



PARTS MANUAL

Manufacturer:

ASHLAND INDUSTRIES, INC.

PO. Box 47 Ashland, Wisconsin 54806



MODEL I-90

MODEL I-90 SCRAPER

HOW TO ORDER PARTS:

IMPORTANT

Be sure to state MODEL and SERIAL NO. of machine, PART NO., DESCRIPTION and QUANTITY needed.

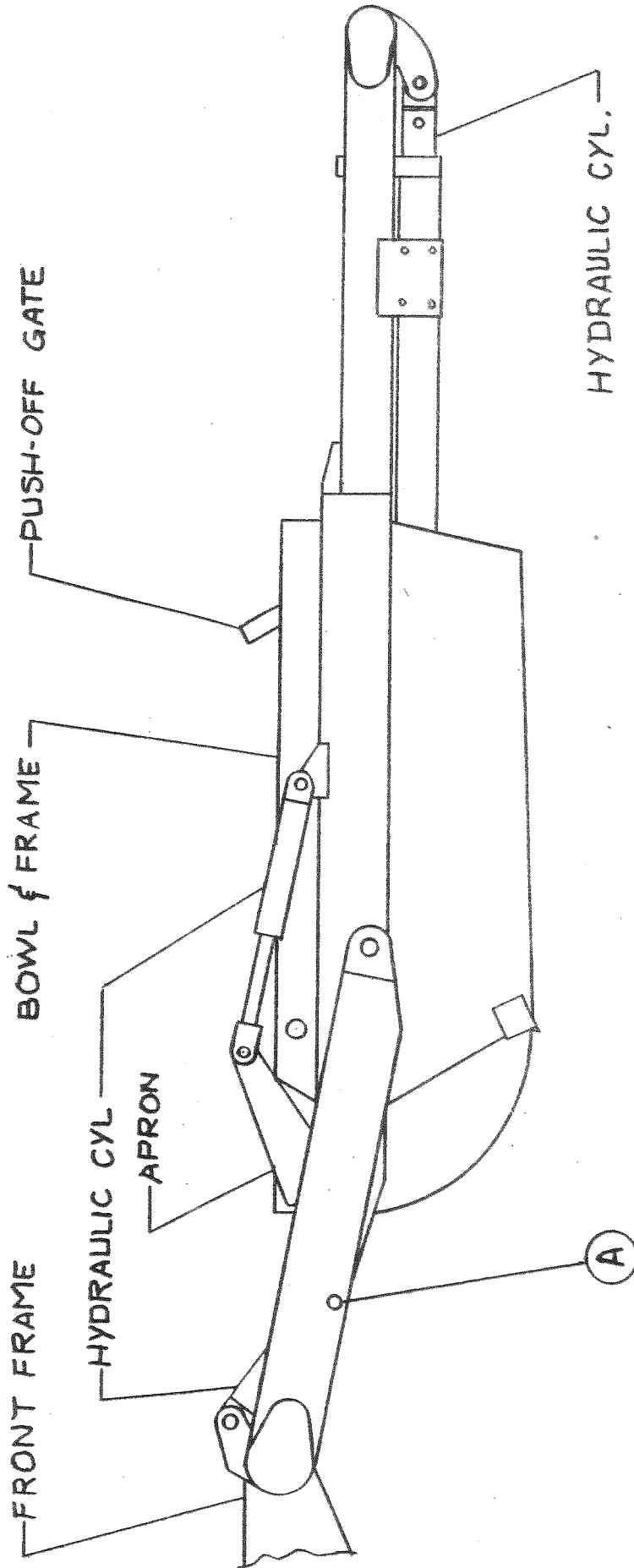
Unless this is done, we cannot provide prompt service or assure shipment of correct parts.

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ILLUSTRATION - ASSEMBLY



ASSEMBLY INSTRUCTIONS

I-90

1. A suitable hoist should be available for assembly.
2. Install 16.5 x 16.1 10 ply rim mounted tires to rear hubs.
3. Install gooseneck frame to bowl and frame assembly with two A9001 hinge pins and 1/2 x 3-1/2 NC bolts.
4. Install 16.5 x 16.1 8 ply rim mounted tires to pole and axle assembly.
5. Raise the front frame and remove the two 5/8 x 4 bolts which hold the cast socket halves inside the gooseneck post and remove the socket halves.
6. Roll the pole and axle under the gooseneck and place the cast socket halves around the ball swivel on the axle, with the socket half with the threaded hole towards the front. Lower the frame into place so that the socket halves seat into the gooseneck. (If necessary, clamp halves together with a C-clamp while lowering gooseneck.) Replace the two 5/8" x 4" bolts and tighten securely. Install A2206 long shank grease fitting into threaded hole.
7. Raise bowl by the front cross member tube, high enough to install two A10153 transport lock pins with hair pin clips. Lower bowl until the ears rest on the lock pins.
8. Install apron to bowl with two A6010 shoulder pins and 1-1/4 inch NF self lock nuts.
9. Connect apron cylinders to apron arms with a A10167 pin and cotter pin.
10. Install lift cylinders, bases connected to gooseneck frame with A45003 pins and cotter pins. Install rod end of lift cylinders to bowl frame with A10168 pins and cotter pins.
11. Connect two A45H06 1/2 x 24 inch hoses from the two lift cylinder rod ends to the two bottom 1/2 inch elbows on front crossmember which is one common line. Connect the two A60H01A 1/2 x 18 inch hoses from the cylinder base ends to the two remaining 1/2 inch elbows which is also one common line.

12. Remove and discard on the left side of the scraper the hex plug installed in the 1/2 inch elbow. Connect one end of the A2OH03 1/2 x 30 inch hose to this elbow. Connect the other end to the 1/2 inch straight adapter on the front frame.
13. Remove and discard hex plug from 1/2 inch elbow located on right side of scraper behind the apron cylinder. Connect one end of the A2OH03 1/2 x 30 inch long hose to this elbow. Connect the other end to the 1/2 inch straight adapter on the front frame.
14. The two outside ports facing forward on the manifold block mounted on the front frame are for lifting the scraper from the ground and must be connected to the same spool on the tractor. The two center ports on the manifold block operate the scraper and must be connected to the same spool on the tractor.

Care should be taken to make sure all plastic plugs are removed from all hoses and fittings and no dirt is allowed into the hydraulic circuit.

