



BOB-CAT[®]

HYDRO MID-SIZE POWER UNITS

MODEL 930300 - POWER UNIT 14HP KOHLER

MODEL 930301 - POWER UNIT 14HP KAWASAKI

MODEL 930302 - POWER UNIT 16HP B & S

MODEL 930303 - POWER UNIT 18HP KOHLER

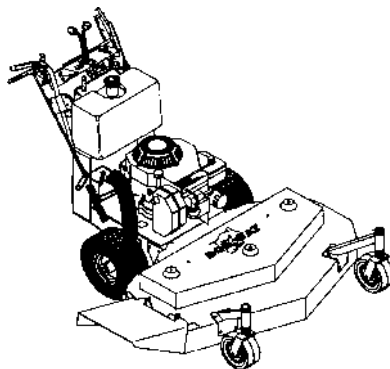
MODEL 930304 - POWER UNIT 20HP KOHLER

MODEL 930306 - POWER UNIT 15HP KOHLER E.S.

MODEL 930307 - POWER UNIT 17HP KAWASAKI

MODEL 930309 - POWER UNIT 14HP KOHLER E.S.

MODEL 930310 - POWER UNIT 15HP KOHLER



WARNING: If incorrectly used this machine can cause severe injury. Those who use and maintain this machine should be trained in its proper use, warned of its dangers and should read the entire manual before attempting to set up, operate, adjust or service the machine.

BOB-CAT

TEXTRON

TURF CARE AND SPECIALTY PRODUCTS



IMPORTANT MESSAGE

Thank you for purchasing this Ransomes product. You have purchased a world class mowing product, one of the best designed and built anywhere.

This machine comes with an Operation and Safety Manual and a Setup, Parts and Maintenance Manual. The useful life and good service you receive from this machine depends to a large extent on how well you read and understand these manuals. Treat your machine properly, lubricate and adjust it as instructed, and it will give you many years of reliable service.

Your safe use of this Ransomes product is one of our prime design objectives. Many safety features are built in, but we also rely on your good sense and care to achieve accident-free operation. For best protection, study the manuals thoroughly and watch the operation training video. Learn the proper operation of all controls. Observe all safety precautions. Follow all instructions and warnings completely. Do not remove or defeat any safety features. Make sure those who operate this machine are as well informed and careful in its use as you are.

See a Ransomes dealer for any service or parts needed. Ransomes service ensures that you continue to receive the best results possible from Ransomes' products. You can trust Ransomes replacement parts because they are manufactured with the same high precision and quality as the original parts.

Ransomes designs and builds its equipment to serve many years in a safe and productive manner. For longest life, use this machine only as directed in the manuals, keep it in good repair and follow safety warnings and instructions. You'll always be glad you did.

Textron Turf Care And Specialty Products
One Bob Cat Lane
Johnson Creek, WI 53038-0469

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NOTICE !!!

Unauthorized modifications may present **extreme** safety hazards to operators and bystanders and could also result in product damage.

Textron Turf Care And Specialty Products strongly warns against, rejects and disclaims any modifications, add-on accessories or product alterations that are not designed, developed, tested and approved by Textron Turf Care And Specialty Products Engineering Department. Any Textron Turf Care And Specialty Products product that is altered, modified or changed in any manner not specifically authorized after original manufacture—including the addition of “after-market” accessories or component parts not specifically approved by Textron Turf Care And Specialty Products—will result in the Textron Turf Care And Specialty Products Warranty being voided.

Any and all liability for personal injury and/or property damage caused by any unauthorized modifications, add-on accessories or products not approved by Textron Turf Care And Specialty Products will be considered the responsibility of the individual(s) or company designing and/or making such changes. Textron Turf Care And Specialty Products will vigorously pursue full indemnification and costs from any party responsible for such unauthorized post-manufacture modifications and/or accessories should personal injury and/or property damage result.



OPERATION TRAINING VIDEO:

Part Number	Description
2721529	HYDRO MID-SIZE



SERIAL TAG



This symbol means:
ATTENTION!
BECOME ALERT!

Your safety and the safety of others is involved.

Signal word definitions:

The signal words below are used to identify levels of hazard seriousness. These words appear in this manual and on the safety labels attached to Ransomes machines. For your safety and the safety of others, read and follow the information given with these signal words and/or the symbol shown above.

DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices or property damage.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, **MAY** result in property damage

MODEL NUMBER: This number appears on sales literature, technical manuals and price lists.

SERIAL NUMBER: This number appears only on your mower. It contains the model number followed consecutively by the serial number. Use this number when ordering parts or seeking warranty information.



**HYDRO
MIDSIZE**

TORQUE SPECIFICATIONS

CAUTION

All torque values included in these charts are approximate and are for reference only. Use of these torque values is at your sole risk. Textron Turf Care And Specialty Products is not responsible for any loss, claim, or damage arising from the use of these charts. **Extreme caution should always be used when using any torque value.**

Textron Turf Care And Specialty Products uses Grade 5 or Grade 8.8 Plated bolts as standard, unless otherwise noted. For tightening plated bolts, use the value given for lubricated.

AMERICAN NATIONAL STANDARD FASTENERS											
SIZE	UNITS					SIZE	UNITS				
		LUBRICATED	DRY	LUBRICATED	DRY			LUBRICATED	DRY	LUBRICATED	DRY
6-32	in-lbs (Nm)	--	20 (2.3)	--	--	7/16-14	ft-lbs (Nm)	37 (50.1)	50 (67.8)	53 (71.8)	70 (94.9)
8-32	in-lbs (Nm)	--	24 (2.7)	--	30 (3.4)	7/16-20	ft-lbs (Nm)	42 (56.9)	55 (74.6)	59 (80.0)	78 (105.0)
10-24	in-lbs (Nm)	--	35 (4.0)	--	45 (5.1)	1/2-13	ft-lbs (Nm)	57 (77.2)	75 (101.0)	80 (108.0)	107 (145.0)
10-32	in-lbs (Nm)	--	40 (4.5)	--	50 (5.7)	1/2-20	ft-lbs (Nm)	64 (86.7)	85 (115.0)	90 (122.0)	120 (162.0)
12-24	in-lbs (Nm)	--	50 (5.7)	--	65 (7.3)	9/16-12	ft-lbs (Nm)	82 (111.0)	109 (148.0)	115 (156.0)	154 (209.0)
1/4-20	in-lbs (Nm)	75 (8.4)	100 (11.3)	107 (12.1)	143 (16.1)	9/16-18	ft-lbs (Nm)	92 (124.0)	122 (165.0)	129 (174.0)	172 (233.0)
1/4-28	in-lbs (Nm)	85 (9.6)	115 (11.3)	120 (13.5)	163 (18.4)	5/8-11	ft-lbs (Nm)	113 (153.0)	151 (204.0)	159 (215.0)	211 (286.0)
5/16-18	in-lbs (Nm)	157 (17.7)	210 (23.7)	220 (24.8)	305 (34.4)	5/8-18	ft-lbs (Nm)	128 (173.0)	170 (230.0)	180 (244.0)	240 (325.0)
5/16-24	in-lbs (Nm)	173 (19.5)	230 (26.0)	245 (27.6)	325 (36.7)	3/4-10	ft-lbs (Nm)	200 (271.0)	266 (360.0)	282 (382.0)	376 (509.0)
3/8-16	ft-lbs (Nm)	23 (31.1)	31 (42.0)	32 (43.3)	44 (59.6)	3/4-16	ft-lbs (Nm)	233 (302.0)	298 (404.0)	315 (427.0)	420 (569.0)
3/8-24	ft-lbs (Nm)	26 (35.2)	35 (47.4)	37 (50.1)	50 (67.8)	7/8-14	ft-lbs (Nm)	355 (481.0)	473 (641.0)	500 (678.0)	668 (905.0)

METRIC FASTENERS										
SIZE	UNITS									Non Critical Fasteners into Aluminum
		LUBRICATED	DRY	LUBRICATED	DRY	LUBRICATED	DRY	LUBRICATED	DRY	
M4	Nm (in-lb)	-	-	-	-	-	-	3.83 (34)	5.11 (45)	2.0 (18)
M5	Nm (in-lb)	1.80 (16)	2.40 (21)	4.63 (41)	6.18 (54)	6.63 (59)	8.84 (78)	7.75 (68)	10.3 (910)	4.0 (35)
M6	Nm (in-lb)	3.05 (27)	4.07 (36)	7.87 (69)	10.5 (93)	11.3 (102)	15.0 (133)	13.2 (117)	17.6 (156)	6.8 (60)
M8	Nm (in-lb)	7.41 (65)	9.98 (88)	19.1 (69)	25.5 (226)	27.3 (241)	36.5 (323)	32.0 (283)	42.6 (377)	17.0 (150)
M10	Nm (ft-lb)	14.7 (11)	19.6 (14)	37.8 (29)	50.5 (37)	54.1 (40)	72.2 (53)	63.3 (46)	84.4 (62)	33.9 (25)
M12	Nm (ft-lb)	25.6 (19)	34.1 (25)	66.0 (48)	88.0 (65)	94.5 (70)	125.0 (92)	110.0 (81)	147.0 (108)	61.0 (45)
M14	Nm (ft-lb)	40.8 (30)	54.3 (40)	105.0 (77)	140.0 (103)	150.0 (110)	200.0 (147)	175.0 (129)	234.0 (172)	94.9 (70)

USE THESE SPECIFICATIONS UNLESS
OTHERWISE NOTED.

SPECIFIC TORQUES:

BLADE BOLT: 70 FT-LBS

RANSOMES INC. USES GRADE 5 BOLTS AS
STANDARD, UNLESS OTHERWISE NOTED.

PAINT

For paint touchups, use the following:

P/N 833140 Spray 16 oz Ransomes green

P/N 838141 Quart Ransomes green

NOTE:

DO NOT use teflon tape on any hydraulic fittings.

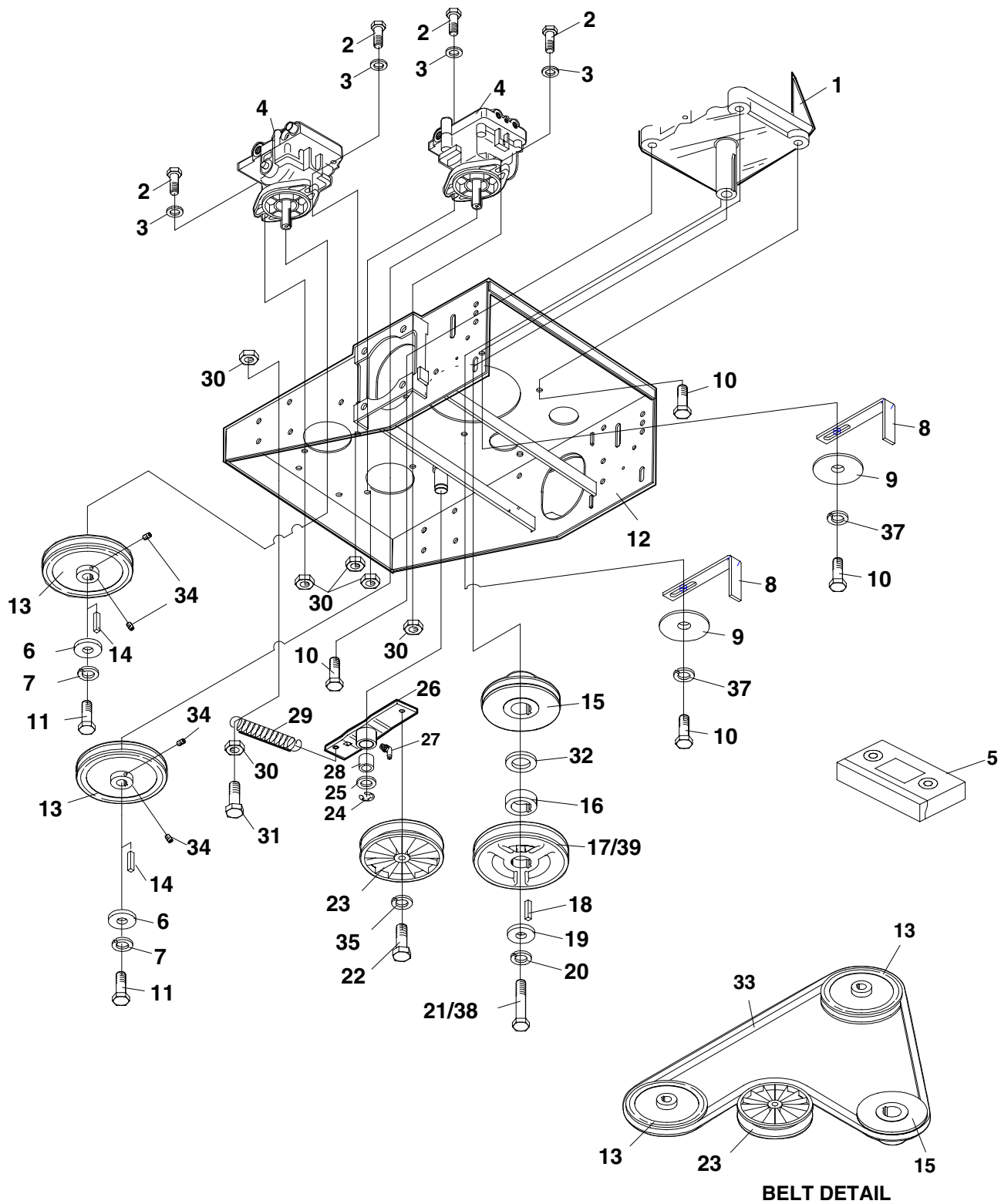
Use a liquid pipe sealant.

