



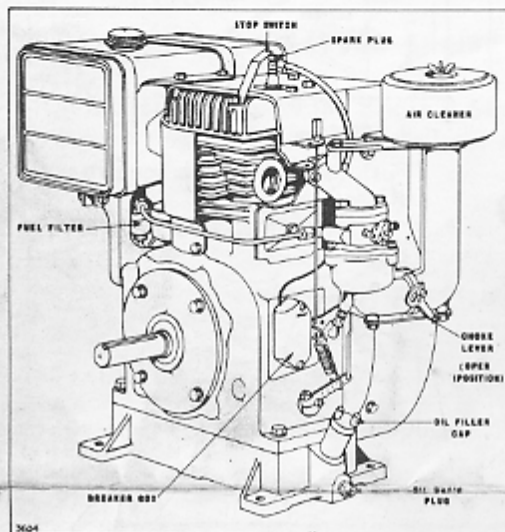
## MODEL SERIES

19D, 19D-FB,  
19D-R6

# OPERATING AND MAINTENANCE INSTRUCTIONS

## IMPORTANT:

Do not start this engine before reading Section I and Section II of this manual. It takes only a few minutes.

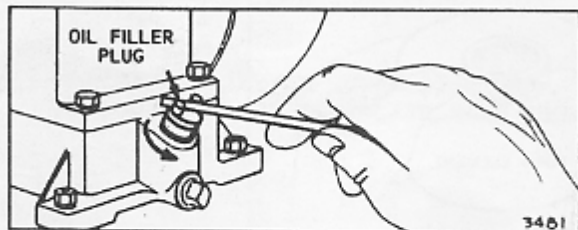


### CAUTION

1. PROVIDE EFFICIENT VENTILATION. Exhaust gases contain carbon monoxide which is odorless and a deadly poison. Proper care must be taken to provide efficient ventilation.
2. DO NOT FILL GASOLINE TANK WHILE ENGINE IS RUNNING. Avoid spilling gasoline on a hot engine - This may cause an explosion and serious injury.
3. KEEP ENGINE CLEAN. This engine is air-cooled. If cooling system becomes clogged, serious damage may result. Therefore, keep the blower screen, fins on flywheel, cylinder head and block free from grass or dirt.
4. Be sure no one is behind you when starting engine with rope starter.

## SECTION I BEFORE STARTING

### FILL CRANKCASE WITH OIL.



High quality engine oils bearing the American Petroleum Institute classification "For Service MS" should be used in your Briggs & Stratton engine. Detergent oils keep the engine cleaner and retard the formation of gum and varnish deposits.

#### ABOVE 32°F

Use SAE-30

#### BELOW 32°F

Use SAE-10W

Nothing should be added to the recommended oils.

### FILL FUEL TANK

Use clean, fresh "regular" grade gasoline.

DO NOT MIX OIL WITH GASOLINE.



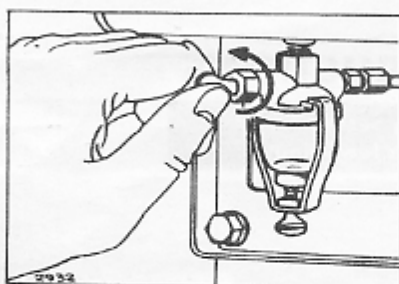
The oil filler cap is located at the end of engine base. To open, use a screwdriver or bar as illustrated. Place the engine level. Fill the crankcase to overflowing. POUR SLOWLY. Be sure oil stays at top level before replacing cap. Oil capacity is 4 pints.

**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.

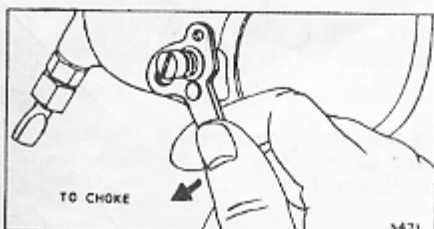
## SECTION II STARTING AND STOPPING

### TO START ENGINE

#### 1. Open Fuel Valve

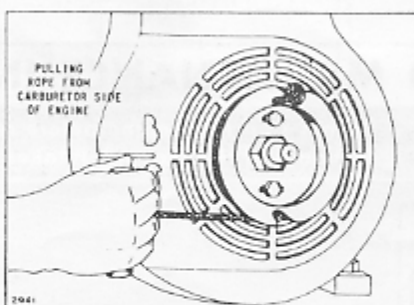


#### 2. Close the Choke



#### 3. Start Engine

##### a. Rope Starter

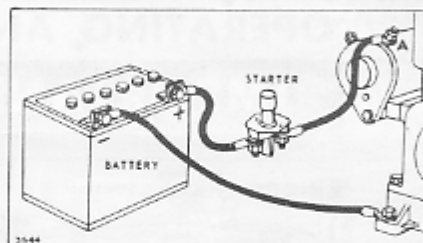


Place knot in pulley notch and wind rope around pulley in a clockwise direction. Pull rope with choke closed to prime the engine. Open choke slightly and repeat operation.

