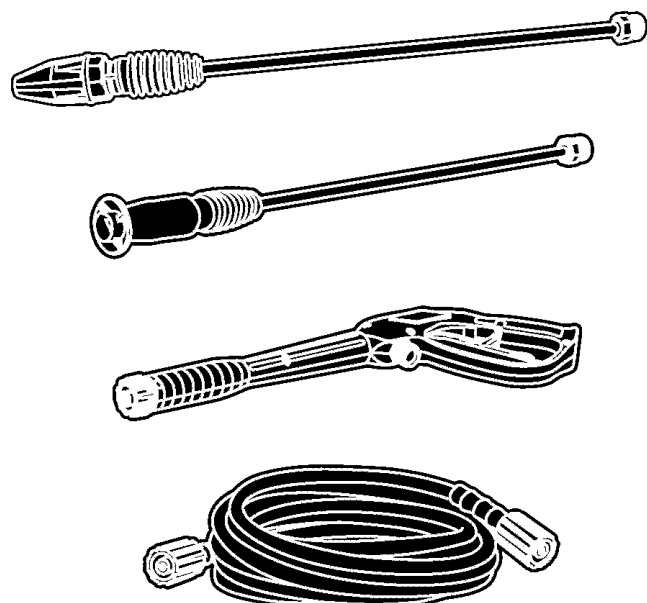


Mfg. No: 020248-0

580.676640, 2,000 PSI Craftsman Canada





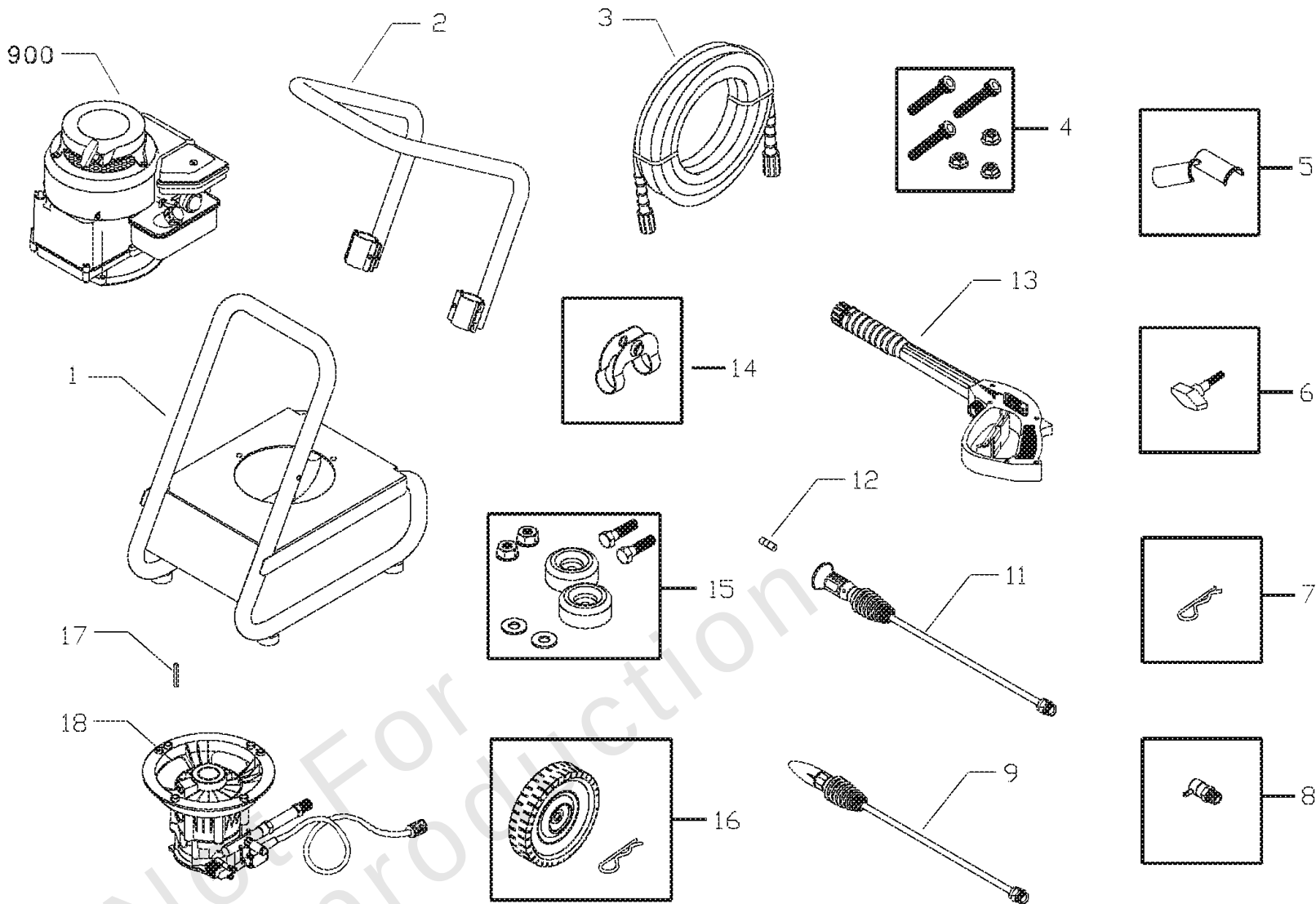
| Model Components                 | Page |
|----------------------------------|------|
| Main Unit. ....                  | 4    |
| Pump. ....                       | 6    |
| Torque Specification Chart. .... | 8    |

