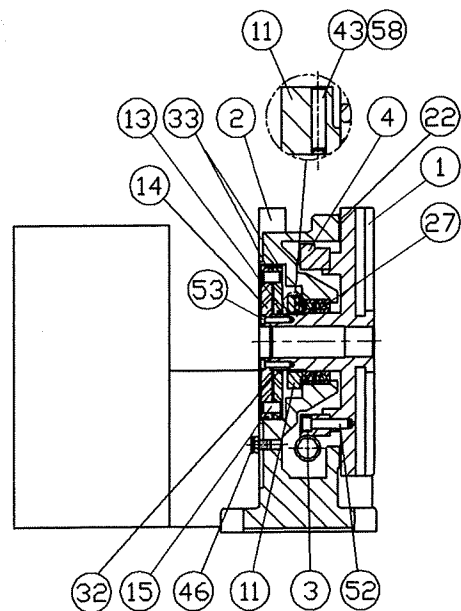
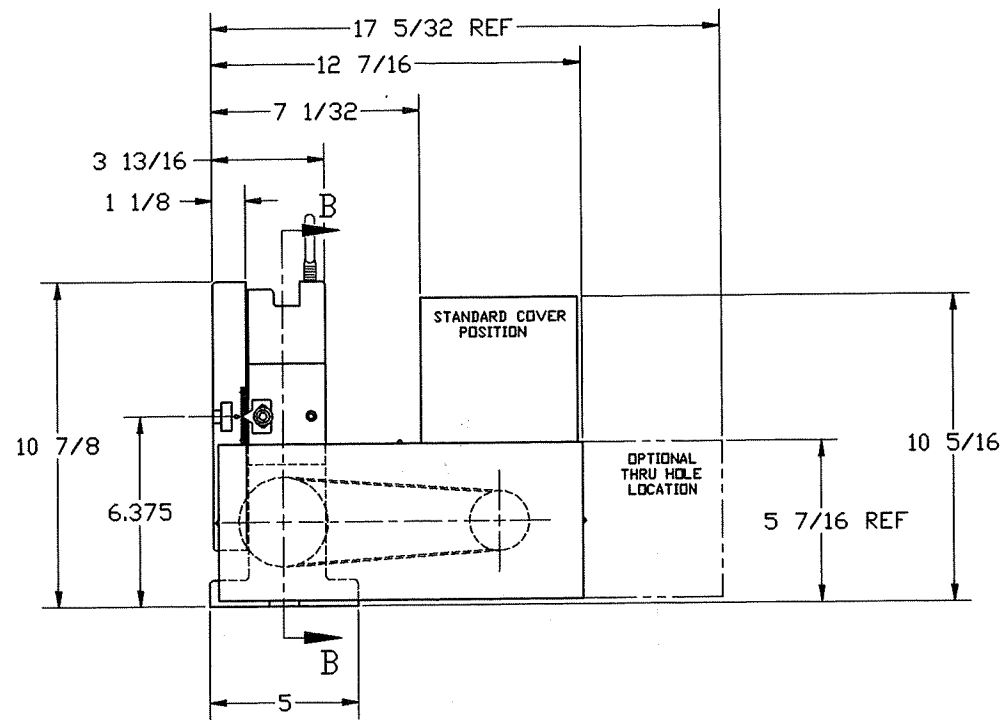
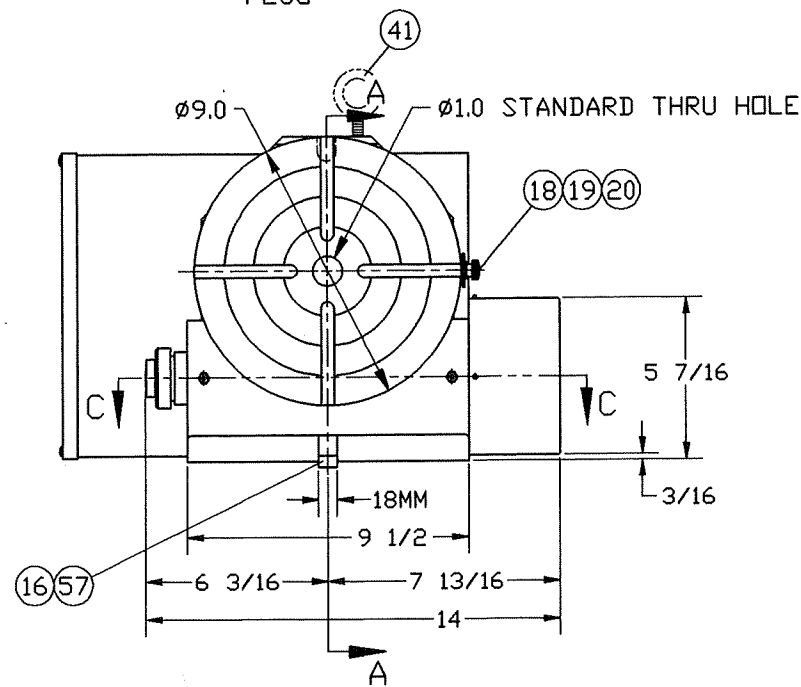
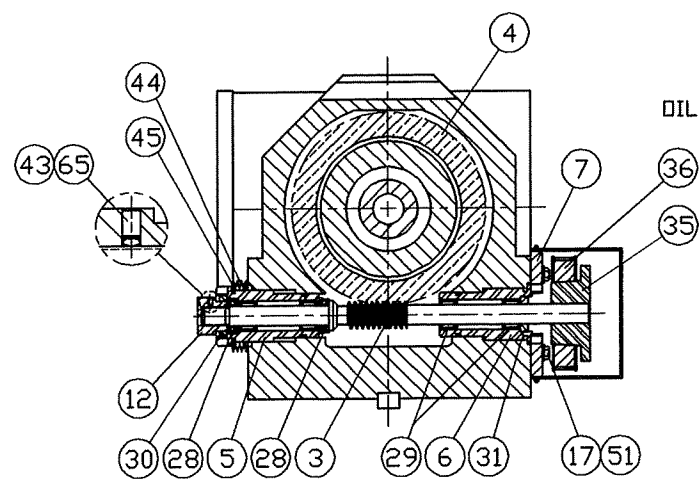


