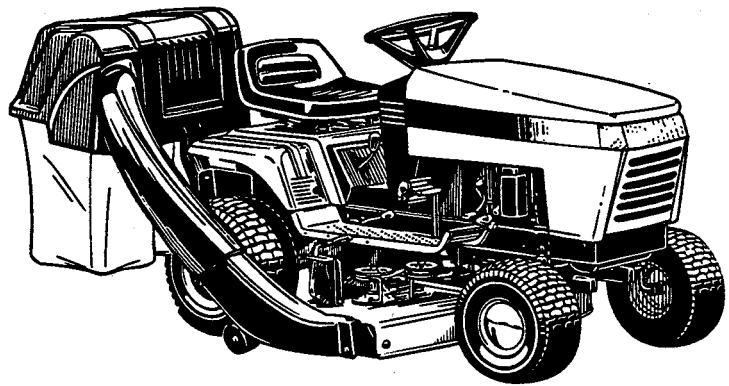


OPERATOR'S MANUAL

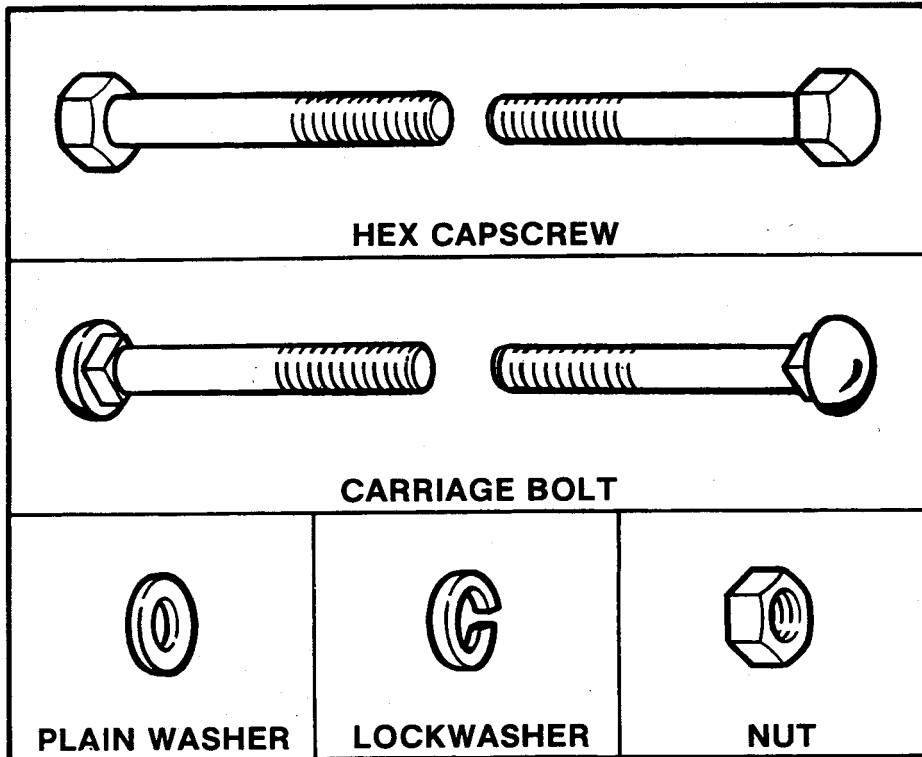
Twin Bag Grass Catcher

Mfg. No. 1691788



Simplicity®

STANDARD FASTENER IDENTIFICATION CHART



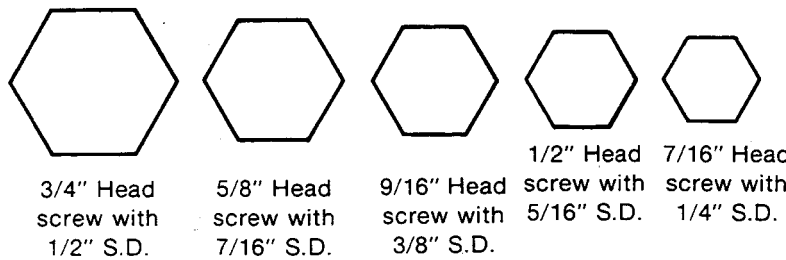
Hardware sizes are given in the illustrations throughout this manual.

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.

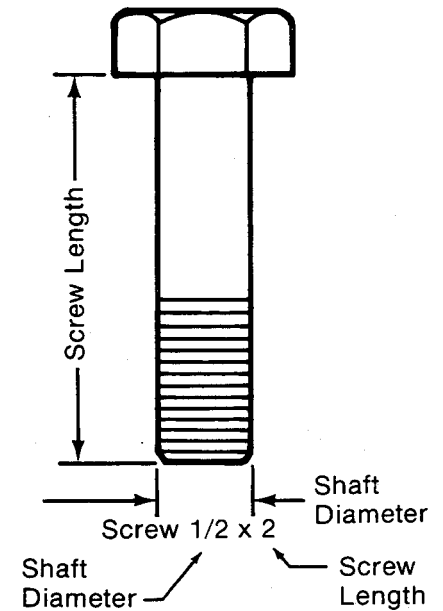
HEX CAPSCREW IDENTIFICATION

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

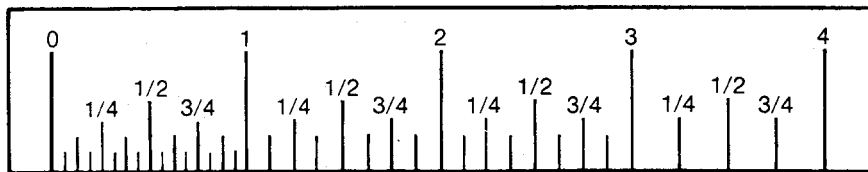
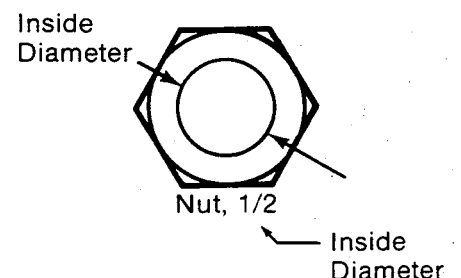


S.D. = Shaft Diameter

SAMPLE: SCREW IDENTIFICATION



SAMPLE: NUT IDENTIFICATION



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.

