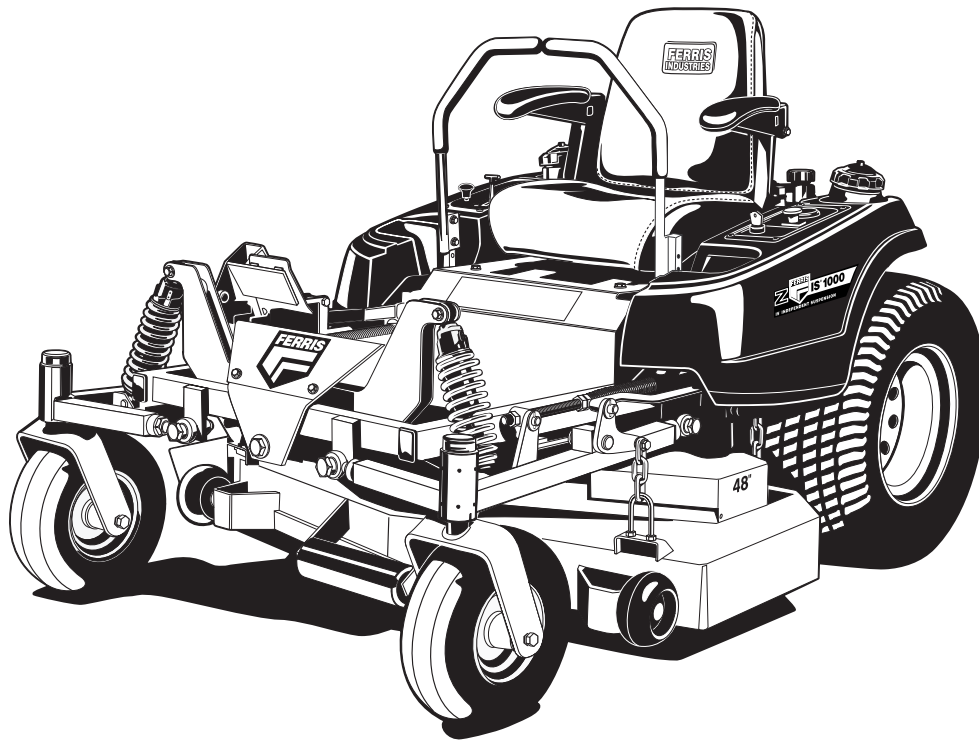




PARTS MANUAL

IS1000Z Series

Zero-Turn Riding Mower



Model Number:
IS1000ZKAV21/48
IS1000ZKAV23/52

Ferris Industries
5375 North Main Street
Munnsville, NY 13409
800-933-6175

22871
Revision 06
Rev. Date: 4/2004
TP 400-7050-06-1Z-F

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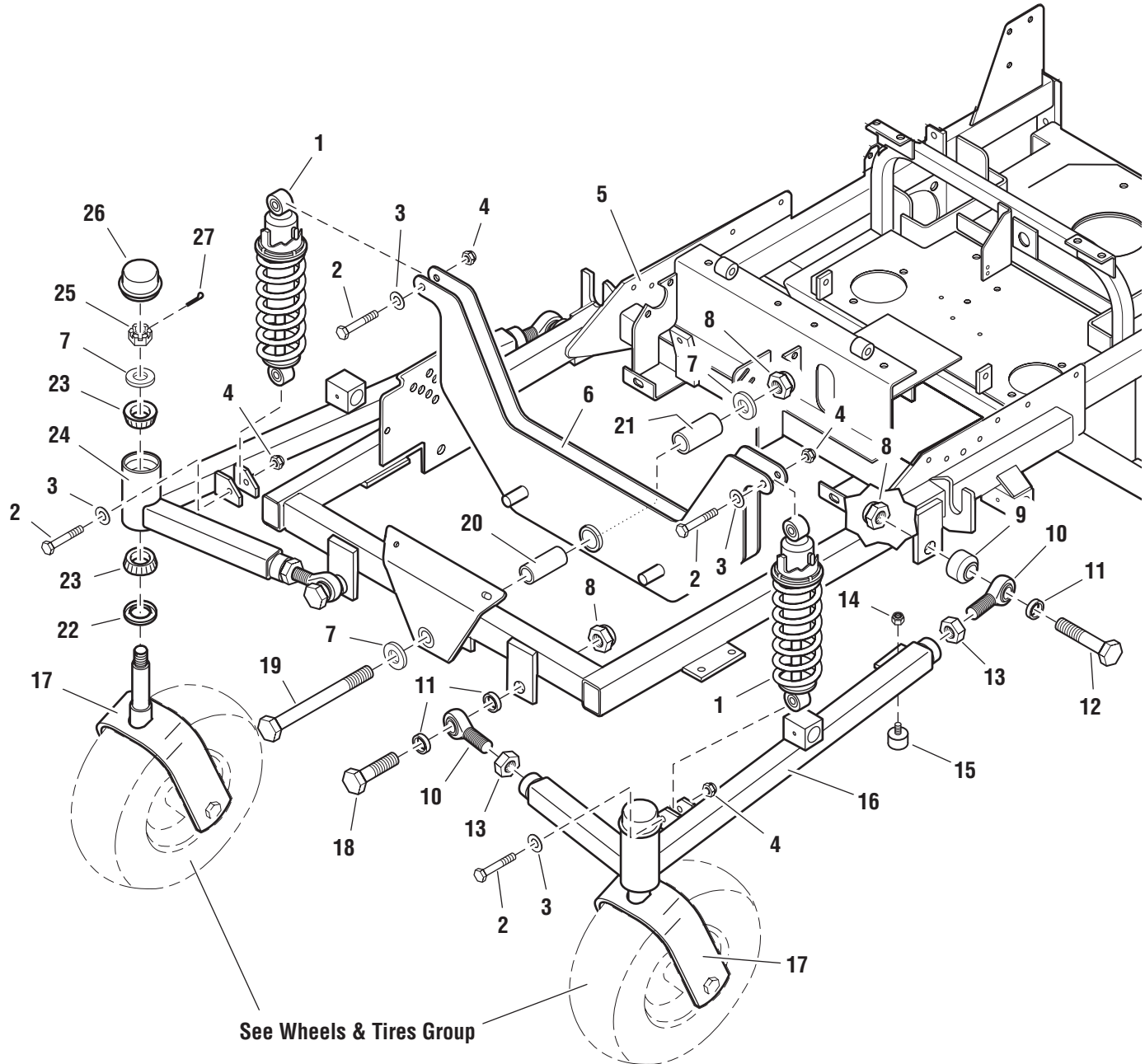
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Torque Specification Chart	Inside Back Cover
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Main Frame, Suspension & Caster Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Main Frame, Suspension & Caster Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	22842	1	SHOCK & SPRING ASSEMBLY
2	25013-16	4	CAPSCREW, Hex Head, 3/8-16 x 2
3	25156	4	WASHER, 3/8
4	25096	4	NUT, Hex Nylon Lock, 3/8-16
5	47449	1	MAIN FRAME
6	47457	1	UPPER SHOCK MOUNT
7	25160	3	WASHER, 3/4
8	25284	5	NUT, Hex Nylon Lock, 3/4-16
9	46093	2	SPACER, .75 x 1.50 x 1.00
10	22039	4	BALL JOINT, 3/4-16
11	47461	6	SPACER, .76 x 1.00 x .25
12	25265-32	2	CAPSCREW, Hex Head, 3/4-16 x 4
13	25093	4	NUT, Hex, Jam, 3/4-16
14	25095	2	NUT, Hex Nylon Lock, 1/4-20
15	22673	2	RUBBER BUMPER
16	47445	1	SUSPENSION ARM-LH
17	47049	2	CASTER YOKE
18	25265-24	2	CAPSCREW, Hex Head, 3/4-16 x 3
19	25265-48	1	CAPSCREW, Hex Head, 3/4-16 x 6
20	47489	1	SPACER, .75 x 1.00 x 2.38
21	22852	1	PIVOT BEARING
22	21072	2	SEAL, Grease
23	20884	4	BEARING, Tapered Roller
24	47452	1	SUSPENSION ARM-RH
25	25104	2	NUT, Hex, SLOtted, 3/4-16
26	21073	2	CAP
27	25203-10	2	Pin, Cotter

Footnotes:

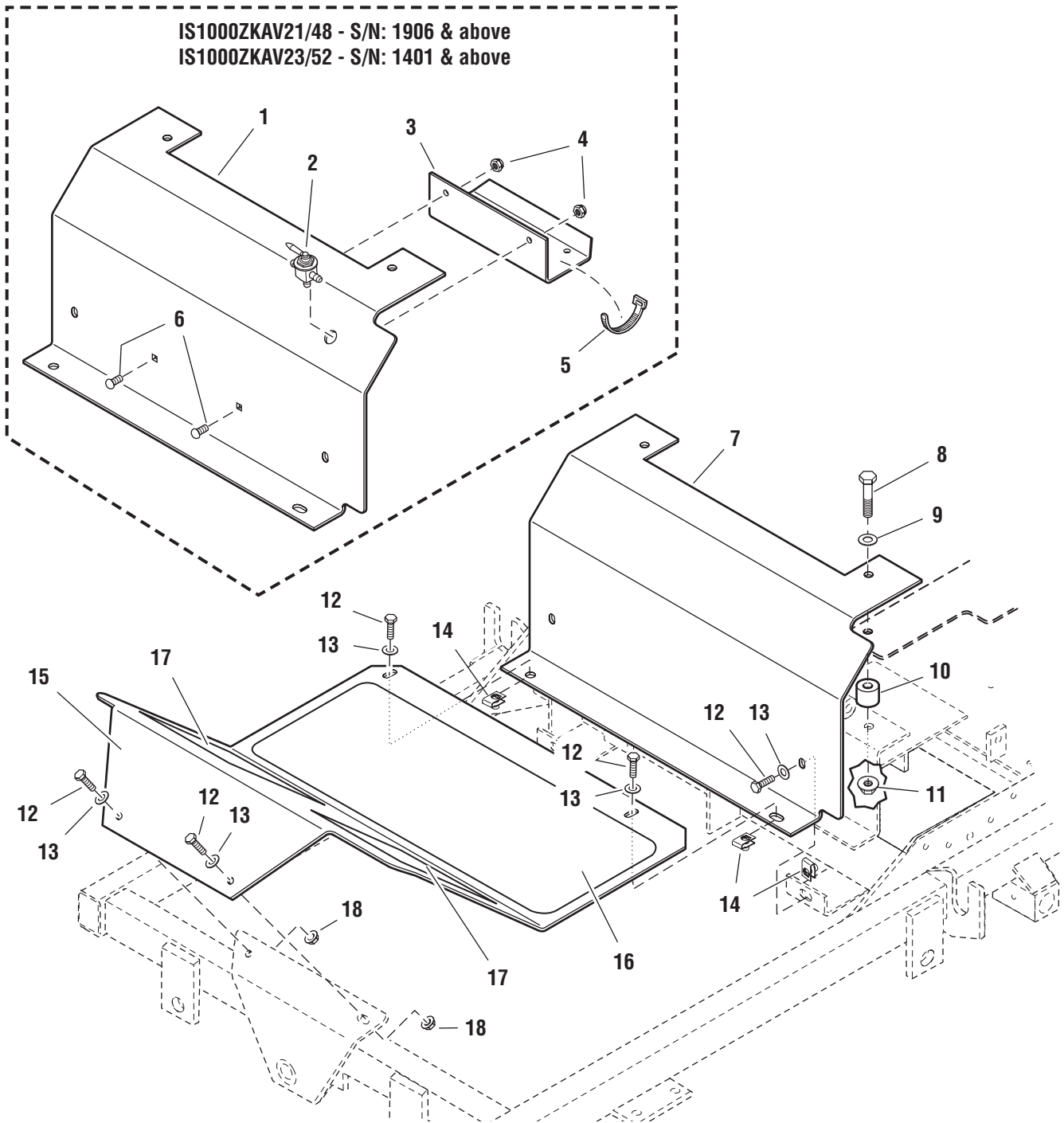
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Floor & Brake Cover Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48
IS1000ZKAV23/52

Floor & Brake Cover Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	49240	1	BRAKE COVER PANEL ASSEMBLY
2	22030	1	FUEL SHUTOFF VALVE
3	49181	1	FUEL LINE GUIDE
4	25095	2	NUT, Hex Nylon Lock, 1/4-20
5	21029	2	TIE WRAP, 11"
6	25144-6	2	CARRIAGE BOLT, 1/4-20 x 3/4
7	47069	1	BRAKE COVER PANEL
8	25013-16	2	CAPSCREW, Hex Head, 3/8-16 x 2
9	25156	2	WASHER, 3/8
10	47125	2	SPACER, .39 x 1.00 x .88
11	25128	2	NUT, Hex Serrated Flange, 3/8-16
12	25011-8	6	CAPSCREW, Hex Head, 5/16-18 x 1
13	25155	6	WASHER, 5/16
14	22308	4	BODY CLIP, 5/16-18
15	47480	1	FLOOR PLATE
16	47483	1	SAFETY WALK
17	47139	2	SAFETY WALK
18	25127	2	NUT, Hex Serrated Flange, 5/16-18

Footnotes:

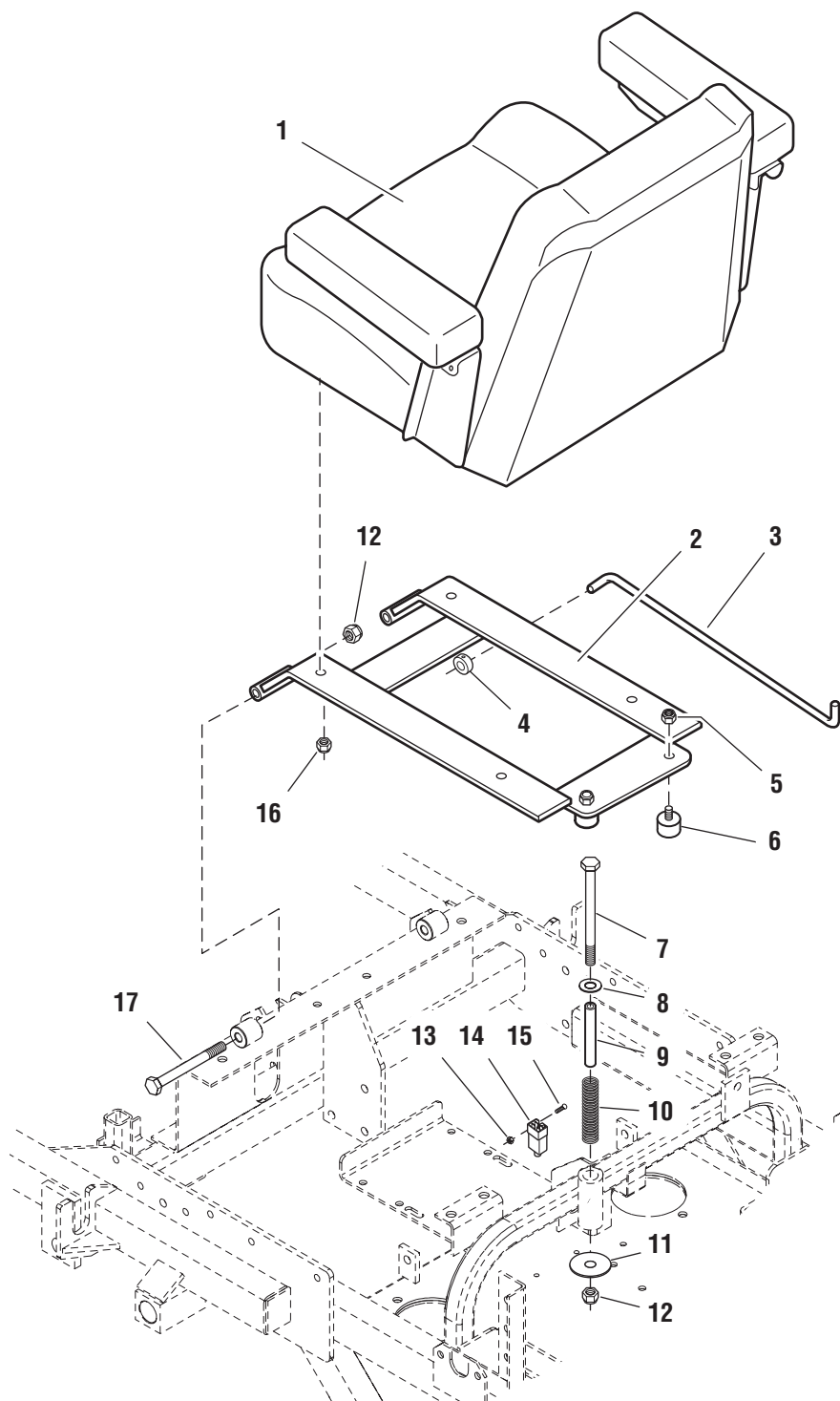
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Seat & Mount Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Seat & Mount Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	22031	1	SEAT, Gray (complete)
*	22031-2	1	CUSHION, Bottom, Gray
*	22031-4	1	CUSHION, Back, Gray
*	22440	2	ARM REST, Black
*	20930-3	1	SEAT ADJUSTER RAILS (set of 2)
2	47744	1	SEAT MOUNT
3	46470	1	SEAT STOP ROD
4	20047	1	COLLAR, 5/16 Set
5	25095	2	NUT, Hex Nylon Lock, 1/4-20
6	22673	2	RUBBER BUMPER
7	25013-48	1	CAPSCREW, Hex Head, 3/8-16 x 6
8	25156	1	WASHER, 3/8
9	46586	1	SPACER, .38 x .50 x 5.06
10	22798	1	SPRING, Compression
11	25326	1	WASHER, 3/8 x 2
12	25096	3	NUT, Hex Nylon Lock, 3/8-16
13	25029	2	NUT, Hex, #10-24
14	*	1	SWITCH (see electrical schematic)
15	25270	2	SCREW, #10-24 x 1
16	25057	4	NUT, Hex Nylon Lock, 5/16-18
17	25013-32	2	CAPSCREW, Hex Head, 3/8-16 x 4

Footnotes:

* - See Electrical Schematic for switch part number

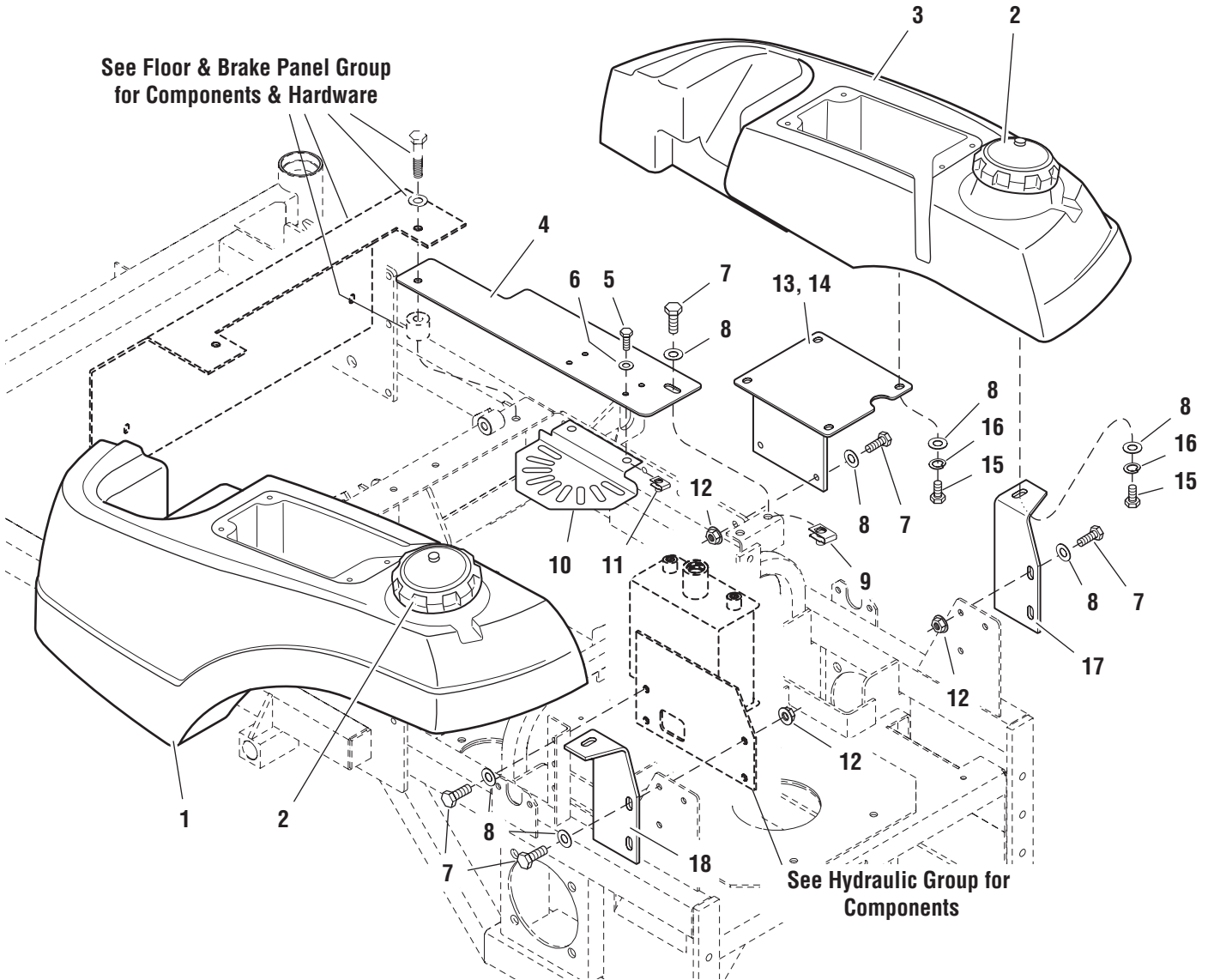
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Fuel Tank, Mount & Fan Shield Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 1905 & below)

IS1000ZKAV23/52 (S/N: 1400 & below)

Fuel Tank, Mount & Fan Shield Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	47179	1	FUEL TANK, LH
2	22158	2	FUEL TANK CAP
3	47178	1	FUEL TANK, RH
4	47073	2	COVER, Fan Shield Mount
5	25010-6	4	CAPSCREW, Hex Head, 1/4-20 x 3/4
6	25154	4	WASHER, 1/4
7	25011-8	12	CAPSCREW, Hex Head, 5/16-18 x 1
8	25155	22	WASHER, 5/16
9	22308	2	BODY CLIP, 5/16-18
10	46645	2	FAN SHIELD
11	22665	4	BODY CLIP, 1/4-20
12	25127	10	NUT, Hex Serrated Flange, 5/16-18
13	47149	1	FUEL TANK MOUNT-RH
14	47133	1	FUEL TANK MOUNT-LH
15	25011-6	10	CAPSCREW, Hex Head, 5/16-18 x 3/4
16	25170	10	LOCKWASHER, 5/16
17	47167	1	BRACKET, Fuel Tank Support-RH
18	47166	1	BRACKET, Fuel Tank Support-LH

Footnotes:

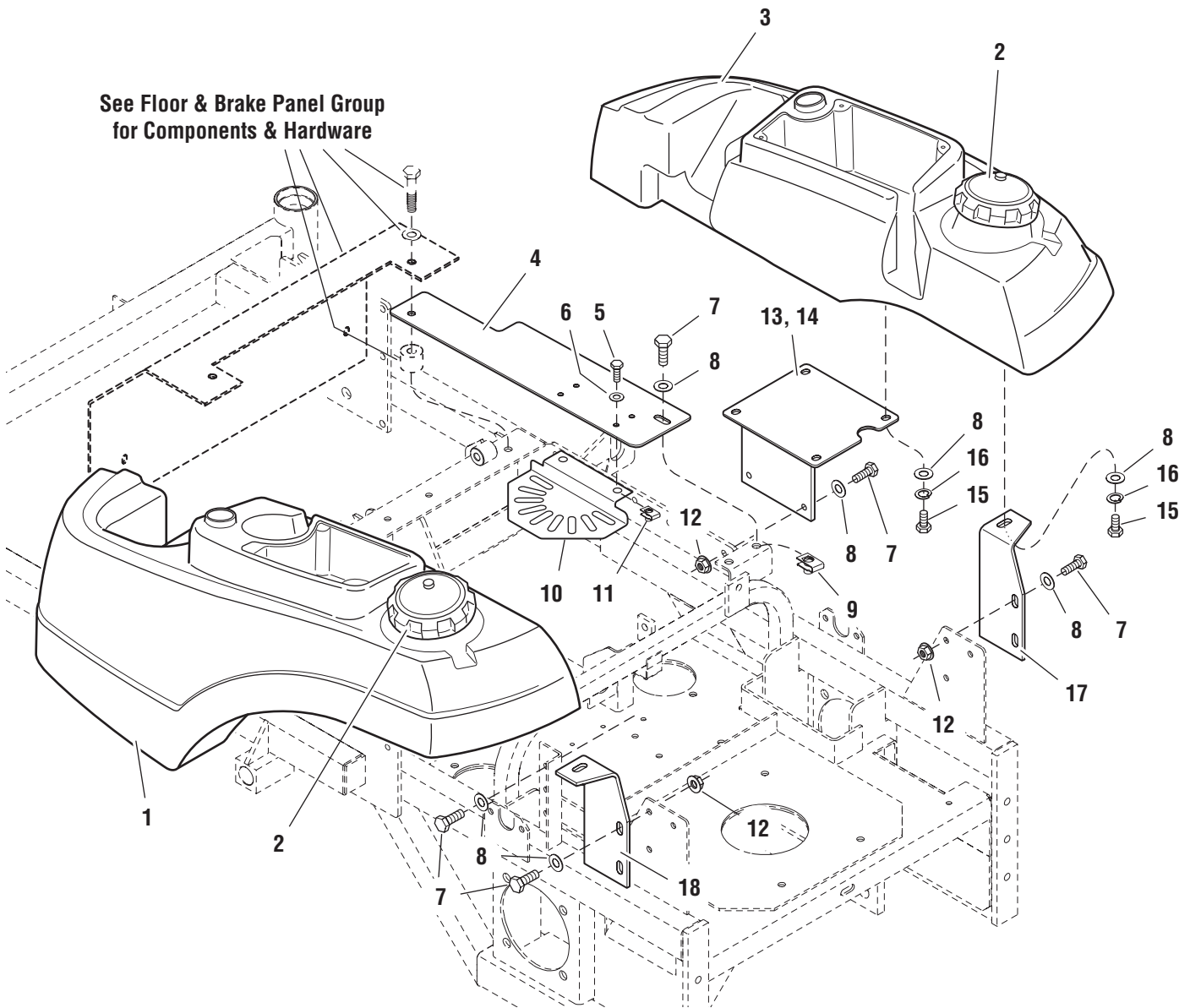
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 1905 & below)

IS1000ZKAV23/52 (S/N: 1400 & below)

Fuel Tank, Mount & Fan Shield Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 1906 & above)

IS1000ZKAV23/52 (S/N: 1401 & above)

Fuel Tank, Mount & Fan Shield Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	49149	1	FUEL TANK, LH
*	46273	1	Filler Neck
2	22158	2	FUEL TANK CAP
3	49150	1	FUEL TANK, RH
*	46273	1	Filler Neck
4	47073	2	COVER, Fan Shield Mount
5	25010-6	4	CAPSCREW, Hex Head, 1/4-20 x 3/4
6	25154	4	WASHER, 1/4
7	25011-8	12	CAPSCREW, Hex Head, 5/16-18 x 1
8	25155	22	WASHER, 5/16
9	22308	2	BODY CLIP, 5/16-18
10	46645	2	FAN SHIELD
11	22665	4	BODY CLIP, 1/4-20
12	25127	10	NUT, Hex Serrated Flange, 5/16-18
13	47149	1	FUEL TANK MOUNT-RH
14	47133	1	FUEL TANK MOUNT-LH
15	25011-6	10	CAPSCREW, Hex Head, 5/16-18 x 3/4
16	25170	10	LOCKWASHER, 5/16
17	47167	1	BRACKET, Fuel Tank Support-RH
18	47166	1	BRACKET, Fuel Tank Support-LH

Footnotes:

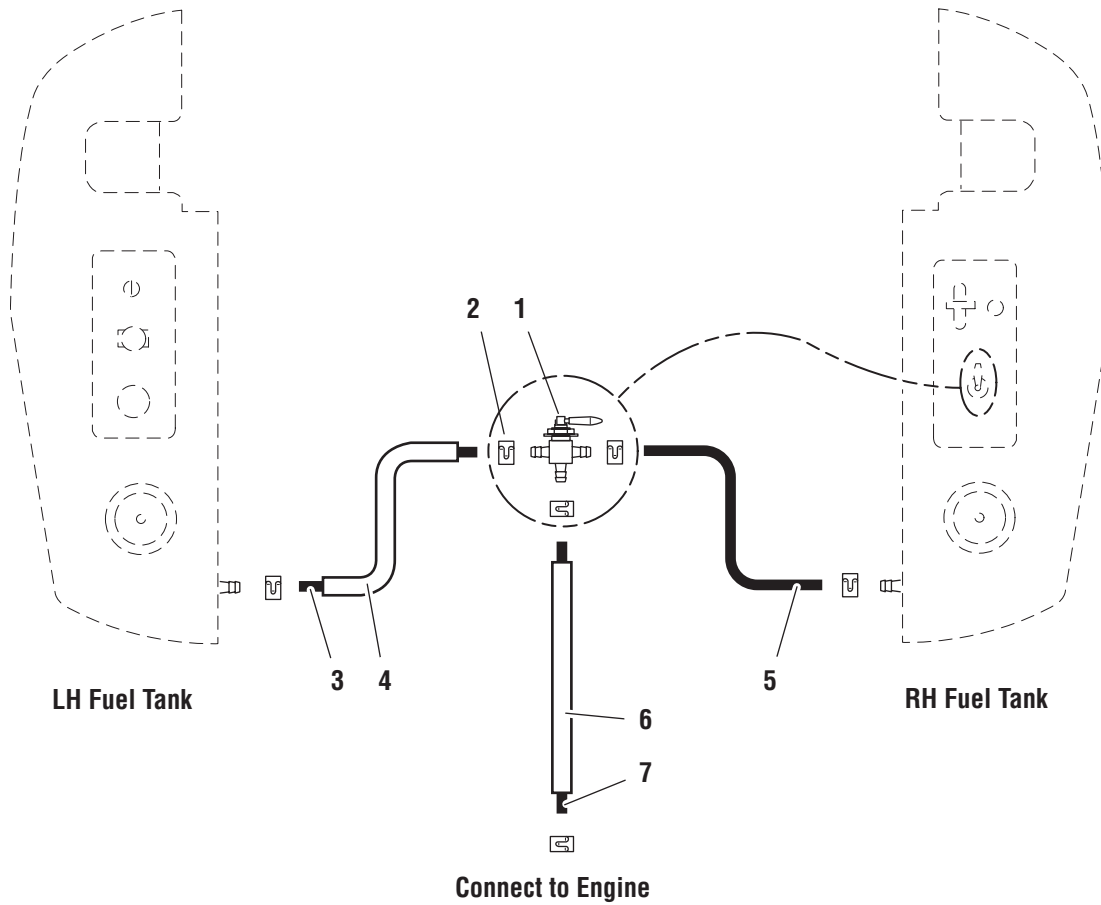
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 1906 & above)

