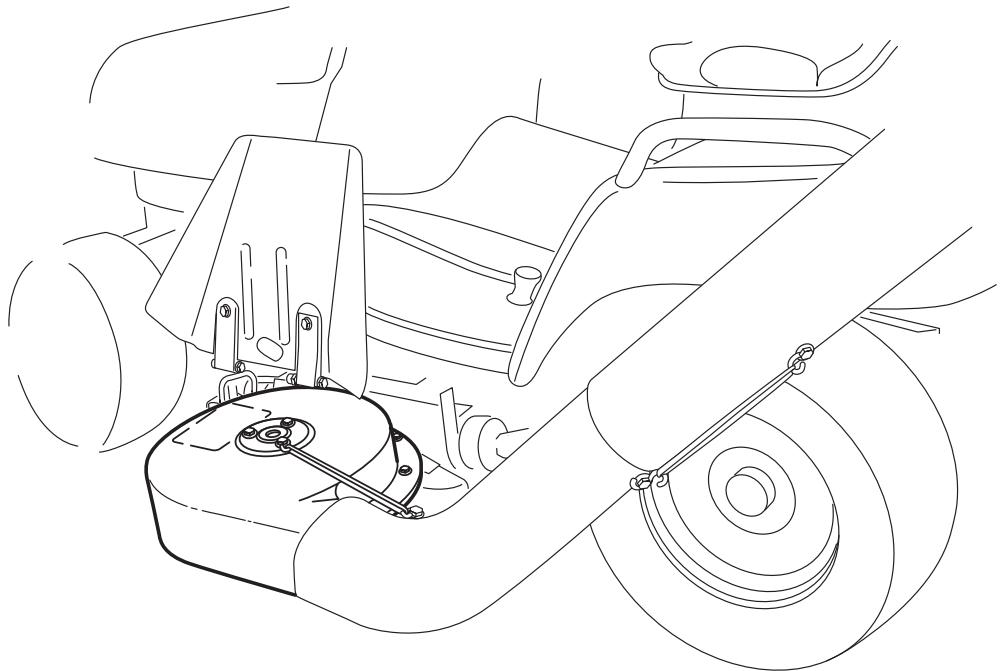


ATTACHMENT OPERATOR'S MANUAL



Turbo Vacuum System For 48" Mower Decks

Mfg. No.	Description
1694496	Turbo Vacuum Collection System <i>(for use with Legacy XL / 2000 / 2900 Series)</i>

1726315-02
Rev 01/2007
TP 100-3922-02-AT-SMA

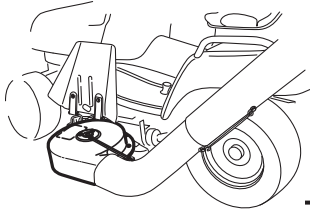


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NOTE: In these instructions, “left” and “right” are referred to as seen from the operating position.

Safety Rules & Information



Read these safety rules and follow them closely. Failure to obey these rules could result in loss of control of unit, severe personal injury or death to you, or bystanders, or damage to property or equipment. **This mowing deck is capable of amputating hands and feet and throwing objects.** The triangle  in text signifies important cautions or warnings which must be followed.

GENERAL WARNINGS

- Know the tractor controls and how to stop quickly. **READ THE TRACTOR OPERATOR'S MANUAL.**
- Read and obey all safety decals.
- Only allow responsible adults, who are familiar with the instructions, to operate the unit.
- Disengage the electric clutch (PTO). Shut off the engine and wait for all moving parts to stop before attaching, adjusting, or disconnecting any part of the collection system.
- Check the collection system to make sure it is bolted tightly to the tractor.
- DO NOT operate the mower without either the entire grass catcher or the deflector in place.
- Turn off the PTO switch to disengage the blades when not mowing.
- DO NOT mow in reverse. Always look down and behind before and while travelling in reverse.
- DO NOT turn sharply when travelling alongside a building or any object. Slow down before turning.
- DO NOT carry passengers on the tractor.
- When blower assembly is removed from the mower deck, the deflector must be properly installed.
- If the mower stalls or the turbo blower chute plugs:
 1. disengage the electric clutch (PTO);
 2. stop the engine and remove the key;
 3. set the parking brake, and wait for all moving parts to stop.
 4. Remove the foreign object or clear the chute with a piece of wood before restarting the engine. **NEVER PLACE HANDS INTO BLOWER HOUSING TO CLEAR JAMMED OBJECT. BLOWER MAY ROTATE WHEN OBJECT IS REMOVED.**
- For added tractor stability and to prevent tipping or loss of control:
 - a. Use reduced speed on uneven ground and when turning corners.
 - b. Reduce loads on hillsides. It is recommended that the collection system be kept only half full when negotiating any slopes. Start mowing on slopes when the collection system is empty.
 - c. Mow up and down the face of slopes; never across the face of any slope.
- When operating on slopes, use front counterweights. On slopes over 15% (8.5°), use two rear wheel weights in addition to front counterweight. **Never operate on slopes greater than 30% (16.7°).**

SAFETY DECALS

This unit has been designed and manufactured to provide you with the safety and reliability you would expect from an industry leader in outdoor power equipment manufacturing.

