



**850R**

**2012 | 2012 (EU)**

Skid-Steer Loader

**Parts Manual**

917384 Rev. I 03/19



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# RESTRAINT BAR

Ref. No.	Part No.	Description	Quantity
1	030-31949	SCREW/SHOULDER HEXAGON SOCKET HEAD 1/2 X 1	2
2	045-31500	BUSHING/OILITE	2
3	067847	NUT/HEX LOCK 3/8	2
4	131913	BUMPER	2
5	187678	SPACER/TUBE	2
6	193156	SWITCH/PROXIMITY	1
7	193157	MAGNET/SWITCH ACTUATOR	1
8	122485	STUD/BALL	2
9	070634	NUT/SERRATED LOCK 1/4	2
10	210-19470	NUT/HEX SERRATED LOCK 5/16	6
11	241344	BAR/RESTRAINT	1
12	241497	MOUNT/RESTRAINT BAR/LH	1
13	241553	MOUNT/RESTRAINT BAR/RH	1
14	242212	GAS SPRING/RESTRAINT BAR	1
15	242741	MOUNT/GAS SPRING	1
16	650687	BOLT/CARRIAGE 5/16 X 3/4	4
17	650748	BOLT/CARRIAGE 1/4 X 5/8	2
18	650848	WASHER/FLAT #6	8
19	651213	NUT/HEX MACHINE #5	4
20	651314	WASHER/EXTERNAL TOOTH LOCK #6	4
21	651575	SCREW/MACHINE ROUND HEAD #5 X 3/4	4

# WHEEL DRIVES

Ref. No.	Part No.	Description	Quantity
1	030-31956	BOLT/HUB 1/2 X 1-9/16	24
2	044204	CONE/BEARING	8
3	044205	CUP/BEARING	8
4	131139	SEAL/AXLE	4
5	137214	WASHER/THRUST	2
6	210-20746	NUT/WHEEL BOLT 9/16	24
7	210-32154	NUT/HEX TOP LOCK 1/2	24
8	240393	CHAIN/ROLLER #60 x 54	2
9	241308	CHAIN/ROLLER #60 x 76	2
10	241603	SPROCKET #60A13	2
11	241854	SHAFT W/SPROCKET/LONG	2
12	241856	SHAFT W/SPROCKET/SHORT	2
13	243425 b	HUB/AXLE	2
	241857 a	HUB/AXLE	2
14	243426 b	HUB/AXLE	2
	241858 a	HUB/AXLE	2
15	241859	HUB	4
	030-20745	BOLT/WHEEL 9/16 X 1-7/8	6
16	243252	O-RING	4
17	350-17647	O-RING	24
18	400-32535	WASHER/SPECIAL	4
19	650491	SCREW/CAP 3/8 X 1-1/4	2
20	651160	PIN/COTTER 5/32 X 1-1/2	4
21	653102	NUT/HEX SLOTTED 7/8	4

