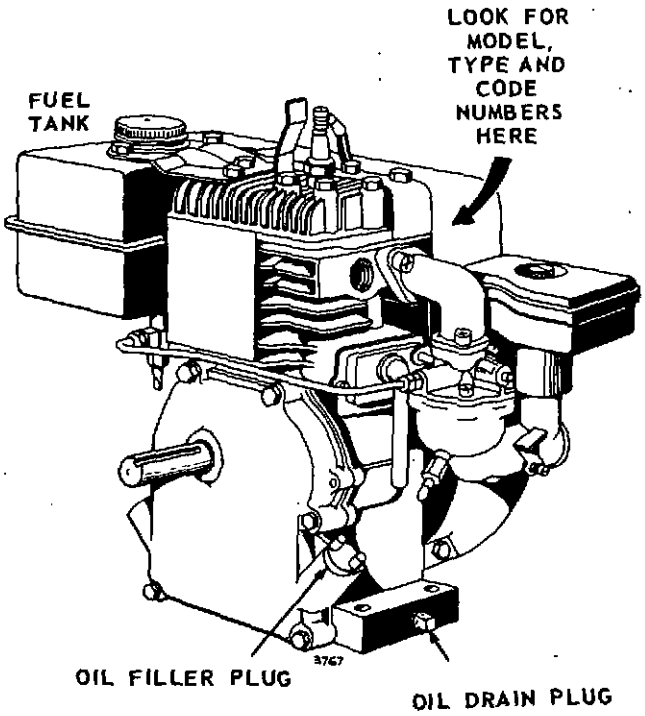

Briggs & Stratton
OPERATING AND MAINTENANCE INSTRUCTIONS
MODELS
60300 to 60492
61300 to 61492
80300 to 80492
81300 to 81492

IMPORTANT: *Do not start this engine before reading Section 1 and Section 2 of this manual.*

CAUTION

PROVIDE EFFICIENT VENTILATION. Exhaust gases contain carbon monoxide, an odorless and deadly poison. Do not operate engine in an enclosed area.

ROTARY OR REEL TYPE LAWN MOWERS. Always remove the spark plug before rotating or removing lawn mower blades, when cleaning under mower deck or sharpening blades.

SECTION 1
BEFORE STARTING

OIL RECOMMENDATIONS

Any high quality detergent oil bearing the American Petroleum Institute Classification "For Service MS" can be used in your Briggs & Stratton engine. Detergent oils keep the engine cleaner and retard the formation of gum and varnish deposits.

WINTER	SUMMER
(Below 40° F.)	(Above 40° F.)
Use SAE 5W-20	Use SAE 30
If not Available use SAE 10W oil diluted with 10% kerosene	If not Available Use SAE 10W-30

The above oil recommendations are the result of extensive testing. No special additives should be used.

FILL CRANKCASE WITH OIL

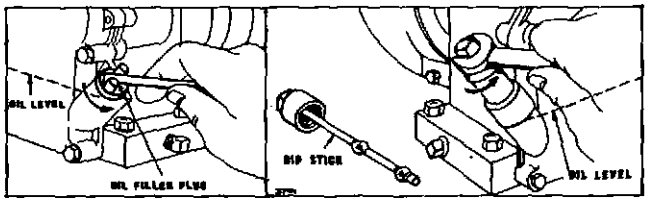

FIG. A FIG. B

FIG. A
Place engine level. Use a screw driver or bar to remove the oil filler plug. Fill crankcase to point of overflowing. POUR SLOWLY. Capacity 1¼ pints. Replace the filler plug.

FIG. B
Place engine level. Use a wrench to remove the filler cap. Fill crankcase to "F" mark on dipstick. POUR SLOWLY. Capacity 1¼ pints. Replace filler cap.

FILL FUEL TANK

Use clean, fresh "regular" grade gasoline.

CAUTION: The use of old or stale gasoline will result in gum deposits clogging the fuel system and carburetor. Make sure that vent hole in the tank cap is open.

DO NOT MIX OIL WITH GASOLINE.

"OIL-FOAM"® AIR CLEANER

"Oil-Foam"® air cleaners are oiled at the factory and do not require initial service.

