FORM NO. 3311-422

TORO®

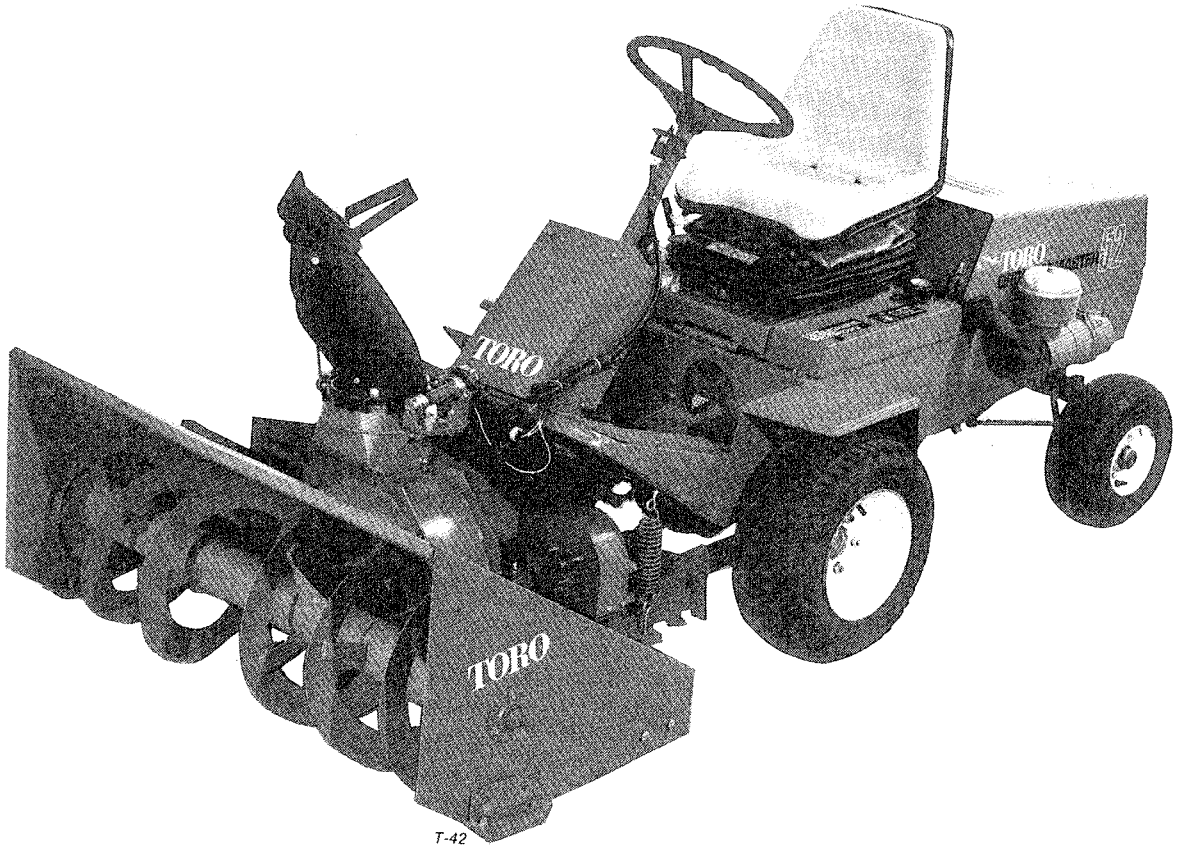
MODEL NO. 30570-00001 & UP
MODEL NO. 30572-00001 & UP

INSTALLATION INSTRUCTIONS

48" SNOWTHROWER WITH ADAPTER KIT

(GROUNDSMASTER 52)

Since this instruction sheet covers only a minimal amount of information necessary to maintain and operate your snowthrower, we suggest that you keep this material with your Operator's Manual for the traction unit so that both may be referred to for instructions concerning safe operation and proper maintenance procedures.



T-42

SAFETY INSTRUCTIONS



This safety alert symbol means CAUTION, WARNING or DANGER – "personal safety instruction". Read and understand the instruction because it has to do with safety. Failure to comply with the instruction may result in personal injury.

The following instructions are comparable to the Instructions for Safe Snowthrowing adopted by ANSI – American National Standards Institute B71.3 - 1975.

The 48" Snowthrower is designed and tested to offer reasonably safe service. Failure to operate the machine in accordance with these Safety Instructions MAY RESULT IN PERSONAL INJURY.

BEFORE OPERATING

1. Read and understand the contents of these Installation Instructions and the Operator's Manual and the Operator's and Service Manual for the Groundsmaster 52 before starting and operating the machine. Become familiar with all controls and know how to stop quickly. A replacement manual is available by sending complete Model and Serial Number to:

   The Toro Company
   8111 Lyndale Avenue South
   Minneapolis, Minnesota 55420

2. Five rear weights must be installed onto the traction unit as forward stability and steering control will be seriously degraded when the snowthrower is in the raised position during operation. Order three Part No. 24-5790 Rear Weight Kits from your local Toro Distributor.

3. Never allow children or adults unfamiliar with its operation to operate the machine, and keep everyone, especially children and pets, away from the area of operation.

4. Keep all shields and safety devices in place. If a shield, safety device or decal is defective or damaged, repair or replace it before operation is commenced. Also tighten any loose nuts, bolts and screws to assure machine is in safe operation condition.

5. Do not wear loose fitting clothing which could get caught in moving parts. Wearing safety glasses, safety shoes and a helmet is advisable and required by some local ordinances and insurance regulations.

6. Assure interlock switches are adjusted correctly so engine cannot be started unless traction pedal is released – neutral position – and PTO lever is in DISENGAGE position.

7. Fill fuel tank with gasoline before starting the engine. Avoid spilling any gasoline. Since gasoline is highly flammable, handle it carefully – DO NOT SMOKE.

   A. Use an approved gasoline container.

   B. Fill fuel tank outdoors and only when engine is not running. Engine must be cool to prevent a potential fire hazard.

   C. Wipe up any gasoline that spilled, and install gasoline container cap and machine fuel tank cap securely before starting the engine.