OPERATORS AND MAINTENANCE INSTRUCTIONS

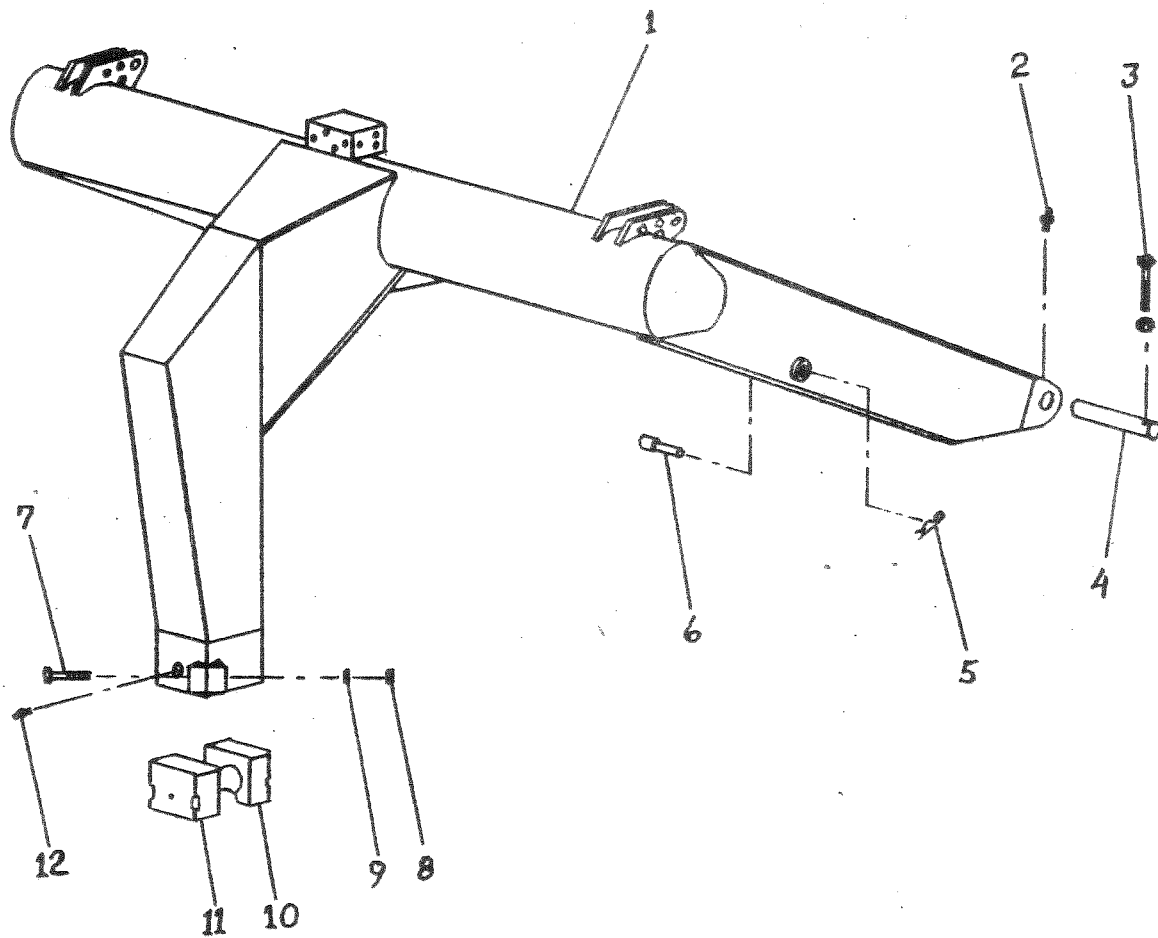
The scraper is a durable piece of equipment and with proper care will yield many years of trouble free operation. The scraper requires a power source with TWO 4 way (double acting) hydraulic control valve.

The scraper should be greased at all points where grease fittings are provided. Connect hydraulic hoses to the tractor and retract lift cylinders to remove transport lock pins (point A), then 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 10 hours work, all bolts should be checked and tightened if necessary.
2. Every 10 hours all grease fittings should be lubricated.
3. After 50 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
GOOSENECK FRAME ASSEMBLY

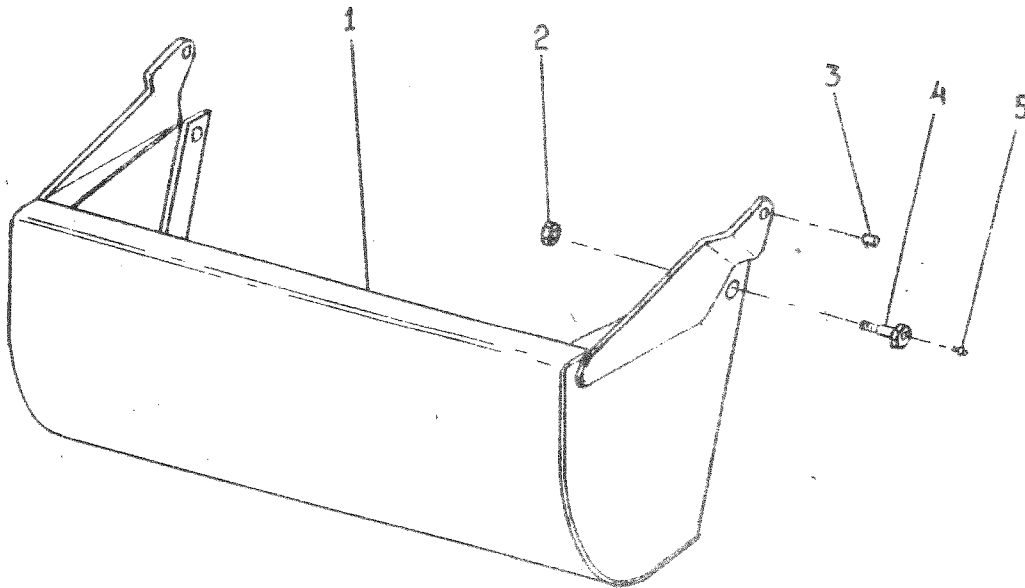


PARTS LIST
GOOSENECK FRAME ASSEMBLY

MODEL I-90 SCRAPER

<u>KEY NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	A9002	Gooseneck Frame
2.	-----	Grease Zerk - Straight
3.	-----	Bolt 1/2 x 3-1/2 NC w/nut
4.	A9001	Pin, Frame Attach
5.	-----	Hair Pin
6.	A10153	Pin, transport Lock
7.	-----	Bolt 5/8 NC x 4
8.	-----	Nut 5/8 NC
9.	-----	Lockwasher 5/8
10.	A10004	Cast Socket Half - Rear
11.	A10005	Cast Socket Half - Front w/Zerk hole
12.	A2206	Grease Zerk - Long Shank

