TECUMSEH

Update 2007

FACTORY TRAINING

TECUMSEH®
ENGINES & TRANSMISSIONS

TECUMSEH®

ENGINES & TRANSMISSIONS

Tecumseh Power Company

Primed for the long term

Dear Friends,

Throughout the last year, we have instituted a variety of initiatives to ensure the worldwide long term stability and growth of our company. For example, last month we established Tecumseh Power International Ltd, which is headquartered in the United Kingdom. This sales and service operation strengthens our presence in the European, Australian, African, Asian and Pacific Rim markets.

Tecumseh manufactures engines and components in low cost locations including assembly facilities in Brazil and the United States. Global integration and synergy with other Tecumseh business units have improved manufacturing efficiency, delivery capabilities, quality and customer service worldwide. In Tecumseh research centers, our engineers are developing and testing new designs for higher performance, cleaner emissions and greater operating efficiency.

Tecumseh remains the overwhelming market leader in snow thrower engines, powering more than 8 out of 10 units ever made. And right now, we are celebrating 100 years of leadership in winter power -- visit our web site for the details. Sales in summer products are strong as well, with Tecumseh engines powering several of the top rated brands of generators and walk behind mowers, along with tillers and a variety of other outdoor power equipment. Coupled with our extensive line-up of transmission products, we are your entire source for engines, transmissions, and service.

We are excited about the future prospects for our company. Tecumseh is energized to provide an even higher level of service than ever before, and to develop new products that fit your needs. We look forward to many more years of manufacturing the industry's highest quality, best performing engines and transmission products. We invite you to discover what's new at Tecumseh today by visiting **www.TecumsehPower.com** .

Sincerely,

James Bonsall

James Bonsall, President
Tecumseh Power Company

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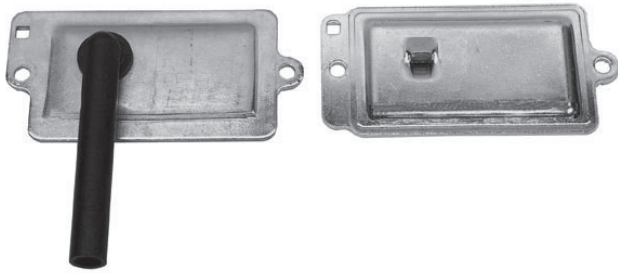
LV156XA

The LV156 is a new introduction this year that will be used on a variety of applications. The engine is especially suited for string trimmers, tillers, edgers, pressure washers and walk behind rotary mowers. The combination of bore and stroke and premium features make this engine offer the performance of the larger displacement engines in a small package. CDI ignition, fully pressurized lubrication, Kleen-Fuel™ system and Accu-Prime™ carburetion, are just a few of the features that makes this engine an easy starter with a long life expectancy.

LOUVERED BREATHER COVER

The LH318SA and LH358SA medium frame Snow King engines will see some changes to the breather system. The black tube that is extended from the breather cover, is being replaced with a cover which will have a louvered port to allow engine pressures to release. This new cover will retrofit older existing product and will replace the existing components as stock is depleted. The change took place in August of 2006. The part number is **38014**.



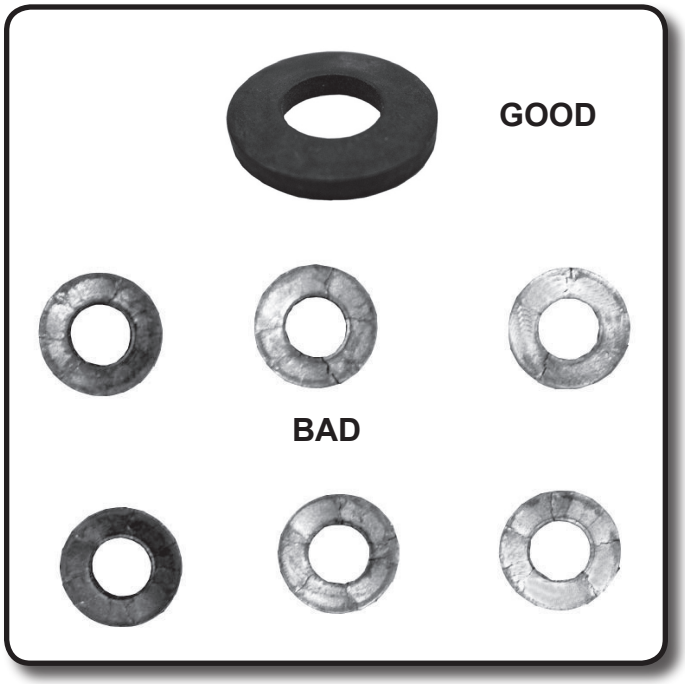
OLD **NEW**

CAM BUSHING CHANGE

All of the existing LV specs are going to receive an internal make over. The original design of the LV emissions engine used intake valve compression release. When the design was changed to an exhaust compression release the camshaft bearing diameter was reduced to accommodate the compression release mechanism. A composite bushing was inserted into the cam bearing pocket because of the change. All LV engines built today use exhaust compression release so the cylinder block has been modified, eliminating the need for the bushing. The bushing will continue to be included with the camshaft and also available separately under part number **37480**.

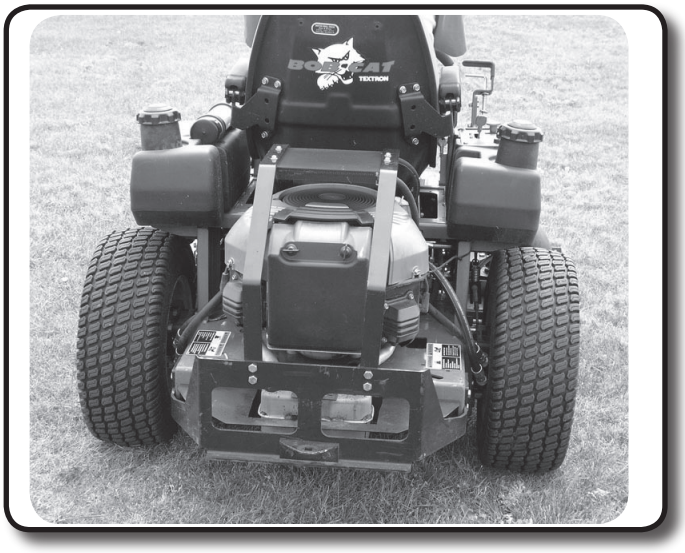
WASHER CRACKS

We have received field reports of the beveled head bolt washer cracking on a limited number or OV358 engines, causing a loss of torque retention to the head bolts. Our testing of the parts indicates the zinc plating along with the baking process could cause the parts to become brittle. The process has been changed to prevent any further occurrences, and there is a repair kit (part number **730324**) available to fix any units you find with this condition. The single washer part number 650690 which is also used on other summer application medium frame engines will be superseded into the new kit. As a reminder, if you have just one washer that exhibits the problem you should replace them all.



1-1/8” CRANK TWIN REPOWER

This is the answer to many of the plea’s from dealers about repower using the Tecumseh OV691 twin cylinder engine. The 1-1/8th inch crankshaft is now available in a 25 HP Twin cylinder engine and is priced hundreds of dollars less than other manufacturers, yet does not lack any of the features of other engines. Users have told us about better fuel economy, response and excellent performance from the dual carburetor system. Now you can use it too. The part number is **125102** and can be ordered from your normal source of supply.

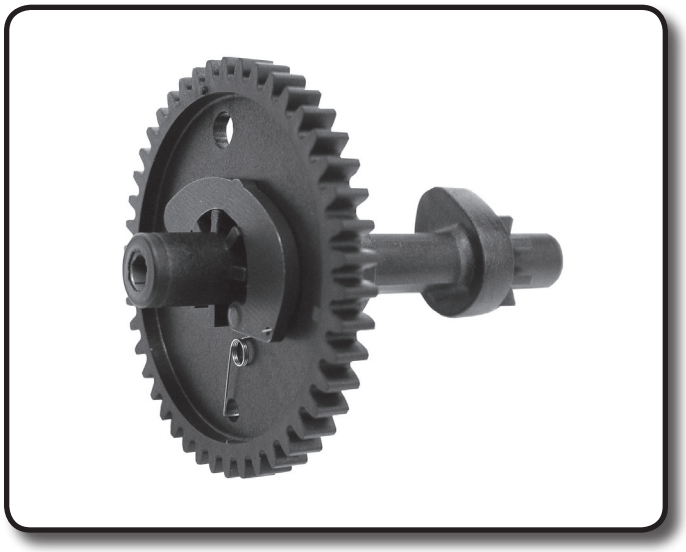


OIL FILL TUBE CLIP ELIMINATED LH195SA/SP

The oil fill tube anti-rotation clip used on the LH195 SA and SP engine was eliminated in March of 2006. To prevent the tubes from rotating we are now coating the threaded portion of the tube that screws into the block with Loctite 620. Remember to clean the threaded portion of the tube before applying the loctite and use only enough to coat the threads and avoid any excess. This process can also be applied to units that may require repair or replacement of the tube on existing equipment. This same change was made to the OHH/OH195 engines in 2004 without any problems.

LH195SA CAM UPGRADE

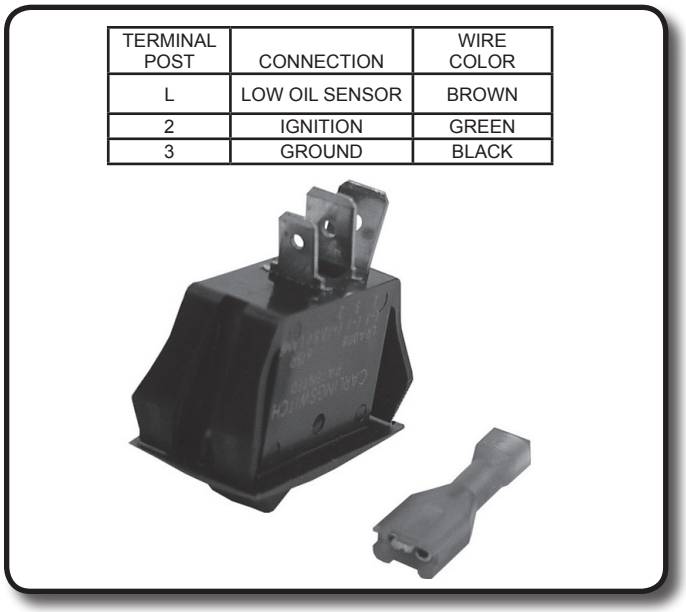
The camshaft on the small frame “L” head Snow King engines will be upgraded to a composite material, mechanical compression release camshaft. This will replace the steel bump style camshaft currently used. This camshaft is the same one used in the OH195 so the durability and function have a proven track record. The camshaft also offers the same serviceability as its OH cousin, which means all of the camshafts compression release components are serviceable. This change will take place during 2007 production. Service parts will include replacement valve springs that must be replaced if the change is made in service.



FOOL PROOF ROCKER SWITCH CHANGE

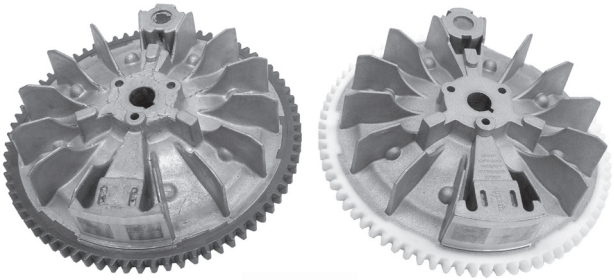
From time to time we see units that have been returned with the wiring connected incorrectly. Typically we see the low oil shutdown and the ignition wire swapped which renders the engine unable to start. To prevent that from occurring, we have changed the size of the terminal posts and connector spade so only the correct lead can be connected to the correct terminal. The new **611226A** includes a 3/16” blade terminal to be installed onto the green ignition wire. This was implemented as a running change in 2006 production.

TERMINAL POST	CONNECTION	WIRE COLOR
L	LOW OIL SENSOR	BROWN
2	IGNITION	GREEN
3	GROUND	BLACK



LV195 FLYWHEEL RING GEAR CHANGE

Material changes have been made to the composite ring gear used on the LV195 flywheel. The new flywheel part number **37999** is identified by a white composite ring gear and includes the new flywheel key part number **611298** which must be changed when replacing the flywheel. The original flywheel part number 37787 has been superseded in our parts system.

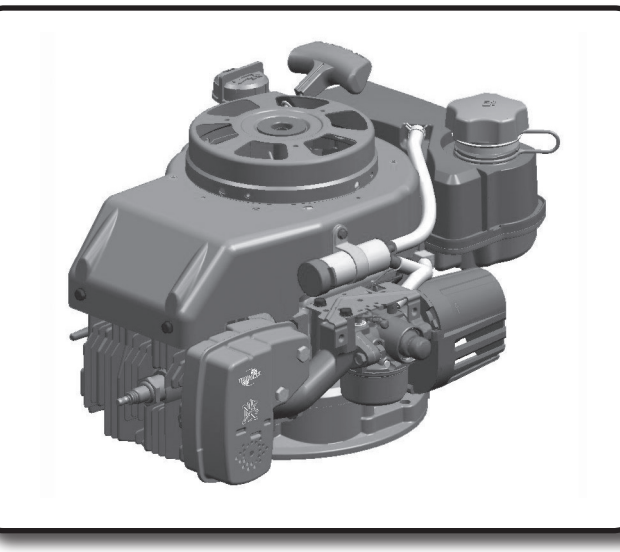


37787 **37999**

EVAPORATIVE CONTROLS

A number of changes will be taking place over the next several years. They deal primarily with evaporative emissions and how to control them. This section will show photos of several of the controls that are being used to comply with the new and upcoming emissions regulations.

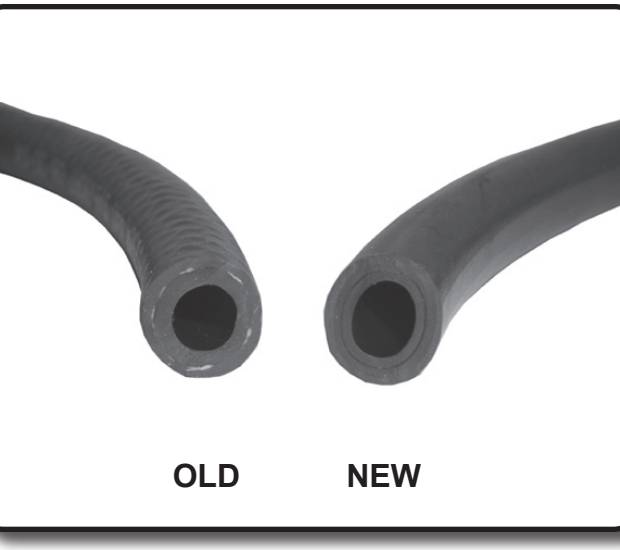
The first use of these evaporative components is right around the corner. Beginning January 1st 2007, “C.A.R.B.” will enforce regulations in the state of California on evaporative emissions. Tecumseh engines built for 50-state compliance after January 1st will incorporate the following evaporative emission components. We have included for you a component description, possible failure identification and testing procedure for your reference.



