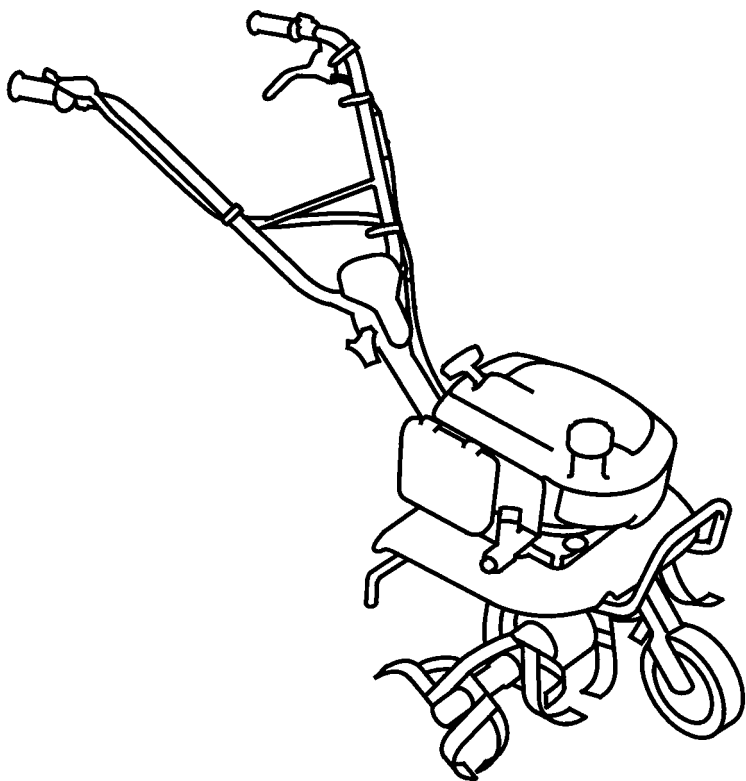


# Dealer Instructions for **SET-UP and PRE-DELIVERY SERVICE**

## **F220 TILLER**

REVISED March 2001

MODEL	FRAME SERIAL NUMBER RANGE
F220	FAAZ - 1000001 to subsequent



## IMPORTANCE OF PROPER SET-UP AND PRE-DELIVERY SERVICE

### FOR YOUR CUSTOMER'S SAFETY

Proper set-up and pre-delivery service are essential to the customer's safety and the reliability of the tiller. Any error or oversight while servicing a tiller can result in faulty operation, damage to the tiller or injury to others.

#### **⚠ WARNING**

Improper set-up or pre-delivery service can create an unsafe condition that can cause your customer or others to be seriously hurt or killed.

Follow the procedures and precautions in this manual and other service materials carefully.

### FOR YOUR SAFETY

Some of the most important general safety precautions are given below. However, we cannot warn you of every conceivable hazard that can arise in performing set-up and pre-delivery service. Only you can decide whether or not you should perform a given task.

#### **⚠ WARNING**

Failure to properly follow instructions and precautions can cause you to be seriously hurt or killed.

Follow the procedures and precautions in this manual carefully.

### IMPORTANT SAFETY PRECAUTIONS

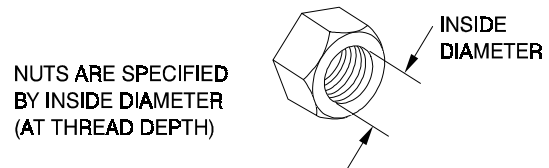
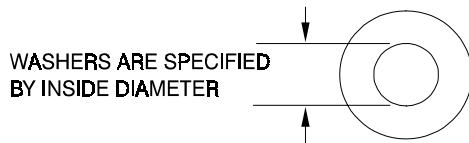
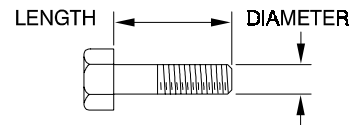
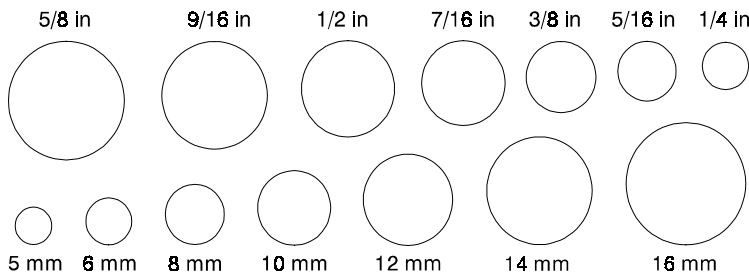
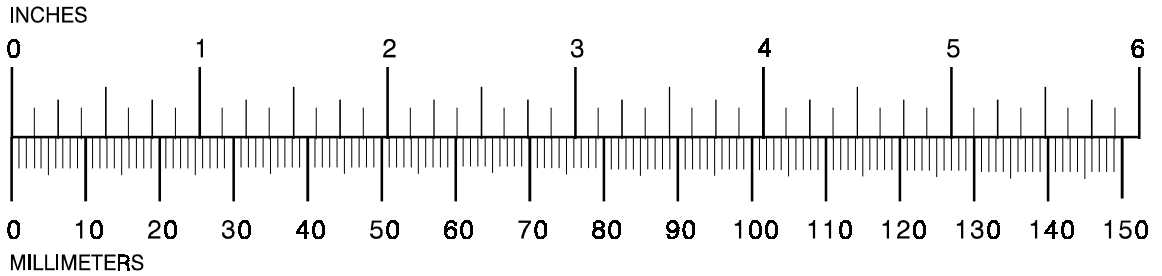
- Make sure you have a clear understanding of all basic shop safety practices and that you are wearing appropriate clothing and safety equipment. When performing set-up and pre-delivery service, be especially careful of the following:
  - Read all of the instructions before you begin, and make sure you have the tools, the replacement or repair parts, and the skills required to perform the tasks safely and completely.

