



Quality

Equipment

PARTS MANUAL

Manufacturer:

ASHLAND INDUSTRIES, INC.
P.O. BOX 647 ASHLAND, WISCONSIN 54806



MODEL I-90SP

MODEL I-90SP SCRAPER

HOW TO ORDER PARTS:

IMPORTANT

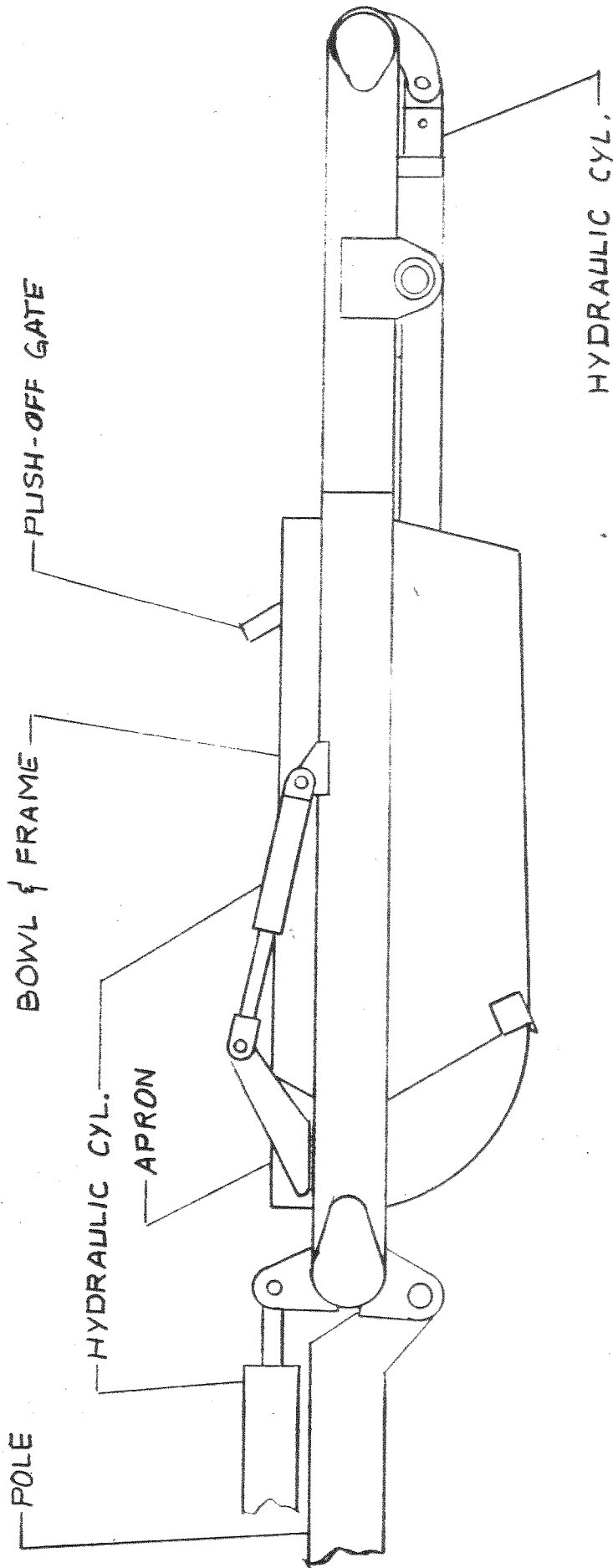
Be sure to state MODEL and SERIAL NUMBER of machine, PART NUMBER, DESCRIPTION and QUANTITY needed.

Unless this is done, we cannot provide prompt service or assure shipment of correct parts.

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OPERATORS AND MAINTENANCE INSTRUCTIONS

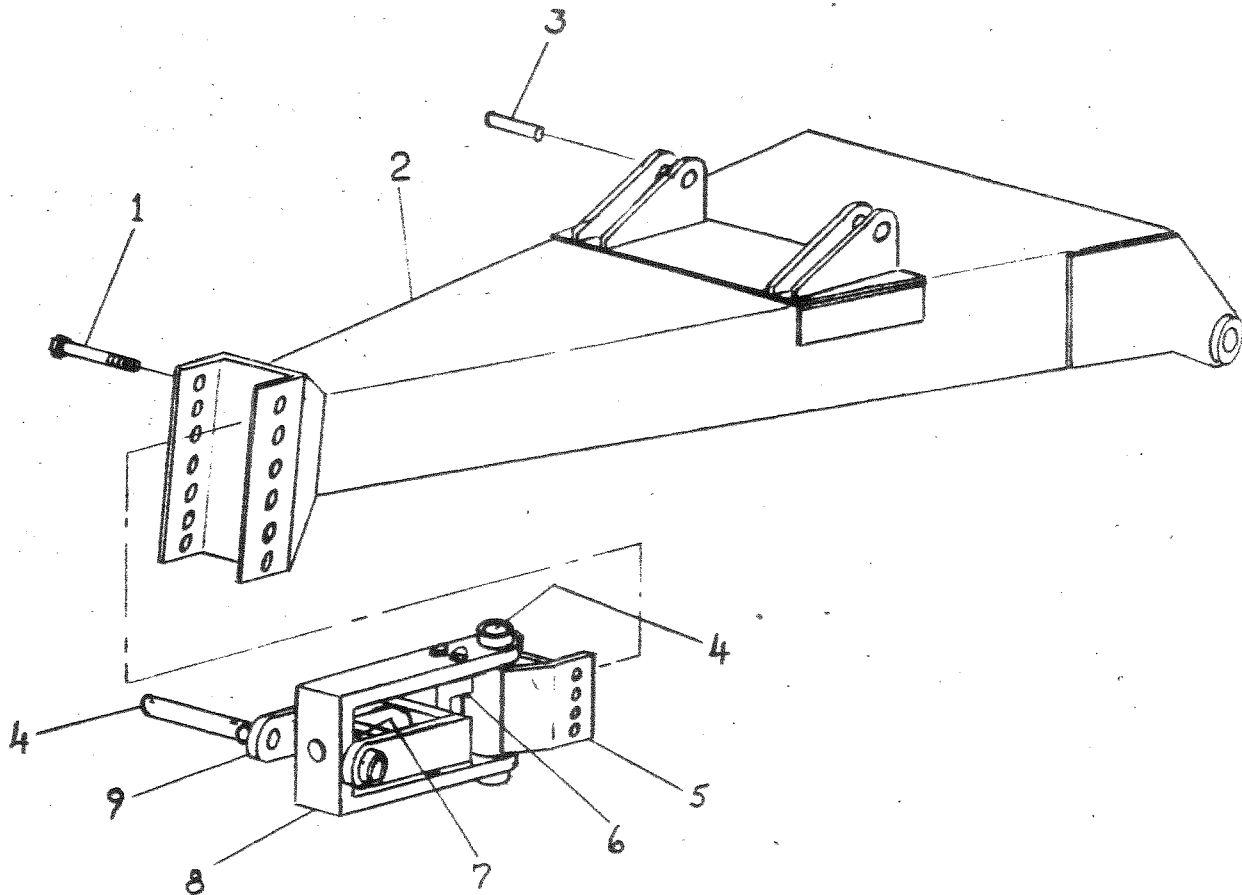
The scraper is a durable piece of equipment and with proper care will yield many years of trouble free operation. The scraper requires a power source with two four-way (double acting) hydraulic control valves.