After engine warms up open choke gradually until engine runs smoothly with choke wide open (counterclockwise position).

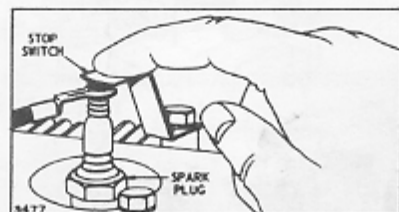
##### b. 12-volt D.C. Electric Starter

Press starter button on powered equipment. When engine starts open choke gradually.



#### 4. To Stop Engine

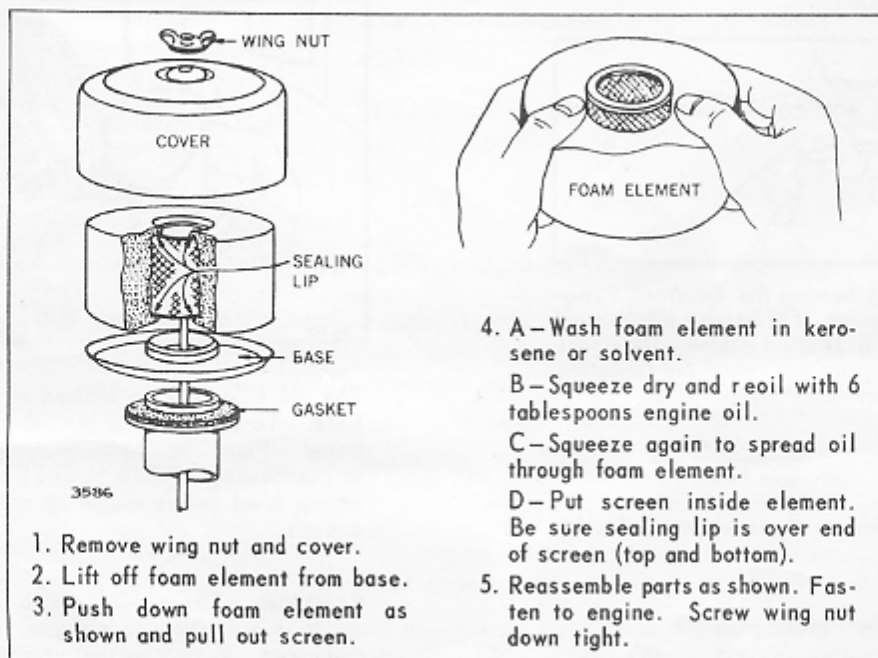
Push the stop switch against end of spark plug.



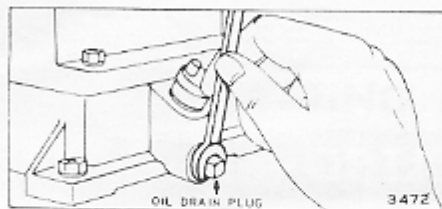
## SECTION III REGULAR MAINTENANCE

Clean and re-oil the air cleaner frequently (every few hours under extremely dusty conditions). Clean and re-oil at least every 25 hours under normal conditions.

### SERVICING "OIL-FOAM"™ AIR CLEANER



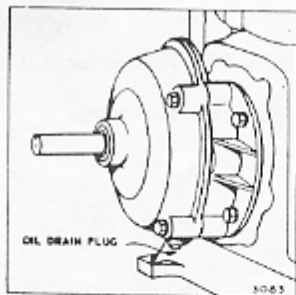
\* Trademark of Briggs & Stratton Corp.

**CHANGE OIL (Crankcase)**

Change oil after 5 hours of operation. Remove the oil drain plug. Drain oil while engine is warm. Replace drain plug. Remove oil filler cap or plug and refill with new oil. Replace oil filler cap or plug. Add oil regularly after each 5 hours of operation. Thereafter change oil every 25 hours of operation.

