Racing Performance Catalog & Reference Guide

Model/Type: 124332 8202-01
Model/Type: 124432 8003-01
Model/Type: 124332 8201-01
Model/Type: 124332 8203-01
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SAFETY

BEFORE OPERATING ENGINE

- Read entire Operating & Maintenance Instructions AND the instructions for the equipment this engine powers.*
- Failure to follow instructions could result in serious injury or death.

THESE INSTRUCTIONS CONTAIN SAFETY INFORMATION TO

- Make you aware of hazards associated with engines
- Inform you of the risk of injury associated with those hazards, and
- Tell you how to avoid or reduce the risk of injury.

The safety alert symbol (⚠️) is used to identify safety information about hazards that can result in personal injury.

A signal word (DANGER, WARNING, or CAUTION) is used with the alert symbol to indicate the likelihood and the potential severity of injury. In addition, a hazard symbol may be used to represent the type of hazard.

DANGER
Indicates a hazard which, if not avoided, will result in death or serious injury.

WARNING
Indicates a hazard which, if not avoided, could result in death or serious injury.

CAUTION
Indicates a hazard which, if not avoided, might result in minor or moderate injury.

CAUTION, when used without the alert symbol, indicates a situation that could result in damage to the engine.

WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

HAZARD SYMBOLS AND MEANINGS

- Fire
- Explosion
- Toxic Fumes
- Hot Surface
- Moving Parts
- Kickback
- Shock

THE INTERNATIONAL SYMBOLS USED ON THE ENGINE OR IN THIS MANUAL INCLUDE:

- Safety Alert
- Read Owner’s Manual
- Fuel
- Fuel Shutoff
- Oil
- Choke
- Stop
- On Off

WARNING

Engines give off carbon monoxide, an odorless, colorless, poison gas.

Breathing carbon monoxide can cause nausea, fainting or death.

- Start and run engine outdoors.
- Do not start or run engine in enclosed area, even if doors or windows are open.

WARNING

Rapid retraction of starter cord (kickback) will pull hand and arm toward engine faster than you can let go.

Broken bones, fractures, bruises or sprains could result.

- When starting engine, pull cord slowly until resistance is felt, then pull rapidly.
- Remove all external equipment/engine loads before starting engine.
- Direct coupled equipment components such as, but not limited to, blades, impellers, pulleys, sprockets, etc., must be securely attached.

WARNING

Risk of death or serious injury

Read Repair Manual Special skills and knowledge are required to prepare the engine for competitive events, and sanctioned racing. Only qualified persons should perform this work.

* Briggs & Stratton does not necessarily know what equipment this engine will power. For that reason, you should carefully read and understand the operating instructions for the equipment on which your engine is placed.
Briggs & Stratton does not approve or authorize the use of these engines on 3-wheel all terrain vehicles (ATVs), motor bikes, fun/recreational go-karts, or aircraft products. Use of these engines in such applications could result in property damage, serious injury (including paralysis), or even death. This engine requires special technical expertise and preparation before it can be used in competitive events.

### WARNING

Gasoline and its vapors are extremely flammable and explosive. Fire or explosion can cause severe burns or death.

**WHEN ADDING FUEL**
- Turn engine OFF and let engine cool at least 2 minutes before removing gas cap.
- Fill fuel tank outdoors or in well-ventilated area.
- Do not overfill fuel tank. Fill tank to approximately 1-1/2 inches below top of neck to allow for fuel expansion.
- Keep gasoline away from sparks, open flames, pilot lights, heat, and other ignition sources.
- Check fuel lines, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary.

**WHEN STARTING ENGINE**
- Make sure spark plug, muffler, fuel cap and air cleaner are in place.
- Do not crank engine with spark plug removed.
- If fuel spills, wait until it evaporates before starting engine.
- If engine floods, set choke to OPEN/RUN position, place throttle in FAST and crank until engine starts.

**WHEN OPERATING EQUIPMENT**
- Do not tip engine or equipment at angle which causes gasoline to spill.
- Do not choke carburetor to stop engine.

