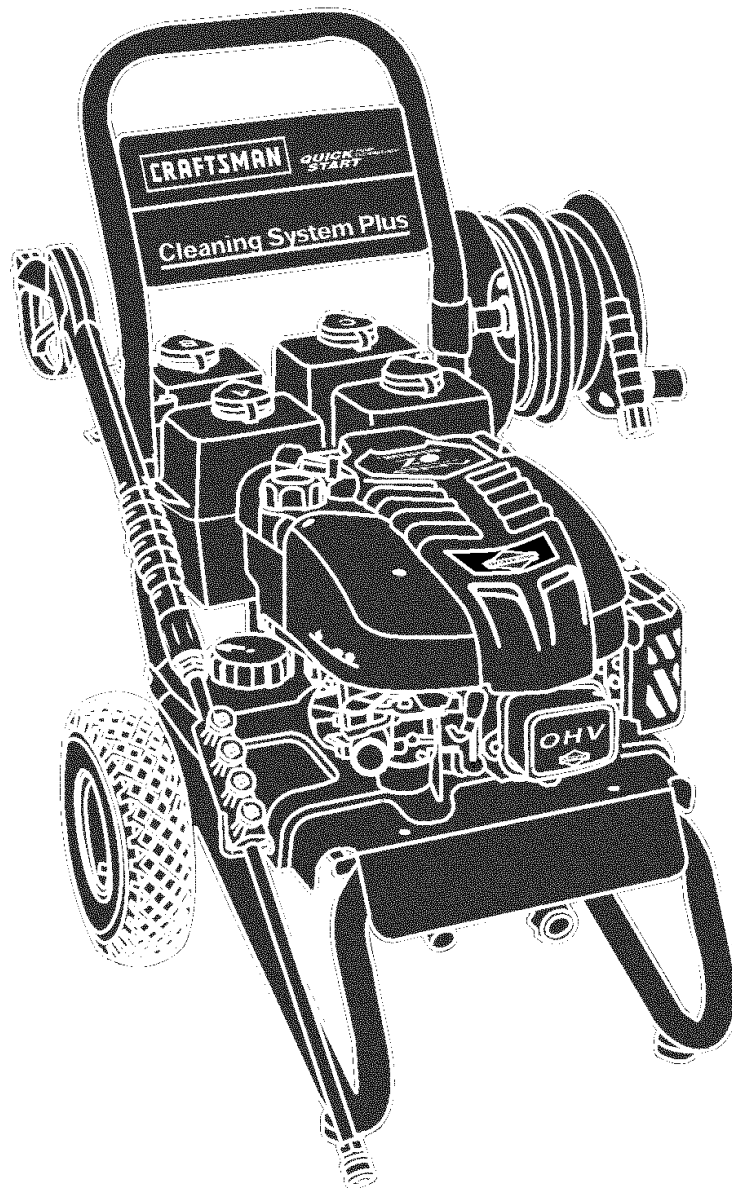


Mfg. No: 020203-0  
2,800 PSI Craftsman CS





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