

Simplicity[®]

OPERATOR'S MANUAL

TURBO BLOWER

38" Blower Assy.

Mfg. No. 1691867

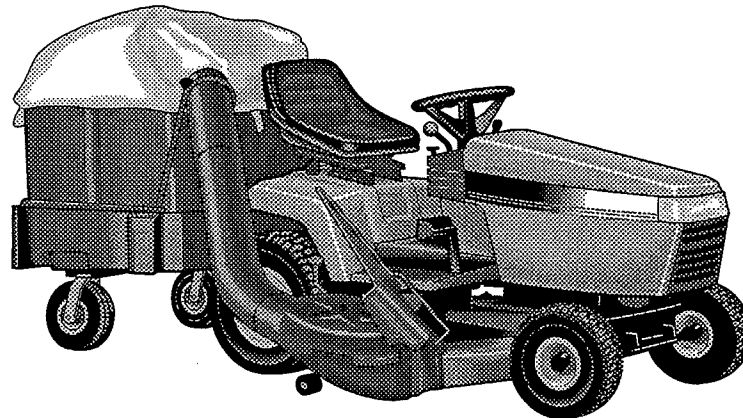
Mfg. No. 1692626

44" Blower Assy.

Mfg. No. 1691868

50" Blower Assy.

Mfg. No. 1692030





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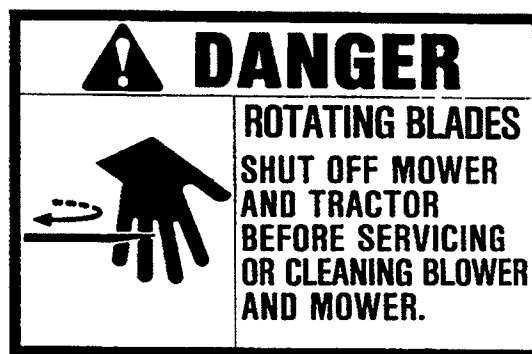
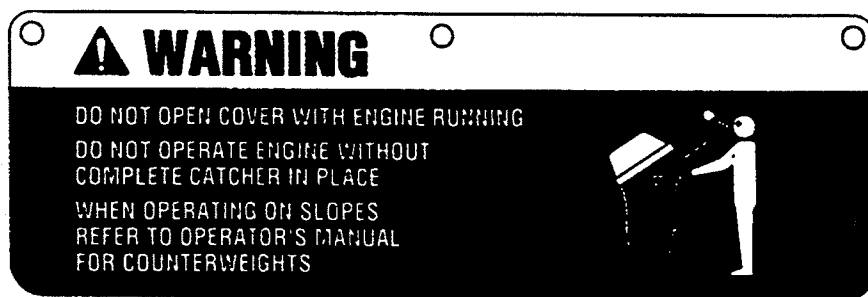
STANDARD FASTENERS.....Inside Rear Cover

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



RECOMMENDED ACCESSORIES

Front counterweight is recommended when using rear-mounted grass catcher. On slopes over 15% (8.5°), use two rear wheel weights in addition to front counterweight. Always mow up and down the face of slopes, never across the face. Never mow on slopes greater than 30% (16.7°)

SAFETY DECALS



Safety Rules

 Read these safety rules, and the safety rules in your tractor Operator's Manual, and follow them closely. Failure to obey these rules could result in loss of control of vehicle, severe personal injury to yourself, or damage to property or equipment. The triangle  in the text signifies important cautions or warnings which must be followed.

 **WARNING** 

When blower assembly is removed from the mower deck, the deflector must be properly installed.

 **WARNING** 

If the mower stalls or the turbo blower chute plugs, **DISENGAGE THE ELECTRIC CLUTCH (PTO), STOP THE ENGINE AND REMOVE THE KEY. SET THE PARKING BRAKE. WAIT FOR MOVING PARTS TO STOP.** 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.

 **WARNING** 

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.

 **WARNING** 

When operating on slopes, use front counterweight. Never operate on slopes greater than 30% (16.7°).

 **WARNING** 

Objects may be thrown from the mower. For your safety:

- a. **DO NOT** remove the cover while the mower blades are turning. Shut off the engine before opening the door or removing the grass chute.
- b. Be sure the complete collection system is in place, cover secure and grass chute connected, before operating the mower.
- c. **DO** check the twin bag cover frequently for wear and tear. Replace with a new cover as necessary.

1. Know the tractor controls and how to stop quickly. **READ THE TRACTOR OPERATOR'S MANUAL.**
2. 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.
3. Check the collection system to make sure it is bolted tightly to the tractor.
4. Check the latch handle to make sure it is engaged so the dump cart's box is locked to the frame.
5. Look behind to make sure the area is clear before backing up.
6. **DO NOT** turn sharply when travelling alongside a building or any object.
7. **DO NOT** carry passengers on the tractor or in the cart.

Turbo Installation - 38" Mower Deck

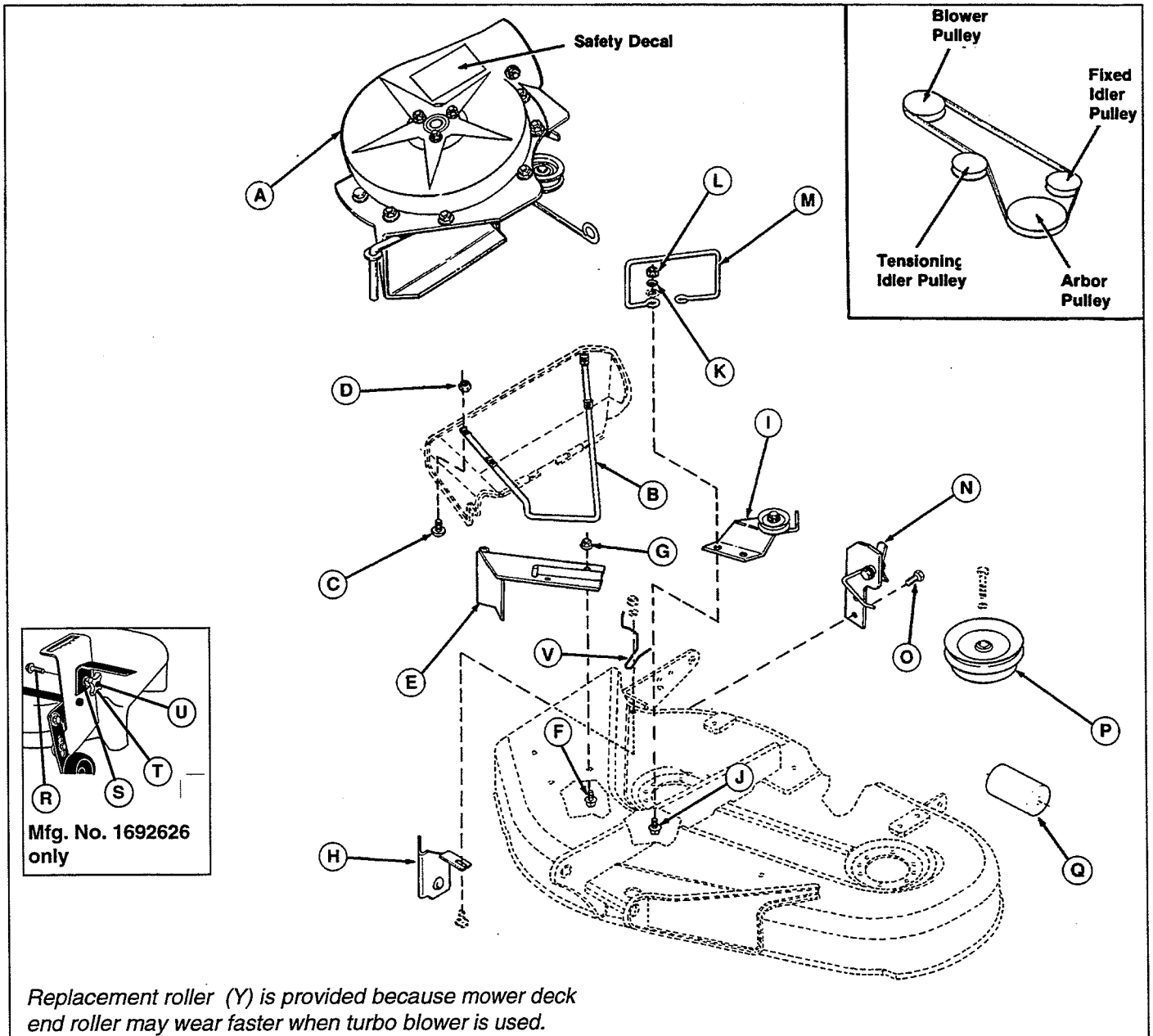


Figure 1. 38" Turbo Blower - Kit Parts

Ref.	Description	Qty.	Ref.	Description	Qty.
A.	Turbo Blower Assy.	1	L.	Nut, 5/16-18	2
B.	Deflector Rod Support	1	M. *	Belt Stop*	1
C.	Capscrew, Truss Hd., 10-24 x 3/4	4	N. *	Support Brace Assy.	1
D.	Nut, Nylock, 20-24	4	O.	Screw, Taptite, 5/16-18 x 1/2	2
E.	Pivot Bracket	1	P.	Pulley, Double Groove	1
F.	Carriage Bolt, 5/16-18 x 3/4	2	Q.	Roller, Replacement	1
G.	Locknut, 5/16-18	2	R. **	Carriage Bolt, 5/16-18 x 1-1/2**	1
H.	Baffle Assy. -	1	S. **	Washer, 11/32 I.D. x 1-1/4 O.D. x 1/8 Tk.	1
I.	Idler Pulley Assy.	1	T. **	Knob	1
J.	Screw, Taptite, 5/16-18 x 1-1/2	2	U. **	Locknut, 5/16-18	1
K.	Lockwasher,	2	V.	Spring Latch	1