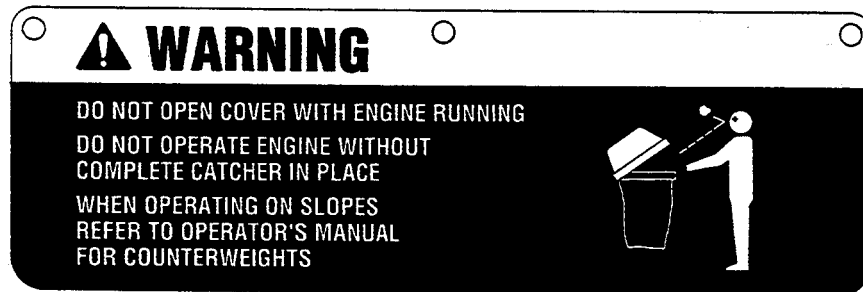
Table of Contents

RECOMMENDED ACCESSORIES	1
SAFETY DECALS	1
SAFETY RULES	2
INSTALLATION & REMOVAL	3
OPERATION AND STORAGE	5
TROUBLESHOOTING	6
ASSEMBLY	7
STANDARD FASTENERS	15
TORQUE SPECIFICATIONS	16

Recommended Accessories


Front counterweight (1690257) is recommended when using rear-mounted grass catcher. On slopes over 15% (8.5°), use two rear wheel weights (1690555) 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.

1. Know the controls and how to stop the tractor quickly. READ THE TRACTOR'S OPERATOR'S MANUAL.
2. Shut the engine (motor) off before attaching, adjusting or disconnecting the collection system.
3. Check the grass catcher frame to make sure it is attached securely to tractor.
4. Look behind to make sure the area is clear before backing up.
5. **CAUTION:** For added tractor stability and to prevent tipping or loss of control;
 - a. DO drive in 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.**
6. **CAUTION:** Objects may be thrown from mower. For your safety.
 - a. DO NOT open the cover while the mower blades are turning. Shut off the engine before 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 cover and bags frequently for wear and tear. Replace with the new cover for safety protection.
7. For best results when mowing grass: Set the mower to cut off from 1 to 2 inches of grass (leave 1-1/2" of grass). If grass is exceptionally tall, set your mower as high as possible for first cutting. Lower cutting height at succeeding cuttings until proper height is reached. It may be necessary to mow tall grass at a slower tractor ground speed (keep engine at full throttle).



WARNING

Do not operate the tractor unless the entire grass catcher system or mower discharge deflector is properly installed.



WARNING

Before raising cover, disengage mower, turn off engine and remove the key. Do not remove catcher tube from adapter or cover while mower is running.

Installation & Removal

NOTE

For first-time installation, follow Assembly Instructions provided at the back of this manual.

1. Install grass bag and bracket assembly (A, figure 1) onto frame spacers (B) as shown in figure 1. Guide front slots of bracket assembly over front spacers and push forward so assembly will rest on rear spacers. Install clevis pin (C) through back plate and drawbar and secure with spring clip (D). If assembly is too bulky to install, separate grass bag cover (A, figure 2) from upright supports (B) by removing clips (D) and long clevis pins (C). Reinstall cover after support is installed.

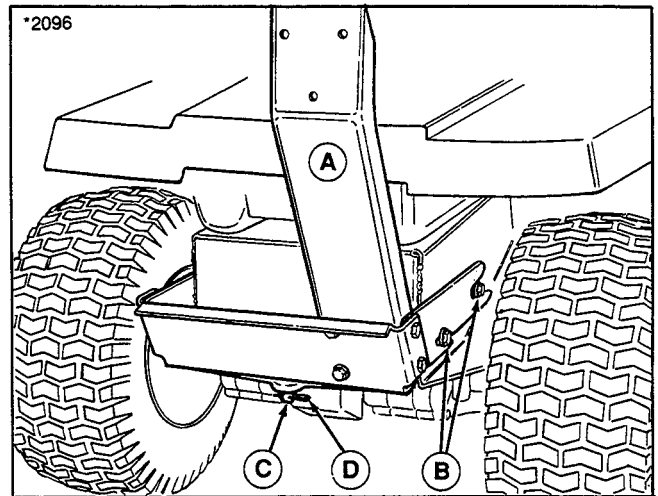


Figure 1.

- A. Bracket Assembly
- B. Spacers
- C. Clevis Pin
- D. Spring Clip

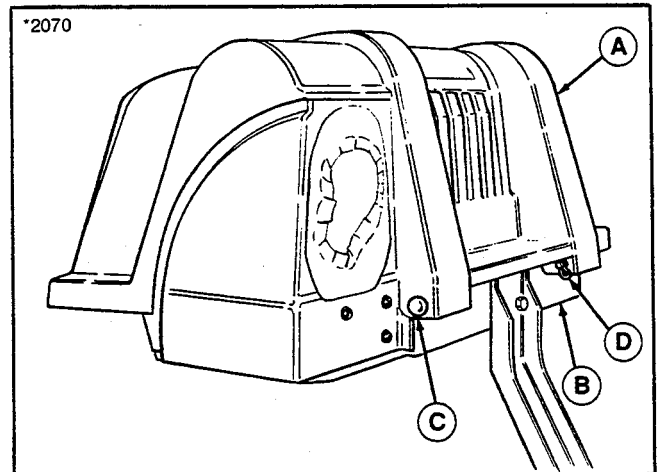


Figure 2.

- A. Cover
- B. Support
- C. Clevis Pin
- D. Clip

2. Open grass bag cover and install grass bag frames (A, figure 3) to support brackets (B).

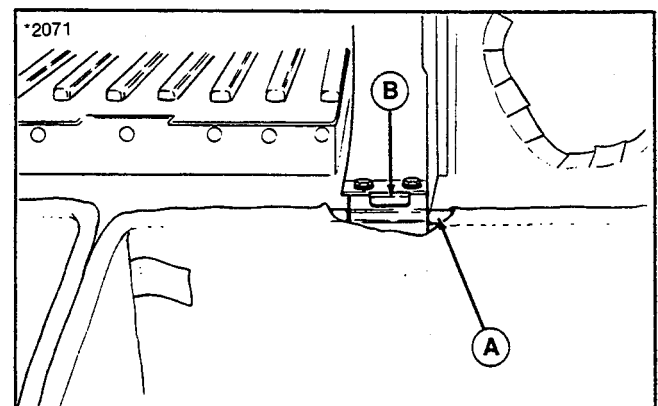


Figure 3.

- A. Grass Bag Frame
- B. Support Bracket

3. Install the adapter onto the three carriage bolts and secure with flat washers, lockwashers, and nuts.

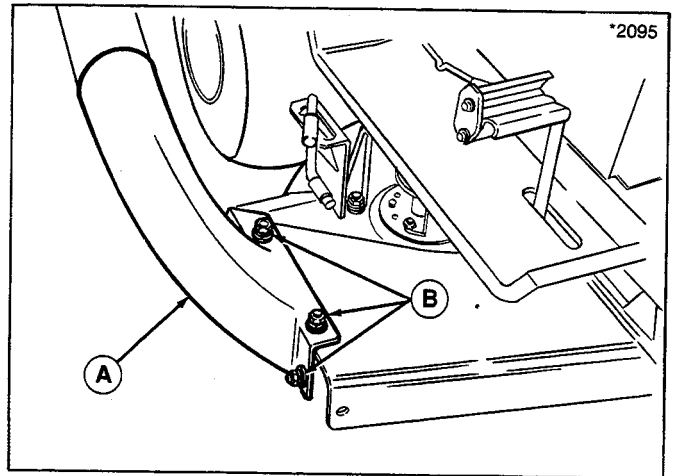


Figure 4.
A. Adaptor
B. Hardware

4. Install tube (A, figure 5) as far as possible into opening to clear adapter and install over adapter. Secure by rotating wire form (B) down into locked position over rubber cup on adapter (see inset).
5. To remove grass catcher, reverse above steps. Make sure deflector (C) is reinstalled in proper operating position.

