

HSK600

HSK840



OPERATOR'S MANUAL

and MAINTENANCE INSTRUCTIONS for
TECUMSEH

MODEL

**HSK845 HSK850
HSK600
SNOW KING®**



**SNOW BLOWER ENGINE
HORIZONTAL CRANKSHAFT
AIR COOLED - TWO-CYCLE ENGINE**



THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH IF NOT FOLLOWED COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL AND ANY PROVIDED WITH THE EQUIPMENT ON WHICH THIS ENGINE IS USED BEFORE ATTEMPTING TO OPERATE YOUR TECUMSEH ENGINE.



THESE SYMBOLS MAY APPEAR ON THE ENGINE:



FAST



SLOW



STOP



OFF



1/2



FULL

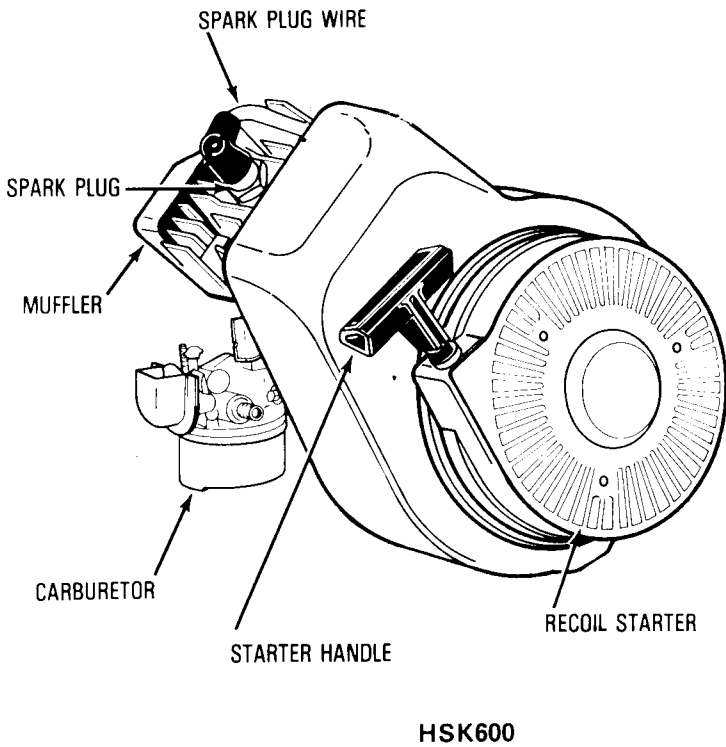
CHOKE



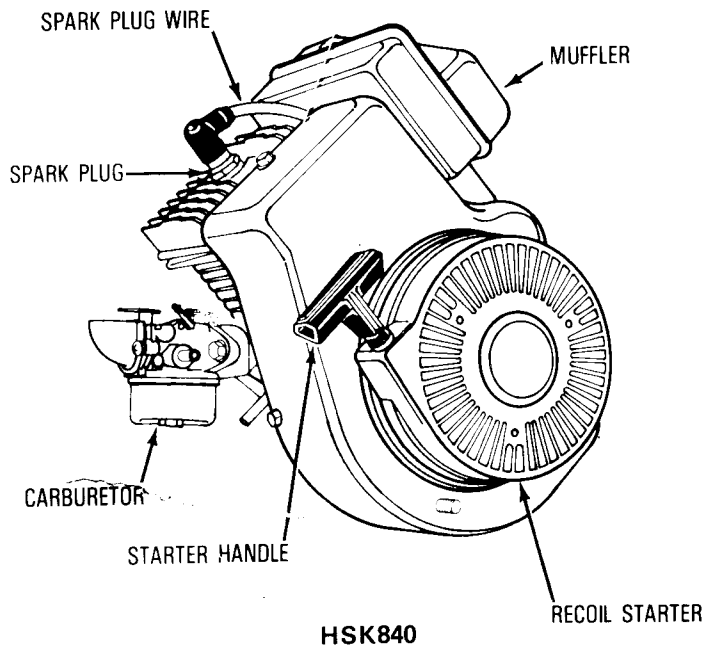
California Proposition 65 **WARNING:** The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

9-1-95 **181-807-1**

NOTE: See decal located on engine for Model and Serial Number



HSK600



HSK840



MODEL AND SERIAL NUMBER DECAL

OIL & FUEL RECOMMENDATIONS

TO OPERATE ENGINE, YOU WILL NEED THE FOLLOWING:

① **A CLEAN, HIGH QUALITY 2 CYCLE OIL, BIA, NMMA, TC-WII, OR TC-W3.**

Tecumseh specially formulated oil is available at any Authorized Tecumseh Service Outlet. Order as part no. 730227.