ENGINE DECK

HYDRO
MIDSIZE



FIGURE 1





HYDRO MIDSIZE

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ENGINE DECK

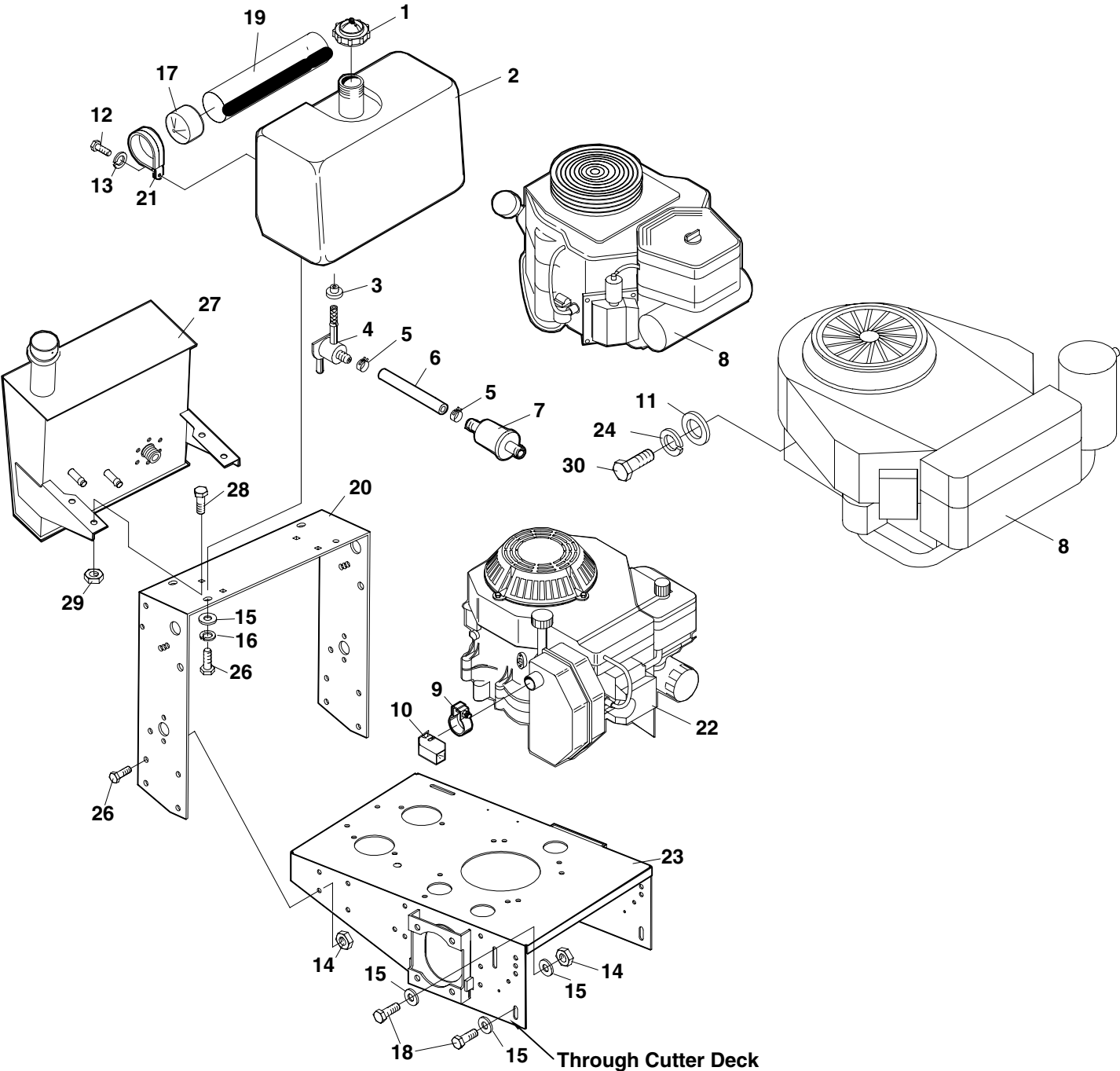
FIGURE 1

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1-1	* 38459	KAW FC420V-CS06	1	1-35	64006-03	LOCKWASHER 3/8	1
	* 2308036	KLR CV14T PS-1479	1	1-36	62464-7A	WASHER	1
	* 2308063	B&S 16HP VANGUARD	1	1-37	64006-03	5/16 LOCKWSHR	4
	* 2308087	KOHLER CV18S	1	1-38	A110406	M10X30 HH SCREW	1
	* 2308047	KOHLER CV20S	1		(USED ON KAW SINGLES)		
	* 2308127	KOHLER CV14S EL ST	1	1-39	31012A	ENGINE PULLEY	1
1-2	64123-15	BLT-HEX 3/8-16X3/4	4		(FOR USE ON 36" 48" & 54" UNITS)		
1-3	64163-31	WSHR 25/64X1X12GA	4				
1-4	38345	PUMP, SUND BDP/O LH	1				
	2308114	PUMP, BDP10L-121 RH	1				
	(SEE BREAKDOWN ON PAGE 28/29)						
1-5	2810592	VIDEO	1				
1-6	64163-34	WASHER	2				
1-7	64006-01	LOCKWASHER	2				
1-8	32766.7	BELT GUIDE	2				
1-9	64163-29	WSHR 21/64X1X12GA	4				
	(USED ON KLR & KAW SINGLES)						
	64163-31	WSHR 25/64X1X12GA	4				
	(USED ON KLR & B&S V-TWINS)						
1-10	64205-003	BLT-METRIC 8-1.25X30	4				
	(USED ON KLR & KAW SINGLES)						
	64197-005	BLT TR 3/8-16X1 1/4	4				
	(USED ON KLR & B&S V-TWINS)						
1-11	64205-013	BOLT-MET 6-1.00X12	2				
1-12	2721171.2	WLDMT-ENGINE DECK	1				
1-13	2308148	PUMP-PULLEY	2				
1-14	64238-03	KEY 5MM X 20MM LG	2				
1-15	2308054	PULLEY-ENGINE	1				
1-16	64163-22	SPACER, ENGINE	1				
1-17	2301000	PULLEY	1				
	(FOR USE ON 61" UNITS)						
1-18	64164-12	1/4X1/4X1 SQ END KEY	2				
1-19	64163-63	WASHR .453X1.63X.313	1				
1-20	64006-06	LOCKWSHR 7/16	1				
1-21	64123-09	7/16-20 X 1 1/4	1				
	(USED ON KLR & B&S V-TWINS & KLR SINGLES)						
1-22	64123-21	BOLT-HEX 3/8-24X1-1/4	1				
1-23	2308000	IDLER, 4"	1				
1-24	64221-04	E-RING .875	1				
1-25	64163-65	WASHER 18GA	1				
1-26	2306082.7	WLDMT IDLER ARM	1				
	(INCLUDES ITEMS 27 & 28)						
1-27	35027N	ZERK FITTING	1				
1-28	65103A	BEARING BUSHING	1				
1-29	38219	SPRING-TENSION	1				
1-30	64141-4	NUT-WLF 3/8-16	6				
1-31	64123-16	BOLT-HEX 3/8-16X1-1/4	1				
1-32	64163-25	1-1/32X2X11 GA WSHR	1				
1-33	2308052	BELT-HYDRO	1				
1-34	64044-18	SET SCR 5/16-18X5/16	4				

*** AVAILABLE THROUGH INDIVIDUAL DEALERS.
(KOHLER & KAWASAKI SINGLES ONLY)**

ENGINE & FUEL TANK

FIGURE 2





HYDRO MIDSIZE

2307085

ENGINE & FUEL TANK

FIGURE 2

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
2-1	2308073	CAP, FUEL TANK	1	NOTE: THERE IS A FIXED GUARD KIT AVAILABLE FOR P/N 2308047-KOHLER ENGINE CV20S AND P/N 2308087-KOHLER ENGINE CV18S.			
2-2	38531	TANK, FUEL (INCLUDES ITEMS 3, & 4)	1				
2-3	48310	S-BUSHING, FUEL TANK	1	THE FIXED GUARD KIT P/N 24 755 81, REQUIRES A NEW BLOWER HOUSING P/N 24 027 28.			
2-4	38540	S-FUEL SHUT-OFF VALVE	1				
2-5	88042N	HOSE CLAMP	2	THE GUARD KIT AND BLOWER HOUSING ARE KOHLER PARTS, AVAILABLE THROUGH KOHLER PARTS DISTRIBUTION. ORDER PARTS THROUGH KOHLER ENGINE DEALER NETWORK.			
2-6	48016-19A	HOSE 1/4ID X 1/2OD X 14.0 (USE WITH KOHLER SINGLES)	1				
	48016-20A	HOSE 1/4ID X 1/2OD X 20.0 (USE WITH KOHLER V-TWINS)	1				
2-7	38666	FILTER, FUEL	1				
2-8 *	2308047	ENGINE, KOHLER CV20S (USE ON 20hp MODEL 930304 ONLY) (SERVICE MANUAL KOHLER #TP-2450)	1				
	* 2308087	KOHLER-CV18S (USE ON 18hp MODELS 930303 ONLY) (SERVICE MANUAL KOHLER #TP-2450)	1				
	* 2308127	ENGINE-KOHLER CV14S ES (USE ON 14hp E.S. MODEL 930309 ONLY) (SERVICE MANUAL KOHLER #TP-2450)	1				
	* 2308132	ENGINE-KOHLER CV15S ES (USE ON 15hp E.S. MODEL 930306 ONLY) (SERVICE MANUAL KOHLER #TP-2450)	1				
	* 2308146	ENG-KAW FH5000V (SERVICE MANUAL KAW #99924-2045-01)	1				
2-9	48319-01	CLAMP-MUFFLER	1				
2-10	2302133	DEFLECTOR-EXHAUST	1				
2-11	64002-04	LCKWSHR-TOOTH, EXT 5/16	1				
2-12	64123-89	BOLT-HEX 1/4-20X3/4	2				
2-13	64006-01	LOCKWASHER HEL 1/4	2				
2-14	64229-03	NUT-3/8-16 NYLOCK	6				
2-15	64163-31	WASH.25/64X1X12 GA	16				
2-16	64006-03	LOCKWSHR-HELICAL 3/8	4				
2-17	38061A	SPNDLE SHIELD	2				
2-18	64123-50	BOLT-HEX 3/8-16X1	6				
2-19	2306144	S DOCU TUBE W/LAB	1				
2-20	2302098.2	LOWER HANDLE	1				
2-21	38542	CLAMP-DOCU TUBE	2				
2-22 *	2308036	KOHLER-CV14T PS-1479 (USE ON 14hp MODELS 930300 ONLY) (SERVICE MANUAL KOHLER #TP-2339-A)	1				
	* 2308131	KOHLER-CV15T (USE ON 15hp MODELS 930310 ONLY) (SERVICE MANUAL KOHLER #TP-2339-A)	1				
2-23	2721171.2	WLDMT-ENGINE DECK	1				
2-24	64163-55	WSHR .328X.75X14 GA	1				
2-25	64141-4	NUT WLF 3/8-16	8				
2-26	64123-15	BLT HEX 3/8-16X3/4	12				
2-27	2306127	S HYD RESER W/LABS	1				
2-28	64018-9	BLT-CAR 5/16-18X3/4	4				
2-29	64141-6	NUT-WLF 5/16-18	4				
2-30	64205-018	BLT-METRIC M8-1..25X15	1				

* AVAILABLE THROUGH RESPECTIVE DEALER.

FIGURE 3





**HYDRO
MIDSIZE**

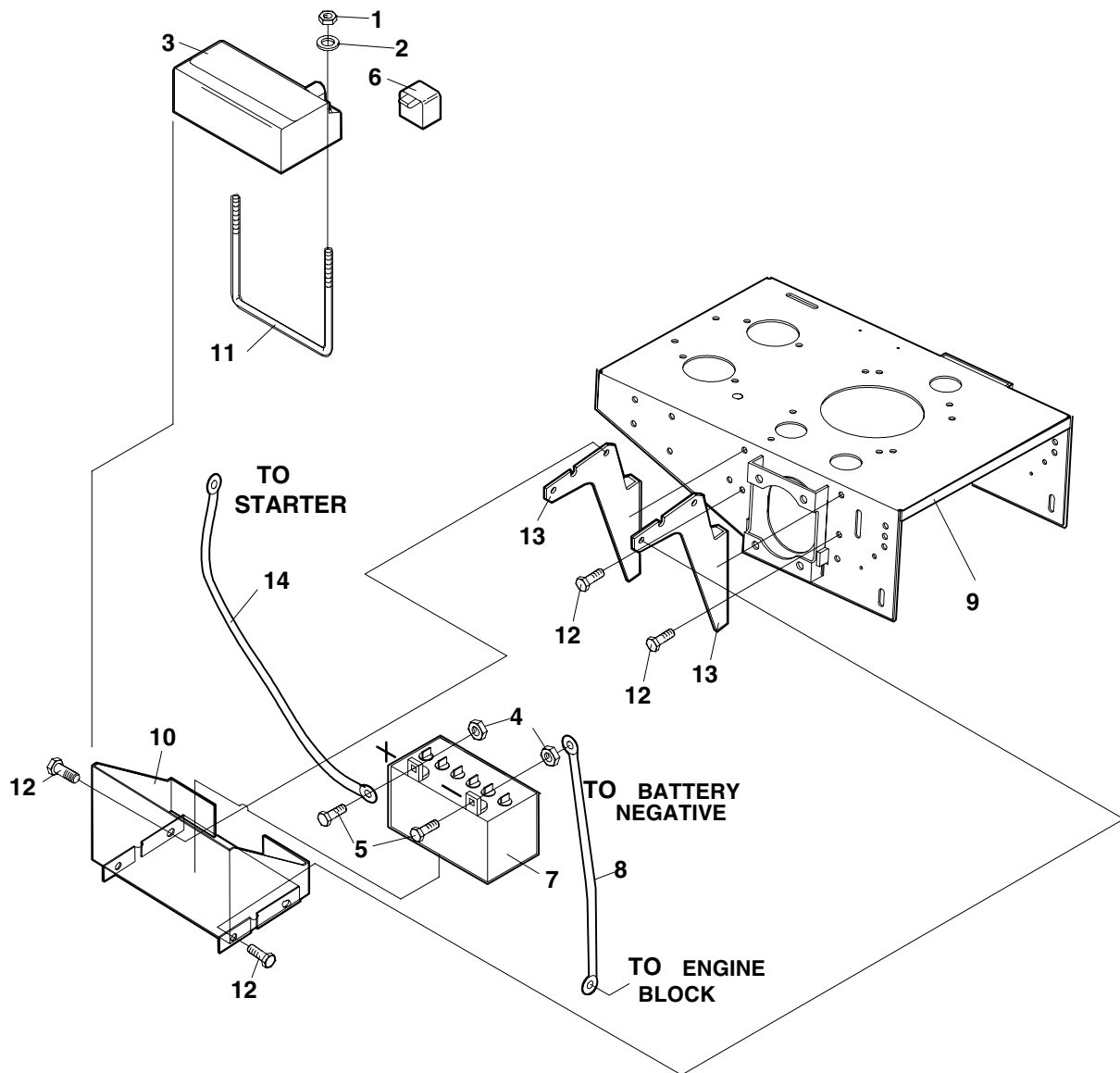
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ENGINE & FUEL TANK

FIGURE 3

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
3-1	2308073	CAP, FUEL TANK	1				
3-2	38531	TANK, FUEL	1				
		(INCLUDES ITEMS 3, & 4)					
3-3	48310	S BUSHING, FUEL TANK	1				
3-4	38540	S FUEL SHUT-OFF VALVE	1				
3-5	88042N	HOSE CLAMP	2				
3-6	48016-19A	HOSE 1/4ID X 1/2OD X 14.0	1				
		(USE WITH B&S AND KAWASAKI ENGINES)					
3-7	38666	FILTER, FUEL	1				
3-8 *	38459	KAWASAKI FC420V-CS06	1				
		(USE ON 14hp MODEL 930301 ONLY)					
		(SERVICE MANUAL KAWASAKI #99924-2048)					
3-9 *	2308146	ENGINE-KAW FH 500V	1				
		(SERVICE MANUAL KAWASAKI #99924-2045-01)					
3-10	64141-6	NUT-WLF 5/16-18	4				
3-11 *	2308063	B&S 16hp VANGUARD	1				
		(USE ON 16hp MODEL 930302 ONLY)					
		(SERVICE MANUAL B&S #272-144)					
3-12	64123-89	BOLT-HEX 1/4-20X3/4	2				
3-13	64006-01	LOCKWASHER HEL 1/4	2				
3-14	64229-03	NUT-3/8-16 NYLOCK	6				
3-15	64163-31	WASH.25/64X1X12 GA	16				
3-16	64006-03	LOCKWSHR-HELICAL 3/8	4				
3-17	38061A	SPNDLE SHIELD	2				
3-18	64123-50	BOLT-HEX 3/8-16X1	6				
3-19	2306144	S DOCU TUBE W/LAB	1				
3-20	2302098.2	LOWER HANDLE	1				
3-21	38542	CLAMP-DOCU TUBE	2				
3-22	2721171.2	WLDMT-ENGINE DECK	1				
3-23	64018-9	BLT-CAR 5/16-18X3/4	4				
3-24	2306127	S-HYD RESER W/LABS	1				
3-25	64141-4	NUT-WLF 3/8-16	8				
3-26	64123-15	BLT HEX 3/8-16X3/4	12				
3-27	48228A	CABLE CLIP INSULATED	2				