IS1000ZKAV23/52 (S/N: 1401 & above)

Fuel Supply Hose Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 410 & below)

IS1000ZKAV23/52 (S/N: 555 & below)

Fuel Supply Hose Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	22030	1	VALVE, Fuel Shut Off
2	20835	6	CLAMP, Hose
3	50831-45	1	HOSE, 45"
4	50833-43	1	WIRE LOOM, 43"
5	50831-6.5	1	HOSE, 6-1/2"
6	50833-40	1	WIRE LOOM, 40"
7	50831-42	1	HOSE, 42"

Footnotes:

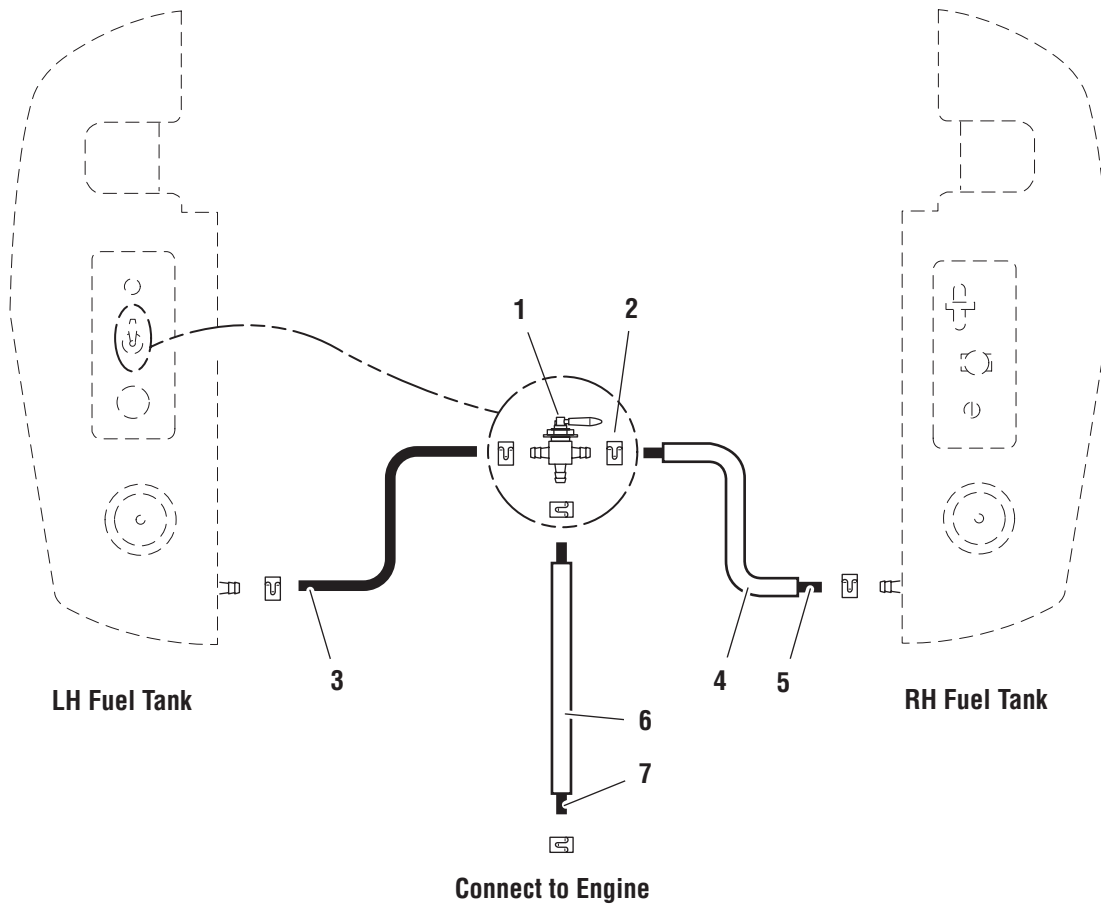
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 410 & below)

IS1000ZKAV23/52 (S/N: 555 & below)

Fuel Supply Hose Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 411 - 1905)

IS1000ZKAV23/52 (S/N: 556 - 1400)

Fuel Supply Hose Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	22030	1	VALVE, Fuel Shut Off
2	20835	6	CLAMP, Hose
3	50831-7.5	1	HOSE, 7-1/2"
4	50833-34	1	WIRE LOOM, 34"
5	50831-36	1	HOSE, 36"
6	50833-46	1	WIRE LOOM, 46"
7	50831-48	1	HOSE, 48"

Footnotes:

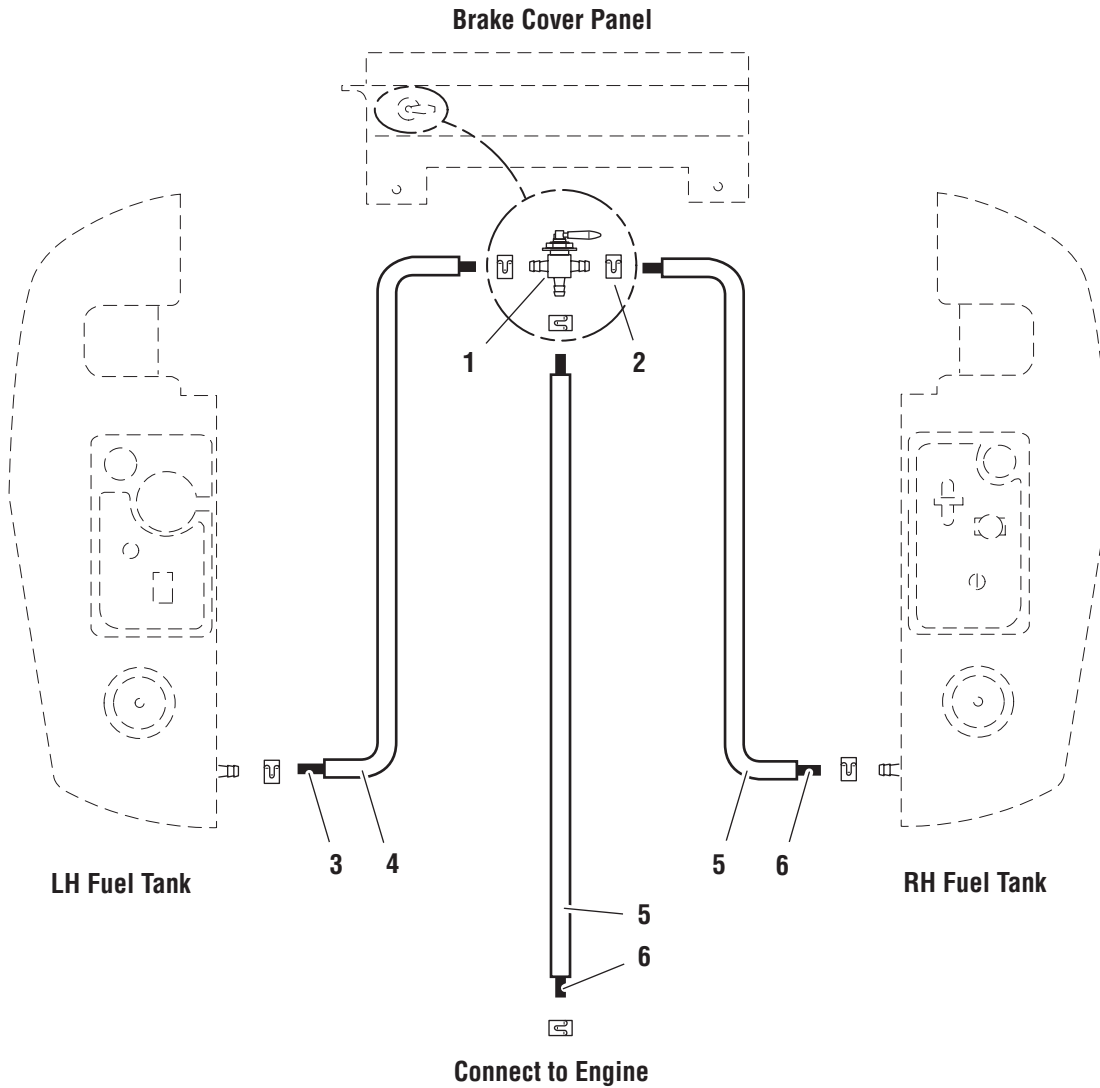
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 411 - 1905)

IS1000ZKAV23/52 (S/N: 556 - 1400)

Fuel Supply Hose Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 1906 & above)

IS1000ZKAV23/52 (S/N: 1401 & above)

Fuel Supply Hose Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	22030	1	VALVE, Fuel Shut Off
2	20835	6	CLAMP, Hose
3	50831-68	1	HOSE, 68"
4	50833-66	1	WIRE LOOM, 66"
5	50833-58	2	WIRE LOOM, 58"
6	50831-60	2	HOSE, 60"

Footnotes:

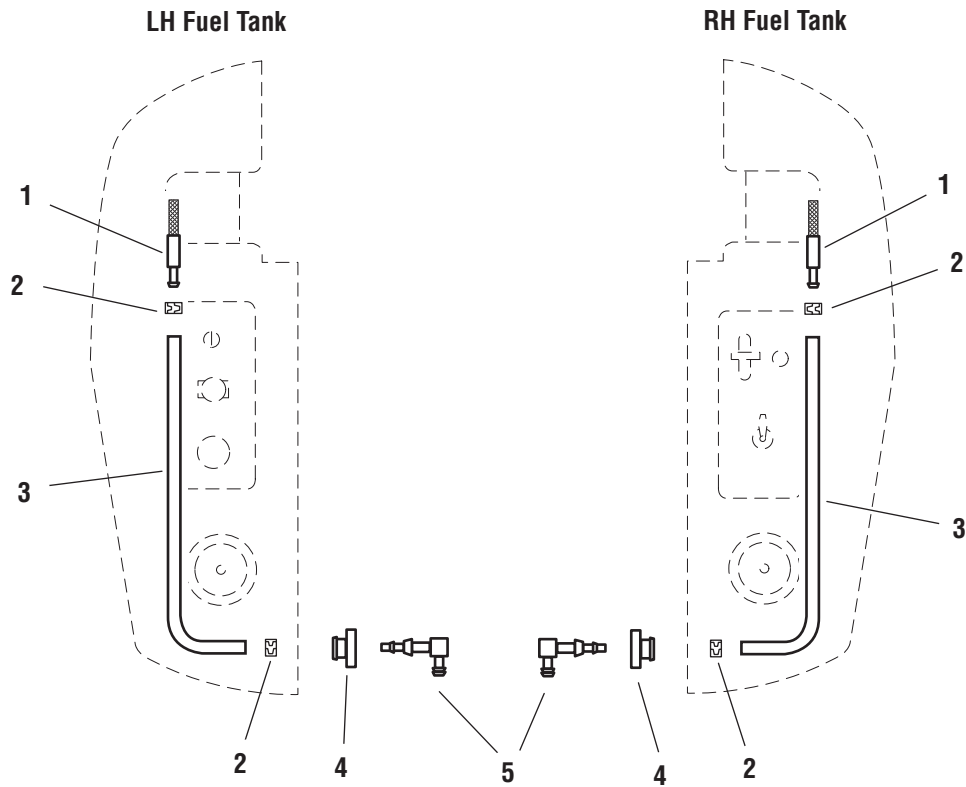
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 1906 & above)

IS1000ZKAV23/52 (S/N: 1401 & above)

Fuel Tank Replacement Parts

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Fuel Tank Replacement Parts

REF NO.	PART NO.	QTY.	DESCRIPTION
1	23067	2	SCREEN FITTING
2	23069	4	HOSE CLAMP
3	50925-26	2	HOSE, 26"
4	1726400	2	GROMMET
5	23061	2	ELBOW FITTING

Footnotes:

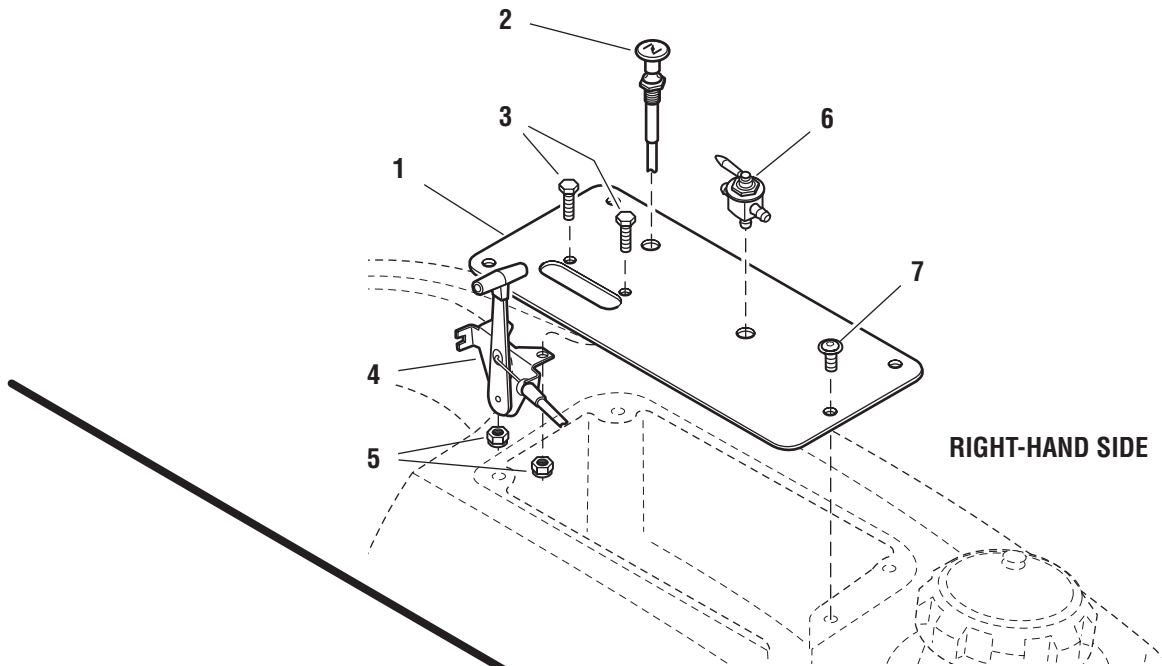
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

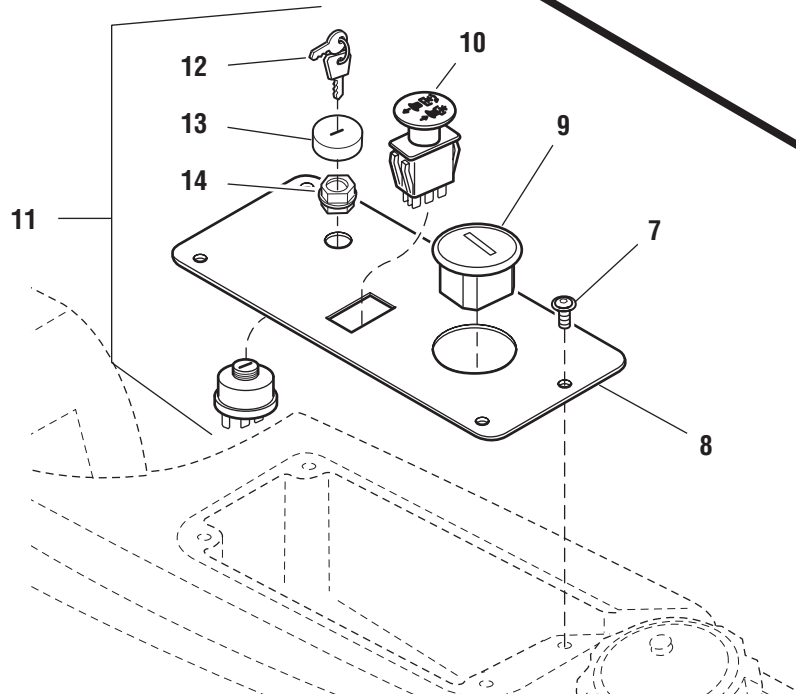
IS1000ZKAV23/52

Instrument & Control Panel Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



LEFT-HAND SIDE



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 410 & below)

S1000ZKAV23/52 (S/N: 555 & below)

Instrument & Control Panel Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	47140	1	PANEL, Control-RH
2	47143	1	CABLE, Choke Control
3	25010-6	2	CAPSCREW, Hex Head, 1/4-20 x 3/4
4	20811	1	CABLE, Throttle Control
5	25126	2	NUT, Hex Nylon Lock, 1/4-20
6	22030	1	VALVE, Fuel Shut Off
7	25299-4	8	SCREW, Allen Head, 1/4-20 x 1/2
8	46492	1	PANEL, Control-LH
9	20060	1	HOURMETER
10	22180	1	SWITCH, PTO
11	20927	1	SWITCH, Ignition, Complete (includes Ref 12-14)
12	22789	1	KEY, Ignition, Molded (Set of 2)
13	22790	1	COVER
14	22791	1	PLASTIC NUT

Footnotes:

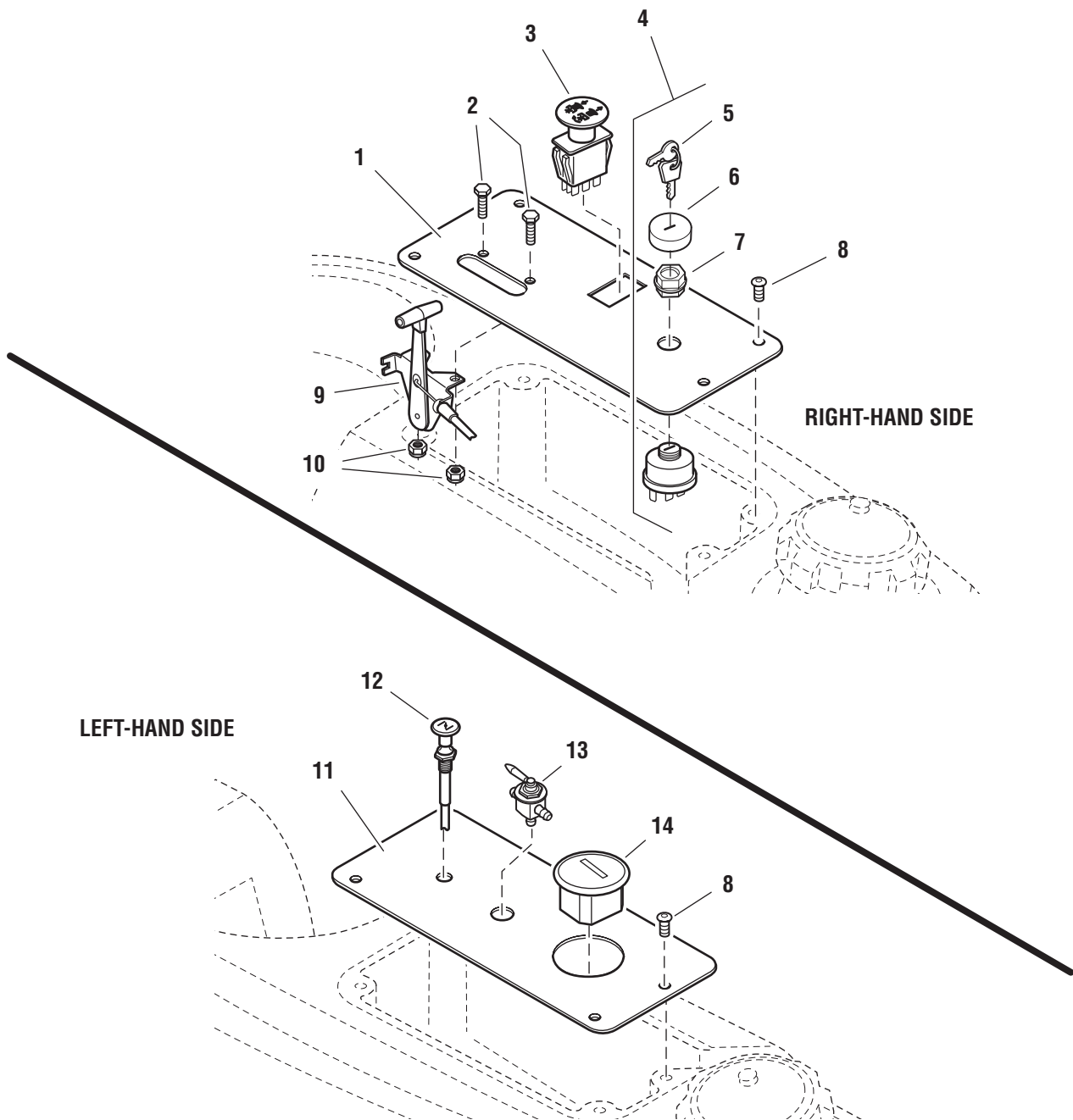
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 410 & below)

IS1000ZKAV23/52 (S/N: 555 & below)

Instrument & Control Panel Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 411 - 1905)

IS1000ZKAV23/52 (S/N: 556 - 1400)

Instrument & Control Panel Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	47858	1	CONTROL PANEL-RH
2	25010-6	2	CAPSCREW, Hex Head, 1/4-20 x 3/4
3	22180	1	SWITCH, PTO
4	20927	1	SWITCH, Ignition, Complete (includes Ref 5-7)
5	22789	1	KEY, Ignition, Molded (Set of 2)
6	22790	1	COVER
7	22791	1	PLASTIC NUT
8	25299-4	8	SCREW, Allen Head, 1/4-20 x 1/2
9	20811	1	CABLE, Throttle Control
10	25126	2	NUT, Hex Nylon Lock, 1/4-20
11	47860	1	CONTROL PANEL-LH
12	47779	1	CABLE, Choke Control
13	22030	1	VALVE, Fuel Shut Off
14	20060	1	HOURMETER

Footnotes:

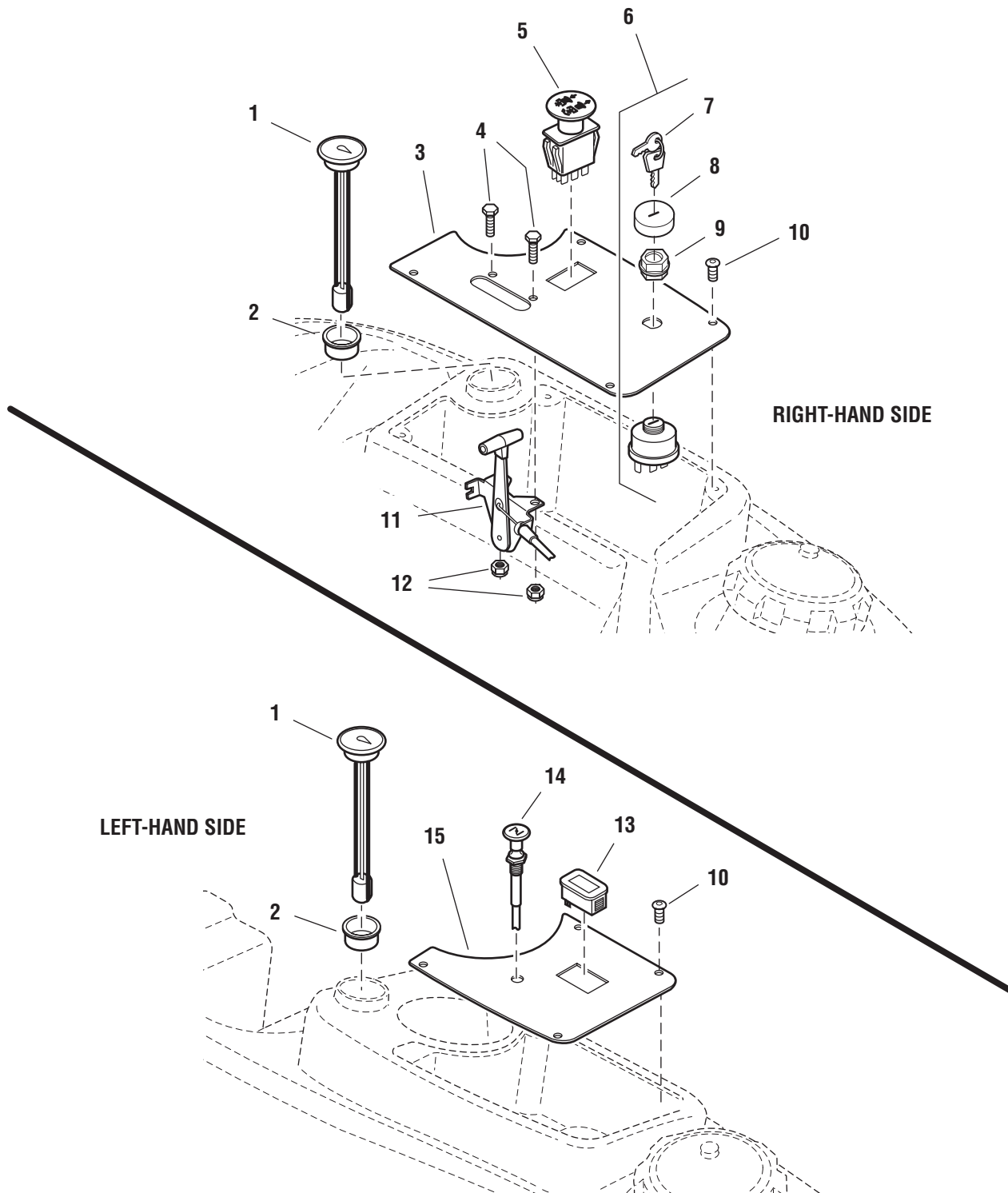
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 411 - 1905)

IS1000ZKAV23/52 (S/N: 556 - 1400)

Instrument & Control Panel Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 1906 & above)

IS1000ZKAV23/52 (S/N: 1401 & above)

Instrument & Control Panel Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	22917	2	FUEL GAUGE
2	22917-1	2	GROMMET
3	2849109	1	CONTROL PANEL-RH
4	25010-6	2	CAPSCREW, Hex Head, 1/4-20 x 3/4
5	22180	1	SWITCH, PTO
6	20927	1	SWITCH, Ignition, Complete (includes Ref No. 7-9)
7	22789	1	KEY, Ignition, Molded (Set of 2)
8	22790	1	COVER
9	22791	1	PLASTIC NUT
10	25299-4	8	SCREW, Allen Head, 1/4-20 x 1/2
11	20811	1	CABLE, Throttle Control
12	25126	2	NUT, Hex Nylon Lock, 1/4-20
13	23244	1	HOURMETER, Digital
14	23239	1	CABLE, Choke Control
15	2849108	1	CONTROL PANEL-LH

Footnotes:

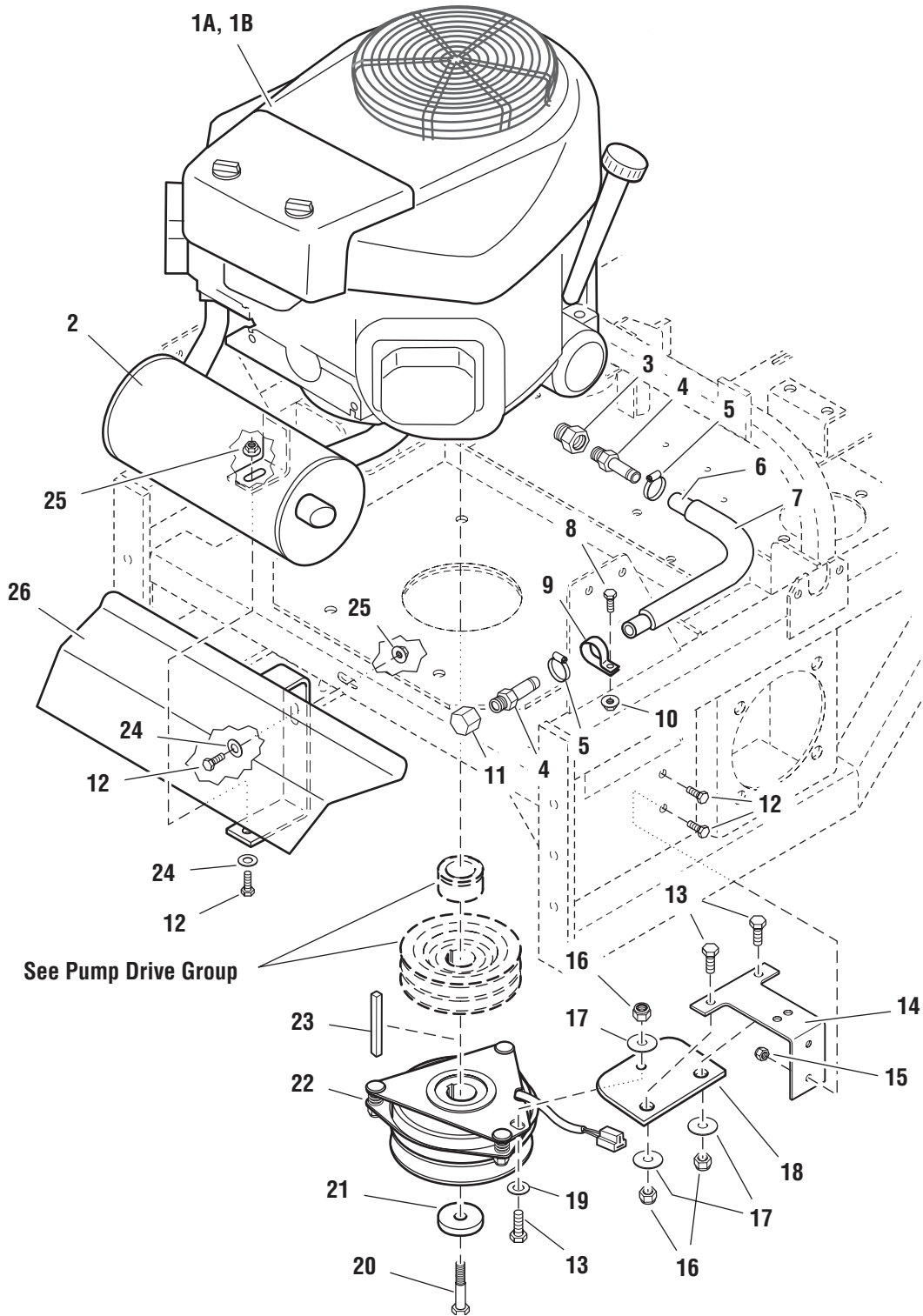
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 1906 & above)

IS1000ZKAV23/52 (S/N: 1401 & above)

Engine & PTO Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 410 & below)

IS1000ZKAV23/52 (S/N: 555 & below)

Engine & PTO Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1A	22485	1	ENGINE, 21HP Kawasaki
1B	22672	1	ENGINE, 23HP Kawasaki
*	21178-3	1	FUEL FILTER
*	21334-1	1	OIL FILTER (49065-2078)
*	*	1	FOAM PRE-CLEANER (11013-7009)
*	*	1	AIR FILTER (11013-7010)
2	22647	1	MUFFLER
3	22234	1	ADAPTER, Oil Drain
4	21372	2	FITTING, 3/8NPT - 1/2 Str.
5	21392	2	HOSE CLAMP
6	50857-9	1	HOSE, 9"
7	50862-7	1	WIRE LOOM, 7"
8	25010-6	1	CAPSCREW, Hex Head, 1/4-20 x 3/4
9	21500	1	CLAMP, Vinyl
10	25126	1	NUT, Hex Serrated Flange, 1/4-20
11	21466	1	CAP, 3/8NPT
12	25011-6	4	CAPSCREW, Hex Head, 5/16-18 x 3/4
13	25013-8	3	CAPSCREW, Hex Head, 3/8-16 x 1
14	47134	1	CLUTCH ANCHOR
15	25057	2	NUT, Hex Nylon Lock, 5/16-18
16	25096	3	NUT, Hex Nylon Lock, 3/8-16
17	25165	3	WASHER, Fender, 3/8
18	43636	1	CLUTCH ANCHOR PAD
19	25156	1	WASHER, 3/8
20	44853	1	CRANKSHAFT BOLT, 7/16 x 2
21	45475	1	SPACER, .45 x 1.88 x .38
22	23231	1	ELECTRIC CLUTCH
23	50407-28	1	KEY, 1/4 Sq. x 3-1/2
24	25155	2	WASHER, 5/16
25	25127	2	NUT, Hex Serrated Flange, 5/16-18
26	46487	1	MUFFLER SUPPORT

Footnotes:

* See you local Kawasaki engine dealer for service parts.

