



Rear Quick Attach System

Groundsmaster 7200 Series Mower

Model No. 30377—Serial No. 310000001 and Up

Form No. 3364-982 Rev A

Installation Instructions

Installation

Important: The machine must be equipped with the Auxiliary Power Unit Kit, Model No. 30382.

Note: To gain additional access during the assembly of the kit, raise the rear of the traction unit, support it with jack stands and remove the right rear tire.

1. Mount the rear lift arm to the rear frame members, with 2 screws (7/8 x 4-1/2 inch), lockwashers (7/8 inch) and locknuts (7/8 inch). Position the components as shown in Figure 1. Use as many washers as possible to evenly shim between the right and left sides of the lift arm and rear frame members. Torque the screws and locknuts to 382-478 ft-lb.

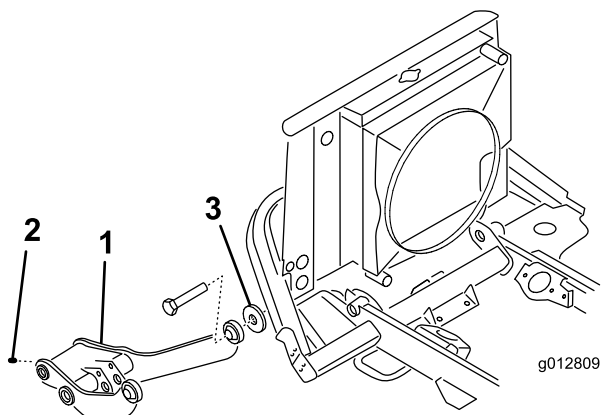


Figure 1

1. Rear lift arm
2. Grease fitting
3. Washer (as required)

2. Thread the grease fitting into the rear of the lift arm (Figure 1).
3. Thread a 45 degree hydraulic fitting into each port of the hydraulic cylinder (Figure 2). Make sure the O-rings are in place when installing the fittings. Orientate the fittings as shown in Figure 3.

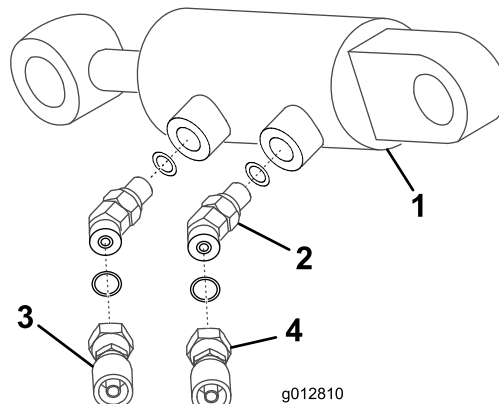


Figure 2

1. Hydraulic cylinder
2. 45 degree hydraulic fitting
3. Hydraulic hose (16.5 inch long)
4. Hydraulic hose

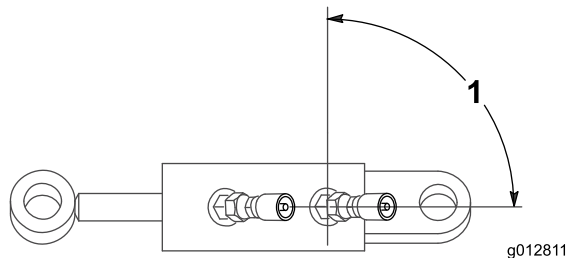


Figure 3

1. 90 degrees

4. Install the straight fitting end of each hydraulic hose to the fittings on the hydraulic cylinder (Figure 2). The shorter hose (16.5 inches long) is connected to the fitting closest to the rod end.
5. Mount the rod end of the hydraulic cylinder to the lift arm with a pivot pin (Figure 4).

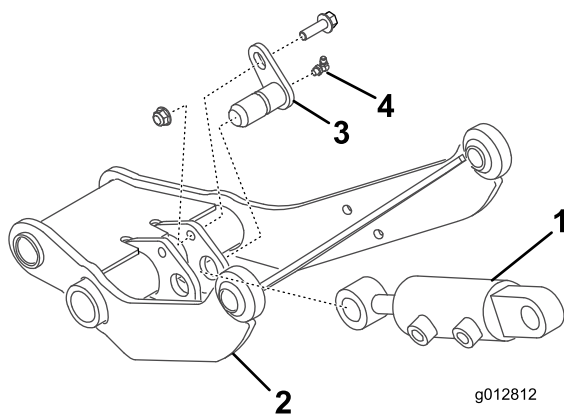


Figure 4

- | | |
|-------------------------------|-------------------|
| 1. Hydraulic cylinder rod end | 3. Pivot pin |
| 2. Lift arm | 4. Grease fitting |

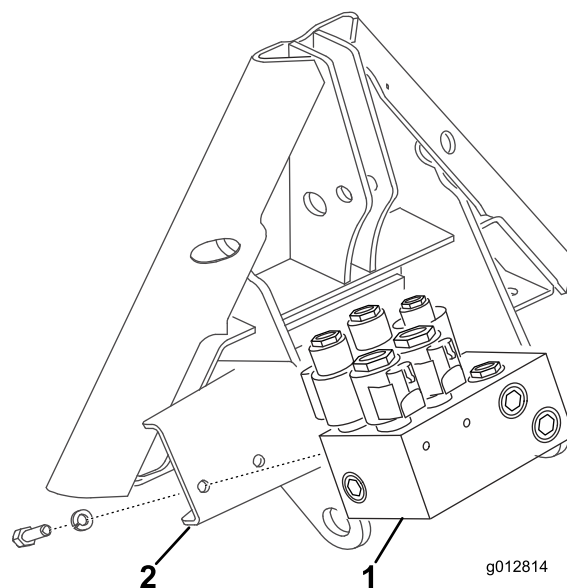


Figure 6

- | | |
|-----------------------|-----------------|
| 1. Hydraulic manifold | 2. Lift adapter |
|-----------------------|-----------------|

- Secure the pivot pin to the lift arm with a screw ($\frac{3}{8} \times 1\frac{1}{4}$ inch) and a flange nut ($\frac{3}{8}$), positioning as shown in Figure 4.
- Thread a 90 degree grease fitting into the end of the pivot pin (Figure 4). Position the grease fitting as shown in Figure 5.