- Protect your eyes by using proper safety glasses, goggles, or face shields any time you hammer, drill, grind, or work around pressurized air or liquids, and spring or other stored-energy components. If there is any doubt, put on eye protection.
- Use protective wear when necessary, for example, gloves or safety shoes. Handling hot or sharp parts can cause severe burns or cuts. Before you grab something that looks like it can hurt you, stop and put on gloves.
- Make sure the engine is off before you begin any servicing procedures, unless the instruction tells you to do otherwise. This will help eliminate several potential hazards:
  - Carbon monoxide poisoning from engine exhaust. Be sure there is adequate ventilation whenever you run the engine.
  - Burns from hot parts. Let the engine and exhaust system cool before working in those areas.
  - Injury from moving parts. If the instruction tells you to run the engine, be sure your hands, fingers, and clothing are out of the way.
- Gasoline vapors are explosive. To reduce the possibility of a fire or explosion, be careful when working around gasoline or batteries.
  - Use only a nonflammable solvent, not gasoline, to clean parts.
  - Never drain or store gasoline in an open container.
  - Keep all cigarettes, sparks, and flames away from all fuel-related parts.

Set-up and pre-delivery service must be performed by an authorized Honda tiller dealer. These instructions are provided for dealer use.

**FOLLOW THESE INSTRUCTIONS CAREFULLY.** Proper set-up and pre-delivery service are essential for safe, reliable operation. Your customer expects their tiller to be correctly assembled, adjusted, and ready for use; test the tiller to be sure that it functions properly. Fill out the pre-delivery check list and give it to the customer.



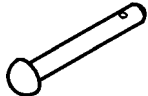


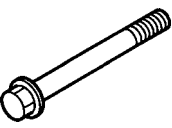
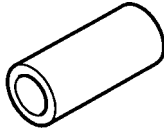

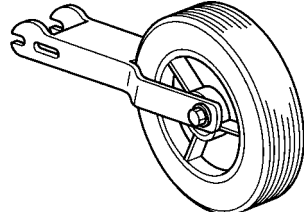
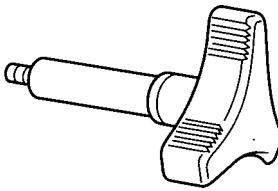
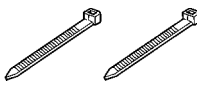
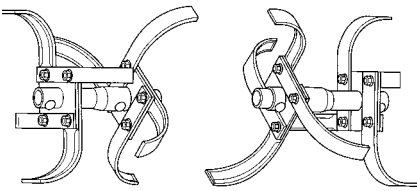
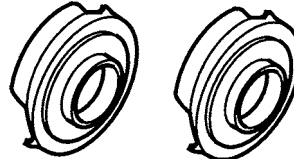

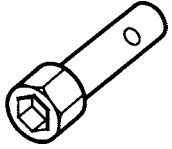
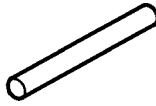
How to measure hardware and components:



## UNCRATING

1. Open the carton. Remove the tiller and handlebar assembly. Remove loose parts bag and tines.

## LOOSE PARTS

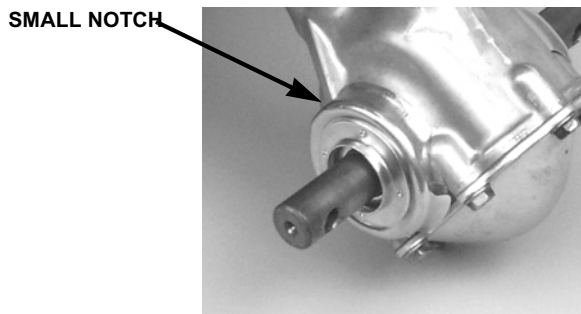
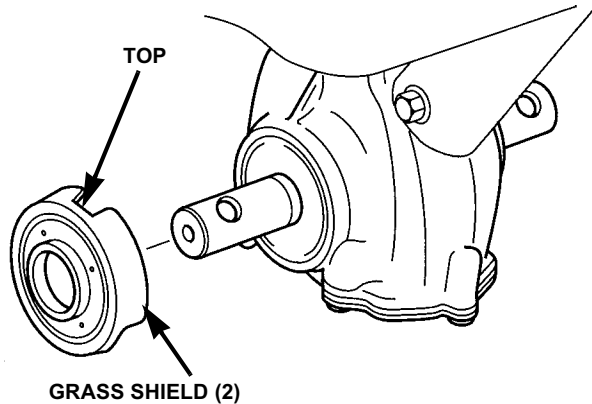
				
Flange nut, 8 mm 90309-428-731	Clevis pin (2) 8 x 35 mm 90757-729-000	Clevis pin 7 x 48 mm 90759-729-010	Lock pin, 7 mm (3) 90651-703-000	Drag bar 80321-729-000
				
Flange bolt 8 x 55 mm 95701-08055-00	Sleeve 91554-V08-000	Spring 43151-V14-640	Wheel assembly *	Handlebar adjusting knob 53175-737-000
				
Cable tie (2) 32161-404-610	Tine assemblies (2)* 06721-729-305ZA		Grass shield (2) 21911-729-000	Owners manual 31V14600
				
Spark plug wrench 89216-045-010	Handle 99005-01000			

\* See parts catalog for individual components.

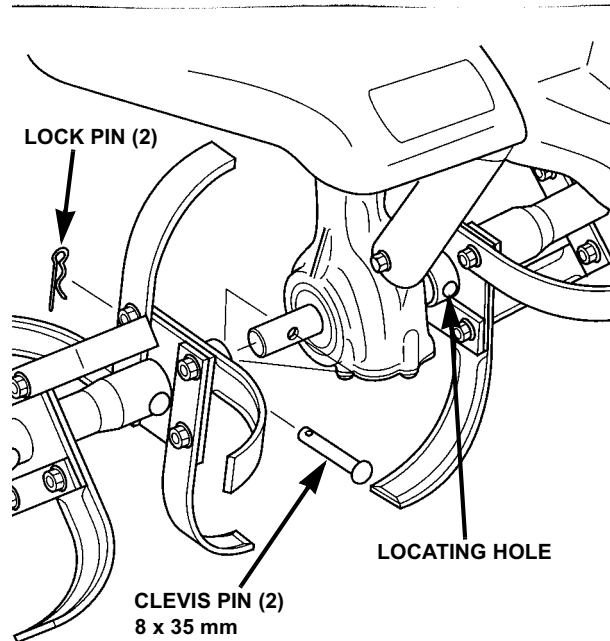
- For parts lost or damaged in **transit**, file a *TRANSPORTATION CLAIM* (section 7 of the *Service Operations Manual*).
- For parts **left out from the factory**, file a *WARRANTY CLAIM* (see the *Warranty Operations Manual*).

**ASSEMBLY**

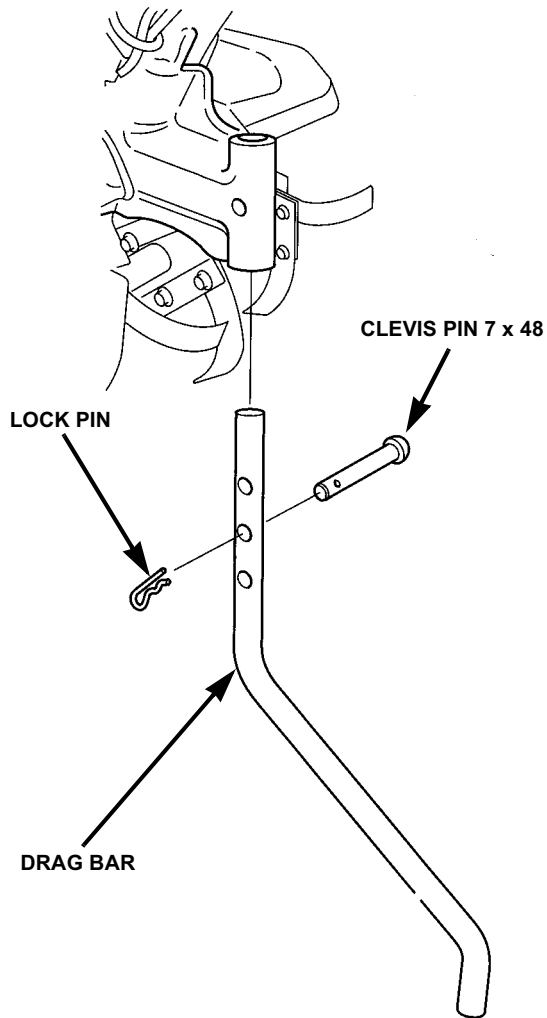
1. Install a grass shield on each axle locating the small notch on the top of the case support as shown.