Not For  
Reproduction

**Main Unit**

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 020248-0



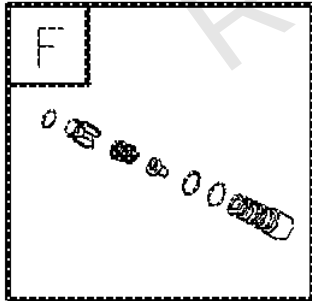
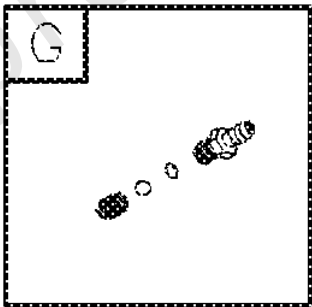
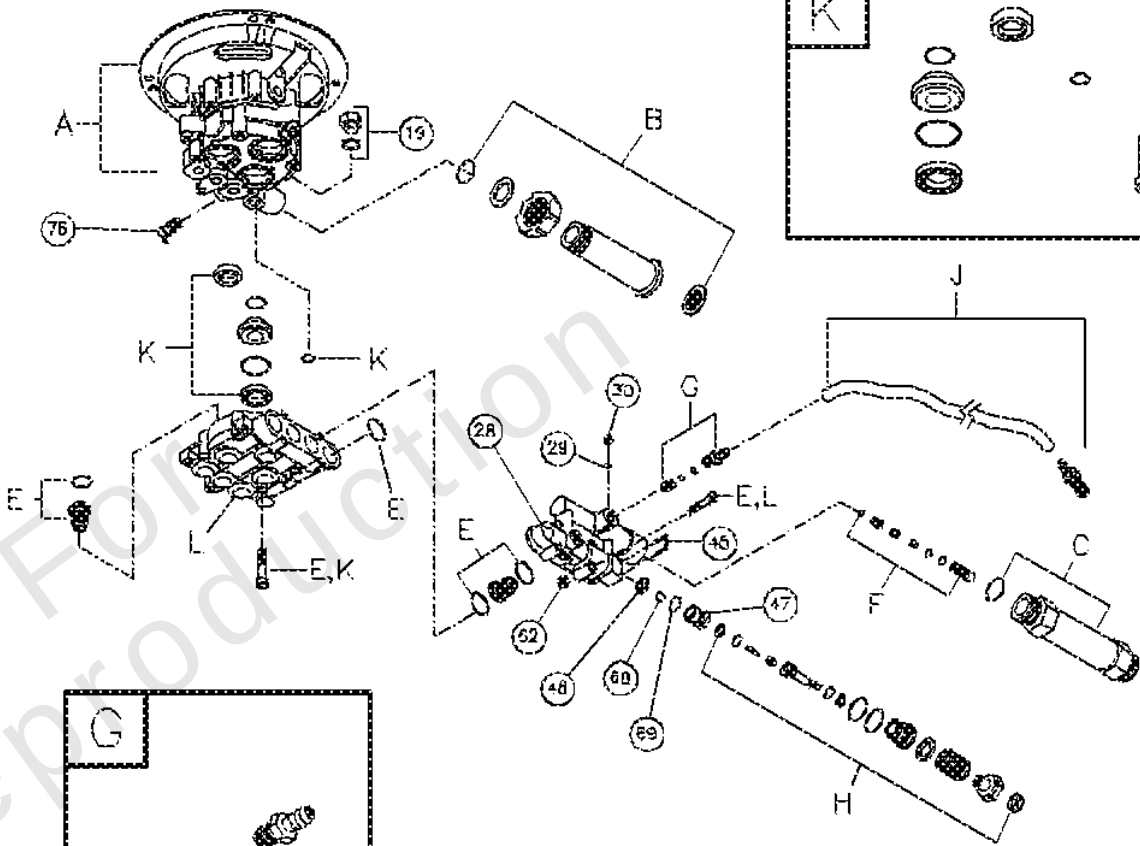
