

# Parts Manual

Mfg. No: 104M02-0036-H5



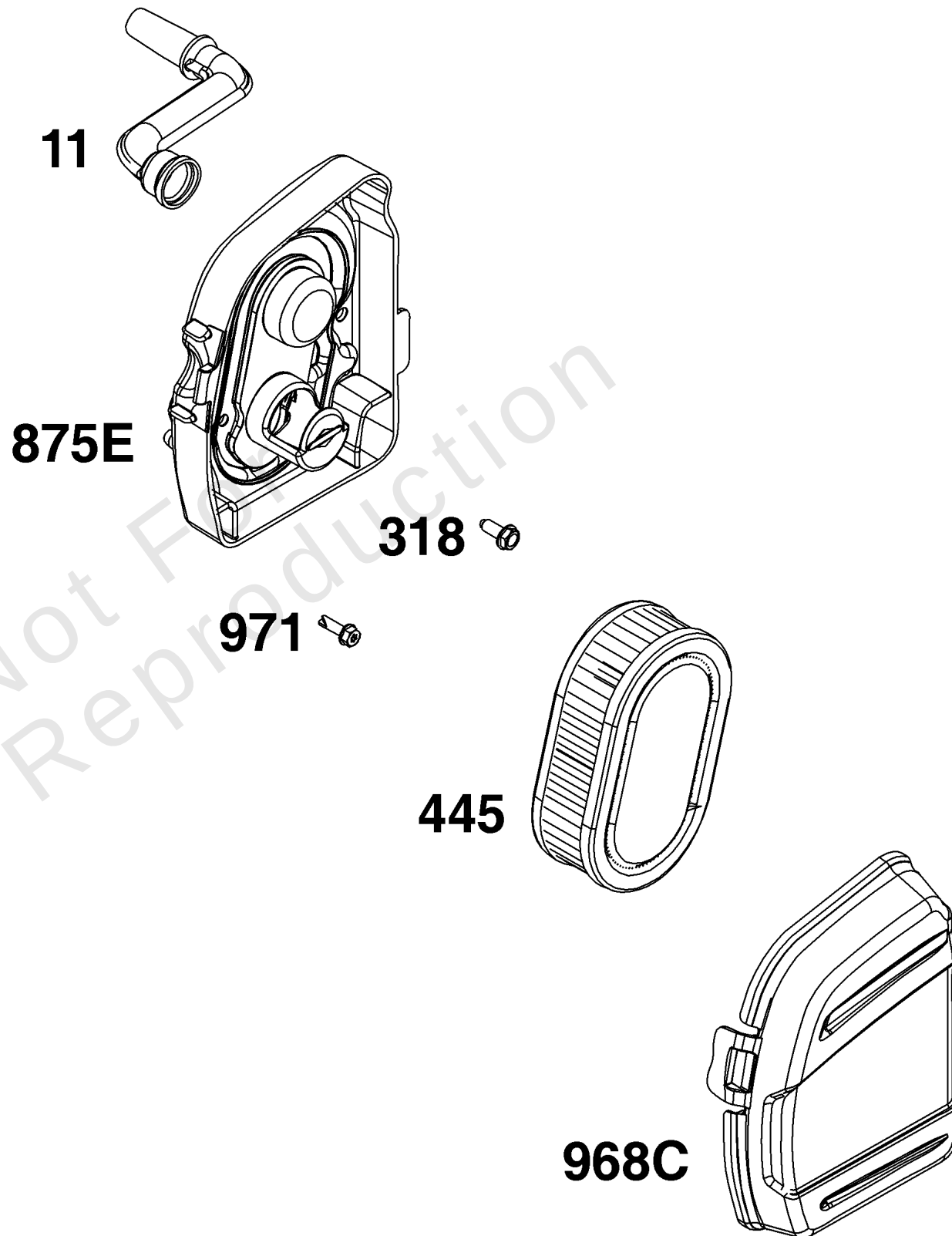
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## Air Cleaner Group

Note: Unless noted otherwise, use the standard torque specifications

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### ***Air Cleaner Group***

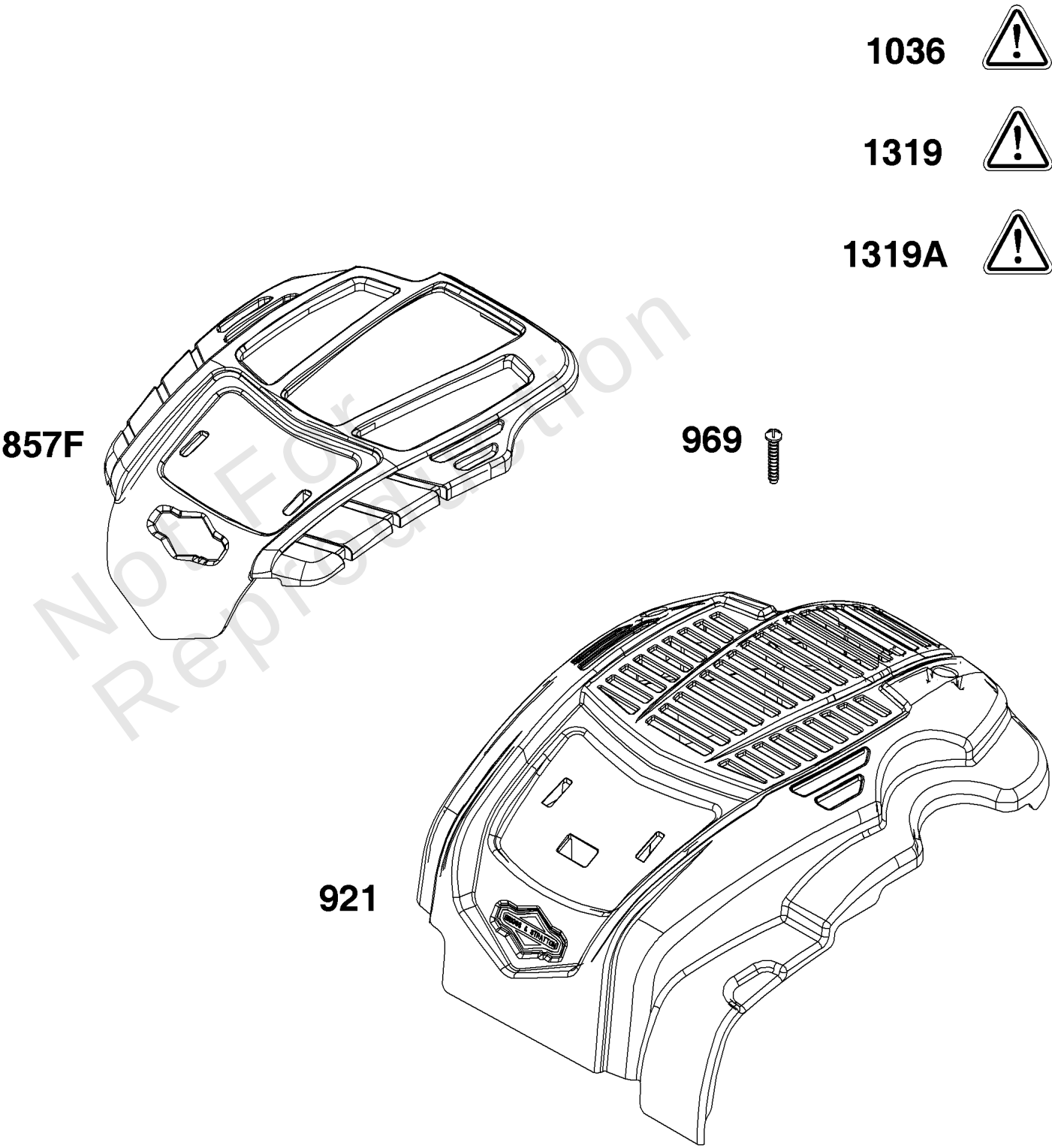
| REF NO | PART NO | QTY | DESCRIPTION                                              |
|--------|---------|-----|----------------------------------------------------------|
| 11     | 596501  | 1   | TUBE, Breather                                           |
| 318    | 793480  | 2   | SCREW<br>-(Mounting Bracket)                             |
| 445    | 593260  | 1   | FILTER, A/C Cartridge                                    |
| 875E   | 594574  | 1   | BASE, Air Cleaner                                        |
| 968C   | 594575  | 1   | COVER, Air Cleaner                                       |
| 971    | 590552  | 2   | SCREW<br>-(Air Cleaner Base to Carburetor/Throttle Body) |