ILLUSTRATION
 APRON ASSEMBLY

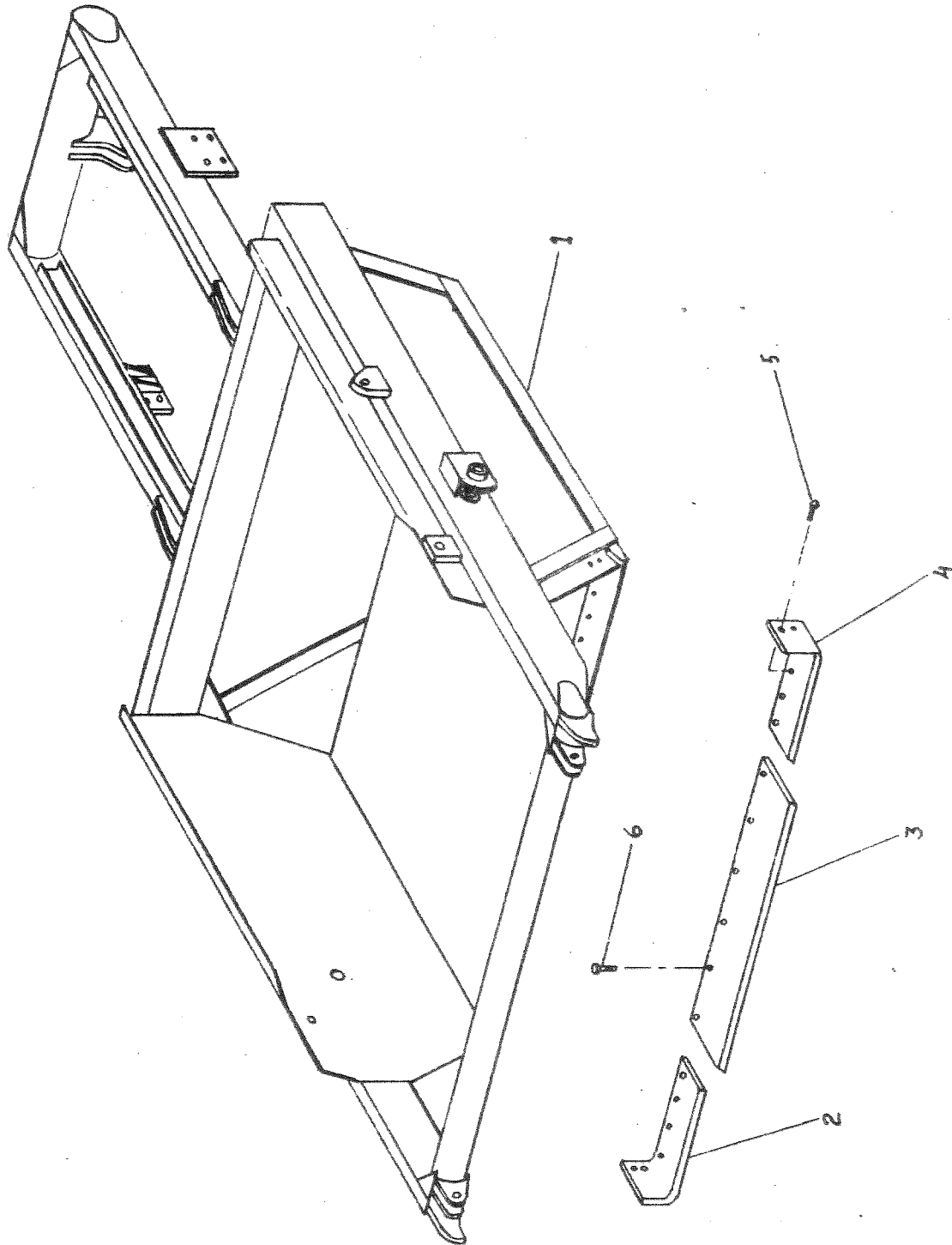


PARTS LIST

MODEL I-90 SCRAPER

<u>KEY NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	A9006	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
BOWL AND FRAME ASSEMBLY

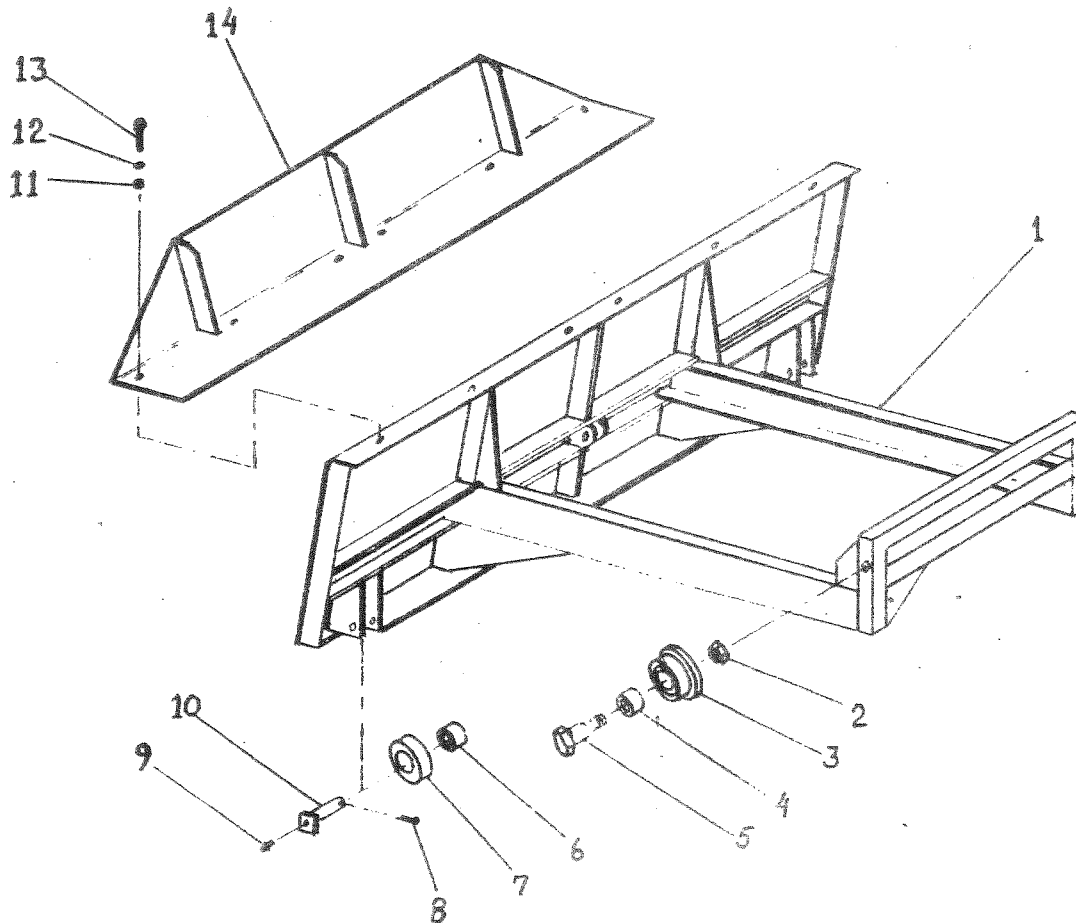


PARTS LIST
BOWL and FRAME ASSEMBLY

MODEL I-90 SCRAPER

<u>KEY NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	A9003	Bowl and Frame
2.	A10010A	Right Cutting Edge
3.	A10012	Center Cutting Edge
4.	A10011A	Left Cutting Edge
5.	-----	Flow Bolt 5/8 NC x 2" w/nut
6.	-----	Flow Bolt 5/8 NC x 2-1/2" w/nut

