



## **Operators manual**

Please read these instructions carefully and make sure you understand them before using the machine.

## **Models:**

**AR19/968982102**

**AR19B/968999277**

**AR19B/968999358**

**AR19H/968999363**

**AR25H/968981104**

**AR25/968982105**

# Lawn Aerators

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**WARNING: Engine exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.**

# Operator's Guide

## SPECIFICATIONS

<b>A) POWER UNIT</b>	<b>AR19</b>	<b>AR25</b>
Engine	3.5HP Briggs I/C (2.6kw) 4HP Honda (3kw)	3.5HP Briggs I/C (2.6kw) 4HP Honda (3kw)
Clutch	Belt tensioner	Belt tensioner
Primary drive	One V-belt (A-44")	One V-belt (A-44")
Secondary drive	Permalube Chain	Permalube Chain
Gear reduction	6:1	6:1
<b>B) WHEELS</b>		
Bearings	FRONT – ¾" (1.9 cm) sealed ball bearings with stamping kit	FRONT – ¾" (1.9 cm) sealed ball bearings with stamping kit
Rear tires	REAR - ¾" (1.9 cm) roller bearing 8" x 2" (20 x 5cm) solid rubber	REAR - ¾" (1.9 cm) roller bearing 8" x 2" (20 x 5cm) solid rubber
Front tire	10" x 6" (25 x 15cm) semi-pneu.	10" x 6" (25 x 15cm) semi-pneu.
<b>C) AERATION</b>		
Tines	¾" - (1.9 cm) open spoon tine. 30 per unit	¾" (1.9 cm) open spoon tine. 42 per unit
Aeration width	19" (48.3 cm)	25.5" (64.8 cm)
Hole pattern	3.8" x 6.5" (9.7 x 16.5cm)	3.6" x 6.5" (9 x 16.5cm)
Core depth	Up to 3" (7.6 cm)	Up to 3" (7.6 cm)
Holes per sq ft	7.7	8.1
Working speed	250 ft/min (4.57 km/h)	290 ft/min (5.3 km/h)
Productivity	Up to 25,000 sq ft/hr (2323 m2/h)	Up to 40,000 sq ft/hr (3716 m2/h)
<b>D) WEIGHTS</b>		
Net weight	288 lbs (131 kg)	420 lbs (191 kg)
Shipping weight	355 lbs (161 kg)	487 lbs (221 kg)
Removable weights	2 x 36 lbs (16.3 kg)	2 x 36 lbs (16.3 kg)
<b>E) DIMENSIONS</b>		
Height	37" (94cm) w/ handle folded	28" (71.1cm) less handle
Height overall	51.5 (130.8cm)	52" (132cm)
Length	39.5 (100.3cm) w/ handle folded	33"(83.8cm) less handle
Length overall	57.5 (146.1cm)	54" (137cm)
Width	29.75" (75.6cm)	38" (96.5cm)31"(78.74cm) w/o wls.
Shipping carton	41" x 34" x 30" (104 x 86 x 76cm)	41" x 34" x 30" (104 x 86 x 76cm)

