



| Ref # | Part Number | Qty | Description   |
|-------|-------------|-----|---|
| 1     | 33311B      |     | Cylinder (Incl. 2,3,4,5,184) (2-5/8" Bore)  |
| 2     | 27652       |     | Pin, Dowel  |
| 3     | 27642       |     | Plug, Oil drain, 1/4-18   |
| 4     | 27876B      |     | Seal, Oil   |
| 5     | 32783       |     | Intake Valve (Std.) (Incl. 9)   |
| 5     | 32784       |     | Intake Valve (1/32" OS) (Incl. 9)   |
| 6     | 27878A      |     | Exhaust Valve (Std.)  |
| 6     | 27880A      |     | Exhaust Valve (1/32" OS) (Incl. 9)  |
| 7     | 27882       |     | Cap, Upper valve spring   |
| 8     | 27881       |     | Spring, Valve   |
| 9     | 32581       |     | Cap, Lower valve spring   |
| 11    | 31831       |     | Crankshaft (Incl. 12 & 13)  |
| 12    | 29783       |     | Pin, Crankshaft gear Used in early production. This gear is serviceable ONLY when it is pinned to the crankshaft. |
| 13    | 27884       |     | Gear, Crankshaft Used in early production. This gear is serviceable ONLY when it is pinned to the crankshaft.     |
| 14A   | 33312B      |     | Piston & Pin Ass'y. (Std.)(2-5/8")(Incl. 16)  |
| 14A   | 33313B      |     | Piston & Pin Ass'y. (.010" OS) (Incl. 16)   |
| 14A   | 33314B      |     | Piston & Pin Ass'y. (.020" OS) (Incl. 16)   |
| 14    | 34531       |     | Piston, Pin & Ring Set (Std.) (2-5/8" Bore)   |
| 14    | 34532       |     | Piston, Pin & Ring Set (.010" OS)   |
| 14    | 34533       |     | Piston, Pin & Ring Set (.020" OS)   |
| 15    | 34854       |     | Ring Set (Std.) (2-5/8" Bore)   |
| 15    | 34855       |     | Ring Set (.010" OS)   |
| 15    | 34856       |     | Ring Set (.020" OS)   |
| 16    | 27888       |     | Ring, Piston pin retaining  |
| 17    | 31380C      |     | Rod Assy., Connecting (Incl. 18)  |
| 18    | 650662C     |     | Screw, Connecting rod (Late production)   |
| 18A   | 30682       |     | Bolt, Connecting rod (Early production)   |
| 19    | 26073       |     | Connecting rod bolt washer (Early production)   |
| 20    | 28264       |     | Connecting rod nut (Used on early production)   |
| 21    | 33156       |     | Camshaft  |
| 22    | 34034       |     | Lifter, Valve   |
| 23    | 31451A      |     | Cylinder Cover (Incl. 24, 105, 246, 247 & 248)  |
| 24    | 28460       |     | Seal, Oil   |
| 26    | 30684       |     | * Gasket, Cylinder cover  |
| 28    | 650488      |     | Screw, 1/4-20 x 1-1/4"  |
| 29    | 650493      |     | Screw, 1/4-20 x 1-3/4"  |
| 30    | 650489      |     | Screw, 1/4-20 x 5/8"  |
| 31    | 30939A      |     | Cover, Cylinder head  |
| 32    | 28938C      |     | * Gasket, Cylinder head   |
| 33    | 30938A      |     | Head, Cylinder (Incl. 3 of 36)  |
| 34    | 33636       |     | Resistor Spark Plug   |
| 35    | 26073       |     | Washer, Flat (Use as required)  |
| 35    | 650570      |     | Washer, Flat (Use as required)  |
| 35    | 650691      |     | Washer, Flat (Use as required)  |
| 36    | 650697A     |     | Screw, 5/16-18 x 2-1/2" (Use as required)   |
| 36    | 650695A     |     | Screw, 5/16-18 x 2-1/4" (Use as required)   |
| 36    | 650694A     |     | Screw, 5/16-18 x 2" (Use as required)   |
| 37    | 650128      |     | Screw, 10-24 x 1/2" (Use as required)   |
| 37    | 650597      |     | Screw, 10-24 x 5/8" (Use as required)   |
| 38    | 27896A      |     | * Gasket, Breather cover  |
