





Table of Contents

BOM	Description	Page
Serial Number 060491		
499992523301	Operation Manual Menu Sheet	1
09702JPA	Electrical - MS-4 Controls & Components	3
09702FAD	Emblems	9
09702DAG	Engine & Pumps - Power Mounting	11
09702KG	Engine Walkway & Accessories	15
09702EJ	Feed System - Conveyor Liners & Chain	17
09702CFH	Fuel & Hydraulic Reservoir	19
09702GJ	Hopper & Chassis Assembly - MS4	21
09702CFE	Hydraulic Components & Valve Assembly	25
09702BFD	Lower Conveyor Components	29
09702AEB	Lower Frame Components	31
09702AJB	Paver Attachment Parts	33
09702HF	Push Rollers - Basic Components	35
09702DDF	Spraydown System - MS Machines	37
09702BED	Upper Conveyor Parts & Speed Reducer	41
09702ADB	Upper Frame Components	45

File Copy Menu Sheet
Operation and Maintenance Instructions

The following publications compose the Operation & Maintenance Manual for this serial number.

Equipment Description: MS-4 MAT SMOOTHNESS MACHINES

Part No: 499992523301 MS-4 Mat Smoothness Machines **(Form No: 22630)**

Include CIMA / AEM Paving Safety Manuals with all Manual Reprint Order Shipments.

Note that the following schematic drawings are included in the manual file, and listed here for reference only:

- **04495-006 Electrical and Hydraulic Schematics - MS-4**
 - **04495-017 Elec and Hyd Schematics - MS-4, with Tier II Cummins engine**
 - **04495-018 Elec and Hyd Schematics - MS-4, with Tier II John Deere engine**
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**Return to Table
of Contents Page**



Table of Contents

Electrical Components MS-4 - 09702JPA

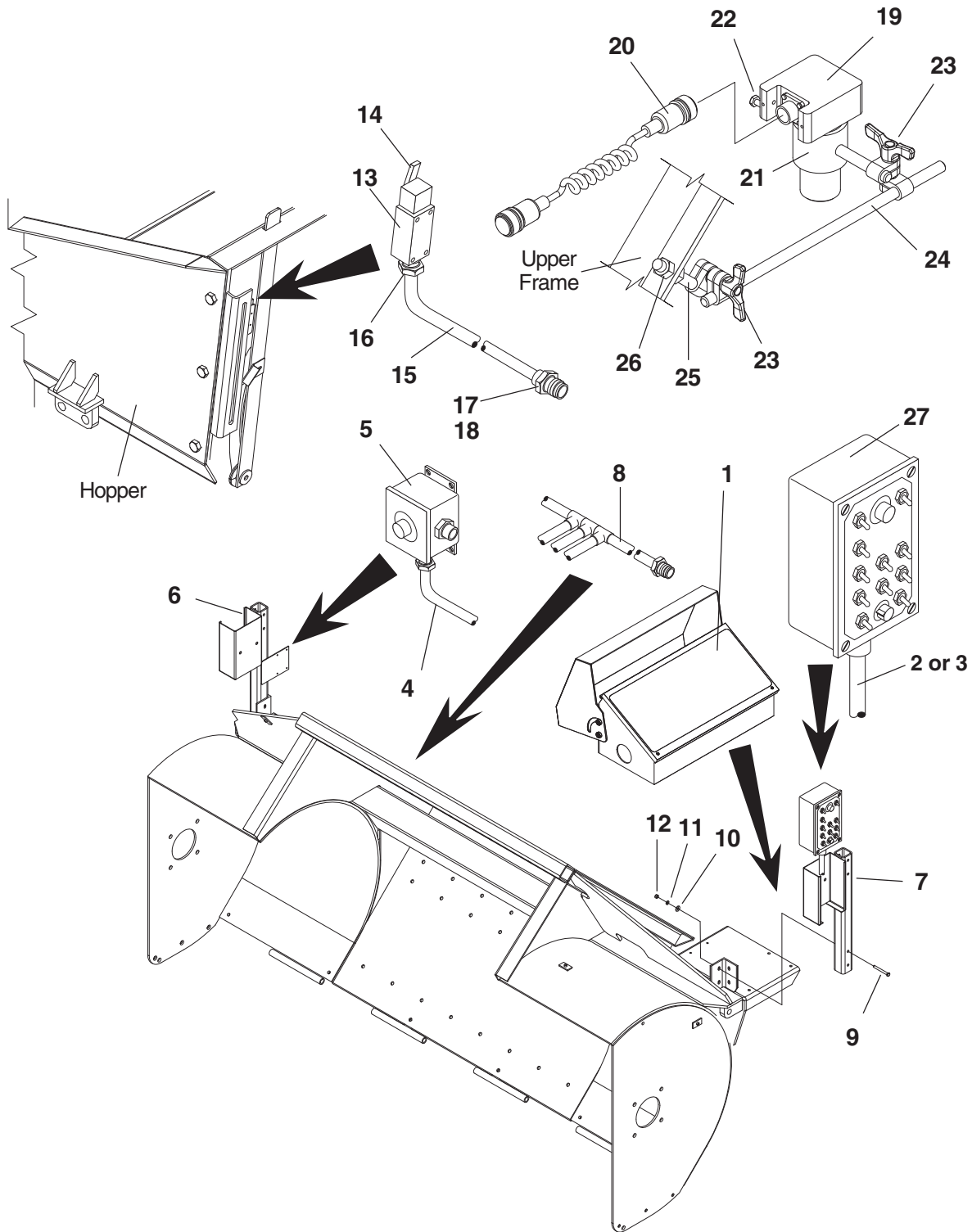
Ref No.	Description	Page No.
<u>1</u>	<u>Electrical Components - Illustration</u>	<u>2</u>
<u>2</u>	<u>Electrical Components - Parts Listing</u>	<u>3</u>
<u>3</u>	<u>MS-4 Control Box - Illustration</u>	<u>4</u>
<u>4</u>	<u>MS-4 Control Box - Parts Listing</u>	<u>5</u>
<u>5</u>	<u>MS-4 Remote Control Box</u>	<u>6</u>

Return to Table
of Contents Page



CEDARAPIDS

Electrical Components



**Return to Table
of Contents Page**



CEDARAPIDS

Electrical ComponentsParts List No. 09702JPA

Ref. No.	Part Number	Description	Quantity
1	{ 0970220066	Control Panel - Complete (See Form 24393-24394)	1
	{ 0970220059	Cable, Engine Interconnect (Not Shown)	1
2	0970220011	Cable, Jumper - 10'	1
3	0970220012	Cable, Jumper - 50'	1
4	5602001371	Cable, 15' - 5 Pin	1
5	0970220016	Control, E-Stop Right Hand - Complete	1
	4608540146	E-Stop Switch - Push/Pull	1
6	0970220024	Support, Remote Control - Right Hand	1
7	0970220023	Support, Remote Control - Left Hand	1
8	0970220052	Harness, Electrical	1
9	07383048	Capscrew, 3/8" NC x 3-1/2"	4
10	07014018	Washer, 3/8"	4
11	07014003	Washer, 3/8" Lock	4
12	07012025	Hex Nut, 3/8" NC	4
	0970220060	Kit, Gate Position Switch - Complete	-
13	4620000129	Switch, Limit	1
14	4620050503	Arm, Lever	1
15	5602000201	Cable, 16/3	As Req
16	4602603515	Connector, 3/4"	1
17	4627501011	Connector, Male - 2 Way	1
18	4627501013	Terminal, Male	2
19	4606110033	Controller, Ultrasonic	1
20	4606155013	Cable, Controller	1
21	0970445264	Mount, Controller	1
22	07383004	Capscrew, 1/4" x 3/4"	1
23	4618500120	Clamp, Swivel - Adjustable	2
24	0970445263	Rod, Extension	1
25	0970445262	Stud, Mounting	1
26	07012027	Hex Nut, 1/2"	2
27	0970220080	Control, Remote - Complete (See Form 24076)	1

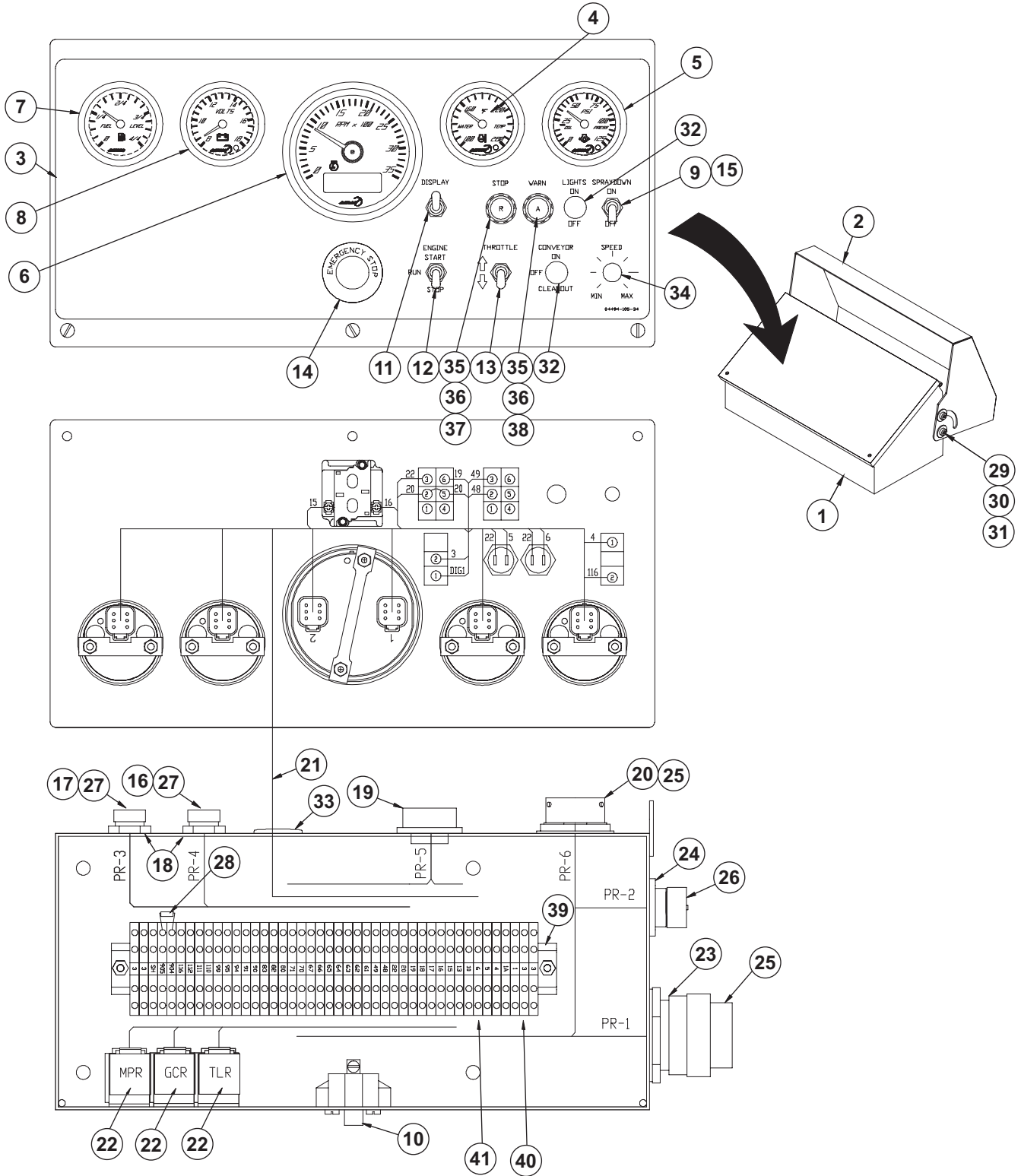
The parts listed above are included in Kit Part Number 0970980011

Return to Table of Contents Page



CEDARAPIDS

MS-4 Control Box
0970220066



**Return to Table
of Contents Page**



CEDARAPIDS

MS-4 Control BoxParts List 0970220066

Ref. No.	Part Number	Description	Quantity
-	0970220066	Control Box Complete	1
1	0970220064	Enclosure, Control Box	1
2	0970220044	Cover, Control Box	1
3	0449410533	Emblem, Control Panel	1
4	4586500163	Gauge, Oil Pressure	1
5	4586500164	Gauge, Water Temperature	1
6	4586500165	Gauge, Voltmeter	1
7	4586500166	Gauge, Fuel Level	1
8	4586500162	Gauge, Tachometer - With Display	1
9	4616500301	Breaker, 15A Toggle	1
10	4616500141	Breaker, 15A	1
11	4620000911	Switch, Toggle	1
12	4620000941	Switch, Toggle	1
13	4620000918	Switch, Toggle	1
14	4608540146	Switch, E-Stop - With Lockout	1
15	4620050605	Boot, Switch	1
16	4631301071	Receptacle, 3 Pin Female	1
17	4631301074	Receptacle, 5 Pin Female	1
18	4619500101	Nut, 1/2" Truseal	2
19	0970220079	Harness, MS-4	1
20	0970220070	Harness, Engine Cummins	1
21	0970220082	Harness, MS-4 Cummins Control	1
22	4632500243	Relay, Automotive	3
23	0970220078	Receptacle, 31 Pin w/Leads	1
24	0970220085	Receptacle, 6 Pin w/Leads	1
25	4631300275	Cap w/Chain	2
26	4631300250	Cap w/Chain	1
27	4631300276	Cap w/Chain	2
28	Consult Factory	Resistor, 120 Ohm	1
29	07455012	Screw, Shoulder 3/8" x 5/8"	4
30	07014018	Washer, 3/8"	4
31	4589010202	Locknut, 5/16"	4
32	4629500108	Cover, 1/2" Nylon	2
33	4629500101	Cover, 7/8" Nylon	1
34	4629500109	Cover, 3/8" Nylon	1
35	4606150062	Socket, Lamp	2
36	4627000244	Lamp, 14VDC	2
37	4627050036	Lens, Red	1
38	4627050022	Lens, Amber	1
39	Consult Factory	Rail, 35mm Din	As Req
40	Consult Factory	Block, Terminal	4
41	Consult Factory	Block, Terminal	40
42	Consult Factory	Marker Strip, 10/Card	5

