

SEARS

**OWNER'S
MANUAL**

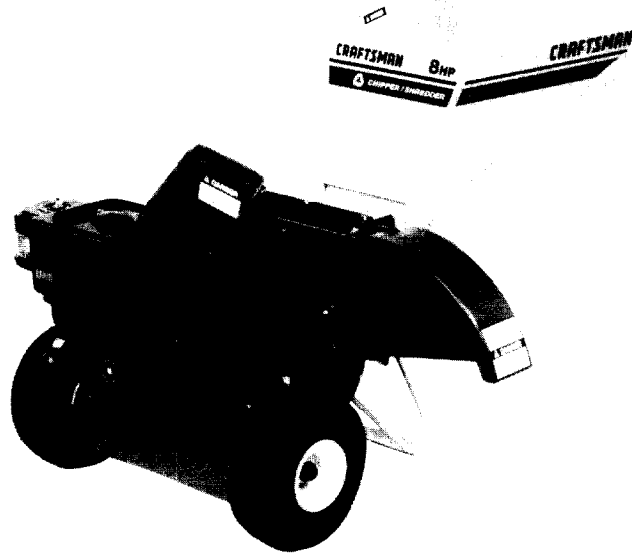
**MODEL NO.
247.780890**

**Caution:
Read and Follow
All Safety Rules
and Instructions
Before Operating
This Equipment**

CRAFTSMAN®

**8 HORSEPOWER
3 CUTTING STAGE
MULCHING AND BAGGING
CHIPPER-SHREDDER**

**Assembly
Operation
Maintenance
Service and Adjustment
Repair Parts**



SEARS, ROEBUCK AND CO., Chicago, IL 60684 U.S.A.

SAFETY RULES



WARNING: TO REDUCE THE POTENTIAL FOR ANY INJURY, COMPLY WITH THE FOLLOWING SAFETY INSTRUCTIONS. FAILURE TO COMPLY WITH THE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.

TRAINING

- Read this owner's manual carefully in its entirety before attempting to assemble or operate this machine. Be completely familiar with the controls and the proper use of this machine before operating it. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
- Children must never be allowed to operate this equipment.
- No one should operate this unit while intoxicated or while taking medication that impairs the senses or reactions.
- This equipment should never be operated in the vicinity of children, pets or other persons.
- Never run your machine in an enclosed area as the exhaust from the engine contains carbon monoxide, which is an odorless, tasteless and deadly poisonous gas.
- Never place your hands or any part of your body or clothing inside the feeding chamber, discharge chute, or near any moving part while the machine or engine is running.
- If it is necessary for any reason to inspect or repair the feeding chamber or any part of the machine where a moving part can come in contact with your body or clothing, stop the machine, allow it to cool, disconnect the spark plug wire from the spark plug and move it away from the spark plug before attempting such inspection or repair.

PREPARATION

- Wear safety glasses provided with your unit while operating the chipper-shredder to prevent injury from any material which may be ejected out of the openings.
- Wear proper apparel. Avoid wearing loose fitting clothing. Wear gloves when handling material.
- **HANDLE GASOLINE WITH CARE** as it is an extremely flammable fuel.
- Check the fuel before starting the engine. Do not fill the fuel tank indoors, while the engine is running, or while the engine is still hot. Turn the unit off and let the engine cool before refueling.
- Fuel your chipper-shredder in a clean area. Do not smoke while refueling.
- Fuel tank cap must be secure at all times except during refueling.
- Avoid spilling gasoline or oil. Wipe the unit clean of any spilled fuel or oil.
- Store fuel and oil in approved containers, away from heat or open flame, and out of reach of children.
- This machine should be operated only upon a level surface.
- Assure that all screws, nuts and bolts and other fasteners are properly secured.

OPERATION

- When feeding shreddable material into this equipment, be extremely careful that pieces of metal, rocks, bottles, cans or other foreign objects are not included. Personal injury or damage to the machine could result.

- If the cutting mechanism strikes any foreign object or if your machine should start making an unusual noise or vibration, immediately stop the engine, disconnect the spark plug wire from the spark plug and move it away from the spark plug. Allow the machine to stop and take the following steps:

Inspect for damage.

Replace or repair any damaged parts.

Check for any loose parts and tighten to assure continued safe operation.

- The engine must be kept clean of debris and other accumulations.
- Do not allow an accumulation of processed material to build up in the discharge area as this will prevent proper discharge and can result in kick-back from feed opening.
- Never place your hands or any other part of your body or clothing inside the feeding chamber, discharge chute or near any moving part while the engine is running.
- Keep all guards and deflectors in place and in good working condition to assure continued safe operation.
- Always stand clear of the discharge area when operating this machine.
- Keep your face and body back from the feed opening to avoid accidental bounce back of any material.
- Do not over-reach. Keep proper balance and footing at all times.
- The engine governor settings on your machine must not be altered, changed, or tampered with. The governor controls the maximum safe operating speeds and protects the engine and all moving parts from damage caused by overspeed.
- Do not transport machine while engine is running.
- Do not operate engine if air cleaner or cover directly over carburetor air intake is removed, except for adjustment. Removal of such parts could create a fire hazard.

MAINTENANCE AND STORAGE

- When this equipment is stopped for servicing, inspection, storage or to change an accessory, make sure the spark plug wire is disconnected from the spark plug and moved away from the spark plug. The machine should be allowed to cool down before making such inspection, adjustments, service, etc. Maintain your machine with care and keep it clean for the best and continued safe operation.
- Do not use flammable solutions to clean the air filter.
- When not in use, your machine should be stored out of the reach of children. Keep where gasoline fumes will not reach an open flame or spark. For long periods of storage, refer to the "Storage" section of this manual.



LOOK FOR THIS SYMBOL TO POINT OUT IMPORTANT SAFETY PRECAUTIONS. IT MEANS—ATTENTION!!! BECOME ALERT!!! YOUR SAFETY IS INVOLVED.

CONGRATULATIONS on your purchase of a Sears Craftsman Chipper-Shredder. It has been designed, engineered and manufactured to give you the best possible dependability and performance.

Should you experience any problem you cannot easily remedy, please contact your nearest Sears Service Center/Department. We have competent, well-trained technicians and the proper tools to service or repair this unit.

Please read and retain this manual. The instructions will enable you to assemble and maintain your chipper-shredder properly. Always observe the "SAFETY RULES."

MODEL NUMBER	<u>247.780890</u>
SERIAL NUMBER	_____
DATE OF PURCHASE	_____

THE MODEL AND SERIAL NUMBERS WILL BE FOUND ON A LABEL ATTACHED TO THE FRAME OF THE CHIPPER-SHREDDER.

YOU SHOULD RECORD BOTH SERIAL NUMBER AND DATE OF PURCHASE AND KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

PRODUCT SPECIFICATIONS

Horsepower:	8.0
Displacement:	19.43 cu. in.
Fuel Capacity:	1 Gallon
Spark Plug (Gap .030 in.):	Champion J-8C or Autolite 356 or Equivalent

MAINTENANCE AGREEMENT

A Sears Maintenance Agreement is available on this product. Contact your nearest Sears store for details.

CUSTOMER RESPONSIBILITIES

- Read and observe the safety rules.
- Follow a regular schedule in maintaining, caring for and using your chipper-shredder.
- Follow the instructions under "Maintenance" and "Storage" sections of this Owner's Manual.

WARRANTY

ONE YEAR LIMITED WARRANTY ON CRAFTSMAN GAS CHIPPER-SHREDDER

For one year from the date of purchase, when this Craftsman Chipper-Shredder is maintained, lubricated and tuned up according to the instructions in the owner's manual, Sears will repair, free of charge, any defect in material and workmanship.

If this Craftsman Chipper-Shredder is used for commercial or rental purposes, this warranty applies for only 30 days from the date of purchase.

This warranty does not cover:

- Expendable items which become worn during normal use, such as blades, chipper blades, flails, air cleaners, spark plugs and catcher bags.
- Repairs necessary because of operator abuse or negligence, including bent crankshafts and the failure to maintain the equipment according to the instructions contained in the owner's manual.

WARRANTY SERVICE IS AVAILABLE BY RETURNING THE CRAFTSMAN CHIPPER-SHREDDER TO THE NEAREST SEARS SERVICE CENTER/DEPARTMENT IN THE UNITED STATES. THIS WARRANTY APPLIES ONLY WHILE THIS PRODUCT IS IN USE IN THE UNITED STATES.

This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

SEARS, ROEBUCK AND CO., Department 731CR-W, Sears Tower, Chicago, IL 60684

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WARNING: This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler (see page 21) is available through your Sears Authorized Service Center.

