



# Parts Manual

Mfg. No: 5902135  
FB3000 Hurricane Series Stand-On  
Debris Blower (FB3000, 7500, V35, NA)



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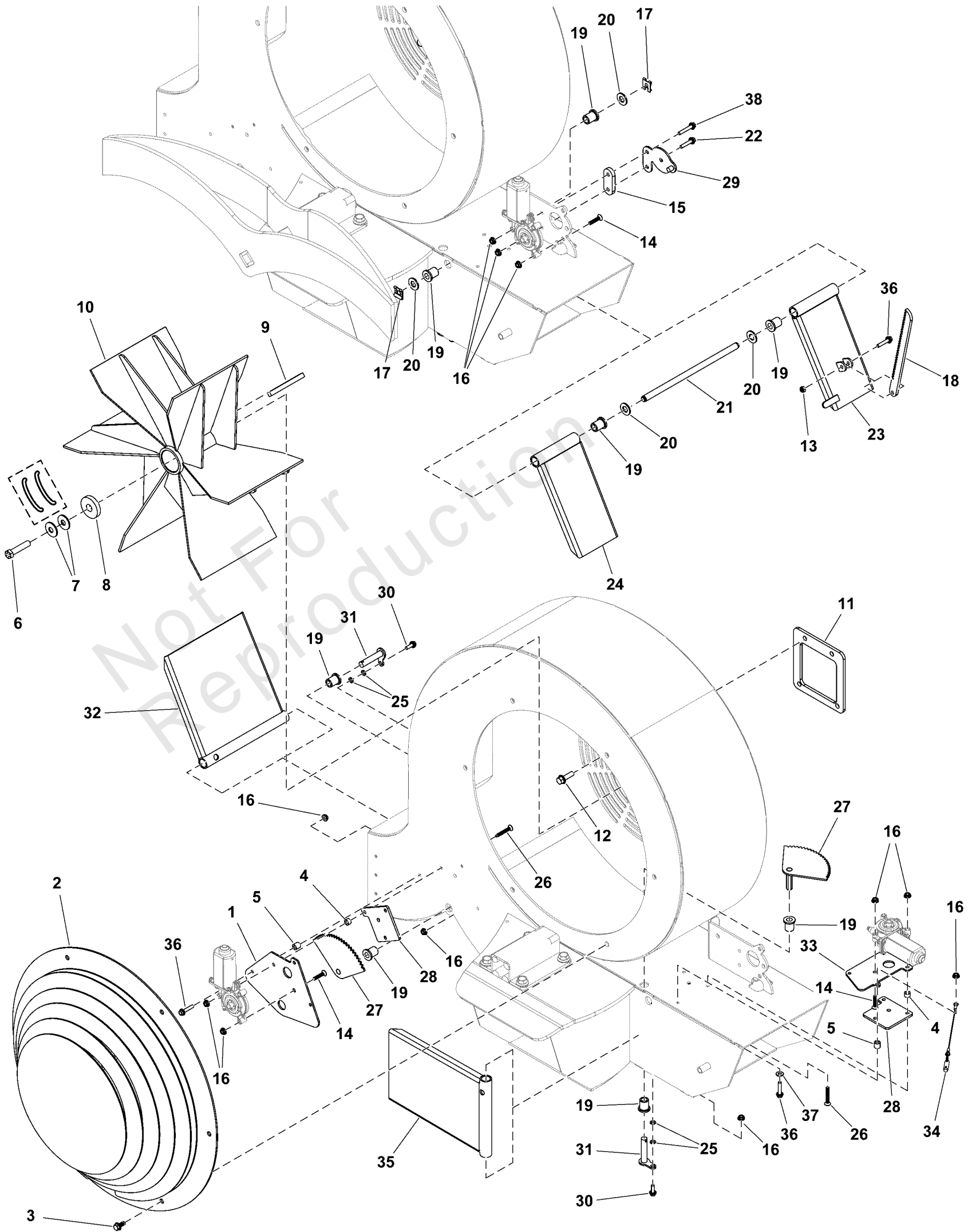
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Not For  
Reproduction

# Blower Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5902135



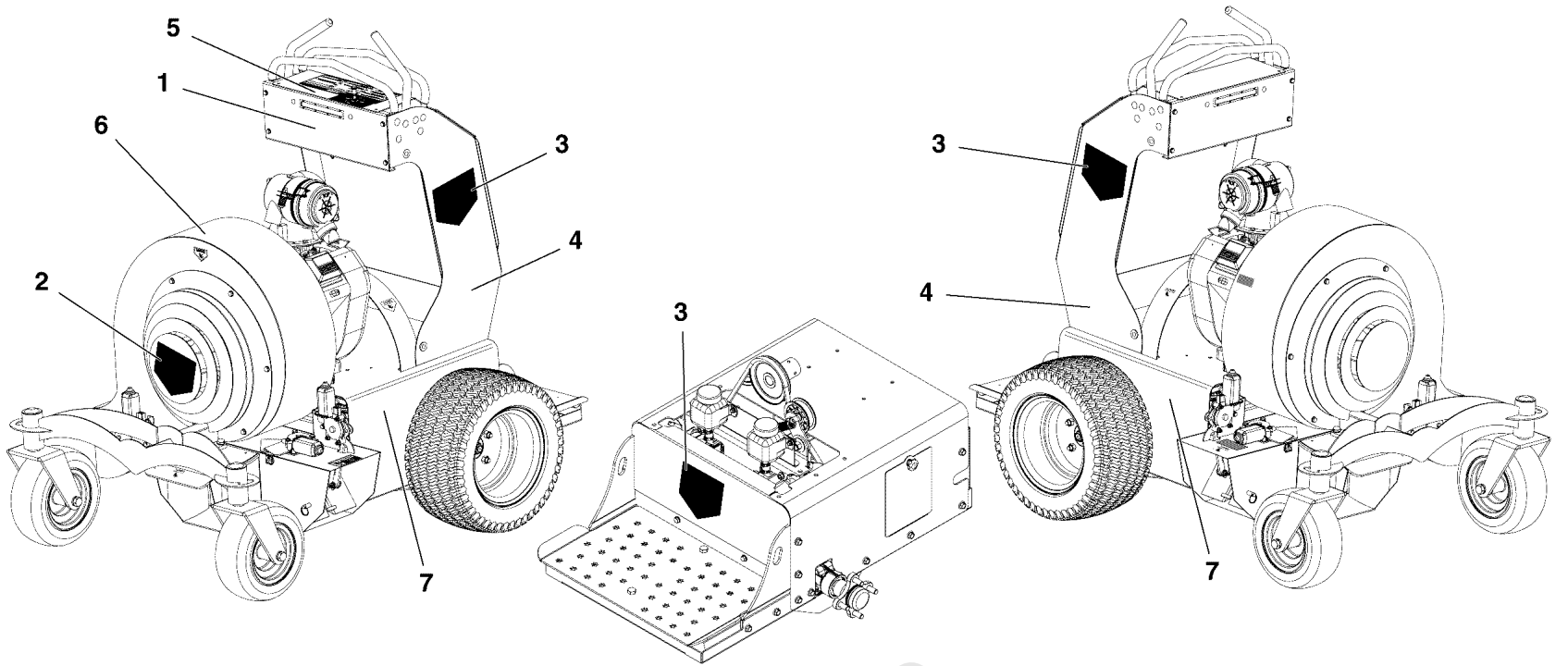
## Blower Group

REF NO	PART NO	QTY	DESCRIPTION
1	5107338AFS	1	PLATE
2	5418554AFS	1	COVER
3	703354	6	SCREW, 5/16-18
4	5107396FS	4	SPACER
5	5106902FS	3	SPACER
6	5107308FS	1	BOLT -(Torque impeller mounting bolt to 140 ft-lbs (190 Nm))
7	5108105FS	1	WASHER, BEVELED
8	5107199FS	1	WASHER
9	5106823FS	1	KEY
10	5419590FS	1	IMPELLER
11	5107511FS	1	PLATE, Spacer
12	5025390X8FS	4	BOLT
13	5025095SM	1	NUT, 1/4-20 HEX NYLON
14	5106874FS	4	SCREW
15	5107334AAFS	1	PLATE, Spacer
16	5025126FS	15	NUT
17	5106951FS	2	CLIP
18	5107335FS	1	PLATE
19	5106943FS	8	BUSHING
20	5025158SM	3	WASHER, 1/2" SAE
21	5107281FS	1	ROD, SUPPORT
22	5106873FS	1	BOLT
23	5107483FS	1	DEFLECTOR
24	5107772FS	1	DEFLECTOR
25	5025169FS	4	WASHER
26	5106903FS	4	SCREW
27	5107339AAFS	2	DEFLECTOR
28	5107332AAFS	2	PLATE, SPACER
29	5107333FS	1	KEEPER
30	5106872FS	2	BOLT
31	5107337FS	2	PIN
32	5107496FS	1	DEFLECTOR
33	5107329AFS	1	PLATE -(Plate only, motor shown for reference only.)
34	5107886FS	1	PIN
35	5107468FS	1	DEFLECTOR
36	5106919FS	4	BOLT
37	703332	1	WASHER
38	5025668FS	1	BOLT