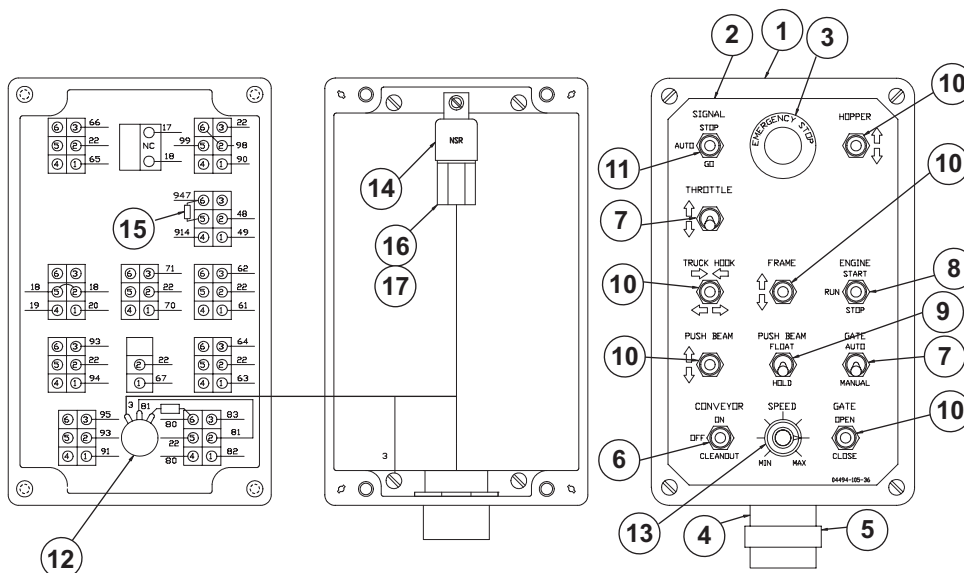
Return to Table of Contents Page



CEDARAPIDS

MS-4 Remote Control Box

0970220080



Ref. No.	Part Number	Description	Quantity
-	0970220080	Remote Control Box, Complete	1
1	0970220081	Enclosure, Remote Control Box	1
2	0449410536	Emblem, Remote Control	1
3	4608540146	Switch, E-Stop - With Lockout	1
4	0970220086	Harness, Remote Control	2
5	Consult Factory	Cap w/Chain	2
6	4620000908	Switch, Toggle	1
7	4620000918	Switch, Toggle	2
8	4620000941	Switch, Toggle	1
9	4620000911	Switch, Toggle	1
10	4620000921	Switch, Toggle	5
11	4620000944	Switch, Toggle	1
12	0970220084	Speed Potentiometer, Conveyor	1
13	4607550006	Knob, Potentiometer	1
14	4632500243	Relay, Automotive	1
15	Consult Factory	Resistor, 390 Ohm	1
16	4601500140	Socket, Relay	1
17	4601500141	Terminal	4



CEDARAPIDS

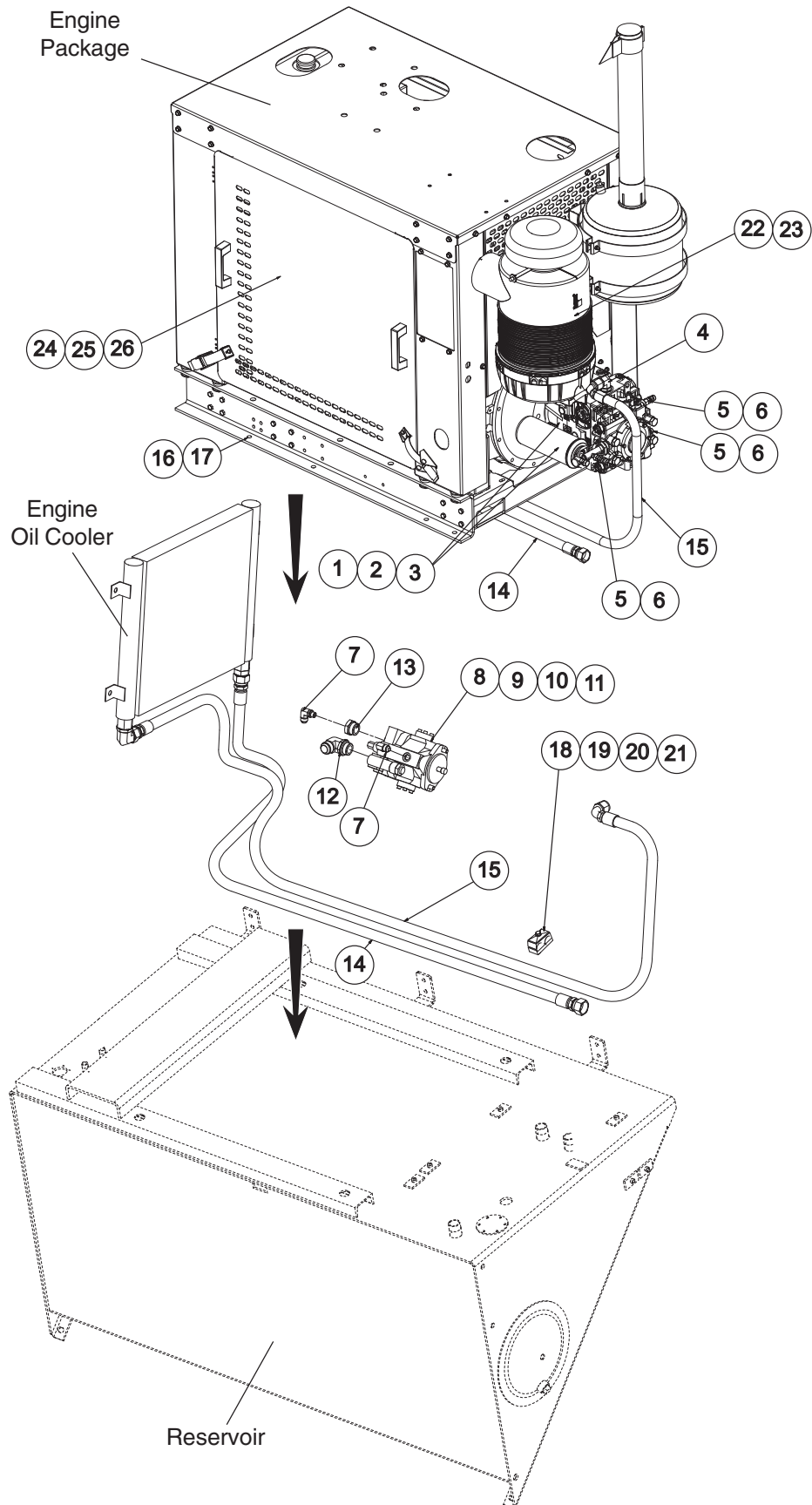
Emblems

Parts List 09702FAD

Ref #	Part Number	REV	Part Name	Description	Qty
-	0449403317	B	ASSEMBLY	MS4-DECALS & INDICATOR	REF
1-5	0449150030		DECAL	BRAKING HAZARD	1
1-6	0449040001		DECAL	DANGER BATTERY EXPLOSION	1
1-8	0441813511	G	EMBLEM	DIESEL	1
1-9	0449150013		DECAL	WARNING-WHEEL LUGS	2
1-10	0449150005		DECA;	WARNING HEARING HAZARD	1
1-11	0449150016		DECAL	WARNING LOCKOUT ENTANGLEMENT	1
1-12	0449150012		DECAL	WARNING HWY TOWING	1
1-13	0449403313	-	EMBLEM	MS4	2
1-14	04493033		DECAL	SERIAL PLATE	1
1-15	07073013		SCREW	#6 X 1/4" DRIVE	2
1-16	04418955	D	EMBLEM	USA FLAG	1
1-17	04418720	C	EMBLEM	ENGINE OIL DRAIN	1
1-18	0449350001		DECAL	LIFT POINT - ISO	4
1-20	0449350003		DECAL	TIE DOWN POINT-ISO	4
1-23	4601060007	A	REFLECTOR	RED	2
1-24	4601060008	-	REFLECTOR	AMBER	2
1-26	04418197	A	EMBLEM	SMV	1
1-27	07383038		CAPSCREW	3/8" NC X 1"	2
1-28	07014018		WASHER	3/8"	2
1-29	07014003		WASHER	3/8" LOCK	2
1-30	07012025		HEX NUT	3/8" NC	2
1-32	04418925	E	EMBLEM	PAVER LUBE PLATE	1
1-33	04418985	A	DECAL	MS4 PICKUP GATE GAUGE	4
1-35	4600000404	B	PADLOCK	#7KA MASTER	7
1-37	04495037		DIAGRAM	LAMINATED	1
1-38	04418836	D	EMBLEM	RESERVOIR LEVEL	1
1-40	0449150003		DECAL	WARNING ASPHALT BURN	3
1-41	0449040004		DECAL	DANGER AUGER ENTANGLEMENT	3
1-42	0449403315	-	EMBLEM	TEREX/CRI MS4 LH	1
1-43	0449403314	-	EMBLEM	TEREX/CRI MS4 RH	1
1-44	0449403312	-	EMBLEM	TEREX/CRI FRONT	1
1-45	0449150010		DECAL	WARNING FLUID INJECTION	1
1-46	4601060006	B	TAPE	1" WHITE	25'
1-47	04418866	G	EMBLEM	PATENT	1

NOTE: No Illustration Available

Power Mounting Assembly





CEDARAPIDS

Power Mounting Assembly

Parts List No. 09702DAG

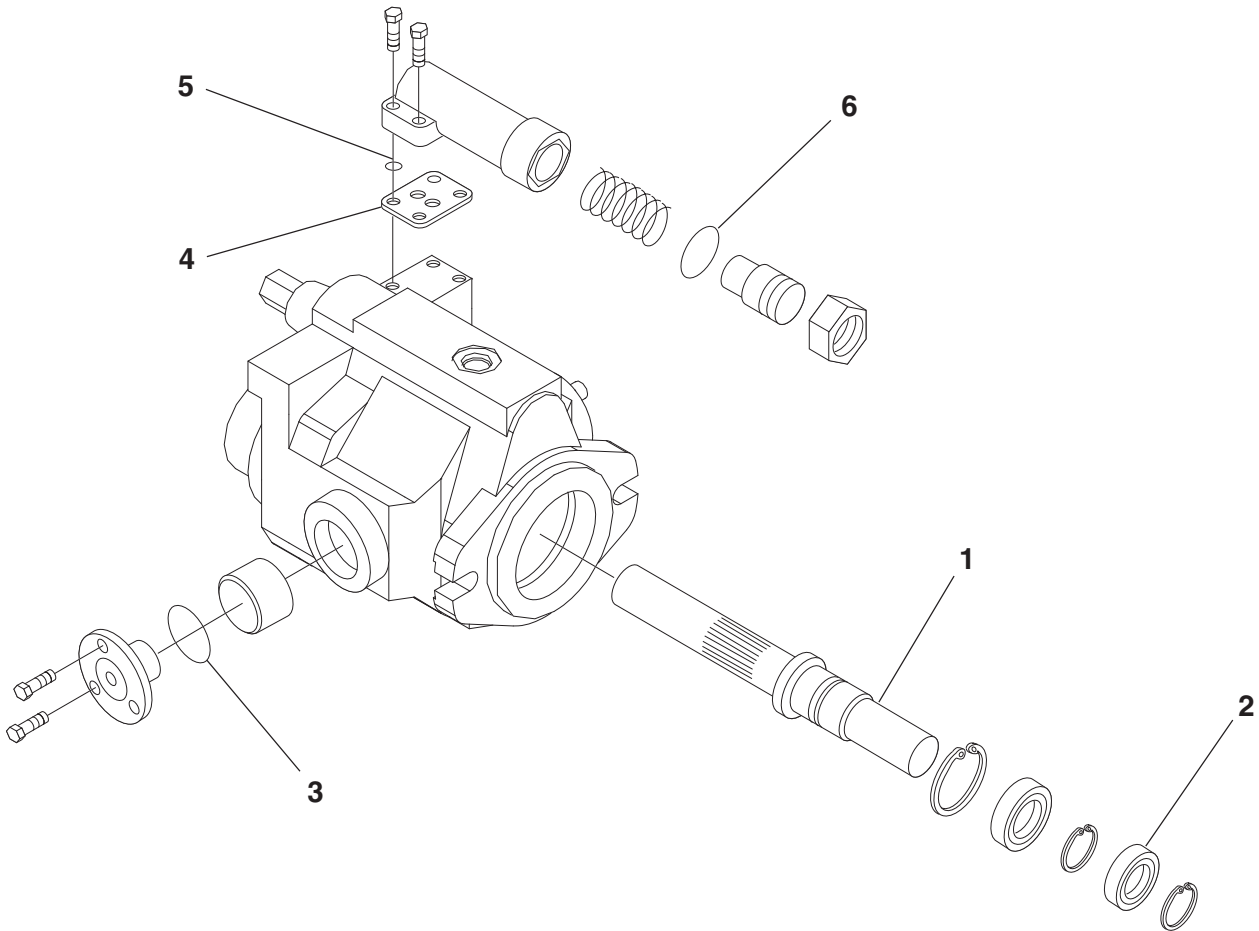
Ref. No.	Part Number	Description	Quantity
-	45930-001-74	Engine, Cummins QSB4.5 Diesel	1
1	45080-002-74	Pump, Conveyor - Variable Displacement	1
	45080-002-74-01	Pump Filter	As Req
	45080-002-74-02	EDC Controller	As Req
2	7383-070	Capscrew, 1/2" x 1-1/2"	4
3	7014-005	Lockwasher, 1/2"	4
4	7430-282	Elbow, 90° 3/4"	1
5	45720-775-54	Reducer Fitting, 1/4" x 3/8"	3
6	45080-527-04	Test Fitting, 1/4"	3
7	7430-277	Elbow, 90° 1/2" x 9/16"	2
8	45890-300-02	Capscrew, M10 x 30	2
9	45890-301-10	Washer, M10 Style 79	2
10	9700-434	Gasket, Pump	1
11	45080-002-10	See Auxiliary Pump Assembly - Following Page	1
12	7430-285	Elbow, 90°	2
13	45720-775-28	Reducer, 1/2" x 1"	1
14	7653-075-33-01	Hose Assembly - Cooler to Reservoir	1
15	7653-110-35-01	Hose Assembly - Cooler to Conveyor Pump	1
16	7383-116	Capscrew, 3/4" x 1-1/2" (Engine Mounting)	4
17	7014-009	Lockwasher, 3/4" (Engine Mounting)	4
18	45080-529-35	Clamp Half, 1"	2
19	45080-529-27	Plate, Cover for Clamp	1
20	7383-025	Capscrew, 5/16" x 1-3/4"	1
21	7014-002	Lockwasher, 5/16"	1
22	45930-001-64-01	Air Cleaner, Primary	As Req
23	45930-001-64-02	Air Cleaner, Secondary	As Req
24	45930-001-64-03	Fuel Filter	As Req
25	45930-001-64-04	Engine Oil Filter	As Req
26	45930-001-18-02	Fuel Strainer	As Req

Note: Additional replacement parts are included with this Engine Package.
Consult Cedarapids Product Support for more detailed parts information.



