



## KOHLER CH730 Command Pro Owner's Manual

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# KOHLER®

KOHLER CH730 Command Pro

**IMPORTANT:**

Read all safety precautions and instructions carefully before operating equipment. Refer to operating instruction of equipment that this engine powers.

Ensure engine is stopped and level before performing any maintenance or service.

Warranty coverage as outlined in the warranty card and on KohlerEngines.com. Please review carefully as it provides your specific rights and obligations.

To maintain compliance with applicable emission regulations, exhaust system backpressure may not exceed limits which can be found on KohlerEngines.com. Search by Model No., then select Specs tab.

Kohler Engines has published CO2 values on [KohlerEngines.com](https://www.kohlerengines.com) website.

**Safety Precautions**

**WARNING:** A hazard that could result in death, serious injury, or substantial property damage.

**CAUTION:** A hazard that could result in minor personal injury or property damage.

**NOTE:** is used to notify people of important installation, operation, or maintenance information.

**WARNING** 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. Spilled fuel could ignite if it comes in contact with hot parts or sparks from ignition. Never use gasoline as a cleaning agent.

**WARNING** Engine exhaust gases contain poisonous carbon monoxide. Carbon monoxide is odorless, colorless, and can cause death if inhaled.

**WARNING** Before working on engine or equipment, disable engine as follows: 1) Disconnect spark plug lead(s). 2) Disconnect negative (–) battery cable from battery.

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

**CAUTION** Never operate engine with heat shields or guards removed.

**WARNING:** This product can expose you to chemicals including carbon monoxide and benzene, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](https://www.P65Warnings.ca.gov).

**Pre-Start Checklist**

1. Check oil level. Add oil if low. Do not overfill.
2. Check fuel level. Add fuel if low. Check fuel system components and lines for leaks.
3. Check and clean cooling areas, air intake areas and external surfaces of engine (particularly after storage).
4. Check that air cleaner components and all shrouds, equipment covers, and guards are in place and securely

fastened.

5. Check spark arrestor (if equipped).

**NOTE:** Do not crank engine continuously for more than 10 seconds. Allow a 60 second cool down period between starting attempts. Failure to follow these guidelines can burn out starter motor.

**NOTE:** Upon start-up, a metallic ticking may occur. Run engine for 5 minutes. If noise continues, run engine at mid throttle for 20 minutes. If noise persists, take engine to your local Kohler authorized dealer.

### **Standard Choke System**

1. Place throttle control midway between slow and fast positions. Place choke control into ON position.
2. Turn key switch to START position. Release switch as soon as engine starts. If starter does not turn engine over, shut off key switch immediately. Do not make further attempts to start engine until condition is corrected. Do not jump start. See your Kohler authorized dealer for trouble analysis.
3. Cold engine: Gradually return choke control to OFF position after engine starts and warms up. Engine/equipment may be operated during warm-up period, but it may be necessary to leave choke partially on until engine warms up.  
Warm engine: return choke to OFF position as soon as engine starts.

### **Above 32°F (0°C)**

1. This feature will automatically make system adjustments to engine on start up with throttle in any position.
2. If engine does not start on first attempt, wait 3- 5 seconds and try again (if no start after fourth attempt, wait 1 minute).
3. If engine does not start consistently by fifth attempt, turn key to OFF, pause briefly, and make another attempt. If engine does not start, consult Kohler authorized dealer for assistance.

### **32°F (0°C) and Below**

1. This feature will automatically make system adjustments to engine on start up with throttle in any position (winter blend fuel is recommended).
2. If engine does not start on first attempt, wait 3- 5 seconds and try again (if no start after fourth attempt wait 1 minute).
3. If engine does not start consistently by fifth attempt, turn key to OFF, pause briefly, and make another attempt. If engine does not start, consult Kohler authorized dealer for assistance.

### **Cold Weather Starting Hints**

1. Use proper oil for temperature expected.
2. Disengage all possible external loads.
3. Use fresh winter grade fuel. Winter grade fuel is formulated to improve starting.
4. Make sure battery has a full charge.

### **Stopping**

1. If possible, remove load by disengaging all PTO driven attachments.
2. Position throttle control between half and full throttle; stop engine.

