

## BASE (LESS HYDRAULIC EQUIPMENT)

Base		L-87066	Pump base shim	(12)	B-88264
Guard		L-87126	Z guard		A-87127
Guard	(2)	B-87873	Cross slide & O.H.S. manifold		A-87128
Guard	(2)	B-87874	Turret slide manifold		A-87129
Motor plate		L-87067	Pump base		A-88187
Pump base	(2)	A-87068	Check valve body	(8)	A-87131
Rapid manifold	(2)	A-87069	Piston shaft	(8)	B-87132
Low pressure manifold		A-87070	"O" ring sleeve	(8)	B-87133
End cover		A-87071	"O" ring cap	(8)	B-87134
Cover gasket	(2)	A-87072	Piston	(8)	B-87135
Sump filter bracket	(4)	A-87073	Piston cap	(8)	B-87136
Filter bracket gasket	(4)	B-87074	Pump base shim	(6)	B-88265
End cover		A-88186	Valve extension shaft		B-87752
			Socket		B-87754

## HYDRAULIC EQUIPMENT

5 HP, frame 184T, double end shaft, 1800 RPM motor	
Contirental hydraulic pump PVR2-15806-RM-0-1	Manatrol valve N-800-B-10 (2)
Continental hydraulic pump (2) PVR1-6B06-RM-0-613	Manatrol valve MV-401-B
Manifold B-88724	Manatrol valve F-200-B-10
Manifold bracket B-88725	Manatrol valve MTPCS-600-S-3 (8)
Continental valve (8) VA8M-1A-A-10	Manatrol valve RPS-600-1
Continental valve (2) VA8M-3L-A-10	Manatrol valve N-400-B-10
Marvel filter (2) B-85891	Manatrol valve CS-600-S-10
Marvel filter (3) C-1-10-100	Manatrol valve PRS-600-S-1
Woods coupling - 5J with 1½ and 1 dia. holes	Federal breather cap. assembly Type 700
Woods coupling - 5J with 7/8 and 3/4 dia. holes	G.E. Calrod heater 2D356 - 500 watt (2)
Woods coupling 5J with 3/4 and 3/4 dia. holes	Powers Regulator thermostat 134-1081 50 deg - 130 deg
Cylinder 3¼ D x 19 A-88174	
Cylinder 3¼ D x 14 A-87982	
Marsh pressure gage 0 - 200 psi	
Scovill pressure gage 50 - 500 psi (2)	
Char-Lynn motor C-5-M	
Century Detroit level gage 8575-T	
	MACHINE WITH VERTICAL SLIDE UNIT
	Continental hydraulic pump PVR-1-6B06-RM-D613
	Woods coupling 5J with 3/4 & 3/4 dia. holes
	Cylinder - 2½ D x 4
	Marvel filter C-1-10-100
	Marvel filter B-85891
	Manatrol valve MTPCS-600-S-3
	Manatrol valve CS-600-S-10
	Manatrol valve DS-600-S
	Continental valve VA8M-3L-A-10
	ICC valve 101550
	Subplate A-87130
	Pump base A-87068

BED, PAN & LEGS

Left hand leg	L-87267	Hose guard	A-87695
Bushing	B-87518	Tooling guard	A-88337
Head guard	L-87575	Angle bracket	B-88191
Hose manifold	A-87579	Bracket	A-88192
Strap (5)	B-87696	Chip chute	A-88193
Spring clip (2)	B-88194	Window	A-88652
Coolant manifold	B-88195	Main guard	L-88196
Turret manifold	A-88726	Side guard	A-88197
Brace (2)	A-88207	Cover	A-88198
Thomson ball bushing		Cover	A-88199
pillow block unit PB12A		Cover	A-88200
(2)		Rod	B-88201
Handle (2)	246-264	Spacer (2)	A-88307
Bed	L-87113	Spacer (2)	A-88308
Right hand leg	L-87266		
Pan	L-86949		
Bedway (2)	A-86760		
Front splash guard	A-87576		
Rear splash guard	A-87577		

