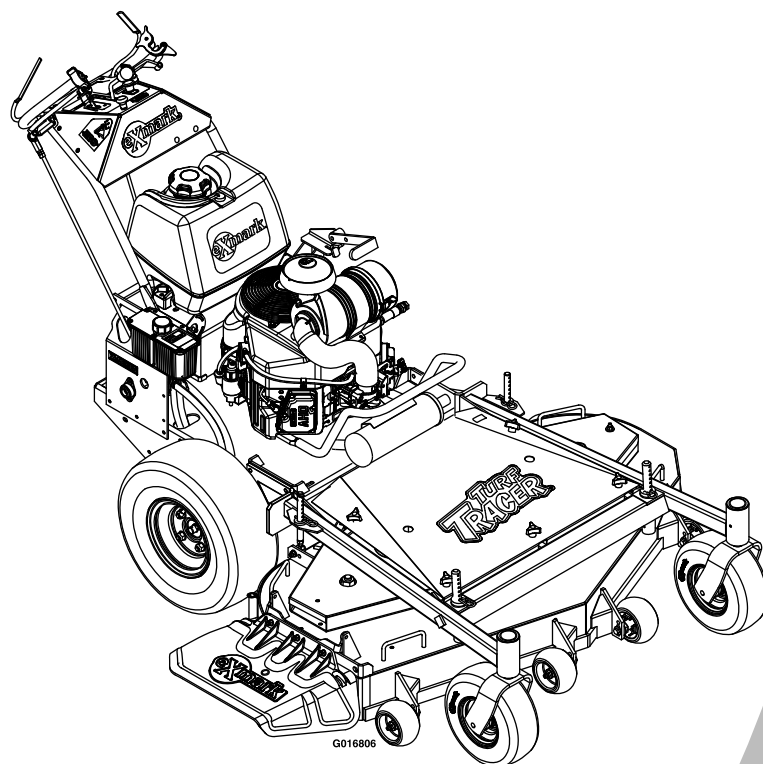




TURF TRACER® X-SERIES

Model No. TTX650EKCE—Serial No. 31200000 and Up

Picture below may not reflect actual product.



G016806

Parts Manual

Part No. 4500-968 Rev. A

Ordering Replacement Parts

To order replacement parts, please supply the part number, the quantity, and the description of each part desired.

Understanding Reference Numbers

Each identified part in an illustration has a reference number. The reference number for a part also appears in the parts list, along with other information about the part.

This catalog uses two special reference number formats, one to indicate parts in a service assembly and another to indicate the quantity of a given part in an illustration.

Service Assembly Reference Numbers

Parts in service assemblies have reference numbers in the form a:b. The a represents the reference number of the entire service assembly and the b represents a sequential number unique to each part within the service assembly.

For example, a wheel assembly might be identified by reference number 6, the tire by 6:1, the valve by 6:2, and the wheel by 6:3. When you order the assembly identified by reference number 6, you receive all parts identified by reference numbers 6:1, 6:2, and 6:3. However, you may also order any part individually. Reference numbers of this type appear in illustration and in parts lists.

Reference Numbers Indicating Quantity

In an illustration, if a reference number indicates more than one part, the reference number has the form nX y. The n represents the quantity of the part, the X is the multiplication symbol, and the y represents the reference number.

For example, in an illustration, the reference number 2X 37 means that two of the parts identified by reference number 37 are indicated.

List of Abbreviations

AR: as required	HJ: hex jam	PTH: phillips truss head
ASM: assembly	HLH: hex lag head	PTO: power-take-off
BBC: blade brake control	HOC: height-of-cut	RH: right hand
BHTF: button head thread forming	HSBH: hex socket button head	ROPS: roll-over protection system
CARR: carriage	HSFH: hex socket flat head	RRB: rear roller brush
CCW: counter clockwise	HSH: hex socket head	SFH: slotted fillister head
CW: clockwise	HWH: hex washer head	SHH: slotted hex head
DEG: degrees	HWHTF: hex washer head thread forming	SHWH: slotted hex washer head
DPA: Dual Point Adjustment	HYD: hydraulic	SPH: slotted pan head
ECM: electronic control module	LH: left hand	SQH: square head
EXT: external	LP: Liquid Propane	SRH: slotted round head
FH: flat head	NI: nylon insert	STD: standard
GA: gauge	NPTF: national pipe thread fine	TAP: self tapping
HD: heavy-duty	PFH: phillips flat head	TTH: torx truss head
HF: hex flange	PPH: phillips pan head	
HH: hex head	PPHTF: phillips pan head thread forming	
HHF: hex head flange	PRH: phillips round head	
HHFTF: hex head flange thread forming		

Touch Up Paint

Exmark black touch up spray paint – gloss black.

Exmark red touch up paint (spray paint – P/N 1-850337 - .6 oz liquid bottle – P/N 103-9140).