DO NOT USE MULTI-VISCOSITY OILS.

DISREGARD MIX RATIO INSTRUCTIONS ON OIL CONTAINERS IF INSTRUCTIONS CONFLICT WITH FUEL/OIL MIX RATIO IN "TO MIX OIL & GASOLINE" BELOW.

② **A FRESH, CLEAN, UNLEADED REGULAR AUTOMOTIVE GASOLINE.** (Leaded regular, unleaded, leaded premium, or reformulated grades of gasoline are acceptable substitutes.)

NOTE: DO NOT USE GASOLINE CONTAINING METHANOL (WOOD ALCOHOL). Gasoline containing up to 10% ethanol or grain alcohol ("Gasohol") or up to 15% MTBE (Methyl Tertiary Butyl Ether), may be used but requires special care when engine is unused for extended periods. See "STORAGE" instructions on Page 4.

③ **TO MIX OIL & GASOLINE:**

THE FUEL/OIL MIX RATIO IS 50:1 WITH THE USE OF A BIA/NMMA CERTIFIED OIL.

NOTE: 32:1 FUEL/OIL MIX RATIO IS RECOMMENDED WITH NON-CERTIFIED OILS.

NOTE: Due to differences in fuel and oil throughout the world, Tecumseh recommends a 32:1 mixture be used outside of the United States and Canada.

FUEL MIX CHART		Mixture 50:1	
U.S.		S.I. (METRIC)	
Gas	Oil To Be Added	Petrol	Oil To Be Added
1 Gal.	2-1/2 oz.	4 Liters	80 ml
2 Gal.	5 oz.	8 Liters	160 ml
5 Gal.	13 oz.	20 Liters	400 ml

FUEL MIX CHART		Mixture 32:1	
U.S.		S.I. (METRIC)	
Gas	Oil To Be Added	Petrol	Oil To Be Added
1 Gal.	4 oz.	4 Liters	125 ml
2 Gal.	8 oz.	8 Liters	250 ml
5 Gal.	20 oz.	20 Liters	625 ml

- A. Fill approved, clean container one quarter full with recommended gasoline.
- B. Add recommended oil to gasoline per FUEL MIX CHART above.

DO NOT MIX DIRECTLY IN ENGINE FUEL TANK.

- C. Screw cap on container and shake vigorously. Then unscrew cap and fill container with gasoline as shown in FUEL MIX CHART. Once mixed oil and gasoline will not separate.

⚠ NEVER MIX OR STORE GASOLINE/OIL MIXTURE IN DOORS OR IN ENCLOSED, POORLY VENTILATED AREAS, WHERE FUEL FUMES MAY REACH AN OPEN FLAME, SPARK OR PILOT LIGHT AS ON A FURNACE, WATER HEATER, CLOTHES DRYER OR OTHER GAS APPLIANCE.

BEFORE STARTING

- ① READ ALL INSTRUCTIONS PROVIDED WITH THE EQUIPMENT ON WHICH THIS ENGINE IS USED.

② **FILL FUEL TANK:**

- A. Clean area around fuel fill cap, remove cap.
- B. Add FUEL MIX specified in the preceding "OIL & FUEL RECOMMENDATIONS", item 3. Use a funnel to help avoid spillage.

Never use "stale" gasoline left over from last season or stored for long periods.

- C. Install fuel fill cap and wipe up any spilled FUEL MIX.

⚠ NEVER FILL FUEL TANK INDOORS. NEVER FILL FUEL TANK WHEN ENGINE IS RUNNING OR HOT. DO NOT SMOKE WHEN FILLING FUEL TANK.

⚠ NEVER FILL FUEL TANK COMPLETELY. FILL TANK TO 1/2" BELOW BOTTOM OF FILLER NECK TO PROVIDE SPACE FOR FUEL EXPANSION.