LOW-PERMEATION FUEL LINE

This fuel line has a barrier layer sandwiched between the inner and outer layers of the fuel line. Tecumseh’s low-perm fuel line is distinguishable on the outside by a continuous yellow strip and printing.

Service Note: It is required that when servicing low perm fuel line, the fuel tank spud is roughed up with one revolution of 180-220 grit emery cloth and cleaned with isopropyl alcohol. The fuel line should be installed while the tank spud is still wet from the alcohol.



OLD **NEW**

LOW-PERMEATION FUEL TANK

This tank is made out of a material that reduces the amount of gasoline that evaporates through the walls of the tank. A vent tube outlet comes out on top of the tank and is connected to the carbon canister by a tube. A fuel outlet is located at the bottom of the tank and is barbed to retain the fuel line firmly. A vent control valve is located inside the fuel tank.

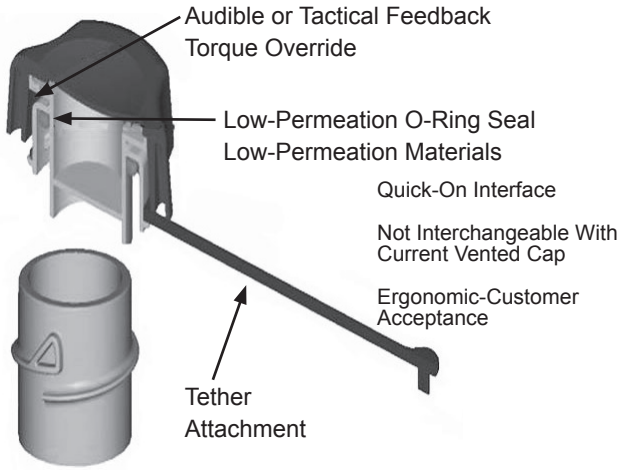
Tip: If the engine begins to falter or will not stay running, the vent control could be stuck or blocked creating a vapor lock. If when loosening the fuel cap the engine then continues to run, the tank vent control or cap may be the problem. Trying a different fuel cap will isolate the problem and determine if it is necessary to replace one or the other.

OLD NEW

LOW-PERMEATION FUEL CAP

The fuel cap is an automotive design, with a ratchet feature to prevent over tightening. It has a tether to keep it attached to the tank and from loosing the cap. The cap is made of low-permeation materials, and has a one-way vent that allows air to enter in from the vent tube but block the flow of fuel out when tipped for cleaning or repairs.

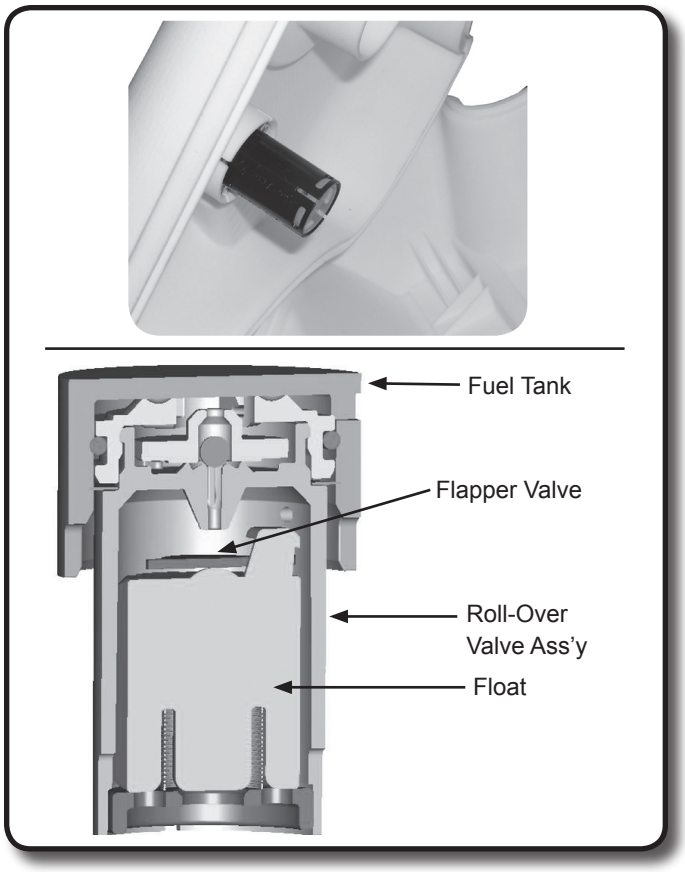
Tip: If the engine will not run unless the fuel cap is loosened, then the carbon canister or the fuel cap vent are blocked.



VENT CONTROL VALVE

The vent control valve, which is located inside the fuel tank, prevents fuel from going to the carbon canister when the engine is tipped over.

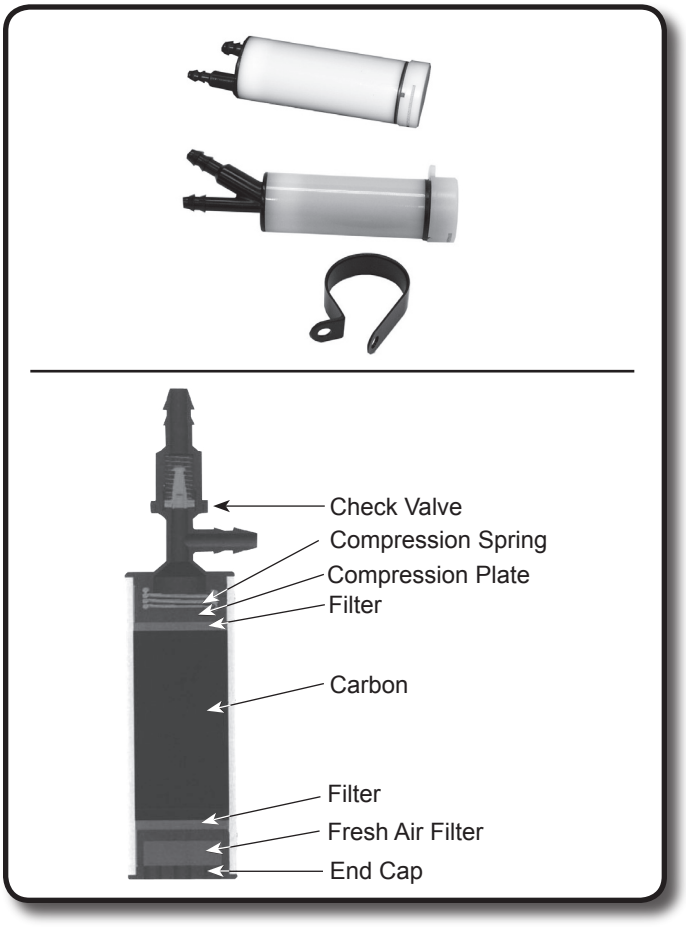
Tip: If fuel has entered the carbon canister the vent control has malfunctioned and the tank will need to be replaced. If the engine falters while running it could be either the vent control valve or the fuel cap. To isolate the valve remove the cap, drain the tank, and place your hand over the tank opening, draw a vacuum on the tank through the fuel outlet. If you are able to draw a vacuum the vent control valve is bad and the tank needs to be replaced.



CARBON CANISTER

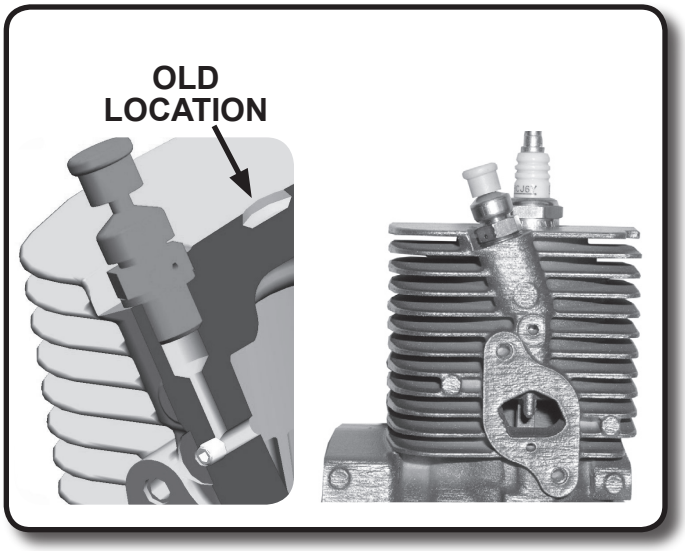
The carbon canister traps gasoline vapors that come from the tank when the gasoline warms up and the fuel expands. There are two connections, one for the fuel tank, and the other to the carburetor. The vapors that are trapped are then drawn into the carburetor when the engine runs preventing them from entering the atmosphere.

Tip: Avoid getting liquid fuel in the canister. If you see liquid fuel dripping from the canister, then the canister should be replaced. The canister should last for the life of the engine and any fuel in the canister could only enter if the vent control malfunctioned. In that situation both the fuel tank and the carbon canister would need to be replaced.



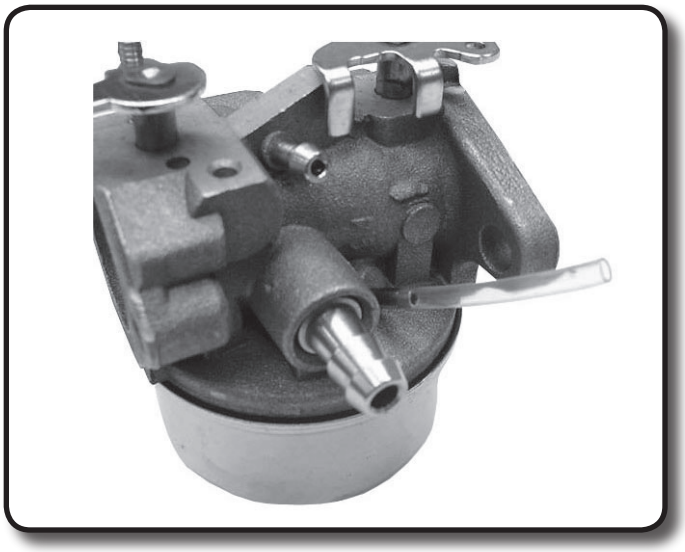
TM049 IMPROVED COMPRESSION RELEASE

We are working to improve the compression release on the TM049. The original location of the device in the combustion chamber exposed it to the potential for carbon build up increasing the need for service. The new location provides improved function by preventing the valve from closing with each pull of the recoil. The compression release remains in the top fin of the cylinder, but utilizes a passage that is located on the carburetor side of the cylinder wall. January 2007 is the projected start date for this change.



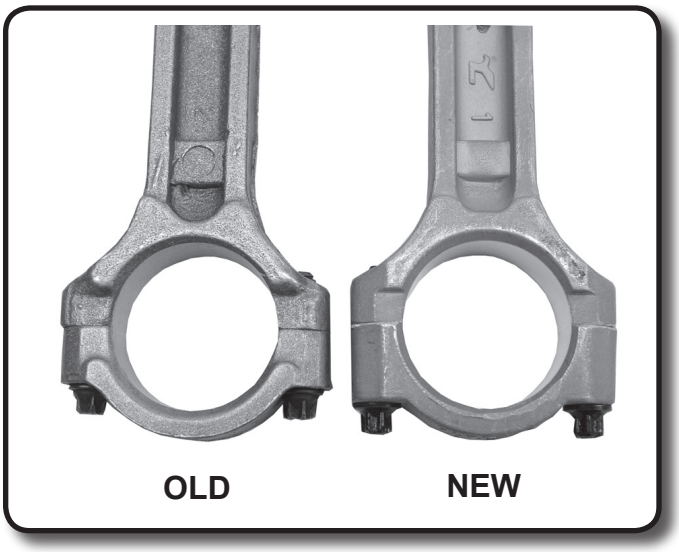
TH098/139 VENT TUBE

Some two cycle snow engines being built for the upcoming snow season will be using a 1 inch plastic extension on the main nozzle air bleed vent. This extension is designed to limit the occasion for fuel to come out of the carburetor's air bleed during over priming. Do not remove the tube unless it becomes damaged. Be aware when diagnosing engine problems that if the tube is bent or pinched, it will affect the carburetors ability to function properly. The part numbers for the tubes are **640361** for the TH098SA and **640362** for the TH139SA/SP.



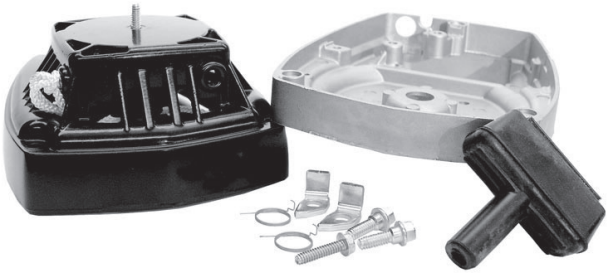
TH098 ROD CAP CHANGE

In order to improve its strength, we are increasing the connecting rod cap thickness by approximately 13%. To provide the necessary clearances, additional changes will be taking place. Longer rod bolts will be used and a small amount of material has been added to the block at the cover gasket area. Due to these changes, the new rods are not a retrofit for existing engines. These improvements are projected for January 2007 production.



TC RECOIL UPGRADE KIT (730323)

The dies for the TC recoil and base plate housings have been replaced, eliminating the tank holes on both parts. The kit part number **730323** is designed to prevent the mating of a non hole recoil with a base with holes, by supplying the new base with the kit. Ample supplies of old recoils and bases for models that require holes are available and must be ordered by model and spec number.