WHILE OPERATING

8. Do not operate without first installing five rear weights from Part No. 24-5790 Rear Weight Kits. Forward stability and steering control will be seriously degraded without the weights installed.

9. Do not run the engine in a confined area without adequate ventilation. Exhaust fumes are hazardous and could possibly be deadly.

10. Maximum seating capacity is one person. Never carry passengers.

11. Sit on the seat when starting the engine and operating the machine.

12. When starting the engine:

   A. Engage parking brake.

   B. Assure traction pedal is in neutral and PTO is in disengage position.

   C. After engine is started, release parking brake and keep foot off traction pedal. Machine must not move. If movement is evident, the neutral return mechanism is adjusted incorrectly; therefore, shut engine off and adjust until machine does not move when traction speed control pedal is in neutral position.

13. Using the machine demands attention, and to prevent loss of control:

   A. Operate only in daylight or when there is good artificial light.

   B. Watch for holes or other hidden hazards.

   C. Do not drive close to a ditch, creek or other hazard.

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SAFETY INSTRUCTIONS

D. Reduce speed when making sharp turns and when turning on hillsides.

E. Avoid sudden stops and starts.

F. Before backing up, look to the rear and assure no one is behind the machine.

G. Watch out for traffic when near or crossing roads. Always yield the right-of-way.

14. Never direct discharge of snow or operate snowthrower near bystanders, glass enclosures, automobiles and trucks, window wells or a drop-off without proper adjustment of the snow discharge angle.

15. If the snowthrower strikes a solid object or the machine vibrates abnormally, disengage PTO, move throttle to slow, set parking brake and shut engine off. Remove key from ignition switch and pull high tension wire off spark plug to prevent possibility of accidental starting. Check snowthrower and traction unit for damage and defective parts. Make all repairs before restarting the engine and operating the unit.

16. Clear snow from slopes by going up and down; never across the face, and use caution when changing directions. Never clear snow from steep slopes.

17. Do not touch engine, muffler or its adjacent shroud while engine is running or soon after it is stopped. These areas could be hot enough to cause a burn.

18. Before getting off the seat:

A. Move traction pedal to neutral position and remove foot from pedal.

B. Set the parking brake and disengage the PTO.

C. Shut the engine off and remove key from ignition switch. Wait for all movement to stop before getting off the seat.

19. Lower the snowthrower to the ground and remove key from ignition switch whenever machine is left unattended.

MAINTENANCE

20. Remove key from ignition switch and pull high tension wire off spark plug to prevent accidental starting of the engine when servicing, adjusting or storing the machine.

1. KEEP ALL SHIELDS IN PLACE.
2. BEFORE LEAVING OPERATOR'S POSITION:
   A. MOVE TRANSMISSION TO NEUTRAL AND LOWER SNOWTHROWER.
   B. SET PARKING BRAKE.
   C. DISENGAGE ATTACHMENT CLUTCH.
   D. SHUT OFF ENGINE.
   E. REMOVE IGNITION KEY.
3. WAIT FOR ALL MOVEMENT TO STOP BEFORE SERVICING MACHINE.
4. KEEP BYSTANDERS FROM AREAS BEING CLEARED.

SAFETY DECALS



TO CHANGE DIRECTION OF CHUTE ROTATION, REVERSE WIRES ON MOTOR.

PART NO. 40-0490

ATTENTION ⚠ WARNING

•GARDEZ LES MAINS HORS DE L'EJECTEUR ET DEMEUREZ A L'ECART DE LA TARIERE QUAND LE MOTEUR EST EN MARCHE.
•ARRETEZ LE MOTEUR AVANT TOUT DEBLOCAGE OU ENLEVEMENT DE DEBRIS.
•NE DIRIGEZ JAMAIS L'EJECTEUR VERS AUTRUI.

•KEEP HANDS OUT OF CHUTE AND KEEP CLEAR OF AUGER WHILE ENGINE IS RUNNING.
•STOP ENGINE BEFORE UNCLOGGING OR REMOVING DEBRIS.
•DO NOT DIRECT DISCHARGE AT BYSTANDERS.

PART NO. 29-6350

⚠WARNING

WHEN OPERATED WITH SNOW BLOWER IN RAISED POSITION, FORWARD STABILITY AND STEERING CONTROL WILL BE SERIOUSLY DEGRADED.

1. GM 52 TRACTION UNIT MUST BE EQUIPPED WITH 5 REAR WEIGHTS PART NUMBER 24-5790 WITH SNOW BLOWER INSTALLED.

2. GMT TRACTION UNIT MUST BE EQUIPPED WITH 425 POUNDS (193 KG.) BALLAST IN REAR BOX OF TRACTOR.

GM 72 TRACTION UNIT MUST BE EQUIPPED WITH 4 REAR WEIGHTS PART NUMBER 24-5790 WITH SNOW BLOWER INSTALLED.

SEE SNOW BLOWER MANUAL FOR COMPLETE INSTRUCTIONS.

⚠ATTENTION

LORSQUE VOUS OPEREZ AVEC LA SOUFFLEUSE EN POSITION RELEVEE, LA STABILITE ET LA CONDUITE DE L'UNITE EN SERONT DIMINUEES.

1. L'UTILISATION DE LA SOUFFLEUSE A NEIGE REQUIERT 5 POIDS ARRIERE NO 24-5790 SUR L'UNITE DE TRACTEUR GM 52.

2. L'UNITE DE TRACTION GMT REQUIERT UN POIDS DE 193 KG (425 LBS) DANS LA BOITE ARRIERE LORSQU'UTILISEE AVEC LA SOUFFLEUSE A NEIGE.

L'UTILISATION DE LA SOUFFLEUSE A NEIGE REQUIERT 4 POIDS ARRIERE NO 24-5790 SUR L'UNITE DE TRACTEUR GM-72.

POUR PLUS DE DETAILS, CONSULTER LE MANUEL D'INSTRUCTION DE LA SOUFFLEUSE A NEIGE.