Although reading this manual and the safety instructions it contains will provide you with the necessary basic knowledge to operate this equipment safely and effectively, we have placed several safety labels on the unit to remind you of this important information while you are operating your unit.

All DANGER, WARNING, CAUTION and instructional messages on your rider and mower should be carefully read and obeyed. Personal bodily injury can result when these instructions are not followed. The information is for your safety and it is important! The safety decals below are on your rider and mower.

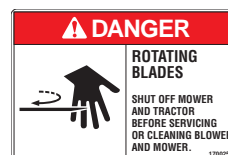
If any of these decals are lost or damaged, replace them at once. See your local dealer for replacements.

These labels are easily applied and will act as a constant visual reminder to you, and others who may use the equipment, to follow the safety instructions necessary for safe, effective operation.

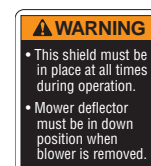
Read and obey all operation and warning decals.



Danger Decal - P/N 1704277



Danger Decal - P/N 1704276



Warning Decal - P/N 1700259



BEFORE OPERATION

Clear the lawn of all sticks, stones, wire and other debris which may be caught or thrown by the mower blades.

Check grass condition. If wet, wait until later in the day. If grass is wet, as the grass catcher is likely to become plugged.

For efficient grass collection, air circulation under the mower deck, through the chute and into the grass catcher or cart is very important.

For this reason, BEFORE YOU BEGIN MOWING you should make certain the underside of the mower and the underside of the catcher lid are free from grass and debris.

Make sure that there is a snug fit between mower deck, blower housing, tubes, and grass catcher cover.



MOWING WITH THE TURBO

Always operate with throttle at full speed when mowing.

Grass should be cut often, and not too short. If grass is too long or lush it may be necessary to keep ground speed to a minimum or to cut only half the width of the mower to prevent clogging. If grass is long, operate with mower in high cutting position for first pass, cutting again in a lower position on a second pass.

To check if grass is flowing up tube, view tube. **Do not open cover with mower engaged.**

If a large amount of cut grass is spilling out from under deck, the tube may be plugged or the catcher may be full—discontinue mowing, stop the tractor, disengage the PTO and then empty the catcher or clear the tube.

OPERATING WITHOUT THE TURBO

If you need to mow without the turbo vacuum collector in place (for instance, if the grass is too wet to bag, but must be mowed)—you must remove the turbo blower from the mower deck, and properly position the deflector BEFORE you begin mowing.

WARNING

To operate without the collection system, the blower assembly MUST be removed and the deflector MUST be in the down position.

The deflector is spring loaded. when removing the blower, hold the deflector up; then allow the deflector to go down into the normal operating position.

WARNING

ALWAYS shut off the tractor. disengage the PTO, and allow all moving parts to stop BEFORE disconnecting or clearing tube, or emptying catcher.

Before leaving the operator's position for any reason, engage the parking brake, disengage the PTO, stop the engine and remove the key.

To reduce fire hazard, keep the engine, tractor and mower free of grass, leaves and excess grease. Do not stop or park tractor over dry leaves, grass or combustible materials.

RECOMMENDED ACCESSORIES

When operating on slopes with a rear attachment, use front counterweights. If you will be operating on slopes over 15% (8.5°) two rear wheel weights are recommended in addition to the front counterweights. **Never operate on slopes greater than 30% (16.7°).**

AFTER OPERATION

The turbo blower housing and tube should be removed for cleaning. Remove the tube by unlatching the lower tube rubber band from blower housing. When reattaching, make sure there is a snug fit between the mower deck, turbo blower housing, and grass catcher.

Initial Setup & Assembly

Setup

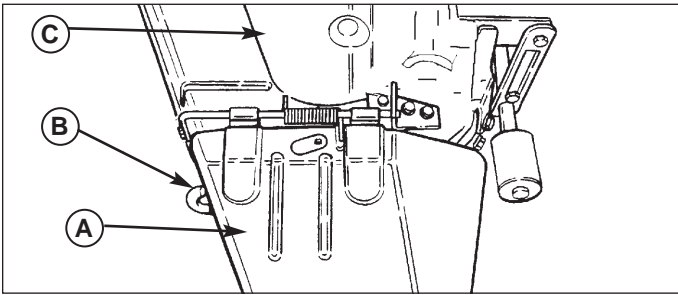


Figure 1. Deflector, Stone Guard, and Cover

- A. Deflector
B. Stone Guard
C. Belt Cover

INITIAL SETUP & ASSEMBLY

Prepare the Deck, Belt Cover, & Support Arm Assembly

1. Remove the mower deck from the tractor. Refer to the tractor operator's manual for mower installation and removal procedures.
2. Remove the deflector (A, Figure 1) and corresponding mounting hardware from deck. Also Remove the left side belt cover (C). Clean all mounting holes.
3. Assemble the hinge (E) to the new belt cover (A) using hardware provided (D, F) as shown in Figure 2.
Insert the knob (B) through the cover (A) and secure with 5/16 push nut (G). Assemble the belt cover (A) and knob (B) to the left-hand mower cover (C).