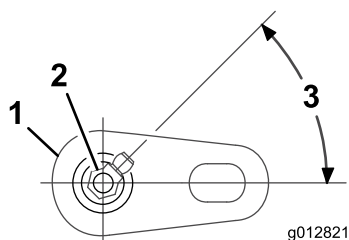


Figure 5

- | | |
|-------------------|-------------------|
| 1. Pivot pin | 3. 45 degrees (2) |
| 2. Grease fitting | |

- Mount the hydraulic manifold to the back of the lift adapter with 2 screws ($\frac{5}{16} \times \frac{3}{4}$ inch) and lockwashers ($\frac{5}{16}$) (Figure 6).

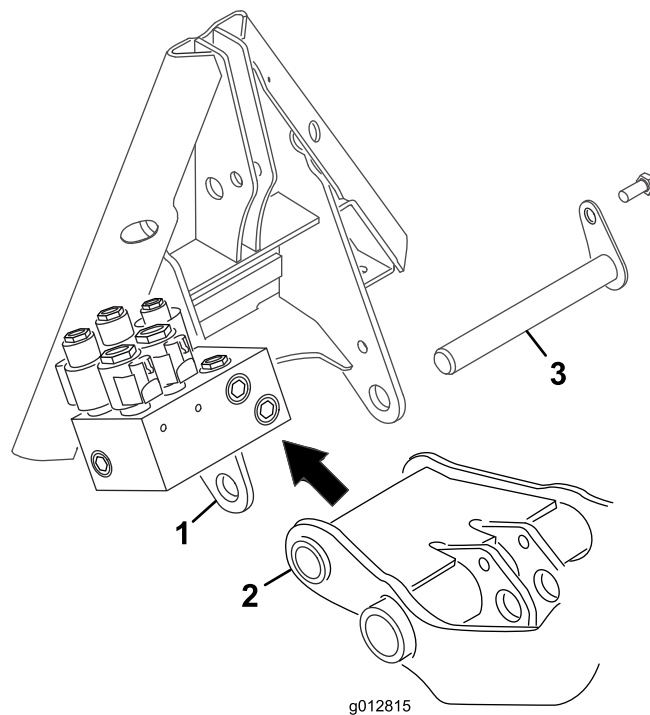


Figure 7

- | | |
|------------------|--------------|
| 1. Lift adapter | 3. Pivot pin |
| 2. Rear lift arm | |

- Secure the link mount to the rear bumper bracket with 3 screws ($\frac{3}{8} \times 1$ inch). Position the link mount as shown in Figure 8.

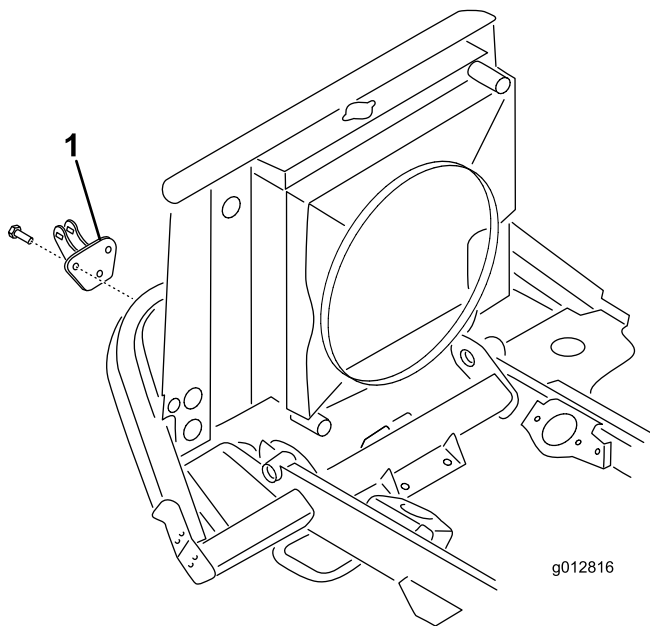


Figure 8

1. Lift mount

11. Assemble the rod ends and jam nuts to the hex tube to form the threaded link (Figure 9). The nuts and the rod ends have right and left hand threads.

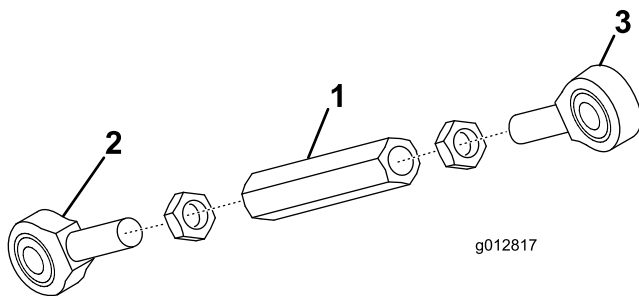


Figure 9

1. Hex tube 2. Rod end

12. Adjust the length of the threaded link to the dimension shown in Figure 10 and tighten the jam nuts.

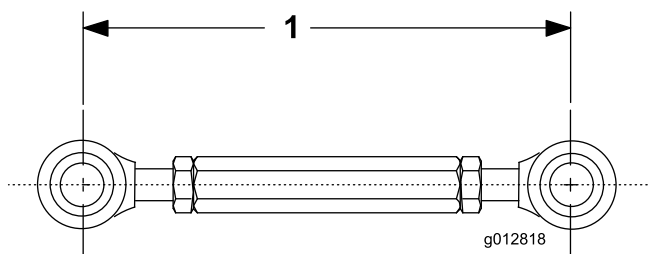


Figure 10

1. 7.50 inches

13. Secure one of the threaded link rod ends to the lift adapter with a 1/2 x 1-1/2 inch bolt and 1/2 inch nut (Figure 11).