⚠ WIPE ANY FUEL SPILLAGE FROM ENGINE AND EQUIPMENT BEFORE STARTING ENGINE.

③ **CHECK THE FOLLOWING:**

⚠ A. BE SURE EQUIPMENT IS IN NEUTRAL GEAR WITH CLUTCHES, BELTS, CHAINS AND SAFETY SWITCHES DISENGAGED. (FOLLOW EQUIPMENT MANUFACTURER'S INSTRUCTIONS.) THIS SHOULD PLACE ANY SAFETY SWITCHES IN SAFE STARTING POSITION.

- B. Be sure spark plug wire is attached to spark plug (see Figure 2).

- C. Be sure any ignition switch on engine or equipment is in "ON", "RUN" or "START" position.

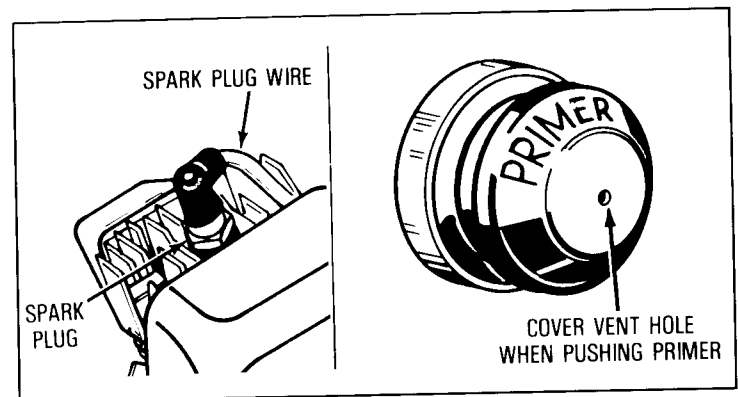


Figure 2

STARTING

- ⚠** NEVER RUN ENGINE INDOORS OR IN ENCLOSED, POORLY VENTILATED AREAS. ENGINE EXHAUST CONTAINS CARBON MONOXIDE, AN ODORLESS AND DEADLY GAS.
- ⚠** KEEP HANDS, FEET, HAIR AND LOOSE CLOTHING AWAY FROM ANY MOVING PARTS ON ENGINE AND EQUIPMENT. NEVER LEAVE EQUIPMENT UNATTENDED WHEN ENGINE IS RUNNING.
- ⚠** WARNING - TEMPERATURE OF MUFFLER AND NEAR BY AREAS MAY EXCEED 150°F (65°C). AVOID THESE AREAS.

NOTE: If engine is remotely controlled, see equipment manufacturer's instructions for control positions which correspond to engine control positions in Figure 3.

① RECOIL STARTER:

- A. Move choke lever on engine or equipment (see Figure 3) to "FULL CHOKE".

NOTE: IF RESTARTING A WARM ENGINE AFTER A SHORT SHUTDOWN:

1. MOVE CHOKE TO "NO CHOKE" INSTEAD OF "FULL CHOKE".
2. DO NOT USE PRIMER.

- B. Push primer two (2) or three (3) times (see Figure 2). Wait about two (2) seconds between each push. ALWAYS COVER "VENT HOLE" when pushing primer. See warm engine restart "NOTE" above.

NOTE: Additional priming may be required, for initial start only, if temperature is below 15°F/-10°C.

- C. Grasp starter handle (see Figure 1) and pull rope out slowly, until it pulls slightly harder. Let rope rewind slowly. Then pull rope with a rapid full arm stroke. Let rope return to starter slowly.

NOTE: If engine fails to start after three (3) pulls, push primer two (2) times and pull starter rope again.

- D. When engine starts, move choke lever gradually to "NO CHOKE".
- E. If engine falters, move choke lever immediately to "FULL CHOKE" and then gradually to "NO CHOKE".