ILLUSTRATION
PUSH OFF GATE ASSEMBLY

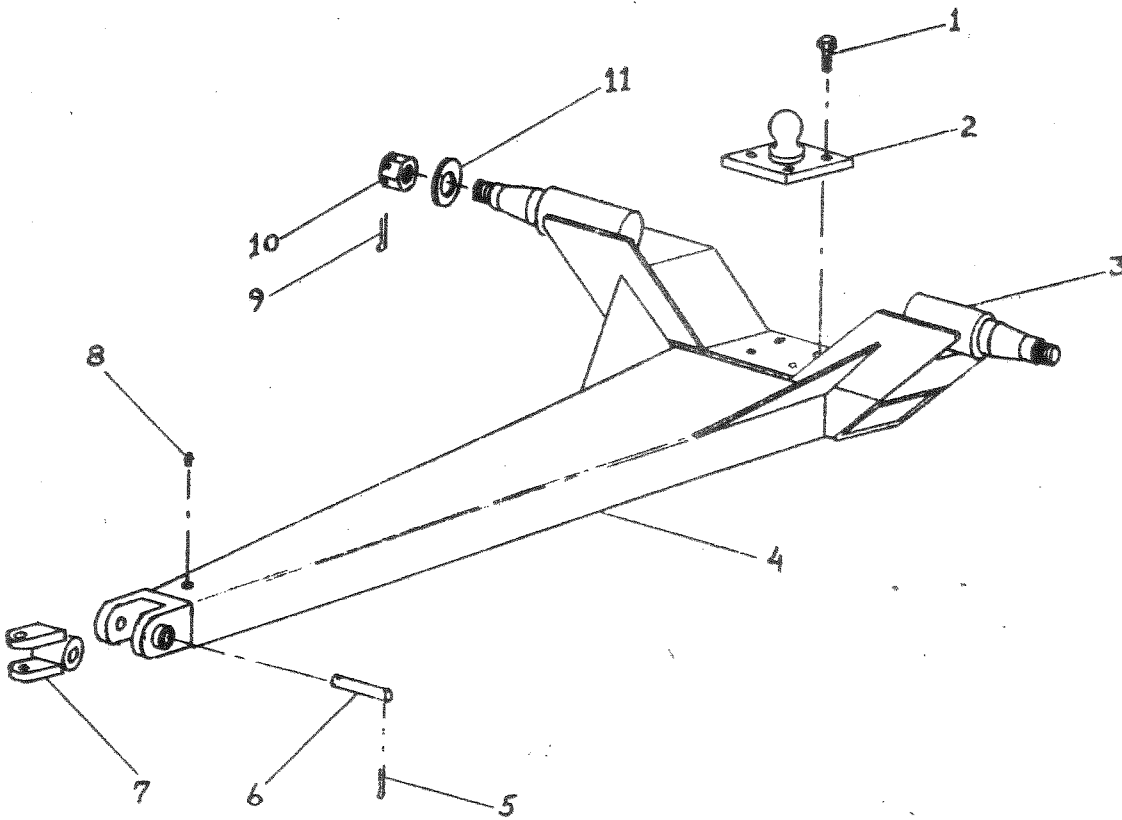


PARTS LIST

MODEL I-90 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.	A9005	Gate Extention