FILL OIL BATH AIR CLEANER

Oil bath air cleaners used on some models require initial service prior to operating engine. (See Section 3).

FORM NO. 27842-86
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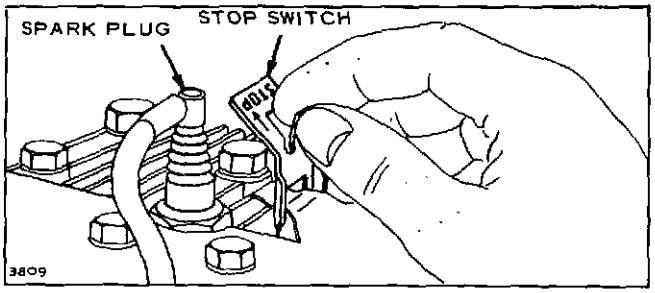
BRIGGS & STRATTON CORP.
Milwaukee, Wisconsin 53201

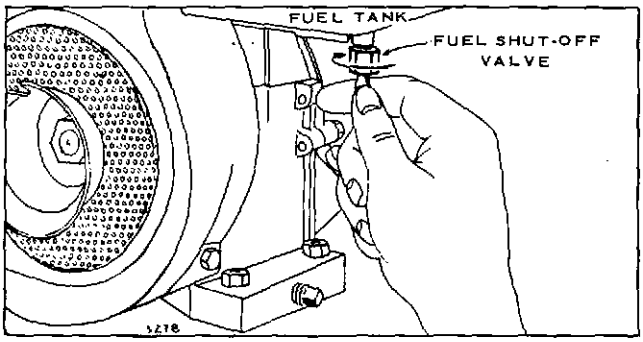
SECTION 2 – STARTING

CHOKE ENGINE – MANUAL CONTROL

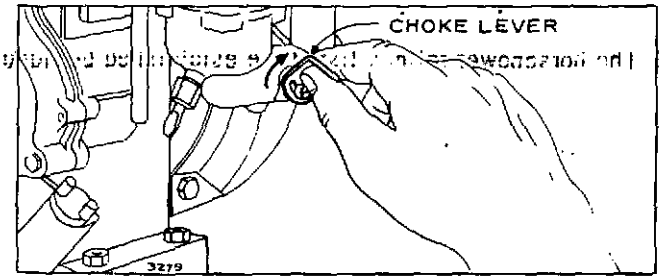
Be sure stop switch is away from spark plug.



Open fuel valve on tank.



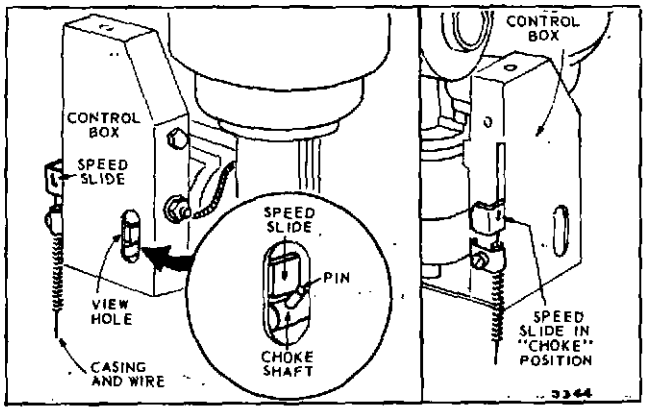
Close carburetor choke by turning lever in direction of arrow.



CHOKE ENGINE – CHOKE-A-MATIC TYPE

The Choke-A-Matic Carburetor permits choking, varying the engine speed, and stopping the engine by merely moving a single remote control lever to the desired position.

Move lever to "Full Choke" or "Start" position.



NOTE: ENGINE MAY NOT START IF CONTROLS ON POWERED EQUIPMENT DO NOT CLOSE CHOKE FULLY. See Choke-A-Matic adjustment instructions in Section 4 of this manual.

"EASY-SPIN"® REWIND STARTER (Fig. A)

Grasp starter grip as illustrated and pull out cord rapidly.

Repeat if necessary with choke opened slightly. When engine starts open choke gradually.

