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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

OPERATOR SAFETY

SAFETY AND CONTROL SYMBOLS

- **Fire**
- **Moving Parts**
- **Oil**
- **Toxic Fumes**
- **Slow**
- **Fast**
- **Stop**
- **Explosion**
- **Shock**
- **Fuel**
- **Choke**
- **On Off**
- **Fuel Shutoff**
- **Kickback**
- **Wear Eye Protection**
- **Hazardous Chemical**
- **Read Manual**
- **Hot Surface**
- **Frostbite**

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, could result in minor or moderate injury.

**NOTICE** indicates a situation that could result in damage to the product.

**WARNING**

Fuel 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 the fuel cap.
- Fill fuel tank outdoors or in well-ventilated area.
- Do not overfill fuel tank. To allow for expansion of the fuel, do not fill above the bottom of the fuel tank neck.
- Keep fuel 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.
- If fuel spills, wait until it evaporates before starting engine.

When Starting Engine

- Ensure that spark plug, muffler, fuel cap and air cleaner (if equipped) are in place and secured.
- Do not crank engine with spark plug removed.
- If engine floods, set choke (if equipped) to OPEN/RUN position, move throttle (if equipped) to FAST position and crank until engine starts.

When Operating Equipment

- Do not tip engine or equipment at angle which causes fuel to spill.
- Do not choke the carburetor to stop engine.
- Never start or run the engine with the air cleaner assembly (if equipped) or the air filter (if equipped) removed.

When Changing Oil

- When you drain the oil from the top oil fill tube, the fuel tank must be empty or fuel can leak out and result in a fire or explosion.

When Transporting Equipment

- Transport with fuel tank EMPTY or with fuel shut-off valve OFF.

When Storing Fuel Or Equipment With Fuel In Tank

- Store away from furnaces, stoves, water heaters or other appliances that have pilot lights or other ignition sources because they can ignite fuel vapors.

WARNING

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

WARNING

Briggs & Stratton® Engines are not designed for and are not to be used to power: fun-karts; go-karts; children’s, recreational, or sport all-terrain vehicles (ATVs); motorbikes; hovercraft; aircraft products; or vehicles used in competitive events not sanctioned by Briggs & Stratton. For information about competitive racing products, see www.briggsracing.com. For use with utility and side-by-side ATVs, please contact Briggs & Stratton Engine Application Center, 1-866-927-3349. Improper engine application may result in serious injury or death.

NOTICE: This engine was shipped from Briggs & Stratton without oil. Before you start the engine, make sure you add oil according to the instructions in this manual. If you start the engine without oil, it will be damaged beyond repair and will not be covered under warranty.

*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.
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
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 the starter cord slowly until resistance is felt and then pull rapidly to avoid kickback.
- 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
Unintentional sparking can result in fire or electric shock. Unintentional start-up can result in entanglement, traumatic amputation, or laceration. Fire hazard

Before performing adjustments or repairs:
- Disconnect the spark plug wire and keep it away from the spark plug.
- Disconnect battery at negative terminal (only engines with electric start).
- Use only correct tools.
- Do not tamper with governor spring, links or other parts to increase engine speed.
- Replacement parts must be of the same design and installed in the same position as the original parts. Other parts may not perform as well, may damage the unit, and may result in injury.
- Do not strike the flywheel with a hammer or hard object because the flywheel may later shatter during operation.

When testing for spark:
- Use approved spark plug tester.
- Do not check for spark with spark plug removed.

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 debris from muffler area and cylinder area.
- It is a violation of California Public Resource Code, Section 4442, to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the exhaust system is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order. Other states or federal jurisdictions may have similar laws. Contact the original equipment manufacturer, retailer, or dealer to obtain a spark arrester designed for the exhaust system installed on this engine.

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.
ANIMAL

GENERAL SPECS
Model: 124332
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

RACING SPECIFICS
PVL™ Ignition Module Gap - .010/.014 (.15/.36mm)
Digital Rev Limiter: Max. 12,000 RPM - Part No. 555681
Max. 6,100 RPM - Part No. 555718
Max. 4,100 RPM - Part No. 555725

Recommended Oil Capacity – 14-16 oz. of Briggs & Stratton Synthetic 4T Racing Oil custom blended by Amsoil. This oil is available through your current Briggs & Stratton source of supply. The use of ‘karting’ oils or automotive oils (use only during initial break-in) are no longer recommended due to their severe limitations that could impact the life of your engine.

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”</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”</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>US-7/16”, metric-10mm</td>
<td>90-120 lb-in. (10-14 Nm)</td>
</tr>
<tr>
<td>Rocker Arm Plate</td>
<td>10mm</td>
<td>70-90 lb-in. (7.9-10.1 Nm)</td>
</tr>
<tr>
<td>Rocker Arm Set Screw</td>
<td>US-1/8” Allen</td>
<td>50-70 lb-in. (5.5-7.9 Nm)</td>
</tr>
<tr>
<td>Spark Plug</td>
<td>5/8” Deep</td>
<td>95-145 lb-in. (11-16.4 Nm)</td>
</tr>
<tr>
<td>Side 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>
</tr>
<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”</td>
<td>30-60 lb-in. (3.5-7 Nm)</td>
</tr>
</tbody>
</table>

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
- Carbon Steel Crankshaft w/induction hardened crankpin

NO COMPROMISES.
At the end of the day the effort you put into racing directly determines your outcome. You wouldn't compromise on your approach to racing, so why would you with your oil? What if there was an oil engineered specifically for high-revving, air-cooled racing engines, methanol or gas fuels, that gives you the power of a lite oil yet the wear protection of a heavy oil? What if that oil also had the added benefit of wear protection and a corrosion inhibitor to safeguard your investment during, between, and after the season was over?