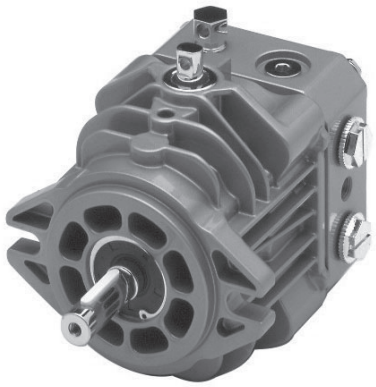
KIT 730323

TWO CYCLE SYNTHETIC BLEND OIL RATING

BIA, NMMA, TCW II, TCW III and JASO are all ratings given to two cycle oil. The ratings given to synthetic oil are rated by ISO standards. Tecumseh synthetic/blend oil part number **730227D**, is rated at the highest rating ISO-L-EGD. Also remember that this oil has a fuel stabilizer already in the oil. This is a plus that you can sell to all two cycle engine users.

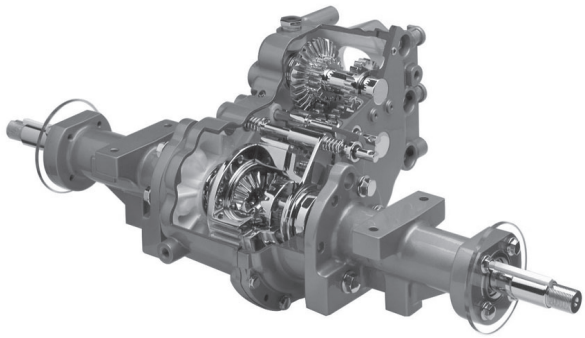
PUMP REPOWER

When dealers think of repower, they generally think of replacement engines. This year we are expanding the opportunities for repower to the drive system side of the equipment repair business. The LDP-10 pump has created that option. We have designed ten pumps that will replace potentially over 60 different applications currently using a competitor's pump. We have created three (3) kits that when used with one of the ten (10) pumps will replace these units. This will provide dealers a cost effective option to replace pumps made by other manufactures.



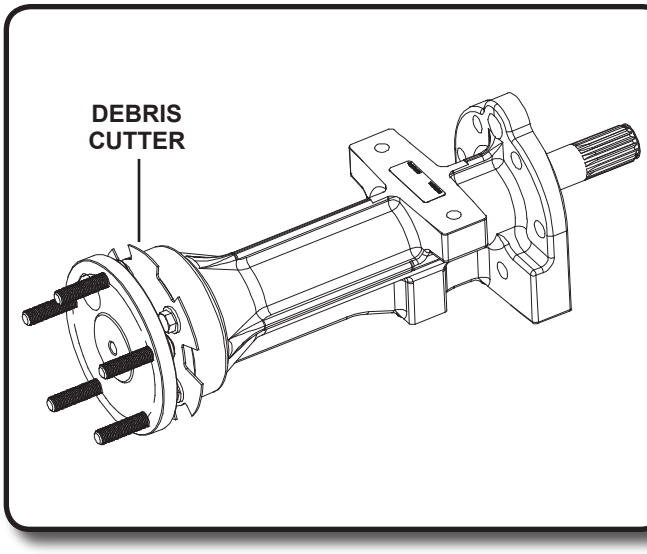
2600 MUSCLE MAKEOVER

The housing for the 2600 is getting a muscle makeover. The dies have been replaced and redesigned to add additional strengthening ribs and material in the area where the axle housings attach. This allows for increased load handling capacity.



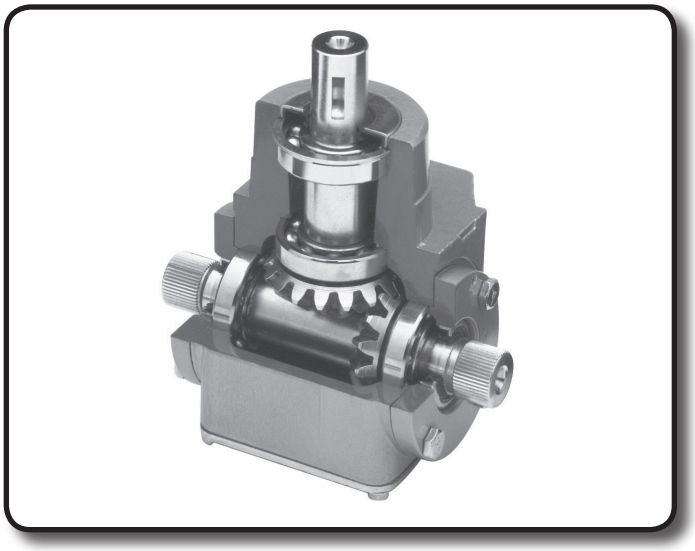
2675 VENTURE ADVENTURE

There is a new tougher 2600 model in the market this year. The 2675 built first for Venture Products and a utility cart application uses a forged axle housing assembly that is durable and tested for extreme conditions. This housing has increased the maximum weight capacity of the 2600 Series transaxle to an incredible 2250 lbs. The forged axle is strong enough to be used with dual wheels. The increased strength of this model creates opportunity for more than just the standard lawn mower application. Commercial applications such as airplane tugs and concrete haulers are now realistic considerations.



1050 CAST-IRON BOX

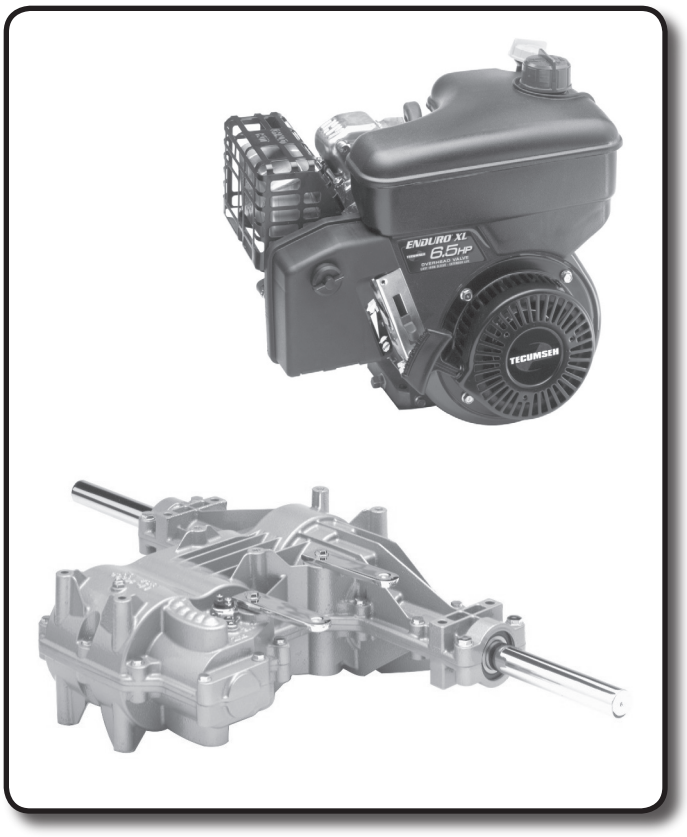
The incredibly durable 1000 Series right angle drive with aluminum gearbox is getting a big brother. With the addition of larger mower decks and high horsepower engines, the industry has needed a gearbox with additional strength, capacity and impact resistance. The cast iron housing 1050 answers these demands. The 1050 gearbox has proven it's capable of these higher requirements by passing the structural integrity test used by the lawn and garden industry. Listed below is a 1000 to 1050 conversion chart for your reference.



Model	Replacement	Service #	Description
1000-086; -053,A,B; -035	1050-001	794843	RH Head Assy
1000-087; -054,A,B; -036	1050-002	794844	LH Head Assy
1000-099	1050-003	794845	T-Drive
1000-100	1050-004	794846	T-Drive
1000-094, A	1050-005	794847	RH Head Assy
1000-095, A	1050-006A	794848	LH Head Assy
1000-091; 074,A	1050-007	794849	LH Head Assy
1000-096, A	1050-008	794850	T-Drive Head Assy

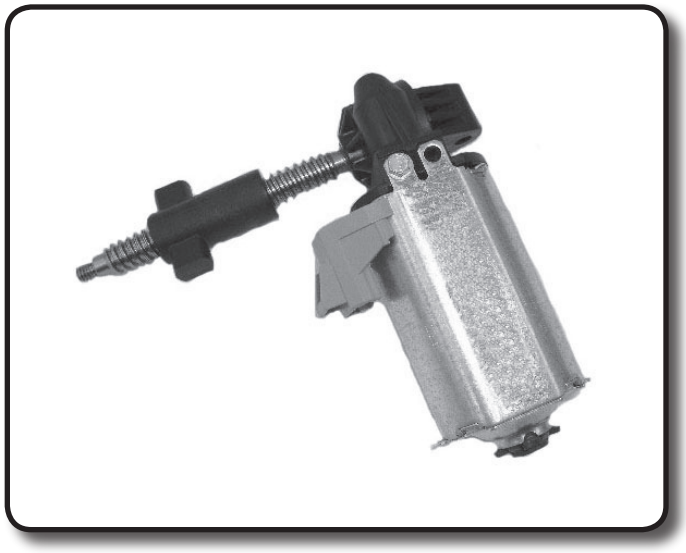
855 UTILITY CART DRIVE TRAIN

The 855 drive system is for horizontal engine applications. The 855 series features a die-cast aluminum housing, 3 forward speeds and 1 reverse, differential with differential lock, parking brake and neutral switch. The transaxle housing has provisions for mounting the engine directly to the transaxle. Equipped with one inch axles shafts and ball bearings, this work horse has a 600 lb. carrying capacity and a ground engaging capability of 450 ft.-lbs. of output torque.



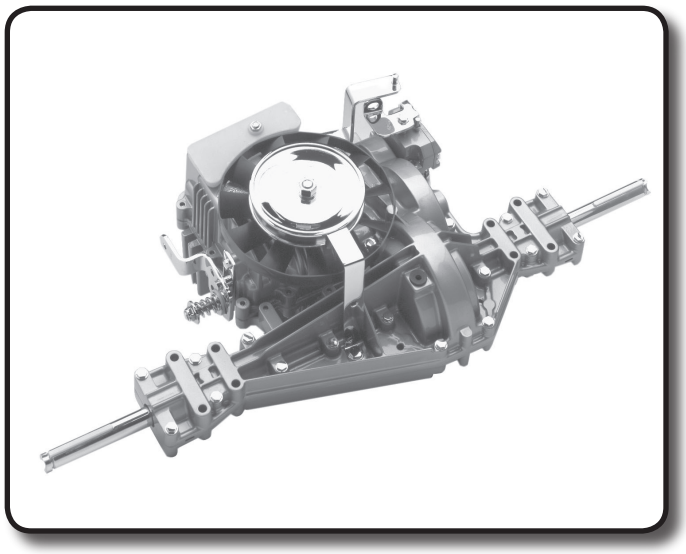
PLA917 MINI-ACTUATOR

Yes, the Tecumseh/Peerless PLA917-001 mini actuator is now part of the lawn and garden industry. This year alone over 30,000 will be used on consumer and commercial products. The actuator has a weather resistant epoxy coating and is used primarily on deck raising mechanisms. It will be available only as a complete replacement component, order part number **794852**. There are many applications that this actuator could be used for and keeping some in stock might get you some additional sales.



LTH MODEL TRANSAXLE SUPPLEMENT

If you need information on the LTH, a supplement is being sent out to all manual holders as their binders are updated. If you are in need of this supplement now the part number is **696571**. It covers information on removal and installation, repair, reassembly and troubleshooting. Order your copy through your normal source of supply.



SNOW ENGINE LABEL CONFUSION

There are some snow thrower engines which were built for MTD that have been mislabeled. The number of units is small and limited to the equipment model and serial numbers listed below. The engine on these units was built as an LH358SA-159630A which is equipped with an 18 watt alternator, but is labeled as an LH358SA-159636A, which when looking up parts indicates it is equipped with a 3/5 split system. The engine on the equipment is the correct engine – just mislabeled. The model number for the snow thrower is 31AE6MKH515 and the serial numbers are listed here.

1F266I40001 – 1F266I40300
1F276I40001 – 1F276I40302
1F286I40001 – 1F286I40020
1F286I40227 – 1F296I40087
1F296I40088 – 1F296I40093

SNOW ENGINE LABEL CONFUSION

UPDATED SPECIALTY TOOL BOOKLET

We have revised our Specialty Tool booklet (694862) to bring our dealers a more comprehensive offering. Tecumseh has been working hard to ensure we can offer you the specialty tools needed to efficiently do the job. This revision brought with it the changing of our required dealer tool kit (670195E). Gone from this kit are the tools which pertained to yesterdays engines, being replaced with tools needed for today & tomorrows product line. It may be beneficial to take a look at your old original kit and decide if its time to replace it and increase your productivity.

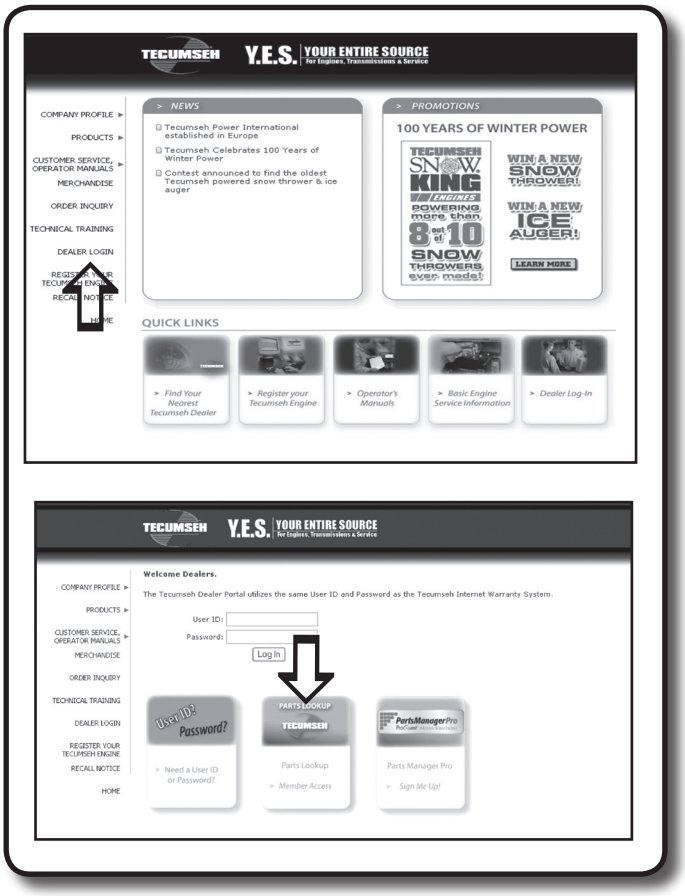
HANDBOOKS

The 695244A OHV Technician's Handbook has been revised. This manual covers all non-cast iron overhead valve engines with the exception of the new OV195. It has been placed in a fresh new easy to read format that will set the benchmark as we continue to release new or updated technician service manuals in the future. With the introduction of new engine model designations in 2004 that are not reflected in some existing manuals Tecumseh has taken an interim measure and developed an engine to manual matrix. This conversion chart will assist you in referencing the correct manual for the new model designations of our engines. Look for a copy of the matrix in the appendix of this book.