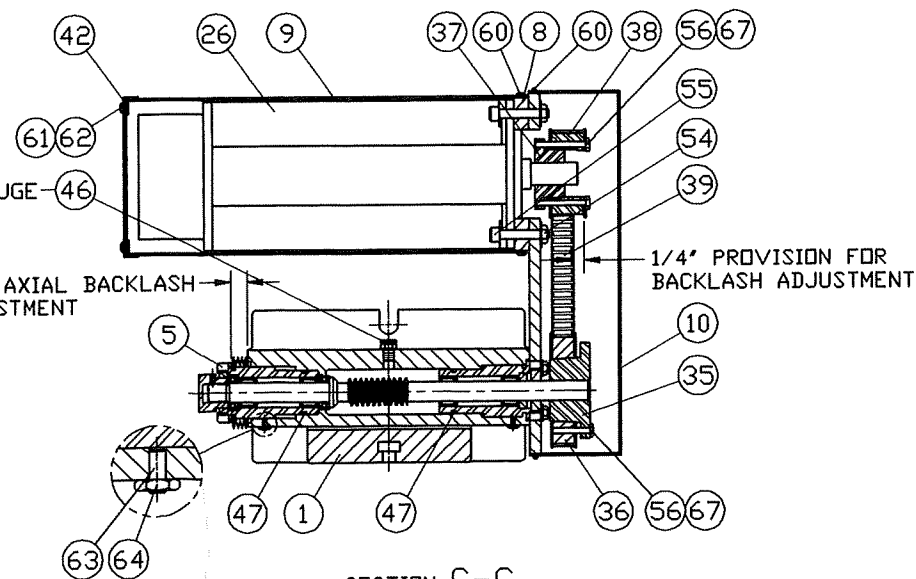
40 OIL FILL/DRAIN PLUG



SECTION A-A



SECTION B-B



SECTION C-C

NO.	QTY	PART NO.	DESCRIPTION OF PART	MAT'L
1	1	PTB-4605	TURNTABLE	C.I.
2	1	PBA-4561BDL	BASE	C.I.
3	1	PWS-5307	WORMSHAFT	STRSPRF
4	1	PWW-1584DL	WORMWHEEL	C90700
5	1	PBK-5331	BEARING CARTRIDGE	C.R.S.
6	1	PBK-5331S	SUPPORT BEARING CARTRIDGE	C.R.S.
7	1	PPT-4630DL	PULLEY PLATE	PLT STL
8	1	PPT-4634	MOTOR PLATE	PLT STL
9	1	SCV-4638	MOTOR ENCLOSURE	SHT MTL
10	1	SCV-4643-1	PULLEY COVER	SHT MTL
11	1	PNT-4616	NUT (CENTER SECTION)	C.R.S.
12	1	PNT-5547	NUT	HEX CRS.
13	1	PDC-4601	CLAMP DISK	C.R.S.
14	1	PCL-4603	CLAMP CAP	C.R.S.
15	4	SPN-4865	CLAMP PIN	C.R.S.
16	2	STN-18MM	18MM KEY	C.R.S.
17	4	SWH-1096	WASHER	C.R.S.
18	1	PWH-471	POINTER WASHER	C.R.S.
19	1	PPR-507	POINTER	C.R.S.
20	1	PSC-232	POINTER SCREW	C.R.S.
21	1	PTD-4071	TRIP DOG	DRCOT
22	1	SBT-TS9	TURCITE BEARING	TURCITE
23				
24				
25				

NO.	QTY	PART NO.	STANDARD PURCHASE PARTS
26	1	EMN-	SERVO MOTOR (DEPENDENT UPON MACHINE CONTROL)
27	2	SBG-71910	SKF 71910 CDP4ADGA BEARING
28	2	SBG-NKXR17	INA NKXR-17 BEARING
29	2	SBG-NK17/20	INA NK-17/20 BEARING
30	1	SDS-9826	C/R 9826 CRW1-R SEAL
31	1	SDS-6620	C/R 6620 CRW1-R SEAL
32	1	SDS-Q4134	Q-4134 QUAD RING SEAL
33	2	SDS-Q4159	Q-4159 QUAD RING SEAL
34	1	ELS-XCM110	TELEMECANIQUE XCM-A-110 LIMIT SWITCH
35	1	PPY-SDS17	GATES SDS-17mm. BUSHING
36	1	PPY-30L075	GATES 30L075 PULLEY
37	1	PPY-JA5/8	GATES JA-5/8 (1801 ONLY)
38	1	PPY-20L100	GATES 20L100 PULLEY (10L100 3601 ONLY)
39	1	STB-240L075	TIMING BELT 240L075 (225L075 3601 ONLY)
40	1	SPP-38	3/8-18 HEX PIPE PLUG
41	1	SEB-3816	3/8-16 EYE BOLT
42	1	SDS-4638	GASKET SEAL 4638
43	4	SPG-400	BRASS PLUG
44	1	SCV-178X238	GORTIFLEX PROTECTOR 1-7/8 I.D. X 2-3/8 O.D.
45	2	SWH-134X214	PHENOLIC WASHER 1-3/4 I.D. X 2-1/4 O.D.
46	1	SOL-00543	GITS SCREW TOP THREADED OILER 00543
47	2	SDS-02218	O-RING 2-218 (1-1/4 X 1-1/2 X 1/8)
48			
49			
50			

NO.	QTY	PART NO.	STANDARD PURCHASE FASTENERS
51	4	SHH-51618X1	5/16-18 X 1' HEX HD. CAP SCREW
52	4	SCS-51618X1	5/16-18 X 1' SDC. HD. CAP SCREW
53	8	SCS-1024X34N	#10-24 X 3/4 SDC. HD. CAP SCREW NYLOCK
54	4	SHN-51618F	5/16-18 FLANGE HEX NUT
55	4	SCS-51618X134	5/16-18 X 1-3/4 SDC. HD. CAP SCREW
56	3	SHH-1024X178S	#10-24 X 1-7/8 S/S HEX HD. CAP SCREW
57	2	SCS-51618X58	5/16-18 X 5/8 LG. SDC. HD. CAP SCREW
58	4	SSS-1420X516	1/4-20 X 5/16 SDC. SET SCREW
59	4	SCS-832X58	#8-32 X 5/8 SDC. HD. CAP SCREW
60	7	SBH-1024X14	#10-24 X 1/4 BUTTON HD. CAP SCREW
61	6	SRH-832X58P	#8-32 X 5/8 PAN HD PHILLIPS SCREW
62	6	SWH-8	#8 FLAT NYLON WASHER
63	2	SSS-832X38B	#8-32 X 3/8 LG. SDC HD CAP SCREW (BRASS TIP)
64	2	SHN-832	#8-32 HEX NUT
65	2	SSS-1420X516	1/4-20 X 5/16 LG. SDC SET SCREW
66	2	SCS-832X78	#8-32 X 7/8 SDC HD CAP SCREW
67	8	SWH-8SS	#8 FLAT WASHER STAINLESS STEEL
68			
69			
70			