ASSEMBLY INSTRUCTIONS

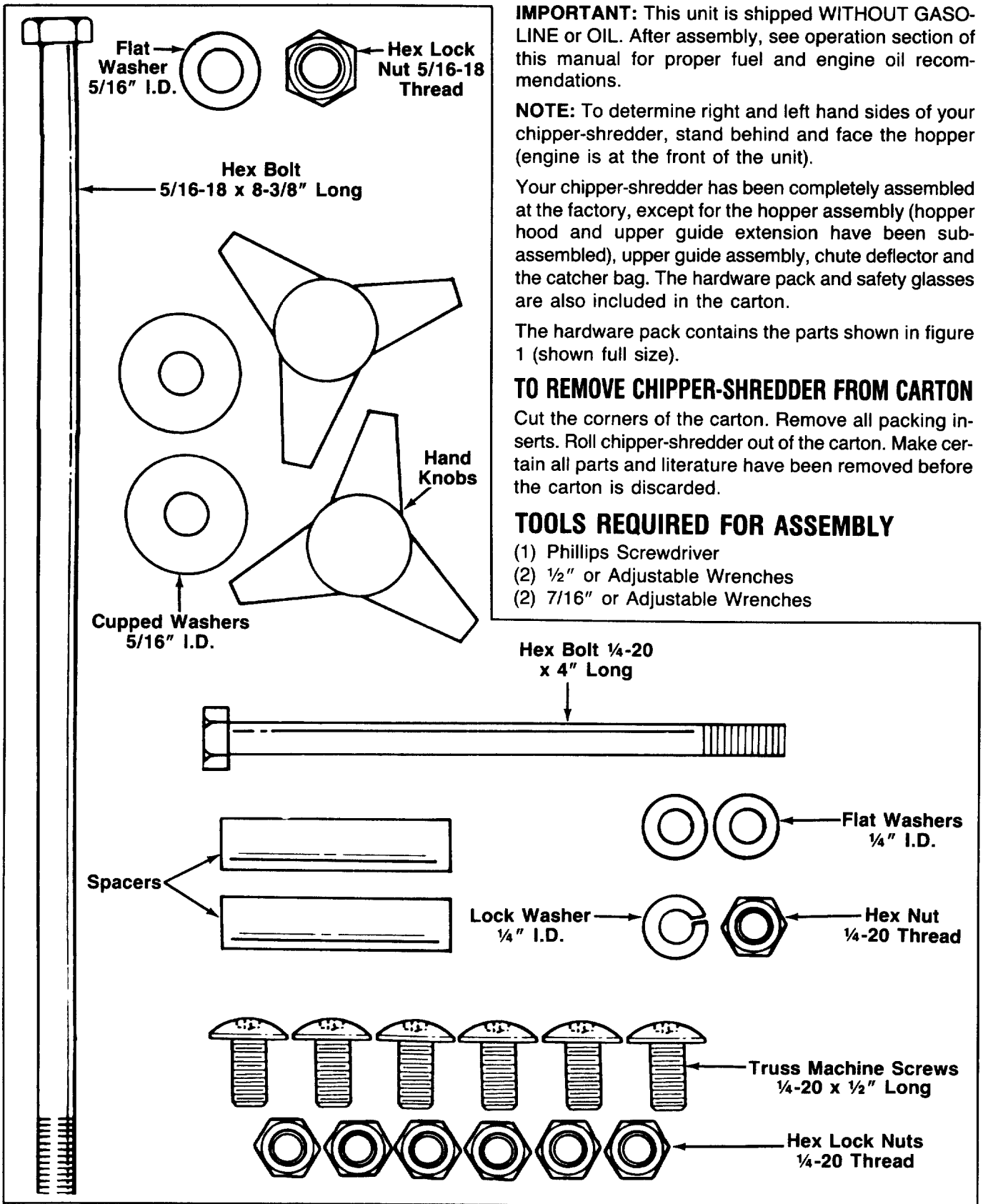


FIGURE 1.

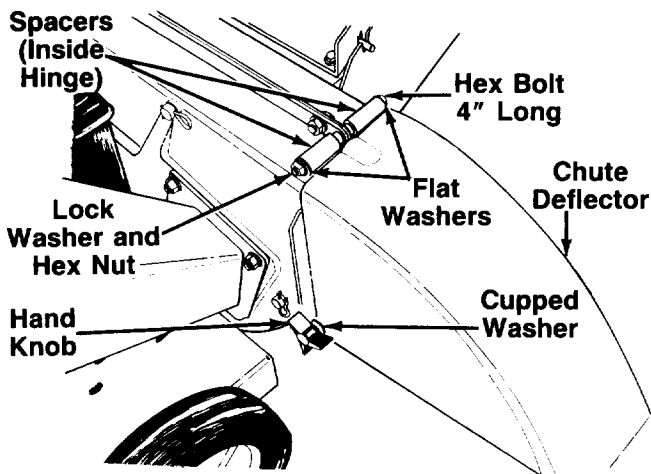


FIGURE 2.

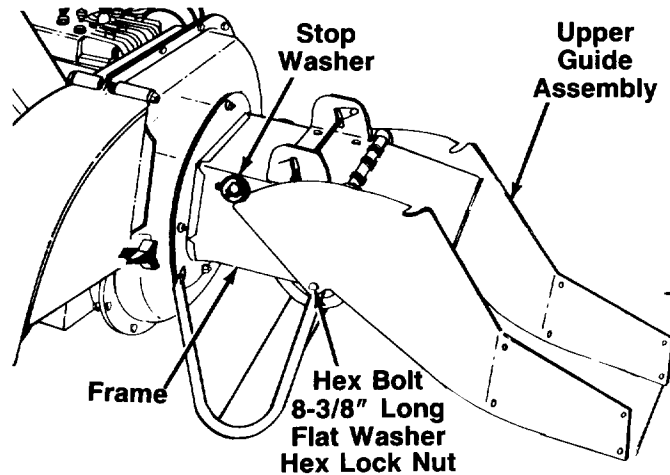


FIGURE 3.

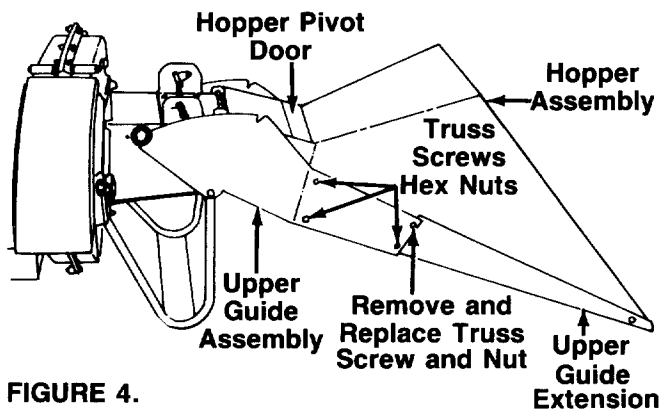


FIGURE 4.

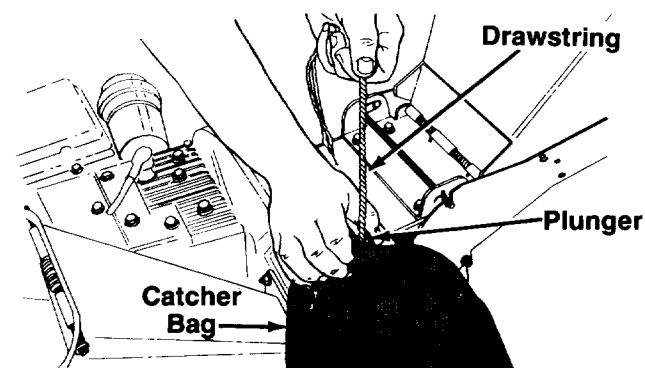


FIGURE 5.

HOW TO SET-UP YOUR CHIPPER-SHREDDER



MAKE CERTAIN THE SPARK PLUG WIRE IS DISCONNECTED AND MOVED AWAY FROM THE SPARK PLUG BEFORE ASSEMBLING THE CHIPPER-SHREDDER.

ATTACHING THE CHUTE DEFLECTOR

- Place one flat washer 1/4" I.D., then one spacer 1/4" I.D. on hex bolt 4" long.
- Place chute deflector in position on the discharge opening, on the left side of the chipper-shredder.
- Insert hex bolt through hinge on chute deflector and housing (spacer fits inside of hinge). See figure 2.
- Place the second spacer 1/4" I.D. over the hex bolt, inside the other part of the hinge. Secure with 1/4" I.D. flat washer, lock washer and hex nut. Tighten securely.
- Secure both sides of chute deflector to housing using hand knobs and cupped washers 5/16" I.D. (cupped side of washers go against chute deflector).

ATTACHING THE UPPER GUIDE ASSEMBLY

Insert hex bolt 8-3/8" long thru upper guide assembly and frame. Secure with flat washer 5/16" I.D. and hex lock nut. Make certain edges of the upper guide assembly are underneath stop washers. See figure 3. Plastic insert in hex nut should face away from upper guide assembly. Tighten hex nut until parts are snug, but so upper guide assembly can still be rotated on the frame.

ATTACHING THE HOPPER ASSEMBLY

Your chipper-shredder has been shipped with the upper guide extension attached to the hopper assembly. See figure 4. Attach the hopper assembly to the upper guide assembly as follows:

NOTE: If desired, lift up on the release bar (see figure 6, inset) to raise the upper guide assembly so you can attach the hopper assembly while standing instead of kneeling.

- Remove one truss machine screw and nut from each side of hopper assembly. See figure 4. Push hopper pivot door down inside lower part of hopper. The hopper assembly fits inside upper guide assembly.
- Secure hopper assembly using truss machine screws and nuts just removed, and six additional screws and nuts found in hardware pack. The heads of truss machine screws should be to inside of hopper guide assembly. Tighten all nuts finger tight. Lift hopper assembly and snap into raised position. Tighten all nuts securely.

ATTACHING THE CATCHER BAG

Your chipper-shredder is equipped with a catcher bag to catch the shredded material.

- To attach the bag, place the opening of the bag over the chute deflector so it completely covers the chute opening. Depress the plunger on the drawstring, pull on the drawstring until the bag is tight around the chute opening. Release plunger to lock it into position. See figure 5.

OPERATION

KNOW YOUR CHIPPER-SHREDDER

READ THIS OWNER'S MANUAL AND SAFETY RULES BEFORE OPERATING YOUR CHIPPER-SHREDDER. Compare the illustrations with your chipper-shredder to familiarize yourself with the location of various controls and adjustments. Save this manual for future reference.

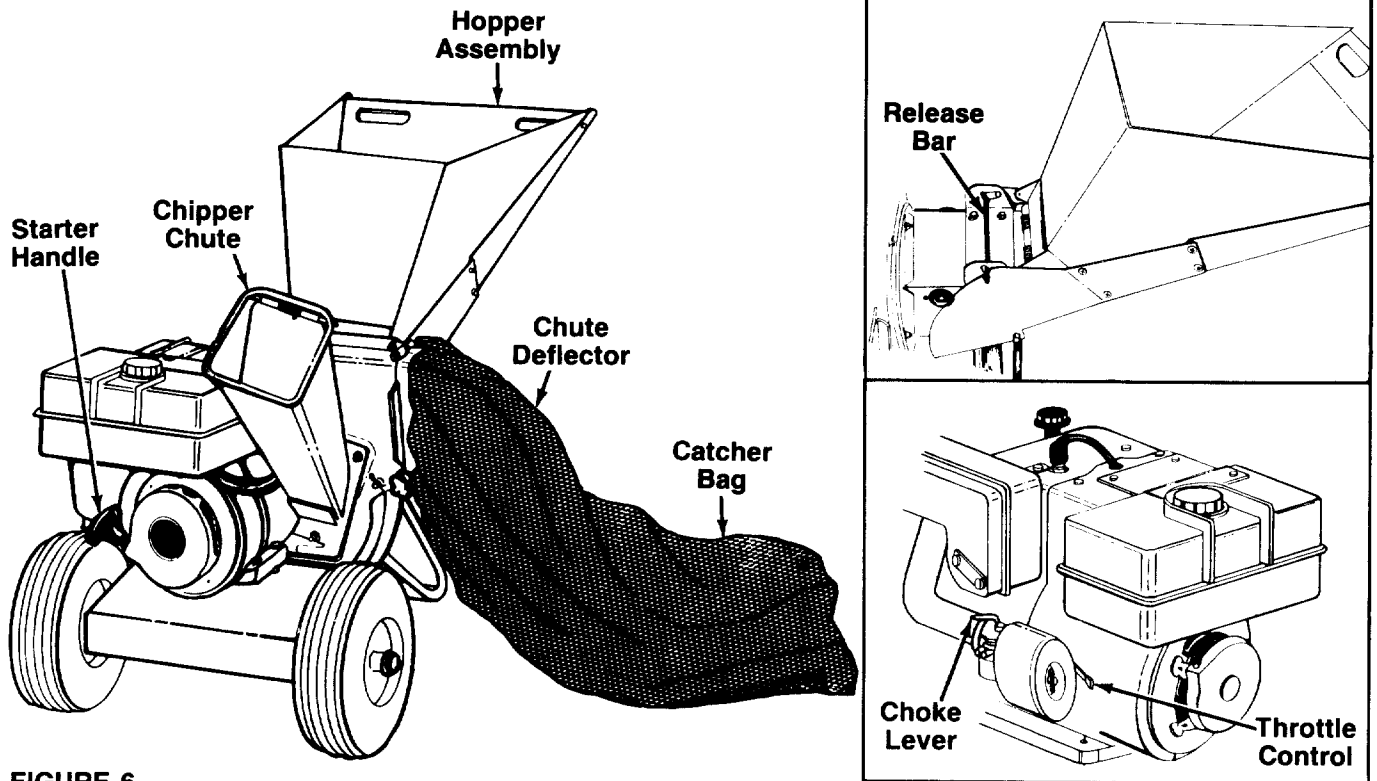


FIGURE 6.