TECUMSEH NET-COMPASS ONLINE PARTS

Enclosed in this book is a form you should have received with your last PartsManager Pro update. If you have not filled it out and sent it in to Pro Quest, you may be limiting your access to the latest product information. The only requirements are you must have an active subscription to PartsManager Pro, completed the request form and sent it in. Once this is completed you and up to five of your employees can access information on line.

The information is on the Tecumseh Web site www.TecumsehPower.com in the "Dealer Login" section. Go to "Parts Lookup - Member Access" and you will be able to view information on the very latest specs.



PARTSMANAGER PRO BASIC TIPS & FUNCTIONS

Since PartsManager Pro's initial release in 2004 both ProQuest and Tecumseh have been listening to the dealer's requests about this product. In most cases the apprehension revolves around the products functionality and its differences from other parts look-up systems. In response to these inquiry's we have included a "Basic Tips & Function" section in the appendix of this book to help resolve these issues. Please take the time to review this helpful guide and share this information with the individuals in your business. Once these basic functions are understood we believe you will find PartsManager Pro is truly an easy to use, full function program which offers our dealer base both the tools required for day to day business, along with some advanced features not found in the other programs. These new dealer recommended features will be implemented in December 2006.

EXTENDED WARRANTY

From time to time Tecumseh enters into an agreement with an Outdoor Equipment Manufacturer to extend the standard “Limited Warranty” covering the engine. In most cases the change to the engine’s warrantable period will be listed under the warranty category of the engine identification label. Unfortunately this process does not work for all programs. Jointly beginning in 2002 for Toro and 2004 with Lawn-Boy, we began offering a 3-year “Limited” engine warranty on products retailed between specified dates.

Due to the specific date parameters of this program, the warranty category letter on the engine identification decal cannot be changed. Therefore we have included a table of the mower models and program dates for your use. Claims for 3rd year warranty on Tecumseh engine failures are to be submitted to Tecumseh Power Company.

TORO 3 - YEAR WARRANTY 2002 - 2006

	TORO MODELS															LAWN-BOY MODELS						
Purchase Date Eligibility	20001	20005	20007	20008	20012	20013	20014	20016	20017	20018	20019	20031	20049	20051	20070	10682	10683	10684	10685	10686	10671	10673
2002												**2002**										
March 21, 2002 – March 31, 2002 (Inc Canada)					X	X	X	X	X	X												
2003												**2003**										
March 6, 2003 – April 2, 2003				X				X	X	X	X											
April 1, 03 - April 27, 2003 (Canada)					X	X	X															
May 22, 2003 – July 6, 2003 (Inc Canada)				X	X	X	X	X	X	X	X											
2004												**2004**										
March 25, 2004 – May 31, 2004	X		X	X	X	X	X	X	X	X	X	X		X								
2005												**2005**										
March 31, 2005 – May 31, 2005 (US)		X	X					X	X			X					X	X	X	X		
March 24, 2005 – May 29, 2005 (Canada)																						
2006												**2006**										
April 1, 2006 – June 30, 2006		X			X	X		X	X				X		X	X	X	X	X	X	X	X

Global Power

In August of 2006 Tecumseh Power Company announced the purchase of Tecumseh U.K. Ltd from Tecumseh Europa S.p.A. The Tecumseh U.K. operation is now known as Tecumseh Power International, Ltd. This acquisition reinforces Tecumseh Power's commitment to the European, Australian, African, Asian and Pacific Rim markets and aligns our resources to serve the entire world.

The Tecumseh U.K. office has been in operation for 43 years. The experienced staff, located in both the U.K. and central Europe, is responsible for OEM sales and distribution of service parts for Tecumseh engines, transmissions, hydraulic and gear driven products. Tecumseh Power International, Ltd looks forward to continuing to serve the industry through some 70 distributors with over 6,000 dealers in more than 45 countries.

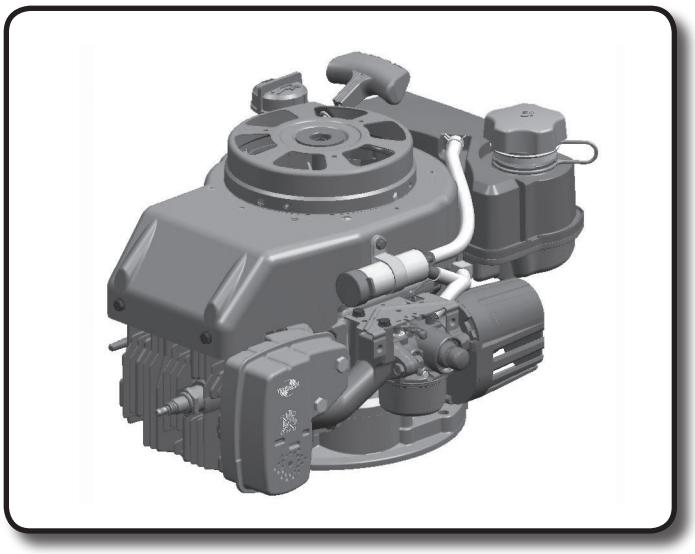
Location listing of Tecumseh Power International's Central Warehouse Distributors.

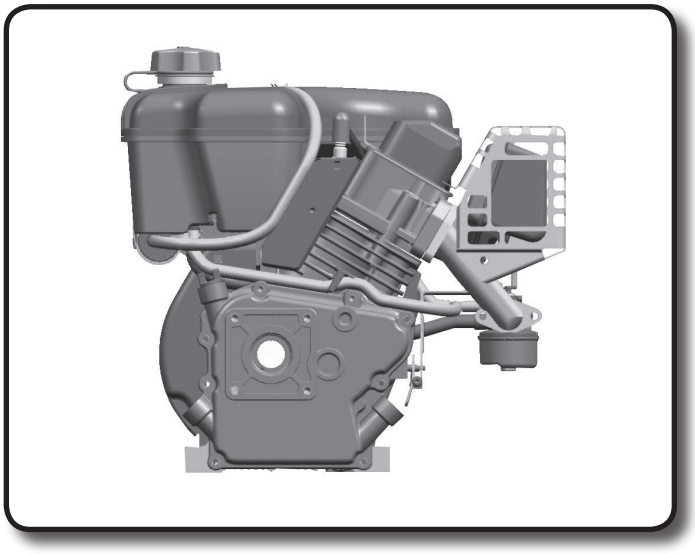
GREAT BRITAIN	AFRICA	AUSTRALIA	AUSTRIA	BAHRAIN
BELGIUM	BOSNIA	BULGARIA	CROATIA	CZECH REPUBLIC
DENMARK	ESTONIA	FRANCE	FINLAND	GERMANY
GREECE	GUYANA	HONG KONG	HUNGARY	ICELAND
ITALY	JAPAN	LATVIA	LITHUANIA	LICHTENSTEIN
LUXEMBOURG	MACEDONIA	MALAYSI	MOROCCO	NETHERLANDS
NEW ZEALAND	NORWAY	PHILIPPINES	POLAND	PORTUGAL
ROMANIA	RUSSIA	SLOVAKIA	SPAIN	SWEDEN
SWITZERLAND	TAIWAN	TURKEY	UNITED ARAB EMIRATES	

EXPLAINING EMISSION REGULATIONS

Emission control and regulations have in the past been predominantly a concern for the engine manufacturers. Beginning in California in 1995, and the remaining 49 states in 1997, engine manufacturers were required to design, build and equip engines to meet exhaust emission standards. However, as time passes, both the EPA (Environmental Protection Agency) and C.A.R.B. (California Air Resource Board) have been passing more stringent regulations regarding the exhaust and evaporative emission output on Small Off – Road Engines (SORE).

These tighter regulations have brought with them advancements in engineering and manufacturing processes along with product changes. It is these future changes that today's servicing technicians need to understand. The future holds product built with components, which if not functioning properly can and will affect how the engine starts, the run quality, engine performance and its longevity. In other words understanding the way these components function will be an important part of proper engine diagnosis.





WHAT IS AN ALTERNATE FUEL?

According to the Energy Policy Act of 1992, Alternative Fuels are listed as Ethanol, Natural Gas, Propane, Hydrogen, Biodiesel, Electricity, Methanol and P-Series. It is under the P-Series that contains the fuels which will affect the Outdoor Power Equipment industry.

Per the U.S. Department of Energy web site "P-Series fuels are blends of ethanol, methyltetrahydrofuran (MTHF), natural gas liquids and butane". "The ethanol and MTHF are expected to be derived from renewable domestic feedstock, such as corn, waste paper, cellulosic biomass, agricultural waste, and wood waste". Increasingly these fuels are beginning to show up under one of the following blends.

E10, also frequently called **gasohol**, is a mixture of 10% ethanol and 90% gasoline. This fuel is commonly used today in many highly populated cities across the nation.

E20 contains 20% ethanol and 80% gasoline. This fuel is not yet widely used in the United States, but will be mandated by the state of Minnesota by 2013.

E85 is a mixture of 85% ethanol and 15% gasoline, and is generally the highest ethanol fuel mixture found in the United States. Currently there are more than 800 public fuel pumps in the U.S. mostly concentrated in the Midwest.

Around the country more and more states are beginning to carry E85 fuels. Listed below is a recent count of authorized E85 stations per state.

Number of E85 Stations as of 9/19/2006							
State		State		State		State	
Alabama	1	Alaska	0	Arizona	5	Arkansas	0
California	3	Colorado	11	Connecticut	0	Delaware	0
Dist. Of Columbia	1	Florida	3	Georgia	6	Hawaii	0
Idaho	2	Illinois	121	Indiana	37	Iowa	47
Kansas	11	Kentucky	5	Louisiana	0	Maine	0
Maryland	5	Massachusetts	0	Michigan	19	Minnesota	268
Mississippi	1	Missouri	44	Montana	5	Nebraska	28
Nevada	6	New Hampshire	0	New Jersey	0	New Mexico	4
New York	6	North Carolina	13	North Dakota	26	Ohio	12
Oklahoma	4	Oregon	1	Pennsylvania	6	Rhode Island	0
South Carolina	37	South Dakota	37	Tennessee	5	Texas	16
Utah	4	Vermont	0	Virginia	4	Washington	4
West Virginia	2	Wisconsin	27	Wyoming	4	**Total**	**841**

Alternate Fuels

E85 & TECUMSEH ENGINES

Tecumseh has tested several engines on E85 fuel. The results have not been positive.

Startability: Although the engines will start, the number of pulls is greatly increased. We also identified that ambient temperature plays a prominent factor in starting. Engines tested at temperatures of 40°F and lower, were very reluctant to start. Much of this is due to the 4.65% RVP (Reed Vapor Pressure) of E85 fuels as compared to an RVP of 8% which would be typical in standard fuel blends this time of year.

TECUMSEH POWER COMPANY
APPLICATIONS DEPARTMENT
NEW HOLSTEIN, WI
HOT/COLD ENGINE STARTABILITY

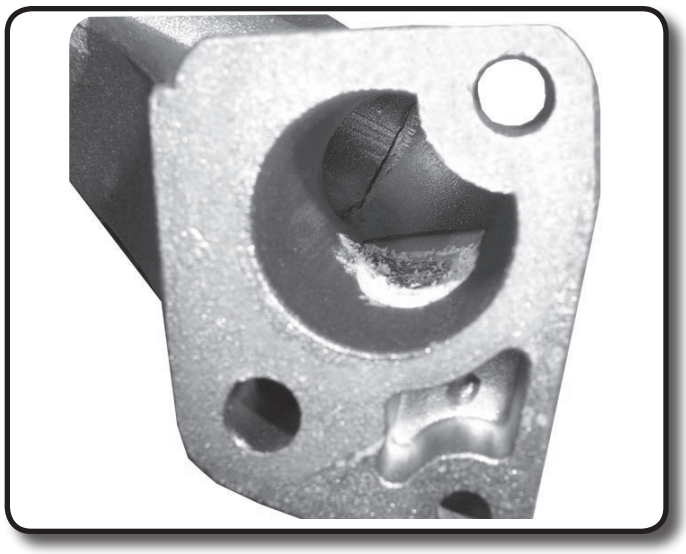
Application:(OEM, model, etc.)	LV195 on 22" rotary mower			Date::	6/20/2005	
Engine Spec:				Engineer::		
Engine DOM:				Technician:		
Engine Log No:				Project No:		

	40°F			70°F			100°F		
Fuel	**Trial 1**	**Trial 2**	**Trial 3**	**Trial 1**	**Trial 2**	**Trial 3**	**Trial 1**	**Trial 2**	**Trial 3**
Regular Unleaded	3 primes 1 pull	3 primes 1 pull	6 primes 4 pulls 1 f/s	3 primes 1 pull	3 primes 1 pull	3 primes 1 pull	3 primes 2 pulls	3 primes 1 pull	3 primes 1 pull
E85	21 primes	21 primes	21 primes	3 primes	6 primes	3 primes	3 primes	3 primes	3 primes
	15 pulls 3 f/s***	21 pulls 3 f/s***	21 pulls 5 f/s***	1 pull	4 pulls **	2 pulls *	1 pull	1 pull	1 pull

Run Quality: Ethanol has the effect of leaning out the air/fuel mixture as it adds more oxygen to the mixture. The engines tested would begin to hunt & surge to a varying degree shortly after start-up. Some engines would completely stop running somewhere between 20 seconds and 2 minutes.

Engine Power: When running an engine on E85, dramatic decrease in both torque and horsepower will be noticed. When an engine is loaded to reach this lower torque output, it will simply stop running. The main reason behind the decrease in power output is the difference in BTU (British Thermal Unit) of the two fuels, Gasoline is 115,400 Btu/gallon vs. Ethanol's rating of 75,670 Btu/gallon rating.