* Used on Mfg. No. 1691867 only.

** Used on Mfg. No. 1692626 only.

Turbo Installation - 38" Mower Deck

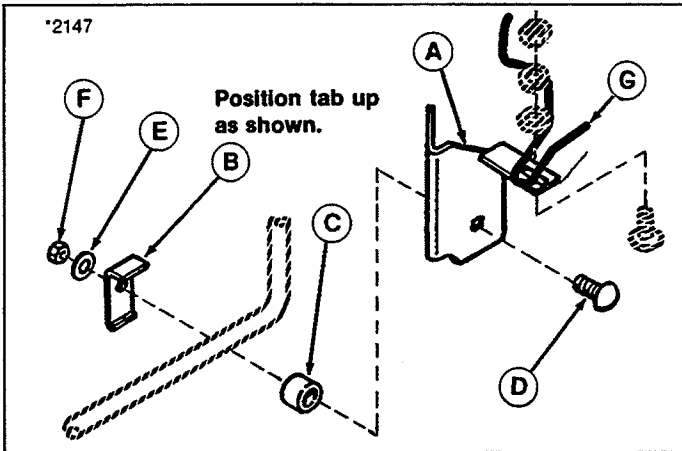


Figure 2.

- A. Baffle Assy.
- B. Bracket*
- C. Spacer*
- D. Carriage Bolt,*
5/16-18 x 1-1/4
- E. Lockwasher, 5/16*
- F. Nut, 5/16-18*
- G. Spring Latch

* Mfg. No. 1691867 only.

1. Remove the mower deck from the tractor. See your tractor Operator's Manual for procedure.
2. Remove the deflector from the the deck and retain hardware. Remove and discard two plastic plugs from mower deck housing.
3. **Mfg. No. 1691867.** See figure 2. Install baffle assy. (A) to the stone guard (underneath mower deck) using U-bracket (B), spacer (C) carriage bolt (D), lockwasher (E) and nut (F). Reuse hardware removed in step 2 to secure tab of baffle assy. (A).

Mfg. No. 1692626. See figure 2. Reuse hardware removed in step 2 to secure tab of baffle assy. (A) and spring latch (G) to mower deck.

4. Remove the mower belt from right-hand pulley. Remove the belt stop and retain the nut, lockwasher and large flat washer.
5. Remove the right-hand pulley and retain the cap-screw, lockwasher and large washer. Pulley will not be re-used in this installation.
6. See figure 3. Replace the two 3/4 taptite screws as shown with two 5/16-18 x 1-1/2 taptite screws supplied.
7. See figure 4. Position the pulley bracket assy. (A) on the 1-1/2 taptite screws installed in step 6. Install the double groove pulley (B) to the arbor shaft. Reinstall the capscrew, lockwasher, and large flat washer removed in step 5. Torque capscrew to 50-70 ft.-lbs. (68-76 Nm).
8. **Mfg. No. 1691867 only.** See figure 4. Install new belt stop (C) to pulley bracket with the short leg towards

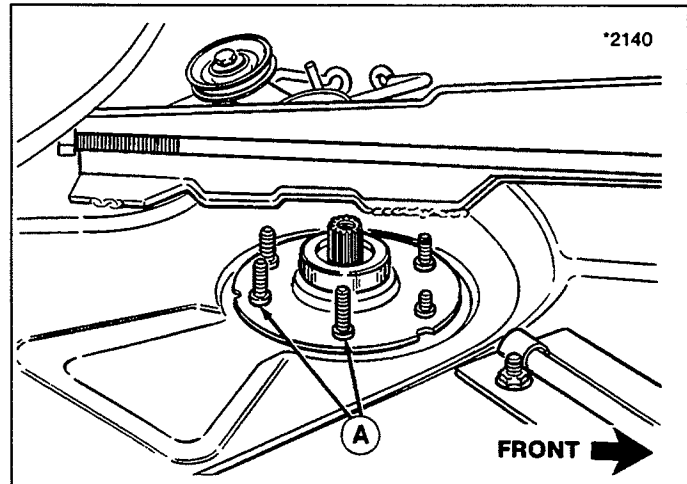


Figure 3.

- A. Taptite Screws

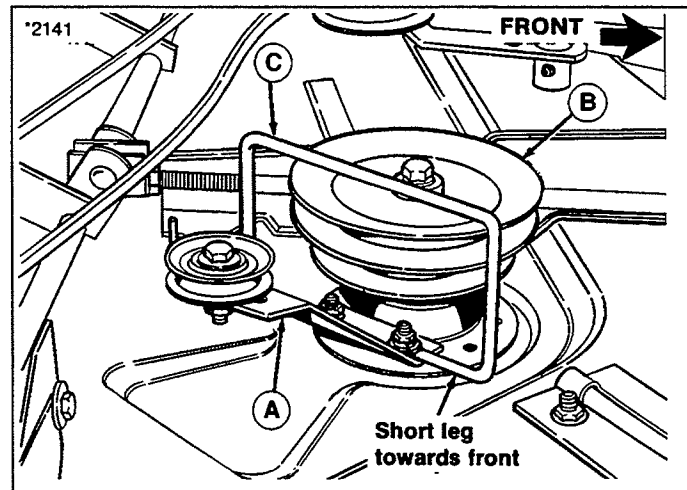


Figure 4.

- A. Bracket Assy.
- B. Pulley
- C. Belt Stop
(Mfg. No. 1691867 only)

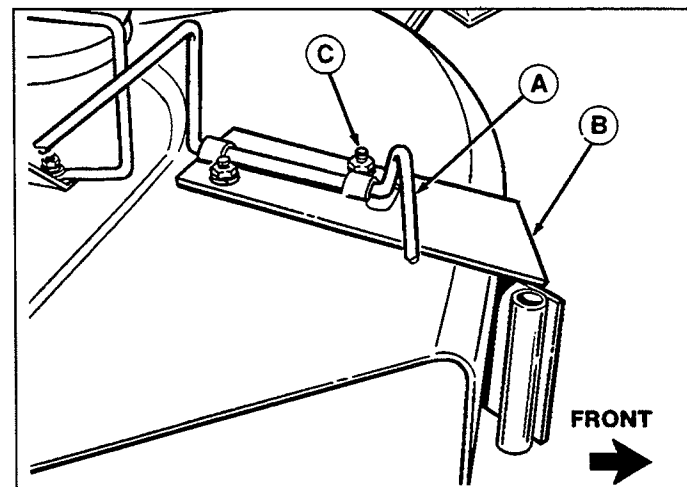


Figure 5.

- A. Deflector Support Rod
- B. Pivot Bracket
- C. Carriage Bolt
5/16-18 x 3/4

Turbo Installation - 38" Mower Deck

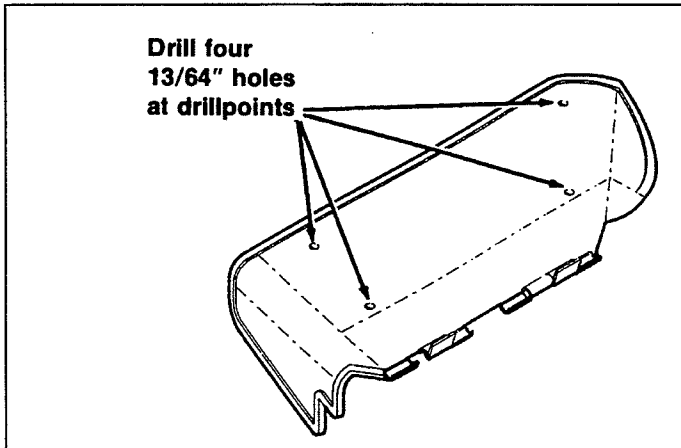


Figure 6.

the front of deck. Secure using hardware removed in step 4. (A new nut and lockwasher is supplied with this kit and can be used in place if existing hardware). Tighten all hardware securely.