MEETS ANSI SAFETY STANDARDS

Sears chipper-shredders conform to the safety standards of the American National Standards Institute.

OPERATING CONTROLS (See figure 6)

RELEASE BAR—Used to release the hopper when raising or lowering.

CHOKE LEVER—Used to enrich the fuel mixture in the carburetor when starting a cold engine.

STARTER HANDLE—Used to manually start the engine.

THROTTLE CONTROL—Controls engine speed and stops the engine.

BEFORE USING YOUR CHIPPER-SHREDDER, AGAIN REFER TO THE "SAFETY RULES" AS SHOWN ON PAGE 2 OF THIS MANUAL. ALWAYS BE CAREFUL.

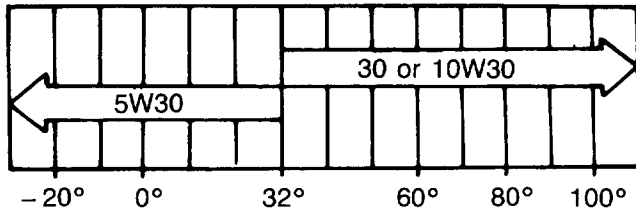


The operation of any chipper-shredder can result in foreign objects being thrown into the eyes, which can result in severe eye damage. Always wear the safety glasses provided with the chipper-shredder or eye shields before chipping or shredding, or while performing any adjustments or repairs. We recommend Wide Vision Safety Mask for over spectacles or standard glasses available at Sears Retail or Catalog Stores.

BEFORE STARTING GAS AND OIL FILL-UP

NOTE: ENGINE IS SHIPPED WITHOUT OIL. FILL CRANKCASE WITH OIL BEFORE STARTING. BE VERY CAREFUL NOT TO ALLOW DIRT TO ENTER THE ENGINE WHEN CHECKING OR ADDING OIL OR FUEL.

Recommended SAE Viscosity Grades



TEMPERATURE RANGE EXPECTED BEFORE NEXT OIL CHANGE. ALL OILS MUST BE A.P.I. SERVICE CLASSIFICATION SD, SE OR SF.

- Fill engine with oil as follows. Remove oil fill dipstick. See figure 7. With chipper-shredder level, use a funnel to fill engine with oil to FULL mark on dipstick. Capacity is approximately 1½ pints. Be careful not to overfill. Tilt chipper-shredder toward the left (from behind the hopper), then re-level. Check oil level. Refill to FULL mark on dipstick if necessary. Replace dipstick and tighten.

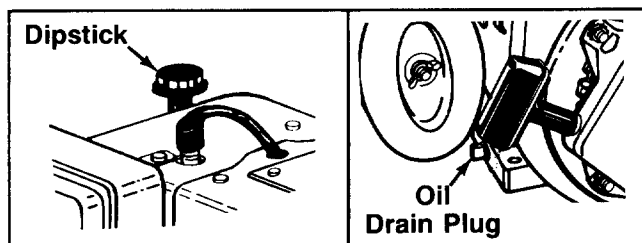


FIGURE 7.

- Remove fuel cap and fill fuel tank. See figure 8. Use fresh, clean, unleaded automotive gasoline. Capacity is one gallon. Replace fuel cap.

WARNING: DO NOT FILL CLOSER THAN ½ INCH OF TOP OF FUEL TANK TO PREVENT SPILLS AND TO ALLOW FOR FUEL EXPANSION. IF GASOLINE IS ACCIDENTLY SPILLED, MOVE CHIPPER-SHREDDER AWAY FROM AREA OF SPILL. AVOID CREATING ANY SOURCE OF IGNITION UNTIL GASOLINE VAPORS HAVE DISAPPEARED.

Caution: Experience indicates that alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage. To avoid engine problems, the fuel system should be empty before storage for 30 days or longer. Refer to “Storage” section of this manual for details. Use fresh fuel each season.

Never use engine or carburetor cleaner products in the fuel tank or permanent damage may result.

NOTE: USE CLEAN OIL AND FUEL. STORE IN APPROVED, CLEAN, COVERED CONTAINERS. USE CLEAN FILL FUNNELS.

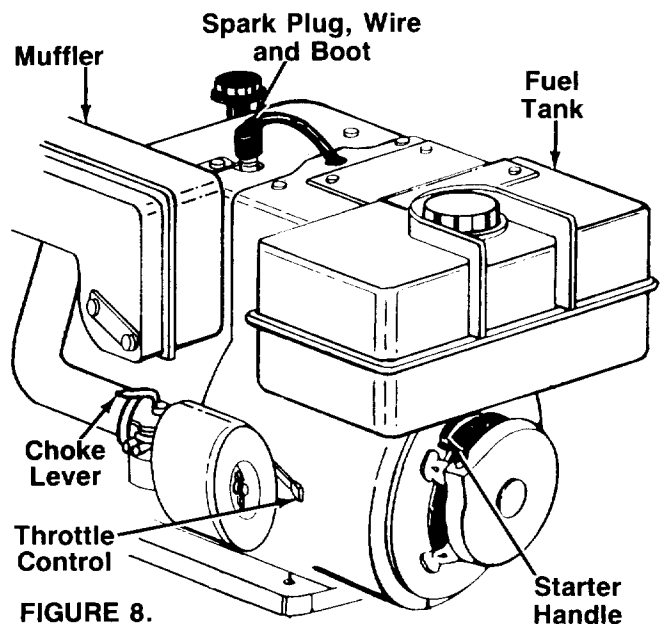


FIGURE 8.

TO START ENGINE



WARNING: BE SURE NO ONE OTHER THAN THE OPERATOR IS STANDING NEAR THE CHIPPER-SHREDDER WHILE STARTING OR OPERATING. DO NOT OPERATE THIS CHIPPER-SHREDDER UNLESS THE CHUTE DEFLECTOR HAS BEEN PROPERLY INSTALLED AND IS SECURED WITH THE HAND KNOBS.

- Attach spark plug wire and rubber boot to spark plug. See figure 8.
- Place the throttle control lever in FAST position. See figures 8 and 9.
- Move choke lever to CHOKE position.
- Grasp starter handle (see figure 8) and pull rope out slowly until engine reaches start of compression cycle (rope will pull slightly harder at this point). Let the rope rewind slowly.

- Pull rope with a rapid, continuous, full arm stroke. Keep a firm grip on start handle. Let rope rewind slowly. Do not let starter handle snap back against starter.
- Repeat preceding two instructions until engine fires. When engine starts, move choke lever on engine halfway between CHOKE and RUN.

NOTE: If engine does not fire after three attempts, move choke lever halfway between CHOKE and RUN position and try again.

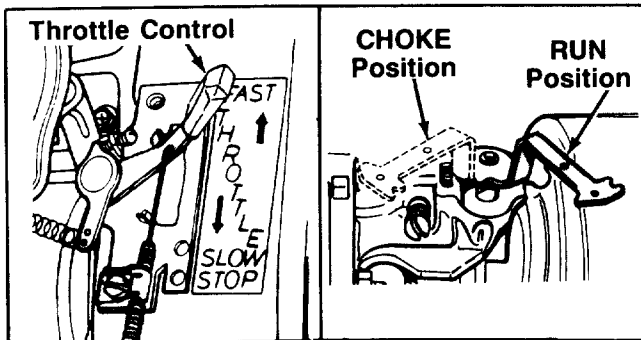


FIGURE 9.

- Move throttle control to SLOW position for a few minutes warm-up. Move choke lever to RUN position as engine warms up.

NOTE: In order to idle smoothly, a new engine may require 3 to 5 minutes running above slow idle speed. Idle speed has been adjusted to be correct after this break-in period.

TO STOP ENGINE

- Move throttle control lever to STOP position. See figure 9.
- Disconnect spark plug wire and move away from spark plug to prevent accidental starting while equipment is unattended.

HOW TO USE YOUR CHIPPER-SHREDDER

Do not attempt to shred or chip any material other than vegetation found in a normal yard (i.e., branches, leaves, twigs, etc.).



WARNING: THE CHIPPER-SHREDDER DISCHARGES MATERIALS WITH CONSIDERABLE VELOCITY. KEEP AWAY FROM THE AREA AROUND THE CHUTE DEFLECTOR. ALWAYS STOP THE ENGINE AND DISCONNECT THE SPARK PLUG WIRE WHEN REMOVING OR ATTACHING THE BAG WHEN CHANGING CONTAINERS OR WHEN REMOVING THE SHREDDED MATERIAL. WEAR SAFETY GLASSES AND GLOVES WHENEVER USING YOUR CHIPPER-SHREDDER.

The chipper-shredder is designed for three different methods of operation.

- Leaves and small branches up to 1/2" diameter can be fed into the hopper assembly when it is in the raised position. See figure 10. If it becomes necessary to push material into the chipper-shredder, use a small diameter stick—NOT YOUR HANDS. The stick should be small enough that it will be ground up if gets into the impeller assembly.

