

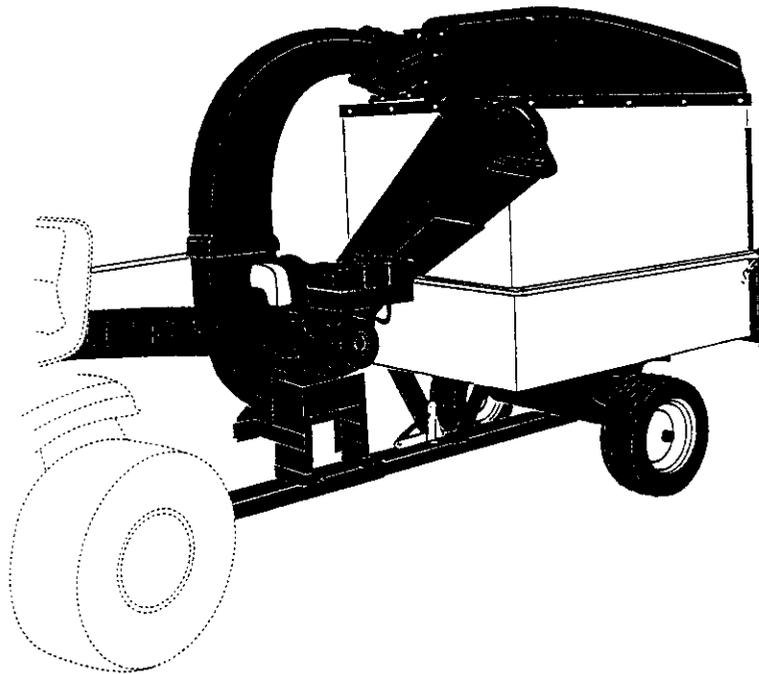
Owner's Manual

CRAFTSMAN®

8 H.P.

CHIPPER VAC

Model No. 486.24515



CAUTION:

Before using this product,
read this manual and follow
all Safety Rules and
Operating Instructions.

- Safety
- Assembly
- Operation
- Maintenance
- Parts

Sears, Roebuck and Co., Hoffman Estates, IL 60179 U.S.A.

PRINTED IN U.S.A.

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WARRANTY

LIMITED ONE YEAR WARRANTY ON

For one year from the date of purchase, when this Chipper Vac is maintained and lubricated according to the operating and maintenance instructions in the owner's manual, Sears will repair any defect in material or workmanship free of charge. If this Chipper Vac is used for commercial or rental purposes, this warranty applies for only 90 days from the date of purchase.

This warranty does not cover repairs necessary because of operator negligence or abuse, including the failure to maintain the equipment according to instructions contained in the owner's manual.

WARRANTY SERVICE IS AVAILABLE BY CONTACTING THE NEAREST SEARS SERVICE CENTER/DEPARTMENT IN THE UNITED STATES.

This warranty applies only while this product is in the United States.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Sears, Roebuck and Co. D/817 WA. Hoffman Estates, Chicago, IL 60179

<p>The model number and serial numbers will be found on a decal attached to the Chipper Vac.</p> <p>You should record both the serial number and the date of purchase and keep in a safe place for future reference.</p>	<p>MODEL NUMBER: 486.24515</p> <p>SERIAL NUMBER: _____</p> <p>DATE OF PURCHASE: _____</p>
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SAFETY



Any power equipment can cause injury if operated improperly or if the user does not understand how to operate the equipment. Exercise caution at all times, when using power equipment.

- Read and follow all instructions in this manual before attempting to assemble or operate this equipment. Failure to comply with these instructions may result in personal injury. Keep this manual in a safe place for future reference and for ordering replacement parts.
- Read this operating and service instruction manual carefully. Be thoroughly familiar with the controls and proper use of this power vacuum.
- Read the vehicle owners manual and vehicle safe operation rules before using this equipment.
- Never allow children under 16 to operate this Chipper Vac. Children 16 years and older should only operate under close parental supervision.
- Do not allow anyone to operate this equipment without proper instructions.
- Do not allow passengers to ride on this equipment or on the towing vehicle.
- Keep the area of operation clear of all persons, particularly small children. Also keep area clear of pets.
- Check fuel before starting engine. Do not fill fuel tank indoors, or when engine is running, or while engine is hot. Wipe off any spilled fuel before starting engine.
- Engine and muffler get hot. Do not touch! To avoid fire hazard, keep clean of debris and other accumulations.
- Never store Mow-N-Vac with fuel in tank. Allow engine to cool before storing in any enclosure.
- Do not change engine governor settings.
- Do not operate engine if air cleaner or cover is removed, except for adjustment. Removal of these parts could create a fire hazard.
- Keep hands, feet, face, long hair and clothing out of chipper inlet, vac inlet and discharge area. There are ROTATING BLADES inside these openings.
- Before cleaning, repairing or inspecting, make certain all moving parts come to a complete stop. Disconnect spark plug wire and keep wire away from plug to prevent accidental starting. Keep throttle control lever in stop position.
- If the Chipper Vac should become blocked with debris at any point, shut engine off and wait until the impeller comes to a complete stop before attempting to remove the obstruction. Disconnect spark plug wire to prevent accidental starting.
- If the cutting mechanism strikes a foreign object, or if your Chipper Vac should start to vibrate abnormally, stop the engine immediately, disconnect the spark plug wire and move the wire away from the spark plug. Allow the machine to stop and take the following steps.
 - a. Inspect for damage.
 - b. Repair or replace any damaged parts.
 - c. Check for loose parts and tighten to assure continued safe operation.
- Check all bolts for tightness at frequent intervals to help insure safe operation.
- Check vinyl hard top boot frequently for wear. Replace if worn or damaged.
- Never operate Chipper Vac unless deck adapter, hose, hose adapter (nozzle), discharge chute (elbow), chipper chute and top cover are properly attached in their place.
- Do not remove top cover or attempt to empty contents of cart while engine is running.
- Never attempt to change hose adapter (nozzle) or to install remote hose attachment when engine is running.
- Keep all shields and guards (e.g. chipper chute, discharge chute (elbow) and hose adapter (nozzle) in place and securely attached.
- Always wear safety glasses or other suitable eye protection when operating or maintaining this equipment.
- Wear protective gloves when feeding material into the chipper chute. Avoid loose fitting clothing.
- Keep face and body clear of the chipper chute to avoid accidental bounce back of any material.
- When feeding material into this equipment, be extremely careful that pieces of metal, rocks bottles, cans or other foreign objects are not included. Personal injury or damage to the machine could result.
- Do not stand behind cart in exhaust discharge area while engine is running.
- Do not operate this equipment while intoxicated or while taking drugs or medication that impairs the senses and reactions.
- When using this equipment, start with the vehicle transmission in first (low) gear and then gradually increase speed only as conditions permit.
- Operate this equipment at reduced speed on rough terrain, along creeks and ditches and on slopes to prevent tipping or loss of control. Do not drive too close to a creek or ditch.
- Vehicle braking and stability are affected by the addition of this equipment. Do not fill the Chipper Vac to its full capacity without checking the capability of the towing vehicle to safely pull and stop with the Chipper Vac attached.
- Before operating on any grade (hill) refer to the safety rules in the vehicle owner's manual concerning safe operation on slopes. Also refer to the SLOPE GUIDE on page 31 of this owner's manual. Do not operate on slopes in excess of 10 degrees. **STAY OFF STEEP SLOPES.**
- Follow the maintenance instructions outlined in this manual.



Look for this symbol to point out important safety precautions. It means--**Attention!! Become alert!! Your safety is involved.**



DANGER: This Chipper Vac was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This unit is capable of amputating fingers and hands and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

WARNING

TO AVOID SERIOUS INJURY

- Read Owner's Manual and all safety labels on machine before starting and using machine.
- Do Not remove top cover or attempt to empty contents of cart while engine is running.
- Do Not stand behind cart in exhaust discharge area while engine is running.
- Keep hands, feet, face, long hair and clothing out of chipper inlet, vac inlet, and discharge area. There are **ROTATING BLADES** inside these openings.
- Wear approved safety glasses and gloves. Avoid loose fitting clothes.
- Keep the area of operation clear of all persons, particularly small children and pets.
- Keep all shields and guards (e.g. upper chipper chute extension, discharge chute, nozzle assembly) in place and securely attached.
- Check discharge boot frequently for wear. Replace if worn or damaged.
- If unit becomes clogged or jammed, shut off engine right away. Do Not attempt to clear clog or jam with engine running.
- Muffler and engine get hot and can cause burns. Do Not Touch. To avoid a fire hazard, keep leaves, grass and other combustible debris off hot muffler and engine.
- Do Not attempt to remove or attach vac nozzle or optional Hose Kit with engine running.
- Do Not operate unit unless nozzle or optional Hose Kit is secured in place.
- Do Not fill gas tank while engine is running. Allow engine to cool at least 2 minutes before refueling.



DANGER

**ROTATING CUTTING BLADES.
KEEP HANDS AND FEET OUT
OF OPENINGS WHILE MACHINE
IS RUNNING.**



WARNING

**MUFFLER & ADJACENT AREAS
MAY EXCEED 150° F**



DANGER

**HAZARDOUS ROTATING BLADES INSIDE. KEEP HANDS AWAY FROM
ALL OPENINGS. DO NOT REMOVE OR ATTACH HOSE, HOSE ADAPTER,
ELBOW OR OPTIONAL HOSE KIT WHEN ENGINE IS RUNNING!**



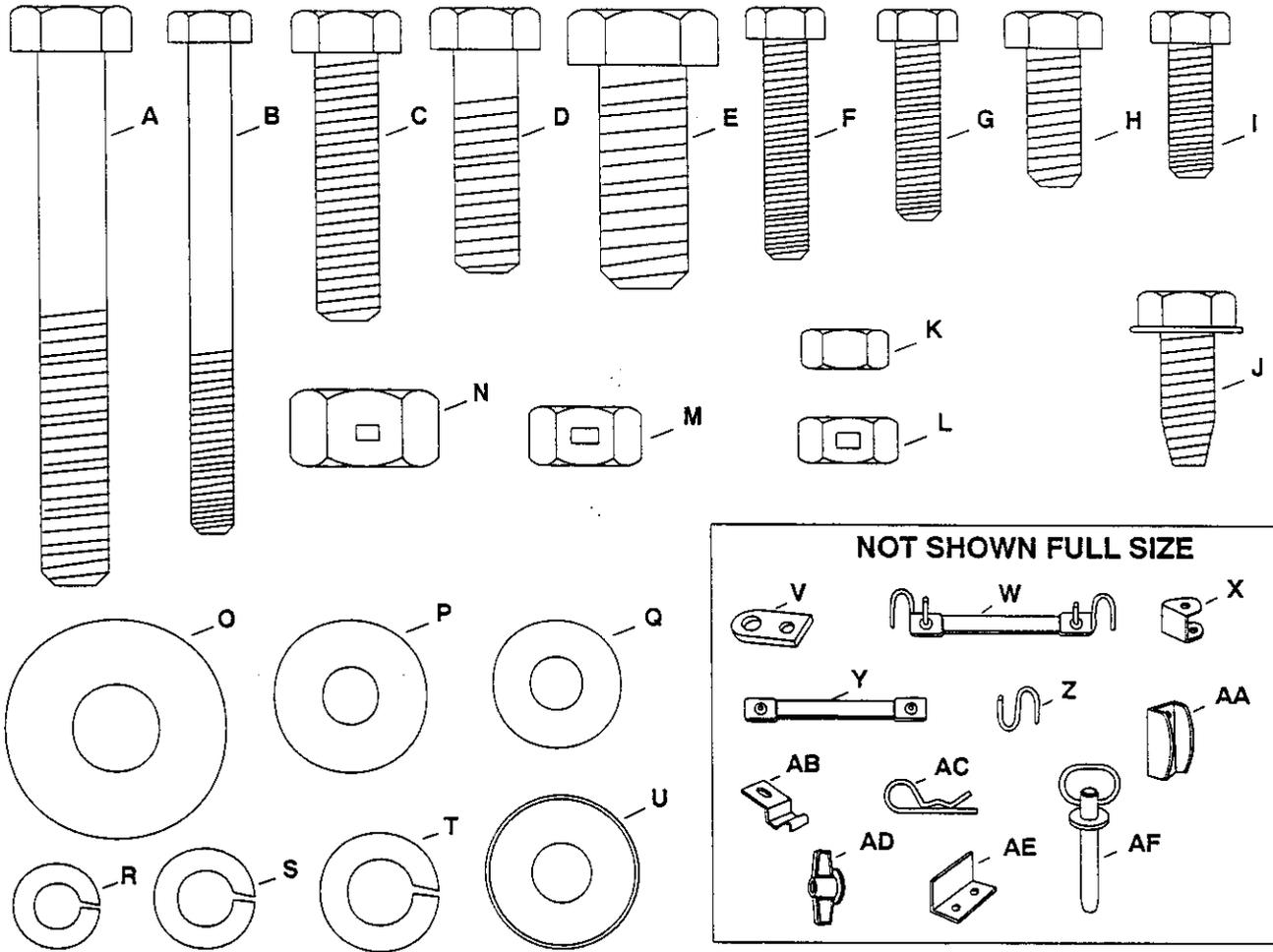
WARNING

This unit is equipped with an internal combustion engine and should not be used on or near unimproved forest-covered, or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester muffler is available at you nearest engine authorized service center.

