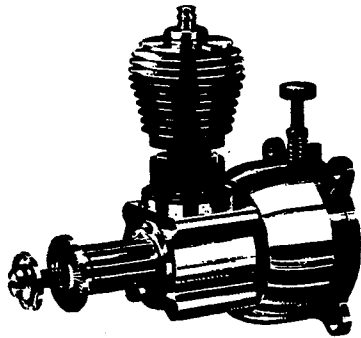




PEE WEE .020 CARE & OPERATION



The Cox Pee Wee .020 engine is the ideal choice for both control line and free flight model planes. These features make it an outstanding value:

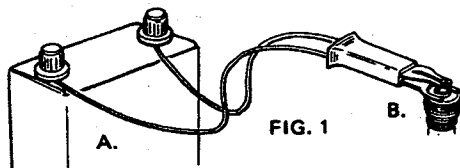
- Metal fuel tank with safety vent overflow
- Sturdy radial mounting
- Needle valve located at rear of tank
- Spring starter system

NOTES:

- The fuel pick-up tube inside the tank is positioned (at factory) for control line flying. For free flight flying, tank must be removed from engine and end of pick-up tube repositioned to bottom of tank. If this tube is located in wrong position, all the fuel will not be used and engine will stop prematurely.
- When adjusting engine speed, allow for a short delay between movement of needle valve and change in engine speed.
- Fuels must contain a total of 20% oil minimum, at least half castor oil. Use of fuel with less than 10% castor oil will void warranty. Always use Cox Super Power Fuel or other high quality fuel.
- You will need a 1-1/2 volt battery, a glow head clip, Cox Super Power fuel, and a filler hose to start your engine. These items are all available in the COX 400 or 880 Accessory kits.

PREPARATION FOR RUNNING

- Mount engine in plane or on board. Never hold engine in hand or vise.
- Obtain a 1-1/2 volt Cox dry cell battery or equivalent. Never use a higher voltage battery or the glow head may burn out. Connect Cox glow head clip wires to battery as shown in Figure 1A.



- Install propeller on engine shaft. Flat side of propeller should face engine. Tighten propeller screw securely.
CAUTION

A propeller which has been damaged with nicks, chips or cracks, or one which has been altered in any way can break apart during operation of the engine and causing serious injury you and others.

- Inspect propeller before each use.
- Do not alter, modify or customize your propeller.
- Discard and replace nicked, chipped, cracked or altered products.
- Use only propellers approved for use with your engine.

STARTING ENGINE

- Close needle valve (turn clockwise). Do not force or over tighten valve. After closing, open valve (turn counterclockwise) 2-1/2 turns.
- Fill fuel tank. Fuel will flow from overflow on top of tank when tank is full. Wipe any excess fuel from engine and tank.
- Prime engine. Close exhaust ports by rotating crankshaft until piston blocks ports. Squirt several drops of fuel into exhaust ports. Flip propeller over 3 or 4 times to work fuel into engine.
- Connect glow head clip to glow head. Bottom clip should rest on top of glow head. See Fig ure 1B.
- Start engine. Wind propeller backwards (clock-wise) until spring hook catches on notch in snap starter cam. After cam is engaged, wind propeller backwards one full turn. (To prevent damage to starter spring, never wind propeller more than one turn.) Release propeller, engine should start.
NOTE: If, after a few attempts, the engine does not start, open needle valve another 1/2 turn, reprime, and repeat starting procedure. If engine still won't start, refer to engine trouble-shooting section.
- Slowly tighten needle valve (clockwise) until engine is running at top speed. At top speed, engine should produce a shrill whine. After engine has reached top speed, loosen needle valve approximately 1/2 turn, or until engine runs with a "crackling," or "bubbling," sound. Remove glow head clip and let engine run until fuel tank runs dry. Restart and repeat procedure until engine has burned a minimum of 3 tanks of fuel.
- Restart engine. Tighten needle valve until engine is running at top speed. Remove glow head clip. If engine holds top RPM, it is broken in.
- If engine is mounted in place, tip nose of plane up to 45 degree angle. If engine speed changes readjust needle valve.

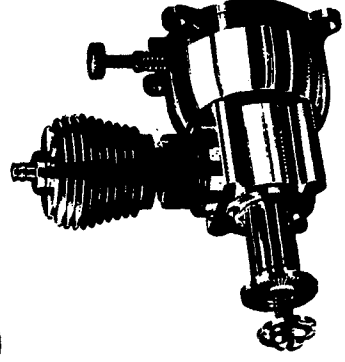
ENGINE CARE

Cleaning. - Engine may be taken apart for cleaning or replacement of parts. Refer to diagram with "Parts List" for position of engine parts.