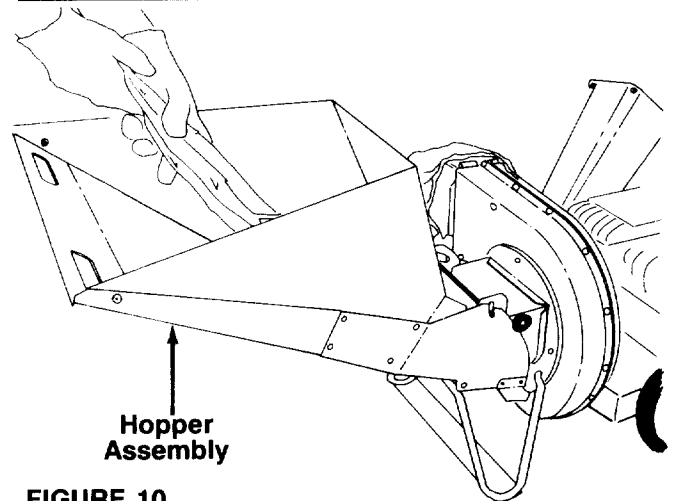
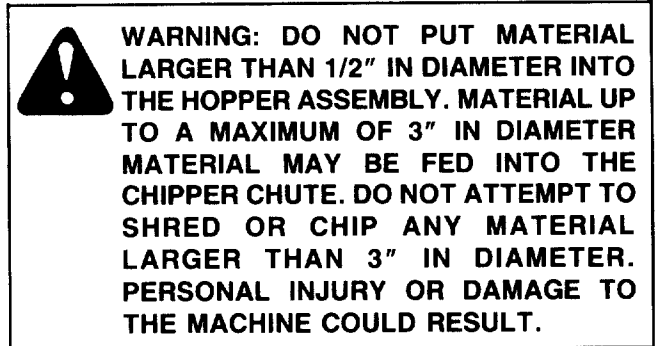


FIGURE 10.

- Leaves and small twigs can be raked into the hopper assembly when the hopper assembly is lowered to the ground. See figure 11. Small branches up to 1/2" diameter can also be fed into the hopper assembly in this position. See figure 12.

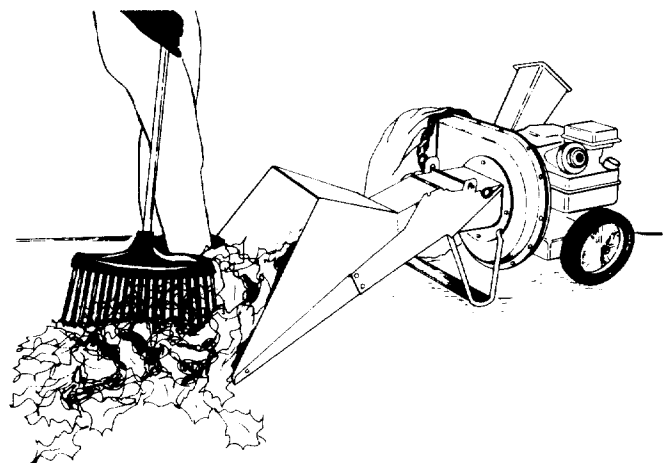


FIGURE 11.

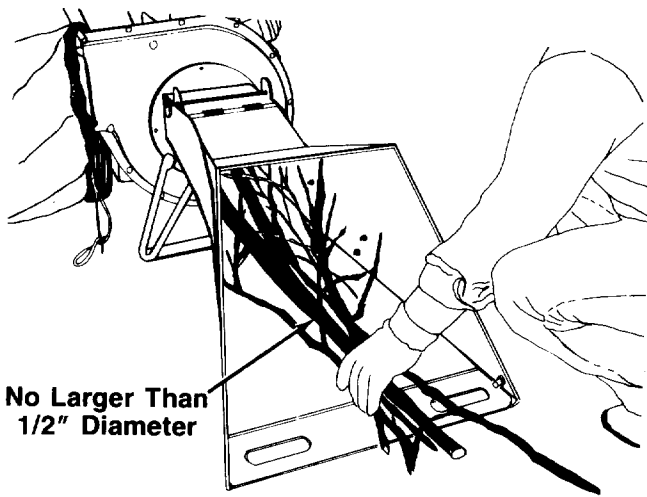


FIGURE 12.

- To lower the hopper assembly, use one hand to grasp the handle at the top of the hopper assembly and lift slightly. Pull up on the release bar, and lower the hopper assembly to the ground. Release the bar. See figure 13.

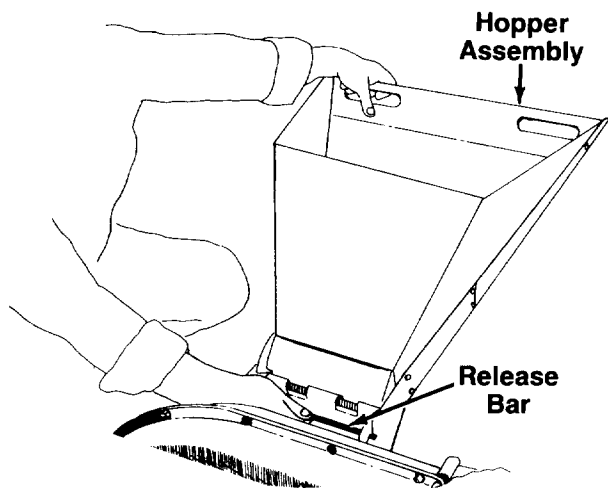


FIGURE 13.

- Bulky material, such as stalks or heavy branches, up to 3" in diameter, should be fed into the chipper chute. See figure 14.

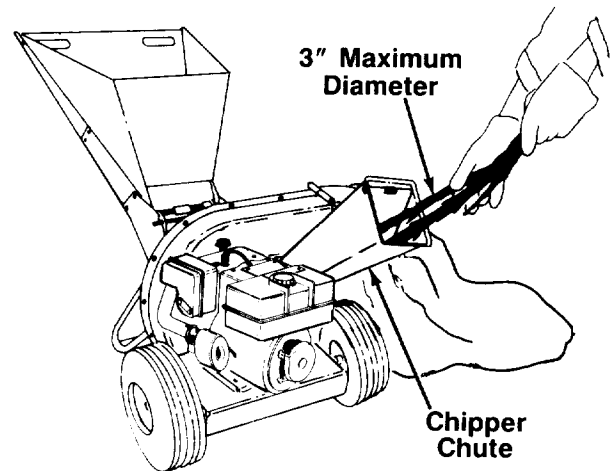
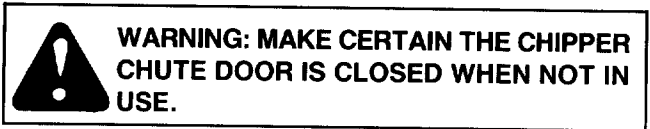


FIGURE 14.

IMPORTANT: There is a flail screen located inside the housing in the discharge area. If the flail screen becomes clogged, remove and clean as instructed in the Service and Adjustments section on page 13. For best performance, it is important to keep the shredding blade and the chipper blades sharp. If the composition of the material being discharged changes (becomes stringy, etc.) or if the rate at which the material is discharged slows down considerably, it is likely that the shredding blade and/or chipper blades are dull and need to be sharpened or replaced. Refer to Service and Adjustments section, page 13.

MAINTENANCE

GENERAL RECOMMENDATIONS

- Periodically check all fasteners and be sure they are tight.
- Follow the Service Recommendation Schedule on page 15.

CHIPPER-SHREDDER

LUBRICATION

Lubricate the pivot points on the release bar, guide extension assembly, chute deflector and chipper chute once a season using a light oil.

ENGINE

LUBRICATION

Check engine oil level regularly—approximately every five hours of operation and before each usage. Stop engine and wait several minutes before checking oil level. With engine level, the oil must be to FULL mark on dipstick (refer to figure 7). Change engine oil after the first two hours of operation, and every twenty-five hours thereafter.

- Drain oil while engine is warm.

Remove oil drain plug. Refer to figure 7. Tip the chipper-shredder, and catch oil in a suitable container.

When engine is drained of all oil, replace drain plug securely.

- Refill with fresh oil. Above 32°, use oil labeled SAE 30W or 10W30. Below 32°, use oil labeled 5W20. Capacity is approximately 1½ pints. Refer to "Gas and Oil Fill-Up" on page 8.
- Replace oil fill plug.

AIR CLEANER

The air cleaner prevents damaging dirt, dust, etc., from entering the carburetor and being forced into the engine and is important to engine life and performance.

Never run your engine without air cleaner completely assembled.

To Service Air Cleaner:

Clean cartridge at three month intervals or every 25 hours, whichever occurs first. See figure 15. Service more often under dusty conditions.

- Loosen screws and tilt cover as illustrated.
- Carefully remove pre-cleaner and cartridge.
- Clean cartridge by tapping gently on a flat surface. If very dirty, replace cartridge and pre-cleaner or clean as follows:

Wash in a low or non-sudsing detergent and warm water solution. **CAUTION:** Do not use petroleum solvents such as kerosene to clean cartridge.

Rinse thoroughly with flowing water from inside out until water is clear.

Allow cartridge to stand and air dry **thoroughly** before using. **DO NOT OIL CARTRIDGE OR PRE-CLEANER. DO NOT USE PRESSURIZED AIR TO CLEAN OR DRY CARTRIDGE.**

- Install cartridge and pre-cleaner. Then close cover and fasten screws securely.

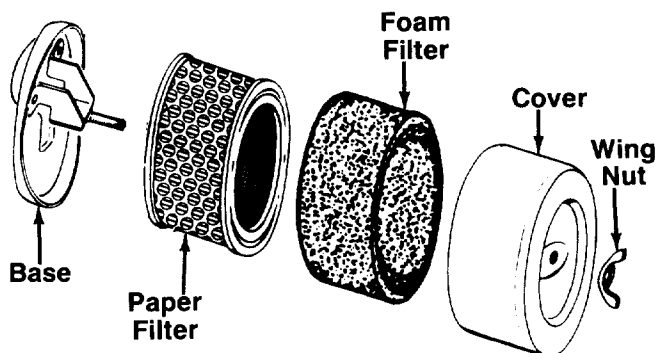


FIGURE 15.

CLEAN ENGINE

Clean engine periodically. Remove dirt and debris from the cooling fins, air intake screen, and levers and linkage with a cloth or brush. See figure 16. Cleaning with a forceful spray of water is not recommended as water could contaminate the fuel system.

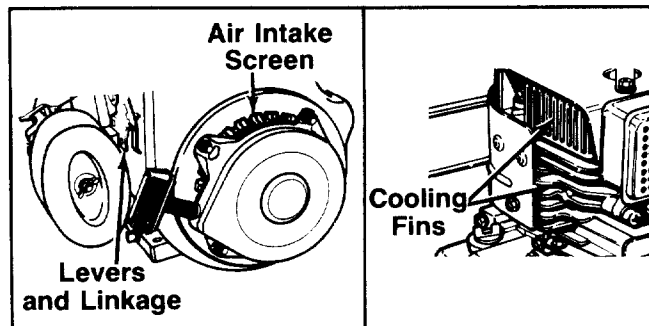
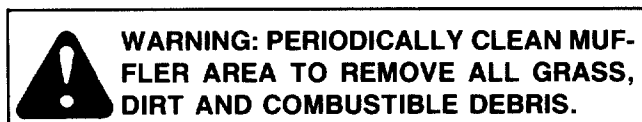


FIGURE 16.

