

BARDONS & OLIVER INC  
 N° 4 AUTOMATIC TURRET LATHE  
 INSTRUCTION MANUAL

WHIRLPOOL SERIAL #19674

① BLUE SEPARATOR - INSTRUCTIONS

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③ RED SEPARATOR - PARTS LIST

PARTS LIST INDEX			
DIVIDER	DESCRIPTION	PART LIST	DRAWINGS
A	BED, PAN & LEGS	4A-2-P	L-104494 L-104495 L-104496 L-104497 L-104498
B	HYDRAULIC POWER UNIT AND HYDRAULIC CIRCUIT	4A-1-P	L-91876 L-91877 L-91878 L-91879 L-98201 L-100758 L-101483 L-101484
C	HEAD, SECTION THRU GEARS AND HOUSING PIPING	4A-3-P	L-90558 A-101487
D	SPINDLE 2" CAPACITY	4A-4-P	L-91880 L-102516
E	COLLET CHUCK 2" CAPACITY	4A-5-P	L-100962
F	TURRET & SADDLE	4A-6-P	L-91874 L-91875 L-101454 L-101455 L-101456 L-101457 L-109157
G	RECIPROFEED	4A-7-P	L-101458
H	CROSS SLIDE AND CARRIAGE	4A-8-P	L-94185 L-100930 L-101370 L-101371 L-101372
I	COOLANT PUMP	4A-9-P	L-98129
J	AUTOMATIC LUBE	4A-10-P	L-88536 L-94392
K	CONSOLE	4A-11-P	L-98790 L-102813 L-103266
L	MOTOR DRIVE	4A-13-P	L-91868
M	SPINDLE INTERLOCK	4A-20-P	A-103113
N	CHIP CONVEYOR	---	L-108786
O	TOOLING LAYOUT	4A-21-P	L-109591

④ YELLOW SEPARATOR - PURCHASED ITEMS

MANUFACTURER	MODEL NO.	CATALOG NO.
CONTINENTAL PUMP	PVR 1-6803-RM-0-613	TECH. BUL NO. 10 R10.02-R10.00-R12.10
VALVE	N12S-33-G VS12M-1A-G-68 VS12M-3L-G-68	GS.0-R320.10-R320.11 DC12-4.1.0
CHAR LYNN MOTOR	101-1023-007	6-121, 7-117
PALL HYDRAULIC FILTER	HH9020A12UN RB B	D5-18
WILKERSON FILTER LUBE	F20-04-000PG L20-04-000	CH-F20-9SM CJ-L20-9SM
REXROTH VALVE	2FRM5-31/6Q-AS162	RA-28138E
RAYCHRON TIMER FORMSPRAG CLUTCH DISC-O-TORQUE	C11A HTH450 HTH600 HTH700	C-10-11 TIMER BULL. INSTALLATION & MAINTENANCE INSTRUCTIONS D-3013
FAWICK CLUTCH	AS450 AS600 AS700	MAINTENANCE & SERVICE INSTRUCTIONS HY-13000
ALLEN BRADLEY	509-B0D 520F-C0D 700-F800-A1 836-C7A	BUL. 509 SIZE 1 BUL. 520 SIZE 2 700 TYPE N, NT, NPT 836-837
MAYFRAN	CHIP TOTE CONVEYOR	PARTS & SERVICE MANUAL
CUSHMAN	POWER CHUCK	BUL. CM-820-1

⑤ DWGS PUT INTO A GREY ENVELOPE

BARDONS & OLIVER  
 No. 4 ATL  
 Foundation Dwg. A-97613  
 Electrical Diag. L-102614  
 Pneumatic Diag. A-102130  
 Hydraulic Diag. L-98201

BY	DATE	CHANGE

② GREEN SEPARATOR - DATA

CATALOGS - N° 4 ATL MACHINE,  
 ATL TOOLING

ELEC CONSOLE DIA L-102872  
 ELEC MACHINE DIA L-102871  
 ELEC SHEMAT DIA L-102817

MACH.	UNIT	FIRST LOT	LAST LOT
4 ATL	418-2		

Rel B-103109

DRWG. NO.	DR. BY	CHK. BY	SCALE	APR. BY	BARDONS & OLIVER, INC. CLEVELAND, OHIO	SIZE OF MACH.	UNIT	NAME OF PART	DRWG. NO.
A-109672	AEY		X=1		FEB 2 1989	N° 4 ATL		INSTRUCTION MANUAL	A-109672