*** AVAILABLE THROUGH KAWASAKI
AND BRIGGS & STRATTON DEALERS.**





**HYDRO
MIDSIZE**

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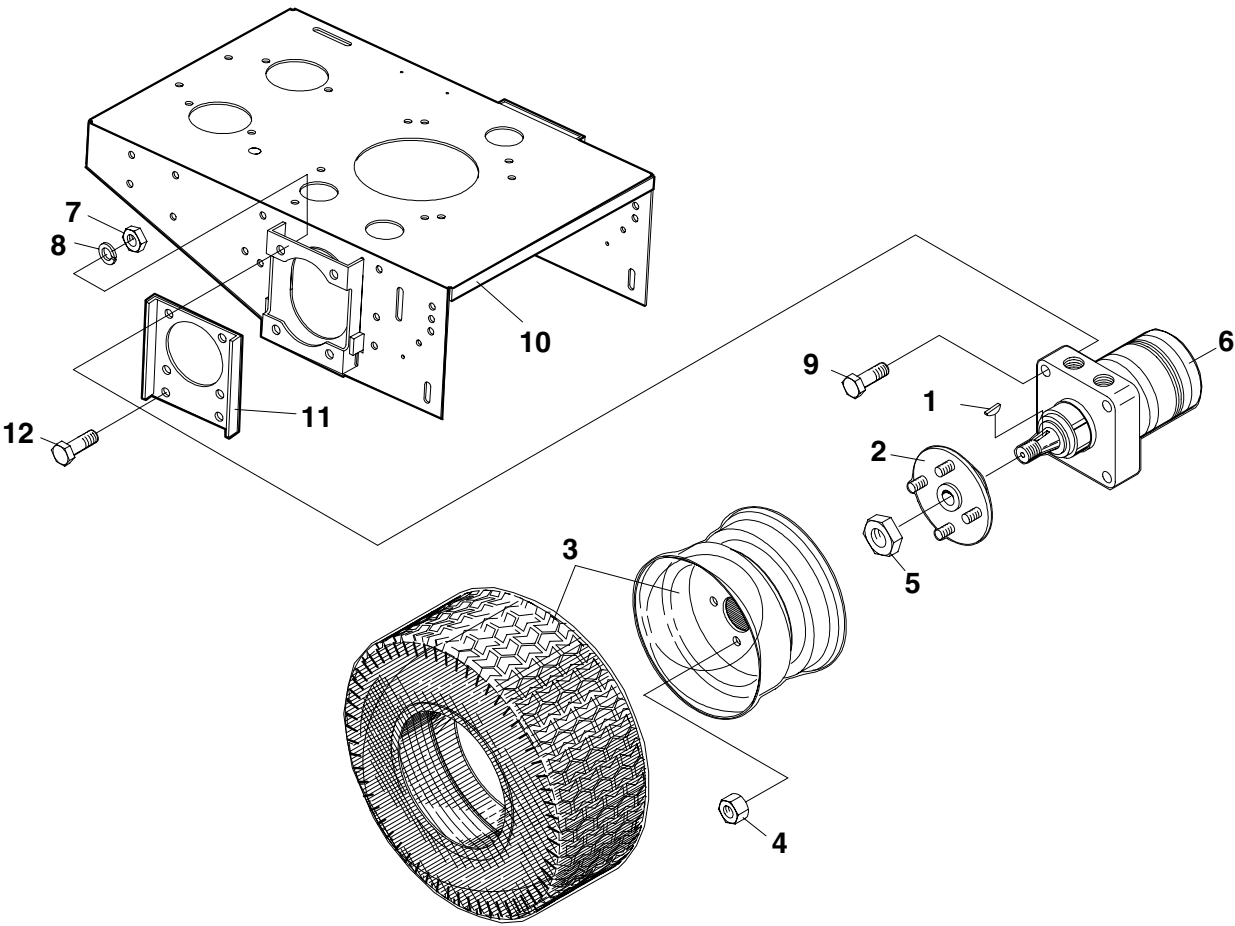
ELECTRIC START BATTERY

FIGURE 4

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
4-1	64229-02	LOCK NUT-NYLON 5/16-18	2				
4-2	64163-29	21/64X1X11GA.WASHER	2				
4-3	128035	COVER,BATTERY	1				
4-4	64025-02	NUT-HEX 5/16-18	2				
4-5	64123-54	BOLT-HEX 5/16-18X3/4	2				
4-6	112386	BOOT,BAT TERM POS	1				
4-7	108055	BATTERY	1				
4-8	108061-11	CABLE ASSY BAT TO GRD	1				
4-9	2721171.2	WLDMT-ENGINE DECK	1				
4-10	2306104.2	BATTERY TRAY	1				
4-11	123026	ROD,BATTERY	1				
4-12	64197-016	BLT TDFM 3/8-16X1/2	8				
4-13	2302139	BRACKET-BATTERY	2				
4-14	108061-12	CABLE BATT RED 18	1				

WHEELS

FIGURE 5





**HYDRO
MIDSIZE**

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WHEELS

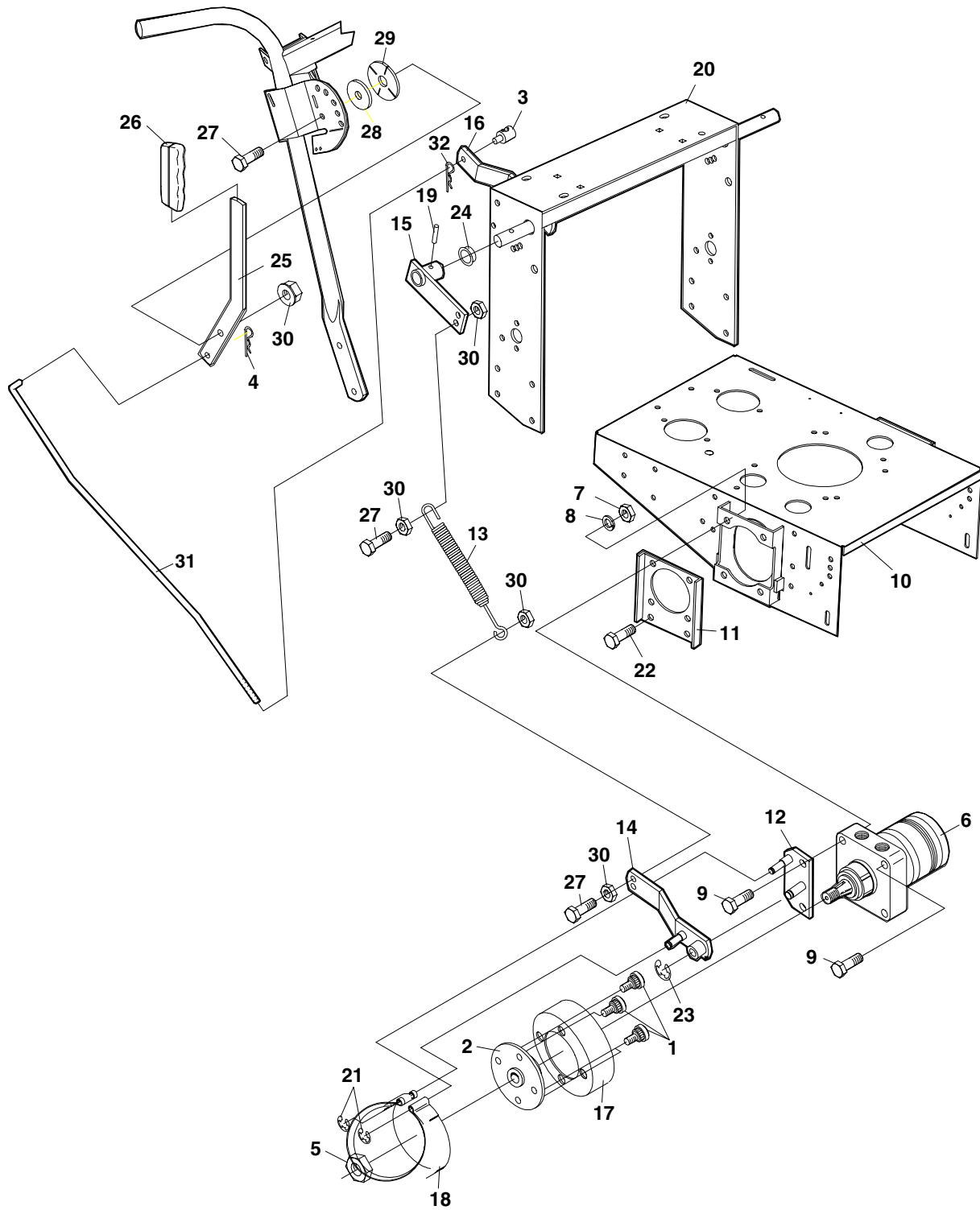
FIGURE5

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
5-1	64164-28	#808 WOODRUFF KEY	2				
5-2	2308088	WHEEL HUB	2				
5-3	36702	S-DRIVE WHEEL W/LABEL	2				
	38381-01	S-TIRE 4 PLY	A/R				
	108050-02	S-RIM ASSY	A/R				
5-4	64187-03	WHEEL NUT 1/2-20	8				
5-5	64025-06	3/4-16 NUT	2				
5-6	2308051	MOTOR WHEEL ROSS	2				
5-7	64025-19	NUT-HEX 1/2-13	12				
5-8	64006-05	LOCKWSHR-HELICAL 1/2	12				
5-9	64123-125	BOLT-HEX 1/2-13X2-3/4	8				
5-10	2721171.2	WLDMT-ENGINE DECK	1				
5-11	2302093.7	WHEEL MOUNT PLATE	2				
5-12	64123-73	BLT-HEX 1/2-13X1	4				

OPTIONAL BRAKE KIT



FIGURE 6





**HYDRO
MIDSIZE**

2307089

OPTIONAL BRAKE KIT

FIGURE 6

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
970165							
6-1	64228-03	STUD, WHEEL	8				
6-2	2308088	WHEEL HUB	2				
6-3	33103	SWIVEL	1				
6-4	64168-2	HAIRPIN-COTTER	2				
6-5	64025-06	3/4-16 NUT	2				
6-6	2308051	MOTOR WHEEL ROSS	2				
6-7	64025-19	NUT-HEX 1/2-13	12				
6-8	64006-05	LOCKWSHR-HELICAL 1/2	12				
6-9	64123-125	BOLT-HEX 1/2-13X2-3/4	8				
6-10	2721171.2	WLDMT-ENGINE DECK	1				
6-11	2302093.7	WHEEL MOUNT PLATE	2				
6-12	2306106.7	WLDMT BRAKE MTG RH	1				
	* 2306107.7	WLDMT BRAKE MTG LH	1				
6-13	2308086	SPRING-EXTENSION	2				
6-14	2306108.7	WLDMT BRAKE ARM	2				
6-15	2306117.7	WLDMT PRK BRAKE ARM	2				
6-16	2306118	WLDMT BRAKE SHAFT	1				
6-17	2308097	DRUM BRAKE	2				
6-18	38337	BAND BRAKE	2				
6-19	64061-25	ROLL PIN 1/4X1 1/4	2				
6-20	2302098.2	LOWER HANDLE	1				
6-21	64144-30	SNAP RING .375	4				
6-22	64123-73	BLT-HEX 1/2-13X1	4				
6-23	64144-34	SNAP RING .50	2				
6-24	118047-01	BUSHING FLP LCK 3/4ID	2				
6-25	2720153.7	LEVER CONTROL	1				
6-26	38404-01	GRIP-CNTRL LEVER	1				
6-27	64123-16	BLT-HEX 3/8-16X1 1/4	4				
6-28	64163-17	WASHER 25/64X2X11 GA	1				
6-29	64171-2	WAVE WASHER	1				
6-30	64141-4	NUT-WLF 3/8-16	9				
6-31	2303052	ROD-BRAKE	2				