Mfg. No. 1692626. See figure 4. Install pulley bracket (A) using hardware removed in step 4. (A new nut and lockwasher is supplied with this kit and can be used in place if existing hardware). Tighten all hardware securely.

9. See figure 5. Install the new deflector support rod (A) underneath the pivot bracket (B) and install bracket to deck. Secure bracket with two carriage bolts (C), installed from underneath deck.

10. See figure 6. Turn deflector over and locate the drill-points for mounting the support rod (A, figure 6). Drill four 13/64" holes. Install deflector to new support and secure with screws and nuts as shown in figure 1.

11. **Mfg. No. 1691867.** See figure 7. Install support brace assy. (A) to rear surface of deck. Secure with two taptite screws (B).

See figure 8. Adjust spring latch (A) so it overlaps the top edge of deflector by 1/4" - 3/16", in the down position.

Mfg. No. 1692626. See figure 9. Install the capscrew (A) from inside the mower deck. Install the washer (B), knob (C) and locknut (D).

12. Install mower deck to tractor. See the tractor Operator's Manual.

See figure 10 for steps 13 - 18.

13. Install spindle (A) of turbo housing (B) into pivot bracket (C).

14. With right hand, hold both strands of the turbo belt around turbo idler pulley (F). Pull belt loop and belt tension arm (D) fully forward and hold in this position.

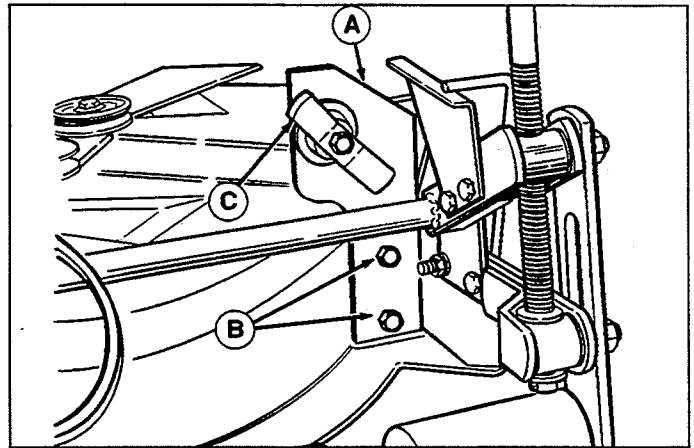


Figure 7. Mfg. No. 1691867 only.

A. Support Brace Assy. C. Wingnut
B. Taptite Screws

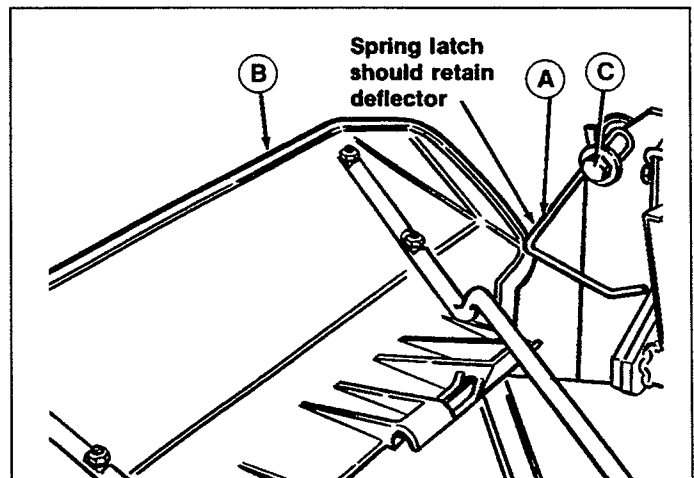


Figure 8. Mfg. No. 1691867 only.

A. Spring Latch C. Capscrews
B. Deflector Edge

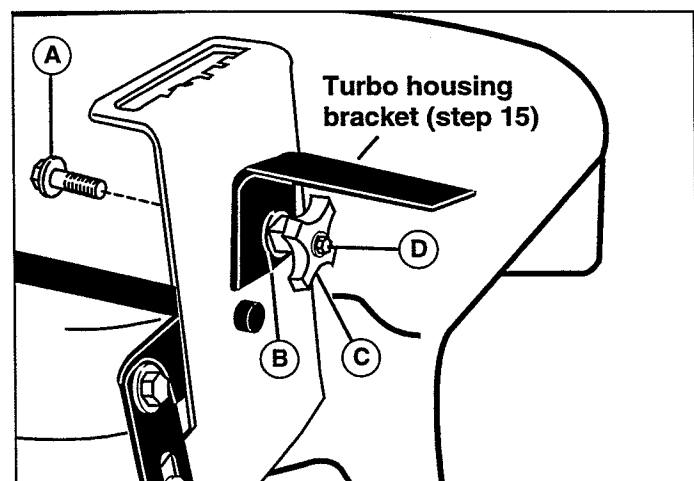


Figure 9. Mfg. No. 1692626 only.

A. Carriage Bolt 5/16-18 x 1-1/2
B. Washer
C. Knob
D. Locknut, 5/16

Turbo Installation - 38" Mower Deck

15. Lift deflector to maximum raised position. Rotate turbo into position, making sure it fits securely over carriage bolt (A, figure 9) or wingnut assy. (E, figure 10). Make sure belt is clear of all brackets.
16. Put belt in lower groove of pulley (H), then around fixed idler pulley (G). Release the belt tension arm (D).
17. Check to be sure belt is routed around all pulleys correctly.
18. With turbo housing in position, tighten wingnut or knob (E). Put mower drive belt into top groove of double-groove pulley and on engine PTO pulley.

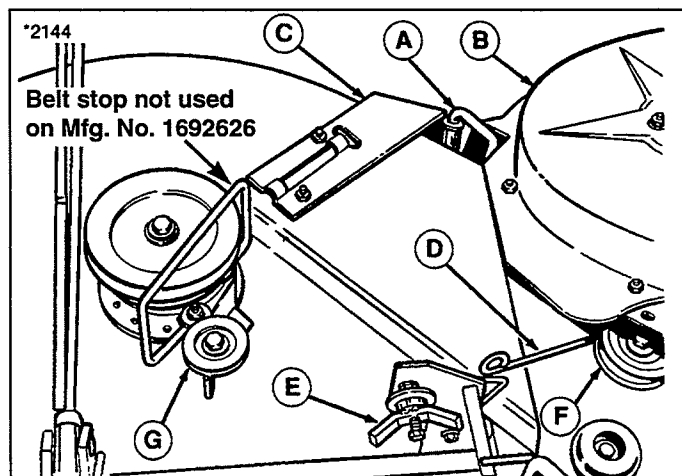


Figure 10. Mfg. No. 1691867 shown

- | | |
|---------------------|-----------------------|
| A. Spindle | E. Wing Nut or Knob |
| B. Turbo Housing | F. Turbo Idler Pulley |
| C. Pivot Bracket | G. Fixed Idler Pulley |
| D. Belt Tension Arm | |