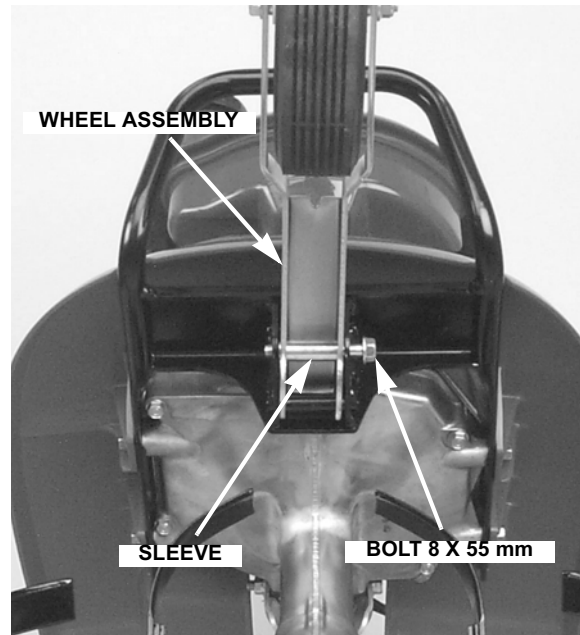
2. Install the right and left tine assemblies on the tiller axle shaft, rotating the tine until the locating hole aligns with the hole in the shaft. The tine assemblies are stamped "R" and "L". Left and right are determined from the operator's point of view. Place one clevis pin through the locating hole, then install a lock pin. Repeat for the other side.



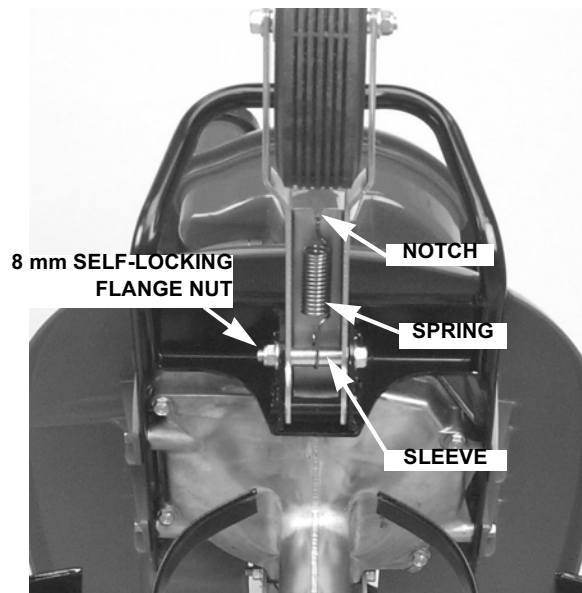
- Position the tiller on the tine assemblies and install the drag bar as shown using the longer clevis pin and a lock pin.



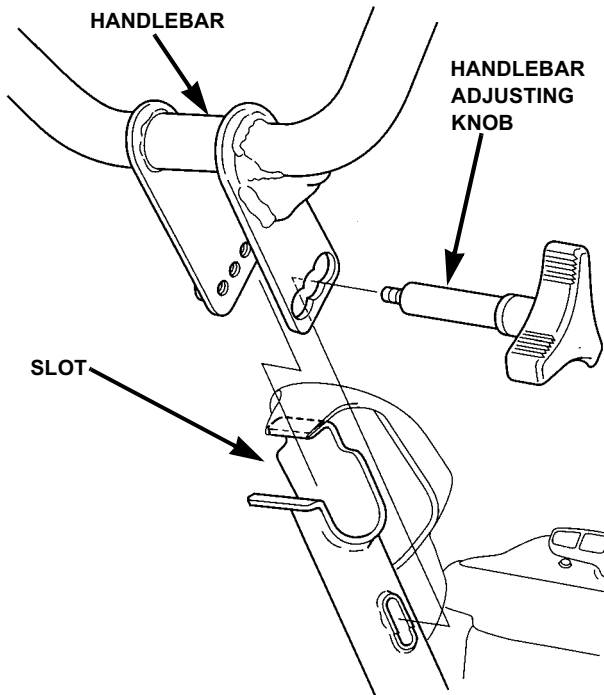
- Tilt the tiller back on the drag bar. Position the sleeve and wheel assembly in the wheel arm receiver as shown, passing the 8 x 55 mm bolt through the sleeve, the wheel support and the wheel arm receiver.