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Blower Housing Group

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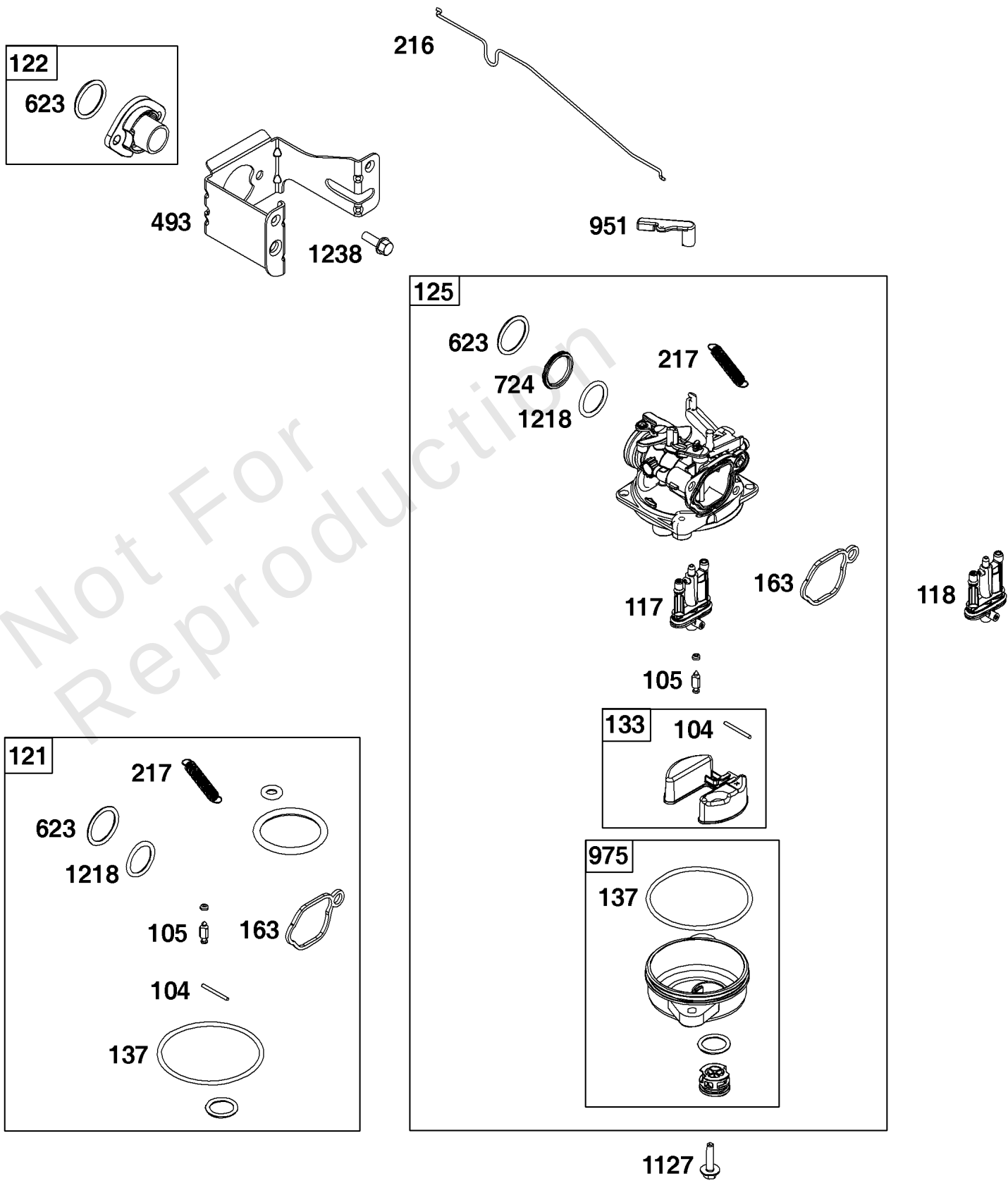
## ***Blower Housing Group***

| REF NO | PART NO | QTY | DESCRIPTION                                                                    |
|--------|---------|-----|--------------------------------------------------------------------------------|
| 857F   | 596095  | 1   | TRIM, Blower Housing Cover                                                     |
| 921    | 594116  | 1   | COVER, Blower Housing                                                          |
| 969    | 594115  | 2   | SCREW<br>-(Blower Housing Cover)                                               |
| 1036   | -----   | 1   | LABEL, Emissions<br>-(Available from a Briggs & Stratton Authorized Dealer)    |
| 1319   | 794467  | 1   | LABEL, Warning<br>-(REQUIRED When Replacing Parts With Warning Labels Affixed) |
| 1319A  | 797669  | 1   | LABEL, Warning<br>-(REQUIRED When Replacing Parts With Warning Labels Affixed) |