SPARK PLUG

The spark plug should be cleaned and the gap reset to .030" at least once a season or every 50 hours of operation. See figure 17. Spark plug replacement is recommended at the start of each season. Refer to engine parts list for correct spark plug type.

NOTE: Do not wire brush or sandblast spark plug. Spark plug should be cleaned by carefully scraping electrodes.

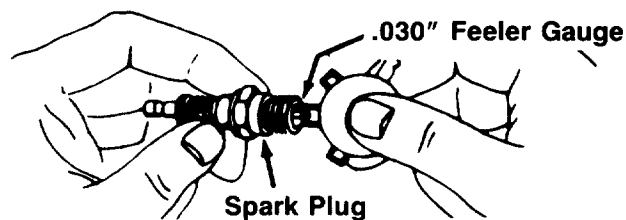


FIGURE 17.

MUFFLER

Do not operate the chipper-shredder without a muffler or tamper with the exhaust system. Damaged mufflers or spark arresters could create a fire hazard. Inspect periodically, and replace if necessary. If your engine is equipped with a spark arrester screen assembly, remove every 25 hours for cleaning and inspection. Replace if damaged.

CLEANING

- The chipper-shredder may be cleaned by running water from a hose through the hopper assembly and chipper chute with the engine running. Allow the chipper-shredder to dry thoroughly.
- Wash the bag periodically with water. Allow to dry thoroughly in the shade. Do not use heat.

STORAGE



NEVER STORE YOUR CHIPPER-SHREDDER INDOORS OR IN AN ENCLOSED, POORLY VENTILATED AREA IF GASOLINE REMAINS IN THE TANK. FUMES MAY REACH AN OPEN FLAME, SPARK OR PILOT LIGHT FROM A FURNACE, WATER HEATER, CLOTHES DRYER, CIGARETTE, ETC.

To prevent engine damage if chipper-shredder is not used for more than 30 days, follow the steps below.

NOTE: GASOLINE MUST BE REMOVED OR TREATED TO PREVENT GUM DEPOSITS FROM FORMING IN THE TANK, FILTER, HOSE AND CARBURETOR DURING STORAGE. ALSO DURING STORAGE, ALCOHOL-BLENDED GASOLINE THAT USES ETHANOL OR METHANOL (SOMETIMES CALLED GASOHOL) ATTRACTS WATER. IT ACTS ON THE GASOLINE TO FORM ACIDS WHICH DAMAGE THE ENGINE.

To remove gasoline, run engine until tank is empty and engine stops. Then disconnect fuel line at carburetor or fuel tank. Be careful not to damage fuel line, fittings or fuel tank. Drain any remaining fuel from the system. If you do not want to remove gasoline, Sears Craftsman

Fuel Stabilizer No. 33500 may be added to any gasoline left in the tank to minimize gum deposits and acids. If the tank is almost empty, mix stabilizer with fresh gasoline in a separate container and add some to the tank. **Always follow instructions on stabilizer container. Then run engine at least 10 minutes after stabilizer is added to allow mixture to reach carburetor. Store chipper-shredder in safe place. See warning in previous column.**

You can help keep your engine in good operating condition during storage by:

- Changing oil.
- Lubricating the piston/cylinder area by first removing the spark plug and squirting clean engine oil into the spark plug hole. Then cover the spark plug hole with a rag to absorb oil spray. Next, rotate the engine by pulling the starter two or three times. Finally, reinstall spark plug and attach spark plug wire.

Protect the chipper-shredder during storage by:

- Thoroughly cleaning the chipper-shredder.
- If storing in an unventilated or metal storage shed, coat metal parts with a light oil or silicone to prevent rust.
- Store in a clean, dry area.

SERVICE & ADJUSTMENT



WARNING: ALWAYS STOP ENGINE AND DISCONNECT SPARK PLUG WIRE AND MOVE IT AWAY FROM SPARK PLUG BEFORE PERFORMING ANY ADJUSTMENTS OR REPAIRS.

REMOVING THE FLAIL SCREEN

If the discharge area becomes clogged, remove the flail screen and clean area as follows.

- Stop the engine, make certain the chipper-shredder has come to a complete stop and disconnect spark plug wire from the spark plug before unclogging the chute.
- Loosen the two hand knobs on each side of the chute deflector. Lift the chute deflector up, and tie it out of the way.
- Remove two hairpin clips from the clevis pins which extend through the housing. Remove the clevis pins. Lift the flail screen from inside the housing. See figure 18.
- Clean the screen by scraping or washing with water. Reinstall the screen.

NOTE: Be certain to reassemble the flail screen with the curved side down as shown in figure 18.

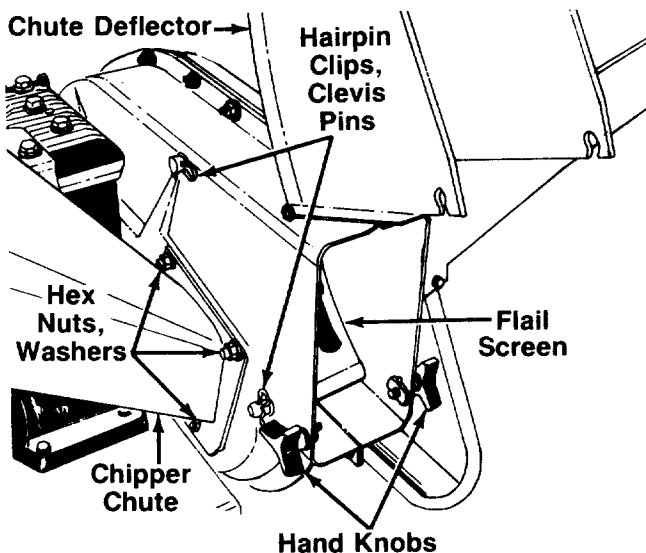


FIGURE 18.

SHARPENING OR REPLACING THE BLADES CHIPPER BLADES

- Disconnect spark plug wire and move it away from spark plug.
- Remove the flail screen as instructed in previous section.

- Remove the chipper chute by removing three hex nuts and washers. A 1/2" wrench is required. See figure 18.

NOTE: When reassembling, the cupped washer goes on the bottom of the chipper chute with the cupped side against the chute.

- Rotate the impeller assembly by hand until you locate one of the chipper blades in the chipper chute opening. Remove the blade, using a 3/16" allen wrench on the outside of the blade and 1/2" wrench on the impeller assembly (inside the housing). See figure 19.
- Remove the other blade in the same manner.

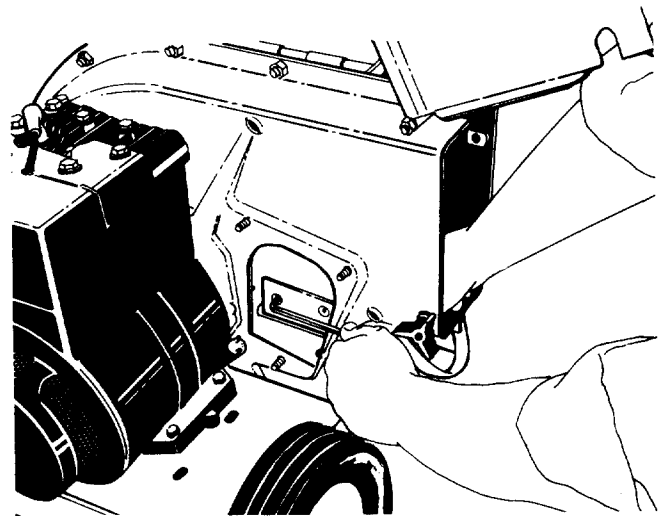


FIGURE 19.

Replace or sharpen blades. If sharpening, make certain to remove an equal amount from each blade. Reassemble in reverse order.

Make certain blades are reassembled with the sharp edge facing the direction shown in figure 19 (sharp edge is assembled toward the slotted opening in the impeller assembly).

SHREDDING BLADE

The shredding blade may be removed for sharpening or replacement as follows.

- Lower the hopper assembly. Block up the housing. See figure 20.
- Remove the four hex lock nuts and lock washers from the housing weld bolts using a 1/2" wrench. Separate the chipper-shredder into two halves.
- Remove the back-up plate.

NOTE: When reassembling, make certain the opening on the back-up plate is toward the bottom of the unit. The back-up plate may be reversed to provide a new cutting edge.

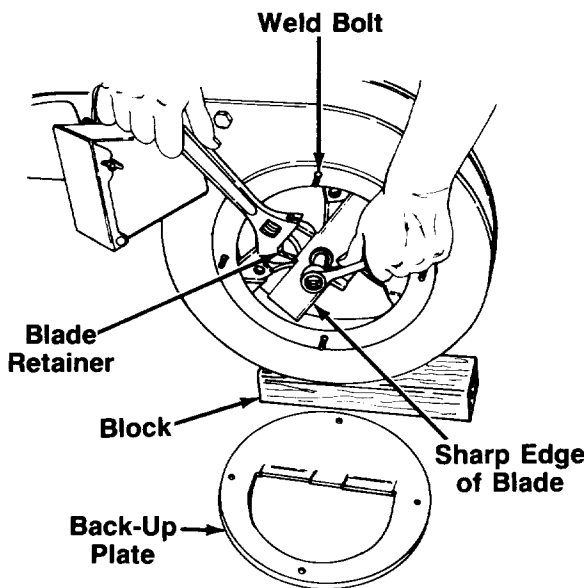


FIGURE 20.

- Hold the blade retainer on the impeller assembly with an adjustable wrench to keep the blade from turning as shown in figure 20.
- Remove the blade by removing the center bolt, lock washer and flat washer.

NOTE: Use caution when removing the blade to avoid contacting the weld bolts on the housing.

- When sharpening the blade, follow the original angle of grind as a guide. It is extremely important that each cutting edge receives an equal amount of grinding to prevent an unbalanced blade. An unbalanced blade will cause excessive vibration when rotating at high speeds and may cause damage to the unit.
- The blade can be tested for balance by balancing it on a round shaft screwdriver or nail. Remove metal from the heavy side until it is balanced evenly. See figure 21.

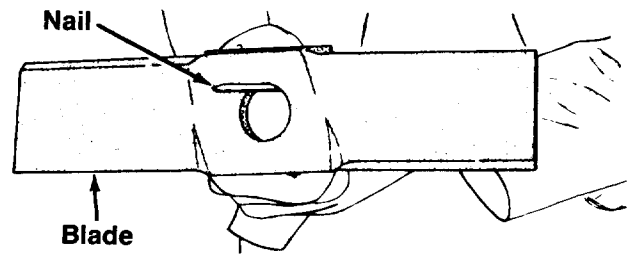


FIGURE 21.