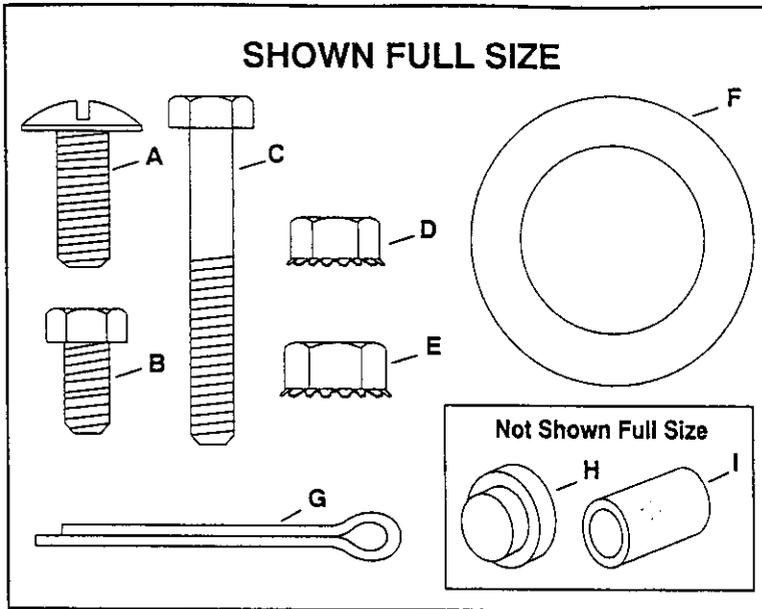
HARDWARE PACKAGE CONTENTS

SHOWN FULL SIZE



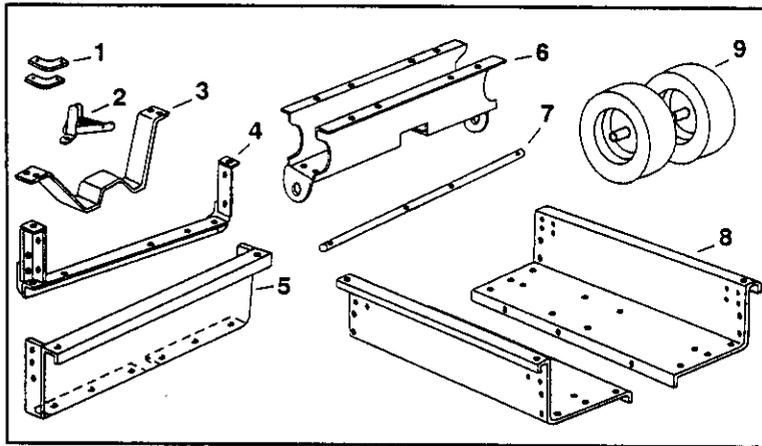
HARDWARE PACKAGE (Chipper Vac Carton)

Ref.	Qty.	Description	Ref.	Qty.	Description
A	3	Bolt, Hex 3/8-16 x 3"	S	4	Lockwasher, 5/16" Spring Type
B	4	Bolt, Hex 1/4-20 x 2-3/4"	T	5	Lockwasher, 3/8"
C	5	Bolt, Hex 3/8-16 x 1-1/2"	U	3	Washer, 5/16" Bell (cupped)
D	2	Bolt, Hex 3/8-16 x 1-1/4"	V	1	Hitch Plate
E	1	Bolt, Hex 1/2-13 x 1-1/4"	W	1	Strap, Tarp 25"
F	2	Bolt, Hex 1/4-20 x 1-1/4"	X	5	Clamp, Cart Extension
G	2	Bolt, Hex 1/4-20 x 1"	Y	2	Strap, Tarp (Less Hooks)
H	6	Bolt, Hex 5/16-18 x 3/4"	Z	2	Hook #32
I	28	Bolt, Hex 1/4-20 x 3/4"	AA	2	Door Latch
J	4	Bolt, Hex 5/16-18 x 3/4" Thd. Form.	AB	2	Door Support
K	38	Nut, Hex 1/4-20	AC	1	Pin, Hair Cotter
L	9	Nut, Hex Lock 5/16-18	AD	3	Knob
M	5	Nut, Hex Lock 3/8"	AE	1	Angle Stop
N	1	Nut, Hex Lock 1/2-13	AF	1	Hitch Pin
O	1	Washer, Flat 7/16"			
P	6	Washer, Nylon 21/64"			
Q	24	Washer, Flat 1/4" STD			
R	36	Lockwasher, 1/4" Spring Type			



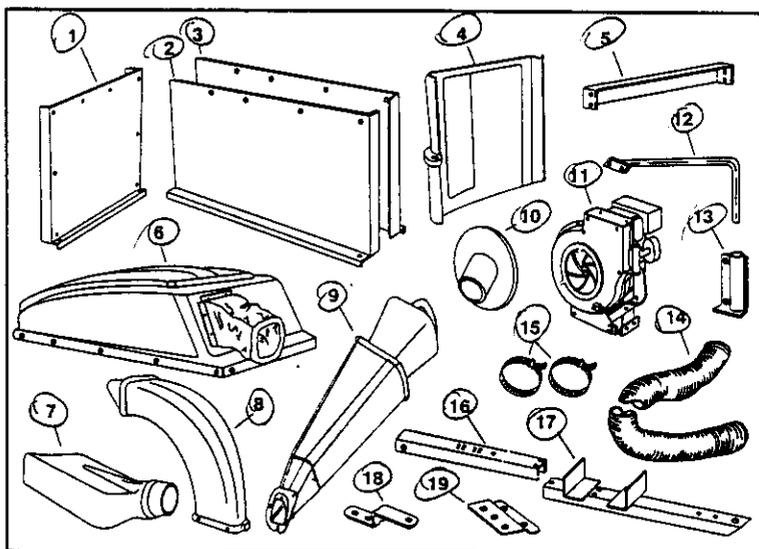
HARDWARE PACKAGE (Cart Body Carton)

Ref.	Qty.	Description
A	14	Slit. Truss Hd. Bolt, 5/16" x 3/4"
B	25	Hex Bolt, 1/4" x 1/2"
C	2	Hex Bolt, 1/4" x 1-3/4"
D	27	Hex Nut, 1/4-20 Thread (SEMS)
E	14	Hex Nut, 5/16-18 Thread (SEMS)
F	4	Flat Washer, 1"
G	2	Cotter Pin, 1/8" x 1-1/2" Lg.
H	2	Hub Cap
I	2	Spacer Tube, 2" Lg.
		Bag contains extra 1/4" x 1/2" bolts and 1/4" nuts



CARTON CONTENTS (Cart Body Carton)

Ref.	Qty.	Description
1	2	Corner Cap
2	1	Latch Lock Assembly
3	1	Latch Stand Bracket
4	1	Tailgate Reinforcement Bracket
5	1	Front Panel
6	1	Wheel Support
7	1	Axle
8	2	Cart Body
9	2	Wheel



CARTON CONTENTS (Chipper Vac Carton)

Ref.	Qty.	Description
1	1	Front Panel
2	1	Side Panel (R.H.)
3	1	Side Panel (L.H.)
4	1	Rear door
5	1	Cross Brace
6	1	Poly Hard Top
7	1	Deck Adapter
8	1	Elbow
9	1	Chipper Chute w/Tamper Plug
10	1	Hose Adapter (Nozzle)
11	1	Engine Base Assembly
12	1	Hose Hanger Rod Assembly
13	1	Hose Hanger Bracket
14	1	Hose
15	2	Hose Clamp
16	1	Tongue (Rear)
17	1	Tongue (Front)
18	1	Hitch Bracket
19	1	Adapter Bracket

ASSEMBLY

This unit is shipped WITHOUT GASOLINE or OIL. After assembly, see separate engine manual for proper fuel and engine oil recommendations.

TOOLS REQUIRED FOR ASSEMBLY

- (1) Screwdriver
- (1) Pliers
- (2) 7/16" Wrenches
- (2) 1/2" Wrench
- (2) 9/16" Wrenches
- (2) 3/4" Wrenches (only if figure 24 on page 14 is used)

REMOVAL OF PARTS FROM CARTON

- Remove the hardware pack and all loose parts from the carton. Be sure the carton is empty before discarding.
- Lay out all the parts as shown in the carton contents. Keep contents of hardware packages separated.

ASSEMBLING THE CHIPPER VAC

- Position cart body halves upright on a smooth level surface such as a garage floor or a paved driveway. See figure 1.



CAUTION: Do not leave the cart unattended in upright position during assembly. A falling cart can cause personal injury! Pay close attention to the stability of the cart while it remains in an upright position. For best stability, assemble on a smooth level surface.

- Assemble halves together using three 1/4" x 1/2" hex bolts and 1/4" hex nuts (SEMS) as shown in figure 1. **Do not tighten.**

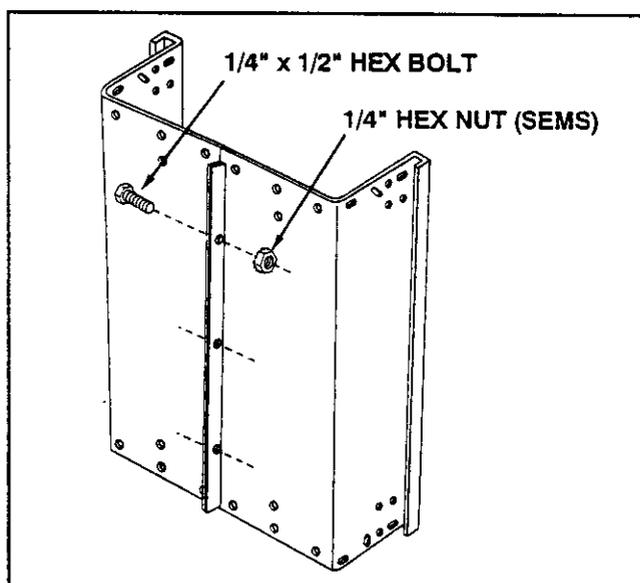


FIGURE 1

- Position the tailgate reinforcement bracket on outside of cart as shown in figure 2. Fasten to the bottom of the cart body using six 5/16" x 3/4" slotted head screws and 5/16" hex nuts (SEMS). **Do not tighten.** See figure 2.
- Fasten the tailgate reinforcement bracket to the sides of the cart body using four 1/4" x 1/2" hex bolts and 1/4" hex nuts (SEMS) as shown in figure 2. **Do not tighten.**

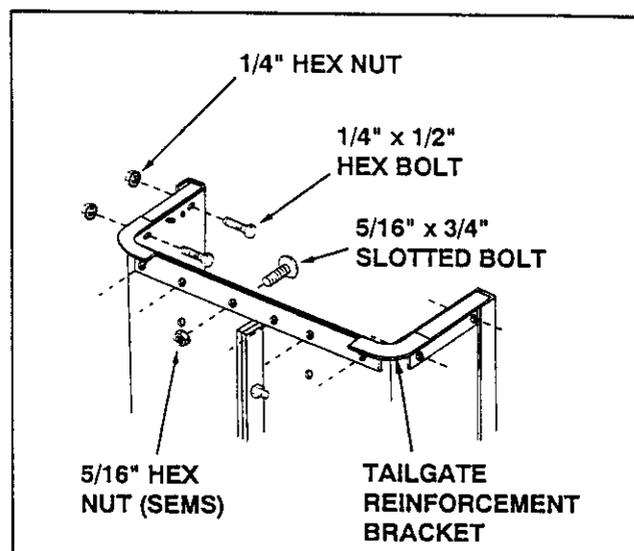


FIGURE 2

- At this time, with the cart body halves pulled together, **tighten** the six slotted head screws assembled in figure 2 and then **tighten** the four hex bolts assembled in figure 2. **Do not tighten** the three hex bolts that were assembled in figure 1.
- Carefully reverse the position of the cart so that it rests on the tailgate reinforcement bracket, as shown in figure 3.

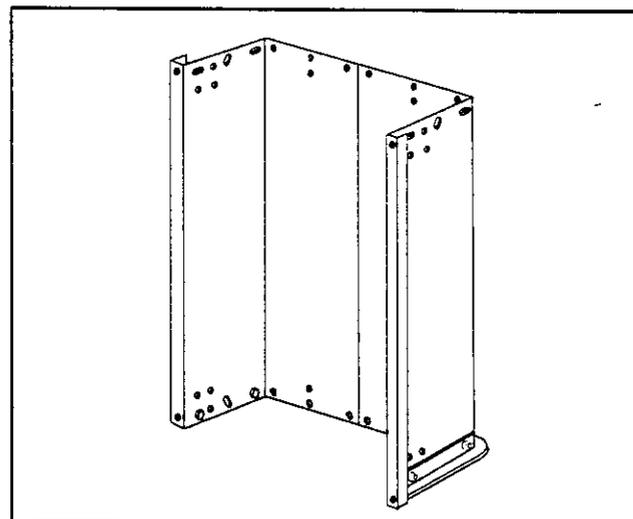


FIGURE 3

- Assemble the front panel over the end of the cart using six 1/4" x 1/2" hex bolts and 1/4" hex nuts (SEMS) as shown in figure 4. Leave two holes open in the bottom of the panel as shown in figure 4. With the cart body halves pulled together, **tighten** the four bolts in the bottom of the front panel, then **tighten** the bolt in each side.

At this time **tighten** the three bolts on the bottom of the cart which were assembled in figure 1.

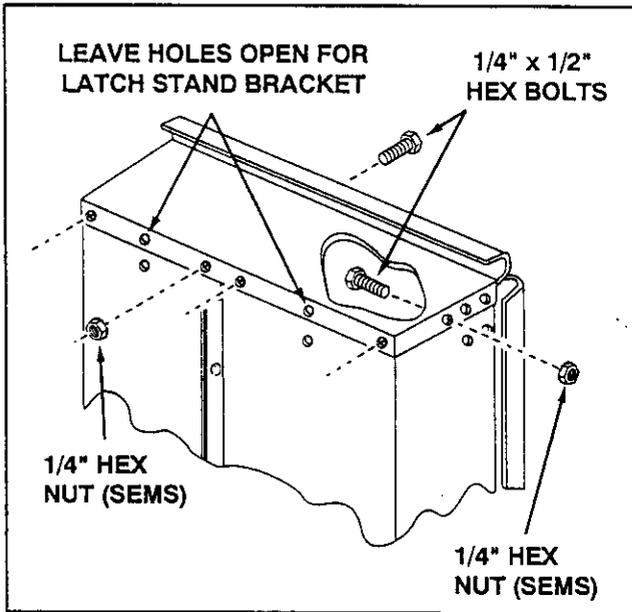


FIGURE 4

- Assemble the wheel support to the bottom of the cart using eight 5/16" x 3/4" slotted head screws and 5/16" hex nuts (SEMS) as shown in figure 5. Heads of screws go to the inside of cart. **Tighten**.

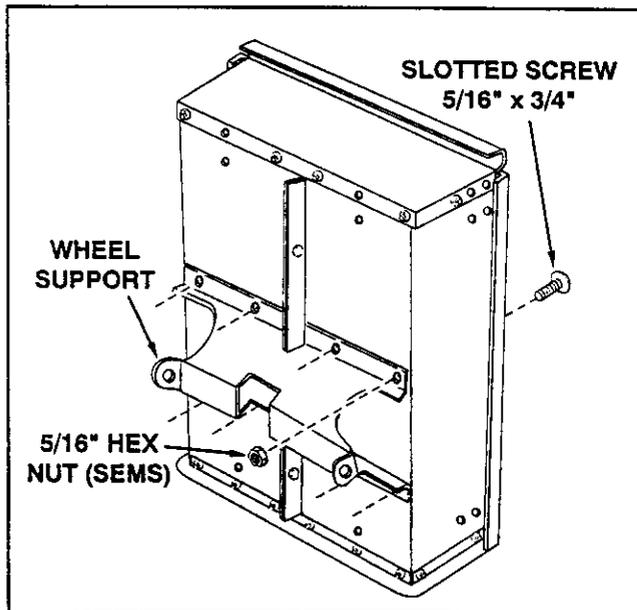


FIGURE 5

- Assemble the latch stand bracket to the cart using four 1/4" x 1/2" hex bolts and 1/4" hex nuts (SEMS). **TIGHTEN**. See figure 6.

