

# OWNER'S MANUAL

## KOHLER<sup>®</sup> COURAGE XT-6, XT-7 VERTICAL CRANKSHAFT



**KOHLER<sup>®</sup>**  
ENGINES

## Safety Precautions

To ensure safe operation please read the following statements and understand their meaning. Also refer to your equipment owner's manual for other important safety information. This manual contains safety precautions which are explained below. Please read them carefully.



### WARNING

Warning is used to indicate the presence of a hazard that *can* cause *severe* personal injury, death, or substantial property damage if the warning is ignored.



### CAUTION

Caution is used to indicate the presence of a hazard that *will* or can cause *minor* personal injury or property damage if the caution is ignored.

### NOTE

Note is used to notify people of installation, operation, or maintenance information that is important but not hazard-related.

### For Your Safety!

*These precautions should be followed at all times. Failure to follow these precautions could result in injury to yourself and others.*



### WARNING



**Explosive Fuel can cause fires and severe burns.**

Do not fill the fuel tank while the engine is hot or running.

#### Explosive Fuel!

*Gasoline is extremely flammable and its vapors can explode if ignited. Store gasoline only in approved containers, in well ventilated, unoccupied buildings, away from sparks or flames. Do not fill the fuel tank while the engine is hot or running, since spilled fuel could ignite if it comes in contact with hot parts or sparks from ignition. Do not start the engine near spilled fuel. Never use gasoline as a cleaning agent.*



### WARNING



**Rotating Parts can cause severe injury.**

Stay away while engine is in operation.

#### Rotating Parts!

*Keep hands, feet, hair, and clothing away from all moving parts to prevent injury. Never operate the engine with covers, shrouds, or guards removed.*



### WARNING



**Hot Parts can cause severe burns.**

Do not touch engine while operating or just after stopping.

#### Hot Parts!

*Engine components can get extremely hot from operation. To prevent severe burns, do not touch these areas while the engine is running, or immediately after it is turned off. Never operate the engine with heat shields or guards removed.*

### California Proposition 65 Warning

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

**NOTE:** Engine images in this manual may vary slightly from the actual product.



## Safety Precautions (Continued)

 <b>WARNING</b>

<b>Accidental Starts can cause severe injury or death.</b>  Disconnect and ground spark plug lead before servicing.



### Accidental Starts!

*Accidental starting can cause severe injury or death. Before working on the engine or equipment, disable the engine by disconnecting the spark plug lead.*

 <b>WARNING</b>

<b>Carbon Monoxide can cause severe nausea, fainting or death.</b>  Avoid inhaling exhaust fumes, and never run the engine in a closed building or confined area.

### Lethal Exhaust Gases!

*Engine exhaust gases contain poisonous carbon monoxide. Carbon monoxide is odorless, colorless, and can cause death if inhaled. Avoid inhaling exhaust fumes, and never run the engine in a closed building or confined area.*

 <b>CAUTION</b>

<b>Electrical Shock can cause injury.</b>  Do not touch wires while engine is running.

### Electrical Shock!

*Never touch electrical wires or components while the engine is running. They can be sources of electrical shock.*

**Congratulations** on your purchase of a quality-manufactured, four-cycle, single-cylinder, air-cooled engine. At Kohler we design durability, long life, and raw power into each and every engine we make. That means Kohler engines deliver dependability that you can count on. Here are some of the innovative features of your Kohler engine:

- Efficient overhead-valve design provides maximum power, torque, and reliability under all operating conditions.
- Dependable, maintenance-free ignition ensures fast, easy starts time after time.
- Kohler engines are easy to maintain, with all routine service areas including oil, air cleaner, and spark plug, easily and quickly accessible.
- Parts subject to the most wear and tear – the cylinder liner and camshaft – are made from precision formulated cast iron.
- Every Kohler engine is backed by a worldwide network of over 10,000 distributors and dealers. Service support is just a phone call away. In the U.S.A and Canada call 1-800-544-2444 for Sales and Service assistance. On the Web: [www.kohlerengines.com](http://www.kohlerengines.com).

To keep your engine in top operating condition, follow the maintenance procedures outlined in this manual.