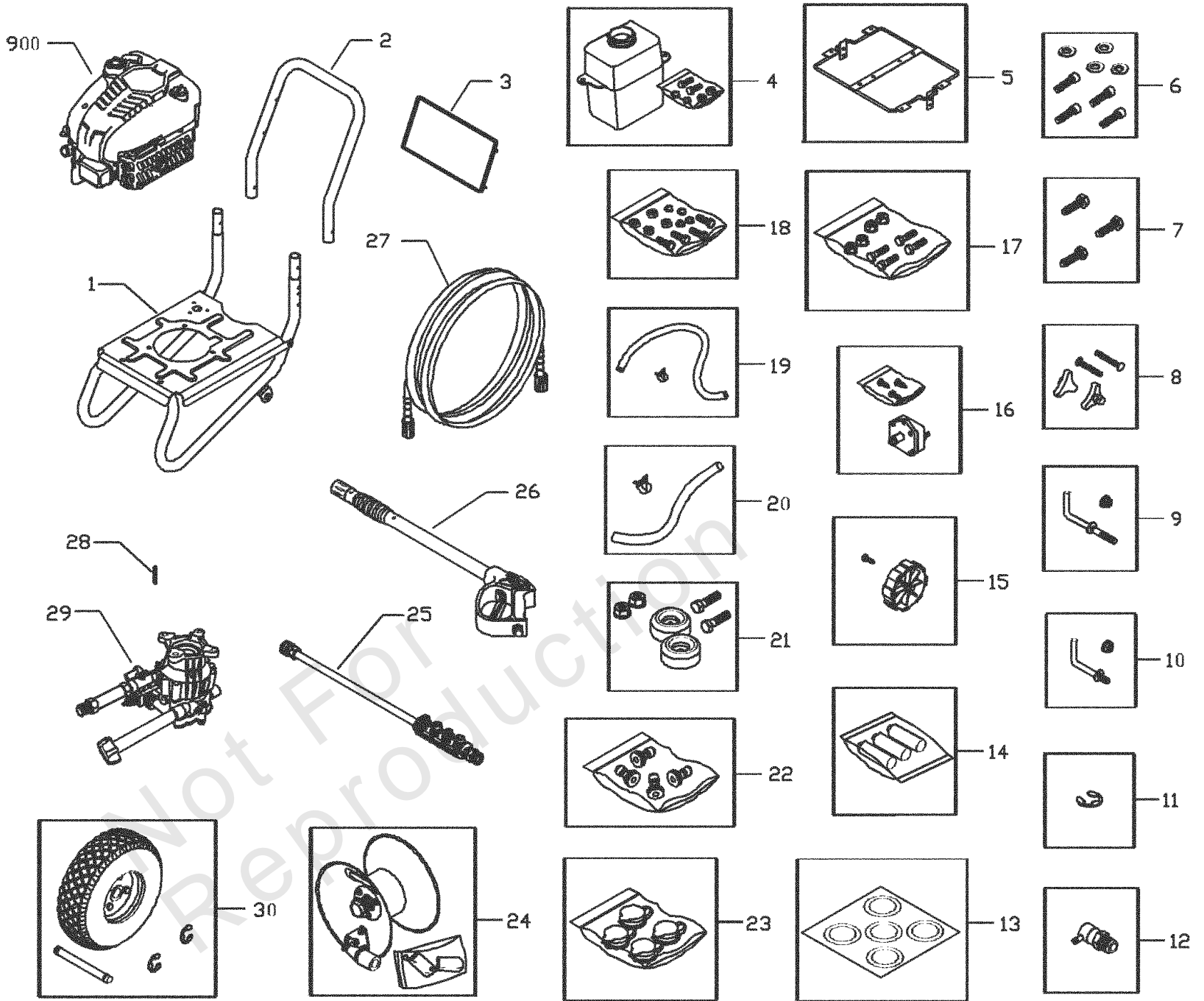
<b>Model Components</b>	<b>Page</b>
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Not For  
Reproduction