"EASY-SPIN"® ROPE STARTER (Fig. B)

Wind starter rope around the pulley in direction shown by arrow.

Pull the rope with a quick full arm stroke. Repeat if necessary with choke open slightly. When engine starts open choke gradually.

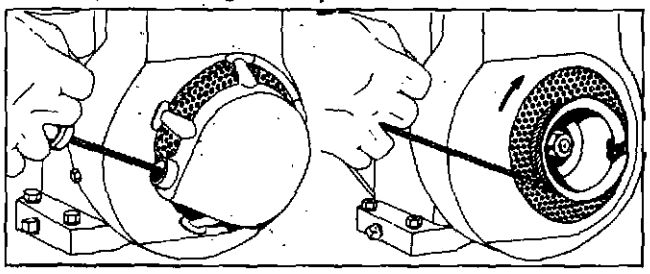


FIG. A FIG. B

CAUTION: ALWAYS KEEP HANDS AND FEET CLEAR OF MOWER BLADE OR OTHER ROTATING MACHINERY.

STOPPING

MANUAL CHOKE TYPE

Push the stop switch against end of spark plug.

CHOKE-A-MATIC TYPE

Move control lever to "stop" position.

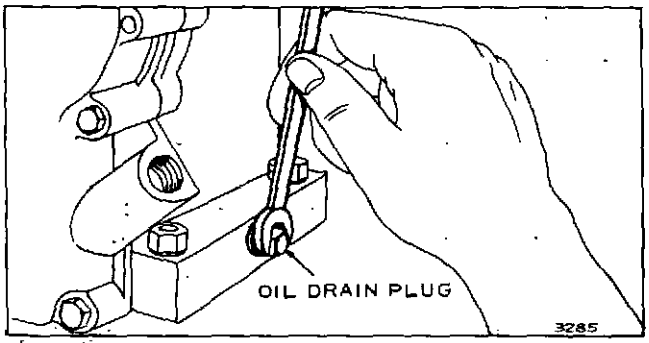
SECTION 3 – REGULAR ADJUSTMENTS

CHECK OIL

Check oil level regularly-at least after each 5 hours of operation. (Take care to remove dirt around filler plug.) Be sure oil level is maintained FULL TO POINT OF OVERFLOWING.

CHANGE OIL (Crankcase)

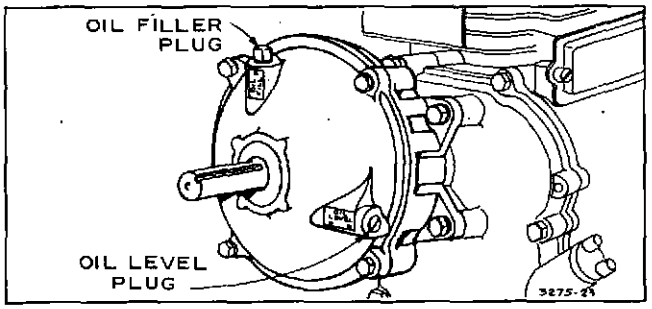
Change oil after first 5 hours of operation. Thereafter change oil every 25 hours of operation. Remove drain plug and drain oil while engine is warm. Replace drain plug. Remove oil filler cap and refill with new oil of proper grade. Replace filler cap.



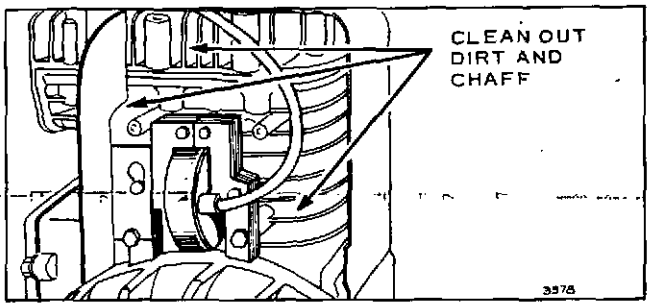
CHECK OIL (6 to 1 Gear Reduction Models)
Remove the oil plug in lower half of gear cover every 100 hours of operation to check the oil level.