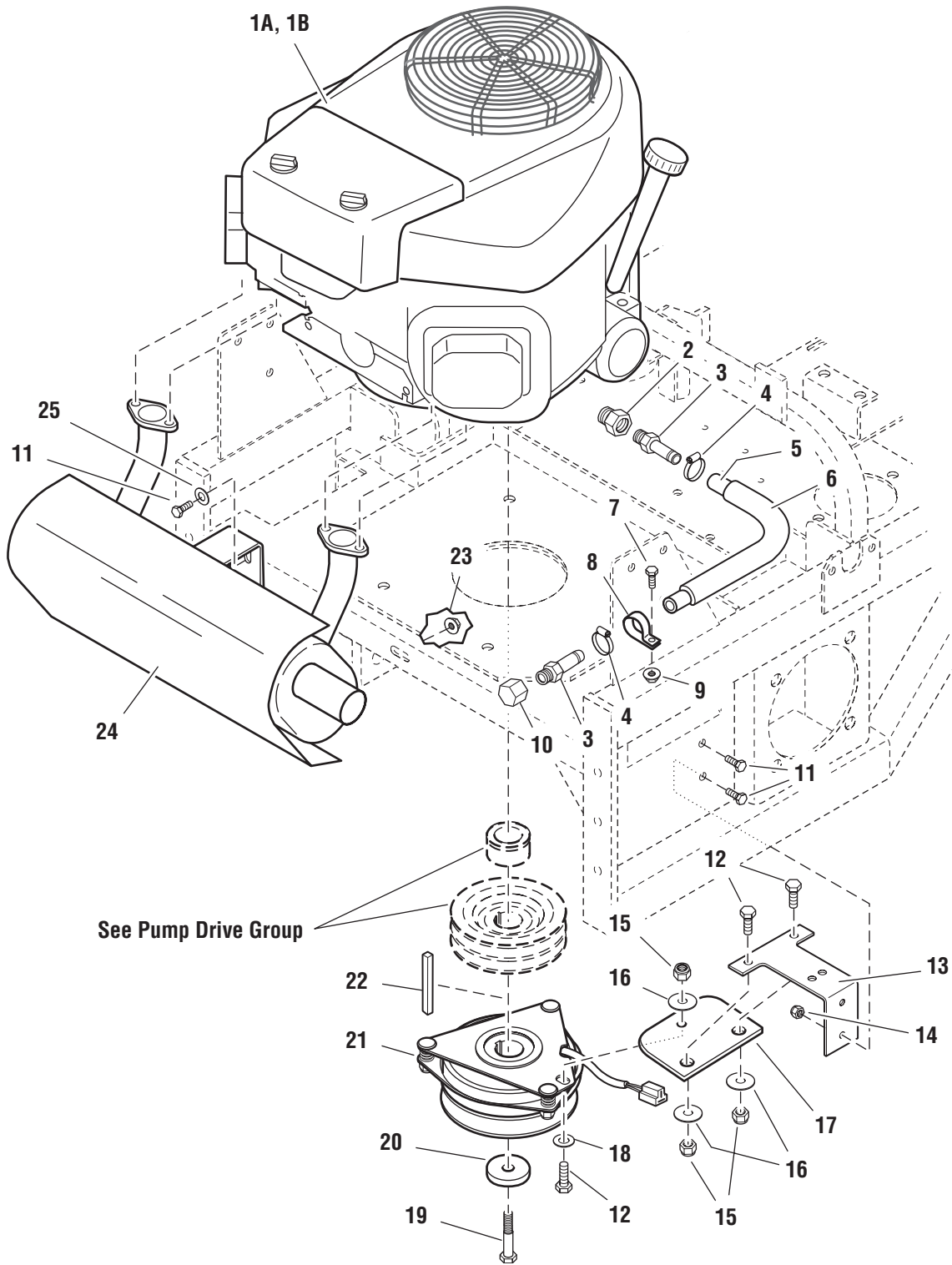
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 410 & below)

IS1000ZKAV23/52 (S/N: 555 & below)

Engine & PTO Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 411-645)

IS1000ZKAV23/52 (S/N: 556-835)

Engine & PTO Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1A	22485	1	ENGINE, 21HP Kawasaki
1B	22672	1	ENGINE, 23HP Kawasaki
*	21178-3	1	FUEL FILTER
*	21334-1	1	OIL FILTER (49065-2078)
*	*	1	FOAM PRE-CLEANER (11013-7009)
*	*	1	AIR FILTER (11013-7010)
2	22234	1	ADAPTER, Oil Drain
3	21372	2	FITTING, 3/8NPT - 1/2 Str.
4	21392	2	HOSE CLAMP
5	50857-9	1	HOSE, 9"
6	50862-7	1	WIRE LOOM, 7"
7	25010-6	1	CAPSCREW, Hex Head, 1/4-20 x 3/4
8	21500	1	CLAMP, Vinyl
9	25126	1	NUT, Hex Serrated Flange, 1/4-20
10	21466	1	CAP, 3/8NPT
11	25011-6	3	CAPSCREW, Hex Head, 5/16-18 x 3/4
12	25013-8	3	CAPSCREW, Hex Head, 3/8-16 x 1
13	47134	1	CLUTCH ANCHOR
14	25057	2	NUT, Hex Nylon Lock, 5/16-18
15	25096	3	NUT, Hex Nylon Lock, 3/8-16
16	25165	3	WASHER, Fender, 3/8
17	43636	1	CLUTCH ANCHOR PAD
18	25156	1	WASHER, 3/8
19	44853	1	CRANKSHAFT BOLT, 7/16 x 2
20	45475	1	SPACER, .45 x 1.88 x .38
21	23231	1	ELECTRIC CLUTCH
22	50407-28	1	KEY, 1/4 Sq. x 3-1/2
23	25127	1	NUT, Hex Serrated Flange, 5/16-18
24	22953	1	MUFFLER
25	25155	1	WASHER, 5/16

Footnotes:

* See you local Kawasaki engine dealer for service parts.

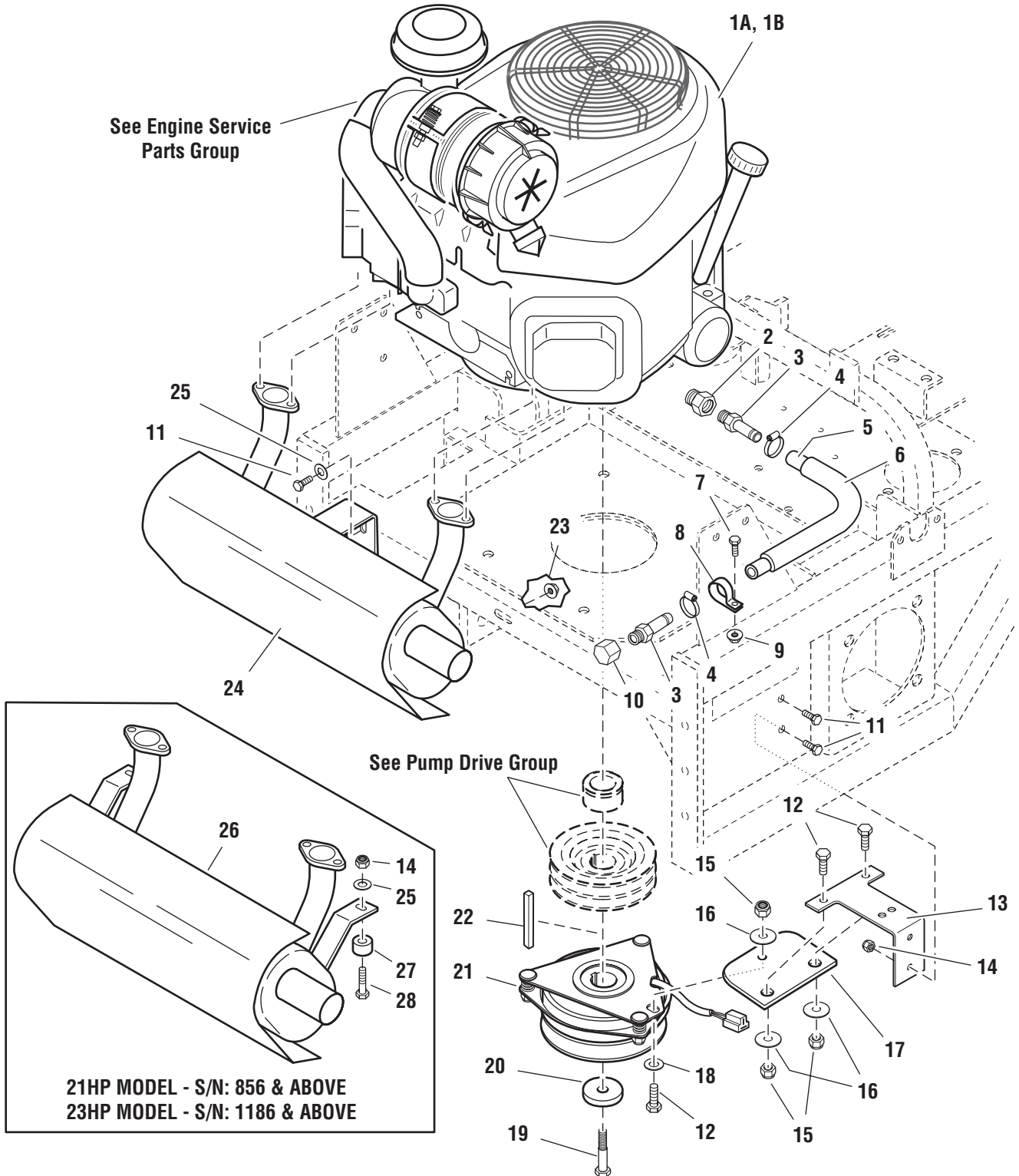
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 411-645)

IS1000ZKAV23/52 (S/N: 556-835)

Engine & PTO Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 646 & above)

IS1000ZKAV23/52 (S/N: 836 & above)

Engine & PTO Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1A	23114	1	ENGINE, 21HP Kawasaki
1B	23115	1	ENGINE, 23HP Kawasaki
*	21178-3	1	FUEL FILTER
*	21334-1	1	OIL FILTER (49065-2078)
2	22234	1	ADAPTER, Oil Drain
3	21372	2	FITTING, 3/8NPT - 1/2 Str.
4	21392	2	HOSE CLAMP
5	50857-9	1	HOSE, 9"
6	50862-7	1	WIRE LOOM, 7"
7	25010-6	1	CAPSCREW, Hex Head, 1/4-20 x 3/4
8	21500	1	CLAMP, Vinyl
9	25126	1	NUT, Hex Serrated Flange, 1/4-20
10	21466	1	CAP, 3/8NPT
11	25011-6	3	CAPSCREW, Hex Head, 5/16-18 x 3/4
12	25013-8	3	CAPSCREW, Hex Head, 3/8-16 x 1
13	47134	1	CLUTCH ANCHOR
14	25057	4	NUT, Hex Nylon Lock, 5/16-18
15	25096	3	NUT, Hex Nylon Lock, 3/8-16
16	25165	3	WASHER, Fender, 3/8
17	43636	1	CLUTCH ANCHOR PAD
18	25156	1	WASHER, 3/8
19	44853	1	CRANKSHAFT BOLT, 7/16 x 2
20	45475	1	SPACER, .45 x 1.88 x .38
21	23231	1	ELECTRIC CLUTCH
22	50407-28	1	KEY, 1/4 Sq. x 3-1/2
23	25127	1	NUT, Hex Serrated Flange, 5/16-18
24	22953	1	MUFFLER
25	25155	3	WASHER, 5/16
26	23162	1	MUFFLER
27	43815	2	SPACER, 39 x 1.00 x .75
28	25011-12	2	CAPSCREW, Hex Head, 5/16-18 x 1-1/2

Footnotes:

* See you local Kawasaki engine dealer for service parts.

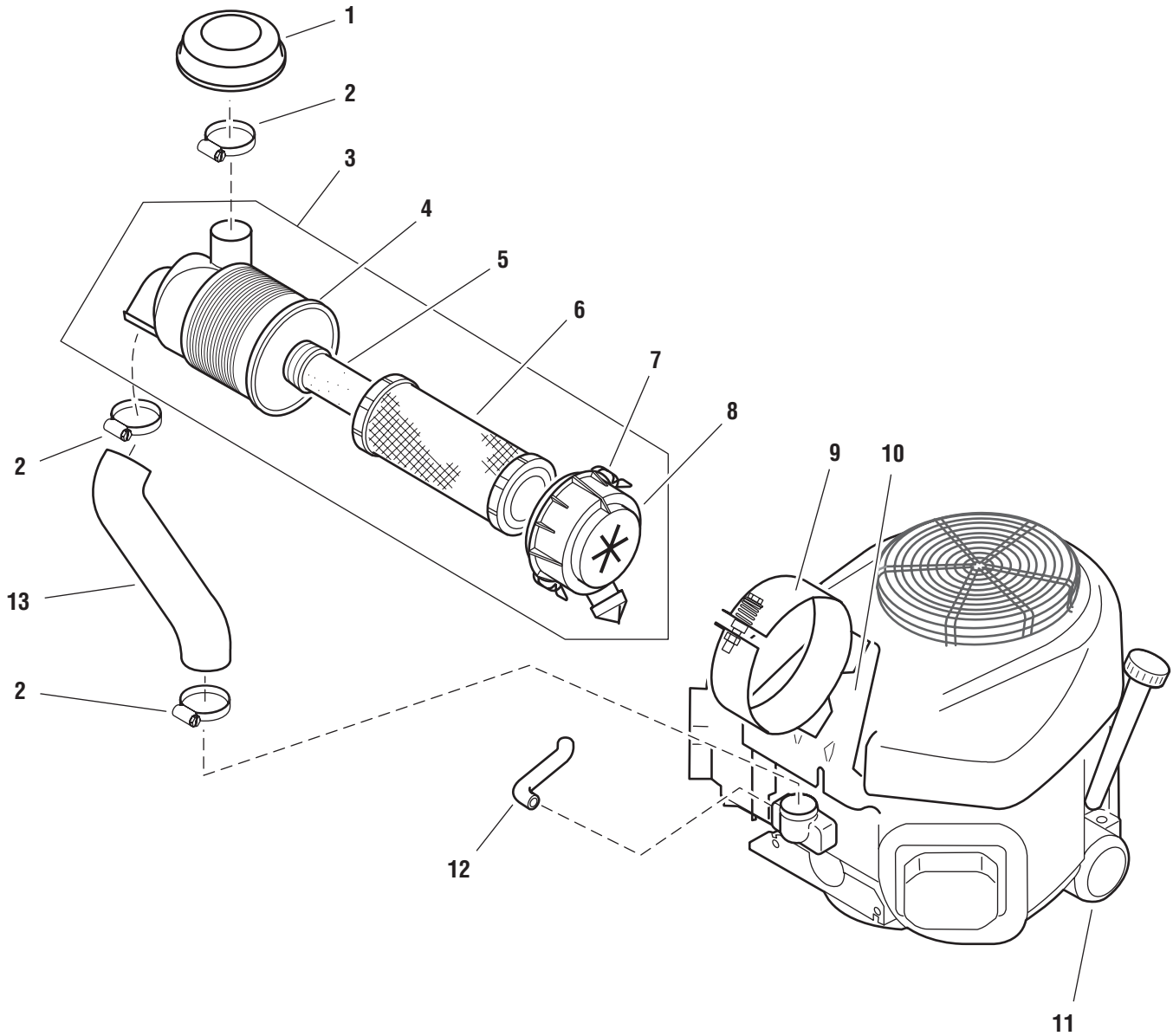
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 646 & above)

IS1000ZKAV23/52 (S/N: 836 & above)

Engine Service Replacement Parts

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 646 & above)

IS1000ZKAV23/52 (S/N: 836 & above)

Engine Service Replacement Parts

REF NO.	PART NO.	QTY.	DESCRIPTION
1	23143	1	RAIN CAP
2	23146	3	CLAMP
3	23138	1	AIR FILTER ASSEMBLY, Complete (includes Ref No. 4 - 8)
4	23139	1	CASE, Air Filter
5	23140	1	AIR FILTER, Secondary
6	23141	1	AIR FILTER, Primary
7	23147	2	CLAMP, Cap
8	23144	1	CAP, Filter Case
9	23145	1	CASE BRACKET, Complete
10	23142	1	BRACKET PLATE
11	21334-1	1	OIL FILTER (49065-2078)
12	23148	1	BREATHER TUBE
13	23149	1	AIR INLET TUBE

Footnotes:

* See you local Kawasaki engine dealer for service parts.

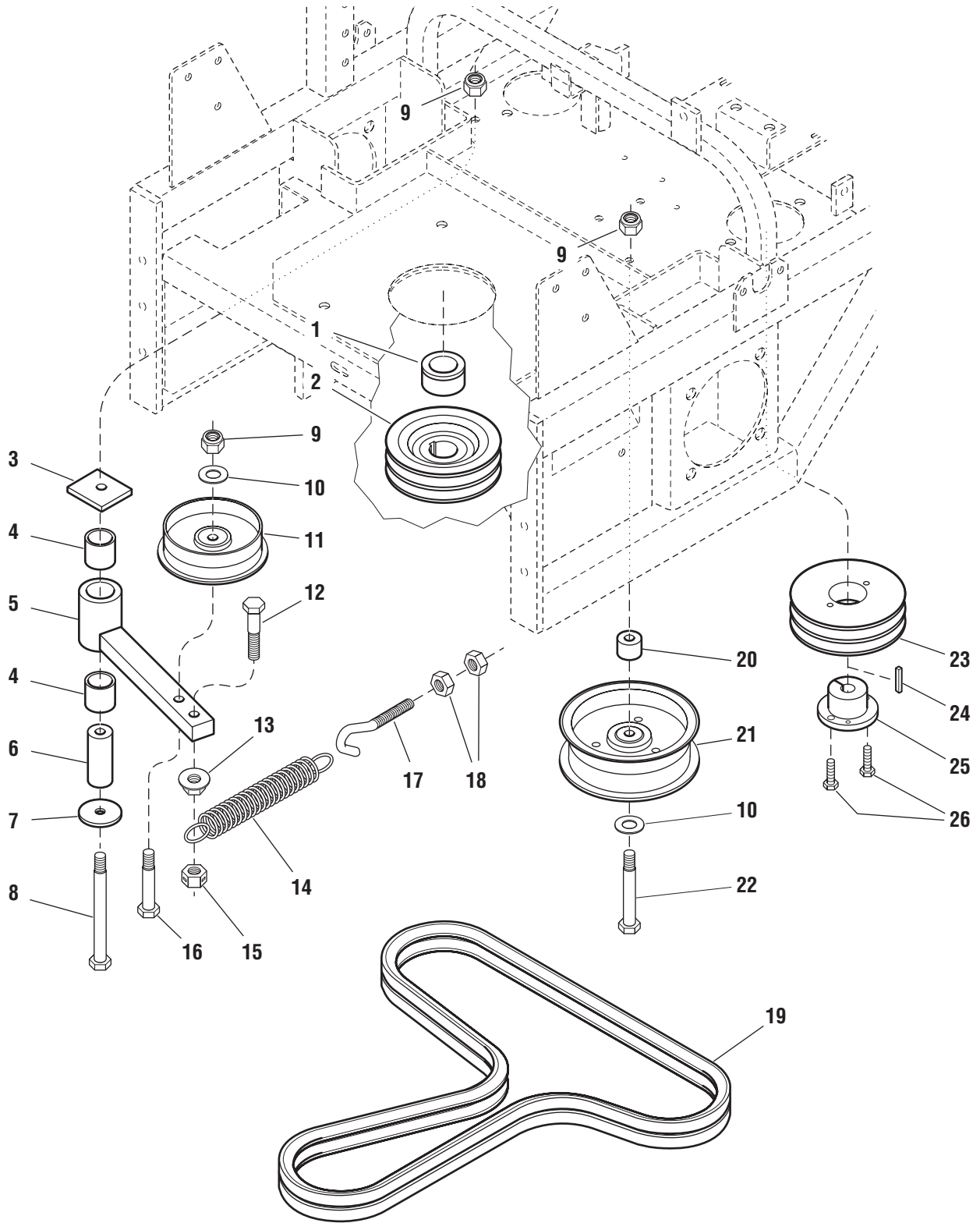
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 646 & above)

IS1000ZKAV23/52 (S/N: 836 & above)

Pump Drive Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Pump Drive Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	47033	1	SPACER, 1.13 x 1.75 x 1.03
2	47075	1	CRANKSHAFT PULLEY
3	45090	1	SPACER, Idler Pivot
4	22157	2	BUSHING, Brass
5	46430	1	PUMP DRIVE IDLER ARM
6	45135	1	SHAFT, Idler Pivot
7	25305	1	WASHER, 3/8 x 1-3/4
8	25013-32	1	CAPSCREW, Hex Head, 3/8-16 x 4
9	25096	3	NUT, Hex Nylon Lock, 3/8-16
10	25156	2	WASHER, 3/8
11	22621	1	PULLEY, Idler (Single Flange)
12	25013-14	1	CAPSCREW, Hex Head, 3/8-16 x 1-3/4
13	25128	1	NUT, Hex Serrated Flange, 3/8-16
14	22847	1	SPRING, Extension, Swivel End
15	25100	1	NUT, Hex, Side Lock, 3/8-16
16	25013-18	1	CAPSCREW, Hex Head, 3/8-16 x 2-1/4
17	25321	1	SCREW HOOK, 3/8-16 x 4-1/4
18	25034	2	NUT, Hex, 3/8-16
19	22314	1	BELT, Pump Drive (Set)
20	46446	1	SPACER, .39 x 1.00 x .79
21	22620	1	PULLEY, Idler
22	25013-22	1	CAPSCREW, Hex Head, 3/8-16 x 2-3/4
23	22586	2	PULLEY, Pump Drive
24	22156	2	KEY, 5mm x 25mm
25	22587	2	BUSHING, Tapered Hub
26	25010-8	4	CAPSCREW, Hex Head, 1/4-20 x 1

Footnotes:

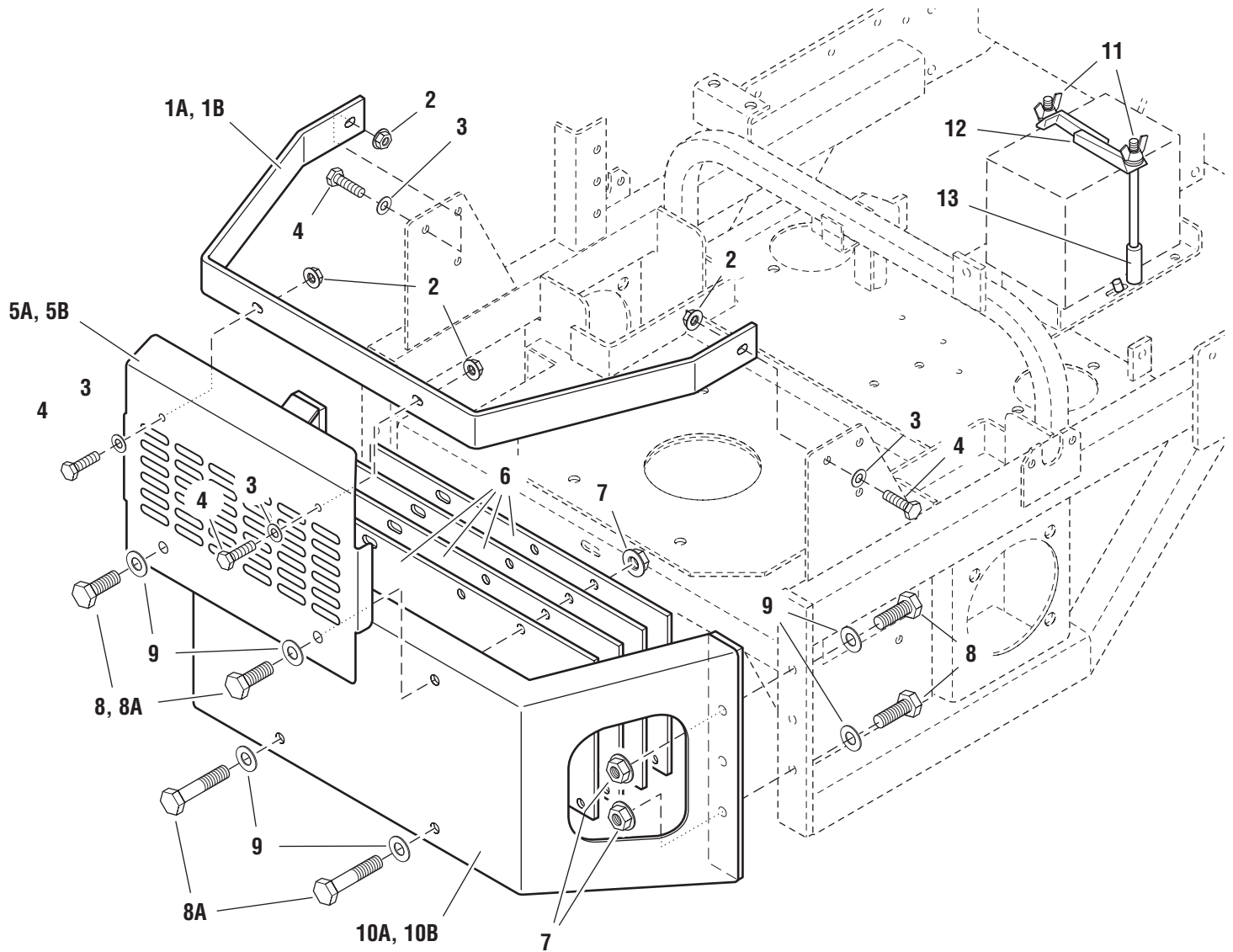
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Rear Bumper, Shield & Battery Retainer Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Rear Bumper, Shield & Battery Retainer Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1A	47114	1	BUMPER BAR (48" model - S/N: 1905 & below) (52" model - S/N: 1400 & below)
1B	49142	1	BUMPER BAR (48" model - S/N: 1906 & above) (52" model - S/N: 1401 & above)
2	25139	4	NUT, Hex Serrated Flange, 5/16-18
3	25155	4	WASHER, 5/16
4	25011-8	4	CAPSCREW, Hex Head, 5/16-18 x 1
5A	47071	1	BUMPER SHIELD (48" model - S/N: 1905 & below) (52" model - S/N: 1400 & below)
5B	49147	1	BUMPER SHIELD (48" model - S/N: 1906 & above) (52" model - S/N: 1401 & above)
6	47485	4	COUNTERWEIGHT (52" model only)
7	25128	6	NUT, Hex Serrated Flange, 3/8-16 (48" model)
*	25128	8	NUT, Hex Serrated Flange, 3/8-16 (52" model)
8	25013-8	6	CAPSCREW, Hex Head, 3/8-16 x 1 (48" model)
*	25013-8	4	CAPSCREW, Hex Head, 3/8-16 x 1 (52" model)
8A	25013-16	4	CAPSCREW, Hex Head, 3/8-16 x 2 (52" model only)
9	25156	6	WASHER, 3/8 (48" model)
*	25156	8	WASHER, 3/8 (52" model)
10A	47115	1	BUMPER (48" model - S/N: 1905 & below) (52" model - S/N: 1400 & below)
10B	47851	1	BUMPER (48" model - S/N: 1906 & above) (52" model - S/N: 1401 & above)
11	22596	2	BATTERY HOLDDOWN BOLT
12	22595	1	BATTERY HOLDDOWN
13	50831-3	2	HOSE, 3"