PART NO. 39-5020

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SET UP INSTRUCTIONS

ADAPTER KIT PARTS DESCRIPTION AND LOCATION

DESCRIPTION	QTY.	WHERE USED
Adapter, L.H.	1	Left snowthrower frame.
Adapter, R.H.	1	Right snowthrower frame.
Capscrew, 3/8NC x 2-1/4"	2	Secure adapters to frame.
Locknut, 3/8NC	2	
Eye Bolt	4	Each side of tractor and adapter frame.
Extension Spring	2	Connect to eye bolts.
Hex Nut, 5/16 NC	11	8 to eye bolts; 3 to main jackshaft shield.
Jackshaft Support Assembly	1	Install on left snowthrower frame.
Flange Screw, 3/8NC	2	Secure jackshaft assembly to frame.
Pulley	1	Install on jackshaft.
Square Key, 1/4 sq. x 1-1/2"	1	Install in jackshaft keyway.
Square Head Set Screw, 5/16 x 1"	2	Secure pulley to jackshaft.
Belt Shield	1	Install over main jackshaft assembly.
Capscrew, 5/16 x 3/4"	2	Secure belt shield to frame.
Lockwasher, 5/16	5	2 onto 5/16 capscrews; 3 onto shield mount studs.
Flatwasher	2	Install onto 5/16 capscrews.
Jackshaft Assembly	1	Install onto center of snowthrower frame.
Capscrew, 3/8 x 3/4 lg.	4	Secure jackshaft assembly.
Flange Nut, 3/8NC	4	
Idler Arm Assembly	1	Install onto snowthrower frame.
Torsion Spring	1	Install onto idler arm.
Felt Washer	1	Install onto idler arm mount shaft.
Flat Washer	1	Install over felt washer.
Cotter Pin	1	Secure idler arm assembly.
V Belt	1	Install over pulleys.
Muffler Clamp	1	Install on steering column. Switch mount.
Pin	2	Secure snowthrower to traction unit lift arms.
Cotter Pin, 3/16 x 2"	4	Install in each end of pins.
Reflector	2	Install on rear of engine hood.
Self-Tapping Screw, 1/4 x 3/4"	4	Secure reflectors.

SET UP INSTRUCTIONS

ASSEMBLE SNOWTHROWER

INSTALL IDLER ASSEMBLY

1. Tip snowthrower up on front of housing and install spring onto idler arm mount shaft (Fig. 1).

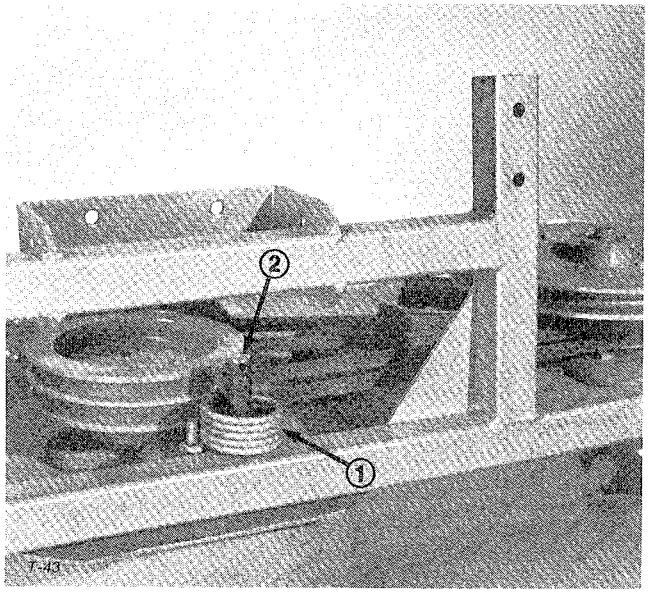


Figure 1

1. Spring
2. Idler arm mount shaft

2. Install idler arm assembly over shaft and assure top hook in spring is inserted through hole in arm (Fig. 2).

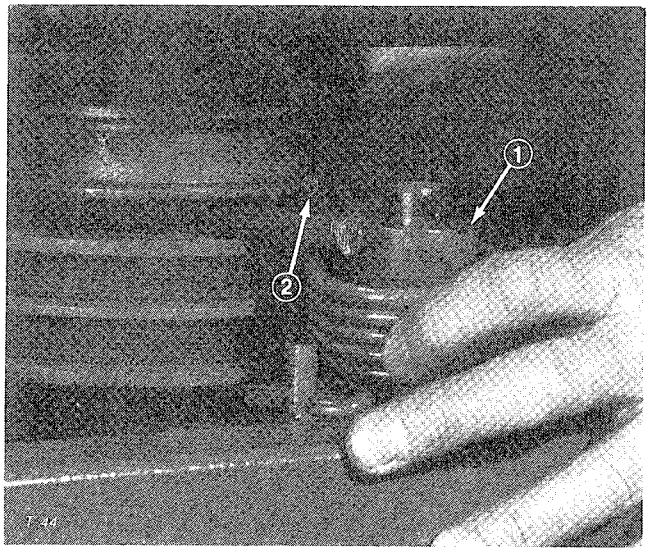


Figure 2

1. Idler arm assembly
2. Top spring hook through hole

3. Install felt washer and flat washer over shaft, insert and open cotter pin (Fig. 3). Assure lower spring hook is around spring anchor (Fig. 3).