Add SAE 10W-30 oil at upper oil filler plug until oil runs out of lower hole. Replace both plugs.

NOTE: Filler plug has vent hole and must be placed in top opening.



CLEAN COOLING SYSTEM
Grass or chaff may clog cooling system after prolonged service in cutting tall dry grasses or hay. Continued operation with a clogged cooling system causes severe overheating and possible engine damage. Remove blower housing and clean regularly.

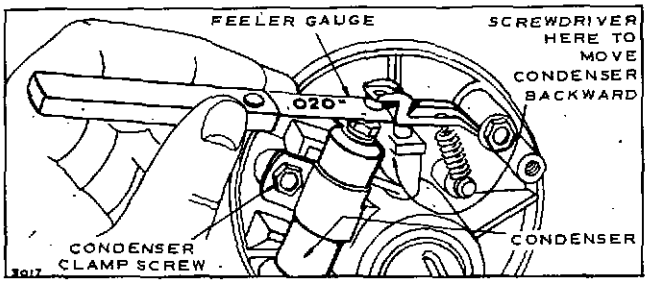


REMOVING CARBON DEPOSITS
Clean combustion chamber, top of piston and around both valves every 100-300 hours of operation.

SPARK PLUG
Clean and reset gap at .030" every 100 hours of operation.

CAUTION: Blast cleaning of spark plugs in machines that use abrasive grit is not recommended. Spark plugs should be cleaned by scraping or wire brushing and washing with a commercial solvent or gasoline.

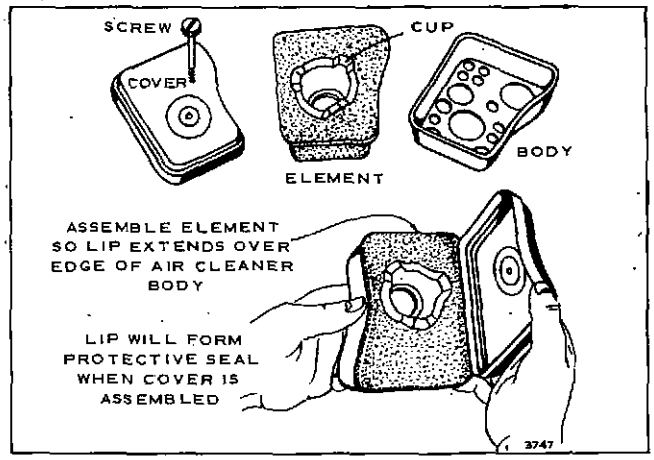
BREAKER POINTS
Breaker Point Gap, .020". Access to points requires removal of blower housing and flywheel. NOTE: Rope starter crankshafts have LEFT HAND THREAD. Rewind and Wind-up – RIGHT HAND THREAD.



SERVICE AIR CLEANER REGULARLY

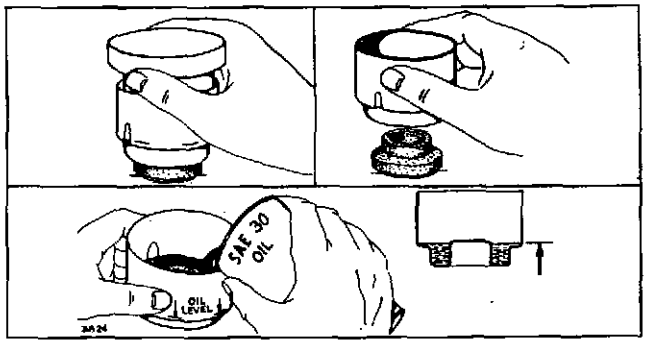
Clean and re-oil air cleaner element every 25 hours under normal conditions. The capacity of the "Oil-Foam" air cleaner is adequate for a full season's use without cleaning in average homeowner lawn mower service. (Clean every few hours under extremely dusty conditions).

"OIL-FOAM"® TYPE



1. Remove screw.
2. Remove air cleaner carefully to prevent dirt from entering carburetor.
3. Take air cleaner apart.
4. A - Wash element in kerosene or petroleum solvent.
   B - Squeeze dry and blot to remove all kerosene or solvent; re-oil with 3 tablespoons of engine oil.
   C - Squeeze again to spread oil throughout foam.
   D - Assemble parts - fasten to carburetor with screw.