**WHEN TRANSPORTING EQUIPMENT**
- Transport with fuel tank EMPTY or with fuel shut-off valve OFF.

**WHEN STORING GASOLINE OR EQUIPMENT WITH FUEL IN TANK**
- Store away from furnaces, stoves, water heaters or other appliances that have pilot light or other ignition source because they can ignite gasoline vapors.

### WARNING

Unintentional sparking can result in fire or electric shock. Unintentional start-up can result in entanglement, traumatic amputation, or laceration.

**BEFORE PERFORMING REPAIRS OR ADJUSTMENTS**
- Disconnect spark plug wire and keep it away from spark plug.
- Disconnect battery at negative terminal (only engines with electric start).

**WHEN TESTING FOR SPARK**
- Use approved spark plug tester.
- Do not check for spark with spark plug removed.

### WARNING

Rotating parts can contact or entangle hands, feet, hair, clothing, or accessories. Traumatic amputation or severe laceration can result.

- Operate equipment with guards in place.
- Keep hands and feet away from rotating parts.
- Tie up long hair and remove jewelry.
- Do not wear loose-fitting clothing, dangling drawstrings or items that could become caught.

### WARNING

Running engines produce heat. Engine parts, especially muffler, become extremely hot. Severe thermal burns can occur on contact. Combustible debris, such as leaves, grass, brush, etc. can catch fire.

- Allow muffler, engine cylinder and fins to cool before touching.
- Remove accumulated combustibles from muffler area and cylinder area.
- Install and maintain in working order a spark arrester before using equipment on forest-covered, grass-covered, brush-covered unimproved land. The state of California requires this (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal land.

### WARNING

Starting engine creates sparking. Sparking can ignite nearby flammable gases. Explosion and fire could result.

- If there is natural or LP gas leakage in area, do not start engine.
- Do not use pressurized starting fluids because vapors are flammable.

### WARNING

Replacement parts for fuel system (cap, hoses, tanks, filters, etc.) must be the same as original parts, otherwise fire can occur.

### WARNING

Do NOT strike the flywheel with a hammer or hard object because the flywheel may later shatter during operation.
ANIMAL

GENERAL SPECS
Model: 124432
Type: 8003-01 – Animal
8201-01 – Jr. 206
8202-01 – LO 206
8203-01 – M Series
Displacement: 12.48 Cu. in. - 205cc
Design: Slant, 30 degree Overhead Valve
Bore: 2.6875/2.6885 in.
Stroke: 2.2 in.
Compression Ratio: 8.5 to 1
Factory Timing: 29 degrees BTDC

SPECIAL TOOL REQUIREMENTS
General Model 12 Manual Part No. 276781
Flywheel Holder Tool Part No. 19433
PVL Flywheel Puller Part No. 19584