First Used	Last Used	REVISONS	Part Name
		No. Date By	ASSEMBLY
		1	Used
		2	On
		3	
		4	
		5	
		6	

TOLERANCES
 Dec. 2PL +/- .005
 Dec. 3PL +/- .001
 Dec. 4PL +/- .001

Scale 1/3

Troyke Mfg. Co. CINCINNATI, OHIO 45241
 Drawn By T.W.A. Date 8-2-96
 Scale 1/3

4627DL

**TROYKE MFG. CO. 4TH AXIS ROTARY TABLE
MODEL DL-9-B-180 OR 360**

THE TROYKE MODEL DL-9-B IS A 9" DIAMETER VERTICAL MOUNT ONLY 4TH AXIS ROTARY TABLE. THE TABLE IS AVAILABLE IN A LH-LEFT HAND OR A RH- RIGHT HAND CONFIGURATION. THE TABLE IS AVAILABLE WITH MANY AC OR DC SERVO MOTORS. 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 (1/6 PITCH) 120 TOOTH WORMWHEEL / WORMSHAFT DRIVE. FOR THE 180:1 REDUCTION A 1.5:1 (20 AND 30 TOOTH) 3/8 PITCH TIMING BELT DRIVE SYSTEM AND ON THE 360:1 REDUCTION A 3:1 (10 AND 30 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 (BASED ON A 2000 RPM SERVO MOTOR). THE TURNTABLE IS GRADUATED IN ONE DEGREE INCREMENTS AND FIXED POINTER IS PROVIDED FOR THE STARTING POSITION.

LIFTING AND MOUNTING: TWO 3/8-13 TAPPED HOLES ARE PROVIDED IN THE TOP OF THE BASE. USE A 3/8-13 EYE BOLT FOR LIFTING THE TABLE. USE THE TAPPED HOLE CLOSEST TO THE TIMING BELT DRIVE SIDE TO LIFT THE TABLE LEVEL. STONE THE BOTTOM OF THE BASE BEFORE MOUNTING THE UNIT TO THE MACHINE. MOUNT THE (2) TROYKE SUPPLIED 18 MM FIXTURE KEYS TO THE SLOT IN THE BOTTOM OF THE BASE USING THE (2) SOCKET HEAD CAP SCREWS. TO MOUNT THE TABLE (AND TAILSTOCK IF SUPPLIED) TO THE MACHINE USE 5/8-11 T-BOLTS AND 5/8-11 FLANGE HEX NUTS OR SOME OTHER SUITABLE METHOD. ALWAYS MOUNT THE TABLE ON A CLEAN FLAT SURFACE.

WIRING: THE NORMAL WIRING CONFIGURATION OF THIS UNIT CONSISTS OF A 24VDC, 100 VAC OR 110 VAC 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 ELECTRIC'S ARE ENCLOSED IN A SHEET METAL 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. NOTE: THE MACHINE POWER MUST BE OFF WHEN CONNECTING OR DISCONNECTING THE CABLE OR CABLES FROM THE ROTARY TABLE TO THE MACHINE.

LUBRICATION: THE CENTRIFUGAL CAST BRONZE ALLOY 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. THE OIL LEVEL SHOULD BE CHECKED AT THE OIL LEVEL GAUGE LOCATED ON THE SIDE OF THE BASE TO FILL THE UNIT UN-THREAD 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 THE TABLE IS FILLED. TO DRAIN THE UNIT REMOVE THE OIL FILL PIPE PLUG, OPEN THE OIL LEVEL GAUGE AND CAREFULLY INVERT THE UNIT. PERIODICALLY, DEPENDING UPON USAGE (SINGLE SHIFT OPERATION USUALLY EVERY 6 MONTHS / MORE THAN ONE SHIFT A DAY USUALLY EVERY 3 MONTHS), 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. REPACK THE BEARINGS IF DISASSEMBLY OCCURS OR IF THERE IS MOISTURE IN THE UNIT. THE WORMSHAFT BEARINGS RUN IN A BATH OF OIL. REFER TO THE M.S.D.S. REPORT FOR FURTHER INFORMATION ON THE OIL IN THE UNIT. SOME OIL MAY SEEP OUT BETWEEN THE TURNTABLE AND THE BASE. THE REASON FOR THE LEAKAGE IS THAT WHEN THE TABLE IS RUNNING OIL WILL SPLASH UP ONTO THE TURCITE BEARING SURFACE MOUNTED 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 PNEUMATIC SOLENOID VALVE AND PRESSURE SWITCH ARE LOCATED IN THE MOTOR ENCLOSURE. THE CLAMP AND UNCLAMP STATE IS VERIFIED BY A PRESSURE SWITCH. THIS LOCKING DEVICE REQUIRES 80 TO 120 P. S. I. NORMAL DRY SHOP AIR. WHEN AIR PRESSURE IS PRESENT AT THE BASE, THE TABLE IS IN THE CLAMPED STATE. THIS CAN BE VERIFIED BY LOOSENING THE FLARED FITTING NUT ON THE BRAIDED AIRLINE FROM THE MOTOR ENCLOSURE LID TO THE ROTARY TABLE. (DO NOT LOOSEN THE FLARED NUT ALL THE WAY, JUST ENOUGH TO ALLOW AIR TO ESCAPE FROM THE FITTING). AIR ENTERS THE BASE AND FORCES THE CLAMP CAP AND TURNTABLE DOWN WHILE THE CLAMP DISK MOVE UP UNTIL IT MAKES CONTACT WITH THE BASE. ROTATION WHILE CLAMPED BETWEEN THE CLAMP CAP AND CLAMP DISK IS PREVENTED BY THE (4) CLAMP PINS. THE TORQUE REQUIRED TO OVERCOME THIS BRAKE IS APPROXIMATELY 125 FT LBS. (AT 100 PSI). ON MOST CONTROLS CLAMPING AND UNCLAMPING OF THE ROTARY TABLE REQUIRES YOU TO PROGRAM A M-CODE OR THE M-CODE MAY BE AUTOMATIC. ROTARY TABLE IN THE MANUAL MODES (JOG, MPG, ZERO RETURN) UNCLAMPING IS ALMOST ALWAYS AUTOMATIC. THE PNEUMATIC INPUT PORT IS A 1/4 N.P.T. FEMALE.