OIL BATH TYPE



1. Turn filter element counterclockwise to unscrew. Lift off filter element. Lift off bowl.
2. Pour out old oil.
3. Wash the filter element and bowl in kerosene or solvent and wipe dry.
4. Pour oil in small bottom part of bowl to "OIL LEVEL" mark shown at end of arrows. Replace bowl on carburetor.
5. Replace filter element and turn element clockwise until snug. Be sure gaskets are in place.

NOTE: Steps 2 and 3 are not required for initial service.

DRAINING FUEL TANK AND CLEANING FUEL FILTER

CAUTION: Gasoline is highly flammable. Avoid spark or flame.

SAVE THIS INFORMATION FOR YOUR OWN RECORD

BRIGGS & STRATTON ENGINE WARRANTY

For ONE YEAR from purchase date, Briggs & Stratton Corp. will replace for the original purchaser, FREE OF CHARGE, any part, or parts, found upon examination by any Factory Authorized Service Center, or by the Factory at Milwaukee, Wisconsin, to be DEFECTIVE IN MATERIAL AND/OR WORKMANSHIP.

All transportation charges on parts submitted for replacement under this Warranty must be borne by purchaser.

There is no other Warranty express or implied. Briggs & Stratton Corp. shall in no event be liable for consequential damages.

BRIGGS & STRATTON CORP.

C. L. COUGHLIN – PRESIDENT

NOTE: The Briggs & Stratton Engine Warranty does not cover breakage of parts or damage to parts due to abuse or failure to follow recommended regular maintenance of crankcase oil level, cleaning of air cleaner and engine cooling fins, nor does it warrant any accessories, controls or equipment not of our manufacture.

Engine Model No. _____ Type No. _____ Code No. _____

Dealer Purchased From _____ Date _____

Type of Equipment _____

Name or Trademark of Equipment Manufacturer _____

(See Illustration on Page 1 to locate Model, Type and Code Number)

NO REGISTRATION (WARRANTY) CARD IS NECESSARY IN ORDER TO OBTAIN WARRANTY ON BRIGGS & STRATTON ENGINES

In case warranty service is ever needed you should present the above information to the nearest Authorized Service Center. You will need to give a complete report on the trouble experienced and the number of hours the engine has run since the equipment was purchased.

If you differ with the decision of a Service Center on a warranty claim, the Service Center's terms should be accepted. The Service Center will submit all supporting facts to the factory for review. If the factory's decision is that your claim is justified, you will be fully reimbursed for those items accepted as defective.

For replacement parts or service, only the Model, Type and Code numbers are needed by the Authorized Service Center.

◆ ◆ ◆ ◆ ◆ ◆ ◆

NATION WIDE SERVICE ORGANIZATION

Briggs & Stratton maintains a vast network of Authorized Service Centers that are prepared to give you prompt and efficient engine service.

Each member of this organization carries a stock of original Briggs & Stratton repair parts and is equipped with special service tools. Trained mechanics assure expert repair service on all Briggs & Stratton engines.

If parts not manufactured or approved by Briggs & Stratton Corp. are used in the repair of this engine, or if repairs are performed by an unauthorized person, the warranty may be voided.

Whenever your engine needs repair, insist on ORIGINAL SERVICE PARTS and AUTHORIZED FACTORY TRAINED MECHANICS. Look for the Dealer displaying this sign.

ORIGINAL
BRIGGS & STRATTON
SERVICE PARTS ®

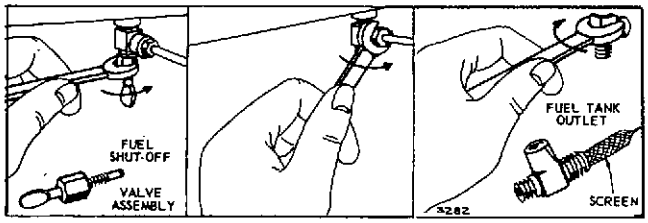
AUTHORIZED SERVICE CENTER

See yellow pages of your Classified Telephone Directory for nearby engine service under heading – "Engines Gasoline" or "Gasoline Engines".

