

7800662 - BTXPV22700E

Parts Manual



Manual Part No. 7104243

Revision -

Rev. Date: 12/16/2009

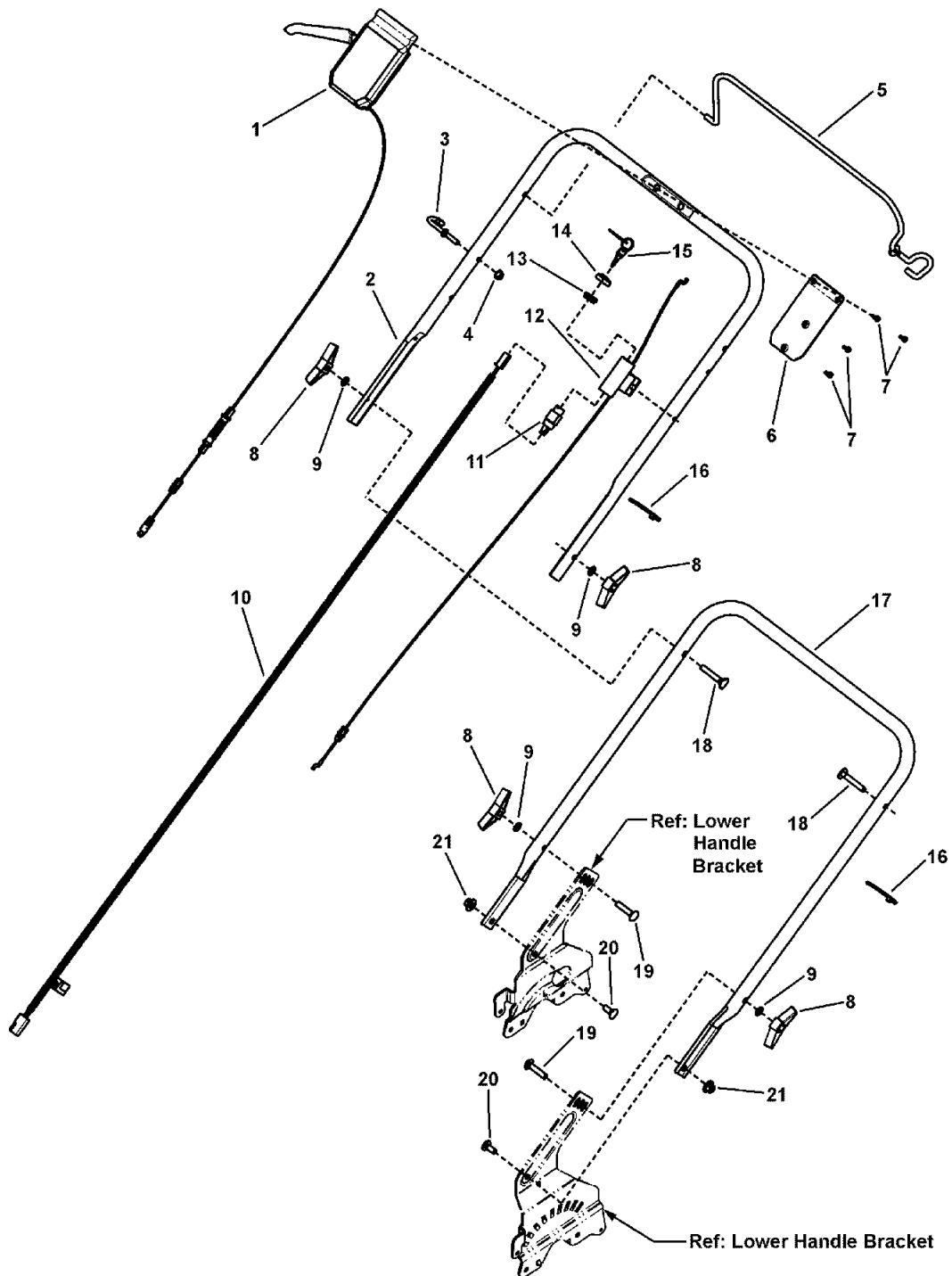
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Handles & Controls Group

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



The above parts group applies to the following Mfg. Nos.:
7800662 - BTPV22700E

Handles & Controls Group

REF NO	PART NO.	QTY.	DESCRIPTION
1	7103890YP	1	ASSY, Control Box, VS, RWD
2	7300676AMA	1	HANDLE, Upper, Brute, Propelled
3	7028488MA	1	GUIDE, Rope (1/4-20 thread)
4	2860694SM	1	NUT, 1/4-20 Hex Flange Lock (Esna)
5	7101731AMA	1	BAIL, Brute SP, Operator Presence Control
6	7300130AMA	1	PLATE, Control Panel
7	7100225YP	4	SCREW, #8-16 Recessed Pan Head (Torxplus)
8	671294MA	4	KNOB, 5/16-18 Wing Nut
9	7090391SM	4	WASHER, 5/16" Internal Tooth Lock
10	7103676YP	1	WIRING HARNESS, EI Start, WBM
11	7028765YP	1	IGNITION SWITCH, E/S (Start/Run)
12	7103973YP	1	CABLE, Bail, 21", WBM, Brute, E/S (Part number is stamped on part)
13	7100329YP	1	NUT, 5/8-32, E-Start
14	7100330YP	1	CAP, E-Start
15	7011138YP	1	IGNITION KEY (Pair)
16	7024649YP	2	WIRE TIE, 11 Inch Std Blk Nylon
17	7300592YP	1	HANDLE, Lower 21" RD
18	7091189YP	2	BOLT, 5/16-18 x 2" Curved Head Square Neck
19	1931337SM	2	BOLT, 5/16-18 x 1-1/2" Round Head Short Square Neck, GR 5
20	1931333SM	2	BOLT, 5/16-18 x 3/4" Round Head Short Square Neck, GR 5
21	7090951SM	2	NUT, 5/16-18 Hex Large Flange Center Lock