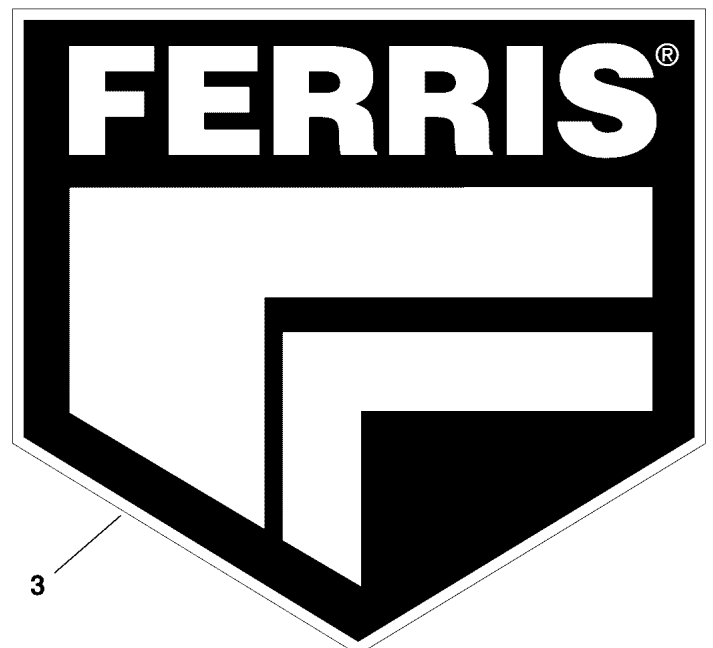
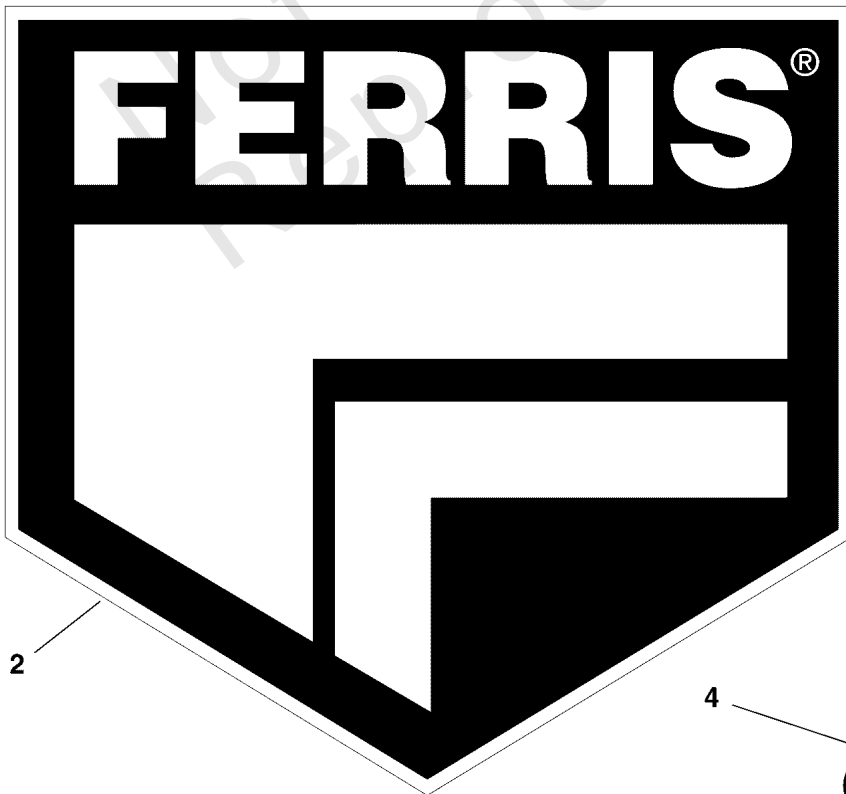
**Decal Group - Brand and Model**

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5902135



1 **FERRIS**



## *Decal Group - Brand and Model*

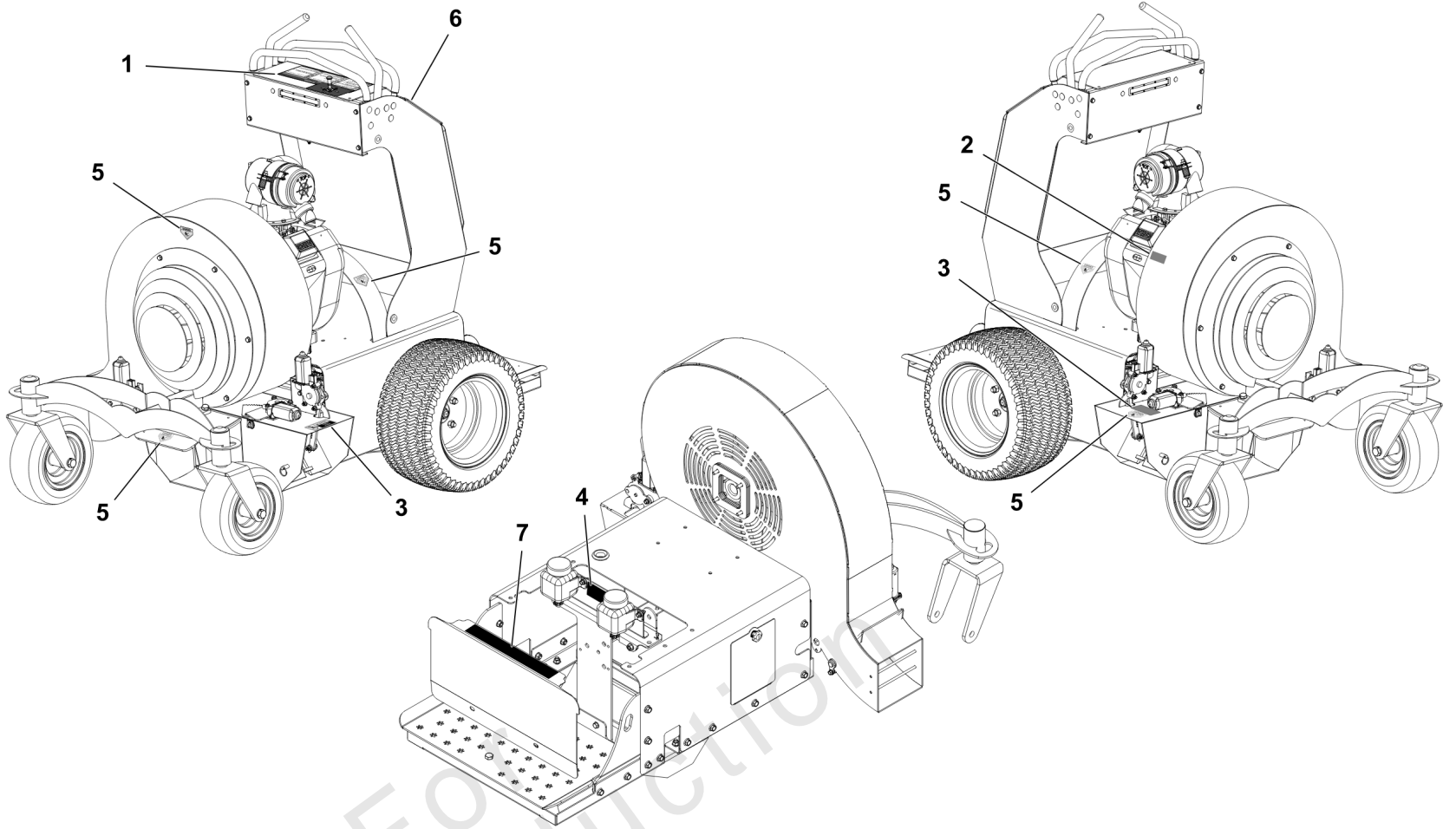
REF NO	PART NO	QTY	DESCRIPTION
1	5107360FS	1	DECAL, Brand
2	5107361FS	1	DECAL, Brand
3	5107357FS	3	DECAL, Brand
4	5107584FS	2	DECAL, Model
5	5107362FS	1	DECAL, Controls
6	5106769FS	1	DECAL
7	80082701FS	2	DECAL, BRAND

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# Decal Group - Safety and Operation

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5902135



1

DEFLECTOR CONTROL

← OPEN    CLOSE ALL    → OPEN

<p><b>⚠ WARNING</b> DO NOT SMOKE WHILE REFUELING. DO NOT FILL TANK WHILE ENGINE IS RUNNING OR WHILE ENGINE IS HOT.</p> <p><b>⚠ DANGER</b> KEEP SHIELDS AND COVERS IN PLACE WHILE MACHINE IS IN OPERATION. KEEP HANDS AWAY FROM MOVING MACHINERY.</p> <p><b>⚠ WARNING</b> IMPROPER USE OR CARE OF THIS BLOWER OR FAILURE TO WEAR PROPER PROTECTION CAN RESULT IN SERIOUS INJURY.</p> <p><b>⚠ WARNING</b> TO PREVENT FIRE, KEEP ENGINE AND PUMP COMPARTMENTS CLEAN, ESPECIALLY IN EXHAUST AREA.</p>	<p><b>⚠ WARNING</b> THROWN OBJECTS CAN CAUSE SERIOUS INJURY.</p> <p><b>⚠ DANGER</b> KEEP HANDS AND FEET AWAY FROM INTAKE AND DISCHARGE AREA. ROTATING FAN WILL CAUSE SERIOUS INJURY.</p> <p><b>⚠ DANGER</b> KEEP HANDS AND FEET AWAY FROM INTAKE AND DISCHARGE AREA. ROTATING FAN WILL CAUSE SERIOUS INJURY.</p> <p><b>⚠ DANGER</b> KEEP HANDS AND FEET AWAY FROM INTAKE AND DISCHARGE AREA. ROTATING FAN WILL CAUSE SERIOUS INJURY.</p>	<p><b>⚠ WARNING</b> ALWAYS WEAR HEARING AND EYE PROTECTION.</p> <p><b>⚠ WARNING</b> BEFORE PERFORMING ANY SERVICE OR MAINTENANCE, DISCONNECT SPARK PLUG WIRE. MAKE SURE THROTTLE IS IN STOP POSITION.</p> <p><b>⚠ WARNING</b> USE EXTREME CAUTION OPERATING ON SLOPES. MOVE SLOWLY AND AVOID SUDDEN OR JERKY MOVEMENTS.</p>	<p><b>⚠ DANGER</b> KEEP BYSTANDERS AWAY.</p> <p><b>⚠ DANGER</b> KEEP HANDS AND FEET AWAY FROM INTAKE AND DISCHARGE AREA. ROTATING FAN WILL CAUSE SERIOUS INJURY.</p> <p><b>⚠ DANGER</b> KEEP HANDS AND FEET AWAY FROM INTAKE AND DISCHARGE AREA. ROTATING FAN WILL CAUSE SERIOUS INJURY.</p> <p><b>⚠ DANGER</b> KEEP HANDS AND FEET AWAY FROM INTAKE AND DISCHARGE AREA. ROTATING FAN WILL CAUSE SERIOUS INJURY.</p>
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3

**⚠ CAUTION**

**PINCH POINT**

2

7

1. 2.

1. 2.