# Operator's Guide

## MODEL AR19 - FEATURES AND CONTROLS

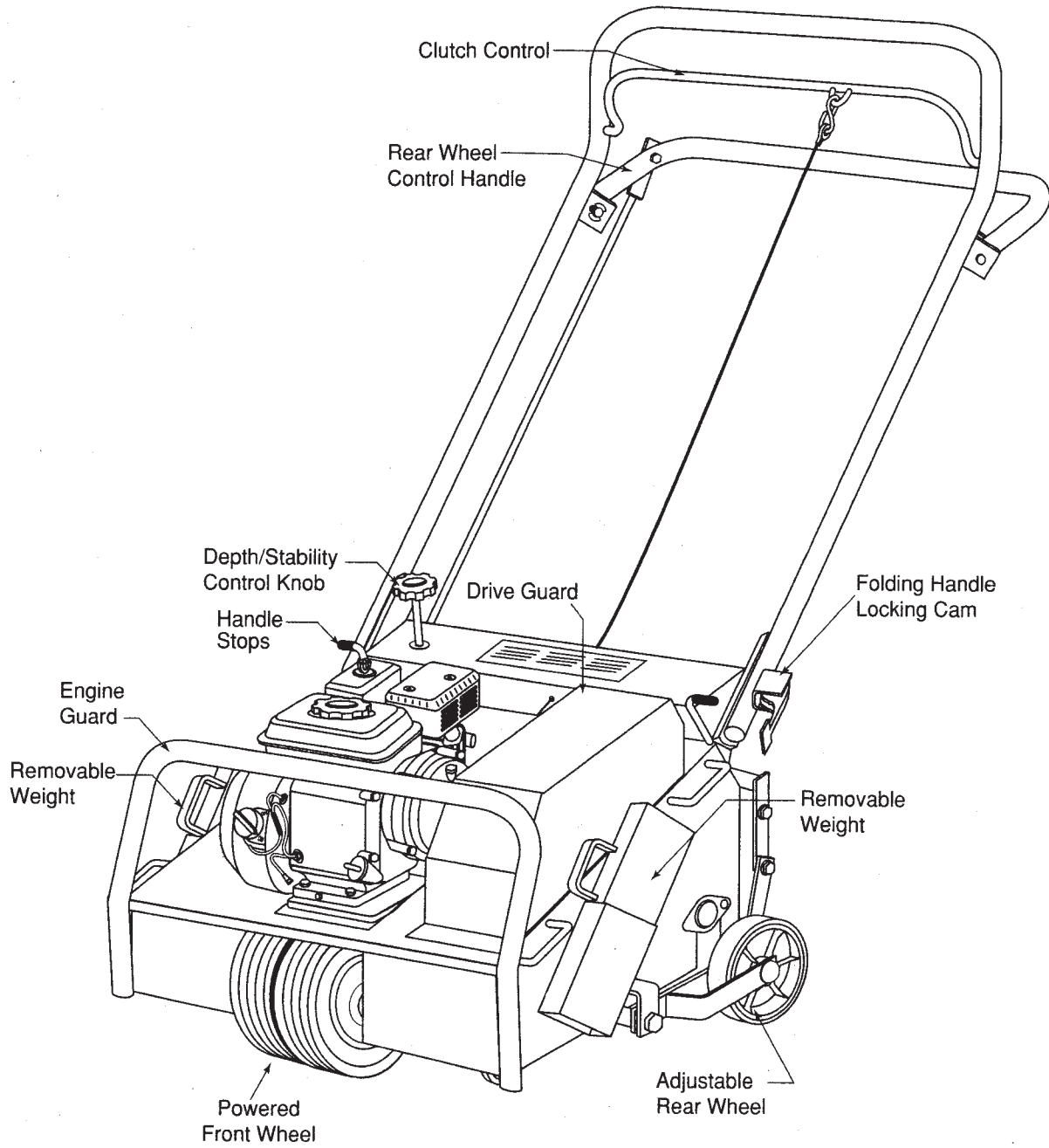


Figure 1

# Operator's Guide

## MODEL AR25 - FEATURES AND CONTROLS

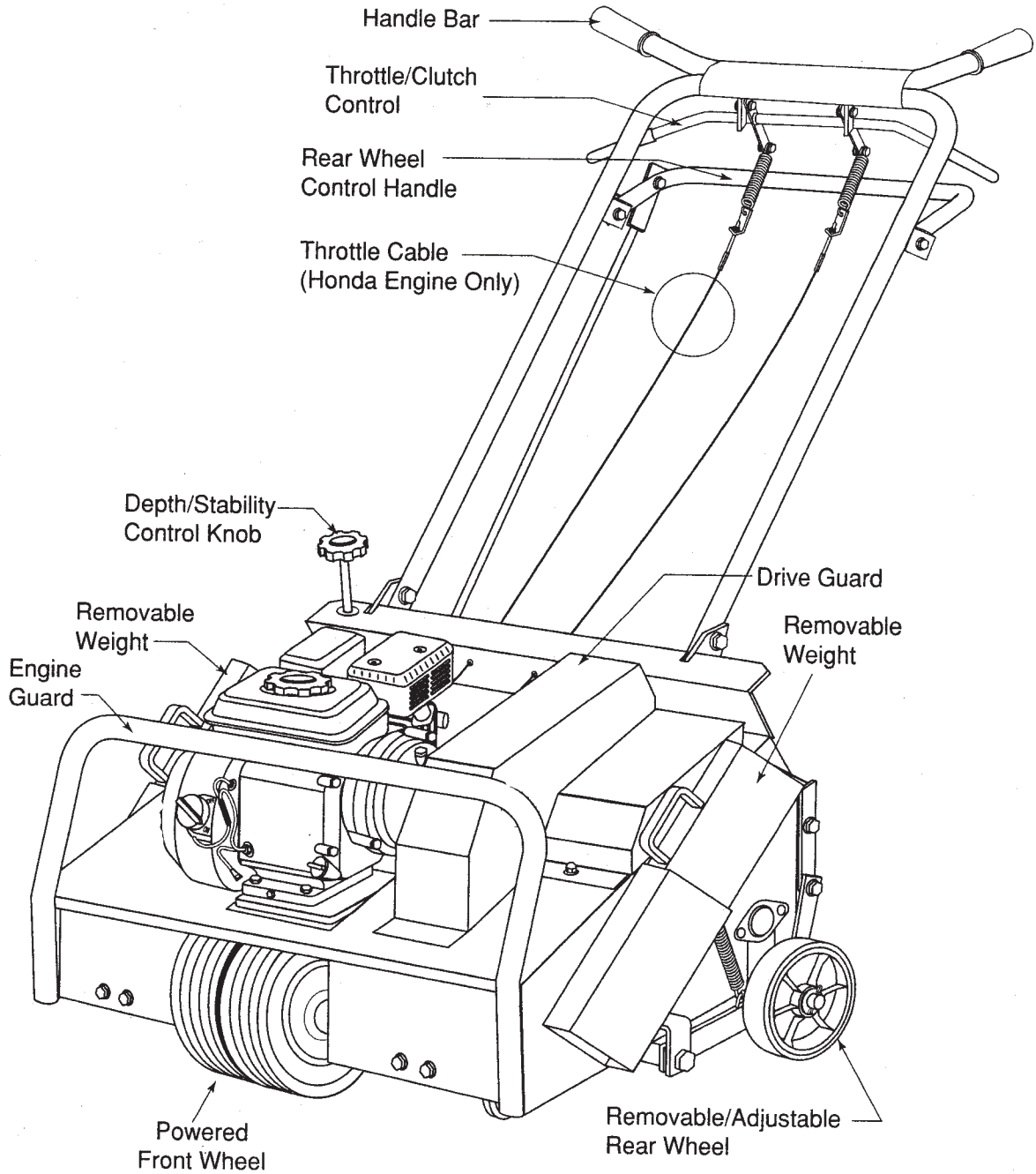


Figure 2

# Operator's Guide

## GENERAL INFORMATION

This manual will assist you in the safe operation and proper maintenance of your Husqvarna equipment. Read it thoroughly before attempting to operate the machine. Call your dealer or Husqvarna if additional information is required.

The following safety symbols are used throughout the manual to alert you to information about unsafe actions or situations:

**DANGER** indicates immediate hazards that may result in severe injury or death.

**WARNING** indicates unsafe actions or situations that may cause severe injury, death and/or major equipment or property damage.

**CAUTION** indicates unsafe actions or situations that may cause injury, and/or minor equipment or property damage.

This equipment should not be modified without the manufacturer's prior written authorization. Doing so may not only affect the equipment's performance and durability, but also create safety hazards for the operator and the surroundings. Warranty will be void if changes are made to the equipment without the manufacturer's prior written authorization.

## SAFETY PROCEDURES

### DO: !

- Read all maintenance and service instructions before attempting work.
- Read engine manufacturer's operating and maintenance instructions.
- Remove spark plug wire before commencing service.
- Inspect lawn to be aerated and remove rocks, wire, string and other objects that might present hazard before starting.
- Identify and mark all ground objects to be avoided, such as sprinkler heads, stakes, water valves, clothes line anchors, etc.
- Use machine for lawn aeration only.
- Keep unsupervised children away from the equipment.
- Adopt safe lifting and moving techniques when loading/unloading and moving the equipment.
- Make sure all decals are in place.