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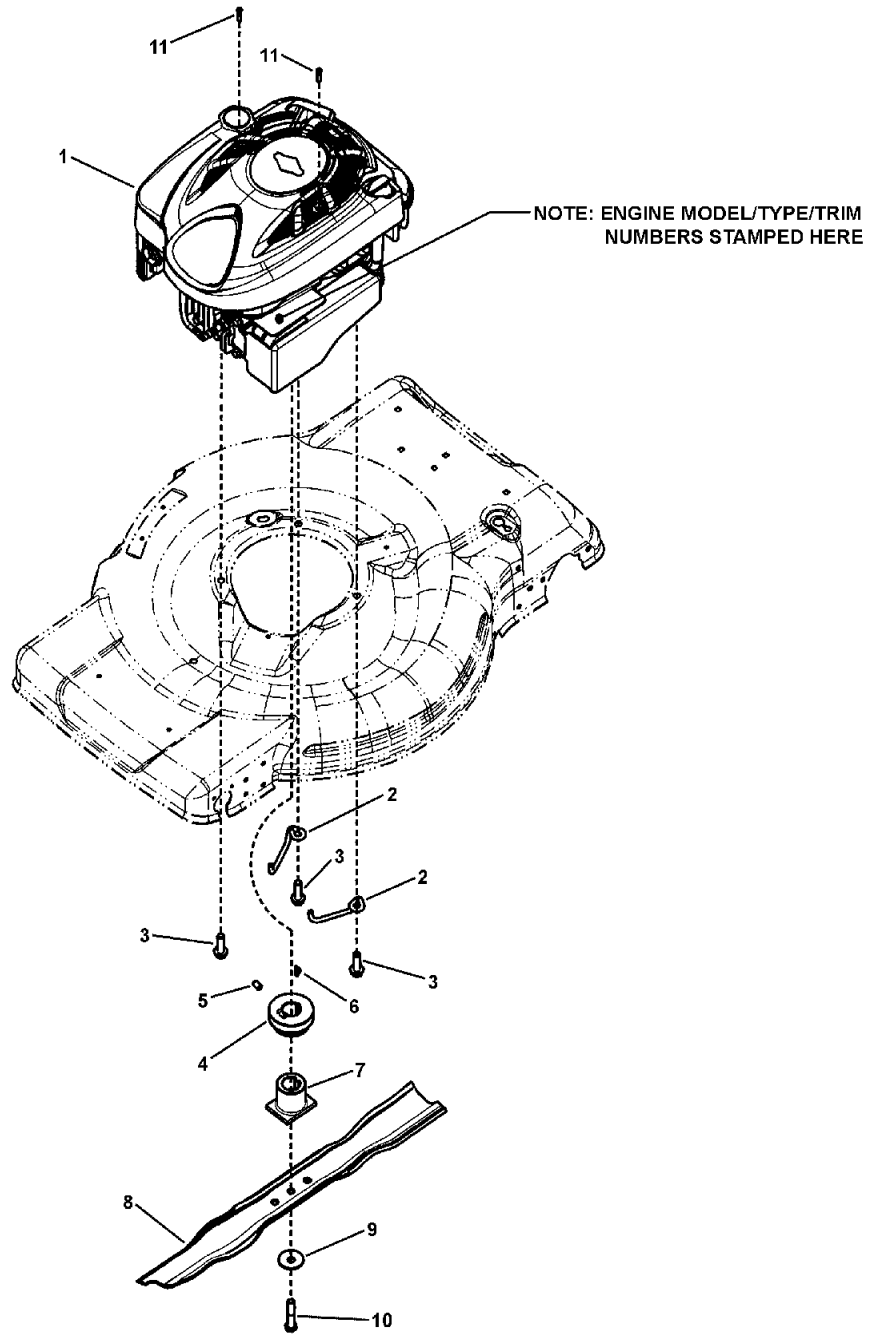
Footnotes

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

7800662 - BTXPV22700E

Engine Group

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



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

7800662 - BTPV22700E

Engine Group

REF NO	PART NO.	QTY.	DESCRIPTION
1	128L05-0116-F1	1	* ENGINE, B&S 700 SER, ES, X-SPEC
2	7103517YP	2	BELT GUIDE, Engine, FWD
3	7900072YP	3	HWST, 3/8-16 x 1.25
4	7100437YP	1	PULLEY, Engine
5	7092086YP	1	SET SCREW, 5/16-18 x 1/2" Hex Recess
6	7091214YP	1	KEY, #HP-506 Hi-Pro
7	7101414YP	1	HUB, Blade
8	7103288YP	1	BLADE, 22" Wave
9	7012063SM	1	WASHER, Cone
10	7090167SM	1	HHCS, 3/8-24 x 2 GR 5
11	691138	2	SCREW, Pan HD Cross Recess, Tapping