5109214 A

5

**⚠ DANGER**

KEEP HANDS AND FEET AWAY

4

**HYDROSTATIC OIL FILL**

**USE ONLY MOBIL 1 15W-50 SYNTHETIC**

**DO NOT OVERFILL**

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## ***Decal Group - Safety and Operation***

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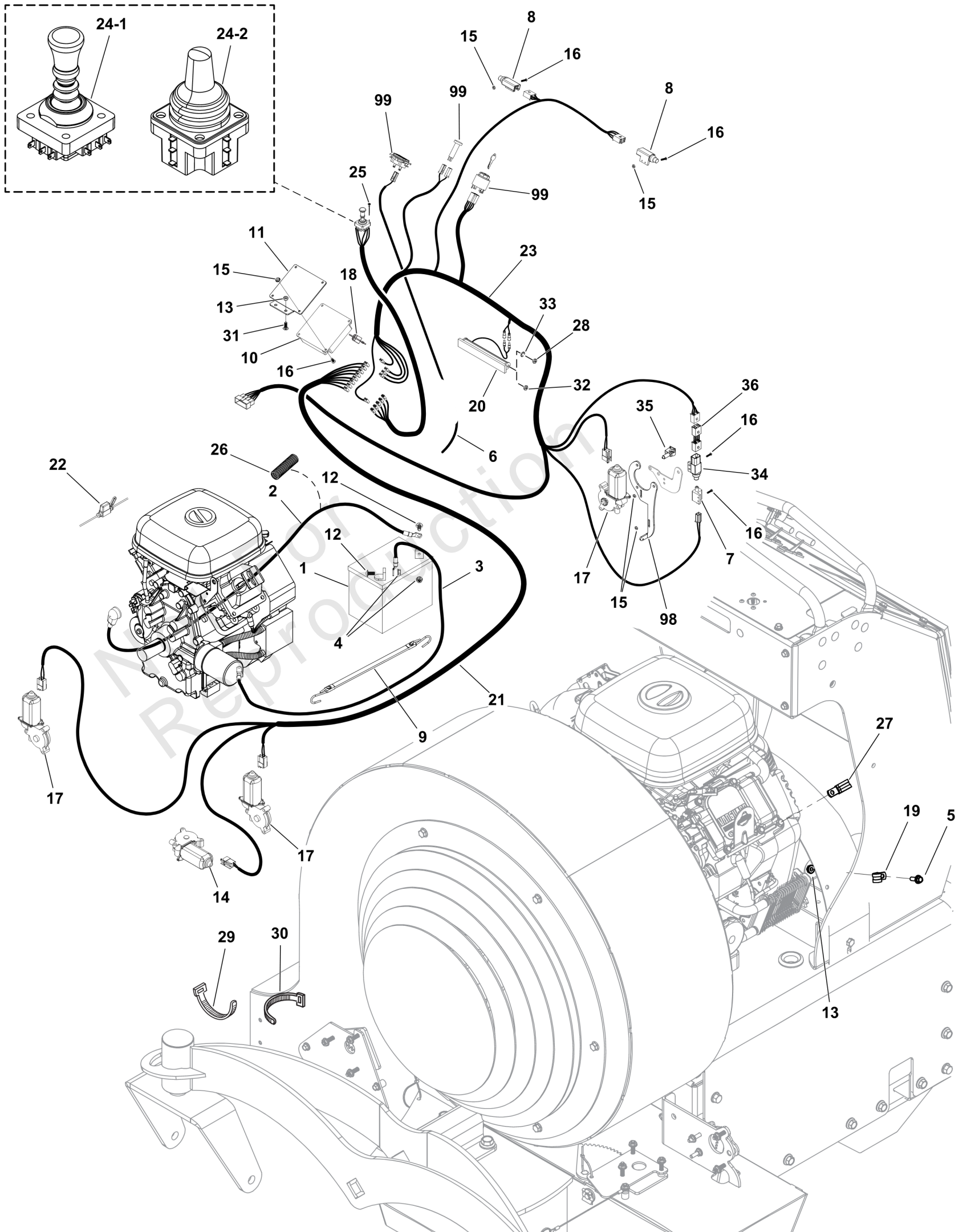
<b>REF NO</b>	<b>PART NO</b>	<b>QTY</b>	<b>DESCRIPTION</b>
1	5107509FS	1	DECAL, CONTROLS
2	5106771FS	1	DECAL, WARNING, HOT SURFACE
3	5106773FS	2	DECAL, Warning/Safety
4	5106774FS	1	DECAL
5	5106775FS	5	DECAL
6	84008754	1	DECAL, Controls
7	5109214FS	1	DECAL, BRAKE, PARK

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# Electrical Group S/N: 4002219159 and Above

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5902135



## Electrical Group S/N: 4002219159 and Above

REF NO	PART NO	QTY	DESCRIPTION
1	-----	1	BATTERY, 11U1L, 350 CCA -(BCIU1, 350 CCA)
2	5107244FS	1	CABLE, BATTERY, RED
3	5107245FS	1	CABLE, BATTERY, BLACK
4	5025127SM	2	NUT, 5/16-18 HEX SERR
5	5106872FS	2	BOLT
6	5107043FS	1	HARNESS, WIRING -(End without terminal is wrapped around spark plug wire and secure with wire tie.)
7	5021769SM	1	SWITCH, PLUNGER, N.C.
8	5106950FS	2	SWITCH
9	5106918FS	1	STRAP, Battery
10	5601264	1	KIT, RELAY, CONTROL MODULE -(Includes reference number #18).
11	5107407AAFS	1	MOUNT
12	5025145X6SM	2	BOLT, 5/16-18 X 3/4",
13	5025126FS	4	NUT
14	5106953FS	1	MOTOR
15	1928919SM	12	NUT-HEX & WASHER ASMY
16	5106875FS	12	SCREW (#10-32 X 3/4, ALLEN, SS)
17	5106952FS	3	DEFLECTOR, Motor
18	5107310FS	1	BREAKER, CIRCUIT, 15A
19	5107053	2	CLAMP, VINYL INSULATED, .50
20	84006903	1	HEADLIGHT ASSEMBLY
21	5107313FS	1	HARNESS, WIRING
22	5107311FS	1	HOLDER, FUSE
23	5107312FS	1	HARNESS, WIRING
24-1	5601265	1	KIT, JOYSTICK UPDATE -(S/N: 4001275566 and below)
24-2	5108766FS	1	KIT, Joystick -(S/N: 4001275567 and above)
25	5106875FS	4	SCREW (#10-32 X 3/4, ALLEN, SS)
26	5050927X17P5	1	WIRE LOOM, 3/8 ID X 17.5 IN
27	5107987FS	2	CLAMP
28	5025672	2	NUT, HEX, M5X.8MM, NYLON INSERT -(For headlights with 5MM studs)(Torque headlight mounting nut to 16-19 in-lbs.)
29	5021029SM	2	TIE, Cable 11" Long
30	5021030SM	8	TIE WRAP, 5-1/2" LONG
31	703575	2	BOLT, 1/4-20X.750, SQ
32	5025669	2	NUT, HEX, M6-1, NYLON INSERT -(For headlights with 6MM studs)
33	5025673	2	WASHER, 5MM, STAR, CZ -(For headlights with 5MM studs)
34	84008626	1	SWITCH, Sealed
35	5104736FS	1	CLIP
36	84008627	1	WIRE HARNESS, JUMPER, BRAKE SWITCH
98	-----	0	Refer to: Parking Brake Group
99	-----	0	Refer to: Instrument Control Panel Group

# Electrical Schematic S/N: 4002219159 and Above

Note: Unless noted otherwise, use the standard torque specifications

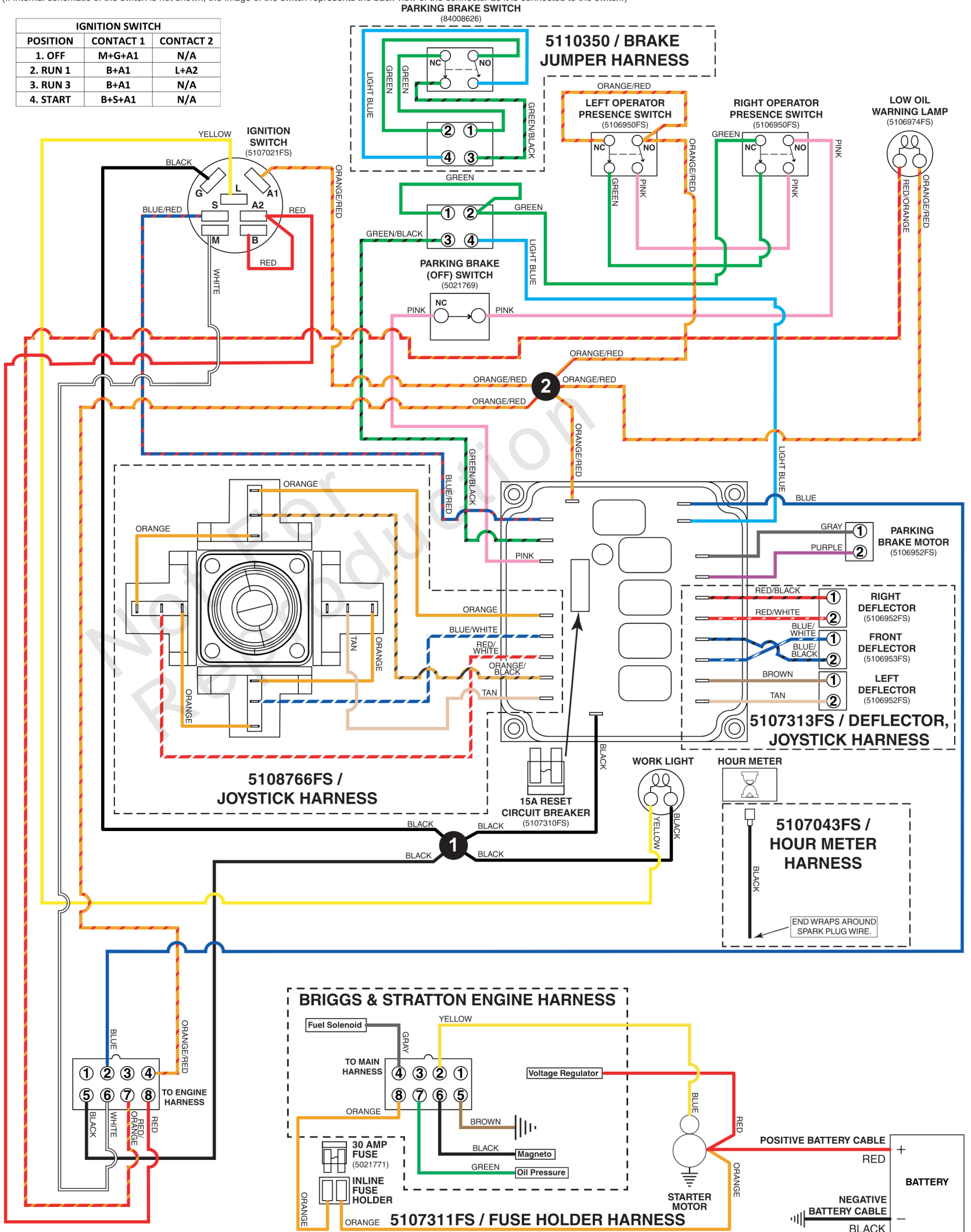
Mfg. No: 5902135

## 5107312FS / MAIN WIRE HARNESS - BRIGGS & STRATTON 613477 ENGINES

5107312B

(If internal schematic of the switch is not shown, the image of the switch represents the back view of the connector as it is connected to the switch.)