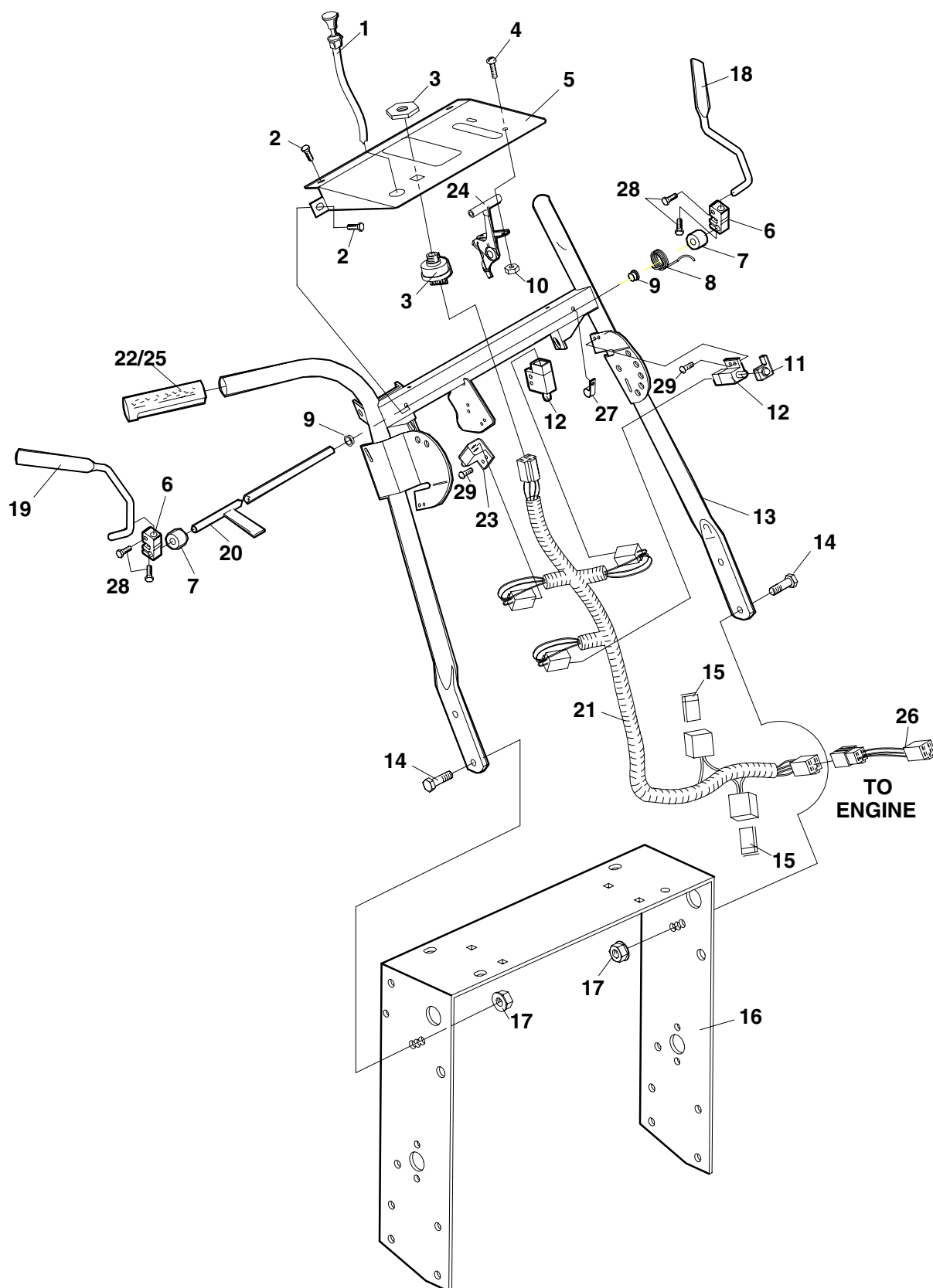
*** NOT ILLUSTRATED**

ELECTRIC START UPPER HANDLE

HYDRO
MIDSIZE



FIGURE 7





**HYDRO
MIDSIZE**

2307132

ELECTRIC START UPPER HANDLE

FIGURE 7

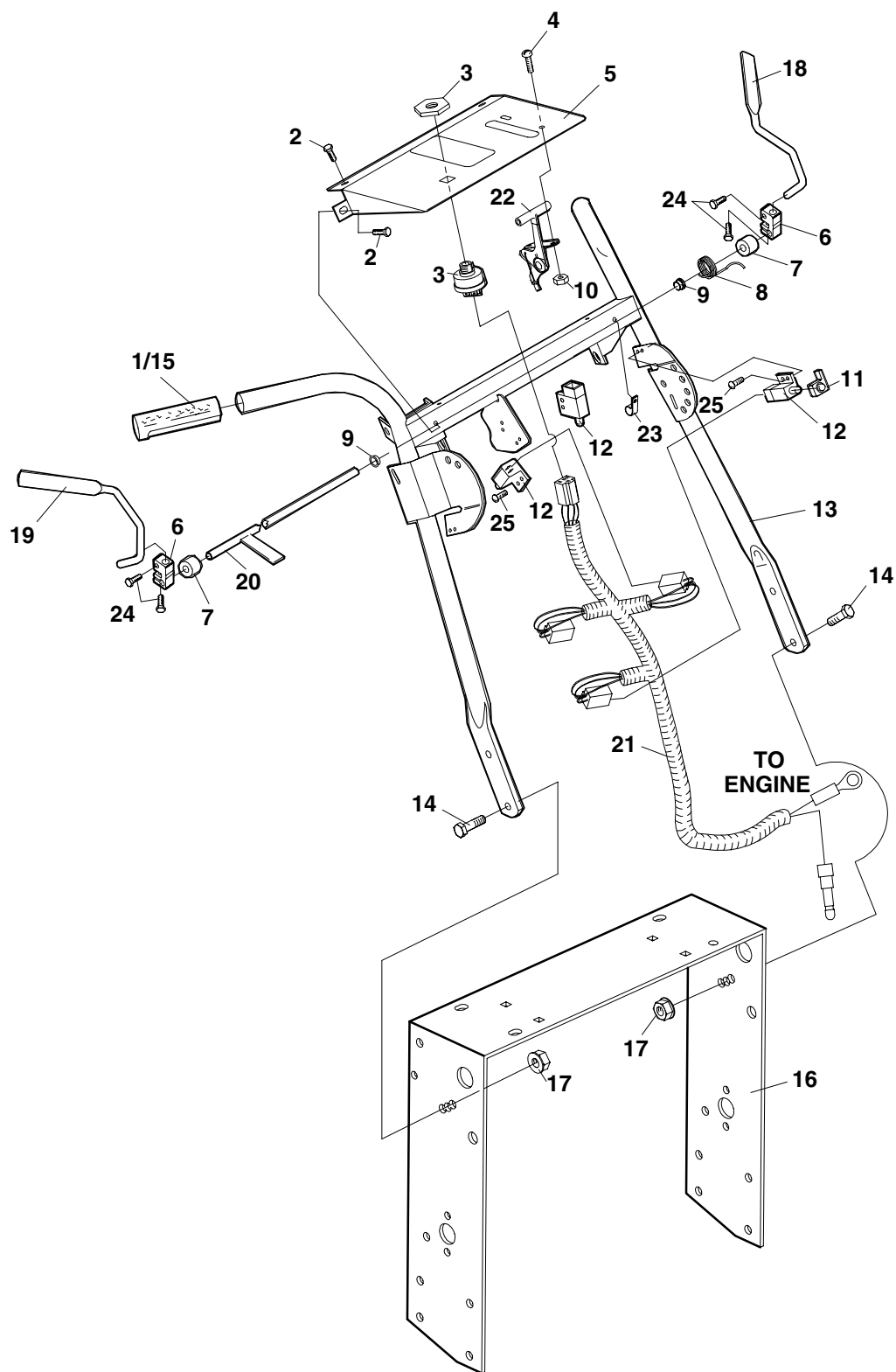
ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
7-1	118008-04	CONTROL-CHOKE (USE ON MODEL 930303 & 930304)	1				
7-2	64152-23	1/4-20X3/8 LG SP SCREW	4				
7-3	128010	KEY SWITCH	1				
7-4	64152-10	10-24X3/4 MACH SCREW	2				
7-5	2306129	S-CNTRL PNL W/LAB (USE ON MODEL 930303 & 930304)	1				
	2306130	S-CNTRL PNL W/LAB (USE ON MODEL 930309)	1				
7-6	2303023	OP CONNECTOR	2				
7-7	33030-09	IDLER BUSHING	2				
7-8	2308037	SPRING-TORSION	1				
7-9	38371-01	BRG-NYLINER 3/8	2				
7-10	64025-15	NUT-HEX #10-24 KEPS	2				
7-11	38384	BOOT-SWITCH	1				
7-12	108208	SWITCH DBL POLE	2				
7-13	2306133	S-HYD UP HANDLE W/LABS	1				
7-14	64123-50	BOLT-HEX 3/8-16X1	4				
7-15	148082-20	FUSE 20 AMP	2				
7-16	2302098.2	LOWER HANDLE	1				
7-17	64141-4	NUT-WLF 3/8-16	4				
7-18	2308152	LEVER-OP LH	1				
7-19	2308153	LEVER-OP RH	1				
7-20	2306097	WLDMT-ACUATOR	1				
7-21	2308092	HARNESS-ES HYDRO (USE ON MODEL 930303 & 930304)	1				
	2308128	HARNESS E-STRT 14HP KLR (USE ON MODEL 930309)	1				
7-22	2308121	ADHESIVE-3 GRAM TUBE (USE WITH 38360-GRIP)	1				
7-23	2308094	SWITCH-NC NC DBL POLE	1				
7-24	118020-09	CONTROL-THROTTLE 40" (USE ON MODEL 930303 & 930304)	1				
7-25	38360	GRIP	2				
7-26	2308077	HARNESS-JUMPER (USE ON MODELS 930303 & 930304)	1				
7-27	48412	CLIP, CABLE	1				
7-28	64197-002	BLT-TR 1/4-20X3/4	4				
7-29	64197-015	BLT-TDFM 10-32X1/2	6				

RECOIL START UPPER HANDLE

HYDRO
MIDSIZE



FIGURE 8





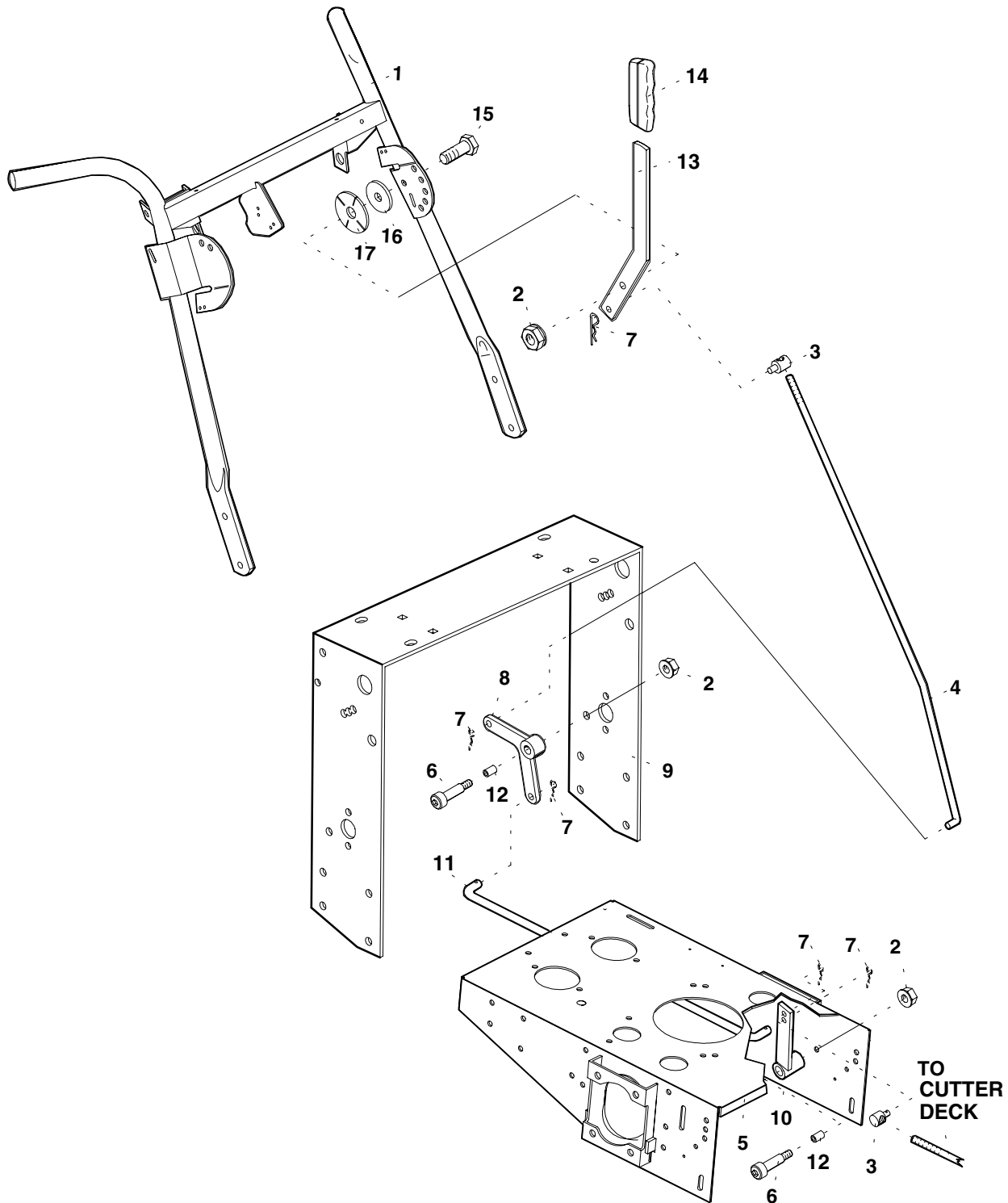
**HYDRO
MIDSIZE**

2307133

RECOIL START UPPER HANDLE

FIGURE 8

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
8-1	38360	GRIP	2				
8-2	64152-23	1/4-20X3/8 LG SP SCREW	4				
8-3	38148	SWITCH-ENGINE STOP	1				
8-4	64152-10	10-24X3/4 MACH SCREW	2				
8-5	2306130	S-CNTRL PNL W/LAB (USE ON MODELS 930300 & 930301 & 930306 & 930309 & 930310)	1				
	2306131	S-CNTRL PNL W/LAB (USE ON MODEL 930302)	1				
8-6	2303023	CONNECTOR-OP	2				
8-7	33030-09	IDLER-BUSHING	2				
8-8	2308037	SPRING-TORSION OP	1				
8-9	38371-01	BRG-NYLINER 3/8	2				
8-10	64025-15	NUT-HEX #10-24 KEPS	2				
8-11	38384	BOOT-SWITCH	1				
8-12	38383	SWITCH-N.C.	3				
8-13	2306133	S-HYD UP HANDLE W/LABS	1				
8-14	64123-50	BOLT-HEX 3/8-16X1	4				
8-15	2308121	ADHESIVE-3 GRAM TUBE (USE WITH 38360-GRIP)	1				
8-16	2302098.2	LOWER HANDLE	1				
8-17	64141-4	NUT-WLF 3/8-16	4				
8-18	2308152	LEVER-OP LH	1				
8-19	2308153	LEVER-OP RH	1				
8-20	2306097	WLDMT-ACTUATOR	1				
8-21	2308085	HARNESS-KAWASAKI (USE ON MODEL 930301)	1				
	2308084	HARNESS-KOHLER (USE ON MODEL 930300 & 930310)	1				
	2308072	HARNESS-B & S (USE ON MODEL 930302)	1				
	2308150	HARNESS-KAW HYDRO (USE ON MODEL 930307)	1				
8-22	38357-01	CONTROL-THROTTLE 34" (USE ON MODEL 930306 & 930309)	1				
	118020-11	CONTROL THROTTLE (USE ON MODEL 930302)	1				
	38357-05	CONTROL THROTTLE (USE ON MODEL 930307)	1				
8-23	48412	CLIP, CABLE	1				
8-24	64197-002	BLT-TR 1/4-20X3/4	4				
8-25	64197-015	BLT-TDFM 10-32X1/2	6				





**HYDRO
MIDSIZE**

2307092

BLADE CONTROLS

FIGURE 9

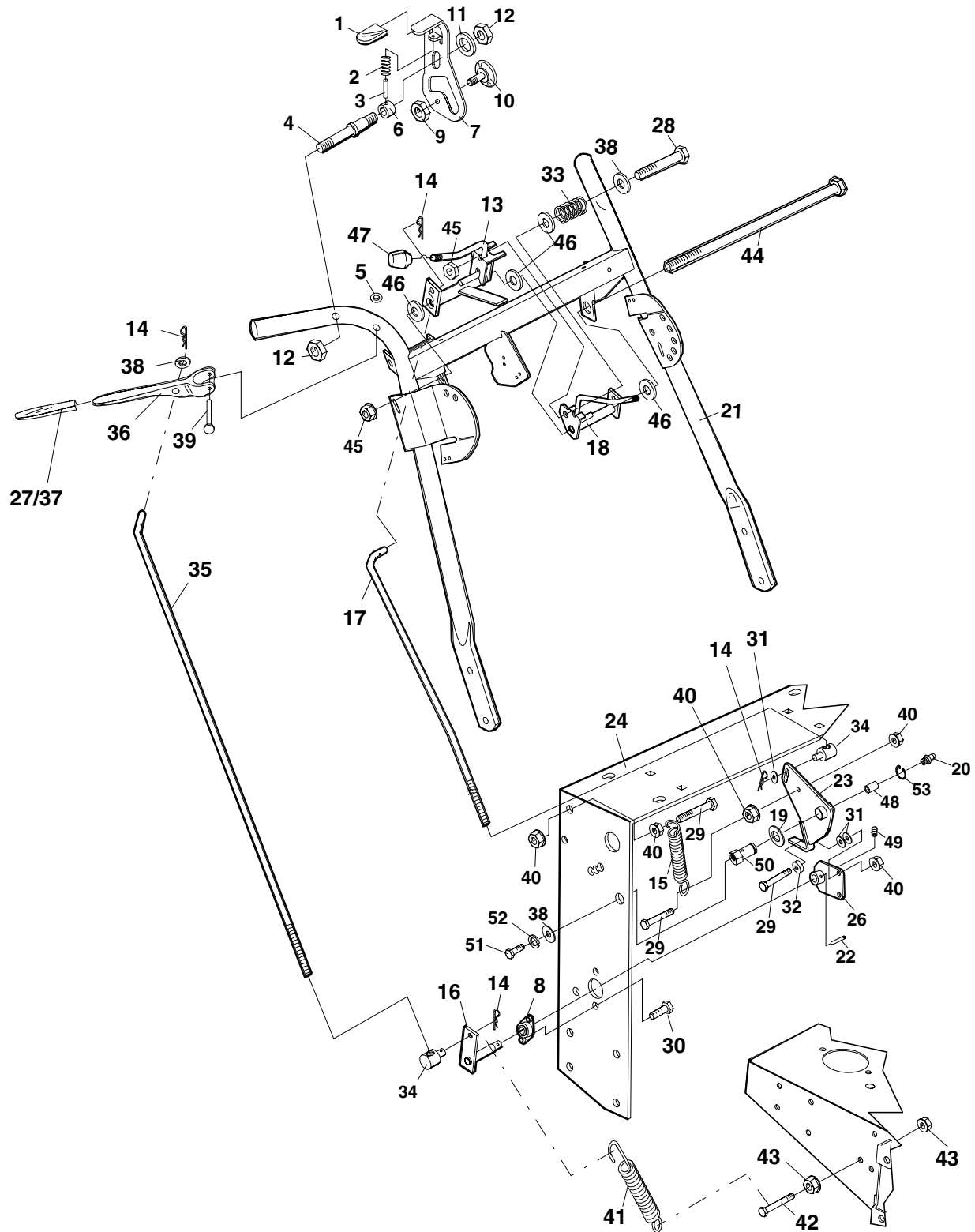
ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
9-1	2306133	S UP HANDLE W/LABS	1				
9-2	64229-03	NUT NYLOCK 3/8-16	3				
9-3	33103	SWIVEL	2				
9-4	2303043	ROD-BLADE CONTROL	1				
9-5	2721171.2	WLDMT-ENGINE DECK	1				
9-6	64166-12	BLT SHLDR .5X1.5X3/8-16	2				
9-7	64168-2	HAIRPIN COTTER	5				
9-8	2306134	ASSY-LEVER BELLCRANK (INCLUDES BEARING ITEM 12)	1				
9-9	2302098.2	LOWER HANDLE	1				
9-10	2306175	S ASSY LVR BELLCRANK (INCLUDES BEARING ITEM 12)	1				
9-11	2303040	ROD LINK	1				
9-12	2308076-01	BEARING PLASTIC	2				
9-13	32785.2	LEVER CONTROL	1				
9-14	38404-01	GRIP-CNTRL LEVER	1				
9-15	64123-16	BLT-HEX 3/8-16X1 1/4	1				
9-16	64163-17	WASHER 25/64X2X11 GA	1				
9-17	64171-2	WAVE WASHER	1				