Carburetor Group

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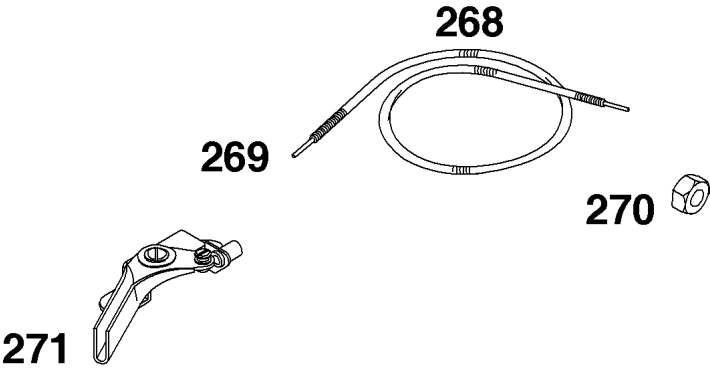
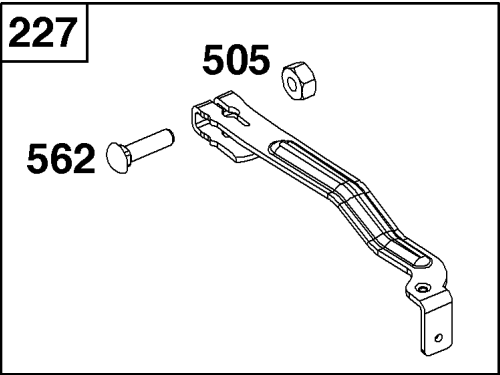
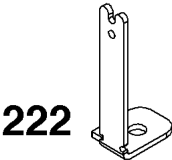
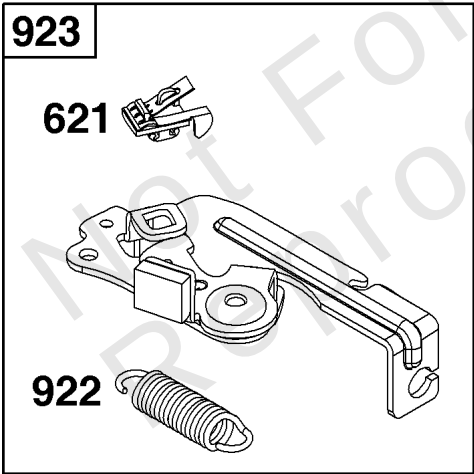
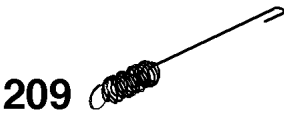
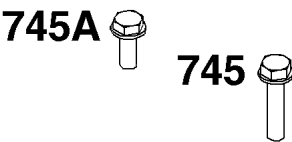
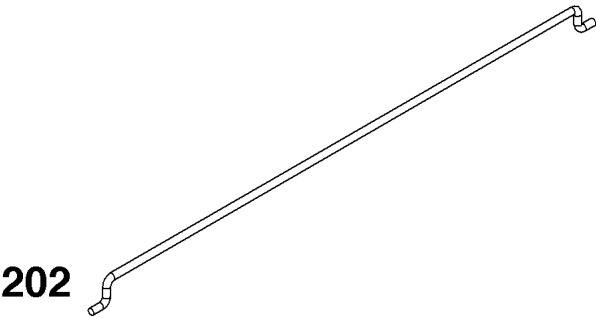
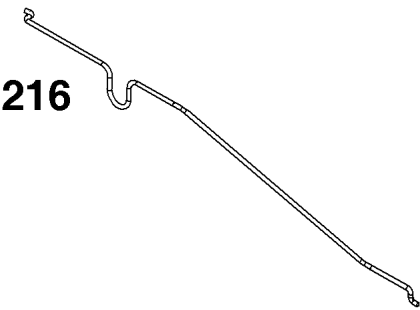
## Carburetor Group

| REF NO | PART NO  | QTY | DESCRIPTION                                                                                      |
|--------|----------|-----|--------------------------------------------------------------------------------------------------|
| 104    | 590558   | 1   | PIN, Float Hinge                                                                                 |
| 105    | 594581   | 1   | VALVE, Float Needle                                                                              |
| 117    | 84001923 | 1   | JET, Main<br>-(Standard)                                                                         |
| 118    | 84002024 | 1   | JET, Main<br>-(High Altitude)                                                                    |
| 121    | 594636   | 1   | KIT, Carburetor Overhaul<br>-(Service Kits may include extra parts not specific to this engine.) |
| 122    | 590549   | 1   | SPACER, Carburetor                                                                               |
| 125    | 84001033 | 1   | CARBURETOR                                                                                       |
| 133    | 591120   | 1   | FLOAT, Carburetor                                                                                |
| 137    | 594633   | 1   | GASKET, Float Bowl                                                                               |
| 163    | 799580   | 1   | GASKET, Air Cleaner<br>-(Air Cleaner)                                                            |
| 216    | -----    | 1   | LINK, Choke<br>-(Part information located in Controls Group.)                                    |
| 217    | 590740   | 1   | SPRING, Choke Return                                                                             |
| 493    | 593330   | 1   | BRACKET, Mounting                                                                                |
| 623    | 799581   | 1   | SEAL, O-Ring<br>-(Carburetor Spacer)                                                             |
| 724    | 697478   | 1   | RETAINER, Seal                                                                                   |
| 951    | 591104   | 1   | LEVER, Choke                                                                                     |
| 975    | 594632   | 1   | BOWL, Float                                                                                      |
| 1127   | 590554   | 2   | SCREW<br>-(Float Bowl to Carburetor Body)                                                        |
| 1218   | 270344S  | 1   | SEAL, O-Ring<br>-(Carburetor)                                                                    |
| 1238   | 590562   | 2   | SCREW<br>-(Carburetor Spacer)                                                                    |

Controls Group

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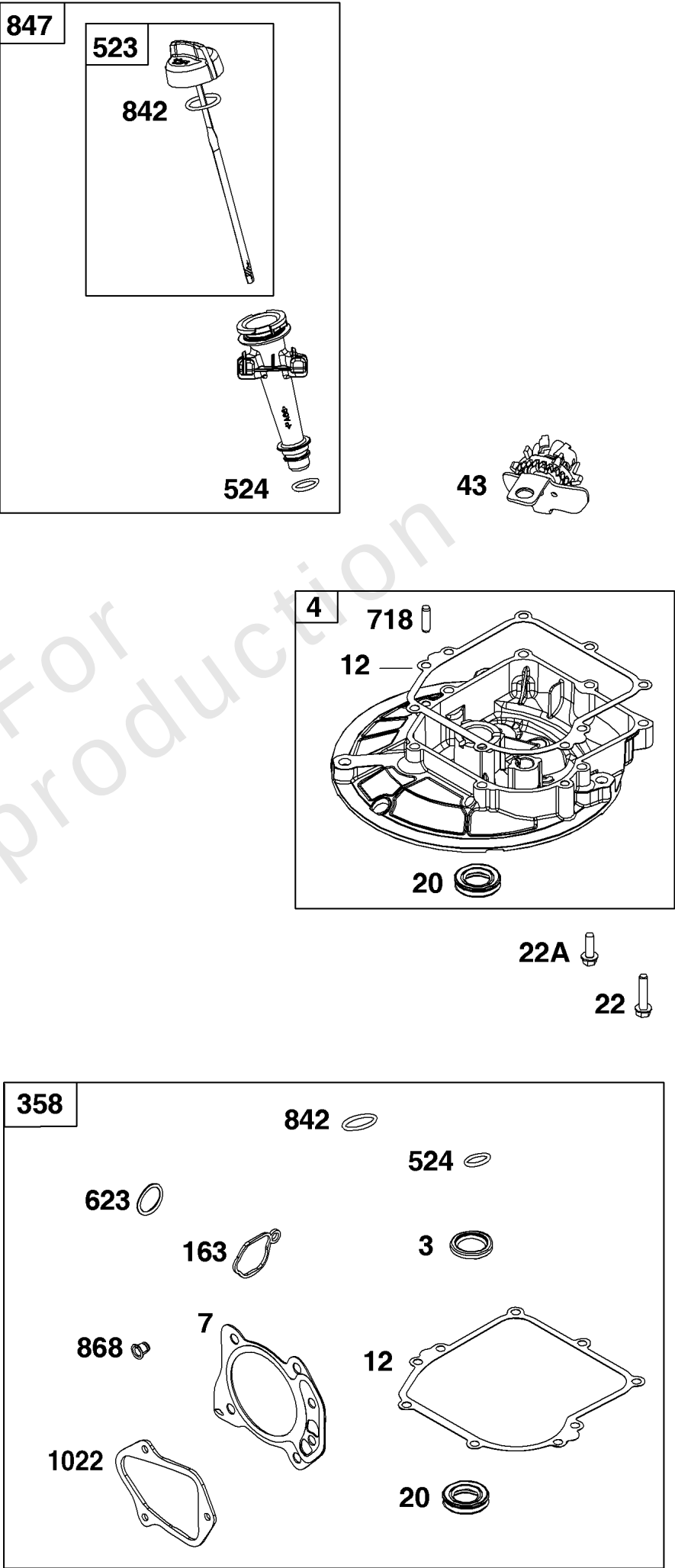
## Controls Group