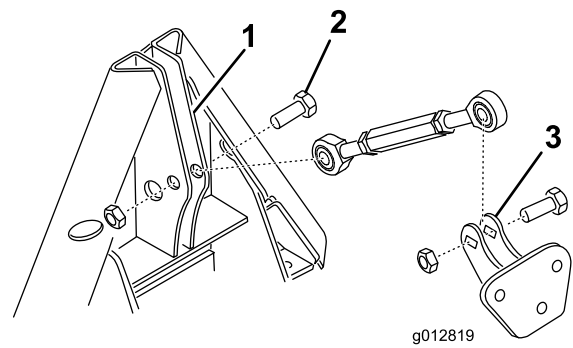


Figure 11

1. Lift adapter 3. Link mount
2. Threaded link

14. Raise the lift adapter and secure the other rod end to the link mount with a 1/2 x 1-1/2 inch bolt and 1/2 inch nut (Figure 11).
15. Mount the stationary end of the hydraulic cylinder to the underside of the frame cross member bracket with a pivot pin (Figure 12).

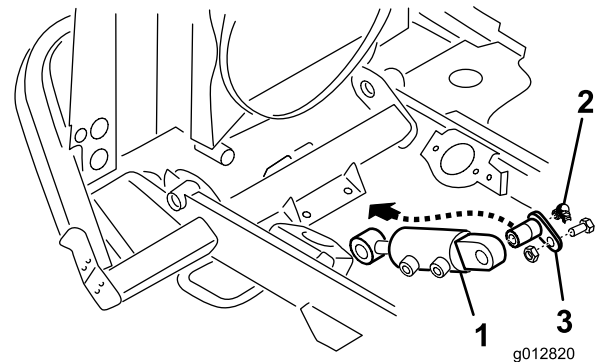


Figure 12

1. Hydraulic cylinder
(stationery end) 3. Pivot pin
2. Grease fitting

16. Secure the pivot pin to the frame bracket with a screw (3/8 x 1-1/4 inch) and a flange nut (3/8), positioning as shown in Figure 12.
17. Thread a 90 degree grease fitting into the end of the pivot pin (Figure 12). Position the grease fitting as shown in Figure 13.

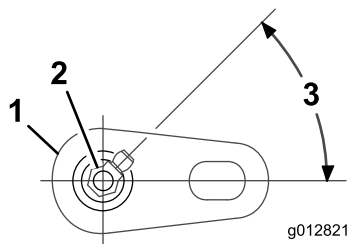


Figure 13

1. Pivot pin
2. Grease fitting
3. 45 degrees (2)

Important: Make sure the O-rings are coated with fresh clean oil and in place when installing the fittings and hoses.

18. Connect the 2 hoses from the hydraulic cylinder to the fittings on the bottom of the hydraulic manifold (Figure 14 thru Figure 16). Orientate the fitting as shown in Figure 15.

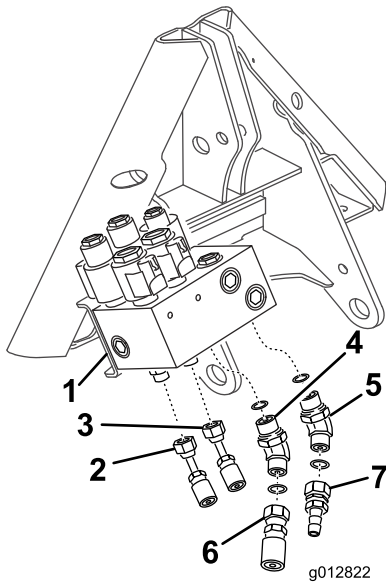


Figure 14

1. Hydraulic manifold
2. Hydraulic hose from hydraulic cylinder
3. Hydraulic hose from hydraulic cylinder (16.5 inches long)
4. 45 degree fitting (smaller)
5. 45 degree fitting (larger)
6. Hydraulic hose (95.25 inches long)
7. Hydraulic hose (25 inches long)

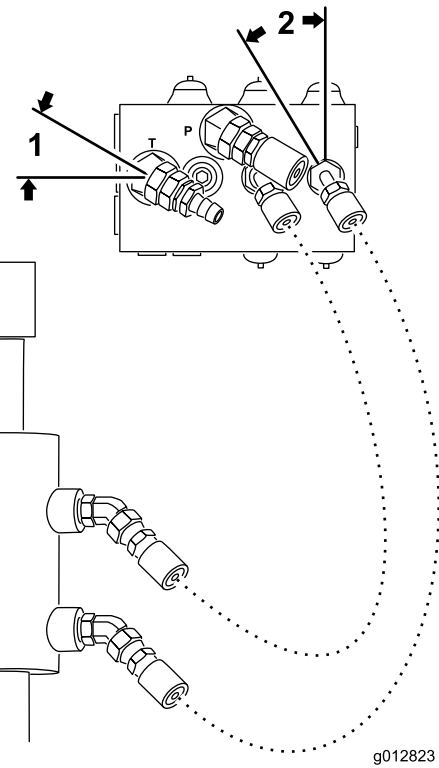


Figure 15

1. 30 degrees (2)
2. 30 degrees (2)

19. Thread the 45 degree hydraulic fittings into the bottom of the hydraulic manifold (Figure 14). Orientate the fitting as shown in Figure 15.
20. Secure the short hose (25 inch) to the 45 degree fitting on the manifold (Figure 14).
21. Secure the long hose (95 inch) to the other 45 degree fitting on the manifold (Figure 14).
22. Insert the protective sleeve onto these hoses and secure with three cable ties (Figure 16).