## HEAD

Housing		L-86814	A0 450 clutch hub	(2)	A-86937
Bearing closer	(2)	A-86066	A0 600 clutch hub	(2)	A-86938
Bearing closer		A-86067	Spacer shim	(6)	B-88024
Cover	(2)	B-85182	Spacer shim	(7)	B-88152
Cover gasket	(2)	B-87177	93T gear		A-86124
Bearing washer	(4)	B-88020	99T gear		A-86828
Spacer		B-86074	43T gear		A-86829
Spacer	(2)	B-86079	37T gear		A-86830
Spacer		B-86082	MRC bearing		1911-S
Shaft		A-86083	MRC bearing	(2)	212-S
Spacer		B-86131	MRC bearing		213-SZ
Spacer		B-86203	MRC bearing	(2)	208-S
59T gear		A-86817	MRC bearing	(2)	5209-K
49T gear		A-86820	MRC bearing	(2)	5212-K
27T gear		A-86821	MRC bearing		307-S
Pinion shaft		A-86831	MRC bearing		5309
61T clutch gear		A-86931	Fawickclutch with A-86937 hub(2)	AS 450	
71T clutch gear		A-86932	Fawickclutch with A-86938 hub(2)	AS 600	
71T clutch gear		A-86933			
95T clutch gear		A-86934			
Manifold		L-87256			

SPINDLE

3" CAPACITY

Head	L-86813	Adjusting nut	A-86846
Front bearing closer	A-86812	Adjusting nut	A-86847
Rear bearing closer	A-86845	70T gear	A-86848
Bearing spacer	B-86850	A0 900 clutch hub	A-86854
Spindle	A-88234	Key (2)	B-86865
Top cover	A-87578	105T clutch gear	A-86939
Rear guard	A-87856	Spacer	A-86940
Spindle guard	A-88206	Fawick clutch with A-86854 hub	AS 900
Driving button	B-37291	Timken Bearing cone	71450
		Timken Bearing cup	71750
		Timken Bearing cup	792
		Timken Bearing cone	799
		Kaydon bearing	KG050XP0

SPINDLE  
5" capacity

Head	L-88648	Top cover	A-88727
Front bearing closer	A-88429	Rear guard	A-88728
Rear bearing closer	A-88430	Spindle guard	A-88729
Rear spacer	B-88432	96T. Gear	A-88443
Spindle	A-88314	126T. Gear	A-88444
Driving button	B-42420	Balancing ring	A-88981
Driving button screw	B-48435		
Key	(2) B-86865		
Spacer	B-88431		
Bearing retainer	B-89448	Timken bearing cone	67790
Adjusting nut	A-88433	Timken bearing cup	67720-B
Adjusting nut	A-88434	Timken bearing cone	67885
Clutch Hub	A-88435	Timken bearing cup	67820-B
Clutch back plate	A-88436	Kaydon Bearing	KG075XPO
Clutch front plate	A-88437	Kaydon bearing	KG080AHO
Clutch body	A-88438	Kaydon bearing	KG100AHO
Clutch sleeve	A-88439	Quad ring seal	Q 4373
Drive plate	(4) A-88440	Quad ring seal	Q 4379
Clutch plate	(5) A-88441	Spirolax retaining ring	RS-800
Separator spring	(5) A-88442	Spirolax retaining ring	RS-850

COLLET CHUCK 3" CAPACITY

Finger 3" Cap.	(3)	A-70711	Actuator	B-87321
Cylinder mounting block	(2)	A-86980	Valve body	B-87528
Finger holder friction		B-44275	Valve closer	B-87529
Finger roller (3-3", 4-5")		B-62784	Pin	B-88239
Finger roller pin (3-3", 4-5")		B-62785	Bunting bushing E-464	
Wedge shoe	(2)	B-74999	Bunting bushing EA-839	
Cylinder link		B-86975	Glyd ring S-12547	B-87984
Yoke link pin		B-86976		
Lever		B-86977		
Yoke		A-86967	Yoke bracket	A-86965
Guard		A-89175	Collet	A-44578
Collet pad		A-49563	Wedge	A-74996
Yoke pivot		A-86970	Air cylinder	A-86981
Abutment sleeve		A-87269	Finger holder	A-88236
Collet hood		A-88235	Wedge shoe stud	(2) B-42434
Plunger		B-88237	Ring	B=88238
			False jaw screw	(4) 2231
Inner sleeve		A-88929		