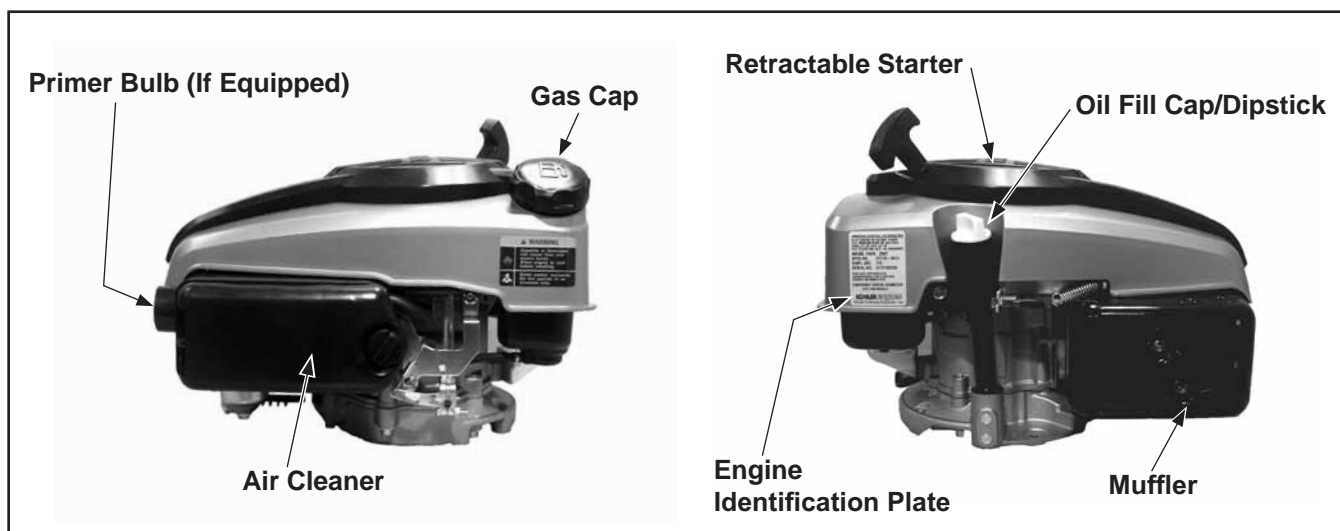


Figure 1. Typical Courage XT Vertical Shaft Engine.

## Oil Recommendations

Using the proper type and weight of oil in the engine is extremely important, as is daily checking of oil level and changing oil regularly. Failure to use the correct oil, or using dirty oil, will cause premature engine wear and failure.

## Oil Type

Use high quality detergent oil of **API (American Petroleum Institute) service class SJ or higher**. Select the viscosity based on the air temperature at the time of operation as shown in Figure 2.

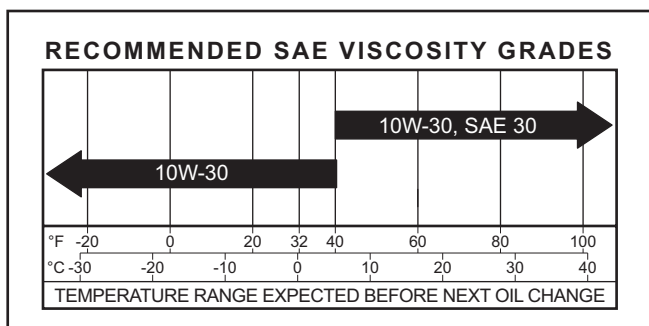


Figure 2. Viscosity Grades Table.

**NOTE:** Using oil other than service class SJ or higher, or extending oil change intervals longer than recommended can cause engine damage.

A logo or symbol on oil containers identifies the API service class and SAE viscosity grade. See Figure 3.

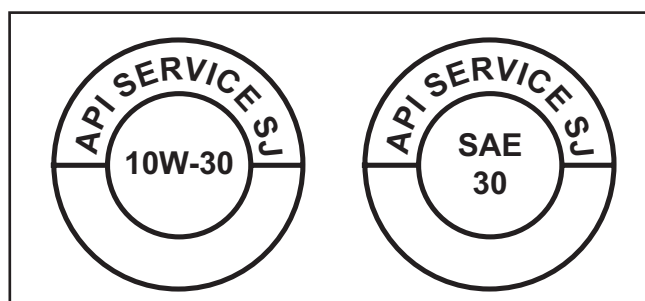


Figure 3. Oil Container Logos.

Refer to maintenance instructions beginning on Page 7 for detailed oil check and oil change procedures.

## Fuel Recommendations



### **WARNING: Explosive Fuel!**

*Gasoline is extremely flammable and its vapors can explode if ignited. Store gasoline only in approved containers, in well ventilated, unoccupied buildings, away from sparks or flames. Do not fill the fuel tank while the engine is hot or running, since spilled fuel could ignite if it comes in contact with hot parts or sparks from ignition. Do not start the engine near spilled fuel. Never use gasoline as a cleaning agent.*

## General Recommendations

Purchase gasoline in small quantities and store in clean, approved containers. A container with a capacity of two gallons or less with a pouring spout is recommended. Such a container is easier to handle and helps eliminate spillage during refueling. To minimize gum deposits in your fuel system, do not use gasoline left over from the previous season.

Do not add oil to the gasoline. Do not overfill the fuel tank. Leave room for the fuel to expand.

## Fuel Type

For best results use only clean, fresh, unleaded gasoline with an octane rating of 87 or higher. In countries using the Research method, it should be 90 octane minimum.

Unleaded gasoline is recommended as it leaves less combustion chamber deposits. Leaded gasoline may be used in areas where unleaded is not available and exhaust emissions are not regulated. Be aware that the cylinder head may require more frequent service.

## Gasoline/Alcohol Blends

Gasohol (up to 10% ethyl alcohol, 90% unleaded gasoline by volume) is approved as a fuel for Kohler engines. Other gasoline/alcohol blends including E20 and E85 are not to be used and are not approved. Failures resulting from use of these fuels will not be warranted.

## Gasoline/Ether Blends

Methyl Tertiary Butyl Ether (MTBE) and unleaded gasoline blends (up to a maximum of 15% MTBE by volume) are approved as a fuel for Kohler engines. Other gasoline/ether blends are not approved.

## Fuel Filter (Optional)

Replace with a Kohler fuel filter **yearly or every 50 hours** of operation. Removing the air filter first will allow easy access to the fuel filter. See Figure 4.