Briggs & Stratton 4T Racing Oil is available through any authorized Briggs & Stratton Racing dealer. For additional information or to locate a dealer near you please visit www.briggsracing.com.

OPTIONAL 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. 394358S
ANIMAL head assembly
(Engine Model Series 124432)

- 692557 Hex Washer Head Screw
  (Rocker Cover Top & Sides)

- 699230 Hex Washer Head Metric Screw
  (Cylinder Head Plate - M6 x 1)

- 699482 Hex Washer Head Metric Screw*
  (Cylinder Head - M8 x 1.25)

- 691343 Push Rod Guide*

- 691890 Rocker Cover Gasket

- Rocker Arm Adjuster*1
  (US - 694543, Metric - only available in 797440 kit)

- Rocker Arm Stud*1
  (US - 694544, Metric - 797441)

- Rocker Arm*1
  (US - 555711 Metric - 797443 - both with B&S logo)

- Rocker Arm Retainer*

- Valve Guide Bushing*
  (Standard)

- Valve Guide Bushing (.002" Over)

- Cylinder Head Plate*1
  (US - 698214, Metric - 797442 - both include 694088)

- Cylinder Head Plate Gasket*

- 555690 Heat Disperser (Optional)

- 555737 Spark Plug
  (Champion RC12YC)

- 555645 Valve Guide Bushing (.002" Over)

- 557118 Valve Guide Bushing*
  (Standard)

- Cylinder Head Assembly

- 555698 Cylinder Head Gasket
  (Fire Ring)

- 555723 Cylinder Head Gasket
  (Standard - LO 206 Engines)

- 555551 Intake Valve*

- 555552 Exhaust Valve*

- 555579 Rocker Cover (Black)

- 499924 Rocker Cover (Silver)

- 699481 Hex Washer Head Metric Screw
  (Rocker Cover Bottom - M6 x 1)

- 691890 Rocker Cover Gasket

- 693517 Push Rod

- 690977 Valve Tappet

*(Included with 555635 Cylinder Head Assembly

1 - Note Metric and US standard rocker arm systems are not interchangeable.
ANIMAL housing & flywheel
(Engine Model Series 124432)

**555681 Magneto Armature**
(Animal - 12,000 rpm)

**555718 Magneto Armature**
(206 - 6,100 rpm)

**555725 Magneto Armature**
(Jr. 206 - 4,100 rpm)

**555685 Flywheel & Ignition Kit**
(includes 692592 (fan) and 699201 x 2 screws)

**555683 Flywheel**
(includes 692592 (fan) and 699201 x 2 screws)

**557128 Starter Gear**
(Includes 4 Pcs. 557129 - Screw, Optional for Electric Start)

**555704 Blower Housing**

**794451 Hex Washer Head Metric Screw**
(Blower housing - M6 x 1)

**794954 Metric Screw**
(M5 x .8)

**555702 Flywheel Guard**

**695287 Rewind Starter** (Optional)
(Contains 4 pcs - M5 x .8)

**699200 Hex Washer Head Screw**
(M4.2 x 1.4)

**691678 Hex Washer Head Screw**
(Blower Housing - 5/16 - 18unc)

**692591 Flywheel Cup** (Optional)

**692592 Flywheel Fan**

**555731 Hex Jam Nut**
(Flywheel - M16 x 1.5 - 6H)

**555720 Stop Wire**
(Used on Type No. 8002 & 8003)

**695630 Stop Wire**

**555255 Rewind Guard**

**691736 Flywheel Washer**

**699477 Metric Screw**
(Magneto Armature - M4 x .7)

**557128 Starter Gear**
(Includes 4 Pcs. 557129 - Screw, Optional for Electric Start)

**699201 Screw**
(Flywheel Fan - M8 x 1.25)

**19433 Flywheel Wrench**

**691736 Flywheel Washer**

**19584 Flywheel Puller**

**555719 PVL™ Magneto Wire**

**794954 Metric Screw**
(M5 x .8)

**555255 Rewind Guard**

**699200 Hex Washer Head Screw**
(M4.2 x 1.4)
ANIMAL control bracket & gasket sets
(Engine Model Series 124432)

**699479 Metric Screw**
(Control Panel - M6 x 1)

**699485 Crankcase Gasket**

**555699 Control Panel**

**557028 Starting Switch**

**793379 Stop Wire**
(Used on Type No. 8003)

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

*Included with 555631 Engine Gasket Set*

**691885 Intake Gasket**

**694088 Cylinder Head Plate Gasket**

**555715 – Sealed Shortblock**

**555726 – Carburetor Locking Cap**

**555728 – .285” Junior Throttle Slide**

**555729 Green Air Filter**

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

**555728 – Junior 206 Throttle slide .285 ‘Black’**

**555732 – Junior 206 Throttle slide .310 ‘Black’**

**555733 – Club Throttle slide .440 ‘Red’**

**555734 – Club Throttle slide .520 ‘Blue’**

**555735 – CA Novice Throttle slide .342 ‘Purple’**

**555740 – CA Junior Club Throttle slide .490 ‘Green’**

**555741 – CA Junior National Throttle slide .570 ‘Yellow’**

**555718 – 206 Ignition Module, 6,100 rpm limiter**

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

**206 Parts**
ANIMAL gear reduction unit
(Engine Model Series 124432)

555721 Complete Gearbox (minus crankshaft)
555722 Splined Racing Crankshaft

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.