TORQUE SPECS
<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>WRENCH/SOCKET SIZE</th>
<th>TORQUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Guard</td>
<td>7mm</td>
<td>40-50 lb-in. (4.5-5.6 Nm)</td>
</tr>
<tr>
<td>Blower Housing</td>
<td>10mm &amp; 3/8&quot;</td>
<td>60-110 lb-in. (7-12.5 Nm)</td>
</tr>
<tr>
<td>Carburetor (to manifold)</td>
<td>10mm</td>
<td>80-110 lb-in. (9-12.4 Nm)</td>
</tr>
<tr>
<td>Connecting Rod</td>
<td>T27</td>
<td>140-150 lb-in. (16-17 Nm)</td>
</tr>
<tr>
<td>Cylinder Head Bolts</td>
<td>10mm</td>
<td>200-220 lb-in. (20-27 Nm)</td>
</tr>
<tr>
<td>Exhaust Brace Screws</td>
<td>10mm</td>
<td>95-125 lb-in. (11-14 Nm)</td>
</tr>
<tr>
<td>Exhaust Stud</td>
<td>10mm</td>
<td>95-125 lb-in. (11-14 Nm)</td>
</tr>
<tr>
<td>Flywheel Nut</td>
<td>15/16</td>
<td>55-75 ft-lbs. (74.5-101 Nm)</td>
</tr>
<tr>
<td>Flywheel Fan</td>
<td>10mm</td>
<td>180-240 lb-in. (20-27 Nm)</td>
</tr>
<tr>
<td>Intake (to cylinder)</td>
<td>5mm Allen</td>
<td>70-90 lb-in. (8-10.2 Nm)</td>
</tr>
<tr>
<td>Oil Drain Plug</td>
<td>3/8&quot;</td>
<td>100-125 lb-in. (11-14 Nm)</td>
</tr>
<tr>
<td>PVL Module</td>
<td>7mm</td>
<td>20-35 lb-in. (2.3-4 Nm)</td>
</tr>
<tr>
<td>Rocker Arm Stud</td>
<td>7/16&quot;</td>
<td>90-120 lb-in. (10-14 Nm)</td>
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<tr>
<td>Rocker Arm Plate</td>
<td>10mm</td>
<td>70-90 lb-in. (7.9-10.1 Nm)</td>
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<tr>
<td>Rocker Arm Set Screw</td>
<td>1/8&quot; Allen</td>
<td>50-70 lb-in. (5.6-7.9 Nm)</td>
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<tr>
<td>Spark Plug</td>
<td>5/8&quot; Deep</td>
<td>95-145 lb-in. (11-16.4 Nm)</td>
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<tr>
<td>Slide Cover</td>
<td>10mm</td>
<td>95-125 lb-in. (11-14 Nm)</td>
</tr>
<tr>
<td>Starter Gear</td>
<td>#2 Phillips</td>
<td>35-53 lb-in. (4-6 Nm)</td>
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<tr>
<td>Top Control Plate</td>
<td>10mm</td>
<td>70-90 lb-in. (8-10 Nm)</td>
</tr>
<tr>
<td>Valve Cover</td>
<td>10mm Lower &amp; 3/8&quot;</td>
<td>30-60 lb-in. (3.5-7 Nm)</td>
</tr>
</tbody>
</table>

RACING SPECIFICS
PVL™ Ignition Module Gap - .010/.014 (.15/.36mm)
Digital Rev Limiter: Max. 12,000 RPM - Part No. 555719
Max. 6,100 RPM - Part No. 555718
Max. 4,100 RPM - Part No. 555725
Recommended Oil Capacity – 14-16 oz. of Kart racing oil. We no longer recommend using automotive oil beyond break-in due to recent domestic and international changes that could adversely affect product life.

OPTIMAL PERFORMANCE PARTS
High - G/Force Breather Bypass System - Part No. 555688
Magnetic Drain Plug - Part No. 691663
Gearbox Splined Crankshaft - Part No. 555722
6-1 Gearbox Complete - Part No. 555721 (page 9)
Electric Starter Kit - Part No. 555703
Fuel filter - Part No. 394358B

HIGHLIGHTED FEATURES
- Dual Ball-Bearing, RACING Reinforced Cylinder
- Squeeze-Cast, T-7 Treated, Racing Rod
- Ground Cam w/ Compression Release
- High-Silicon Valve Springs
- PVL™ Digital Ignition System
- Racing Only Intake Port
- Walbro™ Round - Slide Carburetor
- Dana™ Fire-Ring Head Gasket (Animal Only)
- Racing Crankshaft w/ Induction-Hardened Crankpin
- Federal Mogul™ Cam Ground, Barrel-Faced Piston
- Chrome-Faced, Racing Ring Package
- Nitrited Dished Exhaust Valve
- Automotive 3-Piece Valve Retainer System
- Beefy Rocker Arm Stud Nuts