- When reassembling the blade, tighten to between 550 and 650 inch pounds, or if lacking torque wrench, tighten securely.

FLAILS

The flails, located inside the housing, may be reversed when they become dull. It is suggested that this procedure be performed by your nearest Sears Service Department.

CARBURETOR ADJUSTMENT

The carburetor has been pre-set at the factory and should not require adjustment. However, if your engine does not operate properly due to suspected carburetor problems, take your chipper-shredder to your nearest SEARS Service Center.



WARNING: IF ANY ADJUSTMENTS ARE MADE TO THE ENGINE WHILE THE ENGINE IS RUNNING (E.G. CARBURETOR), KEEP CLEAR OF ALL MOVING PARTS. BE CAREFUL OF HEATED SURFACES AND MUFFLER.

ENGINE SPEED

Your engine speed has been factory set. Do not attempt to increase engine speed or it may result in personal injury. If you believe the engine is running too fast or too slow, take your chipper-shredder to the nearest SEARS Service Center for repair and adjustment.

SERVICE RECOMMENDATIONS

SERVICE RECORD Fill in dates as you complete regular service	SCHEDULE						SERVICE DATES				
	First 2 Hours	Before Each Use	Every 25 Hours	Every 50 Hours	Begin- ning Each Season	Before Storage					
Check Fuel		✓									
Drain Fuel						✓					
Check Engine Oil Level		✓			✓						
Change Engine Oil	✓		✓								
Oil Pivot Points						✓					
Service Air Cleaner			✓								
Clean Engine Cooling Fins			✓		✓						
Replace or Clean Spark Plug				✓		✓					
Spark Arrester Muffler			✓								

The Service Recommendations Chart is supplied to assist the operator in proper maintenance of the chipper-shredder. This is only a check list; instructions will be found in the Maintenance and Service Adjustment sections of this manual.

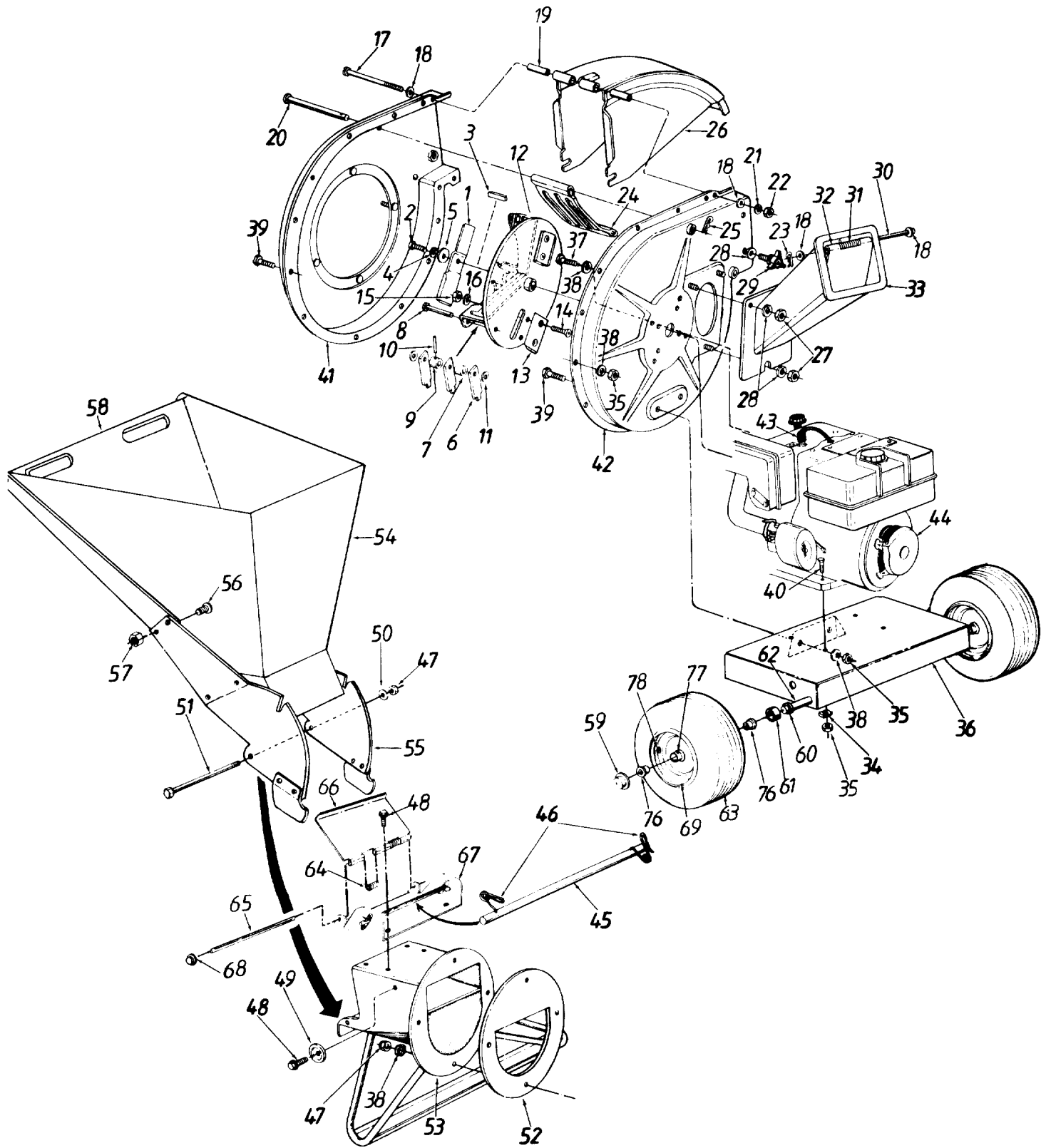
TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Engine fails to start	<ol style="list-style-type: none"> 1. Fuel tank empty, or stale fuel. 2. Spark plug wire disconnected. 3. Faulty spark plug. 	<ol style="list-style-type: none"> 1. Fill tank with clean, fresh fuel. 2. Connect wire to spark plug. 3. Clean, adjust gap or replace.
Loss of power; operation erratic	<ol style="list-style-type: none"> 1. Spark plug wire loose. 2. Unit running on CHOKE. 3. Blocked fuel line or stale fuel. 4. Water or dirt in fuel system. 5. Carburetor out of adjustment. 6. Dirty air cleaner. 	<ol style="list-style-type: none"> 1. Connect and tighten spark plug wire. 2. Move choke lever to OFF position. 3. Clean fuel line; fill tank with clean fresh gasoline. 4. Disconnect fuel line at carburetor to drain fuel tank. Refill with fresh fuel. 5. Adjust carburetor or contact your SEARS Service Center. 6. Replace filter. See maintenance section of this manual.
Engine overheats	<ol style="list-style-type: none"> 1. Carburetor not adjusted properly. 2. Engine oil level low. 	<ol style="list-style-type: none"> 1. Adjust carburetor or contact your SEARS Service Center. 2. Fill crankcase with proper oil.
Too much vibration	Loose parts or damaged auger.	Stop engine immediately and disconnect spark plug wire. Tighten all bolts and nuts. Make all necessary repairs. If vibration continues, have unit serviced by a SEARS Service Center.
Unit does not discharge	<ol style="list-style-type: none"> 1. Discharge chute clogged. 2. Foreign object lodged in impeller. 	<ol style="list-style-type: none"> 1. Stop engine immediately and disconnect spark plug wire. Clean flail screen and inside of blower housing. See Service/Adjustments section of this manual. 2. Stop engine immediately and disconnect spark plug wire. Remove lodged object.
Rate of discharge slows considerably or composition of discharged material changes	Shredding blade and/or chipper blades dull.	Sharpen or replace shredding and chipper blades.

NOTE: For repairs beyond the minor adjustments listed above, please contact your nearest SEARS Service Center.

SEARS CRAFTSMAN 8 H.P. CHIPPER-SHREDDER MODEL NO. 247.780890

Repair Parts



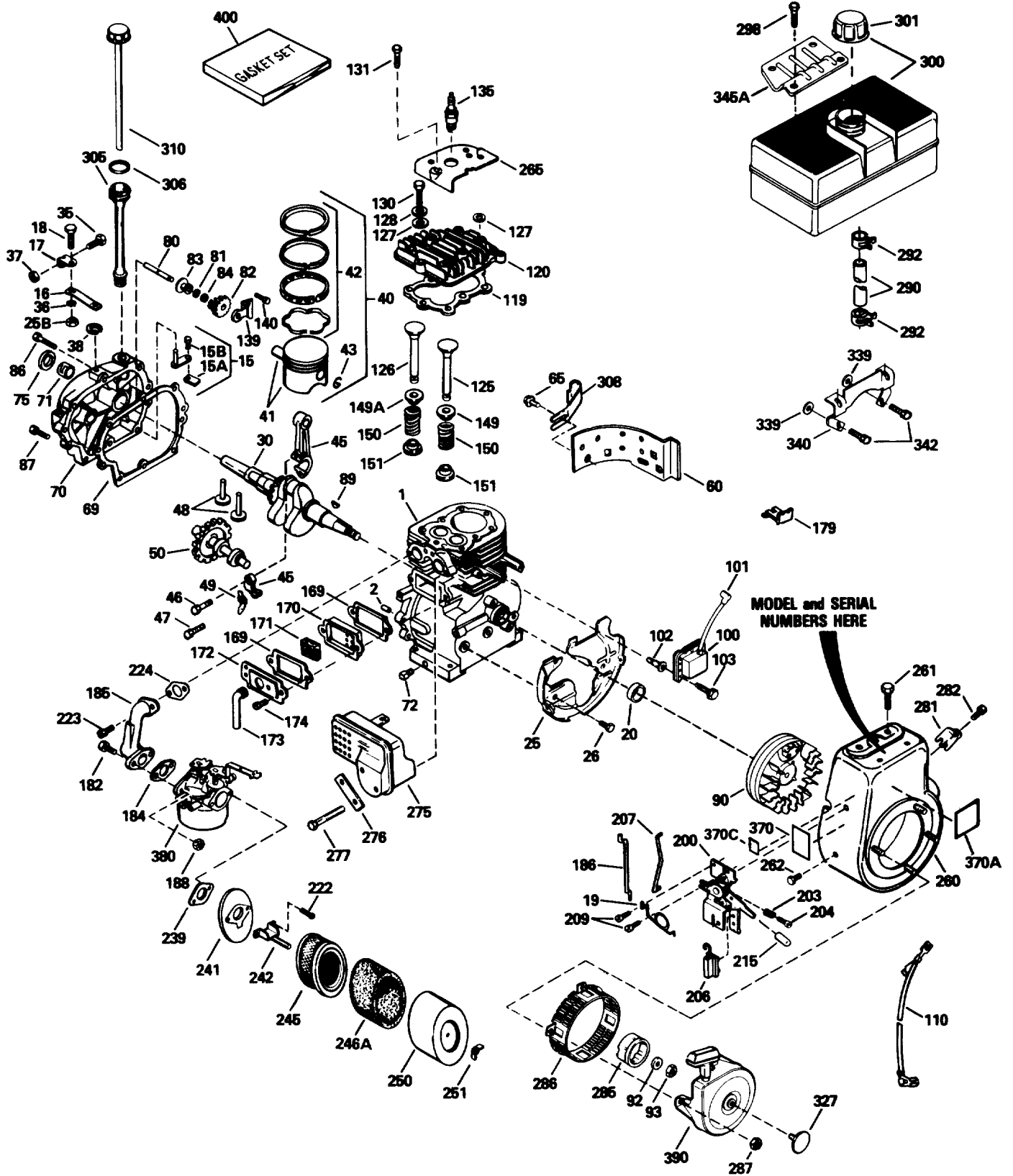
SEARS CRAFTSMAN 8 H.P. CHIPPER-SHREDDER MODEL NO. 247.780890
Repair Parts