COLLET CHUCK  
5" capacity

Yoke	A-88318	Wedge shoe stud	(2) B-88320
Yoke bracket	A-88319	Plunger	A-88313
Collet wood	A-88796	Ring	A-88317
Collet	A-88795	Collet pad screw	(6) A-88797
Collet pad	A-80597	Inner sleeve	A-89447
Wedge	A-88315		
Yoke pivot	A-88312		
Air cylinder	A-88302		
Abutment sleeve	A-88316		
Finger holder	A-88311		



MOTOR DRIVE

Motor shaft	A-87789	motor, constant
Adapter plate	A-88189	torque, two speed, 1800/900
Adapter plate shim (3)	A-88323	RPM, single winding, TEFC, NEMAD flange mounting, frame 326U, 3 phase, 60 cycle

TURRET AND SADDLE

Curvic coupling (lower)	A-86517	Cam	B-86703
Curvic coupling (upper)	A-86518	Coupling	B-86707
Yoke	A-86644	Front cap	(2) B-86955
Yoke plate	A-86645	Bushing	B-86996
Adapter	A-86706	Bushing	B-86997
Pipe bracket	A-87058	20 tooth gear	B-87038
Valve bracket	A-87090	Key	B-87047
Stop bracket	A-87226	Bearing closer	B-87216
Index stop	A-87227	Key	B-87238
Hydraulic cylinder bracket (2)	A-87279	Valve closer	B-87249
Bearing closer	B-88049	Actuator	B-87250
Cartridge	B-88050	Gasket	B-88333
28 tooth gear	A-86684	Cam lock	(7) B-87317
14 tooth gear	A-86685	Actuator	(8) B-87321
Center post	A-86686	Valve body	B-87528
Valve block	A-87032	Feed cam	(6) B-87218
76 tooth gear	A-87035	Valve closer	B-87529
38 tooth gear	A-87036	Spacer	(5) B-87788
40 tooth gear	A-87037	Stop screw clamp	(6) B-87807
Valve disc	A-87042	Clamp nut	(6) B-87808
Index cam plate	A-87219	Dial	(6) B-87890
Valve cover	A-87225	Glyd ring S-12547-10	(8) B-87984
Valve body	A-87248	Spacer	B-88712
Valve stem	A-87548	Pivot pin	B-88051
Bushing	A-87549	Spacer	(8) B-88053
Stop screw roll	A-87806	Spacer	(8) B-88054
Index cam	A-87896	Actuator	B-88055
Hydraulic motor manifold	A-87933	Lock pin	(2) B-88057
Ball bushing	(2) A-88056	Guide pin	B-88058
Binder bolt	(6) B-36180	Bracket	B-88143
Valve spring	(3) B-45759	Key	B-88185
Spring	B-46766	Gasket	B-88331
Carbide insert	(2) B-86657	Pin	B-88619
Hub	B-86687	Bracket	B-88723
Cover	B-86689	Char-Lynn orbit motor C-15-M	B-88175

TURRET AND SADDLE

M.R. Quad ring seal	Q-4271	Chip guard	A-86683
Torrington ball bushing		Wiper	A-86950
No. 10 SF 16		Wiper cover	(2) A-86951
No. 17 SF 28 (ball only)		Shaft	A-87044
Timken Bearing cup 2525	(2)	Cam plate	A-87220
Timken Bearing cone 2558	(2)	Rear cover	A-87222
Bunting bushing C-67	(2)	Top cover	A-87224
McGill bearing CYR-1½"	(2)	Hydraulic cylinder guard	(2) A-87259
McGill bearing CFH-1-1/8"	(6)	Hydraulic cylinder rod	A-87261
Kaydon bearing KF040XP0		Stem bracket	A-87547
Spring LC-022A-7-MW	(8)	Hydraulic cylinder	A-88174
Truarc snap ring 5100-62		Stop screw	(6) B-86769
O-ring 11-009	(8)	Wiper cover	B-86952
O-ring 11-011	(23)	Spacer	B-87040
O-ring 11-124	(4)	Shim	(9) B-87262
MRC bearing 203 SFFG		Rear cap	(2) A-88146
Saddle	L-86711	Cap gib	(2) B-88147
Hex turret	L-86735	Gib	(2) B-88148
End plate	A-87033	Oiler	(2) B-88151
Hydraulic cylinder bracket	(2) A-87279	Socket set screw	(2) B-88338