CEDARAPIDS

Auxiliary Pump

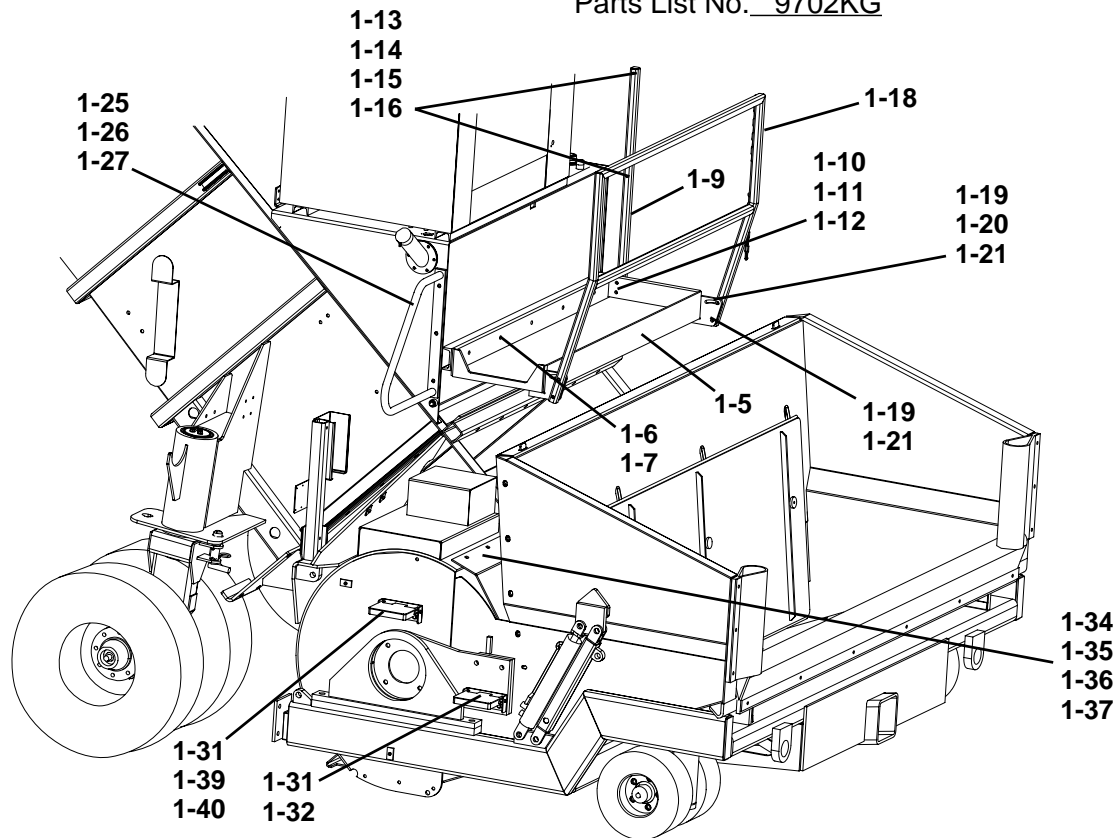


Ref. No.	Part Number	Description	Quantity
	45080-002-10	Auxiliary Pump - Complete	
1	45080-002-24-03	Spline, 9-Tooth	1
2	45080-002-10-03	Seal, Shaft	1
3	Consult Factory	O-Ring	2
	Consult Factory	Control Kit - PC (3000 PSI)	
4	45080-002-10-02	Gasket	1
5	45080-002-10-01	O-Ring	1
6	Consult Factory	O-Ring	1
7	45080-002-10-04	Seal Kit - Complete	1

NOTE: Only replacement parts identified. For further parts breakdown please consult factory.

Engine Walkway & Accessories

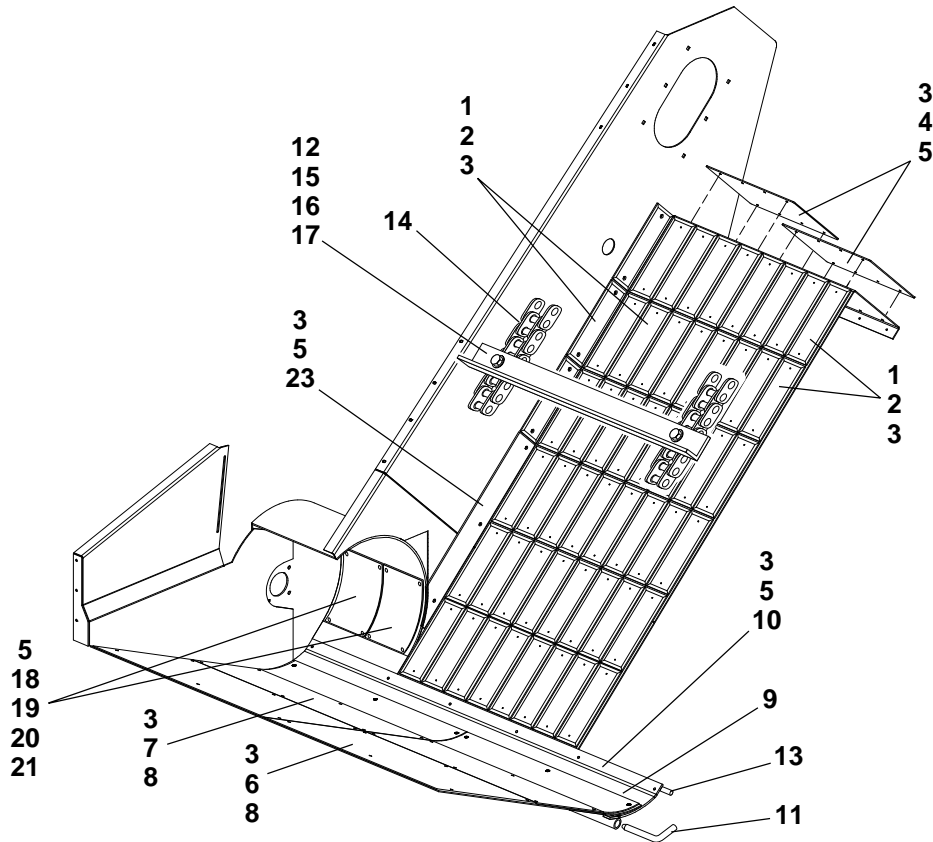
Parts List No. 9702KG



Ref. No.	Part Number	Description	Quantity
1-5	9702-075-88	Frame, Engine Access	1
1-6	7383-100	Capscrew, 5/8" x 1-1/2"	5
1-7	7014-007	Lockwasher, 5/8"	5
1-9	9702-076-02	Post, Engine Access	1
1-10	7383-070	Capscrew, 1/2" x 1-1/2"	2
1-11	7014-005	Lockwasher, 1/2"	2
1-12	7012-027	Hex Nut, 1/2"	2
1-13	7383-027	Capscrew, 5/16" x 2-1/4"	2
1-14	7014-017	Washer, 5/16"	2
1-15	7014-002	Lockwasher, 5/16"	2
1-16	7012-024	Hex Nut, 5/16"	2
1-18	9702-075-94	Railing, Engine Walkway	1
1-19	7383-075	Capscrew, 1/2" x 2-3/4"	4
1-20	7014-020	Washer, 1/2"	2
1-21	45890-102-28	Locknut, 1/2"	4
1-25	9702-076-08	Bar, Grab - Engine Access	1
1-26	7383-066	Capscrew, 1/2" x 3/4"	3
1-27	7014-005	Lockwasher, 1/2"	3
1-31	9702-076-06	Step, Engine Access	2
1-32	7383-119	Capscrew, 3/4" x 2-1/4"	2
1-34	9702-004-52	Plate, Cover	2
1-35	7383-068	Capscrew, 1/2" x 1"	6
1-36	7014-020	Washer, 1/2"	6
1-37	7014-005	Lockwasher, 1/2"	6
1-39	7389-045	Capscrew, 1/2" x 1-1/4"	2
1-40	45890-102-28	Locknut, 1/2"	2

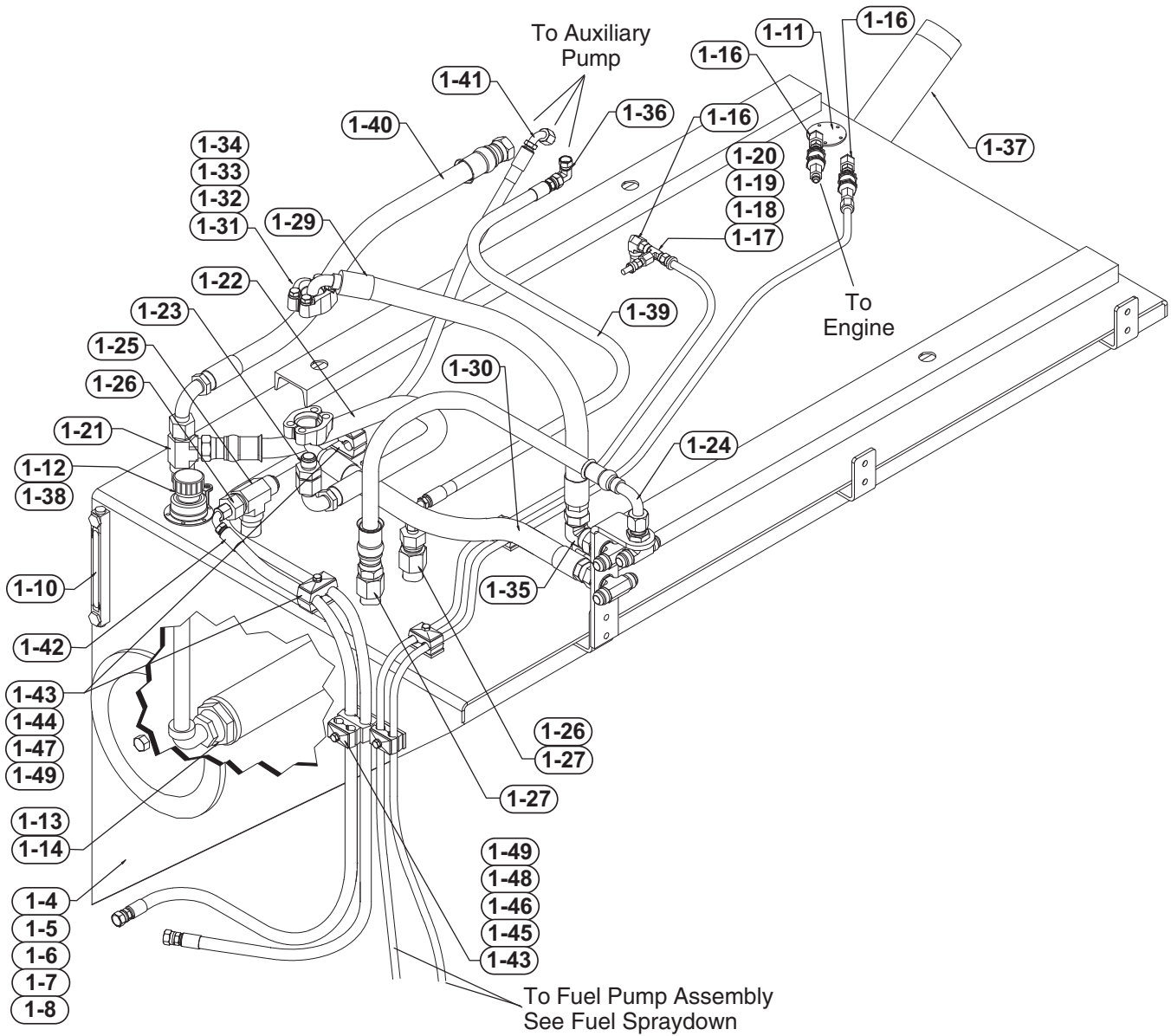
Liners and Chain - Slat Conveyor

Parts List No 9702EJ



Ref. No.	Part Number	Description	Quantity
1	9702-100-13	Liner, Conveyor - High Alloy	54
2	7445-025	Plow Bolt, 1/2" x 1-1/2"	108
3	45890-102-28	Locknut, 1/2"	160
4	9702-100-26	Liner, Conveyor - Discharge	2
5	7389-046	Capscrew, 1/2" x 1-1/2" Sockethead	44
6	9702-100-28	Liner, Hopper - Front	2
7	9702-100-29	Liner, Hopper - Rear	2
8	7389-045	Capscrew, 1/2" x 1-1/4" Sockethead	24
9	9702-100-31	Liner, Conveyor - Bottom	1
10	9702-100-32	Liner, Conveyor - Bottom	1
11	9702-151-43	Pin, Angle	2
12	9702-025-85	Flight, Conveyor - Heavy Duty	22
13	41005-117	Round, 3/4" x 117"	1
14	9702-025-88	Chain, Conveyor - 66 Pitches	2
15	45890-303-51	Bolt, 12mm x 1mm x 45mm	176
16	45890-301-17	Washer, 12mm Hardened Flat	176
17	45890-302-16	Square Nut, 12mm	176
18	9702-100-33	Liner, Auger Housing	4
19	7014-020	Washer, 1/2" Flat	16
20	7014-005	Lockwasher, 1/2"	16
21	7012-027	Hex Nut, 1/2"	16
22	9702-100-35	Liner, Side - Left Hand (Not Shown)	1
23	9702-100-36	Liner, Side - Right Hand	1