### DO NOT: !

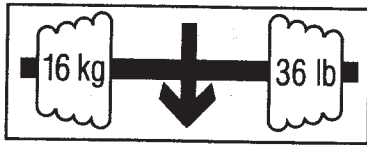
- Do not run engine while servicing.
- Do not use on any surface other than grass.
- Do not operate on slopes exceeding 35% grade.
- Do not place hands or feet near moving or rotating parts.
- Do not lift Model AR19.
- Do not lift Model AR25.
- Do not run engine in an unventilated space.
- Do not smoke or allow open flames or sparks near unit, and always stop the engine when refueling.
- Do not remove guards when operating.
- Do not modify this equipment.
- Do not use this equipment for purposes other than lawn aeration.

# SAFETY AND INSTRUCTION DECALS

The following decals are found on Model AR19 and AR25 aerators. If any are missing or not legible, replace them before operating aerator.



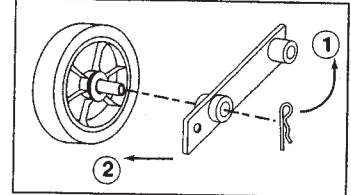
A - Model AR19 only (1 ea)



B - Model AR19 & AR25 only (2 ea)

I - Model AR19 & AR25 only (1 ea)

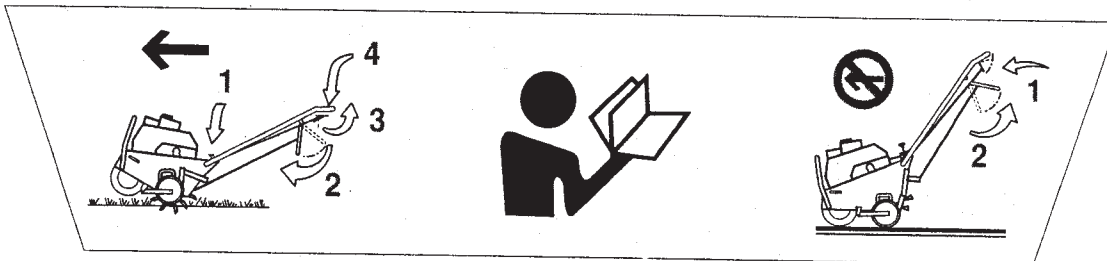
J - Model AR25 only (1 ea)



C - Model AR25 only (2 ea)



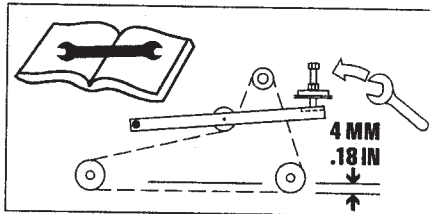
D1 - Model AR19 only (1 ea)



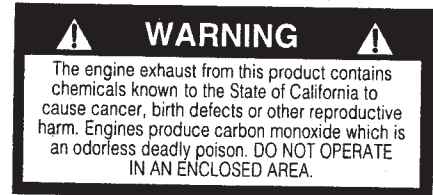
D2 - Model AR25 only (1 ea)



E - Model AR19 & AR25 only (1 ea)



F - Model AR19 & AR25 only (1 ea)



G - Model AR19 & AR25 only (1 ea)



H - Model AR19 & AR25 only (1 ea)



K - Model AR19 & AR25 only (1 ea)