AUTOMATIC TURRET LATHE  
RECIPROFEED

Feed signal block		A-87601	Shoe	(2)	B-88140
Spring	(2)	B-43713	Piston rod		B-88902
Stop nut		B-83877	Cylinder		B-88903
Rod bushing		B-83884	Cylinder cap		B-88904
Piston		B-84986	Cylinder mounting	(2)	B-88905
Plunger cap		B-87602	Bumper		B-89235
Plunger		B-87603	Chicago Rawhide wiper ring		6145
Gasket		B-87785	Butt Joint piston ring		
Gasket		B-87786	1-1/4 dia. x 3/32 wide		
			x 1/16 wall		
			Linear-O-ring		11-121
			Spring		DS-232

CROSS SLIDE & CARRIAGE

Cross slide		L-87960
Front bracket		A-87961
Valve bracket		A-87962
Stud		B-37754
Adjusting nut		B-40580
Gib screw	(4)	B-58815
Cam	(3)	B-87315
Cam lock	(3)	B-87317
Valve cover		B-87320
Actuator	(5)	B-87321
Valve bracket cover		B-87324
Retainer		B-87325
Manifold		B-87728
Rear bracket		A-87964
Short front cap		B-87965
Long front cap		A-87966
Rear cap		A-87967
Cap gib	(2)	B-87968
Carriage gib	(2)	B-87969
Cam positioner	(3)	B-87970
Cam plate		A-87971
Stop screw	(2)	A-87972
Stop block	(2)	B-87973
Stop pin	(2)	B-87974
Valve block	(2)	B-87975
L.V. gasket	(2)	B-88330
Dial	(3)	B-87977
Dial cap	(5)	B-87978
Key	(5)	B-87979
Thrust washer	(4)	B-87980
Spring housing	(2)	B-87981
Carriage		L-87959
Cross slide gib		B-87963
Hydraulic cylinder rod		A-87983
Cylinder rod guard		A-88072

Glyd ring S-12547-010	(5)	B-87984
Spring LC-022A-7-MW	(5)	
Spring LC-063J-1-MW	(2)	
Spring LC-063J-3-MW	(2)	
11-009 "0" ring	(5)	
11-011 "0" ring	(5)	

MACHINE WITH STANDARD CROSS SLIDE ADJUSTMENT

Bracket		A-88106
Cylinder mounting plate		A-87683
Adjusting nut		B-87676
Extension rod		B-87677
Extension nut		B-87678
Bushing		B-87680
Bushing	(2)	B-87684
Rod		B-87681
Tube guard		B-88107
Adjusting screw		B-88108
Adjusting screw cap		B-88332

MACHINE WITH CROSS SLIDE TOOL RELIEF

Omit standard parts B-87681 and B-87684

Add		
Cylinder adjusting nut		B-87685

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5A-13-P

COOLANT PUMP

Manifold		B-88034	Parker #831 hose
Mounting plate		A-88156	Gusher coolant pump 6-P3 x-long
Spring	(4)	B-88155	Hansen coupling
Parker push-lok fitting			Socket 4-S26
1/2 - 1/2 - 30182-4	(2)		Plug B4-T26

AUTOMATIC LUBRICATION

Raychron C11A cycle timer  
120 volt, cycle time 1 hour,  
minimum setting 1 minute

Bijur meter unit FSA-B-1086 (7)  
Bijur meter unit FJB-B-2498 (4)  
Bijur meter unit B-1087

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5A-15-P

## CONSOLE

Console cabinet	L-88071	Johnson Service Company	
Volume chamber	A-86478	52 gate manifold assembly with	
Function selector manifold (6)	A-84070	FLE-251 fluidic nor element	(4)
Volume chamber cover	A-86479	Fluidic diode FCD-401	(120)
Set up Panel	L-87212	Orifice FCO-120	(160)
Guard	L-87659	Amplifier FDN-123	(3)
Shelf	A-87727	Fluidic/Elect. switch FDA-40	(5)
Manual control panel	A-88091	Northeast relay 3200-B	(4)
Manifold	A-88092	Northeast valve 2010	(24)
Supply manifold panel	A-88093	Micro Switch indicator 11NF1-RG	(6)
Supply manifold	A-85301	Micro Switch valve 51NF1-30 with MDA3711Q	
Bracket (2)	A-88561	Hunt valve P084-2001	
Supply manifold	A-87167	Dwyer manometer 1220-12	
Bracket	A-87168	Dwyer manometer 1220-24	