Turbo Installation - 44" Mower Deck

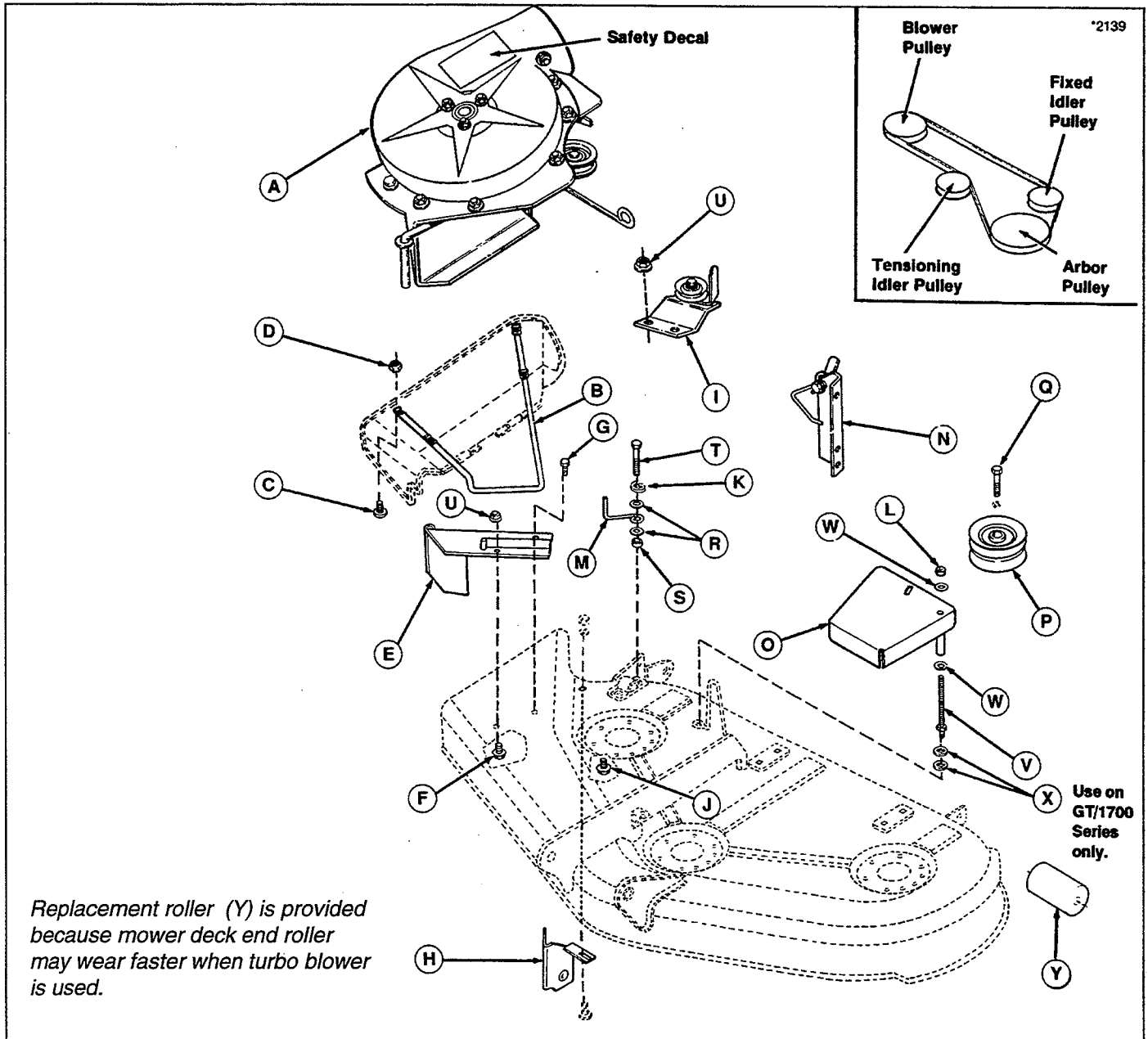


Figure 1. 44" Turbo Blower - Kit Parts

Ref.	Description	Qty.	Ref.	Description	Qty.
A.	Turbo Blower Assy.	1	N.	Support Brace Assy.	1
B.	Deflector Rod Support	1	O.	Belt Cover	1
C.	Capscrew, Truss Hd., 10-24 x 3/4	4	P.	Pulley, Double Groove	1
D.	Nut, Nylock, 20-24	4	Q.	Capscrew, 7/6-14 x 2	1
E.	Pivot Bracket	1	R.	Washer, 5/16	2
F.	Carriage Bolt, 5/16-18 x 3/4	1	S.	Spacer	1
G.	Screw, Whizlock, 5/16-18 x 1/2	1	T.	Capscrew, 5/16-18 x 1-1/2	1
H.	Baffle Assy.	1	U.	Locknut, Flanged	1
I.	Idler Pulley Assy.	1	V.	Stud, 5/16-18 x 5-1/2	1
J.	Capscrew, 5/16-18 7/8	2	W.	Washer, 5/16" I.D. x 7/8" O.D.	2
K.	Lockwasher	1	X.	Washer, 5/16" I.D. x 1" O.D.	2
L.	Nut, Nylock, 5/16-18	2	Y.	Roller, Replacement	1
M.	Belt Stop	1			

Turbo Installation - 44" Mower Deck

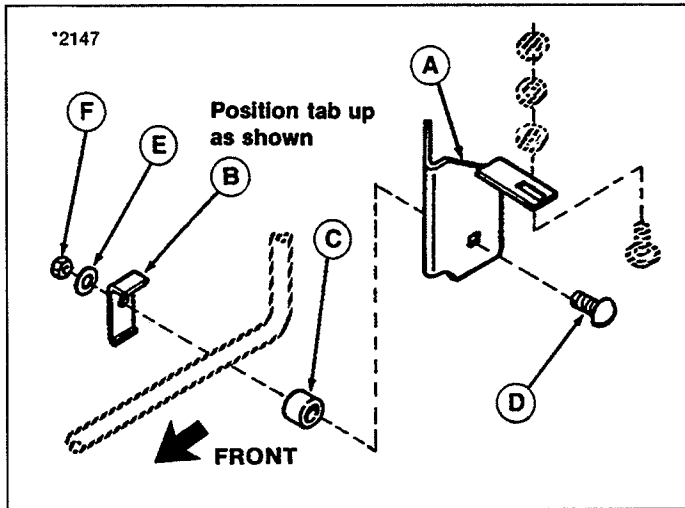


Figure 2.

- A. Baffle Assy.
- B. Bracket
- C. Spacer
- D. Carriage Bolt, 5/16-18 x 1-1/4
- E. Lockwasher, 5/16
- F. Nut, 5/16-18

1. Remove the mower deck from the tractor. See your tractor Operator's Manual for procedure.
2. Remove the deflector from the the deck and retain hardware. Remove and discard the plastic plug from mower deck housing.
3. See figure 2. Install baffle assy. (A) to the stone guard (underneath mower deck) using U-bracket (B), spacer (C) carriage bolt (D), lockwasher (E) and nut (F). Reuse hardware removed in step 2 to secure tab on baffle assy. to mower deck.

On LT/1600 series tractors, remove arbor cover and upstop. Retain flat washer and upstop. Arbor cover and tapite screws will not be used in this installation.

4. Remove the mower belt from right-hand pulley.
5. Remove the right-hand pulley and retain the lockwasher and large washer. Pulley will not be re-used in this installation.
6. See figure 3. Replace the two 3/4 tapite screws as shown with two 5/16-18 x 7/8 capscrews supplied.
7. See figure 4. Position the pulley bracket assy. on the 7/8 capscrews installed in step 6. Secure with two 5/16-18 whizlock nuts. Install the double groove pulley (C) to the arbor shaft. Reinstall the lockwasher, and large flat washer removed in step 5 and secure with a new capscrew (D). Torque capscrew to 50-70 ft.-lbs. (68-76 Nm).
8. Install drive belt around double groove pulley with belt removed from spring-loaded idler pulley, then pull against spring-loaded idler and reinstall belt to idler pulley.

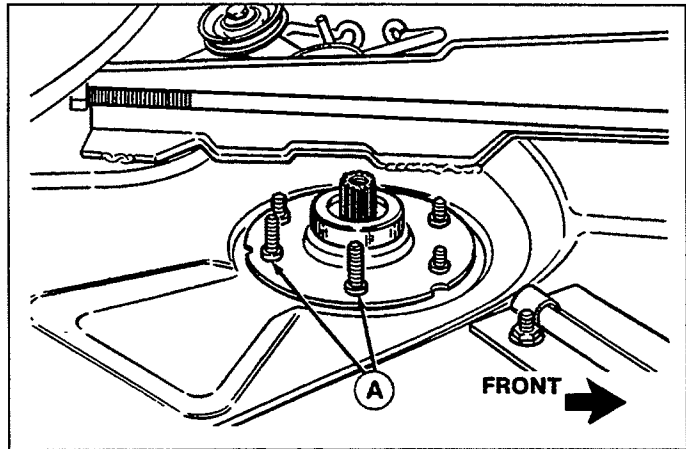


Figure 3.

- A. Capscrews, 5/16-18 x 7/8

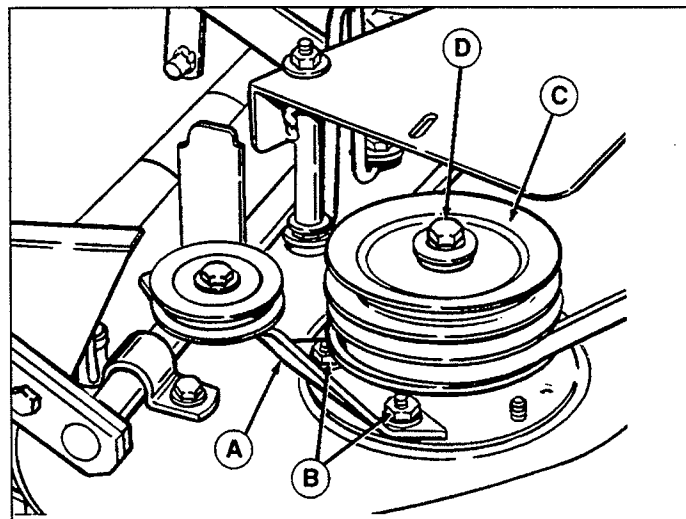


Figure 4.