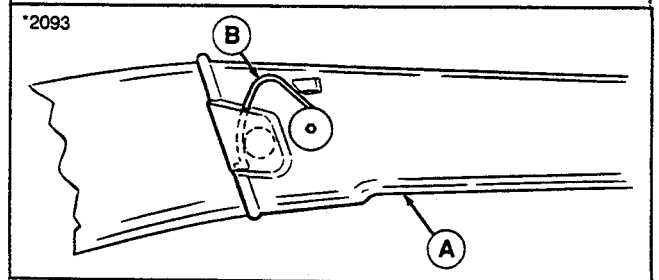
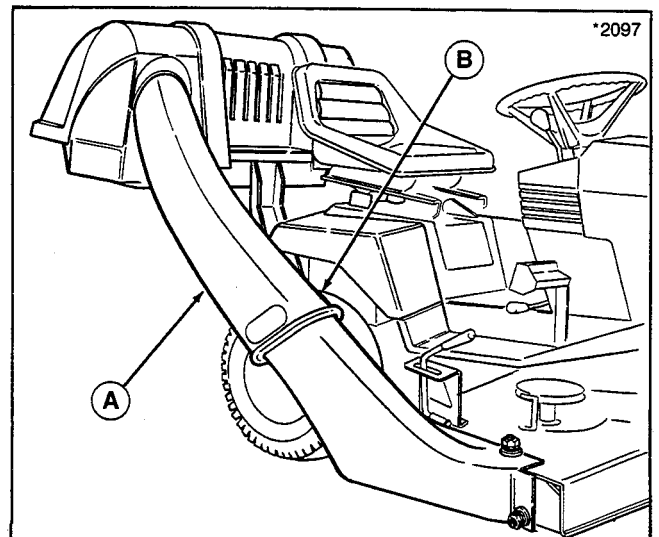


Figure 5.
A. Tube
B. Wire Form

Operation and Storage

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 the 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 screen inside cover.

The adapter and tube should be removed for cleaning. Unhook the wire form and remove the tube from the adapter. Remove the hardware securing the adapter to mower deck.

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, adapter, tubes, and grass bag cover.

OPERATION

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 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 through front inspection window.

If a large amount of cut grass is spilling out from under 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.

NOTE

High-lift blade may be replaced with standard blade for operation without grass collector.

Always operate with throttle at full speed.

EMPTYING THE BAGS

NOTE

Move the seat to the forward position and tilt up to allow cover to remain in "up" position.

Raise the cover. If a plastic liner was not used, unhook the bag and turn inside down to empty (use handle on bottom).

If plastic liner was used, first tie up top of liner. Then, either pull the liner out, or turn the bag upside down and allow the filled liner to slide out.

STORAGE

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

Troubleshooting

This section provides troubleshooting instructions for the more common and easily corrected problems. See Table 1. For problems not covered, see your dealer.

WARNING

To avoid serious injury, perform maintenance on the grass catcher only after stopping the engine and waiting for all moving parts to come to a complete stop. Always remove the ignition key before beginning the maintenance to prevent accidental starting of the engine. Disconnect the spark plug wire and fasten away from plug.

Problem	Cause/Remedy
<p>1. Leaves and grass not being completely picked up.</p>	<ul style="list-style-type: none"> A. Engine speed too slow. Run at full throttle. B. Ground speed too fast. Use lower speed. C. Discharge tube plugged. Stop engine and remove key. Then remove and unplug discharge tube. D. Using wrong mower blades. See Assembly Instructions. E. Blades not tight. Torque to 60 ft. lbs. F. Mower not level. See Operator's Manual to level mower. G. Belt slipping. See tractor Operator's Manual for adjustment.
<p>2. Grass catcher discharge tube or mower plugs easily.</p>	<ul style="list-style-type: none"> A. Bags full. Empty bags. B. Grass too high. Reduce tractor ground speed, reduce cutting width or raise mower adjustment for the first pass, lower it for the second pass. C. Grass or leaves too wet. Wait for drier conditions. D. Build-up of cut grass in mower or adapter. Clean thoroughly. E. Screen in grass bag cover clogged. Remove cover and clean screens. F. Using wrong mower blades. See Setup Instructions. G. Belt slipping. See tractor Operator's Manual for adjustment. H. Cutting off too much grass. High-lift blades and adapter collect best when 1-1/2" above ground. I. Engine not running at full throttle. Use hydro or gear lever to control ground speed and keep engine at full throttle.

Table 1. Troubleshooting

Assembly

ATTENTION SETUP PERSONNEL:

As setup personnel you have the obligations to know the product better than the customer. This includes safety related items. Prior to setup, thoroughly familiarize yourself with the Operator's Manual. Pay special attention to all safety warnings. Remember, it is your responsibility to set up the product safely and to know it well enough to be able to instruct a customer in the safe use of this power unit.

It is possible during setup to place yourself in a position which is more hazardous than when the unit is in operation. Safety is a matter of common sense . . . A matter of thinking before acting. Most shops have specific safety practices. Follow them. The precautions listed in the Operator's Manual should not supersede existing practices but should be considered as supplemental information.

1. Remove the mower from the tractor.
2. Remove the discharge deflector (A, figure 1). Retain the flat washer (B) and flange nut (C) to install adapter (step 9).

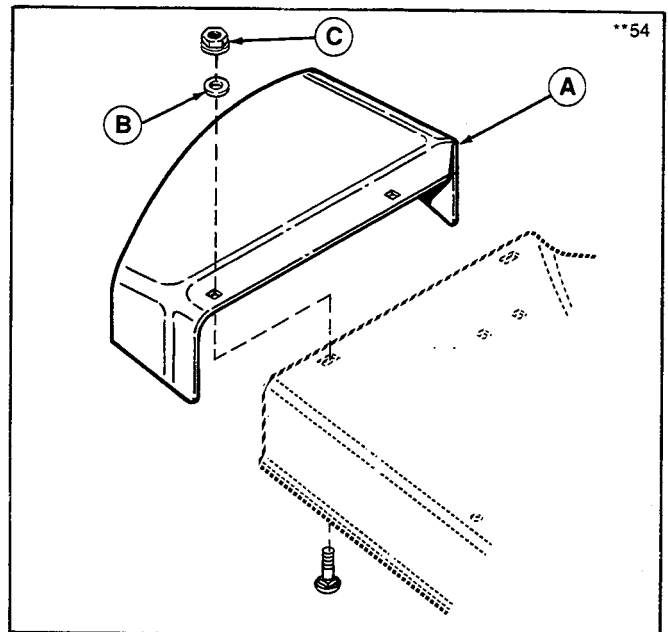


Figure 1.
A. Deflector
B. Flat Washer
C. Flange Locknut

3. For early models without baffle mounting holes (A, figure 2), drill a 9/32 inch hole 1/2 inch from edge of opening and 1-3/8 inch from bottom as shown. (The second hole will be drilled in step 5.)