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Footnotes

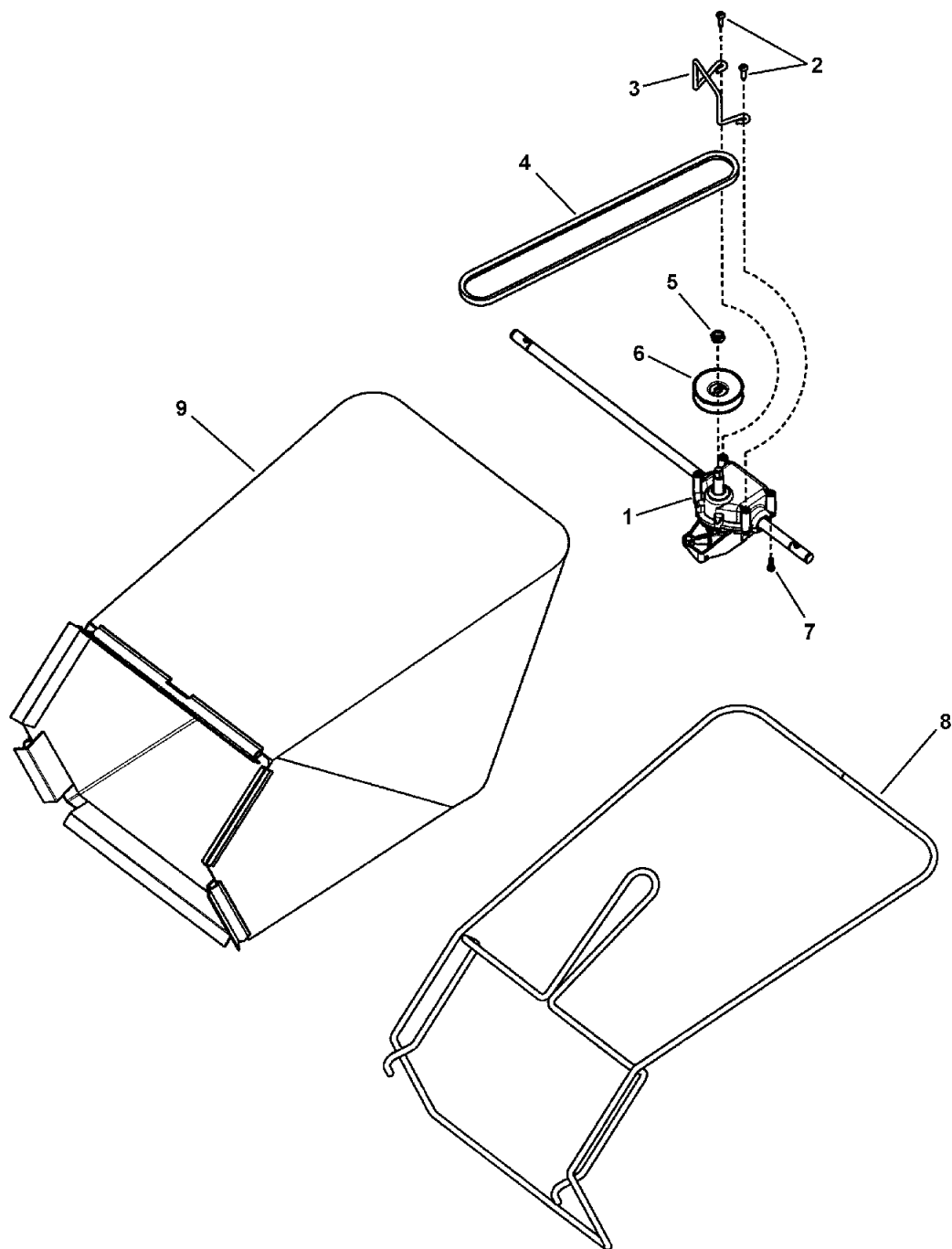
NOTE: * Purchase engine parts from engine manufacturer dealer.

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

7800662 - BTXPV22700E

Transmission & Grass Bag

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



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

7800662 - BTPV22700E

Transmission & Grass Bag

REF NO	PART NO.	QTY.	DESCRIPTION
1	7103312YP	1	TRANSMISSION, VS, RWD (Ref. Deck Group, item 35)
2	7091195SM	2	SCREW, #10-16 x 3/4" Pan Head Self-Tap, Combo
3	7100863YP	1	BELT GUIDE, Transmission, 22" WBM
4	7103364YP	1	BELT, 3L, 33.83" Effective Length (Traction Drive, Pivot Handle)
5	1960251SM	1	NUT, 3/8-16 Hex Center Lock Jam
6	7100240YP	1	PULLEY, Trans VAR SPD LC WBM
7	7900032YP	8	SCREW, 7mm x 1 x .550 AB Point
8	7103305AYP	1	BAG FRAME, RD, 22" WBM
9	7103375YP	1	GRASS BAG, 22" Rear Discharge

