



Operator's Manual

4-Cycle Gasoline Trimmer Model TB415CS & Model TB465SS



SAVE THESE INSTRUCTIONS

For service call **1-800-520-5520** to obtain a list of authorized service dealers near you. For more details about your unit, visit our website at www.troybilt.com.

DO NOT RETURN THE UNIT TO THE RETAILER. PROOF OF PURCHASE WILL BE REQUIRED FOR WARRANTY SERVICE.

THIS PRODUCT IS COVERED BY ONE OR MORE U.S. PATENTS. OTHER PATENTS PENDING.

Service on this unit both within and after the warranty period should be performed only by an authorized and approved service dealer.

SPARK ARRESTOR NOTE

NOTE: For users on U.S. Forest Land and in the states of California, Maine, Oregon and Washington. All U.S. Forest Land and the state of California (Public Resources Codes 4442 and 4443), Oregon and Washington require, by law that certain internal combustion engines operated on forest brush and/or grass-covered areas be equipped with a spark arrestor, maintained in effective working order, or the engine be constructed, equipped and maintained for the prevention of fire. Check with your state or local authorities for regulations pertaining to these requirements. Failure to follow these requirements could subject you to liability or a fine. **This unit is factory equipped with a spark arrestor.** If it requires replacement, ask your LOCAL SERVICE DEALER to install the **Accessory Part #180890 Spark Arrestor Kit.**

CALIFORNIA PROPOSITION 65 WARNING

	WARNING	
THE ENGINE EXHAUST FROM THIS PRODUCT CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.		

All information, illustrations, and specifications in this manual are based on the latest product information available at the time of printing. We reserve the right to make changes at any time without notice.

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	WARNING: When using the unit, you must follow the safety rules. Please read these instructions before operating the unit in order to ensure the safety of the operator and any bystanders. Please keep these instructions for later use.
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RULES FOR SAFE OPERATION

• IMPORTANT SAFETY INSTRUCTIONS •

READ ALL INSTRUCTIONS

BEFORE OPERATING

- Read the instructions carefully. Be familiar with the controls and proper use of the unit.
- Do not operate this unit when tired, ill, or under the influence of alcohol, drugs, or medication.
- Children and teens under the age of 15 must not use the unit, except for teens guided by an adult.
- All guards and safety attachments must be installed properly before operating the unit.
- Inspect the unit before use. Replace damaged parts. Check for fuel leaks. Make sure all fasteners are in place and secure. Replace parts that are cracked, chipped, or damaged in any way. Do not operate the unit with loose or damaged parts.
- Carefully inspect the area before starting the unit. Remove all debris and hard or sharp objects such as glass, wire, etc.
- Be aware of the risk of injury to the head, hands and feet.
- Clear the area of children, bystanders, and pets. At a minimum, keep all children, bystanders, and pets outside a 50 feet (15 m.) radius; there still may be a risk to bystanders from thrown objects. Bystanders should be encouraged to wear eye protection. If you are approached, stop the unit immediately.
- Use only 0.105 inch, 2.667 mm diameter original equipment manufacturer replacement line. Never use metal-reinforced line, wire or rope. These can break off and become dangerous projectiles.
- Squeeze the throttle control and check that it returns automatically to the idle position. Make all adjustments or repairs before using unit.

SAFETY WARNINGS FOR GAS UNITS

- Store fuel only in containers specifically designed and approved for the storage of such materials.



WARNING: Gasoline is highly flammable, and its vapors can explode if ignited. Take the following precautions:

- Avoid creating a source of ignition for spilled fuel. Do not start the engine until fuel vapors dissipate.
- Always stop the engine and allow it to cool before filling the fuel tank. Never remove the fuel tank cap or add fuel when the engine is hot. Never operate the unit without the fuel cap securely in place. Loosen the fuel tank cap slowly to relieve any pressure in the tank.
- Add fuel in a clean, well-ventilated outdoor area where there are no sparks or flames. Remove the fuel cap slowly, and only after the engine stops. Do not smoke while fueling. Wipe up any spilled fuel from the unit immediately.
- Avoid creating a source of ignition for spilled fuel. Do not start the engine until fuel vapors dissipate.
- Move the unit at least 30 feet (9.1 m) from the fueling source and site before starting the engine. Do not smoke. Keep sparks and open flames away from the area while adding fuel or operating the unit.

WHILE OPERATING

- Never start or run the unit inside a closed room or building. Breathing exhaust fumes can be fatal. Operate this unit only in a well-ventilated outdoor area.
- Wear safety glasses or goggles that meet ANSI Z87.1 standards and are marked as such. Wear ear/hearing protection when operating this unit. Wear a face or dust mask if the operation is dusty.
- Wear heavy long pants, boots, gloves and a long sleeve shirt. Do not wear loose clothing, jewelry, short pants, sandals or go barefoot. Secure hair above shoulder level.
- The cutting attachment shield must always be in place while operating the unit as a trimmer. Do not operate unit without both

trimming lines extended, and the proper line installed. Do not extend the trimming line beyond the length of the shield.

- This unit does not have a clutch. The cutting attachment continues rotating when the engine is idling. If it does not, have the unit adjusted by an authorized service technician.
- Adjust the handle to your size in order to provide the best grip.
- Be sure the cutting attachment is not in contact with anything before starting the unit.
- Use the unit only in daylight or good artificial light.
- Avoid accidental starting. Be in the starting position whenever pulling the starter rope. The operator and unit must be in a stable position while starting. Refer to *Starting/Stopping Instructions*.
- Use the right tool. Only use this tool for its intended purpose.
- Do not overreach. Always keep proper footing and balance.
- Always hold the unit with both hands when operating. Keep a firm grip on both handles or grips.
- Keep hands, face, and feet at a distance from all moving parts. Do not touch or try to stop the cutting attachment when it rotates.
- Do not touch the engine, gear housing or muffler. These parts get extremely hot from operation, even after the unit is turned off.
- Do not operate the engine faster than the speed needed to cut, trim or edge. Do not run the engine at high speed when not cutting.
- Always stop the engine when cutting is delayed or when walking from one cutting location to another.
- If you strike or become entangled with a foreign object, stop the engine immediately and check for damage. Do not operate before repairing damage. Do not operate the unit with loose or damaged parts.
- Stop the unit, switch the engine to off, and disconnect the spark plug for maintenance or repair.
- Use only original equipment manufacturer replacement parts and accessories for this unit. These are available from your authorized service dealer. Use of any unauthorized parts or accessories could lead to serious injury to the user, or damage to the unit, and void your warranty.
- Keep unit clean of vegetation and other materials. They may become lodged between the cutting attachment and shield.
- To reduce fire hazard, replace a faulty muffler and spark arrestor. Keep the engine and muffler free from grass, leaves, excessive grease or carbon build up.


OTHER SAFETY WARNINGS




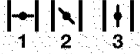



- Never store a fueled unit inside a building where fumes may reach an open flame or spark.
- Allow the engine to cool before storing or transporting. Be sure to secure the unit while transporting.
- Store the unit in a dry area, locked up or up high to prevent unauthorized use or damage, out of the reach of children.
- Never douse or squirt the unit with water or any other liquid. Keep handles dry, clean and free from debris. Clean after each use, see *Cleaning and Storage* instructions.
- Keep these instructions. Refer to them often and use them to instruct other users. If you loan someone this unit, also loan them these instructions.

SAVE THESE INSTRUCTIONS


RULES FOR SAFE OPERATION

This operator's manual describes safety and international symbols and pictographs that may appear on this product. Read the operator's manual for complete safety, assembly, operating and maintenance and repair information.

SYMBOL	MEANING
	<ul style="list-style-type: none"> • SAFETY ALERT SYMBOL <p>Indicates danger, warning or caution. May be used in conjunction with other symbols or pictographs.</p>
	<ul style="list-style-type: none"> • WARNING - READ OPERATOR'S MANUAL <p>Read the operator's manual(s) and follow all warnings and safety instructions. Failure to do so can result in serious injury to the operator and/or bystanders.</p>
	<ul style="list-style-type: none"> • WEAR EYE AND HEARING PROTECTION <p>WARNING: Thrown objects and loud noise can cause severe eye injury and hearing loss. Wear eye protection meeting ANSI Z87.1 standards and ear protection when operating this unit. Use a full face shield when needed.</p>
	<ul style="list-style-type: none"> • HOT SURFACE WARNING <p>Do not touch a hot muffler, gear housing or cylinder. You may get burned. These parts get extremely hot from operation. They remain hot for a short time after the unit is turned off.</p>
	<ul style="list-style-type: none"> • THROWN OBJECTS AND ROTATING CUTTER CAN CAUSE SEVERE INJURY <p>WARNING: Do not operate without the cutting attachment shield in place. Keep away from the rotating cutting attachment.</p>

SYMBOL	MEANING
	<ul style="list-style-type: none"> • ON/OFF STOP CONTROL <p>ON / START / RUN</p>
	<ul style="list-style-type: none"> • ON/OFF STOP CONTROL <p>OFF or STOP</p>
	<ul style="list-style-type: none"> • KEEP BYSTANDERS AWAY <p>WARNING: Keep all bystanders, especially children and pets, at least 50 feet (15 m) from the operating area.</p>
	<ul style="list-style-type: none"> • CHOKE CONTROL <ol style="list-style-type: none"> 1. • FULL choke position 2. • PARTIAL choke position 3. • RUN choke position
	<ul style="list-style-type: none"> • UNLEADED FUEL <p>Always use clean, fresh unleaded fuel</p>
	<ul style="list-style-type: none"> • OIL <p>Refer to operator's manual for the proper type of oil.</p>
	<ul style="list-style-type: none"> • SHARP BLADE <p>WARNING: Sharp blade on cutting attachment shield. To prevent serious injury, do not touch the line cutting blade.</p>

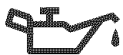
OIL AND FUEL INFORMATION



WARNING: OVERFILLING OIL CRANKCASE MAY CAUSE SERIOUS PERSONAL INJURY. Check and maintain the proper oil level in the crank case; it is important and cannot be overemphasized. Check the oil before each use and change it as needed. See *Changing the Oil*.

RECOMMENDED OIL TYPE

Using the proper type and weight of oil in the crankcase is extremely important. Check the oil before each use and change the oil regularly.