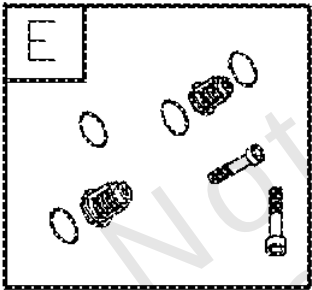
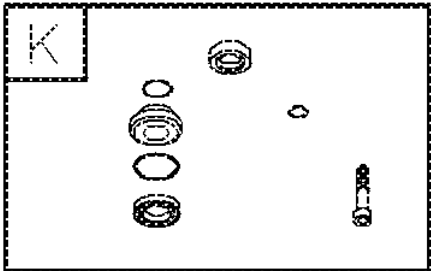
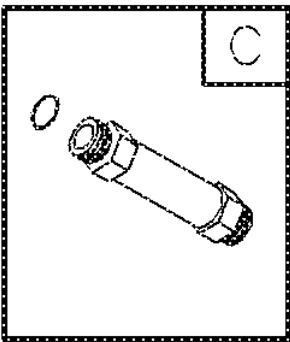
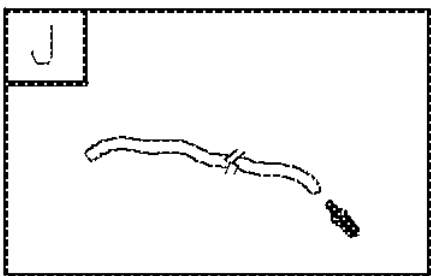
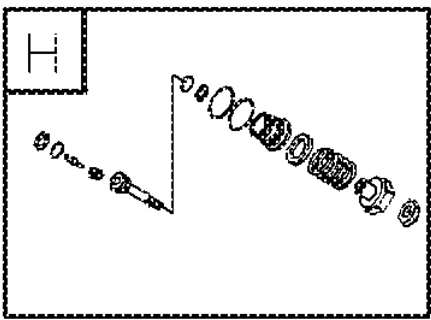
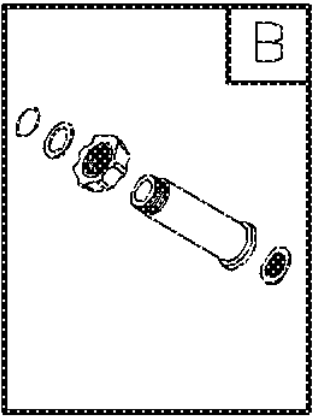
## Main Unit