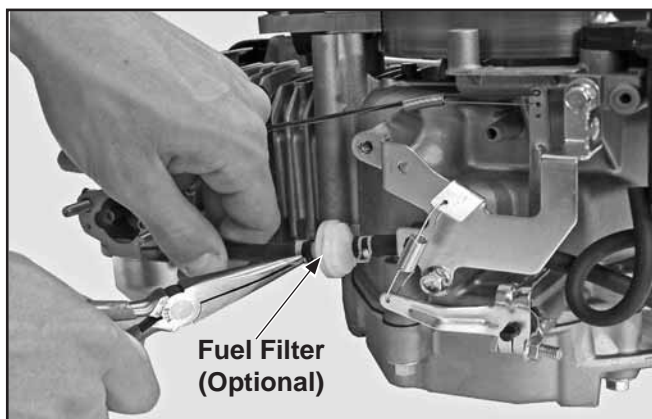


Figure 4. Fuel Filter (Air Filter Removed).

## Engine Identification Numbers

When ordering parts, or in any communication involving an engine, always give the model, specification, and serial number of the engine.

The engine identification numbers appear on a decal affixed to the engine shrouding. Be sure to include any letter suffixes. Record engine identification numbers on an identification label for future reference. See Figures 5 and 6.

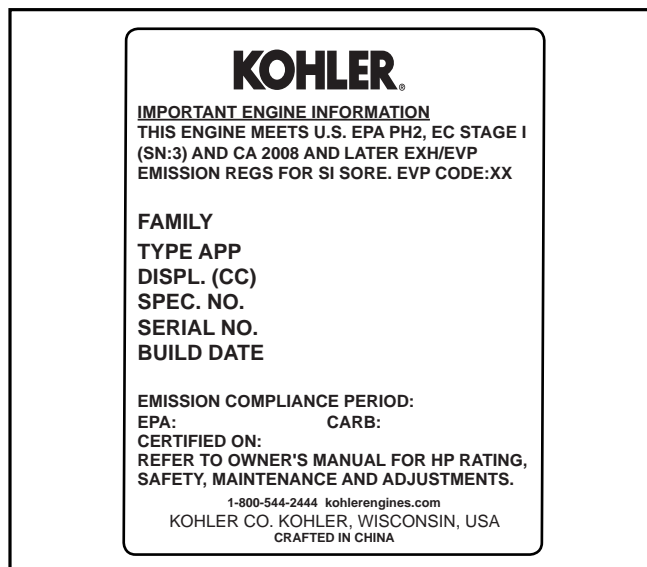


Figure 5. Engine Label (Including California).

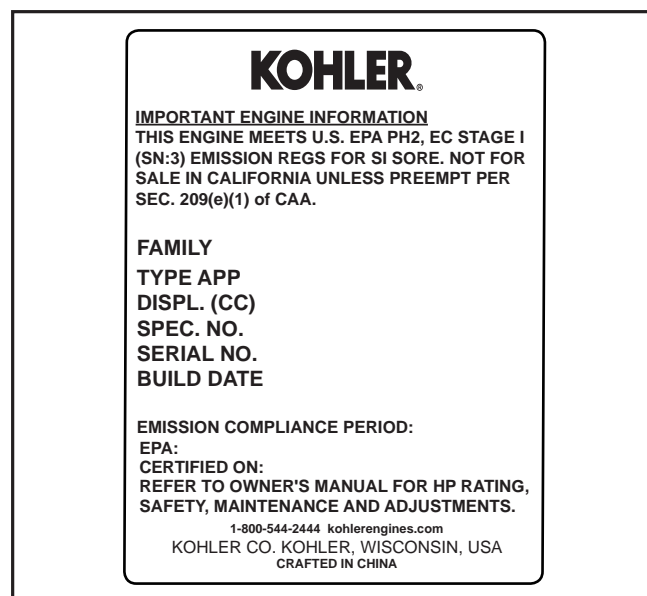


Figure 6. Engine Label (Calif. Non-Compliant).

The Emission Compliance Period referred to on the Emission Control or Air Index label indicates the number of operating hours for which the engine has been shown to meet Federal and CARB emission requirements. The following table provides the hourly Engine Compliance Period associated with the category description found on the certification label.

### Emission Compliance Period (Hours)

EPA	Category C - 125 hours
CARB	Moderate - 125 hours

Refer to certification label for engine displacement.

Exhaust Emission Control System for models XT-6, XT-7 is EM.



---

## Operating Instructions

*Also read the operating instructions of the equipment this engine powers.*

### Pre-Start Checklist

- Check oil level. Add if low. Do not overfill.
- Check fuel level. Add if low. Do not overfill.
- Check cooling air intake areas and external surfaces of engine. Make sure they are clean and unobstructed.
- Check that the air cleaner components and all shrouds, equipment covers, and guards are in place and securely fastened.



#### **WARNING: Lethal Exhaust Gases!**

*Engine exhaust gases contain poisonous carbon monoxide. Carbon monoxide is odorless, colorless, and can cause death if inhaled. Avoid inhaling exhaust fumes, and never run the engine in a closed building or confined area.*

### Cold Weather Starting Hints

1. Be sure to use the proper oil for the air temperature expected. See Figure 2 on Page 4.
2. Use fresh winter grade fuel. Winter grade gasoline has higher volatility to improve starting. Do not use gasoline left over from summer.

### Starting With Primer Bulb (If Equipped)

1. For a cold engine, firmly push the primer bulb in the CENTER, 3 times ONLY. See Figure 7. Pressing the primer bulb too many times can flood the engine. For a warm engine no priming is required.



**Figure 7. Primer Bulb.**

2. Move the blade control bar into the proper position (refer to the operating instructions of the equipment this engine powers). Turn on the ignition switch, if equipped.

3. Pull the starter handle straight out with a smooth, steady motion.
4. Once the engine has started, move the choke control, if equipped, to the off position. Set the desired engine operating speed, if adjustable.