- A. Bracket Assy.
- B. Whizlock Nuts
- C. Pulley, Double Groove
- D. Capscrew, 7/16-14 x 2

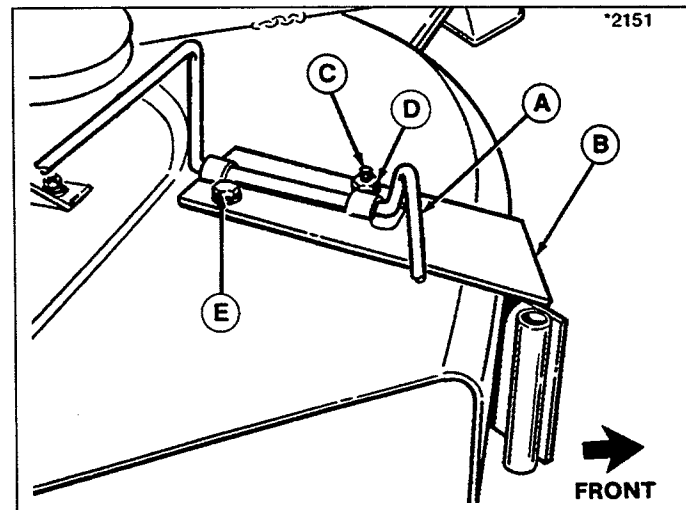


Figure 5.

- A. Deflector Support Rod
- B. Pivot Bracket
- C. Carriage Bolt, 5/16-18 x 3/4
- D. Locknut, Flanged
- E. Whizlock Screw 5/16-18 x 1/2

Turbo Installation - 44" Mower Deck

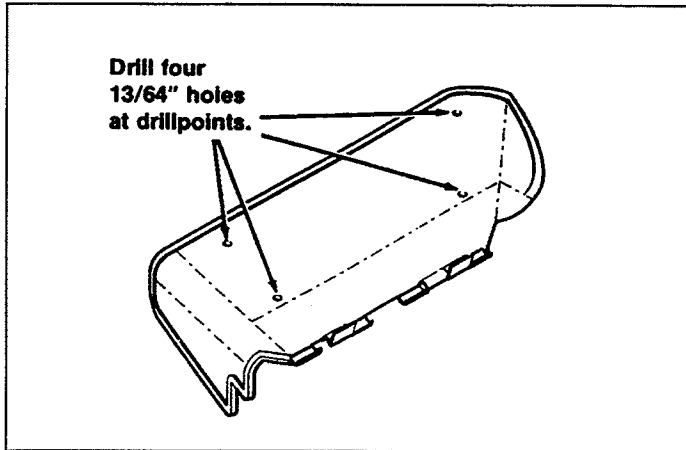


Figure 6.

9. See figure 5. Install the new deflector support rod (A) underneath the pivot bracket (B) and install bracket to deck. Secure bracket with two carriage bolts (C) from underneath deck and flange locknut (D) in front hole. Use whizlock screw (E) in rear hole. Use whizlock screw (E) in rear hole.
 10. See figure 6. Turn deflector over and locate the drill-points for mounting support rod (A, figure 5). Drill four 13/64" holes. Install deflector to new support and secure with screws and nuts as shown in figure 1.
 11. See figure 7. On LT/1600 models, reinstall upstop using existing taptite screw (A) and flat washer at left hand leg. Use existing flat washer and long stud (B) at right hand leg.
On GT/1700 models, use two large flat washers (1" O.D. x 1/8" Thk.) and long stud (B).
Do not overtighten taptite screw or stud.
 12. See figure 7. Install washer (F) on stud (B). Install belt cover (C) and secure with washer (D) and nut (E). Tighten nut so there is slight resistance when cover is rotated on the stud.
 13. See figure 8. Remove the mower support/height indicator from the mower deck housing. Retain the two taptite screws.
 14. See figure 9. Install support brace assy. (A) against mower roller support with two screws removed in step 15.
 15. See figure 9. Install and adjust spring latch (C) so that it overlaps the top edge of the deflector by 1/4" - 3/16", in the down position. Spring latch should hold deflector down, but deflector should be able to be rotated up by hand.
 16. Install mower deck to tractor. See the tractor Operator's Manual.
- See figure 10 for steps 17 - 23.
17. Make sure cover (F) is rotated all the way forward.

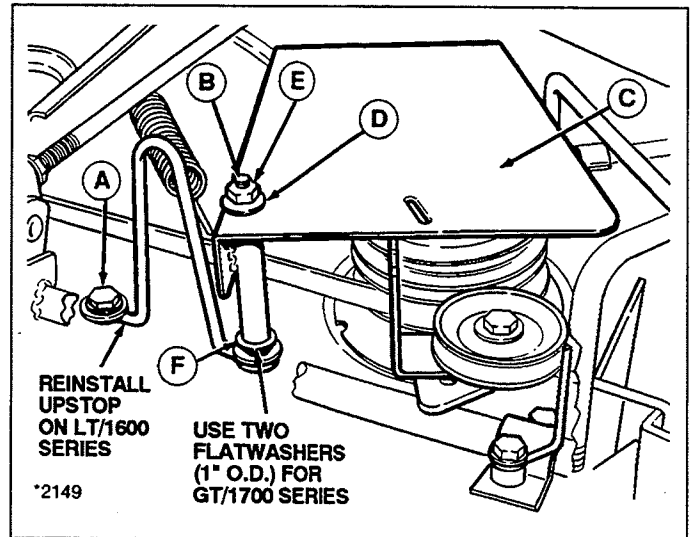


Figure 7.

- | | |
|-------------------------|-----------------------------|
| A. Taptite Screw | D. Washer, 5/16 |
| B. Stud | E. Nut, Nylock, 5/16 |
| C. Belt Cover | F. Washer, 5/16 |

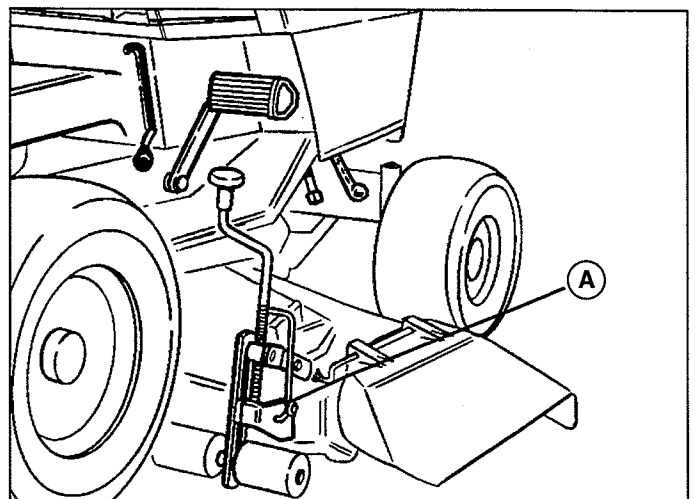


Figure 8.

A. Mower Support/Height Indicator

18. Install spindle (A) of turbo housing (B) into the pivot bracket (C).
19. With right hand, hold both strands of belt around turbo idler pulley (E). Pull belt loop and belt tension arm (D) fully forward.
20. Lift deflector to maximum position.
21. Rotate turbo into position, making sure it fits securely over wingnut assy. Make sure belt is clear of all brackets.
22. Put belt in upper groove of pulley first, then around fixed idler pulley (G).
23. Check to be sure belt is properly routed around all pulleys.