Install Stacked Arbor Pulley

1. Roll the mower drive belt off the left arbor pulley.
2. Remove the left side arbor pulley by blocking the left-hand mower blade with a wood block and removing the arbor pulley capscrew. Discard the capscrew but retain the other hardware.
3. See Figure 5. Install the double stacked pulley (A) from turbo kit, with the larger pulley on the bottom. Use the longer capscrew (B) supplied with the kit along with the original hardware.
4. Block the mower blade with wood and tighten cap-screw to 50-70 ft. lbs. (68-76 Nm).
5. Re-install the mower drive belt on the lower pulley.

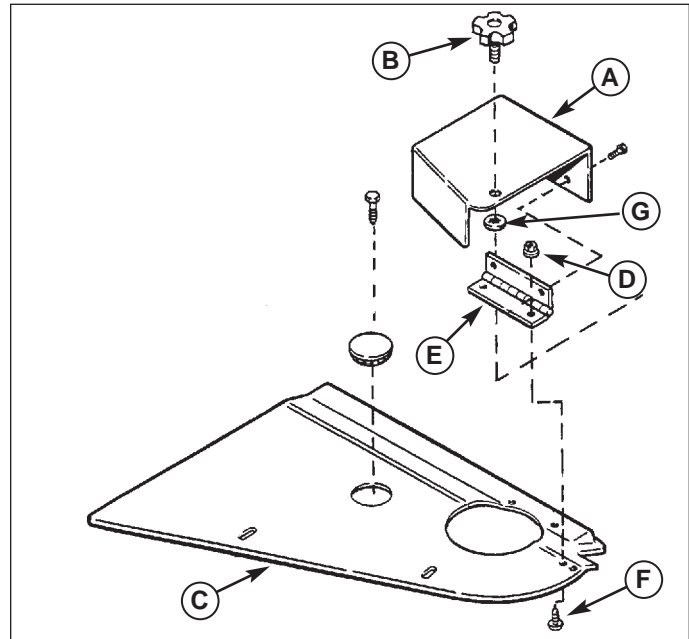


Figure 2. Assemble the New Cover

- A. Belt Cover
B. Knob
C. Left Hand Cover
D. Locknut, #10-32
E. Hinge
F. Screw, #10-32 x 3/8
G. 5/16 Push nut