**NOTE:** Extend the starting rope periodically and check its condition. If the rope is frayed, have it replaced immediately by your Kohler Engine Service Dealer.



#### **WARNING: Accidental Starts!**

*Before extending and checking the retractable starter rope, remove the spark plug lead to prevent the engine from starting accidentally.*

### Stopping

1. Move the blade control bar to the off position. Turn off the ignition switch, if equipped. Refer to the operating instructions of the equipment this engine powers.

### Angle of Operation

This engine will operate continuously at angles up to 20°. Check oil level to assure crankcase oil level is at the FULL mark on the dipstick. Refer to the operating instructions of the equipment this engine powers. Due to equipment design or application, there may be more stringent restrictions regarding the angle of operation.

**NOTE:** Do not operate this engine continuously at angles exceeding 20° in any direction. Engine damage could result from insufficient lubrication.

### Cooling

**NOTE:** To avoid extensive damage due to overheating, any debris build up on the grass screen or other cooling air intake areas should be removed immediately.



#### **WARNING: Hot Parts!**

*Engine components can get extremely hot from operation. To prevent severe burns, do not touch these areas while the engine is running, or immediately after it is turned off. Never operate the engine with heat shields or guards removed.*

### Engine Speed

**NOTE:** Do not tamper with the governor setting to increase maximum engine speed. Overspeed is hazardous and will void the warranty.

## Maintenance Instructions

Maintenance, repair or replacement of the emission control devices and systems, which are being done at the customers expense, may be performed by any non-road engine repair establishment or individual. Warranty repairs must be performed by an authorized Kohler Engine Service Dealer.



### **WARNING: Accidental Starts!**

*Accidental starting can cause severe injury or death. Before working on the engine or equipment, disable the engine by disconnecting the spark plug lead.*

## Maintenance Schedule

These required maintenance procedures should be performed at the frequency stated in the table below. They should also be included as part of any seasonal tune-up.

Frequency	Maintenance Required
After First 3-5 Hours of Use	Change oil.
Daily or Before Starting Engine	Fill fuel tank.
	Check oil level.
	Check air intake and cooling areas; clean as necessary. <sup>1</sup>
Yearly or Every 25 Hours	Service or replace precleaner element (if equipped). <sup>1</sup>
	Check air cleaner element for dirty, loose or damaged parts. <sup>1</sup>
Yearly or Every 50 Hours	Replace fuel filter, if equipped.
	Change oil.
Yearly or Every 100 hours	Replace spark plug and set gap.
	Replace air cleaner element. <sup>1</sup>

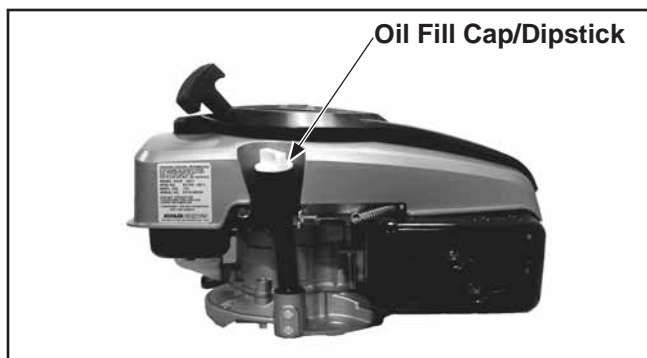
<sup>1</sup>Perform these maintenance procedures more frequently under extremely dusty, dirty conditions.

## Check Oil Level

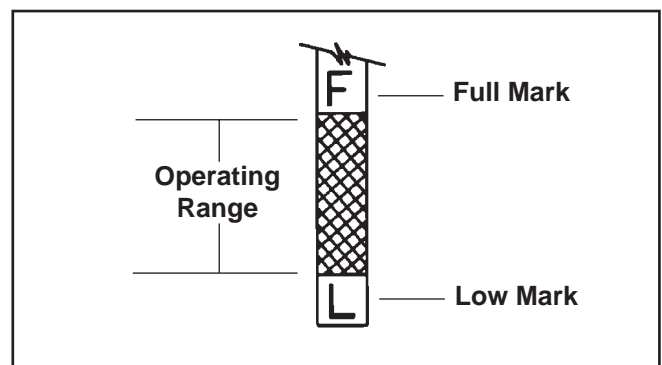
The importance of checking and maintaining proper oil level in the crankcase cannot be overemphasized.

Check oil **BEFORE EACH USE** as follows:

1. Make sure the engine is stopped, level, and cool so the oil has had time to drain into the sump.
2. Clean the area around the oil fill cap/dipstick to keep dirt and grass clippings out of the engine.
3. Unscrew and remove the oil fill cap/dipstick; wipe off oil. Reinsert the dipstick into the tube and rest the oil fill cap on the tube. **DO NOT** screw the cap into the tube. See Figure 8.
4. Remove the dipstick again and check the oil level. Oil should be up to, but not over the "F" or FULL mark on the dipstick. See Figure 9.
5. If the level is low, add the proper type of oil up to the FULL mark on the dipstick. Always check the level with the dipstick before adding more oil.
6. Reinstall the oil fill cap/dipstick and tighten securely.



**Figure 8. Oil Fill Cap/Dipstick.**



**Figure 9. Oil Level Dipstick.**

**NOTE:** To prevent extensive engine wear or damage, always maintain the proper oil level in the crankcase. Never operate the engine with the oil level below the "L" or LOW mark or over the FULL mark on the dipstick.