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	13431	Blade	40	710-0380	Hex Bolt 5/16-18 x 1.75" Lg. *
2	710-0818	Hex Patch Bolt 3/8-24 x 2" Lg. (Gr. 8)	41	781-0473	Flail Housing Ass'y.—L.H.
3	714-0114	Sq. Key 1/4 x 2.0" Lg.	42	781-0474	Flail Housing Ass'y.—R.H.
4	736-0217	L-Wash. 3/8" I.D. H.D.	43	735-0639	Spark Plug Boot
5	736-0247	Fl-Wash. .406" I.D. x 1.25" O.D. Hdn.	44	HM80-155426L	Engine—Tec. HM80-155426L
6	11459B	Flail	45	747-0531A	Release Bar
7	711-0564	Flail Spacer	46	742-0546	Torsion Spring 1.06" Lg.
8	711-0833A	Clevis Pin .496" Dia.	47	712-0429	Elastic Lock Nut 5/16-18 Thd.
9	711-0834	Flail Spacer w/.160" Dia. Hole	48	710-0601	Hex Wash. Hd. Self-Tap Scr. 5/16-18 x .75" Lg.
10	715-0249	Spring Roll Pin 1.12" Lg.	49	11480	Stop Washer
11	736-0192	Fl-Wash. .531" I.D. x .94" O.D.	50	736-0264	Fl-Wash. 5/16" I.D.
12	781-0484	Impeller Ass'y.	51	710-0542	Hex Bolt 5/16-18 x 8.38" Lg.
13	781-0490	Chipper Blade	52	781-0487A	Back-Up Plate
14	710-1054	Flat Hd. Scr. 5/16-24 x .75" Lg.	53	16522A	Inlet Guide Ass'y.
15	712-0411	Hex Top L-Nut 5/16-24 (Gr. 5)	54	781-0494	Pivot Hopper Hood
16	736-0119	L-Wash. 5/16" I.D. *	55	16524B	Upper Guide Ass'y.
17	710-1058	Hex Bolt 1/4-20 x 4.0" Lg. *	56	710-0286	Truss Mach. Scr. 1/4-20 x .5" Lg.
18	736-0142	Fl-Wash. .281" I.D. x .50" O.D.	57	712-0107	Hex L-Nut 1/4-20 Thd.
19	750-0793	Chute Hinge Spacer 1.66" Lg.	58	11461B	Upper Leaf Ramp Section
20	711-0835	Clevis Pin .5" Dia. x 4.62" Lg.	59	726-0214	Push Cap 5/8" Dia. Rod
21	736-0329	L-Wash. 1/4" I.D. *	60	736-0187	Fl-Wash. .64" I.D. x 1.24"
22	712-0287	Hex Nut 1/4-20 Thd. *	61	750-0786	Spacer .64" I.D. x .38" Lg.
23	714-3010	Cotter Pin	62	738-0813	Shredder Axle
24	781-0457	Shredder Screen	63	734-1597	Wheel Ass'y. Comp. Tire Only
25	714-0149	Internal Cotter Pin 3/8" Dia.		734-1598	Tire Only
26	781-0480	Chute Deflector Ass'y.	64	732-0629	Torsion Spring
27	712-3010	Hex Nut 5/16-18 Thd. (Gr. 5)	65	747-0747	Hopper Door Rod
28	736-0242	Bell-Wash. .345" I.D. x .88"	66	781-0492	Hopper—Pivot Door
29	720-0170	Hand Knob	67	781-0493	Hopper Lockout Brkt.
30	747-0744A	Chipper Door Rod	68	726-0106	Cap Speed Nut 1/4" Rod
31	732-0542	Torsion Spring 1.14" Lg.	69	734-1455	Rim Only
32	781-0489	Chipper Door	76	741-0487	Flange Brg. .632" I.D.
33	781-0475	Chipper Chute Ass'y.	77	737-0280	Grease Fitting
34	736-0170	Spec. L-Wash. 5/16" I.D.	78	734-0225	Air Valve
35	712-3010	Hex Nut 5/16-18 Thd. (Gr. 5)	—	764-0199A	Bag (Not Shown)
36	781-0510	Shredder Frame	—	723-0400	Safety Glasses (Not Shown)
37	710-0157	Hex Bolt 5/16-24 x .75" Lg.	—	770-7387F	Owner's Manual
38	736-0119	L-Wash. 5/16" I.D. *			
39	710-3008	Hex Bolt 5/16-18 x .75" Lg. (Gr. 5)			

* Common Hardware May Be Purchased Locally.

TECUMSEH 8 H.P. ENGINE MODEL NO. HM80-155426L

Repair Parts



TECUMSEH 8 H.P. ENGINE MODEL NO. HM80-155426L

Repair Parts

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	35385	Cylinder (Incl. Nos. 2, 20)	75	35319	Seal, Oil
2	27652	Pin, Dowel	80	31845	Shaft, Governor
15	30699C	Rod Ass'y., Governor (Incl. Nos. 15A & 15B)	81	30590A	Washer, Flat
15A	30700	Yoke, Governor	82	35378	Gear, Governor (Incl. No. 81)
15B	650494	Screw, Fil. Hd. Sems, 6-40 x 5/16	83	30588A	Spool, Governor
16	33454	Lever, Governor	84	29193	Ring, Retaining
17	29916	Clamp, Governor Lever	86	650833	Screw, Hex Washer Hd. Power Lok, 1/4-20 x 1-3/16
18	650548	Screw, Hex Washer Hd., 8-32 x 5/16	87	650832	Screw, Hex Washer Hd. Power Lok, 1/4-20 x 1-11/16
19	34663	Spring, Speed Control	89	32589	Key, Flywheel
20	35319	Seal, Oil	90	611090	Flywheel
25	35326	Baffle, Blower Housing	92	650880	Washer, Lock
25B	30322	Lock Nut, Hex "Keps," 8-32	93	650881	Nut, Flywheel
26	650561	Screw, Hex Washer Hd. Durluk, 1/4-20 x 5/8	100	35135	Solid State Ass'y.
30	35372	Crankshaft	101	610118	Cover, Spark Plug
35	29826	Screw, Hex Washer Hd., 10-32 x 3/4	102	650872	Stud, Solid State Mounting
36	29918	Washer, E.T. Lock	103	650814	Screw, Torx Hex Washer Hd., Sems, 10-24 x 1
37	29216	Lock Nut, Hex "Keps," 10-32	110	**35187	Wire, Ground
38	29642	Ring, Retaining	119	34041A	Gasket, Cylinder Head
40	34552	Piston, Pin & Ring Ass'y. (Incl. Nos. 41, 42 & 43)	120	34030	Head, Cylinder
40	34553	Piston, Pin & Ring Ass'y. (Incl. Nos. 41, 42 & 43) (.010 Oversize)	125	27878A	Valve, Exhaust (Incl. No. 151) (Std.)
40	34554	Piston, Pin & Ring Ass'y. (Incl. Nos. 41, 42 & 43) (.020 Oversize)	125	27880A	Valve, Exhaust (Incl. No. 151) (1/32" Oversize)
41	34329A	Piston & Pin Ass'y. (Incl. No. 10) (Std.)	126	34035	Valve, Intake (Incl. No. 151) (Std.)
41	34330A	Piston & Pin Ass'y. (Incl. No. 10) (.010 Oversize)	126	34036	Valve, Intake (Incl. No. 151) (1/32" Oversize)
41	34331A	Piston & Pin Ass'y. (Incl. No. 10) (.020 Oversize)	127	650691	Washer, Flat
42	34332	Ring Set, Piston (Std.)	128	650690	Washer, Belleville
42	34333	Ring Set, Piston (.010 Oversize)	130	650694A	Screw, Hex Flange Hd., 5/16-18 x 2
42	34334	Ring Set, Piston (.020 Oversize)	131	650802	Screw, Hex Washer Hd. Taptite, 1/4-20 x 5/8
43	27888	Ring, Piston Pin Retaining	135	33636	Spark Plug (Champion J-8C or Equivalent)
45	35373A	Rod Ass'y., Connecting (Incl. Nos. 46, 47 & 49)	139	33369	Bracket, Governor Gear
46	650908	Bolt, Connecting Rod	140	650836	Screw, Hex Washer Hd. Thread Forming, 10-24 x 1/2
47	650882	Bolt, Connecting Rod	149	27882	Cap, Upper Valve Spring
48	34034	Lifter, Valve	149A	34689	Seal Ass'y., Intake Valve
49	35374	Dipper, Oil	150	27881	Spring, Valve
50	35375	Camshaft (Mechanical Compression Release)	151	32581	Cap, Lower Valve Spring
60	33273A	Extension, Blower Housing	169	*27896A	Gasket, Breather
65	650128	Screw, Hex Hd. Sems, 10-24 x 1/2	170	28423	Body, Breather
69	*35262	Gasket, Cylinder Cover	171	28424	Element, Breather
70	35376	Cover Ass'y., Cylinder (Incl. Nos. 75 & 80)	172	28425	Cover, Breather
71	35377	Bushing, Cylinder Cover	173	35350	Tube, Breather
72	27642	Plug, Pipe	174	650128	Screw, Hex. Hd. Sems, 10-24 x 1/2
			179	**29443	Clip, Wire
			182	30088A	Screw, Fil. Hd. Sem, 1/4-28 x 1
			184	*33263	Gasket, Carburetor
			185	34707	Pipe, Intake
			186	34667	Link, Governor