## PNEUMATIC COMPONENTS INCLUDING FLUIDIC

Marsh pressure gage 2-1/2" 0-15 psi  
 Marsh pressure gage 2-1/2" 0-100 psi  
 Fairchild Hiller pressure  
 gage 0-10 psi (5)  
 Wilkerson filter 1237-2J-1/4  
 Wilkerson filter 1206-4-1/2  
 Wilkerson filter 1137-4F (2)  
 Wilkerson lubricator 3002-E-4  
 Wilkerson pressure regulator  
 2001-4G 1/2 NPT (3)  
 Koby - Senior King filter  
 Fairchild Hiller pressure regulator  
 Model 3D - catalog no. 3D122 (5)

## MACHINE WITH COLLET CHUCK

Air cylinder 6" x 2-5/8 A-86981  
 1CC air valve 010091-1C (2)

## MACHINE WITH CROSS SLIDE TOOL RELIEF

Air cylinder A-87682  
 1CC air valve 010091-1C (2)



PUSH BUTTON

PUSH BUTTON BODY

B-83033

3/8 D. x 1/16 THK. NEOPRENE DISC

USED WITH THE FOLLOWING

A.B. OPERATOR BUTTONS

A.B. BUL. 800T - CAT. #A2

A.B. BUL. 800T - CAT.#D6

A.B. BUL. 800T - CAT. #A2-N13

SELECTOR ASSEMBLY

Valve body	B-84049	Linear O-ring	11-012
Valve spool	B-84050	Linear O-ring	11-017
Washer	B-86200	C-H standard retaining nut #	15-676
Brass shoe	(2) #1049	Truarc retaining ring	5103-50
Roll pin	(2) 1/8x1/2 lg	Clippard plug	#11755
Roll pin	1/8x5/8 lg		
1/4 dia steel ball	(2)		

FUNCTION SELECTOR

Valve plug	B-85622	1/4 dia. steel ball	(2)	
Valve body	B-85623	Pitney-Bowes tube conn		#505-0002
Valve stem	B-85624	Linear O-ring		11-009
Pull knob	B-84088	Linear O-ring		11-111
MTG. nut	B-83874	Linear O-ring	(2)	11-112

PULSE BUTTON

Pulse button cover	B-86011	5/8 dia.x1/16 thk. Neopreme Disc.
Pulse button body	B-86012	Norgren male tube conn. 1/16 ID
Diaphragm	B-86019	Lee spring LC-038E-10

Used with following A.B. operaror buttons

AB Bul 800T cat #A2 (2)

A.B. bul 800T A2-M13

TIME DELAY NEEDLE VALVE

Valve Plug  
Valve bracket  
Valve body  
Hard pin  
Drill bushing  
Lee spring  
P-B connector