Fuel & Hydraulic Reservoir



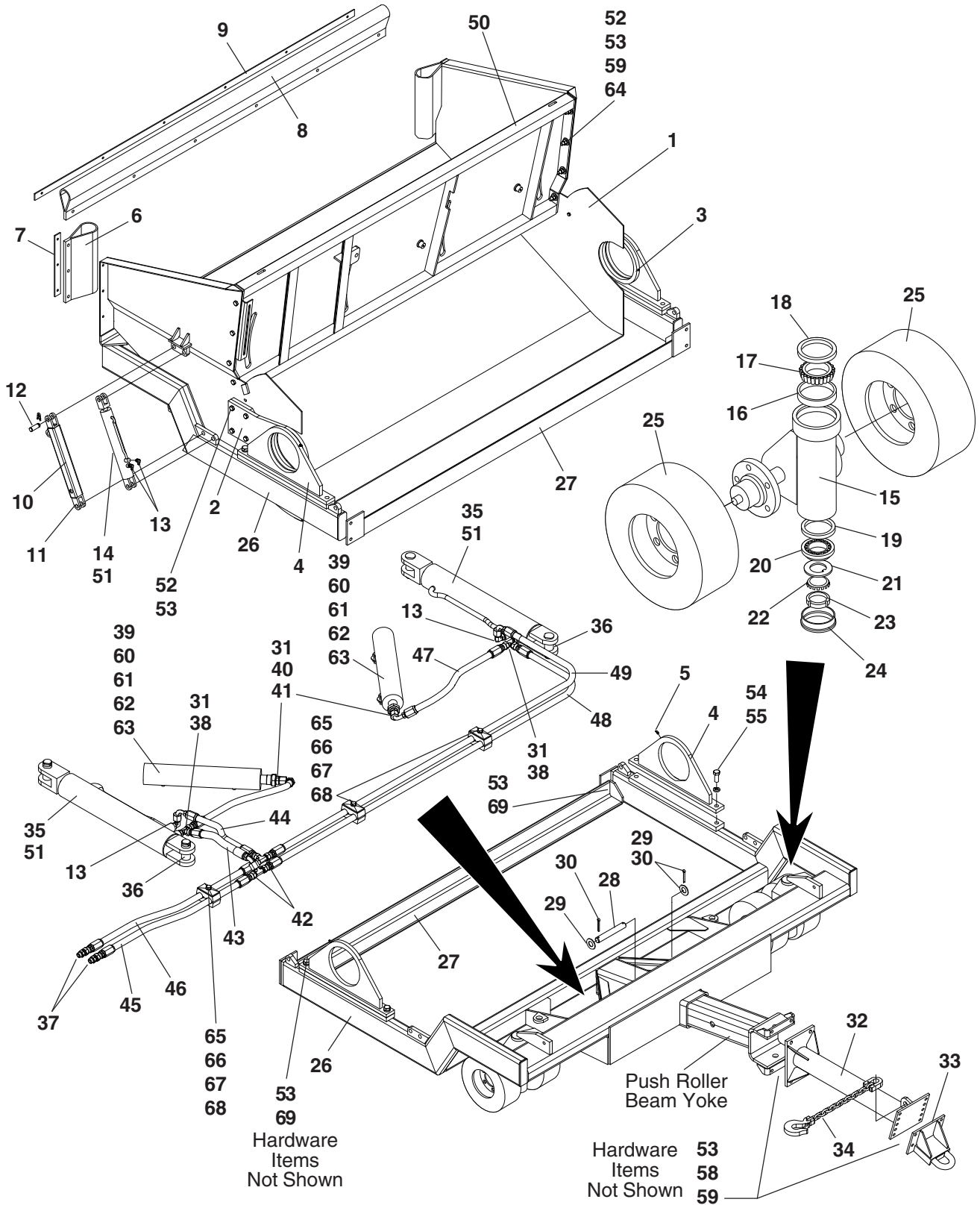


CEDARAPIDS

Fuel & Hydraulic ReservoirParts List No. 09702CFH

Ref #	Part Number	REV	Part Name	Description	Qty
1-4	0970207625	A	RESERVOIR	Fuel & Hydraulic	1
1-5	07072101		CARR BOLT	1/2" X 1-1/4"	8
1-6	07014020		WASHER	1/2"	8
1-7	07014005		WASHER	1/2" LOCK	8
1-8	07012027		HEX NUT	1/2" NC	8
1-10	4586500130	A	GAUGE	OIL LEVEL	1
1-11	4521551201	M	SENDER		1
1-12	4508051915	-	BREATHER	FILLER	1
1-13	07107040		BUSHING	2" X 1"	1
1-14	4508051036	-	STRAINER	74 MICRON	1
1-16	07430090		ELBOW	3/8"FPTX3/8"JIC	3
1-17	07430344		TEE	3/8"JIC SWIVEL NUT	1
1-18	07430323		REDUCER	3/8" TO 1/4"	1
1-19	07430206		NUT	3/8"JIC	1
1-20	07431006		HOSE END	1/4" HOSE SWIVEL	1
1-21	07430144		TEE	1" JIC X 1" F.P. RUN	1
1-22	0763402635	-	HOSE ASSY	1" ID X 26"	1
1-23	07430268		CONNECTOR	1-5/8"SAE 1"JIC	1
1-24	076530323501	A	HOSE ASSY		1
1-25	07430166		TEE	1"JIC 1"FPT 1"JIC	1
1-26	07430409		REDUCER	1"JIC TO 1/2"JIC	2
1-27	07430065		CONNECTOR	1"FPT - 1"JIC	2
1-28	4521550105	B	CAP		1
1-29	076840293701	-	HOSE ASSY		1
1-30	076840253601	-	HOSE ASSY	1" I.D. X 25"	1
1-31	4519100491	C	CLAMP	HALF 1"	4
1-32	4525950811	A	O RING	1.296"ID 1-9/16"OD	2
1-33	07383056		CAPSCREW	7/16"NC X1-3/4	8
1-34	07014004		WASHER	7/16" LOCK	8
1-35	07430406		ELBOW	1" SWIVEL	1
1-36	07430404		ELBOW	3/4"SAE 5/8"JIC	1
1-37	0970207577	A	FUEL FILL		1
1-38	4521550105	B	CAP		1
1-39	0765207035	A	HOSE ASSY	1/2" ID X 70"	1
1-40	0763403335	-	HOSE ASY	TRACTION SUCTION	1
1-41	0765212635	A	HOSE ASSY	1/2" ID X 126	1
1-42	0765207835	A	HOSE ASSY	1/2" ID X 78"	1
1-43	4508052924	-	CLAMP HALF	FOR 5/8" TUBE	6
1-44	4508052927	-	PLATE	COVER FOR CLAMP	2
1-45	4508052926	-	PLATE	COVER FOR CLAMP	1
1-46	4508052924	-	CLAMP HALF	FOR 5/8" TUBE	2
1-47	07383025		CAPSCREW	5/16"NC X 1-3/4	2
1-48	07383029		CAPSCREW	5/16"NC X 2-3/4	1
1-49	07014002		WASHER	5/16" LOCK	3
2-9	0970207586	A	GASKET	(Not Shown)	1

Hopper & Chassis Assembly





CEDARAPIDS

Hopper & Chassis Assembly

Parts List No. 09702GJ

Ref. No.	Part Number	Description	Quantity
1	9702-151-27	Hopper	1
	<u>9709-800-05</u>	<u>Kit, Hopper Pivot (Not Shown - Includes items 2 & 4)</u>	1
2	9702-151-26	Pivot Arm, Hopper	2
3	7051-001	Fitting, Grease 1/8"	2
4	9702-151-25	Support, Pivot	2
5	7051-002	Fitting, Grease 45° 1/8"	2
6	9702-151-29	Flashing, Hopper - Side	2
7	9702-151-30	Clamp, Flashing - Side	2
8	9702-151-31	Flashing, Hopper - Front	1
9	9702-151-32	Clamp, Flashing - Front	1
	<u>9709-800-06</u>	<u>Kit, Hopper Lock (Not Shown - Includes items 10 & 11)</u>	1
10	9702-151-22	Lock, Hopper - Outer	2
11	9702-151-23	Lock, Hopper - Inner	2
12	45090-509-10	Pin, Locking	6
13	7430-275	Elbow, 90° 3/8"	6
14	45090-010-24	Hydraulic Cylinder, Hopper Raise (with item #51 Seal Kit)	2
15	9702-175-50	Caster, Front	2
16	7306-001	Cup, Bearing	2
17	7306-018	Cone, Bearing	2
18	45200-242	Seal, Oil	2
19	45130-002-04	Cup, Bearing	2
20	45130-008-06	Cone, Bearing	2
21	45130-500-16	Washer, Bearing	2
22	45130-500-03	Lockwasher, Bearing	2
23	7030-011	Locknut, Bearing	2
24	45404-501-06	Hubcap, Caster	2
25	9702-004-55	Wheel Assembly	4
26	9702-175-46	Chassis, Hopper	1
27	9702-175-48	Spreader, Hopper Chassis	1
28	9702-001-80	Pin, Pull Tongue	1
29	7097-021	Washer, 1-1/2" SAE	2
30	7011-113	Cotter Pin, 3/8" x 3"	2
31	7430-426	Elbow, 45° 3/8" Swivel	4
32	9702-001-76	Pull Tongue	1
33	9702-000-20	Hitch, Pull Tongue	1
34	9702-004-58	Chain, Safety	1
35	45090-007-85	Hydraulic Cylinder, Push Roller (with item #51 Seal Kit)	2
36	45134-011-01	Bushing, 1" Bore Ball	4
37	7430-252	Connector, 3/8"	2
38	7430-291	Tee, 3/8"	2
39	45085-502-07	Accumulator	2
40	45720-775-12	Reducer, 1/2" x 3/4"	2

CONTINUED -



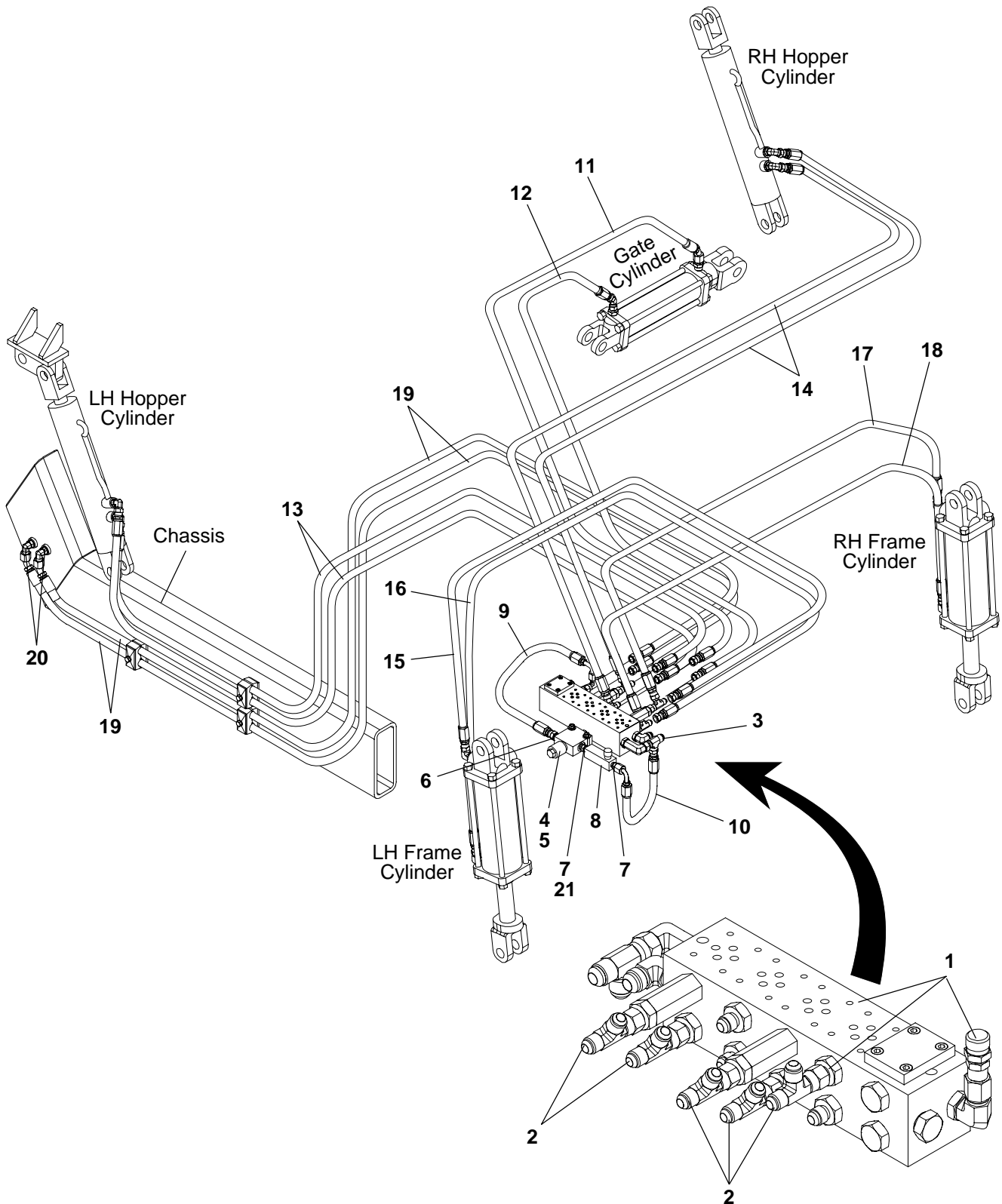
CEDARAPIDS

Hopper & Chassis Assembly

Parts List No 09702GJ

Ref. No.	Part Number	Description	Quantity
41	7430-253	Connector, 3/4" x 3/8"	2
42	7430-195	Tee, 3/8"	2
43	7651-011-34	Hose Assembly - Tee to Left Cylinder Pressure	1
44	7651-012-35	Hose Assembly - Tee to Left Cylinder Return	1
45	7651-030-33	Hose Assembly - Pressure to Tee	1
46	7651-032-33	Hose Assembly - Return to Tee	1
47	7651-017-35	Hose Assembly - Accumulator	2
48	7651-062-33	Hose Assembly - Tee to Right Cylinder Pressure	1
49	7651-062-35	Hose Assembly - Tee to Right Cylinder Return	1
50	9702-151-46	Hopper Back	1
51	45090-007-85-01	Seal Kit (For Hydraulic Cylinders)	As Req
52	7383-118	Capscrew, 3/4" NC X 2"	16
53	7014-009	Lockwasher, 3/4"	28
54	7383-154	Capscrew, 1" NC X 2-1/2"	4
55	7014-011	Lockwasher, 1"	4
56	7383-073	Capscrew, 1/2" NC X 2-1/4"	12
57	45890-102-28	Lock Nut, 1/2" NC	12
58	7383-119	Capscrew, 3/4" NC X 2-1/4"	8
59	7012-030	Hex Nut, 3/4" NC	16
60	45191-004-48	Tie Down Clamp	4
61	7383-039	Capscrew, 3/8" NC X 1-1/4"	4
62	7014-018	Washer, 3/8"	4
63	7012-025	Hex Nut, 3/8" NC	4
64	7014-023	Washer, 3/4"	8
65	45080-529-24	Clamp Half, 5/8" Tube	6
66	45080-529-27	Plate, Clamp Cover	3
67	7383-025	Capscrew, 5/16" NC X 1-3/4"	3
68	7014-002	Lockwasher, 5/16"	3
69	7383-117	Capscrew, 3/4" NC X 1-3/4"	4