# Main Unit

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 020203-0



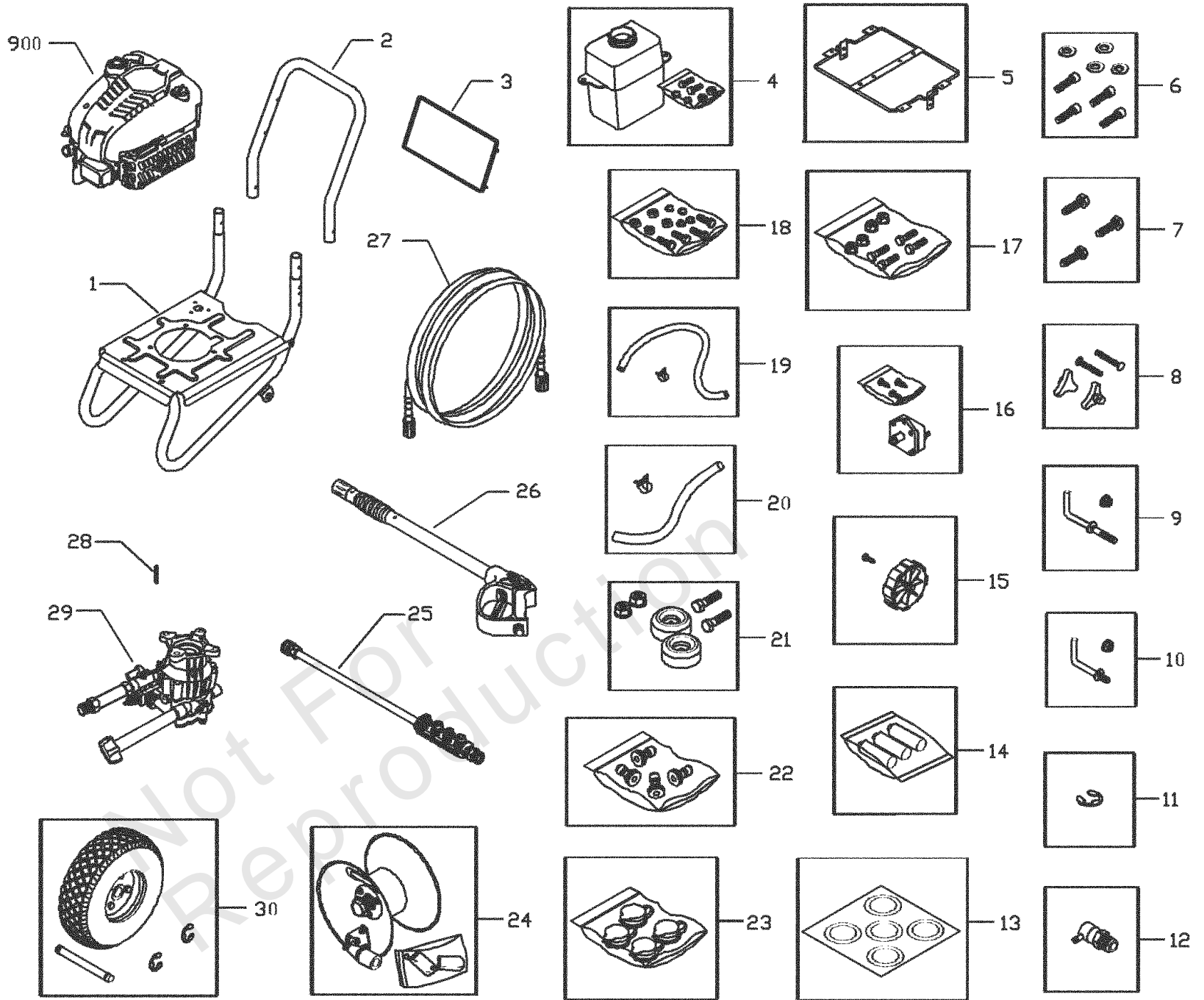
## Main Unit

REF NO	PART NO	QTY	DESCRIPTION
1	194665GS		ASSY, Base
2	M194122GS		HANDLE
3	194224GS		ASSY, Billboard
4	194651GS		KIT, Chemical Tank
5	194206GS		WIREFORM
6	192131GS		KIT, Pump Mounting Hardware
7	192133GS		KIT, Engine Mounting Hardware
8	B2203GS		KIT, Handle Connector
9	194264GS		KIT, Hook
10	192309GS		KIT, Hook
11	191265GS		KIT, E-Ring
12	194298GS		VALVE, Thermal Relief
13	192961GS		TAGS, 1 sheet Chemical Tank
14	192149GS		KIT, Concentrate, 3 Bottle
15	194063GS		KIT, Knob, 4-Way Valve
16	194064GS		KIT, Subassy, Valve 4-way
17	194627GS		KIT, Wireform Hardware
18	194664GS		KIT, Chem Tank Hrdwr(4 tank system order 2 each)
19	194653GS		KIT, Hose, Subassy.
20	194074GS		KIT, Hose, Subassy.
21	192310GS		KIT, Vibration Mount
22	B5646GS		KIT, Spray Tips
23	194076GS		KIT, Caps, Chemical Containers
24	192648GS		ASSY, Hose Reel
25	192199GS		ASSY, Wand w/Spray Tip Holder
26	190049GS		GUN
27	194548GS		HOSE
28	23139DGS		KEY
29	194059GS		ASSY, Pump -(see "Pump" illustration and parts list)
30	192317GS		KIT, Wheel
900	~NSP		ENGINE
	AB3061BGS		BOTTLE, Oil -Items Not Illustrated
	194126GS		MANUAL, Owners -Items Not Illustrated
	194652GS		KIT, Decal Service -Items Not Illustrated
	7175187GS		Garden Hose Quick Connect -Optional Accessories Not Illustrated
	7175197GS		Accessory Quick Connect -Optional Accessories Not Illustrated
	7175199GS		Rotating Brush Kit -Optional Accessories Not Illustrated
	7175115GS		HOSE, 4000PSI, 3/8" x 25' -Optional Accessories Not Illustrated
	7175116GS		O Ring Repair Kit -Optional Accessories Not Illustrated
	7174400GS		Turbo Nozzle -Optional Accessories Not Illustrated
	7174401GS		HOSE, 4000PSI, 3/8" x 25' -Optional Accessories Not Illustrated
	7174403GS		Pump Saver -Optional Accessories Not Illustrated
	7174300GS		House Wash Concentrate (makes 4 gallons) -Optional Accessories Not Illustrated