USED ON  
 418-2

PARTS LIST INDEX

<u>DIVIDER</u>	<u>DESCRIPTION</u>	<u>PART LIST</u>	<u>DRAWINGS</u>
A	BED, PAN & LEGS	4A-2-P	L-104494 L-104495 L-104496 L-104497 L-104498
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D	SPINDLE 2" CAPACITY	4A-4-P	L-91880 L-102516
E	COLLET CHUCK 2" CAPACITY	4A-5-P	L-100962
F	TURRET & SADDLE	4A-6-P	L-91874 L-91875 L-101454 L-101455 L-101456 L-101457 L-109157
G	RECIPROFEED	4A-7-P	L-101458
H	CROSS SLIDE AND CARRIAGE	4A-8-P	L-94185 L-100930 L-101370 L-101371 L-101372
I	COOLANT PUMP	4A-9-P	L-98129
J	AUTOMATIC LUBE	4A-10-P	L-88536 L-94392
K	CONSOLE	4A-11-P	L-98790 L-102813 L-103266

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L	MOTOR DRIVE	4A-13-P	L-91868
M	SPINDLE INTERLOCK	4A-20-P	A-103113
N	CHIP CONVEYOR	—	L-108786
O	TOOLING LAYOUT	4A-21-P	L-109591

INDEX

## No. 4 A.T.L. - HYDR. POWER UNIT

Tank	L-92114	Sure-Flex Sleeve	(4)	B-91468
Drain Manifold	A-91997	Sure-Flex Coupling	(5)	B-91469
Pump Base	A-92005	Guard (top)	(2)	B-92068
Guard	B-92067	Bottom Guard	(2)	B-92070
Bottom Guard	B-92069	Pump Base Shim	(12)	B-92105
End Cover (right)	B-93776	End Cover Left		B-92237
Guard	B-92068	End Cover Gasket		B-92238
Guard (bottom)	B-92070	End Cover Gasket Right		B-93777
3 H.P. Motor .1800 RPM	B-90265	Block Gasket		B-94374
TEFC-Frame 182T		Relief Valve		B-97823
3 Phase, 60 Cycle 230/460V.		Pressure Gage	(3)	B-98143
Var. Vol. Pump 6G.P.M.	B-91345	Direct. Valve 3 Pos. (4 way)	(4)	B-101077
Coupling	(2) B-91469	Direct. Valve 2 Pos. (4 way)	(6)	B-101078
Console Lift Brkt.	A-95268	Coupling		B-91532
Manifold (C.S.&T.S.)	L-98200	Drain Gasket		B-92077
Manifold (head)	L-87256	Press Gage (0-200 PSI)	(2)	B-84303
Pump Base	(3) A-92005	Needle Valve	(2)	B-85914
Cover	(2) A-92074	Manifold		B-88724
Cover Gasket	(2) A-92075	Manifold Brkt.		B-88725
Top Cover	A-93948	Bracket		B-89092
Top Cover Gasket	A-93949	Press. Reducing Valve		B-91276
Filler Block	A-94373	Relief Valve		B-91277
Sub Plate	A-98202	Mount. Bolt Kit		B-91491
Gasket Cap	(2) B-58655	Press Gage (0-300 PSI)		B-96605
Gasket	(2) B-58660	Guard		L-100938
Fluid Level Gage	B-85939	F.C.V. Manifold		A-100939
Breather Cap Assm.	B-85942	F.C.V. Manifold (vert. sl.)		A-100940
Airmaze Breather	B-90291	Conduit Box		A-98141
Suction Filter	(4) B-91330	Cover		B-98142
Var. Vol. Pump 6 G.P.M.	(3) B-91345	Two Way Valve	(8)	B-100941
Flow Cont. Module	B-91348	Handle		B-101061
Needle Valve	B-91349	Flow Control Valve (1.6 GPM)	(8)	B-97422
Press Line Filter	(3) B-91395			