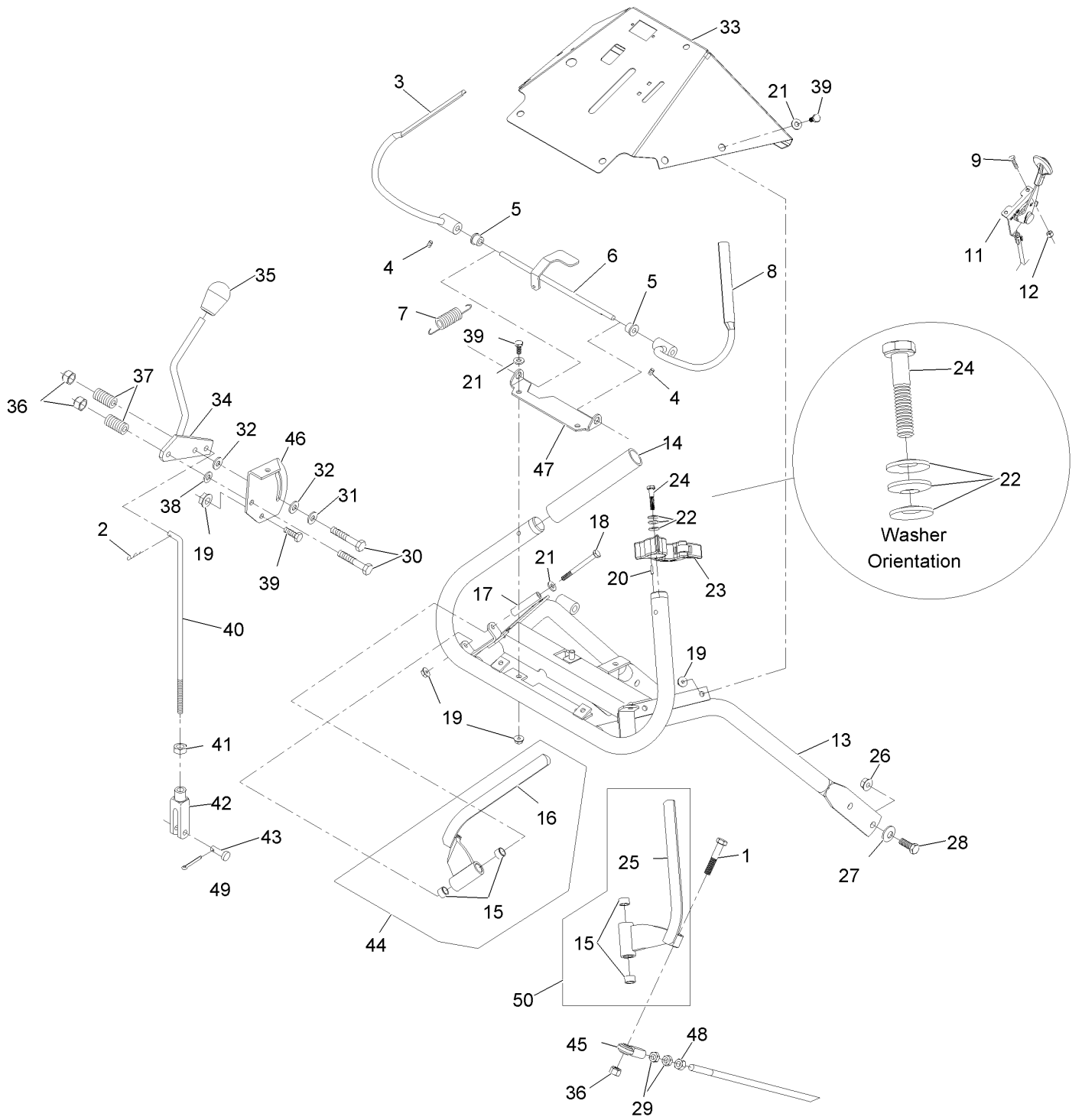


If your Exmark dealer does not have the Exmark part in stock, Exmark will get the parts to the dealer the next business day or the part will be FREE Guaranteed!! (Some restrictions apply. See your participating Exmark Dealer for details.)

Contents

- ECS Upper Handles and Controls Assembly 4
- Engine Deck Assembly 6
- Park Brake and Engine Assembly 8
- Fuel Tank Assembly 10
- Hydraulics Assembly 11
- Electrical Assembly 12
- Decals 13

ECS Upper Handles and Controls Assembly



ECS Upper Handles and Controls Assembly (continued)

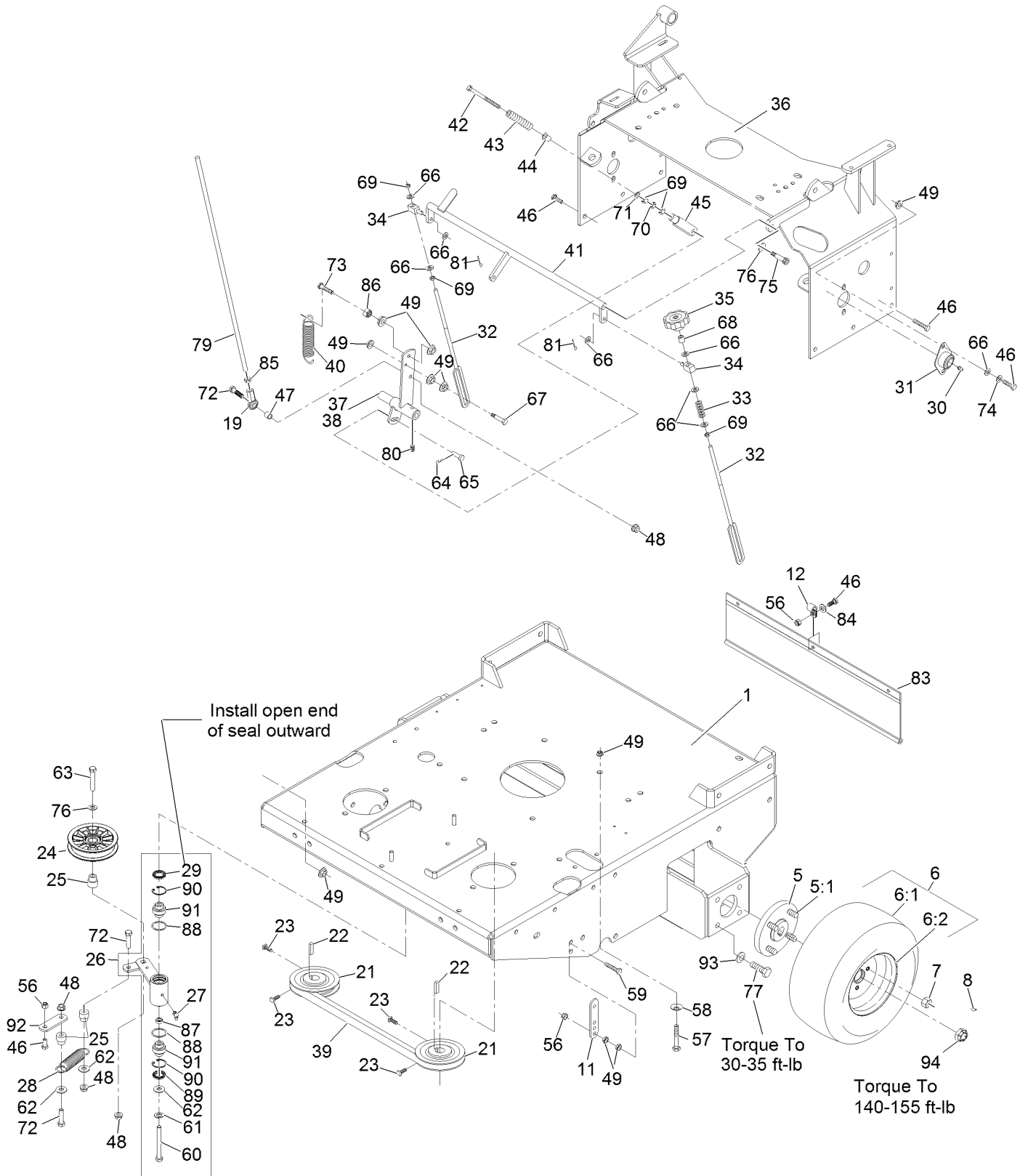
<i>Ref.</i>	<i>Part Number</i>	<i>Qty.</i>	<i>Description</i>	<i>Ref.</i>	<i>Part Number</i>	<i>Qty.</i>	<i>Description</i>
1	322-9	2	Screw-HH 5/16-18 X 1 3/4	25	116-4082	1	Lever, Drive RH
2	1-806003	1	Hairpin-Cotter	26	3290-357	4	Nut-Whizlock 3/8-16
3	116-4079	1	Wld, Lever, Opc (LH) ▲	27	98-5975	4	Washer-Spring Disc 3/8
4	1-803322	2	Setscrew-5/16-24 X 5/16 ■	28	323-6	4	Screw-HH 3/8-16 X 1
5	1-303365	2	Bushing-Nylon	29	3220-3	4	Nut-Jam 3/8-24
6	103-0769-03	1	Wld, Opc Axle Lever	30	322-10	2	Screw-HH 5/16-18 X 2
7	1-303363	1	Spring-Extension	31	1-603716	1	Washer-Friction Disc
8	116-4080	1	Wld, Opc Lever (RH) ▲	32	1-323244	2	Washer-Friction
9	1-807513	2	Bolt-Carriage #10-24 X 1/2	33	116-5094	1	Console 109-4506-03 W/ Decals
11	109-3958	1	Cable, Throttle	34	116-4083	1	Wld, Speed Shift
12	3296-2	2	Nut-Nyloc #10-24	35	103-0423	1	Knob-Nyloc 3/8-16
13	103-1537-03	1	Handle Weldmt, Upper Ecs	36	3296-29	4	Nut-Nyloc 5/16-18
14	103-0815	2	Grip-Bar, Handle	37	1-323245	2	Spring-Compression
15	1-413152	4	Bushing-Sleeve	38	3256-23	1	Washer-5/16 Sae
16	116-4081	1	Lever, Drive LH	39	321-3	10	Screw-HH 1/4-20 X 5/8
17	103-0027	2	Bushing-Lever, Drive	40	1-413225	1	Rod, Speed Control
18	321-14	2	Screw-HH 1/4-20 X 2 3/4	41	3220-2	1	Nut-Jam 5/16-24
19	32128-33	12	Nut-Whizlock 1/4-20	42	1-303105	1	Yoke-Adjustable
20	103-0464	2	Pin-Spring 1/8 X 1/2	43	1-808280	1	Pin-Clevis 5/16 X 1 49/64
21	3256-22	10	Washer-1/4 Sae	44	103-2514	1	Asm, Drive Lever LH
22	1-303435	6	Washer-Spring Disc 1/4	45	103-2463	2	Balljoint
23	103-1371	1	Thumb Latch Asm RH(Shown)	46	103-0503	1	Bracket, Shifter Slide
23	103-1372	1	Thumb Latch Asm LH(Not Shown) ●	47	103-0489-03	1	Bracket, Opc Axle
24	103-0235	2	Screw-HH 1/4-20 X 1 1/8 W/Nylon ■	48	3219-3	2	Nut-Hex 3/8-24
				49	3272-5	1	Pin-Cotter 3/32 X 1/2
				50	103-2513	1	Asm, Drive Lever RH