Footnotes:

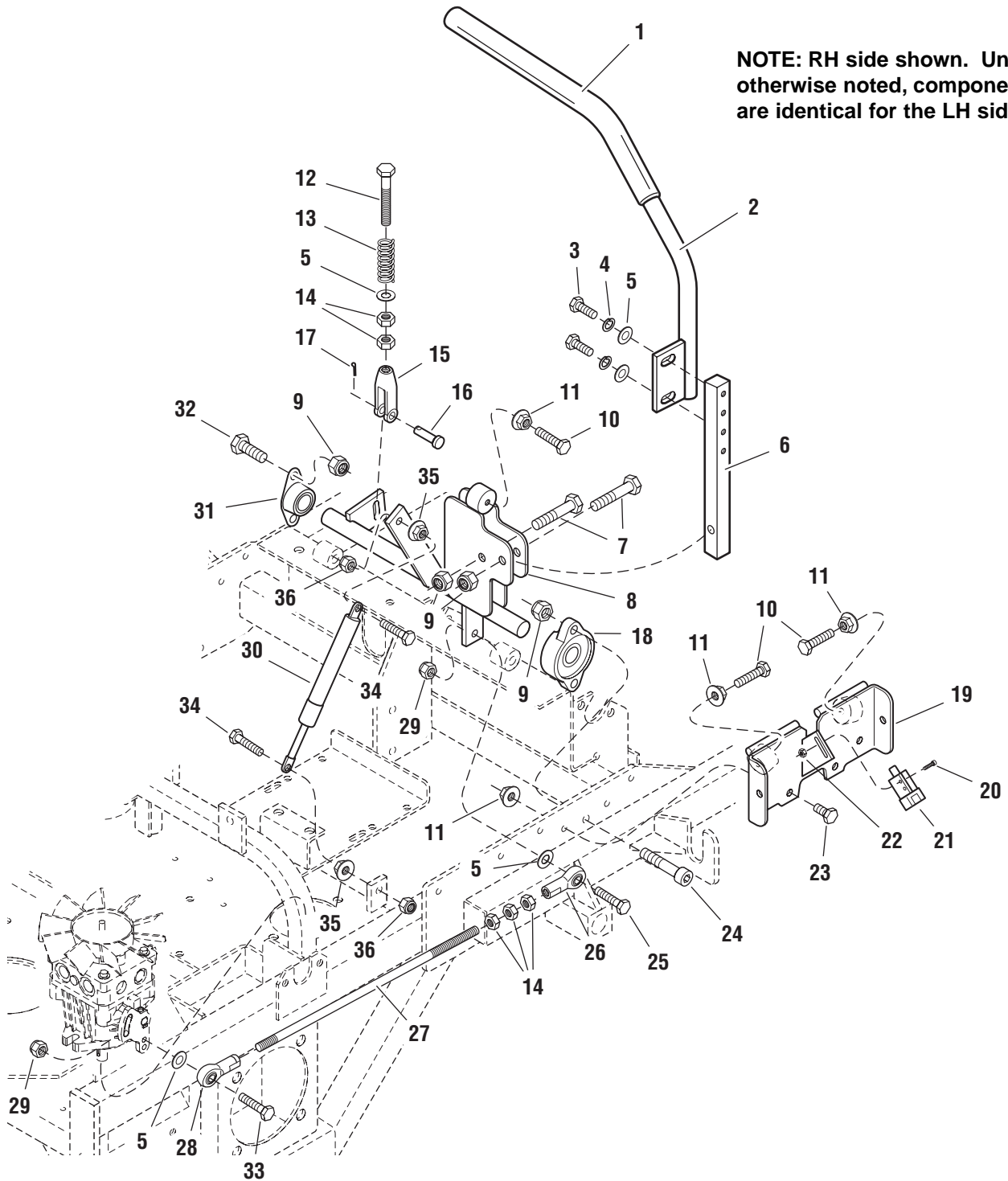
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Motion Control Group

NOTE: Unless noted otherwise, use the standard hardware torque specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Motion Control Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	22068	2	FOAM GRIP
2	47056	1	MOTION CONTROL LEVER-RH
*	47055	1	MOTION CONTROL LEVER-LH (not shown)
3	25011-8	4	CAPSCREW, Hex Head, 5/16-18 x 1
4	25170	4	LOCKWASHER, 5/16
5	25155	10	WASHER, 5/16
6	47004	2	CONTROL LEVER BASE
7	25013-14	4	CAPSCREW, Hex Head, 3/8-16 x 1-3/4
8	47045	1	CONTROL SHAFT-RH
*	47044	1	CONTROL SHAFT-LH (not shown)
9	25096	10	NUT, Hex Nylon Lock, 3/8-16
10	25055-14	2	CAPSCREW, Hex Head, TFL, 5/16-18 x 1-3/4
11	25127	10	NUT, Hex Serrated Flange, 5/16-18
12	47137	2	REVERSE RETURN BOLT
13	22645	2	SPRING, Reverse Return
14	25033	10	NUT, Hex, 5/16-24
15	20979	2	CLEVIS, 5/16-24
16	25213-8	2	PIN, Clevis, 5/16 x 1
17	25201-6	2	COTTER PIN
18	21499	2	BEARING, Flange
19	47081	1	NEUTRAL LOCK BRACKET-RH
*	47080	1	NEUTRAL LOCK BRACKET-LH (not shown)
20	25179-4	4	SCREW, #10-24 x 1/2
21	*	2	SWITCH (see electrical schematic)
22	25029	4	NUT, Hex, #10-24
23	25011-8	8	CAPSCREW, Hex Head, 5/16-18 x 1
24	25327	4	CAPSCREW, Allen Hd, 3/8-16 x 1-1/4
25	25011-10	2	CAPSCREW, Hex Head, 5/16-18 x 1-1/4
26	21146	2	BALL JOINT, 5/16-24
27	47102	2	HYDRO CONTROL ROD
28	22628	2	BALL JOINT, 5/16-24 LH
29	25057	4	NUT, Hex Nylon Lock, 5/16-18
30	22978	2	DAMPENER
31	21098	2	BEARING, Flange
32	25013-8	2	CAPSCREW, Hex Head, 3/8-16 x 1
33	25011-9	2	CAPSCREW, Hex Head, 5/16-18 x 1-1/8
34	25335	4	CAPSCREW, Hex Head, M8-1.25 x 35MM
35	25355	4	NUT, Hex Serrated Flange, M8-1.25
36	25354	4	NUT, Hex Nylon Lock, M8-1.25

Footnotes:

* - See Electrical Schematic for switch part number

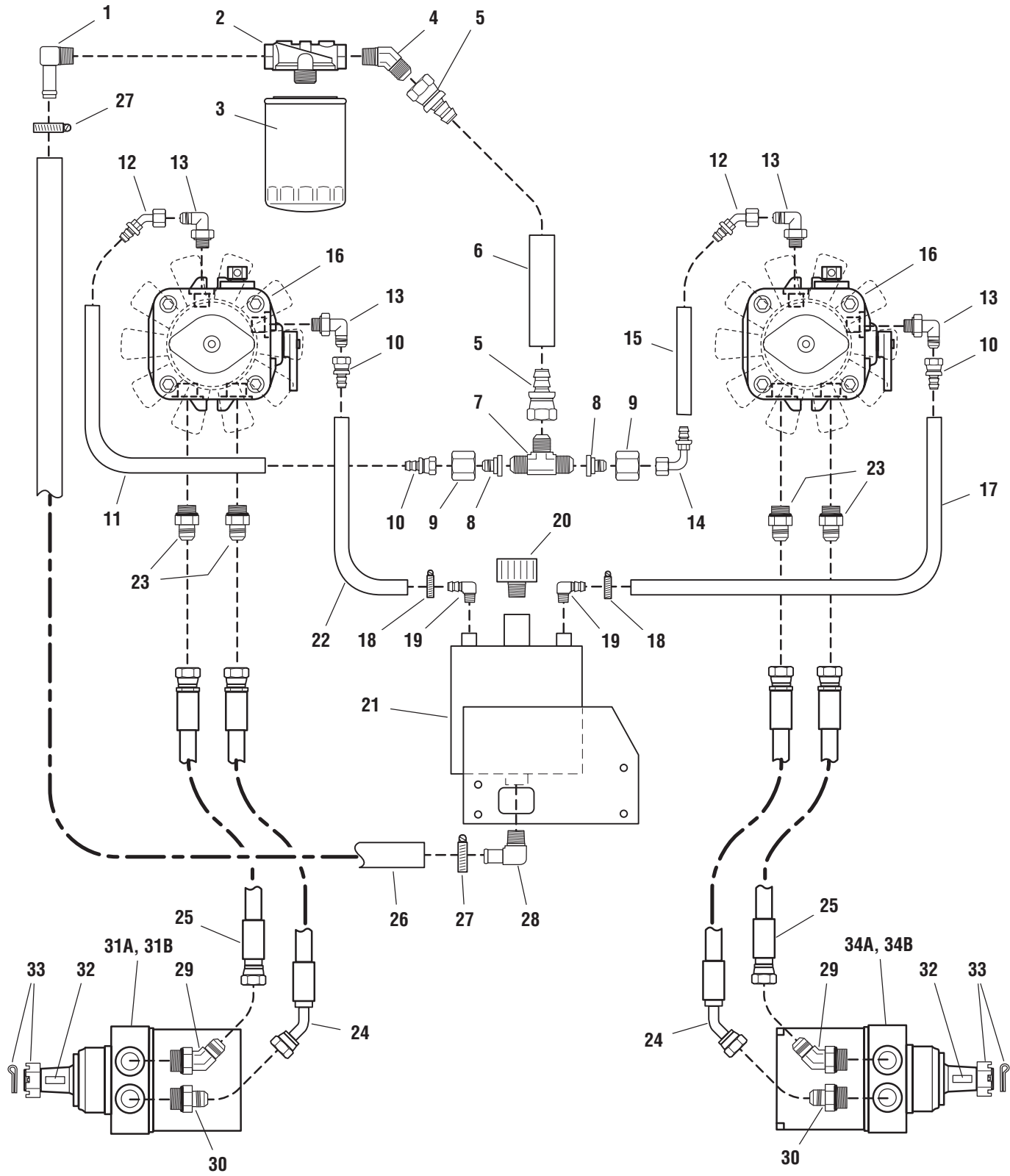
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Hydraulic Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 660 & below)

IS1000ZKAV23/52 (S/N: 880 & below)

Hydraulic Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	22723	1	FITTING, 1/2" NPT, 90 Deg.
2	21356	1	FILTER HEAD
3	21357	1	FILTER
4	22720	1	FITTING, 1/2" NPT, 45 Deg.
5	22719	2	FITTING, Hydraulic, Straight Swivel
6	50848-7.5	1	HOSE, Hydraulic, 7-1/2"
7	22718	1	FITTING, Tee
8	22716	2	ADAPTER, Tee
9	22717	2	NUT, Adapter
10	22713	3	FITTING, Hydraulic, Straight Swivel
11	50860-13.75	1	HOSE, Hydraulic, 13-3/4"
12	22714	2	FITTING, Hydraulic, 45 Deg. Swivel
13	22712	4	FITTING, Hydraulic, O-Ring, 90 Deg.
14	22715	1	FITTING, Hydraulic, 90 Deg. Swivel
15	50860-6.75	1	HOSE, Hydraulic, 6-3/4"
16	22571	2	HYDRAULIC PUMP w/ FAN
*	22571-2	2	Fan
17	50860-29	1	HOSE, Hydraulic, 29"
18	21392	2	HOSE CLAMP, #6
19	22708	2	FITTING, 1/4" NPT, 90 Deg.
20	22705	1	BREATHER
21	47108	1	HYDRAULIC RESERVOIR
22	50860-20	1	HOSE, Hydraulic, 20"
23	22633	4	FITTING, Hydraulic, O-Ring Adapter
24	22710	2	HYDRAULIC HOSE ASSEMBLY, 25"
25	22711	2	HYDRAULIC HOSE ASSEMBLY, 21"
26	50848-16.5	1	HOSE, Hydraulic, 16-1/2"
27	21164	1	HOSE CLAMP, #10
28	22707	1	FITTING, 1/2" NPT, 90 Deg.
29	22709	2	FITTING, Hydraulic, O-Ring, 45 Deg.
30	22634	2	FITTING, Hydraulic, O-Ring Adapter
31A	22662L	1	HYDRAULIC WHEEL MOTOR-LEFT, Complete (includes Ref 32 & 33) (48" - S/N: 410 & below) (52" - S/N: 555 & below)
31B	22974L	1	HYDRAULIC WHEEL MOTOR-LEFT, Complete (includes Ref No. 32 & 33) (48" - S/N: 411 & above) (52" - S/N: 556 & above)
32	22042-2	2	KEY
33	22042-3	2	NUT & COTTER PIN
34A	22662R	1	HYDRAULIC WHEEL MOTOR-RIGHT, Complete (includes Ref 32 & 33) (48" - S/N: 410 & below) (52" - S/N: 555 & below)
34B	22974R	1	HYDRAULIC WHEEL MOTOR-RIGHT, Complete (includes Ref No. 32 & 33) (48" - S/N: 411 & above) (52" - S/N: 556 & above)

Footnotes:

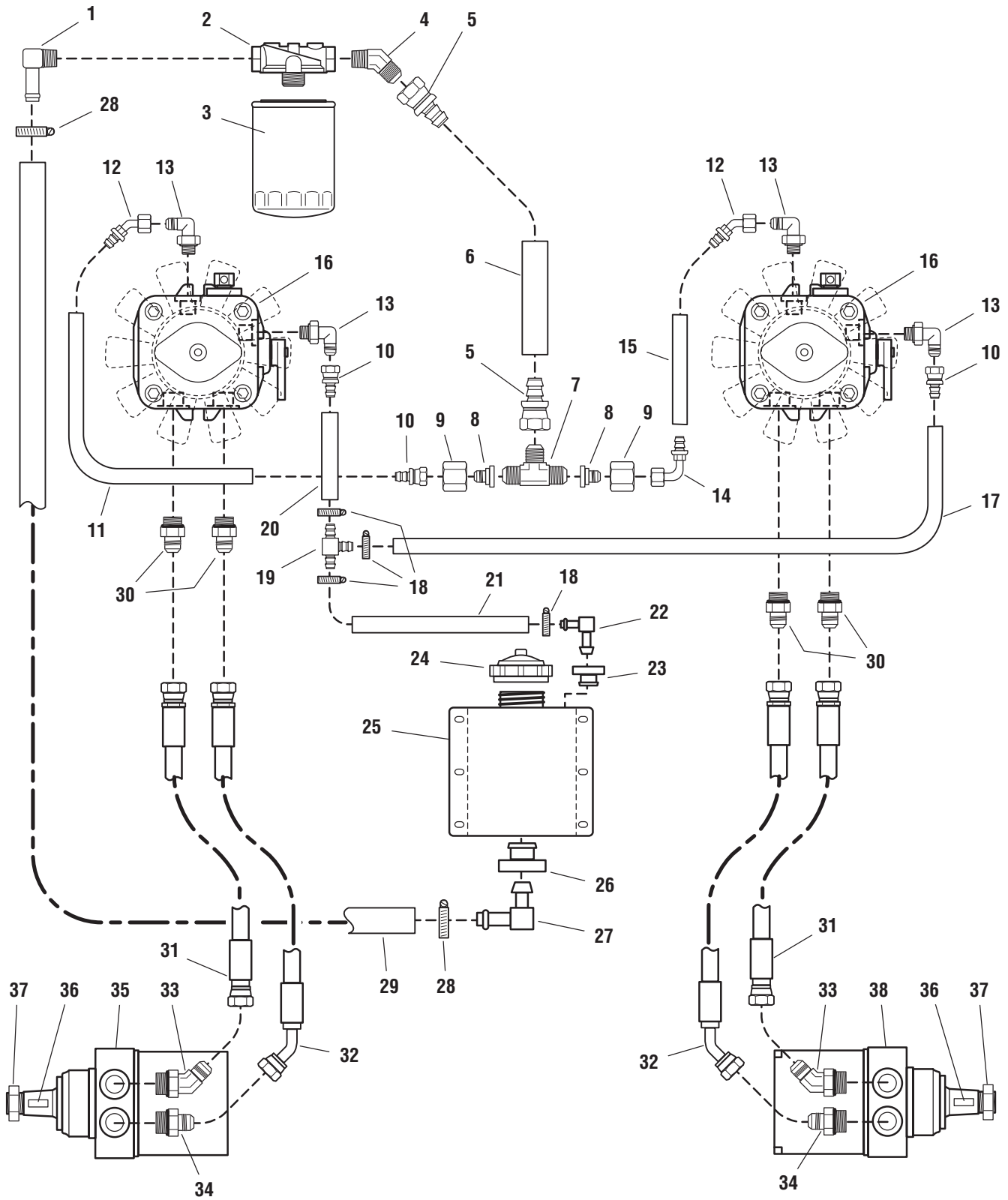
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 660 & below)

IS1000ZKAV23/52 (S/N: 880 & below)

Hydraulic Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 661 & above)

IS1000ZKAV23/52 (S/N: 881 & above)

Hydraulic Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	21233	1	FITTING, 1/2" NPT, 90 Deg.
2	21356	1	FILTER HEAD
3	21357	1	FILTER
4	22720	1	FITTING, 1/2" NPT, 45 Deg.
5	22719	2	FITTING, Hydraulic, Straight Swivel
6	50848-7.5	1	HOSE, Hydraulic, 7-1/2"
7	22718	1	FITTING, Tee
8	22716	2	ADAPTER, Tee
9	22717	2	NUT, Adapter
10	22713	3	FITTING, Hydraulic, Straight Swivel
11	50860-13.75	1	HOSE, Hydraulic, 13-3/4"
12	22714	2	FITTING, Hydraulic, 45 Deg. Swivel
13	22712	4	FITTING, Hydraulic, O-Ring, 90 Deg.
14	22715	1	FITTING, Hydraulic, 90 Deg. Swivel
15	50860-6.75	1	HOSE, Hydraulic, 6-3/4"
16	22571	2	HYDRAULIC PUMP w/ FAN
*	22571-2	2	Fan
17	50860-16.5	1	HOSE, Hydraulic, 16-1/2"
18	21392	4	HOSE CLAMP, #6
19	22920	1	FITTING, TEE, 3/8"
20	50860-6	1	HOSE, Hydraulic, 6"
21	50860-17.5	1	HOSE, Hydraulic, 17-1/2"
22	23118	1	FITTING, Elbow, 3/8"
23	23120	1	GROMMET
24	23191	1	CAP, Hydraulic Oil Only
25	48111	1	HYDRAULIC OIL RESERVOIR, Complete (includes Ref. No. 22, 23, 26 & 27)
26	23121	1	GROMMET
27	23119	1	FITTING, Elbow, 5/8"
28	21164	2	HOSE CLAMP, #10
29	50848-18	1	HOSE, Hydraulic, 18"
30	22633	4	FITTING, Hydraulic, O-Ring Adapter
31	22711	2	HYDRAULIC HOSE ASSEMBLY, 21"
32	22710	2	HYDRAULIC HOSE ASSEMBLY, 25"
33	22709	2	FITTING, Hydraulic, O-Ring, 45 Deg.
34	22634	2	FITTING, Hydraulic, O-Ring Adapter
35	22974L	1	HYDRAULIC WHEEL MOTOR-LEFT, Complete (includes Ref No. 36 & 37)
36	22042-2	2	KEY
37	22042-3	2	NUT
38	22974R	1	HYDRAULIC WHEEL MOTOR-RIGHT, Complete (includes Ref No. 36 & 37)

Footnotes:

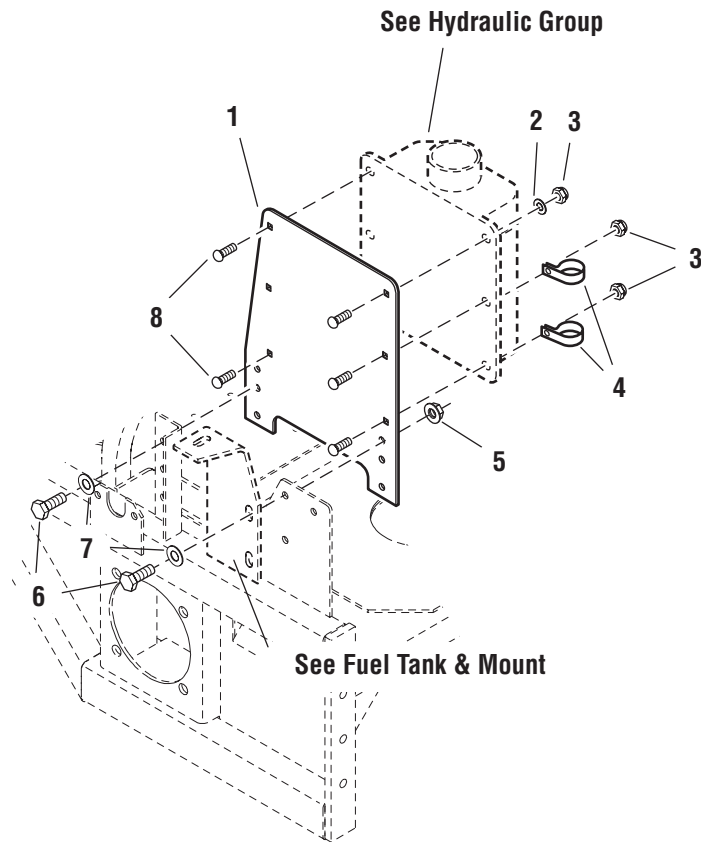
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 661 & above)

IS1000ZKAV23/52 (S/N: 881 & above)

Hydraulic Tank Mount Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 661 & above)

IS1000ZKAV23/52 (S/N: 881 & above)

Hydraulic Tank Mount Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	48351	1	PLATE, Tank Mount
2	25154	3	WASHER, 1/4
3	25095	5	NUT, Hex Nylon Lock, 1/4-20
4	21500	2	CLAMP, Vinyl
5	25127	4	NUT, Hex Serrated Flange, 5/16-18
6	25011-8	4	CAPSCREW, Hex Head, 5/16-18 x 1
7	25155	4	WASHER, 5/16
8	25144-6	5	CARRIAGE BOLT, 1/4-20 x 3/4

Footnotes:

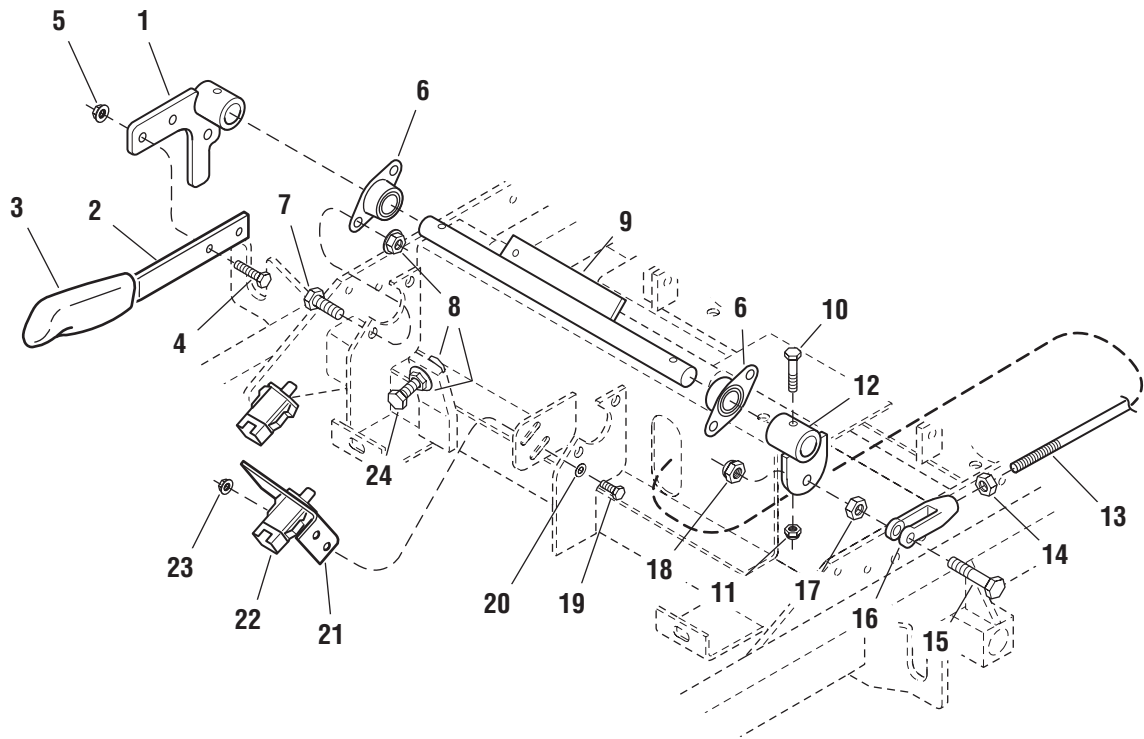
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 661 & above)

IS1000ZKAV23/52 (S/N: 881 & above)

Parking Brake Group - Upper

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Parking Brake Group - Upper

REF NO.	PART NO.	QTY.	DESCRIPTION
1	45616	1	BRAKE HANDLE MOUNT
2	45619	1	BRAKE HANDLE
3	1722302	1	GRIP
4	25011-8	2	CAPSCREW, Hex Head, 5/16-18 x 1
5	25127	2	NUT, Hex Serrated Flange, 5/16-18
6	21098	2	BEARING, Flange
7	25013-6	4	CAPSCREW, Hex Head, 3/8-16 x 3/4
8	25128	6	NUT, Hex Serrated Flange, 3/8-16
9	47083	1	BRAKE HANDLE SHAFT
10	25010-14	2	CAPSCREW, Hex Head, 1/4-20 x 1-3/4
11	25095	2	NUT, Hex Nylon Lock, 1/4-20
12	45618	1	BRAKE LINKAGE PIVOT
13	47119	1	BRAKE CONNECTING ROD
14	25035	1	NUT, Hex, 3/8-24
15	25013-16	1	CAPSCREW, Hex Head, 3/8-16 x 2
16	21171	1	CLEVIS, 3/8-24
17	25034	1	NUT, Hex, 3/8-16
18	25096	1	NUT, Hex Nylon Lock, 3/8-16
19	25010-6	2	CAPSCREW, Hex Head, 1/4-20 x 3/4
20	25154	2	WASHER, 1/4
21	45621	1	SWITCH MOUNT BRACKET
22	*	*	SWITCH (see electrical schematic)
23	25126	2	NUT, Hex Serrated Flange, 1/4-20
24	25058-14	1	CAPSCREW, Hex Head, TFL, 3/8-16 x 1-3/4

Footnotes:

* - See Electrical Schematic for switch part number

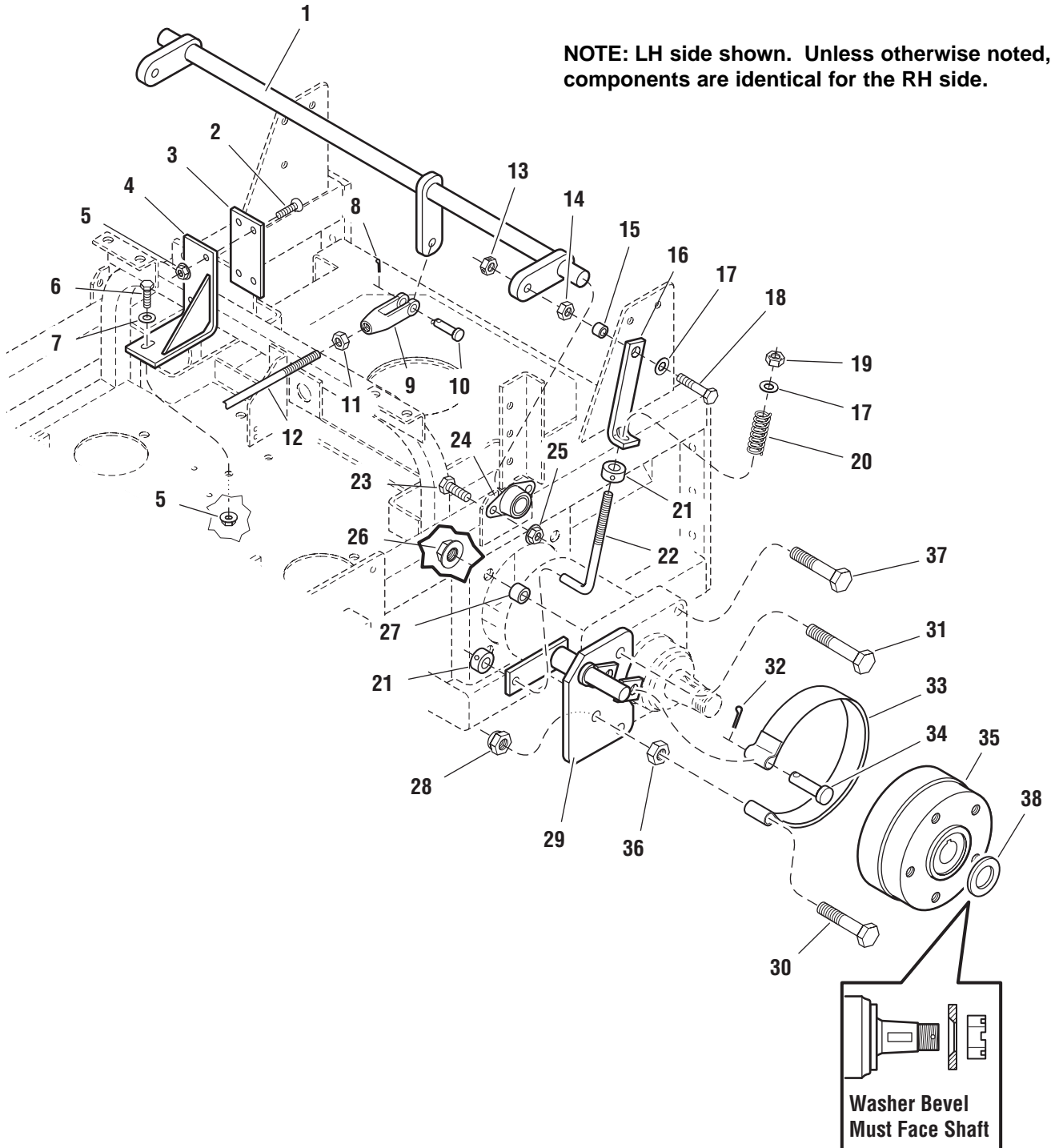
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Parking Brake Group - Lower

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Parking Brake Group - Lower

REF NO.	PART NO.	QTY.	DESCRIPTION
1	47128	1	BRAKE CROSS SHAFT
2	25303	2	SCREW, Flat Head, Socket, 5/16-18 x 1
3	45990	1	FRICTION PLATE
4	47153	1	SUPPORT, Brake Shaft
5	25127	4	NUT, Hex Serrated Flange, 5/16-18
6	25011-8	2	CAPSCREW, Hex Head, 5/16-18 x 1
7	25155	2	WASHER, 5/16
8	25201-6	1	COTTER PIN
9	21171	1	CLEVIS, 3/8-24
10	25214-8	1	PIN, Clevis, 3/8 x 1
11	25035	1	NUT, Hex, 3/8-24
12	47119	1	BRAKE CONNECTING ROD
13	25100	2	NUT, Hex, Side Lock, 3/8-16
14	25034	2	NUT, Hex, 3/8-16
15	41930-009	2	PIVOT SLEEVE
16	47084	2	BRAKE LINK
17	25156	4	WASHER, 3/8
18	25013-12	2	CAPSCREW, Hex Head, 3/8-16 x 1-1/2
19	25046	2	NUT, Hex, Top Lock, 3/8-16
20	22361	2	BRAKE SPRING
21	10546	4	COLLAR, Set, 3/8
22	47091	2	ROD, Brake Adjustment
23	25013-6	4	CAPSCREW, Hex Head, 3/8-16 x 3/4
24	21098	2	BEARING, Flange
25	25128	4	NUT, Hex Serrated Flange, 3/8-16
26	25387	8	NUT, Hex Flange Lock, 1/2-20
27	47027	8	SPACER, .51 x .75 x .56
28	25056	2	NUT, Hex Nylon Lock, 1/2-13
29	47089	1	BRAKE BAND SHAFT-LH
*	47090	1	BRAKE BAND SHAFT-RH (not shown)
30	25017-24	2	CAPSCREW, Hex Head, 1/2-13 x 3
31	25018-28	4	CAPSCREW, Hex Head, 1/2-20 x 3-1/2
32	25202-10	2	COTTER PIN
33	22607	2	BRAKE BAND
34	25328-16	2	PIN, Clevis, 1/2 x 2
35	47052	2	BRAKE HUB
36	25038	2	NUT, Hex, 1/2-13
37	25018-24	4	CAPSCREW, Hex Head, 1/2-20 x 3
38	23249	2	WASHER, 1 x 2

Footnotes:

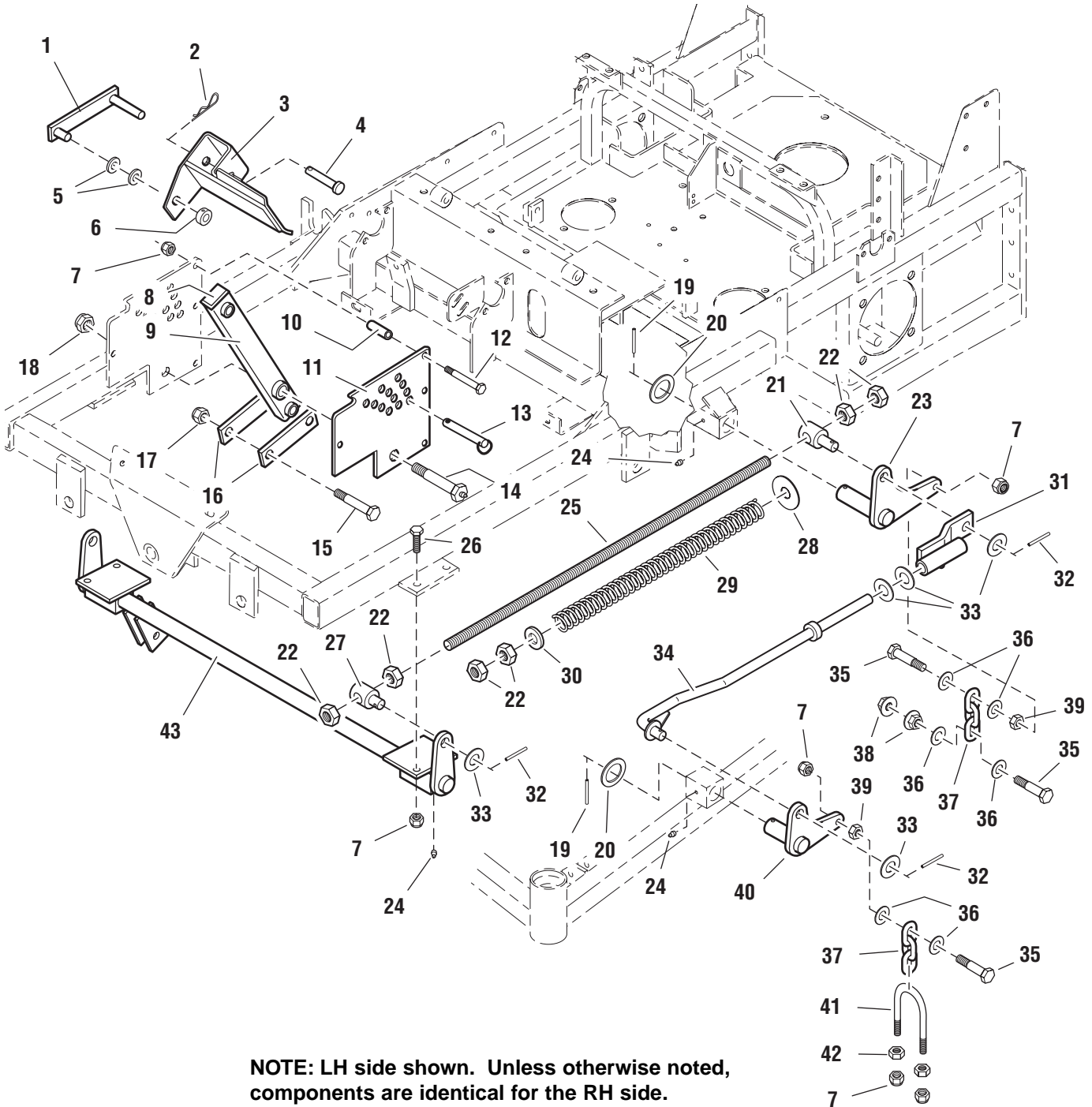
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Deck Lift Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Deck Lift Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	44999	1	DECK LIFT LOCK
2	25210	1	HAIRPIN CLIP
3	45058	1	DECK LIFT PEDAL
*	44875	1	SAFETY WALK, Deck Lift Pedal (not shown)
4	22044	1	PIN, Clevis, 1/2 x 2-1/2
5	25158	2	WASHER, 1/2
6	23241	1	COLLAR, Split, 1/2
7	25096	16	NUT, Hex Nylon Lock, 3/8-16
8	22097	1	CAP
9	44987	1	ARM, Deck Lift Pivot
10	44992	4	SPACER, .38 x .50 x 1.56
11	47043	1	DECK HEIGHT PLATE
12	25013-22	4	CAPSCREW, Hex Head, 3/8-16 x 2-3/4
13	23082	1	PIN, 1/2 x 3-1/2 w/ Lanyard
14	44993	1	LIFT PIVOT BOLT
15	25018-24	2	CAPSCREW, Hex Head, 1/2-20 x 3
16	47513	2	LINK, Deck Lift
17	25098	2	NUT, Hex Nylon Lock, 1/2-20
18	25282	1	NUT, Hex Jam, Nylon Lock, 5/8-11
19	25516	4	PIN, Roll, 3/16 x 1-1/2
20	21253	4	SHIM
21	47446	2	SPRING ROD PIVOT
22	25040	12	NUT, Hex, 5/8-11
23	45449	1	DECK LIFT PIVOT-LH
*	45450	1	DECK LIFT PIVOT-RH (not shown)
24	20095	6	GREASE FITTING
25	45446	2	SPRING ROD
26	25013-10	4	CAPSCREW, Hex Head, 3/8-16 x 1-1/4
27	45447	2	SPRING ROD PIVOT
28	25159	2	WASHER, USS, 5/8
29	22668	2	DECK LIFT SPRING
30	41477	2	SPACER, .63 x 1.06 x .23
31	47198	1	DECK LIFT OFFSET LINK-LH
*	47197	1	DECK LIFT OFFSET LINK-RH (not shown)
32	22366	6	PIN, Spring, 3/16 x 1-1/4
33	25281	10	WASHER, 5/8
34	47500	1	DECK LIFT ROD-LH
*	47498	1	DECK LIFT ROD-RH (not shown)
35	25013-14	6	CAPSCREW, Hex Head, 3/8-16 x 1-3/4
36	25156	12	WASHER, 3/8
37	50878-3	4	CHAIN, 3 Links
38	25128	4	NUT, Hex Serrated Flange, 3/8-16
39	25084	4	NUT, Hex, Jam, 3/8-16
40	47438	1	DECK LIFT PIVOT-LH
*	47437	1	DECK LIFT PIVOT-RH (not shown)
41	25325	2	U-BOLT
42	25034	4	NUT, Hex, 3/8-16
43	47441	1	DECK LIFT SHAFT & MOUNT ASSEMBLY

Footnotes:

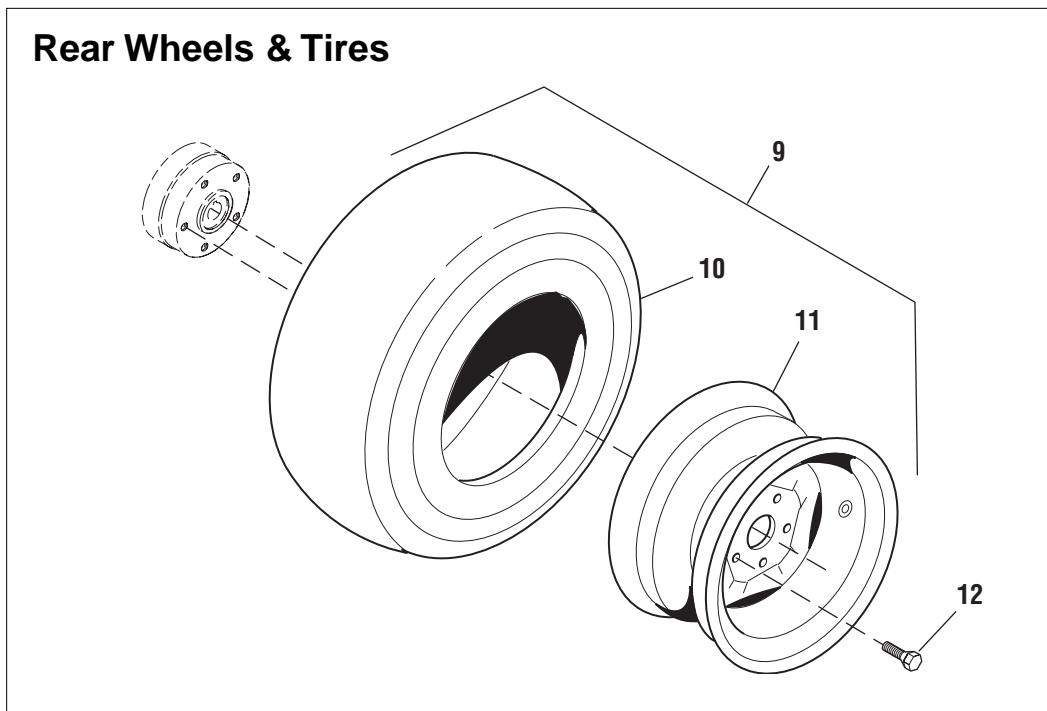
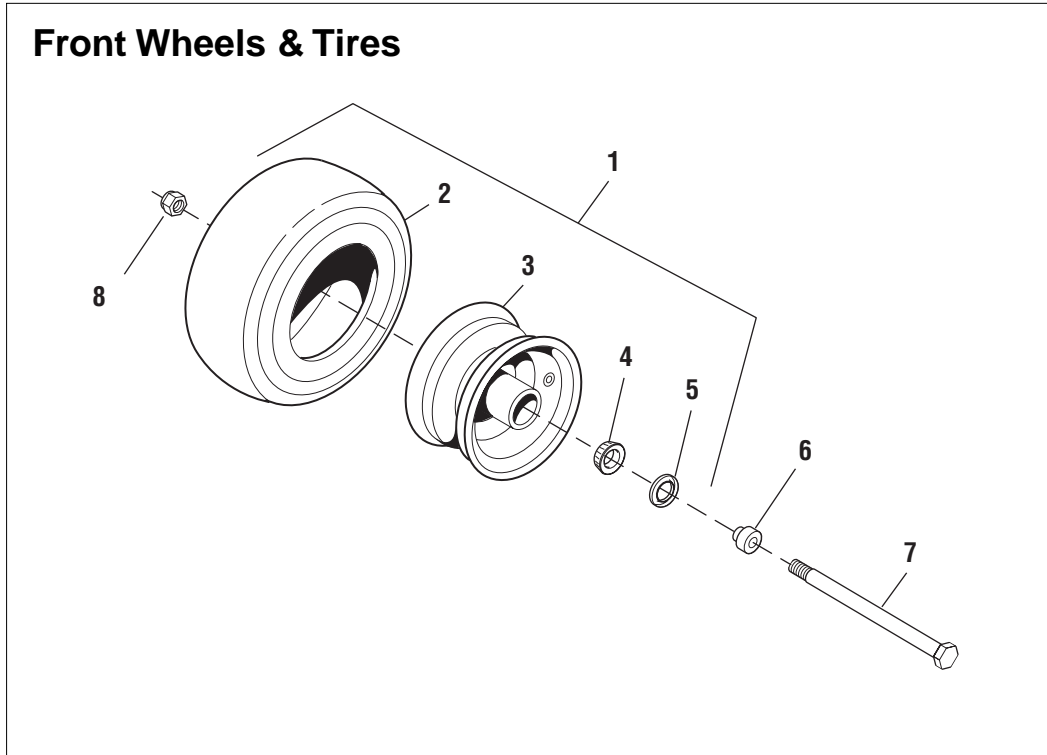
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Tire & Wheel Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Tire & Wheel Group

REF NO.	PART NO.	QTY.	DESCRIPTION
1	22631S	2	WHEEL & TIRE ASSEMBLY, Front, 13 x 5.0 x 6, Complete (includes Ref 2-5)
2	22029-1	2	TIRE, Front, 13 x 5.0 x 6
3	22631S-1	2	WHEEL ASSEMBLY, Front, for 13 x 5.0 x 6 Tire, Complete (includes Ref 4 & 5)
4	22631S-2	4	BEARING, Taper Roller (2 per wheel)
5	22631S-3	4	GREASE SEAL (2 per wheel)
6	47103	4	ADAPTER, Caster Wheel (2 per wheel)
7	25017-60	2	CAPSCREW, Hex Head, 1/2-13 x 7-1/2
8	25056	2	NUT, Hex Nylon Lock, 1/2-13
9	22646S	2	WHEEL & TIRE ASSEMBLY, Rear, 23 x 9.5 x 12, Complete (Includes Ref 10 & 11)
10	22646S-1	2	TIRE, Rear, 23 x 9.5 x 12
11	22646S-2	2	WHEEL ASSEMBLY, Rear, for 23 x 9.5 x 12 Tires
12	22215	10	WHEEL LUG, 1/2 x 1-5/8

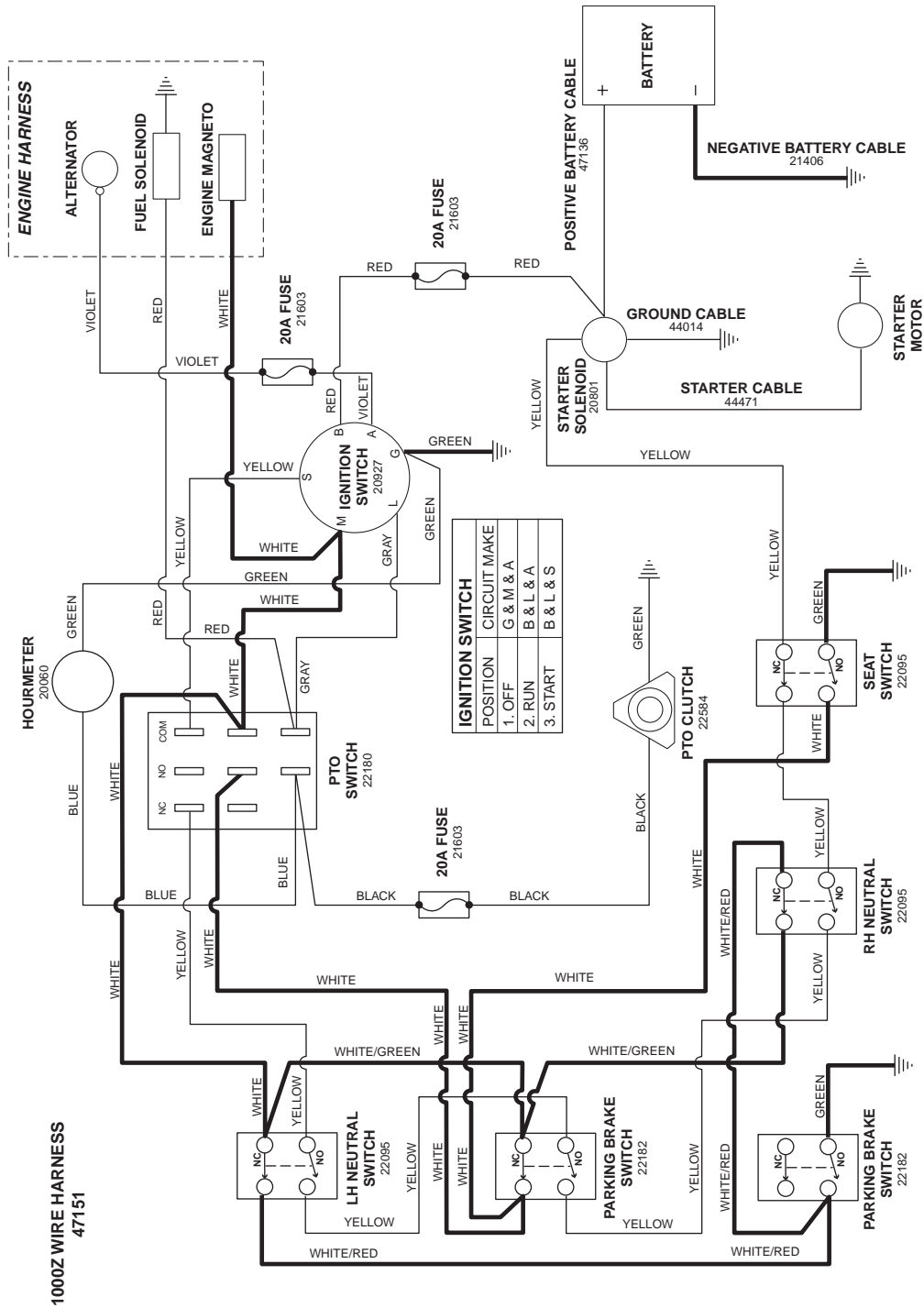
Footnotes:

The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

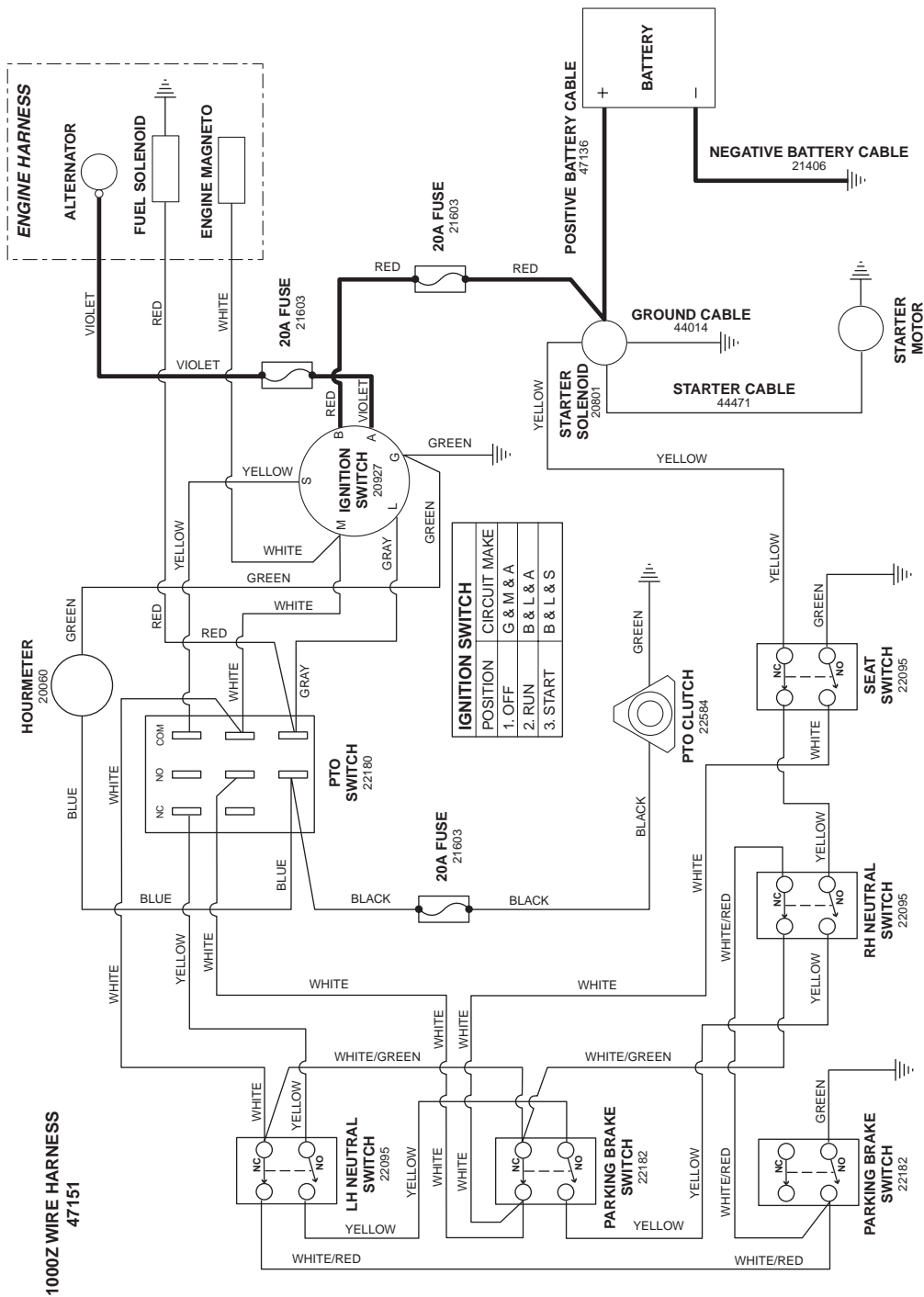
Ignition Grounding Circuit/Operator Presence



The above parts group applies to the following Model Nos.:

- IS1000ZKAV21/48 (S/N: 410 & below)
- IS1000ZKAV23/52 (S/N: 555 & below)

Charging Circuit

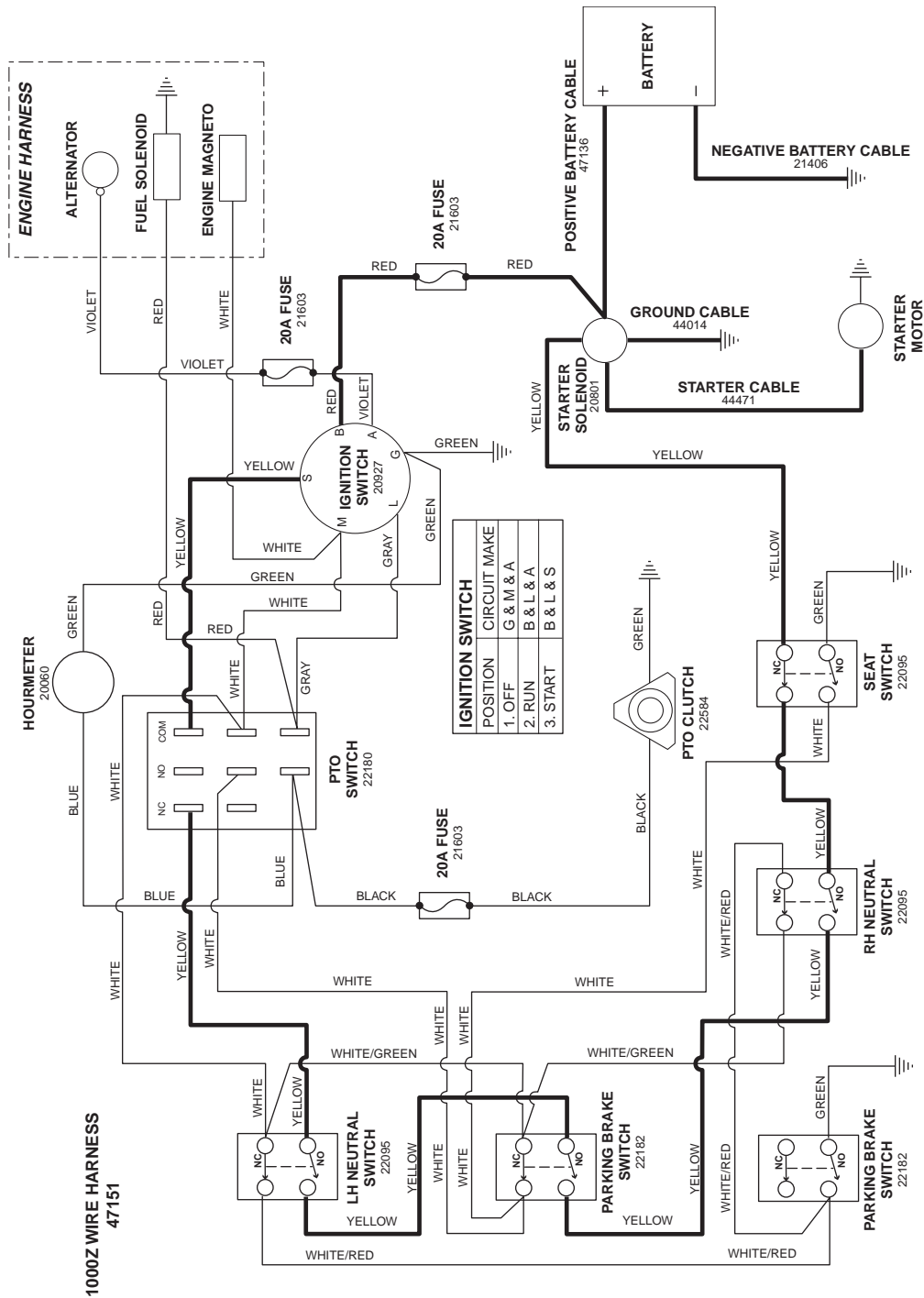


The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 410 & below)

IS1000ZKAV23/52 (S/N: 555 & below)