# DECAL PLACEMENT - MODELS AR19 AND AR25

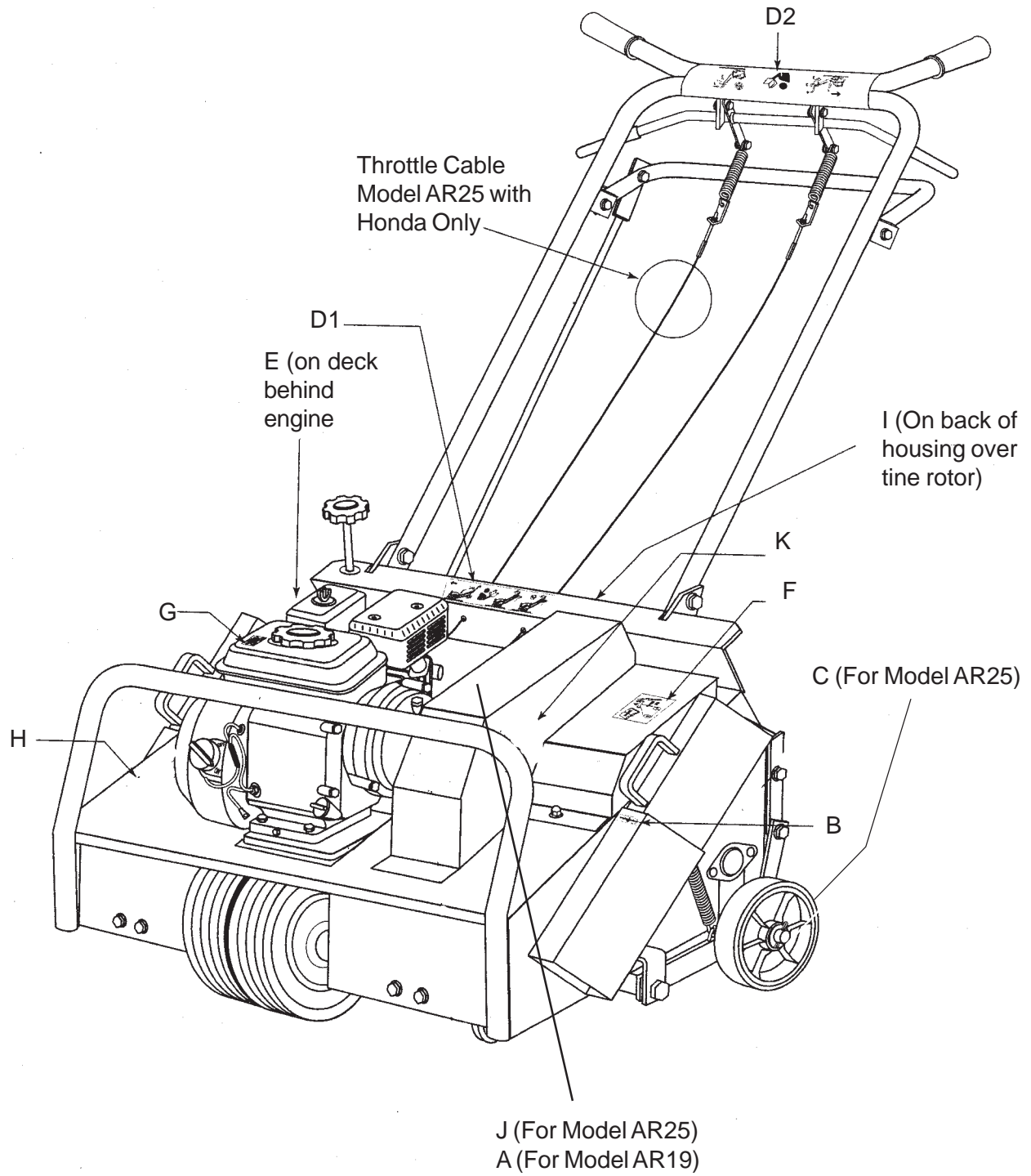


Figure 3



# Operator's Guide

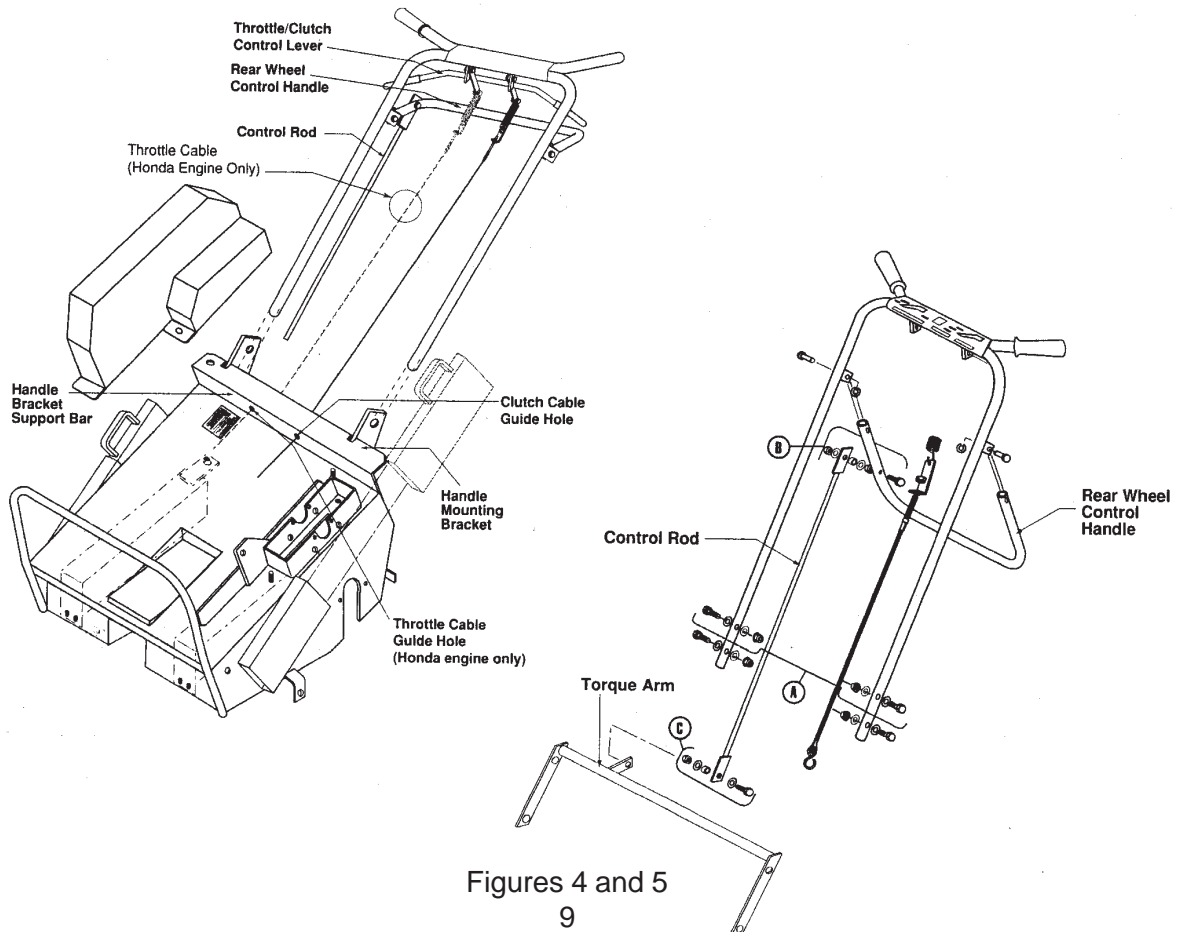
## ASSEMBLY INSTRUCTIONS

### Model AR19

1. Wear eye protection. Remove wooden blocks. NOTE: Watch for nails and wood splinters.
2. Carefully cut open side of carton.
3. Lawn Aerator is shipped with handle folded. Lock handle in position using the cam lock lever.

### Model AR25

1. Wear eye protection. Remove wooden blocks. NOTE: Watch for nails and wood splinters.
2. Carefully cut open side of carton.
3. AR25 Lawn Aerator is shipped with the handle detached. Mount the handle using 2 each ½" wrenches.
  - (A) Slide handle onto handle mounting brackets (see Figure 4).
  - (B) Insert and tighten fasteners, which are located on handle mounting brackets (see Figure 5-A). For further detail on assembly, see parts manual.
4. Connect top of control rod to rear wheel control handle with fasteners located on rear wheel control handle (see Figure 5-B) For further detail on assembly, see parts manual.
5. Connect bottom of control rod to OUTER side of lever on the torque arm using the fastener assembly (see Figure 5-C).
6. Run the clutch cable through the guide hole in the handle bracket support bar located at rear of the deck (see Figure 4).
7. Attach end of cable to the "S" hook located on the belt idler pulley.
8. (Honda Engines Only) Connect the throttle cable by attaching the throttle spring to the throttle/clutch control lever. (see Figure 4)



Figures 4 and 5

# Operating Instructions

## AERATION TIPS

### Should I water before aerating?

Best aerating condition is a soft and moist ground. If you are unsure of the ground conditions, as in soil with high clay content, a simple test will determine whether it is necessary to water before aerating. Using a garden hand spade or a large screw driver, you should be able to drive the tool in the ground 2 to 3 inches with little effort. If you are unable to do so, then watering the lawn a day before aerating is necessary.