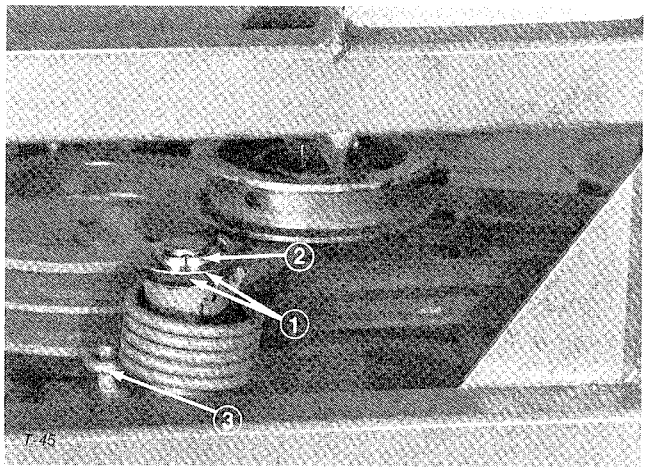


Figure 3

1. Felt and flat washer
2. Cotter pin
3. Lower spring hook

INSTALL CHUTE, JACKSHAFT ASSEMBLY, BELT AND WIRE HARNESS

1. Tip snowthrower down into normal operating position, install chute to housing and secure with three carriage bolts, flat washers and locknuts (Fig. 4). Install chute wire inside chute and secure to chute with two pushnuts.

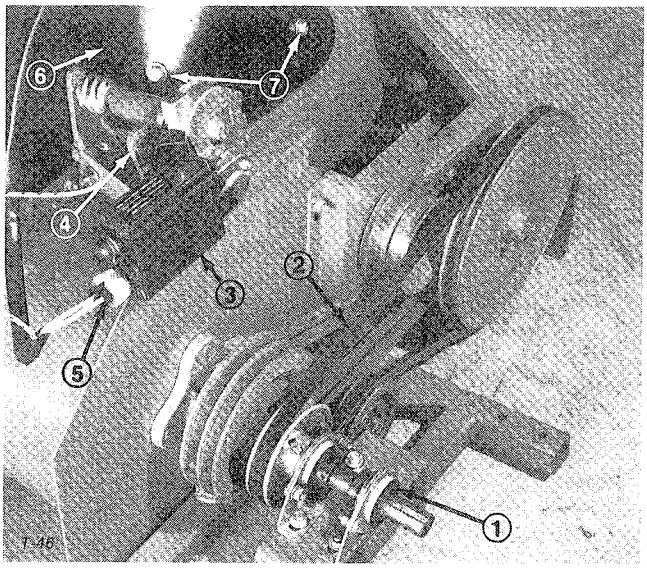


Figure 4

1. Jackshaft assembly
2. Belt
3. Chute drive motor
4. Flange screw and wire
5. Wire harness and connectors
6. Chute assembly
7. Chute fasteners

2. Assemble jackshaft assembly to center frame. Do not tighten the mounting capscrews and flange nuts (Fig. 4). Install belt over the pulleys, lever jackshaft towards the left side of snowthrower and tighten jackshaft mounting fasteners (Fig. 4).

Note: Left and right hand sides are determined by standing at the rear of the unit.

3. Install belt shield over belts, pulleys and idler and secure with flange head capscrews (Fig. 5).

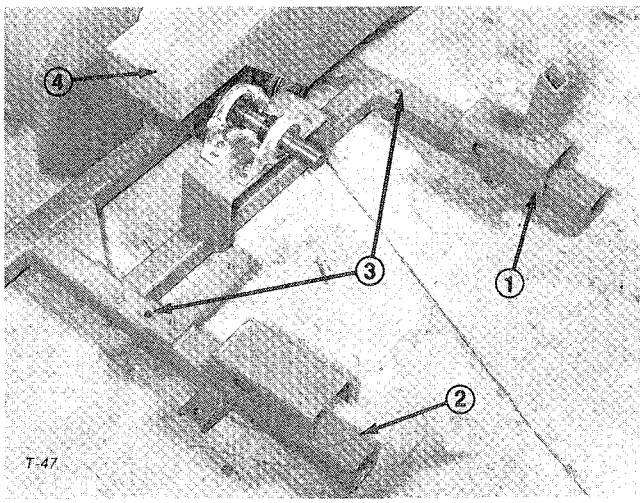


Figure 5

1. Right adapter 3. Mounting holes
2. Left adapter 4. Shield

4. Remove top flange screw for chute drive motor, insert through eyelet of single wire on wire harness and re-install (Fig. 4).

5. Install female wire harness connectors onto spade terminals of motor (Fig. 4).

INSTALL ADAPTERS AND PULLEY

1. Slide right and left adapters onto snowthrower frame, align mounting holes and secure with capscrew and locknut (Fig. 5).

2. Insert square key into shaft, install pulley and secure with set screws (Fig. 6).

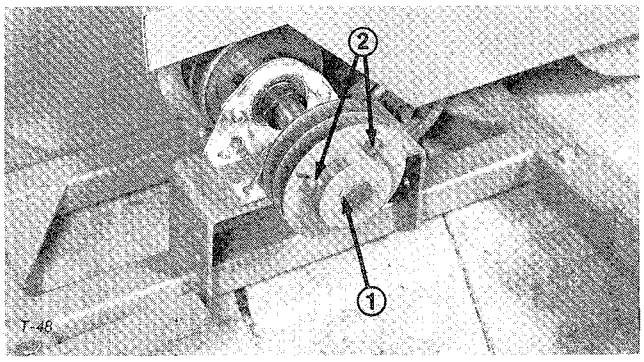


Figure 6

1. Square key
2. Pulley set screws

3. Loosely install jackshaft support assembly to left adapter, install belts, lever jackshaft support to tension belts and tighten support fasteners (Fig. 7).

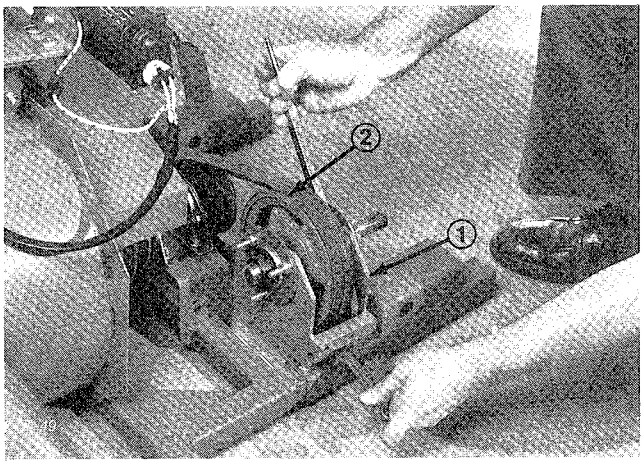


Figure 7

1. Jackshaft support assembly
2. Belts

4. Install shield over jackshaft support and secure with 3 nuts and lockwashers and 2 capscrews, lockwashers and flat washers (Fig. 8).