BRIGGS & STRATTON'S POLICY OF CONTINUAL PRODUCT IMPROVEMENT IS EVIDENCED BY THE MANY PATENTS ISSUED TO THE CORPORATION COVERING ENGINE IMPROVEMENTS, SOME OF WHICH ARE LISTED BELOW.

2,459,428	2,529,244	2,669,322	2,717,916	2,999,489	3,044,239	3,149,618	DESIGN
2,491,070	2,546,334	2,669,322	2,781,260	2,999,491	3,114,651	3,161,186	PATENTS
2,496,588	2,564,787	2,693,791	2,796,453	2,999,562	3,118,433	3,165,094	173,072
2,510,825	2,573,116	2,696,577	2,796,454	3,028,848	3,119,381	3,165,100	191,806
2,529,242	2,606,753	2,699,636	2,908,263	3,040,853	3,144,097	3,168,936	196,017
2,529,243	2,649,488	2,717,589	2,954,506	3,044,238	3,145,659	3,173,055	197,176

1. To drain fuel tank, loosen packing nut and remove fuel shut-off valve assembly.
2. Remove fuel pipe.
3. Remove fuel tank outlet and filter screen assembly from fuel tank.
4. Clean fuel filter in gasoline, alchohol or lacquer thinner. Screen not removable.
5. Reassemble fuel tank outlet assembly, fuel pipe, and fuel shut-off assembly.



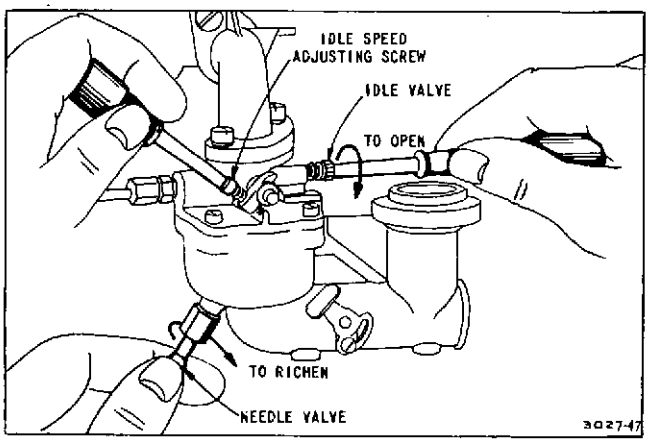
SECTION 4 – ADJUSTMENTS

CARBURETOR ADJUSTMENTS

Carburetors are adjusted at the factory and normally do not need adjustment unless they have been disassembled.

Initial Adjustment after Re-assembly

Close the needle valve (turn clockwise) carefully to avoid damaging valve. Then open it 1½ turns counter-clockwise. Close the idle valve (clockwise). Open it ½ to ¾ turns. This initial adjustment will permit the engine to be started and warmed up for several minutes prior to final adjustment.



Final Adjustment

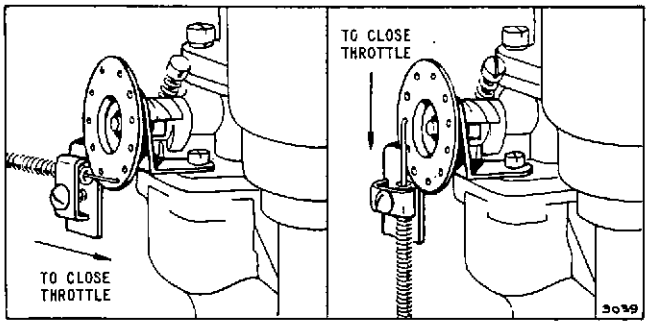
Turn needle valve in until engine misses (lean mixture), then turn it out past smooth operating point until engine runs unevenly (rich mixture). Now turn needle valve to the mid-point between rich and lean so the engine runs smoothly.