Constructions: L-91876,7,8,9, L-101483,4, L-100758

Hyd. Circuit Const. L-98201

Pneu. Circuit Const. A-102130

## NO. 4 A.T.L. - B P &amp; LEGS

B & O Nameplate	A-85059	Cover	A-95908
Bed	L-101467	Angle Bracket	B-91938
Bed-Left Leg	L-92055	Top Mounting Bracket	B-91973
Bed-Right Leg	L-101468	P.V. Box Brace	A-98546
Mach. Size Plate	B-94738	Guide Block	B-92023
Pan	L-98130	Spacer	(2) B-92275
Pan-Left Leg	L-92116	Deflector	B-97389
Pan-Right Leg	L-92117	Jack Screw	(4) B-92270
Head Guard	L-91885	Cover	B-96573
Rear Splash Guard	L-91921	Rubber Strip	B-96085
Main Guard	L-91930	Bracket	B-96086
Front Splash Guard	L-91936	Strip	B-96087
Tooling Guard	L-91942	P.V. Box Support	B-97499
Top Cover	L-91943	Window	A-88652
Bedway	(2) A-91697	Weatherstrip AS-893 6Ft.	B-97478
Cover	A-91931	Spacer	(3) B-89385
Cover	A-91932	Knob	(4) B-84088
Side Guard	A-91933	Bushing'	B-87518
Chip Chute	A-91945	Strap	(2) N-87696
Rear Guard	A-91949	Spring Clip	(2) B-88194
Hose Manifold	A-91957	Cover	B-89382
Hose Guard	A-91982	Roller	(3) B-89384
P.V. Box Bracket	A-97521	Strap	(5) B-90608
Mounting Strap	A-91989	Knob	B-90351
Top Brace	A-91990	Coolant Manifold	B-90491
Bottom Brace	(2) A-91991	Wear Strip	(2) B-91484
Right Support Arm	A-91992	Stop	B-94663
Left Support Arm	A-91993	Plunger	B-94759
Bracket	A-93406	Washer	(3) C-1067
Manifold Bracket	A-93407		

Constructions: L-91882,3, L-97532,3, L-91983

NO. 4 AUTOMATIC TURRET LATHE  
BED, PAN & LEGS

Top cover	L-91948	Rear splash guard	L-91921
Head guard	L-102711	Main guard	L-91930
Window	A-88652	Front splash guard	L-91936
Bedway (2)	A-91697	Tooling guard	L-91942
Cover	A-91931	Bushing	B-87518
Cover	A-91932	Spring clip (2)	B-88194
Chip chute	A-91945	Cover	B-89382
Rear guard	A-91949	Roller (3)	B-89384
Hose manifold	A-91957	Spacer (3)	B-89385
Hose guard	A-91982	Strap (10)	B-90608
Mounting strap	A-91989	Wear strip (2)	B-91484
Top brace	A-91990	Top mounting brkt.	B-91973
Bottom brace (2)	A-91991	Guide block	B-92023
Support arm right	A-91992	Jack screw (4)	B-92270
Support arm left	A-91993	Spacer (2)	B-92275
Cover	A-95908	Stop	B-94663
Cover	A-96525	Plunger	B-94759
Side guard	A-102712	Rubber strip	B-96085
Elect. box mtg. bracket	A-102898	Bracket	B-96086
Bracket	A-103190	Strip	B-96087
Elect. box mtg. strap(2)	A-103191	Deflector	B-97389
Rear guard brace	A-104500	Weather strip AS-893 6'	B-97478
Bed leg left	L-92055	Handle T-459-26	B-101061
Pan leg left	L-92116	Conduit hanger (2)	B-102896
Pan leg right	L-92117	Coolant manifold	B-103335
Pan	L-98130	Pan plate	B-103882
Bed	L-101467	Pan plate	B-103883
Bed leg right	L-101468	Angle bracket	B-104395
B & O nameplate	A-85059	Cover	B-104467
Console lift bracket	A-95268	Cover	B-104468
Machine size plate	B-94738	Washer (3)	C-1067

NO. 4 AUTOMATIC TURRET LATHE  
 HEAD, SECTION THRU GEARS AND  
 HOUSING PIPING

Bearing Closer	(2)	A-86066	MRC Bearing		B-91176
Bearing Closer		A-86067	MRC Bearing	(2)	B-91177
Spacer		B-86074	MRC Bearing		B-91178
Spacer	(2)	B-86079	MRC Bearing	(2)	B-91179
Spacer		B-86082	MRC Bearing	(2)	B-91180
Shaft		A-86083	MRC Bearing	(2)	B-91181
Spacer		B-86131	MRC Bearing		B-91182
Spacer		B-86203	MRC Bearing		B-91183
59T. Gear		A-86817	Fawick Clutch with	(2)	B-91184
49T. Gear		A-86820	B & O Hub A-86937		
27T. Gear		A-86821	Fawick Clutch with	(2)	B-91185
Pinion Shaft		A-86831	B & O Hub A-86938		
61T. Clutch Gear		A-86931	31T. Gear		A-86827
71T. Clutch Gear		A-86932	Speed Overlay		B-92232
71T. Clutch Gear		A-86933	37T. Gear		A-86826
95T. Clutch Gear		A-86934	Speed Overlay		B-92233
AS450 Clutch Hub	(2)	A-86937	Spray head	(4)	B-85944
AS600 Clutch Hub	(2)	A-86938			
Spacer Shim	(6)	B-88024			
Spacer Shim	(7)	B-88152			
99T. Gear (std. spd.)		A-86828			
93T. Gear (spl. high spd.)		A-86124			