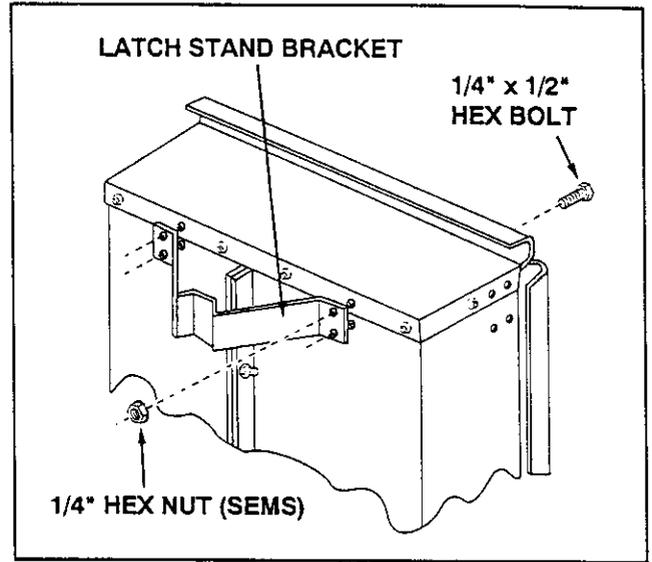


FIGURE 6

- To prevent accidental tipping during the following assembly procedures, lower the cart to rest upside down on the top flanges, so that the wheel support is facing up as shown in figure 7.

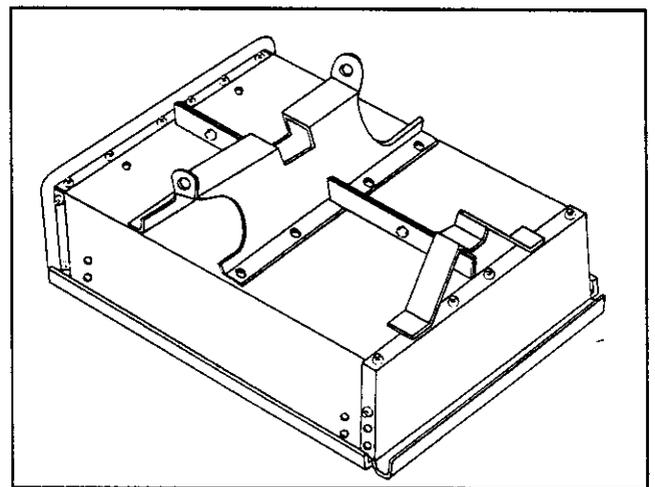


FIGURE 7

- Assemble the front tongue over the top of the rear tongue using three 3/8" x 3" hex bolts, 3/8" lock washers and 3/8" hex lock nuts. See figure 8.

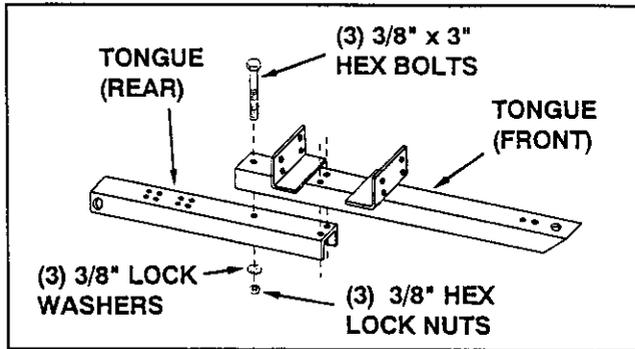


FIGURE 8

- Assemble the hitch bracket to the front tongue using two 3/8" x 1-1/4" hex bolts, 3/8" lock washers and 3/8" hex nuts. Tighten. See figure 9.

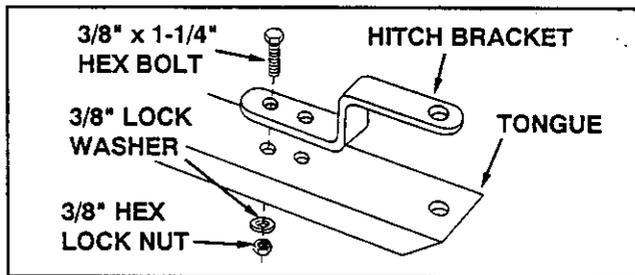


FIGURE 9

- Assemble the latch lock assembly to the tongue using two 1/4" x 2-3/4" hex bolts, two 1/4" lock washers and two 1/4" hex nuts. Fasten to the two front holes in the forward grouping of four holes as shown in figure 10.
- Assemble the angle stop to the tongue using two 1/4" x 2-3/4" hex bolts, two 1/4" lock washers and two 1/4" hex nuts. Fasten to the two front holes in the rear grouping of four holes as shown in figure 10.

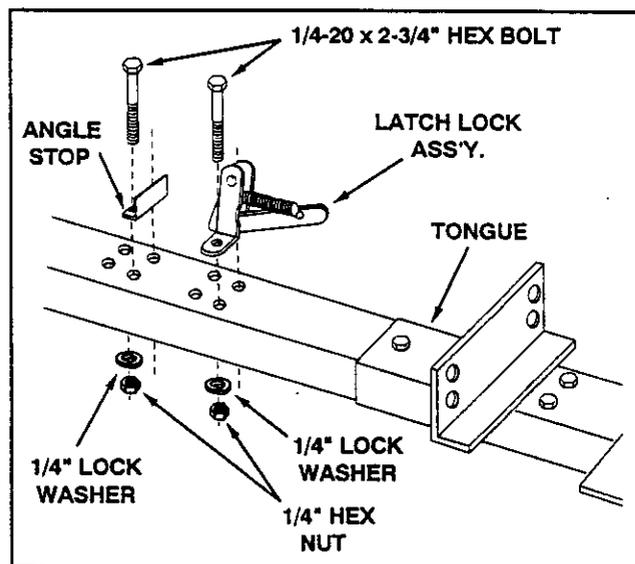


FIGURE 10

- Position the tongue on the bottom of the cart as shown in figure 11. Assemble the axle through the wheel support and the tongue. Fasten the axle to the wheel support using two 1/4" x 1-3/4" hex bolts and 1/4" hex nuts (SEMS). Tighten.

IMPORTANT: Make sure the tongue is securely locked to the latch stand bracket by the latch lock assembly.

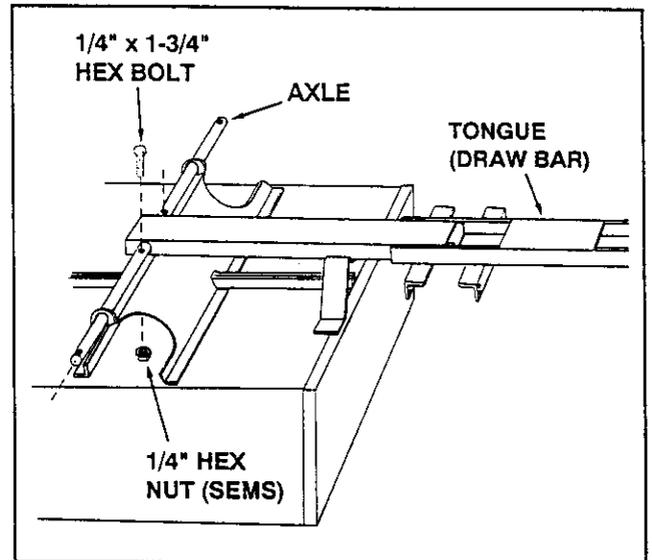


FIGURE 11

- Assemble a spacer tube onto each end of the axle as shown in figure 12.
- Assemble a flat washer, a wheel (valve stem facing out), and another flat washer onto the axle as shown in figure 12. Secure the wheel with a cotter pin, spreading the ends so that a hub cap can fit over the pin. Assemble the hub cap by pressing it onto the flat washer. Repeat on other end of axle.

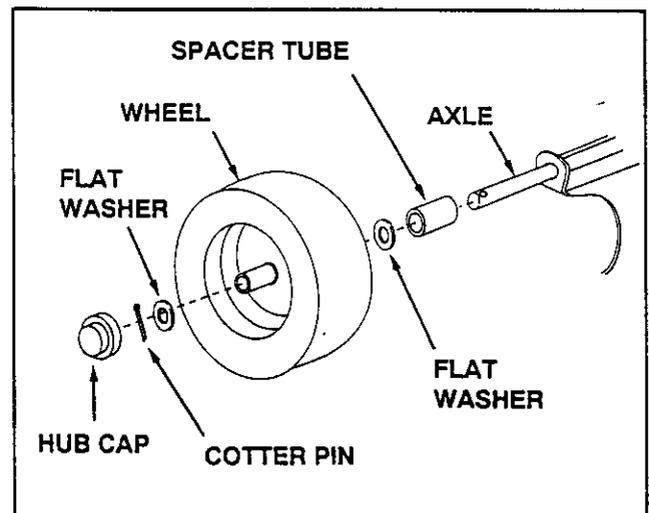


FIGURE 12

- Set the cart right side up on its wheels and place a corner cap over each front corner of the cart as shown in figure 13.

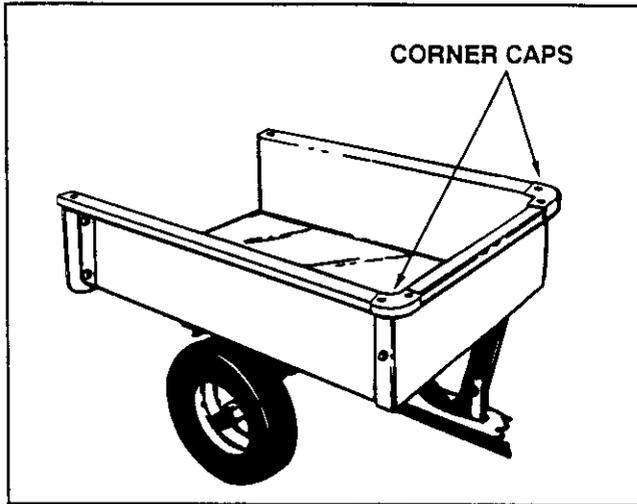


FIGURE 13

- Position the right side panel on top of the cart bed flange and the front corner cap. Align holes in side panel with holes in corner cap and holes in top of cart bed flange. Fasten together using two 1/4" x 3/4" hex bolts, two 1/4" flat washers, two 1/4" lock washers and two 1/4" hex nuts. Repeat on other side. See figure 14.

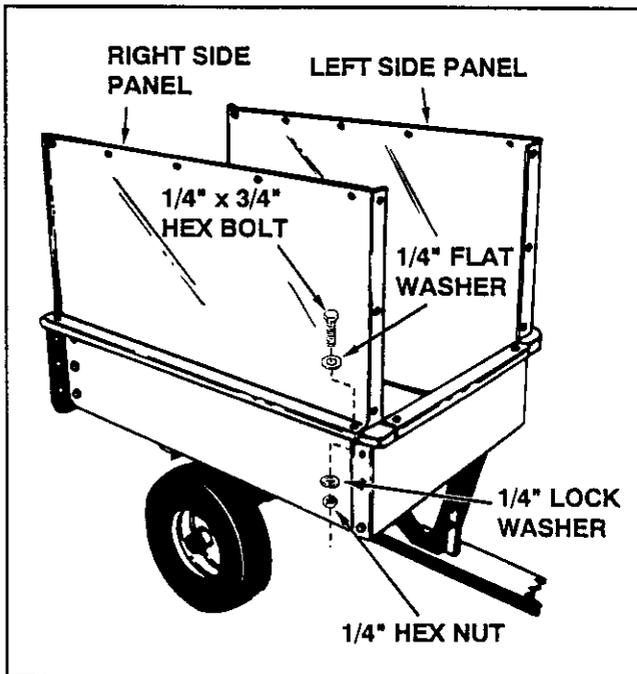


FIGURE 14

- Assemble front panel over the ends of the side panels and on top of the cart bed flange and the corner caps. Leaving the top holes in the front panel empty, fasten it to the cart body and the side panels using six 1/4" x 3/4" hex bolts, six 1/4" flat washers, six 1/4" lock washers and six 1/4" hex nuts. See figure 15.

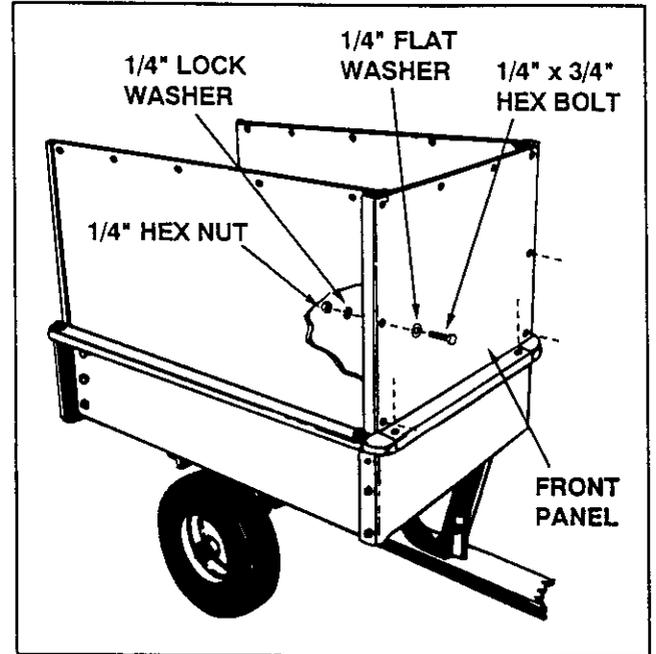


FIGURE 15

- Assemble the cross brace to the two top holes at the rear of each side panel using four 1/4" x 3/4" hex bolts, four 1/4" lock washers and four 1/4" hex nuts. See figure 16.

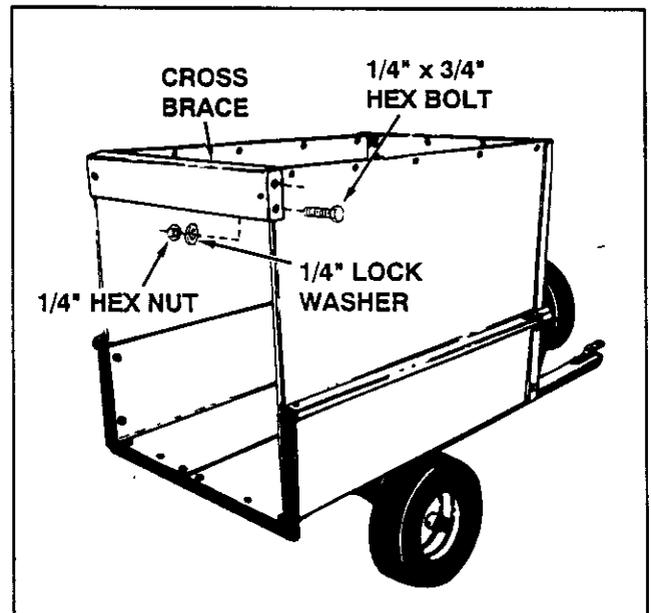


FIGURE 16

- Install the poly hard top over the front and side panels. Fasten using fourteen 1/4" x 3/4" hex bolts, 1/4" flat washers, 1/4" lock washers and 1/4" hex nuts. See figure 17.
- Assemble the five clamps onto the cart flanges, placing one in front center and two on each side, positioned approximately 12" from each end. Use a 3/8" x 1-1/2" hex bolt to secure each clamp from the bottom. See figure 17.