The scraper should be greased at all points where grease fittings are provided. Connect hydraulic hoses to the tractor and extend and retract all cylinders several times to force out any air from the hydraulic cylinders and lines. Check the oil level in the tractor hydraulic system and add to maintain the proper level. Care should be used when adding oil or when disconnecting any oil line to keep all dirt out of the oil as dirt is a major factor in the failure of hydraulic components.

When the scraper is placed into operation the operator will have to "feel out" the amount of depth of cut to obtain maximum loading efficiency. This is usually accomplished by taking a lesser and more uniform cut. However, some soil conditions such as loose sand may require a "pumping action" obtained by taking successive deep cuts and lifting out of cut as the tractor begins to lose power or traction.

1. After ten hours work, all bolts should be checked and tightened if necessary.
2. Every ten hours all grease fittings should be lubricated.
3. After fifty hours work, all bolts should be rechecked and tightened if necessary. Check wheel bearings and adjust if necessary.
4. After 300 hours work, clean and repack wheel bearings and replace, if necessary, cutting edges, worn pins, etc.

ILLUSTRATION
POLE & SWIVEL HITCH

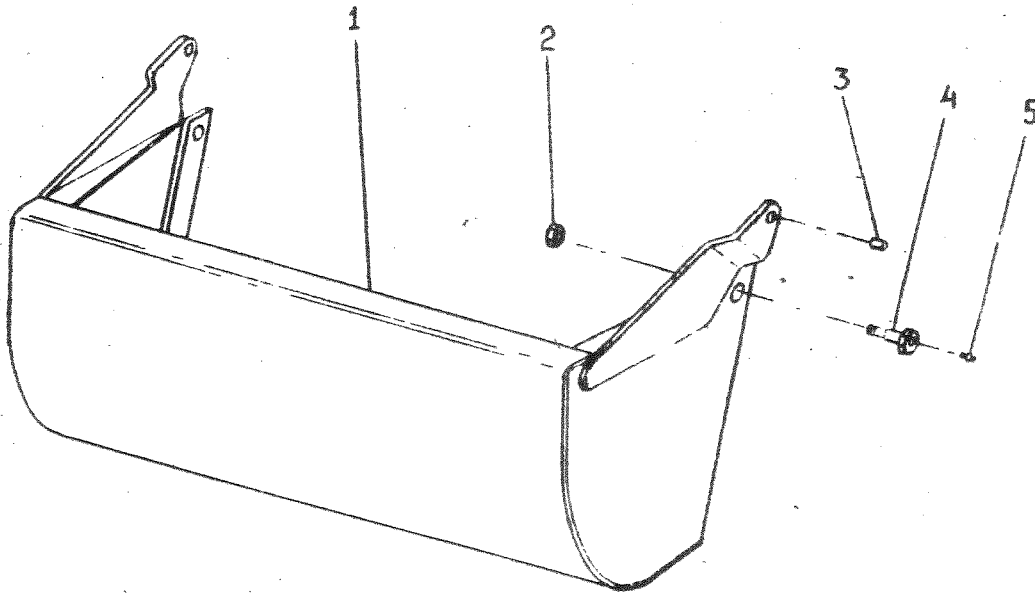


P A R T S L I S T

Model I-90SP SCRAPER

<u>KEY NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.		Bolt, 1" x 10" long
2.	A9011	Pole
3.	A9024	Pin
4.	A9012	Pin, 2½" dia. x 15¼" long
5.	A9013	Vertical Pivot
6.	A9014	Pin - Rotating
7.	A9015	Thrust Washer
8.	A9016	Vertical Pivot Support
9.	A9017	Horizontal Pivot