Disassemble and clean engine whenever it is dirty. Wash and oil parts before reassembly. Always disassemble and clean engine after crash or whenever you suspect that dirt may have gotten into parts. Dirt in engine will drastically shorten engine life.



PEE WEE .020 CARE & OPERATION



3. Install propeller on engine shaft. Flat side of propeller should face engine. Tighten propeller screw securely.
- CAUTION**
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3. Prime engine. Close exhaust ports by rotating crankshaft until piston blocks ports. Squirt several drops of fuel into exhaust ports. Flip propeller over 3 or 4 times to work fuel into engine.
4. Connect glow head clip to glow head. Bottom clip should rest on top of glow head. See Fig ure 1B.
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7. Restart engine. Tighten needle valve until engine is running at top speed. Remove glow head clip. If engine holds top RPM, it is broken in.
8. If engine is mounted in plane, tip nose of plane up to 45 degree angle. If engine speed changes readjust needle valve.

ENGINE CARE

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TROUBLE SHOOTING CHART	
TROUBLE	REMEDY
Poor battery connection	Check connections of wires to battery and check to be sure clip is firmly and correctly attached to glow head.
Weak or dead battery	A good battery should test 1-1/2 volts. Connect battery to a good glow head or flashlight bulb. If glow head coil or bulb does not glow bright - replace battery.
Burned out glow head	Remove glow head. Attach glow head to a good 1-1/2 volt battery. If glow head filament does not glow bright orange - replace battery.
Glow head loose	Tighten glow head with wrench
Engine wasn't primed	Squirt a few drops of fuel through exhaust ports and onto side of piston then continue with starting procedure.
Dirt under reed valve	Remove backplate. Wash reed and retainer in solvent or fuel.
Engine flooded, too much fuel in cylinder. Makes a sizzling sound.	Close needle valve 1 full turn and start again (without priming). 4 or 5 starts may be required to clear engine.
Loose propeller screw	Tighten propeller screw
Dirt under reed valve	Remove backplate. Wash reed and retainer in solvent or fuel.
Engine flooded, too much fuel in cylinder	Close needle completely. Leave battery attached and flip propeller (without priming) until short starting "burst" occurs. Then open needle valve 2-1/2 turns, and start again.
Excess fuel at ports	Close needle valve. Flip propeller until engine starts and burns out excess fuel. Open needle and restart.
Engine "varnished"	See instructions
Engine not getting enough fuel (mixture too lean or tank empty)	Check tank fuel level - refill if necessary; or, open needle valve another 1/2 turn, prime and start again. It may be necessary to repeat this procedure 3 or 4 times, opening the needle valve 1/2 turn each time.
Loose glow head	Tighten glow head with wrench
Engine set too rich or too lean	Readjust needle valve

Use only Cox model fuel - NEVER USE GASOLINE! Gasoline can explode and burn, causing serious injury to YOU AND OTHERS.

Cox model works only because it is **FLAMMABLE** - it burn with an almost invisible flame, it can burn you if not used with common sense - be careful and follow these rules:

- NEVER FUEL OR PRIME WITH BATTERY CONNECTED TO ENGINE.
- WIPE EXCESS FUEL FROM MODEL WITH CLOTH AFTER EACH FUELING OR PRIMING.
- DO NOT OPERATE ENGINE INDOORS.
- DO NOT SMOKE WHEN FUELING OR OPERATING MODEL



Cox Customer Service Department
475 North Sheridan Street
Corona, CA 91720-2004
Open 8:00 AM - 4:30 PM Pacific Time
Monday thru Friday
800/451-0339

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- Metal fuel tank with safety vent overflow
- Sturdy radial mounting
- Needle valve located at rear of tank
- Spring starter system

NOTES:

A. The fuel pick-up tube inside the tank is positioned (at factory) for control line flying. For free flight flying, tank must be removed from engine and end of pick-up tube repositioned to bottom of tank. If this tube is located in wrong position, all the fuel will not be used and engine will stop prematurely.

B. When adjusting engine speed, allow for a short delay between movement of needle valve and change in engine speed.

C. Fuels must contain a total of 20% oil minimum, at least half castor oil. Use of fuel with less than 10% castor oil will void warranty. Always use Cox Super Power Fuel or other high quality fuel.