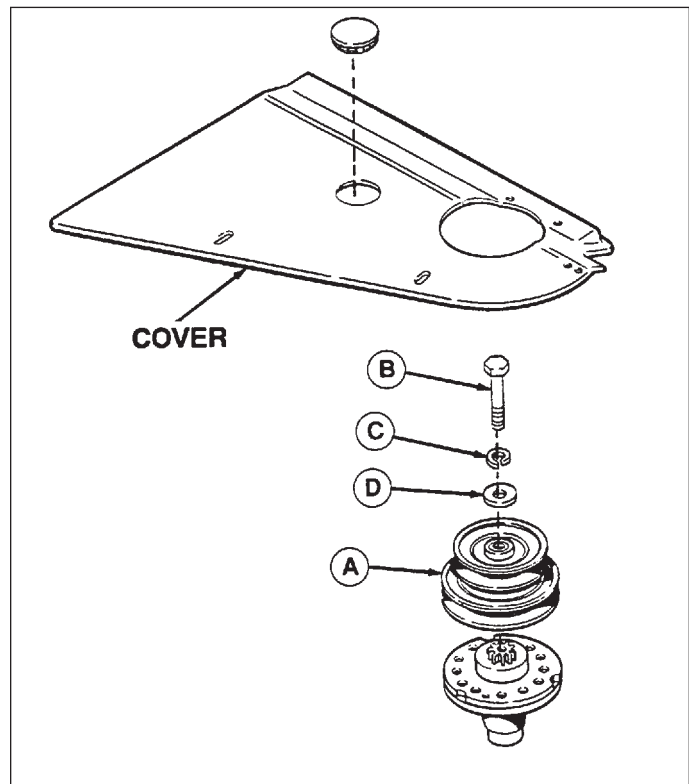


Figure 3. Install Stacked Arbor Pulley

- A. Pulley Assy.
B. Capscrew, 7/16 x 2-1/4
C. Lockwasher
D. Washer

Assemble & Install Deflector

1. The two holes for mounting the deflector must be drilled out. Turn the deflector over, and notice that these two holes are started. Finishing drilling the two 11/32 inch holes (See Figure 4).
2. See Figure 4. Connect the deflector (A) to the deflector brackets (O) with two 5/16-18 x 7/8 screws (F), 5/16 lockwashers (G), and 5/16 nuts (H). Install screws from the bottom.
3. Install two 7/16-14 x 2-1/4 capscrews (I), 7/16 lockwashers (J), and 7/16 nuts (K) as shown. Capscrews must be installed with lockwashers and nuts on the inside as shown in Figure 4.
4. Mark and drill two 13/32 holes (S & R) in mower deck. Use Template on page 9. Attach the front pivot bracket (B) using 3/8-16 x 1 carriage bolts, lockwashers, and nuts inserted through hole "S" see Figure 4).
5. Attach the back pivot bracket (C) to the existing hole in the mower deck formerly used to mount the deflector rod. Attach using 3/8-16 x 7/8 carriage bolts, lockwashers, and nuts inserted through hole "P" (See Figure 4).
6. Use the hinge rod (D) to align the front and back pivot brackets (B and C) as shown.
7. Using the bracket for guidance, drill out hole "Q" using a 13/32" drill.
8. In the new drilled hole, install 7/16-16 x 1 capscrews (L), lockwasher (M), and nut (N). Install capscrew from the bottom.
9. Install the deflector (A) assembly. Insert the rod (D) through the brackets (B, O, and C) and spring (E). Secure with a cotter pin at each end.
10. Hook the spring on the rear deflector bracket (O), pre-load one turn, and hook second end on back pivot bracket (C).

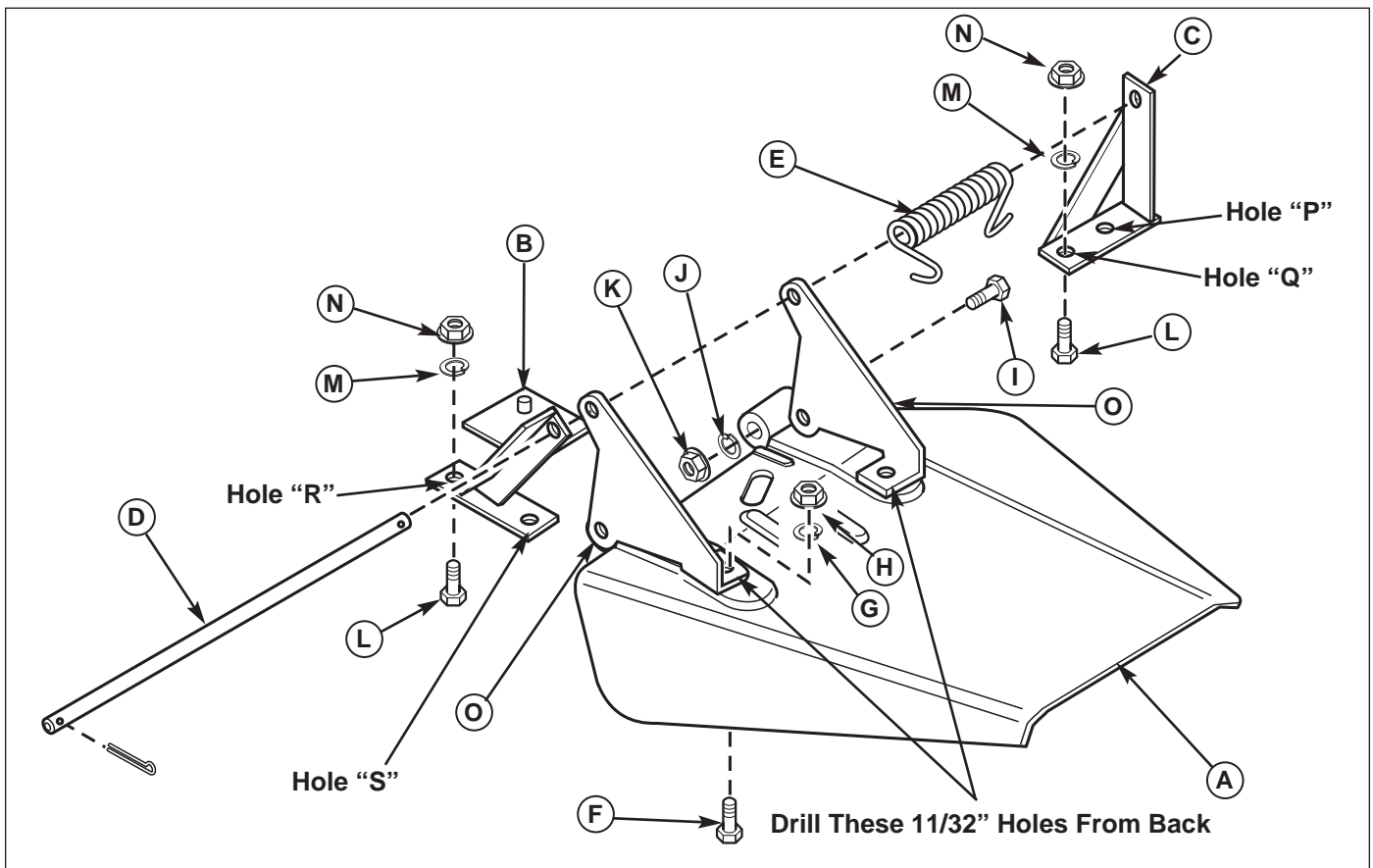


Figure 4. Deflector

- | | | | |
|--------------------------|-------------------------------|---------------------------------|----------------------------|
| A. Deflector | F. Capscrew,
5/16-18 x 7/8 | I. Capscrew,
7/16-14 x 2-3/4 | L. Capscrew,
3/8-16 x 1 |
| B. Pivot Bracket, Front. | G. Lockwasher,
5/16 | J. Lockwasher, 7/16 | M. Lockwasher, 3/8 |
| C. Pivot Bracket, Back | H. Nut, 5/16-18 | K. Nut, 7/16-14 | N. Nut, 3/8-16 |
| D. Hinge Rod | | | O. Deflector Bracket |
| E. Spring | | | |