Failure to use the correct oil, or using dirty oil, can cause premature engine wear and failure. Use a high-quality SAE 30 weight oil of API (American Petroleum Institute) service class SF, SG, SH.

ADDING OIL TO CRANKCASE: INITIAL USE

NOTE: This unit is shipped without oil. In order to avoid damage to the unit, put oil in the crankcase before you attempt to start the unit.

Your unit is supplied with one 3.04 fluid oz. (90 ml) bottle of SAE 30 SF, SG, SH oil (Fig. 1).

NOTE: Save the bottle of oil. It can be used to measure the correct amount during future oil changes. See *Changing the Oil*.

1. Unscrew the top of the bottle of oil and remove the paper seal covering the opening. Replace the top. Next, cut the tip off the funnel spout (Fig. 1).
2. Place the unit on a flat level surface (Fig. 2).
3. Remove the oil plug / dipstick from the crankcase (Fig. 3).
4. Pour the entire bottle of oil into the oil fill hole (Fig. 3).

NOTE: Never add oil to the fuel or fuel tank.

5. Wipe up any oil that may have spilled and reinstall the oil fill plug / dipstick.

Check oil before each use and change as needed. Refer to *Changing the Oil*.

RECOMMENDED FUEL TYPE

Old fuel is the primary reason for improper unit performance. Be sure to use fresh, clean, unleaded gasoline.

NOTE: This is a four cycle engine. In order to avoid damage to the unit, **do not mix oil with gasoline**.

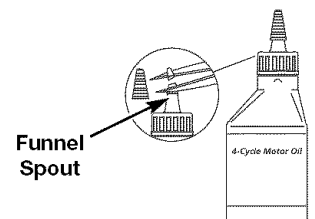
Definition of Blended Fuels

Today's fuels are often a blend of gasoline and oxygenates such as ethanol, methanol or MTBE (ether). Alcohol-blended fuel absorbs water. As little as 1% water in the fuel can make fuel and oil separate or form acids when stored. Use fresh fuel (less than 60 days old), when using alcohol-blended fuel.

Using Blended Fuels

If you choose to use a blended fuel, or its use is unavoidable, follow recommended precautions:

- Always use fresh unleaded gasoline
- Use the fuel additive STA-BIL® or an equivalent
- Drain tank and run the engine dry before storing unit



Using Fuel Additives

The use of fuel additives, such as STA-BIL® Gas Stabilizer or an

OIL AND FUEL INFORMATION

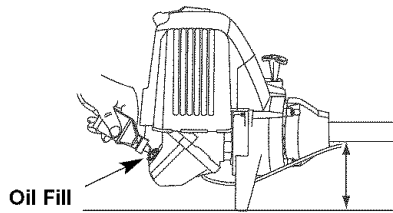


Fig. 2

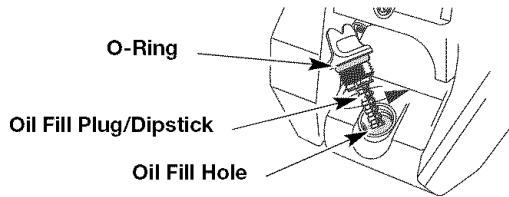


Fig. 3

equivalent, will inhibit corrosion and minimize the formation of gum deposits. Using a fuel additive can keep fuel from forming harmful deposits in the carburetor for up to six (6) months. Add 0.8 oz. (23 ml.) of fuel additive per gallon of fuel according to the instructions on the container. NEVER add fuel additives directly to the unit's gas tank.



WARNING: Add fuel in a clean, well ventilated outdoor area. Wipe up any spilled fuel immediately. Avoid creating a source of ignition for spilt fuel. Do not start the engine until fuel vapors dissipate.

FUELING THE UNIT



WARNING: Gasoline is extremely flammable. Ignited vapors may explode. Always stop the engine and allow it to cool before filling the fuel tank. Do not smoke while filling the tank. Keep sparks and open flames at a distance from the area.

1. Remove the fuel cap (Fig. 4).

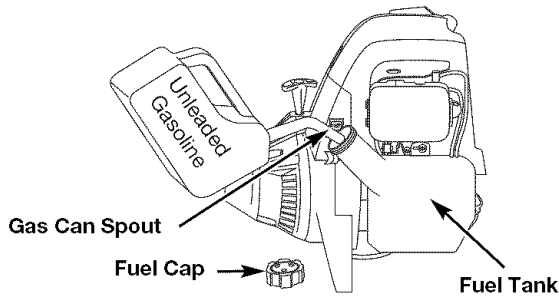


Fig. 4



WARNING: Remove fuel cap slowly to avoid injury from fuel spray. Never operate the unit without the fuel cap securely in place.

2. Place the gas container's spout into the fill hole on the fuel tank (Fig. 4) and fill the tank.
3. Wipe up any gasoline that may have spilled.
4. Reinstall the fuel cap.
5. Move the unit at least 30 ft. (9.1 m) from the fueling source and site before starting the engine.

NOTE: Dispose of the old gasoline in accordance to Federal, State and Local regulations.

ASSEMBLY INSTRUCTIONS

ADJUSTING THE D-HANDLE

NOTE: The D-handle comes mounted on the backside of the shaft.

1. Locate the wing nut on the D-Handle. Untighten the wing nut enough to loosen the D-Handle (Fig. 5).

NOTE: Do not remove wing nut, washer, or bolt.

2. Rotate the D-Handle to the upright position on the front side of the shaft housing (Fig. 5).

NOTE: The D-handle should slant towards the powerhead of the unit.

3. Hold the unit in the operating position. If necessary, reposition the D-handle to the location that provides the best grip (Fig. 11).

4. Tighten the wing nut until the D-Handle is secure.

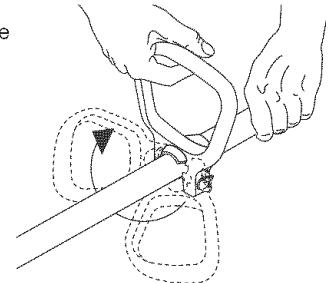
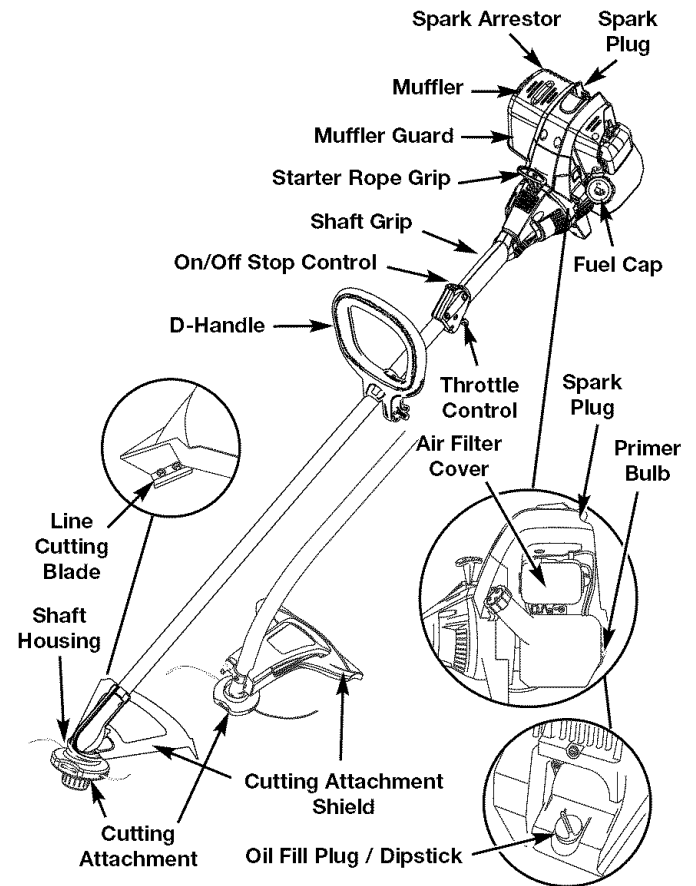


Fig. 5

KNOW YOUR UNIT



APPLICATIONS

As a trimmer:

- Cutting grass and light weeds
- Edging
- Decorative trimming around trees, fences, etc.

NOTE: The below illustration may differ slightly from your unit. For example, the picture shows a straight shaft. Your unit may have a curved shaft.

STARTING AND STOPPING INSTRUCTIONS



WARNING: Operate this unit only in a well-ventilated outdoor area. Carbon monoxide exhaust fumes can be lethal in a confined area.



WARNING: Avoid accidental starting. Make sure you are in the starting position when pulling the starter rope (Fig. 8). To avoid serious injury, the operator and unit must be in a stable position while starting.

Make sure that any Add-On item is installed correctly and secure before starting the unit.

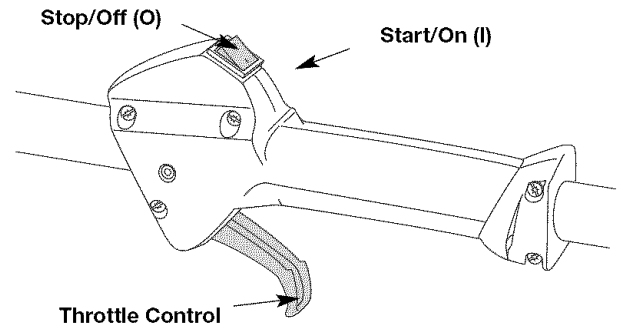


Fig. 6

STARTING INSTRUCTIONS

1. Check the oil level in the crankcase. Refer to *Checking the Oil Level*.
2. Fill the fuel tank with fresh, clean unleaded gasoline. Refer to *Fueling the Unit*.
3. Make sure the On/Off Stop Control is in the ON (I) position (Fig. 6).
4. Fully press and release the primer bulb 10 times, slowly. Some amount of fuel should be visible in the primer bulb and fuel lines (Fig. 7). If you can't see fuel in the bulb, press and release the bulb as many times as it takes before you can see fuel in it.
5. Place the choke lever in Position 1 (Fig. 7).
6. Crouch in the starting position (Fig. 8), squeeze the throttle control, and pull the starter rope briskly 5 times.
7. Place the choke lever in Position 2 (Fig. 9).
8. While squeezing the throttle control, pull the starter rope briskly 1 to 4 times to start the engine.
9. Keep the throttle squeezed and allow the engine to warm up for 15 to 30 seconds.
10. Place the choke lever in Position 3 (Fig. 10). The unit is ready for use.