| 39    | 28423       |     | Body, Breather  |
| 40    | 28424       |     | Element, Breather   |
| 41    | 28425       |     | Cover, Valve spring   |
| 43    | 32447       |     | Tube, Breather  |
| 45    | 27915A      |     | * Gasket, Intake  |

| Ref # | Part Number | Qty | Description   |
|-------|-------------|-----|---|
| 46    | 34712       |     | Flange, Carburetor (Incl. 60)   |
| 48    | 30196       |     | Screw, 5/16-18 x 3/4"   |
| 49    | 29918       |     | Lockwasher  |
| 50    | 650548      |     | Screw, 8-32 x 5/16"   |
| 51    | 30319       |     | Rivet, Split (Used on early production)   |
| 52    | 33454       |     | Lever Assy., Governor   |
| 53    | 30322       |     | Lock Nut, 8-32 (Use as required)  |
| 54    | 29916       |     | Clamp, Governor lever (Use as required)   |
| 56    | 34662       |     | Link, Throttle  |
| 58    | 29216       |     | Locknut, 10-32  |
| 60    | 650517      |     | Screw, 1/4-20 x 13/16"  |
| 61    | 29826       |     | Screw, 10-32 x 3/4"   |
| 62    | 29642       |     | Ring, Retaining   |
| 63    | 30699B      |     | Rod Assy., Governor (This one piece gov. rod is no longer used. It is replaced by 30699C assy., Ref.#63A) |
| 63A   | 30699C      |     | Rod Assy., Governor (Incl. 64 & 65)   |
| 64    | 30700       |     | Yoke, Governor  |
| 65    | 650494      |     | Screw, 6-40 x 5/16"   |
| 66A   | 31297       |     | Dipstick (Incl. 68)   |
| 68    | 29673       |     | * Gasket, Dipstick  |
| 69    | 29747B      |     | Screw, 5/16-24 x 21/32"   |
| 70    | 32158E      |     | Blower Hsg. (For elec.starters)(Incl. 189,190)  |
| 71    | 33876       |     | Gasket, Stator  |
| 73    | 29536       |     | Baffle, Blower housing  |
| 74    | 650561      |     | Screw, 1/4-20 x 5/8"  |
| 75    | 31688A      |     | * Gasket, Carburetor  |
| 81    | 30196       |     | Screw, 5/16-18 x 3/4" (Use as required)   |
| 81    | 28820       |     | Screw, 10-32 x 1/2" (Use as required)   |
| 81    | 650521      |     | Screw, 10-32 x 1-1/8" (Use as required)   |
| 82    | 27272A      |     | * Gasket, Air cleaner   |
| 85    | 31715       |     | Body, Air cleaner   |
| 89    | 730127      |     | Air Cleaner Assy. (Incl. 81,81A,82,83,84,85,90G & 298B)<br>(Use as required)                              |
| 98    | 32924       |     | Compression Spring (Used with 650688 screw) (Use as required)   |
| 98    | 31342       |     | Compression Spring (Used with 650549 screw) (Use as required)   |
| 98    | 28569       |     | Compression Spring (Used with 29500 screw)(Use as required)   |
| 99    | 650549      |     | Screw, 5-40 x 7/16" (Use as required)   |
| 99    | 29500       |     | Screw, 8-32 x 3/4" (Use as required)  |
| 99    | 650688      |     | Screw, 10-32 x 1 (Use as required)  |
| 102   | 30884       |     | Key, Flywheel   |
| 103   | 31843A      |     | Bracket, Governor gear  |
| 104   | 650836      |     | Screw, 10-24 x 1/2"   |
| 105   | 31845       |     | Shaft, Mechanical governor  |
| 106   | 30590A      |     | Washer, Flat  |
| 107   | 30591       |     | Gear Assy., Governor (Incl. 106)  |
| 108   | 30588A      |     | Spool, Governor   |
| 109   | 29193       |     | Ring, Retaining   |
| 111D  | 34158       |     | Bracket, Lower fuel tank  |
| 112   | 34159       |     | Plate, Upper fuel tank mtg.   |
| 113A  | 650665      |     | Screw, 1/4-15 x 3/4"  |