Turbo Installation - 50" Mower Deck

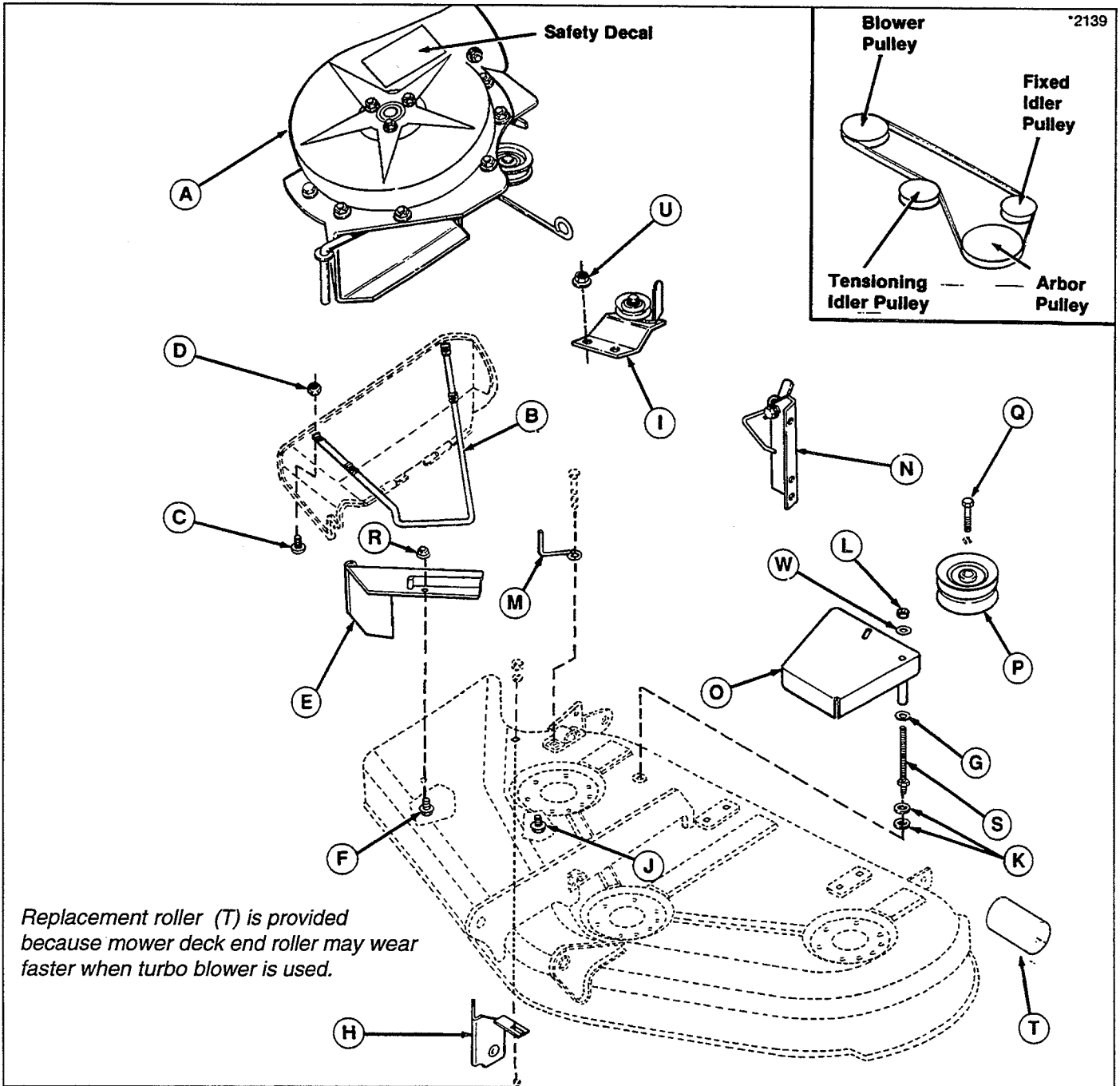


Figure 1. 50" Turbo Blower - Kit Parts

Ref.	Description	Qty.	Ref.	Description	Qty.
A.	Turbo Blower Assy.	1	K.	Washer, 5/16" O.D. x 1" O.D.	2
B.	Deflector Rod Support	1	L.	Nut, Nylock, 5/16-18	1
C.	Capscrew, Truss Hd., 10-24 x 3/4	4	M.	Belt Stop	1
D.	Nut, Nylock, 20-24	4	N.	Support Brace Assy.	1
E.	Pivot Bracket	1	O.	Belt Cover	1
F.	Carriage Bolt, 5/16-18 x 3/4	2	P.	Pulley, Double Groove	1
G.	Washer, 5/16" O.D. x 7/8" O.D.	2	Q.	Capscrew, 7/6-14 x 2	1
H.	Baffle Assy.	1	R.	Locknut, Flanged	3
I.	Idler Pulley Assy.	1	S.	Stud, 5/16-18 x 5-1/2	1
J.	Capscrew, 5/16-18 7/8	2	T.	Roller, Replacement	1

Turbo Installation - 50" Mower Deck

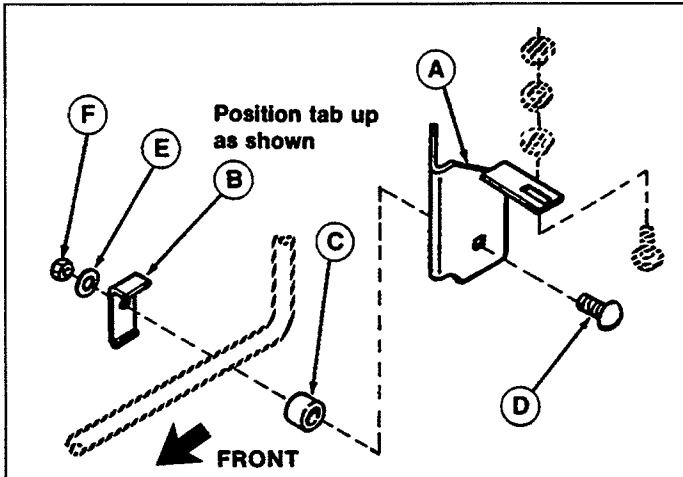


Figure 2.

- A. Baffle Assy.
- B. Bracket
- C. Spacer
- D. Carriage Bolt, 5/16-18 x 1-1/4
- E. Lockwasher, 5/16
- F. Nut, 5/16-18

1. Remove the mower deck from the tractor. See your tractor Operator's Manual for procedure.
2. Remove the deflector from the the deck and retain hardware. Remove and discard the plastic plug from mower deck housing.
3. See figure 2. Install baffle assy. (A) to the stone guard (underneath mower deck) using U-bracket (B), spacer (C) carriage bolt (D), lockwasher (E) and nut (F). Reuse hardware removed in step 2 to secure tab on baffle assy. to mower deck. Remove arbor cover.
4. Remove the mower belt from right-hand pulley.
5. Remove the right-hand pulley and retain the lockwasher and large washer. Pulley will not be re-used in this installation.
6. See figure 3. Replace the two 3/4 taptite screws as shown with two 5/16-18 x 7/8 capscrews supplied.
7. See figure 4. Position the pulley bracket assy. on the 7/8 capscrews installed in step 6. Secure with two 5/16-18 whizlock nuts. Install the double groove pulley (C) to the arbor shaft. Reinstall the lockwasher, and large flat washer removed in step 5 and secure with a new capscrew (D). Torque capscrew to 50-70 ft.-lbs.(68-76 Nm).
8. Install drive belt around double groove pulley with belt removed from spring-loaded idler pulley, then pull against spring-loaded idler and reinstall belt to idler pulley.
11. See figure 5. Install the new deflector support rod (A) underneath the pivot bracket (B) and install bracket to deck. Secure bracket with two carriage bolts (C) from underneath deck and flange locknut (D) in front hole. Use whizlock screw (E) in rear hole.

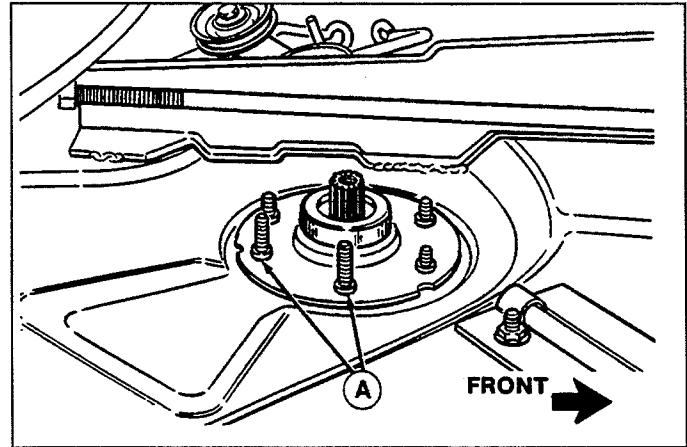


Figure 3.