TRACTION CONTROLS

HYDRO
MIDSIZE



FIGURE 10





HYDRO MIDSIZE

2307093

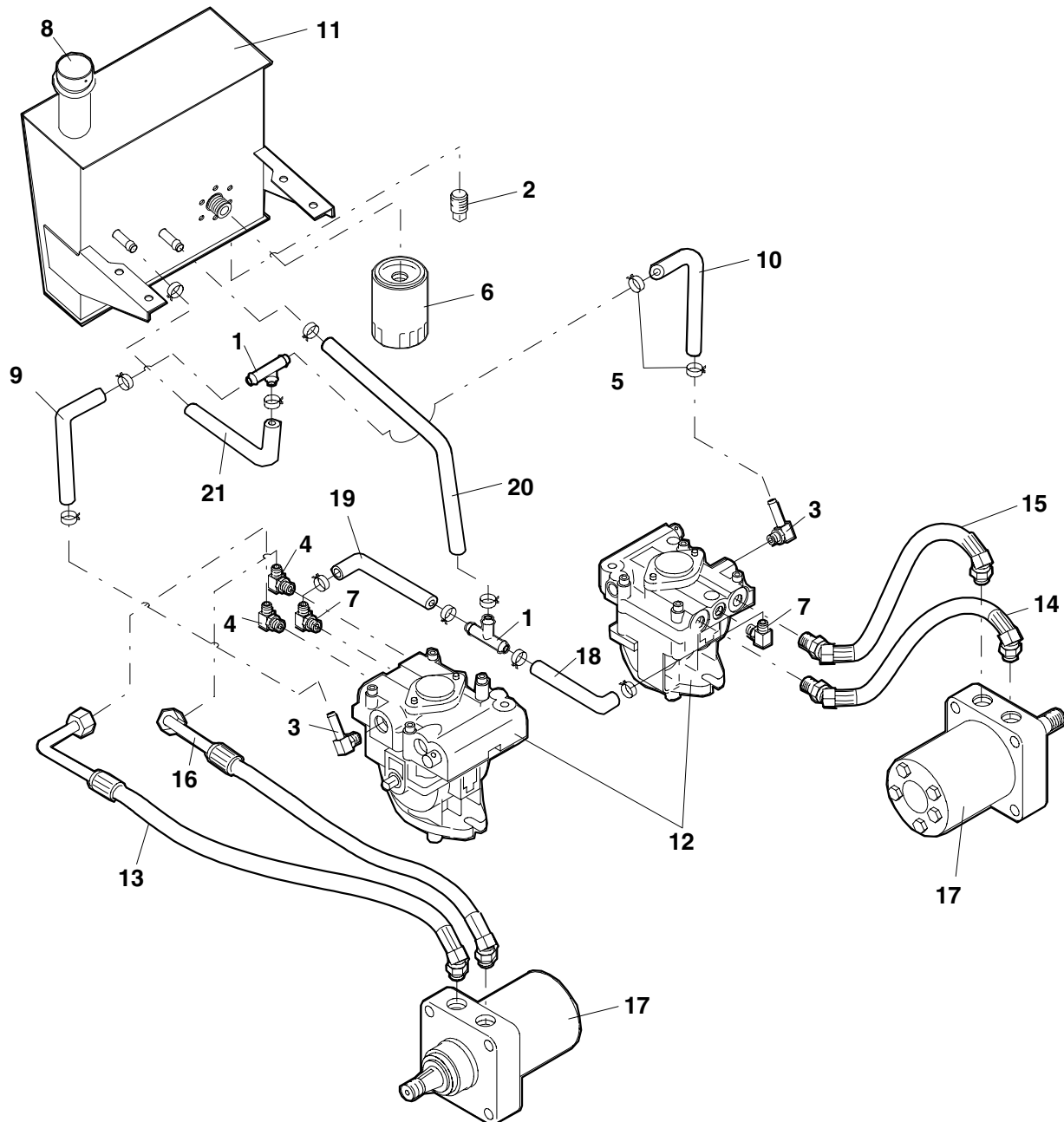
TRACTION CONTROLS

FIGURE 10

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
10-1	38027N	GRIP, TRACTION LOCK	2	10-47	68156A	HANDLE KNOB BLACK	2
10-2	38189	SPRING-COMPRESSION	2	10-48	2308076-02	BEARING-PLASTIC	2
10-3	64061-32	ROLL PIN 1/8 X 15/16	2	10-49	64192-04	SCREW 5/16-18	2
10-4	33288	STUD,DOUBLE-ENDED	2	10-50	2303058	ECCENTRIC SHAFT W/ZRK	2
10-5	64175-01	PUSH NUT	2	10-51	64123-02	BLT HEX 3/8-24X1	2
10-6	33243	SPACER	2	10-52	64006-03	LOCKWASHER 3/8	2
10-7	2302118	TRACTION LOCK RH	1	10-53	64144-16	SNAP RING	2
	* 2302117	TRACTION LOCK LH	1	10-54	68156A	HANDLE KNOB BLACK	2
10-8	2308080	BEARING SELF ALIGNED	2				
10-9	64229-01	LOCK NUT NYL 1/4-20	2				
10-10	38452	BRG, RADIAL W/THD STUD	2				
10-11	62464-5A	WASHER,THRUST 5/16X3/4	2				
10-12	64229-02	5/16-18 NYLON LOCKNUT	2				
10-13	2306083.7	WLDMT SPEED CNTRL RH	1				
10-14	64168-2	HAIRPIN COTTER	8				
10-15	2308065	SPRING EXTENSION	2				
10-16	2306073	WLDMT ARM CNTRL RH	1				
	* 2306068	WLDMT ARM CNTRL LH	1				
10-17	2303042	ROD-SPEED CONTROL	2				
10-18	2306084.7	WLDMT SPEED CNTRL LH	1				
10-19	64163-06	WSHR.768/.756X1.25X14GA	2				
10-20	85010N	ZERK, 1/4-28 STR	2				
10-21	2306136	S-HYD UP HANDLE W/LABS	1				
10-22	64061-28	ROLL PIN 3/16 X 1 1/4	2				
10-23	2306195	S ASSY SPEED CNTRL	2				
		(INCLUDES ITEM 48)					
10-24	2302098.2	LOWER HANDLE	1				
10-25	2306097	WLDMT ACTUATOR	2				
10-26	2306081.7	WLDMT PUMP ARM	2				
10-27	*2308121	ADHESIVE	1				
		(USE WITH 38009N GRIP)					
10-28	64123-67	BLT-HEX 3/8-16X2	1				
10-29	64123-47	BOLT-HEX 5/16-18X1-1/4	4				
10-30	64139-13	BLT-WLF 5/16-18X1/2	10				
10-31	64163-02	WSHR 21/64X19/32X11 GA	3				
10-32	38372	BEARING BALL	2				
10-33	35011A	SPRING CNTRL DETENT	1				
10-34	33103	SWIVEL	4				
10-35	33286	ROD TRACTION CNTRL	2				
10-36	31032	LEVER TRACTION CNTRL	2				
10-37	38009N	GRIP TRACTION CNTRL	2				
10-38	64163-31	WASH 25/64X1X12 GA	3				
10-39	64188-34	PIN-CLEVIS .19 WHOLE	2				
10-40	64141-6	NUT-WLF 5/16-18	10				
10-41	2308058	SPRING EXTENSION	2				
10-42	64123-16	BLT-HEX 3/8-16X1 1/4	2				
10-43	64141-4	NUT WLF 3/8-16	4				
10-44	64123-202	BLT-HEX 3/8-16X9	1				
10-45	64229-03	NUT-NYLOCK 3/8-16	2				
10-46	2308066	FRICTION WASHER	4				

*NOT ILLUSTRATED

FIGURE 11





ITEM	PART NO.	DESCRIPTION	QTY
11-1	58026-01	3-WAY CONNECTOR	2
11-2	108029	PLUG, MAGNETIC	1
11-3	158058-04	FITTING-90 BARB, ADJ.	2
11-4	108035-10	ELBW-ADJ 8-8 37-ORB LNG	2
11-5	88042-04	CLAMP-HOSE 5/8"	12
11-6	2720396	FLTR, 25 MCRN SM CAM	1
11-7	158058-07	FTG-90 BARB ADJ	2
11-8	69216.2	CAP, RESERVOIR	1
11-9	69053	3/8 HI TEMP HOSE .500 FT	
11-10	69053	3/8 HI TEMP HOSE .500 FT	
11-11	2306127	S HYD RESER W/LABS	1
11-12	38345	PUMP, BDP-10L-119 LH	1
	2308114	PUMP, BDP-10L-121 RH	1
(SEE FIG 14, PAGE 28/29 FOR BREAKDOWN)			
11-13	2308069	LINE-HYD RH REV	1
11-14	2308068	LINE-HYD LH FWD	1
11-15	2308089	LINE-HYD LH REV	1
11-16	2308090	LINE-HYD RH FWD	1
11-17	2308051	MOTOR WHEEL ROSS	2
11-18	69053	3/8 HI TEMP HOSE .500 FT	
11-19	69053	3/8 HI TEMP HOSE .625 FT	
11-20	69053	3/8 HI TEMP HOSE 1.00 FT	
11-21	69053	3/8 HI TEMP HOSE 1.00 FT	

SERVICEABLE HYDRAULIC O-RINGS

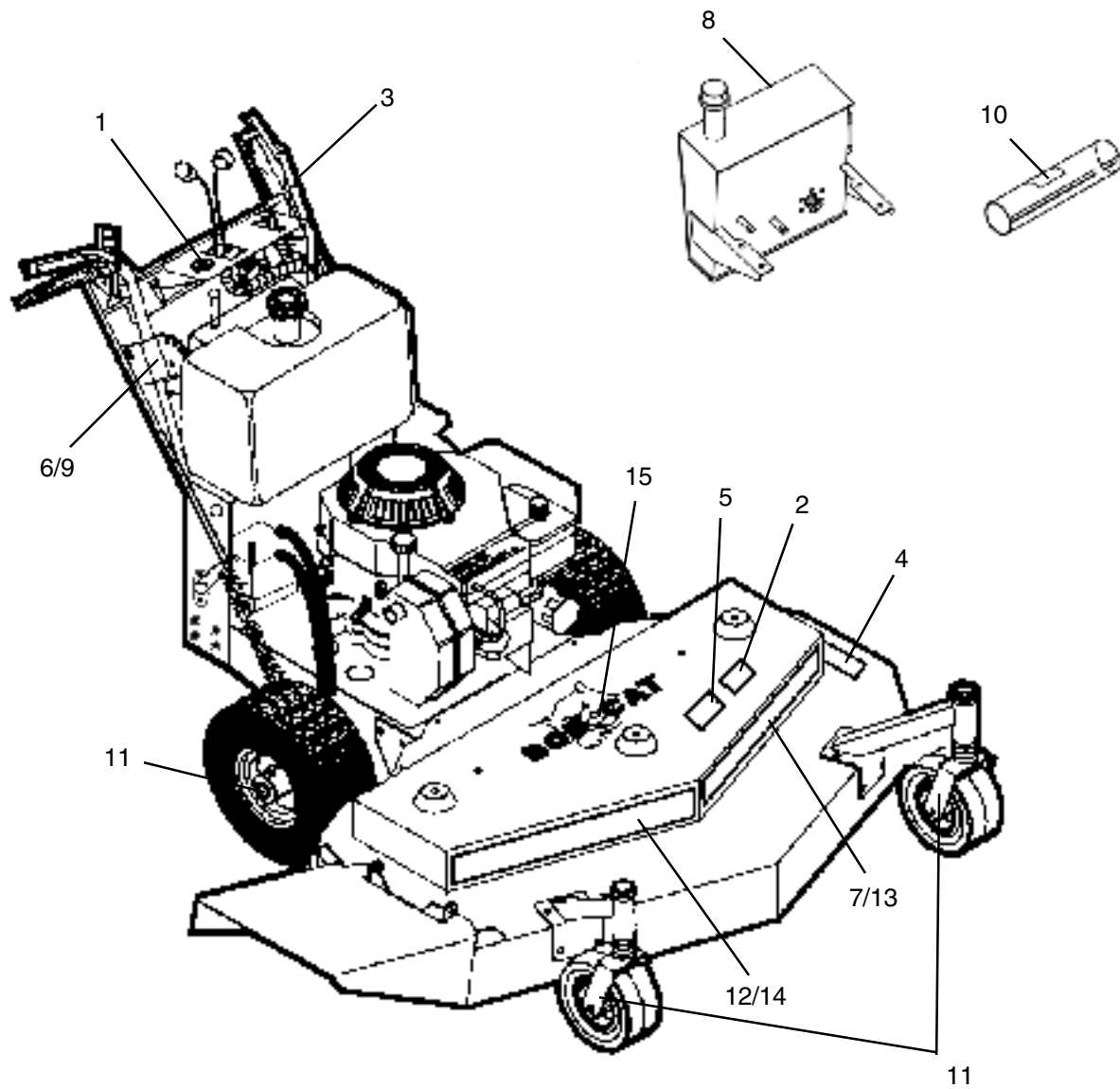
SAE PORT 'O' RINGS		
PART NUMBER	THREAD SIZE	AS-568 #
158061-10	9/16-18	-906
158061-11	3/4-16	-908
158061-12	7/8-14	-910
158061-13	1-1/16-12	-912
158061-14	1-5/16-12	-916
158061-16	1-5/8-12	-920
158061-03	1-7/8-12	-924

NOTE:

DO NOT use teflon tape on any hydraulic fittings.
Use a liquid pipe sealant.