B-85622  
B-86198  
B-86460  
1/4 x 2 L.  
#U-921  
LC-026C  
#105-2

Cam  
Valve stem  
Roll pin  
Nylon shoe  
Linear O-ring  
Rogan

B-86199  
B-86459  
1/8 x 1/2 L.  
1/8 x 1/4 L.  
11-111  
RB-51-1

5A-21-P

VERTICAL SLIDE

Gib	B-87517	Dial marker	B-87372
Bracket	L-88129	Shoe (2)	B-88357
Slide	A-88134	EMPIRE-LUERS-TOOLHOLDER	
Manifold	A-88135	Toolholder	A-88277
Tool block	A-88133	End cap	B-88275
L.H. cap	A-88131	LUERS CUTOFF BLADES	
R.H. cap	A-88132	P-8-HSS 3/16 thick, high speed steel	
Spring	B-52222	P-9-HSS 1/4 thick, high speed steel	
Adjusting screw	B-88356	P-8-TC 3/16 thick, carbide tipped C-6	
Junction box	B-84857	P-9-TC 1/4 thick, carbide tipped C-6	
Seal (2)	B-85601	P-8-C.A. 3/16 thick, cast alloy	
Dog	B-88137	P-9-C.A. 1/4 thick, cast alloy	
Control block	B-84866	MANCHESTER TOOLHOLDER	
Stop pin	B-84867	Manchester toolholder R.H.	T-621
Conn. strap	B-88136	Support blade 2B-187-10	
Stop block (2)	B-87370	Arm clamp 2C-187-10	
Adjusting screw	B-87371	Insert 2FI-187-10 *	
Plunger (2)	B-85600	Support blade 2B-187-15	
		Arm clamp 2C-187-15	
		Insert 2FI-187-15 *	
		Support blade 2B-250-10	
		Arm clamp 2C-250-10	
		Insert 2FI-250-10 *	
		Support blade 2B-250-15	
		Arm clamp 2C-250-15	
		Insert 2FI-250-15 *	
		HSS (high speed steel)	
		Tantung (Cast alloy)	
		Taw - C-5 (Throwaway carbide C-5 grade)	

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NEW ULM 3" BAR FEED

Arm	A-88525	Drip through	A-88894
Extension	A-88526	Drip through bracket	A-88895
Rod	B-88527		
Baseplate	A-88528	Optional	
Inner plunger	A-88538		
New Ulm bar feed standard		L.H. Found. Plate	A-89229
model 3" cap x 12½' cap. lg.		R.H. Found. Plate	A-88830
		Bar feed found. Plate	A-89228

CROSS SLIDE TOOL RELIEF

Cylinder Adjusting Nut  
Air Cylinder

B-87685  
A-87682

Offman-Pushbutton- #E-2PB  
I.C.C. Pneumatic Valve #010091-1C (2)

A-88272

Clippard - Selector - 13100-15-2 (2)

Clippard - Adapter - 12328 (2)

Clippard - Valve - MJV-3 (2)

Hunt-Plug - #2001-EP

5A-24-P



TURRET REVERSE INDEX

Delete from Hydraulic Equipment list

Continental valve VA8M-1A-A-101

Add

Continental valve VA8M-3A-A-10

Humphrey valve # 5125

Johnson Service Company

Fluidic diode FCD-401 (6)

Orifice FCO-120 (6)

Logic element FLE-251 (6)

Northeast valve # 2010

Function selector (6) B-85625

Overlay B-88557

Overlay B-88558

Spacer B-88562

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5A-25-P

SKIP FEED

Arrow		B-47044	Glyd ring S-12547	B-87984
Function selector	(6)	B-85625	Johnson Service Company	
Cam lock		B-87317	FLE-251 logic element	(2)
Actuator		B-87321	FCO-120 (012) orifice	(6)
Valve block		B-88836	FCO-401 diode	(6)
Start rapid cam		B-88837	Linear O-ring No. 11-009	
Valve closer (Replaces B-87249)		B-88838	Linear O-ring No. 11-011	
Bracket (Replaces B-88821)		B-88839		
Cam template (Replaces A-87220)		A-88840		
Overlay		B-88841		
V. Gasket		B-88830		
Feed Cam		B-87218		
Skip Feed Tag		B-88867		

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5A-26-P

SP HOLLOW CHUCK CYLINDER, CHUCK AND COLLET - S.S. WHITE

Collet	A-44578	-SP Hollow rotating hydraulic cylinder
Collet hood	A-88235	Model RHC 8 bore 2 stroke
Plunger	A-88398	- SP self centering chuck model K-300 10"
collet adapter	A-88404	to fit 8" spindle
Spindle	A=88405	- Continental Polypack power unit R-20A-2-BMP-HI
Guard	A-88407	with PVRI-6B06-RM-0-1 pump and 2 HP, 1800 RPM
Wrench	A-88451	3/60/230/460 TEFC motor, and air to oil cooler
chuck adapter	A-89032	with shroud assembled
Anti-rotation bracket	A-89033	- Continental VA8M-2A-A-10 valve
Adapter	A-89034	- Continental MVS8-B subplate
Inner sleeve	A-89035	- Custom components 611G dual snap press. SW,
Rear guard	A-89040	factory set 200 psi incr. press 175 psi decr
Sleeve	B-89036	press 5 amp SPDT, 1000 psi proof
		- Marvel filter B-85891
		- Manatrol PR-400-1 reducing valve
		- Manatrol F-600-B needle valve

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