Construction: L-90558

Housing Piping Construction: A-101487

NO. 4 A.T.L. - 2 IN. SPINDLE

Head		L-102513
Housing		L-91700
Housing Cover		A-91986
Balance Ring		B-59612
Cover Gasket		A-92022
Shim	(2)	A-102514
Shim		A-102515
Spacer	(3)	B-102517
Front Brg. Closer		A-92209
Rear Brg. Closer		A-92210
Spindle		A-92211
Driving Button		B-37291
Spindle Gear Nut		A-54658
Adj. Nut		A-54659
AS700 Clutch Hub		A-86843
Key	(2)	B-86865
Brg. Retainer	(4)	B-90220
87T. Gear		A-92212
48T. Gear		A-92213
Brg. Spacer		A-92214
Spacer		A-92215
Fawick Clutch with		B-92489
B & O Hub		A-86843
B & O Hub		B-92490
Timken Brg. Cup		B-92491
Timken Brg. Cone		B-92492
Timken Brg. Cup		B-92493
Timken Brg. Cone		B-92494
MRC Bearing		

Construction: L-91880



## NO. 4 A.T.L. - COLLET CHUCK

Yoke Bracket		A-100960
Yoke		A-86966
Collet Pads		A-36758
Collet		A-42589
Abutment Sleeve		A-69766
Finger Holder		A-69767
Cyl. Mtg. Block	(2)	A-86978
Air Cylinder		A-86982
Yoke Pivot		A-88847
Collet Hood		A-92103
Spindle Guard		A-94276
Drip Pan		A-97520
Collet Chuck Cover		L-97515
Finger Pivot Pin	(2)	B-36830
Finger Holder Friction	(2)	B-44274
Wedge		B-62790
Finger Adj. Ring		B-69765
Adj. Sleeve Extension		B-83823
Plunger		B-86841
Wedge Shoe Stud	(2)	B-86979
Wedge Shoe	(2)	B-98863
Collet Pad Screw	(4)	C-1453
Key		C-2214
Finger	(2)	A-70711
Finger Roller	(2)	B-62784
Finger Roller Pin	(2)	B-62785
Pin	(2)	B-88239
M-62 Spring Plunger	(2)	B-98856
Cyl. Mtg. Block	(2)	A-86980
Finger Holder Friction		B-44275
Wedge Shoe	(2)	B-98862
Cylinder Link		B-86975
Yoke Link Pin		B-86976
Lever		B-88845
#ASP-1SC-SPD Cont. Muffler	(2)	B-93689

Construction: L-100962

NO. 4 ATL - COLLET CHUCK  
WITH REAR ADJUSTING STOP

Yoke Bracket		A-100960
Yoke		A-86966
Collet Pads		A-36758
Collet		A-42589
Abutment Sleeve		A-69766
Finger Holder		A-92791
Cyl. Mtg. Block	(2)	A-86978
Air Cylinder		A-86982
Yoke Pivot		A-88847
Collet Hood		A-92103
Spindle Guard		A-109588
Drip Pan		A-104503
Collet Chuck Cover		L-103161
Finger Pivot Pin	(2)	B-36830
Finger Holder Friction	(2)	B-44274
Wedge		B-62790
Finger Adj. Ring		B-69765
Adj. Sleeve Extension		B-83823
Plunger		B-86841
Wedge Shoe Stud	(2)	B-86979
Wedge Shoe	(2)	B-98863
Collet Pad Screw	(4)	C-1453
Key		C-2214
Finger	(2)	A-70711
Finger Roller	(2)	B-62784
Finger Roller Pin	(2)	B-62785
Pin	(2)	B-88239
M-62 Spring Plunger	(2)	B-98856
Cyl. Mtg. Block	(2)	A-86980
Finger Holder Friction		B-44275
Wedge Shoe	(2)	B-98862
Cylinder Link		B-86975
Yoke Link Pin		B-86976
Lever		B-88845
Bushing	(2)	B-100664

