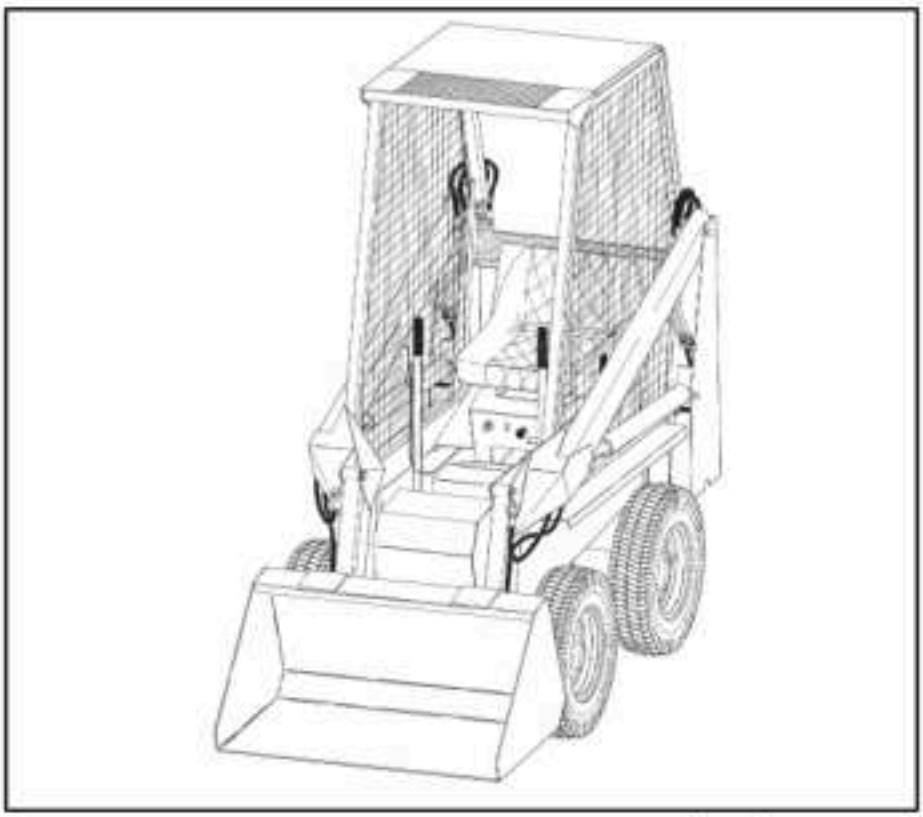
371

Service Manual

(Gasoline & L.P. Gas)



MELROE
INGERSOLL-RAND
6545574(2-84)
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bobcat

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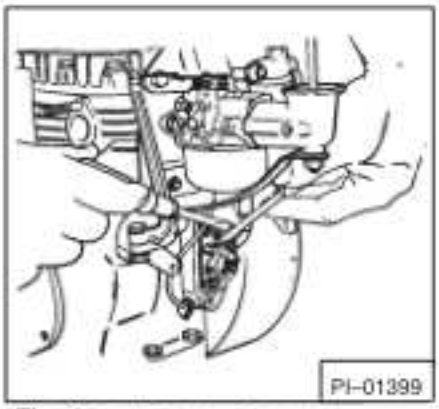


Fig. 9 Setting Breaker Points

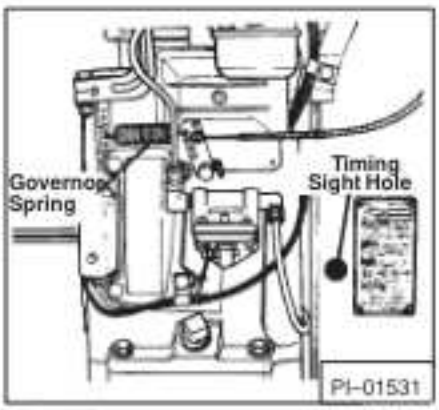


Fig. 10 Timing Sight Hole

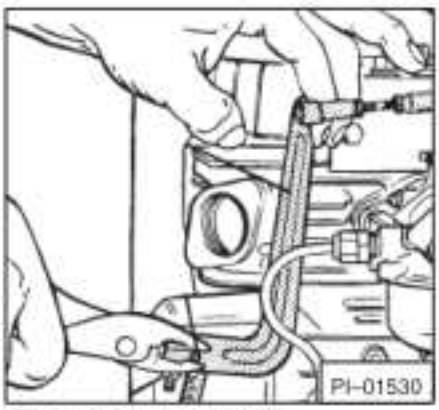


Fig. 11 Adjusting Governor

BREAKER POINTS

If points are burned or badly oxidized, little or no current will pass. As a result, the engine may not operate at all. If it does run it is likely to miss, particularly at full throttle.