Additional Effects of Ethanol Fuel: Tecumseh had changed its rubber and plastic component material specification to alcohol resistant in 1989. Preliminary tests on these components have not shown significant concerns. However, ethanol fuels attract water causing moisture accumulation concerns on other components. They also have higher evaporative emissions permeating through rubber quicker and drying out rubber components during extended non-use periods. These are items which may create long term problems.



Testing: How can you diagnose the suspected use of E85 fuels? The smell? Most people will be able to pick up the higher alcohol odor. The color? We have seen a variation in the color spectrum, from light golden brown (just like unleaded gasoline) to nearly clear. The most accurate way to determine the fuels content is checking its specific gravity with the use of a hydrometer. The downside to this procedure is the need of a thermometer, hydrometer and graduated cylinder, all glass products that are prone to breakage. Tecumseh offers a simple to use Alcohol Fuel Test kit part number **670399,** which works well for testing suspect fuel.

Currently Tecumseh engines are designed for the use of unleaded regular, unleaded premium or reformulated fuel only. You may use gasoline containing the components up to the specified percentage. Usage of alternative fuels with high alcohol content may cause hard starting, poor engine performance and possible internal engine damage. Damage and/or performance problems that occur from the use of alternate fuels will not be considered warranty.

Fuel Component	Percentage
Ethanol	10%
Grain Alcohol (“Gasohol”)	10%
MTBE (Methyl Butyl Ether)	15%
ETBE (Ethyl Tertiary Butyl Ether)	15%

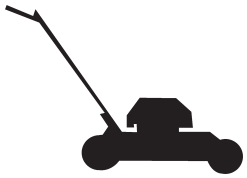
Alternative Repower

Repower vs. Repair

To Repower or not to Repower.
That is the question. You may be doing your customer a disservice by not offering them the opportunity to replace their worn engine or transmission. Once the customer is in your store offering information like price differences between repairing or replacing, and the advantages (warranty coverage, reduced maintenance) may surprise you.

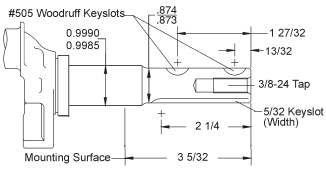
For many years Tecumseh has been producing engines and transmissions for just about every imaginable application there is. This experience has helped us offer you a full line up of engines and transmissions to consider. We have included an easy to use matrix of some of the more popular application specs for your use.

You may want to also look at repowering used equipment. You will find no faster or easier way to make used equipment saleable again. A new engine will help you sell that used piece of equipment and turn it into cash.

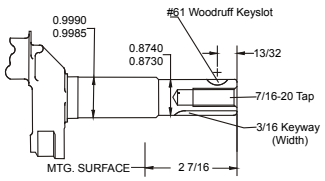


Walk Behind

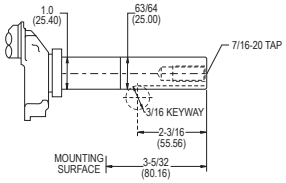
HP	Part No.	Model No.	Application	Crankshaft	Special Features	Warranty	Color
3.5	103112C	LV148EA	Rotary mowers	Crank **A**	W/brake lockout, fixed speed w/stop	C	Black
5.0	105126B	LV195EA	Rotary mowers	Crank **A**	W/brake lockout, manual throttle control w/stop	D**	Black
6.0	106140A	LV195EA	Rotary mower	Crank **A**	W/brake lockout, manual throttle control w/stop	E**	Black
6.0	106144A	LV195EA	Rotary mower	Crank **B**	W/brake lockout, manual throttle control w/stop	E**	Black
7.0	107106	OV195EA Formula	Walk Behind	Crank **C**	Fixed speed w/stop, primer carb, compliance brake	D	Black



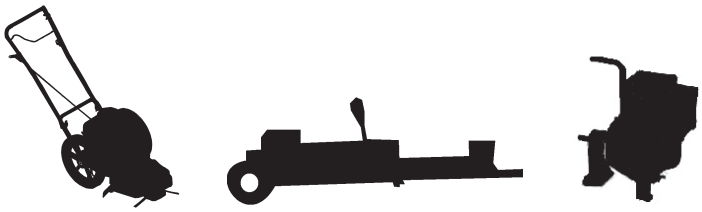
*crank **A***



*crank **B***

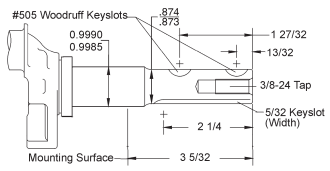


*crank **C***

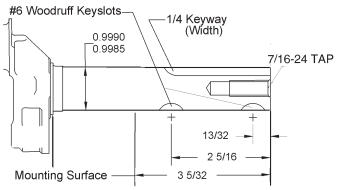


Utility

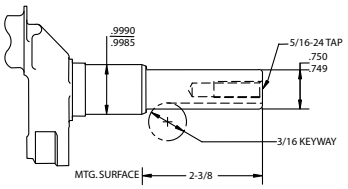
HP	Part No.	Model No.	Application	Crankshaft	Special Features	Warranty	Color
6 0	106124A	LV195EA	Utility, string trimmer mowers	Crank **A**	Heavy flywheel, (no brake), above deck oil drain, remote throttle control w/stop	E**	Black
7.0	107116	OV195EA Enduro	Utility, trimmer	Crank **B**	Manual control w/stop, choke carb, heavy flywheel, cast iron sleeve	D	Red
5.0	205121A	OH195EA Formula	Utility	Crank **C**	Basic engine, muffler guard	E	Black
6.0	206116A	OH195EA Enduro	Utility Blower / Chipper	Crank **D**	Ball bearing PTO, cast iron sleeve, oil fill tube with dipstick	E	Red
6.5	206206A	OH195EP Formula	Utility	Crank **C**	Oil fill tube with dipstick, 3 qt. fuel tank	E	Black
8.0	208102A	HM80 Formula	Utility	Crank **E**	Manual throttle control	B	Black
10.0	210102A	HM100 Formula	Utility	Crank **F**	Ball bearing PTO, manual throttle control	B	Black



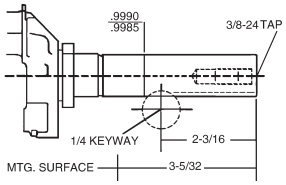
crank **A**



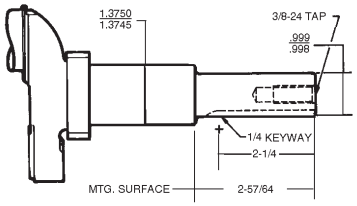
crank **B**



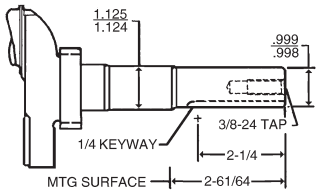
crank **C**



crank **D**

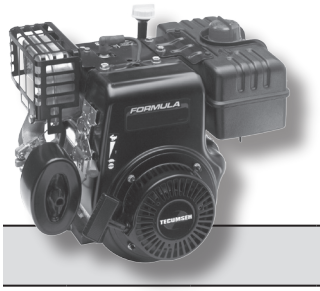


crank **E**



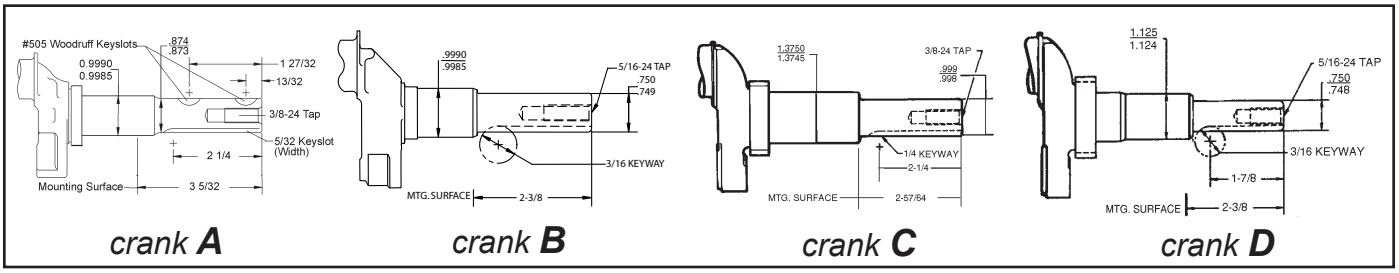
crank **F**

Alternative Repower



Tiller

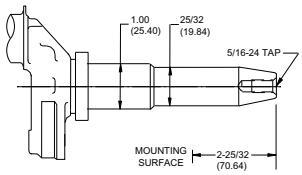
HP	Part No.	Model No.	Application	Crankshaft	Special Features	Warranty	Color
7.0	107114	OV195EA Formula	Utility, trimmer	Crank **A**	Manual control w/stop, choke carb, heavy flywheel	D	Black
5.0	205128A	OH195EA Formula	Troy-Bilt® and other Tiller	Crank **B** w/1-1/2"x1/2" cam ext	Muffler guard, remote throttle control, poly pre-cleaner, (belt included in kit)	E	Black
5.0	205130A	OH195EA Enduro	Troy-Bilt® and other Tiller	Crank **B** w/1-1/2"x1/2" cam ext	Cast iron sleeve, muffler guard, remote throttle control, poly pre-cleaner, 12V electric start, 3/5 Amp charging system, extended fill tube with dipstick (belt & wire harness included in kit)	E	Red
8.0	208106A	HM80 Enduro	Utility & Troy Bilt® Rear Tine Tiller	Crank **D**	Ball bearing PTO, large upright dual stage air filter, remote throttle control, electric start provision, 3/5 Amp charging system, special dipstick	E	Red
8.0	208120A	HM80 Enduro	Ariens® and other Rear Tine Tillers	Crank **C** w/1x5/8 cam ext.	Large upright dual stage air filter, remote throttle control, electric start provisions, 3/5 Amp charging system, special dipstick	E	Red
8.0	208122A	HM80 Enduro	Troy Bilt® and other Rear Tine Tillers	Crank **D** w/1x5/8 cam ext.	Large upright dual stage air filter, remote throttle control, electric start provisions, 3/5 Amp charging system, special dipstick	E	Red
9.0	209104A	OH318EA Formula	Tiller	Crank **D**	Ball bearing PTO, remote throttle control, electric provisions, 3/5 Amp charging system	B	



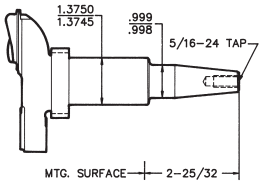
*crank **A*** *crank **B*** *crank **C*** *crank **D***

Generator

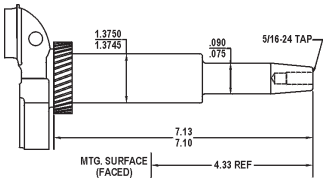
Part Number	Customer	Crankshaft Service Part No.	Controls	Starter	Air Cleaner Style Service Part No.	Oil Drain	Fuel Tank	Top Governed Speed
906222B	Generac	Crank **A** 34745	Fixed Speed		36046 (Paper)	Dual Side & Front	3 qt. (2.85 ltrs.)	3900
910263D	Coleman	Crank **B** 35441A	Fixed Speed	Electric Provisions w/Rewind	34700B (Paper) 34703 (Poly)	Dual Side	4 qt. (3.79 ltrs.)	3600
910265D	Devilbiss	Crank **C** 37302	Fixed Speed	Rewind	34700B (Paper) 34703 (Poly)	Dual Side	4 qt. (3.79 ltrs.)	3750



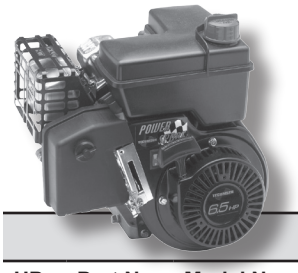
*crank **A***



*crank **B***

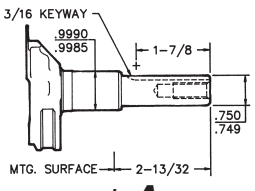


*crank **C***



Go Kart

HP	Part No.	Model No.	Application	Crankshaft	Special Features	Warranty	Color
3.5	203144A	H35 **Power Sport**	Go-kart	Crank **A**	Choke carb, A/C rain guard, spark arrestor, deflector, dual side oil fill, on/off switch	B	Black
3.5	203124A	H35 **Power Sport**	Mini bike / Go-kart	Crank **A**	W/spark arrestor, RV throttle control, tank over recoil, on/off switch	B	Black
5.0	205109A	OH195EA **Power Sport**	Mini bike / Go-kart	Crank **A**	Muffler guard, RV throttle control, on/off switch, spark arrestor	E	Black
6.0	206122A	OH195EA **Power Sport**	Mini bike, Go-kart	Crank **A**	RV throttle control, 3 qt. fuel tank, spark arrestor, on/off switch	B	Black
6.5	206202A	OH195EP **Power Sport**	Go-kart	Crank **A**	12V electric starter, 3/5 Amp charging system, RV throttle control, ball bearing PTO, on/off switch, spark arrestor, cast iron sleeve	B	Black
10.0	210112A	HM100 **Power Sport**	Go-kart	Crank **B**	RV throttle control, 12V electric starter, 7 Amp charging system w/reg, ball bearing PTO, muffler guard, fuel pump, poly pre-cleaner, on/off switch, spark arrestor	B	Black
9.0	209106A	OH318EA **Power Sport**	Go-kart	Crank **B**	Ball bearing PTO, RV throttle control, electric start provisions, 3/5 Amp charging system, on/off switch	B	Black
11.0	211108A	OH318EA **Power Sport**	Go-kart	Crank **B**	Ball bearing PTO, RV throttle control, 12V electric start, 7 Amp charging system, on/off switch, spark arrestor	B	Black



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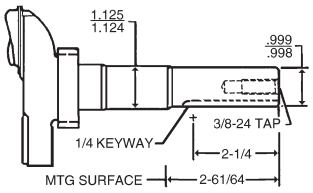
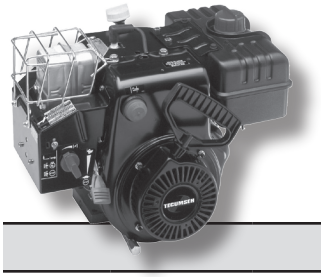