a) SN 031016 and Before

b) SN 031017 and Up

# HYDROSTATIC SYSTEM WITH DRIVE MOTORS

Ref. No.	Part No.	Description	Quantity
1	055981	FITTING/TEE MJ06-MJ06-MAORB06	1
2	068938	FITTING/90° MJ06 X MAORB06	4
3	076031	FITTING/90° MJ08 X MAORB10	2
4	076879	CAP/37° FLARE FJ08	3
5	079126	CLAMP/TWIN TUBE 5/8	1
6	079289	O-RING 155 N70	1
7	080556	CAP FJ06	1
8	091055	FITTING/STRAIGHT FJ12 X MJ10 REDUCER	1
9	121775	FITTING/90° MJ08 X MAORB12	6
10	132049	SWITCH/TEMPERATURE	1
11	135773	WASHER/FLAT 5/8 HEAT TREATED	12
12	184102 a	VALVE/SOLENOID	1
13	184378	PLATE/SPACER (BRAKE VALVE)	1
14	192500	CLAMP/TUBE DUAL 3/8	1
15	192508	TUBE CLAMP/PLATE	1
16	195217 a	PUMP/HYDROSTATIC SDF REAR	1
17	210-19533	NUT/HEX CENTERLOCK 3/8	1
18	210-32184	NUT/HEX FLANGE CENTERLOCK 1/4	2
19	240998	PLATE/PUMP SUPPORT	1
20	241473	HOSE/MEDIUM PRESSURE 1/2 X 16-1/5	2
21	241506	HOSE/MEDIUM PRESSURE 1/2 X 17	1
22	241510	HOSE/MEDIUM PRESSURE 1/2 X 12-1/4	1
23	241592	TUBE/BRAKE DRAIN	1
24	241814	TUBE & HOSE/BRAKE CHARGE	1
25	241923	TUBE/TANK MANIFOLD 5/8	1
26	242241 a	PUMP/HYDROSTATIC SDF FRONT	1
27	242288	CROSS/TEE	1
28	242435	TUBE/JUMP 1/2	1
29	242638	PLATE/TWIN COVER	1
30	245100 a	MOTOR/MS02-2	2
31	310-32616	SCREW/CAP LOCK 3/8 X 1/2	1
32	310-32653	SCREW/CAP FLG 1/2 X 1	4
33	50313398	TUBE/HYDRAULIC/BRAKE SPLIT	1
34	50351204	HOSE/MEDIUM PRESSURE 1/2 X 21-1/2	2
35	50351210	MANIFOLD/HYDRAULIC RETURN	1
36	50351351	TUBE/MOTOR/DRAIN/RIGHT	1
37	50351352	TUBE/MOTOR/DRAIN/LEFT	1
38	650577	SCREW/CAP 5/16 X 1-1/2	1
39	651620	SCREW/CAP SOCKET HEAD M16 X 30 MM	12
40	652140	BOLT/CARRIAGE 1/4 X 2	2
41	654009	WASHER/FLAT 1/2	4
42	654024	WASHER/LOCK 5/16	1
43	656008	SCREW/CAP M10 X 30 MM	2
44	656105	SCREW/CAP M8 X 25 MM	4
45	656111	WASHER/FLAT M8	4
46	656133	WASHER/FLAT M10	2
47	L51572	FITTING/45° MJ08 X MAORB10	3

a) For breakdown see "Section B" of this manual.

# HYDRAULICS - LIFT ARM

Ref. No.	Part No.	Description	Quantity
1	054994	FITTING/STRAIGHT MJ06 X MAORB06	7
2	068938	FITTING/90° MJ06 X MAORB06	2
3	071700	NUT/HEX LOCK 1/4	2
4	071701	NUT/HEX LOCK 5/16	6
5	074395	CLAMP/HOSE	1
6	079026	FITTING/45° ELBOW SAE06 X JIC06	1
7	087849	CLAMP/HOSE #52	3
8	087850	CLAMP/HOSE #40	2
9	100-32164	QUICK COUPLER/FLAT-FACED MALE 1-1/16	1
10	100-32167	QUICK COUPLER/FLAT-FACED FEMALE 1-1/16	1
11	121775	FITTING/90° MJ08 X MAORB12	2
12	122778	PLUG 9/16 O-RING	2
13	131842	NUT/SPIRALOCK™ 5/16	1
14	195228 a	CYLINDER/LIFT	2
15	195229 a	CYLINDER/TILT	2
16	195710	PIN/PIVOT	2
17	240550	PIN	2
18	240551	PIN	2
19	240554	PIN/LOWER	2
20	241442	HOSE/MEDIUM PRESSURE/TILT LOCK 3/8	1
21	241450	HOSE/MEDIUM PRESSURE 3/8 X 32	1
22	241464	HOSE/MEDIUM PRESSURE 3/8 X 29-1/2	1
23	241465	HOSE/MEDIUM PRESSURE 3/8 X 84-1/2	1
24	241683	TUBE/LEFT ROD 3/8	1
25	241691	TUBE/LEFT ROD 3/8	1
26	241695	HOSE/MEDIUM PRESSURE 3/8X 15-1/4	2
27	241696	HOSE/MEDIUM PRESSURE 3/8 X 13-3/4	2
28	241697	HOSE/MEDIUM PRESSURE 1/2 X 81	2
29	241863	TUBE/LIFT CYLINDER 3/8	2
30	350-32552	RING/SNAP	4
31	650568	SCREW/CAP 5/16 X 2	2
32	650725	SCREW/CAP 5/16 X 2-1/4	2
33	650733	SCREW/CAP 5/16 X 2-1/2	2
34	650839	SCREW/CAP 1/4 X 2-1/4	2
35	654004	WASHER/FLAT 5/16	1

a) For breakdown see "Section B" of this manual.