ILLUSTRATION
 APRON ASSEMBLY

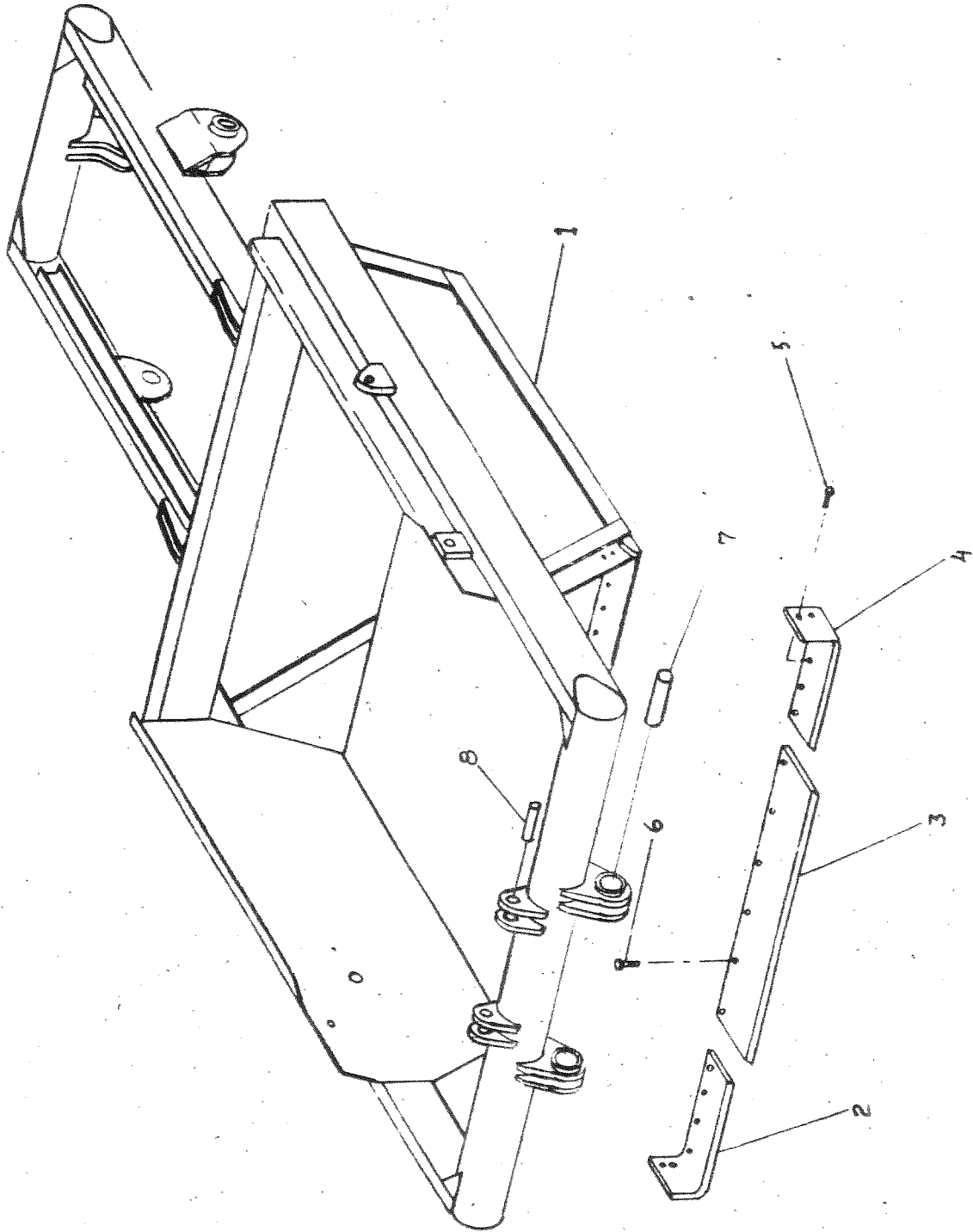


PARTS LIST

MODEL I-90SP SCRAPER

<u>KFY NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	A9021	Apron
2.	-----	Self Lock Nut, 1-1/4 NF
3.	A10155	Bushing, 1-1/2 O.D. x 1" I.D. x 1-1/8
4.	A6010	Shoulder Fin 1-5/8 to 1-1/4 w/Zerk in head
5.	-----	Grease Fitting

ILLUSTRATION
BCWL AND FRAME ASSEMBLY



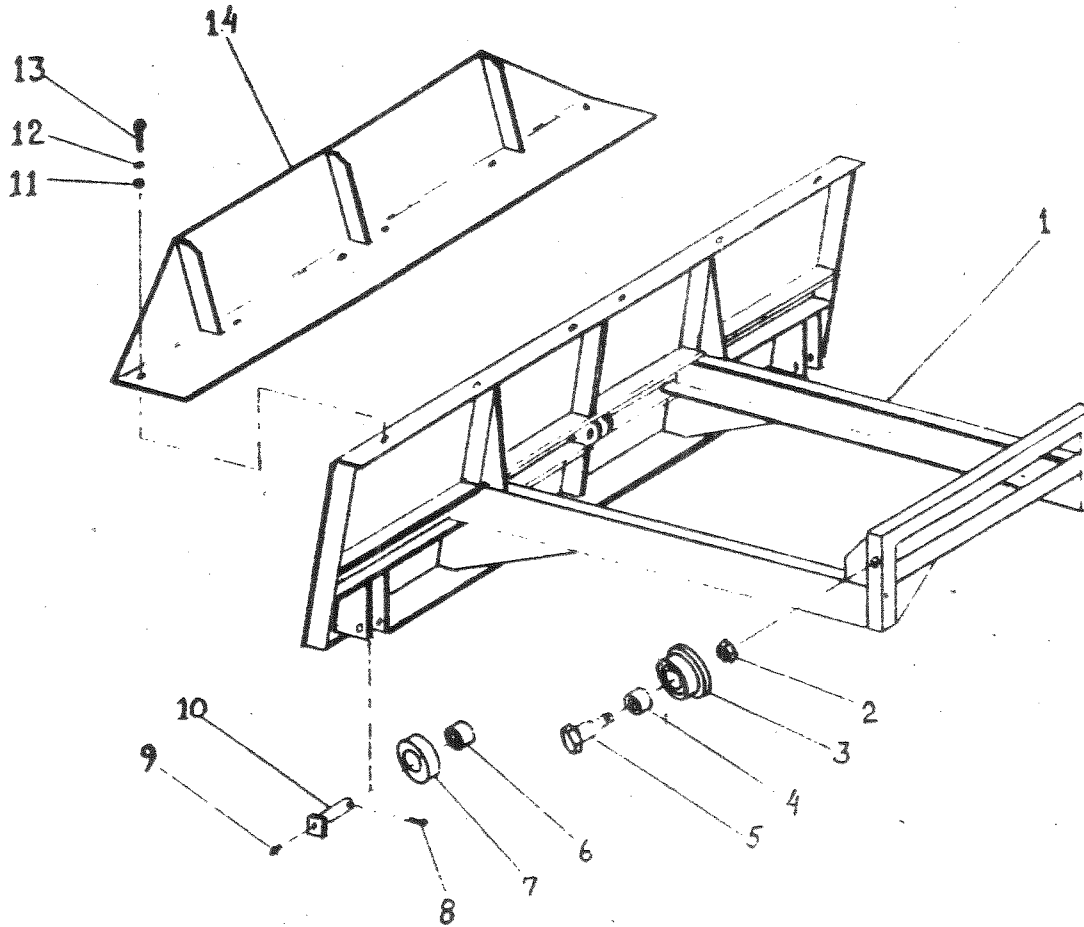
PARTS LIST

BOWL and FRAME ASSEMBLY

MODEL I-90SP SCRAPER

<u>KEY NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	A9022	Bowl and Frame
2.	A10010A	Right Cutting Edge
3.	A10012	Center Cutting Edge
4.	A10011A	Left Cutting Edge
5.	-----	Plow Bolt 5/8 NC x 2" w/nut
6.	-----	Plow Bolt 5/8 NC x 2-1/2" w/nut
7.	A9009	Pin
8.	A9010	Pin