| REF NO | PART NO | QTY | DESCRIPTION                      |
|--------|---------|-----|----------------------------------|
| 188    | 793480  | 1   | SCREW<br>-(Control Bracket)      |
| 202    | 590517  | 1   | LINK, Mechanical Governor        |
| 209    | 596464  | 1   | SPRING, Governor                 |
| 216    | 590547  | 1   | LINK, Choke                      |
| 222    | 596754  | 1   | BRACKET, Control                 |
| 227    | 590520  | 1   | LEVER, Governor Control          |
| 268    | 691025  | 1   | CASING, Control Wire             |
| 269    | 691026  | 1   | WIRE, Control                    |
| 270    | 691027  | 1   | NUT<br>-(Control Wire Casing)    |
| 271    | 691028  | 1   | LEVER, Control                   |
| 505    | 793515  | 1   | NUT<br>-(Governor Control Lever) |
| 562    | 793514  | 1   | BOLT<br>-(Governor Lever)        |
| 621    | 692310  | 1   | SWITCH, Stop                     |
| 745    | 691146  | 1   | SCREW<br>-(Brake)                |
| 745A   | 690859  | 1   | SCREW<br>-(Brake)                |
| 922    | 692135  | 1   | SPRING, Brake                    |
| 923    | 691487  | 1   | BRAKE                            |

Crankcase Cover/Sump and Lubrication Group

Note: Unless noted otherwise, use the standard torque specifications

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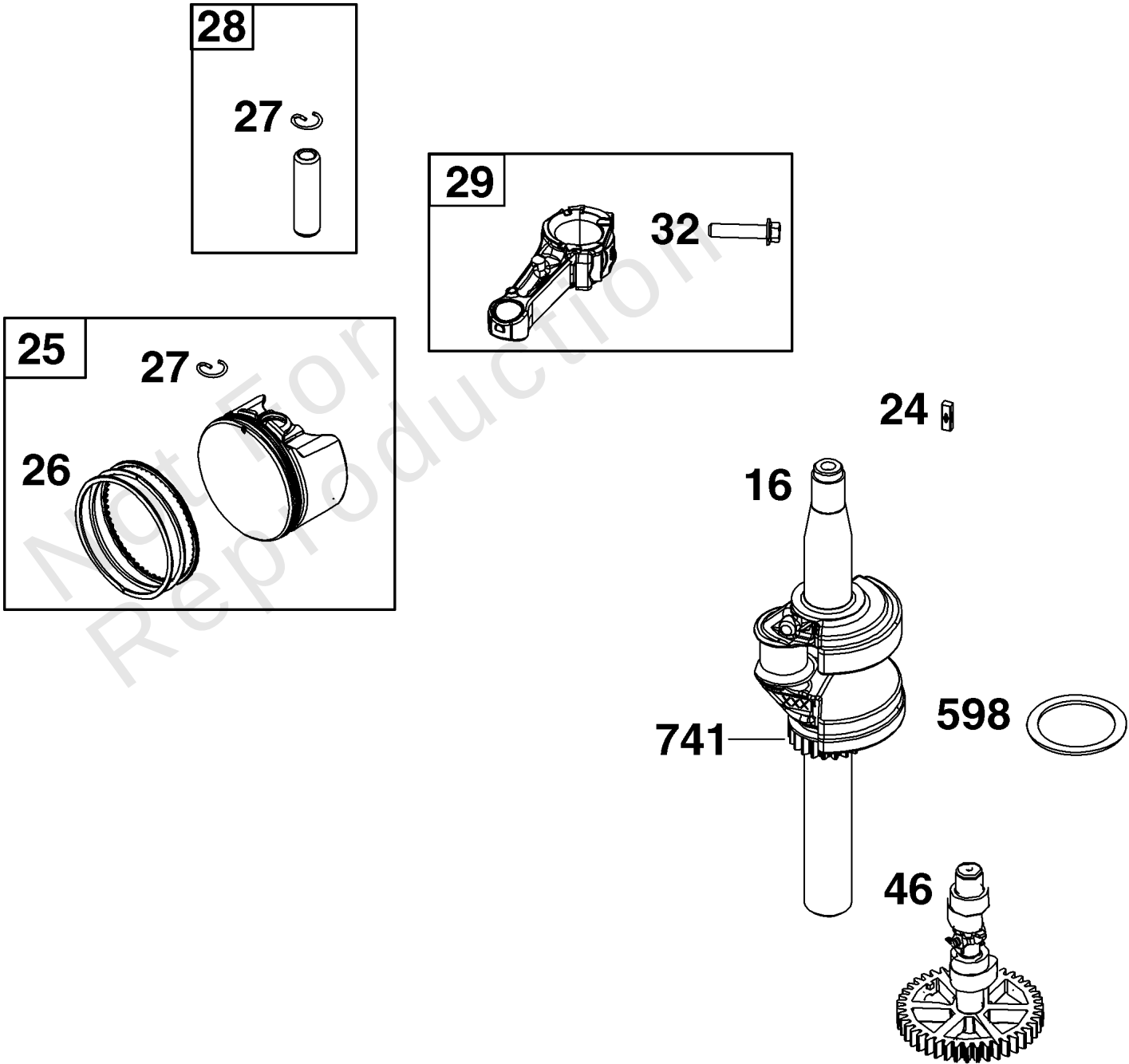
## Crankcase Cover/Sump and Lubrication Group

| REF NO | PART NO | QTY | DESCRIPTION                                                                                |
|--------|---------|-----|--------------------------------------------------------------------------------------------|
| 3      | -----   | 1   | SEAL, Oil<br>-(Part information located in Cylinder Group.)                                |
| 4      | 594101  | 1   | SUMP, Engine                                                                               |
| 7      | -----   | 1   | GASKET, Cylinder Head<br>-(Part information located in Cylinder Head Group.)               |
| 12     | 799587  | 1   | GASKET, Crankcase                                                                          |
| 20     | 399781S | 1   | SEAL, Oil<br>-(PTO Side)                                                                   |
| 22     | 692551  | 6   | SCREW<br>-(Crankcase Cover/Sump)                                                           |
| 22A    | 590763  | 1   | SCREW<br>-(Crankcase Cover/Sump)                                                           |
| 43     | 594560  | 1   | SLINGER, Governor/Oil                                                                      |
| 163    | -----   | 1   | GASKET, Air Cleaner<br>-(Part information located in Carburetor Group.)                    |
| 358    | 595354  | 1   | GASKET SET, Engine<br>-(Service Kits may include extra parts not specific to this engine.) |
| 523    | 796503  | 1   | DIPSTICK                                                                                   |
| 524    | 691876  | 1   | SEAL, O-Ring<br>-(Dipstick Tube)                                                           |
| 623    | -----   | 1   | SEAL, O-Ring<br>-(Part information located in Carburetor Group.)                           |
| 718    | 690959  | 2   | PIN, Locating                                                                              |
| 842    | 691031  | 1   | SEAL, O-Ring<br>-(Dipstick Cap)                                                            |
| 847    | 596092  | 1   | DIPSTICK/TUBE ASSEMBLY                                                                     |
| 868    | -----   | 1   | SEAL, Valve<br>-(Part information located in Cylinder Head Group.)                         |
| 1022   | -----   | 1   | GASKET, Rocker Cover<br>-(Part information located in Cylinder Head Group.)                |