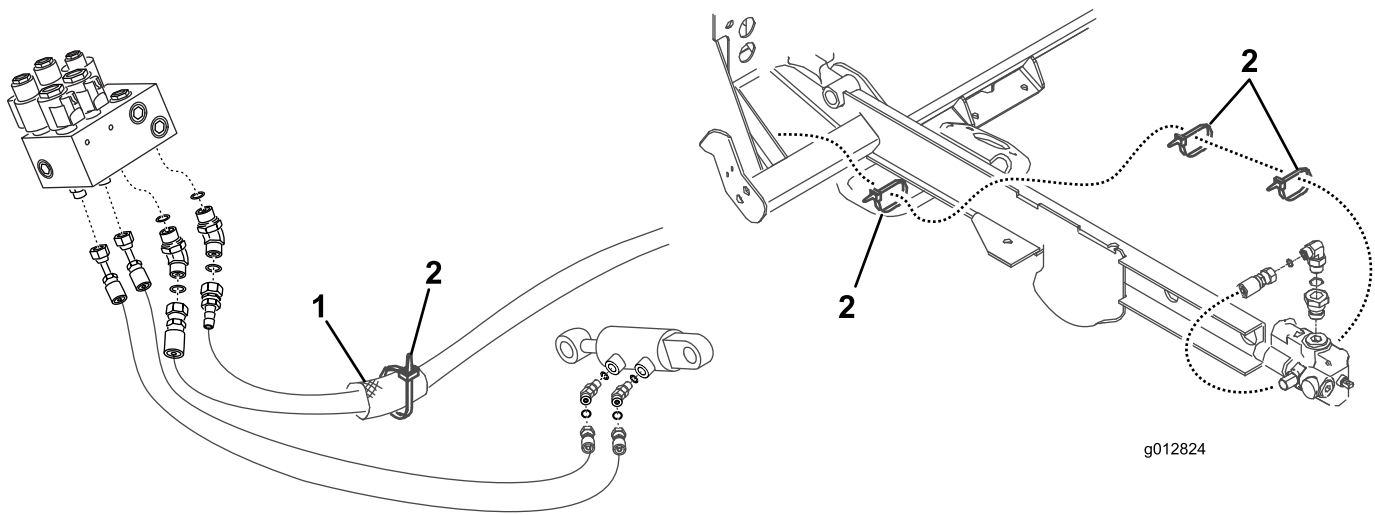


Figure 16

Summer application shown

1. Protective sleeve

2. Cable tie

23. On the right side of the machine, just ahead of the radiator frame, place a drain pan under the oil cooler return hose (lower hose) (Figure 17).

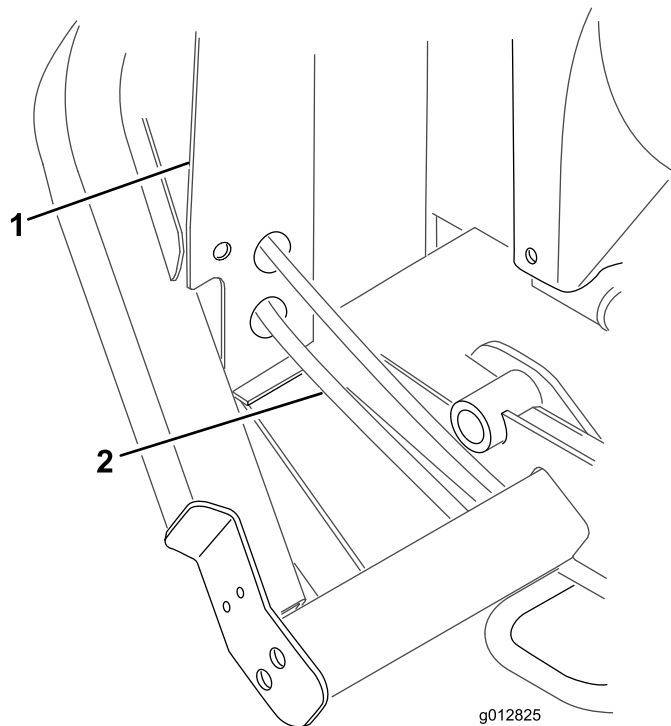


Figure 17

1. Radiator frame

2. Oil cooler return hose

24. Route the short hose, from the manifold forward to the oil cooler hose location stated previously.

25. Insert a clamp onto the short hose and then insert the tee fitting into the end of the short hose (Figure 18).

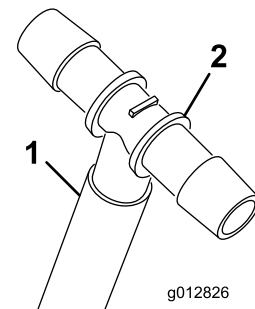


Figure 18

1. Short hose

2. Tee fitting

26. Measure approximately 5 inches from the radiator frame and cut the oil cooler return hose. This is the hose between the deck lift valve and the oil cooler. Hold the hose ends upward to decrease the amount of hydraulic fluid lost (Figure 19).

27. Install hose clamps and insert the ends of the hydraulic tee fitting into the cut hose ends (Figure 19).

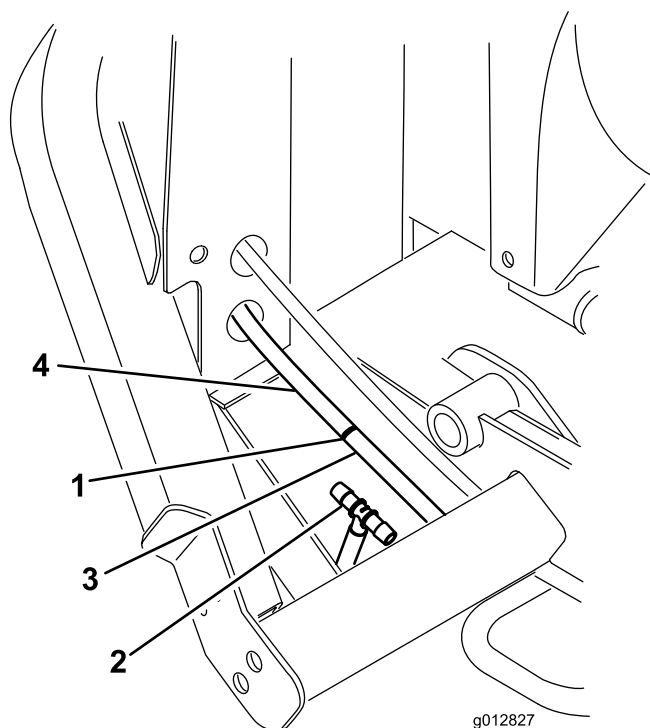


Figure 19

- | | |
|------------------|-----------------------|
| 1. Cut hose here | 3. To deck lift valve |
| 2. Tee fitting | 4. From oil cooler |