Always replace badly burned or pitted breaker points. A certain amount of build–up or metal transfer occurs under normal operating conditions; however, if this occurs too frequently and becomes excessive, the condenser may be a fault. Slightly pitted points can be dressed down with a point file (Fig. 9). This should be done only as a temporary field fix. Replace points at the first opportunity after filing. If the points are oxidized, rub a piece of coarse cloth between the surfaces. Clean dirty or oily points with a cloth, but be sure not to leave lint between the surfaces. Set clearance at .020 in.

CONDENSER

If the condenser shorts out, the coil will be unable to produce output voltage. On the other hand, if it opens or decreases in capacitance, the output voltage will be greatly reduced and the ignition points will burn excessively. If badly burned breaker points occur too frequently, the condition of the condenser should be suspected. If the condenser has too small capacitance, metal will transfer from the stationary contact to the movable contact. If its capacitance is too large, the metal will build up on the stationary contact.

IGNITION TIMING PROCEDURE

The engine is equipped with a timing sight hole in the blower housing. The timing marks can be seen thru this hole. Two marks are stamped on the flywheel. The "T" mark indicates Top Dead Center (TDC), while the "S" mark indicates the spark point, which is 20 degrees before TDC. You can rotate the flywheel until the "S" mark can be seen thru the sight hole and scratch a mark on the air screen and blower housing for easier use and a quick visual check of the timing.

When you install new points:

1. Set the points at .020 gap.
2. Rotate the engine. The "S" mark should be in the sight hole when you hear the spark as the points open.

When using a timing light to time the engine, the following procedure should be used:

1. Start the engine and run it at 1200 to 1800 RPM. Aim the timing light into the sight hole (Fig. 10). The light should flash just as the "S" mark is centered in the sight hole.
2. If the timing is off, remove the breaker point cover. Loosen the gap adjusting screw and shift the breaker plate until "S" mark is exactly centered. Retighten the adjusting screw and replace the cover.

GOVERNOR

Initial Adjustment

The governor was adjusted at the factory and no further adjustment should be necessary unless the arm or linkage works loose or becomes disconnected. If this happens, make the following initial adjustment with the engine shut off:

1. Loosen (do not remove) the nut which holds the governor arm to the cross shaft (Fig. 11).
2. Grasp the end of the cross shaft with pliers, turn it in a counterclockwise direction as far as it will go (the tab on the cross shaft will stop against the rod on the governor gear assembly, inside the crankcase. Be careful excessive pressure can break the tab off the cross shaft).
3. Pull the governor arm as far away from the carburetor as possible, while holding the cross shaft. Then tighten the nut holding the arm to the shaft.

After making the initial adjustment, start the engine and check the operating speed with a tachometer. Maximum allowable speed is 3100 RPM. DO NOT EXCEED THIS SPEED!

Speed Adjustment

Set the throttle at full RPM. Loosen the cap screw on the high speed stop and set the stop to limit the throttle cable travel at 3100 RPM. Tighten the cap screw.

Sensitivity Adjustment

If a large speed drop occurs when load is applied to the machine, the governor should be set for greater sensitivity. This may be done by placing the governor spring (Fig. 10) into holes further apart on the governor arm bracket and speed control bracket.