ILLUSTRATION
PUSH OFF GATE ASSEMBLY

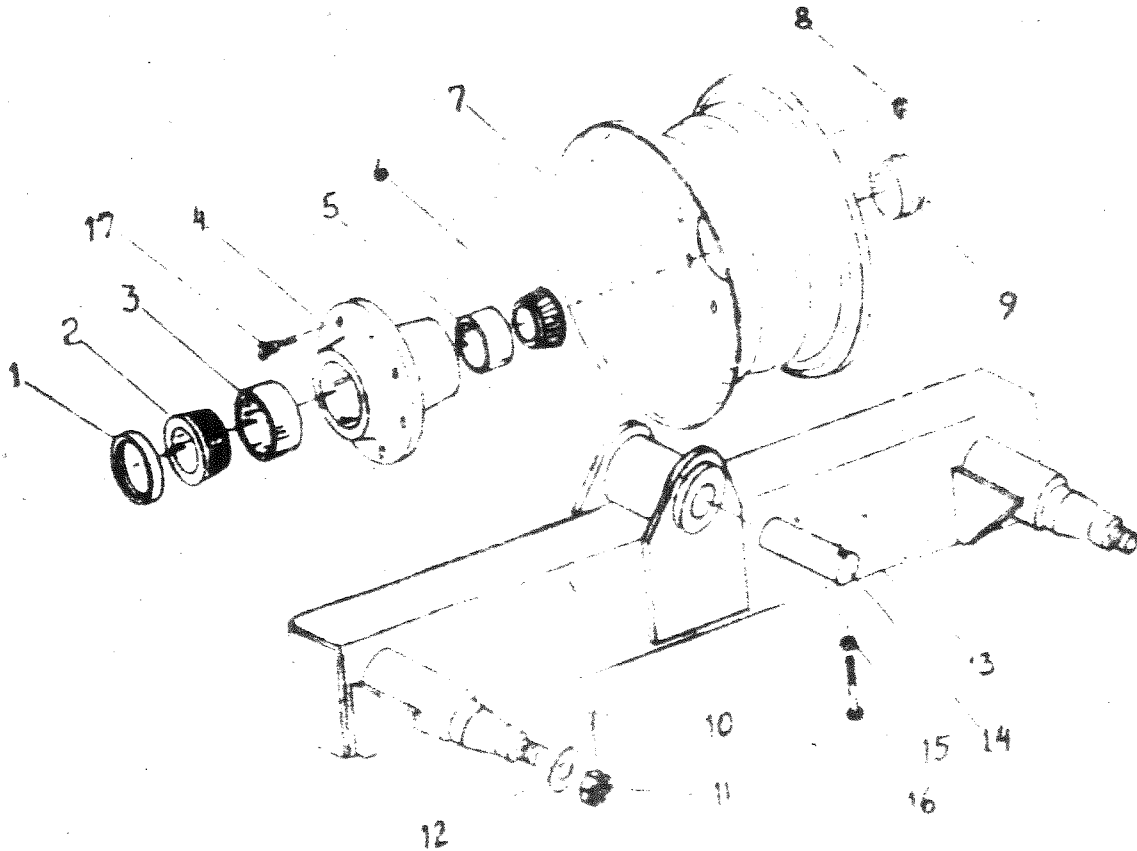


PARTS LIST

MODEL I-90 SP Scraper

<u>KEY NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	A9004	Push Off Gate
2.	-----	Jam Nut 1 1/4 NF
3.	A10161	Gate Roller, Rear
4.	A10162	Bushing, 2" OD. x 1-5/8 ID. x 1-7/16
5.	A10008	Shoulder Pin, 1-5/8 to 1-1/4 w/Zerk in thd. end
6.	A10163	Bushing, 1-3/4 OD. x 1-1/4 ID. x 2-3/8 long
7.	A10164	Gate Roller, Front 4-1/4 OD.
8.	-----	Cotter Pin, 1/4 x 2 long
9.	-----	Grease Zerk 90° x 1/8 NPT.
10.	A6007A	Pin 1-1/4 x 4-1/8 long
11.		Nut 1/2 NC
12.		Lockwasher 1/2
13.		Bolt 1/2 x 1" NC
14.	A9023	Gate Extention