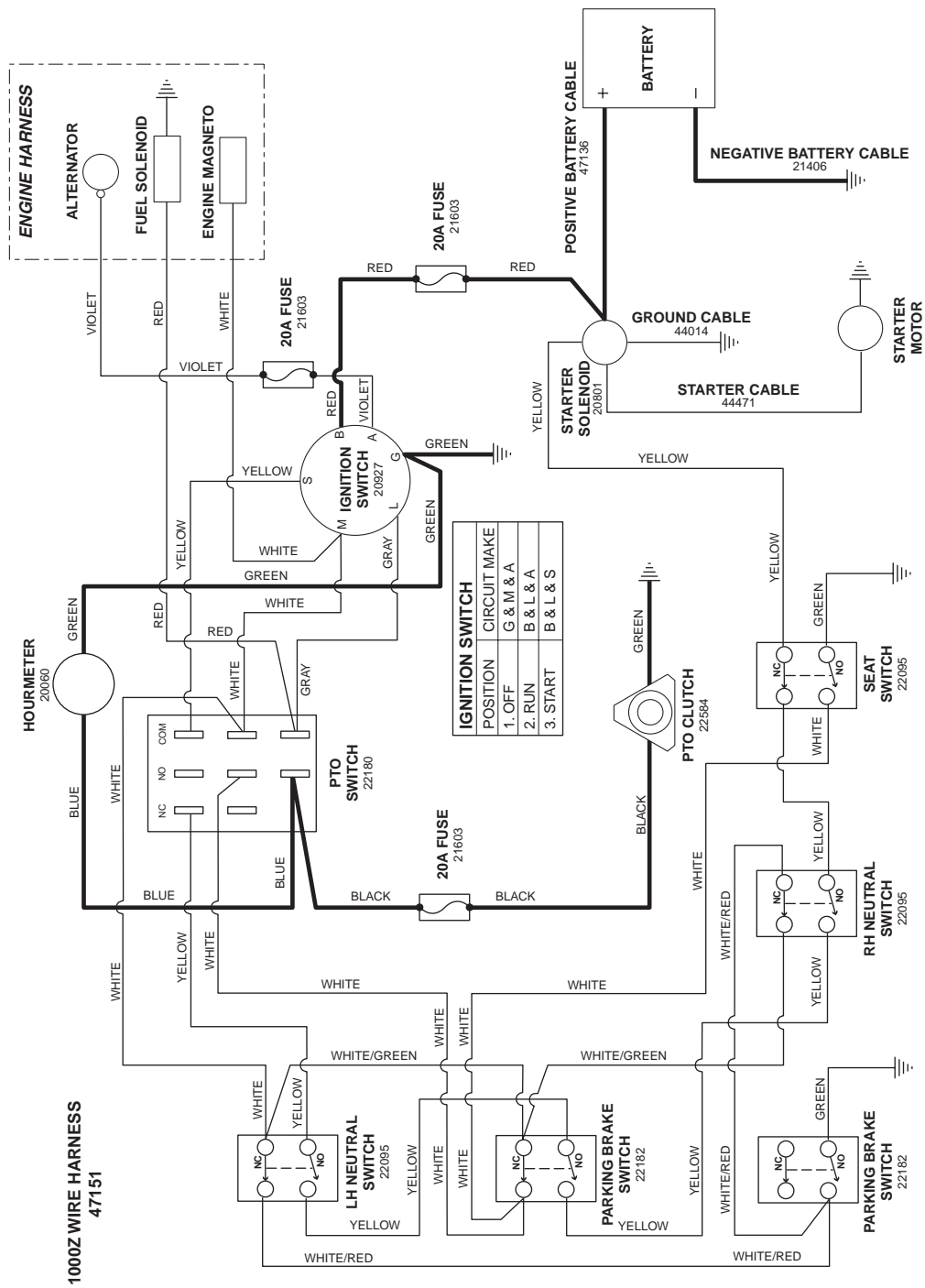
Cranking Circuit



The above parts group applies to the following Model Nos.:

- IS1000ZKAV21/48 (S/N: 410 & below)
- IS1000ZKAV23/52 (S/N: 555 & below)

PTO Clutch Circuit

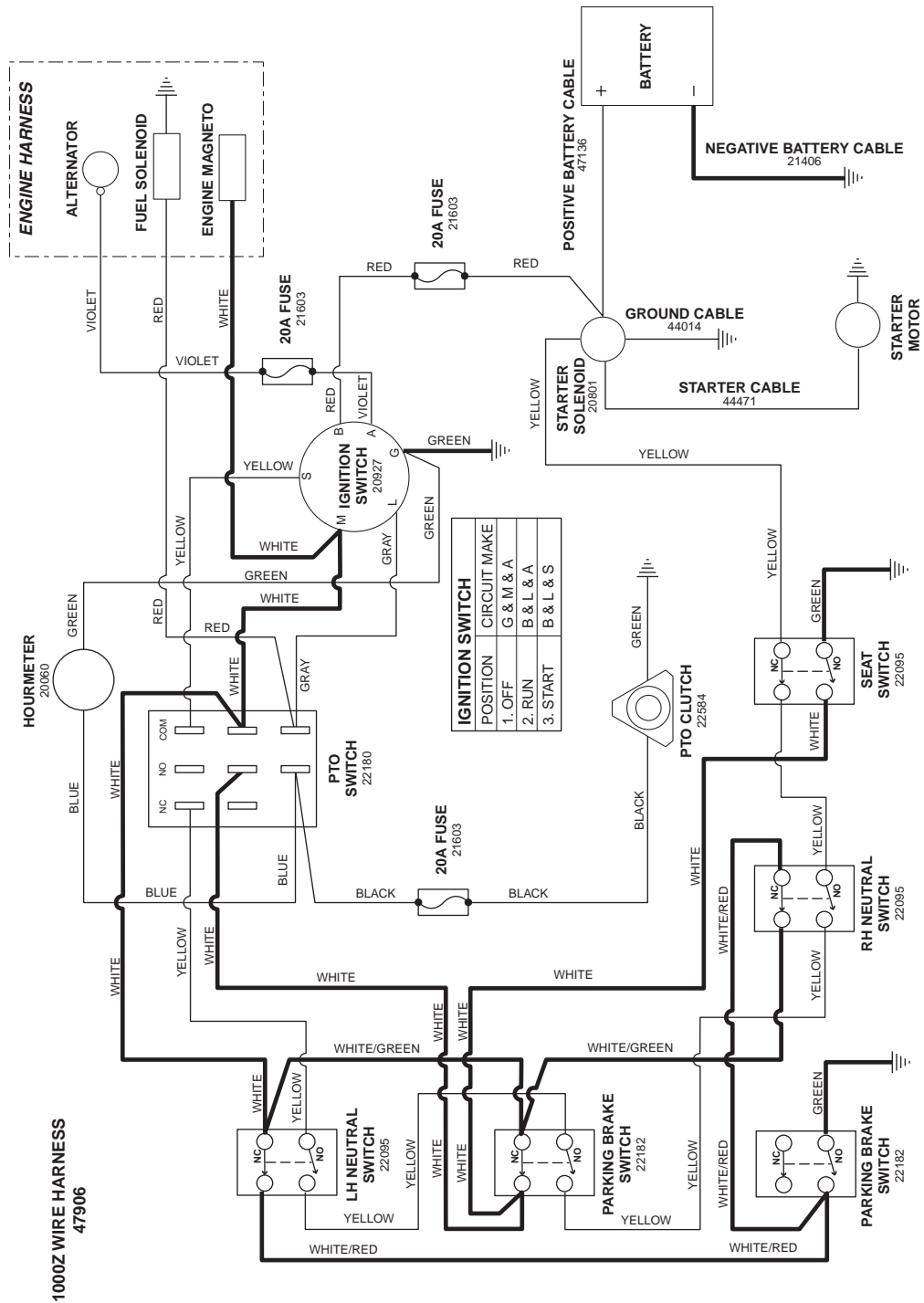


The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 410 & below)

IS1000ZKAV23/52 (S/N: 555 & below)

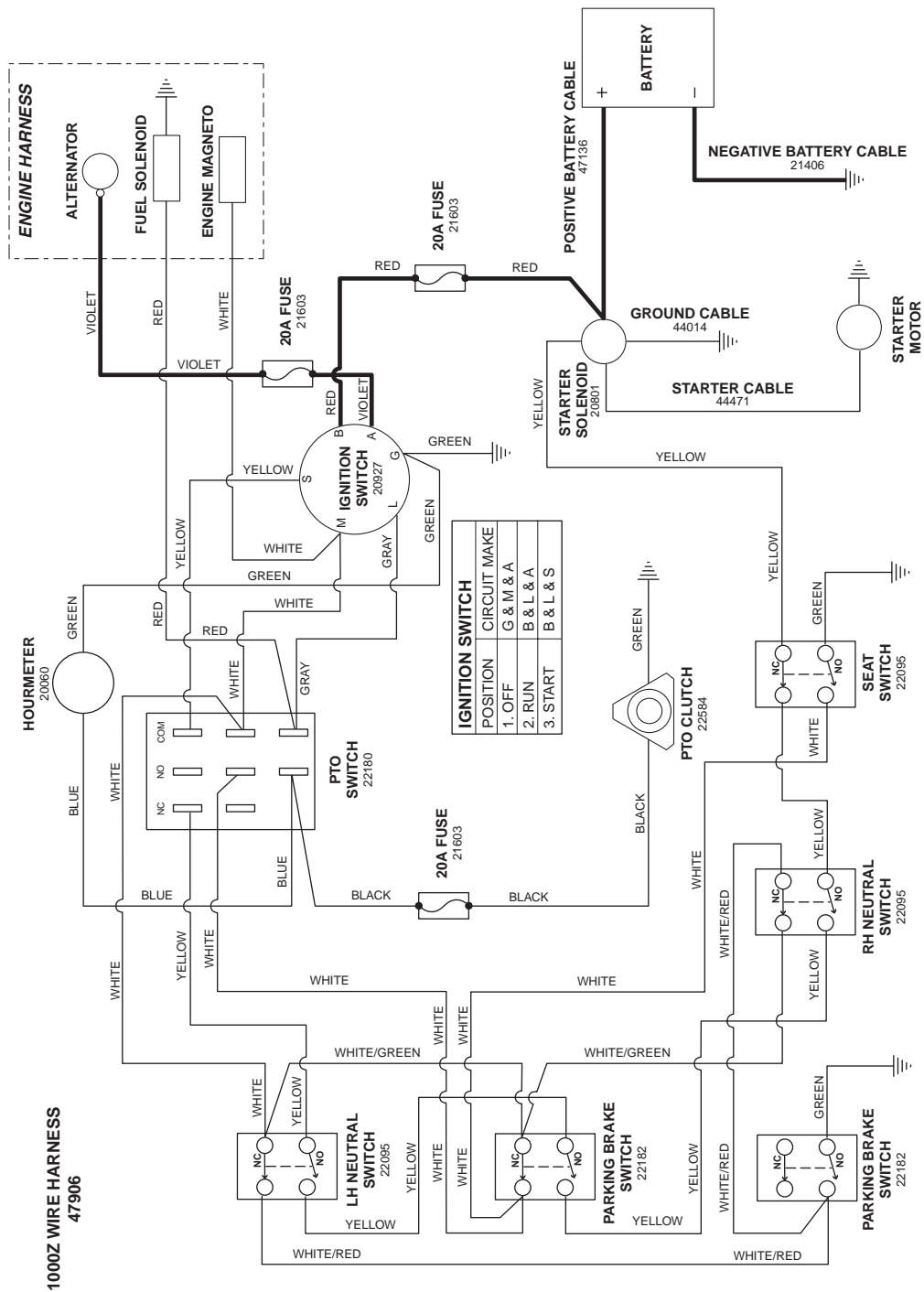
Ignition Grounding Circuit/Operator Presence



The above parts group applies to the following Model Nos.:

- IS1000ZKAV21/48 (S/N: 411-660)
- IS1000ZKAV23/52 (S/N: 556-880)

Charging Circuit

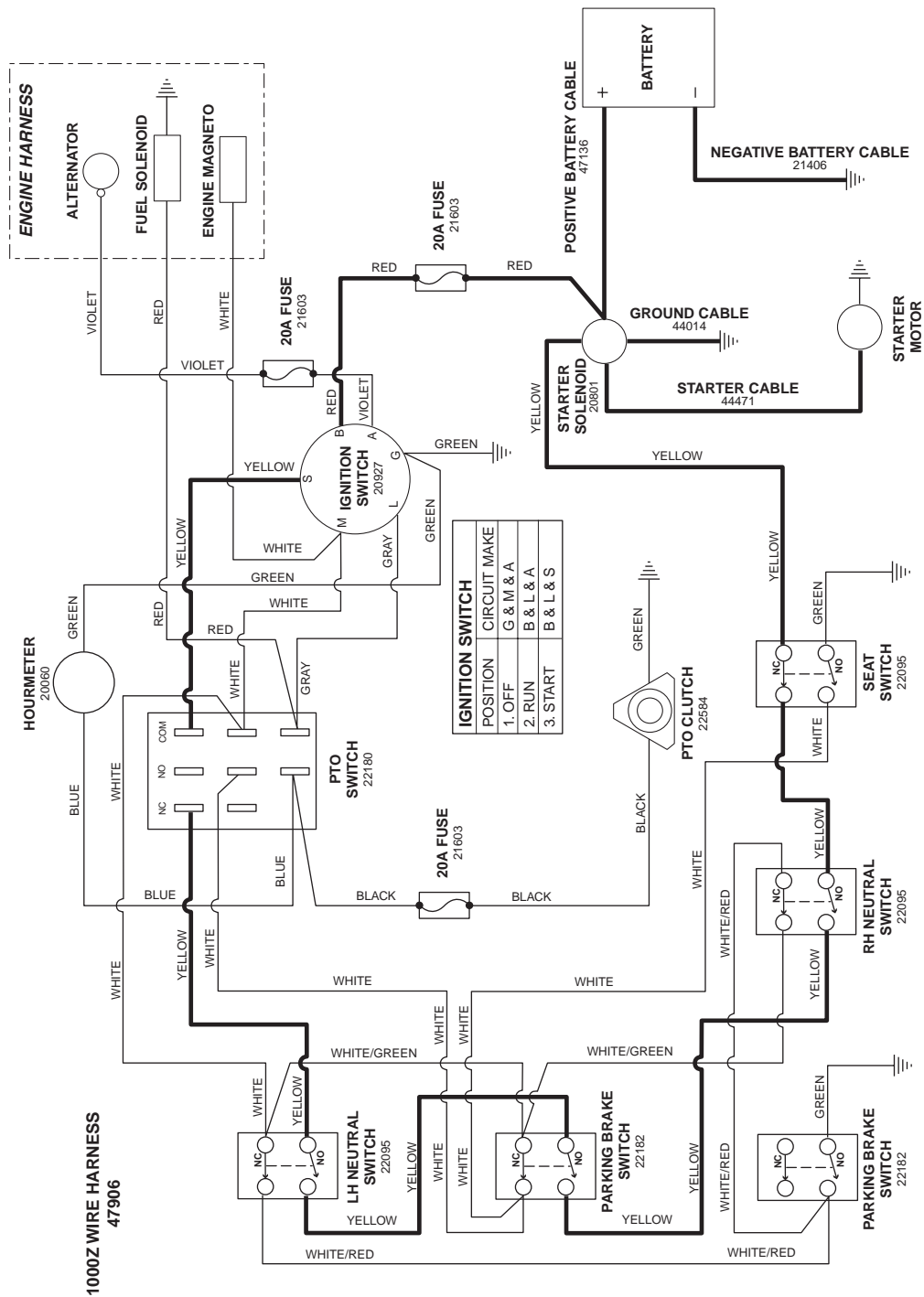


The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 411-660)

IS1000ZKAV23/52 (S/N: 556-880)

Cranking Circuit

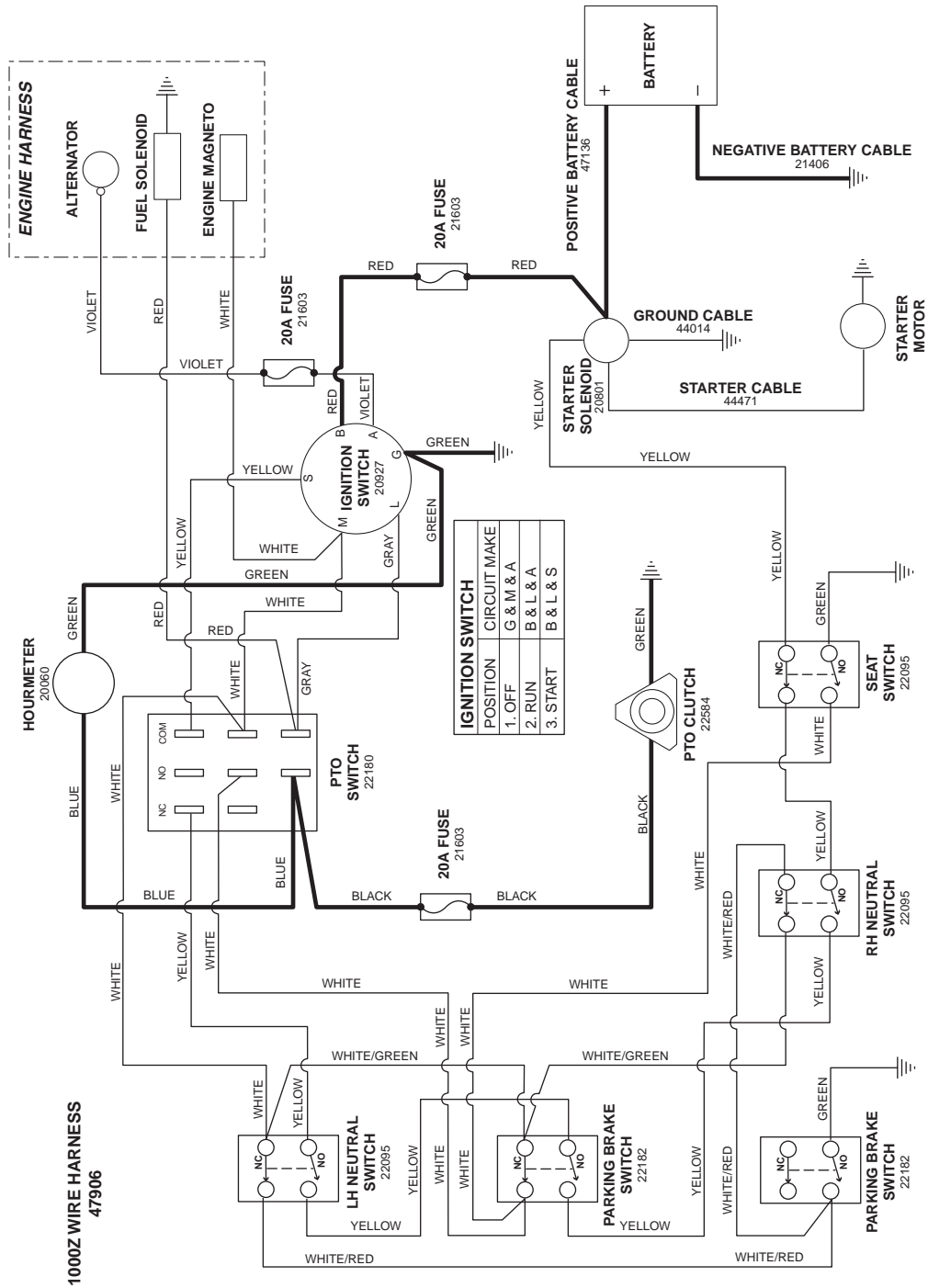


The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 411-660)

IS1000ZKAV23/52 (S/N: 556-880)

PTO Clutch Circuit

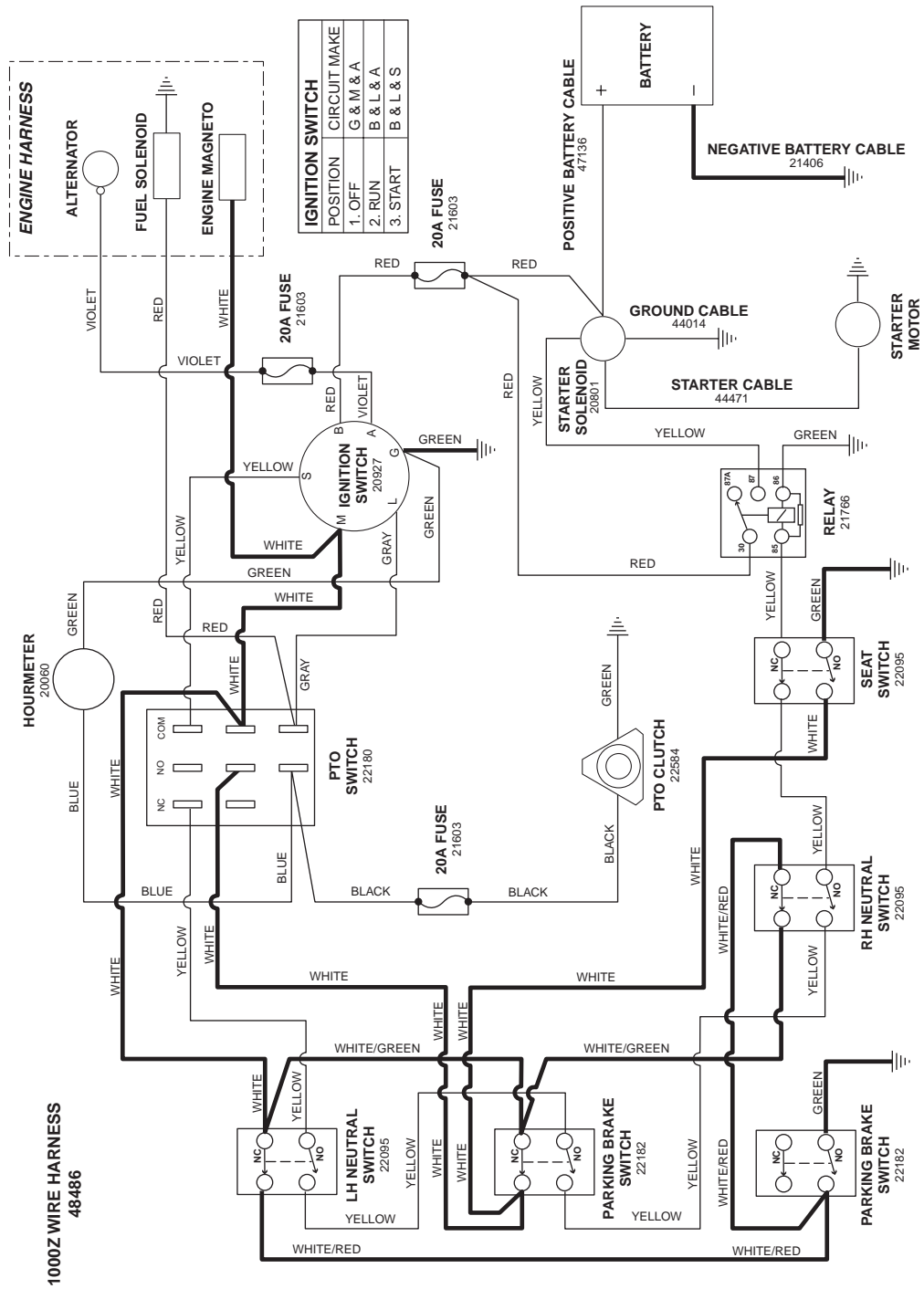


The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 411-660)

IS1000ZKAV23/52 (S/N: 556-880)

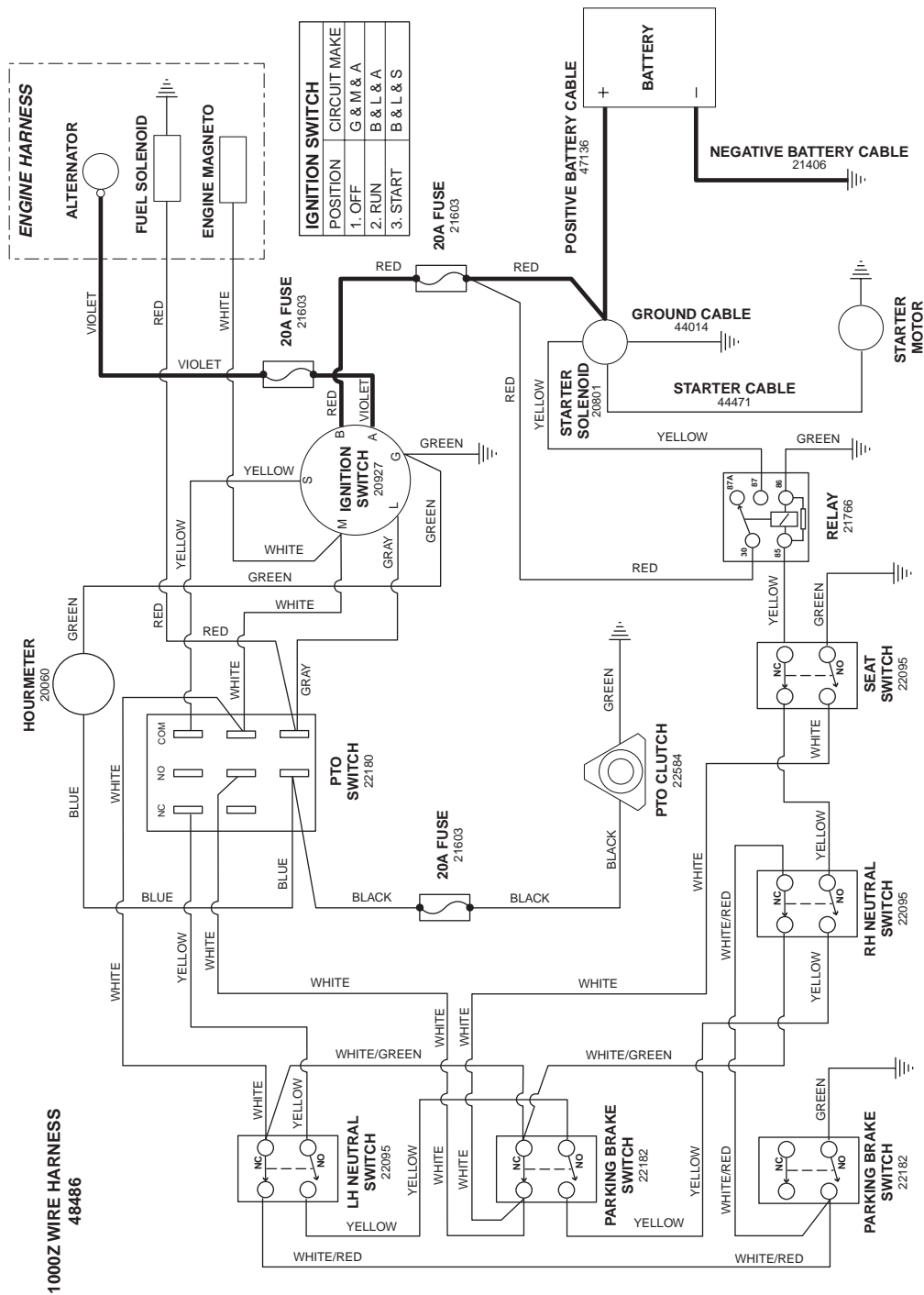
Ignition Grounding Circuit/Operator Presence



The above parts group applies to the following Model Nos.:

- IS1000ZKAV21/48 (S/N: 661-1905)
- IS1000ZKAV23/52 (S/N: 881 -1400)

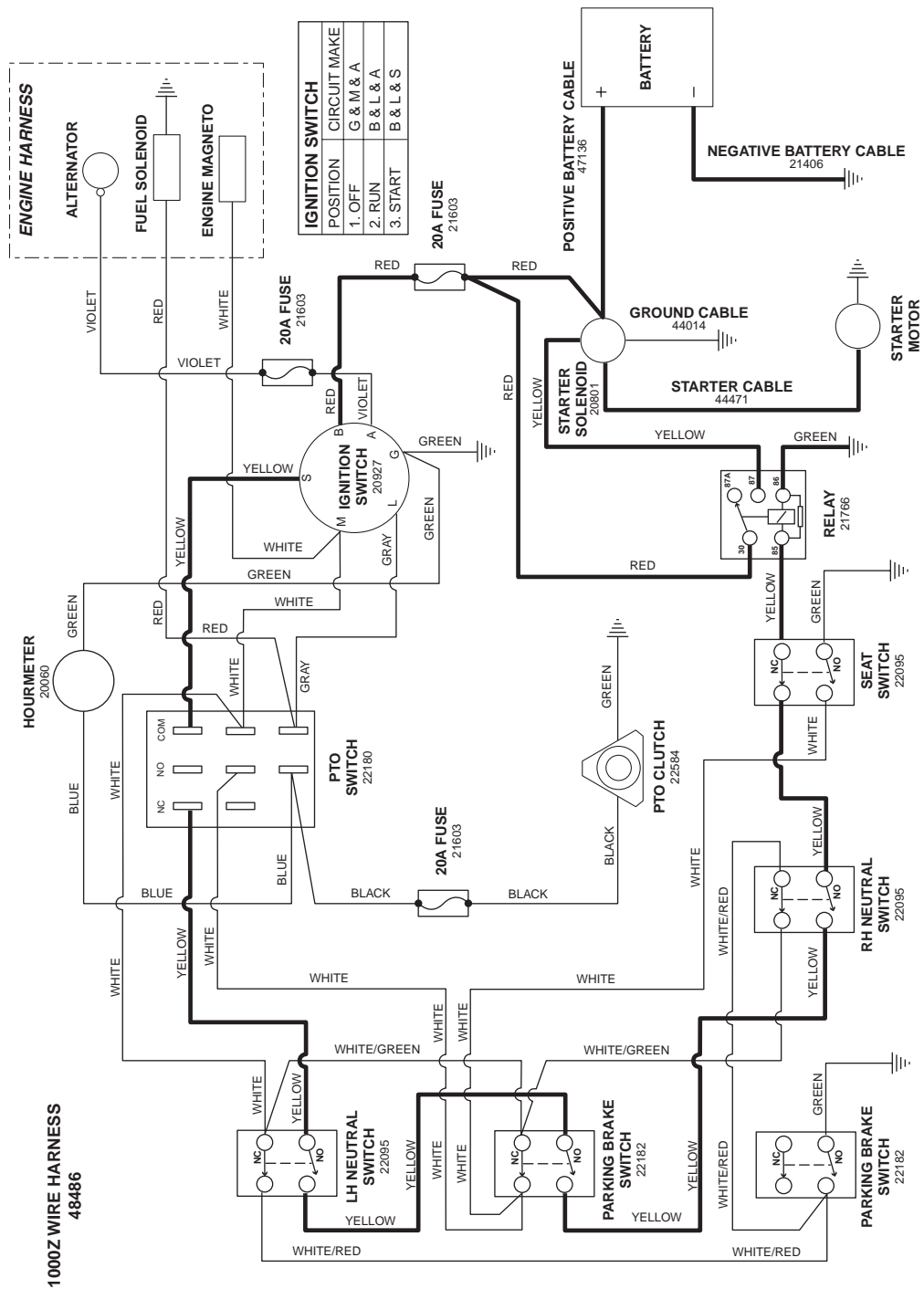
Charging Circuit



The above parts group applies to the following Model Nos.:

- IS1000ZKAV21/48 (S/N: 661-1905)
- IS1000ZKAV23/52 (S/N: 881 -1400)

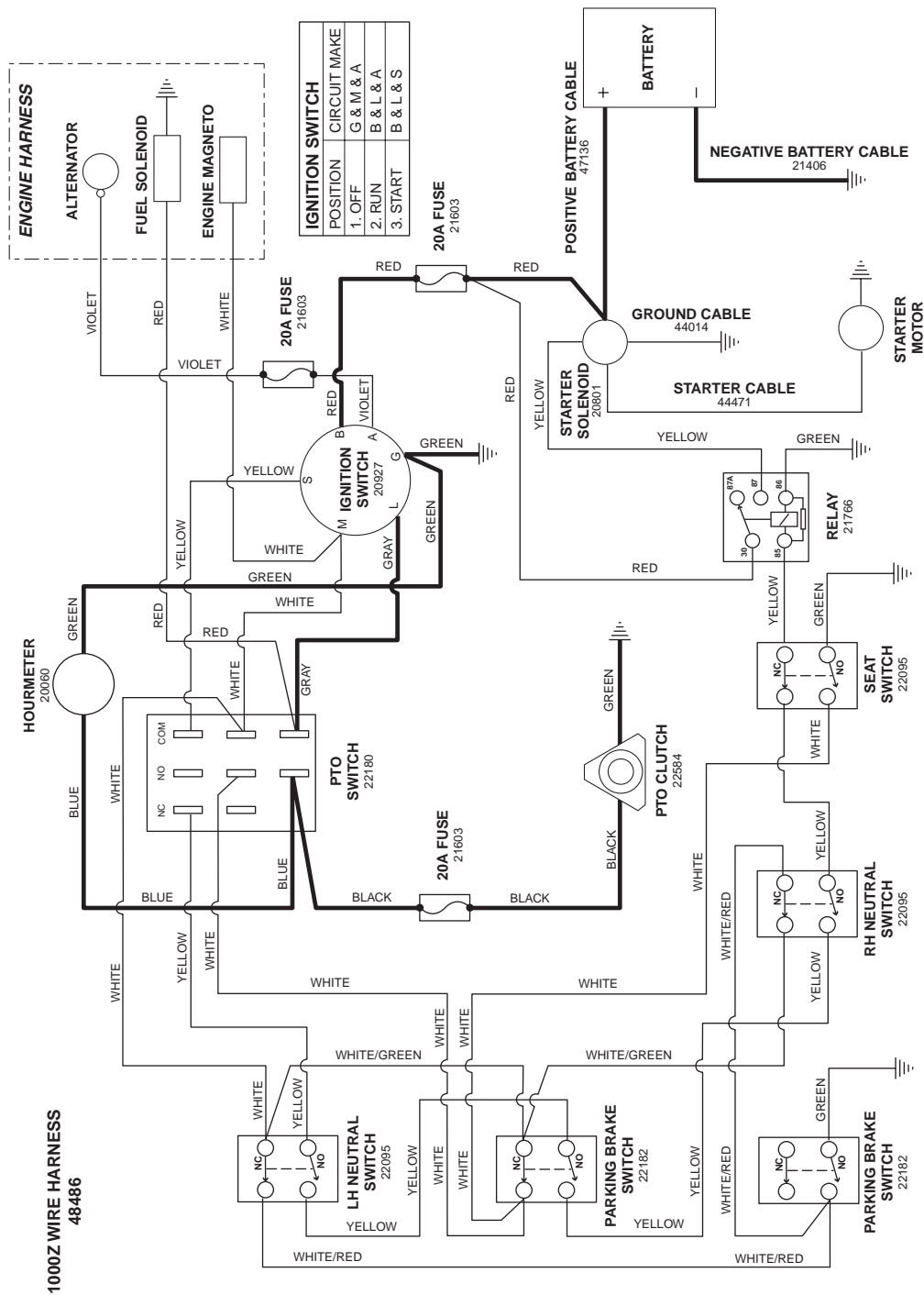
Cranking Circuit



The above parts group applies to the following Model Nos.:

- IS1000ZKAV21/48 (S/N: 661-1905)
- IS1000ZKAV23/52 (S/N: 881 -1400)

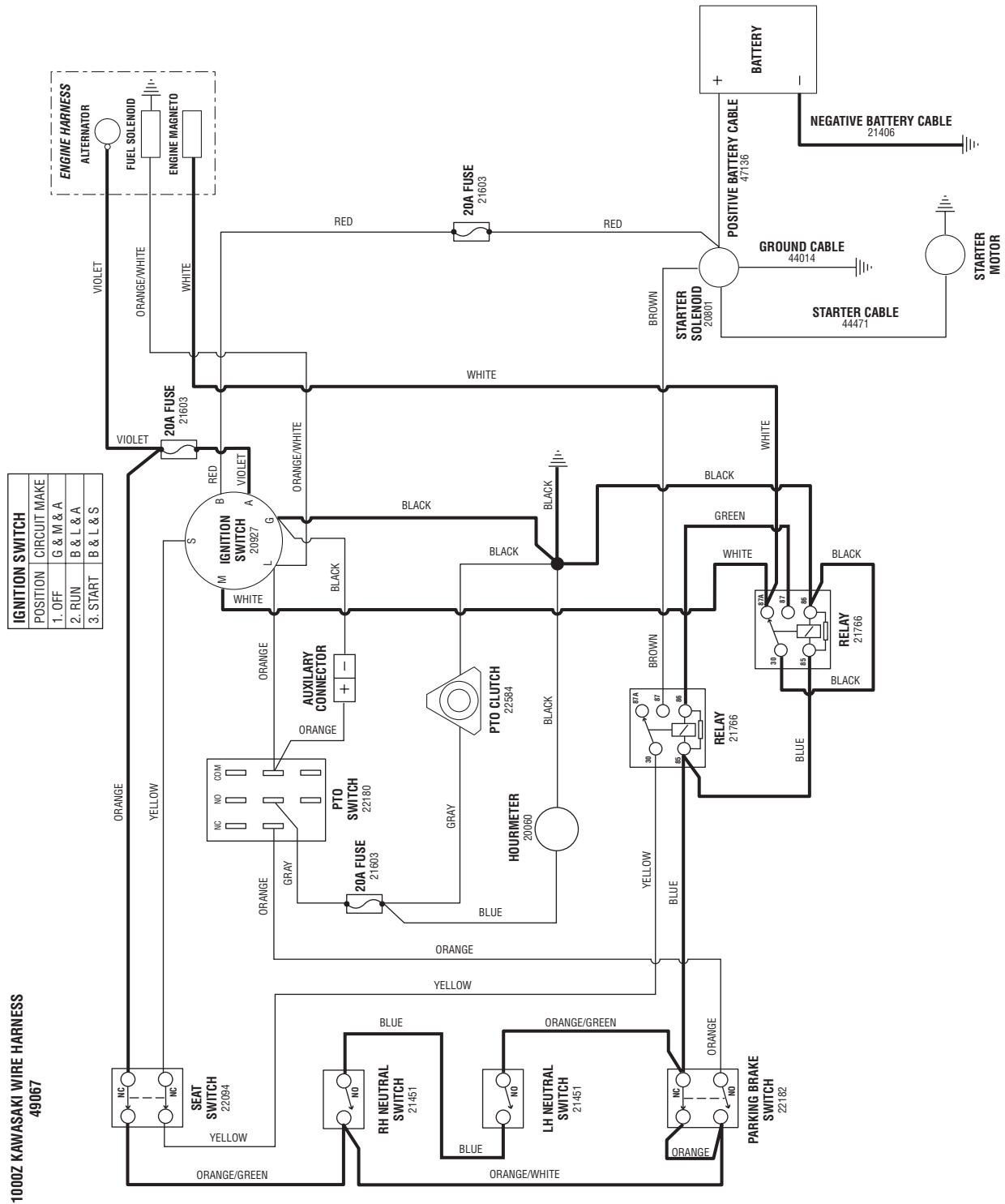
PTO Clutch Circuit



The above parts group applies to the following Model Nos.:

- IS1000ZKAV21/48 (S/N: 661-1905)
- IS1000ZKAV23/52 (S/N: 881 -1400)

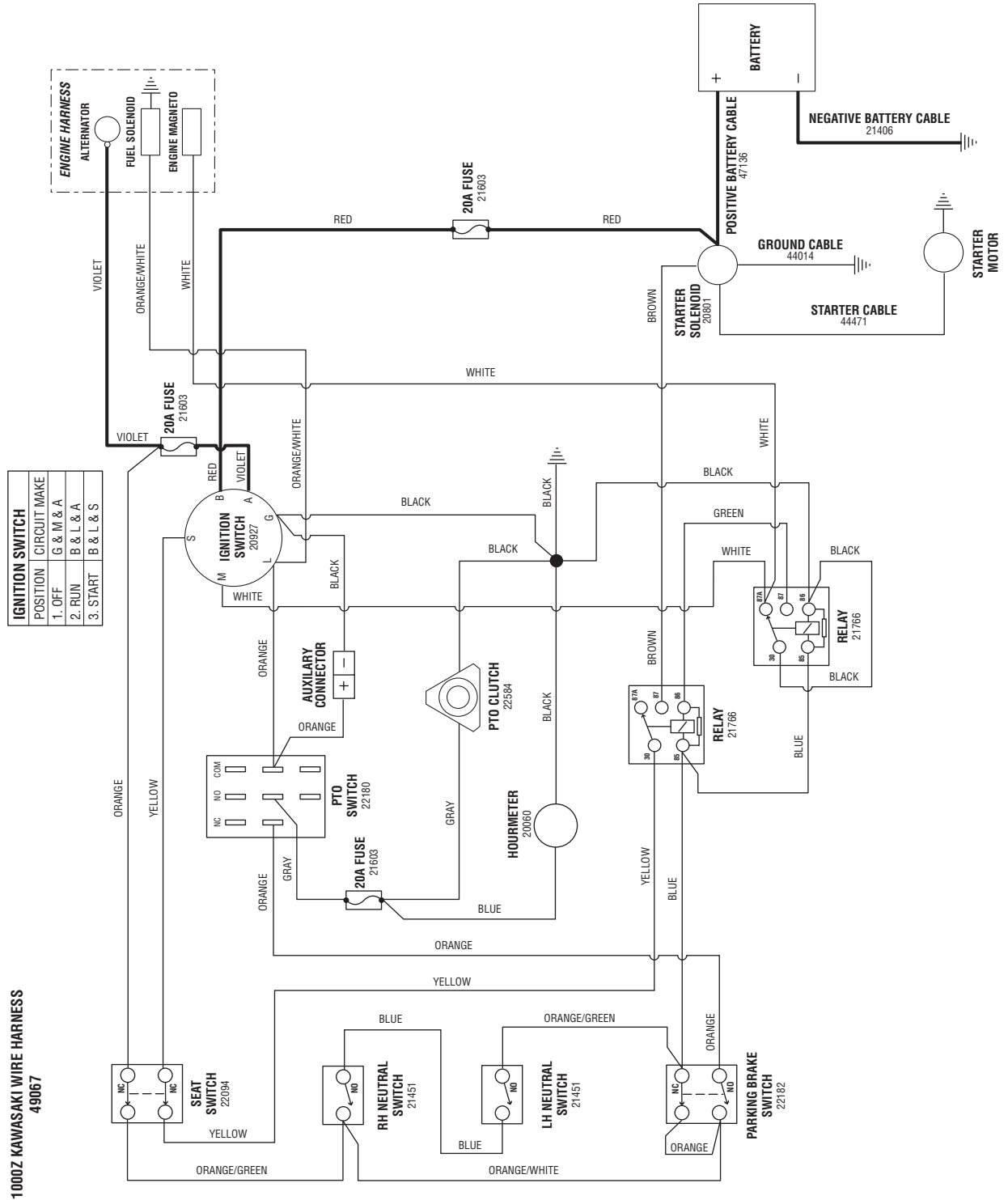
Ignition Grounding Circuit/Operator Presence



The above parts group applies to the following Model Nos.:

- IS1000ZKAV21/48 (S/N: 1906 & above)
- IS1000ZKAV23/52 (S/N: 1401 & above)

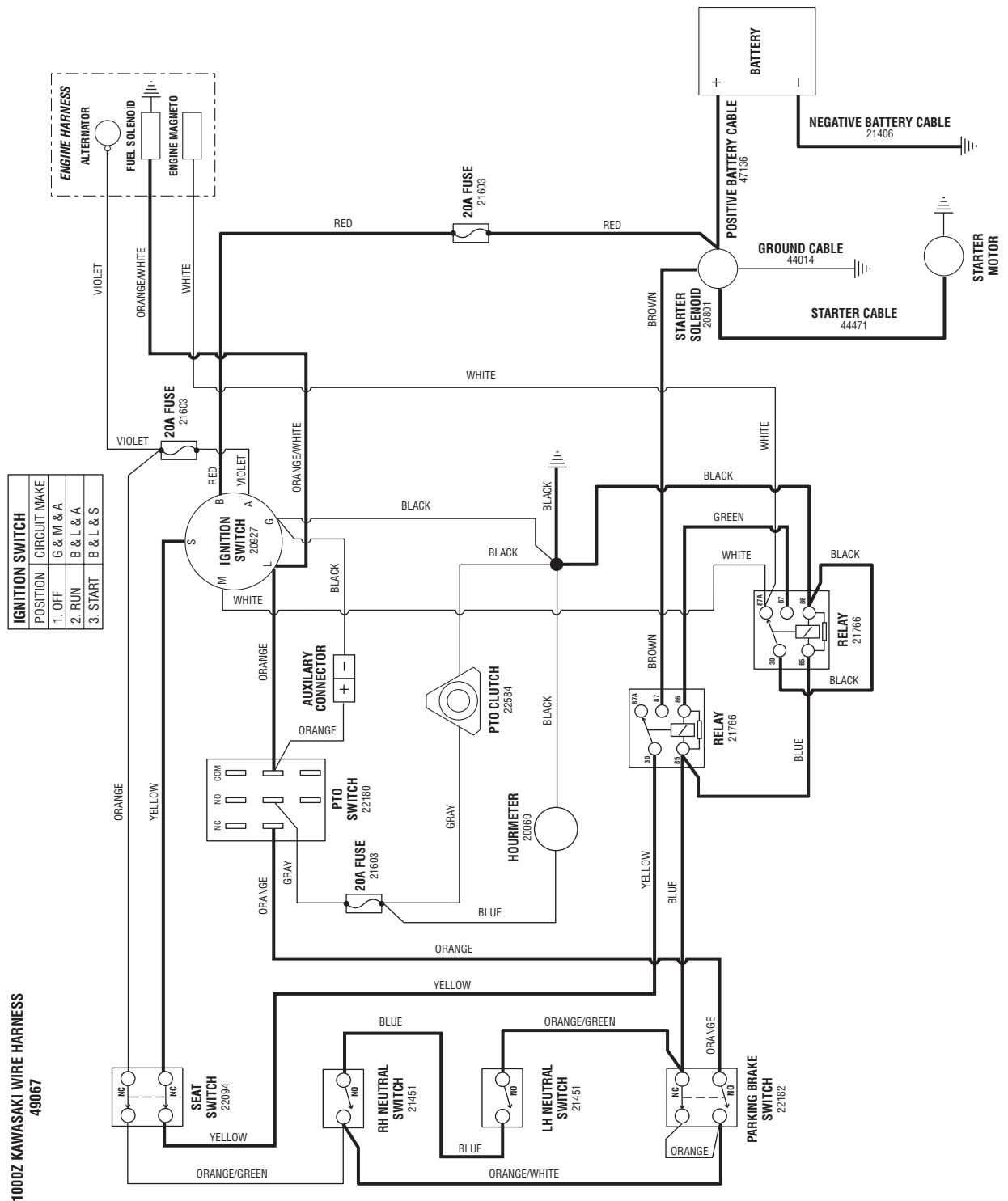
Charging Circuit



The above parts group applies to the following Model Nos.:

- IS1000ZKAV21/48 (S/N: 1906 & above)
- IS1000ZKAV23/52 (S/N: 1401 & above)

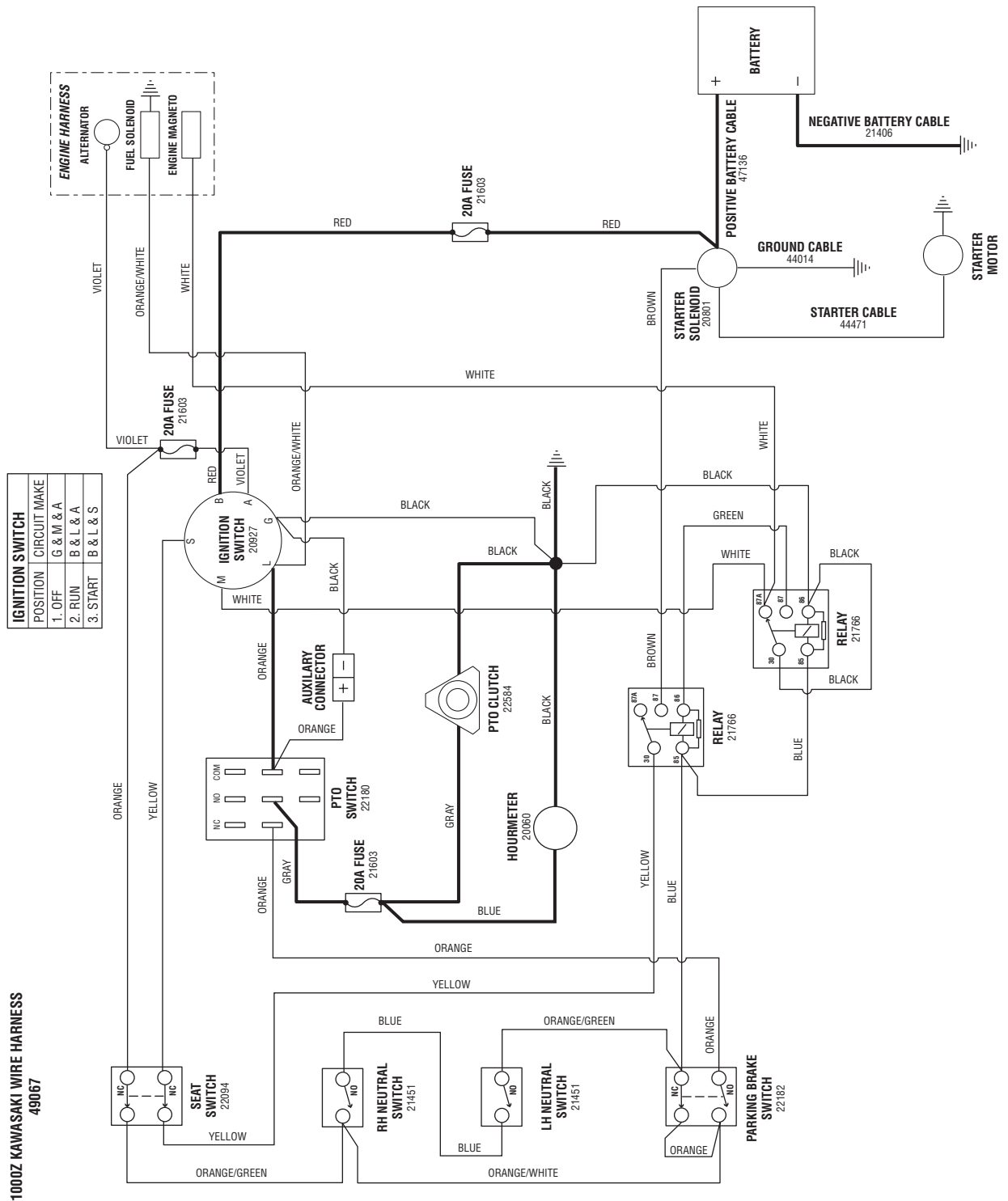
Cranking Circuit



The above parts group applies to the following Model Nos.:

- IS1000ZKAV21/48 (S/N: 1906 & above)
- IS1000ZKAV23/52 (S/N: 1401 & above)

PTO Clutch Circuit

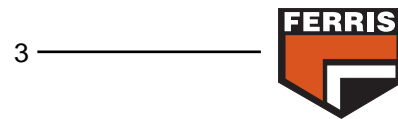
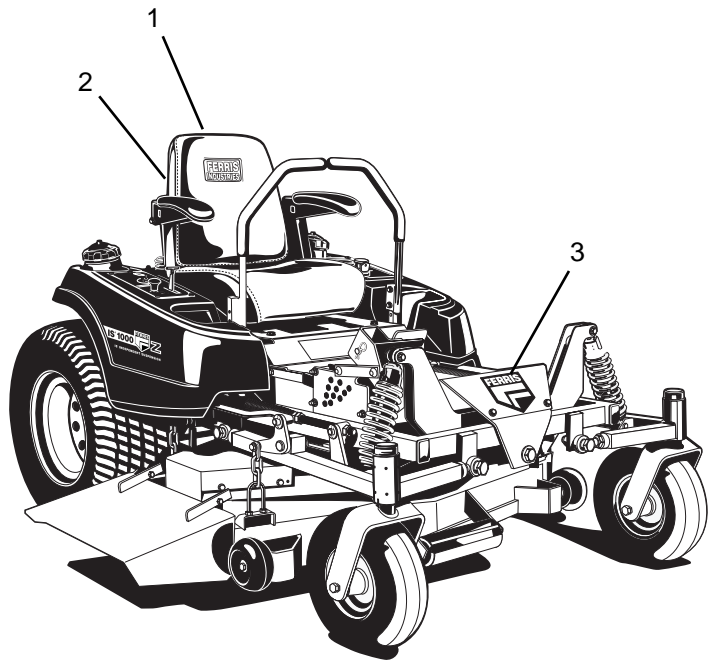


The above parts group applies to the following Model Nos.:

- IS1000ZKAV21/48 (S/N: 1906 & above)
- IS1000ZKAV23/52 (S/N: 1401 & above)

Decals - Brand & Model

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



NOTE: Decals are NOT shown to scale.

The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Decals - Brand & Model

REF NO.	PART NO.	QTY.	DESCRIPTION
1	22227	1	DECAL, Ferris Logo (back of seat)
2	22239	1	DECAL, First w/ Independent (back of seat)
3	22556	1	DECAL, Ferris Logo

Footnotes:

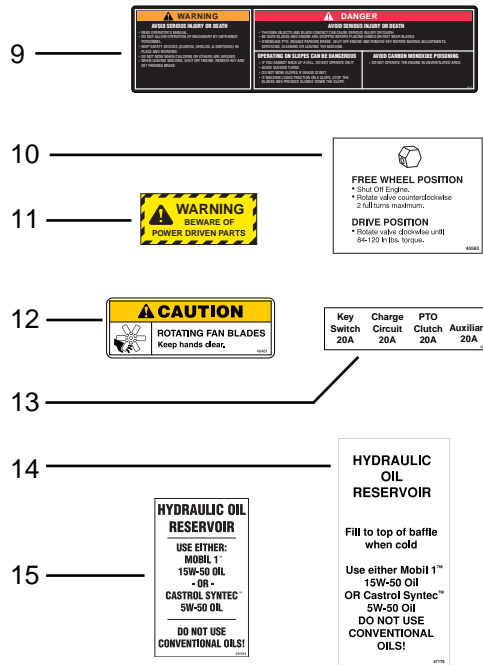
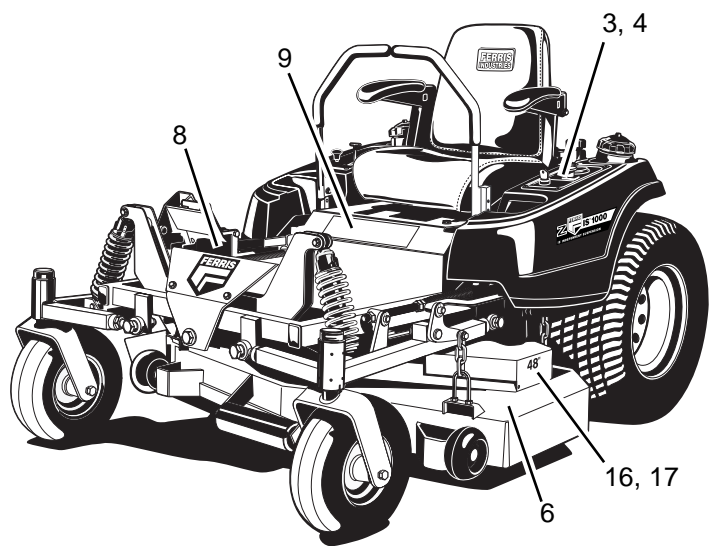
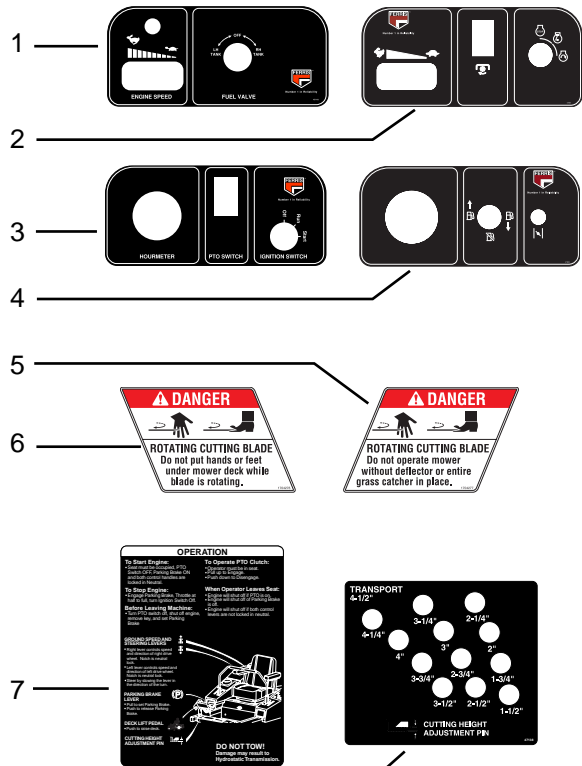
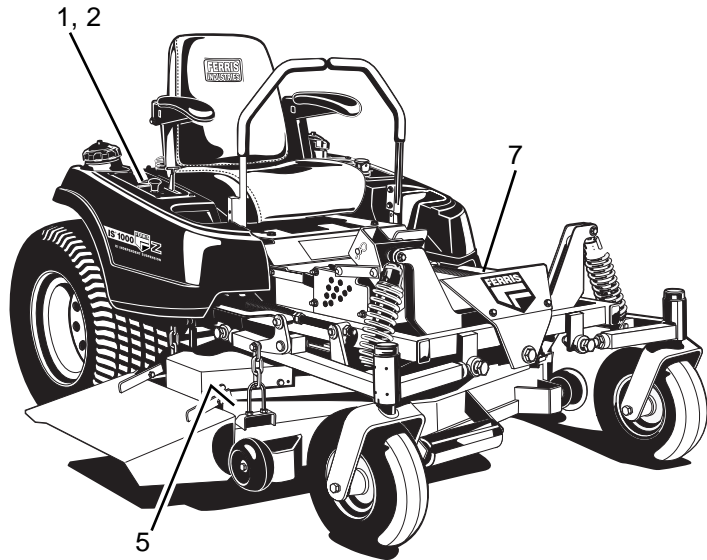
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Decals - Safety & Operation

NOTE: Unless noted otherwise, use the standard hardware torque specification chart.



NOTE: Decals are NOT shown to scale.