IF... the engine does not start, go back to **step 4**.

IF... the engine fails to start after a few attempts, place the choke lever in Position 3 and squeeze the throttle control. Pull the starter rope briskly 3 to 8 times. The engine should start. If not, repeat.

IF WARM... If the engine is already warm, make sure the On/Off Stop control is in the ON position and start the unit with the choke lever in Position 2. After the unit starts, move the choke lever to Position 3.

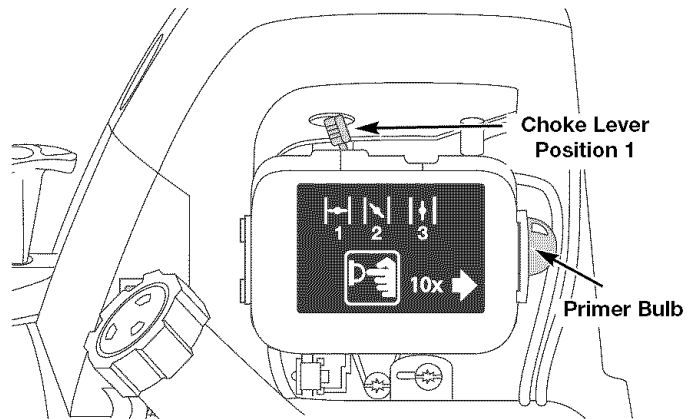


Fig. 7

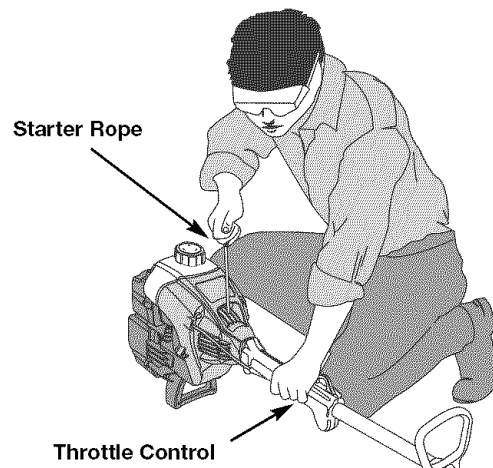


Fig. 8

STOPPING INSTRUCTIONS

1. Release your hand from the throttle control. Allow the engine to cool down by idling.
2. Put the On/Off Stop Control in the OFF (O) position.

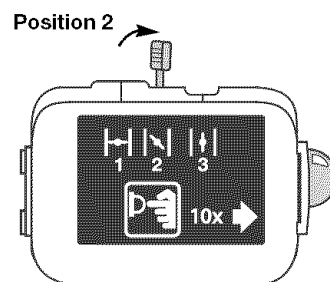


Fig. 9

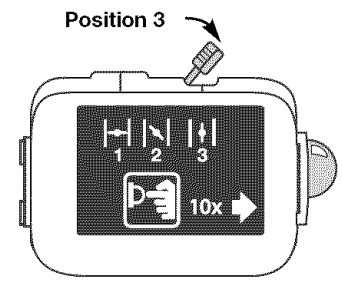


Fig. 10

OPERATING INSTRUCTIONS



WARNING: Always wear eye, hearing, foot and body protection to reduce the risk of injury when operating this unit.

HOLDING THE TRIMMER

Before operating the unit, stand in the operating position (Fig. 11). Check for the following:

- The operator is wearing eye protection and proper clothing
- With a slightly-bent right arm, the operator's right hand is holding the shaft grip
- The operator's left arm is straight, the left hand holding the handle
- The unit is at waist level
- The cutting attachment is parallel to the ground and easily contacts the grass without the need to bend over

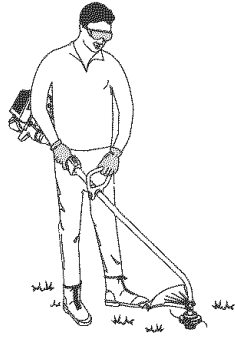


Fig. 11

TIPS FOR BEST TRIMMING RESULTS

- For best trimming results, operate unit at full throttle.
- Keep the cutting attachment parallel to the ground.
- Do not force the cutting attachment. Allow the tip of the line to do the cutting, especially along walls. Cutting with more than the tip will reduce cutting efficiency and may overload the engine.
- Cut grass over 8 inches (200 mm) by working from top to bottom in small increments to avoid premature line wear or engine drag.
- Cut from right to left.
- Slowly move the trimmer into and out of the cutting area at the desired height. Move either in a forward-backward or side-to-side motion. Cutting shorter lengths produces the best results.
- Trim only when grass and weeds are dry.
- The life of your cutting line is dependent upon:
 - Proper adherence of explained trimming techniques
 - What vegetation is cut
 - Where vegetation is cut

For example, the line will wear faster when trimming against a foundation wall as opposed to trimming around a tree. It is normal for some line breakage to occur from regular use.

DECORATIVE TRIMMING

Decorative trimming is accomplished by removing all vegetation around trees, posts, fences and more.

Rotate the whole unit so that the cutting attachment is at a 30° angle to the ground (Fig. 12).

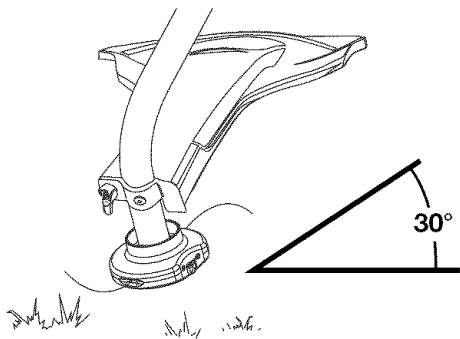


Fig. 12

INSTALLING FIXED LINE



WARNING: Never use metal-reinforced line, wire, chain, or rope. These can break off and become dangerous projectiles.

LINE INSTALLATION

Always use original equipment manufacturer 0.105 inch (2.667 mm) replacement line. Lines other than those specified may make the engine overheat or fail.

To install the trimming line:

1. Insert each end of the replacement line into the holes on either side of retention hook (Fig. 13).
2. Push the ends through until they stick out of the sides of the head (Fig. 14).
3. Pull the ends through making sure that the ends are of equal length and the middle of the line is centered between the insertion holes (Fig. 15).
4. If the ends are not of equal length, push the longer end back through the head part way and pull the shorter end to compensate. Repeat until both ends are the same length.

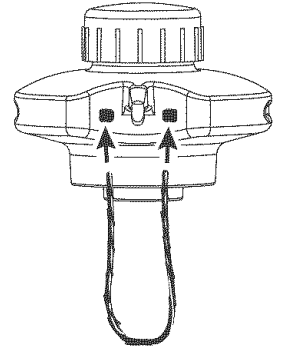


Fig. 13

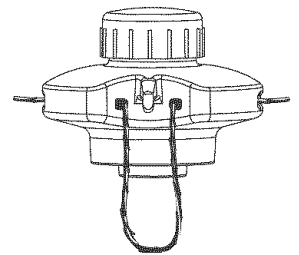


Fig. 14

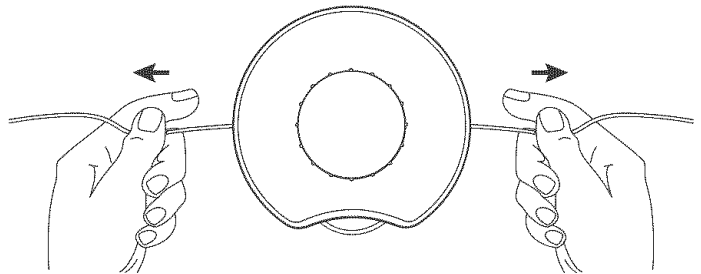


Fig. 15

5. Push the trimmer line behind the hook to secure it from coming loose while running (Fig. 16).

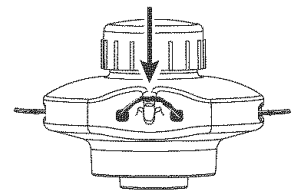


Fig. 16



WARNING: Always use the correct line length when installing trimming line on the unit.

MAINTENANCE AND REPAIR INSTRUCTIONS

MAINTENANCE SCHEDULE

Perform these required maintenance procedures at the frequency stated in the table. These procedures should also be a part of any seasonal tune-up.

NOTE: Some maintenance procedures may require special tools or skills. If you are unsure about these procedures take your unit to any non-road engine repair establishment, individual or authorized service dealer.

NOTE: Maintenance, replacement, or repair of the emission control devices and system may be performed by any non-road engine repair establishment, individual or authorized service dealer.

	WARNING: To prevent serious injury, never perform maintenance or repairs with unit running. Always service and repair a cool unit. Disconnect the spark plug wire to ensure that the unit cannot start.
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FREQUENCY	MAINTENANCE REQUIRED	SEE
Before starting engine	Fill fuel tank with fresh fuel Check oil	Page 4 Page 7
Every 10 hours	Clean and re-oil air filter	Page 8
First change at 10 hours Every 25 hours thereafter Every 25 hours	Change oil Change oil Clean spark arrestor	Page 7 Page 7 Page 10
10 hours on new engine Every 25 hours Every 25 hours	Check rocker arm to valve clearance and adjust Check rocker arm to valve clearance and adjust Check spark plug condition and gap	Page 9 Page 9 Page 10

INSTALL THE SHIELD ON A CURVED SHAFT (TB415CS Only)

- Place the cutting attachment shield onto the shaft housing. Be sure the guard mounting bracket slides into the slot on the edge of the cutting shield. Rotate the shield into place, counterclockwise (Fig. 17). The holes in the guard mounting bracket and cutting attachment shield will line up.