# Main Unit

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 020203-0



## Main Unit

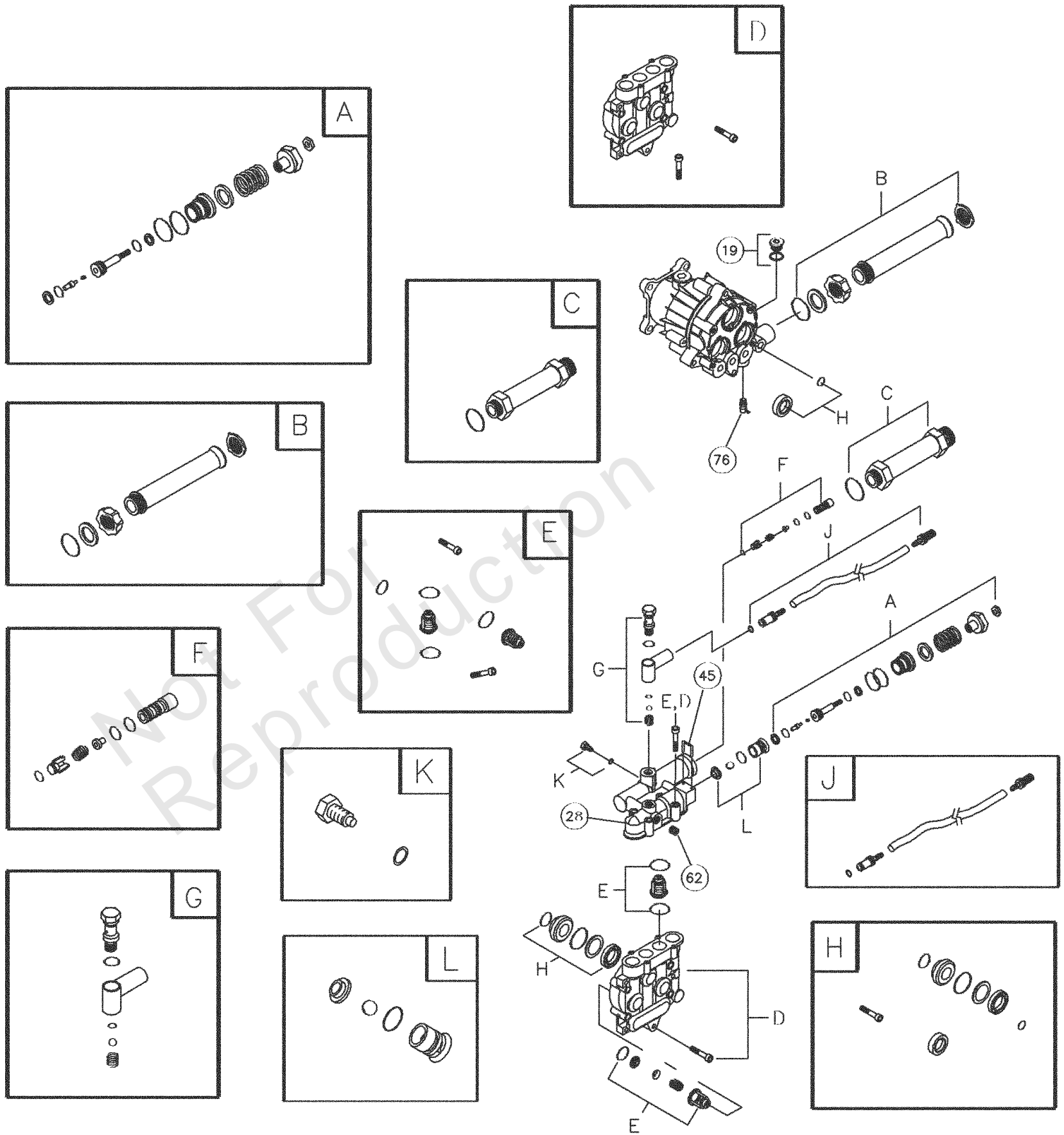
REF NO	PART NO	QTY	DESCRIPTION
	7174301GS		Deck Wash Concentrate (makes 2 gallons) -Optional Accessories Not Illustrated
	7174302GS		Vehicle/Boat Wash Concentrate (makes 4 gallons) -Optional Accessories Not Illustrated
	7174303GS		Degreaser Concentrate (makes 4 gallons) -Optional Accessories Not Illustrated
	7174307GS		Mold/Mildew Concentrate (makes 2 gallons) -Optional Accessories Not Illustrated
--	6059		PERFECT MIX MULTI-PURPOSE WASH -(Optional Accessory - Not Included)
--	6060		PERFECT MIX CONCRETE BRICK & TILE CLEANER -(Optional Accessory - Not Included)