Hydraulic Assembly



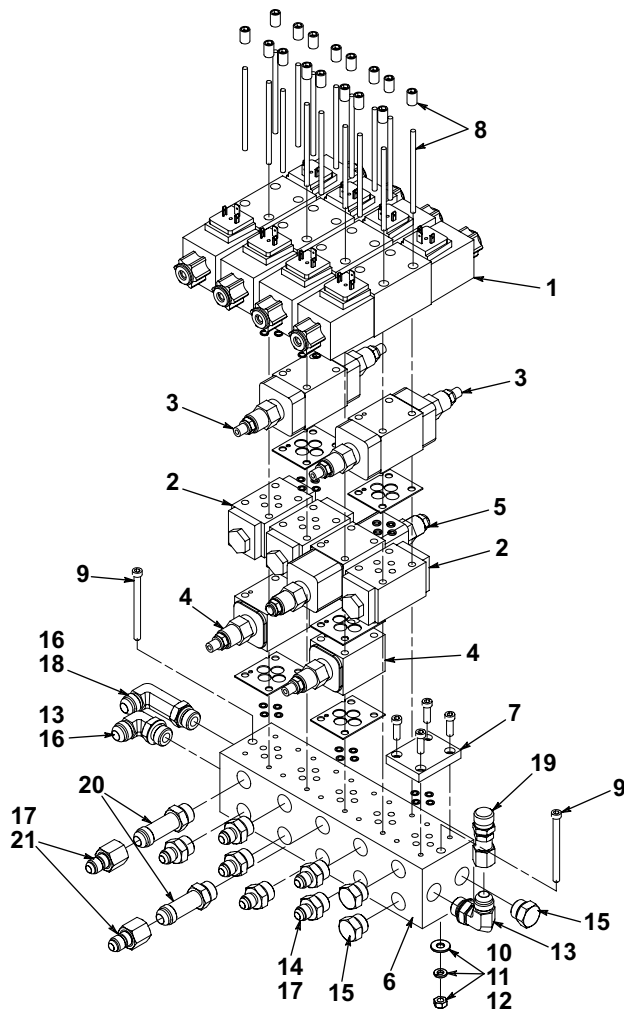


Hydraulic Assembly

Parts List No 9702CFE

Ref. No.	Part Number	Description	Quantity
1	Reference Only	See Valve Assembly - Following Page	1
2	7430-344	Tee, 3/8" Swivel Nut	5
3	7430-345	Tee, 1/2" Swivel Nut	1
4	45252-008-15	Valve, Solenoid 3 Way - Complete	1
	45252-008-15-01	Cartridge, Valve	As Req
	45252-008-15-02	Coil, Valve Cartridge	As Req
	45252-008-15-03	Seal Kit, Valve Cartridge	As Req
5	7430-381	Plug, 3/8" with #21 O-Ring	1
6	7430-252	Connector, 3/8" with #21 O-Ring	1
7	7430-004	Connector, 3/8" x 1/4"	2
8	45259-006-59	Valve, Flow Control 1/4"	1
9	7651-019-35	Hose Assembly - Valve Block to Solenoid Valve	1
10	7651-019-35-01	Hose Assembly - Valve Block to Flow Control Valve	1
11	7651-102-34	Hose Assembly - Gate Control Cylinder	1
12	7651-100-33	Hose Assembly - Gate Control Cylinder	1
13	7651-100-33	Hose Assembly - Left Hand Hopper Cylinder	2
14	7651-220-33	Hose Assembly - Right Hand Hopper Cylinder	2
15	7651-050-33	Hose Assembly - Left Hand Frame Cylinder	1
16	7651-062-33	Hose Assembly - Left Hand Frame Cylinder	1
17	7651-156-33	Hose Assembly - Right Hand Frame Cylinder	1
18	7651-168-33	Hose Assembly - Right Hand Frame Cylinder	1
19	7651-118-34	Hose Assembly - Push Roller Extend Cylinder	2
20	7430-275	Elbow, 90° 3/8" with #21 O-Ring	2
21	45259-508-13	O-Ring, 9/16" (For Hydraulic Fittings)	As Req

Valve Assembly

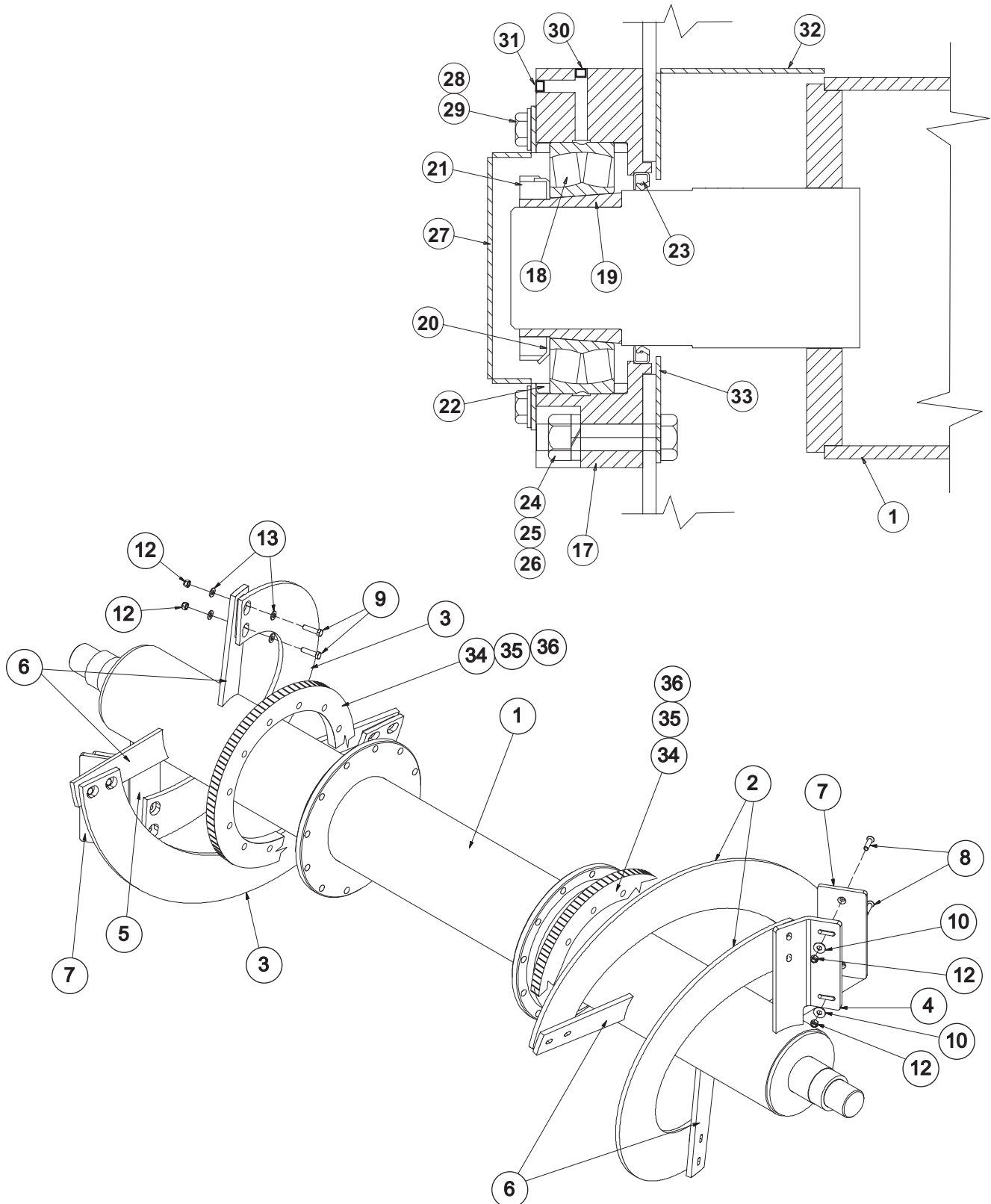


Ref. No.	Part Number	Description	Quantity
	9702-050-62	Valve Assembly - Complete	-
1	45252-005-53	Valve, Solenoid - With O-Rings	4
2	45252-014-10	Valve, Holding - With O-Rings	3
3	45252-007-20	Valve, Flow Control	2
4	45252-007-50	Valve, Needle - With O-Rings	2
5	45252-014-17	Valve, Counterbalance	1
6	45252-501-10	Block, Valve - 5 Position	1
7	45252-503-02	Cover Plate (Includes Hardware & O-Rings)	1
8	9704-663-01	Bolt Kit (Includes Studs & Studnuts)	4
9	7025-088	Capscrew, 5/16" x 3"	2
10	7014-017	Washer, 5/16" Flat	2
11	7014-002	Lockwasher, 5/16"	2
12	7012-024	Hex Nut, 5/16"	2
13	7430-278	Elbow, 90° 1/2" with #22 O-Ring	2
14	7430-253	Connector, 1/2" x 3/8" with #22 O-Ring	6
15	7430-382	Plug, 1/2" with #22 O-Ring	3
18	45720-776-29	Elbow, 90° 1/2" Long	1
19	45080-527-16	Test Fitting, 1/2"	1
20	45720-775-82	Connector, 1/2"	2
21	7430-325	Reducer, 1/2" x 3/8"	2
22	45259-508-14	O-Ring, 3/4" (For Hydraulic Fittings)	As Req