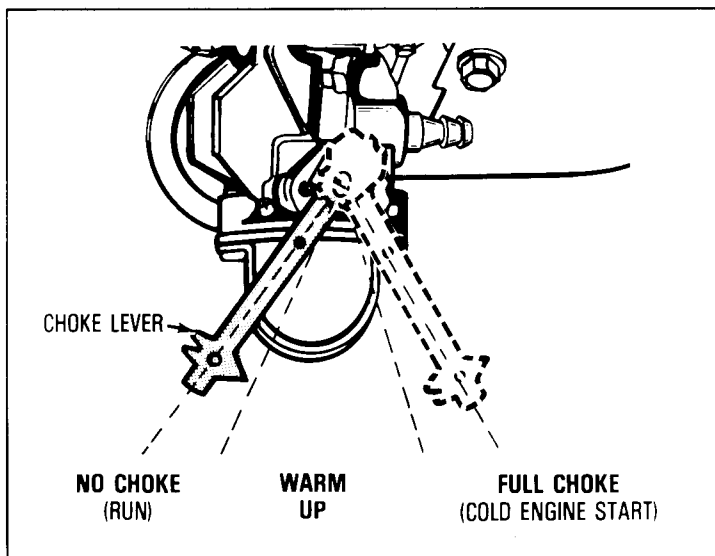


Figure 3

STARTING (Continued)

② ELECTRIC STARTER 120 VOLT A.C.:

- ⚠** THIS STARTER IS EQUIPPED TO OPERATE ON 120 VOLT AC HOUSEHOLD CURRENT.

- ⚠** WHEN CONNECTING "POWER CORD", FIRST CONNECT CORD TO "SWITCH BOX" ON ENGINE, AND THEN PLUG THE OTHER END INTO HOUSEHOLD RECEPTACLE.

- ⚠** WHEN DISCONNECTING POWER CORD, ALWAYS UNPLUG THE END IN THE HOUSEHOLD RECEPTACLE FIRST.

- A. Move choke lever on engine or equipment (see Figure 3) to "FULL CHOKE".

NOTE: IF RESTARTING A WARM ENGINE AFTER A SHORT SHUTDOWN:

1. MOVE CHOKE TO "NO CHOKE" INSTEAD OF "FULL CHOKE".
2. DO NOT USE PRIMER.

- B. Push primer one (1) time (see Figure 2).

- C. Connect power cord to switchbox (see Figure 4).

- D. Plug other end of power cord into a three-hole grounded 120V, AC receptacle. (See "warning" at beginning of these instructions.)

- E. Push starter button (see Figure 4) to crank engine.

- ⚠** WARNING: THIS ELECTRIC STARTER IS NOT EQUIPPED WITH A THERMAL CUT-OUT SWITCH. DO NOT CRANK ENGINE FOR MORE THAN A TOTAL OF 20 SECONDS WITHOUT ALLOWING ELECTRIC STARTER TO COOL DOWN FOR 10 MINUTES. FAILURE TO DO THIS CAN SEVERELY DAMAGE ELECTRIC STARTER.

- F. When engine starts, release starter button and move choke lever gradually to "NO CHOKE".

- G. If engine falters, move choke lever immediately to "WARM UP" then gradually to "NO CHOKE".

- H. Disconnect power cord from receptacle first, and then from switchbox.

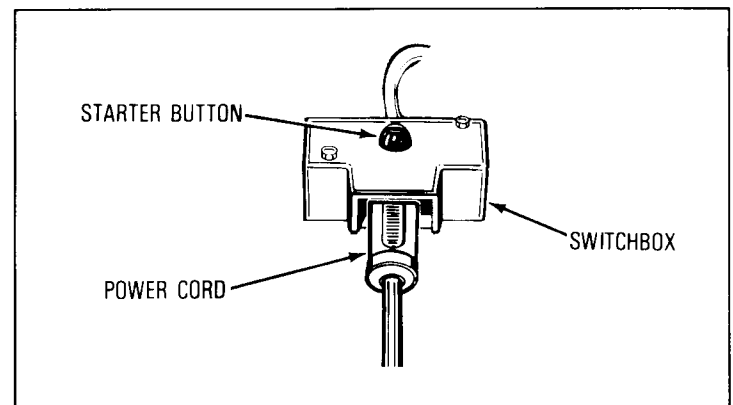


Figure 4

STOPPING

- ① Move remote control on equipment or any ignition stop switch on engine to "STOP" or "OFF" position (see equipment manufacturer's instructions).