Crankshaft Group

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## ***Crankshaft Group***

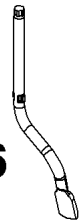
| REF NO | PART NO | QTY | DESCRIPTION                                         |
|--------|---------|-----|-----------------------------------------------------|
| 16     | 595024  | 1   | CRANKSHAFT                                          |
| 24     | 222698S | 1   | KEY, Flywheel                                       |
| 25     | 594099  | 1   | PISTON ASSEMBLY                                     |
| 26     | 594098  | 1   | SET, Ring                                           |
| 27     | 691588  | 1   | LOCK, Piston Pin                                    |
| 28     | 298909  | 1   | PIN. Piston                                         |
| 29     | 594089  | 1   | ROD, Connecting                                     |
| 32     | 691664  | 2   | SCREW<br>-(Connecting Rod)                          |
| 46     | 594090  | 1   | CAMSHAFT                                            |
| 598    | 592587  | 1   | SHIM, End Play<br>-(Crankshaft or Camshaft Bearing) |
| 741    | 594105  | 1   | GEAR, Timing                                        |

615 

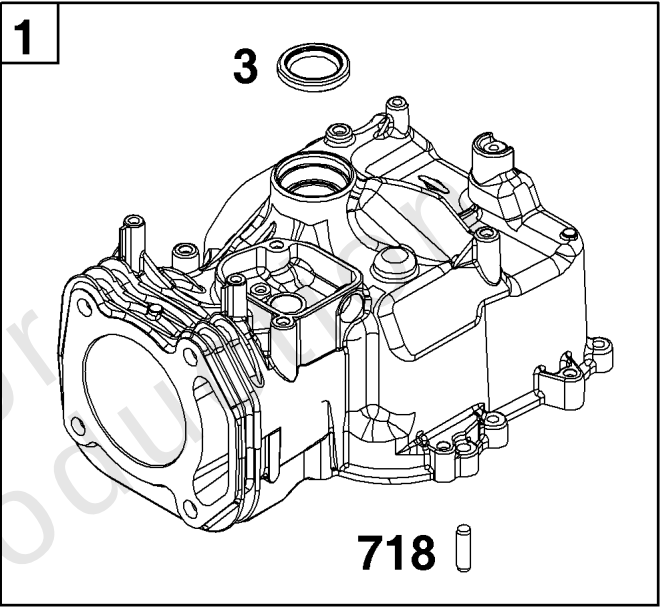
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1264 

1263 

616 

850



358

842 

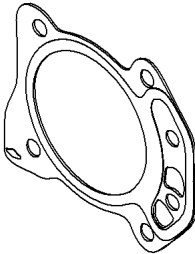
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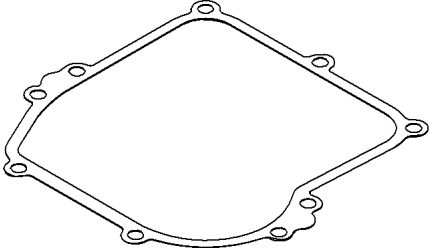
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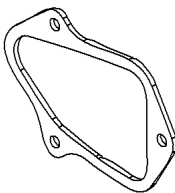
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3 