| REF NO | PART NO   | QTY | DESCRIPTION                                                                               |
|--------|-----------|-----|-------------------------------------------------------------------------------------------|
| 1      | 190906GS  |     | BASE                                                                                      |
| 2      | B196778GS |     | HANDLE                                                                                    |
| 3      | 196006GS  |     | HOSE                                                                                      |
| 4      | 192525GS  |     | KIT, Pump/Engine Mounting Hardware                                                        |
| 5      | 196899GS  |     | KIT, Insert Plastic                                                                       |
| 6      | 196630GS  |     | KNOB                                                                                      |
| 7      | 87005AGS  |     | PIN, Quick Release                                                                        |
| 8      | 194298GS  |     | THERMAL RELIEF                                                                            |
| 9      | B2335GS   |     | WAND, Turbo                                                                               |
| 11     | 188792HGS |     | WAND, Adjustable Nozzle                                                                   |
| 12     | 21760GS   |     | ORIFICE                                                                                   |
| 13     | 193482GS  |     | GUN                                                                                       |
| 14     | 196037GS  |     | FOOT, Mounting                                                                            |
| 15     | 192310GS  |     | KIT, Vibration Mount                                                                      |
| 16     | 196895GS  |     | KIT, Wheel                                                                                |
| 17     | 23139GS   |     | KEY                                                                                       |
| 18     | 194216GS  |     | ASSY, Pump<br>-(See page 24)                                                              |
| 900    | ~NSP      |     | ENGINE<br>-(See pages 25-27)                                                              |
|        | 196284GS  |     | MANUAL, Owner's<br>-Not Illustrated                                                       |
|        | 196859GS  |     | KIT, Decals<br>-Not Illustrated                                                           |
|        | AB3061BGS |     | OIL, Bottle, Engine<br>-Not Illustrated                                                   |
|        | 190586GS  |     | OIL, Pump<br>-Not Illustrated                                                             |
|        | 196038GS  |     | AXLE<br>-Not Illustrated                                                                  |
|        | 87815GS   |     | GOGGLES<br>-Not Illustrated                                                               |
|        | 196905GS  |     | DECAL, Clean/Carry<br>-Not Illustrated                                                    |
|        | 193581GS  |     | DECAL, Engine, Muffler<br>-Not Illustrated                                                |
|        | 191922GS  |     | KIT, Maintenance, O-Ring<br>-Optional Accessories Not Illustrated                         |
|        | 7167300GS |     | House Wash Concentrate<br>-(Makes 4 gallons); Optional Accessories Not Illustrated        |
|        | 7167301GS |     | Deck Wash Concentrate<br>-(Makes 2 gallons); Optional Accessories Not Illustrated         |
|        | 7167302GS |     | Vehicle/Boat Wash Concentrate<br>-(Makes 4 gallons); Optional Accessories Not Illustrated |
|        | 7167303GS |     | Degreaser Concentrate<br>-(Makes 4 gallons); Optional Accessories Not Illustrated         |