Construction: L-100962

NO. 4 A.T.L. - 2 IN. COLLET CHUCK -LOT 379

Yoke Bracket		A-101476
Yoke		A-86966
Collet Pads		A-36758
Collet		A-42589
Abutment Sleeve		A-69766
Finger Holder		A-69767
Cyl. Mtg. Block	(2)	A-86978
Air Cylinder		A-86982
Yoke Pivot		A-88847
Collet Hood		A-92103
Spindle Guard		A-94276
Drip Pan		A-97520
Collet Chuck Cover		L-97515
Finger Pivot Pin	(2)	B-36830
Finger Holder Friction	(2)	B-44274
Wedge		B-62790
Finger Adj. Ring		B-69765
Adj. Sleeve Extension		B-83823
Plunger		B-86841
Wedge Shoe Stud	(2)	B-86979
Wedge Shoe	(2)	B-98863
Spacer		B-101477
Collet Pad Screw	(4)	C-1453
Key		C-2214

Construction: L-101478

NO. 4 A.T.L. - TURRET & SADDLE

Hex. Turret	L-92057	Cam Plate	A-101447
Saddle	L-101441	Top Cover	A-101448
Stop Bracket	A-101442	Switch Cover	B-101449
Binder Bolt	B-39857	Pivot Pin	B-101450
Spring	B-42975	I.D. Brg. Spacer	B-101451
Chip Guard	A-86683	O.D. Brg. Spacer	B-101452
Stop Screw	B-86769	Rod Ext.	B-101453
Index Stop	B-92123	Gasket	B-101463
Gib	B-92129	Spacer	1061
Cap Gib	B-92130	Spacer	(6) 1071
Rear Cap	B-92131	Hyd. Cyl. (2½bore x 15"stroke)	A-91488
Gib Screw	B-92132	Kaydon Brg. No. KC040xPO	(2) B-92248
Bushing	B-92173	MRC Brg. 103 KSZZG	B-94492
Bushing Cover	B-92174	Switch Bracket	A-100776
Front Cyl. Mtg. Blk.	B-92175	Curvic Coupling (lower)	A-86517
Rear Cyl. Mtg. Blk.	B-92176	Curvic Coupling (upper)	A-86518
Stem Bracket	A-92177	Yoke	A-86644
34T. Gear	A-92178	Adapter	A-86706
68T. Gear	A-92179	Pipe Bracket	A-92014
Wiper Cover	A-92180	Brg. Closer	B-88049
Wiper	A-92181	Cartridge	B-88050
Cylinder Guard	A-92182	Turret Cover	B-96655
Hyd. Motor Manifold	A-92253	28T. Gear	A-86684
Valve Stem	A-92254	14T. Gear	A-86685
Bracket	B-94364	Center Post	A-86686
Front Cap	B-92216	Index Cam	A-96340
Key	B-94523	Ball Bushing	(2) A-88056
Scale	A-97315	Gasket	A-89578
Shaft	A-97575	Spacer	B-100790
End Plate	L-101443	Bracket	B-100823
Stop Screw Roll	A-101444	Pipe Cover	A-88851
Switch Bracket	A-101445	Yoke Plate	A-92645
Front Cover	A-101446	Index Cam	A-87896

NO. 4 A.T.L. - TURRET & SADDLE cont.

Plunger Block		A-100781	Key	B-88185
Switch Cover		A-100782	Brass Shoe	B-89011
Pin		B-88619	Spacer	B-92255
Feed Arrow		B-42100	40T. Gear	B-96329
Spring		B-48009	Actuator	B-96332
Hub		B-86687	S.S.S.	B-88338
Cover		B-86689	S.S.S.	B-88338
Cam		B-86703	Dog Point S.S.S.	B-88150
Coupling		B-86707	Oiler	B-88151
Bushing		B-86996	Washer	1060
Bushing		B-86997	Washer	2303
20T. Gear		B-87038	Plug	2409
Spacer		B-87040	Plug	2441
Key		B-87047	Char-Lynn Gerotor	B-88175
Feed Cam	(6)	B-87218	Orbit Motor Mtg.	
Key		B-87238	Style 4 hole Flange	
Cam Lock	(7)	B-87317	Gerotor size 1½"	
Spacer	(5)	B-87788	Tapped Mtg. Holes On	
Stop Screw Clamp	(6)	B-87807	Port Surfaces O-Ring	
Clamp Nut	(6)	B-87808	Ports No. C-5-M	
Dial	(6)	B-87890	Torrington Self-alig. Ball Bush.	B-91210
Spring	(8)	B-100913	Series SF No. 10 SF 16	
Gasket		A-100783	Torrington Self-alig. Ball Bush.	B-91211
Closer		A-100784	Series SF No. 17 F 28	
Cam Shaft		A-100786	Timken Brg. Cup #2	B-91212
Closer		A-100787	Timken Brg. Cone #2	B-91213
Spacer	(5)	B-88053	McGill Camroll Brg.	B-91216
Spacer	(5)	B-88054	No. CYR-1½"	
Lock Pin	(2)	B-88057	McGill Heavy Stud Camroll	B-91217
Guide Pin		B-88058	No. CFH-1 1/8"	
Dog Point S.S.S.	(2)	B-88150	M.R. Quad. Ring Seal	B-94874
Oiler	(2)	B-88151	Minnesota Rubber	