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Lower Conveyor Components





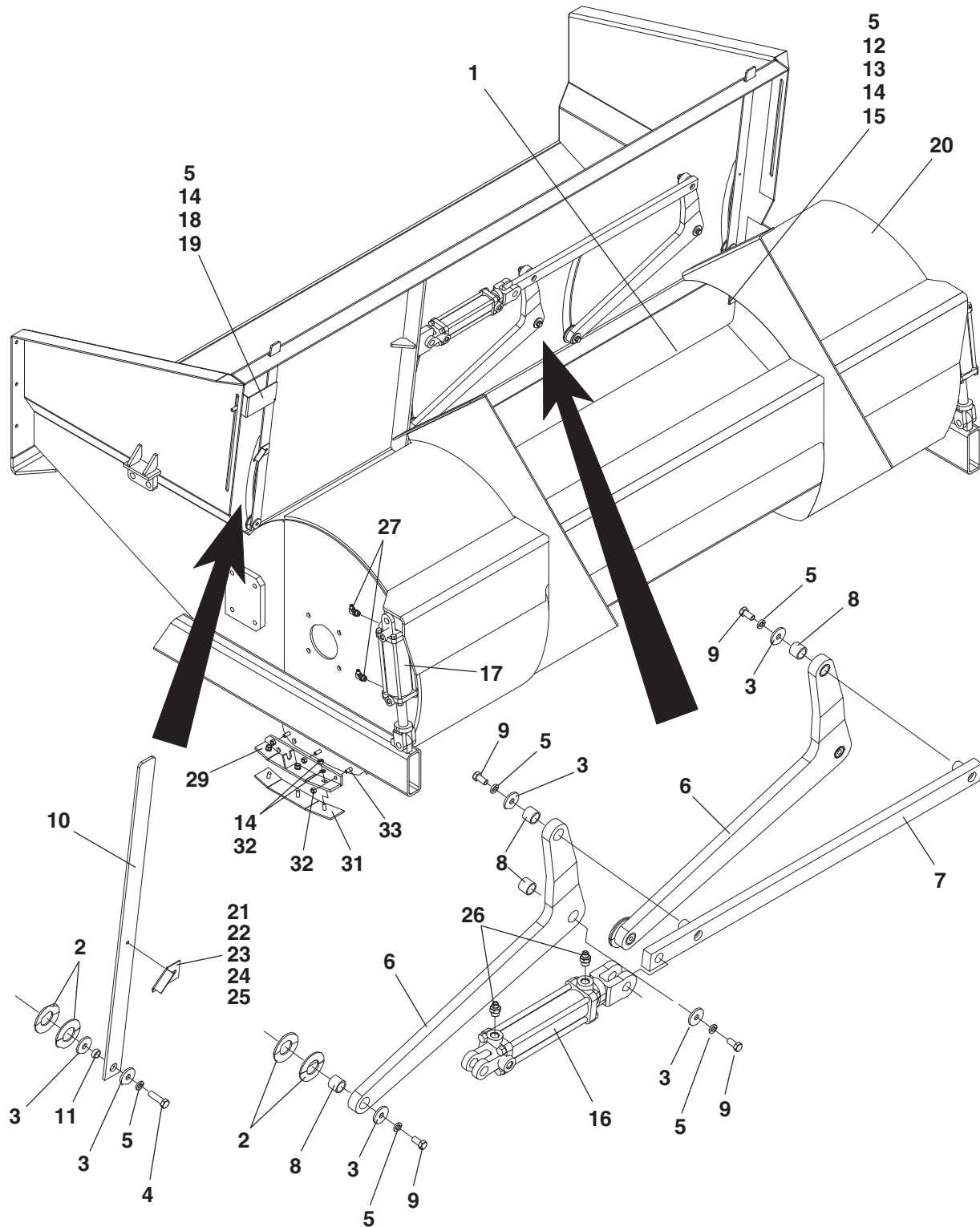
CEDARAPIDS

Lower Conveyor Components

Parts List No. 09702BFD

Ref. No.	Part Number	Description	Quantity
-	0970202637	Auger Shaft Assembly - Complete	1
1	0970202631	Shaft, Auger	1
2	0970202606	Auger, Left Hand Spiral	2
3	0970202604	Auger, Right Hand Spiral	2
4	0970202635	Arm, Auger Support - Left Hand	1
5	0970202636	Arm, Auger Support - Right Hand	1
6	0970202639	Arm, Auger	6
7	0970202638	Liner, Auger Support Arm	2
8	07389048	Capscrew, 1/2" x 2" Sockethead	4
9	07399002	Capscrew, 1/2" x 2" Grade 8	16
10	07014020	Washer, 1/2" Flat	4
12	4589010228	Nut, 1/2" NC Locknut	20
13	07097011	Washer, 1/2" Flat	32
17	0970202592	Housing, Bearing	2
18	07032002	Bearing, Roller	2
19	07035004	Sleeve, Bearing	2
20	07033021	Lockwasher, Bearing 4"	2
21	07030021	Locknut, Bearing	2
22	07221010	Ring, Spacer (Install for Left Hand Bearing Only)	2
23	45200282	Oil Seal, Bearing	2
24	07383124	Capscrew, 3/4" x 3-1/2"	8
25	07012030	Hex Nut, 3/4"	8
26	07014009	Lockwasher, 3/4"	8
27	0970202593	Cover, Bearing Housing	2
28	07383068	Capscrew, 1/2" x 1"	16
29	07014005	Lockwasher, 1/2"	16
30	4572077663	Plug, 1/8" Hex Hollow	2
31	07051001	Grease Fitting, 1/8"	2
32	0970202598	Guard, Auger Shaft - Upper	2
33	0970202601	Guard, Auger Shaft - Lower	2
34	0970202589	Sprocket, 14 Tooth / 5.5118" Pitch	2
35	0751112428	Huckbolt, 3/4" x 1-3/4"	24
36	07510124	Huckcoller, 3/4"	24

Lower Frame Components





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Lower Frame Components

Parts List No. 09702AEB

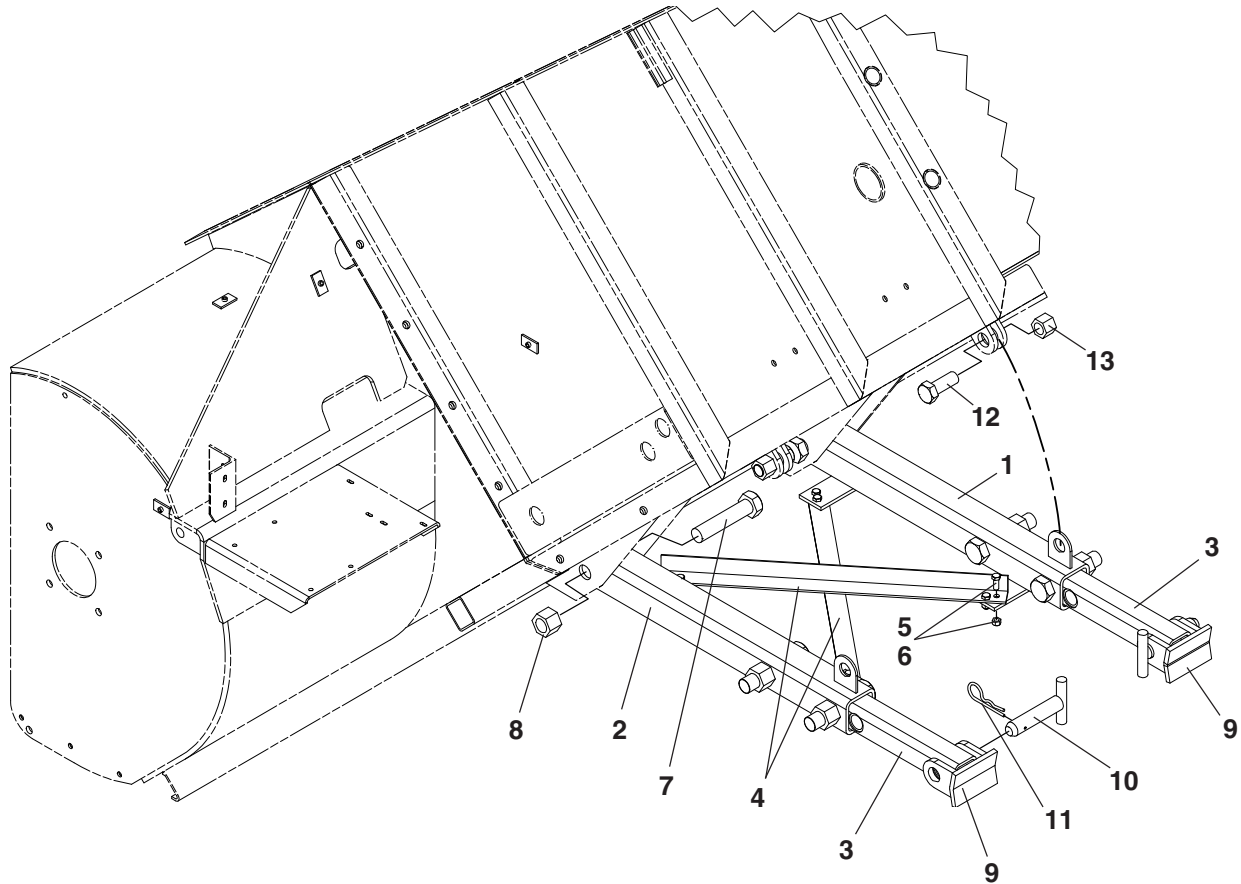
Ref #	Part Number	REV	Part Name	Description	Qty
1	0970215118	G	GATE	HOPPER MS4	1
2	07453606		WASHER	1-1/2"BELLVILLE ZP	8
3	4589025555	-	WASHER	LARGE-OD 1/2"	10
4	07383071		CAPSCREW	1/2"NC X 1-3/4"	2
5	07014005		WASHER	1/2" LOCK	13
6	0970215119	A	PLATE	BELL CRANK MS4	2
7	0970215120	B	LINK	HOPPER GATE MS4	1
8	07254062	-	BUSHING	1.503ID X 1" LG	6
9	07383068		CAPSCREW	1/2" NC X 1"	6
10	0970215121	C	FLAT	GATE GAUGE	2
11	0970215124	-	SPACER	GATE GUAGE	2
12	0970215128	A	ANGLE	GATE SUPT.	2
13	07383070		CAPSCREW	1/2"NC X 1-1/2	4
14	07014020		WASHER	1/2"	15
15	07012027		HEX NUT	1/2" NC	4
16	4509001020	-	HYDRAULIC CYLINDER		1
	450900102001		Seal Kit (For Above Cylinder)		As Req
17	4509001019	A	HYDRAULIC CYLINDER		2
	450900101901		Seal Kit (For Above Cylinder)		As Req
18	0970215134	B	SUPPORT	LIMIT SWITCH	1
19	4600050801	A	HANDLE	1/2"NC	1
20	0970200396	R	FRAME	LOWER	1
21	0970215133	-	FLAT	LIMIT SWITCH	1
22	07383022		CAPSCREW	5/16" NC X 1"	1
23	07014017		WASHER	5/16"	1
24	07014002		WASHER	5/16" LOCK	1
25	07056026		WING NUT	5/16"NC	1
26	07430253		CONNECTOR	3/4"SAE 3/8"JIC	2
27	07430276		ELBOW	#8MSAE X #6MJIC 90	4
28	4572077540	-	PLUG (Not Shown)		1
-	0970980012	-	KIT	MS4 SKID	1
29	0970215141	-	SKID	PLATE LH	1
30	0970215142	-	SKID	PLATE RH (Not Shown)	1
31	0970215145	-	LINER	WEAR	2
32	4589010228	B	LOCKNUT	1/2"NC	12
33	07389046		CAPSCREW	SCH1/2NCX1-1/2	6



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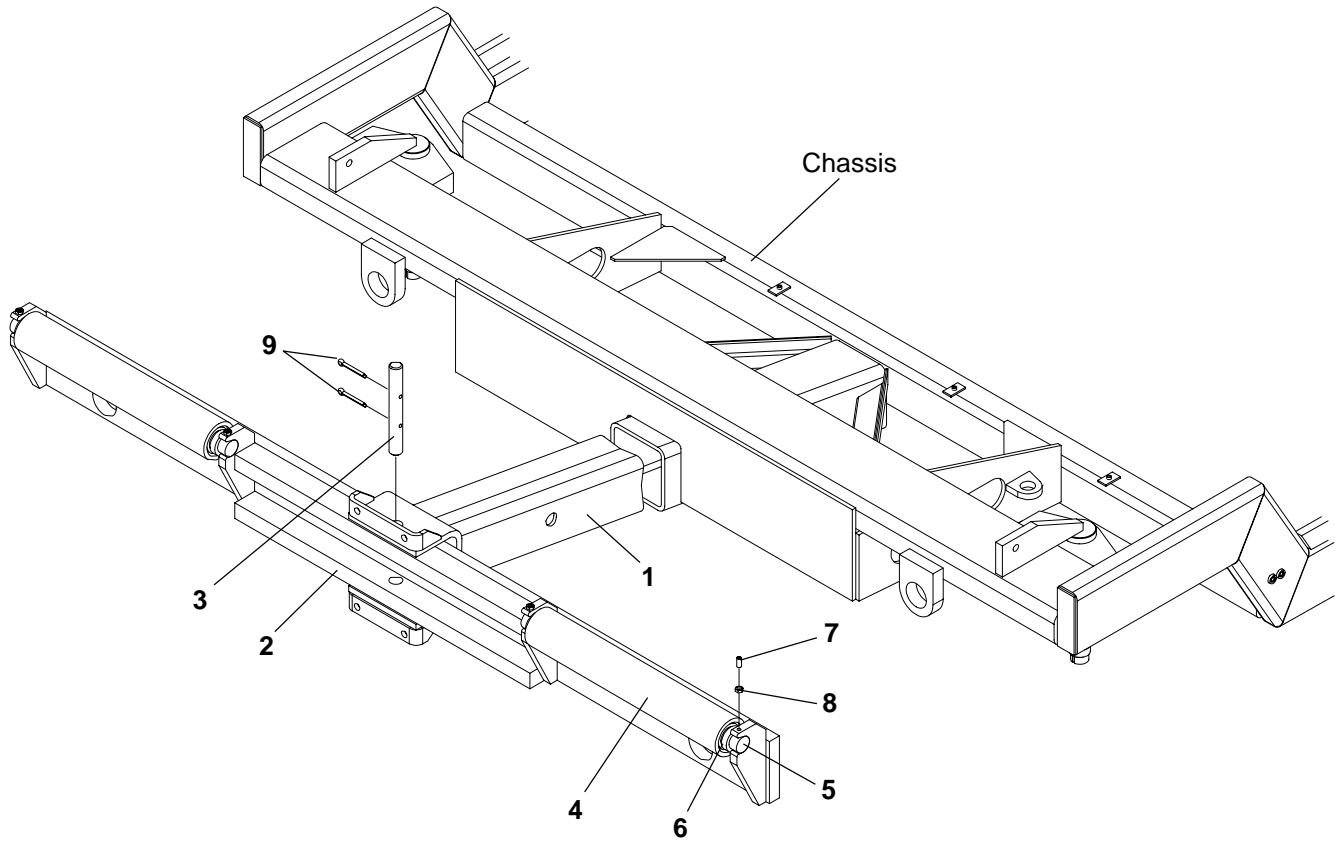
Paver Attachment Parts

Parts List No 09702AJB



Ref #	Part Number	REV	Part Name	Description	Qty
-	0970980015		KIT	MS-4 PUSH ARM	1
1	0970200405		PUSHARM	OUTER RH	1
2	0970200406		PUSHARM	OUTHER LH	1
3	0970200407		PUSHARM	INNER	2
4	0970200408		ANGLE	BRACE	2
5	07383069		CAPSCREW	1/2"NC X 1-1/4"	8
6	07012027		HEX NUT	1/2" NC	8
7	07383212		CAPSCREW	1-1/2" NC X 7"	6
8	07386014		HEX NUT	1-1/2"NC	6
9	0970200152		BRACKET	PAVER ATTACHMENT	2
10	0970200036	D	PIN		2
11	4589080027	A	RETAINER	HAIR PIN	2
12	07383178		CAPSCREW	1-1/4"NC X 3-1/2"	2
13	07386012		HEX NUT	1-1/4"NC LOCK	2
14	097020041101		PRINT	Instructional (<i>Not Shown</i>)	1