Pump

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 020248-0



## Pump

| REF NO | PART NO  | QTY | DESCRIPTION                                                                       |
|--------|----------|-----|-----------------------------------------------------------------------------------|
| 19     | 190571GS |     | CAP, Oil                                                                          |
| 28     | 190627GS |     | MANIFOLD                                                                          |
| 29     | 190575GS |     | O-RING                                                                            |
| 30     | 190576GS |     | SCREW                                                                             |
| 34     | 190577GS |     | CONNECTION, Chemical Inlet                                                        |
| 45     | 190578GS |     | PIN                                                                               |
| 46     | 190629GS |     | VALVE, Seat Plate, Plastic                                                        |
| 47     | 190630GS |     | VALVE, Seat, Plastic                                                              |
| 62     | 190581GS |     | CAP                                                                               |
| 68     | 190582GS |     | BALL, SS                                                                          |
| 69     | 190584GS |     | O-RING                                                                            |
| 76     | 194298GS |     | THERMO RELIEF                                                                     |
| A      | ~NSP     |     | ASSY, CASE, PISTON<br>-(Order complete pump assy, 191693GS)                       |
| B      | 190632GS |     | KIT, WATER INLET, ALUM<br>-Service kits; include all parts shown within the box.  |
| C      | 190634GS |     | KIT, OUTLET, ALUM<br>-Service kits; include all parts shown within the box.       |
| E      | 190591GS |     | KIT,CHECK VALVES<br>-Service kits; include all parts shown within the box.        |
| F      | 190592GS |     | KIT, INLET CHECK<br>-Service kits; include all parts shown within the box.        |
| G      | 190593GS |     | KIT, CHEMICAL INJECTION<br>-Service kits; include all parts shown within the box. |
| H      | 190628GS |     | KIT, UNLOADER STEM<br>-Service kits; include all parts shown within the box.      |
| J      | 189971GS |     | KIT, CHEMICAL HOSE<br>-Service kits; include all parts shown within the box.      |
| K      | 190636GS |     | KIT, SEAL SET<br>-Service kits; include all parts shown within the box.           |
|        | 191693GS |     | Order complete pump assy                                                          |

# Hardware Identification & Torque Specifications

| Torque Specification Chart                             |                                                                                                |      |                                                                                                |      |                                                                                                 |      |                                                                                                 |      |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------------------|------|
| FOR STANDARD METRIC MACHINE HARDWARE (Tolerance ± 20%) |                                                                                                |      |                                                                                                |      |                                                                                                 |      |                                                                                                 |      |
| Property Class                                         | <br>Class 5.6 |      | <br>Class 8.8 |      | <br>Class 10.9 |      | <br>Class 12.9 |      |
| Size Of Hardware                                       | in/lbs<br>ft/lbs                                                                               | Nm.  | in/lbs<br>ft/lbs                                                                               | Nm.  | in/lbs<br>ft/lbs                                                                                | Nm.  | in/lbs<br>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.



## 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).

| Torque Specification Chart                      |                                                                                                    |       |                                                                                                    |       |                                                                                                    |         |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------|---------|
| FOR STANDARD MACHINE HARDWARE (Tolerance ± 20%) |                                                                                                    |       |                                                                                                    |       |                                                                                                    |         |
| Hardware Grade                                  | <br>SAE Grade 2 |       | <br>SAE Grade 5 |       | <br>SAE Grade 8 |         |
| Size Of Hardware                                | in/lbs<br>ft/lbs                                                                                   | Nm.   | in/lbs<br>ft/lbs                                                                                   | Nm.   | in/lbs<br>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



## Wrench & Fastener Size Guide

|                                                                                                                           |                                                                                                                           |                                                                                                                           |                                                                                                                                                         |                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <br>1/4" Bolt or Nut<br>Wrench—7/16" | <br>5/16" Bolt or Nut<br>Wrench—1/2" | <br>3/8" Bolt or Nut<br>Wrench—9/16" | <br>7/16" Bolt or Nut<br>Wrench (Bolt)—5/8"<br>Wrench (Nut)—11/16" | <br>1/2" Bolt or Nut<br>Wrench—3/4" |
| M6 Bolt or Nut<br>Wrench—10mm                                                                                             | M8 Bolt or Nut<br>Wrench—13mm                                                                                             | M10 Bolt or Nut<br>Wrench—17mm                                                                                            | M12 Bolt or Nut<br>Wrench—19mm                                                                                                                          | M14 Bolt or Nut<br>Wrench—22mm                                                                                           |

**CRAFTSMAN®**