RELIEF VALVE: A RELIEF VALVE IS INSTALLED IN THE TOP OF THE BASE TO RELIEVE ANY BUILT UP INTERNAL PRESSURES ABOVE 2 PSI. IF EXCESSIVE AIR LEAKAGE OR BUBBLING OF OIL IS DETECTED BETWEEN THE TURN-TABLE AND BASE WHEN THE TABLE IS CLAMPED THIS MAY BE CAUSED BY WORN OR DAMAGED QUAD RING SEALS IN THE TABLE CLAMPS. SEE THE CENTER BEARING ADJUSTMENT PROCEDURE TO REPLACE THESE QUAD RING SEALS.

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 GOES BEYOND THE DESIRED POSITION BY ABOUT 5 DEGREES THEN APPROACH IN THE PROPER DIRECTION. THIS IS TO ELIMINATE ANY MECHANICAL BACKLASH ERROR IN THE ROTARY TABLES. IT IS BEST IF THE TABLE IS USED IN A FULL 360 DEGREES OF ROTATION. ROTATING CLOCK-WISE AND COUNTER-CLOCK-WISE IN A SMALL ARC WILL CAUSE LOCALIZED 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 A (A) WORDS. TO PROGRAM A C LOCK-WISE 90 DEGREE MOVE ENTER (G90 OR G91 A 90.000). THE FEEDRATE IS NORMALLY PROGRAMMED IN DEGREES PER MINUTE. TO PROGRAM A FEEDRATE OF 1.0 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 ROTATING BACK ZERO. MOST CONTROLS HAVE BACKLASH COMPENSATION AND ZERO RETURN OR OFFSET PARAMETERS THAT MAY BE SET.

ADJUSTMENTS

(REFER TO ASSEMBLY DRAWING NO. 4627DL)

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. 34 FROM THE TABLE BY REMOVING THE (2) SOCKET HEAD CAP SCREWS NO. 59. LEAVE THE SWITCH ATTACHED TO THE MOTOR ENCLOSURE LID.
3. REMOVE (3) BUTTON HEAD SCREWS NO. 60 IN PULLEY COVER NO. 10.
4. REMOVE PULLEY COVER NO. 10.
5. REMOVE (4) FLANGE HEX NUTS NO. 54.
6. REMOVE TIMING BELT NO. 39 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. 26 & 9 FROM PLATE NO. 7.

(INSTRUCTIONS CONTINUED ON FOLLOWING PAGE)

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

8. REMOVE (8) SOCKET HEAD CAP SCREWS NO. 53 AND REMOVE CLAMP CAP NO. 14 FROM THE TABLE AFTER MARKING IT'S POSITION. (BECAUSE OF THE QUAD RINGS IT MAY BE DIFFICULT TO REMOVE). ROCK THE CLAMP CAP BACK AND FORTH TO REMOVE IT. (DO NOT TRY TO PRY THE CLAMP CAP OUT OF THE BASE).
9. REMOVE CLAMP DISK NO. 13. ROCK THE CLAMP DISK BACK AND FORTH TO REMOVE IT. (DO NOT TRY TO PRY THE CLAMP OUT OF THE BASE)
10. LOOSEN (2) SOCKET SET SCREWS NO. 58, 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. 22. THE FEELER GAUGE SHOULD NOT PENETRATE BETWEEN THE TWO MEMBERS). ROTATE PULLEY NO. 36 TO MAKE SURE THAT THE TABLE CAN BE ROTATED WITHOUT A LOT OF FORCE.
11. AFTER NUT NO. 11 HAS BEEN ADJUSTED, SECURELY TIGHTEN THE (2) SOCKET SET SCREWS NO. 58. CLEAN CLAMP DISK NO. 13 AND CLAMP CAP NO. 14. INSPECT QUAD RINGS NO. 32 AND 33 AND REPLACE IF NEEDED. LUBRICATE THE QUAD RINGS BEFORE RE-ASSEMBLING THE UNIT. USE ANTI-RUST LUBRICANT ON CLAMP PINS NO. 15, AND QUAD RINGS NO. 32 AND 33. REPLACE THE SOCKET HEAD CAP SCREWS NO. 53. (USE LOCKTITE TO KEEP THE SCREWS FROM BACKING OUT).
12. REPLACE MOTOR AND COVER ASSEMBLY NO'S. 9 AND 26.
13. REPLACE TIMING BELT NO. 39 AND (4) FLANGE HEX NUTS NO. 54. THE TIMING BELT SHOULD HAVE A SLIGHT AMOUNT OF FLEXIBILITY. (IN GENERAL YOU SHOULD BE ABLE TO ROTATE THE BELT 90 DEGREES FROM THE STANDARD MOUNTING POSITION WITHOUT A LOT OF PRESSURE-REFER TO SERVICE BULLETIN).
14. REPLACE COVER NO. 10 AND (3) BUTTON HEAD CAP SCREWS NO. 60.
15. REPLACE LIMIT SWITCH NO. 34 AND (2) SOCKET HEAD CAP SCREWS NO. 59.

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.

(INSTRUCTIONS ON THE FOLLOWING PAGE)

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

TO DETERMINE IF THIS ADJUSTMENT IS REQUIRED 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 - WHEN THE UNIT IS NEW - AFTER 3 MONTHS OF OPERATION - THEN EVERY 6 MONTH OF OPERATION BASED ON SINGLE SHIFT OPERATIONS).