868 

7 

12 

1022 

20 



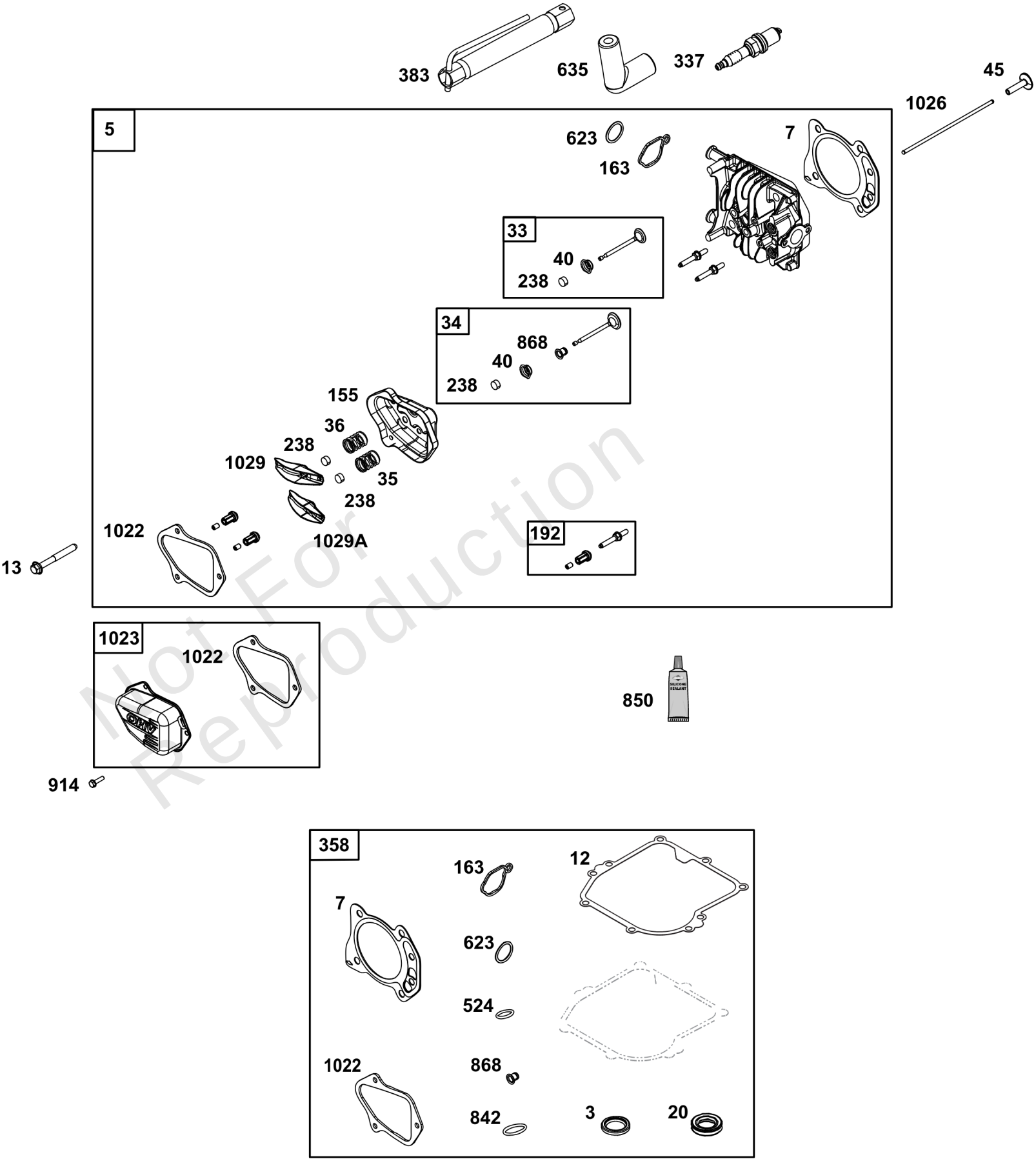
## Cylinder Group

| REF NO | PART NO | QTY | DESCRIPTION                                                                                      |
|--------|---------|-----|--------------------------------------------------------------------------------------------------|
| 1      | 594100  | 1   | CYLINDER ASSEMBLY                                                                                |
| 3      | 299819S | 1   | SEAL, Oil<br>-(Magneto Side)                                                                     |
| 7      | -----   | 1   | GASKET, Cylinder Head<br>-(Part information located in Cylinder Head Group.)                     |
| 12     | -----   | 1   | GASKET, Crankcase<br>-(Part information located in Crankcase Cover/Sump and Lubrication Group.)  |
| 20     | -----   | 1   | SEAL, Oil<br>-(Part information located in Crankcase Cover/Sump and Lubrication Group.)          |
| 163    | -----   | 1   | GASKET, Air Cleaner<br>-(Part information located in Carburetor Group.)                          |
| 358    | -----   | 1   | GASKET SET, Engine<br>-(Part information located in Crankcase Cover/Sump and Lubrication Group.) |
| 404    | 690272  | 1   | WASHER<br>-(Governor Crank)                                                                      |
| 524    | -----   | 1   | SEAL, O-Ring<br>-(Part information located in Crankcase Cover/Sump and Lubrication Group.)       |
| 615    | 690340  | 1   | RETAINER, Governor Shaft                                                                         |
| 616    | 590516  | 1   | CRANK, Governor                                                                                  |
| 623    | -----   | 1   | SEAL, O-Ring<br>-(Part information located in Carburetor Group.)                                 |
| 718    | -----   | 2   | PIN, Locating<br>-(Part information located in Crankcase Cover/Sump and Lubrication Group.)      |
| 842    | -----   | 1   | SEAL, O-Ring<br>-(Part information located in Crankcase Cover/Sump and Lubrication Group.)       |
| 850    | -----   | 1   | SEALANT, Liquid<br>-(Part information located in Cylinder Head Group.)                           |
| 868    | -----   | 1   | SEAL, Valve<br>-(Part information located in Cylinder Head Group.)                               |
| 1022   | -----   | 1   | GASKET, Rocker Cover<br>-(Part information located in Cylinder Head Group.)                      |
| 1263   | 697124  | 1   | REED, Breather                                                                                   |
| 1264   | 793453  | 1   | SCREW<br>-(Breather Reed)                                                                        |

Cylinder Head Group

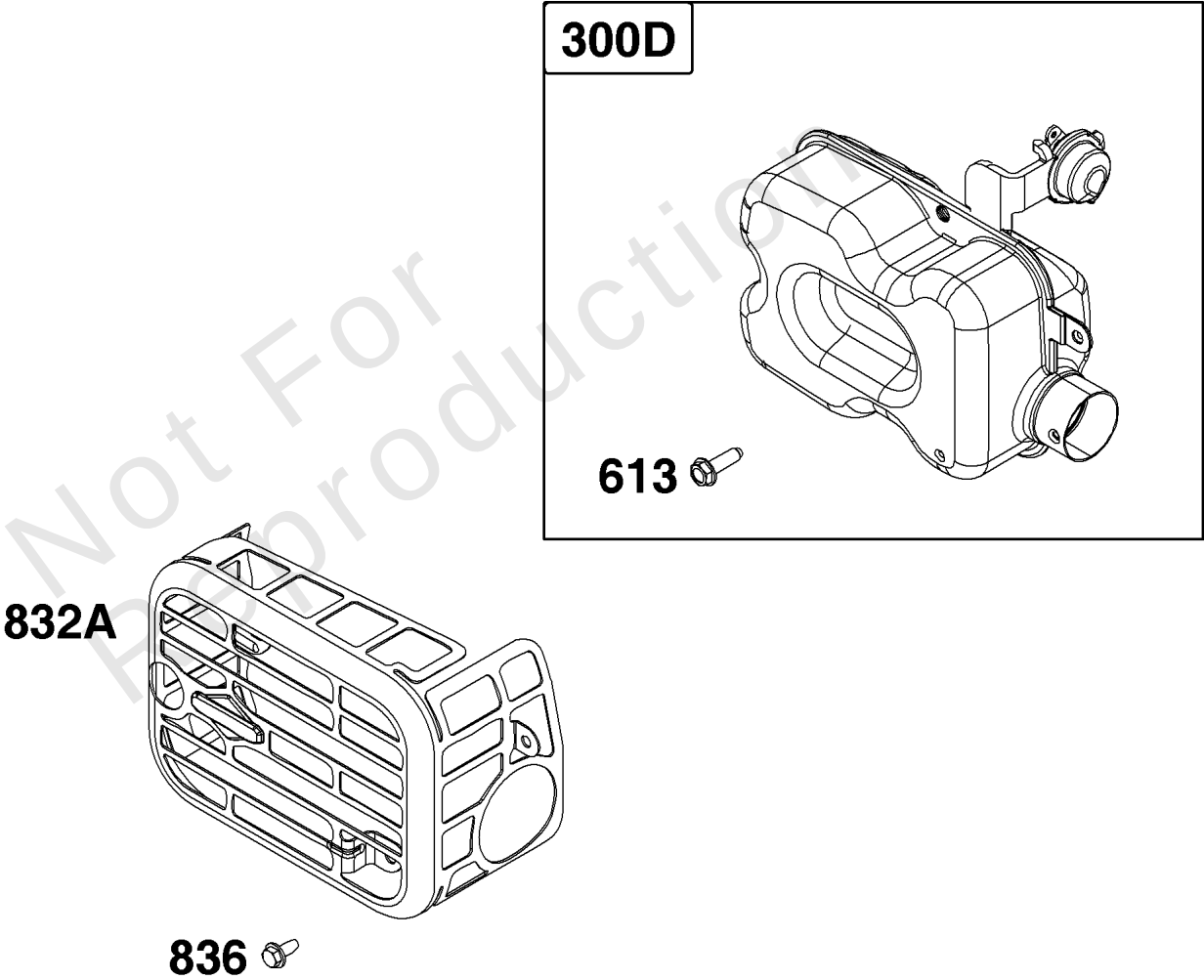
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## Cylinder Head Group

| REF NO | PART NO | QTY | DESCRIPTION                                                                                         |
|--------|---------|-----|-----------------------------------------------------------------------------------------------------|
| 3      | -----   | 1   | SEAL, Oil<br>-(Magneto Side) (Part information located in Cylinder Group)                           |
| 5      | 594091  | 1   | HEAD, Cylinder                                                                                      |
| 7      | 592358  | 1   | GASKET, Cylinder Head                                                                               |
| 12     | -----   | 1   | GASKET, Crankcase<br>-(Part information located in Crankcase Cover/Sump and Lubrication Group)      |
| 13     | 590512  | 4   | SCREW<br>-(Cylinder Head)                                                                           |
| 20     | -----   | 1   | SEAL, Oil<br>-(PTO Side) (Part information located in Crankcase/Sump and Lubrication Group)         |
| 33     | 594095  | 1   | VALVE, Exhaust                                                                                      |
| 34     | 594094  | 1   | VALVE, Intake                                                                                       |
| 35     | 590532  | 1   | SPRING, Valve<br>-(Intake)                                                                          |
| 36     | 590532  | 1   | SPRING, Valve<br>-(Exhaust)                                                                         |
| 40     | 594092  | 2   | RETAINER, Valve                                                                                     |
| 45     | 590514  | 2   | TAPPET, Valve                                                                                       |
| 155    | 594093  | 1   | PLATE, Cylinder Head                                                                                |
| 163    | -----   | 1   | GASKET, Air Cleaner<br>-(Part information located in Carburetor Group)                              |
| 192    | 590535  | 2   | ADJUSTER, Rocker Arm                                                                                |
| 238    | 594097  | 2   | CAP, Valve                                                                                          |
| 337    | 792015  | 1   | PLUG, Spark                                                                                         |
| 358    | -----   | 1   | GASKET SET, Engine<br>-(Part information located in Crankcase Cover/Sump and Lubrication Group.)    |
| 383    | 19576S  | 1   | WRENCH, Spark Plug                                                                                  |
| 524    | -----   | 1   | SEAL, O-Ring<br>-(Dipstick Tube) (Part information located in Crankcase/Sump and Lubrication Group) |
| 623    | -----   | 1   | SEAL, O-Ring<br>-(Carburetor Spacer) (Part information located in Carburetor Group)                 |
| 635    | 692076  | 1   | BOOT, Spark Plug                                                                                    |
| 842    | -----   | 1   | SEAL, O-Ring<br>-(Dipstick Cap) (Part information located in Crankcase/Sump and Lubrication Group)  |
| 850    | 100106  | 1   | SEALANT, Liquid                                                                                     |
| 868    | 594096  | 1   | SEAL, Valve                                                                                         |
| 914    | 591103  | 3   | SCREW<br>-(Rocker Cover)                                                                            |
| 1022   | 595342  | 1   | GASKET, Rocker Cover                                                                                |
| 1023   | 595352  | 1   | COVER, Rocker                                                                                       |
| 1026   | 590515  | 2   | ROD, Push                                                                                           |
| 1029   | 590526  | 1   | ARM, Rocker                                                                                         |
| 1029A  | 590527  | 1   | ARM, Rocker                                                                                         |