● Not illustrated

■ Use Pro-Lock, Nut Type (P/N 1-840022, .5ml tube) on threads.

▲ Use Pro-Lock retaining type, Part no. 1-840023 (.5cc tube) on inside of bore of OPC hub.

Engine Deck Assembly



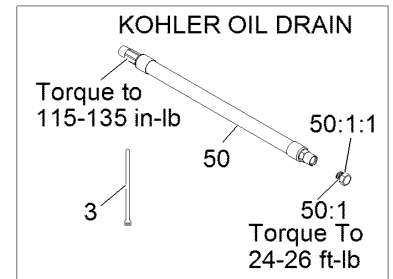
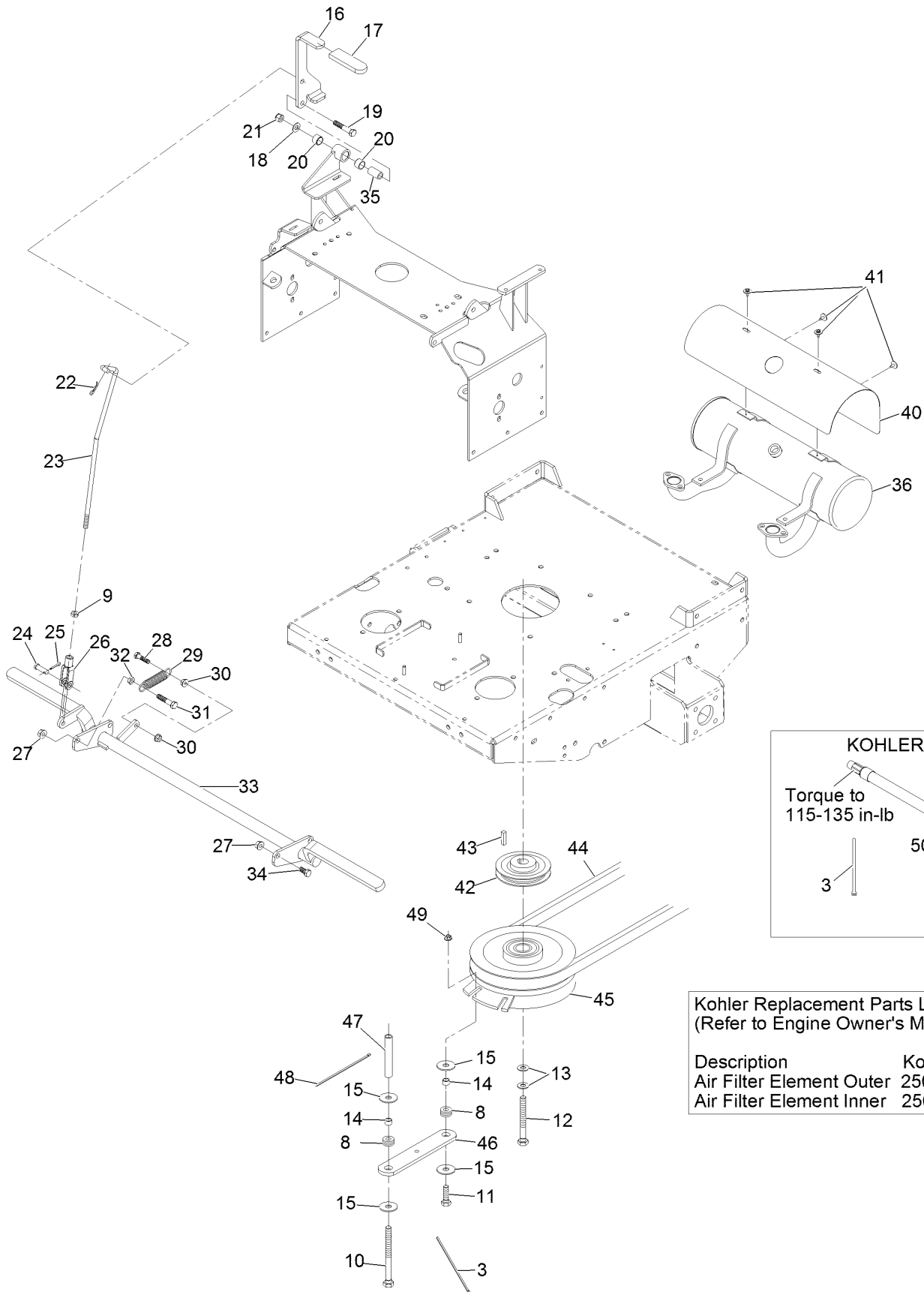
Engine Deck Assembly (continued)