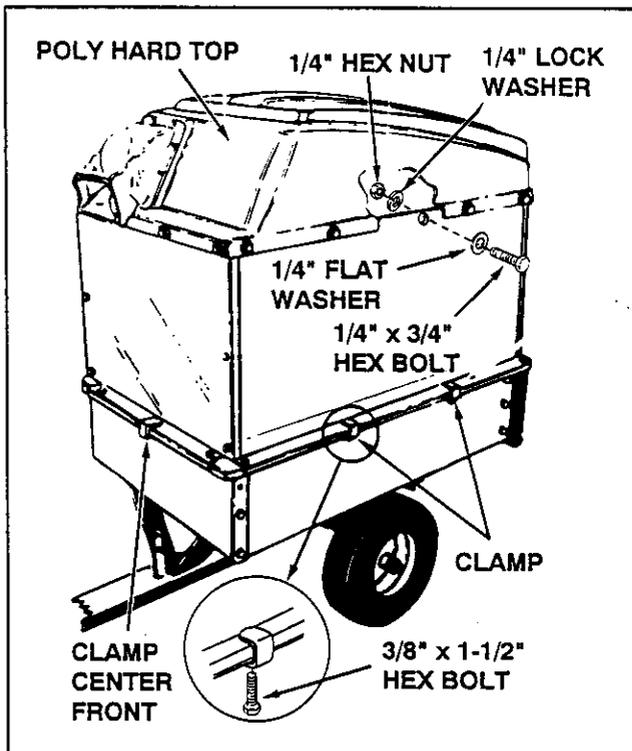


FIGURE 17

- Assemble a door latch at each end of the cross brace using a 5/16" x 3/4" hex bolt, a nylon washer and a 5/16" hex lock nut. Place nylon washer between door latch and cross brace. Tighten so that latch is snug but will still rotate. See figure 18.
- Assemble door support brackets underneath the rear of the cart bed by removing the hex nuts from the bolts shown in figure 18. Fasten the brackets to the cart using the same hex nuts which were removed.

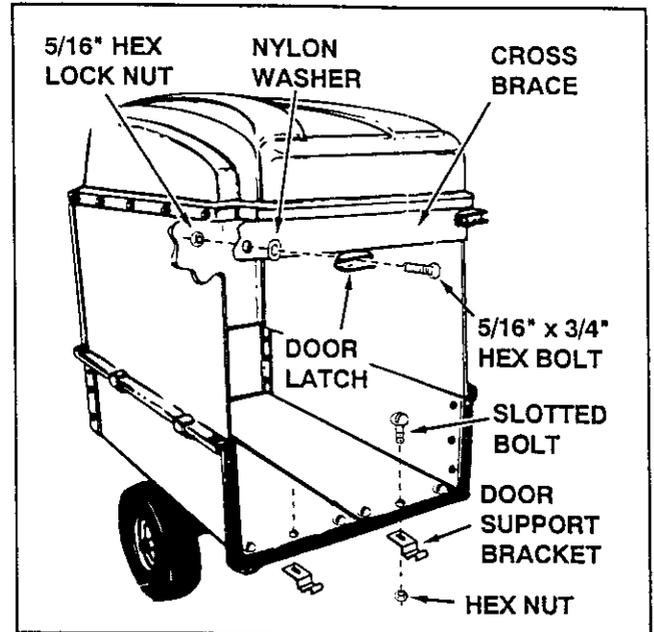


FIGURE 18

- Assemble one short tie strap to each side of rear door using one 1/4" x 1-1/4" hex bolt, two 1/4" flat washers, one 1/4" lock washer and one 1/4" hex nut. Assemble an "S" hook through the loose end of each strap. See figure 19.
- Assemble a 1/4" x 1" hex bolt with a 1/4" hex nut to outside of hole on each side of cart bed and secure from inside with a 1/4" lock washer and a 1/4" hex nut. See inset in figure 19.
- Assemble door to rear of cart by resting bottom of door on door support brackets and rotating top of door forward to meet cross brace. Latch top of door on each side. See figure 19.
- Hook both the tie straps onto the 1/4" x 1" hex bolts which were just assembled. See figure 19.

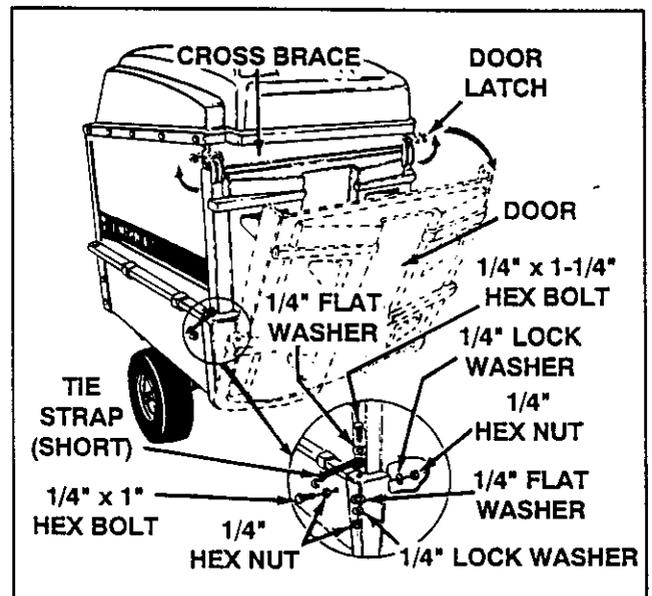


FIGURE 19

- Assemble the engine base assembly to the welded angles on the tongue using four 5/16" x 3/4" hex bolts, 5/16" lock washers and 5/16" hex lock nuts. **NOTE:** Use the upper set of holes in the welded angles. Make sure bolts are securely tightened. See figure 20.

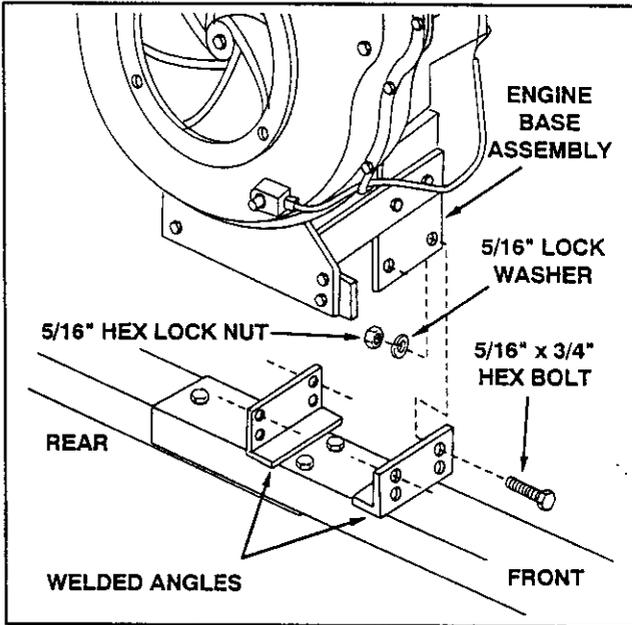


FIGURE 20

- Mount the chipper chute assembly onto the three weld bolts located on the back side of the blower housing assembly. Fasten with three 5/16" bell washers (cupped side against chute assembly) and three 5/16" lock nuts. **Tighten securely.** See figure 22.

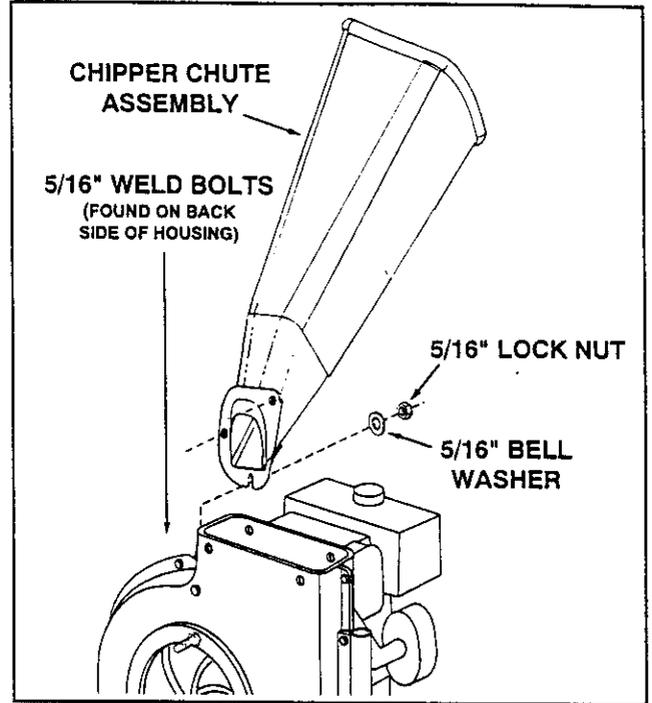


FIGURE 22

- To assemble the hose hanger bracket to the blower housing, you must first remove two self tapping screws from the holes in the blower housing as shown in figure 21. Using these same screws, attach the hose hanger bracket to the blower housing.

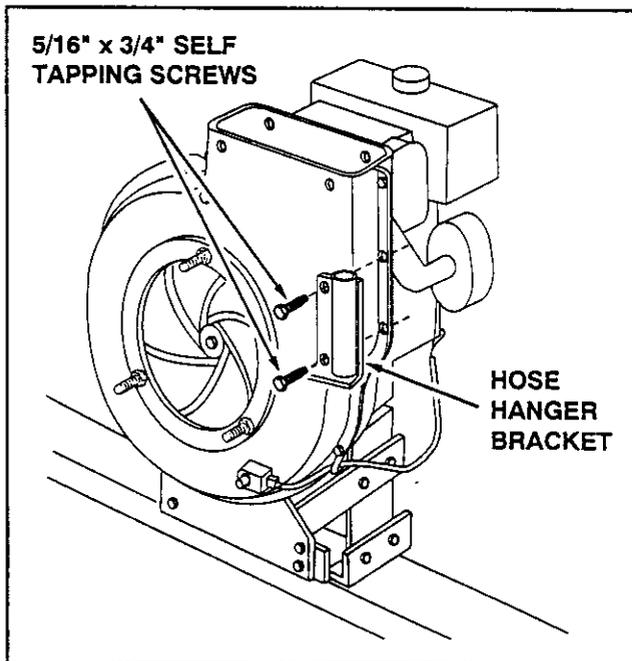


FIGURE 21

- Assemble the elbow to the blower housing, using four 5/16" x 3/4" self tapping hex bolts, and four nylon washers. Tighten bolts securely. See figure 23.

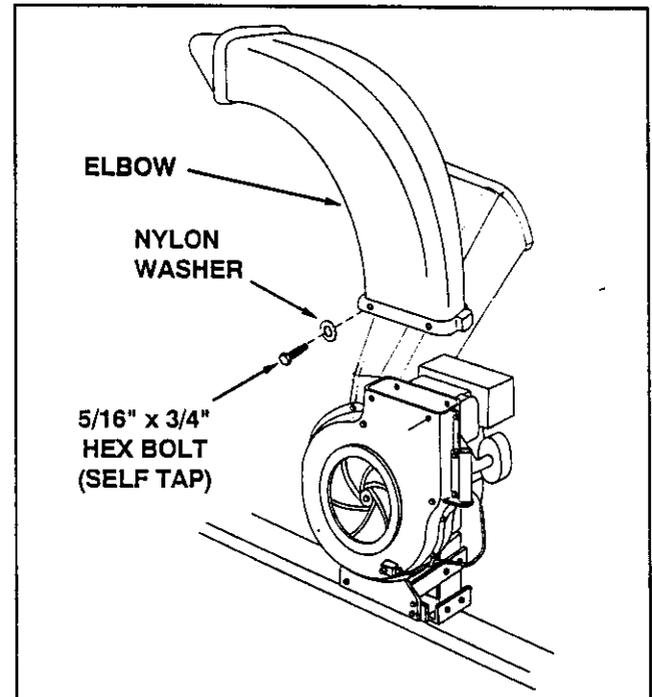


FIGURE 23

- Assemble the hose adapter (nozzle) to the front of the housing and secure with the three knobs. Make sure that the switch actuator bracket contacts the switch on the housing. See figure 24.

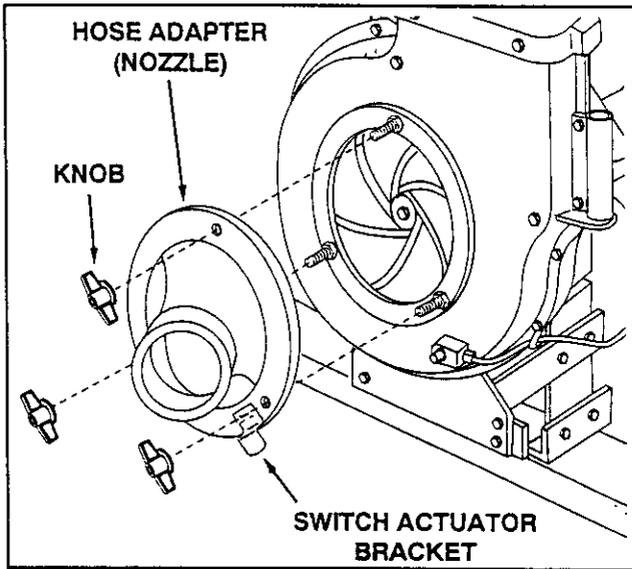


FIGURE 24

- Place one hose clamp over end of hose and push hose onto the hose adapter (nozzle). Secure by tightening screw on hose clamp. **Do not collapse hose adapter when tightening.** See figure 25.

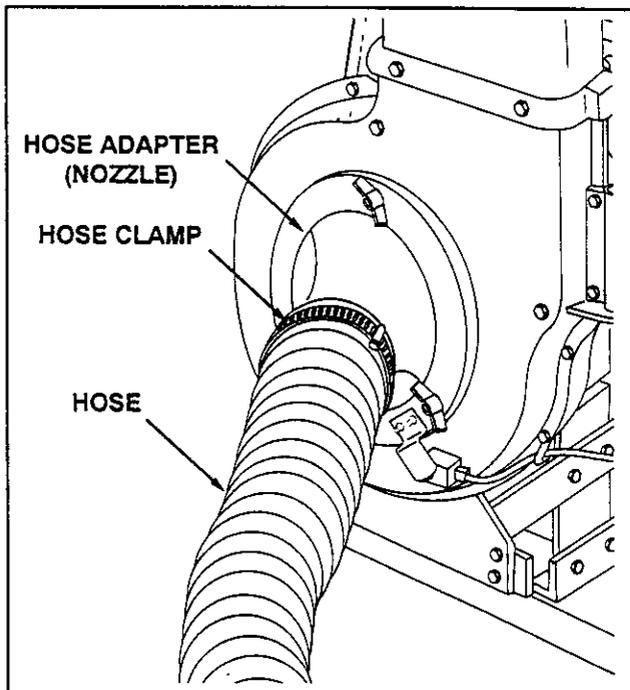


FIGURE 25

- Place the hose hanger assembly into welded tube on blower housing assembly. See figure 26.
- Wrap the rubber tie strap under the hose and secure the hooks to the hose hanger assembly. See figure 26.