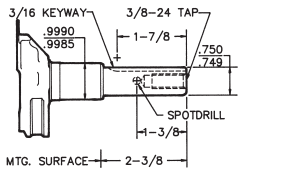
*crank **B***

Alternative Repower

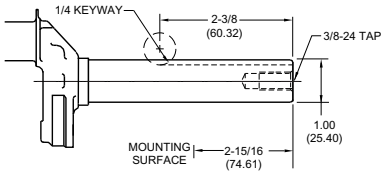


Snow

Part Number	Customer	Crankshaft Service Part No.	Provisions for Electric Starter	Controls	Oil Drain	Fuel Tank	Top Governed Speed
905364A	Standard	Crank **A** 34740	X	Remote/Manual Convertible	Dual Side & Front	2 qt. (1.89 ltrs.)	3750
907365C	Standard	Crank **B** 34739	X	Manual	Dual Side & Front	3.5 qt. (3.33 ltrs.)	3750
909300A	Standard	Crank **C** 35372A	X	Manual	Dual Side	4 qt. (3.79 ltrs.)	3600
909302B	Standard	Crank **D** 37252	X	Manual	Dual Side	1 Gallon (2.8 ltrs.)	3600
911300B	Standard	Crank **E** 36245		Manual	Dual Side	4 qt. (3.79 ltrs.)	3450
911301B	Standard	Crank **F** 35443A		Manual	Dual Side	4 qt. (3.79 ltrs.)	3250
911302B	Standard	Crank **C** 35372A		Manual	Dual Side	4 qt. (3.79 ltrs.)	3450



*crank **A***



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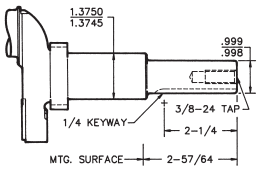
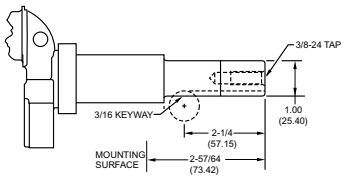
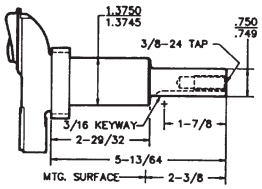


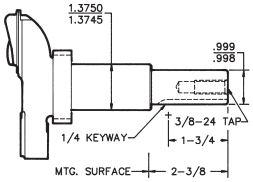
*crank **C***



*crank **D***



*crank **E***

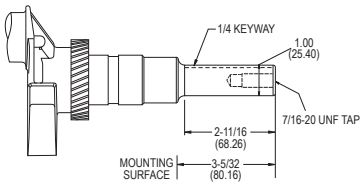


*crank **F***

Riders

HP	Part No.	Model No.	Application	Crankshaft	Special Features	Warranty	Color
20.0	120102	OV691EA Formula	Tractor, wide area walk behind, riders, ∗ **Ariens, MTD**	Crank **A**	3/5 Amp charging system	E	Black
20.0	120104	OV691EA Enduro	Tractor, wide area walk behind, riders, ∗ **John Deere, Cub Cadet**	Crank **A**	16 Amp charging system	E	Red
22.0	122102	OV691EA Enduro	Tractor, wide area walk behind, riders, ∗ **MTD, White**	Crank **A**	3/5 Amp charging system	E	Platinum
25.0	125100	OV691EP Sterling	Tractor, wide area walk behind, riders, ∗ **Scag, Dixon**	Crank **B**	16 Amp charging system	E	Platinum
25.0	125102 †	OV691EP Sterling	Tractor, wide area walk behind, riders, ∗ **Dixie Chopper, Gravely**	Crank **C**	16 Amp charging system	E	Platinum

∗ Application examples are for reference purpose only. Will fit many others. † Available July 1, 2006



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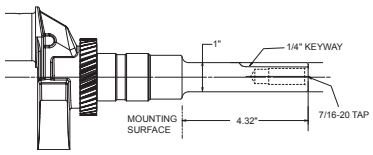

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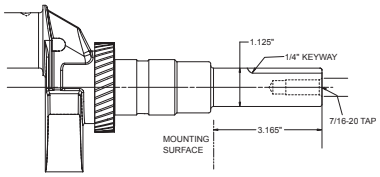


*crank **C***

730658

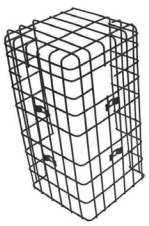
730660

730659

730661

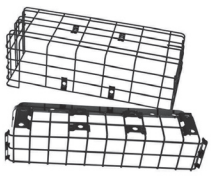
Kits

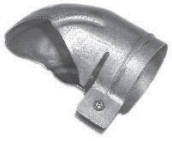
Muffler Part Number	Description	Guard
730658	Vertical discharge left, Oil filter side	**730662**
730659	Vertical discharge right, Electric starter side	**730662**
730660	Horizontal discharge left, Oil filter side	**730663**
730661	Horizontal discharge right, Electric starter side	**730663**



730662
Horizontal Kit

730663
Vertical Kit





37954
DEFLECTOR

37953
SPARK
ARRESTOR

Alternative Repower

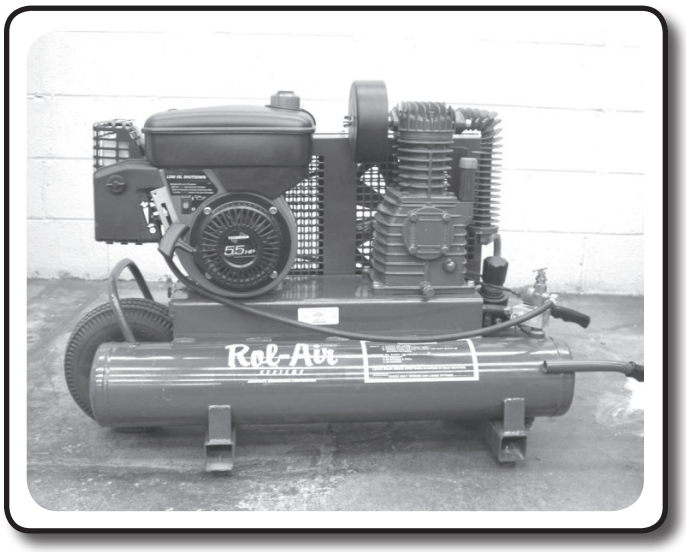
Kit # **Repower**

730651 MTD Single Cylinder Riders
The kit includes all of the parts needed to upgrade from a single cylinder engine to our V-twin, including a muffler.

730650 MTD Twin Cylinder Riders
This kit allows for the replacement of other brands of twin engines with our own.

730654 5-6.5 HP Air Compressors with plunger style idle down control
This kit is to be ordered with engine part number **205200A**. The engine is extended life grade with a cast iron cylinder, ball bearings, low oil shut down, and lighted rocker switch. The hardware kit includes the necessary parts to allow engine to work on plunger style throttle idle down controls used on brands such as Rol Air.

5-6.5 HP Air Compressors with cable actuated idle down control
The OHH55 engine number **206200A** may be ordered as a replacement for this type of compressor. Some of the popular name brands that use this type of idle down control include Porter Cable and Valsi.



SELECTING A REPLACEMENT ENGINE

When a direct service replacement engine is not found in Div. 1 of the advanced replacement sections of your parts look up system you may find one in the Service Engines and Accessories catalogue form number 692531.

Most of the challenges to find a replacement engine are due to variations found on the equipment. Some examples are a special air filter or unique muffler provided by the OEM. The emission regulations in force through the United States have caused some engines to be obsoleted adding to the challenge of finding replacements.

The check list provided below will aid in finding an acceptable replacement engine. Check for potential interference using the dimensions in the book. After filling in the data, use the service engine replacement book to find a replacement engine for your customer. You will soon become the repower specialist in your area.

1. Identify the following current engine features.
   - A. Horsepower _____ or Displacement (cc)_____
   - B. Crankshaft orientation? Vertical shaft _____ or Horizontal shaft _____
   - C. Basic engine type? X/L I/C type _____or Aluminum bore _____
   - D. Air filter type? Paper with poly wrap ___ Paper ___Poly ___none needed / heater box
   - E. Starter type? Recoil _____ Electric start ____ Both _____
     Voltage? 12 Volt _____110 ___220 ____
   - F. Charging system? Yes _____ No____ If yes, how many Amps are needed____?
     AC____DC____Split AC/DC _____
   - G. PTO (Power take-off) bearing? Ball____ Plain____
   - H. Auxiliary PTO? None____Yes____Ratio 2:1 ____8:1 ____Dia. ____Keytype
   - I. Cylinder cover? Bolt circle diameter (B.C.) ____Faced ____Pilot____
   - J. Reverse idler drilled and tapped?_____Size _____
   - K. Throttle control? Manual _____Remote_____ Choke in control _____ Remote _____
   - L. Fuel Pump? Yes _____No _____
   - M. Oil Sensor? Yes _____No _____

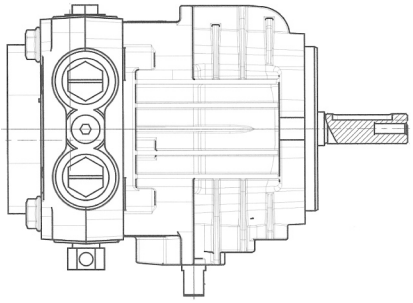
2. Basic dimensions to fit your application.
   - A. Crankshaft height from mounting surface _____
   - B. Crankshaft diameter _____
   - C. Crankshaft keyway straight? Length ____Width ____Woodruff, number or size _____
   - D. Is the end drilled and tapped? Yes_____ No ____What drill and tap, if necessary _____
   - E. Fuel tank? Size_____Location _____
   - F. Auxillary PTO? Length_____Diameter_____ Keyway_____

3. Safety Issues.
   - A. Muffler discharge direction PTO?____ Carb. Side ____
   - ★ B. High inertia flywheel needed? Yes____No ____
   - C. Compliance brake (rotary mowers)? Yes ____No ____
   - D. Engine stop switch? Remote _____On throttle_____Grounding Clip _____

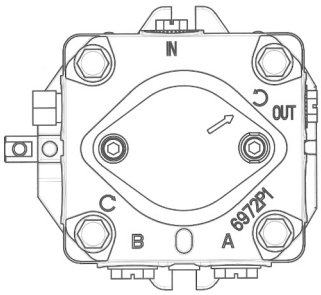
★ High inertia flywheels are needed if installing a rotary mower engine on a non-rotary mower application. Models other than rotary mowers typically have a high inertia flywheel as basic and it will not be noted in the Service Engine and Accessories Catalogue. The preceeding Repower pages show typical examples of both rotary and non-rotary mower engines with features, accessories and physical size. Answer all questions.

Peerless - Pump Conversion Kits

Peerless LDP-10 Pump w/15mm LH Input Shaft

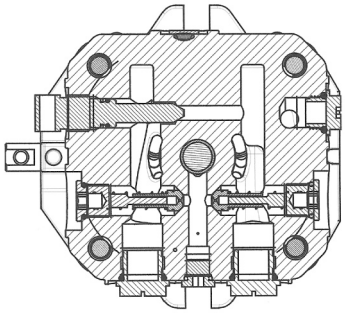


Trunnion Arm - Left

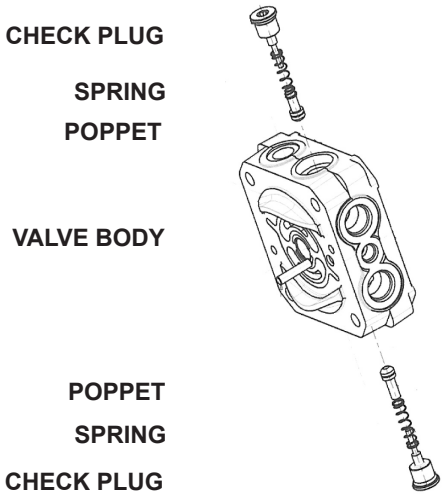


Charge pump rotation viewed from top of pump, Input shaft rotation viewed from end of shaft.

Valve Kit Locations



B - Valve A - Valve

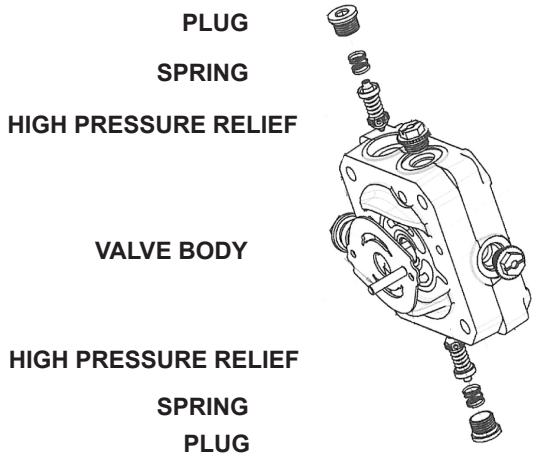


Peerless Check Valve Kit Information

Kit Number	Check Valve Size		Shock Valve Size
799038	.000	Poppet	None
	.024	Poppet	
	.044	Poppet	

Check Valve Installation Instructions

1. Remove check valve assembly from pump valve body, disassemble check valve and inspect hardware for damage.
2. Select new poppet size require from kit.
3. For ease of installation, apply a small amount of petroleum jelly to the check spring, plug and poppet.
4. Before installing check valve kit into pump, preassemble the check valve kit in this order: Check plug with o-ring installed, spring, and poppet.
5. Once the check valve kit is assembled with petroleum jelly, it should cling together so it can be orientated in any direction.
7 Lay the LDP pump on its side, so the check valve port is horizontal.
6. Install the check valve kit into the valve body. Torque the check plug to 180-220 lb-in.



Peerless Shock Valve (High Pressure Relief) Kit Information

Kit Number	Shock Valve Size		Check Valve Size
799036	.000	HPR	None
799037	.031	HPR	None

High Pressure Relied Valve Installation Instructions

1. Remove check valve assembly from pump valve body.
2. Inspect the check valve and mating seat in the valve body for damage or foreign material.
3. Select new Shock Valve (High Pressure Relief) from kit.
4. Lay the LDP pump on its side, so the check valve port is horizontal.
5. Insert Shock Valve (High Pressure Relief), spring and plug into valve body port. Torque to plug to 180-220 lb-in.
6. Repeat disassembly, inspection and assembly for the opposite port in valve body.

Appendix

Since the last revision to the following manuals we have changed the engine model designation system. These revisions incorporate designation of engine type, displacement, application and crankshaft orientation. If your engine model is not listed, check the following list to obtain the old designation and locate your information.