Oscillating Push Rollers
Parts List No. 09702HF



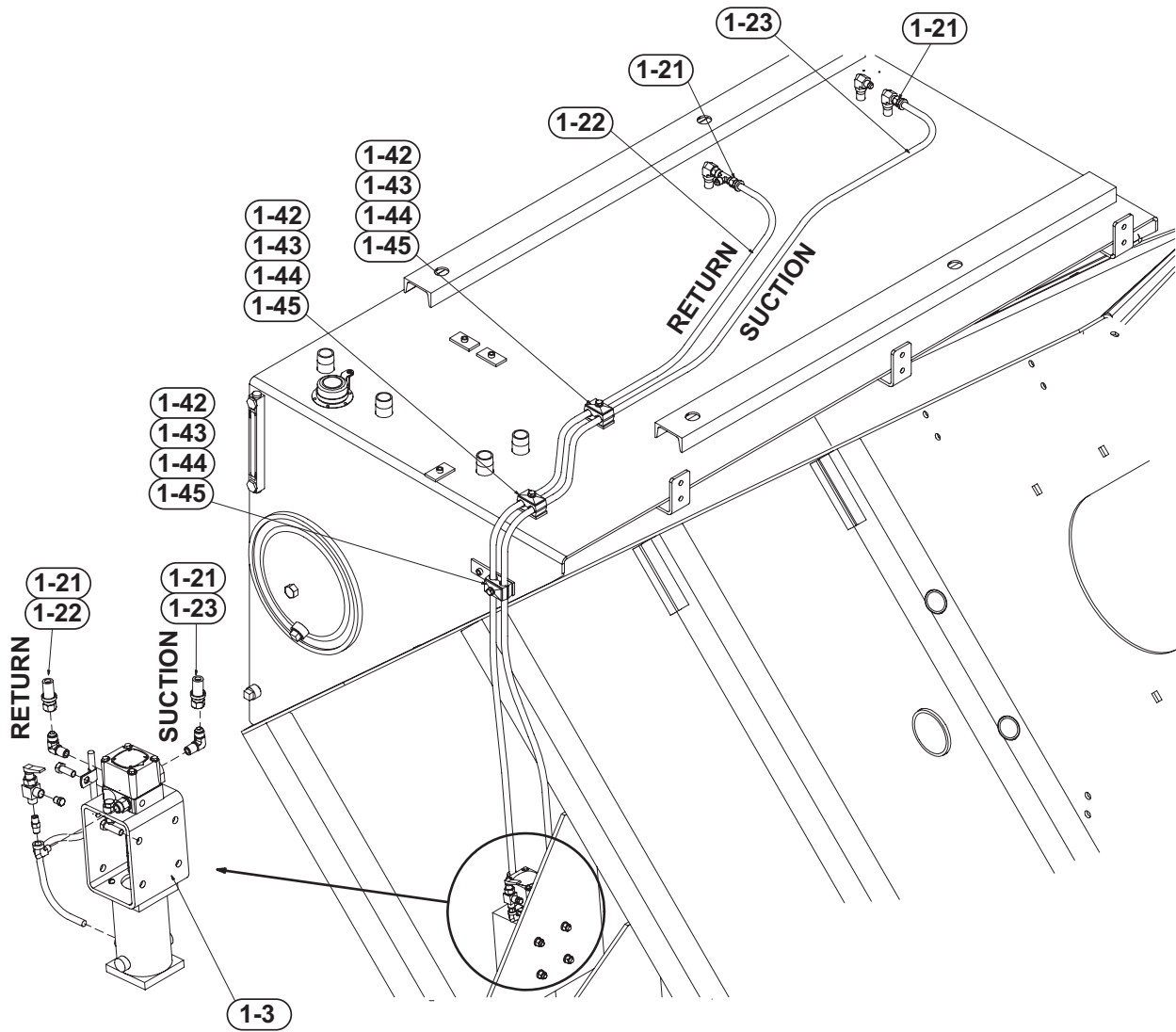
Ref. No.	Part Number	Description	Quantity
1	9702-175-02	Yoke, Oscillating Beam	1
2	9702-175-09	Beam, Oscillating	1
3	9704-003-74	Pin, Pivot - Oscillating Beam	1
4	5036AD32	Tube, Roller	2
5	41218-034	Shaft, Roller	2
6	7302-013	Bearing, Ball 1-15/16"	4
7	7130-105	Set Screw, 1/2" x 1-1/4"	4
8	7017-027	Hex Nut, 1/2" Jam	4
9	7011-113	Pin, Cotter 3/8" x 3"	2



CEDARAPIDS

Spraydown System

Parts List No. 09702DDF



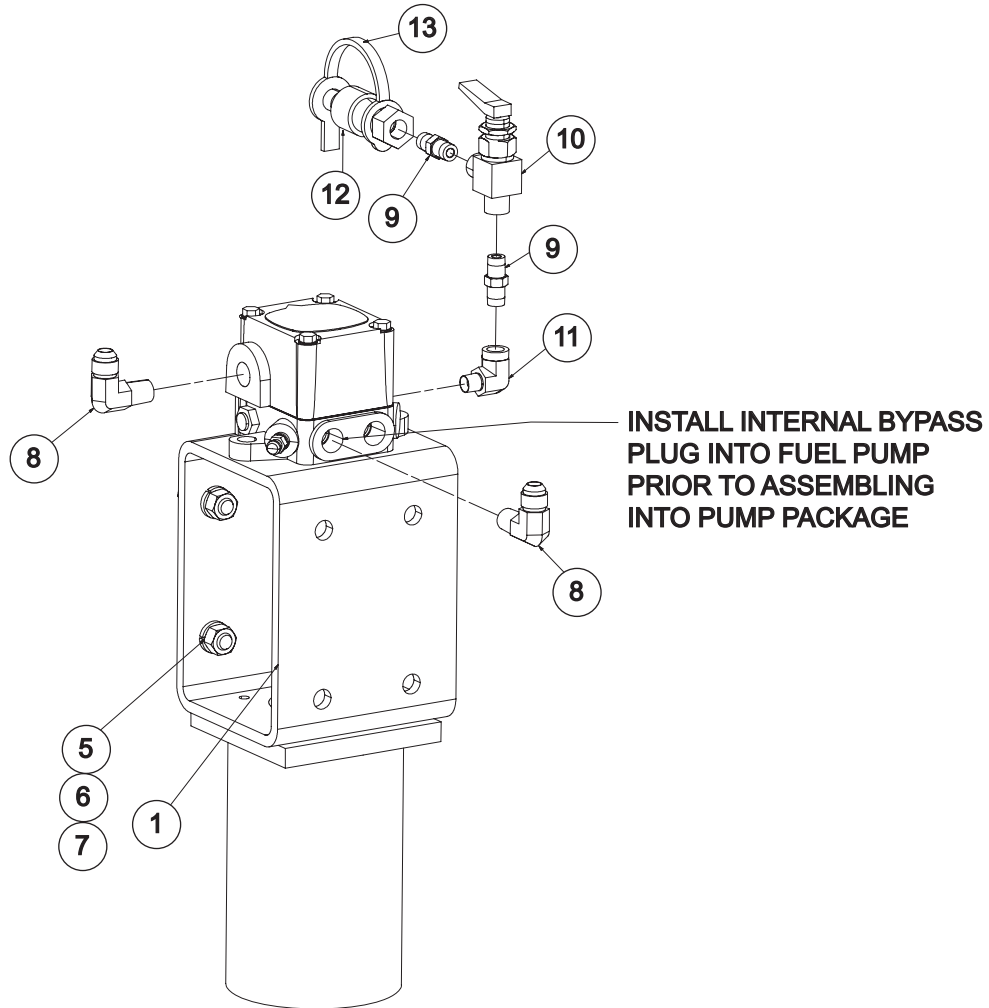
Ref #	Part Number	REV	Part Name	Description	Qty
-	0970207583	B	ASSEMBLY DRAWING	FUEL SPRAYDOWN	REF
1-3	0970830027	A	SUB-ASSEMBLY	FUEL PUMP (See Form 24391)	1
1-17	0970445415		SPRAY DOWN HOSE	W/DISCONNECT (Not Shown)	1
1-21	07431008		HOSE END	3/8"HOSE SWIVEL	4
1-22	5003000202	D	HOSE	3/8" ID	8.3'
1-23	5003000202	D	HOSE	3/8" ID	8.3'
1-42	4508052924	-	CLAMP HALF	FOR 5/8" TUBE	6
1-43	4508052926	-	PLATE	COVER FOR CLAMP	3
1-44	07383024		CAPSCREW	5/16"NC X 1-1/2	3
1-45	07014002		WASHER	5/16" LOCK	3



CEDARAPIDS

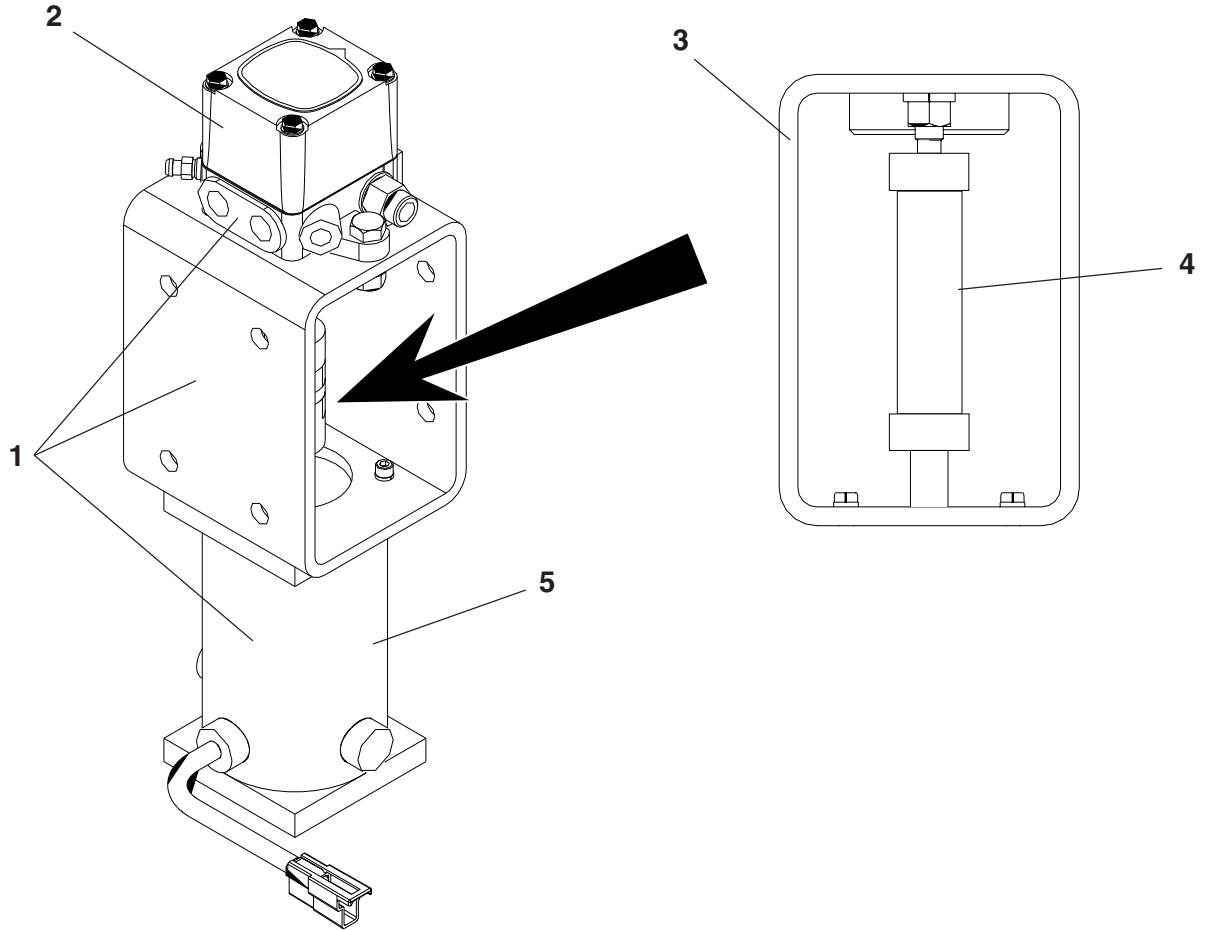
Fuel Pump Sub-Assembly

Part No. 0970830027



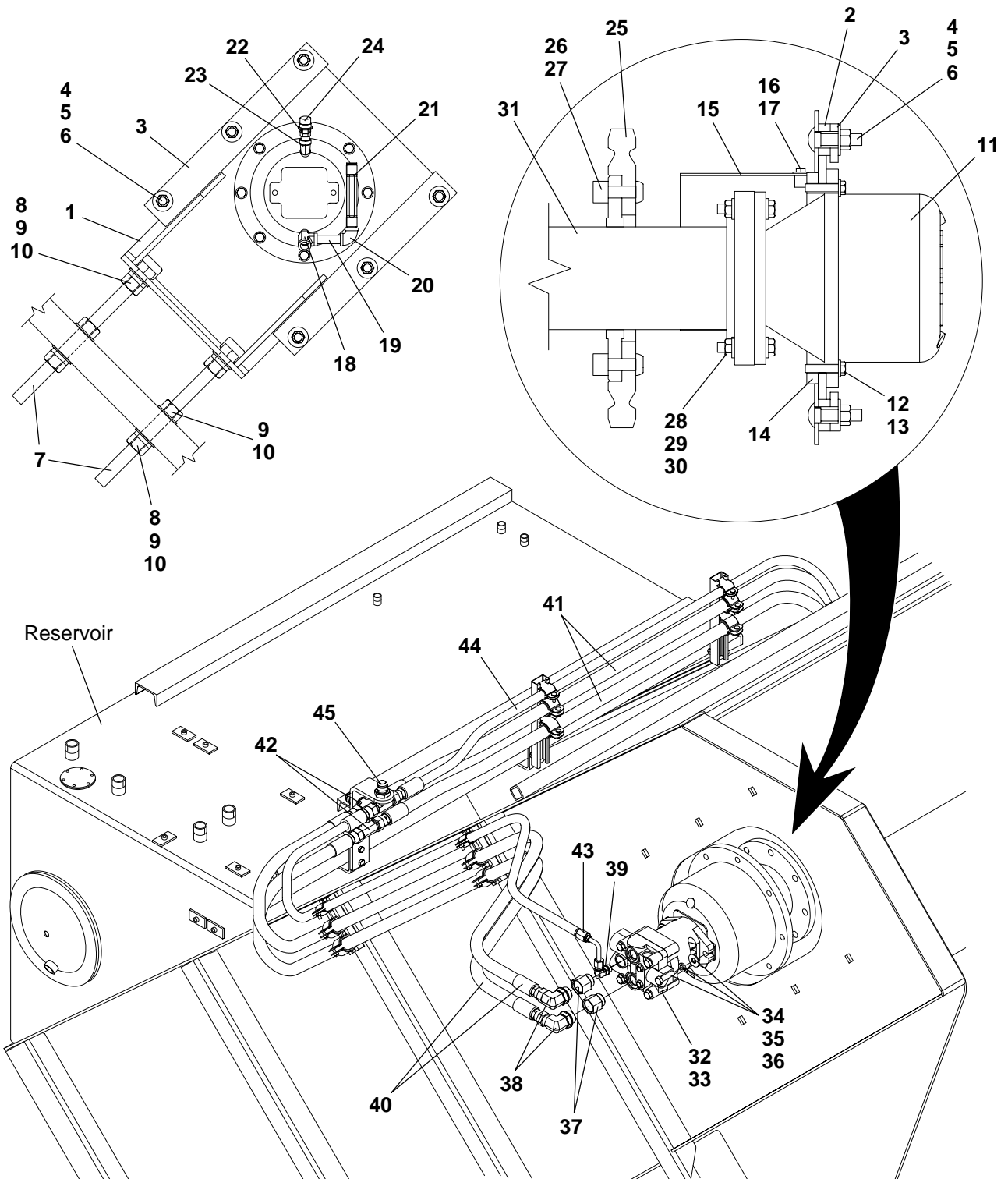
Ref #	Part Number	REV	Part Name	Description	Qty
1	4565252811	E	FUEL PUMP	(See Form 21900)	1
5	07014003		WASHER	3/8" LOCK	4
6	07012025		HEX NUT	3/8" NC	4
7	07383039		CAPSCREW	3/8"NC X 1-1/4	4
8	07430019		ELBOW	1/4"PIPE X #6 JIC	2
9	4572077054	-	NIPPLE	1/8" PARKER	2
10	4525200464	A	VALVE	TOGGLE OPERATED SHUT OFF	1
11	4572077001	-	ELBOW	FITTING	1
12	451915042903	-	COUPLER	1/8"NPT BRASS	1
13	451915042901	-	PLUG	DUST	1