28. Secure all 3 of the hoses to the tee fitting with 7/8 inch hose clamps.

Use steps 29 thru 34 for the SUMMER application only

29. On the right frame channel, locate the deck lift valve assembly (Figure 20).

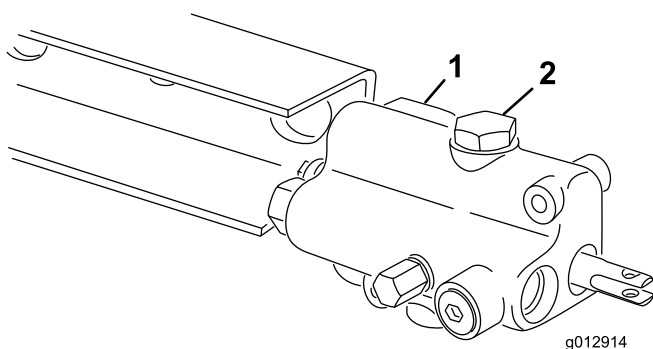


Figure 20

- | | |
|-------------------|---------|
| 1. Valve assembly | 2. Plug |
|-------------------|---------|

30. Remove the plug from the top of the valve assembly (Figure 20).

31. Thread the power beyond sleeve fitting into the opening in the top of the valve (Figure 21)

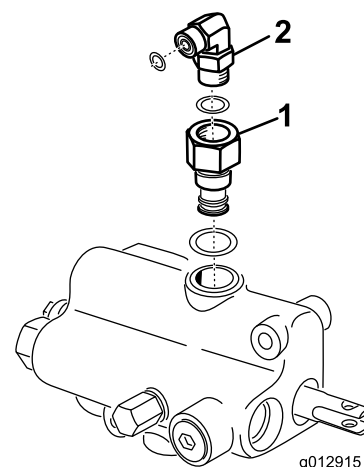


Figure 21

- | | |
|--------------------------------|----------------------|
| 1. Power beyond sleeve fitting | 2. 90 degree fitting |
|--------------------------------|----------------------|

32. Thread a 90 degree fitting into the sleeve fitting on the valve and position as shown in Figure 21.

33. Route the long manifold hose forward, under the radiator frame, over the frame cross member and along the frame rail back to the valve (Figure 16)

34. Secure the hose fitting to the valve fitting (Figure 16).

Use steps 35 thru 41 for the WINTER application only

35. Remove any attachment from the front of the machine and lower the lift arm.

36. At the front of the machine, locate the front attachment lift valve (Figure 22).

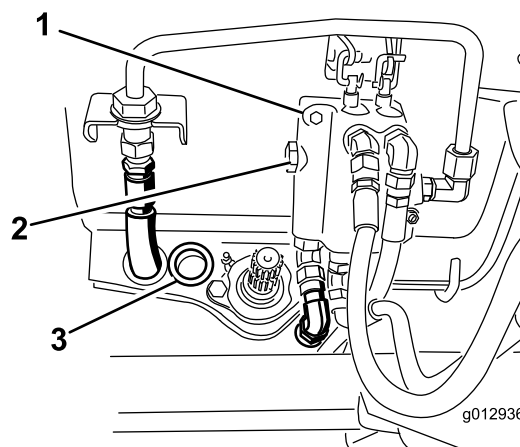


Figure 22

- | | |
|-------------------|----------------------|
| 1. Valve assembly | 3. Hole in bulk head |
| 2. Plug | |

37. Remove the plug from the valve assembly (Figure 22).

38. Thread the power beyond sleeve fitting into the opening in the valve and position as shown in Figure 23.

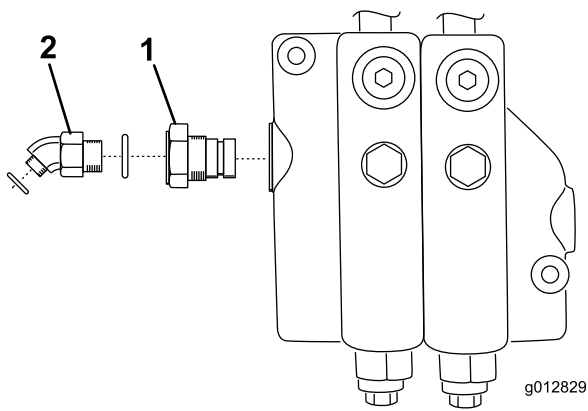


Figure 23

1. Power beyond sleeve fitting
2. 45 degree fitting

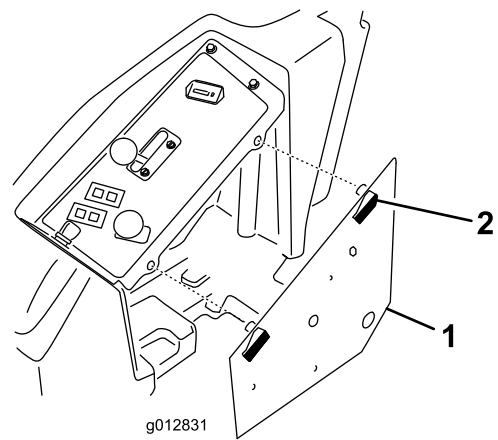


Figure 25

1. Control panel
2. Latch

39. Thread a 45 degree fitting into the sleeve fitting on the valve (Figure 23).
40. Route the long manifold hose forward, under the radiator frame, over the frame cross member and thru the hole in the bulk head (Figure 22) to the front of the machine. Stay clear of hot or rotating components.
41. Secure the hose fitting to the valve fitting.