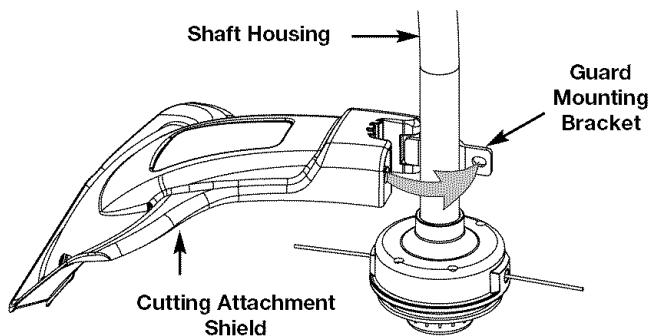


Fig. 17

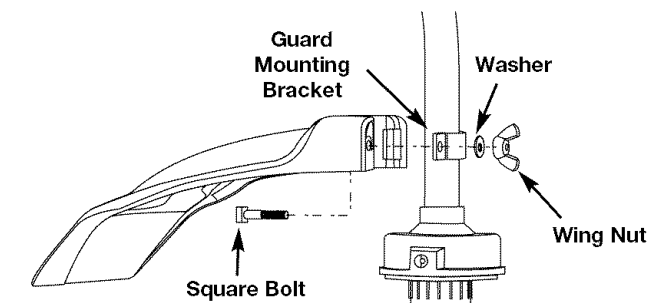


Fig. 18

- From inside the cutting attachment shield, push the square bolt through the hole until the threaded end protrudes through the guard mounting bracket (Fig. 18).
- Put the washer on the bolt, then screw the wing nut onto the bolt and tighten.

CHECKING THE OIL LEVEL

The importance of checking and maintaining the proper oil level in the crankcase cannot be overemphasized. Check oil before each use:

- Stop the engine and allow oil to drain into the crankcase.

	CAUTION: To prevent extensive engine wear and damage to the unit, always maintain the proper oil level in the crankcase. Never operate the unit with the oil level below the bottom of the dipstick.
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- Place the unit on a flat, level surface to get a proper oil level reading.
- Keep dirt, grass clippings and other debris out of the engine. Clean the area around the oil fill plug/dipstick before removing it.
- Remove the oil fill plug/dipstick and wipe off oil. Reinsert it all the way back in.
- Remove the oil fill plug/dipstick and check the oil level. Oil should be up to the top of the dipstick (Fig. 19).

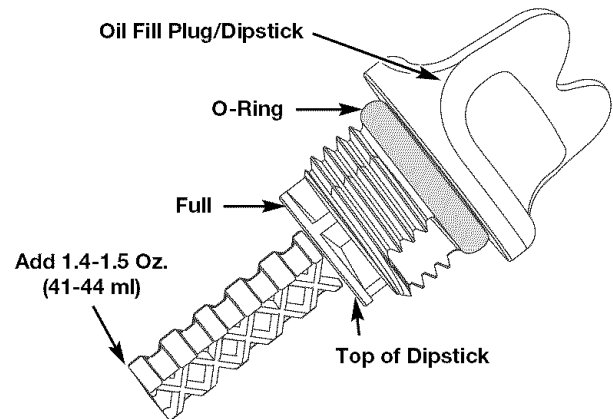


Fig. 19

- If the level is low, add a small amount of oil to the oil fill hole and recheck (Fig. 20). Repeat this procedure until the oil level reaches the top of the dipstick.

NOTE: Do not overfill the unit.

NOTE: Make sure the O-ring is in place on the oil fill plug/dipstick when checking and changing the oil (Fig. 20).

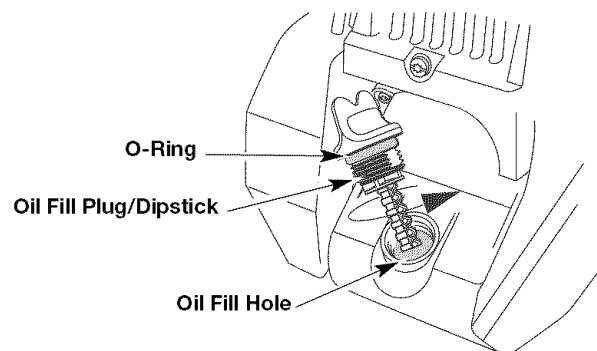


Fig. 20

CHANGING THE OIL

For a new engine, change the oil after the first 10 hours of operation. Change the oil while the engine is still warm. The oil will flow freely and carry away more impurities.

MAINTENANCE AND REPAIR INSTRUCTIONS

1. Unplug spark plug boot to prevent accidental starting.
2. Remove the oil fill plug/dipstick.
3. Pour the oil out of the oil fill hole and into a container by tipping the unit to a vertical position (Fig. 21). Allow ample time for complete drainage.
4. Wipe up any oil residue on the unit and clean up any oil that may have spilled. Dispose of the oil according to Federal, State and local regulations.
5. Refill the crankcase with 3.04 fluid ounce (90 ml) of SAE 30 SF, SG, SH oil.

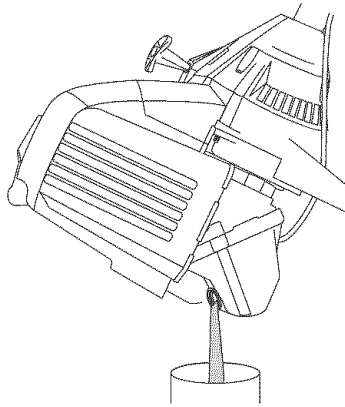


Fig. 21



CAUTION: Wear gloves to prevent injury when handling the unit.

- NOTE:** Use the bottle and spout saved from initial use to measure the correct amount of oil. The top of the label on the bottle measures approximately 3.04 ounces (90 ml) (Fig. 22). Check the level with the dipstick. If the level is low, add a small amount of oil and recheck. Do not overfill (Fig. 22).
6. Replace the oil fill plug/dipstick.
 7. Reconnect the spark plug boot.

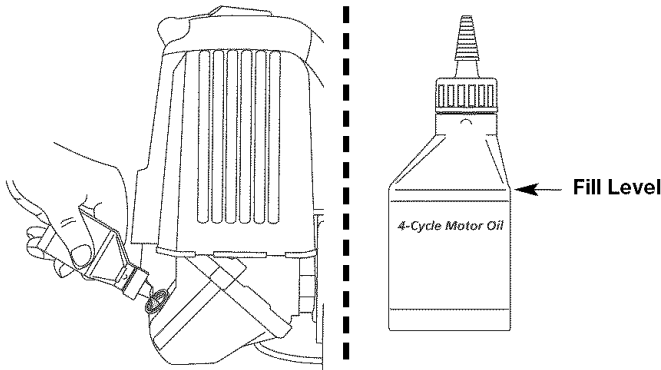


Fig. 22

AIR FILTER MAINTENANCE

Cleaning the Air Filter

Clean and re-oil the air filter every 10 hours of operation. It is an important item to maintain. Failure to maintain your air filter properly can result in poor performance or can cause permanent damage to your engine.



WARNING: To avoid serious personal injury, always turn the unit off and allow it to cool before you clean or service it.

1. Open the air filter cover. Push the tab on the right side of the cover inward. Then pull the air filter cover out and to the left (Fig. 23).

NOTE: It may be necessary to remove the fuel cap to completely remove the air filter cover.

2. Remove the air filter (Fig. 23).
3. Wash the filter in detergent and water (Fig. 24). Rinse the filter thoroughly and allow it to dry.
4. Apply enough clean SAE 30 motor oil to lightly coat the filter (Fig. 25).
5. Squeeze the filter to spread and remove excess oil (Fig. 26).
6. Replace the filter (Fig. 27).

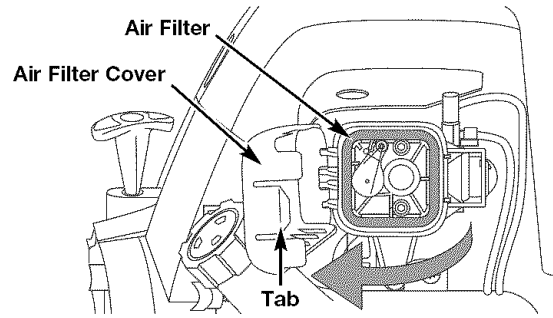


Fig. 23

NOTE: If the unit is operated without the air filter, you will **VOID** the warranty.

7. Reinstall the air filter cover. Position the hooks on the left side of the air filter cover into the slots at the left side of the back plate (Fig. 28).

NOTE: It may be necessary to remove the fuel cap to reinstall the air filter cover.

8. Swing the cover to the right until the tab on the air filter cover snaps into place in the slot on the back plate (Fig. 28).

9. Replace the fuel cap if it was removed.

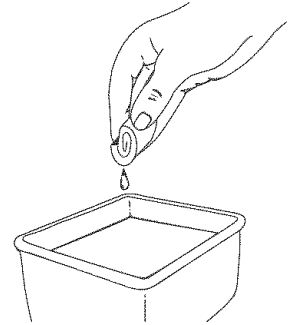


Fig. 24

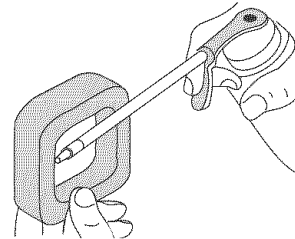


Fig. 25

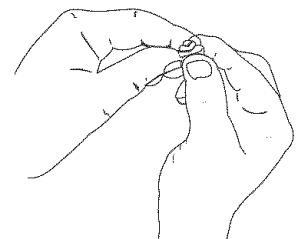


Fig. 26

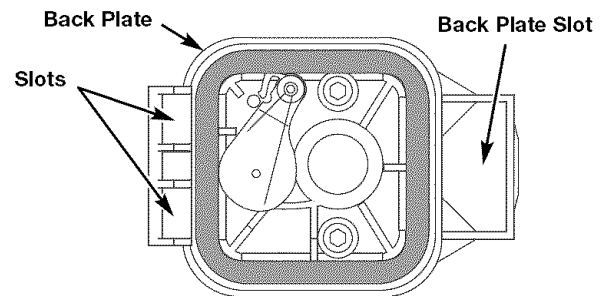


Fig. 27

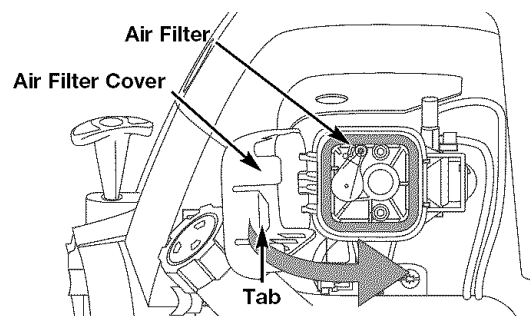


Fig. 28



WARNING: The cutting attachment may spin during idle speed adjustments. Wear protective clothing and observe all safety instructions to prevent serious personal injury.