<i>Ref.</i>	<i>Part Number</i>	<i>Qty.</i>	<i>Description</i>	<i>Ref.</i>	<i>Part Number</i>	<i>Qty.</i>	<i>Description</i>
1	116-6130	1	Eng Deck (116-6082-01) W/ Decals	49	32128-20	27	Nut-Whizlock 5/16-18
5	1-602997	2	Hub ASM W/Studs	56	3296-29	6	Nut-Nyloc 5/16-18
5:1	1-633926	8	Stud-Wheel	57	322-7	4	Screw-HH 5/16-18 X 1 1/2
6	103-1715	2	Tire And Wheel Assy	58	1-303334	4	Washer-Spring Disc 5/16
6:1	103-2237	2	Tire	59	1-800016	2	Bolt-HH 5/16-18 X 1 1/4 Tap
6:2	103-2238	2	Wheel Only	60	1-800805	1	Screw-HH 3/8-16 X 3-1/2 Gr8 ■
7	242-50	8	Nut-Lug 1/2-20	61	3253-5	1	Washer-Lock 3/8 Heavy
8	1-807019	2	Key-Woodruff 1 X 1/4	62	3256-4	3	Washer-3/8 Std
11	1-613089	2	Tab-Spring, Extension	63	323-9	1	Screw-HH 3/8-16 X 1 3/4
12	1-413510	3	Clip-Loom	64	1-806003	2	Hairpin-Cotter
19	103-1167	2	Joint-Ball End, .38X.38Fe LH	65	1-808280	2	Pin-Clevis 5/16 X 1 49/64
21	1-413010	2	Sheave ASM	66	3256-23	11	Washer-5/16 Sae
22	1-807272	2	Key-5Mm X 5Mm X 25Mm	67	1-403180	2	Screw-HH 5/16-18 X 1 1/4 Sp
23	1-803050	4	Setscrew-5/16-18 X 3/4 ■	68	1-603903	1	Spacer
24	109-4077	1	Pulley-Idler, Flat	69	3219-2	7	Nut-Hex 5/16-24
25	1-603496	3	Bushing-Idler	70	3220-2	2	Nut-Jam 5/16-24
26	109-2578	1	Kit, Idler Arm W/Bearings	71	3256-2	2	Washer-1/4 Std
27	302-40	1	Zerk-90° 1/4-28	72	323-8	4	Screw-HH 3/8-16 X 1 1/2
28	1-603414	1	Spring-Extension	73	116-3515	2	Screw,HH Special 5/16-18 X 1.25
29	103-3506	1	Seal-Single Lip	74	1-805005	4	Washer-Lock 5/16 Heavy
30	302-19	2	Zerk-1/4-28 Str	75	1-809056	2	Screw-Sh 5/16-18 X 1 3/8 ■
31	1-633102	2	Bearing-Flanged	76	3256-24	3	Washer-3/8 Sae
32	1-613206	2	Rod, Control Arm	77	323-6	8	Screw-HH 3/8-16 X 1
33	1-323245	1	Spring-Compression	79	103-1576	2	Rod, Drive Lever
34	1-603676	2	Swivel-Adjustable, Short	80	1-803022	2	Setscrew-5/16-18 X 5/8 ■
35	103-3060	1	Knob-Tracking	81	3272-5	2	Pin-Cotter 3/32 X 1/2
36	116-1792-01	1	Support, Tank/Handle	83	103-2224	1	Shield, Drag
37	103-1561-01	1	Arm, Control LH	84	3256-3	3	Washer-5/16 Std
38	103-1562-01	1	Arm, Control RH ●	85	3220-16	2	Nut-Jam 3/8-24 LH
39	109-2584	1	Belt, Hyd Trans Drive (a Belt)	86	3218-2	2	Nut-Jam 5/16-18
40	1-603693	2	Spring	87	103-5677	1	Spacer
41	103-2234-01	1	Crank Weldment	88	106-7159	2	O-Ring
42	1-603737	2	Bolt-Neutral Return	89	103-3505	1	Seal-Double Lip
43	103-0265	2	Spring, Neutral Return	90	32120-10	2	Ring-Retaining
44	1-603735	2	Bushing-Flanged	91	103-3504	2	Bearing-Spherical
45	1-303105	2	Yoke-Adjustable	92	1-633068	1	Arm-Lift, Deck
46	322-3	14	Screw-HH 5/16-18 X 3/4	93	98-5975	8	Washer-Spring Disc 3/8
47	103-2421	2	Tube, Pump Link Spacer	94	116-2839	2	Nut-Lock
48	3290-357	6	Nut-Whizlock 3/8-16				

● Not illustrated

■ Use Pro-Lock, Nut Type (P/N 1-840022, .5ml tube) on threads.