The remaining steps refer to all models

42. Using the existing holes, mount 2 relays to the front of the radiator frame with 2 screws (1/4 x 1/2 inch) and locknuts (1/4 inch) (Figure 24).

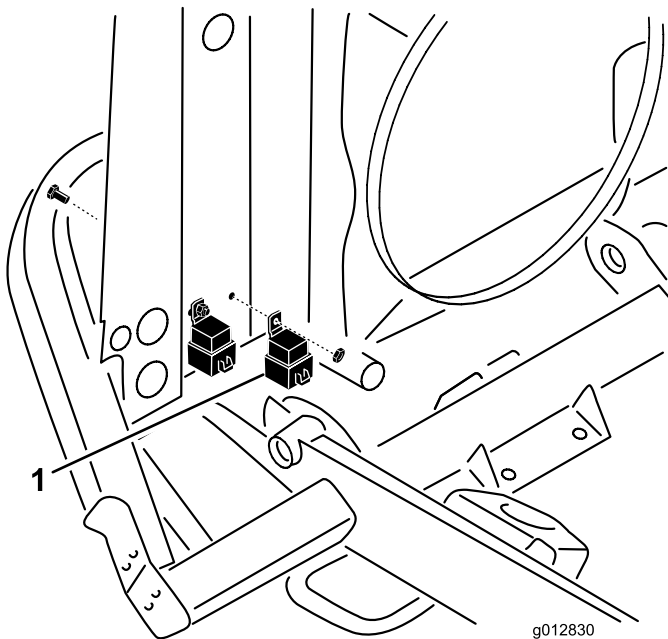


Figure 24

1. Relay (2)

43. Unlatch the control panel cover and move it aside (Figure 25).

44. Locate and remove the two knock out plugs, shown in Figure 26, from the top of the control panel.
45. Carefully cut and remove the decal material to expose the control panel holes. Deburr the newly exposed edges of the control panel.

Note: Only remove knock-out plugs and decal material for the required switches.

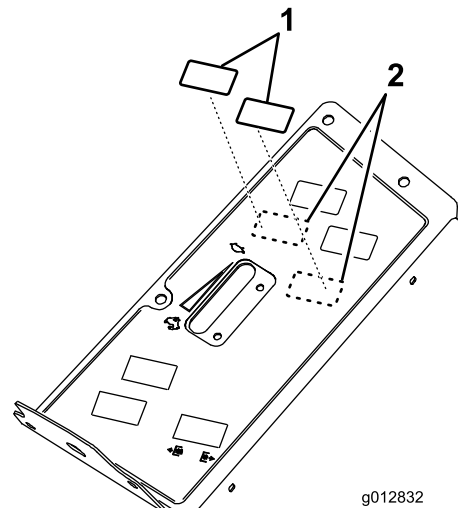


Figure 26

1. Knock out plug
2. Knock out plug locations

46. Clean the control panel surface and affix the decal around the exposed holes (Figure 27).

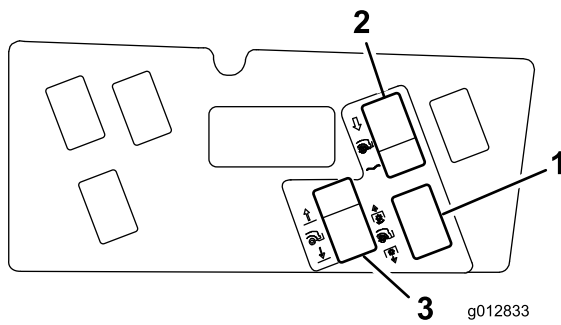


Figure 27

1. Decal
2. Float/Power down (2 Position switch)
3. Lift/Lower (3 position switch)

47. Insert the switches into the appropriate mounting holes (Figure 27). The flat on the switch is to be positioned toward the operator.

48. Route and connect the wire harness (Figure 28) at the follows locations:

- Hydraulic manifold connectors
- Relays on right side of radiator (engine compartment)

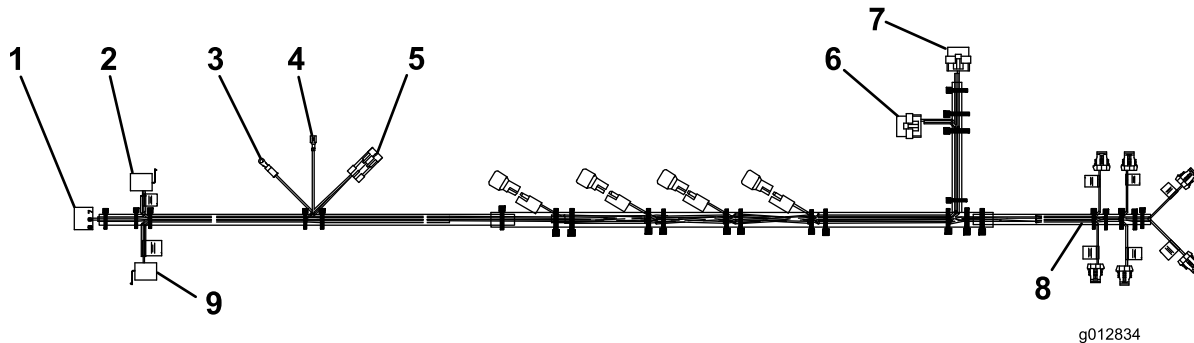


Figure 28

1. Blower PTO switch (used with blower)
2. Lift/lower switch
3. Ground
4. Power
5. To main harness
6. Latch relay
7. Release relay
8. Hydraulic manifold
9. Float/power down switch

- To main harness connector located under the right operators controls by the SCM

Note: The main harness connector is a 2 wire Metri-pak connector (brown and tan wires)

- Pink power wire connector
- Ground to ground block
- Lift/Lower switch
- Float/Enable switch

49. Secure the wire harness with cable ties.

Important: Keep the harness away from all hot, sharp or moving parts.