## CONTROLS - LIFT/TILT AND WHEEL DRIVES

Ref. No.	Part No.	Description	Quantity T-Bar
1	010-32440	BEARING/FLANGE MOUNT	4
2	030-31827	SCREW/SHOULDER 5/16	1
3	045-31440	BUSHING/SUPER OILITE	1
4	045-31469	BUSHING/OILITE	1
5	045-31488	BUSHING/OILITE FLANGED	4
6	054202	JOINT/BALL	1
7	054885	JOINT/BALL	1
8	056937	WASHER/FLAT 25/32	2
9	070856	NUT/SERRATED LOCK 3/8	4
10	071700	NUT/HEX LOCK 1/4	8
11	071703	NUT/HEX LOCK 3/8	4
12	071704	NUT/HEX LOCK 3/8	1
13	071706	NUT/HEX LOCK 1/2	1
14	074868	SPACER	1
15	075288	PIN/ROLL 5/16 X 1-1/4	3
16	079039	ROD END/FEMALE 3/8	1
17	079216	ROD END/FEMALE WITH STUD 5/16	6
18	121002	NUT/HEX LOCK 1/4	1
19	128316	BEARING/BRONZE	4
20	50303746	ROD END/ELASTOMERIC	2
21	134852	NUT/SPIRALOCK™ 3/8	3
22	134888	STEERING ARM/LEFT	1
23	134889	STEERING ARM/RIGHT	1
24	187002	NUT/HEX TOP LOCK 5/16	6
25	200-32287	YOKE/CLEVIS	2
26	200-32691	RETAINER/PUMP ARM	2
27	210-31017	NUT/CENTERLOCK 5/16	8
28	220-16148	PIN/CLEVIS 1/4 X 3/4	2
29	220-32680	PIN/CLIP RUE #8	2
30	240721	PIVOT	2
31	240834	SHAFT/PIVOT	1
32	240836	TUBE/PIVOT TUBE	1
33	240857	PLATE/CROSSMEMBER CONTROLS	1
34	240861	BRACKET/CONTROL ARM	2
35	240871	STOP/T-BAR	2
36	240872	ROD 8.00	2
37	240873	ROD 3.08	2

*Parts Listing Continued On Next Page*

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# ELECTRICAL - ROPS/FOPS

Ref. No.	Part No.	Description	Quantity
1	090666	NUT/HEX FLANGE SERRATED LOCK 3/8	2
2	072340	GAUGE/HOURMETER	1
3	088040	HOUSING/DISPLAY	1
4	090-32441	SWITCH/GLOW PLUG	1
5	090-32472	SWITCH/BRAKE	1
6	090-32478	BUZZER	1
7	121002	NUT/HEX LOCK 1/4	1
8	128738	BULB/LAMP	6
9	130064	GASKET/DISPLAY HOUSING	1
10	174983	TIMER/DELAY	1
11	183634	GAUGE/FUEL LEVEL	1
12	183645	GAUGE/ENG OIL TEMP	1
13	188947	BREAKER/CIRCUIT 15 A	3
14	189822	BREAKER/CIRCUIT 25 A	1
15	191477	SWITCH/LIGHT	1
16	191635	KNOB/LIGHT SWITCH	1
17	195087	SWITCH/IGNITION	1
	073694	KEY (SET OF 2)	1
	087-00003	CHAIN/KEY	1
18	240385	STANDOFF #6 X 3/4	2
19	241158	DECAL/LEFT INSTRUMENT PANEL	1
20	241212	PANEL/LH	1
21	241214	PANEL/RH	1
22	241276	PANEL/CIRCUIT BREAKER	1
23	241359	COVER/LEFT	1
24	241360	COVER/RIGHT	1
25	241387	DECAL/RIGHT INSTRUMENT PANEL	1
26	241404	WIRE HARNESS/ROPS	1
	188991	REPLACEMENT DIODE BOARD (FOR 241404)	1
27	242420	DECAL/CIRCUIT BREAKER	1
28	420-36100	TIMER/SEAT BELT	1
29	420-36255	CIRCUIT BREAKER 8 A	1
30	650549	WASHER/HELICAL SPRING LOCK #10	2
31	650550	NUT/HEX MACHINE #10	2
32	650658	NUT/HEX MACHINE #6	2
33	651308	SCREW/MACHINE PAN HEAD 1/4 X 3/4	8
34	651746	SCREW/MACHINE CROSS RECESSED PAN HEAD #4 X 3/8	2
35	654044	WASHER/HELICAL SPRING LOCK #6	4