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PREPARATION FOR RUNNING

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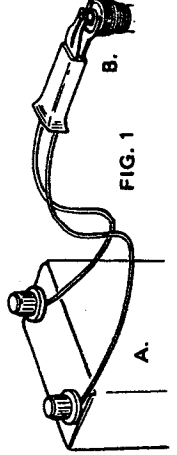


FIG. 1

Varnish - If the engine gets tight it is not frozen up. Do not send to factory. A new engine will sometimes tighten up a few times, especially after slow runs. Certain kinds of weather, especially warm, humid (sticky) weather will cause excessive sheelacking in a new cylinder. The smoother the fit the more susceptible is the engine to this trouble. Do not run it tight. The tightness is caused by a shellac-like deposit on the cylinder wall. Screw the head off. Remove the cylinder and scour the inside wall very lightly with a bit of fine or medium steel wool. Wash, oil, and replace. The engine will then turn over freely and run properly. Never use sandpaper, emery cloth, or abrasives of any kind, or scrapers. Such methods will ruin the cylinder. Steel wool, will not harm the bore.

Glow Head - Replace burned out glow head. Never attempt to remove hot glow head. A hot glow head will stick, and forced removal may damage cylinder. To cool glow head, pour fuel over head.

Use both wrenches when removing glow head. The top fin on the cylinder has two flats. Insert one wrench over these flats and hold in place while using other wrench to remove the glow head.

When installing glow head make sure it is tight!
Storage - Before storing, run engine until fuel tank is dry. Lubricant in fuel thickens upon exposure to air and may clog parts if allowed to remain in tank. Oil engine with light oil such as SAE 10, 3-IN-ONE oil, or sewing machine oil, then wrap in plastic bag or clean cloth to protect it from dust and dirt.

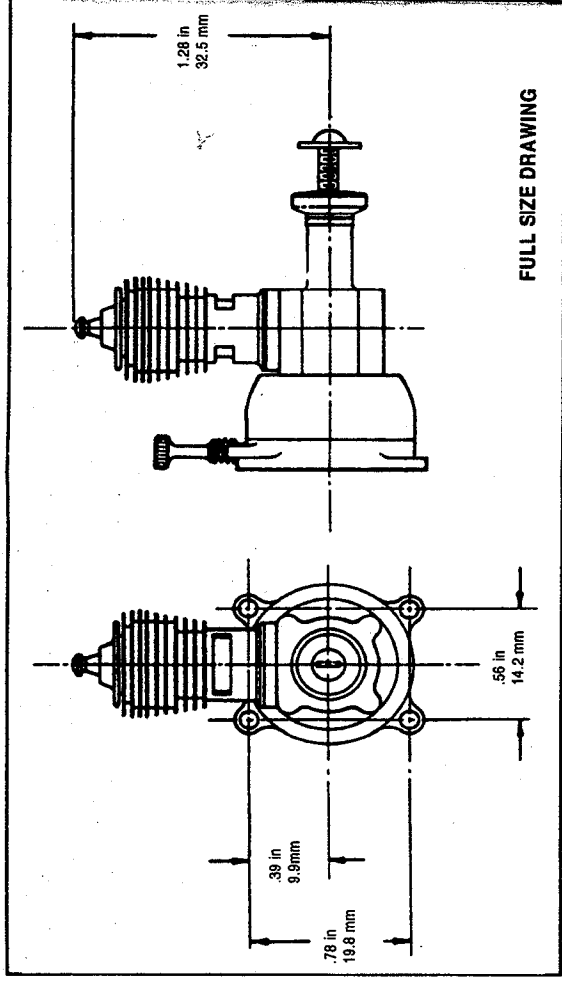
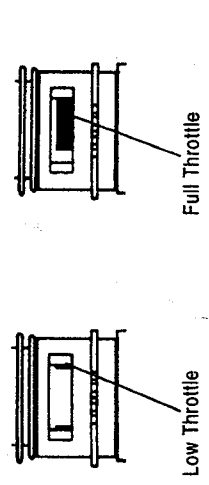
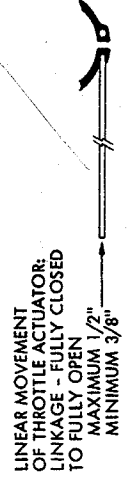
WARNING
 USE OF THE FOLLOWING EQUIPMENT CAN DAMAGE YOUR ENGINE AND WILL VOID YOUR WARRANTY!
 • ELECTRICAL STARTERS
 • DIESEL CONVERSION KITS
 • SHAVED OR EXTREMELY HIGH COMPRESSION HEADS

WARRANTY
 Your Cox engine is fully warranted against factory defect for 90 days from the date of purchase. **GLOW HEADS** are **NOT WARRANTED** since they normally require periodic replacement. Should your engine require warranty service, you may contact Cox at the address given on back page.