Initial Setup & Assembly

Assemble Turbo

1. Assemble the turbo. Install the bracket (A, Figure 5) and upstop (B) as follows:

NOTE: Upstop (B, Figure 5) has short and long leg. The difference is the thickness of bracket (A). Place long leg on housing and short leg on top of bracket. Washer(s) may need to be added under each leg of upstop if deflector contacts housing. See ADJUSTMENTS.

2. Install 1/4-20 x 7/8 capscrew (C) from inside turbo housing. Place upstop (B) on capscrew and secure with 1/4-20 locknut (D).
3. Install 1/4-20 x 2-1/4" full thread capscrew (E) through upstop (B), bracket (A), and housing. Secure with 1/4-20 locknut. End of capscrew should touch bottom housing surface.
4. Install 1/4-20 x 3/4 capscrew (F) to secure bracket to housing. Secure with 1/4-20 locknuts (F).

Complete INITIAL INSTALLATION by proceeding with the steps listed under NORMAL INSTALLATION.

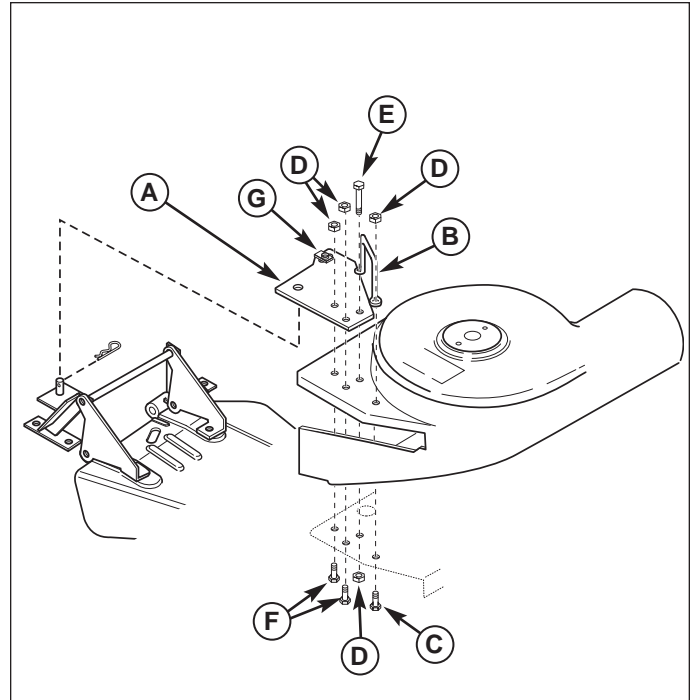


Figure 5. Assemble Turbo

- A. Bracket
- B. Upstop
- C. Capscrew, 1/4-20 x 7/8
- D. Locknut, 1/4-20
- E. Capscrew, 1/4-20 x 2-1/4
- F. Capscrew, 1/4-20 x 3/4
- G. Speednut, 5/16

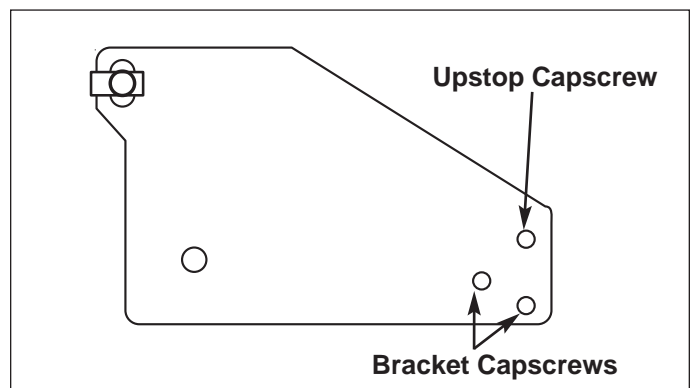


Figure 6. Bracket Hardware Placement



ATTACHING THE TURBO

1. Lift up the deflector.
2. Engage the stone guard hook at the bottom of the turbo as shown in Figure 8.
3. Slide turbo assembly as far rearward as possible so that the front turbo edge is tight against the front mower deck edge. Secure the turbo with the hair pin clip (B, Figure 7).
4. Move the idler release lever (C) to release belt tension.
5. Route the belt as shown in Figure 10. Make sure it is seated in all pulley grooves. The belt must be routed to the inside of the 2-1/4" capscrew as shown in Figure 10.
6. Close the belt cover (E, Figure 7) and tighten the knob into the pal nut.
7. Make sure that deflector rests on upstop (D, Figure 9) and does not contact the turbo housing. If deflector contacts housing, use washer(s) as shims under the upstop legs to increase clearance.