### When should I use the removalole weights?

Soil conditions will dictate whether extra machine weight is needed for effective coring action. The weights are provided to give you added control, and greater tine penetration.

## BEFORE YOU START

1. Make sure that engine oil is at engine manufacturer's recommended level (refer to engine manual). Be sure gear reduction oil is at engine manufacturer's recommended level. Make sure the machine is level when filling with oil.
2. With the folding handle in its operating position, lock the handle cam lock (Model AR19 only).
3. Rear wheel control handle must be pulled up so rear wheels are all the way down.
4. Insert weights if needed.
5. Be sure handle is properly mounted.

### **CAUTION: BE SURE CLUTCH CABLE IS ROUTED PROPERLY.**

6. Test clutch handle to insure clutch releases freely.
7. The engine top speed is preset by the engine manufacturer. Consult the engine manufacturer's manual for directions to adjust the governor and carburetor if speed is not within correct range.
8. AR25 Honda Engines Only: The throttle cable has been installed by the factory, however throttle spring needs to be connected to throttle/clutch control lever (see Figure 4).

## AERATING

1. Start engine and adjust throttle setting to provide a comfortable walking speed and maintain control of the equipment at all times.
2. Adjust depth control knob (see Figure 1 or 2) to desired depth. Coring depth decreases by turning the knob clockwise. NOTE: by raising the rear wheels all the way up (to obtain maximum coring depth) you will reduce the unit's stability but increase length of core.
3. Push down the rear wheel control handle to lower aerating tines into the ground (rear wheels will rise).
4. Push down on handle bar for better tine penetration and maneuverability (front wheel will rise).
5. Engage clutch control.
6. Adjust engine throttle setting, if needed, for comfortable speed.
7. To stop, release clutch control.

**CAUTION: NEVER CROSS HARD OBJECTS OR SURFACES (SIDEWALKS, DRIVEWAYS, STEPPING STONES, ETC.) WITH TINES DOWN.**

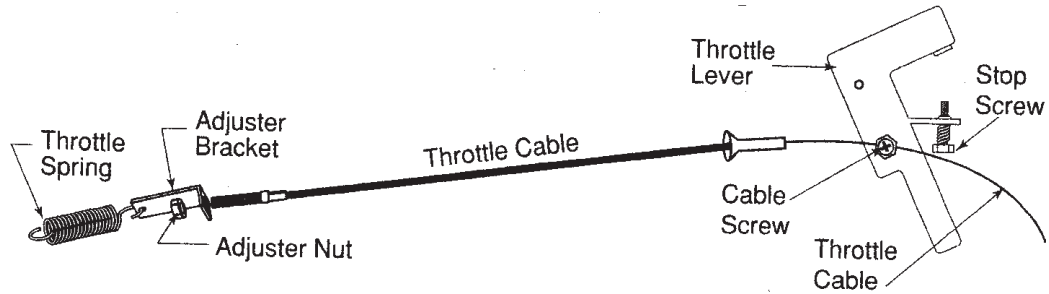
# Operating Instructions

## THROTTLE CABLE ADJUSTMENT. Model AR25 (Honda Engine Only)

1. Start engine and allow it to reach operating temperature.
2. Adjust the throttle cable at the adjuster bracket by turning the adjuster nut. Tightening will increase engine speed, loosening will reduce engine speed.

NOTE: A properly adjusted throttle will slightly increase engine speed as the clutch engages.

- If the clutch engages too soon, the engine will stall.
- If the engine speed is too high, the gradual controlled start is lost.



# Operating Instructions

## REAR WHEEL ADJUSTMENT

The rear wheel depth/stability control knob (see Figure 6) allows adjustment for better stability and maneuverability by turning knob clockwise. Adjusting for depth by turning knob counter clockwise determines the length of the cores pulled in the following ways:

- (A) The rear wheels can be adjusted to the level you desire so you can control the penetration of the tines to within a fraction of an inch. The length of the cores pulled can be controlled accordingly.
- (B) With the rear wheels adjusted to the full up position, you will obtain maximum tine penetration. Pushing down on the machine's handle bars will put most of the weight of the machine on the tines. In this configuration you will pull the longest cores. (Front wheel will rise).

NOTE: Adjusting for greater stability will shorten the length of the cores you pull. You will gain greater side-to-side stability (see below "Operating on Hills." Adjustments for greater stability will also improve maneuverability during aeration.)

## TURNING AND MANEUVERING THE AERATOR

Gradual maneuvering while aerating can be accomplished by simply guiding the machine. We recommend that you adjust your engine's speed control to allow for a comfortable walking speed. This will also help you maintain complete control while working in tight spaces. Adjusting for more stability (with the rear wheels lowered, reducing tine penetration) will make turning easier.

When reversing direction or making sharp turns two methods of turning can be used. Select the safest and most comfortable method for the conditions you face:

- (A) Release clutch control handle, pull up rear wheel control handle, then pivot machine on rear wheels to turn.
- (B) Release clutch control handle, lift handle bar and pivot machine on front wheel.

**WARNING:** THIS METHOD IS NOT RECOMMENDED WHEN OPERATING ON HILLS (See next section).

## OPERATING ON HILLS

**WARNING - DO NOT OPERATE ON HILLS EXCEEDING 35% GRADE.**

This unit is not designed to be used on steep slopes. Be aware that when operating on hills the tilt of the aerator will cause the machine's center of gravity to shift to the downhill side of the machine. Under these circumstances you may experience:

- (A) The need to exert a greater effort to steer and maintain the balance of the machine.
- (B) Uneven tine penetration, when operating across a hill. Due to the shifted center of gravity the downhill tines will penetrate to the maximum depth, while uphill tines may not.