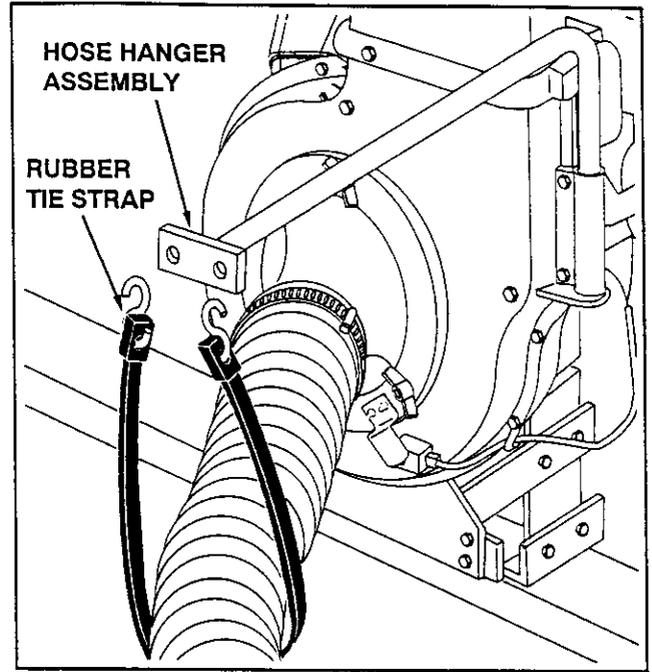


FIGURE 26

- A hitch plate is furnished for tractors having square (straight) hitch frames, as shown in figure 27, to prevent binding of Mow-N-Vac hitch in tight turns. It is assembled with a 1/2" x 1-1/4" hex bolt, a 7/16" flat washer and a 1/2" lock nut. Tapered hitch frames, shown at the bottom of figure 27, do not require the added hitch plate.

NOTE: Tractors with light (thin) metal frames may require added hitch plate to avoid excessive wear.

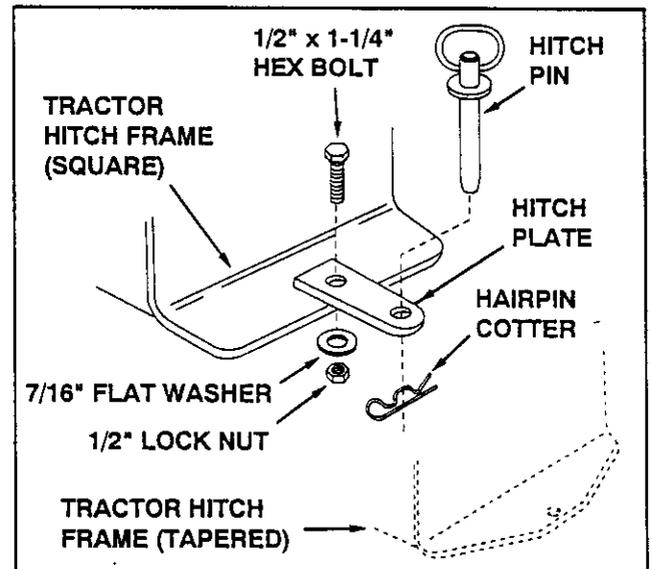


FIGURE 27

- Assemble the remaining hose clamp over the loose end of the hose. Fasten the hose to the deck adapter after it has been mounted to the mower deck. To mount the deck adapter to the mower deck see instructions beginning on page 14.

ASSEMBLY OF THE DECK ADAPTER (#62468) TO THE MOWER DECK



CAUTION: Mower deflector must be replaced when Mow-N-Vac deck adapter is removed. Do Not operate mower unless adapter or deflector is in place and properly mounted.

Contents of Hardware Pack for Deck Adapter:
See Figure 28.

Key	Qty.	Description
A	2	Hex Bolts, 5/16" x 1"
B	3	Hex Bolts, 1/4" x 3/4"
C	2	Carriage Bolts, 5/16" x 3/4"
D	3	Hex Lock Nuts, 5/16-18 Thread
E	3	Hex Lock Nuts, 1/4-20 Thread
F	3	Flat Steel Washers, 1/4" Std.
G	12	Flat Washers, 5/16" Std.
H	3	Nylon Washers, 21/64
I	1	Mounting Strap
J	1	Angle Bracket
K	1	Mounting Bracket

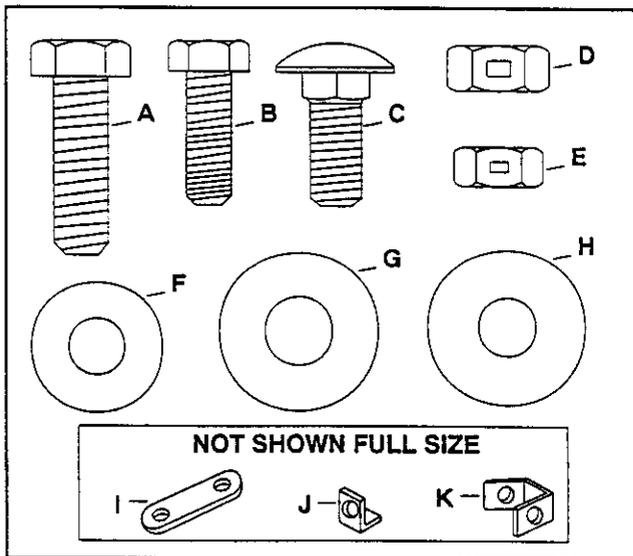


FIGURE 28- FULL SIZE

NOTE: Not all of the hardware will be used for any one particular fit up.

- Remove the mower discharge deflector from your mower deck. Save the deflector and hardware for remounting.

IF YOU HAVE A MURRAY TRACTOR WITH A 38" OR 40" DECK, SKIP DIRECTLY TO PAGE 16.

IF YOU HAVE A MURRAY TRACTOR WITH A 46" DECK, SKIP DIRECTLY TO PAGE 16.

- Identify your mower deck (see fold outs) and cut out the correct discharge opening template for your mower deck size. If there is no template for your deck size you can make your own template by marking around a piece of cardboard held against the edge of the discharge opening.
- Tape the template to the face of the adapter, locating template approximately 1/2" from front and 1/4" down from top of adapter. Keep as close to top as possible. See figure 29. Mark outline of template on face of adapter using white crayon, nail or scribe. Drill a starting hole inside the outline, then use a saber saw or key hole saw to cut out the opening. See figure 29.

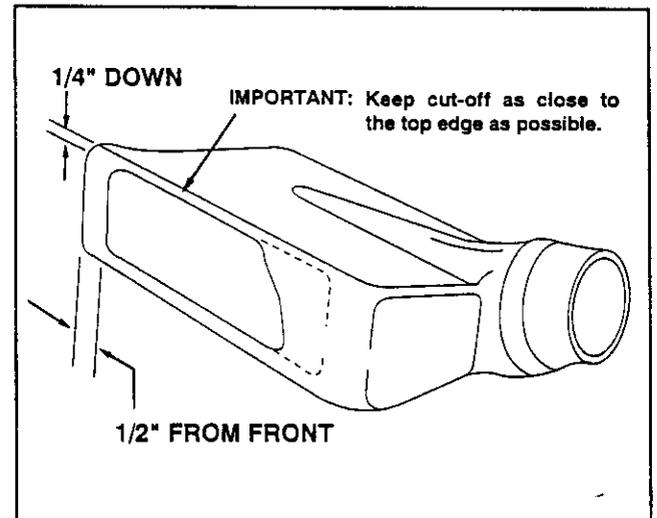


FIGURE 29

- Position the adapter over the deck opening, and check for fit of cutout as shown in figure 30. Trim cutout, if necessary, to allow tilting of adapter, keeping the fit as close as possible for best vacuum suction.

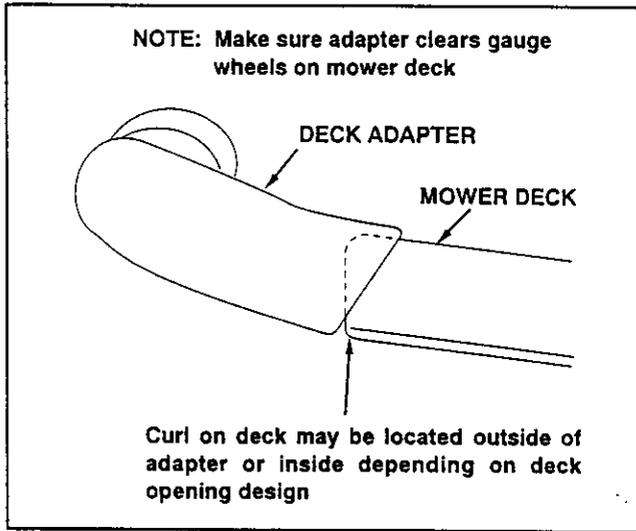


FIGURE 30

- Holding the adapter bracket and the deck adapter together, position the deck adapter on the mower deck. Keeping the edge of deck adapter as close as possible to the offset in the adapter bracket, see if the slot in the adapter bracket can be aligned with one or two of the deflector holes in your mower deck's discharge opening. If the bracket can not be located correctly using existing holes, it will be necessary to drill one or two 5/16" diameter holes in the deck. See figure 31.

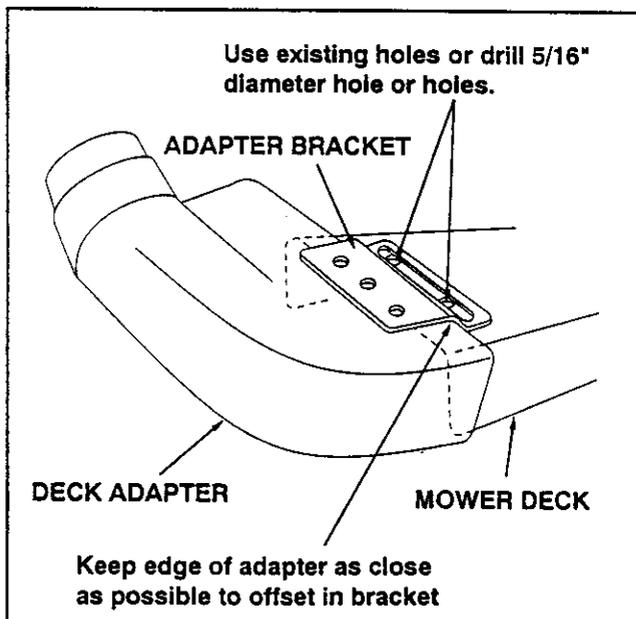


FIGURE 31

- Assemble the adapter bracket to the deck using two 5/16" x 1" hex bolts, 5/16" flat washers and 5/16" lock nuts. See figure 32.

NOTE: It may be necessary to use extra 5/16" flat washers to shim under the bracket next to the deck surface. Ten extra washers have been furnished as shims. See figure 32.

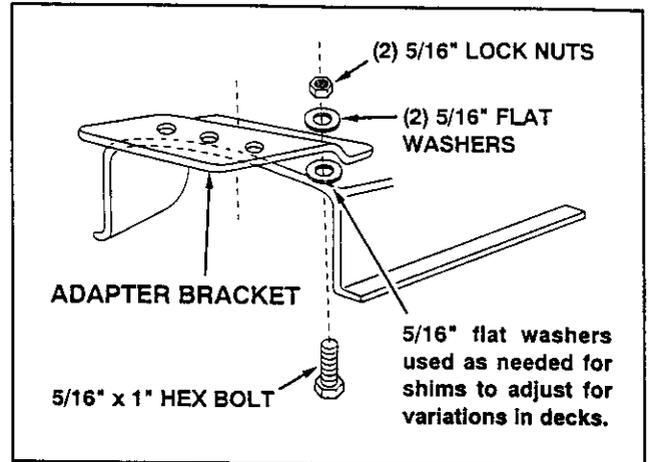


FIGURE 32

- With deck adapter positioned correctly over the discharge opening, use the adapter bracket as a template and drill three 9/32" diameter holes in the top of the deck adapter. See figure 33.
- Bolt deck adapter to bracket using three 1/4" x 3/4" bolts, nylon washers, 1/4" flat washers and 1/4" lock nuts. Nylon washers should be against the inside of the deck adapter. See figure 33.

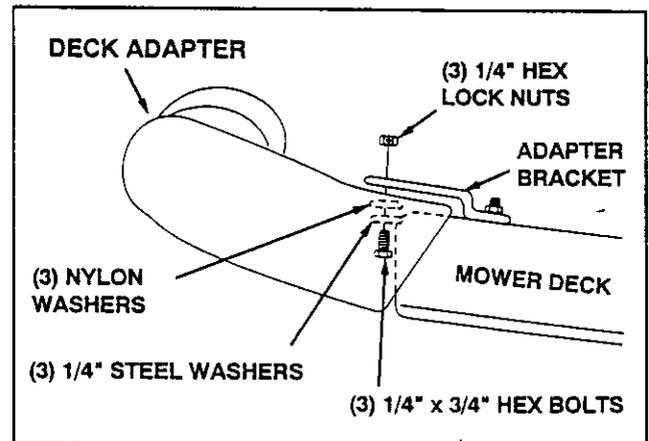


FIGURE 33

- Assemble end of hose and a hose clamp over the round opening of deck adapter and tighten clamp. **GO DIRECTLY TO THE OPERATION INSTRUCTIONS ON PAGE 17.**

**FOR 1990 AND NEWER MURRAY
TRACTORS WITH A 38" OR 40" DECK**

- Cut out two templates and place on deck adapter as shown in figure 34. Tape smaller one on top and larger one on the side and bottom. After they are in place, carefully mark around the templates, then cut out adapter to obtain correct opening.
- Bolt end of mounting strap to the 5/16" bolt on the mower deck. The other end of the strap will bolt to a hole in the deck adapter, which must be drilled. Position the adapter on the deck, then drill a 5/16" hole in the bottom of the adapter that will align with the hole in the strap. Fasten the adapter to the strap using a 1/4" x 3/4" hex bolt, 1/4" flat washer, nylon washer and 1/4" lock nut. See figure 34.

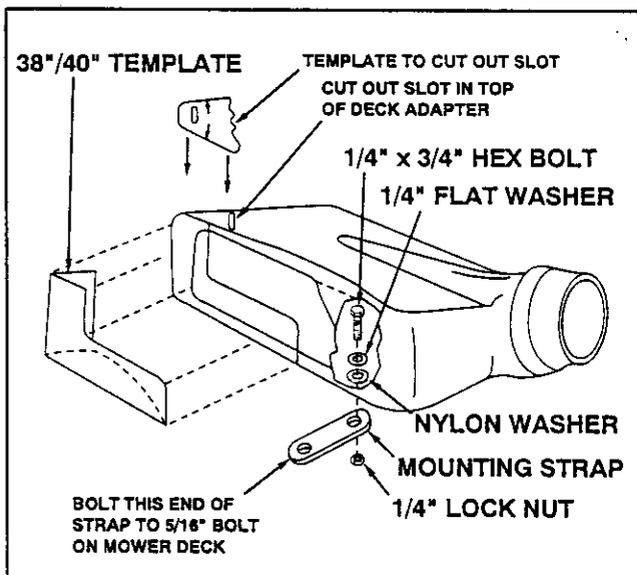


FIGURE 34

- Assemble end of hose and hose clamp over the round opening of deck adapter and tighten clamp. **GO DIRECTLY TO THE OPERATION INSTRUCTIONS WHICH ARE LOCATED ON PAGE 17.**

**FOR 1990 AND NEWER MURRAY
TRACTORS WITH A 46" DECK**

- Tape 46" template onto deck adapter. Mark and then cut out adapter .
- Fasten the angle bracket and the mounting bracket to the mower deck as shown in figure 35. Use two 5/16" x 3/4" carriage bolts, 5/16" flat washers and 5/16" lock nuts. The bolt heads go on inside of mower deck.
- Drill two 5/16" diameter holes in the deck adapter that will align with the holes in the angle bracket and the mounting bracket. Assemble the deck adapter to both brackets using two 1/4" x 3/4" hex bolts, 1/4" flat washers, nylon washers and 1/4" lock nuts. See figure 35.