Park Brake and Engine Assembly



**Kohler Replacement Parts List
(Refer to Engine Owner's Manual)**

Description	Kohler P/N
Air Filter Element Outer	2508301-S
Air Filter Element Inner	2508304-S

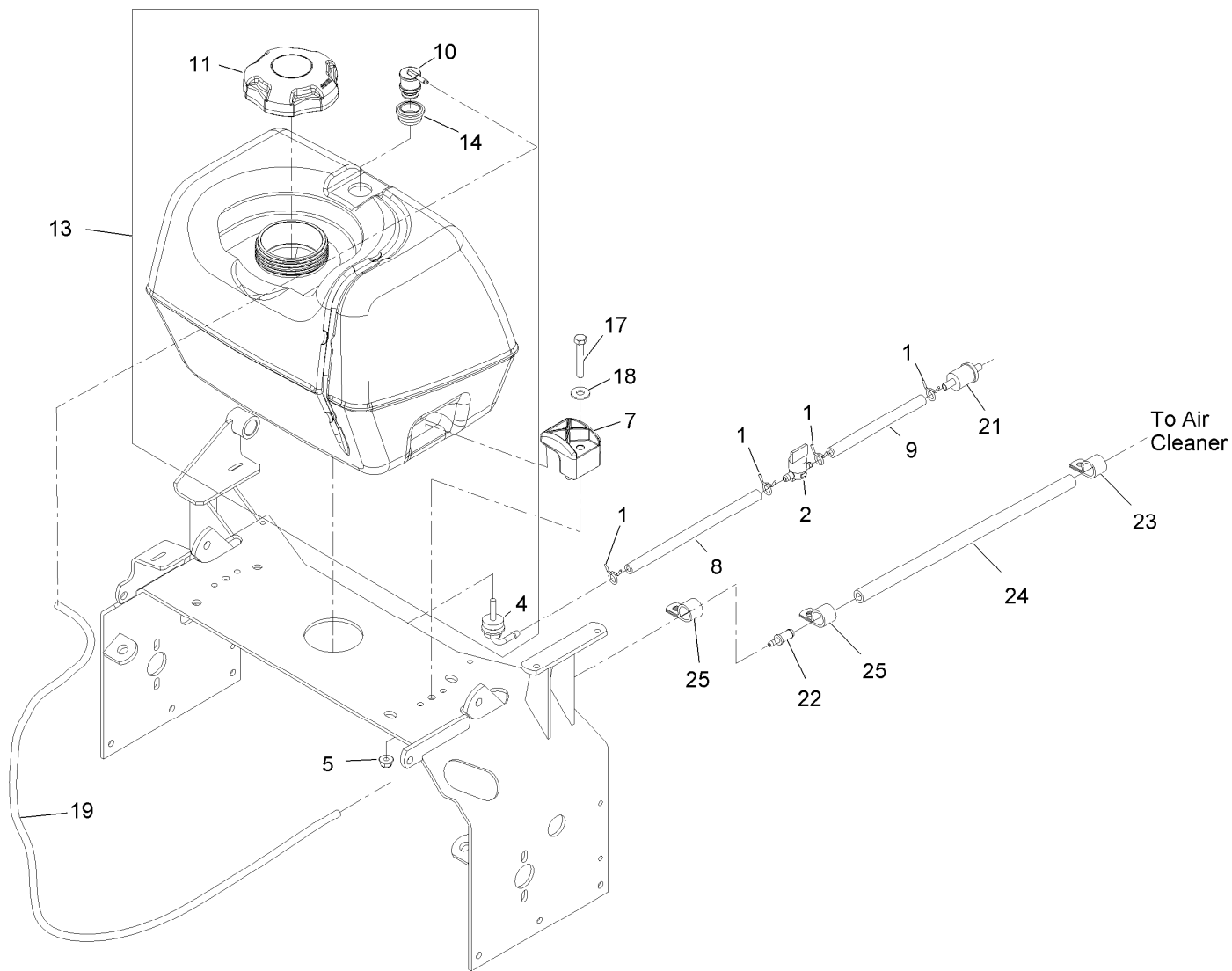
Park Brake and Engine Assembly (continued)

<i>Ref.</i>	<i>Part Number</i>	<i>Qty.</i>	<i>Description</i>	<i>Ref.</i>	<i>Part Number</i>	<i>Qty.</i>	<i>Description</i>
3	1-303335	2	Tie-Cable 7 15/16 (Large)	29	1-323161	1	Spring
8	1-633630	2	Grommet	30	32128-20	6	Nut-Whizlock 5/16-18
9	3220-3	1	Nut-Jam 3/8-24	31	323-9	1	Screw-HH 3/8-16 X 1 3/4
10	322-38	1	Screw-HH	32	3218-3	1	Nut-Jam 3/8-16
11	322-6	1	Screw-HH 5/16-18 X 1 1/4	33	103-2205-03	1	Brake Weldmt
12	3212-10	1	Screw-HH 7/16-20 X 2 1/2 ▲	34	323-4	3	Screw-HH 3/8-16 X 3/4
13	1-603610	2	Washer-Spring Disc 7/16	35	1-413344	1	Bushing-Pivot
14	1-633545	2	Spacer	36	116-3936	1	Muffler
15	1-613235	4	Washer	40	116-3934	1	Shield-Muffler
16	109-4544	1	Lever, Park Brake W/Decal & Grip	41	116-1103	4	Screw-HH, Thread Forming
17	1-303020	1	Grip-Lever	42	1-653035	1	Pulley ●
18	3256-24	1	Washer-3/8 Sae	43	1-807259	1	Key-Machine 1/4 X 1/4 X 1
19	322-10	1	Screw-HH 5/16-18 X 2	44	103-2240	1	Belt, Deck Drive(52)
20	1-413347	2	Sleeve-Bushing	44	1-603306	1	Belt, Deck Drive(60)
21	3296-39	1	Nut-Nyloc 3/8-16	45	103-0662	1	Clutch ASM
22	1-806003	1	Hairpin-Cotter	46	1-633543-03	1	Strap-Clutch, Brake
23	109-4078	1	Linkage, Park Brake	47	1-323195-03	1	Standoff, Clutch
24	1-808285	1	Pin-Clevis 3/8 X 1 1/8	48	1-303287	1	Tie-Cable 5 1/2 (Small)
25	3272-10	1	Pin-Cotter 1/8 X 3/4	49	32128-20	1	Nut-Whizlock 5/16-18
26	1-633131	1	Yoke-Linkage, Brake	50	116-5316	1	Oil Drain Hose ASM ■
27	3290-357	4	Nut-Whizlock 3/8-16	50:1	353-508	1	Plug-W/O-Ring
28	116-3515	1	Screw,HH Special 5/16-18 X 1.25	50:1:1	237-42	1	O-Ring

● Install sheave with long end of hub up.

■ Use a Teflon Pipe Sealant or equivalent on threads.

▲ Use Pro-Lock, Nut Type (P/N 1-840022, .5ml tube) on threads.