**WARNING:** IN EXTREME SITUATIONS (VERY STEEP HILLS) THE MACHINE MAY BE SO UNBALANCED, THAT IT MAY PRESENT THE DANGER OF ROLLING OVER.



Figure 6

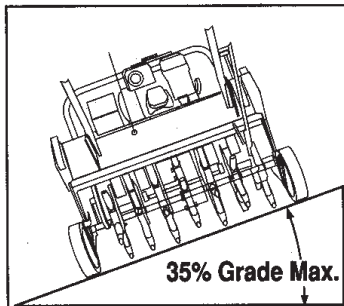


Figure 7



Figure 8

# Maintenance and Service Instructions

## When operating on hills you should consider the following:

- (A) Operate the machine up and down the hills rather than across them.
- (B) Use the rear wheel depth/stability control knob to set the rear wheels for extra stability. This can be a great benefit when you do choose to run the aerator across a hill. An added benefit of using the rear wheel depth control when aerating across a hill is that you will improve the consistency of the cores pulled from the uphill tines when compared to those pulled by the downhill tines.
- (C) Removing the downhill weight reduces roll-over risk and maintains consistent core plug length. (See Figure 8)
- (D) Remove remaining weight from downhill side to uphill side after each pass when operating across hills.

WARNING: NEVER DISENGAGE TINES FROM GROUND WHEN TRAVELLING UP OR DOWN HILL. ONLY DISENGAGE ON FLAT SURFACE.

## TRANSPORTING THE HUSQVARNA AERATOR

MODEL AR19 and AR25

The removable weights are for side hill stability and tine penetration as applicable.

### CAUTION: DO NOT LIFT AERATORS.

With the weights in place, these models are designed for easy loading and unloading on ramps and trailers. The treaded front wheel provides increased control during transport. Use engine power to load unit.

## Maintenance and Service Instructions

### CLEANING AND WASHING

Regular cleaning, washing and lubricating will prolong the service of your machine.

**NOTE:** Use care with power washers to avoid damage to Warning Decals, Operator Instruction Labels, Bearings, Chain and Engine. Limit direct spray on these items.

DO NOT EXCEED 1000 PSI WATER PRESSURE FOR CLEANING

### TWO MINUTE WARNING

Aerators may be tipped on their engine guard for cleaning and access for **no more than 2 minutes**. Engine damage may result from gasoline draining into the crankcase if prolonged. See engine manufacturers operating and maintenance instructions.

### STORAGE

1. Refer to engine manufacturers instructions for engine storage information.
2. Clean machine.
3. Cover all scratches with touch up paint.
4. Lubricate according to Lubrication Schedule.
5. Lightly oil or mil board tines to inhibit rust.
6. Store unit with machine in transport position.
7. Handle may be folded.
8. Covered or indoor storage is recommended.

# Maintenance and Service Instructions

## PREVENTATIVE MAINTENANCE SCHEDULE

### A) Inspection Schedule

Item	Out of Box	First 5 hrs.	Every 10 hrs	Each Use
• Engine Oil	•			
• Gear box oil	•			
• Engine air cleaner	•			
• Clutch & cable	•			•
• Chain tension	•	•	•	
• Belt wear & tension	•			•
• Tine wear & condition	•			•
• Fasteners	•		•	
• Sprockets & set screws	•		•	
• Frame condition	•		•	
• Decals	•			•

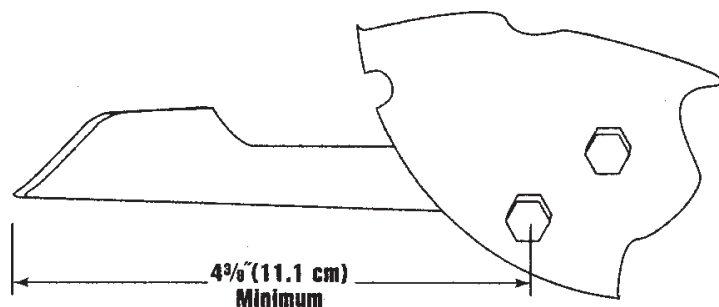
### B) Lubrication Schedule

Item	Lubricant	Every 20 hrs	Every 60 hrs	As Required	Storage
• Engine	Oil, see engine Owner's manual			•	
• GearBox	Oil, see engine Owner's manual			•	
• Rear wheels	Lithium based grease		•	•	•
• Chain	Graphite dry lubricant (Aerosol)			•	•
• Tines	Light machine oil				•
• Linkage	30W oil	•(*)			•

(\*) after each pressure wash or steam cleaning

#### TINE WEAR

After your Husqvarna Aerator has been used for sometime, the tines will wear. When this happens their aerating performance will diminish. Inspect tines using the drawing, replace when at minimum length or before. (Tines are 5" when new.)



## ENGINE SERVICE AND MAINTENANCE

Follow the engine manufacturers maintenance instructions. Should any malfunction occur with the engine during the warranty period, take it to an Authorized Service Dealer. DO NOT tear down the engine, as this may void the Engine Manufacturers Warranty NOTE: Refer to engine manufacturers owners manual for all engine service information.

# Maintenance and Service Instructions

## Engine, Removal and Replacement

1. Remove weights for access.
2. Remove drive guard.
3. Remove V-Belt.
4. Remove engine bolts.
5. Lift engine from unit.

**NOTE:** Model AR25 aerators equipped with optional Honda engines have 2 pairs of shim plates under the engine.

6. Remove and retain V-pulley and key.
7. Replacement procedure opposite of removal.
8. Adjust drive belt and align V-pulley, see following section.



Figure 13

## Drive Belt Replacement and Adjustment

1. Turn off engine and remove the drive guard cover.
2. Remove V-belt.
3. Inspect condition of V-pulleys and replace if necessary.
4. Check V-pulley alignment by looking down the belt with clutch engaged. Be sure both V-pulleys are directly in line with each other. Correct their alignment if they are not.
5. Install new belt over small V-pulley first, then over the large V-pulley. (see Figure 13).

**NOTE: Many parts including the drive belt on your Husqvarna Aerator are made specifically for Husqvarna to give many hours of use. Replace all parts with genuine Husqvarna parts to obtain maximum performance and life.**

6. Insure V-belt is inside both keeper arms.
7. Check that the V-belt clears the top belt keeper arm when idler is pulled tight.  
Check that the aerator rolls freely (with handle folded on Model AR19), with the belt slack. Adjust the keeper, or clutch cable length if necessary.
8. For clutch adjustments refer to next section (Clutch Cable Removal and Replacement).
9. Replace drive guard.