Not For Reproduction

# Pump

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 020203-0





## Pump

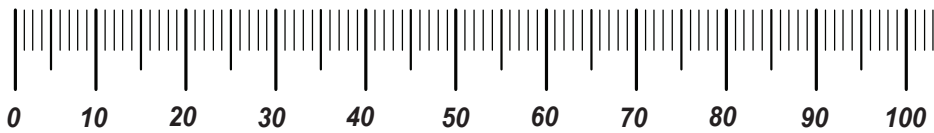
REF NO	PART NO	QTY	DESCRIPTION
19	190571GS		CAP, Oil
28	190574GS		MANIFOLD
45	190578GS		PIN
62	190581GS		CAP
76	194298GS		THERMAL RELIEF
77	190585GS		OIL BOTTLE -(not shown)
A	190594GS		KIT, UNLOADER -Service kits and include all parts shown within the box.
B	190588GS		KIT, WATER INLET, ANODIZED -Service kits and include all parts shown within the box.
C	190589GS		KIT, OUTLET, ANODIZED -Service kits and include all parts shown within the box.
D	193808GS		KIT, HEAD BRASS -Service kits and include all parts shown within the box.
E	193806GS		KIT, CHECK VALVES -Service kits and include all parts shown within the box.
F	190592GS		KIT, INLET CHECK -Service kits and include all parts shown within the box.
G	190593GS		KIT, CHEMICAL INJECTION -Service kits and include all parts shown within the box.
H	193807GS		KIT, SEAL SET -Service kits and include all parts shown within the box.
J	189971GS		KIT, CHEMICAL HOSE -Service kits and include all parts shown within the box.
K	193971GS		KIT, PIPE FITTING -Service kits and include all parts shown within the box.
L	193972GS		KIT, UNLOADER SEAT -Service kits and include all parts shown within the box.

# 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.

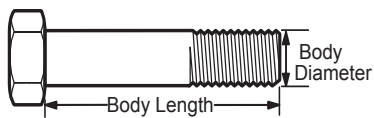


Nut, M8

Thread Diameter (mm)

Inside Diameter (in)      Threads per inch

Nut, 1/2-16

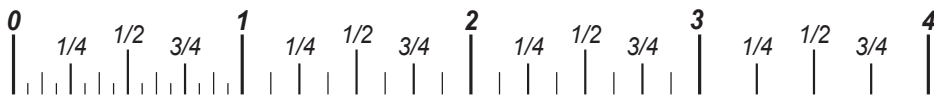


Screw, M8- 1.25 x 25

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).

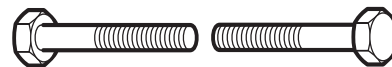
When bolt or capscrew is identified as 1/2 - 16 x 2" (M8 - 1.25 x 50), this means the *Nominal size*, or body diameter is 1/2 inch (8mm metric thread diameter), the second number, 16, represents the *threads per inch*, (*distance between threads*). The final number is the body length of the bolt or screw,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

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