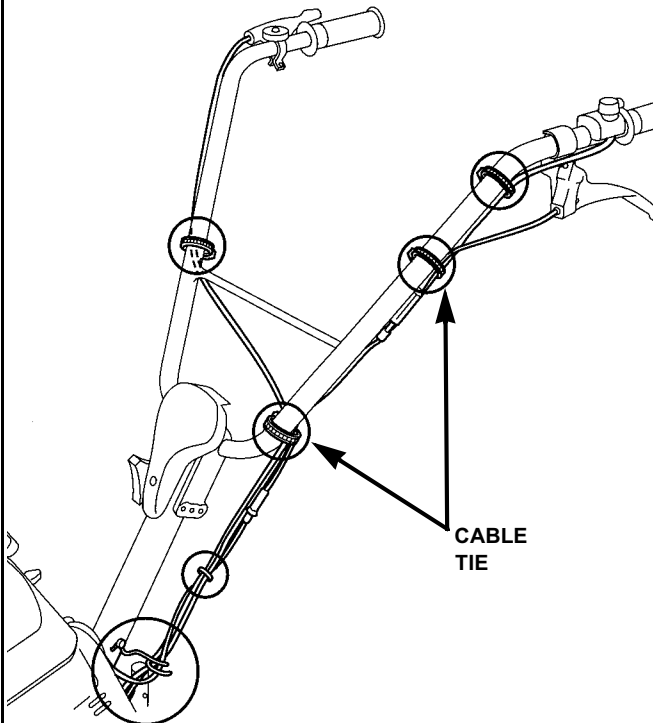
- Install the 8 mm self-locking flange nut and tighten securely, making sure the wheel assembly moves freely. Install the spring by placing the small end in the notch in the wheel arm and hooking it around the sleeve.



6. Straighten out the control cables and hook the handlebar into the slot as shown. (Refer to step # 7 for proper cable and engine stop switch wire routing). Secure the handlebar using the handlebar adjusting knob inserted from the right side. Tighten securely.



7. Secure the cables and the engine stop switch wire to the handlebar using the cable ties positioned as shown. Check the operation of all controls to be sure there is no binding.

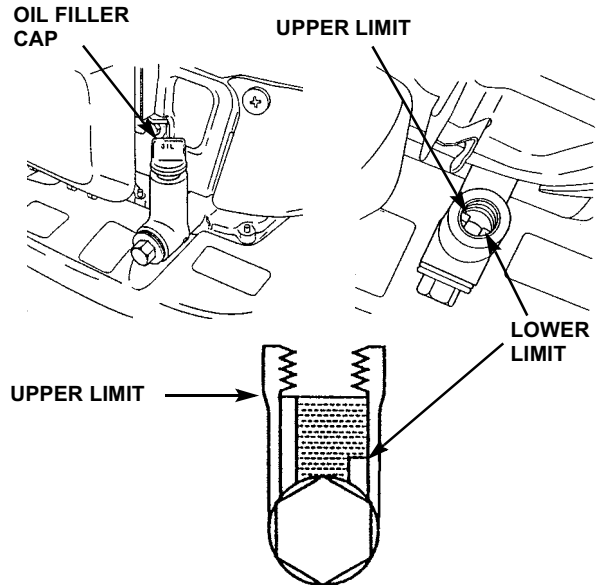


## PRE-DELIVERY SERVICE CHECK

### Engine Oil Inspection

Rest the tiller on a level surface, with engine stopped and in an upright position.

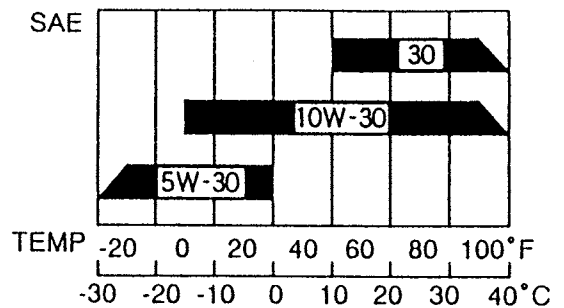
1. Disconnect the spark plug cap from the spark plug.
2. Remove the oil filler cap, and check the oil level.