CARBURETOR ADJUSTMENT

The idle speed of the engine is adjustable. An idle adjustment screw is reached through a hole in the top of the engine cover (Fig. 29).

NOTE: Careless adjustments can seriously damage your unit. An authorized service dealer should make carburetor adjustments.

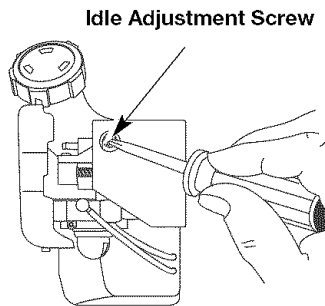


Fig. 29

Check Fuel

Old fuel is usually the reason for improper unit performance. Drain and refill the tank with fresh fuel prior to making any adjustments. Refer to *Oil and Fuel Information*.

Clean Air Filter

The condition of the air filter is important to the operation of the unit. A dirty air filter will restrict air flow. This is often mistaken for an out of adjustment carburetor. Check the condition of the air filter before adjusting the idle speed screw. Refer to *Air Filter Maintenance*.

Adjust Idle Speed Screw

If, after checking the fuel and cleaning the air filter, the engine still will not idle, adjust the idle speed screw as follows:

1. Start the engine and let it run at a high idle for a minute to warm up. Refer to *Starting/Stopping Instructions*.
2. Release the throttle trigger and let the engine idle. If the engine stops, insert a small phillips or flat blade screwdriver into the hole in the air filter/muffler cover (Fig. 29). Turn the idle speed screw in, **clockwise**, 1/8 of a turn at a time (as needed) until the engine idles smoothly.

NOTE: The cutting attachment should not rotate when the engine idles.

3. If the cutting attachment rotates when the engine idles, turn the idle speed screw **counterclockwise** 1/8 of a turn at a time (as needed), to reduce idle speed.

Checking the fuel, cleaning the air filter, and adjusting the idle speed should solve most engine problems. If not and all of the following are true:

- the engine will not idle
- the engine hesitates or stalls on acceleration
- there is a loss of engine power

Have the carburetor adjusted by an authorized service dealer.

ROCKER ARM CLEARANCE



WARNING: To prevent serious personal injury, make sure the cutting attachment has stopped rotating before you turn it off and set it down.

This requires disassembly of the engine. If you feel unsure or unqualified to perform this, take the unit to an authorized service center.

NOTE: Inspect the valve to rocker arm clearance with a feeler gauge after the first 10 hours of operation and then every 25 hours of operation thereafter.

- The engine must be cold when checking or adjusting the valve clearance.
 - This task should be performed inside, in a clean, dust free area.
1. Remove the muffler cover by pressing down on it, separating it from the engine cover. Using a flat blade screwdriver, disengage the middle and front tabs and slots first. The cover will hinge off from the rear tab (Fig. 30).

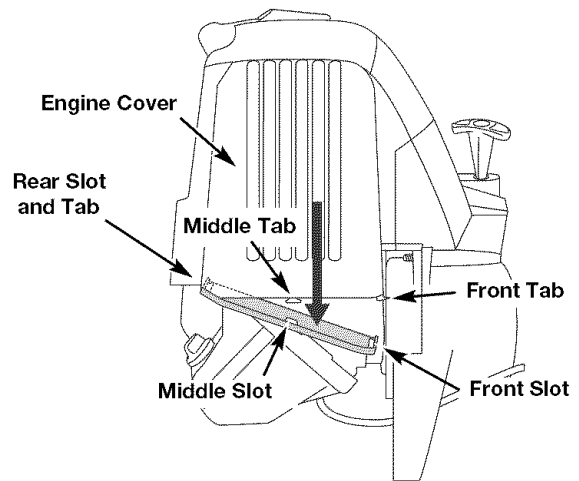


Fig. 30

2. Remove the two (2) screws on top of the engine cover with a Flat-head or T-25 Torx screwdriver (Fig. 31).

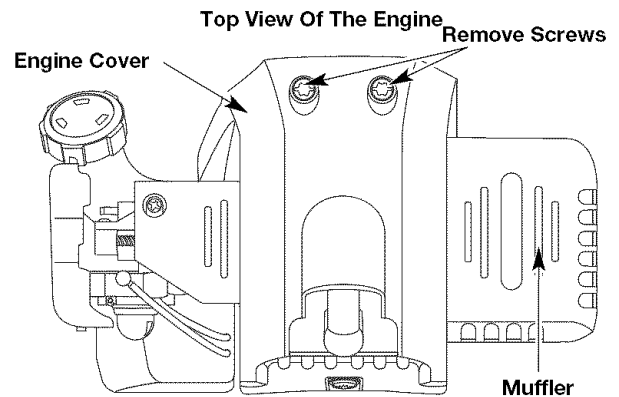


Fig. 31

3. Remove the screw behind the engine cover (Fig. 32).
4. Disconnect the spark plug wire.
5. Clean dirt from around the spark plug. Remove the spark plug from the cylinder head by turning a 5/8 in. socket counterclockwise.
6. Remove the engine cover (Fig. 31).
7. Clean dirt from around the rocker arm cover. Remove the screw holding the rocker arm cover with a large flat blade screwdriver or Torx T-25 bit (Fig. 33). Remove the rocker arm cover and gasket.
8. Pull the starter rope slowly to bring the piston to the top of its travel, (known as top dead center). Check that:
 - The piston is at the top of its travel while looking in the spark plug hole (Fig. 33)
 - Both rocker arms move freely, and both valves are closed
 If these statements are not true, repeat this step.

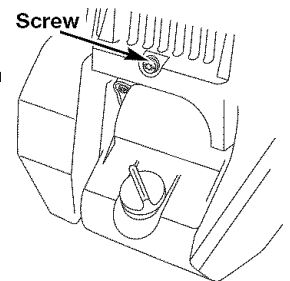


Fig. 32

9. Slide the feeler gauge between the rocker arm and the valve return spring. Measure the clearance between the valve stem and rocker arm (Fig. 34). Measure both the intake and exhaust valves.

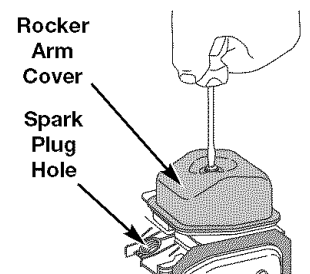


Fig. 33

MAINTENANCE AND REPAIR INSTRUCTIONS

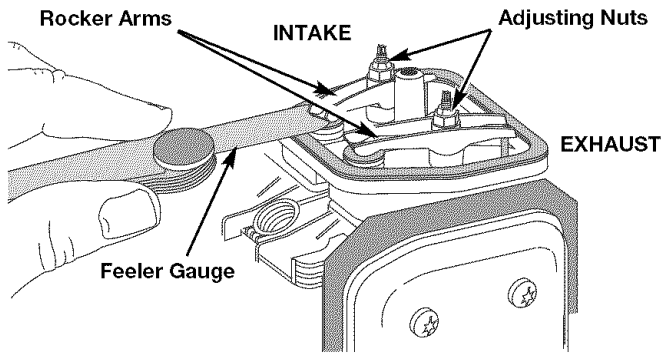


Fig. 34

The recommended clearance for the intake and exhaust is .003 – .006 in. (.076 – 0.152 mm). Use a standard automotive feeler gauge at .005 (0.127mm). The feeler gauge should slide between the rocker arm and valve stem with a slight amount of resistance, without binding. Figure 35 shows how to measure the clearance.

10. If the clearance is not within specification:
 - a. Turn the adjusting nut using a 5/16 inch (8 mm) wrench or nut driver (Fig. 35).
 - To increase clearance, turn the adjusting nut counterclockwise.
 - To decrease clearance, turn the adjusting nut clockwise.
 - b. Recheck both clearances, and adjust as necessary.

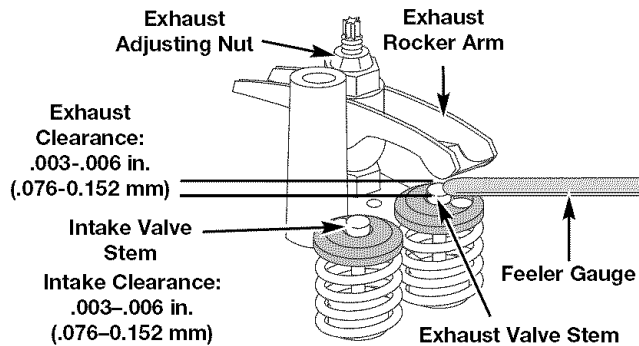


Fig. 35

11. Reinstall the rocker arm cover using a new gasket. Torque the screw to 20–30 in•lb (2.2–3.4 N•m).
12. Reinstall the engine cover. Check alignment of the cover before tightening the screws. Tighten screws.
13. Reinstall the muffler cover. Slip the rear tab on the muffler cover into the engine cover rear slot. Then slide the remaining slots into the tabs until they snap into place (Fig. 31).
14. Check the spark plug and reinstall. See *Replacing the Spark Plug*.
15. Replace the spark plug wire.

REPLACING THE SPARK PLUG

Use a replacement part number 180890 spark plug. The correct air gap is 0.025 in. (0.655 mm.). Remove the plug after every 25 hours of operation and check its condition.

1. Stop the engine and allow it to cool. Grasp the plug wire firmly and pull the cap from the spark plug.
2. Clean dirt from around the spark plug. Remove the spark plug from the cylinder head by turning a 5/8 in. socket counterclockwise.
3. Replace cracked, fouled or dirty spark plug. Set the air gap at 0.025 in. (0.655 mm.) using a feeler gauge (Fig. 36).
4. Install a correctly-gapped spark plug in the cylinder head. Turn the 5/8 in. socket clockwise until snug.

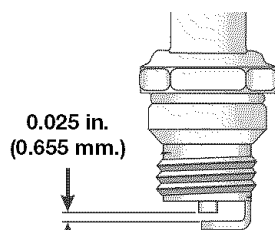


Fig. 36

If using a torque wrench torque to: **110-120 in.•lb. (12.3-13.5 N•m)**
Do not over tighten.