1. LOOSEN SOCKET SET SCREW NO. 63 LOCATED ON THE REAR OF THE BASE. LOOSEN ONLY THE SET SCREW ON THE SIDE OF THE BASE AS THE NUT NO. 12.
2. ROTATE BRACKET CARTRIDGE NO. 5 C.W. 1/4 OF A TURN. (SEE NOTE 2)
3. TIGHTEN SOCKET SET SCREW NO. 63 AND TEST FOR BACKLASH PER THE INSTRUCTIONS ABOVE.
4. IF THE BACKLASH IS LESS THAN THE RECOMMENDED AMOUNT THEN THE ADJUSTMENT IS COMPLETE. 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 BEFORE CHECKING THE BACKLASH.
5. REMOVE (3) BUTTON HEAD SCREWS NO. 60 IN PULLEY COVER NO. 10.
6. REMOVE PULLEY COVER NO. 10.
7. IF THE TIMING BELT NO. 39 IS AT THE EXTREME OUTER FLANGE OF MOTOR PULLEY NO. 38 THEN PERFORM STEPS 8-15 ELSE GO TO STEP 16.
8. LOOSEN (4) FLANGE NUTS NO. 54.
9. SLIDE MOTOR AND MOTOR ENCLOSURE KNOWS. 26 AND 9 TOWARD THE TABLE ASSEMBLY TO ALLOW ENOUGH SLACK TO REMOVE THE TIMING BELT NO. 39 FROM THE PULLEYS. (REFER TO SERVICE BULLETIN)
10. REMOVE (3) HEX HEAD BOLTS NO. 56 IN PULLEY BUSHING NO. 35.
11. USING THE TAPPED HOLES IN PULLEY BUSHING NO. 35. THREAD THE (3) HEX HEAD BOLTS NO. 56 EVENLY INTO PULLEY BUSHING NO. 35. DRIVE PULLEY NO. 36 OFF OF PULLEY BUSHING NO. 35.
12. REPOSITION PULLEY NO. 36 APPROXIMATELY 1/4" IN TOWARD THE TABLE FROM THE PREVIOUS POSITION TO ALLOW TIMING BELT NO. 39 TO TRACK IN TOWARD THE MOTOR ON PULLEY NO. 38.
13. USING THE (3) HEX HEAD BOLTS NO. 56 SECURELY TIGHTEN PULLEY BUSHING NO. 35 INTO PULLEY NO. 36.
14. PULL THE MOTOR AND MOTOR ENCLOSURE NO. 26 AND 9 AWAY FROM THE TABLE TO SET THE TENSION ON TIMING BELT NO. 39. (THE TIMING BELT SHOULD BE ABLE TO BE ROTATED 90 DEGREES FROM THE NORMAL HORIZONTAL POSITION WITHOUT A LOT OF PRESSURE - REFER TO SERVICE BULLETIN)
15. TIGHTEN (4) FLANGE NUTS NO. 54.
16. REPLACE PULLEY COVER NO. 10 AND (3) BUTTON HEAD SCREWS NO. 60.

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.

SEE NOTE 2 ON THE FOLLOWING PAGE

NOTE 2: IT MAY BE NECESSARY TO CUT A PLEAT OUT OF THE GORTIFLEX PROTECTOR NO. 48 TO ALLOW BRACKET CARTRIDGE NO. 5 TO THREAD IN DEEPER. REPLACE THE PHENOLIC WASHER NO. 49 IN THE GORTIFLEX PROTECTOR JUST INSIDE THE FIRST PLEAT.

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. 12, 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 AND 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. 63)
2. REMOVE (3) BUTTON HEAD SCREWS NO. 60 FROM PULLEY COVER NO. 10.
3. REMOVE PULLEY COVER NO. 10.
4. LOOSEN (2) SOCKET SET SCREWS NO. 65 IN NUT NO. 12.
5. SNUG UP NUT NO. 12 BY TURNING IT SLIGHTLY CLOCKWISE FOR TAKE UP. PREVENT WORMSHAFT NO. 3 FROM ROTATING WHILE ADJUSTING NUT NO. 10 BY PLACING A ROD IN THE HOLE IN THE O.D. OF PULLEY BUSHING NO. 35.
6. SECURELY TIGHTEN (2) SOCKET SET SCREWS NO. 65 IN NUT NO. 12.
7. RECHECK THE END PLAY PER THE ABOVE INSTRUCTIONS IN STEP 1.
8. REPLACE PULLEY COVER NO. 10 AND BUTTON HEAD SCREWS NO. 60.

D) REPAIR PARTS:

REFER TO PRINT 4627DL 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.

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

TO GAIN ACCESS TO THE ELECTRICAL ENCLOSURE REMOVE THE (6) PAN HEAD PHILLIPS HEAD SCREWS NO. 61 IN ENCLOSURE NO. 9 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.

F) TAILSTOCK: TS-9 (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 #3 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 3144 FOR PART AND ASSEMBLY INFORMATION.

G) CHUCK: CK-6 OR CK-8 (OPTIONAL)

A MANUAL 6" OR 8" 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" PLUG GAUGE TO ALIGN THE ADAPTER TO THE THRU HOLE IN THE TABLE BEFORE TIGHTENING THE (4) SOCKET HEAD CAP SCREWS. REMOVE THE 1" 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.

H) MANUAL 5C, 16C OR 3J COLLET FIXTURE: M5C-5, M16C-5, AND M3J-5 (OPTIONAL)

A MANUAL 5C, 16C OR 3J COLLET FIXTURE MAY BE SUPPLIED WITH THE ROTARY TABLE. ALL THE MOUNTING HARDWARE IS SUPPLIED WITH THIS OPTION. TO MOUNT THE 5C, 16C OR 3J COLLET FIXTURE. MOUNT THE MANUAL 5C, 16C AND 3J FIXTURE TO THE FACE PLATE OF THE TABLE BY USING THE (4) T-NUTS AND (4) SOCKET HEAD CAP SCREWS (SUPPLIED). PLACE A GROUND PART IN THE COLLET AND ALIGN THE FIXTURE BEFORE TIGHTENING THE (4) SOCKET HEADS CAP SCREWS.

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.

SERVICE BULLETINS
PRESSURE SWITCH REPLACEMENT

SYMPTOM'S-

THE MACHINE CONTROL WILL NOT ALLOW THE TABLE TO ROTATE DUE TO AN AIR CLAMP OR UNCLAMP FAILURE ALARM.

HOW THE PRESSURE SWITCH WORKS-

THE PRESSURE SWITCH IS USED TO SIGNAL TO THE CONTROL THAT THE TABLE IS IN THE CLAMPED OR THE UNCLAMPED STATE. THE SWITCH UTILIZES A FORM -C- CONTACT. THE NORMALLY OPEN CONTACT ON THE SWITCH IS USED TO SIGNAL A CLAMPED SIGNAL OR AIR PRESSURE IS PRESENT AT THE BRAKE. THE NORMALLY CLOSED CONTACT ON THE SWITCH IS USED TO SIGNAL AN UNCLAMPED SIGNAL OR AIR IS NOT PRESENT AT THE BRAKE. THE SWITCH CHANGES STATE AT -45 P.S.I.