3. If the oil level is low, fill to the upper limit with the recommended oil. Do not overfill.

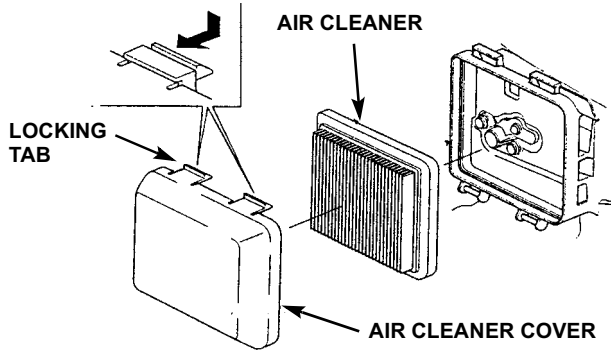
Recommended engine oil	SAE 10W-30 or SAE 30 API Service Classification SH or SJ
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SAE 10W-30 is recommended for general use. Other viscosities shown in the chart may be used when the average temperature in your area is within the recommended range.



### Air Filter Inspection

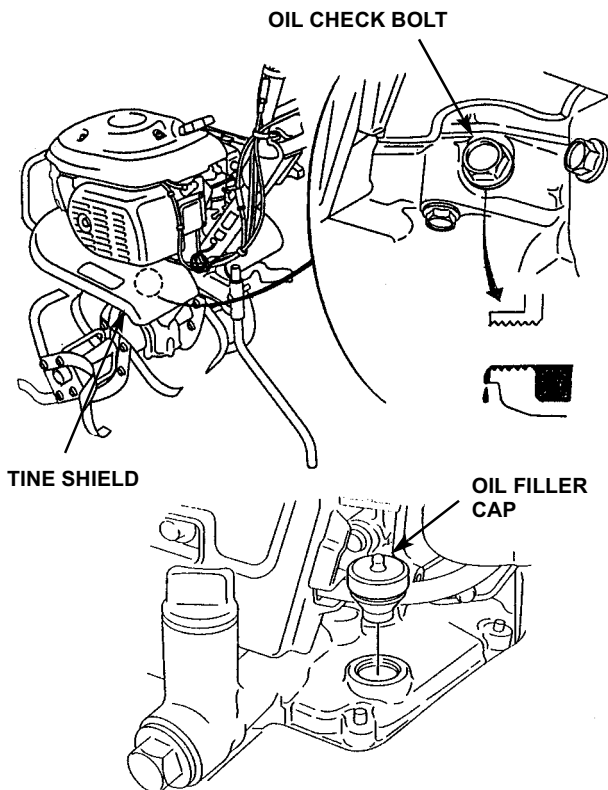
1. Press the locking tabs of the air cleaner cover and remove the cover and the air filter.
2. Carefully check the air filter for holes or tears, and replace if damaged.
3. Install the air filter and cover.



### Transmission Oil Inspection

1. Remove the oil check bolt located under the tine shield and be sure that the oil oozes out.
2. If necessary, add oil until the oil oozes out of the check bolt hole.
3. Install the oil check bolt and oil filler cap.

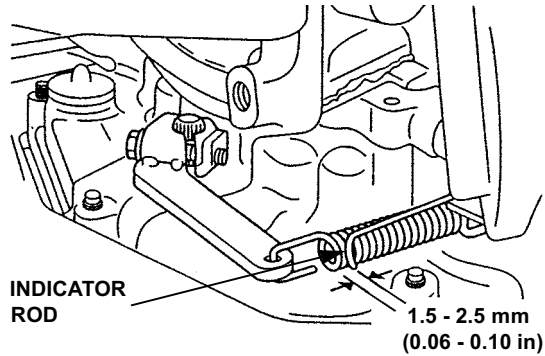
Recommended transmission oil	SAE 5W-30 API Service Classification SH or SJ
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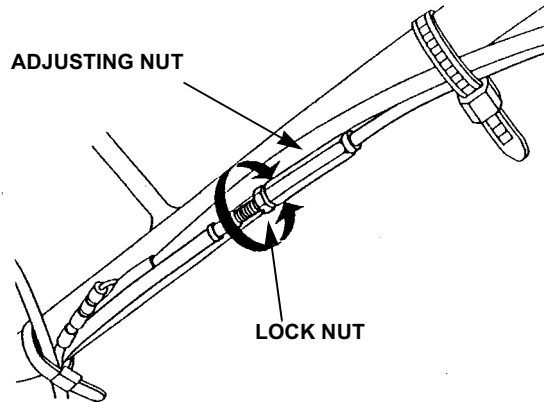
### Clutch Cable Inspection

Adjustment must be made with the engine stopped.

1. Measure the clutch spring elongation by measuring the clutch spring length from the indicator rod with the clutch lever engaged and disengaged.