ILLUSTRATION
WHEEL, HUB, & SPINDLE ASSEMBLY

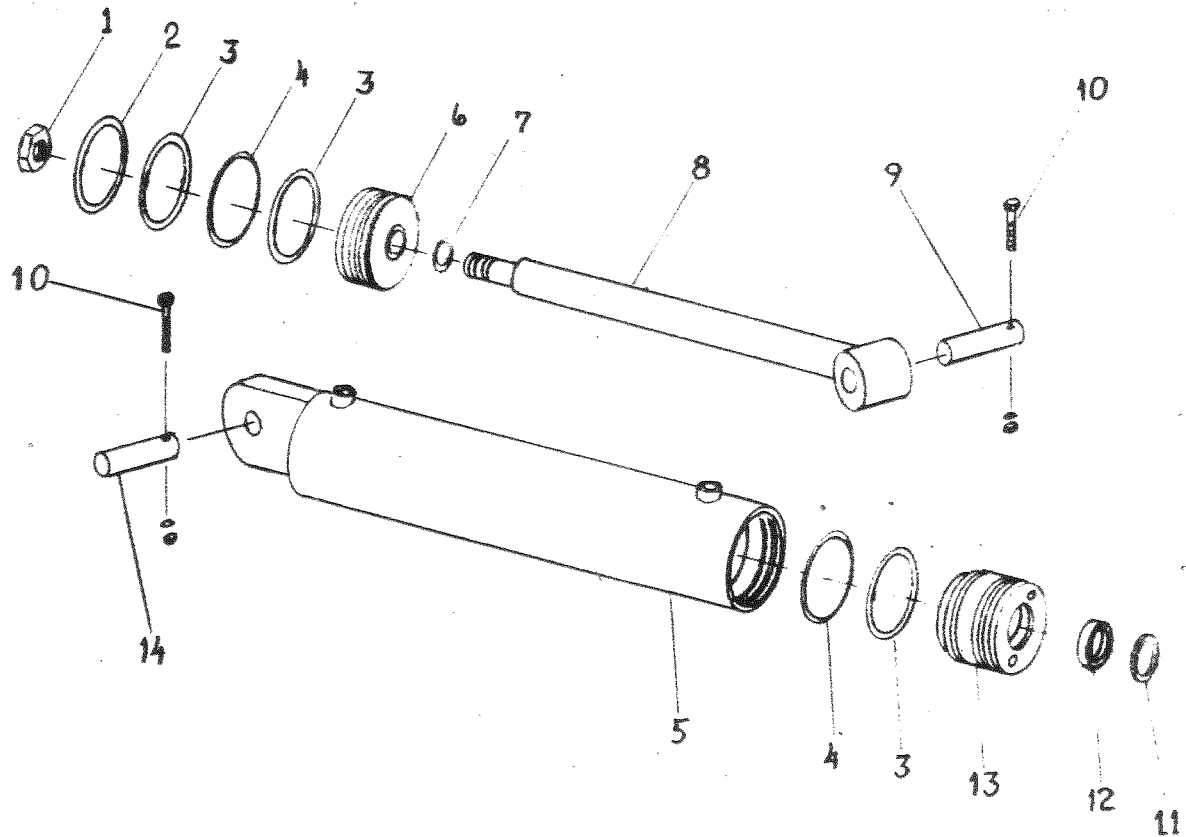


MODEL I-90SP SCRAPER

<u>KEY NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	A8020	Grease seal
2.	A8021	Bearing cone, Inner
3.	A8022	Bearing cup, Inner
4.	A12013	Hub (Casting no. Q848)
5.	A8024	Bearing cup, Outer
6.	A8025	Bearing cone, Outer
7.	A6022A	Wheel, 16.1" x 11" drop center
	A9009	Wheel, 20" Lock ring type, (Optional)
8.	A12001	Wheel lug nut 5/8NF.
9.	A8026	Hub cap
10.	-----	Cotter pin
11.	-----	Spindle nut, slotted 1-1/4" NF
12.	A8027	Spindle washer
13.	A9019	Walking beam
14.	A9018	Pin
15.	-----	Nut, 1/2" NC
16.	-----	Bolt, 1/2" NC x 5" long
17.	A12002	Lug 5/8NF.

ILLUSTRATION

HYDRAULIC CYLINDER 5" x 10" A510H11~~7~~



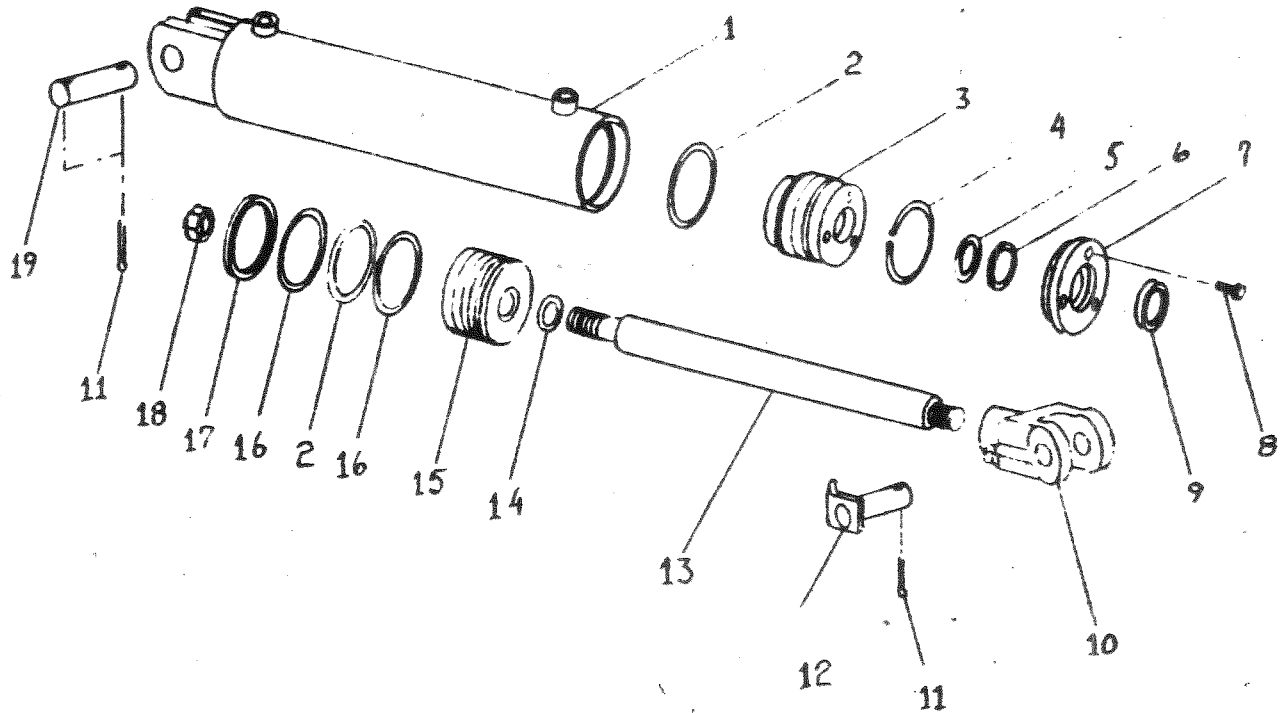
PARTS LIST

MODEL I-90SP SCRAPER

<u>KEY NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	A400H17	Nut, 1-1/4" NF, Lock type
2.	A400H04	Cast ring, 5" OD
3.	A400H05	Back up washer, 5" OD x 1/4"
4.	A400H06	O-ring, 5" OD x 1/4"
5.	A90H11	Barrel assembly
6.	A80H01	Piston, 5" OD
7.	A60H52	O-ring, 1-1/4" OD x 1/8"
8.	A90H10	Shaft, 2" diameter
9.	A14033	Pin, 1-1/4" x 5" long
10.	-----	Bolt, 1/4" NC x 2" long w/nut & LW
11.	A80H06	Wiper seal, 2" ID
12.	A80H04	Seal, 2" ID
13.	A80H05A	Head gland
14.	A12014	Pin, 1-1/4" x 4-1/8" long
	A80H07	Packing kit containing:
		1 - A400H04 1 - A60H52
		3 - A400H05 1 - A80H04
		2 - A400H06 1 - A80H06