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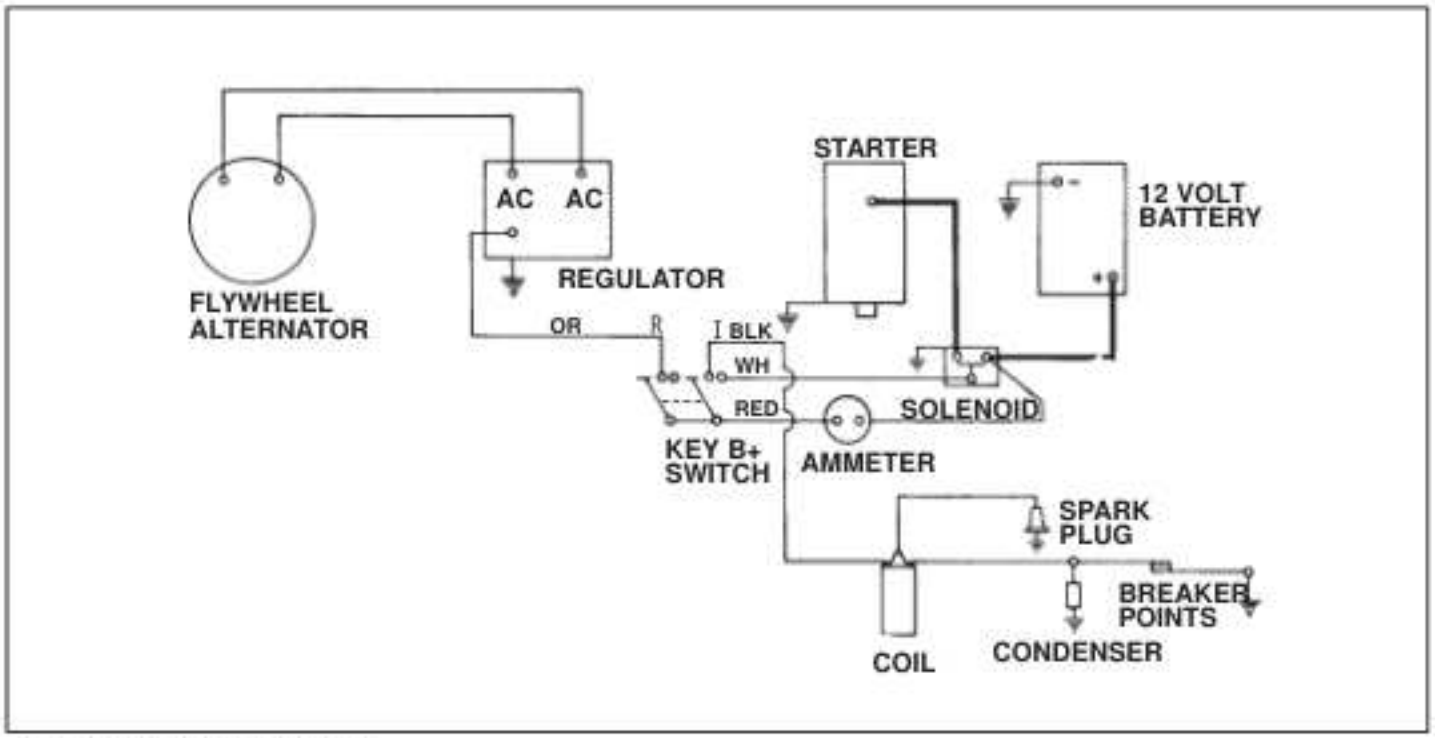


Fig. 70 Electrical System Schematic

ALTERNATOR/RECTIFIER–REGULATOR SERVICE

No adjustments are possible on the alternator system and field service on this system is not recommended. The faulty part should be replaced by a new part. To pinpoint a faulty part, use the following procedure:

PROBLEM	CAUSE	CORRECTION
Dead Battery or Weak Battery.	No charge to battery.	Perform Test 1.
		Perform Test 2.
	Faulty battery.	Perform Test 3.
	Engine not grounded.	Ground engine to frame.
Faulty Battery.	Low electrolyte level.	Check.
	Low specific gravity.	Check.
	Dead cell.	Replace the battery.
Overcharged Battery (uses excessive amount of water, or feels hot to touch).	The rectifier–regulator is not functioning properly.	Perform Test 3.

CHARGE SYSTEM SERVICE

Adjustment of the charging circuit cannot be made. The rectifier/regulator is a sealed unit and repair can not be made. Replace any part that has a defect. A defective rectifier/regulator will often have an odor.

NOTE: Do not run the engine without a battery in the system. It will cause damage to the rectifier/regulator unit.

NOTE: Disconnect the wires from rectifier/regulator while welding on the Bobcat.

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