NOTE: After initial assembly, it is not necessary to remove mower deck when removing or installing turbo assembly.

REMOVING THE TURBO

NOTE: After initial assembly, it is not necessary to remove mower deck when removing or installing turbo assembly.

For operation without turbo, the deflector must be properly installed in the down position and retained by the spring latch.

1. Disconnect the discharge tubes.
2. Unscrew the belt cover knob (C, Figure 9) and open the cover.
3. Move the idler release lever (D, Figure 9) to release tension on the drive belt and remove the belt from the arbor pulley.
4. Remove the hairpin clip (B, Figure 9) and remove the turbo assembly.

WARNING

The deflector is spring loaded. when attaching or removing the blower, hold the deflector up; then allow the deflector to go down into the normal operating position.

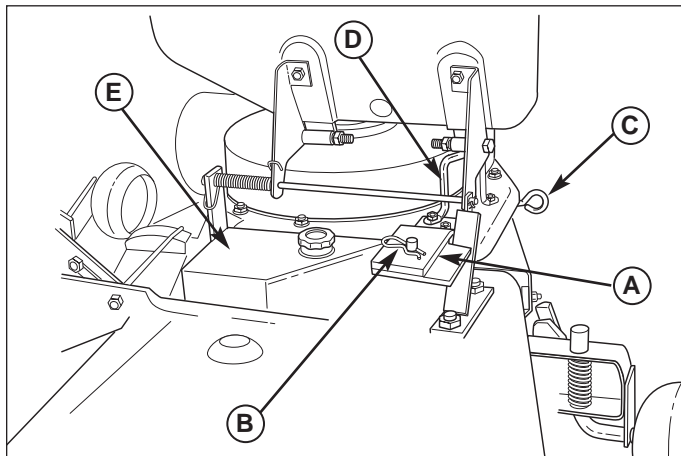


Figure 7. Mount Turbo
A. Mounting Plate
B. Hairpin Clip
C. Idler Release Lever

D. Upstop
E. Belt Cover

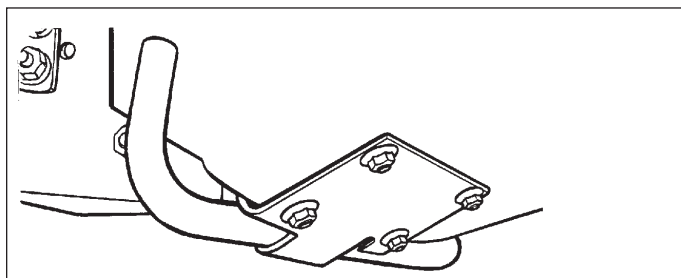


Figure 8. Engage Stone Guard Hook

WARNING

To operate without the collection system, the blower assembly **MUST** be removed and the deflector **MUST** be in the down position.

The deflector is spring loaded. when attaching or removing the blower, hold the deflector up; then allow the deflector to go down into the normal operating position.

Attaching & Removing the Turbo

ADJUSTMENTS

Pulley Adjustments

If the mower deck belt has stretched over time, the stacked idler pulley (B, Figure 10) may need to be moved to the outer hole in the mower deck to take up the belt slack.

If the mower idler pulley (B) is mounted in the outer hole in the deck, then the turbo idler pulley (C) should be as far toward the front as the slot will allow. If the stacked idler pulley (B) is mounted in the inner hole, then the turbo idler pulley (C) should remain as installed at factory.

To adjust:

1. Loosen the back-side idler pulley (C, Figure 10) hardware.
2. Move the idler pulley forward in the adjustment slot and then re-tighten the hardware.

Upstop Adjustment

The upstop (E, Figure 9) prevents the deflector (F) from contacting the top of the turbo. If the upstop is not providing sufficient clearance, shim the upstop with washers until the deflector does not contact the turbo.

STORAGE

Remove any debris from the turbo blower housing. If you clean the housing, use a mild detergent only (other products may damage tube). If paint has been scratched on metal parts, touch up with paint, or apply a thin film of oil.

To prevent corrosion, store in a dry area, away from moisture.

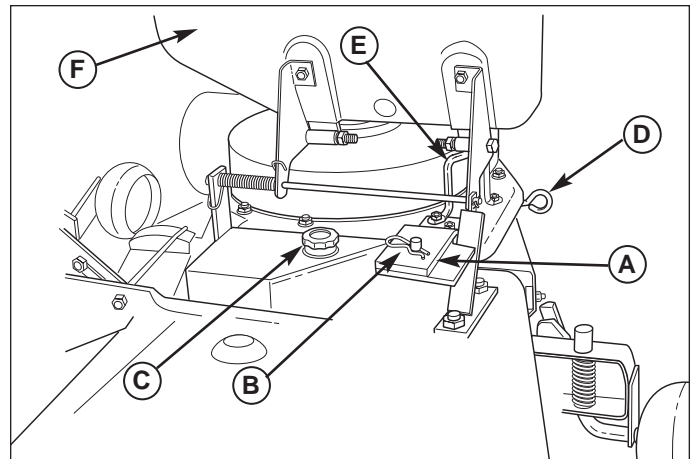


Figure 9. Mount/Remove Turbo

- | | |
|--------------------|------------------------|
| A. Mounting Plate | D. Idler Release Lever |
| B. Hairpin Clip | E. Upstop |
| C. Belt Cover Knob | F. Deflector |