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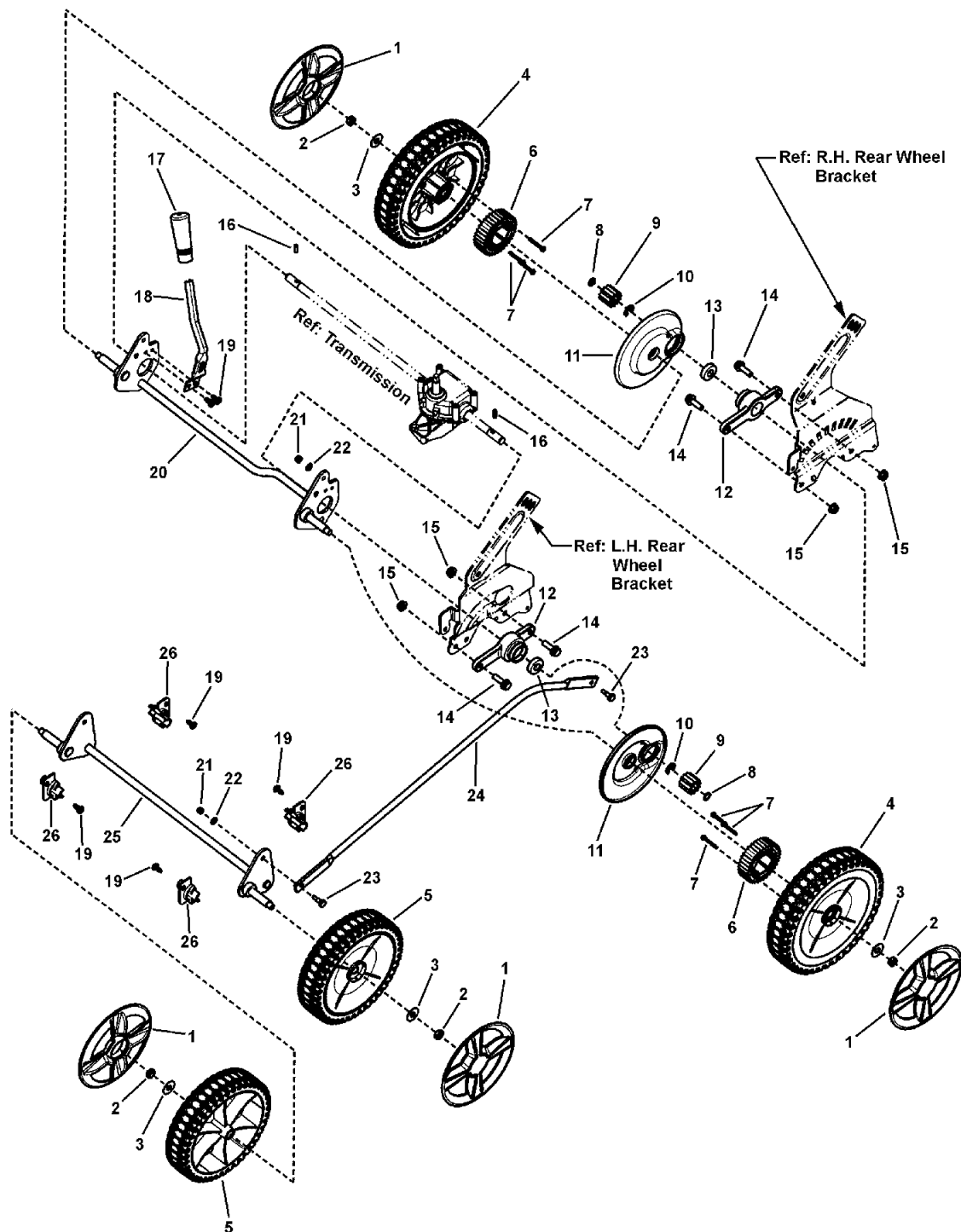
Footnotes

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

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Front & Rear Wheels Group

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



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

7800662 - BTPV22700E

Front & Rear Wheels Group

REF NO	PART NO.	QTY.	DESCRIPTION
1	7103539YP	4	HUBCAP, 8"& 9" Wheel Spoked, P-391 St Yellow
2	1960251SM	4	NUT, 3/8-16 Hex Center Lock Jam YZ
3	17X169MA	4	WASHER, 1" O.D. x .387 I.D. Flat
4	7501793YP	1	ASSY, Wheel, 9" x 2" Db Trd w/Ext Gear, BB Satin Black (Includes two ball bearings)
5	7103541YP	2	WHEEL, 8" x 2" Idle w/Db Trd, Brute, Satin Black
6	7100914YP	1	GEAR, External Wheel
7	7091196SM	3	SCREW, #8 x 1-1/4" Hi-Lo Hex washer Self-Tap
8	7027999YP	2	RETAINING RING (Waldes Truarc #5100-50 or equiv.)
9	7100820YP	2	GEAR, Pinion
10	7014341YP	2	RING, External Retaining
11	7101367YP	2	DUST SHIELD, 21" WBM, RD
12	7103290YP	2	HOLDER, Bearing, RWD
13	7078243YP	2	BALL BEARING, Axle
14	7091591SM	4	BOLT, 5/16-18 x 1" Hex Flange Lock, GR 5, YZ
15	7091601SM	4	NUT, 5/16-18 Hex Flange Lock, YZ
16	7100861YP	2	PIN, Axle
17	671297MA	1	GRIP, Height-Of-Cut
18	7103289YP	1	LEVER, Spring, Height-Of-Cut
19	7900067YP	6	SCREW, 1/4-20 x .550 Pan Head Torx (T-30)
20	7400259YP	1	WELDMENT, Rear Crossbar, RWD
21	7091290SM	2	NUT, #10-24 Hex Lock (Nyloc)
22	7091552SM	2	WASHER, .219 x 1/2" x .049 Flat
23	7101774YP	2	SHOULDER BOLT, #10-24
24	7103306ZYP	1	ROD, Lifter Link, WBM
25	7400274YP	1	WELDMENT, Front Crossbar
26	7103314YP	4	BUSHING, Bearing, RWD