ILLUSTRATION

HYDRAULIC CYLINDERS 3-1/2 x 10 A3510H1



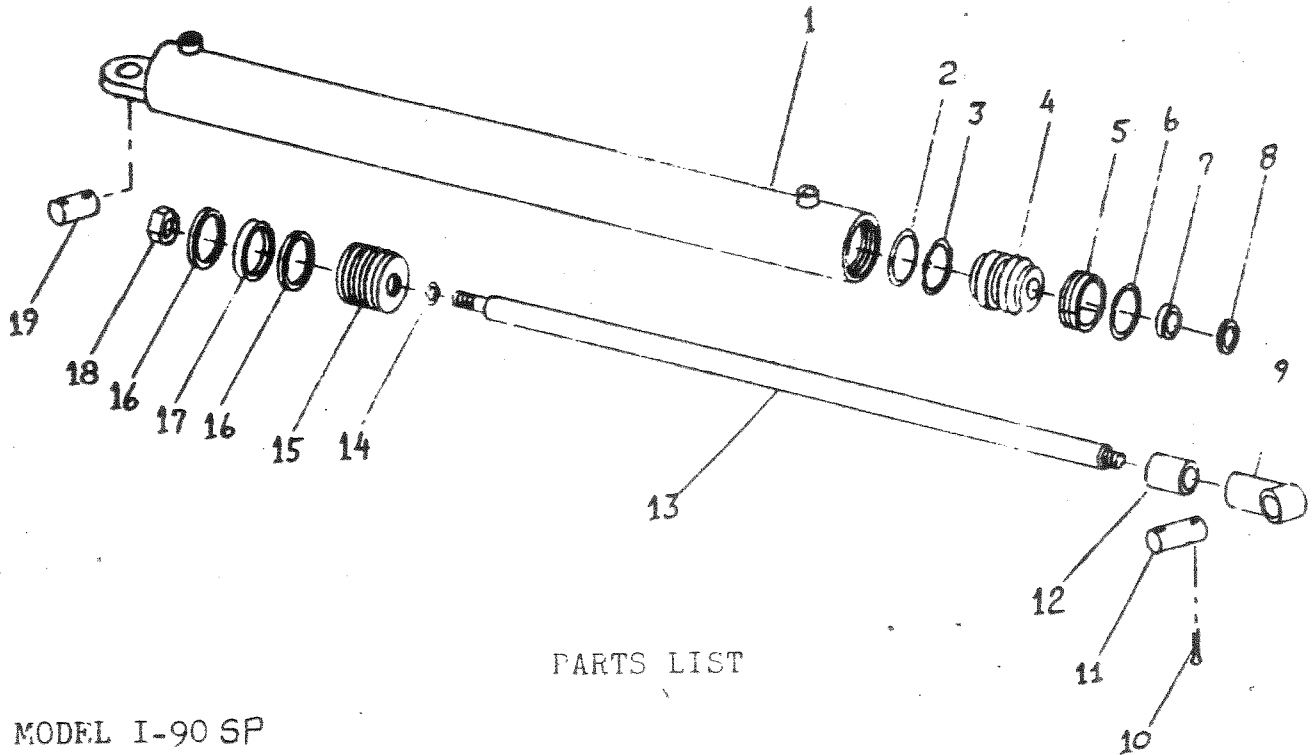
PARTS LIST

MODFL I-90 SF

<u>KEY NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	A12H04	Barrel
2.	A22H08	O-Ring 3-1/2 OD.
3.	A22H13	Head Gland
4.	A22H14	Retainer Ring
5.	A22H15	O-Ring 1-1/2 ID. x 1/8 Thick
6.	A22H15A	Backup Washer
7.	A22H16	Head Cap
8.	A22H18	Socket Head Capscrew 1/4 x 1"
9.	A22H17	Wiper Seal 1-1/2 ID.
10.	A12H03	Clevis End
11.	-----	Cotter Pin 3/16 x 1-1/2
12.	A10167	Pin 1" x 3-1/16
13.	A12H02	Shaft 1-1/2 Dia.
14.	A22H10	Piston Gasket 3/4 ID.
15.	A22H09	Piston
16.	A22H07	Backup Washer 3-1/2 OD.
17.	A22H06	Piston Ring-Cast Iron
18.	A22H05	Piston Nut 3/4 NF.
19.	A1217	Pin 1" x 3-1/2
	A22H19B	Packing Kit Containing
		1 - A22H06
		2 - A22H07
		2 - A22H08
		1 - A22H10
		1 - A22H14
		1 - A22H15
		1 - A22H15A
		1 - A22H17