**CHANGE OIL (Gear Reduction)**

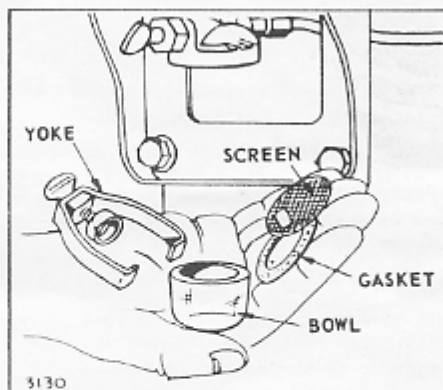
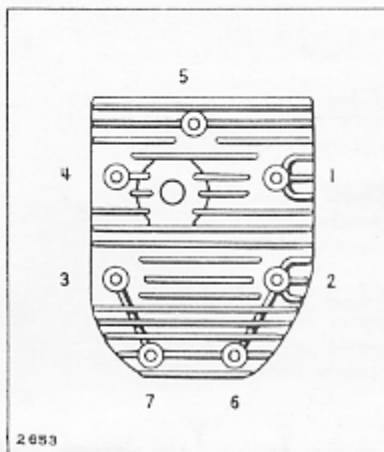
The reduction gears are lubricated by engine crankcase oil. Remove drain plug from gear case cover to drain oil remaining in gear case when crankcase oil is changed.

**CLEAN COMBUSTION CHAMBER EVERY 100-300 HOURS OF OPERATION**

This industrial engine generally operates at constant speed and at relatively constant load. The use of regular automotive fuels under

these conditions results in a gradual build-up of tetra-ethyl lead deposits in the combustion chamber.

This causes the engine to lose power and prevents the valves from seating properly. Removing the deposits is easy and will pay big dividends in reliability and increased valve life.

**DRAINING FUEL TANK AND CLEANING FUEL FILTER**

Loosen thumb screw below filter bowl.

Remove and clean filter bowl and screen.

Open shut-off valve to see if fuel flows freely from the tank. **IMPORTANT:** If you find a gummy, varnish-like substance use alcohol or acetone to dissolve it.

**STORAGE INSTRUCTIONS**

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

1. Remove cylinder head screws. Be sure to note if screws are of different length and have steel washers as they must be replaced in original position.
  2. Turn crankshaft until piston is at top of cylinder bore and both valves are closed. Scrape and wire brush the lead and carbon deposits from cylinder head and combustion chamber.
  3. Re-use cylinder head gasket only if in good condition. Replace cylinder head. Turn each screw in with wrench until screw head is lightly seated.
  4. Use socket wrench with 6 inch handle and turn all screws 1/4 turn. Tighten screws in sequence illustrated. Run engine approximately 5 minutes and re-tighten all screws approximately 1/4 turn.
- a. Remove filter bowl, open shut-off valve and drain tank completely.
  - b. Replace filter bowl. Leave fuel valve open.
  - c. Operate engine until it stops from lack of fuel.
  - d. While engine is still warm drain and clean the oil sump. Refill with fresh oil.
  - e. Remove spark plug, pour one ounce of SAE 30 oil into cylinder and crank slowly to spread oil. Replace spark plug.
  - f. Clean dirt and chaff from cylinder, cylinder head fins and blower housing.

## SECTION IV ADJUSTMENTS

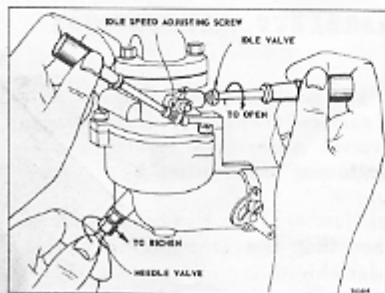
### CARBURETOR ADJUSTMENTS

#### Initial Adjustment

Turn needle valve clockwise until it just closes. **CAUTION:** Valve may be damaged by turning it in too far.

Now open needle valve 1-1/2 turns counterclockwise.

Close idle valve in same manner and open it 1/2 to 3/4 turns. This initial adjustment will permit the engine to be started and warmed up 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, set idle speed adjusting screw until fast idle is obtained (1200 R.P.M.). Hold throttle in idle position and turn idle valve in (lean) and out (rich) until engine idles smoothly. Then reset idle speed so that engine idles at 1200 R.P.M. Release throttle — engine should accelerate without hesitation or sputtering. If engine does not accelerate properly, re-adjust carburetor to a slightly richer mixture.

#### Governor Adjustments

The correct operating speed range is 1800 to 3600 R.P.M. The standard speed setting (no load) is 2900 R.P.M. Idle speed is 1200 R.P.M.

#### Thumb Nut Adjustment

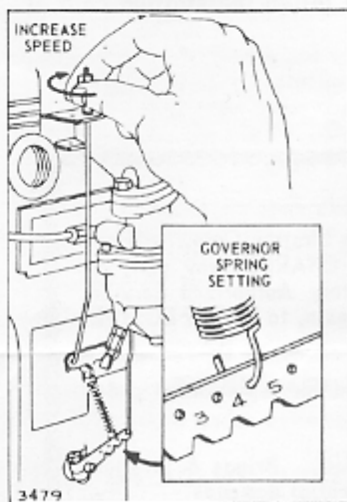
To increase speed, turn nut (clockwise) or move lower end of governor

spring farther away from governor lever shaft.