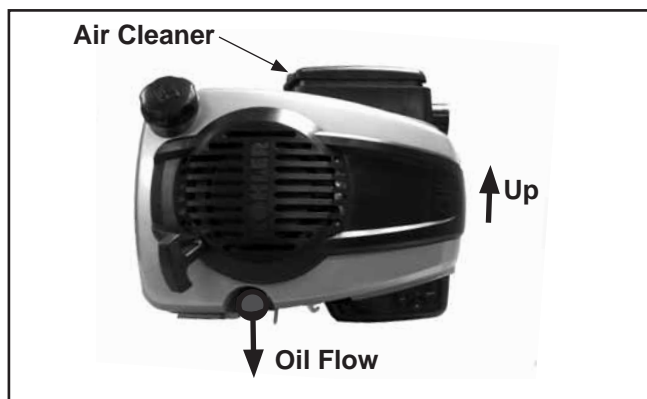
## Oil Change

Change the oil after the **first three to five hours of operation**. After that, change the oil **yearly or every 50 hours** of operation. Refill with oil as specified in the Viscosity Grades Table on Page 4.

Change the oil while the engine is still warm. The oil will flow more freely and carry away more impurities.

Change the oil as follows:

1. To keep dirt, grass clippings, etc., out of the engine, clean the area around the oil fill cap/dipstick before removing it.
2. Remove the oil fill cap/dipstick.
3. Tilt the engine on its side with the air cleaner facing up. See Figure 10.
4. Drain oil into approved container.
5. After the crankcase is completely drained, tilt the engine back upright.
6. Fill the crankcase with new oil of the proper type to the FULL mark on the dipstick. See Figure 9. Always check the oil level with the dipstick before adding more oil. Do not screw dipstick in when checking oil level.
7. Reinstall the oil fill cap/dipstick and tighten securely.



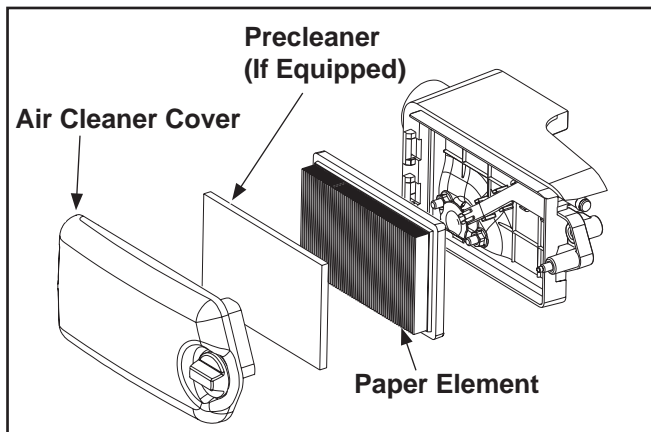
**Figure 10. Tilted Engine With Air Cleaner Up.**

## Precleaner and Air Cleaner Elements

This engine is equipped with a replaceable, high density paper air cleaner. An optional foam precleaner may also be included. See Figure 11.

Check the air cleaner daily or before starting the engine for a buildup of dirt and debris. Keep this area clean. Also check for loose or damaged components. Replace all bent or damaged air cleaner components.

NOTE: Operating the engine with loose or damaged air cleaner components could allow unfiltered air into the engine, causing premature wear and failure.



**Figure 11. Air Cleaner Assembly – Exploded View.**

## Service Precleaner

Wash or replace the optional precleaner (Kohler part number **14 083 02-S**) **yearly or every 25 hours** of operation; more often under extremely dusty or dirty conditions.

1. Loosen the air cleaner cover knob and remove the cover. See Figure 11.
2. Remove the precleaner and wash with detergent in warm water.
3. Rinse the precleaner thoroughly until all traces of detergent are eliminated. Squeeze out excess water (do not wring), and allow the precleaner to air dry.
4. Reinstall the precleaner.
5. Reinstall the air cleaner cover and tighten the knob securely.
6. When replacement is necessary, order genuine Kohler parts.



## Service Paper Element

**Yearly or every 100 hours** of operation replace the paper element (Kohler part number **14 083 01-S**). Check the paper element for dirty, loose or damaged parts **every 25 hours** of operation; more often under extremely dusty or dirty conditions.)

1. Loosen the air cleaner knob and remove the cover. See Figure 11. Remove the paper air cleaner element and the precleaner, if equipped.
2. Do not wash the paper element or use pressurized air, as this will damage the element. Replace a dirty, bent, or damaged element with a genuine Kohler element.
3. When servicing the air cleaner, check the air cleaner base. Make sure it is secured and not damaged. Also, check the air cleaner cover for damage or improper fit. Replace all damaged air cleaner components.
4. If any loose dirt or debris fell into the air cleaner when the element was removed, carefully remove it and wipe the base clean.
5. Check the condition of the rubber seal on the paper element. If the condition is questionable in any way, replace the entire element.
6. Reinstall the paper element and the optional precleaner, if equipped. Reattach the cover.
7. When replacement is necessary order genuine Kohler parts.

## Clean Air Intake/Cooling Areas

To ensure proper cooling, make sure the grass screen, cooling fins, and other external surfaces of the engine are kept clean at all times.

**NOTE:** Operating the engine with a blocked grass screen, dirty, or plugged cooling fins will cause engine damage due to overheating.

## Ignition System

This engine is equipped with a dependable maintenance-free ignition system. Other than periodically checking/replacing the spark plug, no adjustments are necessary or possible with this system.

In the event starting problems should occur which are not corrected by replacing the spark plug, see your Kohler Engine Service Dealer for trouble analysis.