2. If the elongation is out of specification, loosen the clutch cable lock nut and adjust the elongation by turning the adjusting nut in or out.
3. Tighten the lock nut securely.



### Fuel Tank Inspection

Drain, inspect, fill. Turn on the fuel valve and check for leaks.

### Other Inspection Items

Inspect all nuts, bolts and fasteners and tighten if necessary.



## OPERATIONAL TESTS

1. Make sure the spark plug cap is connected.
2. Be sure to turn the fuel valve ON before starting the engine.

### Engine Speed

#### INSPECTION

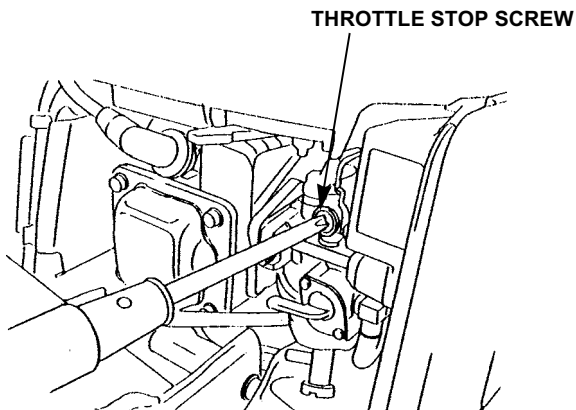
1. Start the engine and let it fully warm up. Make sure the drive clutch is not engaged.
2. Use a tachometer and check the engine speed with the throttle lever in both the SLOW and FAST positions.