SPARK ARRESTOR MAINTENANCE

1. Remove the muffler cover. See *Rocker Arm Clearance*.
2. With a flat blade screwdriver or Torx T-20 bit, remove the screw attaching the spark arrestor cover to the muffler (Fig. 37).

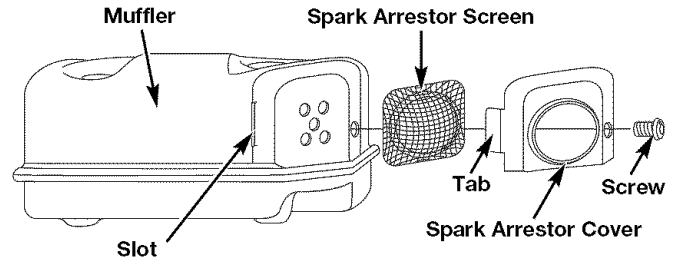


Fig. 37

3. Pull the tab on the spark arrestor cover out of the muffler. Remove the spark arrestor cover.
4. Remove the spark arrestor screen from the spark arrestor cover.
5. Clean the spark arrestor screen with a wire brush or replace it.
6. Reinstall the spark arrestor screen, spark arrestor cover and screw.

CLEANING

Use a small brush to clean off the outside of the unit. Do not use strong detergents. Household cleaners that contain aromatic oils such as pine and lemon, and solvents such as kerosene, can damage plastic housing or handle. Wipe off any moisture with a soft cloth.



WARNING: Do not sand blast, scrape or clean electrodes. Grit in the engine could damage the cylinder.

STORAGE

- Never store the unit with fuel in the tank where fumes may reach an open flame or spark.
- Allow the engine to cool before storing.
- Lock up the unit to prevent unauthorized use or damage.
- Store the unit in a dry, well-ventilated area.
- Store the unit out of the reach of children.

LONG TERM STORAGE

1. Drain all gasoline from the gas tank into a container. Do not use gas that has been stored for more than 60 days. Dispose of the old gasoline in accordance to Federal, State, and Local regulations.
2. Start the engine and allow it to run until it stalls. This ensures that all gasoline has been drained from the carburetor.
3. Allow the engine to cool. Remove the spark plug and put 1 oz. (30 ml) of high quality motor oil into the cylinder. Pull the starter rope slowly to distribute the oil. Reinstall the spark plug.

NOTE: Remove the spark plug and drain all of the oil from the cylinder before attempting to start the trimmer after storage.

4. Change the oil, referring to *Changing the Oil*. Dispose of the old oil in accordance to Federal, State and Local regulations.
5. Thoroughly clean the unit and inspect for any loose or damaged parts. Repair or replace damaged parts and tighten loose screws, nuts or bolts. The unit is ready for storage.

TRANSPORTING

- Allow the engine to cool before transporting.
- Secure the unit while transporting.
- Drain the gas tank before transporting.
- Tighten gas cap before transporting.



WARNING: To avoid serious personal injury, always turn your unit off and allow it to cool before you clean or service it.

TROUBLESHOOTING

ENGINE WILL NOT START

CAUSE

Empty fuel tank
Primer bulb wasn't pressed enough
Old fuel
Fouled spark plug
Plugged spark arrestor

When it is above 40°F outside & the Cold Weather Start Lever is in the CLOSED / START position

When it is below 40°F outside & the Cold Weather Start Lever is in the RUN / OPEN position

ACTION

Fill fuel tank with new fuel
Press primer bulb fully and slowly 10 times
Drain gas tank and add fresh fuel
Replace or clean the spark plug
Clean or replace spark arrestor

Flip the Cold Weather Start Lever to RUN / OPEN

Flip the Cold Weather Start Lever to CLOSED / START and follow the *Starting Instructions*

ENGINE WILL NOT IDLE

CAUSE

Air filter is plugged
Old fuel
Improper carburetor adjustment

ACTION

Replace or clean the air filter
Drain gas tank and add fresh fuel
Adjust carburetor

ENGINE WILL NOT ACCELERATE

CAUSE

Old fuel
Improper carburetor adjustment
Cutting attachment bound with grass
Dirty air filter
Plugged spark arrestor

ACTION

Drain gas tank and add fresh fuel
Take to an authorized service dealer for adjustment
Stop the engine and clean the cutting attachment
Clean or replace the air filter
Clean or replace spark arrestor

ENGINE LACKS POWER OR STALLS WHEN CUTTING

CAUSE

Old fuel
Improper carburetor adjustment
Fouled spark plug
Plugged spark arrestor

ACTION

Drain gas tank and add fresh fuel
Take to an authorized service dealer for adjustment
Replace or clean the spark plug
Clean or replace spark arrestor

CUTTING ATTACHMENT WILL NOT ADVANCE LINE

CAUSE

Cutting attachment bound with grass
Cutting attachment out of line
Inner reel bound up
Cutting head dirty
Line welded
Line twisted when refilled
Not enough line is exposed

ACTION

Stop the engine and clean cutting attachment
Refill with new line
Replace the inner reel
Clean inner reel and outer spool
Disassemble, remove the welded section and rewind
Disassemble and rewind the line
Push the bump knob and pull out line until 4 inches (102 mm) of line is outside of the cutting attachment

CUTTING LINE ADVANCES UNCONTROLLABLY

CAUSE

Oil, cleaner or lubricant in cutting head

ACTION

Clean and thoroughly dry the cutting head

If further assistance is required, contact your authorized service dealer.

SPECIFICATIONS

ENGINE*

Engine Type	Air-Cooled, 4-Cycle
Displacement.....	1.6 cu. in. (26.2 cc)
Clutch Type	Centrifugal
Operating RPM	6,800 - 10,200 rpm
Idle Speed RPM	2,800 - 3,600 rpm
Ignition Type	Electronic
Ignition Switch	Rocker Switch
Valve clearance.....	.003-.006 in. (.076-.152 mm)
Spark Plug Gap.....	0.025 inch (0.655 mm)
Lubrication	SAE 30 Oil
Crankcase Oil Capacity	3.04 oz (90 ml)
Fuel.....	Unleaded
Carburetor.....	Diaphragm, All-Position
Starter.....	Auto Rewind
Muffler	Baffled with Guard
Throttle.....	Manual Spring Return
Fuel Tank Capacity.....	12 oz (355 ml)

DRIVE SHAFT AND CUTTING ATTACHMENT*

Drive Shaft Housing.....	19 ga. Steel Tube
Throttle Control	Finger-Tip Trigger
Approximate Unit Weight (No fuel, with handle, shield and cutting attachment).....	13.5 lbs (6 kg)
Cutting Mechanism: TB415CS & TB465SS:.....	Fixed String Cutting Head
Line Spool Diameter: TB415CS & TB465SS:	3 inches (76.2 mm)
Trimming Line Diameter: TB415CS & TB465SS	0.105 inches (2.667 mm) square cutting line
TB415CS & TB465SS Cutting Path Diameter	16 inches (40.64 cm)

*All specifications are based on the latest product information available at the time of printing. We reserve the right to make changes at any time without notice.

California / EPA Emission Control Warranty Statement

Your Warranty Rights and Obligations

The California Air Resources Board, the Environmental Protection Agency and MTD LLC (MTD) are pleased to explain the emission control system warranty on your 2000 and later small off-road engine. New small off-road engines must be designed, built and equipped to meet stringent anti-smog standards. MTD must warrant the emission control system on your small off-road engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road engine.

Your emission control system may include parts such as the carburetor or fuel-injected system, the ignition system, and catalytic converter. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, Troy-Bilt will repair your small off-road engine at no cost to you including diagnosis, parts and labor.

The 2000 and later small off-road engines are warranted for two years. If any emission-related part on your engine is defective, the part will be repaired or replaced by Troy-Bilt.

Owners Warranty Responsibilities

- As the small off-road engine owner, you are responsible for the performance of the required maintenance listed in your operator's manual. Troy-Bilt recommends that you retain all receipts covering maintenance on your small off-road engine, but Troy-Bilt cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.
- As the small off-road engine owner, you however should be aware that Troy-Bilt may deny you warranty coverage if your small off-road engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.
- You are responsible for presenting your small off-road engine to a Troy-Bilt Authorized Service Center as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should call 1-800-520-5520.

Manufacturer's Warranty Coverage

- The warranty period begins on the date the engine or equipment is delivered to the retail purchaser.
- The manufacturer warrants to the initial owner and each subsequent purchaser, that the engine is free from defects in material and workmanship which cause the failure of a warranted part for a period of two years.
- Repair or replacement of warranted part will be performed at no charge to the owner at an Authorized Troy-Bilt Service Center. For the nearest location please contact Troy-Bilt at: 1-800-520-5520.
- Any warranted part which is not scheduled for replacement, as required maintenance or which is scheduled for only for regular inspection to the effect of "Repair or Replace as Necessary" is warranted for the warranty period. Any warranted part which is scheduled for replacement as required maintenance will be warranted for the period of time up to the first scheduled replacement point for that part.
- The owner will not be charged for diagnostic labor which leads to the determination that a warranted part is defective, if the diagnostic work is performed at an Authorized Troy-Bilt Service Center.
- The manufacturer is liable for damages to other engine components caused by the failure of a warranted part still under warranty.
- Failures caused by abuse, neglect or improper maintenance are not covered under warranty.
- The use of add-on or modified parts can be grounds for disallowing a warranty claim. The manufacturer is not liable to cover failures of warranted parts caused by the use of add-on or modified parts.
- In order to file a claim, go to your nearest Authorized Troy-Bilt Service Center. Warranty services or repairs will be provided at all Authorized Troy-Bilt Service Centers.
- Any manufacturer approved replacement part may be used in the performance of any warranty maintenance or repair of emission related parts and will be provided without charge to the owner. Any replacement part that is equivalent in performance or durability may be used in non-warranty maintenance or repair and will not reduce the warranty obligations of the manufacturer
- The following components are included in the emission related warranty of the engine, air filter, carburetor, primer, fuel lines, fuel pick up/ fuel filter, ignition module, spark plug and muffler.

MANUFACTURER'S LIMITED WARRANTY FOR:



The limited warranty set forth below is given by Troy-Bilt LLC with respect to new merchandise purchased and used in the United States, its possessions and territories.