IGNITION SWITCH		
POSITION	CONTACT 1	CONTACT 2
1. OFF	M+G+A1	N/A
2. RUN 1	B+A1	L+A2
3. RUN 3	B+A1	N/A
4. START	B+S+A1	N/A



**Electrical Schematic S/N: 4002219159 and Above**

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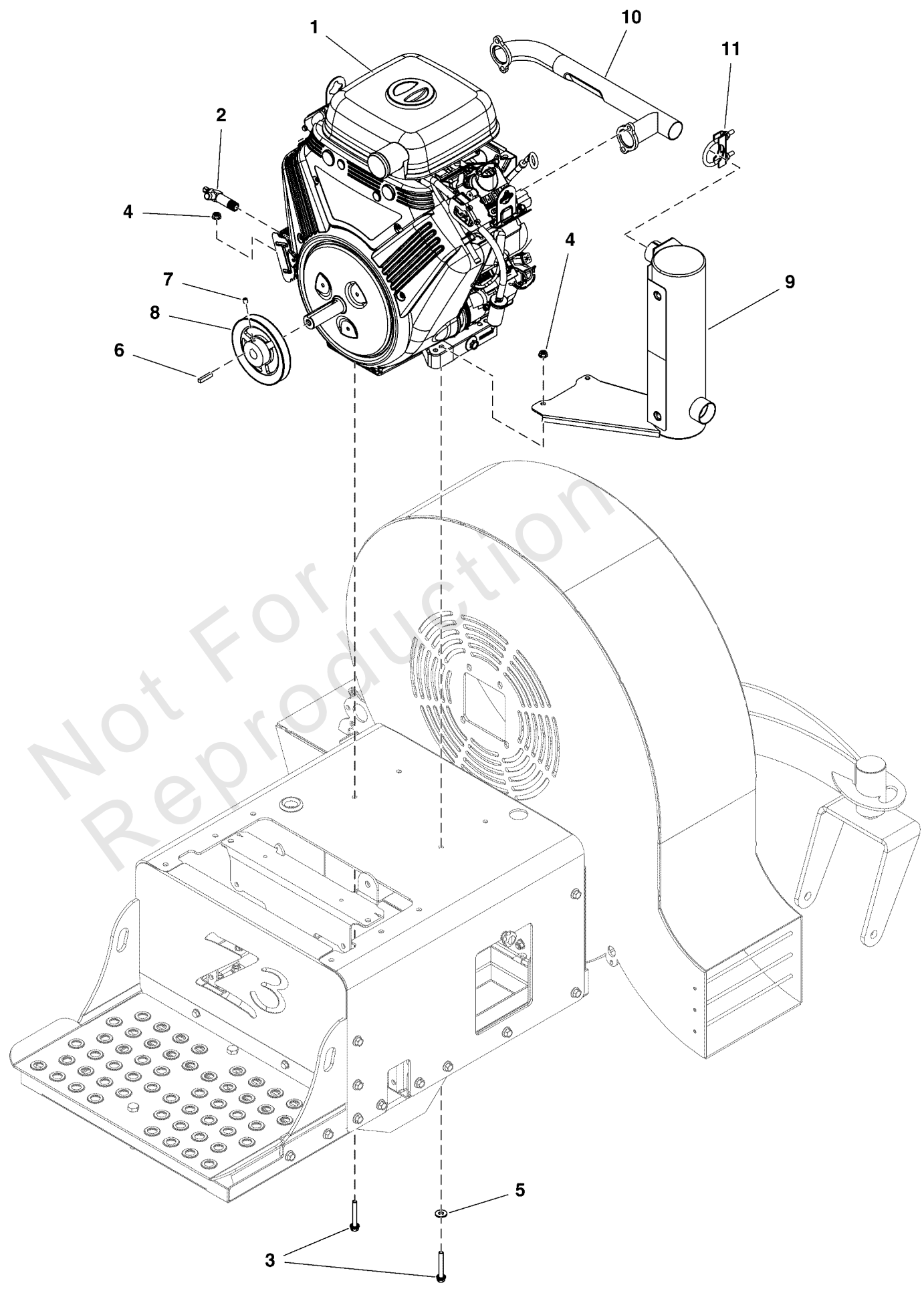
REF NO	PART NO	QTY	DESCRIPTION
5107312FS	5107312FS	1	HARNESS, WIRING
5108766FS	5108766FS	1	KIT, Joystick
5107313FS	5107313FS	1	HARNESS, WIRING
5107043FS	5107043FS	1	HARNESS, WIRING
5110350	84008627	1	WIRE HARNESS, JUMPER, BRAKE SWITCH
5107311FS	5107311FS	1	HOLDER, FUSE

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# Engine Group

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Mfg. No: 5902135



## Engine Group

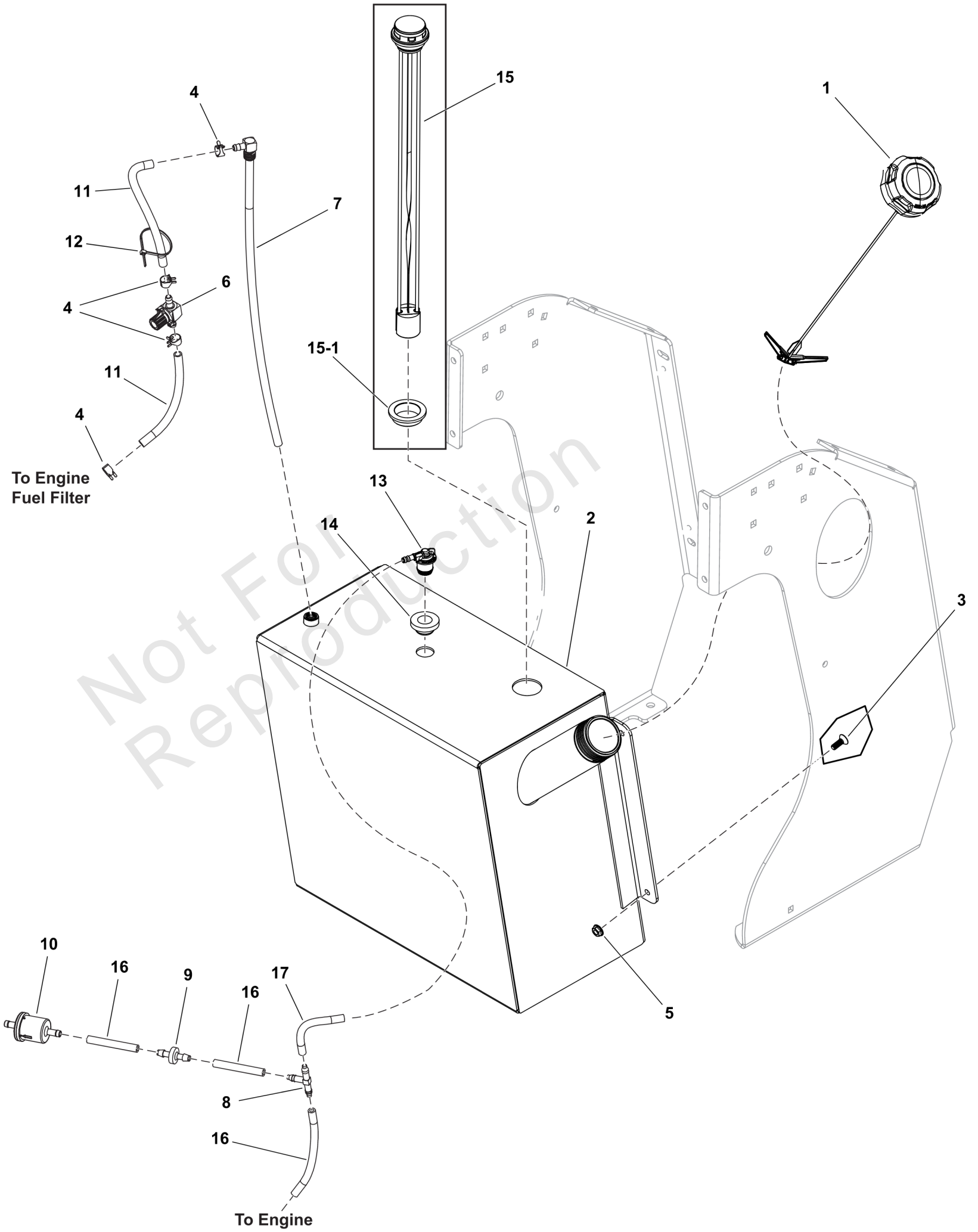
REF NO	PART NO	QTY	DESCRIPTION
1	-----	1	ENGINE, VANGUARD, 993cc
2	5107284FS	1	VALVE, OIL DRAIN SHUT OFF
3	5107304FS	4	BOLT
4	5025127SM	4	NUT, 5/16-18 HEX SERR
5	5107147	1	WASHER, 5/16 FLAT, CZ
6	5050407X10YP	1	KEY, 1/4 SQ X 1-1/4
7	1677029SM	2	SCREW, Set, Hex Socket Head, Cup Point, 5/16-18 x 3/8
8	5107285FS	1	PULLEY
9	5109327FS	1	MUFFLER
10	5109328FS	1	MANIFOLD
11	5107305FS	1	CLAMP, Muffler