### ***Exhaust Group***

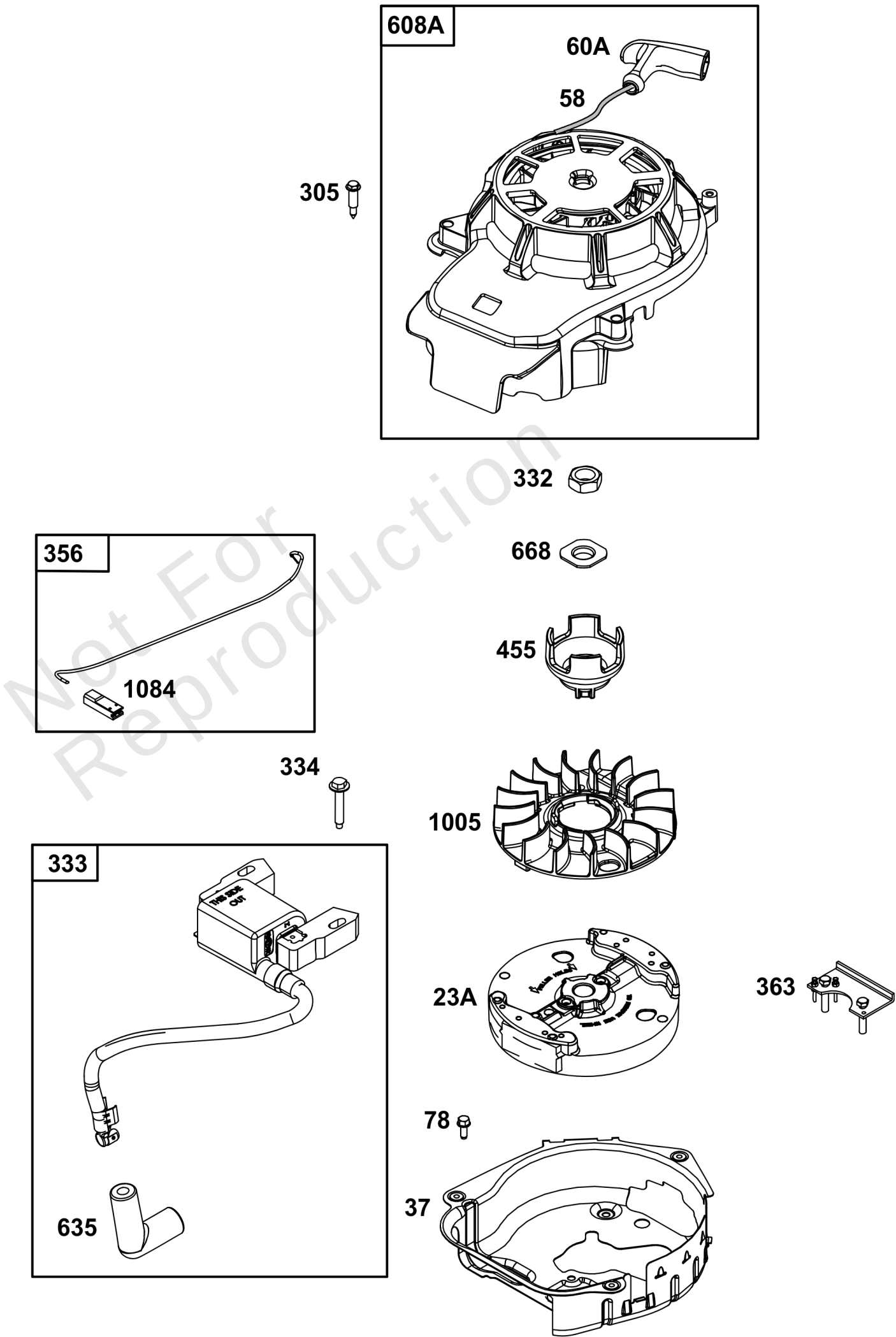
| REF NO | PART NO | QTY | DESCRIPTION               |
|--------|---------|-----|---------------------------|
| 300D   | 594108  | 1   | MUFFLER                   |
| 613    | 590562  | 2   | SCREW<br>-(Muffler)       |
| 832A   | 594109  | 1   | GUARD, Muffler            |
| 836    | 690661  | 3   | SCREW<br>-(Muffler Guard) |

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Flywheel, Ignition, and Starter Group