The above parts group applies to the following Model Nos.:

- IS1000ZKAV21/48 (S/N: 1905 & below)
- IS1000ZKAV23/52 (S/N: 1400 & below)

Decals - Safety & Operation

REF NO.	PART NO.	QTY.	DESCRIPTION
1	47141	1	DECAL, Control Panel-RH (48" - S/N: 410 & below) (52" - S/N: 555 & below)
2	47861	1	DECAL, Control Panel-RH (48" - S/N: 411 - 1905) (52" - S/N: 556 - 1400)
3	46469	1	DECAL, Control Panel-LH (48" - S/N: 410 & below) (52" - S/N: 555 & below)
4	47863	1	DECAL, Control Panel-LH (48" - S/N: 411 - 1905) (52" - S/N: 556 - 1400)
5	1704277	1	DECAL, Danger (Chute In Place)
6	1704276	1	DECAL, Danger (Hand Under Deck)
7	45559	1	DECAL, Operation
8	47138	1	DECAL, Lift Plate
9	47171	1	DECAL, Safety/Instruction
10	45562	2	DECAL, Hydro Release Valve
11	20337	1	DECAL, Warning (on top of mower deck)
12	46481	2	DECAL, Caution Fan
13	46503	1	DECAL, Fuse Location
14	47175	1	DECAL, Oil Reservoir (steel tank)
15	48454	1	DECAL, Oil Reservoir (plastic tank)
16	22811	1	DECAL, 48"
17	22812	1	DECAL, 52"

Footnotes:

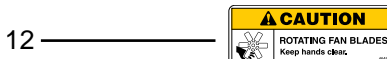
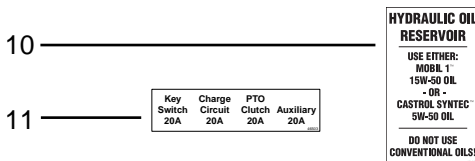
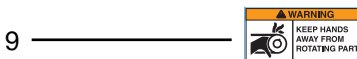
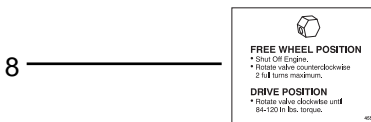
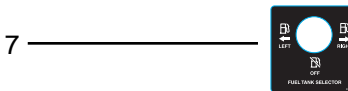
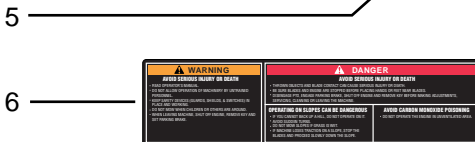
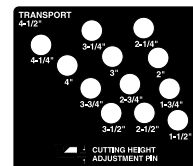
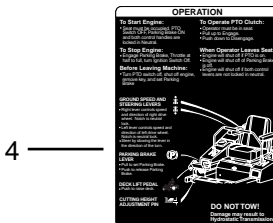
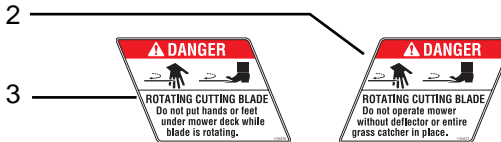
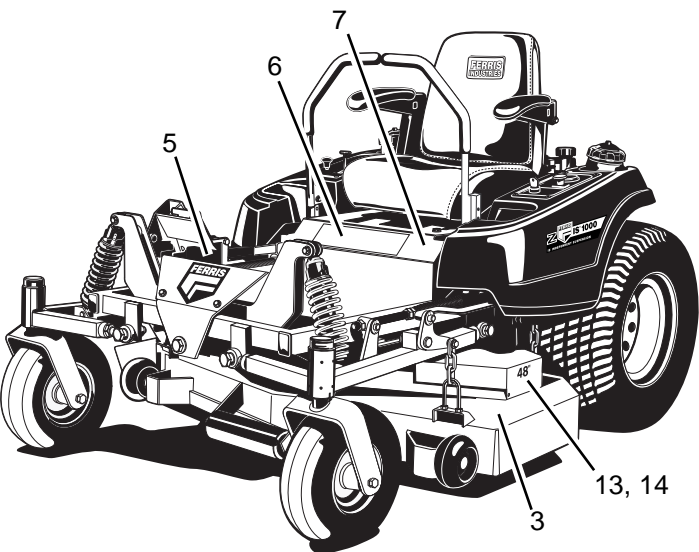
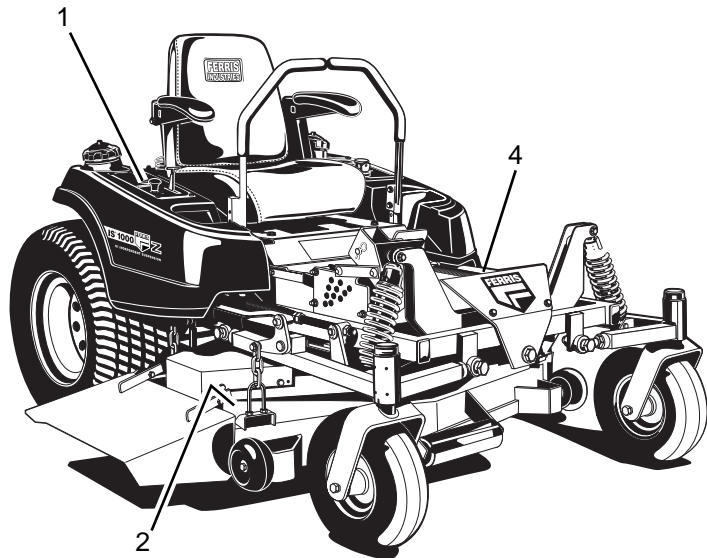
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 1905 & below)

IS1000ZKAV23/52 (S/N: 1400 & below)

Decals - Safety & Operation

NOTE: Unless noted otherwise, use the standard hardware torque specification chart.



13 — 48" 52"

14 —

The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 1906 & above)

IS1000ZKAV23/52 (S/N: 1401 & above)

Decals - Safety & Operation

REF NO.	PART NO.	QTY.	DESCRIPTION
1	49199	1	DECAL, Control Panel
2	1704277	1	DECAL, Danger (Chute In Place)
3	1704276	1	DECAL, Danger (Hand Under Deck)
4	45559	1	DECAL, Operation
5	47138	1	DECAL, Lift Plate
6	47171	1	DECAL, Safety/Instruction
7	49148	1	DECAL, Fuel Selector
8	45562	2	DECAL, Hydro Release Valve
9	20337	1	DECAL, Warning (on top of mower deck)
10	48454	1	DECAL, Oil Reservoir
11	46503	1	DECAL, Fuse Location
12	46481	2	DECAL, Caution Fan
13	22811	1	DECAL, 48"
14	22812	1	DECAL, 52

Footnotes:

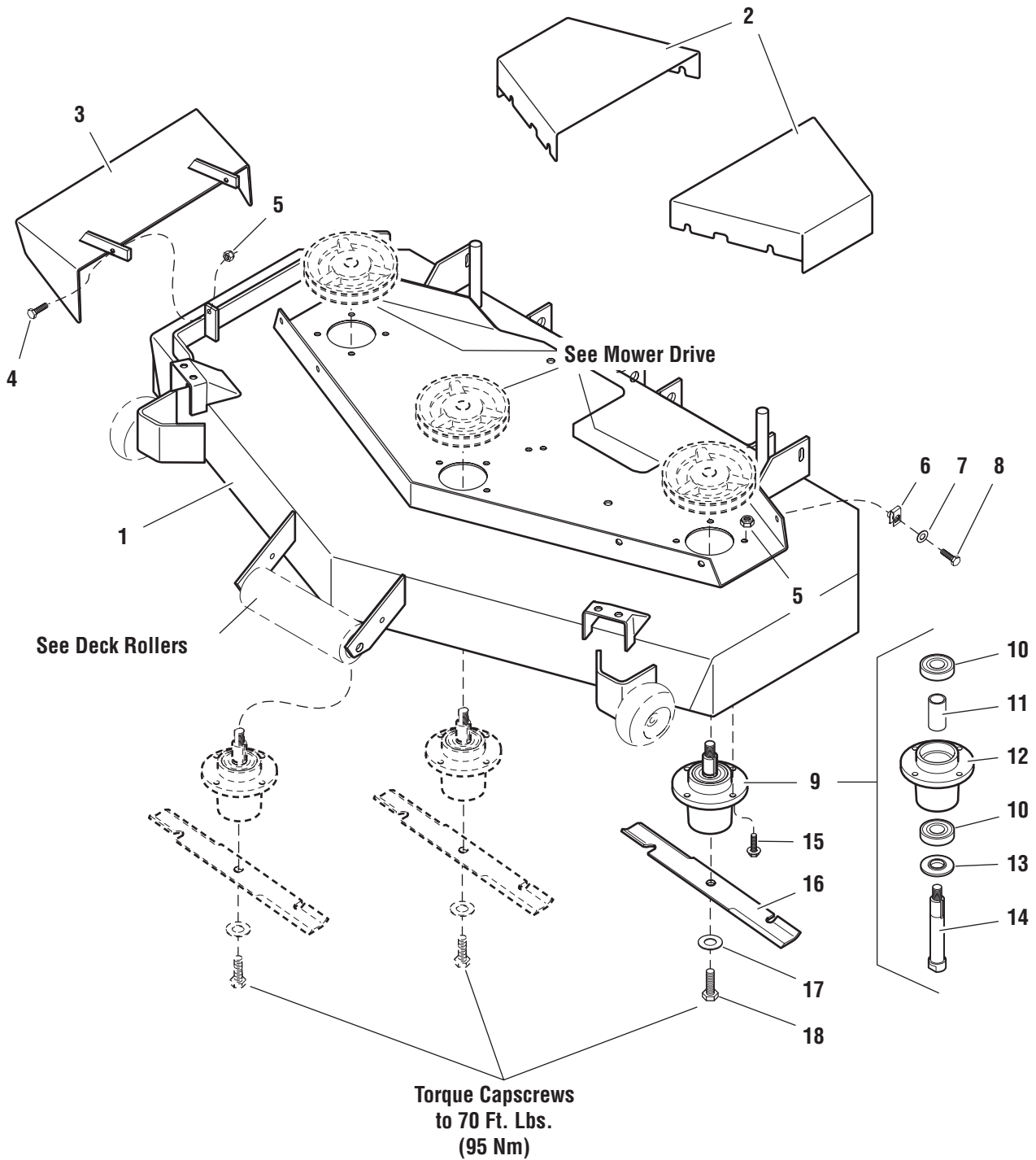
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48 (S/N: 1906 & above)

IS1000ZKAV23/52 (S/N: 1401 & above)

48 " & 52" Mower Decks - Housings, Covers, Spindles & Blades

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

48 " & 52" Mower Decks - Housings, Covers, Spindles & Blades

REF NO.	PART NO.	QTY.	DESCRIPTION
1	47453	1	48" MOWER DECK
*	47467	1	52" MOWER DECK
2	47129	2	MOWER DECK GUARD
3	46445	1	DISCHARGE CHUTE
4	25011-8	2	CAPSCREW, Hex Head, 5/16-18 x 1
5	25057	14	NUT, Hex Nylon Lock, 5/16-18
6	22308	6	BODY CLIP, 5/16-18
7	25155	6	WASHER, 5/16
8	25011-6	6	CAPSCREW, Hex Head, 5/16-18 x 3/4
9	46363	3	SPINDLE ASSEMBLY, Complete (includes Ref 10-14)
10	46363-5	6	BEARING, Roller
11	46363-4	3	SPACER, Bearing
12	46363-1	3	SPINDLE HOUSING
13	46363-3	3	TRASH SHIELD
14	46363-2	3	SPINDLE SHAFT
15	23156	12	CAPSCREW, Hex Flange Head, 5/16-18 x 1-1/4
16	20843	3	MOWER BLADE (48" Deck)
*	21227	3	MOWER BLADE (52" Deck)
17	25159	3	WASHER, USS, 5/8
18	25320-14	3	CAPSCREW, Hex Head, 5/8-11 x 1-3/4

Footnotes:

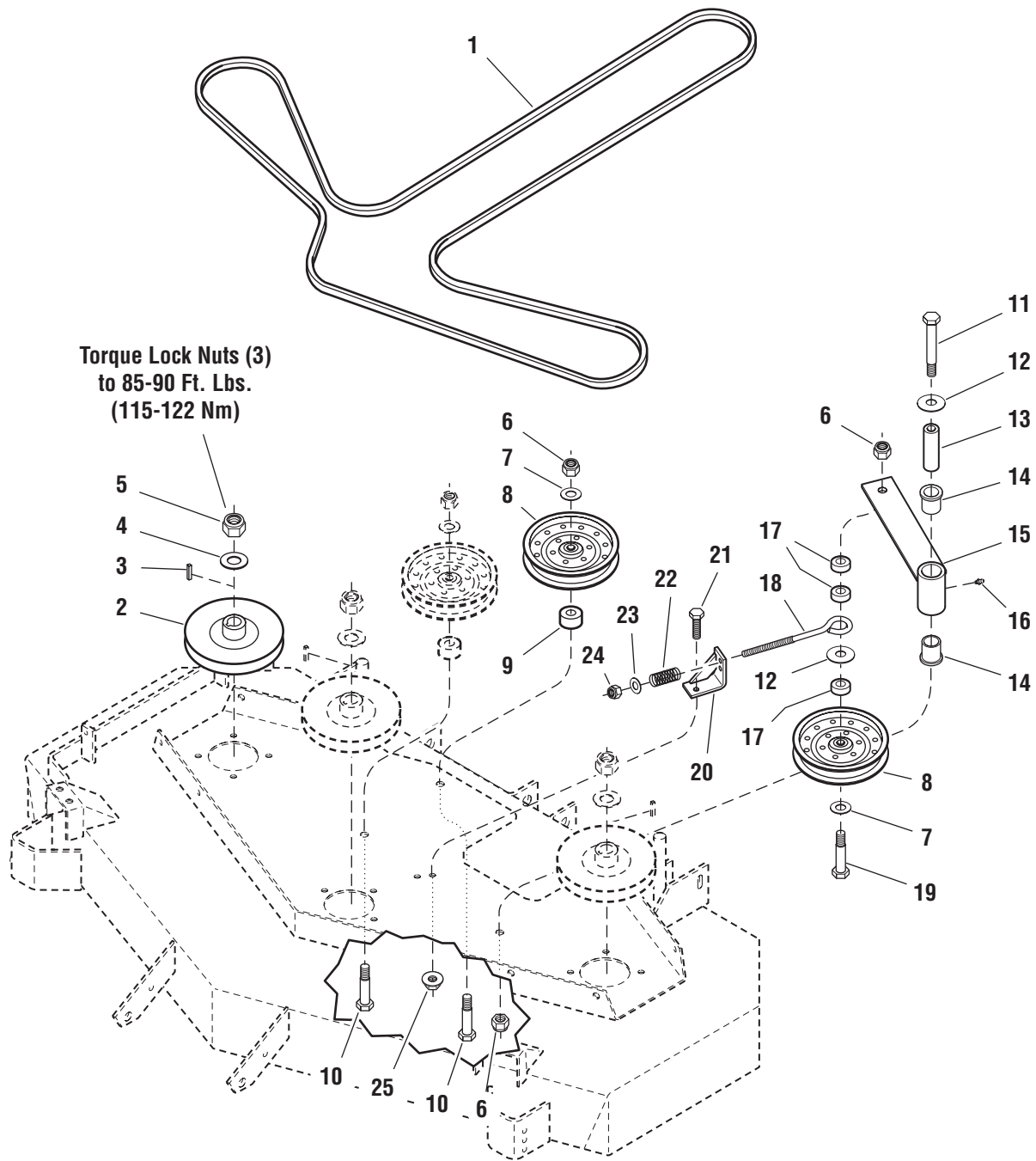
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

48 " & 52" Mower Decks - Pulleys, Belts & Idler Arm

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



Torque Lock Nuts (3)
to 85-90 Ft. Lbs.
(115-122 Nm)

The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48
IS1000ZKAV23/52

48 " & 52" Mower Decks - Pulleys, Belts & Idler Arm

REF NO.	PART NO.	QTY.	DESCRIPTION
1	22667	1	BELT (48" Deck)
*	22148	1	BELT (52" Deck)
2	22622	3	PULLEY, Spindle, Gold (48" Deck, S/N: 855 & below)
*	23175	3	PULLEY, Spindle, Black (48" Deck, S/N: 856 & above)
*	22721	3	PULLEY, Spindle, Gold (52" Deck, S/N: 1185 & below)
*	23178	3	PULLEY, Spindle, Black (52" Deck, S/N: 1186 & above)
3	50407-5	3	KEY, 1/4" x 1-1/4"
4	25318	3	WASHER, Spring
5	25319	3	NUT, Hex Nylon Lock, 5/8-18
6	25056	4	NUT, Hex Nylon Lock, 1/2-13
7	25158	3	WASHER, 1/2
8	21976	3	PULLEY, Idler
9	47142	2	SPACER, .52 x 1.25 x .70
10	25017-24	2	CAPSCREW, Hex Head, 1/2-13 x 3
11	25017-36	1	CAPSCREW, Hex Head, 1/2-13 x 4-1/2
12	25150	2	WASHER, USS, 1/2
13	45022	1	IDLER ARM PIVOT SHAFT
14	21541	2	BUSHING, Flange
15	45106	1	IDLER ARM
16	20095	1	GREASE FITTING
17	45023	3	SPACER, .52 x 1.00 x .44
18	21811	1	EYEBOLT
19	25017-28	1	CAPSCREW, Hex Head, 1/2-13 x 3-1/2
20	45200	1	SPRING ANCHOR
21	25013-8	1	CAPSCREW, Hex Head, 3/8-16 x 1
22	22788	1	SPRING, Compression, 2"
23	25156	1	WASHER, 3/8
24	25096	1	NUT, Hex Nylon Lock, 3/8-16
25	25128	1	NUT, Hex Serrated Flange, 3/8-16

Footnotes:

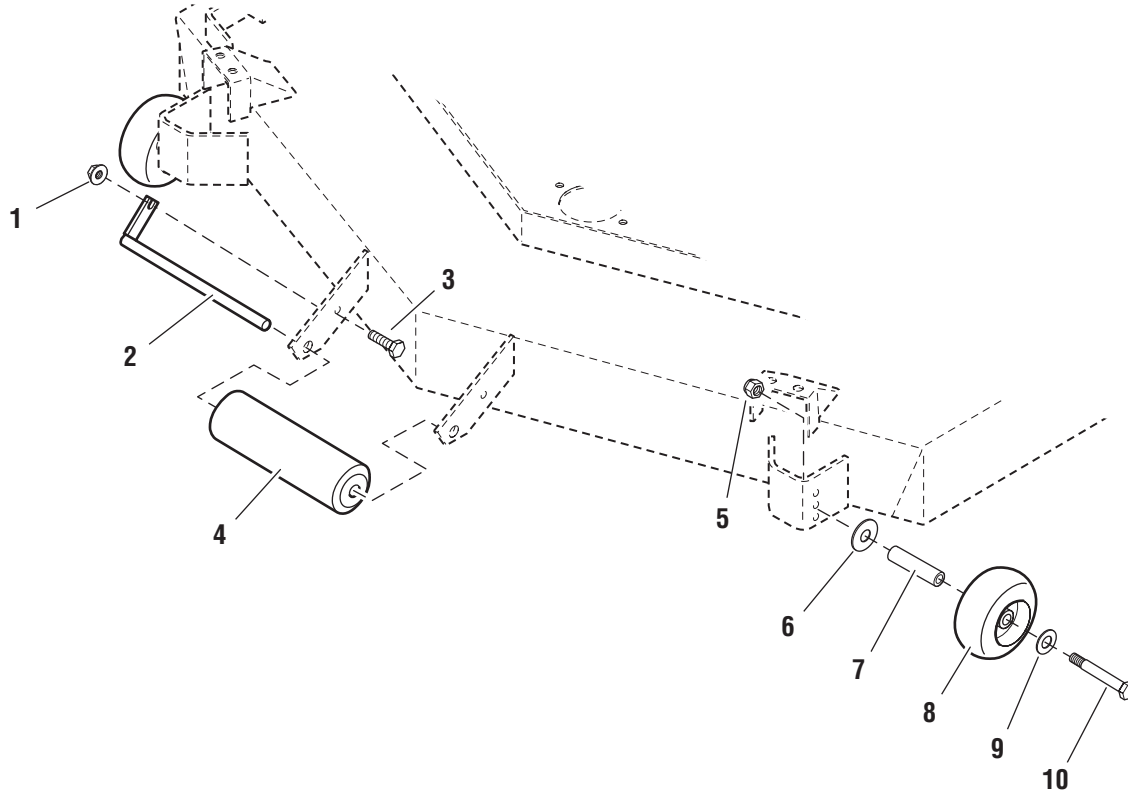
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

48 " & 52" Mower Decks - Rollers

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

48 " & 52" Mower Decks - Rollers

REF NO.	PART NO.	QTY.	DESCRIPTION
1	25128	1	NUT, Hex Serrated Flange, 3/8-16
2	41655	1	ROLLER PIN
3	25013-8	1	CAPSCREW, Hex Head, 3/8-16 x 1
4	20785	1	ROLLER, Nose
5	25096	2	NUT, Hex Nylon Lock, 3/8-16
6	25305	2	WASHER, Heavy, 3/8
7	45992	2	WHEEL AXLE
8	1716353	2	WHEEL
9	25165	2	WASHER, Fender, 3/8
10	25013-28	2	CAPSCREW, Hex Head, 3/8-16 x 3-1/2

Footnotes:

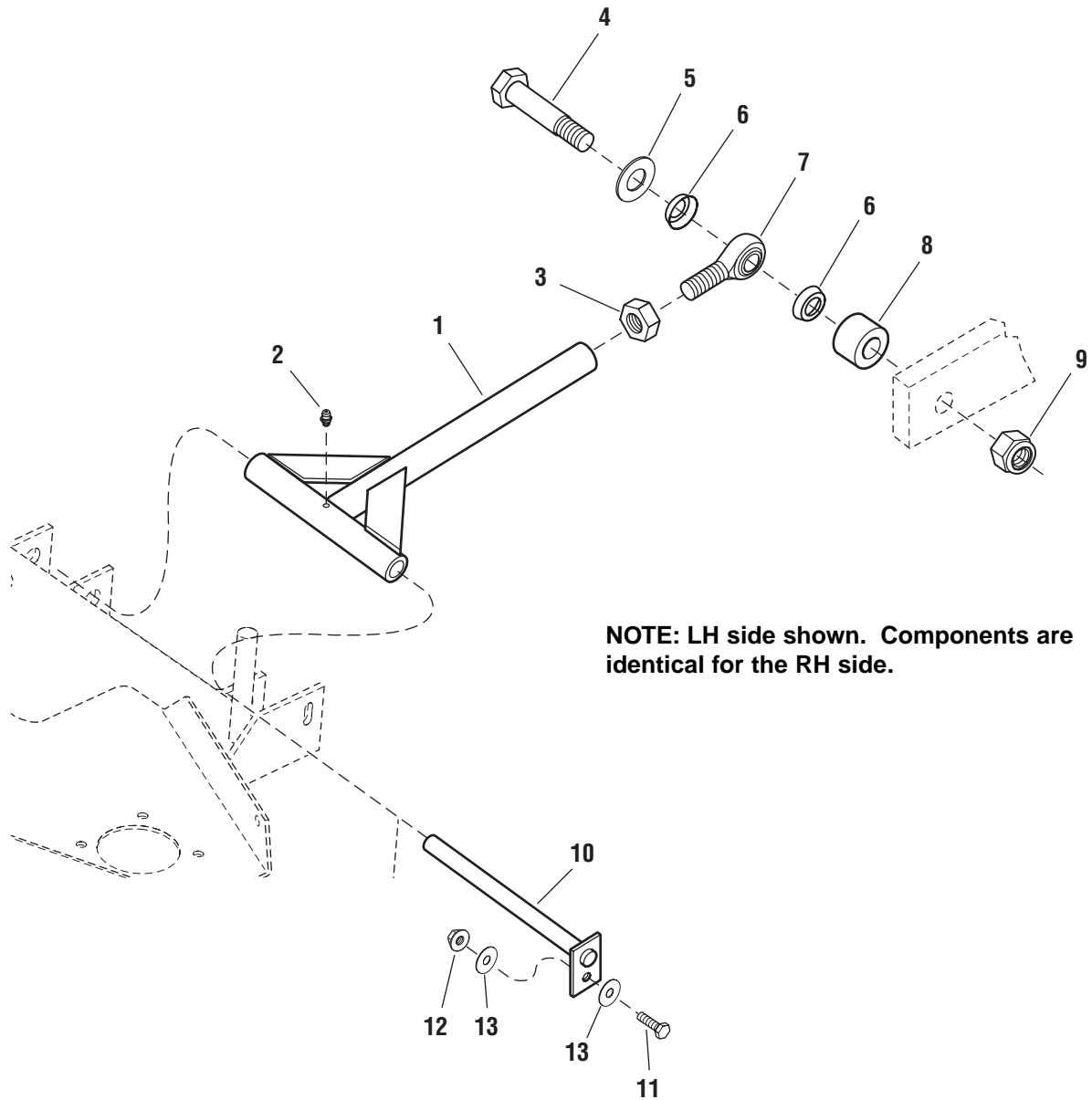
The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

48 " & 52" Mower Decks - Rear Mount Bars

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

48 " & 52" Mower Decks - Rear Mount Bars

REF NO.	PART NO.	QTY.	DESCRIPTION
1	45009	2	DECK PUSHER BAR
2	20095	2	GREASE FITTING
3	25093	2	NUT, Hex, Jam, 3/4-16
4	25265-32	2	CAPSCREW, Hex Head, 3/4-16 x 4
5	25160	2	WASHER, 3/4
6	22111	4	ROD END SEAL
7	22039	2	BALL JOINT, 3/4-16
8	46093	2	SPACER, .75 x 1.50 x 1.00
9	25284	2	NUT, Hex Nylon Lock, 3/4-16
10	45037	2	PUSHER BAR MOUNT PIN
11	25013-10	2	CAPSCREW, Hex Head, 3/8-16 x 1-1/4
12	25096	2	NUT, Hex Nylon Lock, 3/8-16
13	25156	4	WASHER, 3/8

Footnotes:

The above parts group applies to the following Model Nos.:

IS1000ZKAV21/48

IS1000ZKAV23/52

Hardware Identification & Torque Specifications

Common Hardware Types

Hex Head Capscrew



Washer



Lockwasher

Carriage Bolt



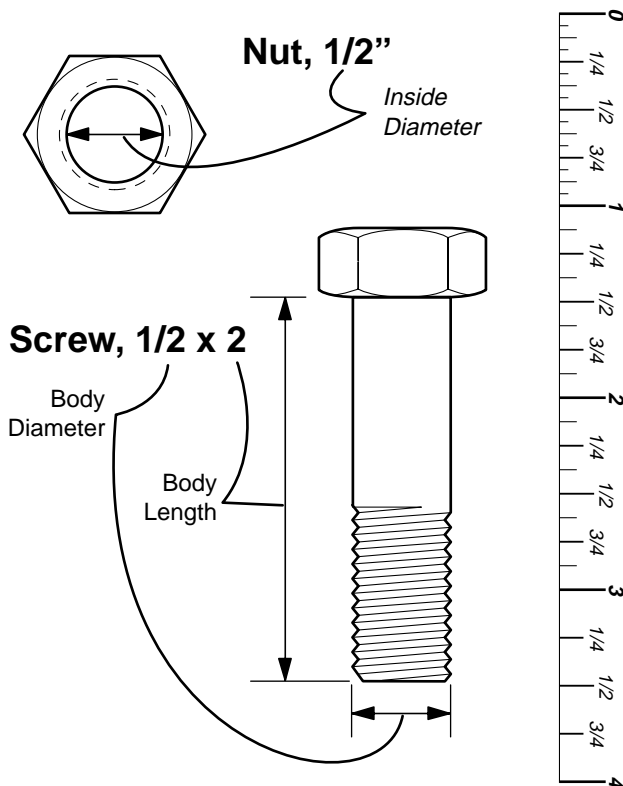
Hex Nut

Standard Hardware Sizing

When a washer or nut is identified as **1/2"**, this is the *nominal size*, meaning the *inside diameter* is 1/2 inch; if a second number is present it represents the *threads per inch*.

When a bolt or capscrew is identified as **1/2 - 16 x 2"**, this means the *nominal size*, or *body diameter* is 1/2 inch; the second number represents the *threads per inch* (16 in this example), and the final number is the *body length* of the bolt or screw (2 inches long in this example).

The guides and ruler furnished below are designed to help you select the appropriate hardware and tools.



Torque Specification Chart						
FOR STANDARD MACHINE HARDWARE (Tolerance ± 20%)						
Hardware Grade	No Marks SAE Grade 2		SAE Grade 5		SAE Grade 8	
	in/lbs ft/lbs	Nm.	in/lbs ft/lbs	Nm.	in/lbs ft/lbs	Nm.
8-32	19	2.1	30	3.4	41	4.6
8-36	20	2.3	31	3.5	43	4.9
10-24	27	3.1	43	4.9	60	6.8
10-32	31	3.5	49	5.5	68	7.7
1/4-20	66	7.6	8	10.9	12	16.3
1/4-28	76	8.6	10	13.6	14	19.0
5/16-18	11	15.0	17	23.1	25	34.0
5/16-24	12	16.3	19	25.8	27	34.0
3/8-16	20	27.2	30	40.8	45	61.2
3/8-24	23	31.3	35	47.6	50	68.0
7/16-14	30	40.8	50	68.0	70	95.2
7/16-20	35	47.6	55	74.8	80	108.8
1/2-13	50	68.0	75	102.0	110	149.6
1/2-20	55	74.8	90	122.4	120	163.2
9/16-12	65	88.4	110	149.6	150	204.0
9/16-18	75	102.0	120	163.2	170	231.2
5/8-11	90	122.4	150	204.0	220	299.2
5/8-18	100	136	180	244.8	240	326.4
3/4-10	160	217.6	260	353.6	386	525.0
3/4-16	180	244.8	300	408.0	420	571.2
7/8-9	140	190.4	400	544.0	600	816.0
7/8-14	155	210.8	440	598.4	660	897.6
1-8	220	299.2	580	788.8	900	1,244.0
1-12	240	326.4	640	870.4	1,000	1,360.0

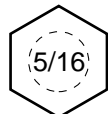
NOTES

- These torque values are to be used for all hardware excluding: locknuts, self-tapping screws, thread forming screws, sheet metal screws and socket head setscrews.
- Recommended seating torque values for locknuts:
 - For prevailing torque locknuts: use 65% of Grade 5 torque.
 - For flange whizlock nuts and screws: use 135% of Grade 5 torque.
- Unless otherwise noted on assembly drawings, all torque values must meet this specification.

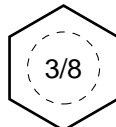
Wrench & Fastener Size Guide



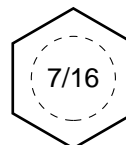
1/4" Bolt or Nut
Wrench—7/16"



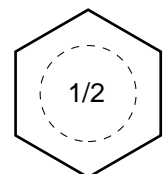
5/16" Bolt or Nut
Wrench—1/2"



3/8" Bolt or Nut
Wrench—9/16"



7/16" Bolt or Nut
Wrench (Bolt)—5/8"
Wrench (Nut)—11/16"



1/2" Bolt or Nut
Wrench—3/4"

PARTS MANUAL

IS1000Z Series

Zero-Turn Riding Mower

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