Not For Reproduction

# Fuel Tank and Hose Group

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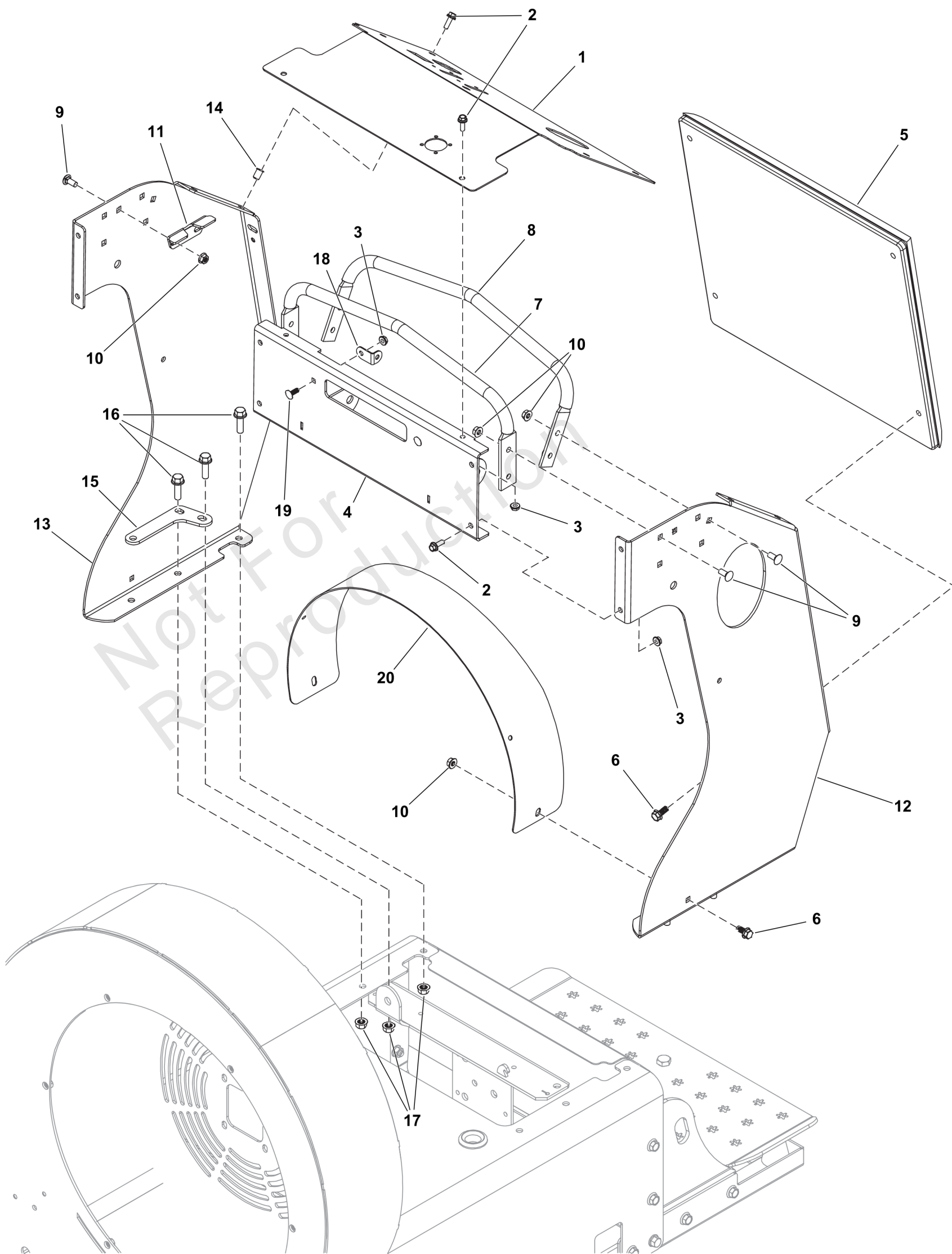
## Fuel Tank and Hose Group

REF NO	PART NO	QTY	DESCRIPTION
1	84008753	1	CAP, Fuel Tank
2	84008756	1	TANK, Fuel
3	5106863FS	4	SCREW
4	691038	4	CLAMP, Hose
5	5025126FS	4	NUT
6	5107072FS	1	VALVE, Fuel Shut Off
7	5107073FS	1	EXTENSION, FUEL TRANSFER TUBE
8	5106956FS	1	FITTING
9	5106955FS	1	VALVE, Check
10	84001895	1	FILTER, Fuel
11	5050831X6YP	2	HOSE, 1/4" FUEL, 6.00
12	5021030SM	1	TIE WRAP, 5-1/2" LONG
13	770046	1	REMOTE VENT ASSEMBLY
14	799624	1	GROMMET
15	84008752	1	GAUGE, Fuel -(Includes item # 15-1).
15-1	5105477X1	1	RUBBER SEAL
16	7700552X2P5FS	3	HOSE, VAPOR
17	7700552X14FS	1	HOSE, Vapor -(Cut to length)

# Handle Bar Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5902135



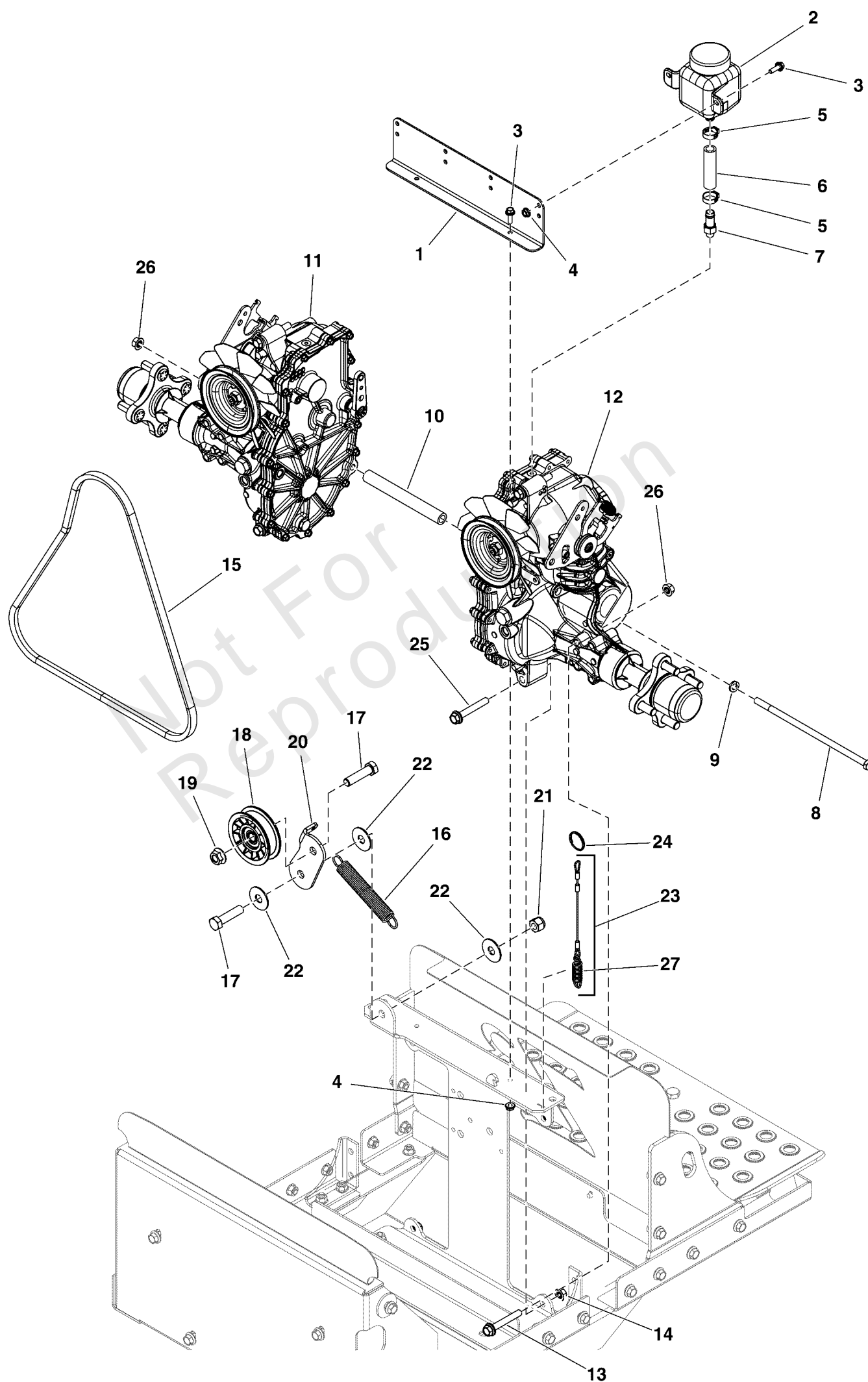
## Handle Bar Group

REF NO	PART NO	QTY	DESCRIPTION
1	84008755	1	PLATE, Control Panel
2	5106872FS	10	BOLT
3	5025126FS	10	NUT
4	5418513AIFS	1	PANEL
5	5107538FS	1	PAD, KNEE
6	703354	6	SCREW, 5/16-18
7	5107044AFS	1	HANDLE, FRONT
8	5107045AFS	1	HANDLE, REAR
9	5025145X6SM	12	BOLT, 5/16-18 X 3/4",
10	5025127SM	14	NUT, 5/16-18 HEX SERR
11	5107391FS	2	BRACKET
12	84008762	1	CONTROL, Tower
13	5418578AIFS	1	CONTROL, TOWER
14	5106833FS	4	NUT
15	5107544AFS	2	PLATE
16	5025390X8FS	8	BOLT
17	5025666FS	8	NUT
18	84007036	2	BRACKET, L Headlight Mount
19	703575	2	BOLT, 1/4-20X.750, SQ
20	84008765	1	GUARD, Belt