Animal - Horsepower / Torque Curves
692557 Hex Washer Head Screw (Rocker Cover Top & Sides)
694543 Rocker Arm Adjuster*
694544 Rocker Arm Stud*
699230 Hex Washer Head Metric Screw (Cylinder Head Plate - M6 x 1)
691343 Push Rod Guide*
698214 Cylinder Head Plate*
694088 Cylinder Head Plate Gasket*
699482 Hex Washer Head Metric Screw* (Cylinder Head - M8 x 1.25)
699481 Hex Washer Head Metric Screw (Rocker Cover Bottom - M6 x 1)
555635 Cylinder Head Assembly
555698 Cylinder Head Gasket* (Fire Ring)
555723 Cylinder Head Gasket (Standard - LO 206 Engines)
491055s Spark Plug (Champion RC12YC)
555718 Valve Guide Bushing* (Standard)
555645 Valve Guide Bushing* (.002" Over)
555635 Cylinder Head Assembly
55551 Intake Valve*
55552 Exhaust Valve*
693517 Push Rod
690977 Valve Tappet
55551 Rocker Arm* with Logo
55550 Valve Retainer*
555550 Valve Retainer*
26826 Valve Spring* (Intake & Exhaust)
555690 Heat Disperser (Optional)
555552 Exhaust Valve*
555551 Intake Valve*
555698 Cylinder Head Gasket* (Fire Ring)
555723 Cylinder Head Gasket (Standard - LO 206 Engines)
555552 Exhaust Valve*
555551 Intake Valve*
555698 Cylinder Head Gasket* (Fire Ring)
555723 Cylinder Head Gasket (Standard - LO 206 Engines)
*Included with 555635 Cylinder Head Assembly
ANIMAL control bracket & gasket sets
(Engine Model Series 124432)

699479 Metric Screw
(Control Panel - M6 x 1)

555699 Control Panel

808656 Fuel Pump
(Standard on LO 206, Optional on Other Models)

793379 Stop Wire
(Used on Type No. 8003)

692602 Stop Wire
(Rocker Switch, Used on Type No. 8001 & 8002)

557028 Starting Switch

**Included with 555631 Engine Gasket Set**

699485 Crankcase Gasket*

691885 Intake Gasket*+
694088 Cylinder Head Plate Gasket*+

692550 Oil Seal*
(PTO Side)

299819s Oil Seal*
(Magneto Side)

555698 Cylinder Head Gasket*+
(Fire Ring)

694088 Cylinder Head Plate Gasket*+

691890 Rocker Cover Gasket*+

*Included with 555636 Valve Gasket Set

691885 Intake Gasket**

555718 – 206 Ignition Module, 6,100 rpm limiter

555715 – Sealed Shortblock

555718 – 206 Ignition Module, 4,100 rpm limiter

555726 – Carburetor Locking Cap

555726 – Walbro Junior Throttle Slide

555727 – Max-Torque Clutch, 3/4" crank, 17 tooth, 35 chain

555725 – Junior PVL Ignition Module, 4,100 rpm limiter

555729 Green Air Filter
**ANIMAL gear reduction unit**
(Engine Model Series 124432)

**555721 Complete Gearbox** (minus crankshaft)
**555722 Splined Racing Crankshaft**

- **555722 Crankshaft**
- **695087 Timing Gear**
- **792755 Gear Case Gasket**
- **555150 Ball Bearing (2)**
- **792753 Hex Head Cap Screw (4)**
  (Gear Reduction Case - 5/16 - 24)
- **792756 Auxiliary Drive Shaft**
  (Internal Gear)
- **792748 Gear Reduction Cover**
- **792746 Gear Reduction Case**
- **792760 O-Ring**
- **792759 Vented Oil Fill Hole Plug**
- **792749 Oil Level Hole Plug (2)**
- **690711 Hex Head Cap Screw (4)**
  (Gear Reduction Cover - M8 x 1.25)
- **792752 Oil Seal**
- **792750 Oil Drain Hole Plug**
- **792756 Vented Oil Fill Hole Plug**
- **555730 Rubberized Sealing Washer**

**Vented Oil Fill Plug**
Position Important: The vented oil fill plug in the cover must mount in the 12 o’clock position.

**IMPORTANT**
Engine seal must be removed before installing this gearbox.