### **Angle of Operation**

1. Refer to operating instructions of equipment this engine powers. Do not operate this engine exceeding maximum angle of operation; see specification table. Engine damage could result from insufficient lubrication.

### **Engine Speed**

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

### **Cold Weather Operation**

Anti-icing kits can be installed to improve cold weather operation and are available through your local Kohler authorized dealer.

### **High Altitude Operation**

If this engine is operated at an altitude of 4000 ft. (1219 meters) or above, a high altitude carburetor kit is required. To obtain high altitude carburetor kit information or to find a Kohler authorized dealer, visit [KohlerEngines.com](http://KohlerEngines.com) or call 1-800-544-2444 (U.S. and Canada).

This engine should be operated in its original configuration below 4000 ft. (1219 meters).

Operating this engine with the wrong engine configuration at a given altitude may increase its emissions, decrease fuel efficiency and performance, and result in damage to the engine.

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 dealer found at [KohlerEngines.com](http://KohlerEngines.com) or 1-800-544-2444 (U.S. and Canada).

Maintenance Schedule
Weekly
<ul style="list-style-type: none"> <li>● Check heavy-duty air cleaner element.</li> </ul>
Every 25 Hours or Annually <sup>1</sup>
<ul style="list-style-type: none"> <li>● Service/replace low-profile precleaner.</li> </ul>
Every 100 Hours or Annually <sup>1</sup>
<ul style="list-style-type: none"> <li>● Replace low-profile air cleaner element.</li> <li>● Change oil.</li> <li>● Remove cooling shrouds and clean cooling areas.</li> <li>● Check oil cooler fins, clean as necessary (if equipped).</li> </ul>
Every 200 Hours
<ul style="list-style-type: none"> <li>● Change oil filter.</li> <li>● Replace fuel filter.</li> </ul>
Every 250 Hours <sup>1</sup>
<ul style="list-style-type: none"> <li>● Replace heavy-duty air cleaner element and check inner element.</li> </ul>
Every 300 Hours <sup>3</sup>
<ul style="list-style-type: none"> <li>● Change oil and filter (KOHLE<sup>R</sup> PRO 10W-50 oil and KOHLE<sup>R</sup> PRO filter only).</li> </ul>
Every 500 Hours <sup>1</sup>
<ul style="list-style-type: none"> <li>● Replace heavy-duty air cleaner inner element.</li> <li>● Replace spark plugs and set gap.</li> </ul>
Every 500 Hours <sup>2</sup>
<ul style="list-style-type: none"> <li>● Have crankshaft spline lubricated.</li> </ul>
<p>1 Perform these procedures more frequently under severe, dusty, dirty conditions.</p> <p>2 Have a Kohler authorized dealer perform this service.</p> <p>3 Option only if using KOHLE<sup>R</sup> PRO oil and PRO filter.</p> <p>®</p>

## Oil Recommendations

All-season KOHLE<sup>R</sup> PRO 10W-50 Synthetic Oil is the ideal oil for KOHLE<sup>R</sup> engines. It is specifically formulated to extend the oil and oil fi lter change interval to 300 Hours when paired with a KOHLE<sup>R</sup> PRO Extended Life Oil Filter.

300-Hour oil and oil fi lter change intervals are exclusive to and only authorized on KOHLE<sup>R</sup> engines that utilize

both the KOHLER PRO 10W-50 Synthetic Oil and KOHLER PRO Extended Life Oil Filter. Alternative engine oils and oil filters may be used with KOHLER engines but require 100-Hour oil and 200-Hour oil filter change intervals for proper maintenance. Oil must be API (American Petroleum Institute) service class SJ or higher. Select viscosity based on air temperature at time of operation as shown below.

## Check Oil Level

**NOTE:** To prevent extensive engine wear or damage, never run engine with oil level below or above operating range indicator on dipstick.

1. Remove dipstick; wipe oil off .
  - Press-in cap: reinsert dipstick into tube; press completely down.
  - Thread-on cap: reinsert dipstick into tube; rest cap on tube, do not thread cap onto tube.
2. Remove dipstick; check oil level. Level should be at top of indicator on dipstick.
3. If oil is low on indicator, add oil up to top of indicator mark.
4. Reinstall dipstick and tighten securely.

## Change Oil and Filter

Change oil while engine is warm.

