17 C.C.W. UNTIL THE TAPPED HOLES LINE UP THE CLEARANCE HOLES IN THE LOCKING GEARS NO. 18.
7. REPLACE SOCKET HEAD CAP SCREWS NO. 81. (USE LOCKTITE)
8. COAT THE GEARS AND RACK WITH A LIGHT GREASE.
9. OBSERVE CLAMPS ACTUATING THEN REPLACE (2) COVERS NO. 19.

E) REPAIR PARTS:

REFER TO PRINT 4050DL FOR ASSEMBLY AND PARTS INFORMATION. BEFORE CONTACTING THE FACTORY PLEASE HAVE THE TABLE MODEL NUMBER AND LOT NUMBER FROM THE TAG LOCATED ON THE BASE OF THE UNIT. SOME PARTS MAY BE PURCHASED FROM A LOCAL POWER TRANSMISSION COMPANY OR THE MACHINE TOOL DEALER.

F) ELECTRICAL: (REFER TO SECTION C-C)

TO GAIN ACCESS TO THE ELECTRICAL ENCLOSURE REMOVE THE (6) PAN HEAD PHILLIPS HEAD SCREWS NO. 75 IN ENCLOSURE NO. 8 LID. REMOVE THE LID AND THIS WILL ALLOW ACCESS TO THE SERVO MOTOR / SOLENOID VALVE / PRESSURE SWITCH / ZERO RETURN SWITCH LEADS AND THE TERMINAL STRIP. REFER TO THE PROPER TROYKE WIRING DIAGRAMS.

G) TAILSTOCK: TS-20 (OPTIONAL)

A MANUAL TAILSTOCK MAY BE SUPPLIED WITH THE ROTARY TABLE. THE TAILSTOCK IS GROUND TO THE SAME CENTER HEIGHT AS THE TABLE. THE TAILSTOCK HAS A REMOVABLE #5 DEAD CENTER. IT ALSO INCORPORATES A MANUAL QUILL LOCK. TO LOCK THE QUILL ROTATE THE MANUAL QUILL LOCK HANDLE C.W. TO MOVE THE MANUAL QUILL LOCK FROM ONE SIDE OF THE TAILSTOCK BODY TO THE OTHER SIDE, REMOVE THE QUILL LOCK HANDLE BY ROTATING IT C.C.W. UNTIL THE HANDLE IS FREE. DRIVE OUT THE THREADED STUD FROM THE TAILSTOCK BODY AND MOVE IT TO THE OTHER SIDE OF THE TAILSTOCK BODY. REPLACE THE QUILL LOCK HANDLE. THE TAILSTOCK SHOULD BE LUBRICATED WITH WAYLUBE THRU THE BALL OILER'S LOCATED ON THE TOP OF THE UNIT. SEE ASSEMBLY DRAWING 3258 FOR PART AND ASSEMBLY INFORMATION.

H) CHUCK: CK-18 OR CK-21 (OPTIONAL)

A MANUAL 18" OR 21" DIAMETER 3 JAW BUCK CHUCK MAY BE SUPPLIED WITH THE ROTARY TABLE. ALL THE MOUNTING HARDWARE IS SUPPLIED WITH THIS OPTION. TO MOUNT THE CHUCK, FIRST MOUNT THE ADAPTER PLATE TO THE FACE PLATE OF THE TABLE BY USING THE (4) T-NUTS AND (4) SOCKET HEAD CAP SCREWS (SUPPLIED). USE A 1.5" PLUG GAUGE TO ALIGN THE ADAPTER TO THE THRU HOLE IN THE TABLE BEFORE TIGHTENING THE (4) SOCKET HEAD CAP SCREWS. REMOVE THE 1.5" PLUG GAUGE AND MOUNT THE CHUCK TO THE ADAPTER. THE BUCK CHUCK HAS (4) ADJUSTING SOCKET SET SCREWS IN THE O.D. OF THE CHUCK FOR FINE ALIGNMENT. (ADJUST-TRUE FEATURE) AFTER ADJUSTING THE CHUCK IN TRUE, TIGHTEN THE MOUNTING BOLTS IN THE CHUCK TO SECURELY FASTEN THE CHUCK TO THE MOUNTING ADAPTER PLATE.

NOTE: DO NOT OPERATE THIS EQUIPMENT WITHOUT PROPER SAFETY TRAINING.

WARNING: DO NOT PERFORM ANY REPAIRS TO THIS EQUIPMENT UNTIL THE TABLE HAS BEEN DISCONNECTED FROM ALL ELECTRICAL AND PNEUMATIC CIRCUITS.

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