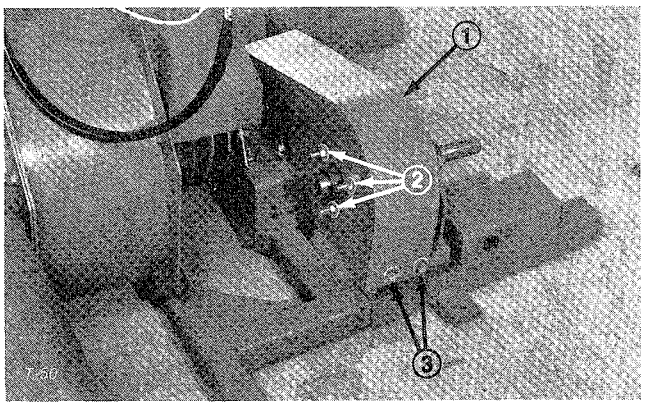


Figure 8

1. Shield
2. Nuts and lockwashers
3. Capscrews, lockwashers and flat washers

MODIFY TRACTION UNIT

INSTALL EYE BOLTS

1. Remove cutting unit; refer to Separating Cutting Unit From Traction unit in GM-52 Operator's Manual.

DANGER

Do not start the engine and engage the PTO lever when PTO shaft is not connected to cutting unit gear box because the PTO shaft will rotate with enough force to cause serious injury.

2. Measure approximately 10 inches back from front of frame on each side of traction unit, center punch and drill an 11/32 or 3/8 inch hole vertically completely through the frame on each side (Fig. 9).

3. Thread a hex nut onto each eye bolt, insert bolt through frame from the bottom and secure each bolt with another hex nut (Fig. 9).

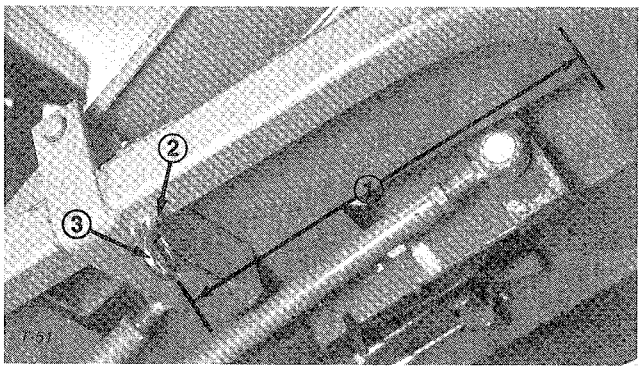


Figure 9

1. Approximately 10 inches
2. Drill 11/32 or 3/8 inch hole through frame
3. Eye bolt and hex nuts

INSTALL SNOWTHROWER AND FRAME

1. Move traction unit into mounting position with snowthrower.

2. Move hydraulic lift control lever to float position and lower lift arm.

3. Move traction unit toward snowthrower and slide lift arms into lift brackets. Line up mounting holes and secure snowthrower to lift arms with pivot pins and cotter pins (Fig. 10).

4. Slide PTO shaft onto shaft of snowthrower and secure with roll pin (Fig. 10).

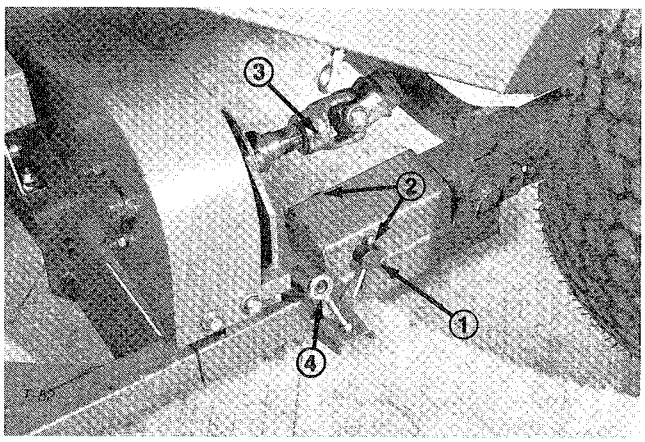


Figure 10

1. Pivot pin
2. Cotter pins
3. Roll pin
4. Eye bolt

5. Loosely install eye bolts to snowthrower lift brackets (Fig. 10).

6. Raise snowthrower and hook flotation springs to eye bolts. Tighten eye bolts so springs are extended approximately 1 inch when snowblower is in the maximum raised position (Fig. 11).

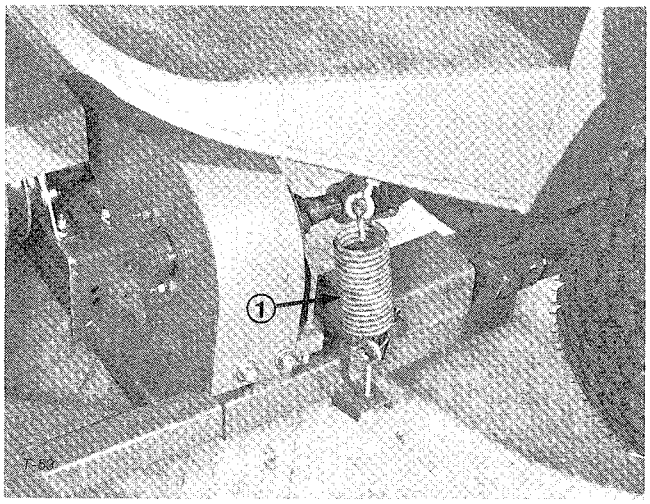


Figure 11

1. Spring

CHUTE CONTROL SWITCH AND WIRE HARNESS INSTALLATION

1. Assemble muffler clamp around steering column, mount switch plate onto clamp and install nut onto right side and eyelet end of black harness wire under nut on left side (Fig. 12, 13).