New Model	Same As	Old Model	Handbook Form Number
TH098SA	→	HSK600	692508
TV085XA	→	AV520	692508
LV148EA	→	LEV90	692509
LV195EA	→	LEV120	692509
LH195SA	→	HSSK50	692509
LH195SP	→	HSSK55	692509
LV148SA	→	VSK90	692509
LH318SA	→	HMSK80	692509
LH318SA	→	HMSK90	692509
LH358SA	→	HMSK110	692509
TM049XA	→	TC300	694782
TH139SA	→	HSK845	694988
TH139SA	→	HSK850	694988
TH139SP	→	HSK860	694988
TH139SP	→	HSK865	694988
TH139SP	→	HSK870	694988
OV358EA	→	OHV100	695244A
OV358EA	→	OHV110	695244A
OV358EA	→	OHV120	695244A
OV358EA	→	OHV130	695244A
OV358EA	→	OHV135	695244A
OV490EA	→	OHV140	695244A
OV490EA	→	OHV150	695244A
OV490EA	→	OHV160	695244A
OV490EA	→	OHV170	695244A
OV490EA	→	OHV175	695244A
OV490EA	→	OHV180	695244A
OH195EA	→	OHH50	695244A
OH195EA	→	OHH55	695244A
OH195EA	→	OHH60	695244A
OH195EP	→	OHH65	695244A
OH318EA	→	OHM110	695244A
OH195SA	→	OHSK60	695244A
OH195SA	→	OHSK65	695244A
OH195SA	→	OHSK70	695244A
OH195SP	→	OHSK75	695244A
OH318SA	→	OHSK80	695244A
OH318SA	→	OHSK90	695244A
OH318SA	→	OHSK110	695244A
OH318SA	→	OHSK120	695244A
OH358SA	→	OHSK130	695244A
OV691EA	→	TVT691	696325
OV691EP	→	VTX691	696325

Tecumseh School Schedule
2006-2007

Tecumseh Factory Training

Tecumseh believes that education is a vital part of meeting the challenges facing our industry.

This season we will again be offering the 4-day training at two of our factory facilities, Grafton, Wisconsin and Dunlap, Tennessee.

Day One
- Information Retrieval Systems Computer, Microfiche and Paper
- 2-Cycle Engine Theory and hands on covering TC / TM, HSK / TH and AV / TV engine lines

Day Two
- 4-Cycle Overview: L-Head and Overhead Valve
- LEV / LV Teardown/Reassembly
- OHH / OH Enduro Teardown/Rebuild and Running Adjustments

Day Three
- Enduro TVT / OV Teardown/Reassembly
- Fuel Systems, Emissions
- Carburetors
- Electrical/Charging Systems

Day Four
- Failure Analysis
- Warranty Procedures
- Transaxle Teardown/Reassembly MST, 800 and 900 Series
- LTH Overview

In addition to the 4-day training, the Tecumseh Master Technician test will be offered at both factory locations.

Tecumseh Master Technician Benefits

- Certification stays with Technician.
- TMT on staff allows dealer to seek Premier status.
- TMT certification adds value and marketability.

Total cost of package includes:

- Hotel accommodations from Sunday evening through Friday morning.
  - The Grafton school hotel is located nearby in the scenic town of Port Washington, 20 miles north of Milwaukee on Lake Michigan.
  - The Dunlap school hotel is located just a 30 minute drive away in Chattanooga, Tennessee.
- Noon lunches Monday through Thursday.
- Thursday night banquet.
- All class materials.
- Daily transportation to and from class.

Classes in Grafton and Dunlap are completed after the Thursday night banquet.

Cancellations must be received in writing 2 weeks before the scheduled training in order to obtain a refund.

Mail this application along with the tuition fee to:

Tecumseh Power Company
900 North Street • Grafton, Wisconsin 53024-1499
ATTN: Education Department, School Reservations

To check for availability call 262-377-2700.

TECUMSEH®
ENGINES & TRANSMISSIONS

Tecumseh Factory Training Application

Please Print

Name: _____ Phone: _____

Address: _____

City: _____ State: _____ Zip: _____

Email Address: _____

Dealer Name: _____ Dealer Email: _____

Dealer Address: _____ Fax: _____

City: _____ State: _____ Zip: _____

4-DAY 2006/2007 SCHOOL SCHEDULE - Factory Facilities

Grafton, Wisconsin
Date
Dec. 3-8, 2006
- - - - - - - - - - - - - - -
Jan. 28 - Feb. 2, 2007
Feb. 18-23, 2007
March 11-16, 2007

Dunlap, Tennessee
Date
Nov. 12-17, 2006
- - - - - - - - - - - - - - -
Jan. 7-12, 2007
Feb. 18-23, 2007

2007 TEACHER'S SCHOOL

Grafton, Wisconsin
Date
July 22-27, 2007

Dunlap, Tennessee
Date
June 10-15, 2007

School Dates: 1st choice _____ 2nd choice _____

Tecumseh Master Technician Testing

Requirements

- Testing will only be offered for pre-registered applicants
- All applicants must have a current EETC 4-cycle certificate
- A copy of the EETC 4-cycle certificate must be submitted with your application. (see bottom of form)

Tecumseh Master Technician Testing will be available on the final day of school

Please check *all* that apply

☐ Single Accommodations **$475.00**

☐ Double Accommodations **$350.00**

☐ Tuition Only (No Room Needed) **$200.00**

☐ Tecumseh Master Technician Test **$45.00**

TOTAL $ _____

☐ Smoker ☐ Non-Smoker

To make payment using a credit card, please fill out the following information:

(Check One)

☐ Master Charge ☐ Visa ☐ Discover

Print Name (as it appears on card):

_____

Account Number: _____

_____

Signature of Card Holder

Exp. Date: _____ Phone Number: _____

For registration information call the Education Department: 262-377-2700, fax your application: 262-376-8238 or apply on line at **www.TecumsehPower.com**.
The Tecumseh Support Network Distributors in your area may hold in-house Factory Certified Training.
Please contact them for further information.

PartsManager Pro Subscription Order Form

Billing Information

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State: _____ Zip: _____

Telephone: _____

Fax: _____

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Shipping Information

Name: _____

Company: _____

Address: _____

City: _____

State: _____ Zip: _____

Telephone: _____

PartsManager Pro reduces your up-front costs and eliminates hidden charges.

- **No annual base fee**
- **No start-up fees**
- **No per-seat fees**
- **No tutorial fees**

For a 1-year subscription:

☐	**Honda Outdoor Power** Dealer Code: _____	**$160***
☐	**Kawasaki Engines** Dealer Code: _____	**$75***
☐	**Shindaiwa** Dealer Code: _____	**$55***
☐	**Tecumseh** Dealer Code: _____	**$95***
☐	**Toro Commercial** Dealer Code: _____	**$150***
☐	**Toro Consumer** Dealer Code: _____	**$55***
☐	**Toro Landscape Contractor** Dealer Code: _____	**$55***
☐	**Lawn-Boy** Dealer Code: _____	**$55***

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Complete the following information and fax this form to 330-659-1773. You can also e-mail the questions and answers on the form to TecSubscribe@pbs.proquest.com.

* = Required field

Contact Information

***Dealership name:** _____ **Dealer number:** _____

***Administrative contact:** _____ ***Phone number:** _____

***E-mail address:** _____

Number of Users

* Please indicate how many users you need for your location (up to a maximum of five): ___

Shipping Information

***Name:** _____ ***Phone number:** _____

***Street address:** _____ **Fax number:** _____

***City:** _____

***Zip Code/Postal Code:** _____

***Country:** _____

***State/Province:** _____

Billing Information

If same as shipping information, indicate here: ☐

***Name:** _____ ***Phone number:** _____

***Street address:** _____ **Fax number:** _____

***City:** _____

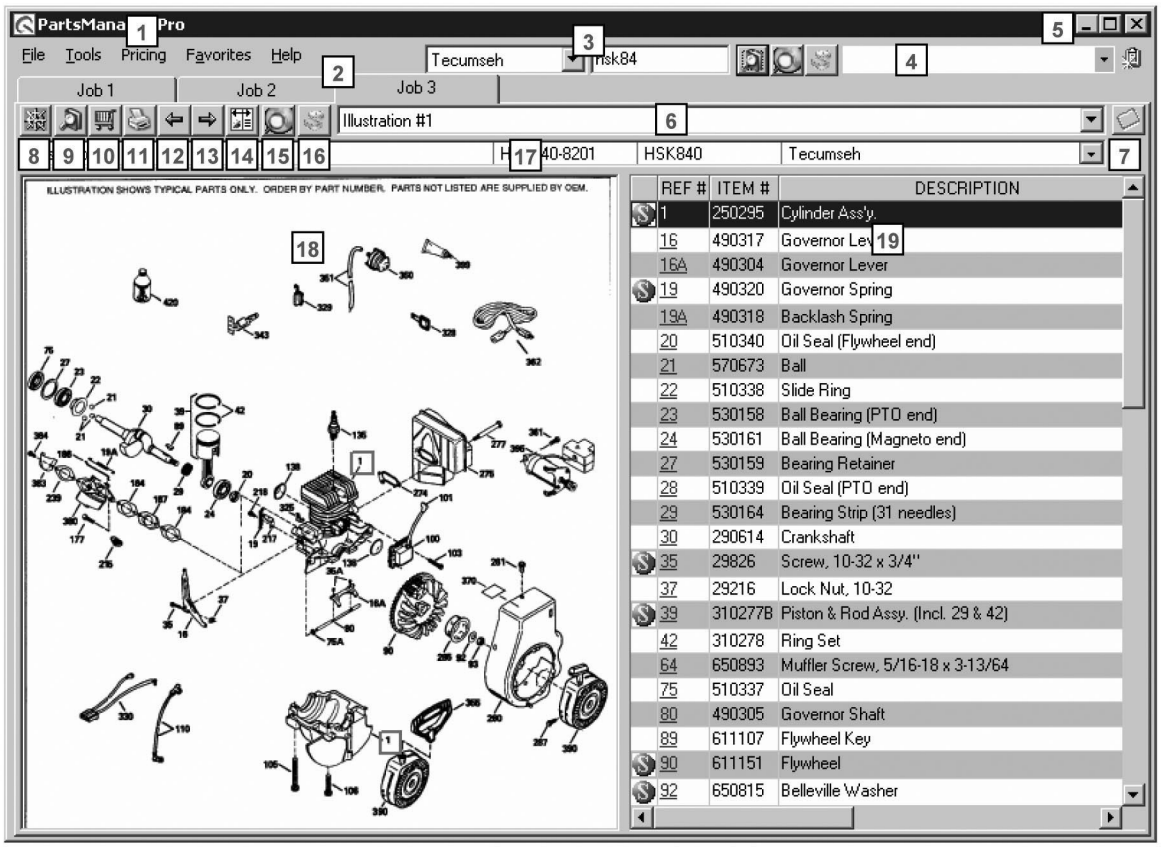
***Zip Code/Postal Code:** _____

***Country:** _____

***State/Province:** _____

Part Number 271-0203 Version 10112005-1.2

Identify Main Page Features



1 Pull-down menus: Perform common tasks.

2 Job tabs: Switch between open jobs.

3 Quick Search: Quickly find prices and where used information and make quick keyword searches.

4 New Job list box: Type a job name.

5 New job icon: Create a new job.

6 Page list box: Select a different parts page.

7 Alpha Index button: Toggle between the parts list and alpha index.

8 Navigation button: Navigate to parts pages.

9 Advanced Search button: Search for parts, service information, and bulletins.

10 Picklist button: Open a picklist.

11 Print button: Print the parts diagram and parts list.

12 Page Back button: View the previous parts page.

13 Page Forward button: View the next parts page.

14 Full Screen/Split Screen button: Toggle the display between a full-screen parts diagram and a parts diagram/parts list split screen.

15 Where Used button: List all occurrences in all catalogs of the part number highlighted in the parts list.

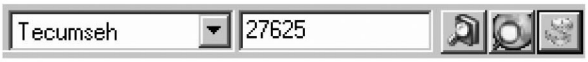
16 Price/More Info button: Display additional information, including the price, for the part number highlighted in the parts list.

17 History list box: Return to a previously viewed parts page.

18 Parts diagram: Zoom, resize, print, and add notes. Select parts for picklists.

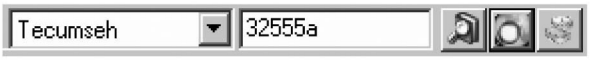
19 Parts list: View notes, bulletins, and supersession. Select parts for picklists.

Quick Search: Price



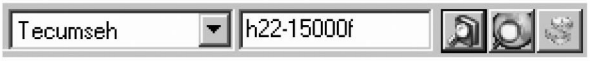
1. Select the OEM.
2. Type the part number.
3. Click  .

Quick Search: Where Used



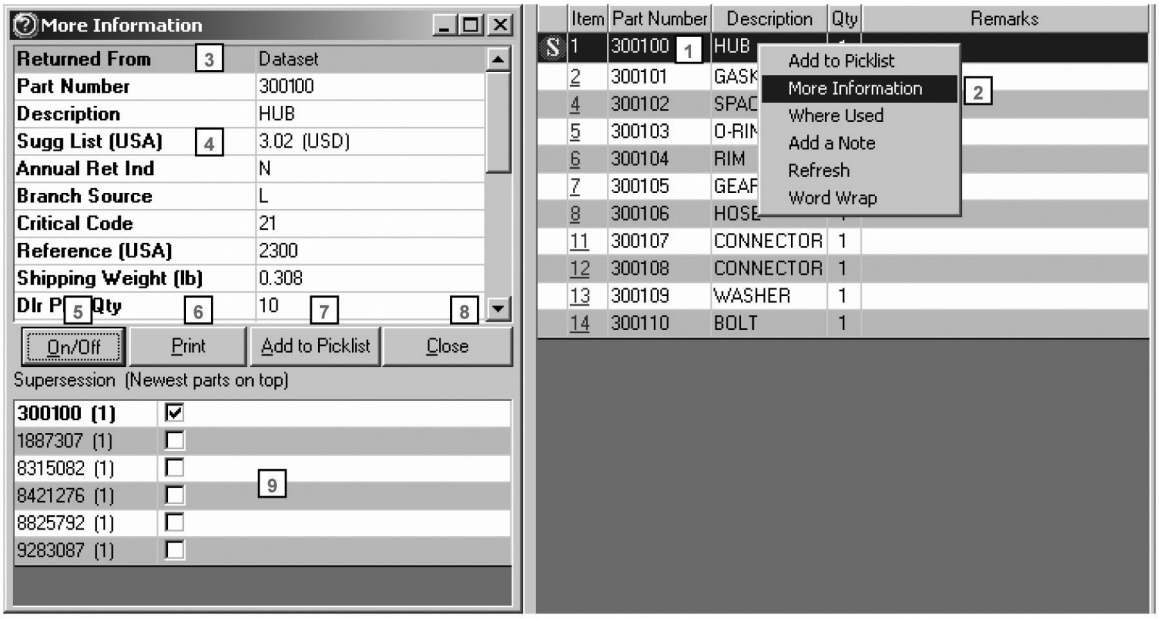
1. Select the OEM.
2. Type the part number.
3. Click  .