Fuel Tank Assembly

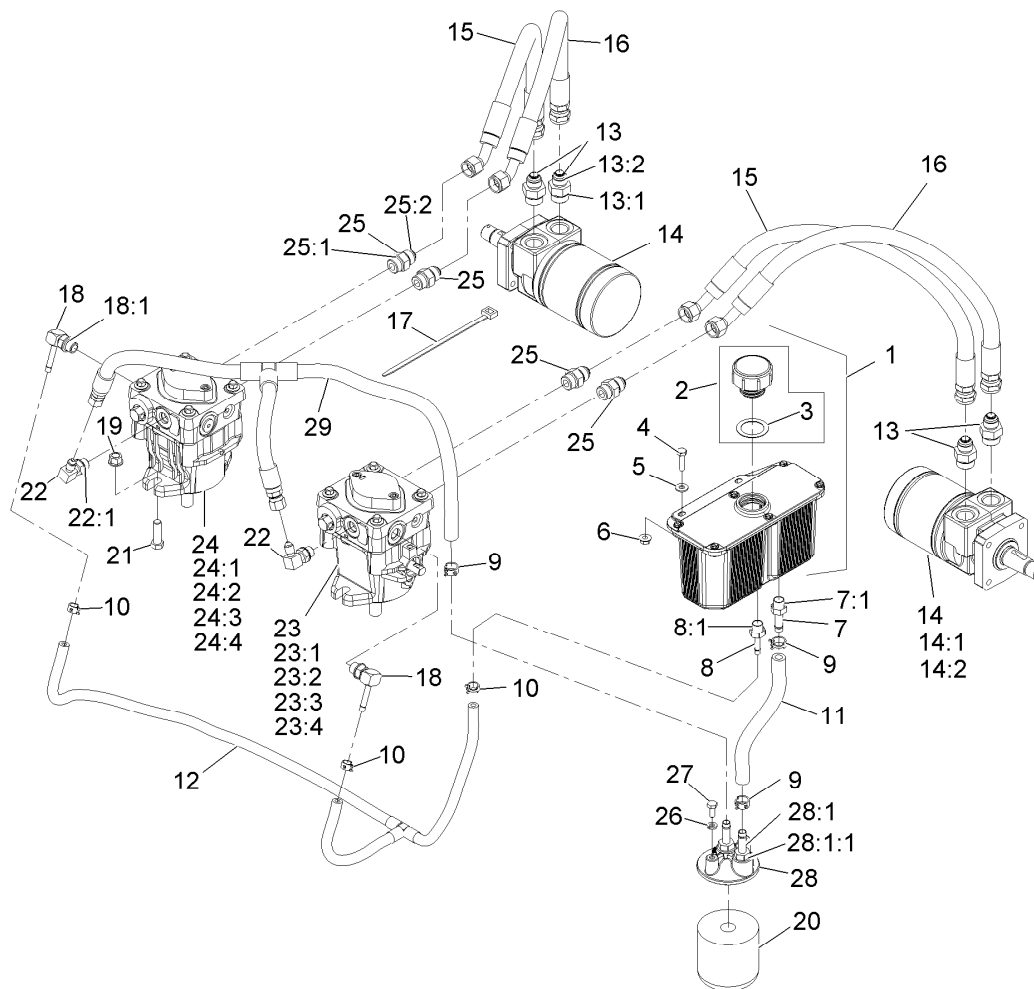
Ref.	Part Number	Qty.	Description
1	1-303077	4	Clamp-Fuel Line
2	1-603770	1	Valve-Fuel
4	103-2605	1	Fitting-Fuel Bulkhead W/Strainer ▲
5	104-8300	2	Nut-Nyloc 5/16-18 Fig
7	107-4543	2	Clamp
8	110-1876	1	Hose-Fuel
9	110-1876	1	Hose-Fuel
10	114-0285	1	Valve-Rollover
11	115-4465	1	Cap-Fuel, Ratcheting

Ref.	Part Number	Qty.	Description
13	116-3656	1	Asm-Fuel Tank
14	119-6549	1	Grommet-Valve, Roll-Over
17	322-10	2	Screw-HH 5/16-18 X 2
18	3256-3	2	Washer-5/16 Std
19	116-3716	1	Hose-Fuel
21		1	Pn 240513-S Filter-Fuel ■●
22	98-2952	1	Fitting-Straight
23	1-633396	1	Clip-Loom 5/8
24	116-4344	1	Hose-Fuel
25	1-513762	2	Clip-Loom 1/2

● Not serviced separately

▲ Use Pro-Lock, Nut Type (P/N 1-840022, .5ml tube) on threads.