Troy-Bilt LLC warrants this product against defects in material and workmanship for a period of two (2) years commencing on the date of original purchase and will, at its option, repair or replace, free of charge, any part found to be defective in material or workmanship. This limited warranty shall only apply if this product has been operated and maintained in accordance with the Operator's Manual furnished with the product, and has not been subject to misuse, abuse, commercial use, neglect, accident, improper maintenance, alteration, vandalism, theft, fire, water or damage because of other peril or natural disaster. Damage resulting from the installation or use of any accessory or attachment not approved by Troy-Bilt LLC for use with the product(s) covered by this manual will void your warranty as to any resulting damage. This warranty is limited to ninety (90) days from the date of original retail purchase for any Troy-Bilt product that is used for rental or commercial purposes, or any other income-producing purpose.

HOW TO OBTAIN SERVICE: Warranty service is available, WITH PROOF OF PURCHASE THROUGH YOUR LOCAL AUTHORIZED SERVICE DEALER. To locate the dealer in your area, visit our website at www.troybilt.com, check for a listing in the Yellow Pages, call **1-800-520-5520** or write to P.O. Box 361131, Cleveland, OH 44136-0019.

This limited warranty does not provide coverage in the following cases:

- A. Tune-ups - Spark Plugs, Carburetor Adjustments, Filters
- B. Wear items - Bump Knobs, Outer Spools, Cutting Line, Inner Reels, Starter Pulley, Starter Ropes, Drive Belts
- C. Troy-Bilt LLC does not extend any warranty for products sold or exported outside of the United States of America, its possessions and territories, except those sold through Troy-Bilt's authorized channels of export distribution.

Troy-Bilt LLC reserves the right to change or improve the design of any Troy-Bilt Product without assuming any obligation to modify any product previously manufactured.

No implied warranty, including any implied warranty of merchantability or fitness for a particular purpose, applies after the applicable period of express written warranty above as to the parts

as identified. No other express warranty or guaranty, whether written or oral, except as mentioned above, given by any person or entity, including a dealer or retailer, with respect to any product shall bind Troy-Bilt LLC During the period of the Warranty, the exclusive remedy is repair or replacement of the product as set forth above. (Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.)

The provisions as set forth in this Warranty provide the sole and exclusive remedy arising from the sales. Troy-Bilt LLC shall not be liable for incidental or consequential loss or damages including, without limitation, expenses incurred for substitute or replacement lawn care services, for transportation or for related expenses, or for rental expenses to temporarily replace a warranted product. (Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.)

In no event shall recovery of any kind be greater than the amount of the purchase price of the product sold. Alteration of the safety features of the product shall void this Warranty. You assume the risk and liability for loss, damage, or injury to you and your property and/or to others and their property arising out of the use or misuse or inability to use the product.

This limited warranty shall not extend to anyone other than the original purchaser, original lessee or the person for whom it was purchased as a gift.

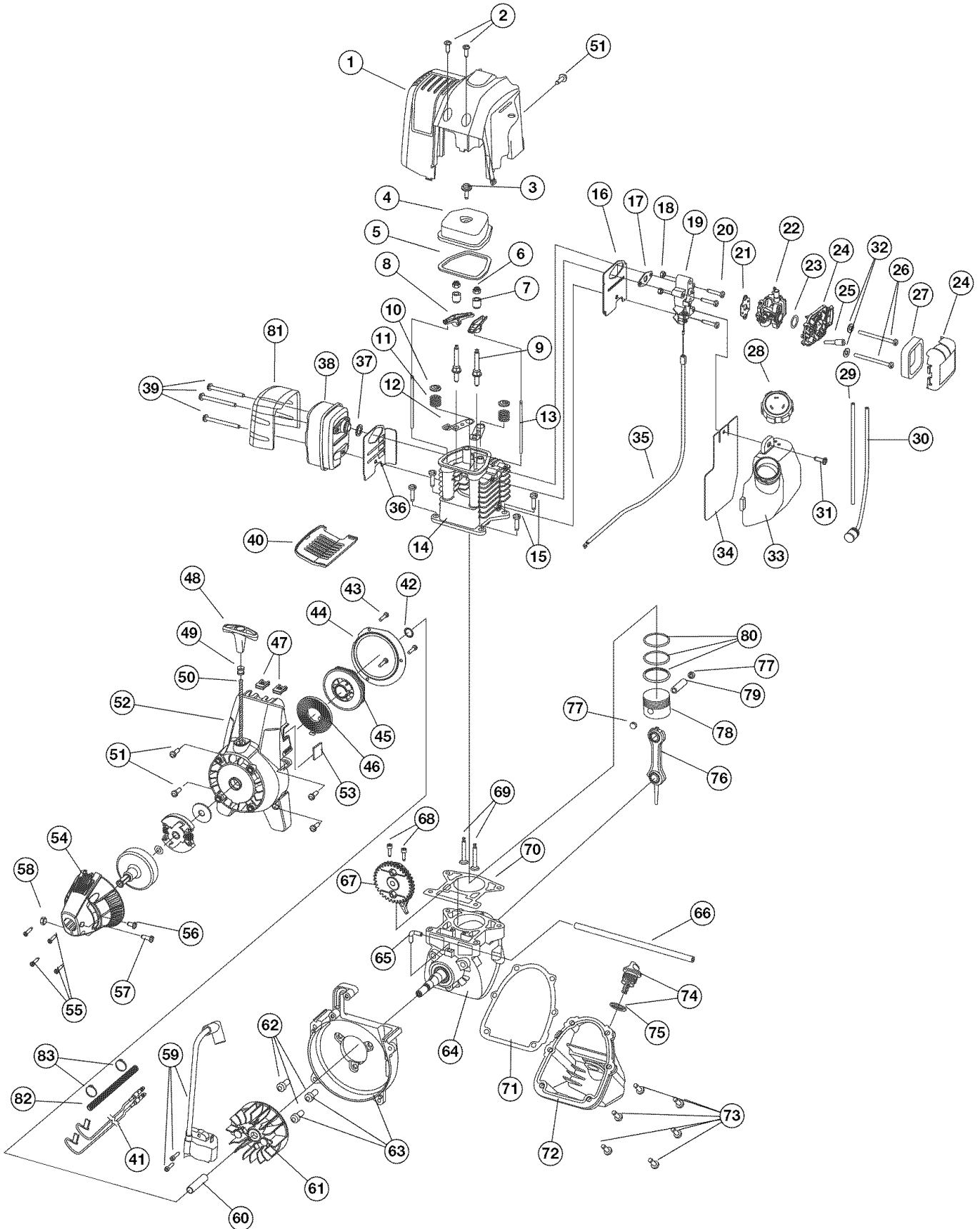
How State Law Relates to this Warranty: This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

To locate your nearest service dealer dial **1-800-520-5520**.