FIGURE 12





**HYDRO
MIDSIZE**

2307095

DECALS

FIGURE 12

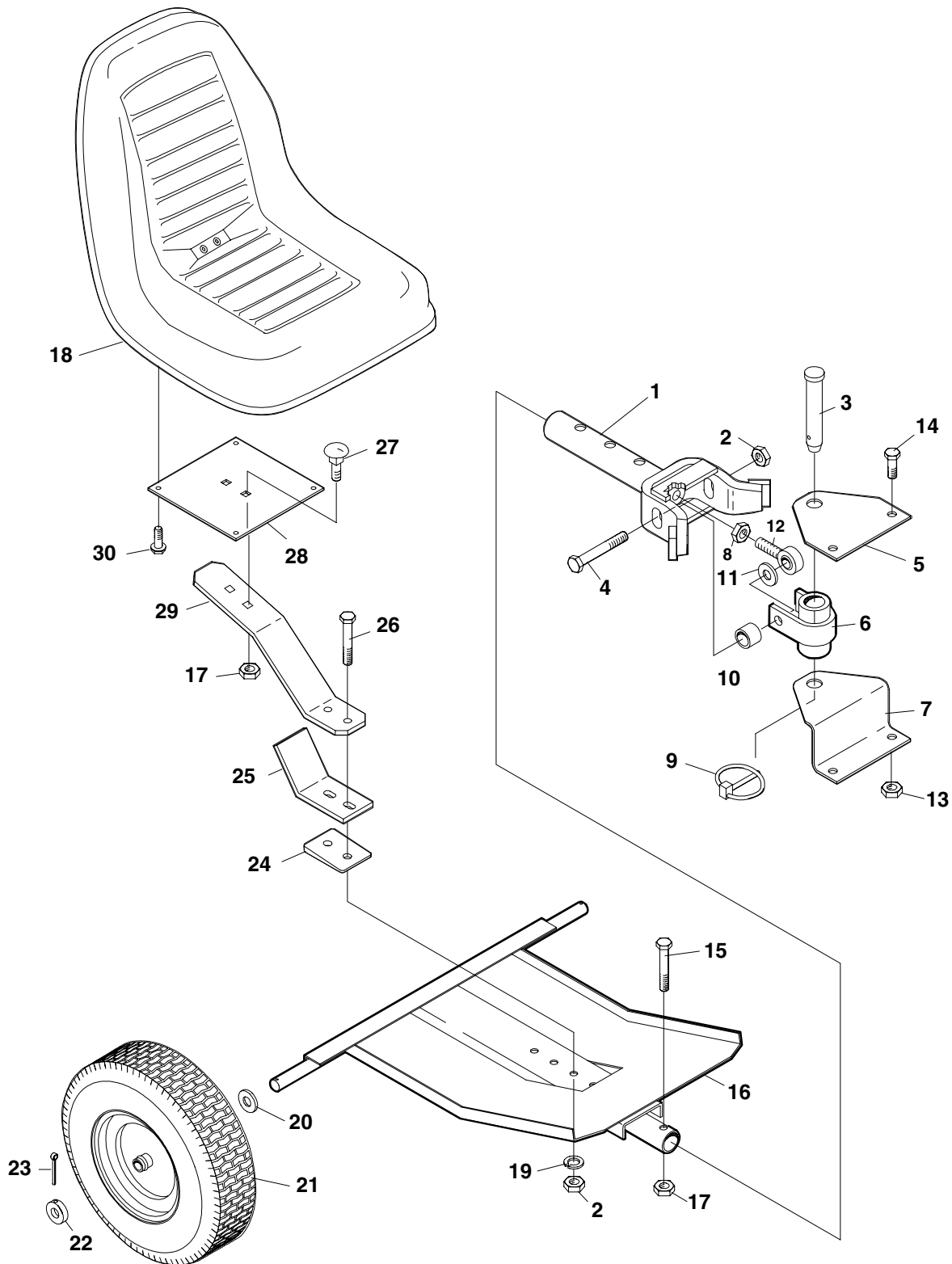
ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
12-1	2000660	LABEL-CONTL PANL (USE ON MODEL 930300 & 930301)	1				
	2000632	LABEL-CONTL PANL (USE ON MODEL 930302)	1				
	2000662	LABEL-CONTL PANL (USE ON MODEL 930303 & 930304)	1				
12-2 *	2000678	LAB-ROT PARTS/B WSHR	1				
12-3	2000570	LABEL-WARN FUEL PICT	1				
12-4	2000572	LABEL-WARNING BLADS	1				
12-5 *	2000677	LABEL-DANGER/WARN.	1				
12-6	2000672	LABEL-PARK BRAKE HYD (ONLY USED WITH OPT PARKING BRAKE)	1				
12-7	2000610	LABEL, MS STRIPE 36" (USED ON 36" DECKS)	1				
12-8	2000661	LABEL, HYDRAULIC RSVR	1				
12-9	2000571	LABEL-IMPORTANT	1				
12-10	2000673	LABEL-OPERATOR MAN	1				
12-11	00253	LABEL-PSI	4				
12-12	2000611	LABEL, RANSTRIPE: 48" (USED ON 48"-61" DECKS)	1				
12-13	2000612	LABEL, 48" MS STRIPE (USED ON 48"-61" DECKS)	1				
12-14	2000609	LABEL, RANSTRIPE: 36" (USED ON 36" DECKS)	1				
12-15	2000782	LABEL-BOBCAT TEXTRON	1				

* ITEMS 2 & 5 ARE LOCATED UNDER
THE BELT COVER.

OPTIONAL RIDING SULKY: 970156



FIGURE 13





**HYDRO
MIDSIZE**

2307096

OPTIONAL RIDING SULKY: 970156

FIGURE 13

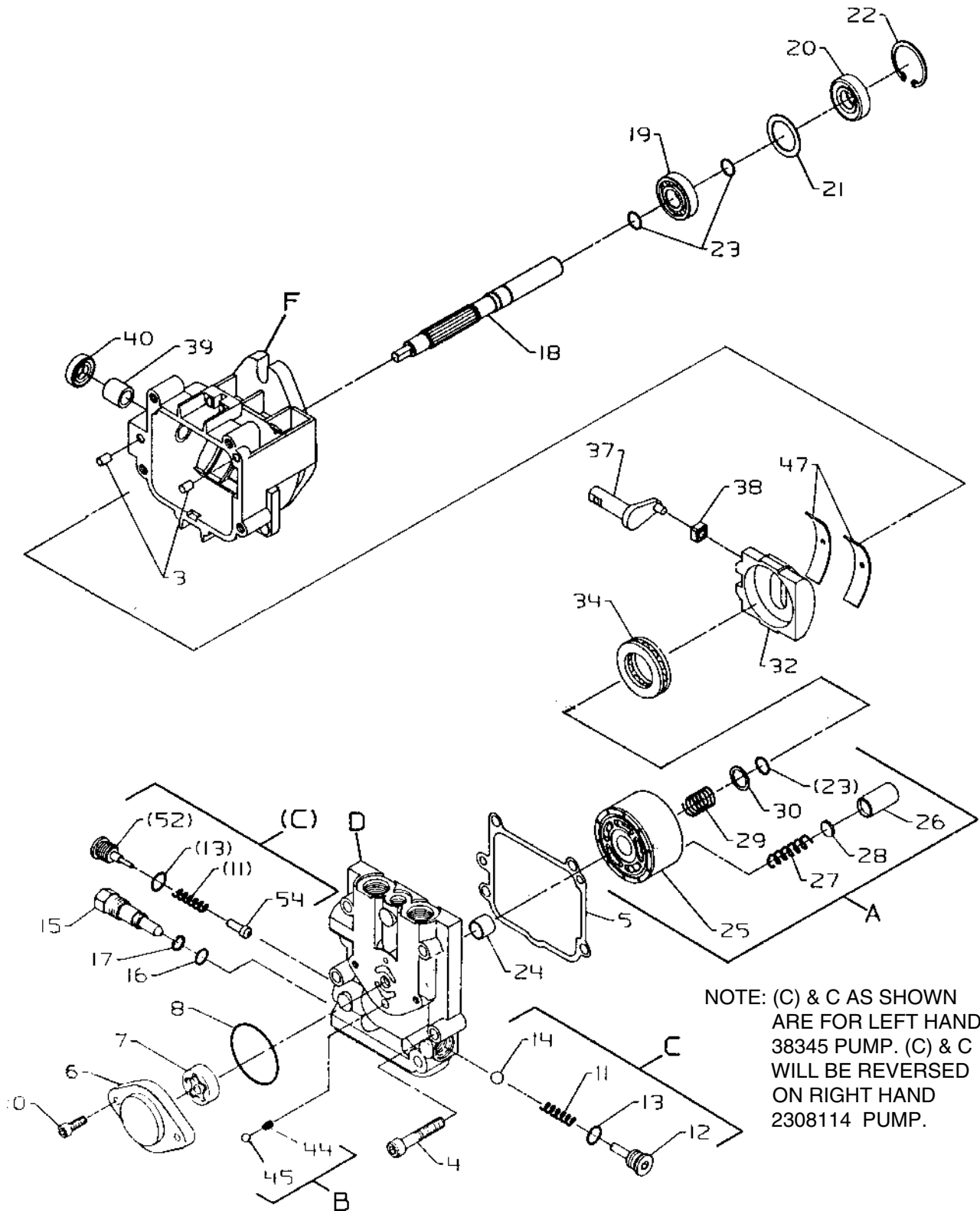
ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
13-1	36138.7	WLDMT-SULKY HITCH	1				
13-2	64025-07	NUT-HEX 1/2-20	1				
13-3	33139	PIN, CLEVIS 3/4	1				
13-4	64123-135	BOLT, HX HEAD 1/2-13X5	1				
13-5	32183.7	PLATE, HITCH SUPPORT	1				
13-6	36142.7	WLDMT-CLEVIS	1				
13-7	32124B.7	BRACKET-SULKY HITCH	1				
13-8	64001-8	NUT, HEX-JAM, 1/2-13	1				
13-9	64173-01	QUICK PIN	1				
13-10	33048	SPACER	2				
13-11	73022A	PIVOT BUSHING-PLATE	2				
13-12	38079	ROD END-MALE	1				
13-13	64141-4	NUT-WLF 3/8-16	2				
13-14	64123-50	BLT-HEX 3/8-16 X 1	2				
13-15	64123-72	BLT-HEX 1/2-13X2-1/2	2				
13-16	36225	S SULKY FRAME W/DEC	1				
13-17	64151-7	1/2-13 HEX LOCK NUT	3				
13-18	198057	SEAT	1				
13-19	64006-05	LOCKWASHER 1/2 HEL	2				
13-20	64163-56	WASHER	2				
13-21	38034C	WHEEL RIM & ASSY	2				
13-22	35019A	AXLE COLLAR PLATE	2				
13-23	64140-7	COTTER PIN	2				
13-24	31021.7	SPACER SULKY SEAT	1				
13-25	32087A.7	SPRING SUPPORT	1				
13-26	64123-71	BLT-HEX 1/2-13 X 2-1/4	2				
13-27	64018-8A	BLT-CRG 1/2-13 X 1-1/2	2				
13-28	32784.7	ADAPTER-SEAT	1				
13-29	2302004.7	SPRING	1				
13-30	64139-08	BLT-WLF 3/8-16 X 3/4	4				

SUNDSTRAND PUMP

HYDRO
MIDSIZE



FIGURE 14





**HYDRO
MIDSIZE**

2307097

SUNDSTRAND PUMP

FIGURE 14

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
------	----------	-------------	-----	------	----------	-------------	-----

SAUER-SUNSTRAND MODEL BDP 10L-119

A	38345-12	S-SUN 2513009 CYL KIT	1
B	38345-05	S-SUN 2510011 CRLF-KIT	1
C	38345-02	S-SUN 2510008 VAL-KIT	1
(C)	38345-03	S-SUN 2510027 CKV-KIT	1
D	38345-13	S-SUN 2513016 ECAP KIT	1
F	38345-04	S-SUN 2513017 HSG-KIT	1
(INCLUDES ITEM 39)			
14-4	38345-11	S-SUN 9007314-0810 SHS	4
14-5	38345-14	S GASKET-HSG 2003067	1
14-6	38345-06	S-SUN 2003040 CRG-KIT	1
14-7	38345-07	S-SUN J1041008 GRT ASY	1
14-8	38345-08	S-SUN 9004101-1340 OR	1
14-10	38345-10	S-SUN 9007375-0035 SHS	2
14-18	38345-09	S-SUN J1030673 SHAFT	1
14-32	188059-11	S SWPLT-VAR 2003087	1
14-37	188059-15	S ARM TRUNN 2003005	1
14-38	188059-9	S GUIDE-SLOT 2000015	1
14-39	188059-14	S BRG TRUNN 2003009	1
14-47	188059-13	S BRG CRDL J1040976	1

38345-01 S-SUN 2513018 S-KIT 1
(CONTAINS ITEMS 5, 8, 13, 16, 17, 20, 23,& 40)

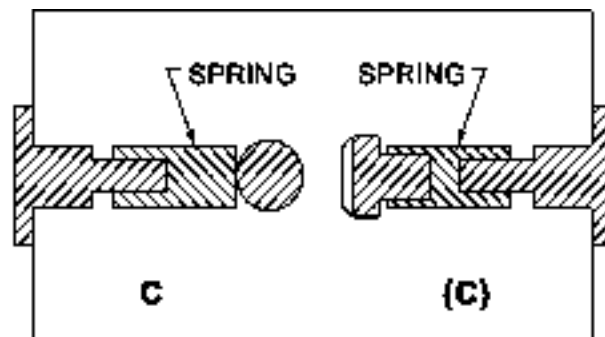
14-48 *38345-10 S SUN 2003067 GASKET A/R

PARTS NOT SERVICED BY RANSOMES, INC.,
 SEE SAUER-SUNSTRAND DEALER:

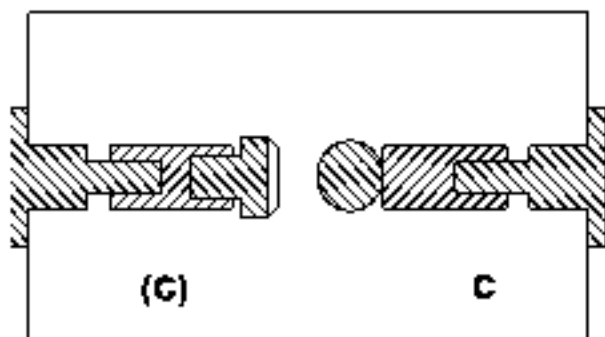
ITEM	SAUER-SUNSTRAND P/N
------	---------------------