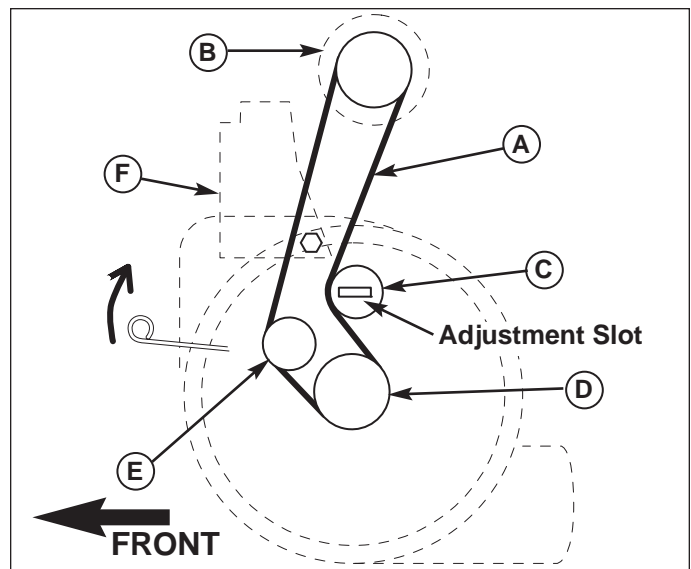
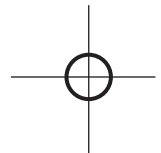
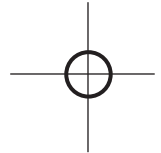
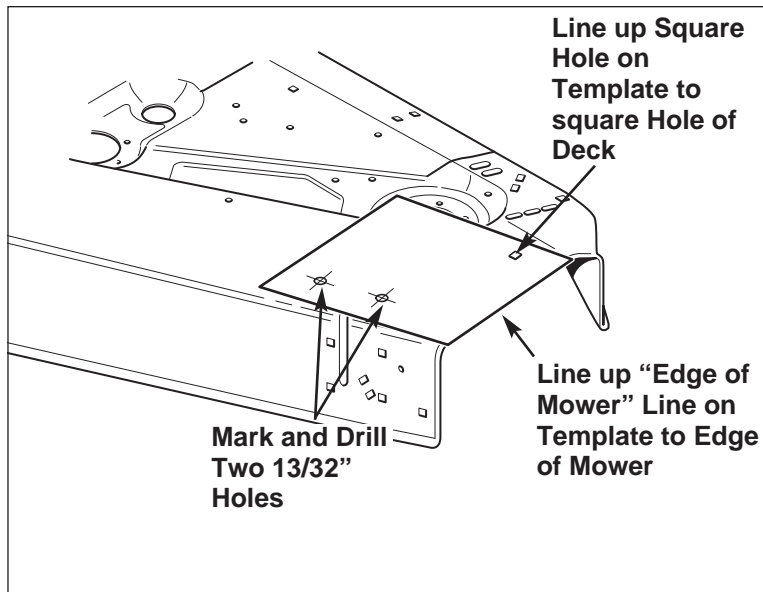
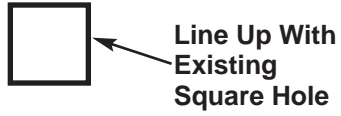
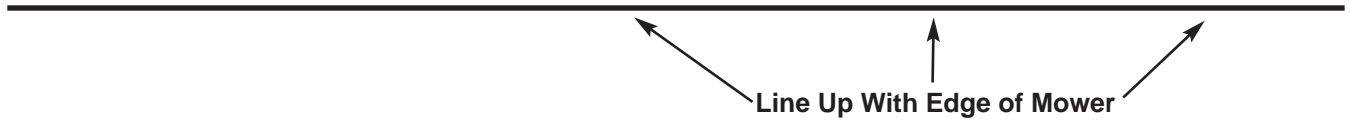


Figure 10. Turbo Belt Routing

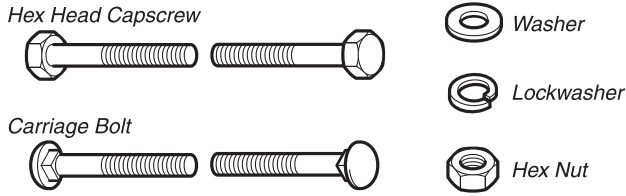
- | |
|-----------------------------|
| A. Belt |
| B. Stacked Idler Pulley |
| C. Back-side Idler Pulley |
| D. Turbo Drive Pulley |
| E. Spring Loaded Idler |
| F. Capscrew, 1/4-20 x 2-1/4 |