Constructions: L-91874,5, L-101454,5,6,7

NO. 4 A.T.L. - RECIPROFEED ATTACHMENT

Spacer	(2)	B-92276
Piston Rod		B-92277
Cylinder		B-92278
Bumper		B-92279
Spacer		B-101459
Switch Bracket		A-100799
Spring	(2)	B-43713
Stop Nut		B-83877
Rod Bushing		B-83884
Piston		B-84986
Plunger		B-103205
Shoe	(2)	B-88140
Cylinder Cap		B-88904
Cylinder Mounting	(2)	B-88905
Plunger Block		A-100800
Switch Cover		B-100801
Actuator		B-100802
Spring Retainer		B-100803
Plunger Cap		B-100824
Spring		B-100913
Shoe	(2)	C-2279
Auto.-Diesel-Butt Joint Piston		B-96820
Ring 1½ dia x 3/32 w. x 1/16 wall		
Spring 5-031		B-97481
Cut to 4"		

Construction: L-101458

NO. 4 A.T.L. - CROSS SLIDE & CARRIAGE

Cross Slide Gib	B-92283	Support Shaft	B-101377
Carriage	L-101358	Brass Shoe	(5) C-2252
Cross Slide	A-101359	Screw #127	C-5362
Front Bracket	A-101360	Adjustment Block	A-94175
Hyd. Cylinder	A-91487	Drive Tube	A-94176
Gib Screw	(2) B-92132	Dial	B-87977
Front Cap	B-92216	Dial Cap	B-87978
Gib Screw with B-96660	B-92284	Key	B-87979
Brass Shoe	B-92286	Thrust Washer	B-87980
Spacer	B-92287	Adj. Rod	A-94177
Stop	(2) B-92288	Gear Block	A-94178
Splash Guard	A-92291	Drive Rod	B-94180
Cyl. Guard	A-92293	14T. Gear	(2) B-94181
Cyl. Rod Guard	A-92294	Support	B-94183
Cyl. Block	A-92295	Collar	B-94184
Hyd. Cyl. Rod	A-92298	Thrust Washer	B-94193
Rear Cap	A-94890	Cover	(2) B-94397
Cap Gib	(2) B-94891	Guard Block	B-94402
Clamp Cap	B-94897	Rod Guard	A-94403
Cat. #CS-21 5/16 S.S.S.	B-95914	Carriage Guard	A-94909
with Nylon	B-96660	Slide Guard	A-94914
Nylon Tip	B-96660	Switch Bracket	A-100901
Cam Plate	A-101361	Switch Mount.	A-100902
Rear Bracket	A-101362	Switch Box	A-100903
Wiper Cover	(2) A-101363	Switch Cover	A-100904
Wiper	(2) A-101364	Gasket	A-100905
Stop Screw	A-101365	Arrow	B-47044
Stop Screw	A-101366	Cam Lock	(3) B-87317
Cam Positioner	(3) B-101367	Retainer	B-87325
Park Cam	B-101368	Manifold	B-87728
Feed Cam	(2) B-101369		

NO. 4 A.T.L. - CROSS SLIDE & CARRIAGE cont.

Carriage Gib	(2)	B-87969
Dial	(2)	B-87977
Dial Cap	(3)	B-87978
Key	(3)	B=87979
Thrust Washer	(3)	B-87980
Spring Housing		B-87981
Spring Retainer		B-100906
Spring Retainer	(2)	B-100907
Actuator	(3)	B-100908
Actuator		B-100909
Actuator		B-100910
Switch Cam		B-100911
Switch Cam		B-100912
Spring	(5)	B-100913
Cover		B-100925
Gasket		B-100926
Bushing		B-100920
Stop Block		B-100922
Stop Block		B-100923
Brass Shoe	(2)	
LC-063J1-MW Lee Spring		B-94923
LC-072J2-MW Lee Spring	(2)	B-94924
BZ-2RQ1-A2 Micro Switch	(5)	
#312 Reliance Snap Ring	(2)	
Jergens Thumb Screw	(2)	B-94925

Constructions: L-100930, L-101370,1,2, L-94185



NO. 4 A.T.L. - COOLANT PUMP  $\frac{1}{2}$  H.P.