REASONS FOR FAILURE OF THE PRESSURE SWITCH-

- RUST, WATER OR DEBRIS IS IN THE AIRLINES.
- THE SWITCH HAS INTERNAL CORROSION ON THE GOLD PLATED CONTACTS.
- AGE- AFTER MANY CYCLES THE SWITCH MAY FAIL.
- THE AIR PRESSURE IS BELOW 45 P.S.I. (THIS MAY INDICATE A LOSS OF PRESSURE TO THE TABLE OR A QUAD RING FAILURE IN THE INTERNAL BRAKE OF THE ROTARY TABLE.
- THE LEADS FROM THE SWITCH ARE MISS-WIRED OR HAVE AN INTERMITTENT CONNECTION TO THE TERMINAL STRIP. THERE ARE THREE LEADS EXITING OUT OF THE PRESSURE SWITCH. THE BLACK WIRE IS THE COMMON WIRE. THE GREEN WIRE IS THE NORMALLY CLOSED (UNCLAMPED) CONTACT WIRE (THERE SHOULD BE CONTINUITY BETWEEN THE BLACK WIRE AND THE GREEN WIRE WHEN THERE IS NO AIR PRESSURE TO THE SWITCH). THE RED WIRE IS THE NORMALLY OPEN (CLAMPED) CONTACT WIRE (THERE SHOULD BE CONTINUITY BETWEEN THE BLACK WIRE AND THE RED WIRE ONLY WHEN THERE IS AIR PRESSURE ABOVE 45 P.S.I. TO THE SWITCH). IF THERE IS CONTINUITY ON BOTH THE NORMALLY OPEN AND THE NORMALLY CLOSED CONTACTS OF THE SWITCH AT THE SAME TIME THE SWITCH HAS FAILED.

REPLACING THE PRESSURE SWITCH-

- 1) DISCONNECT ALL ELECTRICAL AND PNEUMATIC LINES TO THE ROTARY TABLE.
- 2) REMOVE THE SIX PHILLIP HEAD SCREWS IN THE MOTOR ENCLOSURE COVER.
- 3) REMOVE THE MOTOR ENCLOSURE LID TO GAIN ACCESS TO THE PRESSURE SWITCH. THE PRESSURE SWITCH MAY BE TESTED AT THE TERMINAL STRIP. THERE ARE THREE LEADS EXITING OUT OF THE PRESSURE SWITCH. THE BLACK WIRE IS THE COMMON WIRE. THE GREEN WIRE IS THE NORMALLY CLOSED CONTACT WIRE (THERE SHOULD BE CONTINUITY BETWEEN THE BLACK WIRE AND THE GREEN WIRE WHEN THERE IS NO AIR TO THE SWITCH). THE RED WIRE IS THE NORMALLY OPEN CONTACT WIRE (THERE SHOULD BE CONTINUITY BETWEEN THE BLACK WIRE AND THE RED WIRE ONLY WHEN THERE IS AIR PRESSURE ABOVE 45 P.S.I. TO THE SWITCH). IF THERE IS CONTINUITY ON BOTH THE NORMALLY OPEN AND THE NORMALLY CLOSED CONTACTS OF THE SWITCH AT THE SAME TIME THE SWITCH HAS FAILED.
- 4) REPLACE THE PRESSURE SWITCH BY DISCONNECTING THE THREE LEADS FROM THE TERMINAL STRIP (NOTE THE LOCATION OF THE LEADS BEFORE REMOVING THEM FROM THE TERMINAL STRIP) AND REMOVE THE PRESSURE SWITCH BY ROTATING IT C.C.W. OUT OF THE BRASS FITTING. INSTALL THE PRESSURE SWITCH BY THREADING THE NEW SWITCH INTO THE BRASS FITTING. RUN THE THREE WIRES TO THE TERMINAL STRIP AND TEST.
- 5) REPLACE THE MOTOR ENCLOSURE LID AND SIX PHILLIP HEAD SCREWS (DO NOT OVER-TIGHTEN THE SCREWS OR THEY MAY STRIP THE TAPPED HOLES.

REPAIR PART NUMBER: THE PART NUMBER FOR THE SWITCH IS ESW-**PDF45**.

CLAMP QUAD RING REPLACEMENT

SYMPTOM'S-

- OIL SEEPING AND/OR BUBBLING OUT BETWEEN THE TURNTABLE AND BASE WHEN THE TABLE IS CLAMPED.
- AIR ESCAPING FROM THE VENT (DL UNITS ONLY) IN THE BASE WHEN THE TABLE IS CLAMPED. TO TEST THE NC- TABLES REMOVE THE OIL FILL PIPE PLUG AND SEAL THE TAPPED HOLE IN THE BASE FOR 10 SECONDS WITH YOUR FINGER WHILE THE TABLE IS CLAMPED AND THEN RELEASING YOUR FINGER. THERE SHOULD BE NO AIR PRESSURE BUILDING UP IN THE BASE.
- AIR IS ESCAPING, OR BUBBLING OUT FROM THE CLAMP CAP ON THE BACK OF THE BASE.

HOW THE CLAMP (OR BRAKE) WORKS-

AIR PRESSURE (80 TO 120 P.S.I.) ENTERS THE SIDE OF THE BASE AND FORCES THE CLAMP CAP (VISIBLE ON THE BACK OF THE BASE, THE CLAMP CAP IS MOUNTED TO THE TABLE STEM USING SOCKET HEAD CAP SCREWS) AND TURNTABLE TRACK DOWN AGAINST THE TURCITE BEARING ON THE BASE TRACK AND FORCES THE CLAMP DISK (NOT VISIBLE FROM THE OUTSIDE OF THE BASE) UP AGAINST A SHOULDER ON THE BASE (METAL TO METAL CONTACT). FOUR DOWEL PINS ALIGN THE CLAMP CAP AND CLAMP DISK. THE QUAD RING SEALS TRAP AIR IN BETWEEN THE CLAMP DISK AND CLAMP CAP.

REASONS FOR FAILURE OF THE QUAD RINGS-

WEAR- THE QUAD RING SEALS WILL WEAR OVER TIME AND MAY NEED TO BE REPLACED PERIODICALLY (DEPENDS ON USE).

REPLACING THE QUAD RING SEALS-

- 1) DISCONNECT ALL ELECTRICAL AND PNEUMATIC LINES TO THE ROTARY TABLE.
- 2) FOR (A OR C) MODEL TABLES PROCEED TO STEP 8.
- 3) (B MODELS ONLY)-REMOVE TWO SOCKET HEAD CAP SCREWS AND THE LIMIT SWITCH FROM THE BACK OF THE TABLE. (LEAVE THE LIMIT SWITCH CABLE ATTACHED TO THE MOTOR ENCLOSURE)
- 4) REMOVE THE THREE BUTTON HEAD SCREWS AND PULLEY COVER TO EXPOSE THE TIMING BELT AND PULLEYS.
- 5) REMOVE THE FOUR FLANGE HEX NUTS HOLDING THE MOTOR ENCLOSURE TO THE PULLEY PLATE.
- 6) SLIDE THE MOTOR ENCLOSURE IN TOWARDS THE ROTARY TABLE TO RELAX THE TENSION ON THE TIMING BELT.
- 7) REMOVE THE TIMING BELT FROM THE PULLEYS AND SLIDE THE MOTOR ENCLOSURE OUT OF THE WAY OF THE BACK OF THE ROTARY TABLE.
- 8) REMOVE THE SOCKET HEAD CAP SCREWS FROM THE CLAMP CAP (LOCATED NEAR THE CENTER HOLE ON THE REAR OF THE BASE). PUT AIR IN THE SIDE OF THE BASE WHERE THE STAINLESS STEEL BRAIDED AIRLINE THREADS INTO SIDE OF THE BASE. THIS WILL RAISE THE CLAMP CAP PARTIALLY OUT OF THE BASE. REMOVE THE AIR FROM THE BASE AND CONTINUE.
- 9) MARK THE LOCATION OF THE CLAMP CAP AND REMOVE IT BY ROCKING IT BACK AND FORTH. IT MAY BE NECESSARY TO USE THE TAPPED HOLES FOR THE TRIP DOG OR COUNTER-BORED HOLES TO ROCK THE CLAMP CAP OUT OF THE BASE. (WARNING- DO NOT TRY TO PRY ON THE O.D. OF THE CLAMP CAP)