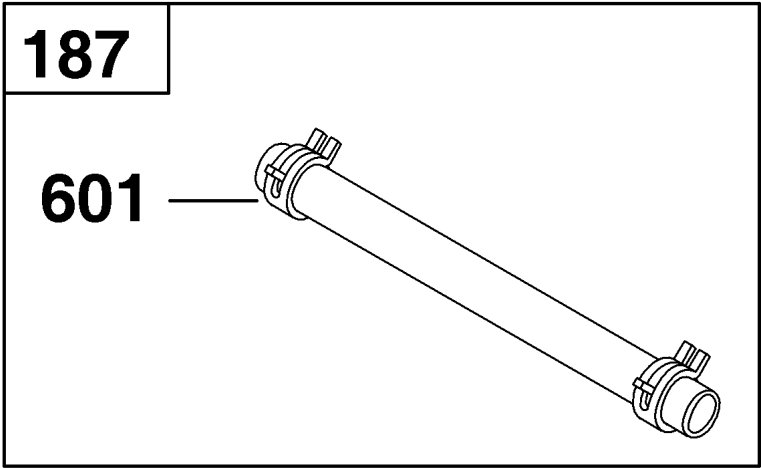
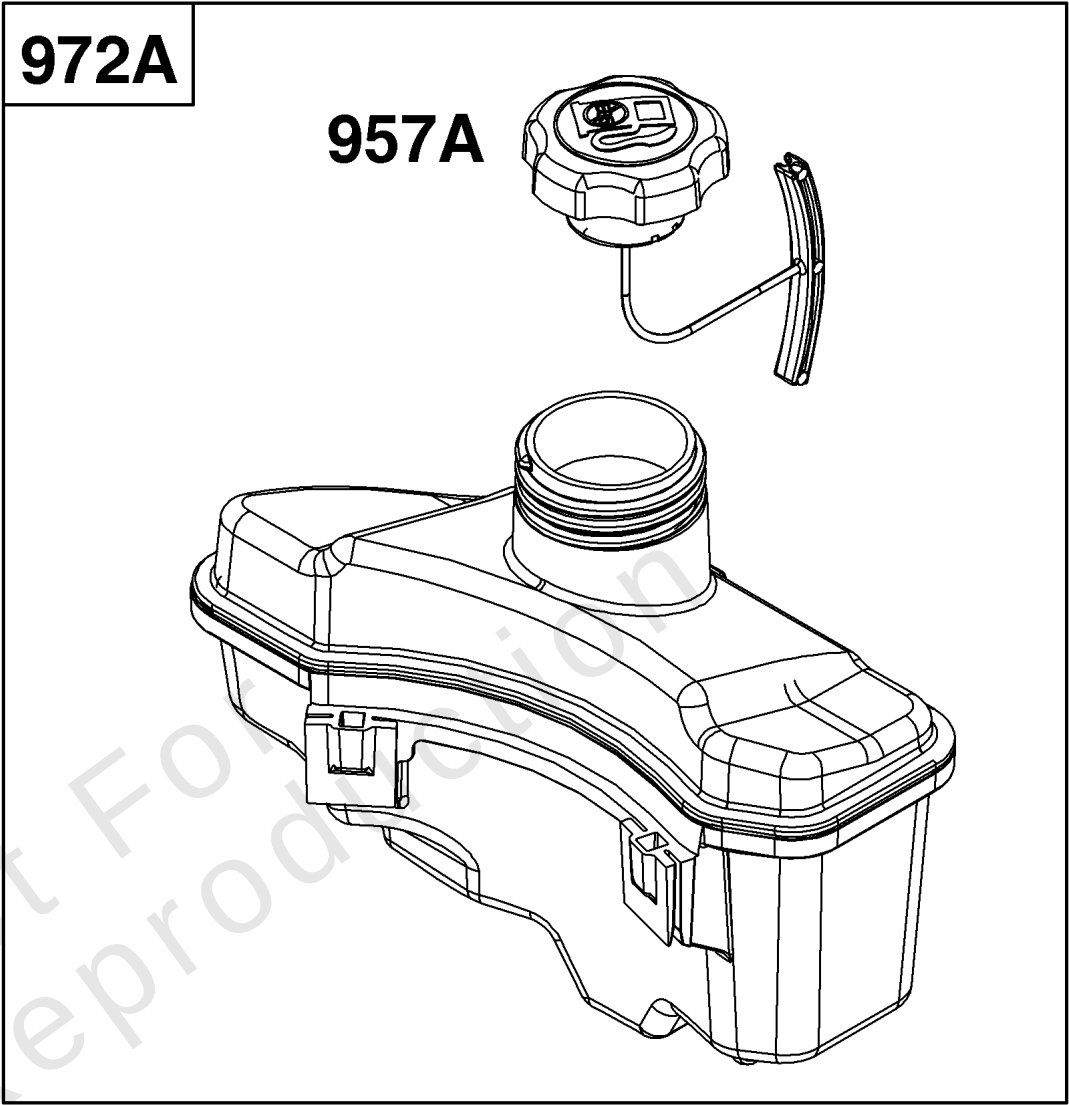
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### ***Flywheel, Ignition, and Starter Group***

| REF NO | PART NO | QTY | DESCRIPTION                                                            |
|--------|---------|-----|------------------------------------------------------------------------|
| 23A    | 594054  | 1   | FLYWHEEL                                                               |
| 37     | 594103  | 1   | GUARD, Flywheel                                                        |
| 58     | 591108  | 1   | ROPE, Starter                                                          |
| 60A    | 281434S | 1   | GRIP, Starter Rope                                                     |
| 78     | 793480  | 5   | SCREW<br>-(Flywheel Guard)                                             |
| 305    | 590586  | 3   | SCREW<br>-(Blower Housing)                                             |
| 332    | 690662  | 1   | NUT<br>-(Flywheel)                                                     |
| 333    | 595009  | 1   | ARMATURE, Magneto                                                      |
| 334    | 691061  | 2   | SCREW<br>-(Magneto Armature)                                           |
| 356    | 595018  | 1   | WIRE, Stop                                                             |
| 363    | 19619   | 1   | PULLER, Flywheel                                                       |
| 455    | 593960  | 1   | CUP, Flywheel                                                          |
| 608A   | 594062  | 1   | STARTER, Rewind                                                        |
| 635    | -----   | 1   | BOOT, Spark Plug<br>-(Part information located in Cylinder Head Group) |
| 668    | 590546  | 1   | SPACER                                                                 |
| 1005   | 594102  | 1   | FAN, Flywheel                                                          |
| 1084   | 399365S | 1   | CONNECTOR, Terminal                                                    |





### ***Fuel Supply Group***

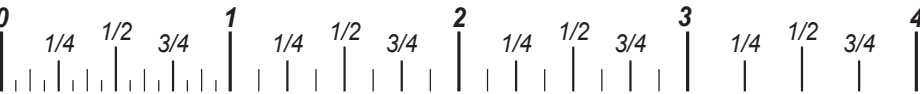
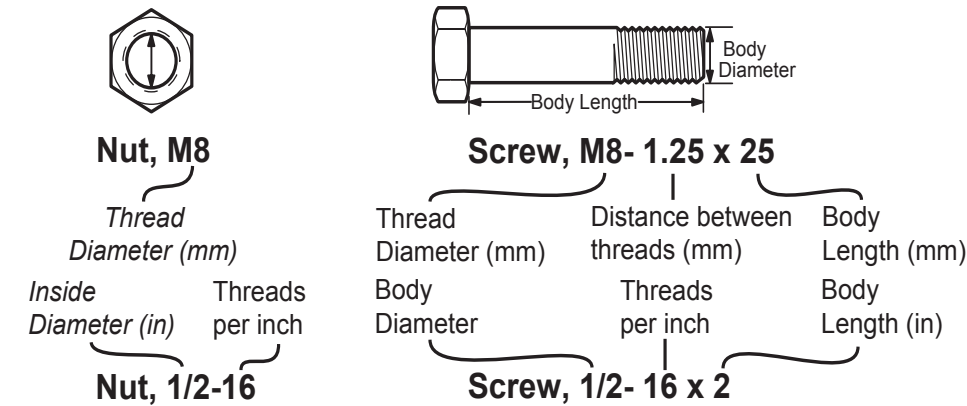
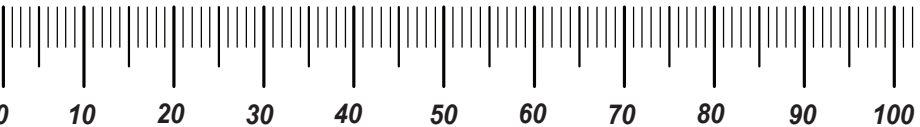
| REF NO | PART NO | QTY | DESCRIPTION    |
|--------|---------|-----|----------------|
| 187    | 791766  | 1   | LINE, Fuel     |
| 601    | 791850  | 2   | CLAMP, Hose    |
| 957A   | 596206  | 1   | CAP, Fuel Tank |
| 972A   | 596207  | 1   | TANK, Fuel     |

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# 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).

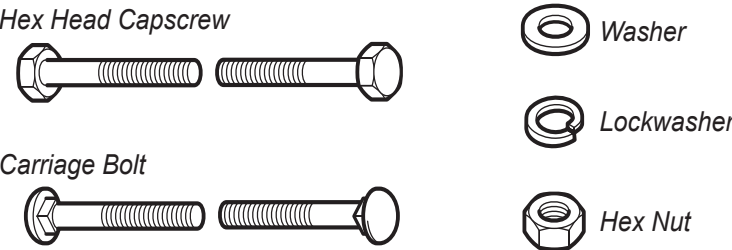
When bolt or capscrew is identified as 1/2 - 16 x 2" (M8 - 1.25 x 50), this means the *Nominal size*, or body diameter is 1/2 inch (8mm metric thread diameter), the second number, 16, represents the *threads per inch*, (*distance between threads*). The final number is the body length of the bolt or screw,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