Figure 14

## Clutch Cable Removal and Replacement

1. Turn off engine and remove old clutch cable.
2. Route new cable through the hole at the rear of housing.
3. Attach clutch cable to the bracket on the spring on the idler assembly, then connect opposite end of cable to the S hook.
4. Adjust cable to obtain  $\frac{3}{4}$ " to  $1\frac{1}{4}$ " extension of the clutch spring when clutch is engaged. (see Figure 14).

## Throttle Cable Removal and Replacement:

### Model AR25 Honda Engine Only

1. Before removing your old cable measure the amount of cable extending past the cable screw.
2. Remove the old throttle cable and route the new cable through the guide hole at the rear of the housing.
3. Insert the new cable through the cable screw to the measurement obtained in step 1 and tighten.  
This is only an approximate setting, some additional adjustment may be required, see page 12 for cable adjustment.
4. Attach the new adjuster bracket to the spring on the throttle/clutch lever.

**NOTE:** As the cable length increases between the cable screw and adjuster nut the engine speed decreases. If engine speed is too low, the engine will stall as the clutch engages. As the cable length decreases between the cable screw and adjuster nut, the engine speed will increase. If engine speed is too high, the controlled start will be lost.



# Maintenance and Service Instructions

## Chain Removal and Replacement

1. Turn off engine.
  2. Remove the drive guard.
  3. Loosen chain idler adjustment bolt and lock nut
  4. Remove master link and remove chain.
  5. Inspect and align sprockets. (see Figure 16).  
Check set screws. (Double set screws for wheel and rotor sprocket).
  6. Install new chain from top (drive sprocket side) and route in accordance with Figure 15.
- NOTE:** Chain is most easily connected just behind the front drive wheel sprocket.
7. Install master link with pin plate on engine side of chain with keeper plate installed on outboard side. Install clip with split to front of machine.

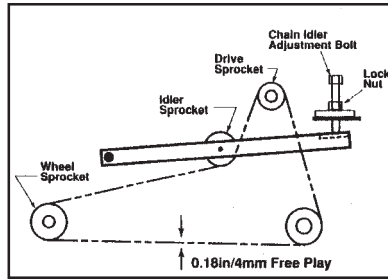


Figure 15

## Adjusting Chain Tension

1. Turn engine off.
2. Remove drive guard, loosen lock nut on idler adjustment bolt.
3. Turn idler adjustment bolt to adjust tension to allow 1/8" to 1/4" movement at the center point between the wheel sprocket and the rotor sprocket (see Figures 15 and 17).
4. Tighten lock nut.

**NOTE:** Husqvarna recommends the replacement of sprockets when replacing drive chain.



Figure 16



Figure 17

## HANDLE - MODEL AR19 ONLY

### Inspection

1. The handle cam lock must lock shut under moderately heavy hand pressure. Handle frame should be tightly secured to the aerator body.
2. Check the cam rod lock nut. If it turns freely by hand when cam is released, the locking strength of the nut has been relieved and the nut must be replaced to maintain the security of the lock.

### Adjustment

With the handle in the operating position, slowly tighten the cam rod lock nut (1/4 turn at a time) until the cam handle locks with moderately heavy hand pressure. **IMPORTANT:** excessive adjustment of the lock nut will damage the cam rod. ALWAYS replace a free spinning nut to avoid unwanted loosening of the handle. For smooth operation of the cam, apply a small amount of grease on the cam edge.

## WHEELS

### Drive Wheel Shaft Removal and Replacement

1. Turn off engine and empty all fuel from the fuel tank.
2. Remove weights and drive guard.
3. Loosen the lock nut on adjustment screw to loosen the chain. Remove master link and chain.
4. Tip the front end up to let the aerator rest on its handle. The front wheel will be approximately 1 foot off the ground. **WARNING: SECURE HANDLE TO PREVENT AERATOR FROM TIPPING.**
5. Remove the wheel shaft bearing bolts (4 on the AR19 and 6 on the AR25).
6. Remove the wheel axle assembly.



# Maintenance and Service Instructions

## Drive Wheel Shaft Removal and Replacement (Continued)

7. Pull sprocket and bearing from shaft. NOTE: Sprocket is double set screwed. To remove the bearings, you must first remove the collar by loosening the set screw, then insert pin punch into the hole next to the set screw and, using a hammer, with moderate striking, hit collar so that it rotates in the opposite direction the wheel would normally turn. If bearings are rusted in place they will have to be replaced along with the wheel and shaft.
8. Install bearings and sprocket loosely onto the shaft. Model AR19: hub side away from wheels. Model AR25 has 3 bearings. Wheel bearings should have hubs facing away from wheel. Wheel shaft bearing should have hub facing away from sprocket.
9. Bolt bearings into place.
10. Center the wheels between the wheel opening and the housing. Lock the collars in place and tighten set screws.
11. Align and tighten the sprocket (there are double set screws stacked two in each hole) use blue loctite with the key in place.
12. Replace the chain following procedures in section "Chain Removal and Replacement.(see page 16).
13. Adjust chain per section "Adjusting Chain Tension" and replace drive guard. (see page 17).

## Rear Wheel Removal and Replacement: Model AR19

1. Make sure unit is on level ground and engine is turned off.
2. Lower the rear wheel control handle to let the aerator rest on the tines.
3. Turn the rear wheel depth/stability control knob to adjust the rear wheels for minimum depth clockwise (more stability).
4. Remove the axle nut. Pull the axle bolt, then the wheel from the wheel carriage.
5. Install a new wheel with grease fitting facing out, with seals carefully in place on the wheel bushing. Insert axle bolt through wheel and wheel lift frame. Use washer and lock nut, tighten firmly.
6. Grease wheel bearings.