ILLUSTRATION
POLE and AXLE ASSEMBLY



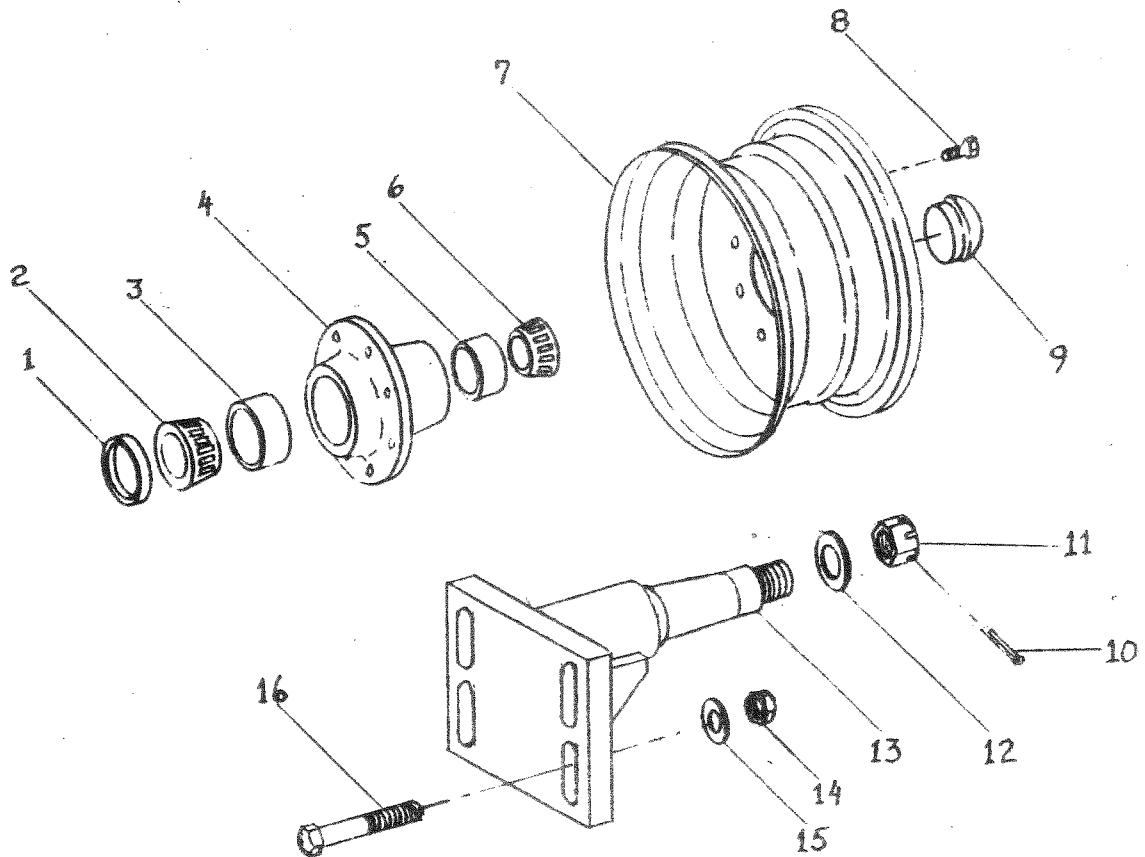
PARTS LIST

MODEL I-90 SCRAPER

<u>KEY NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	-----	Bolt 3/4 NC. x 2½ lg H.T.
2.	A10035	Ball Swivel
3.	A8032	Spindle
4.	A9007	Pole and Axle
5.	-----	Cotter Pin 1/4 x 2-1/2 lg.
6.	A10034	Pin 1-1/2 x 6-1/4 lg.
7.	A10033	Swivel Hitch
8.	-----	Grease Fitting 1/8 NPT
9.	-----	Cotter Pin
10.	-----	Spindle Nut 1-1/4 NF Castellated
11.	A8027	Washer, Special Flat

ILLUSTRATION

WHEEL, HUB & SPINDLE ASSEMBLY



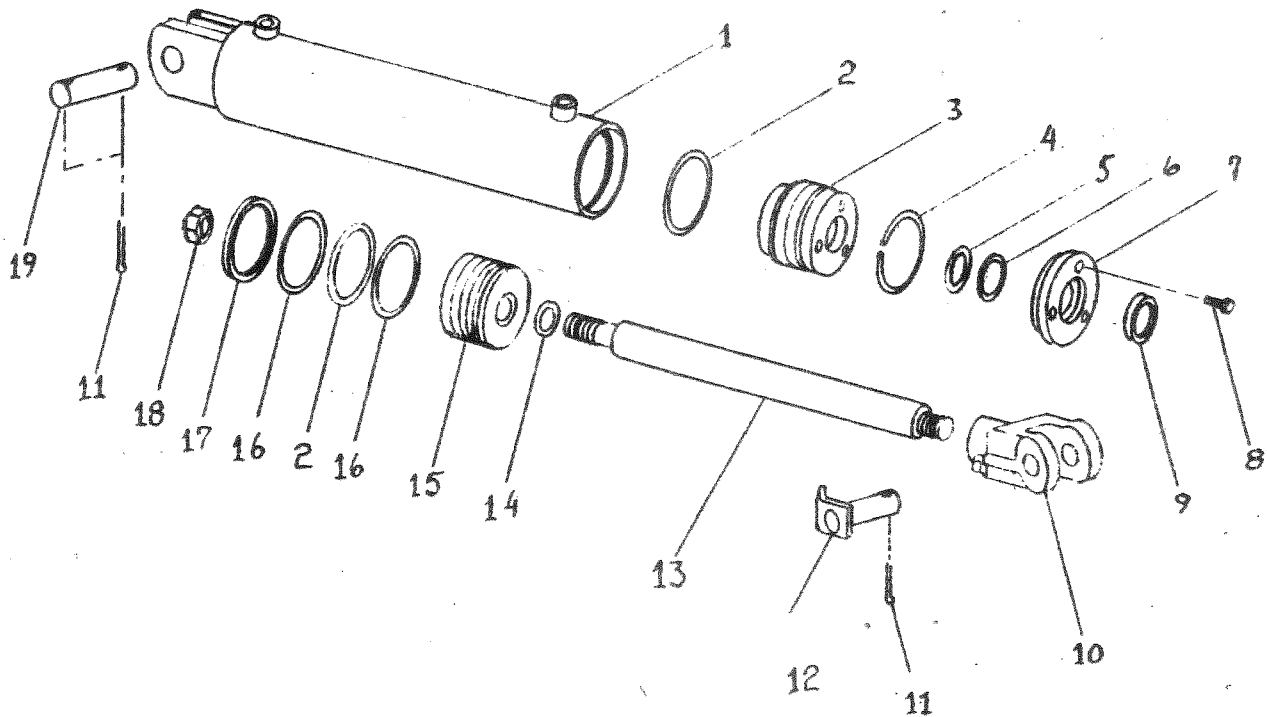
PARTS LIST

MODEL I-90 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.	A8023	Hub (casting no. Q848)
5.	A8024	Bearing Cup, Outer
6.	A8025	Bearing Cone, Outer
7.	A6022	Wheel, 16.1" x 11" drop center
	A9009	Wheel, 20" Lock Ring Type (Optional)
8.	A4519	Wheel Bolt 9/16 NF.
9.	A8026	Hub Cap
10.	-----	Cotter Pin
11.	-----	Spindle Nut, Slotted 1-1/4 NF.
12.	A8027	Spindle Washer
13.	A9008	Spindle Weldment
14.	-----	Nut, 1" NC.
15.	-----	Flatwasher, 1"
16.	-----	Bolt, 1" NC. x 6-1/2 lg.