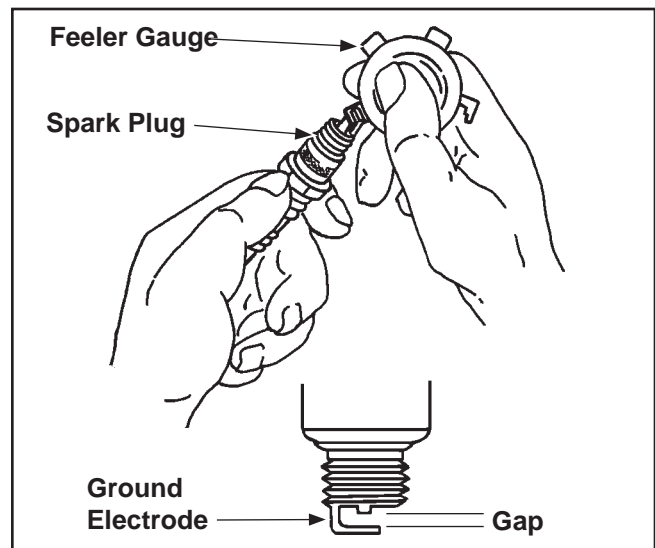
## Check Spark Plug

**Yearly or every 100 hours** of operation, remove the spark plug, check its condition, and reset the gap or replace with a new plug as necessary. The standard spark plug is a Champion® RC12YC (Kohler part number **12 132 02-S**). Equivalent alternative brand plugs can also be used.

1. Before removing the spark plug, clean the area around the base of the plug to keep dirt and debris out of the engine.
2. Remove the plug and check its condition. Replace the plug if worn or reuse is questionable.

**NOTE:** Do not clean the spark plug in a machine using abrasive grit. Some grit could remain in the spark plug and enter the engine causing extensive wear and damage.

3. Check the gap using a feeler gauge. See Figure 12. Adjust the gap by carefully bending the ground electrode. Gap spark plug to 0.762 mm (0.030 in.).
4. Reinstall the spark plug into the cylinder head. Torque the plug to **22.0-26.9 N·m (16-20 ft. lb.)**.



**Figure 12. Spark Plug Gap.**

## Fuel Line

These engines use Low Permeation SAE 30 R7 rated fuel line, certified to meet emission requirements. Standard fuel line may not be used. Order replacement hose through a Kohler Engine Service Dealer.

## Carburetor Adjustments and Troubleshooting

The carburetor is designed to deliver the correct fuel-to-air mixture to the engine under all operating conditions. It has been calibrated at the factory and is not adjustable.

**NOTE:** To ensure correct engine operation at altitudes above 1525 meters (5000 ft.), it may be necessary to have a Kohler Engine Service Dealer install a special high-altitude jet kit in the carburetor.

If a high-altitude kit has been installed, the engine must be reconverted to the original jet size before it is operated at lower altitudes, or overheating and engine damage may result.

If engine troubles appear to be fuel system related, check the following areas before seeking service from a Kohler Engine Service Dealer.

- Make sure the fuel tank is filled with clean, fresh gasoline.
- Make sure the air cleaner element is clean and fastened securely.
- Make sure the fuel tank cap vent is not blocked and that it is operating properly.
- Make sure the in-line fuel filter, if equipped, is clean and unobstructed. Replace if necessary.

If, after checking the items listed above, the engine is hard to start, runs roughly, or stalls at low-idle speed, it may be necessary to have the carburetor serviced by a Kohler Engine Service Dealer.

## Troubleshooting

When troubles occur, be sure to check the simple causes which, at first, may seem too obvious to be considered. For example, a starting problem could be caused by an empty fuel tank. Some common causes of engine troubles are listed in the table below.

Do not attempt to service or replace major engine components, or any items that require special timing or adjustment procedures. Have this work done by a Kohler Engine Service Dealer.

Possible Cause Problem	No Fuel	Improper Fuel	Dirt In Fuel Line	Dirty Grass Screen	Incorrect Oil Level	Engine Overloaded	Dirty Air Cleaner	Faulty Spark Plug
Will Not Start	•	•	•		•	•	•	•
Hard Starting	•	•	•		•	•	•	•
Stops Suddenly	•		•	•	•	•	•	
Lacks Power		•	•	•	•	•	•	•
Operates Erratically		•	•	•		•	•	•
Knocks or Pings		•		•		•		•
Skips or Misfires		•	•	•			•	•
Backfires			•			•	•	•
Overheats			•	•	•	•	•	
High Fuel Consumption						•	•	•

## Storage

If the engine will be out of service for two months or more, follow the storage procedure below:

1. Clean the exterior surfaces of the engine.
2. Change the oil while the engine is still warm from operation. See Oil Change on Page 8.
3. The engine must be run until the fuel tank is completely emptied, or the gasoline must be treated with a stabilizer to prevent deterioration. If you choose to use a stabilizer, follow the manufacturer's recommendations. Fill the fuel tank with clean, fresh gasoline, and run the engine for 2-3 minutes to get stabilized fuel into the carburetor.
4. Remove the spark plug. Add one tablespoon of engine oil into the spark plug hole. Reinstall the plug, but do not connect the plug lead. Crank the engine two or three revolutions.
5. Remove the spark plug. Cover the spark plug hole with your thumb and turn the engine over until the piston is at the top of its stroke (pressure against the thumb is greatest). Reinstall the spark plug, but do not connect the plug lead.
6. Store the engine in a clean, dry place. Never store the unit where there is an open flame, spark, or pilot light such as on a water heater or other appliances.