Hold throttle at idle position and set idle speed adjusting screw until fast idle is obtained (1750 RPM). Hold throttle in idle position and turn idle valve in (lean) and out (rich) until engine idles smoothly. Then reset idle speed adjusting screw so that engine idles at 1750 RPM. Release throttle – engine should accelerate without hesitation or sputtering. If engine does not accelerate properly, the carburetor should be re-adjusted – usually to a slightly richer mixture.

REMOTE THROTTLE CONTROL

Top speed of the engine is controlled by the governor. All other speeds from idle to top speed are controlled by a remote control lever.

Move control lever to LOW speed position. Loosen screw on swivel. Move wire through swivel until carburetor throttle closes. Tighten swivel screw, bend loose end of wire around swivel. Cut off excess wire.



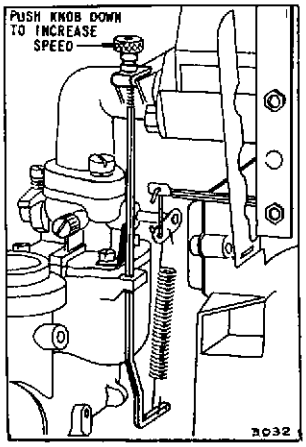
GOVERNOR ADJUSTMENTS

There are two different types of governors used on these engines – air vane and mechanical. The recommended operating speed range is 1800 to 3600 RPM. Idle speed is 1750 RPM.

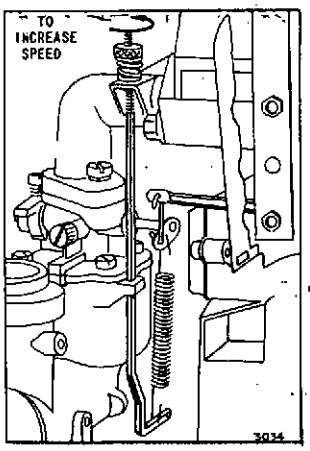
AIR VANE GOVERNOR ADJUSTMENT

Standard Speed Control – Speed adjusting thumb nut is located on top of engine. To increase speed, turn thumb nut counter-clockwise.

Manual Friction Control – Push knob down to increase speed. Do not turn. Knob is crimped on control rod.

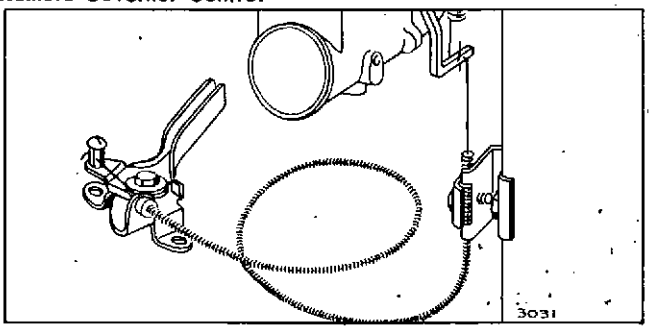


MANUAL FRICTION



STANDARD SPEED

Remote Governor Control



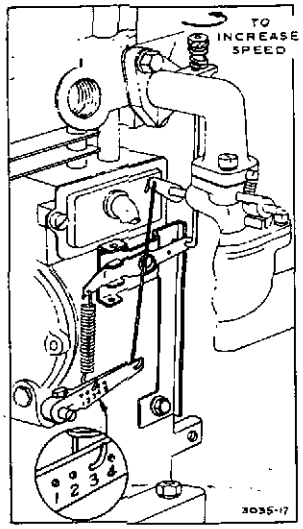
The speed of engines equipped with remote governor controls is varied by movement of the control lever illustrated below. To adjust; move control lever to High Speed position. Loosen swivel screw. Move wire through swivel until Top Speed limit device reaches stop. Re-tighten swivel screw. Bend loose end of wire around swivel. Cut off excess wire.

MECHANICAL GOVERNOR ADJUSTMENTS

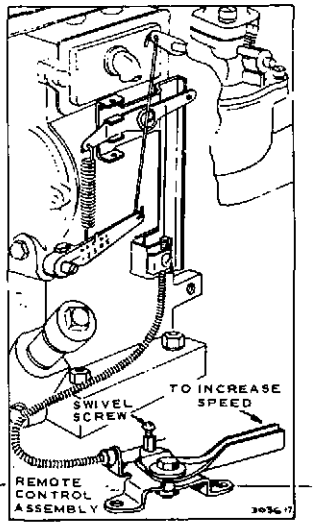
Standard Speed Control

Speed adjusting thumb nut is located on top of engine. To increase speed turn adjusting thumb nut counter-clockwise.