## Rear Wheel Removal and Replacement: Model AR25

1. Make sure unit is on level ground and the engine is shut off.
2. Lower the rear wheel control handle to let the aerator rest on the tines.
3. Turn the rear wheel depth/stability control knob to adjust the rear wheels for minimum depth clockwise for more stability.
4. Remove the hairpin cotter pin. (see Figure 18)
5. Slide the wheel assembly off the machine. (see Figure 18)
6. Install hairpin cotter pin into the axle when removed to prevent loss.

## Removable Wheel - Model AR25 Only

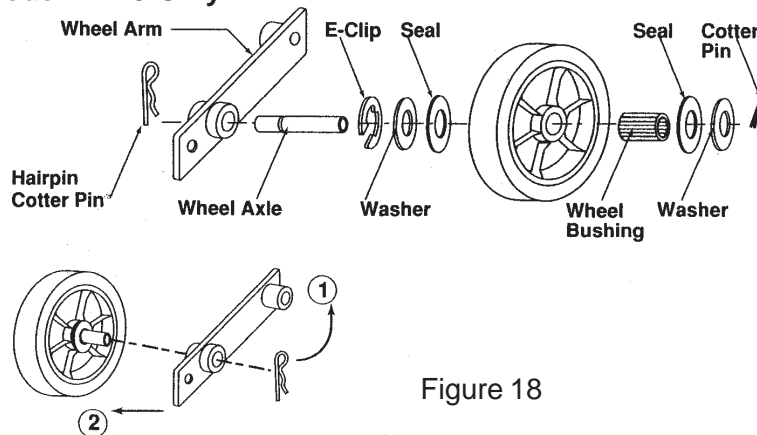


Figure 18

# Maintenance and Service Instructions

## TINE AND TINE SHAFT

### Tine Replacement

1. Turn off engine and remove weights.
2. Fold handle on the AR19 Model.
3. Note direction of tine bolt.
4. Remove and replace tines by loosening stop bolt. Remove retaining bolt and old tine, insert new tine and fasten with retaining bolt in the same direction as it was removed. When all tines are replaced, tighten stop bolts. NOTE: Replace worn lock nuts to insure that bolts will hold tines in place.

### Tine Shaft Bearing Removal and Replacement

1. Turn off engine and remove weights.
2. Remove drive guard cover.
3. Fold handle for better access to tines (on Model AR19 only).
4. Elevate approximately 4", block and chock rear wheels.
5. Manually cycle the drive chain for access to master link.
6. Turn chain idler adjustment bolt counter clockwise to loosen the chain.
7. Remove the master link and free rotor sprocket.
8. Remove the tine rotor shaft bearing bolts (4).
9. Remove the rotor shaft assembly.
10. Remove outer rotor bearing by loosening the set screw in the collar.
11. Unlock collar (best accomplished by using a hammer and pin punch). Insert pin punch into the hole next to the set screw and, using the hammer, with moderate striking, hit collar so that it rotates in the opposite direction the rotor would normally turn.(see Figure 19)
12. Reverse these steps to reinstall.
13. Refer to sections "Chain Removal and Replacement" and "Adjusting Chain Tension" for chain replacement and adjustment of chain tension. (see page 16).



Figure 19

### Free-Wheeling Tine Assembly Removal and Replacement

Complete steps 1 through 12 in previous section, then proceed with the following:

1. After the bearing is off the rotor, unlock the inner bearing that secures the tine assembly.
2. Remove outer free-wheeling tine assembly.
3. Place the new rotor assembly beside the old assembly so that you have a pattern to follow indicating the correct direction which the new tines are to be installed. You can also refer to the tines on the fixed tine assembly as an example of proper assembly.
4. Once the tines are installed on the free-wheeling assembly, re-install the inner and outer bearing assemblies on the free-wheeling assembly with the bearing hubs facing toward the fixed tines. Make sure that the inner bearing has a locking collar. Hand tighten the nuts only.
5. Slide the new free-wheeling tine assembly on the shaft making sure that the tine direction matches the direction of the fixed tine assembly. The bearing with the locking collar faces the fixed tines and butts up against the shoulder of the shaft.
6. Tighten the four nuts on the bearing assemblies.
7. Lock the bearing collar in place with the hammer and punch making sure the collar locks in the same direction as the rotation of the rotor.
8. Replace outer shaft bearing and re-install the entire rotor assembly by reversing steps 1 through 12 in previous action. Instructions are for one side. Both are procedurally identical.

## Sound - Model AR19

**L<sub>wa</sub>**  
**98.3**

### Sound Test

Sound test conducted was in accordance with 79/113/EEC and was performed on 8 March 95 under the conditions listed.

**L<sub>pA</sub>**  
**87**

OPERATOR

General Condition: Partly Cloudy

Temperature: 52°F (11.1°C)

Wind Speed: 10 MPH (16kmh)

Wind Direction: S.W.

Humidity: 36%

Barometric Pressure: 24.9" Hg (631mm Hg)

## Vibration - Model AR19

**0.1g**

### Vibration Level

Vibration level at the operators handles were measured in the vertical, lateral, and longitudinal directions using calibrated vibration test equipment.

Tests were performed on 8 March 95 under the conditions listed:

General Condition: Partly Cloudy

Temperature: 52°F (11.1°C)

Wind Speed: 10 MPH (16 kmh)

Humidity: 36%

Barometric Pressure: 24.9" Hg (631mm Hg)

## Sound - Model AR25

**L<sub>wa</sub>**  
**99.1**

### Sound Test

Sound test conducted was in accordance with ISO 11094: 1991 and was performed on 4 April 97 under the conditions listed.

**L<sub>pA</sub>**  
**84.7**

OPERATOR

General Condition: Partly Cloudy

Temperature: 65°F (18.3°C)

Wind Speed: <5 MPH (8kmh)

Wind Direction: N/A

Humidity: 45%

Barometric Pressure: 24.7" Hg (626mm Hg)

## Vibration - Model AR25

**0.6g**

### Vibration Level

Vibration level at the operators handles were measured in the vertical, lateral, and longitudinal directions using calibrated vibration test equipment.

Tests were performed on 4 April 97 under the conditions listed:

General Condition: Partly Cloudy

Temperature: 65°F (18.3°C)

Wind Speed: <5 MPH (8 kmh)

Humidity: 45%

Barometric Pressure: 24.7" Hg (626mm Hg)



**Technical assistance:**  
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