# Hydraulic Group

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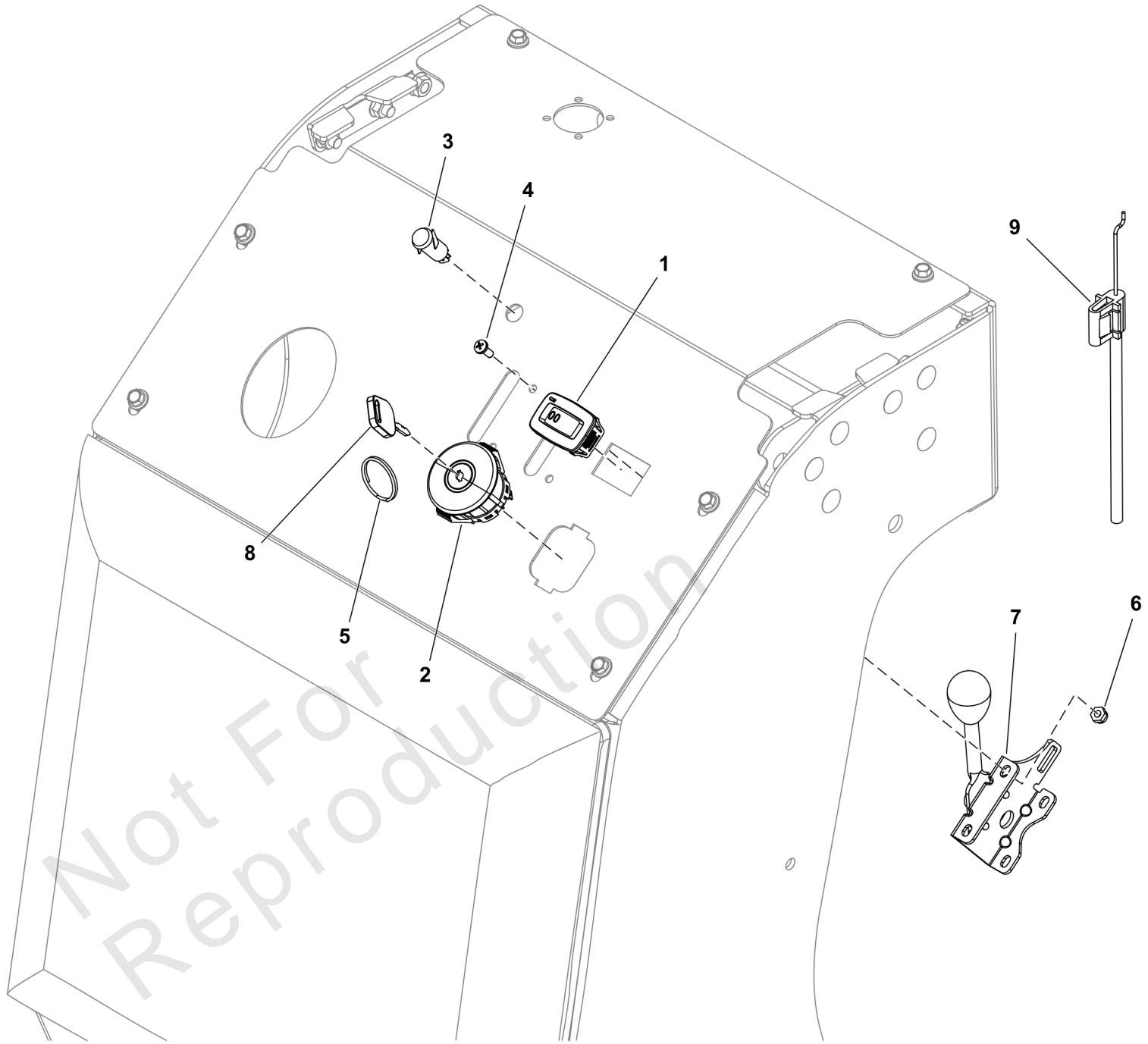
## Hydraulic Group

REF NO	PART NO	QTY	DESCRIPTION
1	5107366AAFS	1	MOUNT, TANK
2	5100473SM	2	RESERVOIR
3	5106872FS	6	BOLT
4	5025126FS	6	NUT
5	5025474SM	4	CLAMP - HOSE
6	5050857X2P75FS	2	HOSE
7	5107224FS	2	FITTING
8	5025667FS	1	BOLT
9	5025156FS	1	WASHER
10	5107370FS	1	SPACER
11	5107227	1	TRANSAXLE, ZT3100, RH, ZJ-LPRP-3A7C-19XX -(S/N: 40015467047 and below)
11	84006961	1	TRANSAXLE -(S/N: 40015467048 and above)
12	5107222	1	TRANSAXLE, ZT3100, LH, ZJ-HPRP-3A7B-19XX -(S/N: 40015467047 and below)
12	84006962	1	TRANSAXLE -(S/N: 40015467048 and above)
13	5025670	4	BOLT, HEX, 3/8-16 X 3", SER FLG GRD5, CZ
14	5025666FS	4	NUT
15	5106821FS	1	BELT, DRIVE
16	5106923FS	1	SPRING
17	5025017X16YP	2	BOLT, 1/2-13 X 2 GD5
18	5107103FS	1	PULLEY, IDLER
19	770225	1	NUT
20	5107365AAFS	1	ARM, IDLER
21	5025056FS	1	NUT
22	5107348FS	3	WASHER
23	5107300FS	2	CABLE, Hydraulic Control -(Includes item # 28.)
24	5108012FS	2	KEY
25	5106859FS	4	BOLT
26	5025394SM	5	NUT, 3/8-16 HEX NYLOCK
27	5106888FS	2	SPRING, EXTENSION

# Instrument Control Panel Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5902135



## ***Instrument Control Panel Group***

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<b>REF NO</b>	<b>PART NO</b>	<b>QTY</b>	<b>DESCRIPTION</b>
1	5106789FS	1	METER, HOUR
2	5107021FS	1	SWITCH, Ignition
3	5106974FS	1	LIGHT, INDICATOR
4	5025179X4SM	4	SCREW, #10-24 X 1/2" ROUND PHILLIPS
5	5108012FS	1	KEY
6	5025271FS	4	NUT
7	5107399FS	2	LEVER, THROTTLE CONTROL
8	1714054SM	2	KEY-IGNITIOM W/PLASTI
9	5101890	2	CABLE, THROTTLE, 31"

Not For  
Reproduction

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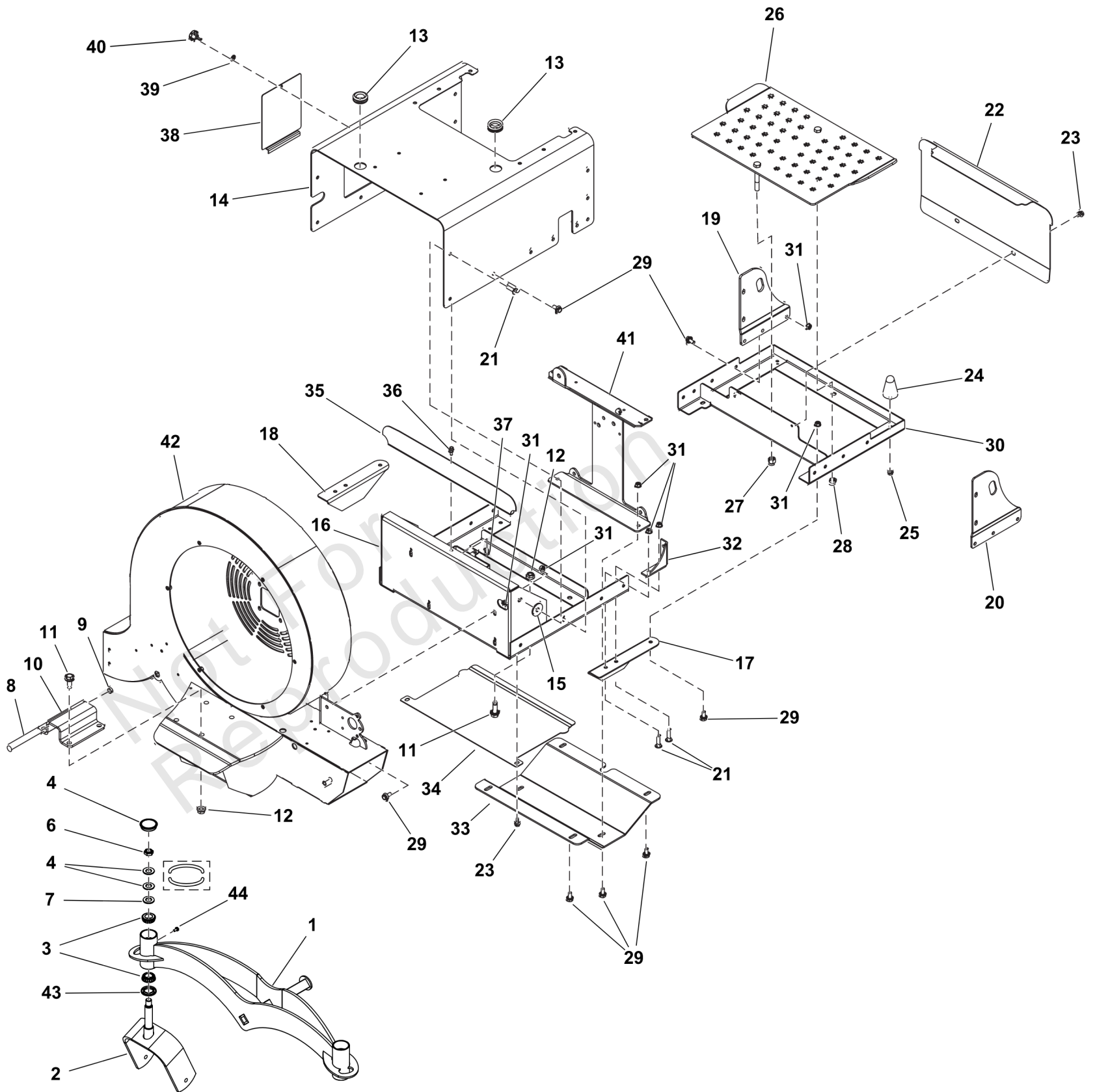
**Footnotes:**

(Key Ring for ignition keys)