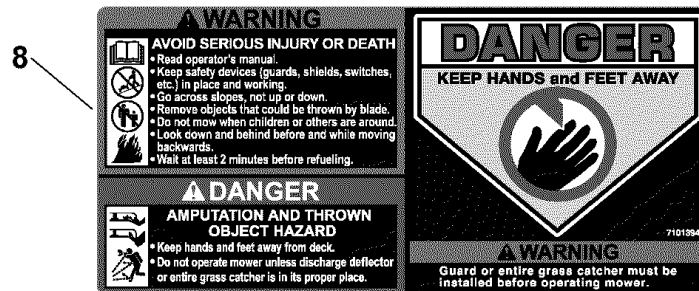
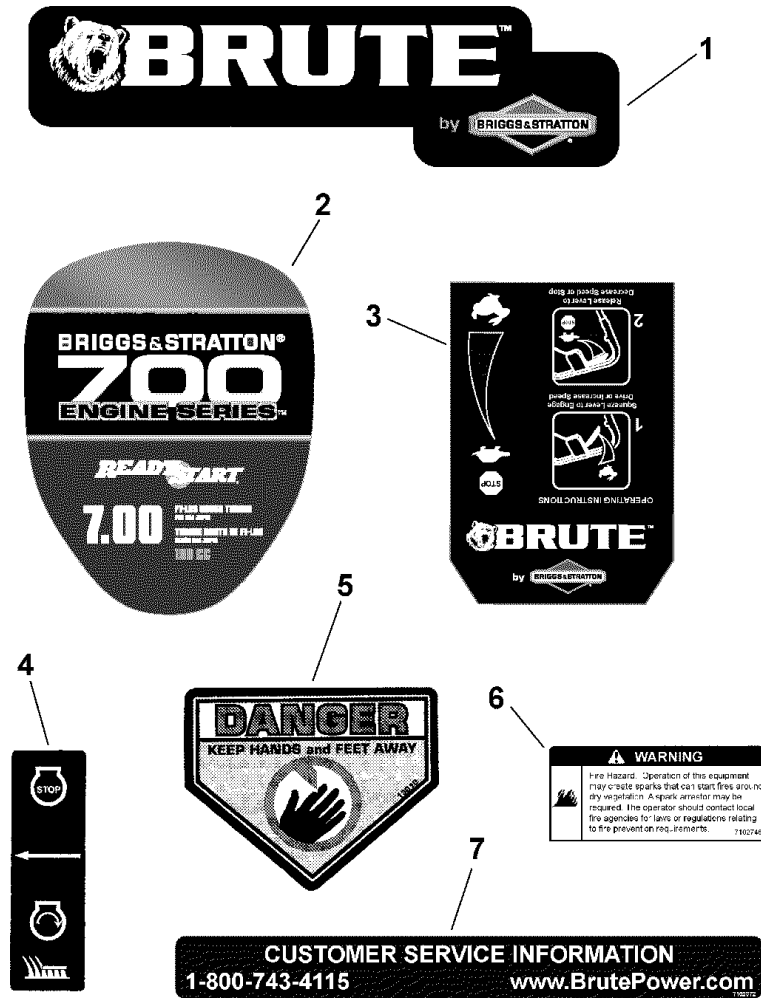
Footnotes

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

7800662 - BTXPV22700E

Decals Group

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



The above parts group applies to the following Mfg. Nos.:
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Decals Group

REF NO	PART NO.	QTY.	DESCRIPTION
1	7103545YP	1	DECAL, Brute WBM
2	7103549YP	1	DECAL, Engine, 700 Series Quantum
3	7101814MA	1	DECAL, Control Head
4	7029782MA	1	DECAL, OPC Bail International Symbol
5	7013010SM	1	DECAL, Danger, Cut Finger
6	7102746YP	1	DECAL, Spark Arrestor
7	7102372YP	1	DECAL, Customer Service, Brute
8	7101394YP	1	DECAL, Warning, Rear Discharge Door