CLAMP QUAD RING REPLACEMENT CONTINUED

- 10) MARK THE LOCATION OF THE CLAMP DISK AND REMOVE IT BY ROCKING IT BACK AND FORTH USING THE BLIND HOLES IN THE CLAMP DISK. (WARNING- DO NOT TRY TO PRY ON THE O.D. OF THE CLAMP DISK) NOTE: IF CAST IRON AND STEEL SHAVINGS ARE FOUND THE TABLE PROBABLY HAS BEEN RUN WITH THE BRAKE ENGAGED WHILE IT WAS ROTATING. THIS IS A PROBLEM THAT MUST BE SLOVED OR IT MAY DESTROY THE ROTARY TABLE. CONTACT THE COMPANY THAT INSTALLED THE TABLE FOR FURTHER INSTRUCTIONS.
- 11) REMOVE THE OLD QUAD RING SEALS AND THOROUGHLY CLEAN THE CLAMP CAP, CLAMP DISK AND INSIDE OF THE BASE.
- 12) PRE-LUBRICATE THE NEW QUAD RINGS WITH A HEAVY OIL AND INSTALL THE NEW QUAD RINGS IN THE CLAMP CAP AND CLAMP DISK. (BE SURE THAT THE QUAD RING SEALS ARE NOT TWISTED DURING INSTALLATION)
- 13) ASSEMBLE THE CLAMP DISK TO THE CLAMP CAP THE SAME WAY THEY WERE DISASSEMBLED USING THE FOUR ALIGNMENT DOWEL PINS. PLACE TWO SOCKET HEAD CAP SCREWS IN THE COUNTER-BORED HOLES IN THE CLAMP CAP 180 DEGREES APART.
- 14) PLACE A SMALL AMOUNT OF SILICONE SEALANT ON THE END OF THE TABLE STEM WITH THE TAPPED HOLES.
- 15) ALIGN THE TWO SOCKET HEAD CAP SCREWS WITH THE TAPPED HOLES IN THE END OF THE TABLE STEM. PRESS THE ASSEMBLED CLAMP CAP AND CLAMP DISK INTO THE BASE UNTIL IT IS POSSIBLE TO THREAD TWO SOCKET HEAD CAP SCREWS INTO THE TAPPED HOLES 180 DEGREES APART, IN THE END OF THE TABLE STEM. (BE SURE THE ASSEMBLY IS IN THE SAME POSITION AS IT WAS WHEN IT WAS DIS-ASSEMBLED)
- 16) REMOVE THE TWO SOCKET HEAD CAP SCREWS AND PUT A THREAD LOCKING COMPOUND ON ALL OF THE SOCKET HEAD CAP SCREWS. THREAD THE SOCKET HEAD CAP SCREWS THROUGH THE CLAMP CAP AND INTO THE TABLE STEM.
- 17) PUT AIR IN THE SIDE OF THE BASE WHERE THE STAINLESS STEEL BRAIDED AIRLINE THREADS INTO THE BASE. SPRAY A SOAP AND WATER SOLUTION AROUND THE O.D. AND I.D. OF THE CLAMP CAP. IF ANY BUBBLING OUT OF EITHER OF THESE TWO AREAS IS VISIBLE, REVERSE THE ABOVE STEPS TO FIND WHAT HAS NOT BEEN INSTALLED PROPERLY.
- 18) REPLACE THE LIMIT SWITCH AND TWO SOCKET HEAD CAP SCREWS.
- 19) REPLACE THE MOTOR ENCLOSURE AND FLANGE NUTS.
- 20) INSPECT AND REPLACE THE TIMING BELT. SET THE TENSION ON THE BELT BY SLIDING THE MOTOR ENCLOSURE AWAY FROM THE BASE AND TIGHTENING THE FOUR FLANGE NUTS. (THE TIMING BELT SHOULD BE ABLE TO BE TWISTED 90 DEGREES FROM HORIZONTAL WITHOUT A LOT OF PRESSURE. DO NOT SET THE TENSION ON THE BELT TOO TIGHT AS IT MAY DAMAGE THE MOTOR OR TABLE BEARINGS).
- 21) REPLACE THE TIMING BELT COVER AND THREE BUTTON HEAD SCREWS.

REPAIR PARTS:

FOR NC MODEL TABLES REFER TO THE ASSEMBLY DRAWING OR CONTACT THE FACTORY FOR PART NUMBER AND PRICE. FOR DL MODEL TABLES REFER TO THE ASSEMBLY DRAWING AND THE FOLLOWING INFORMATION. THE PART NUMBERS ON THE QUAD RINGS ARE (1) SOS-Q4134 AND (2) SOS-Q4159.

SOLENOID VALVE REPLACEMENT

SYMPTOM'S-

MACHINE CONTROL WILL NOT ALLOW THE TABLE TO ROTATE DUE TO AN AIR CLAMP OR UNCLAMP FAILURE ALARM.

HOW THE SOLENOID VALVE WORKS-

THE SOLENOID VALVE IS AN ELCTRIC ACTUATED 3-WAY AIR VALVE TO DIRECT AIR INTO THE INTERNAL CLAMP OF THE TABLE. IT MAY BE SET FOR ENERGIZED TO CLAMP THE TABLE OR ENERGIZED TO UNCLAMP THE TABLE.