50. Grease all the new fittings with No. 2 Lithium Based grease.

51. Check the hydraulic fluid level and replenish as required.

52. Start the machine and operate rear lift. Check for leaks and replenish hydraulic fluid as required.

Note: If installed correctly, there should be no electrical power to the manifold when the key is in the OFF position (key switched power)

Operation

Lift/Lower Switch

Move switch to Lift to raise attachment and to Lower to lower attachment (Figure 29).

Float/Power Down Switch

Moving the switch to Float allows the attachment to follow the contour of the ground. Moving the switch to **Power Down** will add weight from the machine to increase ground engagement force (Figure 29). Higher ground engagement force will decrease the traction capacity of the machine.

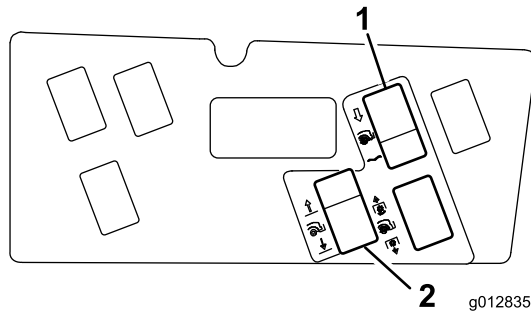


Figure 29

1. Float/Power Down switch 2. Lift/Lower switch

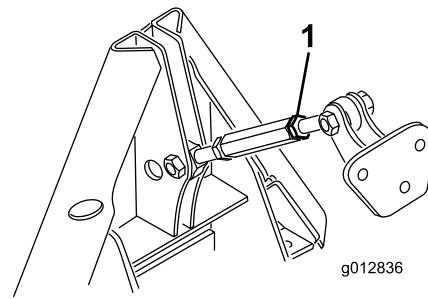


Figure 30

1. Threaded link

Attachment Angle Adjustment

To increase or decrease the engagement angle of the attachment proceed as follows:

- Loosen the jam nuts on the threaded link (Figure 30).
- Rotate the hex tube until the desired angle is attained (Figure 30).
- Tighten the jam nut to lock the adjustment (Figure 30).
- With the engine operating at low idle, raise the rear attachment to make sure it does not contact the hood.

Weight Charts

Use the following weight charts to determine the correct amount of front weight required for your machine.

72 inch width of cut Models 30360, 30361, 30363 and 30364 With NO hard canopy, model 30359 AND	Additional Front Weight Required	Weight Part Number	Weight Description	Qty.
Rear QAS (Model 30377) and no attachment	0 lbs	NA		
Finish Grader (Box Rake) (Model 08754)	0 lbs	NA		
Steel Drag Mat (Model 08757)	0 lbs	NA		
Tooth Rake (Model 08751)	0 lbs	NA		
Tooth rake with Spring Rake (Model 08752) attached	0 lbs	NA		
Cocoa Drag Mat (Model 08758)	67 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 1
Nail Drag (Model 08781)	67 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weigh	1 1
Debris Blower (Model 30393)	109 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weigh	1 2
Rahn Groomer (Allied Product)	151 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weigh	1 3

72 inch width of cut Models 30360, 30361, 30363 and 30364 With hard canopy, model 30359 AND	Additional Front Weight Required	Weight Part Number	Weight Description	Qty.
Rear QAS (Model 30377) and no attachment	0 lbs	NA		
Finish Grader (Box Rake) (Model 08754)	25 lbs	114-4090 or Model 30375	Front weight bracket or Jack Stand Kit	1 1
Steel Drag Mat (Model 08757)	25 lbs	114-4090 or Model 30375	Front weight bracket or Jack Stand Kit	1 1
Tooth Rake (Model 08751)	25 lbs	114-4090 or Model 30375	Front weight bracket or Jack Stand Kit	1 1
Tooth rake with Spring Rake (Model 08752) attached	25 lbs	114-4090 or Model 30375	Front weight bracket or Jack Stand Kit	1 1
Cocoa Drag Mat (Model 08758)	109 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 2
Nail Drag (Model 08781)	109 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weigh	1 2
Debris Blower (Model 30393)	151 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weigh	1 3
Rahn Groomer (Allied Product)	Not Approved			

62 inch width of cut Models 30362 and 30365 With NO hard canopy, model 30359 AND	Additional Front Weight Required	Weight Part Number	Weight Description	Qty.
Rear QAS (Model 30377) and no attachment	67 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 1
Finish Grader (Box Rake) (Model 08754)	151 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 3
Steel Drag Mat (Model 08757)	151 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 3
Tooth Rake (Model 08751)	151 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 2
Tooth rake with Spring Rake (Model 08752) attached	151 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 3
Cocoa Drag Mat (Model 08758)	151 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 3
Nail Drag (Model 08781)	151 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 3
Debris Blower (Model 30393)	151 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 3
Rahn Groomer (Allied Product)	Not Approved			

62 inch width of cut Models 30362 and 30365 With hard canopy, model 30359 AND	Additional Front Weight Required	Weight Part Number	Weight Description	Qty.
Rear QAS (Model 30377) and no attachment	109 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 2
Finish Grader (Box Rake) (Model 08754)	193 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 3
Steel Drag Mat (Model 08757)	193 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 4
Tooth Rake (Model 08751)	151 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 3
Tooth rake with Spring Rake (Model 08752) attached	193 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 4
Cocoa Drag Mat (Model 08758)	193 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 4
Nail Drag (Model 08781)	193 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 4
Debris Blower (Model 30393)	193 lbs	114-4090 & 114-4096	Front weight bracket & 42 lb front weight	1 4
Rahn Groomer (Allied Product)	Not Approved			

Operating Tips

- Read and understand the attachment Operator's manual prior to use.
- Make sure the appropriate weight mount bracket and front weight(s) are installed for the rear attachment.
- Remove rear attachment and any loose front end weights prior to mowing.
- Use care when operating the machine when a rear attachment is installed because it is wider than the machine and may contact poles, fences or trees.
- Never operate the machine near bystanders.