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**GENERAL INFORMATION**

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**CAUTION**

**ALWAYS** follow safety precautions on decals. Replace decals if they become damaged or if the unit is repainted. If repainting, **BE SURE** that all applicable decals are affixed in their proper locations.

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Decal location information assists in the selection and application of new decals, in the event the original decals become damaged or the machine is repainted.

For decal replacement compare the location photographs to your machine **BEFORE** starting to refinish. Check off each required decal using the illustrated reference number. Find the part number, description and quantity. Refer to the illustration for replacement locations. Refer to Safety chapter of the Operator's Manual for information on the safety decals.

**NEW DECAL APPLICATION**

Surfaces **MUST** be free of dirt, dust, grease and foreign material before applying the decal. Remove smaller portion of decal backing paper and apply the exposed adhesive to the clean surface, maintaining proper position and alignment. Peel off remaining backing paper and apply hand pressure to smooth out the decal surface.

Specific decal part numbers for type of model, control option and the Manitou logo must be ordered separately.

**PAINT FINISH.** Use list below to order paint:

- |          |   |
|----------|---|
| 50294069 | 6-Pack Spray Cans Manitou Rouge Red                         |
| 50294067 | 4-Pack Quart Manitou Rouge Red                              |
| 51203017 | 6-Pack Spray Cans Manitou Silver                            |
| 51203018 | 4-Pack Quart Manitou Silver                                 |
| 50294068 | 6-Pack Spray Cans Manitou Black Semi-Gloss (newer machines) |
| 50294066 | 4-Pack Quart Manitou Black Semi-Gloss (newer machines)      |

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## Manitou Decals

<b>Ref. No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Quantity</b>
1	50323875	DECAL/RIGHT TOWER/850R	1
2	50323874	DECAL/LEFT TOWER/850R	1
3	50323533	DECAL/MANITOU/22.00	2
4	50324911	DECAL/MANITOU/REFLECTIVE 9 IN	3
5	50324910	DECAL/MANITOU/SILVER 9 IN	1

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# GEAR PUMP - DOUBLE

<b>Ref. No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Quantity</b>
	195402 a	PUMP/GEAR DOUBLE	1
1	243064	KIT/SEAL	1