---

## Major Repair

Major repair information is available in Kohler Engine Service Manuals. This type of repair generally requires the services of a trained mechanic and the use of special tools and equipment. Kohler Engine Service Dealers have the facilities, training, and genuine Kohler replacement parts necessary to perform this service.

For the nearest sales and service location:

- Visit our Web site: [www.kohlerengines.com](http://www.kohlerengines.com)
- Call 1-800-544-2444 (U.S. and Canada)
- Look in the Yellow Pages under Engines-Gasoline

## Parts Ordering

The engine model, specification, and serial numbers are required when ordering replacement parts from your Kohler Engine Service Dealer. These numbers are found on the identification plate which is affixed to the engine shrouding. Include letter suffixes if there are any. See Engine Identification Numbers on Page 5.

Always insist on genuine Kohler parts. All genuine Kohler parts meet strict standards for fit, reliability, and performance.

## Specifications<sup>1</sup>

Model	XT-6	XT-7
Bore	65 mm (2.56 in.)	70 mm (2.75 in.)
Stroke	45 mm (1.8 in.)	45 mm (1.8 in.)
Displacement	149 cc (9.1 cu. in.)	173 cc (10.6 cu. in.)
Power @ 3600 RPM: kW (Net HP <sup>2</sup> )	2.6 kW (3.5 HP)	3.4 kW (4.5 HP)
Net Peak Torque @ 2600 RPM	8 N·m (5.9 ft. lbs.)	9.5 N·m (7 ft. lbs.)
Compression Ratio	8.3:1	8.5:1
Weight	10.8 kg (24 lb.)	13.1 kg (29 lb.)
Oil Capacity (Refill)	0.60 L (20 oz.)	0.60-0.65 L (20-22 oz.)
Lubrication	Splash	Splash

<sup>1</sup>Kohler reserves the right to change product specifications, designs, and equipment without notice and without incurring obligation.

<sup>2</sup>Horsepower ratings exceed Society of Automotive Engineers Small Engine Test Code J1940. Actual engine horsepower is lower and affected by, but not limited to, accessories (air cleaner, exhaust, charging, cooling, fuel pump, etc.), application, engine speed and ambient operating conditions (temperature, humidity, and altitude).

Exhaust Emission Control System for models XT-6, XT-7 is EM.

## **COURAGE® ENGINE LIMITED WARRANTY**

Kohler Co. warrants to the original retail consumer that each new COURAGE® engine sold by Kohler Co. will be free from manufacturing defects in materials or workmanship in normal residential homeowner service for a period of two (2) years from date of purchase, provided it is operated and maintained in accordance with Kohler Co.'s instructions and manuals. If used commercially the COURAGE® engine is covered by a 90-day limited warranty.

The warranty period begins on the date of purchase by the original retail consumer or commercial end user. "Residential homeowner service" means residential use by a retail consumer. "Commercial use" means all other uses, including use for commercial, or rental purposes. Once in commercial use, the engine will thereafter be considered a commercial use engine for the purposes of this warranty.

Our obligation under this warranty is expressly limited, at our option, to the replacement or repair at Kohler Co., Kohler, Wisconsin 53044, or at a service facility designated by us of such parts as inspection shall disclose to have been defective.

### **EXCLUSIONS:**

Mufflers on engines used commercially (non-residential) are warranted for 90 days from date of purchase. This warranty does not apply to defects caused by casualty or unreasonable use, including faulty repairs by others and failure to provide reasonable and necessary maintenance.

The following items are not covered by this warranty: Engine accessories such as fuel tanks, clutches, transmissions, power-drive assemblies, and batteries, unless supplied or installed by Kohler Co. These are subject to the warranties, if any, of their manufacturers.

Kohler Co. AND/OR THE SELLER SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND, including but not limited to labor costs or transportation charges in connection with the repair or replacement of defective parts.

IMPLIED OR STATUTORY WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. We make no other express warranty, nor is any one authorized to make any on our behalf.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

### **TO OBTAIN WARRANTY SERVICE:**

Purchaser must bring the engine to an authorized Kohler service facility. To locate the nearest facility, visit our Web site, [www.kohlerengines.com](http://www.kohlerengines.com), and click on SERVICE AND SUPPORT to use the locator function, consult your Yellow Pages or telephone 1-800-544-2444.

ENGINE DIVISION, KOHLER CO., KOHLER, WISCONSIN 53044

**KOHLER CO.**  
**FEDERAL AND CALIFORNIA EMISSION CONTROL SYSTEMS**  
**LIMITED WARRANTY**  
**SMALL OFF-ROAD ENGINES**

The U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and Kohler Co. are pleased to explain the Federal and California Emission Control Systems Warranty on your small off-road equipment engine. In California beginning in 2006, "emissions" means both exhaust and evaporative emissions. For California, engines produced in 2006 and later must be designed, built and equipped to meet the state's stringent anti-smog standards. In other states, 1997 and later model year engines must be designed, built and equipped, to meet the U.S. EPA regulations for small non-road engines. The engine must be free from defects in materials and workmanship which cause it to fail to conform with U.S. EPA standards for the first two years of engine use from the date of sale to the ultimate purchaser. Kohler Co. must warrant the emission control system on the engine for the period of time listed above, provided there has been no abuse, neglect or improper maintenance.

The emission control system may include parts such as the carburetor or fuel injection system, the ignition system, and catalytic converter. Also included are the hoses, belts and connectors and other emission related assemblies.