Idle speed (SLOW)	2,200 ± 150 rpm
Maximum engine speed (FAST)	4,250 0/-200 rpm

3. Adjust the speeds as necessary.

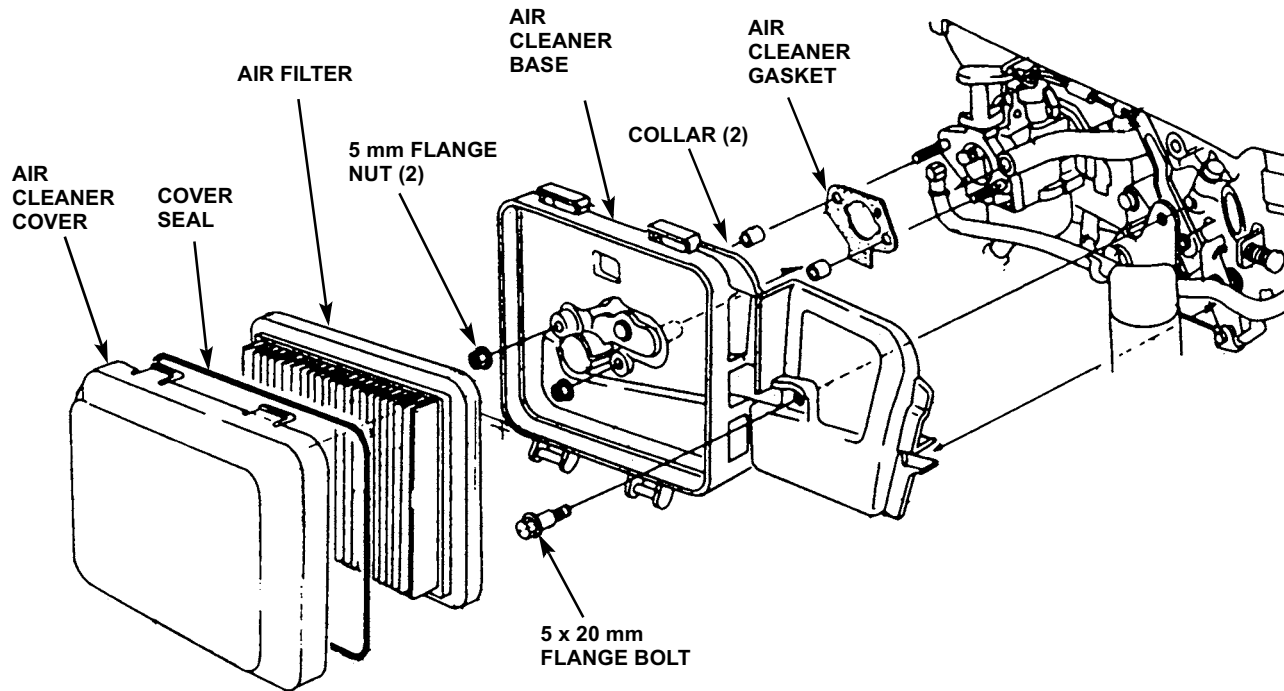
#### SLOW SPEED ADJUSTMENT

1. Use the throttle stop screw to adjust the idle speed.

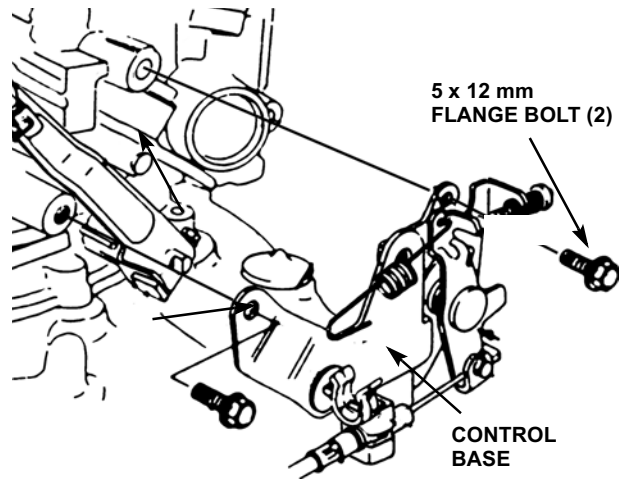


FAST SPEED ADJUSTMENT

1. Place the tiller on a level surface and remove the air cleaner case.



2. Remove the control base assembly.



3. Loosen the governor arm nut.

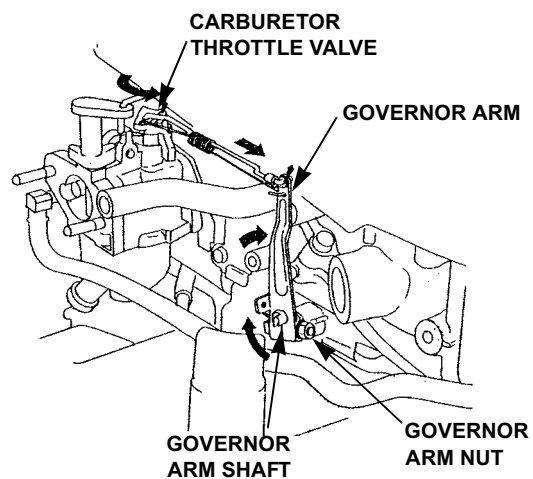
4. Push the governor arm end toward the opposite side from the carburetor, and fully open the carburetor throttle valve.

5. Holding the carburetor throttle valve fully open, turn the governor arm shaft fully clockwise, and tighten the governor arm nut to the specified torque.

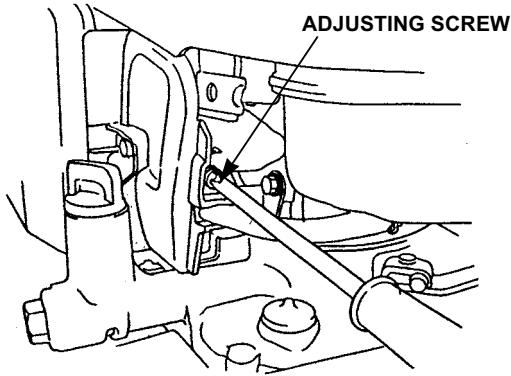
**TORQUE: 7 N•m (5.1 ft-lb)**

6. Check to see whether the governor arm and the carburetor throttle valve open smoothly.

7. Install the control base assembly and air cleaner. Start the engine and allow it to warm up to normal operating temperature.



8. Move the throttle to FAST. The engine speed should be 4,250 0/-200 rpm. Turn the adjusting screw in or out as needed.
9. If an adjustment was made, adjust the throttle cable.

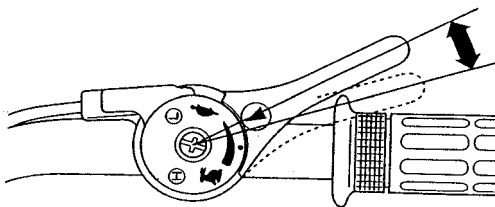


**Throttle Cable Adjustment**

1. Adjust the governor and maximum engine speed before starting the throttle cable adjustment.
2. Measure the throttle lever free play at the tip of the lever.

Throttle cable free play	10 - 15 mm (0.4 - 0.6 in)
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10 - 15 mm  
(0.4 - 0.6 in)



3. If adjustment is necessary, loosen the lock nut and turn the adjusting nut in or out until the correct free play is obtained.
4. Tighten the lock nut securely.

**Other Operational Items**

1. Check engine switch operation.
2. Turn the fuel valve OFF. Start the engine and let it run until the carburetor runs out of gas.
3. Check for fuel or oil leaks.
4. Complete the *Power Equipment Pre-delivery Check List (TO056)* and give the yellow copy to the customer.