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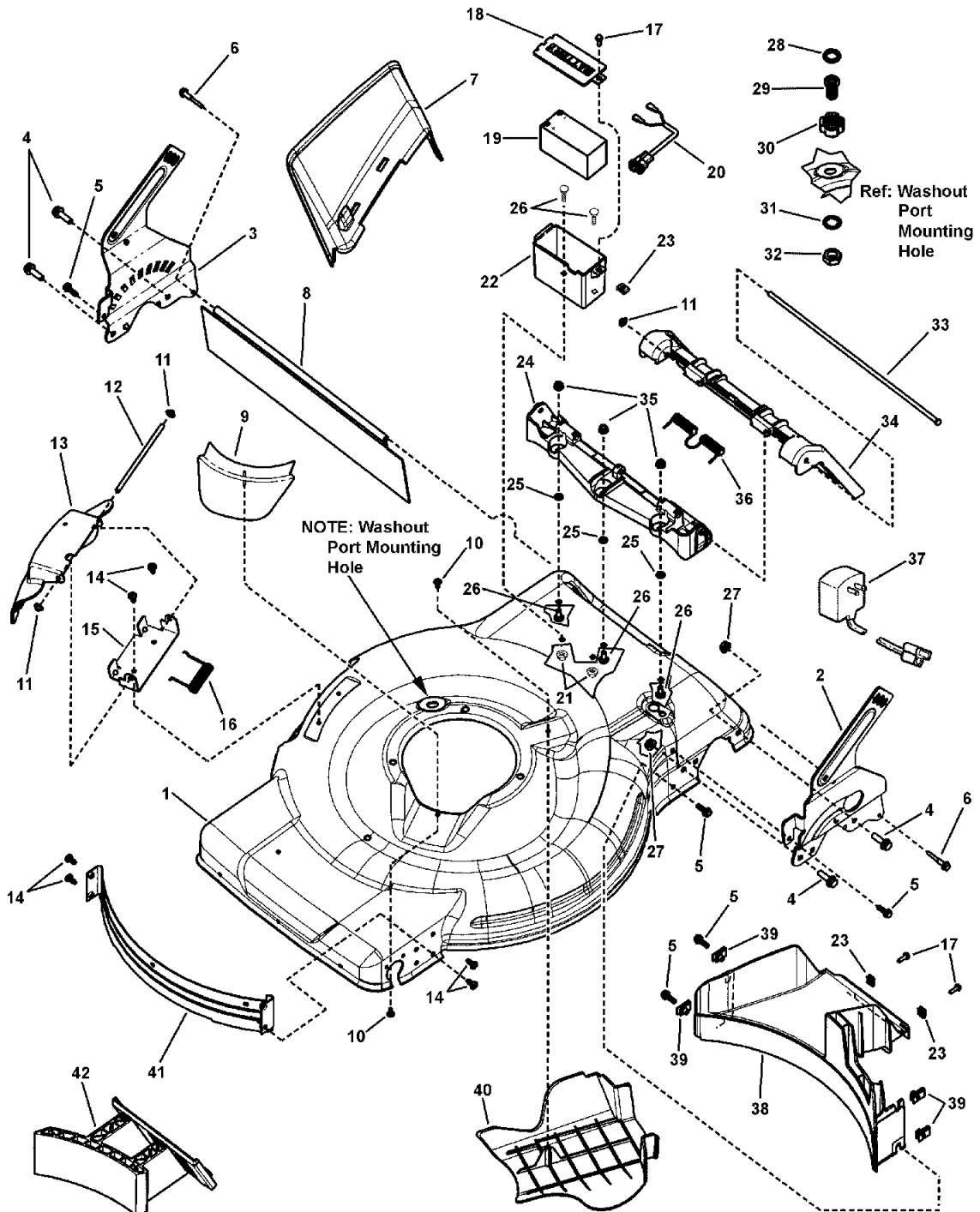
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The above parts group applies to the following Mfg. Nos.:

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Deck Group

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



The above parts group applies to the following Mfg. Nos.:
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Deck Group