Quick Search: Keyword



1. Select the OEM.
2. Type a complete or partial keyword.
3. Click  .

View Additional Information for a Part



1 Right-click a part entry. A context menu opens.

Note: You can also display additional information by highlighting a part entry and clicking the **More Info** button.

2 Select **More Information**. The More Information window opens.

3 "Returned From" shows the source of information. When you have a BSI or eConnect connection, the window displays separate Dataset, BSI, and eConnect sections.

4 To hide an individual price, right-click the price and select **Hide Price** from the context menu. To redisplay the price, right-click anywhere in the information and select **Refresh**.

5 Click **On/Off** to show or hide all prices in the BSI or Dataset display.

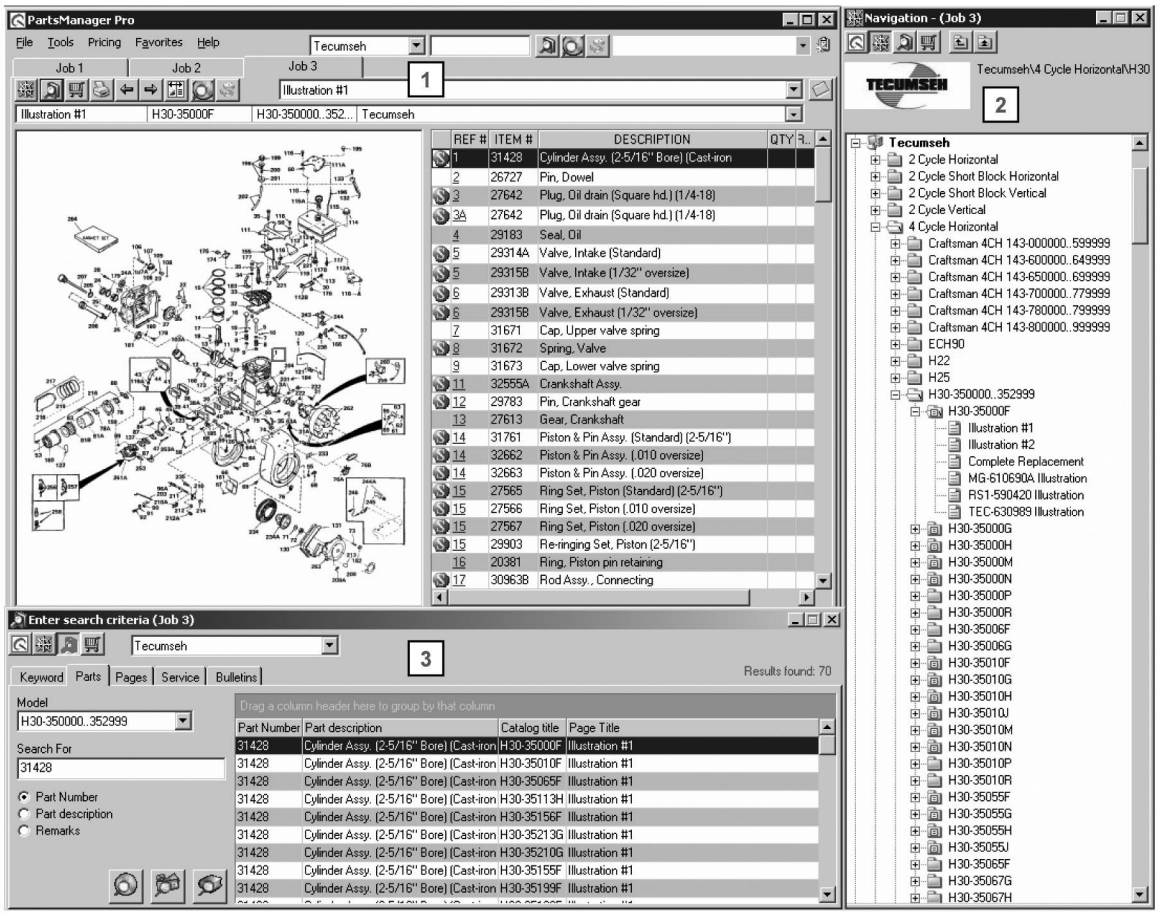
6 Click **Print** to print the information displayed in the More Information window.

7 Click **Add to Picklist** to add the part number to a picklist.

8 Click **Close** to close the More Information window.

9 When supersession information is available, it appears in the bottom portion of the window.

Arrange the Application Windows



Move each application window to any position on the screen. Resize each window as necessary. Once you arrange and size the windows the way you want, they will remain in those positions each time you open the application.

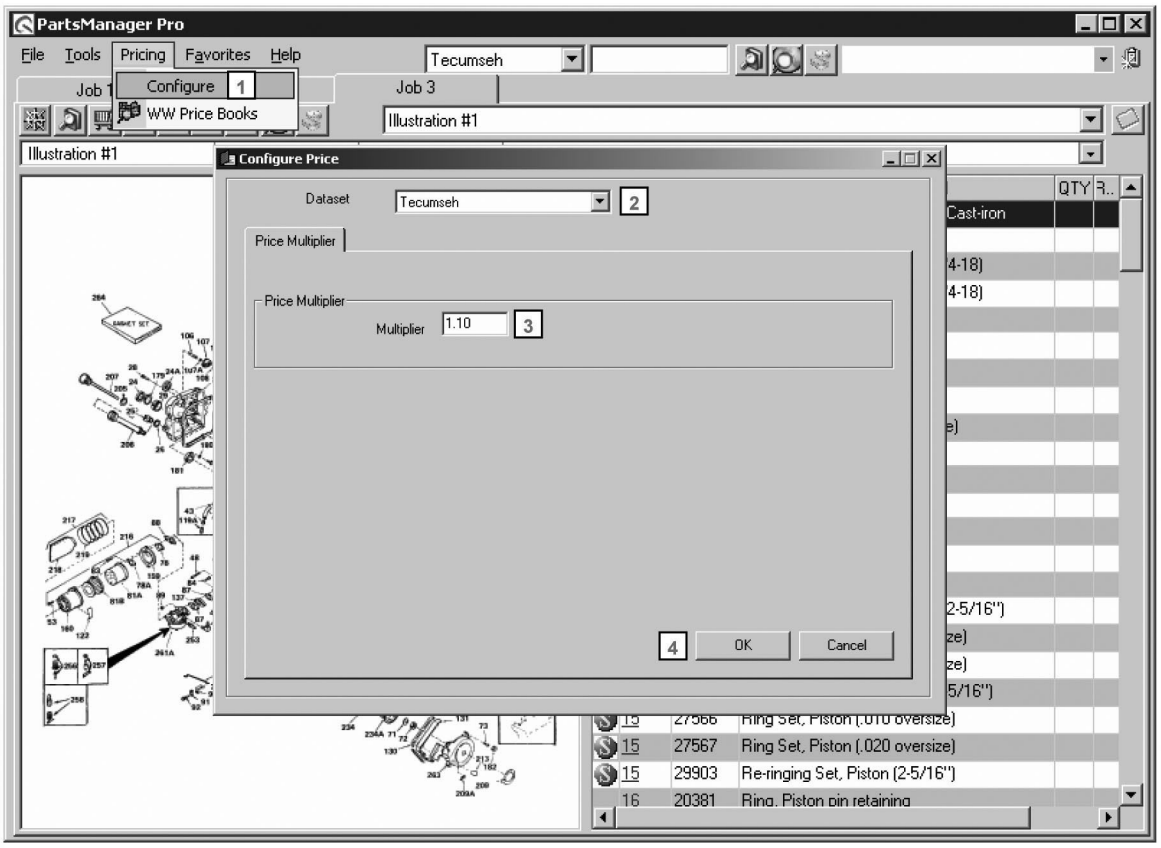
1 Main Page

2 Navigation window

3 Advanced Search dialog box

Escalate Prices

Use this feature to escalate all prices in a dataset (OEM).



1 Select **Configure** from the Pricing menu. The Configure Price dialog box opens.

2 Select a dataset (OEM).

3 Type the multiplier, that is, the percentage of the original price by which you want to escalate all prices for the selected dataset (OEM).

Example: To escalate all prices by 10% (110% of the current price), type **1.10**.

4 Click **OK**. The application will escalate all prices for the dataset (OEM) by the percentage you type.

Note: You can change the multiplier any time you want. The Configure Price dialog box shows the multiplier currently applied. Type a different multiplier and click **OK** to change the percentage. To restore the prices in a dataset (OEM) to their original values, type **1** (for 100%) as the multiplier.

2007 Update Seminar Technician Test

1. If you are in need of a recoil starter for the TC engine that requires the tanks mounting holes what do you need to do?
   A. Order kit # 730323
   B. Order kit # 730323 and use a template and dremel tool to cut new holes
   C. Order the correct part number using the engine model and spec number

2. In a Tecumseh engine, what is the recommended maximum allowable % of ethanol that can be blended with gasoline?
   A. 25%
   B. 10%
   C. 15%

3. The louvered breather cover part #38014 will replace the existing covers on what engines?
   A. All small frame engines
   B. All medium frame engines
   C. All medium frame snow engines

4. The Tecumseh school schedule lists “7” schools for 2007. How many are Dealer schools?
   A. 5
   B. 2
   C. 7

5. How many kits are available for converting the LDP 10 pump for repower?
   A. 3
   B. 60
   C. 10

6. On the TH098/139 a vent tube has been added to the main nozzle air bleed to prevent what?
   A. Flooding
   B. Vapor lock
   C. Fuel spillage during priming

7. What is the part number of the twin cylinder engine that has a 1-1/8” crankshaft?
   A. 125100
   B. 125104
   C. 125102

8. What is a PLA917-001?
   A. A Mini-Actuator
   B. A Mini-Cooper
   C. A Mini-PLA

9. The fool proof rocker switch changed the size of what feature to prevent the switch from being wired incorrectly?
   A. The size of the rocker switch
   B. The size of the terminal posts
   C. The wire thickness

10. The 855 drive train used on utility carts, has a carrying capacity of how many pounds?
    A. 600
    B. 855
    C. 450

11. If an engine has a head bolt washer that has a crack in it, what washers need to be replaced?
    A. Only the damaged washer
    B. All of the washers
    C. None of the washers, the damage is not structural.

12. What are the advantages for a dealer if he uses the on-line parts look up?
    A. You get the latest engine spec information
    B. You can have up to five employee’s access on-line information
    C. All of the above

13. What was added to the 2600 transaxle to increase load capacity?
    A. Strengthening ribs in the axle housing area
    B. Cast iron housing instead of aluminum
    C. Support struts

2007 Update Seminar Technician Test

14. The new compression release on the TM049 has to be reset after every pull of the recoil?
    A. True
    B. False

15. What are some of the new upgrades on the Parts Manager Pro computerized parts look up system?
    A. Voice command
    B. Nine new quick reference tool bar selections
    C. None of the above

16. Parts Manager Pro has the flexibility for the operator to arrange the viewing screen and resize each segment to their desire.
    A. True
    B. False

17. What repair manual is used to work on the OV490EA?
    A. 692509
    B. 695208
    C. 695244A

18. What is the part number of the twin cylinder repower kit used to replace other brands of engines with a Tecumseh engine on MTD riding mower applications.
    A. 730650
    B. 730651
    C. 730652

19. The composite bushing used on LV cam shafts is now obsolete.
    A. True
    B. False

20. What is the weight bearing capacity of the new 2575 transaxle?
    A) 1175 lbs.
    B) 1500 lbs.
    C) 2250 lbs.

21. What State has the most E85 fuel stations in the United States?
    A. Minnesota
    B. California
    C. Washington

22. What was done to the TH098 engine to accommodate for the change in the rod cap thickness?
    A. A thicker rod cover gasket is used
    B. The rod bolt end was shortened for clearance
    C. Material added to lengthen the block

23. If the vent control valve in the fuel tank is bad the proper repair requires what?
    A. Only to replace the valve
    B. Replace the fuel tank
    C. Replace the fuel cap

24. What is the part number of the supplement that contains repair information for the LTH transaxle?
    A. 696571
    B. 696325
    C. 691218

25. What are the two locations where Tecumseh factory schools are held?
    A. Milwaukee, WI /Chattanooga, TN
    B. Grafton, WI/Dunlap, TN
    C. Port Washington, WI/Chattanooga, TN

26. What is the new LH195SA camshaft made of?
    A. Composite material
    B. Low perm material
    C. Cast iron

27. What feature of the 1050 gearbox increases its horsepower capacity and impact resistance over the 1000 gearbox?
    A. Space age polymer housing
    B. Cast Iron housing
    C. Aluminum housing

2007 Update Seminar Technician Test

28. What determines if a Toro lawnmower has a 3-year warranty?
    A. Mower model and purchase date
    B. Warranty alpha code
    C. Serial number

29. What prevents the oil fill tube from coming loose on the LH195SA/SP?
    A. A redesigned anti-rotation clip
    B. Loctite 620 on the threads of the fill tube
    C. Dry loctite adhesive on the threads of the fill tube

30. The focus of the next C.A.R.B. emissions regulations scheduled for January 2007 are what?
    A. Exhaust emissions
    B. Conductive emissions
    C. Evaporative emissions

NOTES

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TURN OLD STEEL INTO GOLD

1967 Tecumseh Snow King powered snow thrower

TECUMSEH SNOW® KING ENGINES

POWERING more than 8 out of 10 SNOW THROWERS ever made!

Help your customers find the oldest Tecumseh, Lauson or Power Products powered snow thrower or ice auger and WIN!

WIN $1500 cold hard cash or choice of several tropical vacations for two (up to $2000 value), if your customer has the oldest working snow thrower. If your customer has the oldest working ice auger, you win a $250 gift card and a jacket.

The customer must bring the snow thrower or ice auger to an authorized Tecumseh servicing dealer to verify the age and condition. Dealers will submit the entries on behalf of the customer before January 31, 2007.

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