ILLUSTRATION

HYDRAULIC CYLINDERS 3-1/2 x 10 A3510H1



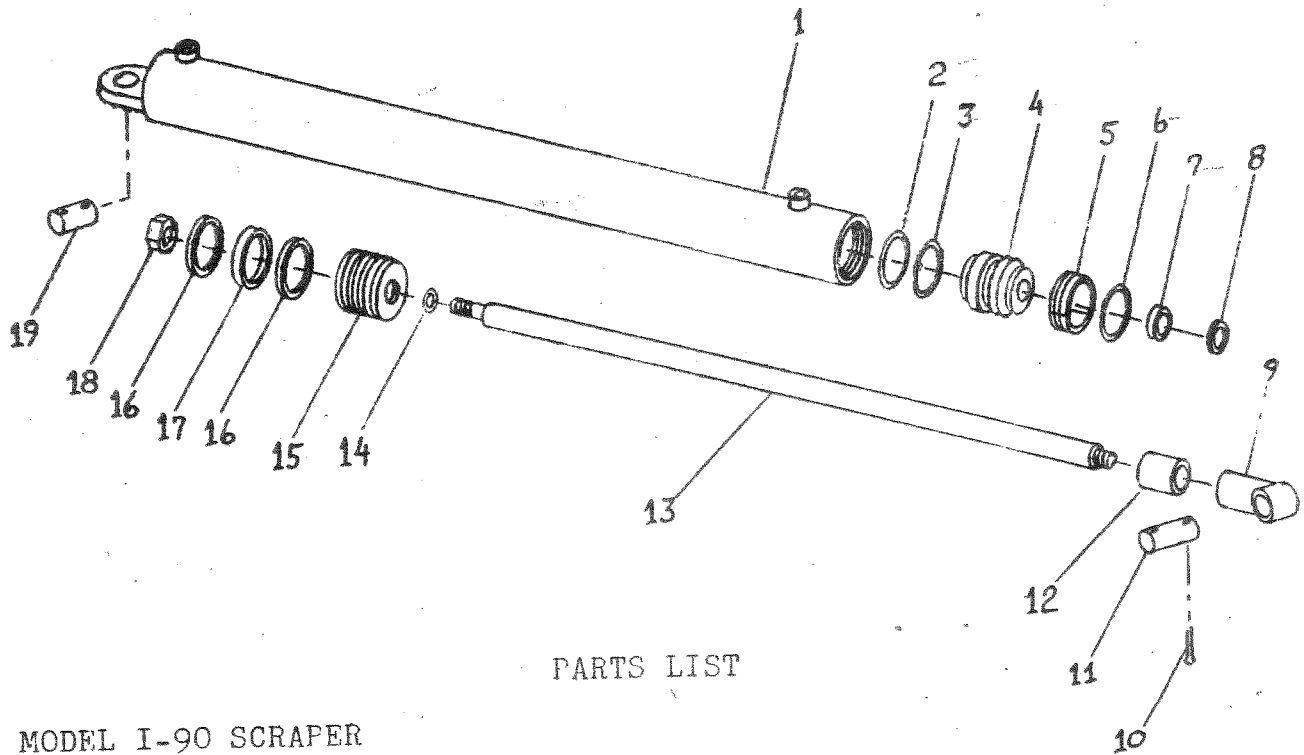
PARTS LIST

MODEL I-90 SCRAPER

<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



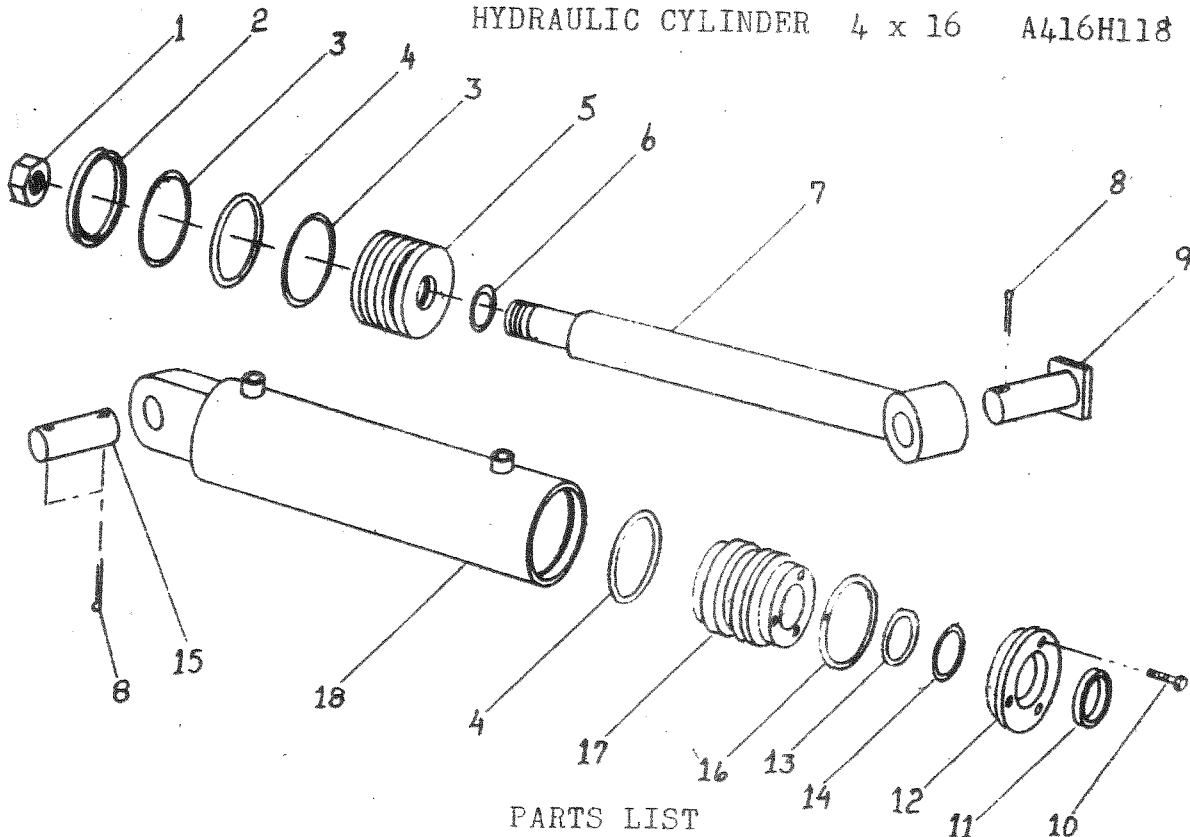
PARTS LIST

MODEL I-90 SCRAPER

<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	Eye
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.	A1C1H29 ✓	Bearing Ring
18.	-----	Lock Nut 1-1/2 - 12NF.
19.	A10020	Pin 1-1/4 x 3-1/2
	A1C1H30	Packing Kit Containing:
		1 - A300H06 ✓
		1 - A300H05 -
		1 - A101H20 ✓
		1 - A101H21 ✓
		1 - A101H22 ✓
		1 - A101H26 ✓
		2 - A101H28 ✓
		1 - A101H29 ✓