REF NO	PART NO.	QTY.	DESCRIPTION
1	7301113ZYP	1	DECK, 22", RWD, ES, Washout
2	7300885AYP	1	BRKT, Rear Wheel, LH, Quick Adjust
3	7300915AYP	1	BRKT, Rear Wheel, RH, Quick Adjust
4	7091591SM	4	BOLT, 5/16-18 x 1" Hex Flange Lock, GR 5
5	7090699YP	6	BOLT, 1/4-20 x 3/4" Hex Flange Lock, GR 5
6	7900073YP	2	BOLT, Drag Shield, 1/4-20 x 1-1/2"
7	7103299YP	1	CHUTE, Side Discharge, 22" WBM
8	7103323YP	1	GUARD, Rear 22"
9	7103296YP	1	FRONT SHIELD, Debris
10	7900018YP	2	SCREW, 4.8 x 1.59 x 13mm, Round Washer Head Hi-Lo (Torx)
11	7091020YP	3	PUSHNUT, 1/4"
12	7101067YP	1	ROD, Pivot
13	7103298YP	1	COVER, Mulching
14	7900067YP	6	SCREW, 1/4-20 x .550 Pan Head Torx (T-30)
15	7300855ZMA	1	BRACKET, Chute
16	166X38MA	1	SPRING, Chute (Torsion)
17	7091075SM	3	SCREW, #10-24 x 5/8" Hex Washer Face Self-Tap, GR 5
18	7103458YP	1	TOP, Battery Box, Miniature
19	7102931YP	1	BATTERY, 12V, 1.3 A/HR, Type G Terminals
20	7102968YP	1	HARNESS, Battery, 1.3 A/HR
21	780285MA	2	NUT, 1/4-20 Hex Flange Whiz Lock
22	7103457YP	1	BOTTOM, Battery Box, Miniature
23	1960593SM	3	SPEED NUT, #10-24 Retainer w/Extrusion
24	7103292YP	1	DOOR HINGE, Rear Discharge
25	1960518SM	3	RETAINER, 1/4" Bolt
26	7090803YP	5	BOLT, 1/4-20 x 5/8" Flat Head Square Neck, GR 5
27	7091601SM	4	NUT, 5/16-18 Hex Flange Lock, GR 5
28	7103957YP	1	WASHER, Hose
29	7103804YP	1	ADAPTOR, Washout Port, WBM
30	7103919YP	1	COUPLING, Hose
31	7090880YP	1	WASHER, 5/8" Internal Tooth Lock
32	1960716SM	1	NUT, 5/8-11 NC-2B Hex Jam
33	7103322YP	1	ROD, Pivot, Rear Door
34	7103291YP	1	DOOR, Rear Discharge
35	15X143MA	3	NUT, 1/4-20 Hex Flange Lock
36	7103309YP	1	SPRING, Rear Door (Torsion)
37	7103988YP	1	CHARGER, Battery, 14V 260MA
38	7103293YP	1	REAR BAFFLE, Rear Wheel Drive WBM
39	7023295SM	4	U-NUT, 1/4-20
40	7103294YP	1	COVER, Belt Drive, Rear
41	7301020ZYP	1	BAFFLE, Front
42	7103453YP	1	PLUG, Mulching, 22" Deck

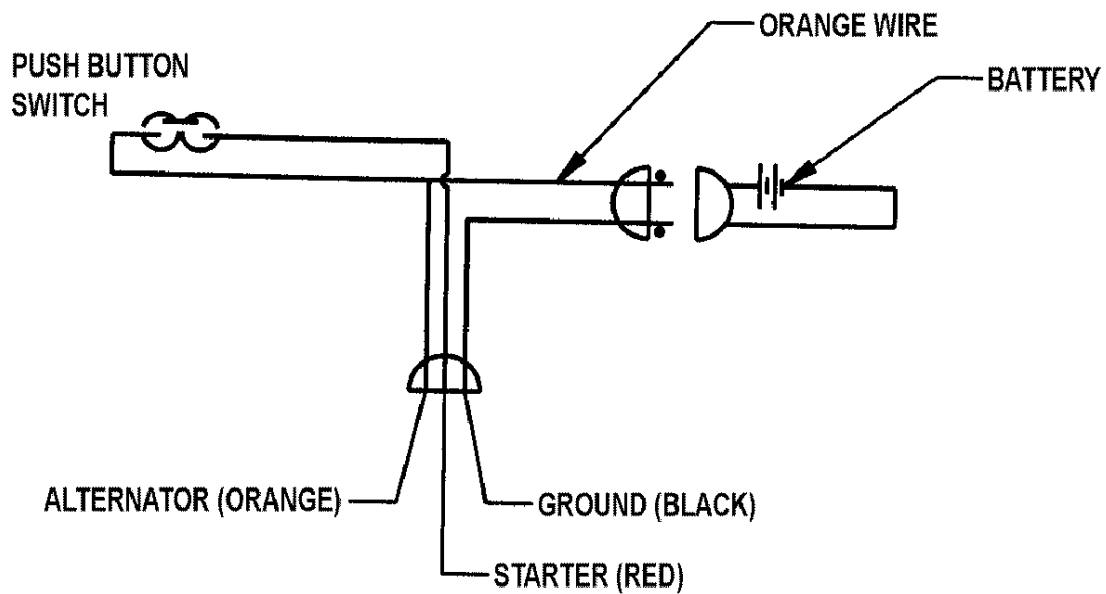
Footnotes

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

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Wiring Schematic

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



ELECTRICAL DIAGRAM

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

7800662 - BTPV22700E

Wiring Schematic

REF NO	PART NO.	QTY.	DESCRIPTION
1	7103676YP	1	WIRING HARNESS, EI Start, WBM (Ref. Handles and Controls page, item 10)