| 113   | 650561      |     | Screw, 1/4-20 x 5/8"  |
| 114   | 34186A      |     | Fuel Tank (Incl. 115 & 120)   |

| Ref # | Part Number | Qty | Description  |
|-------|-------------|-----|--|
| 115   | 410144B     |     | Fuel Cap (White Plastic)(Standard)(As req.)  |
| 115   | 33032       |     | Fuel Cap (Red Plastic) (Spurt Resistant, Low Profile) (Use as required)  |
| 115   | 34210       |     | Fuel Cap (Red Plastic) (Spurt Resistant, High Profile) (Use as required)   |
| 119   | 29774       |     | Fuel Line (Braided 8.25") (Use as required)  |
| 119   | 30705       |     | Fuel Line (Braided 16") (Use as required)  |
| 119   | 30962       |     | Fuel Line (Braided 32") (Use as required)  |
| 120   | 26460       |     | Clamp, Fuel line (Use as required)   |
| 121   | 32401       |     | Muffler  |
| 125   | 27930A      |     | * Gasket, Exhaust  |
| 127   | 26073       |     | Washer, Flat   |
| 128   | 650694A     |     | Screw, 5/16-18 x 2"  |
| 132   | 650548      |     | Screw, 8-32 x 5/16" (Early production )  |
| 132   | 650139      |     | Screw, 8-32 x 1/2" (Early production)  |
| 144   | 650542      |     | Screw, 5/16-18 x 3/4"  |
| 146   | 29538       |     | Base, Engine mounting  |
| 147   | 650128      |     | Screw, 10-24 x 1/2"  |
| 148   | 30622A      |     | Extension, Blower housing  |
| 149A  | 30747       |     | Clip, Shorting   |
| 150   | 650890      |     | Lockwasher   |
| 186   | 27275       |     | Clip, Wire (Use as required)   |
| 186   | 29443       |     | Clip, Fuel line (Use as required)  |
| 193   | 27276       |     | Cover, Spark Plug  |
| 232   | 35349       |     | Ground Wire  |
| 244   | 31793       |     | Bearing, Ball  |
| 245   | 31792       |     | Washer, Thrust   |
| 246   | 31855       |     | Retainer, Bearing  |
| 247   | 650778      |     | Washer, Lock   |
| 248   | 650580      |     | Nut, Lock  |
| 262   | 29716       |     | Screw, 1/4-28 x 7/16"  |
| 264   | 32125       |     | Cup, Starter   |
| 265   | 590417      |     | Screen, Starter cup  |
| 266   | 650815      |     | Washer, Belleville   |
| 267   | 8116        |     | Nut, Hex   |
| 298D  | 33962       |     | Decal, Control   |
| 298A  | 550223      |     | Decal, Name  |
| 298A  | 33310       |     | Decal, 5 HP Mini-Bike (Use as required)  |
| 298A  | 31517       |     | Decal, H.P. (5 H.P.) (Use as required )  |
| 298A  | 32173       |     | Decal, H.P. (6 H.P.) (Use as required )  |
| 298   | 34346       |     | Decal, Instruction   |
| 299   | 30547A      |     | Contact Assy., Breaker   |
| 300   | 30548B      |     | Condenser  |
| 301   | 631021      |     | Inlet Needle, Seat & Clip Assy.  |
| 303   | 632213      |     | Carburetor (Incl. 75 & 301) (Refer to Division 5, Section A, page 176 for breakdown)   |
| 304   | 610689A     |     | Magneto NOTE: The complete magneto is not available as an assembly. The magneto number is shown for reference purposes only. Order component parts individually, as shown in parts list. (Refer to Division 5, Section B, page 24 for breakdown) |
| 306   | 590420      |     | Rewind Starter (Refer to Division 5, Section C, page 25 for breakdown)   |
| 310   | 33235A      |     | * Gasket Set (Incl. items marked *)  |

This exploded view diagram illustrates the assembly of a mechanical device. The components are labeled with reference numerals as follows:

- 38**: A small pin or screw at the top left.