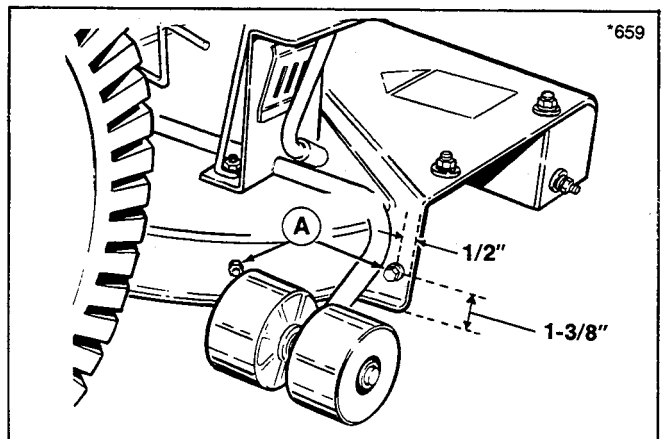


Figure 2.
A. Mounting Holes

4. Make sure the retainer nut (A, figure 3) is in the baffle.
5. Install the baffle into deck with the whizlock screw (B). If the second hole must be drilled, position the baffle parallel with bottom edge of mower deck. Also turn blade to make sure there is no interference. Mark the spot and drill a 9/32" hole as shown below.
6. Install the carriage bolt (E), lockwasher and nut.

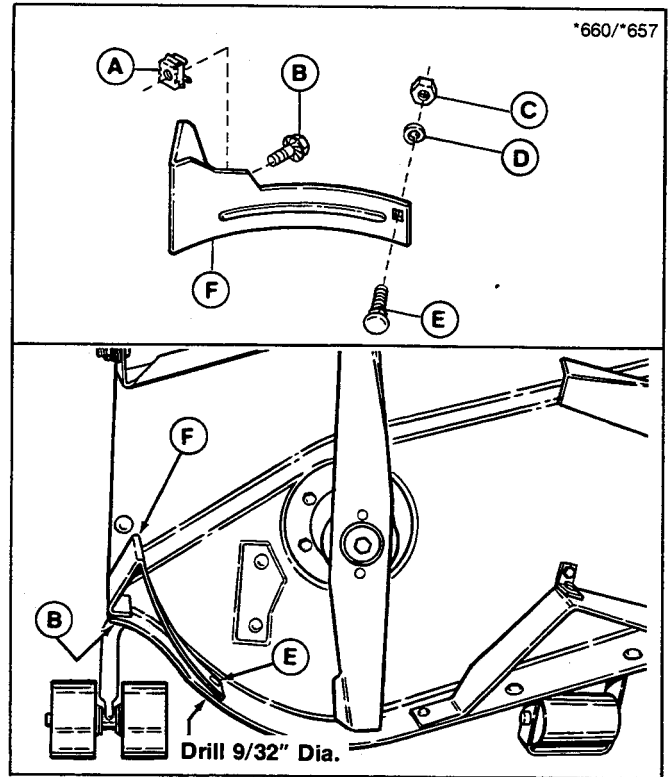


Figure 3.

- | | |
|--------------------------|----------------------------|
| A. Retainer Nut | D. Lockwasher |
| B. Whizlock Screw | E. Carriage Bolt |
| C. Nut | F. Deflector Baffle |

7. Install the discharge baffle (A, figure 4) as shown. Insert bolt (L) and install push nut (K) fully onto threads to hold bolt (L) in place. (The lockwashers (F), washer (H) and nut (J) will be used to install adapter.)

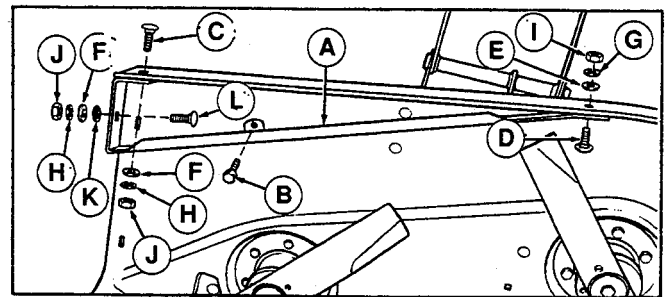


Figure 4.

- | |
|--|
| A. Baffle |
| B. Screw, Self Tapping, 5/16-18 x 1/2 |
| C. Bolt, Carriage, 3/8-16 x 3/4 |
| D. Bolt, Carriage, 5/16-18 x 7/8 |
| E. Washer, 5/16 |
| F. Washer, 3/8 |
| G. Lockwasher, 5/16 |
| H. Lockwasher, 3/8 |
| I. Nut, 5/16-18 |
| J. Nut, 3/8-16 |
| K. Push Nut |
| L. Bolt, Carriage, 3/8-16 x 3/4 |

⚠ WARNING

Blade mounting capscrews must be installed with the cup washer and spline washer and then securely tightened. Torque blade mounting capscrews to 60 ft. lbs. (81 N.m).

⚠ WARNING

Do not handle the mower blades with bare hands. Avoid touching the cutting edge. Careless or improper handling of blades may result in serious injury.

8. Remove the mower blades and install the new blades with tabs pointing up (toward mower deck). Install the washers and capscrew (A, figure 5). Make sure the spline washer (B) engages the shaft splines. Make sure the cup washer is installed concave side up (toward mower deck). Block the blade and torque capscrew to 60 ft. lbs. Note the difference between the two blades.

NOTE

Rotate blades to be sure there is not interference with baffles.