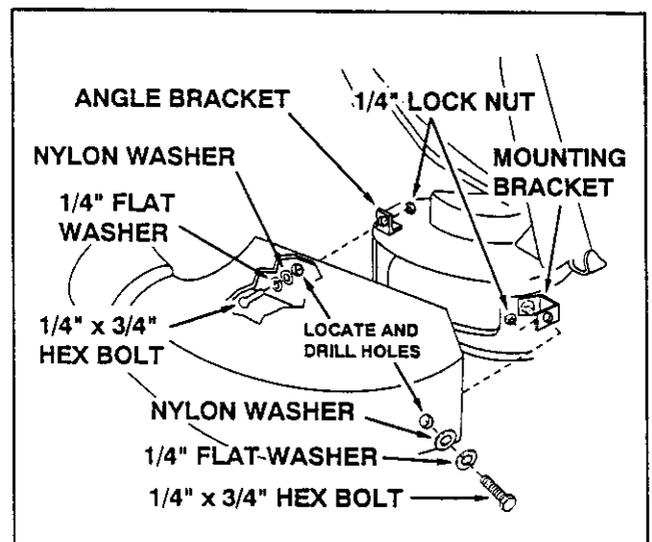


FIGURE 35

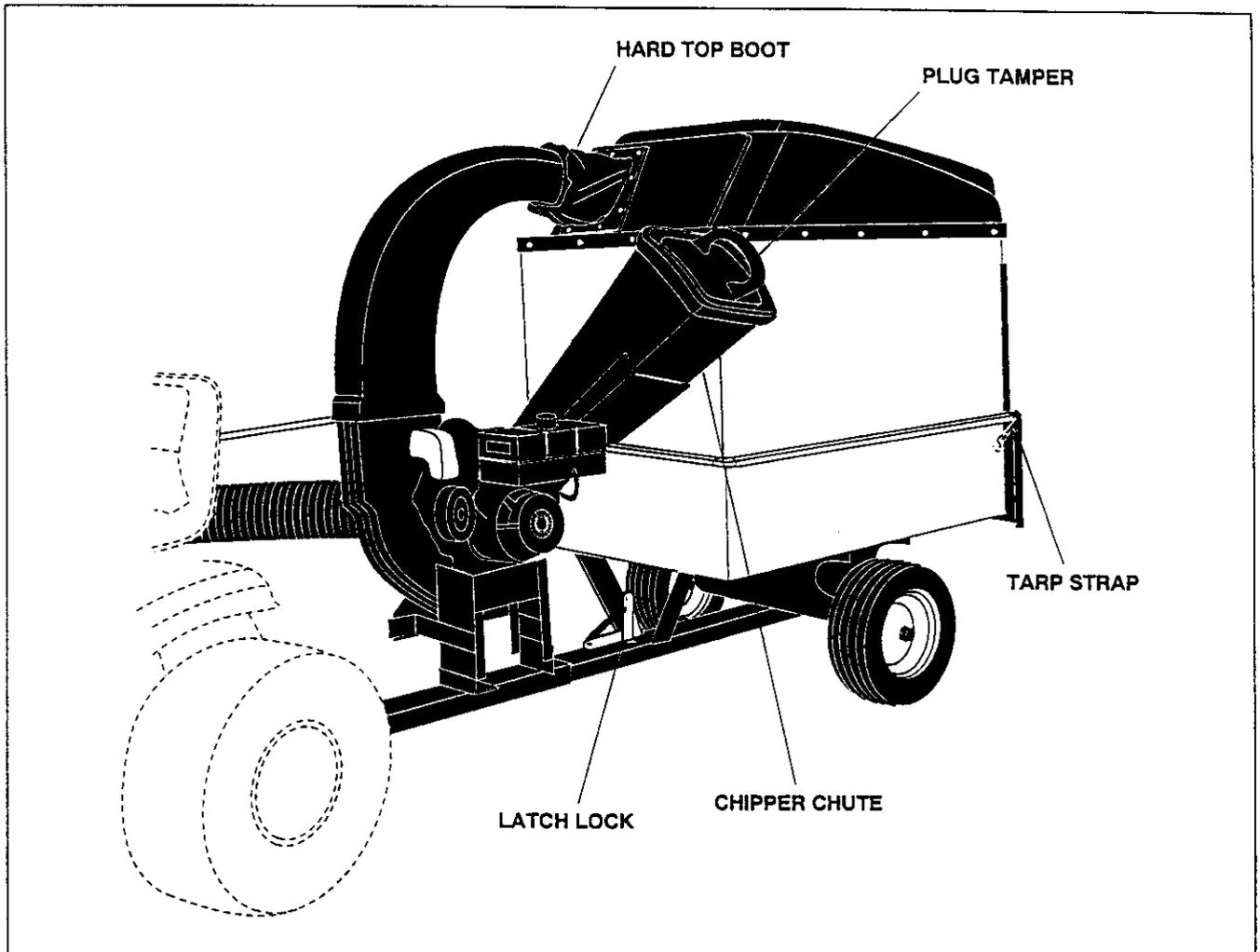
- Assemble end of hose and hose clamp over the round opening of deck adapter and tighten clamp. **GO DIRECTLY TO THE OPERATION INSTRUCTIONS WHICH ARE LOCATED ON PAGE 17.**

OPERATION

KNOW YOUR CHIPPER VAC

Read this owner's manual and safety rules before operating your Chipper Vac.

Compare the illustration below with your Chipper Vac to familiarize yourself with the various controls and their locations.



HARD TOP BOOT Connects the plastic elbow to the hard top, directing discharged material into the cart.

PLUG TAMPER Fits down into the chipper chute as a guard when not in use. Pushes material down into the chute for chipping and shredding.

TARP STRAP Hooks onto the side of the cart to hold the rear door securely up against the rear of the cart.

CHIPPER CHUTE Used to hand feed yard vegetation, including branches up to 3" in diameter, into impeller housing for chipping and shredding.

LATCH LOCK Locks the cart bed down to the tongue. Releases to allow cart to be tipped back for dumping.

BEFORE STARTING

- Your Chipper Vac engine is shipped without oil or gasoline. Service the Chipper Vac engine with oil and gas as instructed in the separate engine manual.
- Inspect the Chipper Vac to make sure all covers (rear door, hard top boot, elbow, hose adapter, hose and deck adapter) are properly attached.
- Check tires for proper inflation (12 - 14 lbs).



WARNING: Never fill fuel tank indoors, or with the engine running, or while the engine is hot. Do not smoke while filling tank.

HOW TO STOP YOUR CHIPPER VAC

- To stop engine, move the throttle control lever to the OFF position.
- Disconnect spark plug wire from plug to prevent accidental starting while equipment is unattended or is being worked on.



CAUTION: The muffler and adjacent areas are hot!

HOW TO START YOUR CHIPPER VAC



WARNING: Never start or run the engine without all covers being properly attached to the blower housing and cart.

- Check oil and gas in Chipper Vac engine.
- Attach spark plug wire to spark plug.
- Move choke lever on engine to CHOKE position. (A warm engine may not require choking.)
- Move throttle control lever on engine to FAST position.
- Grasp starter handle and pull rope out slowly until engine reaches start of compression cycle (rope will pull slightly harder at this point). Let the rope rewind slowly.
- Pull rope with a rapid, continuous, full arm stroke. Keep a firm grip on starter handle. Let rope rewind slowly. Do not let starter handle snap back against starter.
- Repeat instructions in two preceding paragraphs until engine fires. When engine starts, move choke control gradually to RUN position.

HOW TO USE YOUR CHIPPER VAC



CAUTION: Vehicle braking and stability may be affected with the addition of an accessory or an attachment. Be aware of changing conditions on slopes.

- Inspect the Chipper Vac to make sure all covers (rear door, hard top boot, elbow, chipper chute with tamper plug, hose adapter (nozzle), hose and deck adapter) are properly attached.
- Check tires for proper inflation (12 - 14 lbs).
- Check oil and gas in Chipper Vac engine.
- Begin operation at low speed, adjusting forward speed to match grass height and/or moisture condition to prevent clogging.
- Do not attempt to vacuum up any material other than vegetation found in a normal yard, such as light branches, leaves, twigs, etc.
- To empty cart, shut off tractor engine and set brake.
- Shut off Chipper Vac engine.
- Remove rear door from cart.



CAUTION: To avoid possible injury, be sure that no one is near the cart before releasing the latch.

- Release the latch holding cart down to the tongue by pulling up on the latch lever. See figure 36.
- Using a rake or suitable tool, pull the grass clippings and/or leaves out of cart.
- After cart is emptied, secure cart to tongue with latch and reattach the rear door and the hard top boot.

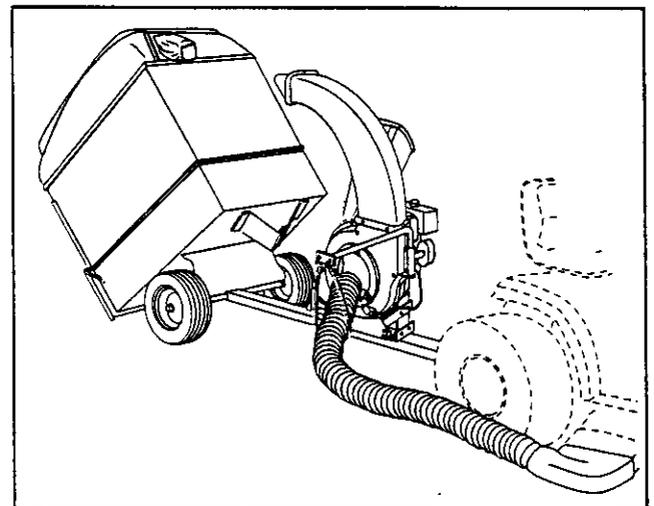


FIGURE 36



WARNING: Should your Chipper Vac become clogged, shut off tractor and Chipper Vac engines. Before attempting to unclog, remove wire from spark plug to prevent accidental starting.

USING THE CHIPPER CHUTE

- Material such as stalks or heavy branches up to 3" in diameter may be fed into the chipper chute as shown in figure 37.
- Be sure to wear eye protection and gloves when feeding material into the chipper chute.
- Use the tamper plug, not your hands, to force material down through the chipper chute.
- For best performance, it is important to keep the chipper blades sharp. If the composition of the material being discharged changes (becomes stringy, etc.) or if the rate of discharge slows down considerably, it is likely that the chipper blades are dull and need to be sharpened or replaced. Refer to the Service and Adjustments section, on page 21.



WARNING: Do not attempt to feed any material larger than 3" in diameter into the chipper chute. Personal injury or damage to the machine could result.



DANGER: Keep hands out of chipper chute. Rotating blades in impeller housing can cause serious injury. Use the tamper plug to help push material down into the chute.

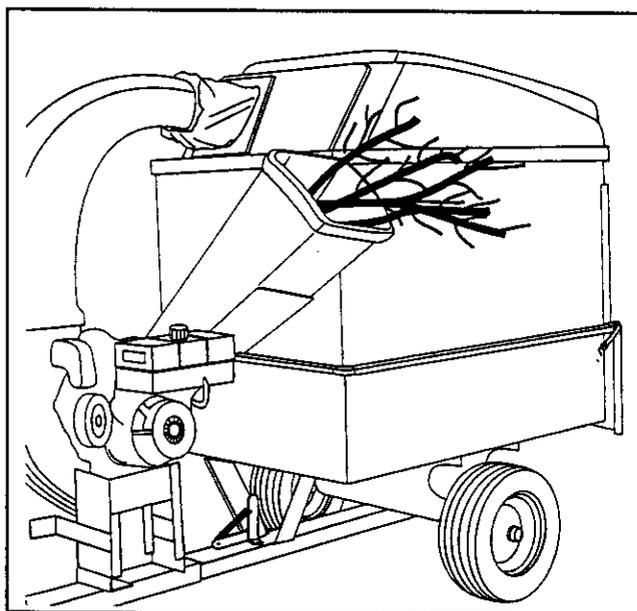


FIGURE 37

MAINTENANCE

CUSTOMER RESPONSIBILITIES

- Read and follow the maintenance schedule and the maintenance procedures listed in this section.

MAINTENANCE SCHEDULE Fill in dates as you complete regular service.	Service Dates											
	Before each use	After each use	Every season	Before storage								
Check for loose fasteners	X											
Check soft vinyl boot	X											
Check tire pressure	X											
Check engine oil level	X											
Lubricate			X									
Clean		X		X								
Maintain engine per instructions below and in engine manual.												

BEFORE EACH USE

CHECK FOR LOOSE FASTENERS

- Make a thorough visual check of the Chipper Vac for any bolts and nuts which may have loosened. Retighten any loose bolts and nuts.

CHECK SOFT VINYL BOOT

- Check the soft vinyl boot (on front of hard top) for wear. Replace if worn or damaged.

CHECK TIRE PRESSURE

- Check tire pressure regularly. Recommended tire pressure is 12-14 Lbs.

CHECK ENGINE OIL LEVEL

- Check oil level before each use. Maintain engine oil as instructed in the separate engine manual.

LUBRICATION

- At the beginning of each season, lubricate the latch, latch pivot bolt, and the axle where the hitch tongue pivots, with a light machine oil.
- At least once a season, grease or oil the wheel bearings. Use automotive wheel bearing type grease or 20 weight oil.



WARNING: Always stop engine and disconnect spark plug wire before cleaning, lubricating or before performing any repairs or maintenance.

ENGINE MAINTENANCE

- Check **oil level** before each use. Maintain engine oil as instructed in the separate engine manual.
- Service **air cleaner** every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions. Poor engine performance and flooding usually indicates that the air cleaner should be serviced. To service the air cleaner, refer to the separate engine manual.
- The **spark plug** should be cleaned and the gap reset once a season. Spark plug replacement is recommended at the start of each season. Check the engine manual for correct plug type and gap specifications.

CLEANING

- Make sure the cart, the side and front panels and top are cleaned after each use. Grass clippings and leaves left in the cart will mildew and cause damage if not cleaned out.
- **Clean the engine** regularly with a cloth or brush. Keep the cooling fins on the engine housing clean to permit proper air circulation which is essential to engine performance and life. Be sure to remove all dirt and debris from muffler area.