1. Clean area around oil filter cap/dipstick, drain plug/oil drain valve.
  - Remove drain plug and oil filter cap/dipstick. Allow oil to drain completely.
  - Open oil drain valve cap; if needed, attach a length of 1/2 in. I.D. hose to direct oil into appropriate container; twist valve drain body counterclockwise and pull. Remove dipstick. Allow oil to drain completely.
2. Clean area around oil filter. Place a container under filter to catch any oil and remove filter. Wipe off mounting surface.
  - Reinstall drain plug. Torque to 10 ft. lb. (13.6 N·m).
  - Close oil drain valve body, remove hose (if used), and replace cap.
3. Place new filter in shallow pan with open end up. Fill with new oil until oil reaches bottom of threads. Allow 2 minutes for oil to be absorbed by filter material.
4. Apply a thin film of clean oil to rubber gasket on new filter.
5. Refer to instructions on oil filter for proper installation.
6. Fill crankcase with new oil. Level should be at top of indicator on dipstick.
7. Reinstall oil filter cap/dipstick and tighten securely.
8. Start engine; check for oil leaks. Stop engine; correct leaks. Recheck oil level.
9. Dispose of used oil and filter in accordance with local ordinances.

### Oil Sentry™ (if equipped)

This switch is designed to prevent engine from starting in a low oil or no oil condition. Oil Sentry™ may not shut down a running engine before damage occurs. In some applications this switch may activate a warning signal. Read your equipment manuals for more information.

**NOTE:** E15, E20 and E85 are NOT approved and should NOT be used; effects of old, stale or contaminated fuel are not warrantable.

Fuel must meet these requirements:

- Clean, fresh, unleaded gasoline.
- Octane rating of 87 (R+M)/2 or higher.
- Research Octane Number (RON) 90 octane minimum.
- Gasoline up to 10% ethyl alcohol, 90% unleaded is acceptable.
- Methyl Tertiary Butyl Ether (MTBE) and unleaded gasoline blend (max 15% MTBE by volume) are approved.
- Do not add oil to gasoline.
- Do not overfill fuel tank.
- Do not use gasoline older than 30 days.

### **Fuel Line**

Low permeation fuel line must be installed on carbureted Kohler Co. engines to maintain EPA and CARB regulatory compliance.

Clean out spark plug recess. Remove plug and replace.

1. Check gap using wire feeler gauge. Adjust gap, see specification table for adjustment.
2. Install plug into cylinder head.
3. Torque plug to 20 ft. lb. (27 N·m).

### **Air Cleaner**

**NOTE:** Operating engine with loose or damaged air cleaner components could cause premature wear and failure. Replace all bent or damaged components.

**NOTE:** Paper element cannot be blown out with compressed air.

### **Low-Profile/Commercial Mower**

Loosen knob and remove air cleaner cover. Precleaner:

1. Remove precleaner from paper element.
2. Replace or wash precleaner in warm water with detergent. Rinse and allow to air dry.
3. Saturate precleaner with new engine oil; squeeze out excess oil.
4. Reinstall precleaner over paper element.

### **Paper Element:**

1. Clean area around element. Remove wing nut, element cover, and paper element with precleaner.
2. Separate precleaner from element; service precleaner and replace paper element.
3. Check condition of rubber seal and replace if necessary.
4. Install new paper element on base; install precleaner over paper element; reinstall element cover and secure with wing nut.

Reinstall air cleaner cover and secure with knob.

### **Heavy-Duty**

1. Unhook retaining clips and remove end cap(s).
2. Check and clean inlet screen (if equipped).

3. Pull air cleaner element out of housing and replace. Check condition of inner element; replace when dirty.
4. Check all parts for wear, cracks, or damage, and that ejector area is clean.
5. Install new element(s).
6. Reinstall end cap(s) with dust ejector valve/screen down; secure with retaining clips.

### Breather Tube

Ensure both ends of breather tube are properly connected.

### Oil Cooler (if equipped)

1. Clean fins with a brush or compressed air.
2. Remove two screws securing oil cooler, and tilt to clean back side.
3. Reinstall oil cooler.

Proper cooling is essential. To prevent overheating, clean screens, cooling fins, and other external surfaces of engine. Avoid spraying water at wiring harness or any electrical components. See Maintenance Schedule.