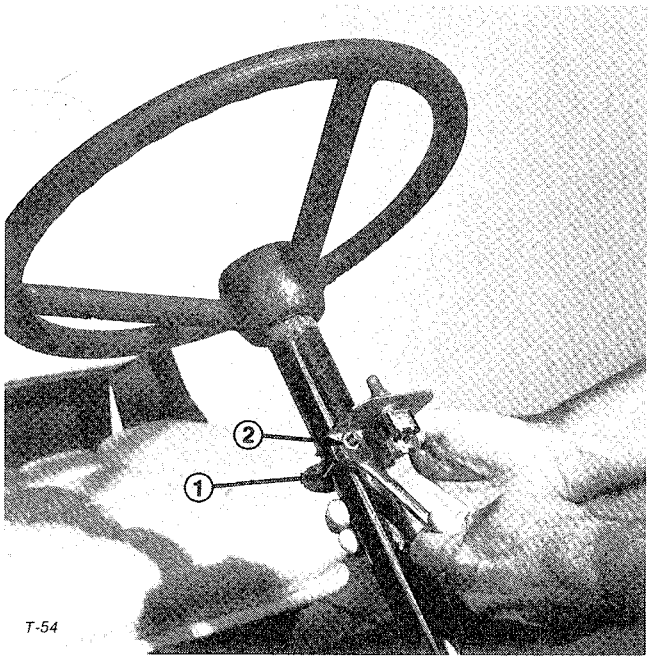


Figure 12

1. Muffler clamp and switch
2. Right hand clamp nut

2. Install female wire harness ends onto switch terminals (Fig. 13). Assure red wire is attached to the center terminal.

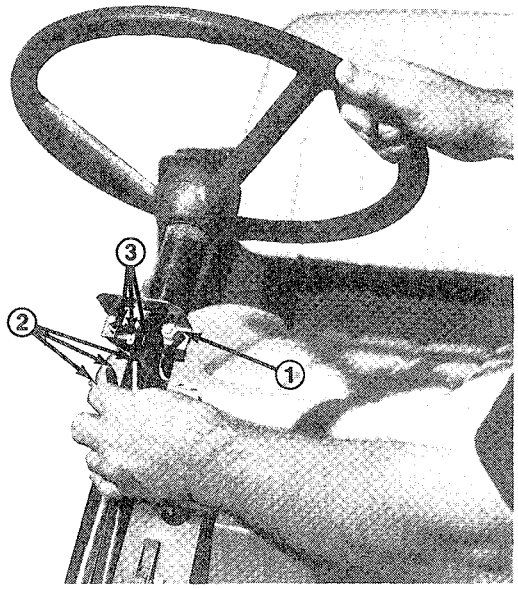


Figure 13

1. Black wire and left clamp nut
2. Female harness ends
3. Switch terminals

3. Secure harness to steering column with tie straps (Fig. 14). Loop any excess harness together and secure with tie straps to assure harness stays clear of moving parts (Fig. 14).

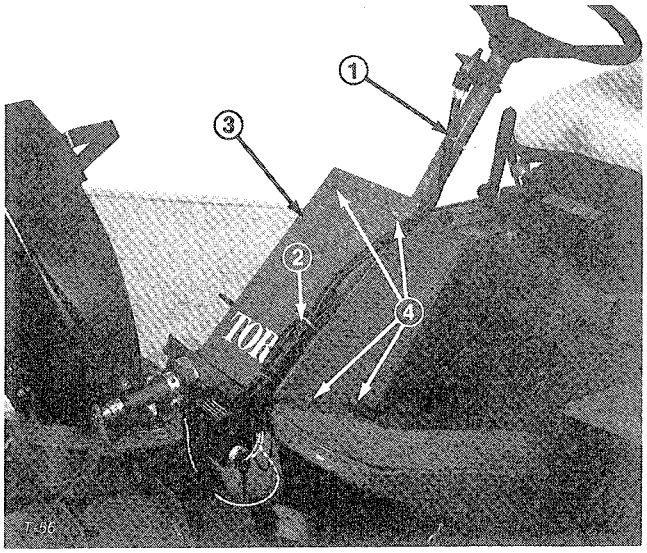


Figure 14

1. Tie strap
2. Looped wire
3. Tower cover
4. Tower cover mount screws

4. Lift cover over engine and remove the negative battery cable from the battery.

WARNING

Remove only the negative cable, not the positive cable so that sparks, which could ignite hydrogen gas from the battery, will be prevented. Do not smoke.

5. Remove the tower cover mount screws and remove the tower cover (Fig. 14).

6. Route the remaining single red harness wire up through the machine floor plate, wrap any excess around steering gear and connect end to positive (+) terminal of the ammeter (Fig. 15). Install a tie strap around the excess winds of wire to prevent wire from getting caught on steering gear shaft (Fig. 15).

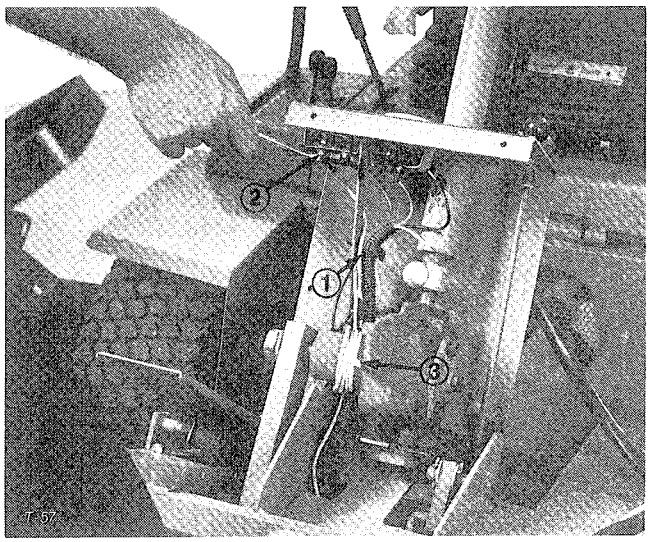


Figure 15

1. Harness wire
2. Ammeter – positive (+) terminal
3. Tie strap

7. Install tower cover and connect negative battery cable to battery.

8. Apply No. 2 General Purpose Lithium Base grease to chute gear, push gear lightly against chute gear teeth and tighten chute gear assembly fasteners (Fig. 16).