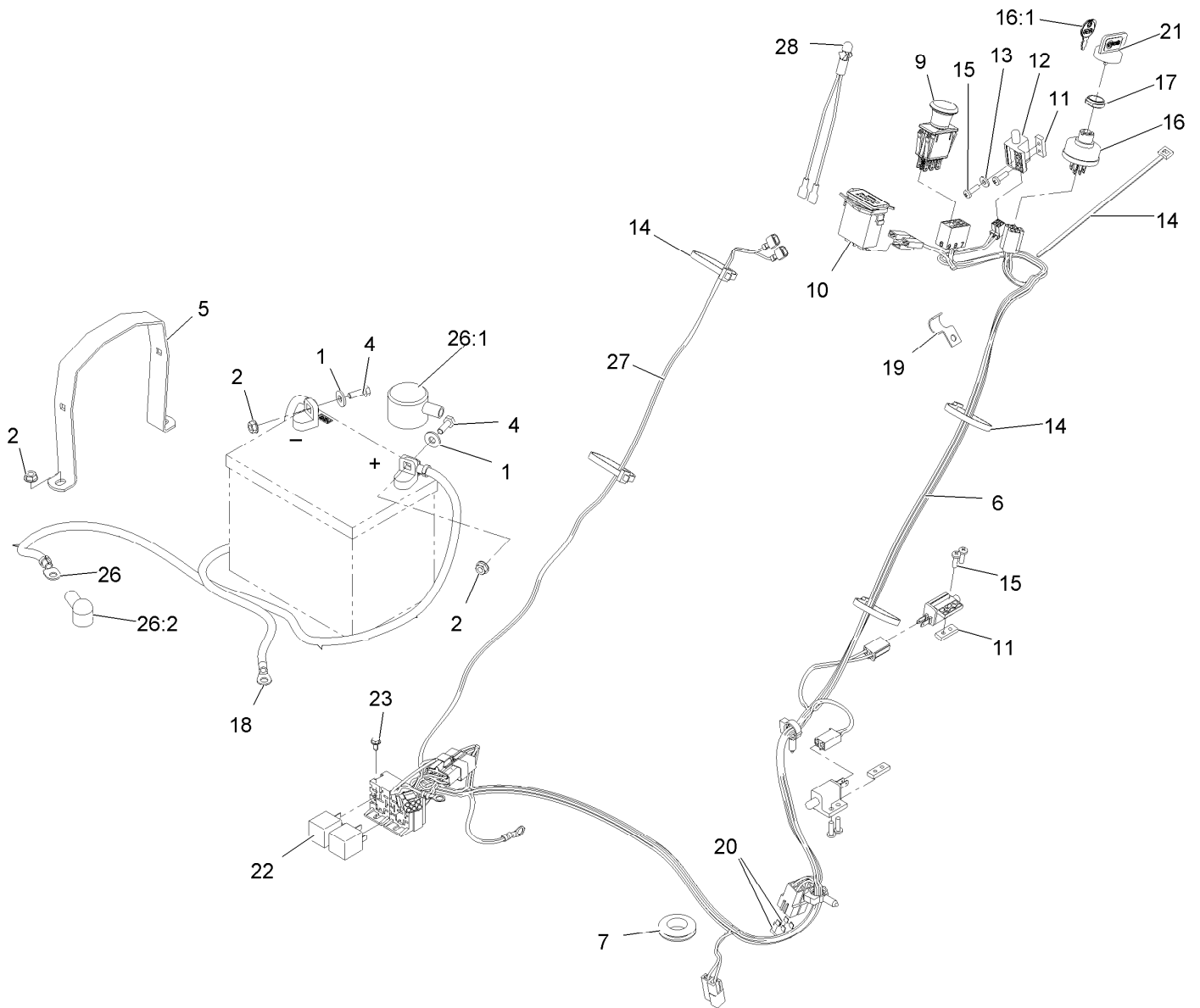
■ Obtain parts from www.kohlerplus.com



Hydraulics Assembly

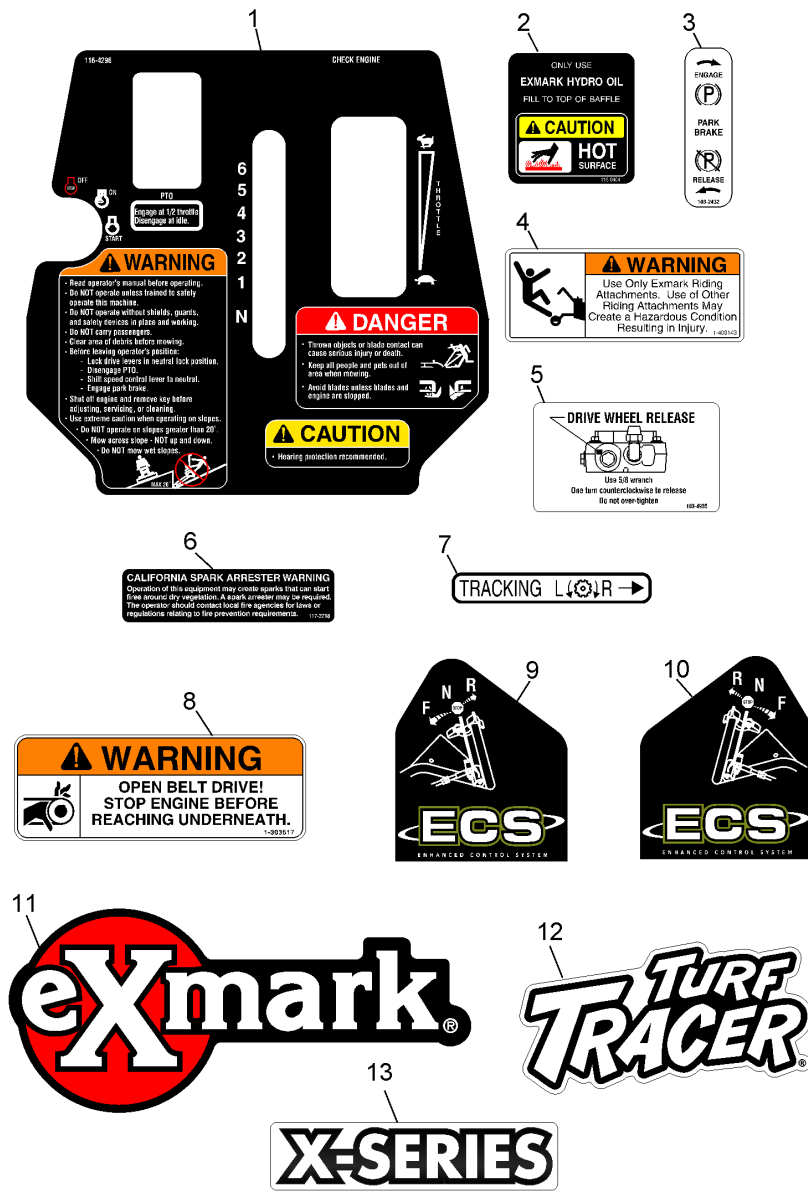
Ref.	Part Number	Qty.	Description	Ref.	Part Number	Qty.	Description
1	103-1947	1	HYD Reservoir ASM	20	109-4180	1	Filter,25 Micron Bi-Directional
2	103-7615	1	Asm, Cap W/Gasket	20	1-523541	1	Element, Oil Filter(Winter)●
3	103-1949	1	Gasket-Cap	21	323-7	4	Screw-HH 3/8-16 X 1 1/4
4	321-6	2	Screw-HH 1/4-20 X 1	22	103-1802	2	Fitting-HYD, 90 DEG
5	3256-22	2	Washer-1/4 Sae	22:1	1-603921	1	O-Ring-Sae #6
6	32128-33	2	Nut-Whizlock 1/4-20	23	116-2495	1	Pump, Hydro RH
7	103-1912	1	Adapter-Straight	23:1	103-2664	1	Input Shaft Kit
7:1	1-603921	1	O-Ring-Sae #6	23:2	94-6922	1	Bearing-Thrust
8	103-1801	1	Adapter-Straight	23:3	103-2666	1	Cylinder Block Kit
8:1	1-603921	1	O-Ring-Sae #6	23:4	105-6184	1	Seal Overhaul Kit
9	103-1988	3	Clamp-Hose 11/16	24	116-2494	1	Pump, Hydro LH
10	103-1716	3	Clamp-Hose 17/32	24:1	103-2664	1	Input Shaft Kit
11	109-1010	1	Hose, Charge	24:2	94-6922	1	Bearing-Thrust
12	103-4607	1	Asm, Case Drain Hose	24:3	103-2666	1	Cylinder Block Kit
13	1-603991	4	Adapter-Straight	24:4	105-6184	1	Seal Overhaul Kit
13:1	1-603919	1	O-Ring-Sae #10	25	1-603990	4	Adapter-Straight
13:2	1-603992	1	O-Ring-37 Flare #8	25:1	1-603920	1	O-Ring-Sae #8
14	1-603718	2	HYD Motor ASM	25:2	1-603992	1	O-Ring-37 Flare #8
14:1	1-000119	1	Seal Kit	26	1-805004	2	Washer-Lock 1/4 Heavy
14:2	1-000138	1	Bearing And Seal Kit	27	321-3	2	Screw-HH 1/4-20 X 5/8
15	103-4609	2	Hose, Hydro	28	103-2889	1	Filter Head ASM
16	103-4610	2	Hose, Hydro	28:1	103-1912	2	Adapter-Straight
17	1-303335	1	Tie-Cable 7 15/16 (Large)	28:1:1	1-603921	1	O-Ring-Sae #6
18	103-1799	2	Elbow-90 DEG	29	103-4608	1	Asm, Charge Hose
18:1	1-603921	1	O-Ring-Sae #6				
19	32128-43	4	Nut-Whizlock 3/8-16				