- 200**: A small circular component below 38.
- 113A**: A rectangular component with a central hole.
- 112A**: A component below 113A.
- 111B**: A bracket-like component in the upper middle.
- 35**: A small pin or screw.
- 199**: A small component below 35.
- 112C**: A component below 112A.
- 111C**: A component below 112C.
- 111**: A triangular component in the lower middle.
- 201**: A large circular component with a central hole.
- 204A**: A small component on top of 201.
- 204**: A small component to the right of 201.
- 205**: A small component below 204.
- 206**: A small component below 201.
- 206A**: A small component below 206.
- 112B**: A component below 206.
- 201A**: A rectangular component with a central hole.
- 202**: A small component to the right of 201A.
- 203**: A small component to the right of 202.
- 114A**: A rectangular component with a central hole.
- 118**: A small component to the right of 114A.
- 117**: A small component to the right of 118.
- 117A**: A small component to the right of 117.
- 117B**: A small component to the right of 117A.
- 210**: A small component at the bottom right.



| Ref # | Part Number | Qty | Description  |
|-------|-------------|-----|--|
| 35    | 26073       |     | Washer, Flat (Use as required)   |
| 35    | 650570      |     | Washer, Flat (Use as required)   |
| 35    | 650691      |     | Washer, Flat (Use as required)   |
| 36    | 650697A     |     | Screw, 5/16-18 x 2-1/2" (Use as required)  |
| 36    | 650695A     |     | Screw, 5/16-18 x 2-1/4" (Use as required)  |
| 36    | 650694A     |     | Screw, 5/16-18 x 2" (Use as required)  |
| 38    | 27896A      |     | * Gasket, Breather cover   |
| 43    | 32447       |     | Tube, Breather   |
| 76    | 34698A      |     | Gasket, Air cleaner elbow  |
| 78    | 650826      |     | Stud, 1/4-20   |
| 79    | 650513      |     | Nut, Wing  |
| 81    | 30196       |     | Screw, 5/16-18 x 3/4" (Use as required)  |
| 81    | 28820       |     | Screw, 10-32 x 1/2" (Use as required)  |
| 81    | 650521      |     | Screw, 10-32 x 1-1/8" (Use as required)  |
| 82    | 27272A      |     | * Gasket, Air cleaner  |
| 83A   | 34699       |     | Bracket, Air cleaner   |
| 84    | 34782       |     | Element, Air cleaner   |
| 84C   | 34783       |     | Filter, Pre-Air  |
| 86A   | 34780       |     | Elbow, Air cleaner   |
| 86A   | 34697       |     | Air Cleaner Elbow Assy.(Use in 730561 only.)   |
| 87    | 650163      |     | Screw, 10-32 x 7/8"  |
| 89A   | 730128      |     | Air Cleaner Ass'y. (Incl. 82,90A,90B,90D thru 90G,97 & 298B) (Use as req.)   |
| 90    | 34781       |     | Cover, Air cleaner   |
| 100   |             |     | Pop Rivet (Purchase locally) (1/8" di a.)  |
| 100A  | 650825      |     | Nut & Lockwasher, 1/4-20   |
| 113A  | 650665      |     | Screw, 1/4-15 x 3/4"   |
| 117D  | 30675       |     | Fitting, Breather tube   |
| 121E  | 391026      |     | Muffler (Incl. 124, 124A & 124B) (This spark arrester muffler can be used on any model)  |
| 124A  | 33171       |     | Muffler Screen (Use as required)   |
| 124B  | 33185       |     | Cover & Tube, Muffler (Use as required)  |
| 124   | 650578      |     | Screw, 8-18 x 3/8"   |
| 125   | 27930A      |     | * Gasket, Exhaust  |
| 134   | 31288       |     | Muf.Adapter Kit(Incl.125,136,137)(As req.)   |
| 135   | 730130      |     | Muf.Adapter Kit(Incl.125 & 138)(As required)   |
| 136   | 6021A       |     | Screw, 5/16-18 x 1-1/2" (Use as required)  |
| 137   | 650697A     |     | Screw, 5/16-18 x 2-1/2" (Use as required)  |
| 138   | 30196       |     | Screw, 5/16-18 x 3/4" (Use as required)  |
| 233   | 34819       |     | Air Cleaner Elbow (Incl.44,76,78,83A,86A,100)(Use in 730561 ass'y. only)   |
| 234   | 730561      |     | Air Cleaner Kit<br>(Incl.38,43,44,76,78,79,82,83A,84,84C,86A,87,90,100A,233,29<br>(Use only on engines with an externally vented fully adjustable carburetor.) |
| 273   | 650687      |     | Screw, 10-32 x 5/16" (Use as required)   |
| 284A  | 32410       |     | Knob, Speed control  |
| 298J  | 34704       |     | Decal, Air cleaner   |

ILLUSTRATION SHOWS TYPICAL PARTS ONLY. ORDER BY PART NUMBER, PARTS NOT LISTED ARE SUPPLIED BY OEM.