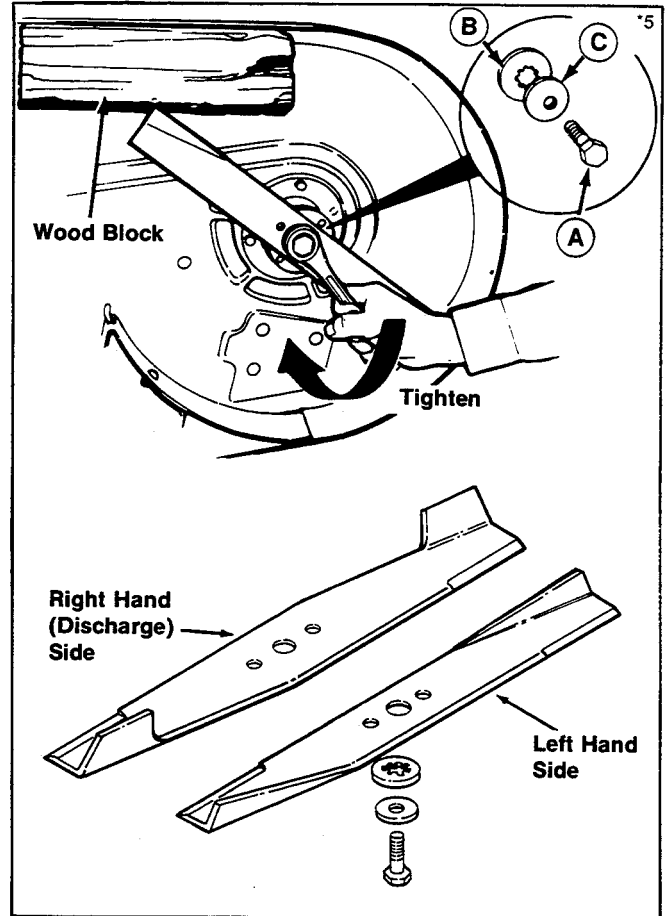


Figure 5.

- A. Capscrew
- B. Spline Washer
- C. Cup Washer

9. Re-install the deflector carriage bolts using the supplied push nuts (A, figure 6).

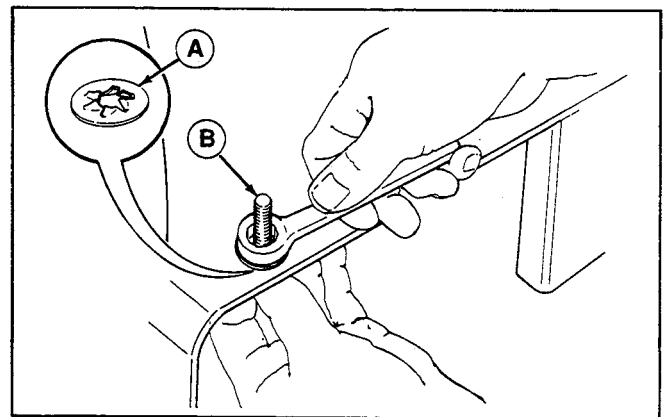


Figure 6

- A. Push Nut
- B. Carriage Bolt

10. Place the adapter (A, figure 7) onto the three carriage bolts and install 3/8" plain washers, 3/8" lockwashers and 3/8" nuts.

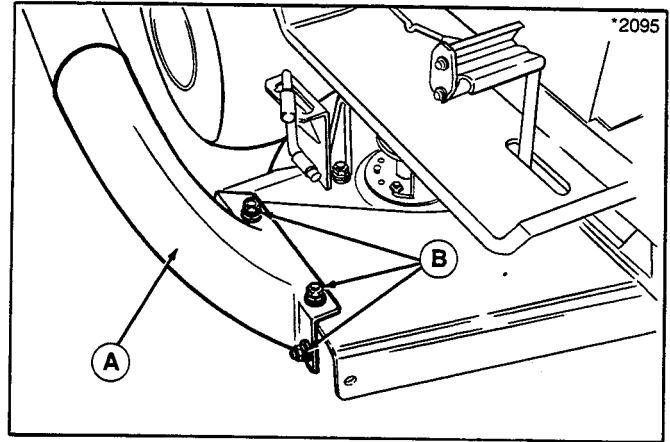


Figure 7.
A. Adapter
B. Hardware

NOTE

If holes are not present in frame to accept spacer assembly, refer to Service Bulletin on pages 15 & 16 for drilling instructions.

11. Assemble spacers into lower frame holes as shown in figure 8. At rear location, install 3/8-16 x 1-1/2" capscrew (A, figure 8) through small washer (B, 7/8" O.D.), spacer (C), large washer (D, 1-1/4" O.D.) and frame. Secure with lockwasher (E) and nut (F).

At front location, install 3/8-16 x 1-3/4 capscrew (G) through same hardware as rear location. Use an additional small flat washer (7/8" O.D.) on the inside of frame and secure with lockwasher and nut.

NOTE

On hydrostatic tractors, use the existing 1-1/2" capscrew on the left-hand side. After installation, hook-up the brake-return spring to the 1-1/2" capscrew. Install 3/8" nut to secure spring.

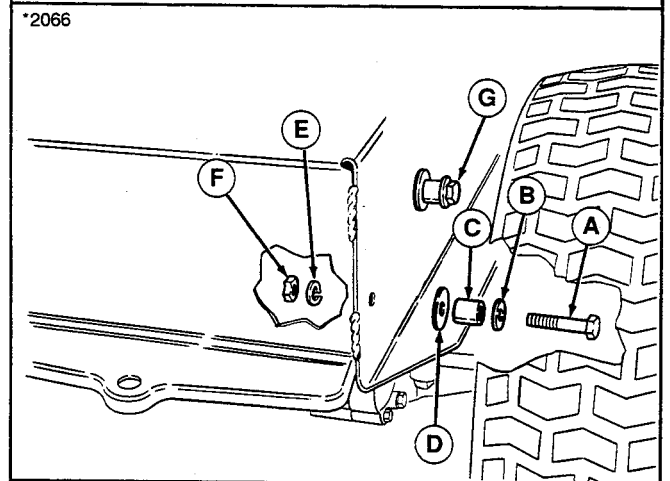
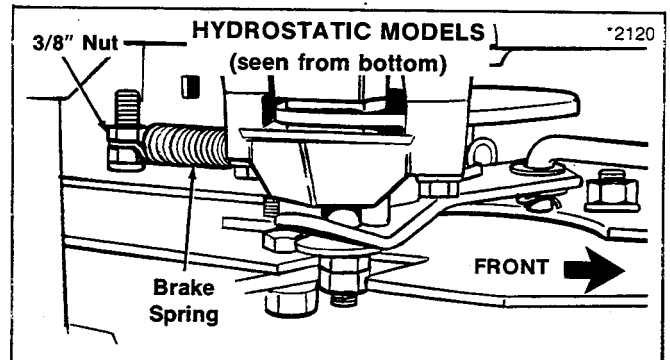


Figure 8.
A. Capscrew, 3/8-16 x 1-1/2
B. Small Washer
C. Spacer
D. Large Washer
E. Lockwasher
F. Nut
G. Capscrew, 3/8-16 x 1-3/4

12. Assemble support bracket with side plates (A, figure 9) on the outside of back plate (B) as shown in figure 9. Do not tighten hardware securely.
13. Assemble upright (D) on the inside of back plate (B). Do not tighten hardware securely.