FACTORY REPAIR SERVICE
 Minor repair, examination, or adjustments - \$4.00 plus parts. Complete overhaul, new engine performance guaranteed: \$15.50 This price includes parts.
CUSTOMER SERVICE

For any questions or service regarding any Cox products please contact our Customer Service Department at 1-800-451-0339. Customer Service hours are from 8:00 AM to 4:30 PM Pacific Time, Monday through Friday. Prices and Design Subject To Change Without Notice.

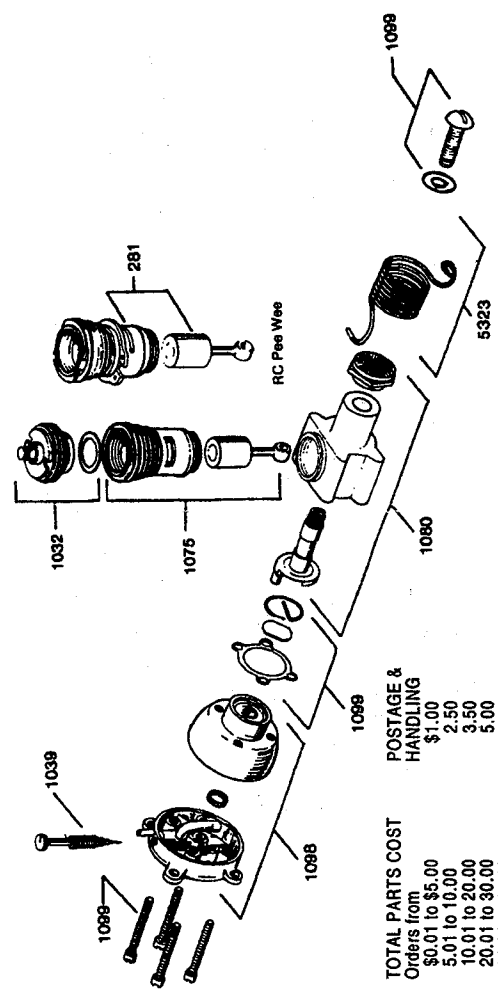
CAT. NO. 1001 PEE WEE WITH THROTTLE OPERATION
 Set up a linkage between the servo output arm and either hole in the drive ring. Full throw of the servo should drive the ring through 90° of rotation. Finally, rotate the sleeve within the ring so that the exhaust is fully open at high throttle and totally blanked off at low throttle. Direction of rotation does not matter.



FULL SIZE DRAWING

REPLACEMENT PARTS

We have listed those items which are most likely to require replacement during the life of this product. We have also included an exploded assembly drawing which identifies all replacement items available. Ordering instructions: You may order parts from Cox by telephone or mail. Orders may be charged to your Visa or Mastercard. For credit card orders please give the following information: name, card number and expiration date. For other orders please send a check or money order made payable to Cox for the full amount including the following postage and handling charges:



TOTAL PARTS COST	POSTAGE & HANDLING
Orders from \$0.01 to \$5.00	\$1.00
\$5.01 to \$10.00	2.50
10.01 to 20.00	3.50
20.01 to 30.00	5.00
30.01 to 40.00	6.00
40.01 up	7.00

All international orders \$5.00 additional. CA residents only add state sales tax. No C.O.D. orders accepted. Telephone orders by Visa or Mastercard only.

NOTE
 The inside fuel pickup tube location is shown for R/C flying. The end of this tube must be relocated to the side of the tank for free control line flying.

CAT. NO.	DESCRIPTION	PRICE
1039	Needle Valve & Spring	2.50
1032	Glow Head & Gasket	4.00
333	Snap Starter® R.H.	1.35
1080	Crankcase, crankshaft & drive plate assembly	6.85
1098	Tank front & back, tube, spring, & venturi gasket, reed, retainer	8.50
1099	Overhaul Kit (reed, retainer, gasket, screw set, spliner, prop screw, washer & venturi gasket)	2.75
1075	Cylinder, Piston & Rod (for Pee Wee Cat. No. 100)	8.95
281	Cylinder, Piston & Rod (for Pee Wee Cat. No. 1001)	12.00
RECOMMENDED PROPELLERS		
241	4.5" x 2" Pitch (gray) R.H.	1.55
866	4.5" x 2" Pitch (black) R.H.	1.35
5410	3.12" x 2.5 Pitch 3 Blade R.H.	1.35
ACCESSORIES		
5323	Starter Spring	1.10
7556	Glow Plug Clip with Wires	1.90
1030	Wrench	1.10
1096	Piston/Rod Reset Tool & Holder	3.20

Prices subject to change without notice.

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