| Ref # | Part Number | Qty | Description   |
|-------|-------------|-----|---|
| 37    | 650128      |     | Screw, 10-24 x 1/2" (Use as required)   |
| 37    | 650597      |     | Screw, 10-24 x 5/8" (Use as required)   |
| 37A   | 27261       |     | Washer, Flat (Use as required)  |
| 41    | 28425       |     | Cover, Valve spring   |
| 44    | 32446       |     | Grommet, Breather tube  |
| 56    | 34662       |     | Link, Throttle  |
| 69    | 29747B      |     | Screw, 5/16-24 x 21/32"   |
| 98    | 32924       |     | Compression Spring (Used with 650688 screw) (Use as required)   |
| 98    | 31342       |     | Compression Spring (Used with 650549 screw) (Use as required)   |
| 98    | 28569       |     | Compression Spring (Used with 29500 screw)(Use as required)   |
| 99    | 650549      |     | Screw, 5-40 x 7/16" (Use as required)   |
| 99    | 29500       |     | Screw, 8-32 x 3/4" (Use as required)  |
| 99    | 650688      |     | Screw, 10-32 x 1 (Use as required)  |
| 139   | 650821      |     | Screw, 10-32 x 1/2"   |
| 140   | 34663       |     | Spring, Speed control   |
| 182   | 32683A      |     | Gasket, Fuel pump cover (Use as required)   |
| 183   | 32955       |     | Cover, Fuel pump pad (Use as required)  |
| 184   | 9556        |     | Plug, Pipe 1/8-27 (Use as required)   |
| 185   | 30063       |     | Screw, 1/4-20 x 1/2" (Use as required)  |
| 221   | 28545       |     | Grommet, Plastic  |
| 222   | 650760      |     | Screw, 8-32 x 3/8"  |
| 223   | 33356       |     | Terminal, Ground  |
| 225   | 730152      |     | Control Bracket(Incl.91 thru 97)(As required)   |
| 225C  | 34677       |     | Control Bracket (Incl. 98, 99, 140 & 226)   |
| 227   | 33177       |     | Terminal (Use as required)  |
| 262   | 29716       |     | Screw, 1/4-28 x 7/16"   |
| 266   | 650815      |     | Washer, Belleville  |
| 267   | 8116        |     | Nut, Hex  |
| 305   | 33018       |     | Harness Assy., Adapter (Use as required)  |
| 306   | 590420      |     | Rewind Starter (Refer to Division 5, Section C, page 25 for breakdown)  |
| 308   | 33328D      |     | Starter Motor Kit (110-120 Volt) NOTE: This 110-120 volt starter motor kit may have been added to this engine. This can be added only if cylinder has drilled and tapped starter mounting bosses and a ring gear flywheel has been added (see #309). Refer to service number stamped on end cap of motor, |
| 309   | 30811A      |     | Flywheel (Ring gear flywheel required on engines using 110-120 volt starter motor kits listed above.)   |