Troy-Bilt LLC
P.O. Box 361131
Cleveland, OH 44136-0019

PARTS LIST

ENGINE PARTS - MODELS TB415CS & TB465SS 4-CYCLE GAS TRIMMERS



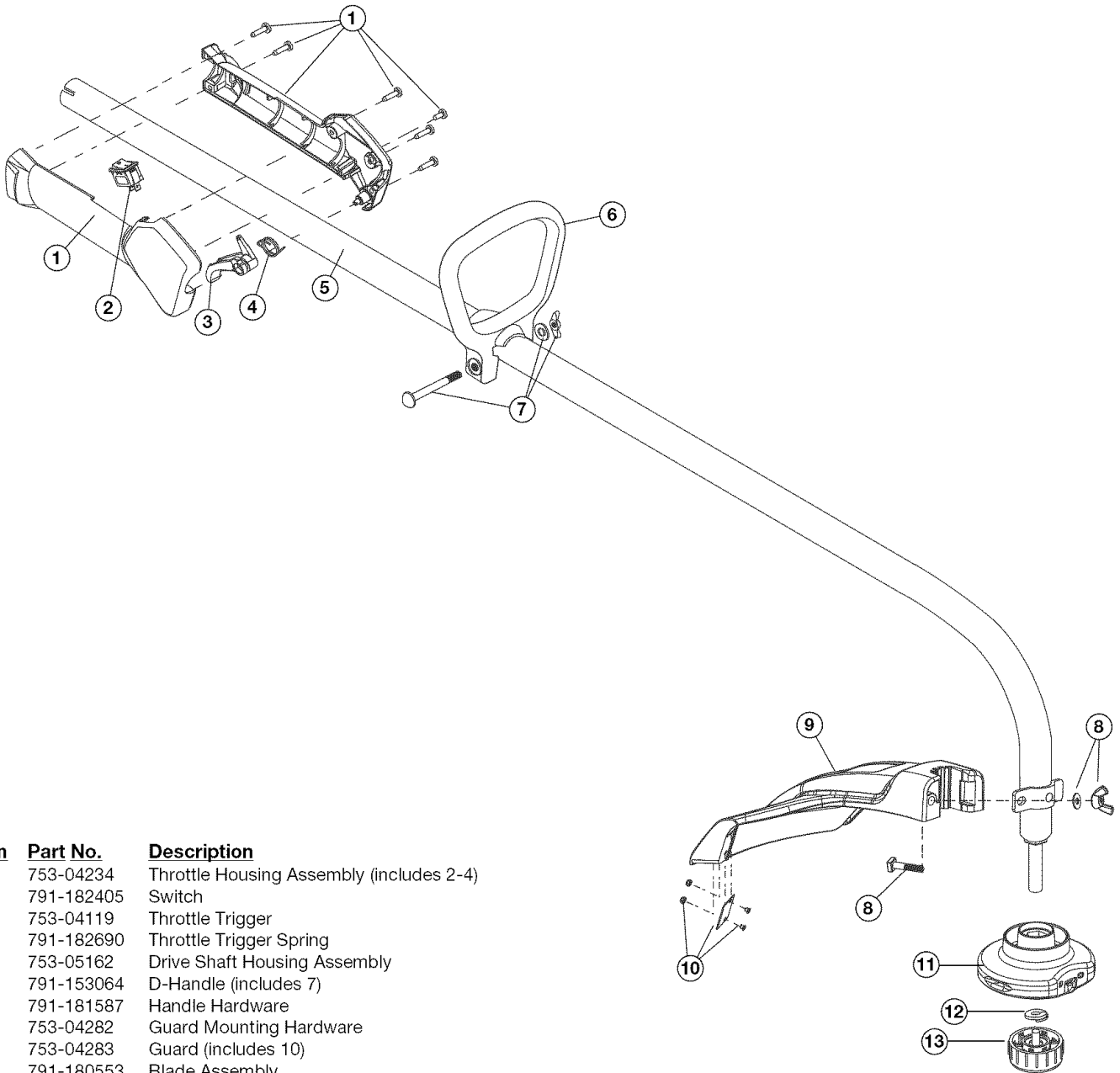
PARTS LIST

ENGINE PARTS - MODELS TB415CS & TB465SS 4-CYCLE GAS TRIMMERS

<u>Item</u>	<u>Part No.</u>	<u>Description</u>	<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	753-04083	Engine Cover	42	753-04288	Palnut
2	791-181930	Engine Cover Screws	43	753-1202	Plate Screw
3	791-181025	Valve Cover Screw	44	753-05074	Pressure Plate Assembly (includes 43)
4	791-182098	Valve Cover	45	753-05072	Recoil Pulley Assembly (includes 42 & 50)
5	791-182099	Valve Cover Gasket	46	753-04286	Recoil Spring
6	791-182340	Rocker Adjustment Nut	47	791-182366	Nut Clip
7	791-182101	Rocker Arm Pivot	48	753-05011	Pull Handle
8	791-182100	Rocker Arm	49	791-611061	Rope Guide
9	791-182341	Rocker Arm Stud	50	791-182661	Rope
10	791-182103	Valve Spring Retainer	51	791-181020	Housing Screw
11	791-181038	Valve Spring	52	753-05158	Starter Housing Assembly (includes 42-51)
12	791-182102	Push Rod Guide	53	791-182537	Wire Grommet
13	791-181033	Push Rod	54	753-05159	Cover Assembly (includes 55-58)
14	753-04816	Cylinder Assembly (includes 9-12, 15, 69 & 70)	55	791-181345	Cover Screw
15	791-181003	Cylinder Screw	56	791-182519	Anti-Rotation Screw
16	791-182345	Intake Baffle	57	753-05077	Screw
17	791-182749	Carburetor Mount Gasket	58	791-180217	Nut
18	791-181034	Nut	59	791-182725	Ignition Module with Screws
19	791-182347	Carburetor Mount (includes 18)	60	791-610303	Square Nut Drive
20	791-182348	Carburetor Mount Screw	61	791-182736	Flywheel
21	791-182732	Carburetor Gasket	62	791-181861	Screw
22	753-1225	Carburetor w/Primer	63	791-182743	Shroud Assembly (includes 62)
23	791-181751	O-Ring, Carburetor	64	753-05160	Crankcase Assembly (includes 65 & 66)
24	753-04223	Air Filter Cover Assembly (includes 25 & 27)	65	791-182375	90° Elbow
25	791-182097	Breather Tube	66	791-182379	Breather Hose
26	791-181750	Air Filter Mounting Screw	67	753-04919	Cam Bracket Assembly
27	791-181757	Air Filter	68	791-181012	Cam Bracket Screw
28	753-1229	Fuel Cap	69	791-181040	Valves, Intake and Exhaust
29	791-182352	Fuel Return Line	70	791-182374	Cylinder Gasket
30	791-182353	Fuel Pick-Up Line with Filter	71	791-181018	Oil Pan Gasket
31	753-04510	Screw	72	791-182377	Oil Pan (includes 71 & 73)
32	791-182409	Washer	73	791-181020	Oil Pan Screw
33	753-1230	Fuel Tank Assembly (includes 28-30)	74	753-04041	Dipstick Assembly (includes 75)
34	791-182356	Fuel Tank Shield	75	791-182290	O-Ring
35	753-1231	Throttle Cable	76	791-181009	Connecting Rod
36	791-182358	Muffler Baffle	77	791-181008	Wrist Pin Button
37	791-181048	Muffler Gasket	78	753-04878	Piston (includes 80)
38	791-182359	Muffler (includes 37)	79	753-05176	Wrist Pin
39	791-182361	Muffler Mounting Screw	80	753-04801	Piston Ring Set
40	753-04092	Muffler Cover	81	791-182360	Heat Shield
41	791-182804	Switch Wire Assembly	82	753-04098	Wire Lead Cover
			83	791-160428	Cable Clamp
			*	791-180890	Spark Arrestor
			*	791-180852B	Spark Plug
			*	753-05161	Short Block Assembly (includes 3-15, 64-80)
			*		Parts not shown

TB415CS PARTS LIST

BOOM AND TRIMMER PARTS - MODEL TB415CS 4-CYCLE GAS TRIMMER



Item	Part No.	Description
1	753-04234	Throttle Housing Assembly (includes 2-4)
2	791-182405	Switch
3	753-04119	Throttle Trigger
4	791-182690	Throttle Trigger Spring
5	753-05162	Drive Shaft Housing Assembly
6	791-153064	D-Handle (includes 7)
7	791-181587	Handle Hardware
8	753-04282	Guard Mounting Hardware
9	753-04283	Guard (includes 10)
10	791-180553	Blade Assembly
11	753-05165	Fixed Line Head (includes 12 & 13)
12	791-182413	Lock Washer
13	791-153066B	Bump Head Knob Assembly

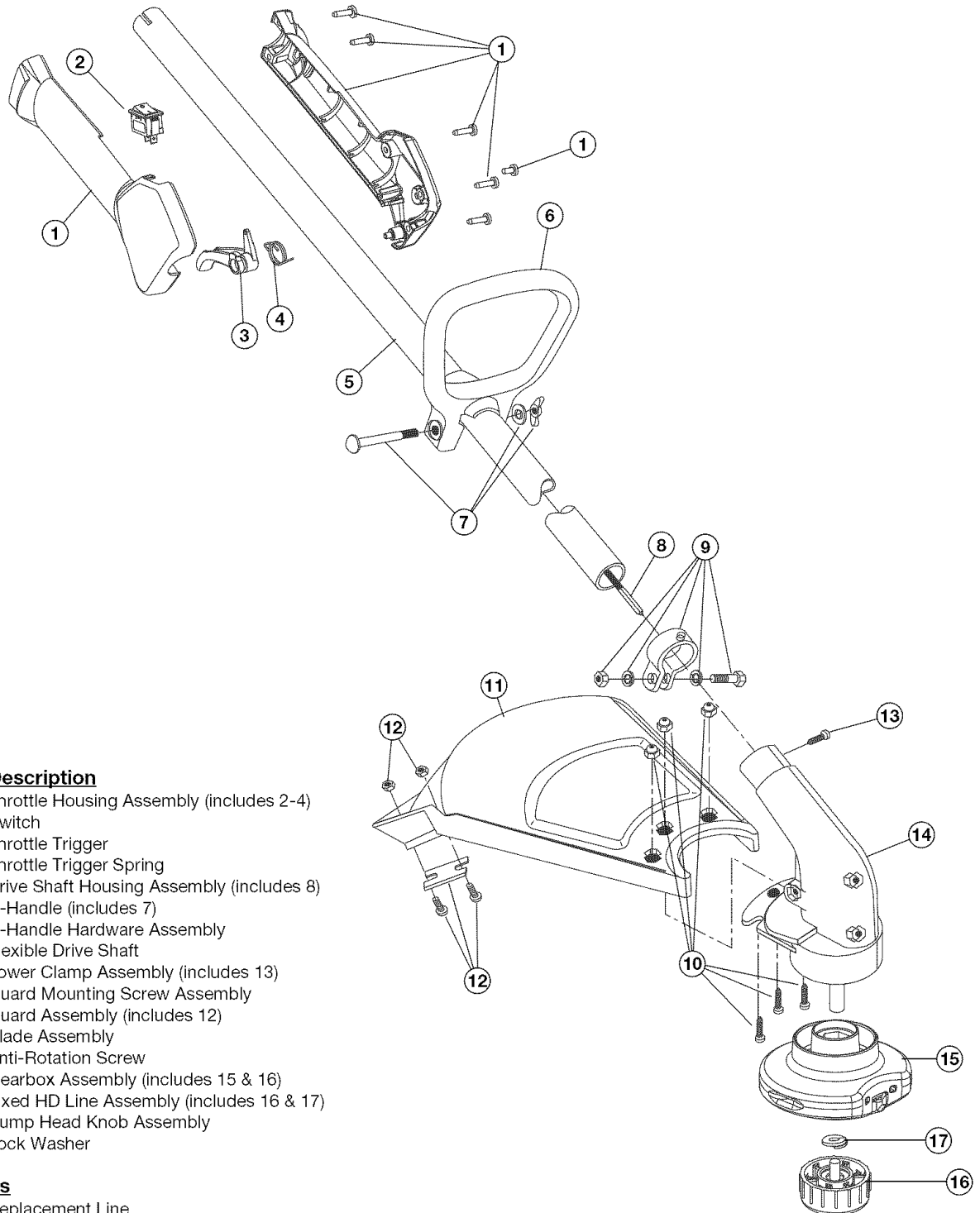
Optional Accessories

- * 753-05164 Replacement Line

* Items Not Shown

TB465SS PARTS LIST

BOOM AND TRIMMER PARTS - MODEL TB465SS 4-CYCLE GAS TRIMMER



Item	Part No.	Description
1	753-04234	Throttle Housing Assembly (includes 2-4)
2	791-182405	Switch
3	753-04119	Throttle Trigger
4	791-182690	Throttle Trigger Spring
5	753-05166	Drive Shaft Housing Assembly (includes 8)
6	791-153064	D-Handle (includes 7)
7	791-181587	D-Handle Hardware Assembly
8	753-05167	Flexible Drive Shaft
9	791-153597	Lower Clamp Assembly (includes 13)
10	791-180547	Guard Mounting Screw Assembly
11	791-180548	Guard Assembly (includes 12)
12	791-180553	Blade Assembly
13	791-145569	Anti-Rotation Screw
14	753-05168	Gearbox Assembly (includes 15 & 16)
15	753-05165	Fixed HD Line Assembly (includes 16 & 17)
16	791-153066B	Bump Head Knob Assembly
17	791-182413	Lock Washer

Optional Accessories

* 753-01564 Replacement Line

* Items Not Shown