- ② **AFTER ENGINE IS STOPPED:**

- ⚠ A. **DISCONNECT SPARK PLUG WIRE FROM SPARK PLUG AND KEEP IT AWAY FROM SPARK PLUG.**
- ⚠ B. **TURN IGNITION SWITCH KEY (IF SO EQUIPPED) TO "OFF" POSITION AND REMOVE KEY FROM SWITCH. THIS WILL REDUCE THE POSSIBILITY OF UNAUTHORIZED STARTING OF ENGINE WHILE EQUIPMENT IS NOT IN USE.**
- ⚠ **NEVER STORE ENGINE WITH FUEL IN TANK IN DOORS OR IN ENCLOSED, POORLY VENTILATED AREAS, WHERE FUEL FUMES MAY REACH AN OPEN FLAME, SPARK OR PILOT LIGHT AS ON A FURNACE, WATER HEATER, CLOTHES DRYER OR OTHER GAS APPLIANCE.**

MAINTENANCE

- ⚠ **WARNING - TEMPERATURE OF MUFFLER AND NEAR BY AREAS MAY EXCEED 150°F (65°C). AVOID THESE AREAS.**

- ① **SPARK PLUG** (see Figure 5):

Check spark plug yearly or every 100 operating hours.

- A. Clean area around spark plug.
- B. Remove and inspect spark plug.
- C. Replace spark plug if electrodes are pitted, burned or porcelain is cracked. For replacement use Champion CJ-8Y or equivalent.

NOTE: In Canada, replace spark plug with a resistor plug.

- D. Check electrode gap with wire feeler gauge and set gap at .030 if necessary.
- E. Install spark plug, tighten securely.

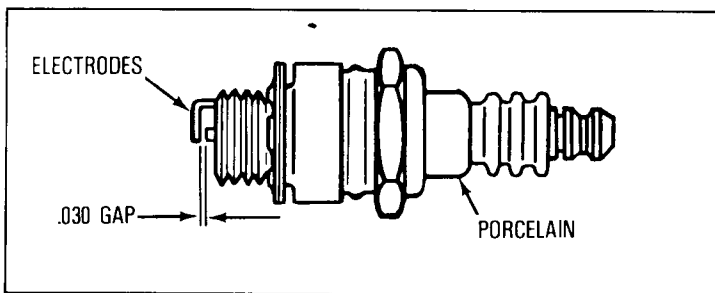


Figure 5

- ② **MUFFLER AND CYLINDER EXHAUST PORTS:**

The muffler, cylinder exhaust and compression release ports require cleaning after 75 to 100 hours of operation. For this maintenance procedure we recommend that you take your engine to your Authorized Tecumseh Service Dealer.

- ③ **CHECK ENGINE AND EQUIPMENT OFTEN FOR LOOSE NUTS, BOLTS AND ATTACHMENTS AND KEEP THESE ITEMS TIGHTENED.**

ADJUSTMENTS

DO NOT MAKE UNNECESSARY ADJUSTMENTS. FACTORY SETTINGS ARE SATISFACTORY FOR MOST CONDITIONS.

- ① **CARBURETOR:**

If you think your carburetor needs adjusting, see your nearest AUTHORIZED TECUMSEH SERVICE OUTLET.

Engine performance may be affected in altitudes above 4,000 feet. To improve engine performance, install a High Altitude Adjustment Kit. To obtain a kit, see your nearest AUTHORIZED TECUMSEH SERVICE OUTLET.

- ② **ENGINE SPEED:**

- ⚠ **NEVER TAMPER WITH ENGINE GOVERNOR WHICH IS FACTORY SET FOR PROPER ENGINE SPEED. OVERSPEEDING ENGINE ABOVE FACTORY HIGH SPEED SETTING CAN BE DANGEROUS. CHANGING OF ENGINE GOVERNED SPEED WILL VOID ENGINE WARRANTY.**

For engine adjustments and/or repairs not covered in this "OPERATOR'S MANUAL" see "WARRANTY & REPAIR" on Page 6.

STORAGE

- ⚠ **NEVER STORE ENGINE WITH FUEL IN TANK INDOORS OR IN ENCLOSED, POORLY VENTILATED AREAS, WHERE FUEL FUMES MAY REACH AN OPEN FLAME, SPARK OR PILOT LIGHT AS ON A FURNACE, WATER HEATER, CLOTHES DRYER OR OTHER GAS APPLIANCE.**

IF ENGINE IS TO BE UNUSED FOR 30 DAYS OR MORE, PREPARE AS FOLLOWS:

- ① **DRAIN FUEL SYSTEM:**

- A. Remove all gasoline from carburetor and fuel tank to prevent gum deposits from forming on these parts and causing possible malfunction of engine.