Pump Pan	A-98119
Pump Guard	A-98120
Cover	B-98121
Motor Driven Coolant Pump	B-97122
Model 9050- $\frac{1}{2}$ H.P., 230/460V.	
3 Phase, 60 Cycle, Impel. 6061-DW	
Socket #4-S27 Series ST	B-94564
Plug #B4-T26 Series ST	B-94565
Pushloc #30182-8-8 ( $\frac{1}{2}$ x $\frac{1}{2}$ )	(2)
Hose #831-8	(2)
Swivel SZZOZ-8-8( $\frac{1}{2}$ "N.P.T.)	B-97341

Construction: L-98129

NO. 4 A.T.L. - AUTOMATIC LUBRICATION

Raychron C11A Cycle Timer, 120V. 60 HZ-2 Pole, Cycle Time 1 HR., Min Setting-1 Minute		B-91229
Allied Solenoid Valve-2 Way N.C. ½ NPT, 125 Orifice Size Conduit Housing #20314		B-91230
Oilrite Style SFN No. 1768		B-95313
Junction 5 Way Single	B-3263	
Junction 3 Way Tee,	B-3494	
Meter Unit B-1085 (FSA-2)	(2)	
Meter Unit B-1087 (FSA-4)		
Meter Unit B-2497 (FJB-2)		
Meter Unit B-2498 (FJB-3)	(2)	
Tubing Clip A-2435		
Compression Sleeve B-1061	(16)	
Compression Nut B-1095	(4)	
Compression Bushing B-1371	(9)	
Elbow Adapter A-3080		
Tubing		
Junction 6 Way Single	B-3264	
Meter Unit B-2497 (FJB-2)	(3)	
Elbow Adapter A-3080	(6)	
Compression Nut B-1095	(3)	

Constructions: L-94392, L-88536

NO. 4 AUTOMATIC TURRET LATHE  
CONSOLE

Console cabinet	L-98621	Control panel	A-98795
Setup panel	L-102647	Rear cover gasket - lower	A-103274
Guard, setup panel	A-87659	Rear cover gasket - upper	A-103273
Shelf	A-87727	Rubber shim	B-95485
Setup panel gasket	A-88096	I/O test legend plates	B-102933
Manual panel gasket	A-88097	Spindle speed overlay (39 - 2000 RPM)	B-100620
Manual panel	A-102646	Spindle speed overlay (30 - 1600 RPM)	B-101578
		Worthington lid support	B-91427
		Door latch & interlock	B-100990

Construction L-98790  
L-102813  
L-103266

## NO. 4 A.T.L. - CONSOLE

Console Cabinet	L-98621
Set-Up Panel	L-98793
Guard	A-87659
Shelf	A-87727
Set-Up Panel Gasket	A-88096
Manual Panel Gasket	A-88097
Manual Panel	A-98794
Control Panel	A-98795
Rear Cover Gasket (lower)	A
Rear Cover Gasket (upper)	A
Rubber Shim'	B-95485
I/O Test Legend Plate	B
Spin. Spd. Overlay	B-100620
Spin. Spd. Overlay	B-101578
Worthington-Lid Support	B-91427
Code No. 249 - 839	
Stk. No. 432 - 3 - 10	
Door Latch & Int'lk	B-100990

Constructions: L-98790, 1, 2

NO. 4 A.T.L. - MOTOR DRIVE

Motor Plate	A-92228
Motor Shaft	A-98154
Sterling 15/7.5 HP Motor	B-98151
Frame 256 UDZ	
1800/900 RPM with	
B & O Shaft A-98154	

Construction: L-91868

NO. 4 A.T.L. - VERTICAL SLIDE

Gib		B-87517
Slide		A-88134
Bracket		L-88129
L.H. Cap		A-96826
R.H. Cap		A-88132
L.S. Body		A-96827
Manifold		A-91833
Spring		B-45767
Key		B-60489
Stop Pin		B-84867
Hydr. Cylinder		B-85775
Stop Block	(2)	B-87370
Adj. Screw (lower)		B-87371
Dial Marker		B-87372
Conn. Strip		B-88136
Dog		B-95031
Adj. Screw (upper)		B-88356
Shoe	(2)	B-88357
Decel. Valve		B-90000
Check Valve		B-90001
Body Gasket		B-90415
Junction Box		B-95250
Plunger	(2)	B-95249
Gasket		B-100891
Const. Front & Side		L-100889
Const. Top		L-100890
Binks Ball Valve #7281111'		B-94876
Stud Nut		#847
Adj. Nut		#860
Washer		#2198