● Use only for operation below 32°F (0°C).



Electrical Assembly

<i>Ref.</i>	<i>Part Number</i>	<i>Qty.</i>	<i>Description</i>	<i>Ref.</i>	<i>Part Number</i>	<i>Qty.</i>	<i>Description</i>
1	3256-2	2	Washer-1/4 Std	16:1	1-603511	1	Key-Ignition
2	32128-33	4	Nut-Whizlock 1/4-20	17	103-0498	1	Nut-Ignition
4	321-4	2	Screw-HH 1/4-20 X 3/4	18	1-543767	1	Wire-Ground
5	1-603814-03	1	Strap, Battery Holddown	19	103-1193	2	Clip-Loom Half
6	116-2561	1	Harness, Wiring	20	1-816001	2	Fuse-Blade Type, 20 Amp
7	1-543286	1	Grommet	21	103-2106	1	Key-Exmark Logo
9	103-5221	1	Switch-PTO	22	1-643275	2	Relay-12Vdc 40 Amp
10	1-513374	1	Meter-Engine Hours	23	104-2065	2	Screw-HWH #10-24 X 3/8
11	1-633181	3	Plate-Tapped	26	109-7630	1	Positive Battery Cable ASM
12	1-513051	3	Switch-N.O.	26:1	109-2407	1	Insulator-Battery
13	3256-14	1	Washer-#10 Std	26:2	1-543393	1	Insulator-Solenoid
14	1-303335	5	Tie-Cable 7 15/16 (Large)	27	116-4175	1	Harness-Indicator Light Efi
15	3290-500	6	Screw-PPH #10-24 X 5/8	28	1-643267	1	Indicator-Red Led
16	103-0206	1	Switch-Ignition W/Keys				



Decals

Ref.	Part Number	Qty.	Description
1	116-4296	1	Decal, Console Ecs
2	116-0404	1	Decal-Hydraulic Tank
3	103-2432	1	Decal, Brake Lever
4	1-403143	1	Decal, Sulky Warning
5	103-4935	1	Decal, Drive Wheel Release
6	117-2718	1	Decal-Arrester, Spark
7	1-413214	1	Decal, Tracking
8	1-303517	1	Decal,Belt Drive
9	103-2242	1	Decal, LH Ecs Instruction
10	103-2243	1	Decal, RH Ecs Instruction
11	103-2882	1	Decal,Exmark Logo
12	103-3013	1	Decal-Turf Tracer
13	116-3883	2	Decal-X-Series
99	103-5828	1	Kit-Decal ●

● Not illustrated

Notes:

EXMARK® MAINTENANCE

MAXIMIZE THE PERFORMANCE OF YOUR EXMARK.

4-CYCLE PREMIUM ENGINE OIL

Part No. 116-3373

Both SAE 30 and SAE 10W-30 in one bottle.

Contains increased levels of zinc and phosphorus for better lubricity.

No Viscosity Index Improvers that tend to shear down in high heat.

Synthetic formulation.

Gas & Diesel compatible.

Anti-corrosion additives.

API 'SL' and JASO rated with wet clutch compatibility for other machines.

PREMIUM HYDRO OIL

Part No. 109-9828

Commercial quality for tough, high-heat conditions.

Designed specifically for zero-turn mower hydraulic systems.

Superior shear resistance under heavy loads.



Available from your local Exmark dealer. Find your closest dealer at exmark.com

SEE EXMARK'S COMPLETE LINE OF ACCESSORIES AND OPTIONS

MID-MOUNT RIDING ACCESSORIES AND OPTIONS

CUSTOM RIDE SEAT SUSPENSION SYSTEM	OPERATOR CONTROLLED DISCHARGE
FULL SUSPENSION SEAT	ROLL OVER PROTECTION SYSTEM (ROPS)
DECK LIFT ASSIST KIT	SUN SHADE
HITCH KIT	TRASH CONTAINER
LIGHT KIT	TURF STRIPER
12V POWER PORT	ULTRA VAC COLLECTION SYSTEM
MICRO-MULCH SYSTEM	ULTRA VAC QUICK DISPOSAL SYSTEM

OUT-FRONT RIDING ACCESSORIES AND OPTIONS

CUSTOM RIDE SEAT SUSPENSION SYSTEM	SNOW BLADE
DUAL-TAIL WHEEL	SNOWBLOWER
FLOOR PAN EXTENDER	SUN SHADE
HITCH KIT	TRASH CONTAINER
LIGHT KIT	ULTRA VAC COLLECTION SYSTEM
MICRO-MULCH SYSTEM	ULTRA VAC QUICK DISPOSAL SYSTEM
ROLL OVER PROTECTION SYSTEM (ROPS)	WEATHER CAB

WALK-BEHIND ACCESSORIES AND OPTIONS

GRASS CATCHER	TURF STRIPER
MICRO-MULCH SYSTEM	STANDON

Place Model No. and Serial No.
Label Here (Included in the Literature
Pack) or Fill in Below

Model No. _____

Serial No. _____

Date Purchased _____

Engine Model No. and Spec. No. _____

Engine Serial No. (E/No) _____

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