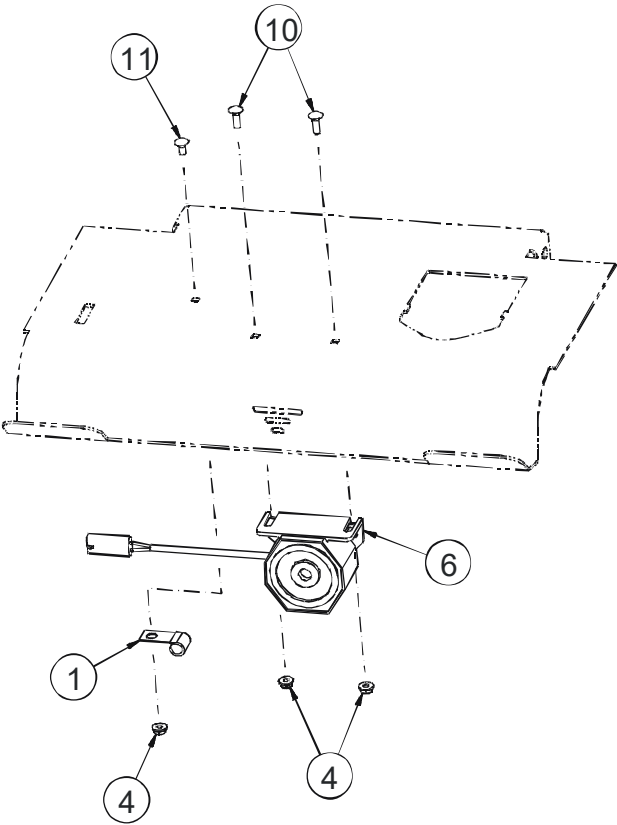
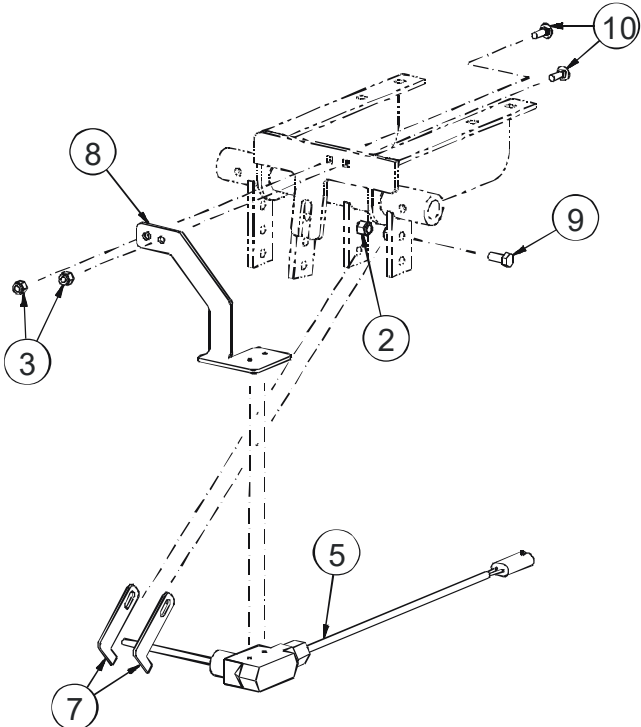
a) This is a Eaton-brand gear pump. Check your loader for the pump equipped.

## DRIVE MOTORS WITH PARKING BRAKE

Ref. No.	Part No.	Description	Quantity
	245100	MOTOR/SINGLE SPEED	2
1	50351942	KIT/SEAL COMPLETE	1
2	50351945	KIT/SEAL	1
3	50351882	KIT/SEAL MOTOR	1
4	50351934	KIT/SEAL COVER	1
5	50351868	KIT/SEAL BRAKE	1
6	50351940	SHAFT/MOTOR	1
7	50351936	BEARING/ROLLER	1
8	50351937	BEARING/ROLLER	1
9	50351927	BLOCK/CYLINDER ASSY	1

Ref. No.	Part No.	Description	Quantity
	245100	MOTOR/SINGLE SPEED	2
1	50351873	KIT/BRAKE DISC/SHIMS	1
2	50351872	SET/SHIM	1
3	50351865	PISTON/STATIC BRAKE	1
4	50351862	WASHER/SPRING	1
5	50351863	SNAP/RING	1
6	50351864	SHAFT/BRAKE	1
7	50351861	HOUSING/BRAKE	1
8	50351965	COVER/BRAKE	1
9	50351869	KIT/SEAL BRAKE SHAFT	1
10	50351868	KIT/SEAL BRAKE	1

811513 Backup Alarm Kit



Ref. No.	Part No.	Description	Qty
	811513	KIT/BACKUP ALARM	
1	058615	CLAMP/INSULATED HOSE	1
2	064260	NUT/HEX LOCK 5/16	2
3	071401	NUT/HEX LOCK 1/4	2
4	134588	NUT/SPIRALOCK™ 1/4	3
5	135726	SWITCH/BACKUP ALARM	1
6	140880	ALARM/BACK-UP	1
7	242630	TRIGGER/BACK-UP ALARM	2
8	242764	SWITCH MOUNT/BACK-UP ALARM	1
9	650486	SCREW/CAP 5/16 X 3/4	2
10	650758	BOLT/CARRIAGE 1/4 X 3/4	4
11	650771	BOLT/CARRIAGE 1/4 X 1/2	1

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