ILLUSTRATION

HYDRAULIC CYLINDER 4 x 54 A454H114

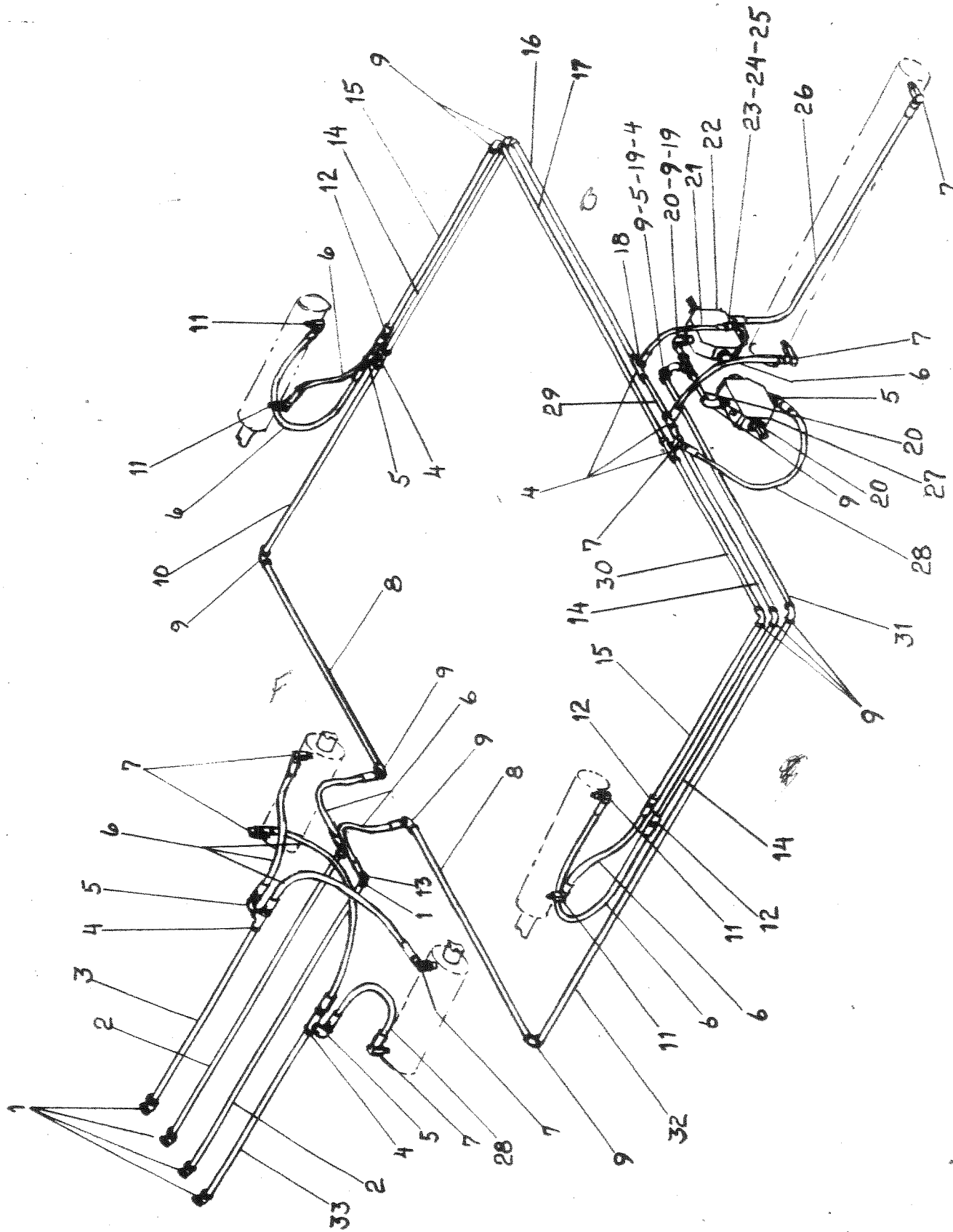


PARTS LIST

MODEL I-90 SP

<u>KEY NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	A101H17	Barrel
2.	A300H06	C-Ring 4" OD.
3.	A300H05	Backup Washer 4" OD.
4.	A101H18	Gland
5.	A101H19	Trip-Lock Retainer
6.	A101H20	Snap Ring
7.	A101H21	OU-Cup Seal 2" ID.
8.	A101H22	Wiper Seal
9.	A101H23	Fye
10.	-----	Cotter Pin 3/16 x 2
11.	A10038	Pin 1-1/4 x 4-1/4
12.	A101H24	Spacer
13.	A101H25	Shaft 2" Dia.
14.	A101H26	C-Ring 1-1/2 ID.
15.	A101H27	Piston
16.	A101H28	OU-Cup Seal 4" OD.
17.	A101H29	Bearing Ring
18.	-----	Lock Nut 1-1/2 - 12NF.
19.	A10020	Pin 1-1/4 x 3-1/2
	A101H30	Packing Kit Containing:
		1 - A300H06
		1 - A300H05
		1 - A101H20
		1 - A101H21
		1 - A101H22
		1 - A101H26
		2 - A101H28
		1 - A101H29

ILLUSTRATION
HYDRAULIC CIRCUIT



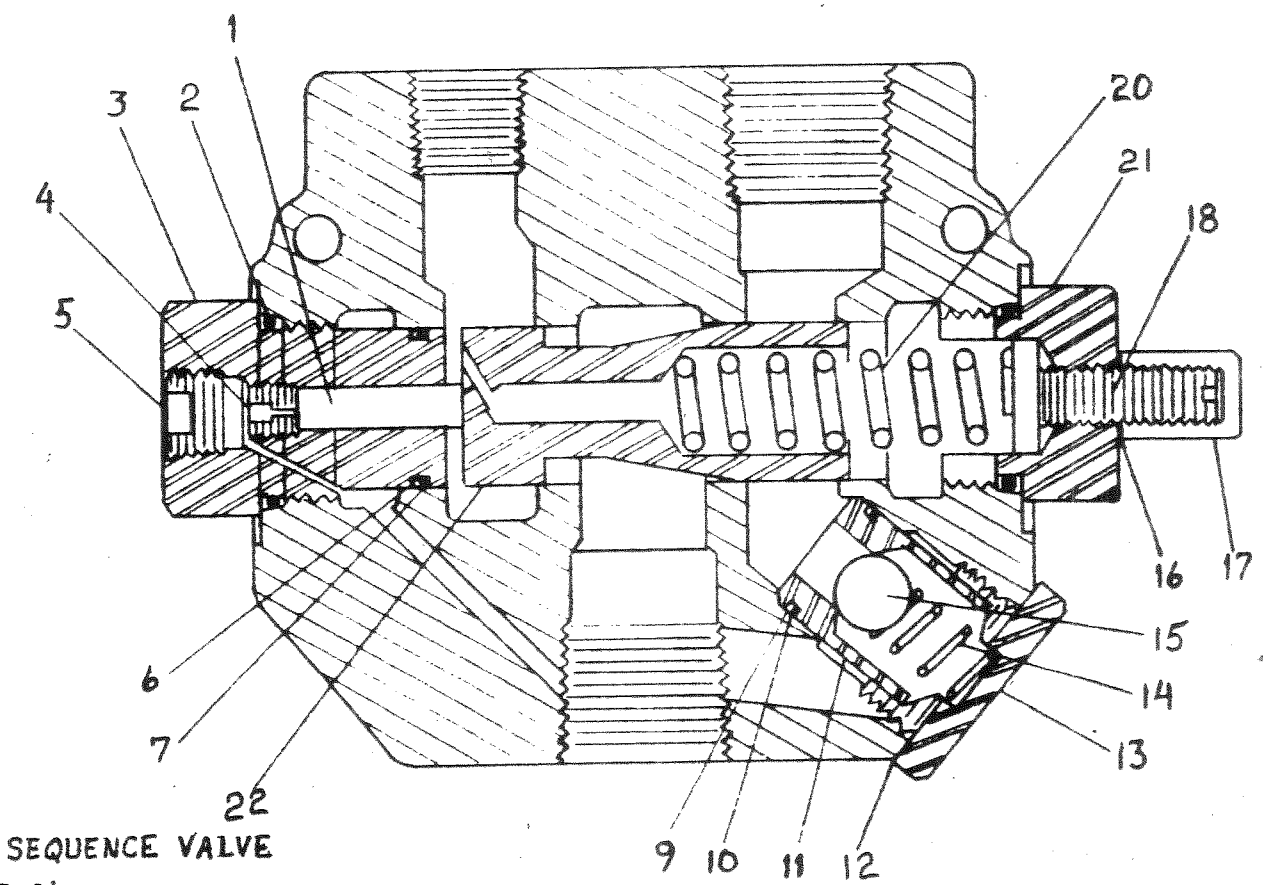
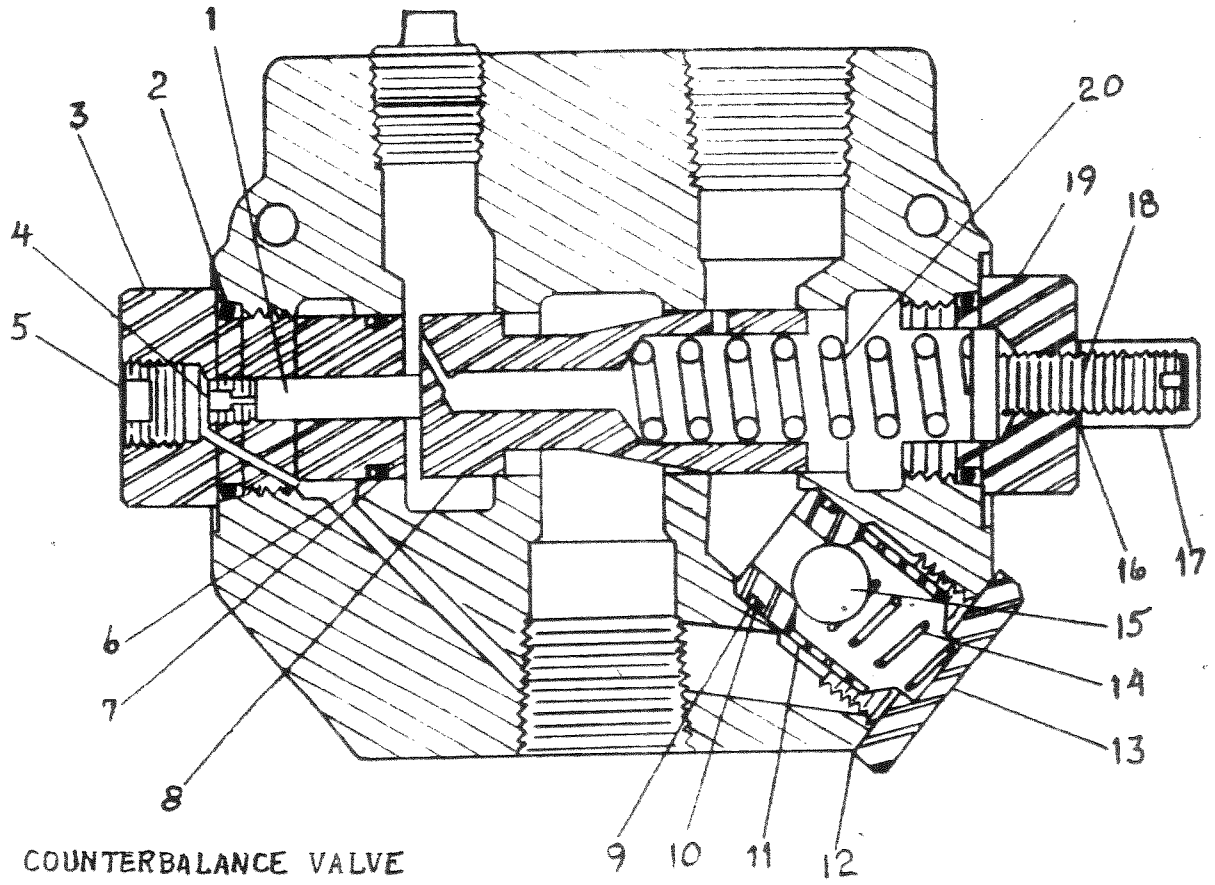
HYDRAULIC CIRCUIT