TECUMSEH 8 H.P. ENGINE MODEL NO. HM80-155426L

Repair Parts

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
188	29752	Nut, Whiz Lock, 1/4-28	277	650729	Screw, Hex Hd., 5/16-18 x 3-3/16
200	34677	Bracket Ass'y., Control (Incl. Nos. 19, 203 & 204)	281	33013	Cover, Starter Hole
203	31342	Spring, Compression	282	650760	Screw, Pan Hd. Taptite, 8-32 x 3/8
204	650549	Screw, Fil. Hd., 5-40 x 7/16	285	35287	Hub, Starter
206	610973	Terminal Ass'y.	286	35446	Screen, Starter
207	33878	Link, Governor-to-Throttle	287	29752	Nut & Lock Washer, 1/4-28
209	650821	Screw, Hex Washer Hd. Thread Cutting, 10-32 x 1/2	290	**30962	Line, Fuel
215	35882	Knob, Control	292	26460	Clamp, Fuel Line
222	28820	Screw, Fil. Hd. Sems, 10-32 x 1/2	298	650665	Screw, Hex Washer Hd. Thread Cutting, 1/4-15 x 7/8
223	650378	Screw, Torx Fil. Hd., Sems 5/16-18 x 1-1/8	300	34186A	Tank, Fuel (Incl. Nos. 292 & 301)
224	*27915A	Gasket, Intake Pipe	301	35355	Cap, Fuel Tank
239	*27272A	Gasket, Air Cleaner	305	**35554	Tube, Oil Filler
241	33266	Bracket, Air Cleaner	306	*35499	Gasket, Dipstick
242	33267	Bracket, Air Cleaner	308	35540	Clip, Oil Fill Tube
245	33268	Element, Air Cleaner	310	35555	Dipstick, Oil (Incl. No. 306)
246A	**35881	Filter, Pre-Air Cleaner (Poly)	327	35392	Plug, Starter
250	33269A	Cover, Air Cleaner	339	35880	Spacer, Tank Bracket
251	550513	Nut, Wing 1/4-20	340	34258A	Bracket, Fuel Tank
260	35879	Housing, Blower	342	650783	Screw, Hex Washer Hd. Durlok, 1/4-20 x 5/8
261	650788	Screw, Hex Hd., Spinlock Thread Forming, 5/16-18 x 3/4	345A	34259	Plate, Fuel Tank Mounting
262	29747B	Screw, Phil. Hex Hd. Sems, 5/16-24 x 21/32	370	34346	Decal, Instruction
265	33272A	Cover, Cylinder Head	370A	34686	Decal, Name
275	34185A	Muffler	370C	35344	Decal, Throttle
276	31588	Plate, Lock	380	632351	Carburetor (Incl. No. 184)
			390	590633	Starter, Rewind
			400	33279G	Gasket Set (Incl. Items Marked *)

*Indicates parts included in Gasket Set, Ref. No. 400.

**SPARK ARRESTING MUFFLER
(Optional Equipment)**

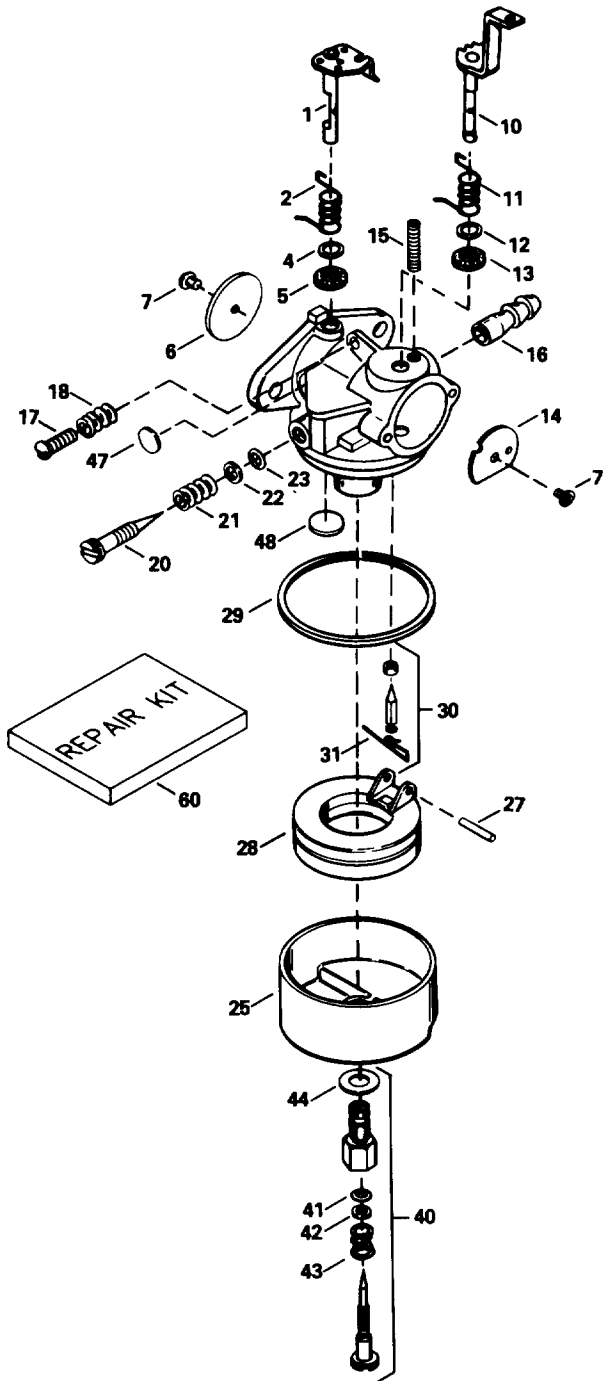
The following parts are required (one each):

- 1A92-12 Screen
- 108-11-6 Adapter
- 91-145 Locking Plate
- 64-788 Instruction Sheet

TECUMSEH 8 H.P. ENGINE MODEL NO. HM80-155426L

Repair Parts

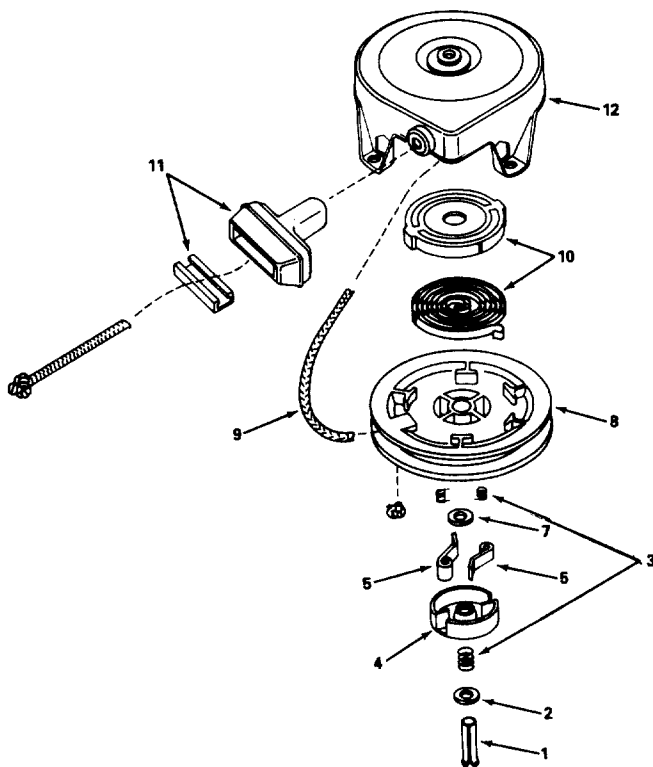
PARTS LIST FOR CARBURETOR



KEY NO.	PART NO.	DESCRIPTION
1	631776A	Throttle Shaft & Lever Ass'y.
2	631970	Throttle Return Spring
4	631184	Dust Seal Washer
5	631971	Dust Seal (Throttle)
6	631778	Throttle Shutter
7	650506	Throttle & Choke Shutter Screw
10	631812	Choke Shaft & Lever Ass'y.
11	632043	Choke Return Spring
12	631184	Dust Seal Washer (Choke)
13	631183	Dust Seal (Choke)
14	631753	Choke Shutter
15	630735	Choke Positioning Spring
16	632164	Fuel Fitting
17	650417	Idle Speed Screw
18	630766	Tension Spring
20	*632281	Idle Mixture Screw
21	630766	Idle Tension Spring
22	630739	Washer, Idle Screw
25	631867	Float Bowl
27	*631024	Shaft, Float
28	632019	Float
29	*631028	O-Ring, Float Bowl to Body
30	*631021	Inlet Needle, Seat & Spring Clip (Incl. No. 31)
31	631022	Spring Clip
40	*632239	Adjustment Screw Ass'y., Main (Incl. Nos. 22, 41, 43 & 44)
41	*630740	O-Ring, High Speed Mixture Screw
42	630739	Washer, High Speed Mixture Screw
43	630738	Tension Spring, High Speed Mixture Screw
44	27110	Bowl Nut Washer
47	*630748	Welch Plug, Idle Mixture Well
48	*631027	Welch Plug, Atmospheric Vent
60	632347	Repair Kit (Incl. Items Marked *)
—	632351	Carburetor Comp.

TECUMSEH 8 H.P. ENGINE MODEL NO. HM80-155426L

Repair Parts



PARTS LIST FOR REWIND STARTER

KEY NO.	PART NO.	DESCRIPTION
1	590599A	Pin, Spring (Incl. No. 7)
2	590600	Washer
3	590651	Spring Ass'y., Brake & Dog
4	590627	Retainer
5	590641	Dog, Starter
7	590601	Washer
8	590632	Pulley
9	590451A	Rope, Starter
10	590629	Spring & Keeper Ass'y.
11	590387	Handle Ass'y., Starter
12	590634	Housing Ass'y., Starter
—	590633	Rewind Starter Comp.

SEARS

OWNER'S MANUAL

**MODEL NO.
247.780890**

HOW TO ORDER REPAIR PARTS

CRAFTSMAN®

8 HORSEPOWER 3 CUTTING STAGE MULCHING AND BAGGING CHIPPER-SHREDDER

Each chipper-shredder has its own model number. Each engine has its own model number.

The model number for your chipper-shredder will be found on a label attached to the frame.

The model number for the engine will be found on the blower housing of the engine.

All parts listed herein may be ordered through Sears, Roebuck and Co. Service Centers and most Retail Stores.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION:

- * **PRODUCT - "8 H.P. Chipper-Shredder"**
- * **MODEL NUMBER - 247.780890**
- * **ENGINE MODEL NO. - HM80-155426L**
- * **PART NUMBER**
- * **PART DESCRIPTION**

Your Sears merchandise has added value when you consider that Sears has service units nationwide staffed with Sears trained technicians...professional technicians specifically trained on Sears products, having the parts, tools and the equipment to insure that we meet our pledge to you...we service what we sell."

SEARS, ROEBUCK AND CO., Chicago, IL 60684 U.S.A.

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