- ⚠ **DRAIN FUEL INTO APPROVED CONTAINER OUTDOORS, AWAY FROM OPEN FLAME. BE SURE ENGINE IS COOL. DO NOT SMOKE.**

- B. Run engine until fuel tank is empty and engine stops due to lack of fuel.

NOTE: If "Gasohol" has been used, complete above instructions and then put 1/2 pint of gasoline properly mixed with oil per FUEL MIX CHART on Page 2 into fuel tank and repeat above instructions.

NOTE: Fuel stabilizer (such as STA-BIL) is an acceptable alternative in minimizing the formation of fuel gum deposits during storage. Add stabilizer to gasoline in fuel tank or storage container. Always follow mix ratio found on stabilizer container. Run engine at least 10 minutes after adding stabilizer to allow it to reach carburetor.

STORAGE (Continued)

③ DRAIN CARBURETOR (if so equipped):

Drain carburetor by pressing upward on bowl drain (see Figure 6), which is located below carburetor (see Figure 1).



DRAIN FUEL INTO APPROVED CONTAINER OUTDOORS, AWAY FROM OPEN FLAME. BE SURE ENGINE IS COOL. DO NOT SMOKE.

NOTE: Do not drain carburetor if using fuel stabilizer.

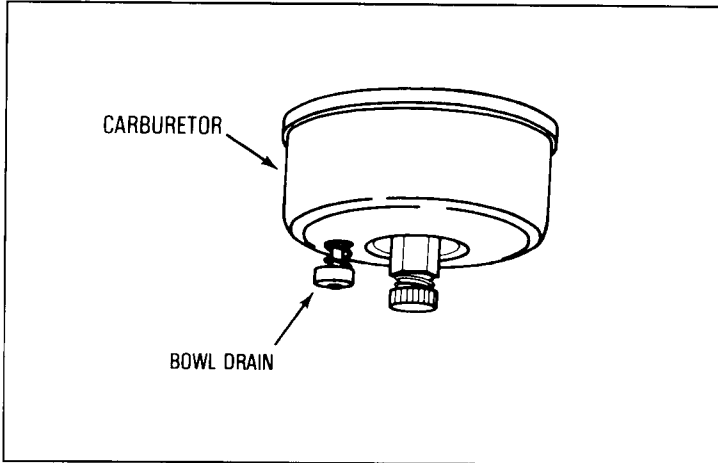


Figure 6

④ CYLINDER BORE:

- A. Pull starter handle slowly until resistance is felt due to compression pressure, then stop.
- B. Release starter tension slowly to prevent engine from reversing due to compression pressure. The position will close both the intake and exhaust ports to prevent corrosion of the piston and cylinder bore.

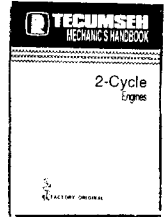
WARRANTY AND REPAIR



For engine adjustment, repairs, or warranty service not covered in this manual, contact your nearest AUTHORIZED TECUMSEH SERVICE OUTLET. It is listed in your pages under "Engines, Gasoline."

If you have a general understanding of internal combustion engine and wish to repair and service your engine yourself, a "MECHANICS HANDBOOK" which covers repairs and adjustments not covered in this OPERATOR'S MANUAL is available from your AUTHORIZED TECUMSEH SERVICE OUTLET. Order as Part No. 692508 (HSK600) or 694988 (HSK840).

Tecumseh manufactures and is responsible only for the engine used on this power equipment. If repair or service is needed for unit, other than engine, contact service source as recommended by equipment manufacturer.