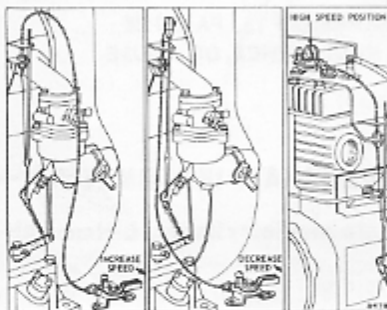
To reduce speed, turn nut (counterclockwise) or move lower end of spring closer to governor lever shaft.

If the speed of the engine is not steady although the carburetor has been properly adjusted, move the spring farther away from the governor lever shaft.

If the speed variation between no load and full load is too great move spring closer to governor lever shaft.

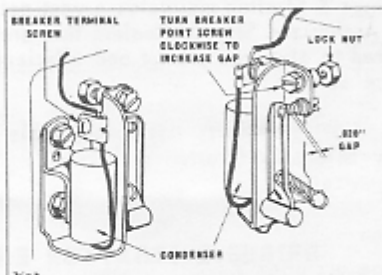


#### REMOTE GOVERNOR CONTROL



Engine speed is controlled by movement of the control lever. To adjust: Move control lever to HIGH speed position. Loosen screw on swivel. Move wire through swivel until desired operating speed is obtained. Retighten swivel screw, bend loose end of wire around swivel. Cut off excess wire. Be sure to remove or loosen thumb screw on governor control rod.

#### TO CLEAN AND ADJUST CONTACT POINTS

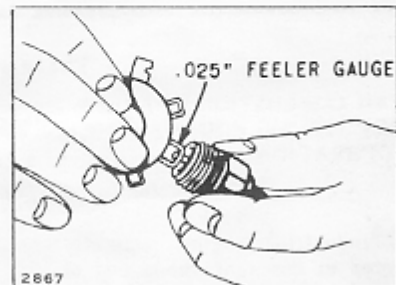


Remove cover.

Clean points with a carborundum contact point stone. Then insert a hard finished card or piece of paper and close and open points. The paper will absorb any dirt or filings on the points. Adjust breaker points as follows:

- a. Rotate crankshaft until points open to widest gap.
- b. Loosen lock nut illustrated above until it is just snug.
- c. Rotate breaker point screw to obtain .020" gap.
- d. When gap is .020" tighten locknut.
- e. Replace breaker box cover.

#### TO CHECK SPARK PLUG GAP



Clean spark plug and reset gap at .025" every 100 hours of operation. When worn out replace with: AC 45 Comm., Autolite A7R or Champion J-8. Size 14 mm.

**SECTION V**  
**PARTS AND SERVICE**

**NATION WIDE SERVICE ORGANIZATION**

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

An illustrated parts list is available from any Briggs & Stratton authorized service organization.



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

**BRIGGS & STRATTON ENGINE WARRANTY POLICY**

Here is a reproduction of the Briggs & Stratton Warranty that is supplied with each engine. (Be sure to fill out and return registration card at time of purchase).

**THE 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 Outlet, 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.

**WARRANTY DOES NOT COVER BENT CRANKSHAFTS, FAILURE TO MAINTAIN OIL IN CRANKCASE, USER NEGLIGENCE OR ABUSE**

**WARRANTY INSTRUCTIONS**

When you request engine or parts warranty service, always supply the Briggs & Stratton Authorized Service Dealer the following information:

Model Number, Type Number and Serial Number that are stamped on engine cylinder shield.

Date Purchased.

Kind of equipment engine is used on.

Name or trademark of manufacturer.

Name and address of dealer from whom purchased.

Approximate number of hours engine has run since equipment was purchased

Also, give complete report of trouble experienced and special servicing instructions.

**GENERAL INFORMATION**

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

Bore - 3"; Stroke - 2 5/8"; Displacement - 18.56 cu. in.; Horsepower: -

3.65 h.p. at 1800 r.p.m.      5.45 h.p. at 2400 r.p.m.

6.70 h.p. at 3000 r.p.m.      7.25 h.p. at 3600 r.p.m.

Torque (Ft. Lbs.) . . . . . 11.95 at 2400 RPM

Intake Valve Clearance . . . . . 007" - 009"

Exhaust Valve Clearance . . . 017" - 019"

The horsepower ratings listed above 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 ft. above sea level and 1% for each 10 degrees above 60 degrees F.