Constructions: L-100889, 90

NO. 4 A.T.L. - LIPE BAR FEED

Support Arm	A-84536
Support Arm Extension	A-84537
Inner Sleeve No. 2	A-95691
Inner Sleeve No. 3	A-95692
Drip Trough	A-95966
Rollway Bar Feed	B-95578
Model 225 SL 2" Capacity For 12' Long Stock	
Bushing - No. 1	A-102243
Bushing - No. 2	A-102244
Bushing - No. 3	A-102245

Construction: A-102246

Const. Support Arm Extension: A-84535

NO. 4 A.T.L. - CROSS SLIDE TOOL RELIEF

Block	A-94195
Cyl. Bracket	A-94196
Cylinder	A-94197
Stud	B-94198
H.H.C.S.	
S.H.C.S.	
H.H.C.S.	
L/W	
Soc. L/W	
L/W	
Continental #VA12M-3F-A-10 Air Piloted 3 Pos. 4 Way Hyd. Valve	
Schrader - Air valve Manifold Mtd.	B-93544
Schrader - Air Valve Sub Base Mtd.	B-91457
Clippard - 2 Pos. Selector Valve (3)	B-94207

Construction: L-94199



NO. 4 A.T.L. - CHIP CONVEYOR - MAYFRAN

Chip Chute

L-96524

Cover

A-96525

Mayfran Chip-Tote Conveyor

Ref. Dwg. #24451 A/O

Construction: L-96523

Foundation & Outline Const. A-97613

NO. 4 A.T.L. - TAC GENERATOR

Spring	(2)	B-40728
Roller Way (4 ATL)		A-98664
Bracket		A-98665
Mounting Plate		A-98681
Roller	(2)	B-98692
Spacer	(2)	B-98693
Roller Bracket	(2)	A-98694
Generator Housing	(2)	A-98695
Bracket		A-98696
Cyl. Rod Guard #4 ATL.		A-98697
Cyl. Rod Extension		B-99193
Meter Cover		A-97188
Mount. Plate (4 ATL-Elect)		A-98682
Meter Box		A-97189
Sel. SW. Plate		B-97187
Serv-Tek Generator	(2)	
Triplett Meter		

Meter Box Const. A-97190

Electric Schematic A-98595

Const. T & S A-98663

Const. C.S. A-98684

NO. 4 A.T.L. - 8 IN. AIR POWER CHUCK

Adapter		A-85057
Cylinder Guard		A-97661
Draw Rod		A-101528
8" Power Chuck		
Model 20-620-08-A08		
8" Air Cylinder		
Model 10-752#08-000		
Soft Blank Top Jaws		
#05-201451		
Manifold		A-93405
Mounting Plate		A-93911
Detend Hub		B-93913
Caution Plate		B-94301
Arrow Muffler	(2)	B-90404
Barksale Valve		B-93457
Bellofram Air Cyl.		B-93458
0 to 160 Gage		B-93461
Tektro Power Valve		B-93462
Side Guard		A-93912
Cover		A-94426
Chuck Tag		B-93914
Caution Plate		B-93915

Construction: L-101527, A-97659

SPINDLE INTERLOCK

Cam		B-92502
Micro switch 4LS1		
$\frac{1}{4}$ x $\frac{1}{4}$ Lg. B.H.S.C.S.	(4)	
$\frac{1}{4}$ x $\frac{3}{8}$ Lg. H.H.C.S.	(2)	
Washer	(4)	C-1054
Lockwasher	(2)	

Construction Dwg. A-103113

## - TOOLING LAYOUT -

Toolholder	A-109561	Stop rod support	A-92792
Screw bracket	B-109564	Facing tool	A-42994
Screw bracket	B-109565	Spacer	B-109587
Spacer	B-109563	Bushing 1" hole	B-43302
Tee nut (2)	B-92332	Bushing 5/16 hole	B-39298
Key	B-92344	Toolholder	B-109570
Washer (4)	C-1067	Valenite NVSDN-8	
Sandvik L166.OFG-2-3-B		Center drill No. 4	
Sandvik R166.OFG-2-3-B		Toolholder	A-109593
Stop nose	B-109582	Adapter	B-109592
Rod	B-109589	Key	B-92344
Sleeve	B-109583	Tee nut (2)	B-92332
Guard - rear spindle	A-109588	Sandvik SCLCR123B	
Finger holder	A-92791		

Construction L-109591