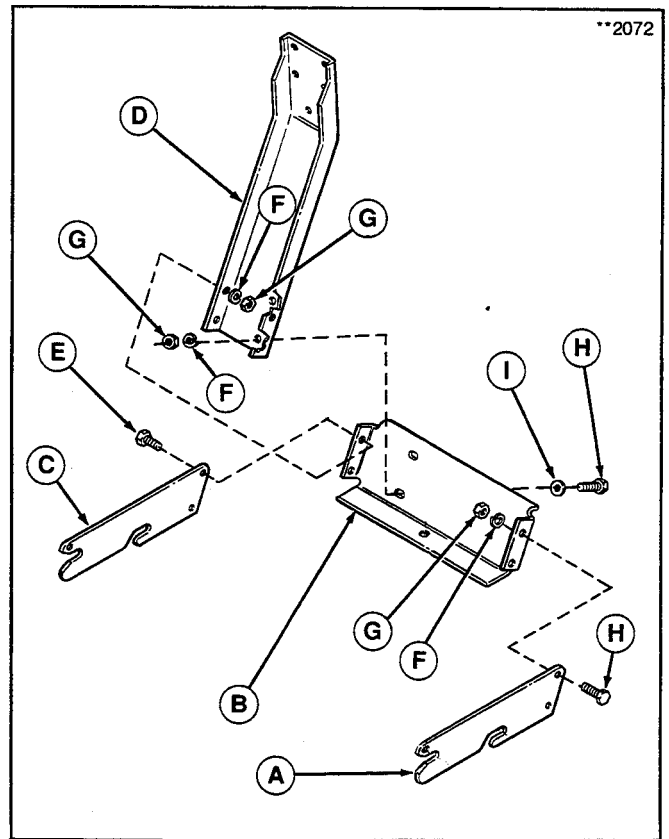


Figure 9.

- | | |
|-----------------------------|-------------------------|
| A. Left Hand Plate | F. Lockwasher |
| B. Back Plate | G. Nut |
| C. Right Hand Plate | H. CapscREW, 3/8-16 x 1 |
| D. Upright | I. Flat Washer |
| E. CapscREW, 3/8-16 x 1-1/4 | |

14. Install bracket assembly (A, figure 10) onto frame spacers (B) as shown in figure 10. Install clevis pin (C) through back plate and drawbar and secure with spring clip (D). Tighten all bracket hardware after checking fitment on spacers.

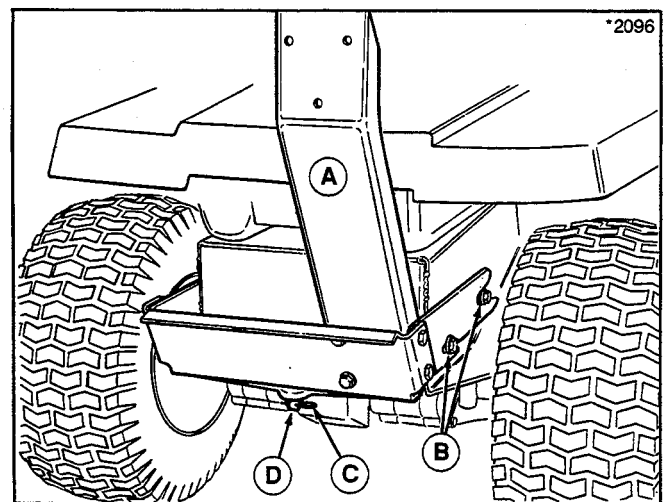


Figure 10.

- | |
|---------------------|
| A. Bracket Assembly |
| B. Spacers |
| C. Clevis Pin |
| D. Spring Clip |

NOTE

Cover and bag support are packaged as an assembly with long clevis pins and clips. It may be easier to separate components for the following step.

15. Install horizontal bag support (A, figure 11) to upright (B) with four 3/8-16 x 7/8 capscrews (C) and flange locknuts. Install capscrews from the front and tighten when upright and support are square. Note that the open set of holes (D) is toward the discharge side of mower.

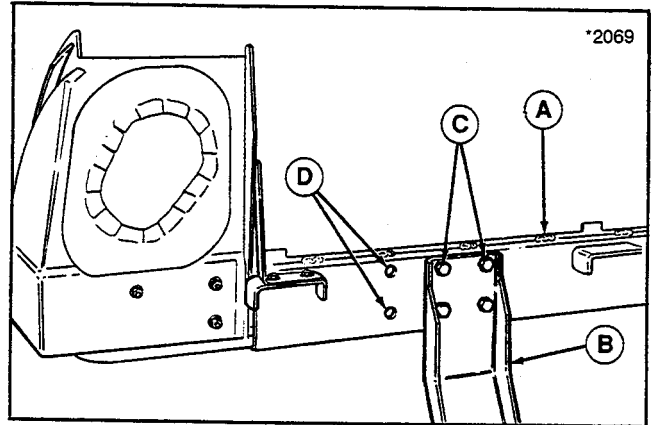


Figure 11.

- A. Bag Support
- B. Upright
- C. Capscrews, 3/8-16 x 7/8
- D. Open Set of Holes

16. Reinstall grass catcher cover (A, figure 12) to support (B) and secure with clevis pins (C) and clips (D).

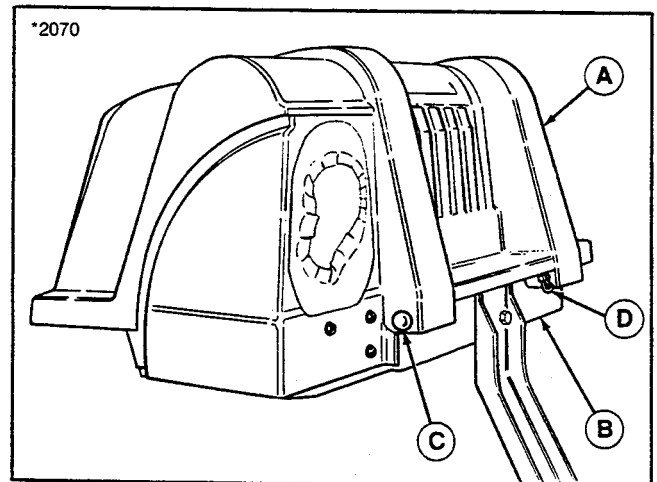


Figure 12.

- A. Cover
- B. Support
- C. Clevis Pin
- D. Clip

17. Install handle (A, figure 13) to rear surface of lid with offset toward the rear. Secure with two 10-32 x 1/2 truss screws (B, from inside) and 10-32 nut/washer assemblies (C).