SERVICE AND ADJUSTMENTS

SHARPENING OR REPLACING CHIPPER BLADES

- Disconnect the spark plug wire and move away from the spark plug.
- Remove the access plate by removing two hex lock nuts. See figure 38.
- Locate one of the chipper blades in the access plate opening by rotating the impeller assembly by hand. Remove the blade using a 3/16" allen wrench on the outside of the blade and a 1/2" wrench on the impeller assembly, inside the housing.
- Remove the other blade in the same manner.
- Replace or sharpen blades. If sharpening, make certain to remove an equal amount from each blade. Reassemble in reverse order.

NOTE: Make certain the blades are reassembled with the sharp edge facing upward, as viewed from the access plate opening.

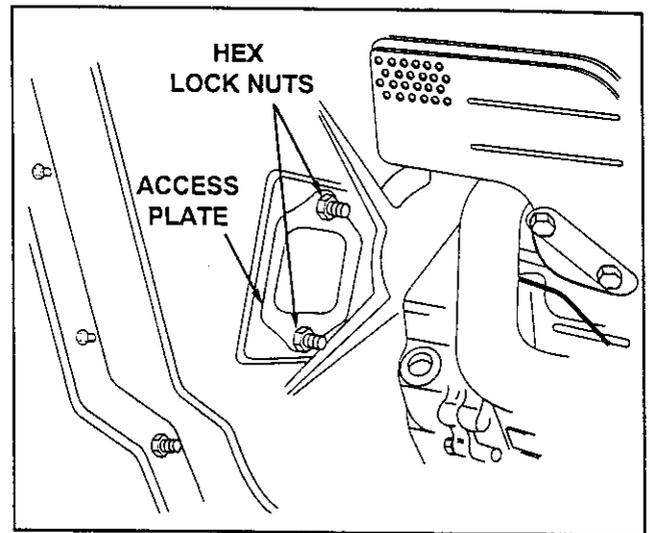


FIGURE 38

STORAGE

- Clean the engine and the entire unit thoroughly.
- Refer to engine manual for correct engine storage instructions.
- If storing in an unventilated or metal storage shed, coat metal parts with light oil or silicone to prevent rust.
- Store unit in a clean, dry area.

TROUBLESHOOTING

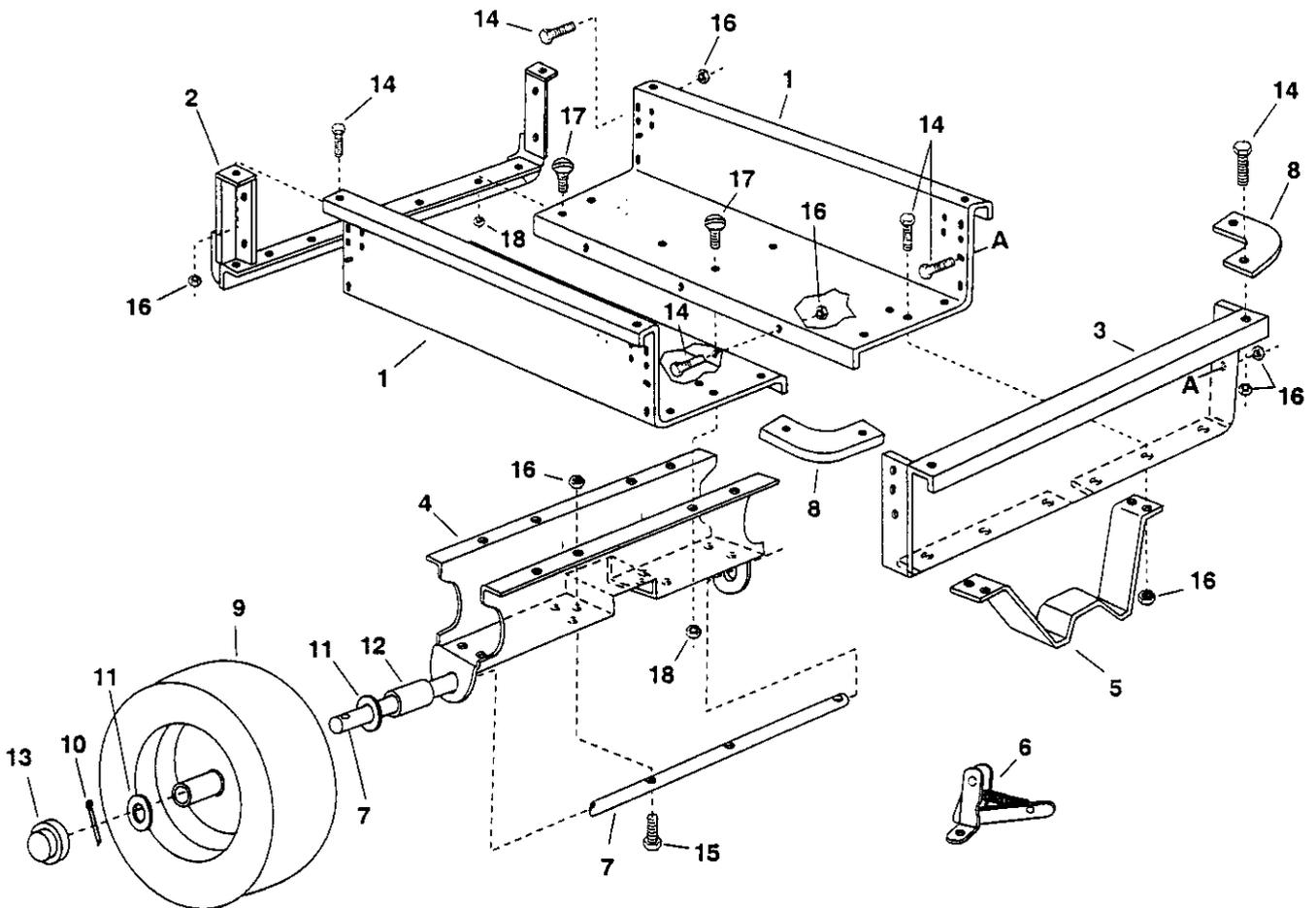
PROBLEM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Engine fails to start	<ol style="list-style-type: none"> 1. Spark plug wire disconnected. 2. Safety switch not contacted. 3. Fuel tank empty, or stale fuel. 4. Fuel shut-off valve closed (if so equipped). 5. Faulty spark plug. 	<ol style="list-style-type: none"> 1. Connect wire to spark plug. 2. Correctly install hose adapter nozzle. 3. Fill tank with clean, fresh fuel. 4. Open fuel shut-off valve. 5. Clean, adjust gap or replace.
Loss of power; operation erratic.	<ol style="list-style-type: none"> 1. Spark plug wire loose 2. Unit running on CHOKE. 3. Blocked fuel line or stale fuel. 4. Water or dirt in fuel system. 5. Carburetor out of adjustment. 6. Dirty air cleaner. 	<ol style="list-style-type: none"> 1. Connect and tighten spark plug wire. 2. Move choke lever to OFF position. 3. Clean fuel line; fill tank with clean fresh gasoline. 4. Disconnect fuel line at carburetor to drain fuel tank. Refill with fresh fuel. 5. Adjust carburetor.* 6. Service air cleaner.*
Engine overheats	<ol style="list-style-type: none"> 1. Carburetor not adjusted properly. 2. Engine oil level low. 	<ol style="list-style-type: none"> 1. Adjust carburetor.* 2. Fill crankcase with proper oil.
Too much vibration	Loose parts or damaged impeller.	Stop engine immediately and disconnect spark plug wire. Tighten all bolts and nuts. Make all necessary repairs. If vibration continues, have unit serviced by an authorized service dealer.
Unit does not discharge	<ol style="list-style-type: none"> 1. Discharge chute (elbow) clogged. 2. Foreign object lodged in impeller. 3. Mow-N-Vac cart is full. 	<ol style="list-style-type: none"> 1. Stop engine immediately and disconnect spark plug wire. Clean inside of housing and discharge chute (elbow). 2. Stop engine immediately and disconnect spark plug wire. Remove lodged object. 3. Empty cart.
Rate of discharge when chipping slows considerably, or composition of discharged material changes.	Chipper blades dull.	Sharpen or replace chipper blades.

*Refer to the engine manual packed with your unit.

NOTE: For repairs beyond the minor adjustments listed above, please contact your nearest authorized service dealer.

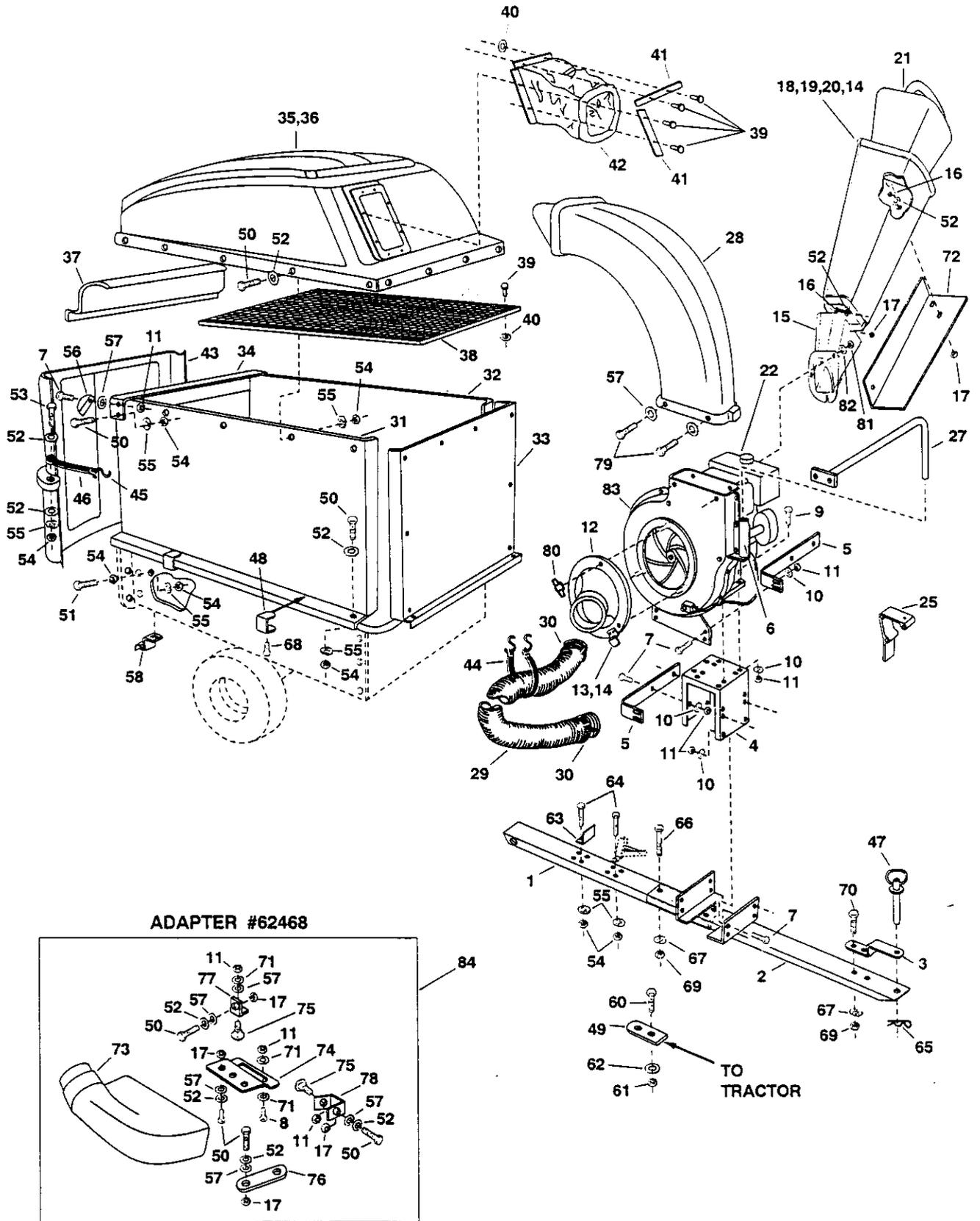
PARTS

REPAIR PARTS FOR MODEL 486.24515 CART BODY



REF. NO.	PART NO.	QTY.	DESCRIPTION	REF. NO.	PART NO.	QTY.	DESCRIPTION
1	23985	2	Cart Body	10	43093	2	Cotter Pin, 1/8" Dia. x 1-1/2"
2	62458	1	Tailgate Reinforcement Bracket	11	43601	4	Washer, Flat 1"
3	23492	1	Front Panel	12	44678	2	Spacer Tube, 1-1/4" O.D. x 2" Lg.
4	23507	1	Wheel Support	13	43014	2	Hub Cap
5	23297	1	Latch Stand Bracket	14	43175	25	Hex Bolt, 1/4-20 x 1/2" *
6	62455	1	Ass'y, Latch Lock	15	1509-69	2	Hex Bolt, 1/4-20 x 1-3/4" *
7	23488	1	Axle, Wheel 1" Dia.	16	46978	27	Hex Nut, 1/4-20 Thread (SEMS)
8	23484	2	Cap, Front Corner	17	43814	14	Slit. Truss Hd. Bolt, 5/16-18 x 3/4" Lg.*
9	46272	2	Wheel, 15/6.00 x 8.00	18	46980	14	Hex Nut, 5/16-18 Thread (SEMS)