Where a warrantable condition exists, Kohler Co. will repair the engine at no cost, including diagnosis (if the diagnostic work is performed at an authorized dealer), parts and labor.

**MANUFACTURER'S WARRANTY COVERAGE**

Engines produced in 2006 or later are warranted for two years in California. In other states, 1997 and later model year engines are warranted for two years. If any emission related part on the engine is defective, the part will be repaired or replaced by Kohler Co. free of charge.

**OWNER'S WARRANTY RESPONSIBILITIES**

- (a) The engine owner is responsible for the performance of the required maintenance listed in the owner's manual. Kohler Co. recommends that you retain all receipts covering maintenance on the engine, but Kohler Co. cannot deny warranty solely for the lack of receipts or for your failure to assure that all scheduled maintenance was performed.
- (b) Be aware, however, that Kohler Co. may deny warranty coverage if the engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.
- (c) For warranty repairs, the engine must be presented to a Kohler Co. service center as soon as a problem exists. Call 1-800-544-2444 or access our Web site at: [www.kohlerengines.com](http://www.kohlerengines.com), for the names of the nearest service centers. Warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding warranty rights and responsibilities, you should contact Kohler Co. at 1-920-457-4441 and ask for an Engine Service representative.

**COVERAGE**

Kohler Co. warrants to the ultimate purchaser and each subsequent purchaser that the engine will be designed, built and equipped, at the time of sale, to meet all applicable regulations. Kohler Co. also warrants to the initial purchaser and each subsequent purchaser, that the engine is free from defects in materials and workmanship which cause the engine to fail to conform with applicable regulations for a period of two years.

Engines produced in 2006 or later are warranted for two years in California. For 1997 and later model years, EPA requires manufacturers to warrant engines for two years in all other states. These warranty periods will begin on the date the engine is purchased by the initial purchaser. If any emission related part on the engine is defective, the part will be replaced by Kohler Co. at no cost to the owner. Kohler Co. is liable for damages to other engine components caused by the failure of a warranted part still under warranty.

Kohler Co. shall remedy warranty defects at any authorized Kohler Co. engine dealer or warranty station.

Warranty repair work done at an authorized dealer or warranty station shall be free of charge to the owner if such work determines that a warranted part is defective.

Continued on next page.



Listed below are the parts covered by the Federal and California Emission Control Systems Warranty. Some parts listed below may require scheduled maintenance and are warranted up to the first scheduled replacement point for that part. The warranted parts include the following if they were present in the engine purchased: are:

- Oxygen sensor (if equipped)
- Intake manifold (if equipped)
- Exhaust manifold (if equipped)
- Catalytic muffler (if equipped)
- Thermal reactor muffler (if equipped)
- Spark advance module (if equipped)
- Air filter, fuel filter, and spark plugs (only to first scheduled replacement point)
- Crankcase breather
- Air injection system (if equipped)
  - Air pump or pulse valve assembly (if equipped)
  - Control/distribution valve (if equipped)
  - Distribution manifold (if equipped)
  - Air hoses (if equipped)
  - Vacuum lines (if equipped)
- Ignition module(s) with high tension lead
- Gaseous fuel regulator (if equipped)
- Electronic control unit (if equipped)
- Carburetor or fuel injection system
- Fuel lines, fuel line fittings and clamps (if equipped)
- Fuel metering valve (if equipped)
- Evaporative system (if equipped)
  - Canister (if equipped)
  - Canister filter (if equipped)
  - Vapor hose (if equipped)
  - Orifice connector (if equipped)
  - Fuel tank (if equipped)
  - Fuel cap (if equipped)
  - Primer bulb canister (if equipped)

#### LIMITATIONS

This Emission Control System Warranty shall not cover any of the following:

- (a) Repair or replacement required because of misuse or neglect, improper maintenance, repairs improperly performed or replacements not conforming to Kohler Co. specifications that adversely affect performance and/or durability and alterations or modifications not recommended or approved in writing by Kohler Co.,
- (b) Replacement of parts and other services and adjustments necessary for required maintenance at and after the first scheduled replacement point,
- (c) Consequential damages such as loss of time, inconvenience, loss of use of the engine or equipment, etc.,
- (d) Diagnosis and inspection fees that do not result in eligible warranty service being performed, and
- (e) Any add-on or modified part, or malfunction of authorized parts due to the use of add-on or modified parts.

#### MAINTENANCE AND REPAIR REQUIREMENTS

The owner is responsible for the proper use and maintenance of the engine. Kohler Co. recommends that all receipts and records covering the performance of regular maintenance be retained in case questions arise. If the engine is resold during the warranty period, the maintenance records should be transferred to each subsequent owner. Kohler Co. reserves the right to deny warranty coverage if the engine has not been properly maintained; however, Kohler Co. may not deny warranty repairs solely because of the lack of repair maintenance or failure to keep maintenance records.

Normal maintenance, replacement or repair of emission control devices and systems may be performed by any repair establishment or individual; however, **warranty repairs must be performed by a Kohler authorized service center.** Any replacement part or service that is equivalent in performance and durability may be used in non-warranty maintenance or repairs, and shall not reduce the warranty obligations of the engine manufacturer.

NOTES



FOR SALES AND SERVICE INFORMATION  
IN U.S. AND CANADA, CALL **1-800-544-2444**

[KohlerEngines.com](http://KohlerEngines.com)

ENGINE DIVISION, KOHLER CO., KOHLER, WISCONSIN 53044

FORM NO.:	14 590 01
ISSUED:	10/07
REVISED:	4/08