### Repairs/Service Parts

We recommend that you use a Kohler authorized dealer for all maintenance, service, and replacement parts for engine. To find a Kohler authorized dealer visit [KohlerEngines.com](http://KohlerEngines.com) or call 1-800-544-2444 (U.S. and Canada).

### Storage

If engine will be out of service for 2 months or more follow procedure below.

1. Add KOHLER PRO Series fuel treatment or equivalent to fuel tank. Run engine 2-3 minutes to get stabilized fuel into fuel system (failures due to untreated fuel are not warrantable).
2. Change oil while engine is still warm from operation (NOT required if using KOHLER PRO 10W-50 full-synthetic oil). Remove spark plug(s) and pour about 1 oz. of engine oil into cylinder(s). Replace spark plug(s) and crank engine slowly to distribute oil.
3. Disconnect negative (-) battery cable.
4. Store engine in a clean, dry place.

### Troubleshooting

	Possible Cause									
Problem	Dirt In					Faulty				
	No Level	Improper Fuel Overloaded	Fuel Debris Cleaner	Incorrect Plug	Engine	Dirty Air	Spark Fuel	Fuel	Line Screen	Oil
Will Not Start	•		•		•		•	•		•
Hard Starting			•		•		•	•		•
Stops Suddenly	•				•	•	•	•		•



Lacks Power		•	•	•	•	•	•	•
Operates Erratically		•	•	•		•	•	•
Knocks or Pings		•		•		•		•
Skips or Misfires		•	•	•			•	•
Backfires		•	•			•	•	•
Overheats		•	•	•	•	•	•	
High Fuel Consumption						•	•	•

### Engine Specifications

Model	Bore	Stroke	Displacement	Oil Capacity (Refill)	Spark Plug Gap	Maximum Angle of Operation (@ full oil level)*	
CH621	3.03 in. (77 mm)	2.6 in. (67 mm)	38.1 cu. in. (624 cc)	1.7-1.9 U.S. qt. (1.6-1.8 L)	0.030 in. (0.76 mm)	25°	
CV621							
CH641							
CV641							
CH620	3.2 in. (80 mm)		41 cu. in. (674 cc)				
CV620							
CH640							
CV640							
CH23/CH680							
CH670							
CV23/ CV680							
CV670							
CH730							

CV730	3.27 in. (83 mm)	44.2 cu. in. (725 cc)			
CH740					
CV740					
CH750	2.72 in. (69 mm)	45.6 cu. in. (747 cc)			
CV750					

Do not attempt to service or replace major engine components, or any items that require special timing or adjustment procedures. This work should be performed by a Kohler authorized dealer.

\*Exceeding maximum angle of operation may cause engine damage from insufficient lubrication. Additional specification information can be found in service manual at KohlerEngines.com.


Any and all horsepower (hp) references by Kohler are Certified Power Ratings and per SAE J1940 & J1995 hp standards. Details on Certified Power Ratings can be found at KohlerEngines.com.

### Emission Control System

Exhaust Emission Control System for models CH23, CV23, CH620-CH740, CV620-CV740, CH750, and CV750 is EM for U.S. EPA, California, and Europe.

**NOTE:** Tampering with the engine and its emission control system voids the EPA Certificate of Conformity, ARB Executive Order, and EU type-approval.

### Documents / Resources



**KOHLER Command PRO**  
 CH23, CH620-CH740, CH750  
 CV23, CV620-CV740, CV750  
 Owner's Manual

Read all safety, assembly and maintenance instructions carefully before attempting to assemble, install, operate, service, maintain, repair or disassemble this engine. Failure to follow the instructions may result in property damage, personal injury or death. Kohler makes no warranty for use of this engine for any purpose other than that for which it was designed. Kohler is not responsible for any consequences resulting from the use of this engine for any purpose other than that for which it was designed. Kohler is not responsible for any consequences resulting from the use of this engine for any purpose other than that for which it was designed. Kohler is not responsible for any consequences resulting from the use of this engine for any purpose other than that for which it was designed.

[KOHLER CH730 Command Pro \[pdf\] Owner's Manual](#)  
 CH730 Command Pro, CH730, Command Pro, Pro

### References

- [K Engines | KOHLER Power](#)
- [P65Warnings.ca.gov](#)