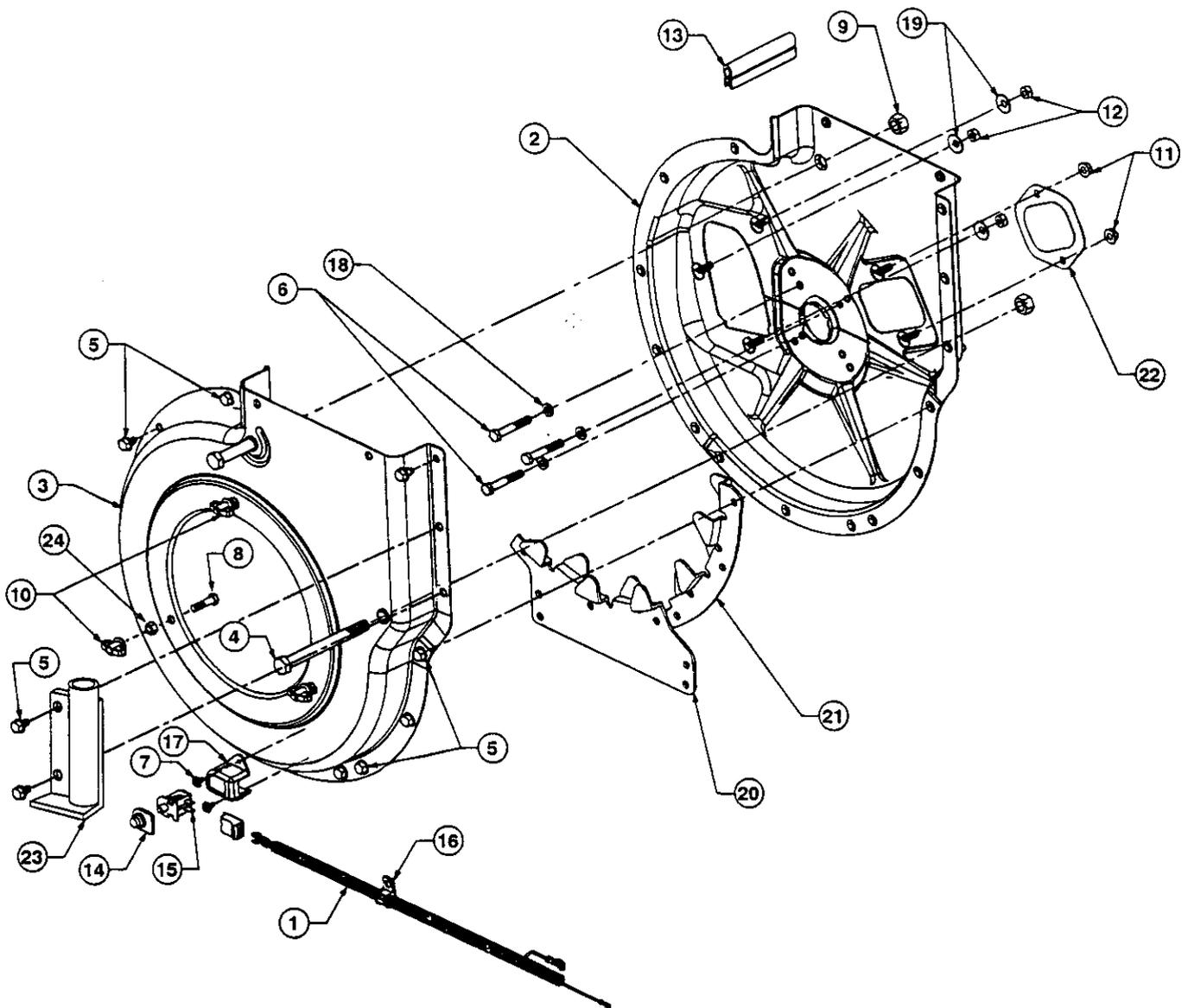
REPAIR PARTS FOR MODEL 486.24515 CHIPPER VAC



REPAIR PARTS FOR MODEL 486.24515 CHIPPER VAC

REF. NO.	PART NO.	QTY.	DESCRIPTION	REF. NO.	PART NO.	QTY.	DESCRIPTION
1	63025	1	Tongue Weldment Ass'y. (Rear)	43	44790	1	Poly Rear Door
2	63155	1	Tongue Weldment Ass'y. (Front)	44	43790	1	Strap, Tarp 25"
3	23475	1	Hitch Bracket	45	44849	2	"S" Hook, #32
4	24080	1	Engine Base	46	44850	2	Strap, Tarp (Less Hooks)
5	24078	2	Brace, Housing	47	43884	1	Hitch Pin
6	63226	1	Hose Hanger Bracket Ass'y. (See also item #23 on page 20.)	48	23478	5	Clamp, Cart Extension
7	43182	18	Bolt, Hex 5/16-18 x 3/4"	49	23540	1	Hitch Plate
8	43063	4	Bolt, Hex 5/16-18 x 1"	50	43012	34	Bolt, Hex 1/4-20 x 3/4"
9	43085	4	Bolt, Hex 5/16-18 x 1-1/2"	51	43661	2	Bolt, Hex 1/4-20 x 1"
10	43086	16	Lockwasher, 5/16" Spring Type	52	43088	36	Washer, 1/4" STD
11	43064	30	Nut, Hex Lock 5/16-18	53	1509-90	2	Bolt, Hex 1/4-20 x 1-1/4"
12	63375	1	Assembly, Hose Adapter (Nozzle)	54	43178	41	Nut, Hex 1/4-20
13	781-0635	1	Bracket, Switch (Actuator)	55	43177	36	Lockwasher, Spring 1/4"
14	728-3001	6	Rivet, Pop 5/32"	56	23789	2	Door Latch
15	681-0068	1	Chute Ass'y.	57	1543-69	9	Washer, Nylon 21/64"
16	43012	5	Bolt, Hex 1/4-20 x 3/4"	58	23838	2	Door Support
17	43013	10	Nut, Hex Lock 1/4-20 Thd.	60	43351	1	Bolt, Hex 1/2-13 x 1-1/4"
18	63376	1	Ass'y., Chute, Chipper (Upper)	61	43262	1	Nut, Hex Lock 1/2-13
19	735-0249	1	Flap, Chute	62	43352	1	Washer, Flat 7/16"
20	781-0633	1	Strap, Flap	63	23655	1	Angle Stop
21	731-1617	1	Tamper, Plug	64	43796	4	Bolt, Hex 1/4-20 x 2-3/4"
22	7520155481	1	Engine, Tecumseh 8 HP	65	43343	1	Pin, Hair Cotter 1/8" #4
23	1522-1	2	Screw, #10-12 x 1/2" (not shown)	66	43574	3	Bolt, Hex 3/8-16 x 3"
24	24097	1	Deflector, Exhaust (not shown)	67	43003	5	Lockwasher, 3/8"
25	719-0330A	1	Adapter, Engine Mount	68	43768	5	Bolt, Hex 3/8-16 x 1-1/2"
27	63227	1	Hose Hanger Rod Ass'y.	69	43082	5	Nut, Hex Lock 3/8"
28	46420	1	Elbow	70	43087	2	Bolt, Hex 3/8-16 x 1-1/4"
29	43792	1	Hose (6" x 84")	71	43081	12	Washer, 5/16" STD
30	43793	2	Hose Clamp 6"	72	24098	1	Bracket, Chute Reinforcement
31	23834	1	Side Panel Cart Ext. R.H.	73	43830	1	Adapter, Deck
32	23833	1	Side Panel Cart Ext. L.H.	74	23560	1	Bracket, Deck Adapter
33	23835	1	Front Panel Cart Ext.	75	43080	2	Bolt, Carr. 5/16" x 3/4"
34	23836	1	Cross Brace	76	23825	1	Mounting Strap
35	63217	1	Hard Top Assembly	77	23826	1	Angle Bracket
			(Includes items 36,37,38,39,40,41,42.)	78	23827	1	Mounting Bracket
36	46421	1	Top, Poly Hard (Available only with item no. 35)	79	46703	4	Screw, Self Tap 5/16-18 x 3/4" (See also Item #5 Page 20)
37	23837	1	Screen Support (Available only with item no. 35)	80	712-0421	3	Knob (See also Item #10 Page 20)
38	44792	1	Screen (Available only with item no. 35)	81	712-3010	3	Nut, Hex Lock 5/16" (See also Item #12 Page 20)
39	43882	21	Rivet, 3/16"	82	736-0242	3	Washer, Bell (cupped) 5/16" (See also Item #19 Page 20)
40	43910	21	Washer, Flat 3/16"	83		1	Impeller Housing Assembly (See pages 20 and 21)
41	23842	4	Boot Mounting Strap	84	62468	1	Deck Adapter Kit (Includes parts shown in box on page 18.)
42	46480	1	Hard top Boot		47533	1	Owner's Manual

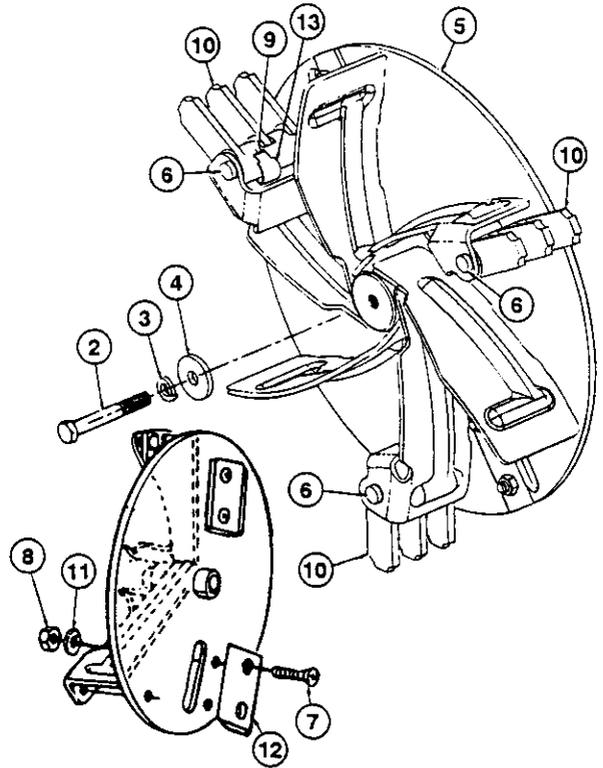
REPAIR PARTS FOR MODEL 486.24515 CHIPPER VAC IMPELLER HOUSING



REF. NO.	PART NO.	QTY.	DESCRIPTION	REF. NO.	PART NO.	QTY.	DESCRIPTION
1	629-0241	1	Harness, Wire	13	723-0438	1	Seal, Rubber
2	681-0059	1	Housing Ass'y. Inner	14	725-1700	1	Cover, Switch
3	681-0060	1	Housing Ass'y. Outer	15	725-3166	1	Snap Mount Switch
4	710-0382	2	Screw, Hex 1/2-13 x 5"	16	726-0272	1	Clamp
5	46703	14	Screw, Self Tap 5/16" x 3/4"	17	731-1613	1	Cover, Switch
6	710-0772	3	Bolt, Hex 5/16-24 x 2"	18	43086	3	Washer, Lock 5/16" Spring Type
7	710-1268	2	Screw, Self Tap #10-16 x 3/8"	19	736-0242	3	Washer, Bell 5/16" (cupped)
8	43840	3	Bolt, Hex 5/16-18 x 1-1/4"	20	781-0598	1	Blade, Flail Housing
9	43262	2	Nut, Hex Lock 1/2-13 Thd.	21	781-0599	1	Blade, Flail Housing
10	712-0421	3	Knob	22	781-0627	1	Cover, Chipper
11	43064	2	Nut, Hex Lock 5/16-18	23	63226	1	Hose Hanger Bracket. Ass'y.
12	712-3010	3	Nut, Hex Lock 5/16-18 Thd.	24	712-3046	3	Nut, Hex Jam 5/16-18 Thd.

REPAIR PARTS FOR MODEL 486.24515 CHIPPER VAC IMPELLER ASSEMBLY

REF. NO.	PART NO.	QTY.	DESCRIPTION
2	710-1273	1	Bolt, Hex 3/8-24 x 2-3/4"
3	43003	1	Lockwasher, 3/8"
4	736-0247	1	Washer, Flat 13/32" x 1-1/4"
5	681-0052	1	Impeller Ass'y. Complete
6	711-0833B	3	Clevis Pin
7	710-1054	4	Screw, Flat Head 5/16-34 x 1"
8	44738	4	Nut, Hex Lock 5/16-24 Thd.
9	715-0166	3	Pin, Roll - Spring
10	719-0329	3	Blade-Flail
11	43086	4	Washer, Lock 5/16" Spring
12	742-0544	2	Blade-Chipper
13	781-0735	3	Clip, Retaining Pin

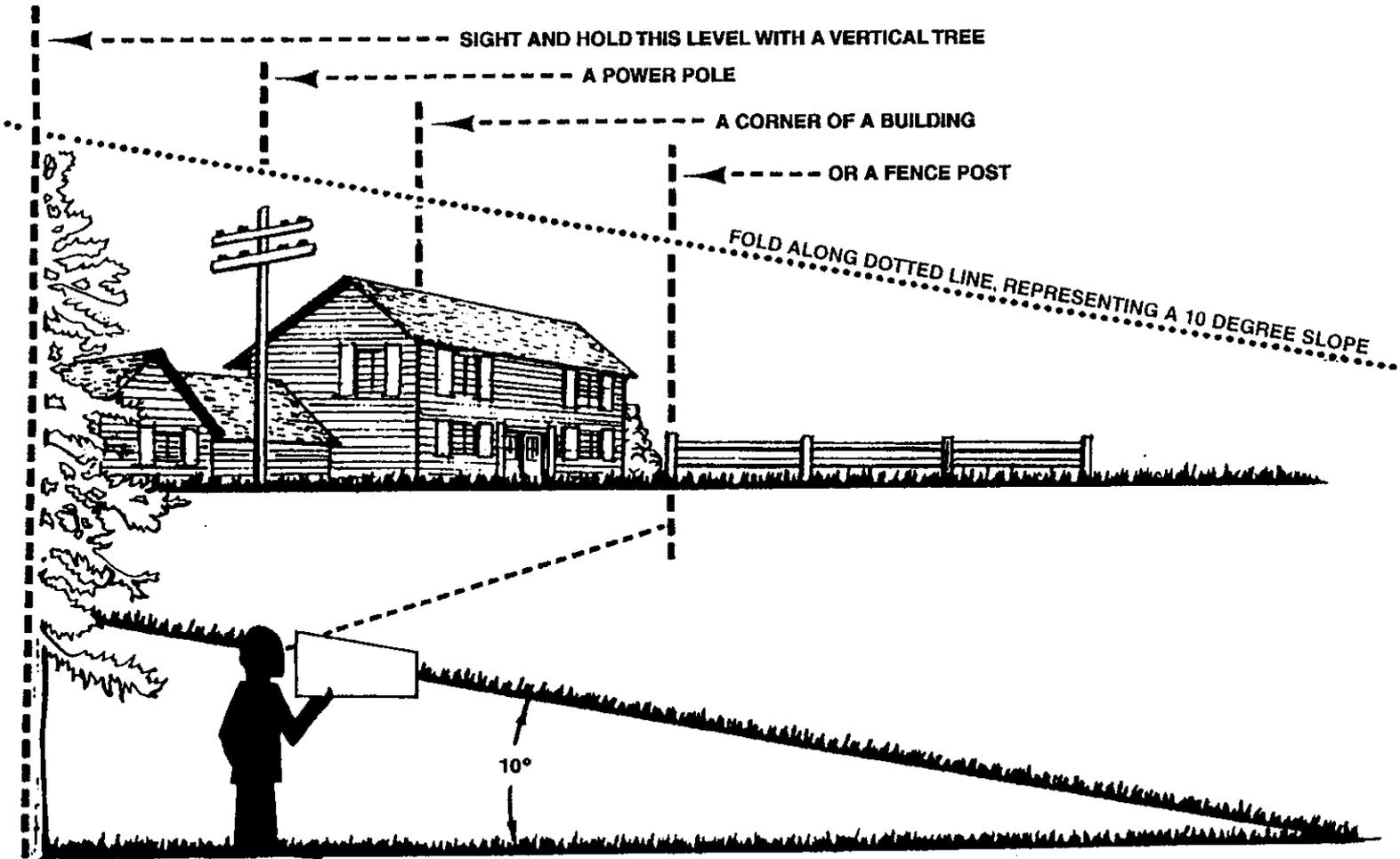


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SLOPE GUIDE

(Keep this sheet in a safe place for future reference.)
Use this guide to determine if a slope is safe for the operation of your tractor and Chipper Vac. Refer also to the instructions in your vehicle owners manual.



 **CAUTION:** Do not operate your tractor and Chipper Vac on a slope in excess of 10 degrees. Be sure of your tractor's towing and braking capabilities before operating on a slope. Avoid any sudden turns or maneuvers while on a slope.