REASONS FOR FAILURE OF THE SOLENOID VALVE-

- RUST, WATER OR DEBRIS IS IN THE AIRLINES.
- AGE- AFTER MANY CYCLES THE SOLENOID VALVE MAY FAIL.
- THE AIR PRESSURE IS OFF OR VERY LOW.
- THE LEADS FROM THE SOLENOID VALVE ARE MISS-WIRED OR HAVE AN INTERMITTENT CONNECTION TO THE TERMINAL STRIP. THERE ARE TWO LEADS EXITING OUT OF THE SOLENOID VALVE.
- THERE IS NO VOLTAGE GOING TO THE SOLENOID FROM THE MACHINE. THERE ARE THREE VOLTAGES AVAILABLE, 24VDC, 100VAC AND 120VAC. REFER TO THE LABEL ON THE SOLENOID OR WIRING DIAGRAM TO DETERMINE THE VOLTAGE ON THE SOLENOID.
- THE SOLENOID IS NOT PLUMBED PROPERLY OR AN AIRLINE IS NOT CONNECTED (REFER TO SOLDIA FOR THIS INFORMATION).

REPLACING THE SOLENOID VALVE-

- 1) DISCONNECT ALL ELECTRICAL AND PNEUMATIC LINES TO THE ROTARY TABLE.
- 2) REMOVE THE SIX PHILLIP HEAD SCREWS IN MOTOR ENCLOSURE COVER.
- 3) REMOVE THE MOTOR ENCLOSURE LID TO GAIN ACCESS TO THE SOLENOID VALVE. PUSHING THE RED BUTTON ON TOP OF THE SOLENOID VALVE MAY TEST THE SOLENOID VALVE. THERE ARE TWO LEADS EXITING OUT OF THE SOLENOID VALVE. REPLACE THE SOLENOID VALVE BY DISCONNECTING THE TWO LEADS FROM THE TERMINAL STRIP AND BY REMOVING THE TWO AIRLINES FROM THE SOLENOID VALVE. (TO REMOVE THE AIRLINES FROM THE SOLENOID PUSH IN ON THE LOCKING RING OF THE PUSH IN FITTING AND PULL THE AIR LINE FROM THE FITTING. NOTE THE POSITION OF THE LINES ENTERING THE SOLENOID.) REMOVE THE SOLENOID VALVE BY ROTATING IT C.C.W. OUT OF THE BRASS FITTING. REMOVE THE FITTINGS FROM THE OLD SOLENOID VALVE AND INSTALL THEM INTO THE NEW SOLENOID VALVE. INSTALL THE NEW SOLENOID VALVE BY THREADING IT INTO THE BRASS FITTING. RUN THE TWO WIRES TO THE TERMINAL STRIP AND TEST.
- 4) REPLACE THE MOTOR ENCLOSURE LID AND SIX PHILLIP HEAD SCREWS (DO NOT OVER-TIGHTEN THE SCREWS OR THEY MAY STRIP THE TAPPED HOLES.

REPAIR PART:

THE TROYKE PART NUMBER FOR THE PRESSURE SWITCH IS **ESV-31024** (24VDC), **ESV-310100** (100VAC) OR **ESV-310110** (115VAC COIL)

TIMING BELT REPLACEMENT

SYMPTOM'S-

TABLE WILL NOT ROTATE EVEN THOUGH THE MOTOR SEEMS TO BE ROTATING, A CLICKING SOUND COMING FROM THE BELT COVER OR VISABLE MOVEMENT OF THE MOTOR ENCLOSURE WHILE THE TABLE IS ROTATING.

HOW THE TIMING BELT WORKS-

THE TIMING BELT IS USED TO TRANFER TORQUE FROM THE SERVOMOTOR TO WORMSHAFT THRU PULLEYS MOUNTED TO THE MOTOR SHAFT AND THE WORMSHAFT. THE BELT IS DESIGNED TO BREAK IN A CRASH SITUATION TO PROTECT THE WORMSET FROM BEING DAMAGE. DEPENDING ON THE SEVERITY OF THE CRASH, THE TIMING BELT MAY BREAK OR POSSIBLY IS DAMAGED. ALSO IN SOME CASES THE BEARINGS IN THE WORMSHAFT ASSEMBLY MAY BE DAMAGED. ANY TIME THE TABLE IS CRASHED OR THE TIMING BELT BREAKS PLEASE CAREFULLY INSPECT THE TABLE FOR DAMAGE.

REASONS FOR FAILURE OF THE TIMING BELT-

TABLE HAS BEEN CRASHED OR THE BELT IS WORN DUE TO USE OR AGE. IF THE PULLEYS ARE RUSTY OR SEVERLY PITTED THEY WILL NEED TO BE REPLACED.

REPLACING THE TIMING BELT-

- 1) DISCONNECT ALL ELECTRICAL AND PNEUMATIC LINES FROM THE ROTARY TABLE.
- 2) REMOVE THE THREE BUTTON HEAD SCREWS AND PULLEY COVER TO EXPOSE THE TIMING BELT AND PULLEYS.
- 3) LOOSEN THE FOUR FLANGE HEX NUTS HOLDING THE MOTOR ENCLOSURE TO THE PULLEY PLATE.
- 4) SLIDE THE MOTOR ENCLOSURE IN TOWARDS THE ROTARY TABLE TO RELAX THE TENSION ON THE TIMING BELT (IF THE BELT IS NOT BROKEN).
- 5) REMOVE THE OLD TIMING BELT AND INSPECT THE PULLEYS.
- 6) REPLACE THE TIMING BELT. SET THE TENSION ON THE BELT BY SLIDING THE MOTOR ENCLOSURE AWAY FROM THE BASE AND TIGHTENING THE FOUR FLANGE NUTS. (THE TIMING BELT SHOULD BE ABLE TO BE TWISTED 90 DEGREES FROM THE HORIZONTAL POSITION WITHOUT A LOT OF PRESSURE. DO NOT SET THE TENSION ON THE TIMING BELT TOO TIGHT AS IT MAY DAMAGE THE MOTOR OR TABLE BEARINGS).
- 7) REPLACE THE TIMING BELT COVER AND THREE BUTTON HEAD SCREWS. BE SURE THE DRAIN/VENT HOLE IS CLEAR IN THE BOTTOM OF TIMING BELT COVER.

REPAIR PARTS:

FOR NC MODEL TABLES REFER TO THE ASSEMBLY DRAWING OR CONTACT THE FACTORY FOR PART NUMBER AND PRICE. FOR DL MODEL TABLES REFER TO THE FOLLOWING INFORMATION AND THE ASSEMBLY DRAWING. YOU WILL NEED TO DETERMINE WHAT THE TOTAL REDUCTION ON THE TABLE IS OR READ THE PART NUMBER OFF THE OLD BELT. THE PART NO. ON THE TIMING BELT IS STB-240L075.

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