9. Actuate switch to check operation of chute. If chute binds, loosen gear assembly and increase clearance between gear and chute. Adjust so gear is as close as possible without binding. Switch yellow and green wires on terminals if chute operates in wrong direction. Chute should rotate to right when switch is actuated to right and to left when switch is actuated towards left side.

SET UP INSTRUCTIONS

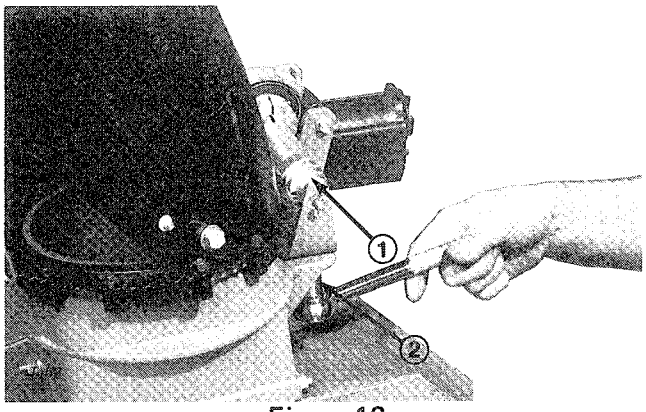


Figure 16

1. Chute gear
2. Chute gear fasteners

INSTALL REAR WEIGHT KITS

WARNING

The GM-52, when operated with the snowthrower in the raised or transport position, will be seriously degraded in forward stability and steering control without the addition of 5 rear weights, Part No. 24-5790 Rear Weight Kit.

Three kits must be ordered as there are only two weights in each kit.

MAINTENANCE

LUBRICATION

1. Lubricate the auger drive chain with SAE 30 engine oil after each use (Fig. 17).

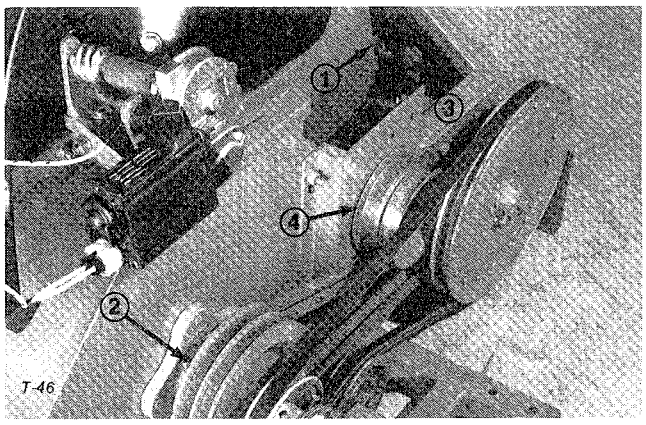


Figure 17

1. Auger drive chain
2. Grease fitting-impeller shaft bearing
3. Auger chain idler adjusting bolt
4. Impeller drive belt idler pulley

2. Grease the impeller shaft bearing every 40 hours with No. 2 general purpose Lithium base grease (Fig. 17).

CHECK BELT TENSION

A. Impeller Drive Belts

After initial 5 hours operation and every 40 hours thereafter, check belt tension.

1. Remove shield and check tension. Belts should have 1/4 inch deflection when 5-6 lb. force is applied to center of belts (Fig. 17). If tension is correct continue operation. If tension is incorrect, proceed to item 2.

2. Loosen locknut securing idler pulley and push down on idler to move it downward in the mounting slot (Fig. 17). Adjust to proper tension and tighten locknut.

3. If idler mounting bolt is bottomed out in the slotted hole in the frame, no further adjustment can be accomplished. Replace the belt.

4. Install shield before continuing operation.

B. PTO Drive Belts

Check belt tension after initial 5 hours operation and every 40 hours thereafter.

1. Remove shield and check tension. Belts should deflect 1/8 inch when 5-6 lb. force is applied to center of belts (Fig. 18). If tension is correct, continue operation. If tension is incorrect, proceed to item 2.

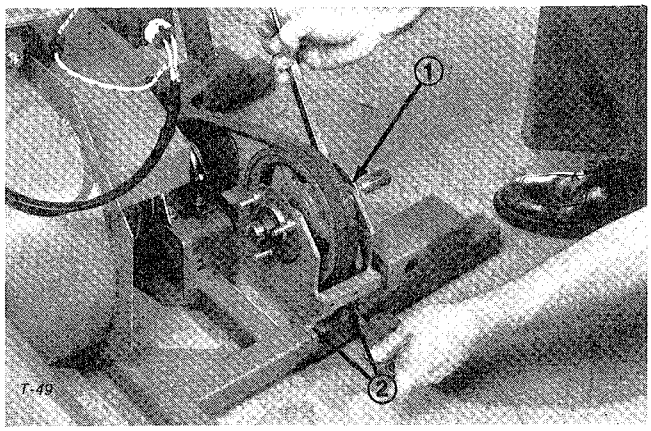


Figure 18

1. Jackshaft support *2. Jackshaft support fasteners*

2. Loosen fasteners for jackshaft support, lever support over to tension belts and tighten fasteners (Fig. 18).

3. Install shield

CHECK DRIVE CHAIN TENSION

Check the tension of the auger drive chain after the initial 5 hours operation and every 40 hours thereafter.

1. Measure deflection on the lower span of the chain (Fig. 17). If deflection is less than 1/4 inch midway between the sprockets, continue operation. If deflection is more than 1/4 inch, proceed to item 2.