# Main Frame Group

Note: Unless noted otherwise, use the standard torque specifications

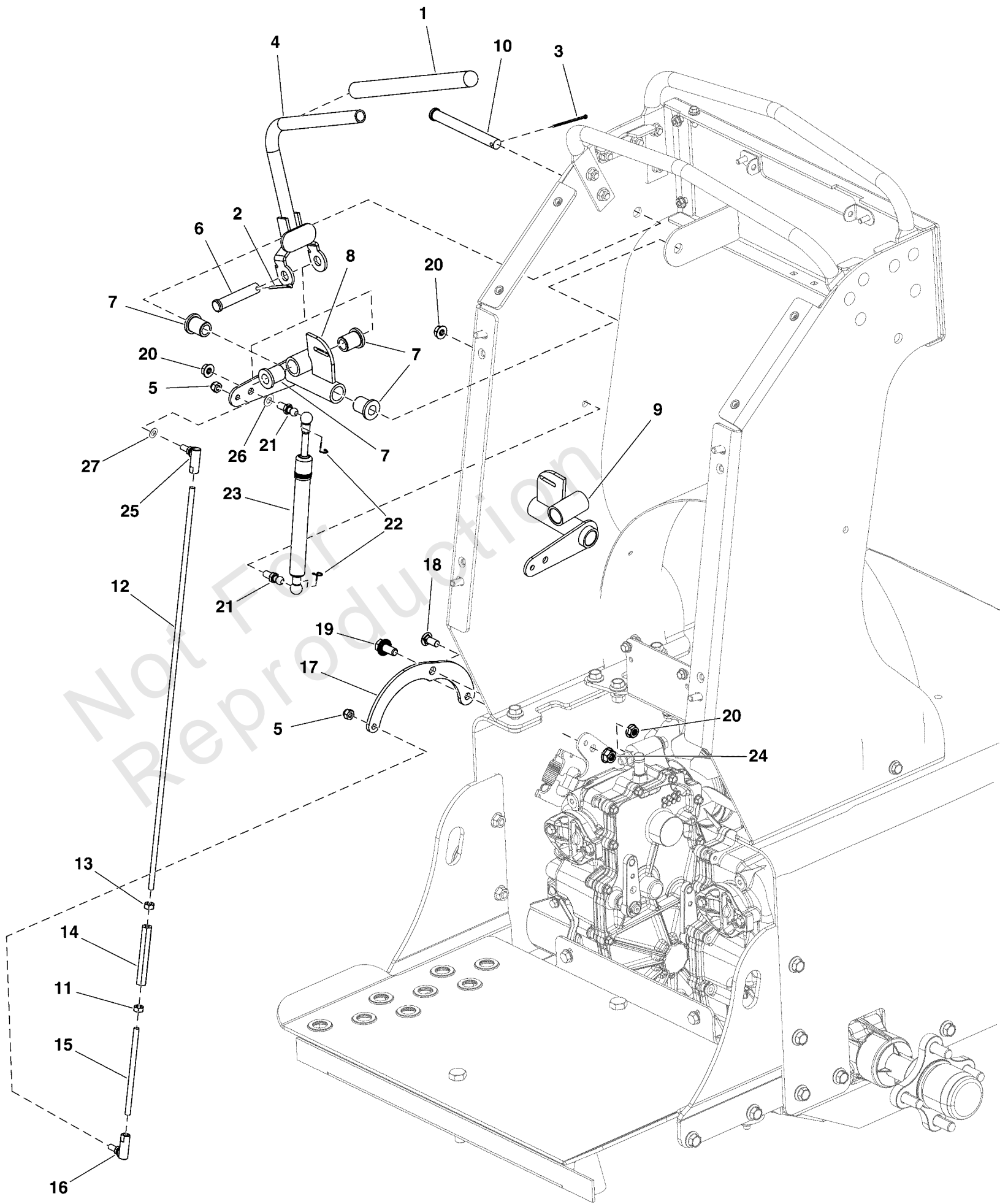
Mfg. No: 5902135





## Main Frame Group

REF NO	PART NO	QTY	DESCRIPTION
1	84008763	1	PIVOT, Housing
2	84008761	2	YOKE, Caster
3	5020884SM	4	BEARING, TAPERED ROLL
4	5109845FS	2	CAP
5	5025449SM	4	WASHER, BELLEVILLE
6	5025448SM	2	NUT - 3/4-16 HEX JAM
7	5025160SM	2	WASHER, 3/4" SAE
8	5107356FS	4	CORD
9	-----	2	RUBBER BAND -(Not a serviceable part.)
10	5419091AIFS	1	PLATE
11	5106786FS	6	BOLT
12	5106787FS	6	NUT
13	5106788FS	2	GROMMET, RUBBER
14	84008759	1	BOX, Motor
15	5107390FS	2	SPACER
16	5107547AFS	1	BOX, FRAME
17	5107383AFS	1	BRACKET
18	5107382AFS	1	BRACKET
19	5418520AIFS	1	PLATE, TIE DOWN RH
20	5418521AIFS	1	PLATE, LEFT
21	5025390X10FS	10	BOLT
22	5419301AIFS	1	PLATE
23	5106898FS	4	SCREW
24	5107206FS	4	BUMPER
25	5025127SM	4	NUT, 5/16-18 HEX SERR
26	5418525AFS	1	PLATFORM
27	5025056FS	1	NUT
28	5025646FS	1	NUT
29	5106881FS	28	BOLT
30	5107561AFS	1	BOX, FRAME
31	5025666FS	38	NUT
32	5107387AFS	2	SUPPORT, Transaxle
33	5107384AFS	1	PLATE
34	5107385AFS	1	GUARD
35	5107386AFS	1	GUARD
36	5106872FS	2	BOLT
37	5025126FS	2	NUT
38	5419192AIFS	1	PLATE
39	5107350FS	1	WASHER
40	5106913FS	1	CAPSCREW
41	5418591AFS	1	TRANS, I-Beam
42	5418642AIFS	1	HOUSING, BLOWER
43	5021072SM	2	SEAL, GREASE
44	5025457SM	2	BOLT - 1/4-28 X 1/2



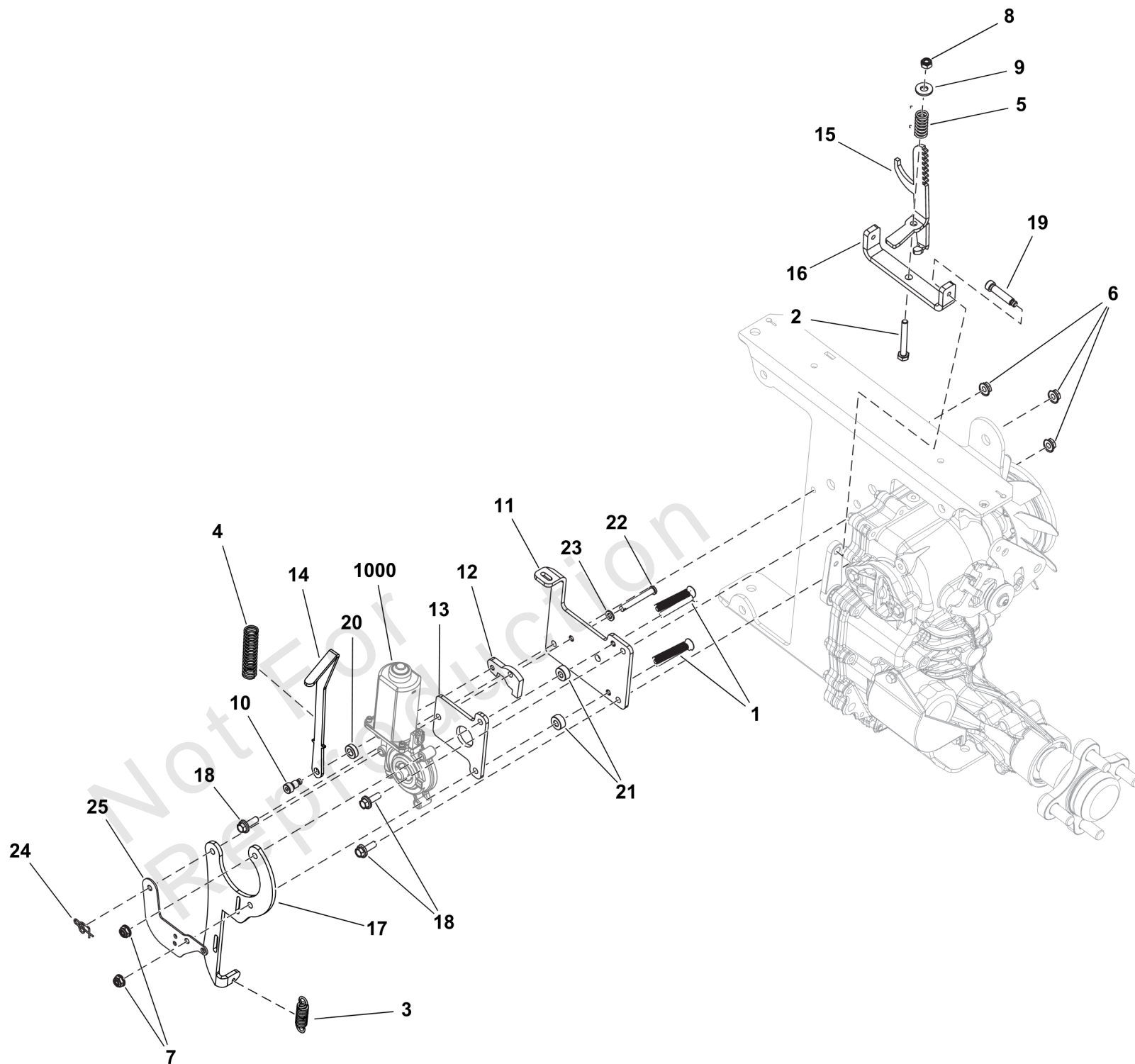
## Motion Control Group

REF NO	PART NO	QTY	DESCRIPTION
1	5106940FS	2	GRIP
2	5025203X12	2	PIN, COTTER, 1/8 X 1 1/2, CZ
3	5107351FS	2	PIN, COTTER
4	5107368FS	2	CONTROL, HANDLE
5	5106892FS	4	NUT
6	5022044SM	2	PIN, CLEVIS, 1/2 X 2-
7	5106943FS	8	BUSHING
8	5107369FS	1	BRACKET, Control
9	5107367FS	1	BRACKET
10	5025456FS	2	PIN, CLEVIS
11	7090095FS	2	NUT, 1/4
12	5107108FS	2	ROD
13	5106858FS	2	NUT
14	5106971FS	2	TUBE, CONNECTING
15	5107303FS	2	ROD
16	5106802FS	2	JOINT, BALL
17	5107241FS	2	ARM, CONTROL
18	5025145X6SM	2	BOLT, 5/16-18 X 3/4",
19	5106881FS	2	BOLT
20	5025127SM	6	NUT, 5/16-18 HEX SERR
21	5100941SM	4	BALL STUD
22	5106969FS	4	CLIP
23	5107193FS	2	DAMPENER
24	5025666FS	2	NUT
25	5106803FS	2	JOINT, BALL
26	703350	2	WASHER
27	703332	2	WASHER