14-3	9004800-2506
14-15	4460547-001
14-19	2003043
14-21	2003018
14-24	2003071
14-34	2003044
14-47	J1040976

*** NOT ILLUSTRATED**



38345 PUMP LEFT HAND C&(C) LOCATION
HYDROGEAR MODEL BDP 10L-119



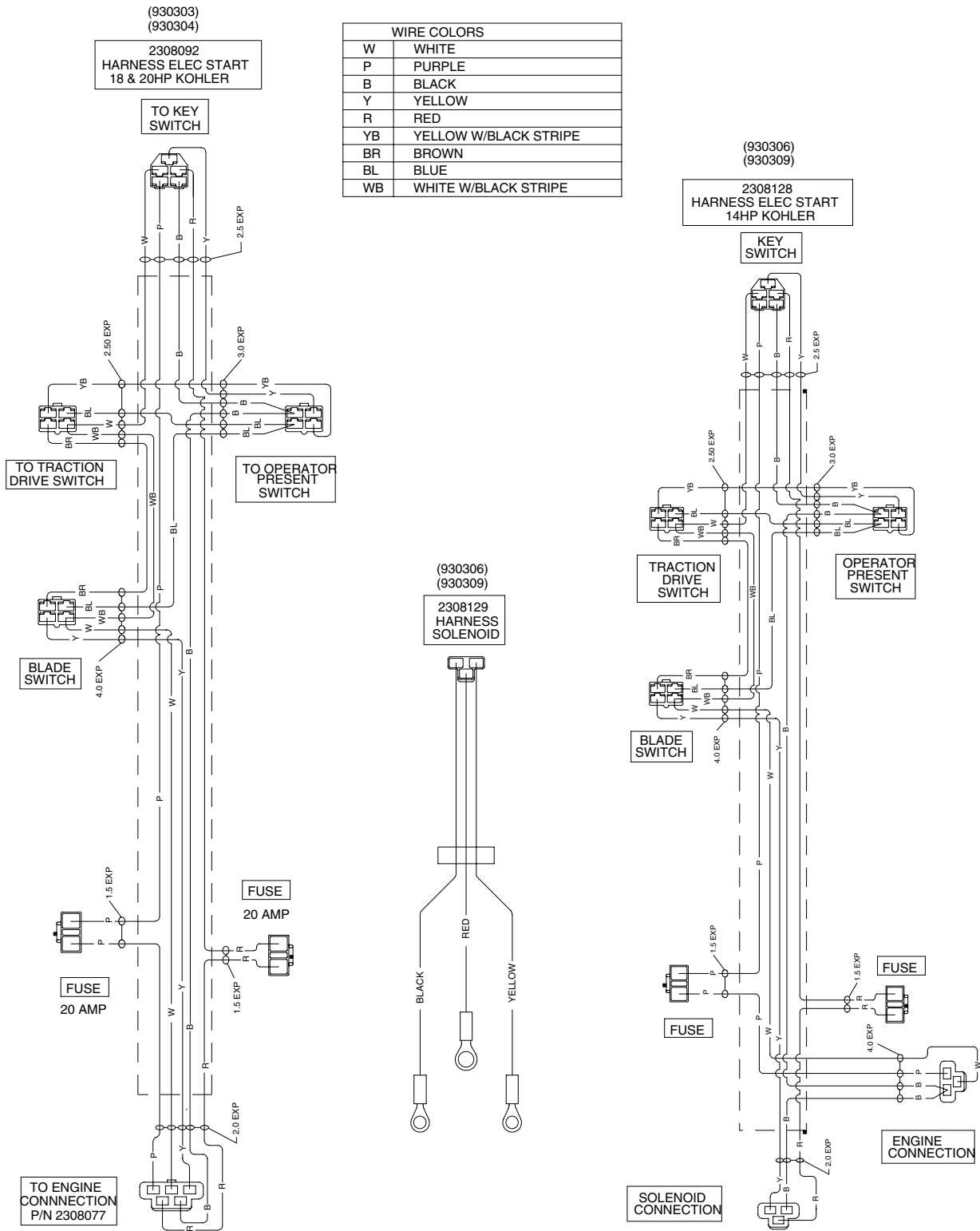
2308114 PUMP RIGHT HAND C&(C) LOCATION
HYDROGEAR MODEL BDP 10L-121

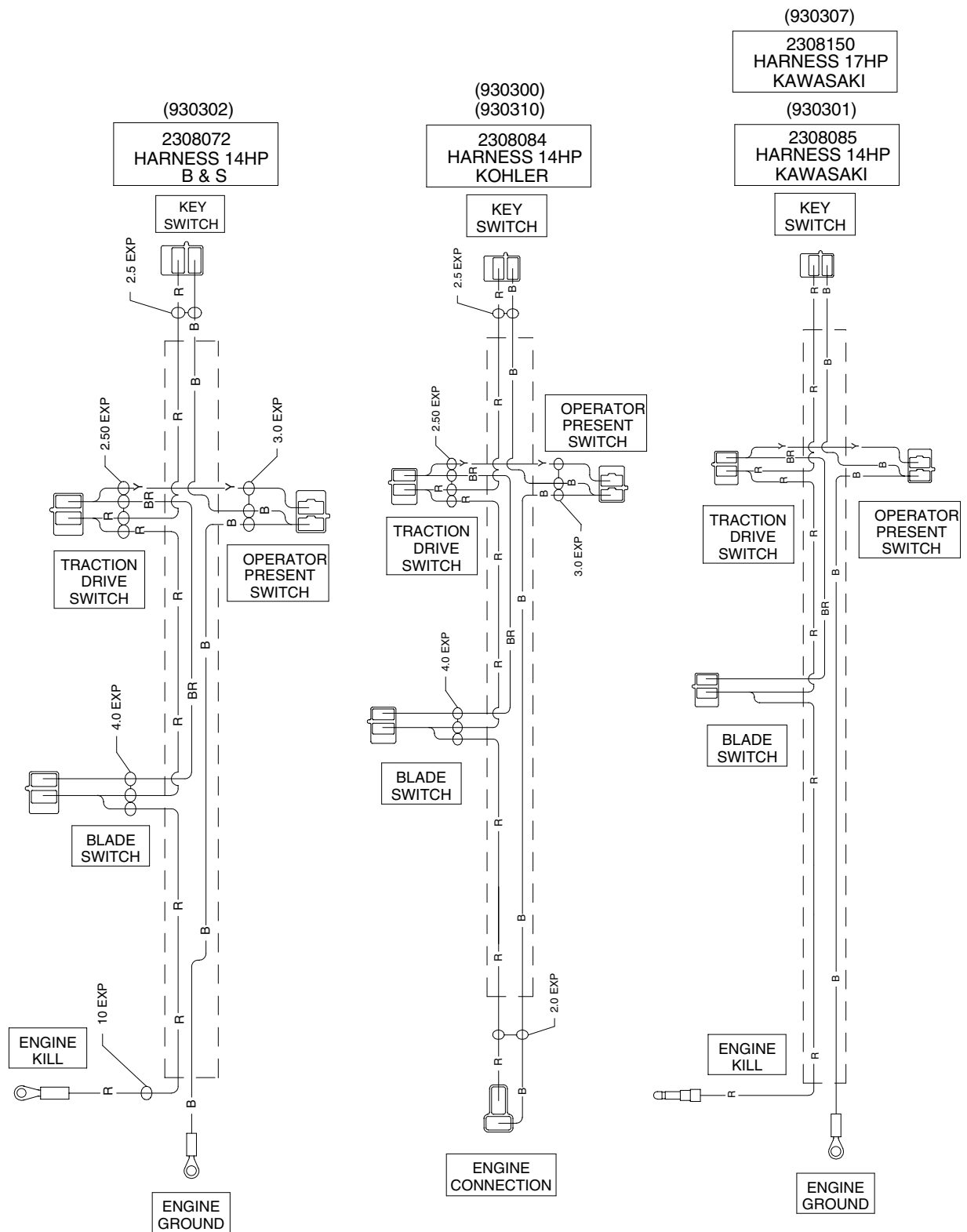
ELECTRIC DIAGRAM-ELECTRIC START

FIGURE 15

2307098

HYDRO
MIDSIZE





CROSS REFERENCE

HYDRO MIDSIZE



PART NO.	DESCRIPTION	FIG/ITEM	PART NO.	DESCRIPTION	FIG/ITEM
00253	LABEL, PSI	12 /11	2302117	LATCH-ROLLER LH	10 /60
108029	PLUG,MAGNETIC	11 /2	2302118	LATCH-ROLLER RH	10 /7
108035-10	ELBOW, ADJ 8-8 37-ORB LG	11 /4	2302133	DELFECTOR-EXHAUST	2 /10
108050-02	S RIM ASSY	5 /15	2302139	BRACKET-BATTERY	4 /13
108055	BATTERY	4 /7	2303023	CONNECTOR-OP	7 /6
108061-11	CABLE-BATTERY 20 BLACK	4 /8	2303023	CONNECTOR-OP	8 /6
108061-12	CABLE-BATTERY 24 RED	4 /14	2303040	ROD-LINK	9 /11
108208	SWITCH DBL POLE	7 /12	2303042	ROD-SPEED CONTROL	10 /17
112386	BOOT,BAT TERM POS	4 /6	2303043	ROD-BLADE CONTROL	9 /4
118008-04	CONTROL, CHOKE 43.50	7 /1	2303052	ROD-BRAKE	6 /31
118020-09	CONTROL-THROTTLE 40.00	7 /24	2303058	SHAFT-ECCENTRIC (HEX)	10 /50
118020-11	CONTROL-THROTTLE 53.50	8 /32	2306068	WLDMT, ARM CNTRL LH - PL	10 /61
118047-01	BUSHING FLIP-LOK 3/4ID	6 /24	2306073	WLDMT, ARM CNTRL RH - PL	10 /16
123026	ROD,BATTERY HOLD DOWN	4 /11	2306081.7	WLDMT-PUMP ARM	10 /26
128010	KEY SWITCH	7 /3	2306082.7	WLDMT-IDLER ARM	1 /26
128035	COVER,BATTERY	4 /3	2306083.7	WLDMT-SPEED CONTROL RH	10 /13
148082-20	FUSE 20 AMP	7 /15	2306084.7	WLDMT-SPEED CONTROL LH	10 /18
158058-04	FITTING-BARB 90, ADJ	11 /3	2306097	WLDMT-ACTUATOR - PL	10 /25
158058-07	FITTING-90 BARB, ADJ	11 /7	2306097	WLDMT-ACTUATOR - PL	7 /20
188059-11	S SWASH PLATE #2003087	14 /32	2306097	WLDMT-ACTUATOR - PL	8 /20
188059-13	S BRG CRADLE #2003023	14 /47	2306104.2	WLDMT-BATTERY TRAY	4 /10
188059-16	S BEARING & HOUSING KIT	14 /39	2306106.7	WLDMT-BRAKE MTG RH	6 /12
188059-15	S ARM-TRUNION #2003005	14 /37	2306107.7	WLDMT-BRAKE MTG LH	6 /36
188059-9	S GUIDE SLOT #2000015	14 /38	2306108.7	WLDMT-BRAKE ARM	6 /14
198057	SEAT	13 /18	2306117.7	WLDMT-PARK BRK ARM	6 /15
2000570	LABEL-WARN FUEL PICT.	12 /3	2306118	WLDMT-BRAKE SHAFT	6 /16
2000571	LABEL-IMPORTANT	12 /9	2306127	S HYD RESERVOIR W/LABS	2 /27
2000572	LABEL-WARNING BLADES	12 /4	2306127	S HYD RESERVOIR W/LABS	11 /11
2000609	LABEL,MS 36 RANSTRIPE	12 /14	2306127	S HYD RESERVOIR W/LABS	3 /24
2000610	LABEL, MS STRIPE 36	12 /7	2306129	S CONTROL PANEL W/LABS	7 /5
2000611	LABEL, RANSTRIPE 48 MS	12 /12	2306130	S CNTRL PNL W/LA 14 KAW	7 /33
2000612	LABEL,48 MS STRIPE	12 /13	2306130	S CNTRL PNL W/LA 14 KAW	8 /5
2000632	LABEL-HYDRO 16HP CPANEL	12 /17	2306131	S CNTRL PANEL W/LA B & S	8 /29
2000660	LABEL-HYDRO 14HP CPANEL	12 /1	2306133	S UPPER HANDLE W/LABS	9 /1
2000661	LABEL-HYDRCLC TANK WARN	12 /8	2306133	S UPPER HANDLE W/LABS	7 /13
2000662	LABEL-HYDRO CPANEL	12 /18	2306133	S UPPER HANDLE W/LABS	8 /13
2000672	LABEL-PRKNG BRK HYD EEC	12 /6	2306134	S ASSY BELLCRANK	9 /8
2000673	DECAL - OP MAN/TIRES	12 /10	2306136	S UPR HANDLE 14 KAW EEC	10 /21
2000677	LABEL-DANGER/WARNING	12 /5	2306144	S DOC TUBE W/LABEL	2 /19
2000678	LABEL-ROT PARTS/B-WSHR	12 /2	2306144	S DOC TUBE W/LABEL	3 /19
2000782	LABEL-BOBCAT TEXTRON	12 /15	2306195	S SPEED CONTROL	10 /23
2301000	PULLEY-5.6 X 1.00	1 /17	2306175	ASSY LEVER BELLCRANK	9 /10
2302004.7	SPRING-SEAT	13 /29	2308000	PULLEY-IDLER 4.00 EOD	1 /23
2302093.7	PLATE-MOUNT, WHEEL	5 /11	2308036	ENGINE-CV14T PS-1479	1 /43
2302093.7	PLATE-MOUNT, WHEEL	6 /11	2308036	ENGINE-CV14T PS-1479	2 /22
2302098.2	HANDLE, LOWER	2 /20	2308037	SPRING, TORSION OP	7 /8
2302098.2	HANDLE, LOWER	6 /20	2308037	SPRING, TORSION OP	8 /8
2302098.2	HANDLE, LOWER	9 /9	2308047	ENGINE, KHLR CV20S HYDRO	1 /46
2302098.2	HANDLE, LOWER	10 /24	2308047	ENGINE, KHLR CV20S HYDRO	2 /8
2302098.2	HANDLE, LOWER	3 /20	2308051	MTR-WHL ROSS MF CODE 25	5 /6
2302098.2	HANDLE, LOWER	7 /16	2308051	MTR-WHL ROSS MF CODE 25	6 /6
2302098.2	HANDLE, LOWER	8 /16	2308051	MTR-WHL ROSS MF CODE 25	11 /17



HYDRO MIDSIZE

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PART NO.	DESCRIPTION	FIG/ITEM	PART NO.	DESCRIPTION	FIG/ITEM
2308052	BELT, HYDRO	1 /33	2308153	LEVER-OP RH	8 /19
2308054	PULLEY, ENGINE	1 /15	2720153.7	LEVER-CONTROL	6 /25
2308058	SPRING-EXTENSION	10 /41	2720396	FILTER-25 MIC SMALL CAN	11 /6
2308063	ENGINE B&S 16 VANGUARD	1 /44	2721171.2	WLDMT-ENGINE DECK	1 /12
2308063	ENGINE B&S 16 VANGUARD	3 /11	2721171.2	WLDMT-ENGINE DECK	2 /23
2308065	SPRING-EXTENSION	10 /15	2721171.2	WLDMT-ENGINE DECK	3 /22
2308066	WASHER-FRICTION	10 /46	2721171.2	WLDMT-ENGINE DECK	4 /9
2308068	HOSE-HYD LH FWD	11 /14	2721171.2	WLDMT-ENGINE DECK	5 /10
2308069	HOSE-HYD RH REV	11 /13	2721171.2	WLDMT-ENGINE DECK	6 /10
2308072	HARNESS-B&S HYDRO	16 /1	2721171.2	WLDMT-ENGINE DECK	9 /5
2308072	HARNESS-B&S HYDRO	8 /31	2810592	TRAINING VIDEO	1 /5
2308073	CAP-FUEL TANK	2 /1	31012A	ENGINE PULLEY	1 /39
2308073	CAP-FUEL TANK	3 /1	31021.7	SPACER SULKY SEAT	13 /24
2308076-01	BEARING-PLASTIC	9 /12	31032	LEVER, TRACTION CONTROL	10 /36
2308076-02	BEARING-PLASTIC	10 /48	32087A.7	SPRING SUPPORT	13 /25
2308077	HARNESS-JUMPER	7 /26	32124B.7	BRACKET, SULKY HITCH	13 /7
2308080	BEARING-SELF ALIGN	10 /8	32183.7	PLATE, HITCH SUPPORT	13 /5
2308084	HARNESS-KLR HYDRO	16 /2	32766.7	GUIDE-BELT	1 /8
2308084	HARNESS-KLR HYDRO	8 /30	32784.7	ADAPTER-SEAT	13 /28
2308085	HARNESS-KAW HYDRO	16 /3	32785.2	LEVER-CONTROL	9 /13
2308085	HARNESS-KAW HYDRO	8 /21	33030-09	IDLER-BUSHING	7 /7
2308086	SPRING-EXTENSION	6 /13	33030-09	IDLER-BUSHING	8 /7
2308087	ENGINE-KLR CV18S WAWB	1 /45	33048	SPACER	13 /10
2308087	ENGINE-KLR CV18S WAWB	2 /31	33103	SWIVEL	6 /3
2308088	HUB-WHEEL	5 /2	33103	SWIVEL	9 /3
2308088	HUB-WHEEL	6 /2	33103	SWIVEL	10 /34
2308089	HOSE-HYD LH REV	11 /15	33139	PIN-CLEVIS 3/4X4-1/4	13 /3
2308090	HOSE-HYD RH FWD	11 /16	33243	SPACER	10 /6
2308092	HARNESS-ELEC START HYD	15 /1	33286	ROD-TRACTION CONTROL VS	10 /35
2308092	HARNESS-ELEC START HYD	7 /21	33288	STUD-DOUBLE ENDED	10 /4
2308094	SWITCH-NCNC DBL POLE	7 /23	35011A	SPRING, CONTROL DETENT	10 /33
2308097	DRUM-BRAKE	6 /17	35019A	AXLE COLLAR PLATE	13 /22
2308114	PUMP BDP10L-121 HYDRGR	1 /48	35027N	ZERK FITTING	1 /27
2308114	PUMP BDP10L-121 HYDRGR	11 /26	36138.7	WELDMT, SULKY HITCH	13 /1
2308114	PUMP BDP10L-121 HYDRGR	14 /61	36142.7	WELDMT, CLEVIS	13 /6
2308121	ADHESIVE-3 GRAM TUBE	10 /27	36225	S SULKY FRAME W/DECALS	13 /16
2308121	ADHESIVE-3 GRAM TUBE	7 /22	36319	S DRIVE WHEEL W/ LABEL	13 /31
2308121	ADHESIVE-3 GRAM TUBE	8 /15	36702	S DRIVE WHEEL W/LABEL	5 /3
2308127	ENGINE-KHLR CV14S ELEC ST	1 /47	38009N	GRIP, TRACTION CONTROL	10 /37
2308127	ENGINE-KHLR CV14S ELEC ST	2 /32	38027N	GRIP, TRACTION LOCK	10 /1
2308128	HARNESS E-STRT 14 KLR HY	15 /3	38034C	WHEEL RIM & TIRE ASSY.	13 /21
2308128	HARNESS E-STRT 14 KLR HY	7 /34	38061A	SPINDLE SHIELD	2 /17
2308129	HARNESS-SOLENOID	15 /2	38061A	SPINDLE SHIELD	3 /17
2308131	ENGINE-KOHLER CV15T	2 /34	38079A	ROD END, MALE	13 /12
2308132	ENGINE-KOHLER CV15S	2 /33	38148	SWITCH-ENGINE STOP	8 /3
2308146	ENGINE-KAW FH 500V	3 /9	38189	SPRING-COMPRESSION	10 /2
2308148	PUMP-PULLEY	1 /13	38219	SPRING-TENSION	1 /29
2308150	HARNESS-KAW HYDRO	16 /4	38345	PUMP BDP10L-119 HYDRGR	1 /4
2308150	HARNESS-KAW HYDRO	8 /33	38345	PUMP BDP10L-119 HYDRGR	11 /12
2308152	LEVER-OP LH	7 /18	38345	PUMP BDP10L-119 HYDRGR	14 /60
2308152	LEVER-OP LH	8 /18	38345-01	S-2513018 SEAL KIT	14 /50
2308153	LEVER-OP RH	7 /19	38345-02	S-2510008 POPPET VALVE-KIT	14 /53