ILLUSTRATION

HYDRAULIC CYLINDER 4 x 16 A416H118



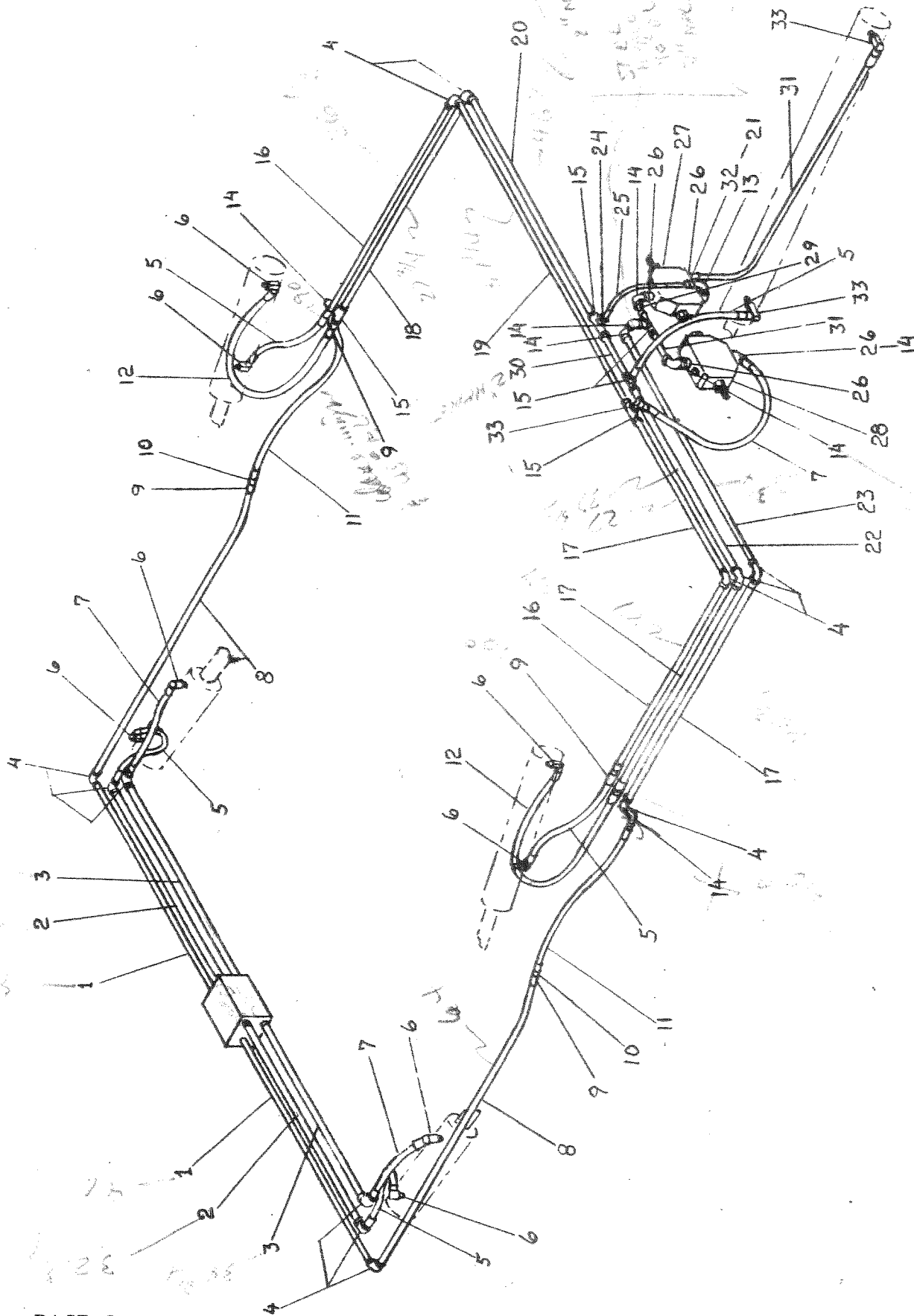
PARTS LIST

MODEL I-90 SCRAPER

KEY NO.	PART NO.	DESCRIPTION
1.	A300H03	Piston Nut
2.	A300H04	Cast Iron Ring 4" OD.
3.	A300H05	Backup Washer 4" OD.
4.	A300H06	O-Ring Seal 4" OD. x 3/16
5.	A300H07	Piston 4"
6.	A45H05	Piston Seal 1" ID.
7.	A45H03	Shaft 1-1/2 Dia.
8.	-----	Cotter Pin 3/16 x 1-1/2
9.	A10168	Pin 1-1/8 x 3-3/4
10.	A22H18	Capscrew 1/4 NC. x 1"
11.	A22H17	Wiper Seal 1-1/2 ID.
12.	A300H13	Head Cap
13.	A22H15	O-Ring 1-1/2 ID. x 1/8
14.	A22H15A	Backup Washer
15.	A45003	Pin 1-1/8 x 3-1/4
16.	A300H12	Retainer Ring
17.	A30CH11	Head Gland
18.	A45H04	Barrel Assembly
	A300H14B	Packing Kit Containing:
		1 - A300H04
		2 - A300H05
		2 - A300H06
		1 - A45H05
		2 - A22H15
		1 - A22H15A
		1 - A22H17