2. Loosen adjusting bolt and slide idler downward until proper deflection is obtained (Fig. 17).

3. Replace chain and sprockets when idler can no longer be adjusted.

SKID SHOE ADJUSTMENT

Adjust the skid shoes so that the bottoms are slightly below the scraper blade (Fig. 19).

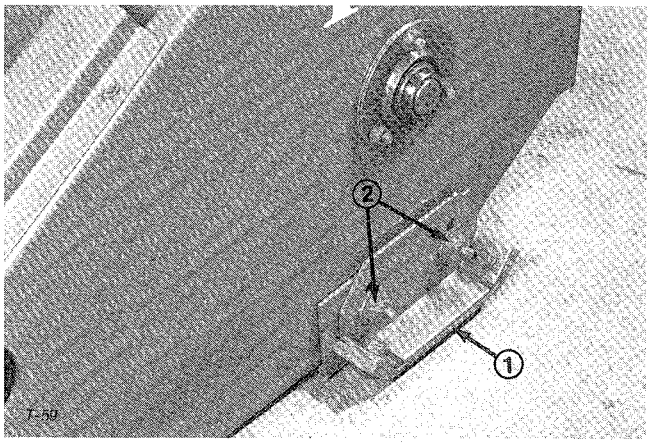


Figure 19

1. Skid shoe
2. Adjustment nuts

Proper adjustment prevents excessive scraper blade wear caused from riding on the ground and allows it to clear cracks in concrete, paving, etc. (Fig. 19).

CAUTION

Always adjust skid shoes to allow snow-thrower to clear gravel or crushed rock surfaces.

SCRAPER BLADE

Check the scraper blade periodically for wear. Reverse the blade when the front edge is worn (Fig. 20). Replace the scraper blade before it is excessively worn to prevent damage to the auger housing.

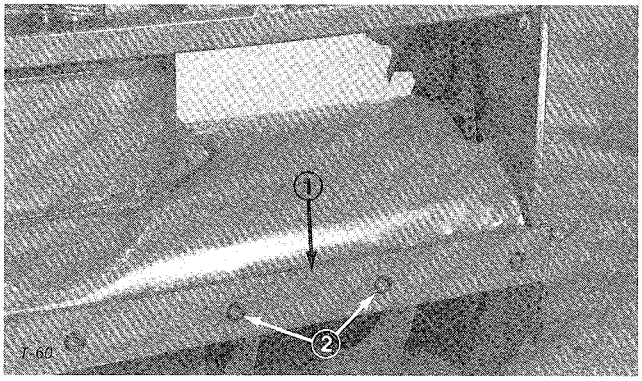


Figure 20

1. Scraper blade 2. Scraper blade fasteners

SLIP CLUTCH ADJUSTMENT

A slip clutch is provided to guard against excessive damage should an obstruction be caught between the auger and housing. Should the auger slip excessively during operation, adjust as follows:

1. Remove the outer jam nut (Fig. 21).

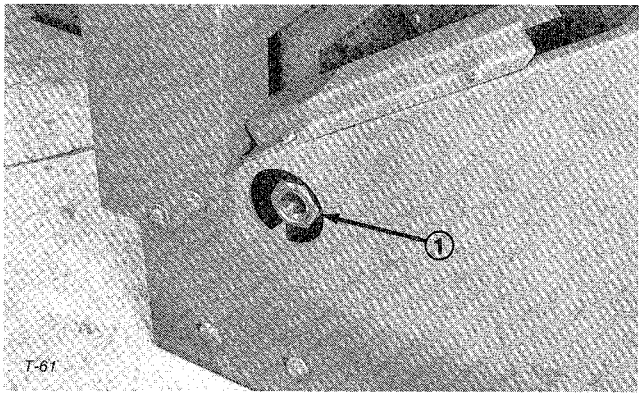


Figure 21

1. Slip clutch adjustment nuts

2. Tighten the inner jam nut 1/4 turn, and re-install the outer jam nut.

3. Operate the snowthrower to assure the auger operates without slippage. If the auger operates correctly, continue operation. If it continues to slip, repeat items 1 and 2 until the slippage is corrected.

Note: Do not overtighten jam nut as the auger may not slip if an obstruction is hit.

The Toro Promise

A ONE YEAR LIMITED WARRANTY ON COMMERCIAL PRODUCTS OTHER THAN WALK ROTARY MOWERS

The Toro Company promises to repair any TORO Product if defective in materials or workmanship. The following time periods from the date of purchase apply:

Commercial Products	1 Year
Hevi-Duty Walk Rotary Mowers	90 Days

The costs of parts and labor are included, but the customer pays the transportation costs on walk rotary mowers.

Should you feel your TORO is defective and wish to rely on The Toro Promise, the following procedure is recommended:

1. Contact your Authorized TORO Distributor (the Yellow Pages of your telephone directory is a good reference source).
2. The TORO Distributor will advise you on the arrangements that can be made to inspect and repair your product.
3. The TORO Distributor will inspect the product and advise you whether the product is defective and, if so, make all repairs necessary to correct the defect without an extra charge to you.

If for any reason you are dissatisfied with the distributor's analysis of the defect or the service performed, you may contact us.

Write:

TORO Commercial Products Service Department
8111 Lyndale Avenue South
Minneapolis, Minnesota 55420

The above remedy of product defects through repair by an Authorized TORO Distributor is the purchaser's sole remedy for any defect.

THERE IS NO OTHER EXPRESS WARRANTY. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE ARE LIMITED TO THE DURATION OF THE EXPRESS WARRANTY.

Some states do not allow limitation on how long implied warranty lasts, so the above limitation may not apply to you.

This Warranty applies only to parts or components which are defective and does not cover repairs necessary due to normal wear, misuse, accidents, or lack of proper maintenance. Regular, routine maintenance of the unit to keep it in proper condition is the responsibility of the owner.

All warranty repairs reimbursable under The Toro Promise must be performed by an Authorized TORO Distributor using Toro approved replacement parts.

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