CROSS REFERENCE

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PART NO.	DESCRIPTION	FIG/ITEM	PART NO.	DESCRIPTION	FIG/ITEM
38345-03	S-2510027 CHECK BALL KIT	14 /54	64002-04	LOCKWSHR-TOOTH,EXT 5/16	2 /11
38345-04	S-2513017 HOUSING KIT	14 /56	64006-01	LOCKWSHR-HELICAL 1/4	1 /7
38345-05	S-2510011 CHRGR RELIEF-KIT	14 /52	64006-01	LOCKWSHR-HELICAL 1/4	2 /13
38345-06	S-2003040 HSNG, CHRGR PMP	14 /6	64006-01	LOCKWSHR-HELICAL 1/4	3 /13
38345-07	S-J1041008 GEROTOR ASSY	14 /7	64006-03	LOCKWSHR-HELICAL 3/8	1 /35
38345-08	S-9004101-1340 O-RING	14 /8	64006-03	LOCKWSHR-HELICAL 3/8	1 /37
38345-09	S-J1030673 SHAFT	14 /18	64006-03	LOCKWSHR-HELICAL 3/8	2 /16
38345-10	S-9007375-0038 SCR, SKT HD	14 /10	64006-03	LOCKWSHR-HELICAL 3/8	10 /52
38345-10	S-9007375-0038 SCR, SKT HD	14 /48	64006-03	LOCKWSHR-HELICAL 3/8	3 /16
38345-11	S-9007314-0810 SCR, SKT HD	14 /4	64006-05	LOCKWSHR-HELICAL 1/2	5 /8
38345-12	S-9007314 CYL BLOCK KIT	14 /51	64006-05	LOCKWSHR-HELICAL 1/2	6 /8
38345-13	S-2513016 END CAP KIT	14 /55	64006-05	LOCKWSHR-HELICAL 1/2	13 /19
38345-14	S-2003067 GASKET	14 /5	64006-06	LOCKWSHR-HELICAL 7/16	1 /20
38345-15	SPRING, CHARGE RELIEF	14 /44	64018-8A	BLT-CRG 1/2-13X1-1/2	13 /27
38357-01	CONTROL-THROTTLE 34	8 /22	64018-9	BLT-CRG 5/16-18X3/4 G5	2 /28
38357-05	CONTROL-THROTTLE	8 /34	64018-9	BLT-CRG 5/16-18X3/4 G5	3 /23
38360	GRIP-RECESSED 1 IN	7 /25	64025-02	NUT-HEX 5/16-18	4 /4
38360	GRIP-RECESSED 1 IN	8 /1	64025-06	NUT-HEX 3/4-16 2A	5 /5
38371-01	BRG-NYLINER 3/8	7 /9	64025-06	NUT-HEX 3/4-16 2A	6 /5
38371-01	BRG-NYLINER 3/8	8 /9	64025-07	NUT-HEX 1/2-20	13 /2
38372	BEARING-BALL	10 /32	64025-15	NUT-HEX #10-24 KEPS	7 /10
38377	HARNESS, RECOIL START	6 /18	64025-15	NUT-HEX #10-24 KEPS	8 /10
38381-01	S TIRE, 4PLY TURF SAVR	5 /14	64025-19	NUT-HEX 1/2-13	5 /7
38383	SWITCH-N.C.	8 /12	64025-19	NUT-HEX 1/2-13	6 /7
38384	BOOT-SWITCH	7 /11	64044-18	SCREW-SET 5/16-18 x 5/16	1 /34
38384	BOOT-SWITCH	8 /11	64061-25	ROLL PIN-1/4X1-1/4	6 /19
38404-01	GRIP,CONTROL LEVER	6 /26	64061-28	ROLL PIN-3/16X1-1/4	10 /22
38404-01	GRIP,CONTROL LEVER	9 /14	64061-32	ROLL PIN-1/8X15/16	10 /3
38452	BRG, RADIAL W/THD STUD	10 /10	64123-02	BLT-HEX 3/8-24X1	10 /51
38459	ENGINE-KAW FC420V OHV	1 /1	64123-09	BLT-HEX 7/16-20X1-1/4	1 /21
38459	ENGINE-KAW FC420V OHV	3 /8	64123-125	BLT-HEX 1/2-13X2-3/4	5 /9
38531	TANK-FUEL MIDSIZE	2 /2	64123-125	BLT-HEX 1/2-13X2-3/4	6 /9
38531	TANK-FUEL MIDSIZE	3 /2	64123-135	BLT-HEX 1/2-13X5	13 /4
38540	VALVE-FUEL W/FILTER	2 /4	64123-15	BLT-HEX 3/8-16X3/4	1 /2
38540	VALVE-FUEL W/FILTER	3 /4	64123-15	BLT-HEX 3/8-16X3/4	2 /26
38542	CLAMP-DOCUMENT TUBE	2 /21	64123-15	BLT-HEX 3/8-16X3/4	3 /26
38542	CLAMP-DOCUMENT TUBE	3 /21	64123-16	BLT-HEX 3/8-16X1-1/4	1 /31
38666	FILTER, FUEL B&S	2 /7	64123-16	BLT-HEX 3/8-16X1-1/4	6 /27
38666	FILTER, FUEL B&S	3 /7	64123-16	BLT-HEX 3/8-16X1-1/4	9 /15
48016-19A	HOSE, FUEL	2 /6	64123-16	BLT-HEX 3/8-16X1-1/4	10 /42
48016-19A	HOSE, FUEL	3 /6	64123-202	BLT-HEX 3/8-16 X 9.0	10 /44
48016-20A	HOSE, FUEL	2 /30	64123-21	BLT-HEX 3/8-24X1-1/4	1 /22
48228A	CABLE CLIP-INSULATED	3 /27	64123-47	BLT-HEX 5/16-18X1-1/4	10 /29
48310	S BUSHING,FUEL TANK	2 /3	64123-50	BLT-HEX 3/8-16X1	2 /18
48310	S BUSHING,FUEL TANK	3 /3	64123-50	BLT-HEX 3/8-16X1	13 /14
48319-01	CLAMP-MUFFLER 1-3/8	2 /9	64123-50	BLT-HEX 3/8-16X1	3 /18
48412	CLIP-CABLE	7 /27	64123-50	BLT-HEX 3/8-16X1	7 /14
48412	CLIP-CABLE	8 /23	64123-50	BLT-HEX 3/8-16X1	8 /14
58026-01	3 WAY CONNECTOR 3/8	11 /1	64123-54	BLT-HEX 5/16-18X3/4	4 /5
62464-5A	WASHER,THRUST 5/16X3/4	10 /11	64123-67	BLT-HEX 3/8-16X2	10 /28
62464-7A	WASHER,THRUST 1.0X1.56	1 /36	64123-71	BLT-HEX 1/2-20X2-1/4	13 /26
64001-8	NUT-HEX JAM,1/2-13	13 /8	64123-72	BLT-HEX 1/2-13X2-1/2	13 /15



HYDRO MIDSIZE

CROSS REFERENCE

PART NO.	DESCRIPTION	FIG/ITEM	PART NO.	DESCRIPTION	FIG/ITEM
64123-73	BLT-HEX 1/2-13X1	5 /12	64173-01	QUICK PIN 1/4	13 /9
64123-73	BLT-HEX 1/2-13X1	6 /22	64175-01	PUSHNUT-3/16 ROD	10 /5
64123-89	BLT-HEX 1/4-20X3/4	2 /12	64187-03	WHEEL NUT 1/2-20	5 /4
64123-89	BLT-HEX 1/4-20X3/4	3 /12	64188-34	PIN, CLEVIS 3/16X2	10 /39
64139-08	BLT-WLF 5/16-18X3/4	13 /30	64192-04	SET SCR SQ HD 5/16-18X5/8	10 /49
64139-13	BLT-WLF 5/16-18X1/2	10 /30	64197-002	BLT-TDFM 1/4-20X3/4	7 /28
64140-7	COTTER PIN-3/16X1-3/4	13 /23	64197-002	BLT-TDFM 1/4-20X3/4	8 /24
64141-4	NUT-WLF 3/8-16	1 /30	64197-005	BLT-TDFM 3/8-16X1-1/4	1 /50
64141-4	NUT-WLF 3/8-16	2 /25	64197-015	BLT-TDFM 10-32X1/2 TORX HD7	/29
64141-4	NUT-WLF 3/8-16	6 /30	64197-015	BLT-TDFM 10-32X1/2 TORX HD8	/25
64141-4	NUT-WLF 3/8-16	10 /43	64197-016	BLT-TDFM 3/8-16X1/2	4 /12
64141-4	NUT-WLF 3/8-16	13 /13	64205-003	BLT-METRIC M8-1.25X30	1 /10
64141-4	NUT-WLF 3/8-16	3 /25	64205-013	BLT-METRIC M6 1X12	1 /11
64141-4	NUT-WLF 3/8-16	7 /17	64205-018	BLT-METRIC M8-1.25X15	2 /30
64141-4	NUT-WLF 3/8-16	8 /17	64221-04	E-RING .875	1 /24
64141-6	NUT-WLF 5/16-18	2 /29	64228-03	STUD, WHEEL	6 /1
64141-6	NUT-WLF 5/16-18	10 /40	64229-01	LOCK NUT-NYLON 1/4-20	10 /9
64141-6	NUT-WLF 5/16-18	3 /10	64229-02	LOCK NUT-NYLON 5/16-18	4 /1
64144-16	RING,CLIP- .75X.062	10 /53	64229-02	LOCK NUT-NYLON 5/16-18	10 /12
64144-30	SNAP RING .375	6 /21	64229-03	LOCK NUT-NYLON 3/8-16	2 /14
64144-34	SNAP RING .50	6 /23	64229-03	LOCK NUT-NYLON 3/8-16	9 /2
64151-7	1/2-13 HEX LOCK NUT	13 /17	64229-03	LOCK NUT-NYLON 3/8-16	10 /45
64152-10	10-24X3/4 MACH SCREW	7 /4	64229-03	LOCK NUT-NYLON 3/8-16	3 /14
64152-10	10-24X3/4 MACH SCREW	8 /4	64238-03	KEY-METRIC 5MM SQ X 28MM	1 /14
64152-23	1/4-20X3/8 LG SP SCREW	7 /2	65103A	BEARING BUSHING	1 /28
64152-23	1/4-20X3/8 LG SP SCREW	8 /2	68156A	HANDLE KNOB, BLACK	10 /47
64163-02	WASH.21/64X19/32X11GA.	10 /31	69053	HOSE-3/8 HI TEMP BULK	11 /18
64163-06	WSHR.768/.756X1.25X14G	10 /19	69053	HOSE-3/8 HI TEMP BULK	11 /19
64163-17	25/64 X 2 X 11GA WASHR	6 /28	69053	HOSE-3/8 HI TEMP BULK	11 /20
64163-17	25/64 X 2 X 11GA WASHR	9 /16	69053	HOSE-3/8 HI TEMP BULK	11 /21
64163-22	1-1/32X1-3/4X1/2 WASHR	1 /16	69053	HOSE-3/8 HI TEMP BULK	11 /10
64163-25	1-1/32X2X11GA WASHER	1 /32	69053	HOSE-3/8 HI TEMP BULK	11 /9
64163-29	21/64X1X11GA.WASHER	1 /9	69216.2	CAP-RESERVOIR	11 /8
64163-29	21/64X1X11GA.WASHER	4 /2	73022A	PIVOT BUSHING-PLATE	13 /11
64163-31	WASH.25/64X1X12 GA	1 /3	85010N	ZERK, 1/4-28 STR SELF TH	10 /20
64163-31	WASH.25/64X1X12 GA	1 /49	88042-04	CLAMP-HOSE 5/8	11 /5
64163-31	WASH.25/64X1X12 GA	2 /15	88042N	HOSE CLAMP	2 /5
64163-31	WASH.25/64X1X12 GA	10 /38	88042N	HOSE CLAMP	3 /5
64163-31	WASH.25/64X1X12 GA	3 /15	970077	KIT-BRAKE ASSY HYDRO	6 /37
64163-34	WSHR .256/.267X1X11 GA	1 /6	A110406	SCREW,M10X1.5X30 HH	1 /38
64163-55	WSHR .328X.75.14 GA	2 /24			
64163-56	WSHR 1.75X.891X9GA	13 /20			
64163-63	WSHR .453X1.63X.313	1 /19			
64163-65	WSHR .890X1.375X18GA	1 /25			
64164-12	1/4X1/4X1 SQ END KEY	1 /18			
64164-28	#808 WOODRUFF KEY	5 /1			
64166-12	SH BLT .5 X1.5 X3/8-16	9 /6			
64168-2	HAIRPIN COTTER	6 /4			
64168-2	HAIRPIN COTTER	9 /7			
64168-2	HAIRPIN COTTER	10 /14			
64171-2	WAVE WASHER	6 /29			
64171-2	WAVE WASHER	9 /17			

**CALIFORNIA
Proposition 65 Warning**

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

 WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Californie Proposition 65
Avertissement**

Les échappements des moteurs diesel et certains de leurs composés sont reconnus par l'Etat de Californie pour être cancérigènes, provoquer des défauts congénitaux et d'autres dangers en matière de reproduction.

 AVERTISSEMENT

L'émission du moteur de ce matériel contient des produits chimiques que l'Etat de Californie considère être cancérigènes, provoquer des défauts congénitaux et d'autres dangers en matière de reproduction.

**California Advertencia
de la Proposicion 65**

El estado de California hace saber que los gases de escape de los motores diesel y algunos de sus componentes producen cáncer, defectos de nacimiento y otros daños en el proceso de reproducción humana.

 ADVERTENCIA

El estado de California hace saber que los gases de escape de este producto contienen productos químicos que producen cáncer, defectos de nacimiento y otros daños en el proceso de reproducción humana.