Maintenance

- Lubricate the (5) grease fittings with No. 2 Lithium based grease weekly or after every washing.
- When operating in dusty conditions the air cleaner should be checked daily. A safety air cleaner element is available and may be added to the existing air cleaner for additional engine protection.

Notes:

Notes:

Notes:



The Toro Total Coverage Guarantee

A Limited Warranty

Conditions and Products Covered

The Toro® Company and its affiliate, Toro Warranty Company, pursuant to an agreement between them, jointly warrant your Toro Commercial product ("Product") to be free from defects in materials or workmanship for two years or 1500 operational hours*, whichever occurs first. This warranty is applicable to all products with the exception of Aerators (refer to separate warranty statements for these products). Where a warrantable condition exists, we will repair the Product at no cost to you including diagnostics, labor, parts, and transportation. This warranty begins on the date the Product is delivered to the original retail purchaser.

* Product equipped with an hour meter.

Instructions for Obtaining Warranty Service

You are responsible for notifying the Commercial Products Distributor or Authorized Commercial Products Dealer from whom you purchased the Product as soon as you believe a warrantable condition exists. If you need help locating a Commercial Products Distributor or Authorized Dealer, or if you have questions regarding your warranty rights or responsibilities, you may contact us at:

Commercial Products Service Department
Toro Warranty Company
8111 Lyndale Avenue South
Bloomington, MN 55420-1196
E-mail: commercial.warranty@toro.com

Owner Responsibilities

As the Product owner, you are responsible for required maintenance and adjustments stated in your Operator's Manual. Failure to perform required maintenance and adjustments can be grounds for disallowing a warranty claim.

Items and Conditions Not Covered

Not all product failures or malfunctions that occur during the warranty period are defects in materials or workmanship. This warranty does not cover the following:

- Product failures which result from the use of non-Toro replacement parts, or from installation and use of add-on, or modified non-Toro branded accessories and products. A separate warranty may be provided by the manufacturer of these items.
- Product failures which result from failure to perform recommended maintenance and/or adjustments. Failure to properly maintain your Toro product per the Recommended Maintenance listed in the *Operator's Manual* can result in claims for warranty being denied.
- Product failures which result from operating the Product in an abusive, negligent or reckless manner.
- Parts subject to consumption through use unless found to be defective. Examples of parts which are consumed, or used up, during normal Product operation include, but are not limited to, brakes pads and linings, clutch linings, blades, reels, bed knives, tines, spark plugs, castor wheels, tires, filters, belts, and certain sprayer components such as diaphragms, nozzles, and check valves, etc.
- Failures caused by outside influence. Items considered to be outside influence include, but are not limited to, weather, storage practices, contamination, use of unapproved coolants, lubricants, additives, fertilizers, water, or chemicals, etc.

- Normal noise, vibration, wear and tear, and deterioration.
- Normal "wear and tear" includes, but is not limited to, damage to seats due to wear or abrasion, worn painted surfaces, scratched decals or windows, etc.

Parts

Parts scheduled for replacement as required maintenance are warranted for the period of time up to the scheduled replacement time for that part. Parts replaced under this warranty are covered for the duration of the original product warranty and become the property of Toro. Toro will make the final decision whether to repair any existing part or assembly or replace it. Toro may use remanufactured parts for warranty repairs.

Note Regarding Deep Cycle Battery Warranty:

Deep cycle batteries have a specified total number of kilowatt-hours they can deliver during their lifetime. Operating, recharging, and maintenance techniques can extend or reduce total battery life. As the batteries in this product are consumed, the amount of useful work between charging intervals will slowly decrease until the battery is completely worn out. Replacement of worn out batteries, due to normal consumption, is the responsibility of the product owner. Battery replacement may be required during the normal product warranty period at owner's expense.

Maintenance is at Owner's Expense

Engine tune-up, lubrication cleaning and polishing, replacement of Items and Conditions Not Covered filters, coolant, and completing Recommended Maintenance are some of the normal services Toro products require that are at the owner's expense.

General Conditions

Repair by an Authorized Toro Distributor or Dealer is your sole remedy under this warranty.

Neither The Toro Company nor Toro Warranty Company is liable for indirect, incidental or consequential damages in connection with the use of the Toro Products covered by this warranty, including any cost or expense of providing substitute equipment or service during reasonable periods of malfunction or non-use pending completion of repairs under this warranty. Except for the Emissions warranty referenced below, if applicable, there is no other express warranty.

All implied warranties of merchantability and fitness for use are limited to the duration of this express warranty. Some states do not allow exclusions of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Note regarding engine warranty:

The Emissions Control System on your Product may be covered by a separate warranty meeting requirements established by the U.S. Environmental Protection Agency (EPA) and/or the California Air Resources Board (CARB). The hour limitations set forth above do not apply to the Emissions Control System Warranty. Refer to the Engine Emission Control Warranty Statement printed in your *Operator's Manual* or contained in the engine manufacturer's documentation for details.

Countries Other than the United States or Canada

Customers who have purchased Toro products exported from the United States or Canada should contact their Toro Distributor (Dealer) to obtain guarantee policies for your country, province, or state. If for any reason you are dissatisfied with your Distributor's service or have difficulty obtaining guarantee information, contact the Toro importer. If all other remedies fail, you may contact us at Toro Warranty Company.