LIMITED WARRANTY FOR NEW TECUMSEH ENGINES AND ELECTRONIC IGNITION MODULES

For the time period shown below from the date of purchase, Tecumseh Products Company will, at its option as the exclusive remedy, either repair or replace for the original purchaser, free of charge, any part of any new Tecumseh engine which is found, upon examination by any Tecumseh Authorized Service Outlet or by Tecumseh's factory in Grafton, Wisconsin, to be **DEFECTIVE IN MATERIAL AND/OR WORKMANSHIP**, except as provided below. This Limited Warranty **DOES NOT COVER** (i) any Tecumseh engine or part(s) thereof used to power any vehicle in competitive racing and/or used on any commercial or rental track, or (ii) defects or damage caused by alterations or modifications of new Tecumseh engines or parts or by normal wear, accidents, improper maintenance, improper use or abuse of the product, or failure to follow the instructions contained in an Instruction Manual for the operation of the new Tecumseh engine or part. The cost of normal maintenance or replacement of service items which are not defective shall be paid for by the original purchaser. At the time warranty service is requested, evidence must be presented of the date of purchase by the original purchaser. Any charge for making service calls and/or for transporting any engine or part(s) thereof to and from the place where the inspection and/or warranty work is performed is payable solely by the purchaser. The purchaser is responsible for any damage or loss incurred in connection with the transportation of any engine or part(s) thereof submitted for inspection and/or warranty work. **WARRANTY SERVICE CAN ONLY BE PERFORMED BY A TECUMSEH AUTHORIZED SERVICE OUTLET OR BY TECUMSEH AT ITS FACTORY IN GRAFTON, WISCONSIN.** Warranty service can be arranged by contacting either a Tecumseh Authorized Service Outlet (any Tecumseh Registered Service Dealer, Tecumseh Master Service Dealer, Tecumseh Authorized Service Distributor, or Tecumseh Central Warehouse Distributor) or by contacting Tecumseh's Service Manager, Engine and Transmission Group Service Division, 900 North Street, Grafton, Wisconsin 53024-1499.

ENGINE WARRANTY PERIOD

Warranty Category†	"CONSUMER USE" +		"COMMERCIAL USE" ++	
	Within U.S.A. and Canada	Outside U.S.A. and Canada	Within USA and Canada	Outside USA and Canada
(A)	90 day	90 day	No Warranty	No Warranty
(B)	1 Year	1 Year	1 Year	1 Year
(C)	2 Years	1 Year	1 Year	1 Year
(D)	2 Years	2 Years**	1 Year	1 Year
(E)	2 Years	2 Years	1 Year	1 Year
(H)	2 n 10*	2 n 10*	1 Year	1 Year
(K)	2 n 10*	2 n 10*	2 n 10*	1 Year

* 2 years on engine, 10 years on electronic ignition.

** 1 year for Australia/New Zealand for rotary mower engines.

+ For purposes of this warranty policy, "consumer use" shall mean consumer's personal, residential, household use by the original retail purchaser.

++ For purposes of this warranty policy, "commercial use" shall mean all other uses, including use for commercial, income producing, or rental purposes.

† The engine warranty category of your engine can be determined by review of the engine model number on the "Important Engine Information" decal. One letter in the engine model number will be surrounded by parens (A), (B), (C), (D), (E), (H) or (K) and that letter is your engine warranty category designation. IN CALIFORNIA ONLY, THIS EXPRESS WARRANTY IS SUPPLEMENTED BY THE TECUMSEH CALIFORNIA EMISSION CONTROL WARRANTY STATEMENT.

THIS EXPRESS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES. Neither Tecumseh nor any of its affiliates makes any warranties, representations, or promises, written or oral, as to the quality of the engine or any of its parts, other than as set forth herein. **ANY IMPLIED WARRANTY OF MARKETABILITY OR FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT THAT EITHER MAY APPLY TO ANY TECUMSEH ENGINE OR PART(S) THEREOF, SHALL BE LIMITED IN DURATION TO THE PERIODS OF THE EXPRESS WARRANTIES SHOWN IN THE WARRANTY PERIOD CHART ABOVE AND TO THE EXTENT PERMITTED BY LAW ANY AND ALL IMPLIED WARRANTIES ARE EXCLUDED. IN NO EVENT WILL TECUMSEH BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES AND/OR EXPENSES.** Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitation(s) or exclusion(s) may not apply to you. This Limited Warranty gives you specific legal rights and you may also have other legal rights which vary from state-to-state.

6-1-95

FILL IN: _____ _____ _____ _____ EXAMPLE: HSK600 1620S (D) 5213G
 ENGINE SPEC. WARRANTY SERIAL ENGINE SPEC. WARRANTY SERIAL
 MODEL NUMBER PERIOD NUMBER MODEL NUMBER PERIOD NUMBER



TECUMSEH PRODUCTS COMPANY