- A. Capscrews, 5/16-18 x 7/8

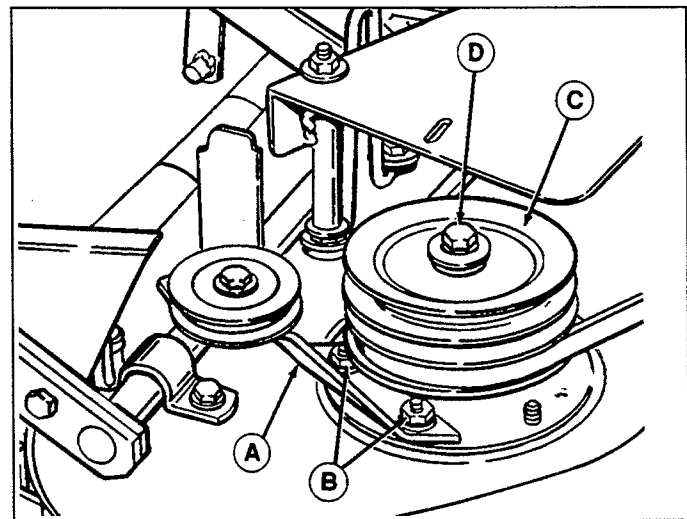


Figure 4.

- A. Bracket Assy.
- B. Whizlock Nuts
- C. Pulley, Double Groove
- D. Capscrew, 7/16-14 x 2

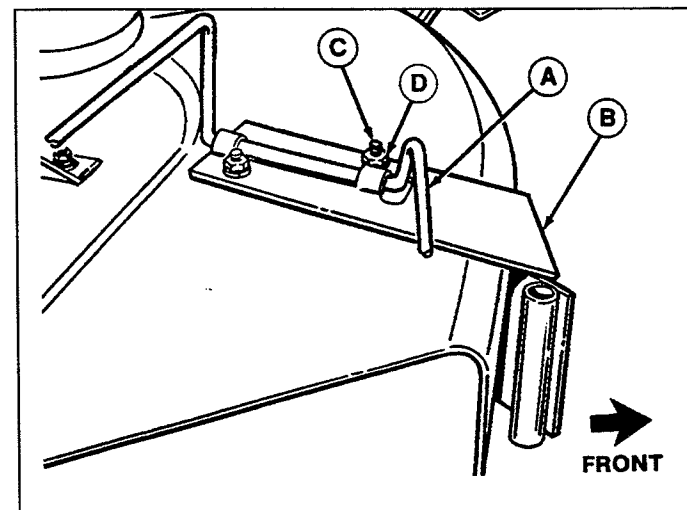


Figure 5.

- A. Deflector Support Rod
- B. Pivot Bracket
- C. Carriage Bolt, 5/16-18 x 3/4
- D. Locknut, Flanged
- E. Whizlock Screw 5/16-18 x 1/2

Turbo Installation - 50" Mower Deck

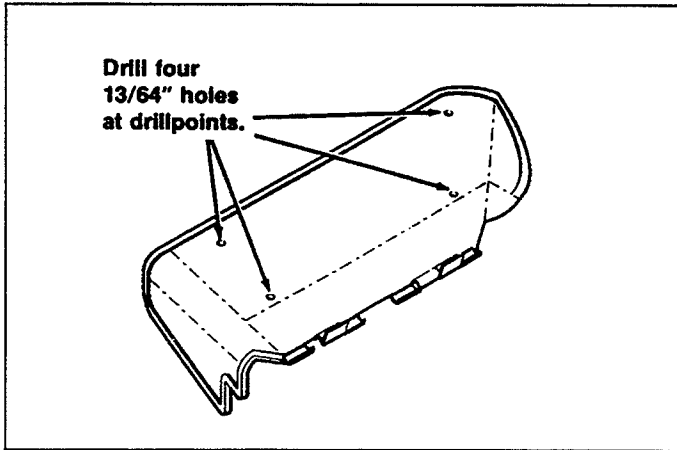


Figure 6.

12. See figure 6. Turn deflector over and locate the drillpoints. Drill four 13/64" holes. Install deflector to new support and secure with screws and nuts as shown in figure 1.
 13. See figure 7. Install Two large flat washers (A) and long stud (B). Do not overtighten stud.
 14. See figure 7. Install washer (F) on stud (B). Install belt cover (C) and secure with washer (D) and nut (E). Tighten nut so there is slight resistance when cover is rotated on the stud.
 15. See figure 8. Remove the mower support/height indicator from the mower deck housing. Retain the two taptite screws.
 16. See figure 9. Install support brace assy. (A) against mower roller support with two screws removed in step 15.
 17. See figure 9. Install and adjust spring latch (C) so that it overlaps the top edge of the deflector by 1/4" - 3/16", in the down position. Spring latch should hold deflector down, but deflector should be able to be rotated up by hand.
 18. Install mower deck to tractor. See the tractor Operator's Manual.
- See figure 10 for steps 19 - 25.
19. Make sure cover (F) is rotated all the way forward.
 20. Install spidle (A) of turbo housing (B) into the pivot bracket (C).
 21. With right hand, hold both strands of belt around turbo idler pulley (E). Pull belt loop and belt tension arm (D) fully forward.
 22. Lift deflector to maximum position.
 23. Rotate turbo into position, making sure it fits securely over wingnut assy. Make sure belt is clear of all brackets.

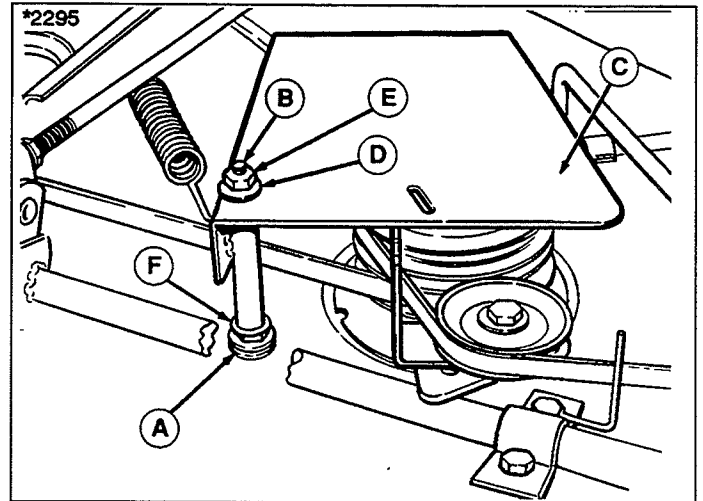


Figure 7.

- | | |
|--|------------------------|
| A. Flat Washer
(1" O.D. x 1/8" Thk.) | D. Washer, 5/16 |
| B. Stud | E. Nut |
| C. Belt Cover | F. Washer, 5,16 |

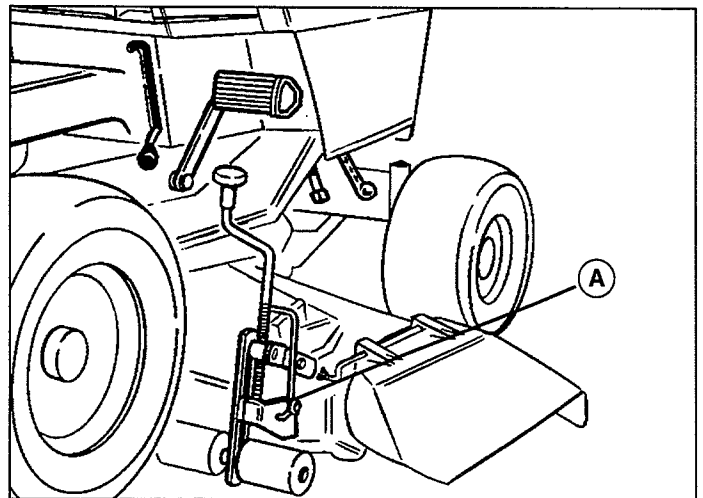


Figure 8.

- A. Mower Support/Height Indicator**

24. Put belt in upper groove of pulley first, then around fixed idler pulley (G).
25. Check to be sure belt is properly routed around all pulleys.

See figure 11 for steps 26 & 27.

26. Remove the front taptite screw securing strap (A) to housing. Install capscrew (B) and belt stop (C). Position belt stop 1/16" away from belt.
27. Rotate belt cover (D) rearward onto latch (E). Make sure that pulley capscrew (F) is tightened securely.

NOTE: If latch does not fit into cover slot when rear edge of cover is in line with arm assy., adjust position by rotating latch.

⚠ WARNING ⚠

For safety reasons, grass and debris are to be removed only after engine is shut off, key removed and all moving parts stopped.

⚠ WARNING ⚠

Before raising cover, shut off engine, remove key and set parking brake.