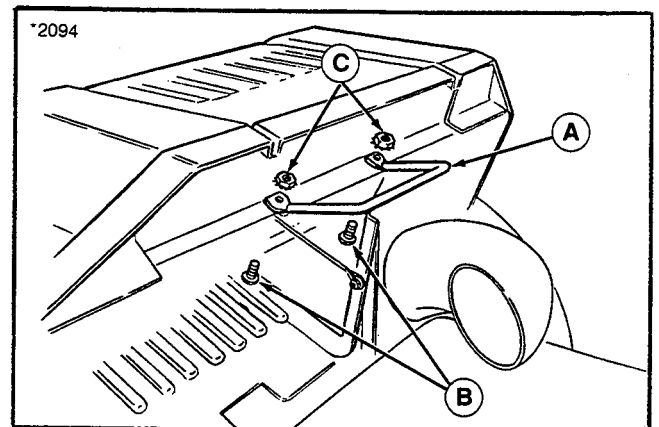


Figure 13.

- A. Handle
- B. Truss Screw
- C. Nut/Washer Assembly

18. Open cover and fasten cable (A, figure 14) to tube support (B) to prevent cover from going overcenter when opened. Loop end of cable fits over washer (C).

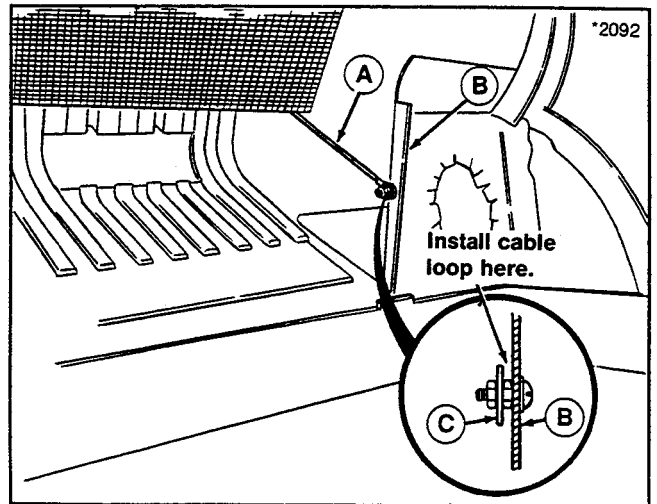


Figure 14.

- A. Cable
- B. Support
- C. Washer

19. Open grass bag cover and install grass bag frames (A, figure 15) to support brackets (B). Make sure cover handle latches to grass bag frames.

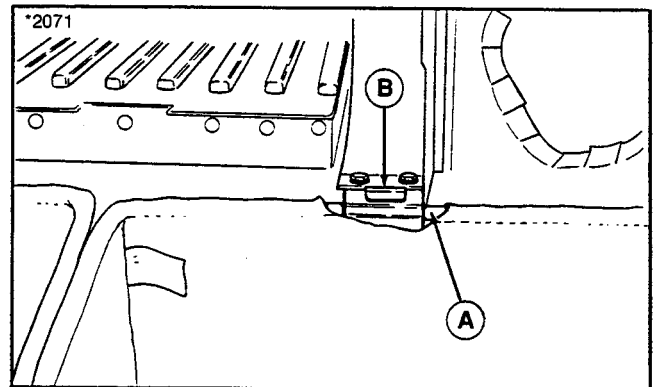


Figure 15.

- A. Grass Bag Frame
- B. Support Frame

20. Apply dry talc powder to rubber seal at cover opening. Install tube (A, figure 16) as far as possible into opening to clear adapter and install over adapter.

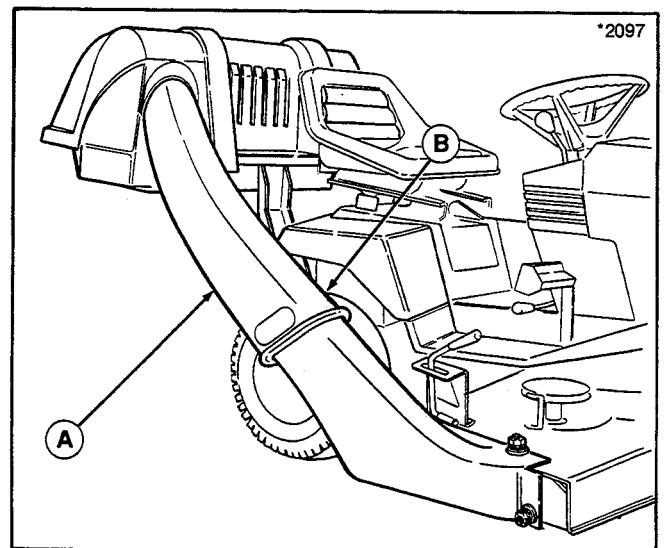


Figure 16.

- A. Tube
- B. Wire Form Location

21. Secure tube by moving wire form (A, figure 17) down over round cup (B) on adapter surface.

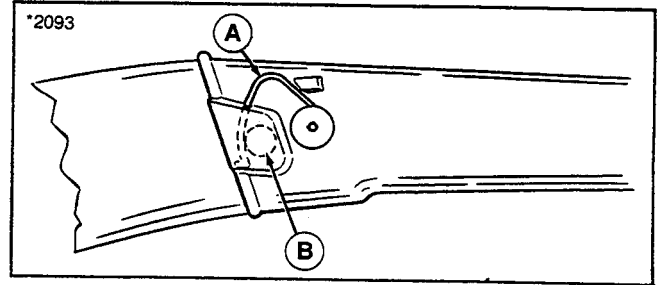


Figure 17.
A. Wire Form
B. Round Cup

PRODUCT SERVICE BULLETIN

90-15

(MASTER REPAIR CATALOG)

**TOPIC: INSTALLATION OF MANUFACTURER NUMBER 1691788 DELUXE TWIN
CATCHER AND MANUFACTURER NUMBER 1691793 TURBO TWIN CATCHER**

On Product Information Bulletin #90008 (3/23/90), we advised you that the manufacturer number 1690821 has been replaced by the 1691788 and the 1691186 is replaced by the 1691793. Additional information is required to locate the holes needed to install the spacers and brackets on the tractor axle support wrapper. Attached please find the hole locations for 4000/5000, 6200, and 6500 Series.

We would suggest that after drilling the first hole to install the bracket to locate the second. We also wish to advise you to be careful when drilling not to drill through the gear case or hydro pump. (See attached).