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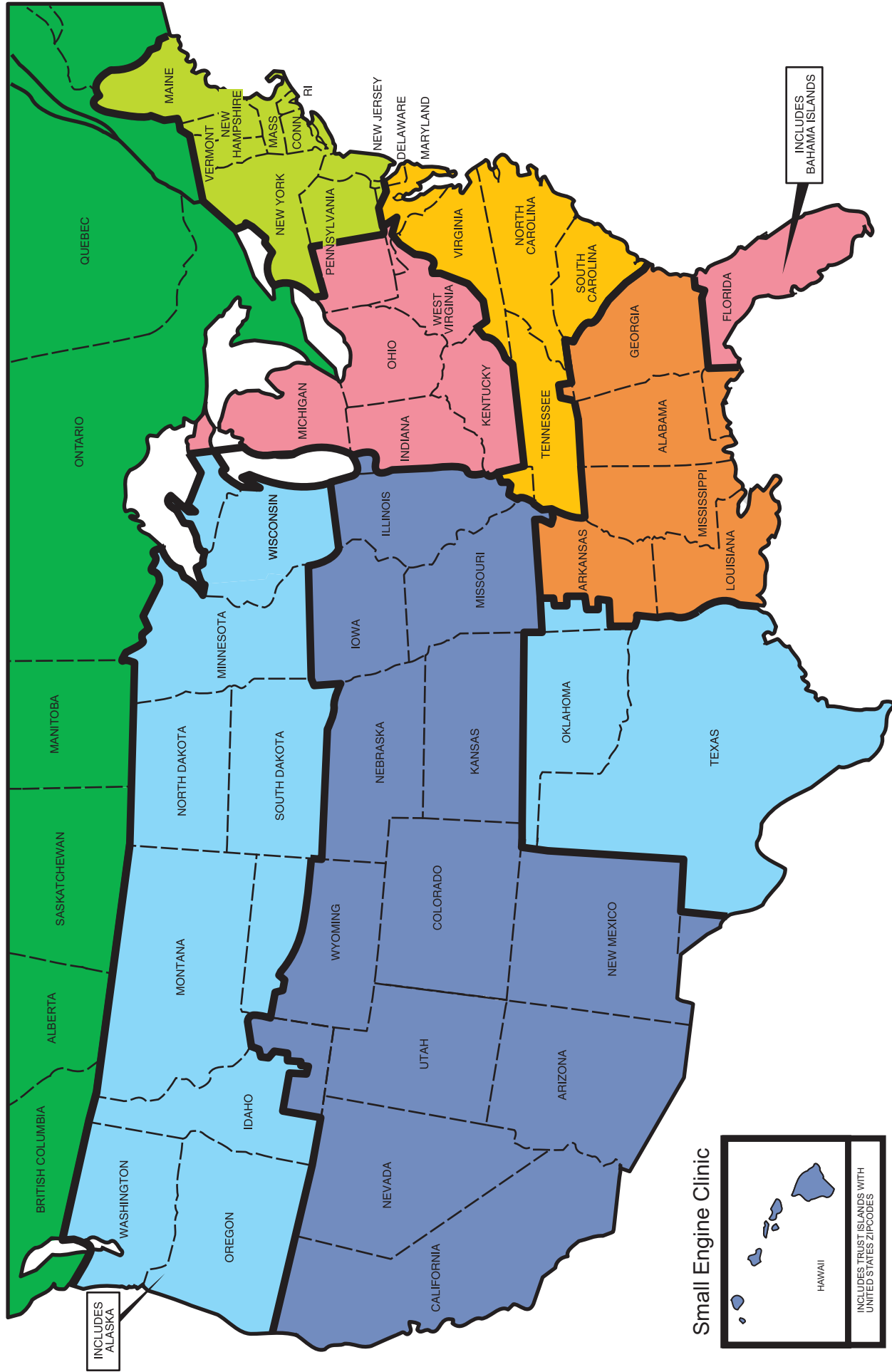
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Hardware Identification & Torque Specifications

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		in/lbs		in/lbs		in/lbs	
	ft/lbs	Nm.	ft/lbs	Nm.	ft/lbs	Nm.	ft/lbs	Nm.
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

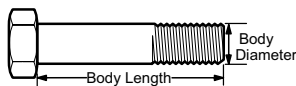
The guides and ruler furnished below are designed to help you select the appropriate hardware.



Nut, M8

Thread Diameter (mm)
Inside Diameter (in)
Threads per inch

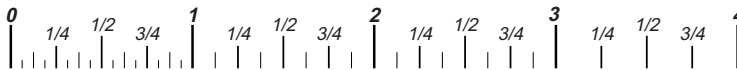
Nut, 1/2-16



Screw, M8- 1.25 x 25

Thread Diameter (mm)
Body Diameter
Distance between threads (mm)
Threads per inch
Body Length (mm)
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*, (*1.25 thread diameter*). The final number is the body length of the bolt or screw, 2 inches (50mm).

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		in/lbs		in/lbs	
	ft/lbs	Nm.	ft/lbs	Nm.	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	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

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

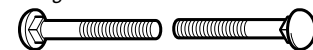
Hex Head Capscrew



Washer



Carriage Bolt



Lockwasher

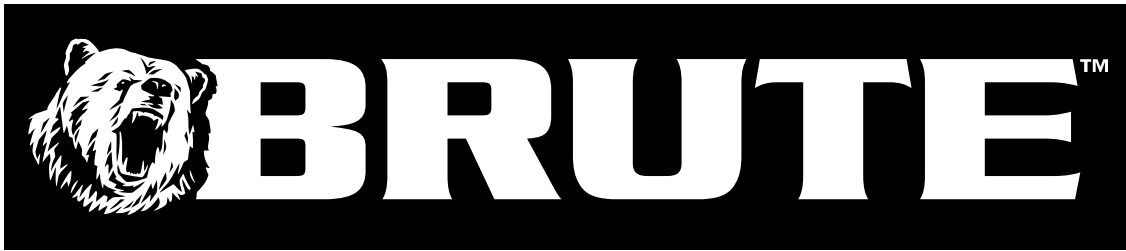


Hex Nut



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



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