ILLUSTRATION - HYDRAULIC CIRCUIT

MODEL I-90 SCRAPER

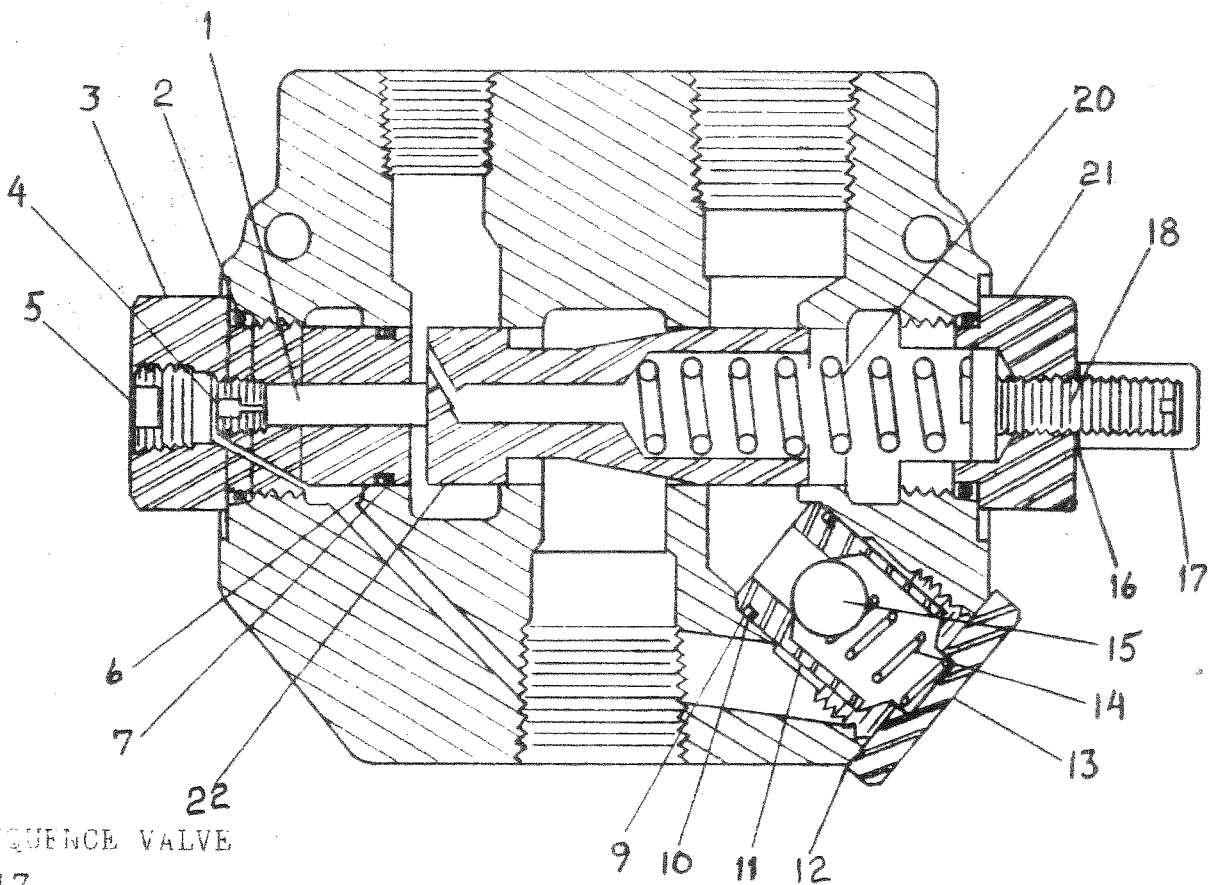
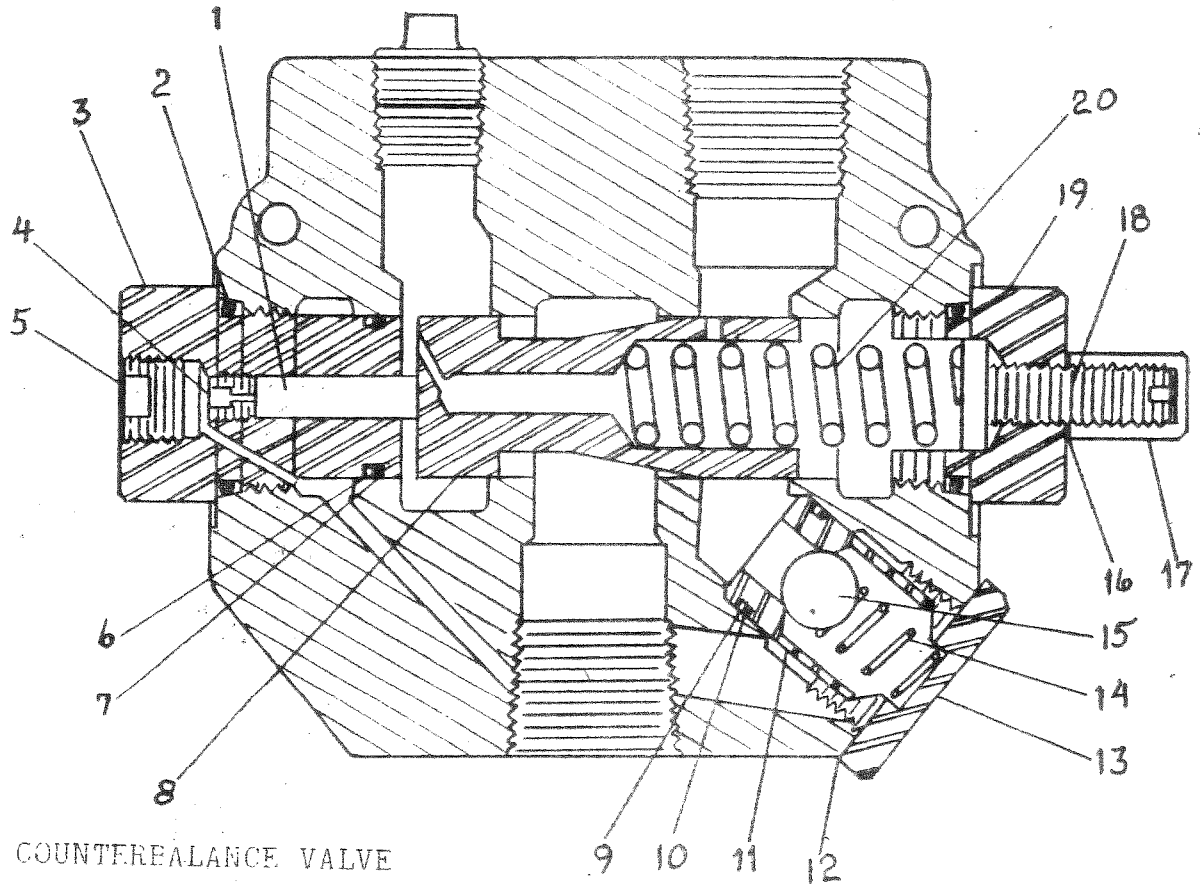


PARTS LIST
HYDRAULIC CIRCUIT

MODEL I-90 SCRAPER

<u>KEY NO.</u>	<u>NO. REQ'D.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	2	-----	Pipe 1/2 x 49-5/8 Lg.
2.	2	-----	Pipe 1/2 x 45-7/8 Lg.
3.	2	-----	Pipe 1/2 x 44-5/8 Lg.
4.	12	-----	Elbow 90° x 1/2 NPT
5.	5	A45HO6	Hose 1/2 x 24" Lg.
6.	8	A45HO7	Swivel Adapter, 90° 3/8 NPT x 1/2 NPT
7.	3	A6OH01A	Hose 1/2 x 18 Lg.
8.	2	-----	Pipe 1/2 x 71 Lg.
9.	5	-----	Coupling 1/2 NPT
10.	2	A4OOH03	Swivel Adapter Straight 1/2 NPT
11.	2	A2OH03	Hose 1/2 x 30 Lg.
12.	2	A3OH11	Hose 1/2 x 40 Lg.
13.	2	-----	Street Elbow 3/8 NPT
14.	7	-----	Street Elbow 1/2 NPT
15.	5	-----	Pipe Tee 1/2 NPT
16.	2	-----	Pipe 1/2 x 38 Lg.
17.	3	-----	Pipe 1/2 x 41 Lg.
18.	1	-----	Pipe 1/2 x 39 Lg.
19.	1	-----	Pipe 1/2 x 54-7/8 Lg.
20.	1	-----	Pipe 1/2 x 44-1/2 Lg.
21.	1	-----	Pipe Bushing 3/8 NPT x 1/4 NPT
22.	1	-----	Pipe 1/2 x 43-1/4 Lg.
23.	1	-----	Pipe 1/2 x 46-1/2 Lg.
24.	1	-----	Pipe Bushing 1/2 NPT x 1/4 NPT
25.	1	A101H44	Hose 1/4 x 12 Lg.
26.	4	-----	Pipe Bushing 3/4 NPT x 1/2 NPT
27.	1	A101H47	Sequence Valve
28.	1	A101H48	Counterbalance Valve
29.	1	-----	Pipe Nipple 1/2 x Close
30.	1	-----	Pipe Nipple 1/2 x 6 Lg.
31.	1	A9OH09	Hose 1/2 x 64 Lg.
32.	1	A101H41	Swivel Adapter, Straight 1/4 NPT
33.	3	A4OOH02	Swivel Adapter, 90° x 1/2 NPT

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