In order to assemble spacers (C, figure 1) and attaching hardware, 4 holes must be drilled on early model 4000, 5000, 600, 6000, 1800, and T-800 Series Tractors. If required holes are not present on your tractor, use the following illustrations to locate, punch, and drill 13/32" holes:

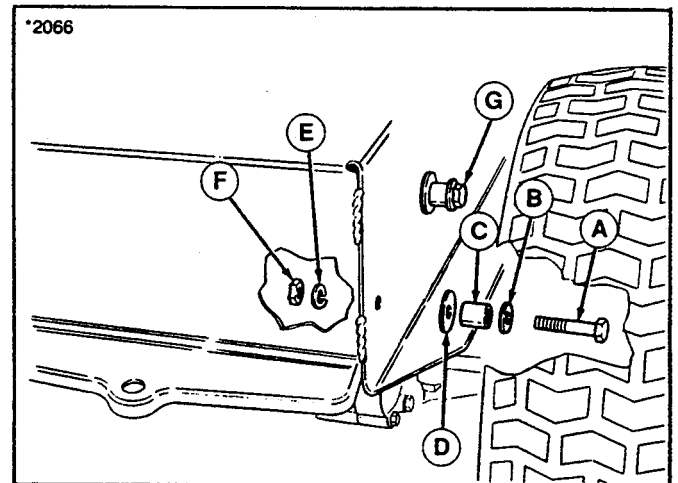


Figure 1.

- A. Capscrew, 3/8-16 x 1-1/2**
- B. Small Washer**
- C. Spacer**
- D. Large Washer**
- E. Lockwasher**
- F. Nut**
- G. Capscrew, 3/8-16 x 1-3/4**

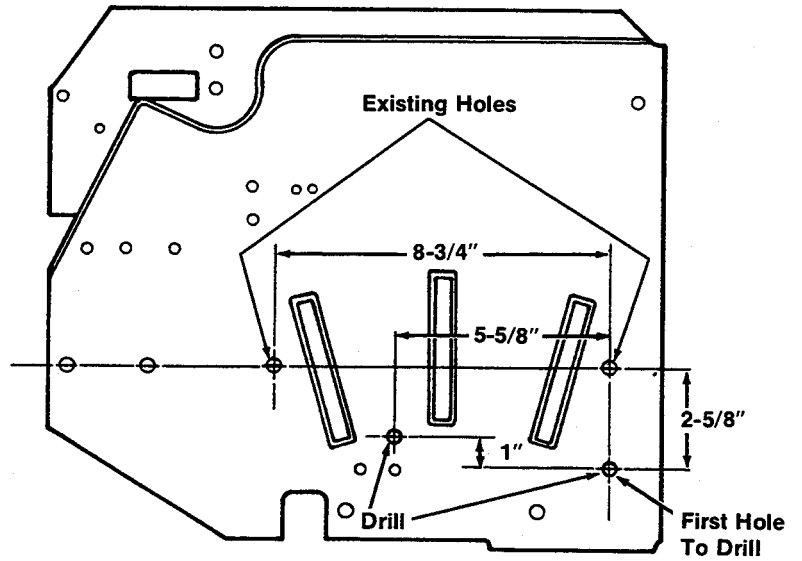


Figure 2. 4000/5000/600 Series
Rear Frame - Left Side View

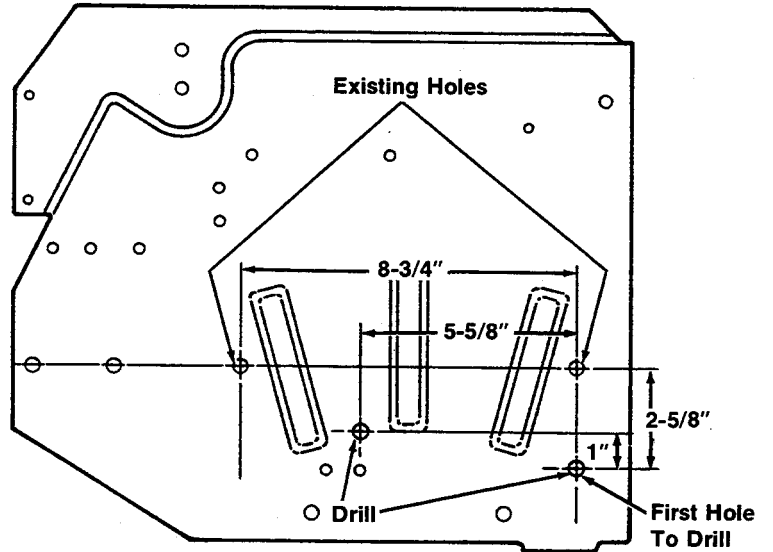


Figure 3. GTH/6500/1800 Series
Rear Frame - Left Side View

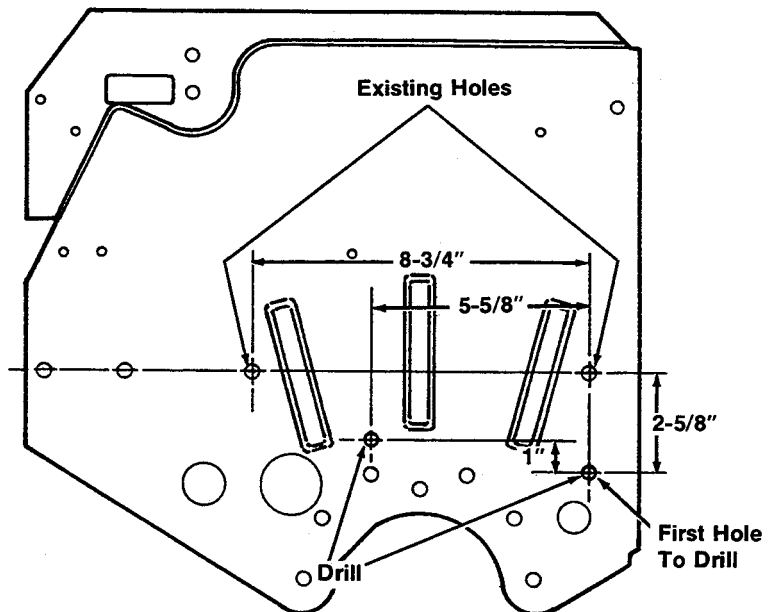





Figure 4. 6200/T-800 Series
Rear Frame - Left Side View

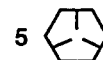
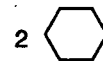
**TORQUE SPECIFICATIONS FOR
STANDARD MACHINE HARDWARE
TOLERANCE $\pm 20\%$**

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	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.
5/16-18	11	15.	17	23.1	25	34.
5/16-24	12	16.3	19	25.8	25	34.
3/8-16	20	27.2	30	40.8	45	61.2
3/8-24	23	31.3	35	47.6	50	68.
7/16-14	30	40.8	50	68.	70	95.2
7/16-20	35	47.6	55	74.8	80	108.8
1/2-13	50	68.	75	102.	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.
9/16-18	75	102.	120	163.2	170	231.2
5/8-11	90	122.4	150	204.	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.	420	571.2
7/8-9	140	190.4	400	544.	600	816.
7/8-14	155	210.8	440	598.4	660	897.6
1-8	220	299.2	580	788.8	900	1,224.
1-12	240	326.4	640	870.4	1,000	1,360.

NOTE:

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.

**BOLT HEAD MARKING
S.A.E. GRADE:**



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