Front Bracket Hole Template



Hardware Identification & Torque Specifications

Common Hardware Types

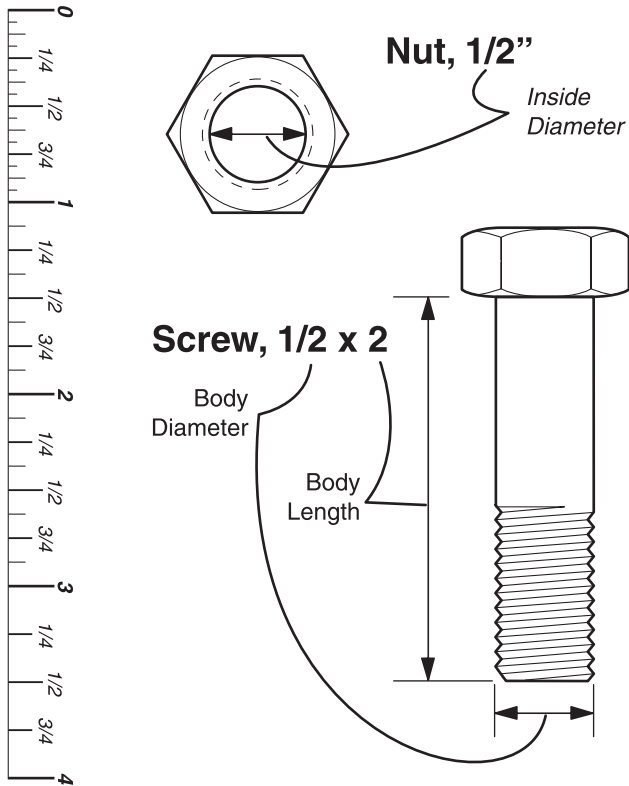


Standard Hardware Sizing

When a washer or nut is identified as **1/2"**, this is the *Nominal size*, meaning the *inside diameter* is 1/2 inch; if a second number is present it represents the *threads per inch*

When bolt or capscrew is identified as **1/2 - 16 x 2"**, this means the *Nominal size*, or *body diameter* is 1/2 inch; the second number represents the *threads per inch* (16 in this example, and the final number is the *body length* of the bolt or screw (in this example 2 inches long).

The guides and ruler furnished below are designed to help you select the appropriate hardware and tools.



Torque Specification Chart

FOR STANDARD MACHINE HARDWARE (Tolerance $\pm 20\%$)

Hardware Grade	No Marks		SAE Grade 2		SAE Grade 5		SAE Grade 8	
	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.
8-32	19	2.1	30	3.4	41	4.6		
8-36	20	2.3	31	3.5	43	4.9		
10-24	27	3.1	43	4.9	60	6.8		
10-32	31	3.5	49	5.5	68	7.7		
1/4-20	66	7.6	8	10.9	12	16.3		
1/4-28	76	8.6	10	13.6	14	19.0		
5/16-18	11	15.0	17	23.1	25	34.0		
5/16-24	12	16.3	19	25.8	27	34.0		
3/8-16	20	27.2	30	40.8	45	61.2		
3/8-24	23	31.3	35	47.6	50	68.0		
7/16-14	30	40.8	50	68.0	70	95.2		
7/16-20	35	47.6	55	74.8	80	108.8		
1/2-13	50	68.0	75	102.0	110	149.6		
1/2-20	55	74.8	90	122.4	120	163.2		
9/16-12	65	88.4	110	149.6	150	204.0		
9/16-18	75	102.0	120	163.2	170	231.2		
5/8-11	90	122.4	150	204.0	220	299.2		
5/8-18	100	136	180	244.8	240	326.4		
3/4-10	160	217.6	260	353.6	386	525.0		
3/4-16	180	244.8	300	408.0	420	571.2		
7/8-9	140	190.4	400	544.0	600	816.0		
7/8-14	155	210.8	440	598.4	660	897.6		
1-8	220	299.2	580	788.8	900	1,244.0		
1-12	240	326.4	640	870.4	1,000	1,360.0		

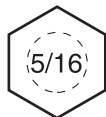
NOTES

- These torque values are to be used for all hardware excluding: locknuts, self-tapping screws, thread forming screws, sheet metal screws and socket head setscrews.
- Recommended seating torque values for locknuts:
 - for prevailing torque locknuts - use 65% of grade 5 torques.
 - for flange whizlock nuts and screws - use 135% of grade 5 torques.
- Unless otherwise noted on assembly drawings, all torque values must meet this specification.

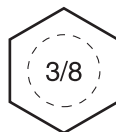
Wrench & Fastener Size Guide



1/4" Bolt or Nut
Wrench—7/16"



5/16" Bolt or Nut
Wrench—1/2"



3/8" Bolt or Nut
Wrench—9/16"



7/16" Bolt or Nut
Wrench (Bolt)—5/8"
Wrench (Nut)—11/16"



1/2" Bolt or Nut
Wrench—3/4"



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