# Parking Brake Group S/N: 4002219159 and above

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5902135



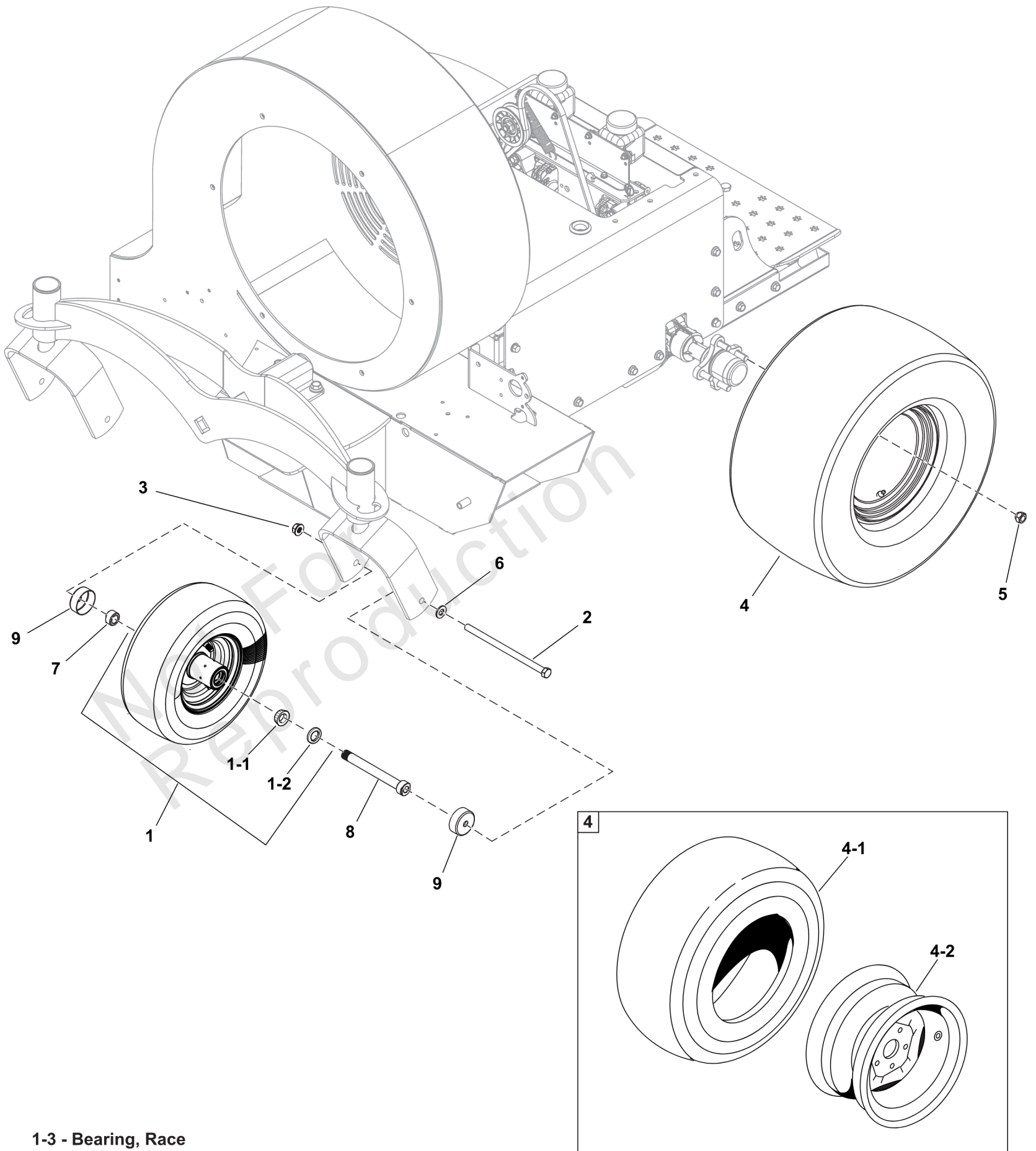
**Parking Brake Group S/N: 4002219159 and above**

REF NO	PART NO	QTY	DESCRIPTION
1	5106908FS	2	SCREW
2	5025010X16FS	1	BOLT
3	5106888FS	1	SPRING, EXTENSION
4	5106910FS	1	SPRING, Compression
5	5106911FS	1	SPRING, COMPRESSION
6	5025126FS	3	NUT
7	5025391FS	2	NUT
8	5025095SM	1	NUT, 1/4-20 HEX NYLON
9	5106815FS	1	WASHER
10	5106912FS	1	BOLT
11	5107321FS	1	PLATE
12	5107322FS	1	PLATE
13	5107324FS	1	PLATE
14	5107328FS	1	PLATE
15	5107325FS	1	BRACKET, BRAKE
16	5110201FS	1	ARM, Lever
17	5107327FS	1	PLATE, SWITCH
18	5106872FS	3	BOLT
19	5106941FS	2	BOLT
20	84008621	1	SPACER
21	84008622	2	SPACER
22	84008623	1	PIN, Clevis
23	84008624	1	WASHER, Flat
24	703355	1	COTTER PIN, 3/8
25	84008625	1	PLATE, Switch
1000	----	0	Refer to: Electrical Group

# Wheel and Tire Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5902135



1-3 - Bearing, Race

## Wheel and Tire Group

REF NO	PART NO	QTY	DESCRIPTION
1	5108751FS	2	TIRE ASSEMBLY
1-1	5022631SX2	2	BEARING, Tapered Roller -(SV - 2 per tire)
1-2	5022631SX3	2	SEAL, GREASE -(SV - 2 per tire)
1-3	5022631SX4	2	BEARING, RACE -(SV - 2 per tire)
2	5025017X72YP	2	BOLT, 1/2-13 X 9 GD5
3	770225	2	NUT
4	84008750	2	TIRE ASSEMBLY
4-1	5107875X1	2	TIRE, 22-11.00 X 10, 4-PLY (TIRE ONLY) -(One per tire)
4-2	-----	2	WHEEL RIM -(Not available for sale. Refer to Complete Tire Assembly)
5	5020601SM	8	NUT, 1/2-20, FOR WHEEL BOLT SILVER
6	5025158SM	2	WASHER, 1/2" SAE
7	5103650YP	2	NUT, BEARING
8	5103649YP	2	BEARING ADJUSTER
9	5103594YP	4	DEBRIS, COVER, WHEEL

Not For Reproduction

# Hardware Identification & Torque Specifications

Torque Specification Chart								
FOR STANDARD METRIC MACHINE HARDWARE (Tolerance ± 20%)								
Property Class	5.6		8.8		10.9		12.9	
	Class 5.6		Class 8.8		Class 10.9		Class 12.9	
Size Of Hardware	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.
	ft/lbs		ft/lbs		ft/lbs		ft/lbs	
M3	5.88	.56	13.44	1.28	19.2	1.80	22.92	2.15
M4	13.44	1.28	30.72	2.90	43.44	4.10	52.56	4.95
M5	26.4	2.50	60.96	5.75	5.97	8.10	7.15	9.7
M6	44.64	4.3	7.3	9.9	10.3	14	12.1	16.5
M7	5.2	7.1	12.1	16.5	16.9	23	19.9	27
M8	7.7	10.5	17.7	24	25	34	29	40
M10	15	21	35	48	50	67	59	81
M12	26	36	61	83	86.2	117	103	140
M14	42	58	101	132	136	185	162	220
M16	64	88	147	200	210	285	250	340
M18	89	121	202	275	287	390	346	470
M20	126	171	290	390	405	550	486	660
M22	169	230	390	530	559	745	656	890
M24	217	295	497	375	708	960	840	1140
M27	320	435	733	995	1032	1400	1239	1680
M30	435	590	995	1350	1401	1900	1681	2280
M33	590	800	1349	1830	1902	2580	2278	3090
M36	759	1030	1740	2360	2441	3310	2935	3980
M39	988	1340	2249	3050	3163	4290	3798	5150

Torque Specification Chart						
FOR STANDARD MACHINE HARDWARE (Tolerance ± 20%)						
Hardware Grade	No Marks		SAE Grade 5		SAE Grade 8	
	SAE Grade 2		SAE Grade 5		SAE Grade 8	
Size Of Hardware	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.
	ft/lbs		ft/lbs		ft/lbs	
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	29	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

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



Nut, M8

Thread Diameter (mm)

Inside Diameter (in)      Threads per inch

Nut, 1/2-16



Screw, M8- 1.25 x 25

Thread Diameter (mm)      Distance between threads (mm)      Body Length (mm)

Body Diameter      Threads per inch      Body Length (in)

Screw, 1/2- 16 x 2



## Standard Hardware Sizing

When a washer or nut is identified as 1/2" (M8), this is the *Nominal size*, meaning the *inside diameter* is 1/2 inch (8mm metric thread diameter); if a second number is present it represents the *threads per inch* (distance between threads).

When bolt or capscrew is identified as 1/2 - 16 x 2" (M8 - 1.25 x 50), this means the *Nominal size*, or body diameter is 1/2 inch (8mm metric thread diameter), the second number, 16, represents the *threads per inch*, (*distance between threads*). The final number is the body length of the bolt or screw, 2 inches (50mm).

## 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 torques.
  - for flange whizlock nuts and screws - use 135% of grade 5 torques.
- Unless otherwise noted on assembly drawings, all torque values must meet this specification.

## Common Hardware Types

Hex Head Capscrew



Washer



Carriage Bolt



Hex Nut

## 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"
M6 Bolt or Nut Wrench—10mm	M8 Bolt or Nut Wrench—13mm	M10 Bolt or Nut Wrench—17mm	M12 Bolt or Nut Wrench—19mm	M14 Bolt or Nut Wrench—22mm