Fuel Pump



Ref. No.	Part Number	Description	Quantity
1	4565252811	Pump, Fuel - Complete	1
2	456525281101	Pump, Fuel	1
3	0970455580	Mount, Fuel Pump	1
4	456525281103	Coupling, 7/16" x 1/2"	1
5	0970431607	Motor, Fuel Pump w/Seal	1
	4609840014	Motor, Electric	1
	970431608	Washer, Motor Seal	1
	4521000114	V-Seal - V-12S	1

Upper Conveyor Components

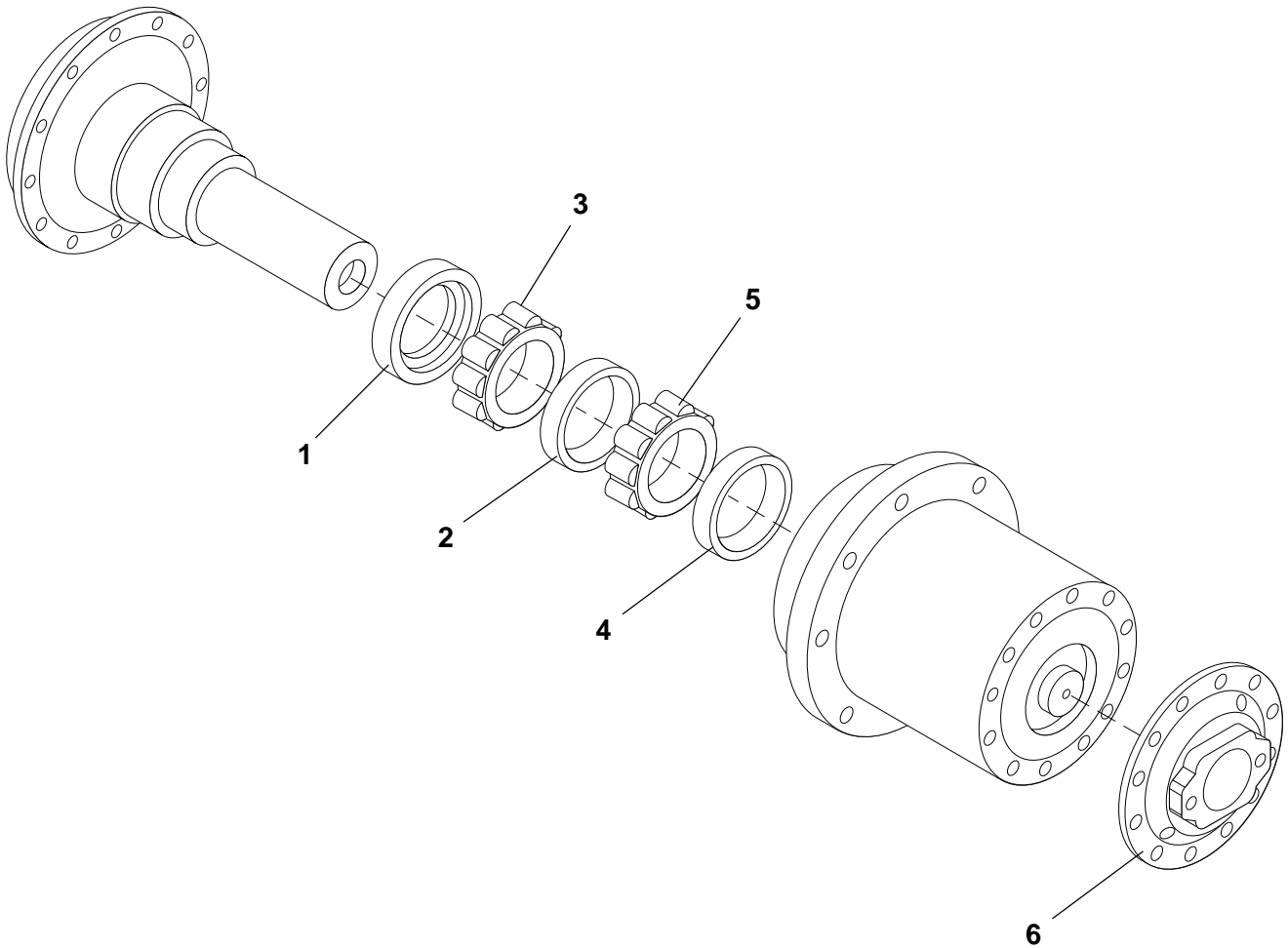


Upper Conveyor Components

Parts List No 9702BED

Ref. No.	Part Number	Description	Quantity
1	9702-050-27	Slide, Gear Box	2
2	9702-050-14	Spacer, Clamp	4
3	9702-050-13	Clamp, Slide Plate	4
4	7072-174	Carriage Bolt, 3/4"	12
5	7014-023	Washer, 3/4" Flat	12
6	7012-030	Hex Nut, 3/4"	12
7	7155-077	Adjusting Bolt, 1-1/4" x 21"	4
8	7014-013	Lockwasher, 1-1/4"	8
9	7097-019	Washer, 1-1/4" SAE	12
10	7012-034	Hex Nut, 1-1/4"	12
11	45635-500-09	Speed Reducer - See Form #21838, Following Page	2
12	7383-073	Capscrew, 1/2" x 2-1/4"	16
13	7465-001	Washer, 1/2" Hardened Flat	16
14	9702-050-07	Ring, Bolting	2
15	9702-050-08	Guard, Gear Box	2
16	7383-035	Capscrew, 3/8" x 5/8"	6
17	7014-018	Washer, 3/8"	6
18	45720-775-01	Tee, 1/2"	2
19	40503-003-50-01	Pipe, 1/2" x 3-1/2"	2
20	7085-004	Elbow, 90° 1/2"	2
21	45865-001-33	Gauge, Oil Sight	2
22	45720-769-05	Fitting, 1/2" x 1/4"	2
23	7286-004	Elbow, 45° 1/2"	2
24	7052-008	Breather, 1/4" Air Vent	2
25	9702-025-70	Sprocket, 10 Tooth Drive	2
26	7511-124-24	Huckbolt, 3/4" x 1-1/2"	24
27	7510-124	Huckcollar, 3/4"	24
28	7399-005	Capscrew, 5/8" x 3-1/4" Grade 8	16
29	7465-002	Washer, 5/8" Hardened Flat	32
30	45890-100-30	Hex Nut, 5/8" Grade 8	16
31	9702-026-22	Shaft, Drive	1
32	45080-006-36	Hydraulic Motor, 2.65 CID	2
33	45240-125-52	O-Ring Seal	2
34	7383-071	Capscrew, 1/2" x 1-3/4"	4
35	7014-005	Lockwasher, 1/2"	4
36	7014-020	Washer, 1/2" Flat	4
37	Not Required	Expander - Disregard this item	-
38	7430-284	Elbow, 1" x 3/4"	4
39	7430-256	Connector, 1/2"	2
40	7683-087-33-01	Hose Assembly - Left Conveyor	2
41	7683-143-33-01	Hose Assembly - Right Conveyor	2
42	7430-433	Tee, 1" Bulkhead	2
43	7652-085-33	Hose Assembly - Left Conveyor	1
44	7652-140-33	Hose Assembly - Right Conveyor	1
45	7430-446	Tee, 3/4" Bulkhead	1

Conveyor Reducer



Ref. No.	Part Number	Description	Quantity
	45635-500-09	Reducer - Complete	1
1	45200-284	Seal, Oil	1
2	45130-004-08	Cup, Bearing	1
3	45130-003-08	Cone, Bearing	1
4	45130-004-14	Cup, Bearing	1
5	45130-003-14	Cone, Bearing	1
6	45635-500-06-07	Plate, Cover	1

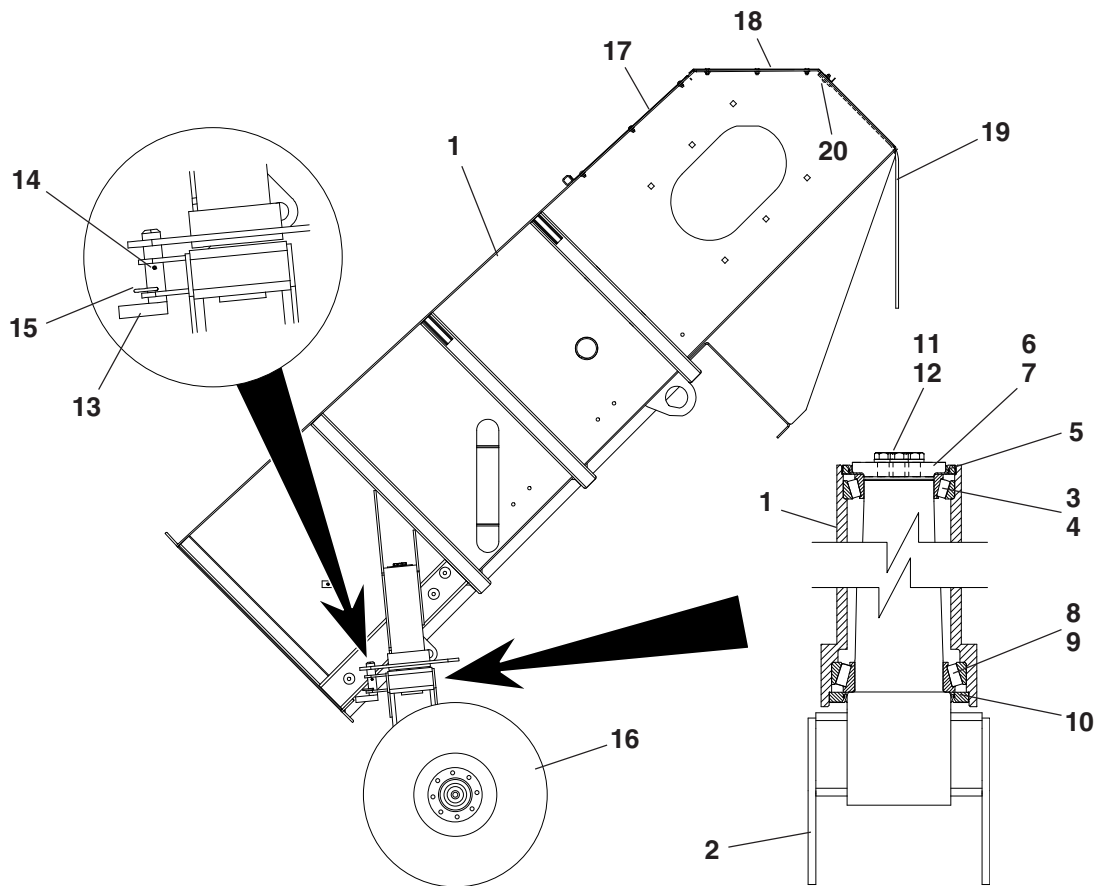
NOTE: For additional replacement Parts, Please consult Factory.



CEDARAPIDS

Upper Frame Components

Parts List No 09702ADB





CEDARAPIDS

Upper Frame Components

Parts List No. 09702ADB

Ref #	Part Number	REV	Part Name	Description	Qty
-	0970980013	-	KIT	MS4 FRAME	1
1	0970200376	-	FRAME	CONVEYOR MS-4	1
2	0970200387	E	CASTER	REAR	2
3	4513000220	A	BRG CUP		2
4	4513000188	-	BRG CONE	3-3/8" BORE	2
5	45200287	-	OIL SEAL	4-1/2" SHAFT BOR	2
6	07250005		SHIM SET	3 TO 3-3/8"	2
7	0970200286	C	CAP	REAR CASTER	2
8	4513000205	-	BRG CUP	INNER	2
9	4513000107	-	BRG CONE	INNER	2
10	45200300	-	OIL	SEAL	2
11	07383070		CAPSCREW	1/2"NC X 1-1/2	6
12	07014005		WASHER	1/2" LOCK	6
13	0970200285		PIN	REAR CASTER LOCK	2
14	07238120		ROLL PIN	.250" X 2.500"	2
15	4589080027	A	RETAINER	HAIR PIN	2
16	0970200040	B	WHEEL	8.25 X 15 TIRE	4
17	0970200298	A	PLATE	CONVEYOR COVER	1
18	0970200386	-	PLATE	COVER	1
19	0970200302	C	DEFLECTOR	CONV. DISCH.	1
20	0970200060	B	FLAT	.25 X 3.00 X 58.00	1

THE ITEMS LISTED BELOW ARE NOT ILLUSTRATED

21	07072052		CARR BOLT	3/8"NC X 1"	14
22	07014018		WASHER	3/8"	14
23	07012025		HEX NUT	3/8" NC	14
24	07072054		CARR BOLT	3/8"NC X 1-1/2"	7
25	07014018		WASHER	3/8"	7
26	07012025		HEX NUT	3/8" NC	7
27	07383118		CAPSCREW	3/4" NC X 2"	14
28	07383130		CAPSCREW	3/4" NC X 5"	6
29	07014023		WASHER	3/4"	12
30	07014009		WASHER	3/4" LOCK	20
31	07012030		HEX NUT	3/4" NC	20