NOTE: Spring loop should be in No. 3 hole of governor for speeds below 3100 RPM. Use No. 5 hole above 3100 RPM.



STANDARD SPEED



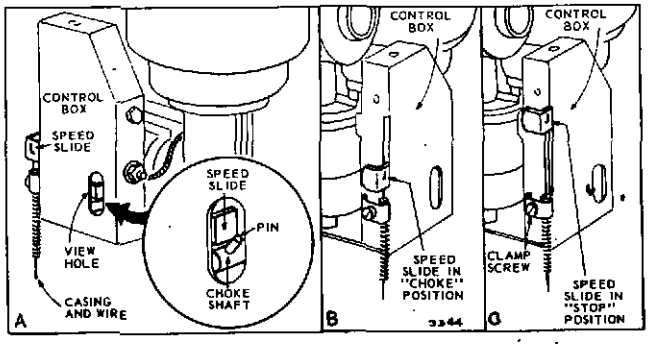
REMOTE CONTROL

Remote Governor Control – Mechanical governor remote controls are adjusted in the same manner as air vane controls.

ADJUSTMENT OF CHOKE-A-MATIC CARBURETOR CONTROLS

Proper choke and stop switch operation is dependent upon proper adjustment of remote controls on the powered equipment.

To Check Operation of Controls:



1. Remove air cleaner.
2. Move remote control lever to "Choke" position. The carburetor choke should be closed, (See "B") and speed slide at end of slot.
3. Move remote control to "Stop" position (See "C"). The speed slide must be at end of slot for stop switch to make good contact.
4. Move remote control to "Fast" and observe through view hole (See "A"). Speed slide must be just touching pin on choke shaft.

To Adjust:

With remote control lever at "Fast" position loosen casing clamp screw and move casing and wire up or down until speed slide, seen through view hole, is just touching pin on choke shaft. Tighten casing clamp screw. Recheck operation of controls. Reassemble air cleaner.

SECTION 5 – GENERAL INFORMATION

These engines are single-cylinder L-Head, air-cooled type

MODEL SERIES

	60300 to 60492 / 61300 to 61492
Bore	2 3/8"
Stroke	1 1/2"
Displacement	6.65 cu. in.
Horsepower	2.25 HP max. @ 3600 RPM
Torque (Ft. Lbs.)	3.43 max. @ 3200 RPM

MODEL SERIES

	80300 to 80492 / 81300 to 81492
Bore	2 3/8"
Stroke	1 3/4"
Displacement	7.75 cu. in.
Horsepower	3.0 HP max. @ 3600 RPM
Torque (Ft. Lbs.)	4.6 max. @ 3100 RPM

The horsepower ratings listed are established by *standard I.C.E.I. procedures. For practical operation, the* horsepower loading should not exceed 85% of these ratings. Engine power will decrease 3½% for each 1,000 feet above sea level and 1% for each 10° above 60° F.

Spark Plug Type	A.C.	Autolite	Champion
Short Plug	CS-45	A7N	CJ-8
Long Plug	GC-46	A71	J-8
Spark Plug Gap			.030"
Ignition Point Gap			.020"
Valve Clearance	Intake		.005" - .007"
	Exhaust		.009" - .011"

STORAGE INSTRUCTIONS

Engines to be stored over 30 days should be completely drained of fuel to prevent gum deposits forming on essential carburetor parts, fuel filter, fuel lines and tank.

a. All fuel should be removed from fuel tank. Run the engine until it stops from lack of fuel. The small amount of fuel that remains in the sump of the tank should then be removed by absorbing it with a clean dry cloth.

b. Remove spark plug, pour 1 ounce of SAE-30 oil into cylinder and crank slowly to distribute oil. Replace spark plug.

c. Clean dirt and chaff from cylinder, cylinder head fins and blower housing.