BEFORE OPERATION

- Clear the lawn of all sticks, stones, wire and other debris which may be caught or thrown by the mower blades.
- Clean tube with mild detergent (other products may damage tube). Inspection windows can be removed to be cleaned. Make sure windows are securely in place before operating.
- Check grass condition. If wet, wait until later in the day. If grass is wet, plugging may occur.
- For efficient bagging, air circulation under the mower deck, through the chute and into the bag is very important. For this reason, you should remove grass and debris from underside of mower deck, discharge chute and inside cover screen.
- The blower housing and tube should be removed for cleaning. Remove the tube by unlatching the lower clip from the blower housing.
- If desired, the bags can be lined with 30 gallon trash bags for easy disposal.
- Inspect the grass bags for wear or damage. Make sure that there is a snug fit between mower deck, blower housing, tubes and grass bag cover.

OPERATION WITH TURBO

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 to prevent clogging. If grass is too high, operate with mower in

high cutting position. Cut the grass again in lower cutting position, if desired.

To check if grass is flowing up tube, view tube through rear inspection window. Do not open cover with mower engaged.

To check if grass bags are full, reach back and feel top of right bag (left bag will fill first), or view tube discharge through front inspection window in cover.

If a large amount of cut grass is spilling out from under the deck, the tube may be plugged or grass bags are full. Shut off tractor, disengage PTO and allow all moving parts to stop before disconnecting tube.

Always operate at full throttle speed.

OPERATION WITHOUT TURBO

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

On 44" decks, the arbor pulley cover must be rotated into the correct operating position, over the latch.

To remove turbo, reverse the installation steps.

EMPTYING THE BAGS

NOTE: Move the seat forward and tilt it up to allow cover to remain the "up" position when emptying bags.




1. Raise the cover. If a plastic liner was not used, unhook each bag and turn it upside down to empty it.
2. If plastic liner was used, first tie up the top of the liner. Then either pull the liner out, or tip the bag over to allow the liner to slide out.

STORAGE

1. Clean the grass catcher thoroughly.
2. If metal parts are scratched, coat with paint or oil.
3. Store in a dry area. Hang the bags to dry. Always store away from moisture.

Standard Torque Specifications

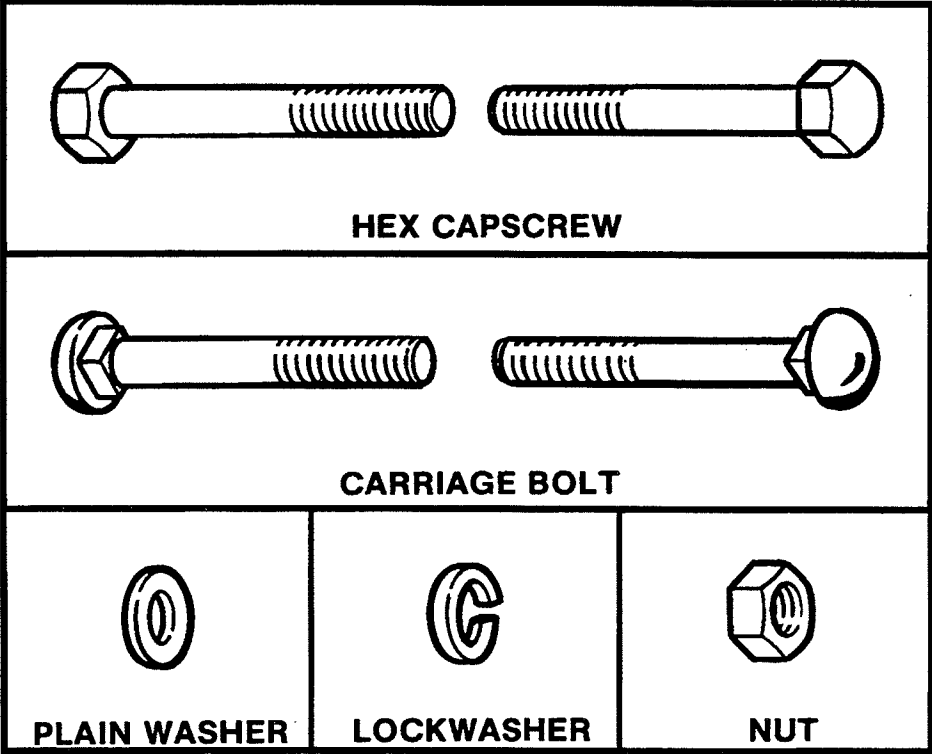
TORQUE SPECIFICATIONS FOR STANDARD MACHINE HARDWARE (Tolerance $\pm 20\%$)

SIZE	SAE GRADE #2 		SAE GRADE #5 		SAE GRADE #8 	
	<u>in/lbs</u> ft/lbs	Nm.	<u>in/lbs</u> ft/lbs	Nm.	<u>in/lbs</u> ft/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	<u>49</u>	5.5	<u>68</u>	7.7
1/4-20	66	7.6	8	10.9	12	16.3
1/4-28	<u>76</u>	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
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

1. 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.
2. Recommended seating torque values for locknuts:
 - a. for prevailing torque locknuts - use 65% of grade 5 torques.
 - b. for flange whizlock nuts and screws - use 135% of grade 5 torques.
3. Unless otherwise noted on assembly drawings, all torque values must meet this specification.

STANDARD FASTENER IDENTIFICATION CHART

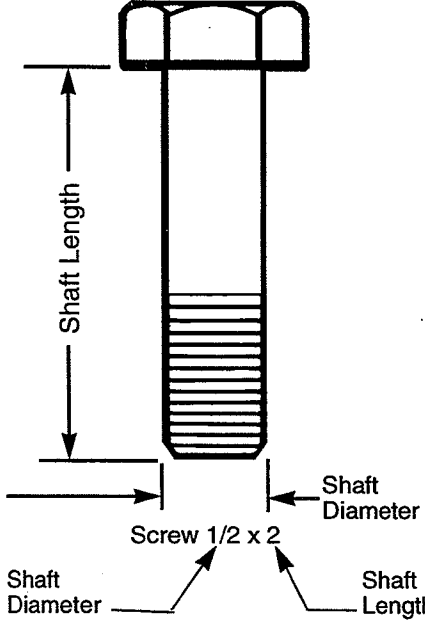


Hardware sizes given in the illustrations throughout this manual.

If a washer or nut is identified as "washer, 1/2" or "nut, 1/2", this means the inside diameter is 1/2 inch

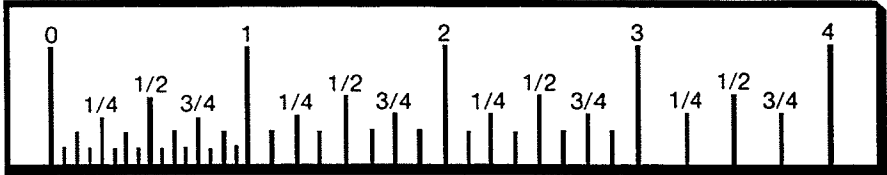
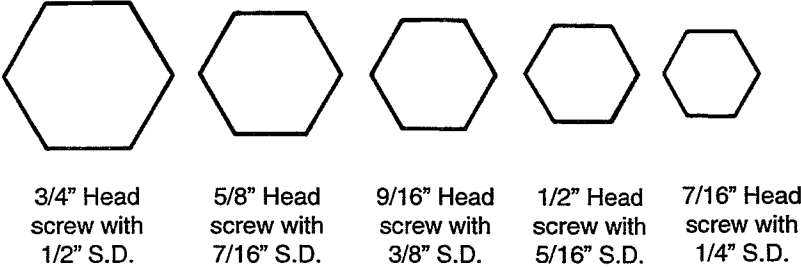
If a screw is identified as "screw, 1/2 x 2", this means the shaft diameter is 1/2 inch and the shaft of the screw is 2 inches long. If a screw is identified as "screw, 1/2 - 16 x 2", the number "16" means that the screw has 16 threads per inch.

SAMPLE: SCREW IDENTIFICATION



HEX CAPSCREW IDENTIFICATION

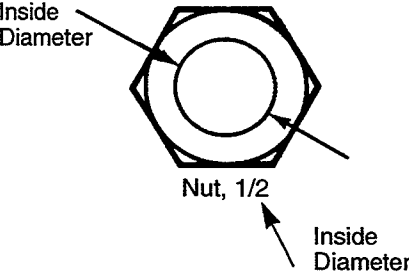
Shown below are actual size heads for standard screw sizes. Example: a 1/4 screw has 7/16 head and thus requires a 7/16 wrench. To measure length, use the scale below.



WASHER AND NUT IDENTIFICATION

Place the washer or nut on the above scale to determine the inside diameter. The actual inside diameter can vary 1/16 inch. Use the scale for comparison.

SAMPLE: NUT IDENTIFICATION



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