PARTS LIST

MODEL I-90SP SCRAPER

<u>KEY NO.</u>	<u>NO. REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	6	-----	Elbow 45°, 1/2" NPT
2.	2	-----	Pipe, 1/2" x 60" long
3.	2	-----	Pipe, 1/2" x 40-5/8" long
4.	7	-----	Pipe tees, 1/2" NPT
5.	5	-----	Street elbow, 90°, 1/2" NPT
6.	10	A45H06	Hose, 1/2" x 24" long
7.	7	A400H02	Swivel adapter, 90°, 1/2" NPT
8.	2	-----	Pipe, 1/2" x 47" long
9.	12	-----	Elbow, 90°, 1/2" NPT
10.	1	-----	Pipe, 1/2" x 70-3/4" long
11.	4	A45H07	Swivel adapter, 90°, 3/8" to 1/2"
12.	3	-----	Coupling, 1/2" NPT
13.	2	A400H03	Swivel adapter, 1/2" NPT
14.	2	-----	Pipe, 1/2" x 40-5/8" long
15.	2	-----	Pipe, 1/2" x 38-3/8" long
16.	1	-----	Pipe, 1/2" x 43-1/2" long
17.	1	-----	Pipe, 1/2" x 58-1/2" long
18.	1	-----	Bushing, 1/2" NPT to 1/4" NPT
19.	2	-----	Pipe nipple, 1/2" x close
20.	2	-----	Pipe nipple, 1/2" x 3" long
21.	1	A101H44	Hose, 1/4" x 12" long
22.	1	A101H47	Sequence valve
23.	1	-----	Bushing, 3/8" NPT to 1/4" NPT
24.	2	-----	Street Elbow, 90°, 1/4" NPT
25.	1	A101H41	Swivel adapter, straight, 1/4" NP
26.	1	A90H12	Hose, 1/2" x 64" long
27.	1	A101H48	Counterbalance valve
28.	2	A60H01A	Hose, 1/2" x 18" long
29.	1	-----	Pipe, 1/2" x 10" long
30.	1	-----	Pipe, 1/2" x 38-1/2" long
31.	1	-----	Pipe, 1/2" x 49-1/4" long
32.	1	-----	Pipe, 1/2" x 115" long
33.	1	-----	Pipe, 1/2" x 47-1/2" long

ILLUSTRATION - Hydraulic Valves



PARTS LIST

<u>KEY NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	A101H49	Piston
2.	A101H50	'O' Ring
3.	A101H51	External Pilot Plug
4.	A101H52	Orifice
5.	A101H53	Plug
6.	A101H54	'O' Ring
7.	A101H55	Back-up Washer
* 8.	A101H56	Metering Spool
9.	A101H57	Back-up Washer
10.	A101H58	'O' Ring
11.	A101H59	Check Seat
12.	A101H60	Aluminum Washer
13.	A101H61	Check Plug
14.	A101H62	Check Spring
15.	A101H63	Check Ball
16.	A101H64	Aluminum Washer
17.	A101H65	Acorn Nut
18.	A101H66	Adjusting Screw
19.	A101H67	Adjusting Plug - RD1075 CB
20.	A101H68	Metering Spring
21.	A101H69	Adjusting Plug - RD1075S
*22.	A101H70	Metering Spool
*23.	A101H71	Valve Body

* NOT SOLD SEPARATELY

INSTRUCTIONS for Establishing SEQUENCE VALVE and
COUNTERBALANCE VALVE Settings
on Model I-90 I-110 Scraper

SEQUENCE VALVE:

Remove acorn nut from end of Sequence Valve. Turn adjustment screw clockwise until front apron raises before rear gate advances while scraper is empty. Turn the adjustment screw an additional 1/4 turn clockwise, then replace the acorn nut and tighten.

COUNTERBALANCE VALVE:

Remove acorn nut from end of Counterbalance Valve. Turn adjustment screw clockwise until front apron holds in raised position while rear gate is being retracted. Turn an additional 1/4 turn clockwise, then replace the acorn nut and tighten. DO NOT tighten adjusting screw more than necessary.

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NOTE:

SEQUENCE VALVE - Identified by "S" imprint on no. 21 adjusting plug

COUNTERBALANCE VALVE - Identified by "CB" imprint on no. 19 adjusting plug